

CONTAMINATION SCREENING EVALUATION  
TECHNICAL MEMORANDUM  
FOR THE ALL ABOARD FLORIDA PASSENGER RAIL PROJECT  
WEST PALM BEACH TO MIAMI, FLORIDA

by

All Aboard Florida – Stations LLC and All Aboard Florida – Operations LLC

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## 1.0 INTRODUCTION

All Aboard Florida (AAF) project is an intercity passenger rail service that will provide a necessary transportation solution for millions of Floridians and tourists, connecting downtown West Palm Beach (MP 299.6 +/-) to downtown Miami (MP 365.5 +/-) with one stop in downtown Fort Lauderdale (MP 341.2 +/-).

The existing FEC corridor between Miami and West Palm Beach is approximately 100 feet wide and has supported freight and/or passenger service on a continuous basis for more than 100 years. The FEC corridor was originally built as a double-track railroad, but today it is a single track railroad with several long sidings. The roadbed for the second track in the corridor still exists today and would be used for the additional track improvements.

In 2006, FECR moved approximately 26 through freight trains per day over this segment, in addition to local trains serving customers along the line. Today, the number of daily through freight trains is 14. The new intercity passenger rail system would provide hourly service (consisting of approximately 16 roundtrip trains that will be approximately 725 feet long. Trains will operate at speeds up to 79 mph, but will likely average 60 mph. The current FRA Class IV track conditions along the FEC corridor would permit passenger train trains to operate up to a maximum speed of 79 mph today.

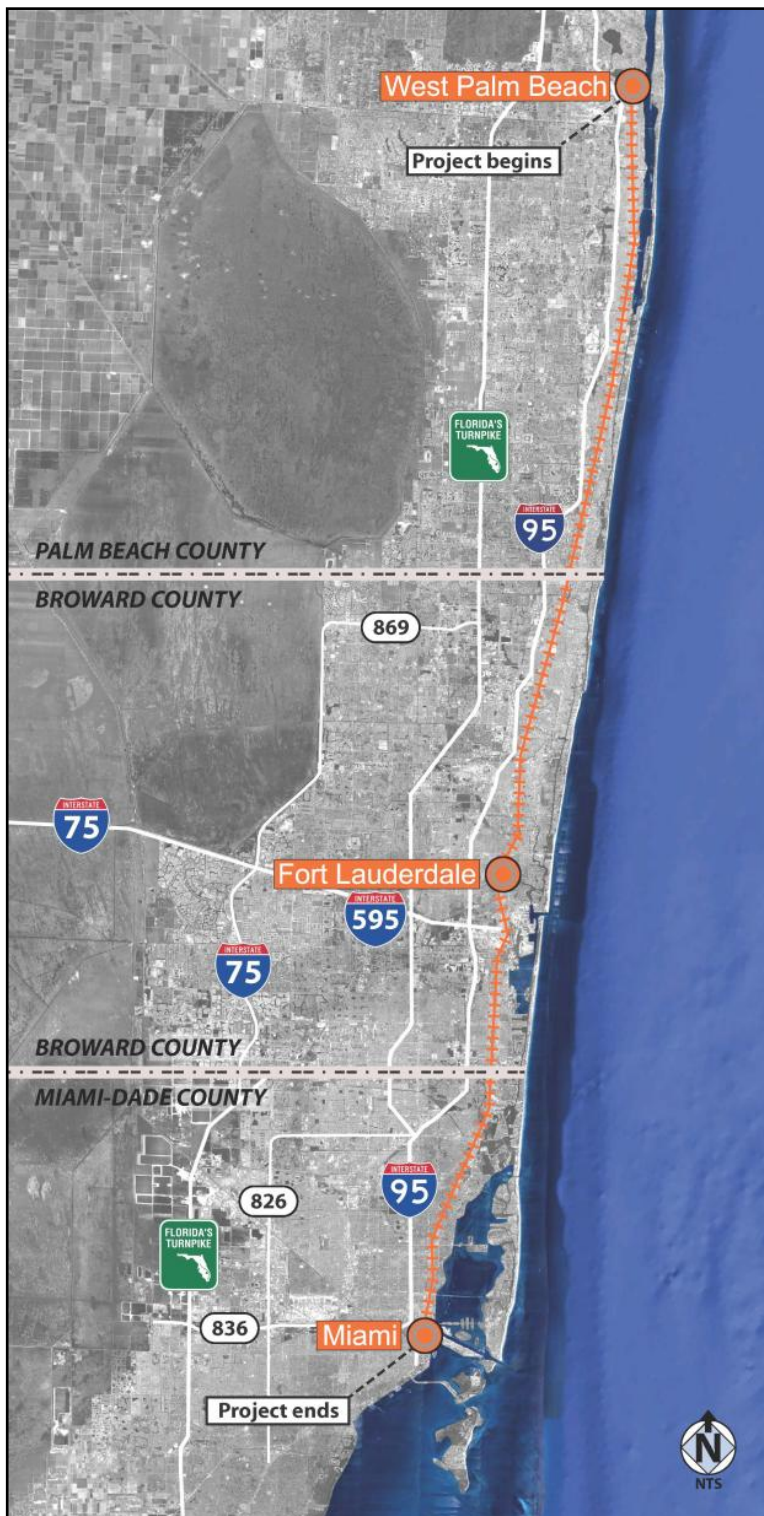
The existing track is FRA Class IV track, permitting 60 mile per hour freight and 80 mile per hour passenger operations. The project will maintain this class of track and will require only minor infrastructure improvements for the main line, including replacement of the second main line track, reconstruction of existing crossovers and the addition of crossovers to facilitate operational improvements. No additional right of way is anticipated to complete these improvements. Further, no bridge structures located over bodies of water will be touched.

AAF plans to complete all infrastructure improvements for the main line track for the project within the existing FEC corridor that is approximately 100 feet wide throughout this segment (i.e. no additional right-of way acquisition is expected). Three existing bridge structures will have an additional second main track added to the existing deck, but no improvements to the structure's footprint will need to be made. Seven existing bridges will remain single track and will not be expanded to accommodate two tracks. Additionally, 49.2 miles of new track will be constructed in the corridor and 8.3 miles of existing track will be rehabilitated. See Project Location Map, Figure 1.

The proposed downtown Miami station will be situated on an approximately nine-acre site that is currently owned by AAF's affiliate. This proposed site was once the location of the original Florida East Coast Miami Station built by Henry Flagler. Likewise, the proposed stations at Fort Lauderdale and West Palm Beach stations will be situated on downtown sites, providing easy access for auto, bike and pedestrians.

Figure 1. Project

Location Map



The purpose of this technical memorandum is to present the findings of a contamination screening evaluation for the proposed alternatives. This report identifies and evaluates known or potential contamination concerns, presents recommendations regarding these concerns, and discusses possible impacts from the proposed project. As a reasonable inquiry to determine the presence of contamination, local, state and federal environmental agency records were reviewed.

## **2.0 ALTERNATIVE DEVELOPMENT**

This section discusses those alternatives developed and considered during the EA process. As per NEPA and CEQ guidance, the No-Build Alternative will remain a reasonable and feasible alternative throughout this evaluation. The No-Build Alternative represents "no change" from current conditions and a continuation of the present course of planned and funded actions until that action is changed.

For an alternative to be considered worthy of evaluation, the following criteria were deemed essential:

- Geographic location in close proximity to the Downtown core or Central Business District (CBD) as well as the FECR right-of-way;
- For West Palm Beach and Fort Lauderdale Stations – ability for the FEC ROW to accommodate the addition of a second main line track necessary for both passenger rail and freight operations, as well as gauntlet tracks through the platform zones for use by periodic high and wide freight trains;
- For Miami Station – necessity to maintain railroad infrastructure for continued Port Lead freight operations;
- Availability of land within the FEC ROW for workable track alignment and platform zones; and
- Availability of land adjacent to the designated stations to accommodate customer access (pedestrian and vehicular) and minimum on-site passenger-oriented facilities.

Several sites initially nominated for evaluation did not pass this test. Thus, they were dismissed from further analysis.

### **2.1 No Build Alternative**

The No-Build Alternative, which involves no changes to the transportation facilities within the FEC corridor beyond those that have been currently planned and programmed, was evaluated as part of this study. Under this scenario, the existing freight operations and maintenance infrastructure by FECR would be maintained. Specifically, the No-Build Alternative would maintain FECR's operations as a freight provider within the FEC corridor assuming an annual growth of approximately 5%-7% between today and 2016 due to current FEC projects at the Port of Miami and Port Everglades and 3% after 2016. Routine maintenance, safety improvements and as-needed track work would continue as planned. Also,

the No-Build Alternative would include future planned and programmed roadway, transit, air and other intermodal improvements within the study area.

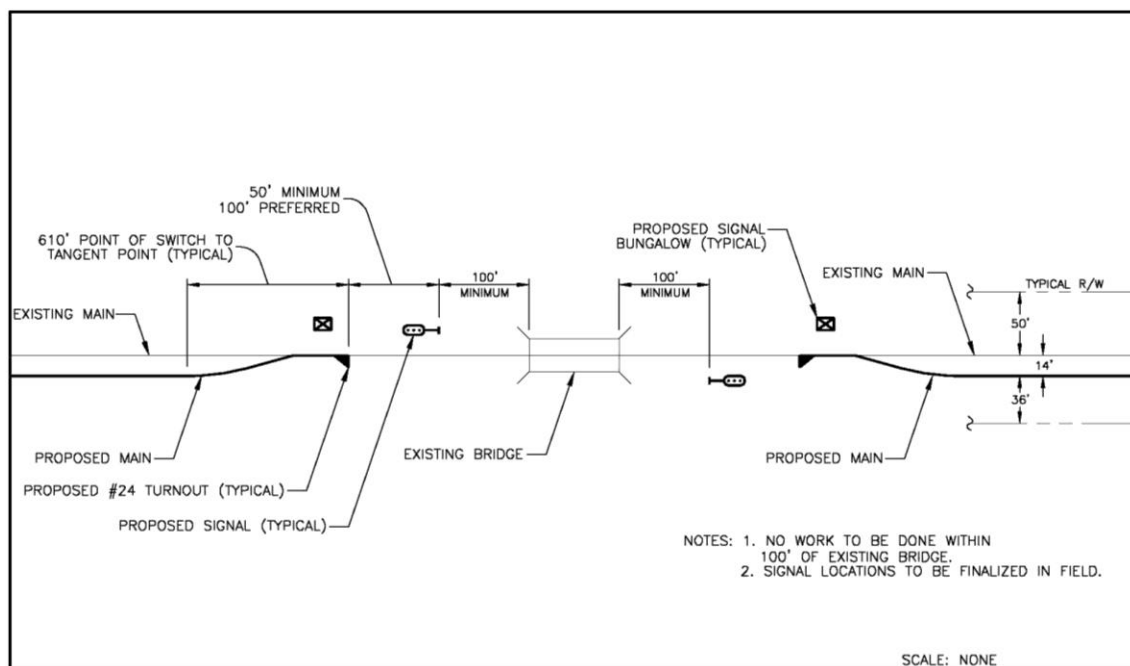
In the absence of passenger service within the FEC corridor, the need for stations and station-associated development is negated. It is assumed that land use development would continue consistent within the approved and adopted local comprehensive, master and/or visioning plans of each municipality but that only planned and programmed improvements will be completed.

Although the No-Build Alternative does not meet the purpose and need for the project, it was retained for detailed analysis in order to evaluate potential benefits and impacts associated with the proposed action in comparison to taking no action.

## 2.2 System Build Alternative

The proposed system build alternative will return the existing FEC corridor to a dual-track system allowing for the development and re-introduction of passenger service to southeast Florida. Infrastructure improvements are planned to be completed within the existing right-of-way (i.e. no additional right-of way acquisition is anticipated). Three existing bridge structures will have an additional second main track added to the existing deck, but no improvements to the structure's footprint will need to be made. Seven existing bridges will remain single track and will not be expanded to accommodate two tracks. See Figure 2 for typical bridge transition. Additionally, 49.2 miles of new track will be constructed in the corridor and 8.3 miles of existing track will be rehabilitated.

**Figure 2. Typical Track Configuration at Single Track Bridge**



## 2.3 Station Alternatives

Station alternatives are defined as those alternatives in West Palm Beach, Fort Lauderdale, and Miami for the development of stations and ancillary development needed to support the AAF project.

### 2.3.1 Downtown West Palm Beach

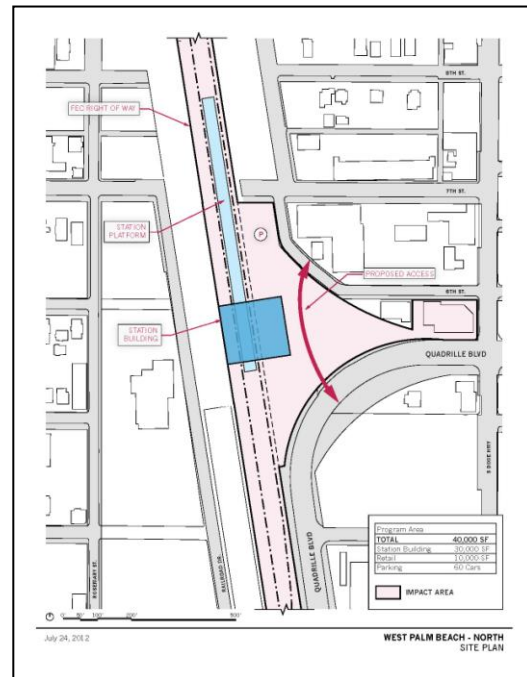
#### 2.3.1.1 West Palm Beach – North

For this site location alternative, the AAF station would be located in the northern portion of Downtown West Palm Beach roughly between Third and Seventh Streets proximate to the 15th Judicial Circuit Courthouse Complex, County Courthouse, County Administration Building and City Hall.

The station’s 800-foot long, 35-foot wide high-level platform would be located well north of Third Street because the platform must be on tangent track north of the curve. This site would take advantage of an uninterrupted stretch of FEC ROW without the need for new street closure, although it would block NW 7th Street which City Planners have identified for circulation improvement study.

The station would extend to the east side of the FEC ROW on unimproved, publicly controlled properties situated along Quadrille Boulevard including a parcel with frontage on S. Dixie Highway. The two-story station building would face the east. On-site customer facilities would include ticketing, secure waiting area for ticketed passengers located in space above the platform level, and retail. Parking to support the retail would be provided on site. No dedicated passenger parking would be provided on-site; the City supports use of existing parking capacity available within a close radius of the station.

### West Palm Beach North Station





### 2.3.1.2 West Palm Beach – Central

For this site location alternative, the AAF station would be located further south than the option described above, roughly between Clematis Street and Fern Street. The two-story station building would be located to the west side of the FEC ROW on privately controlled property fronting Evernia Street. On-site customer facilities would include ticketing, secure waiting area for ticketed passengers located in space above the platform level, and retail. Parking to support the retail would be provided on site. No dedicated passenger parking would be provided on-site; the City supports use of existing parking capacity available within a close radius of the station.

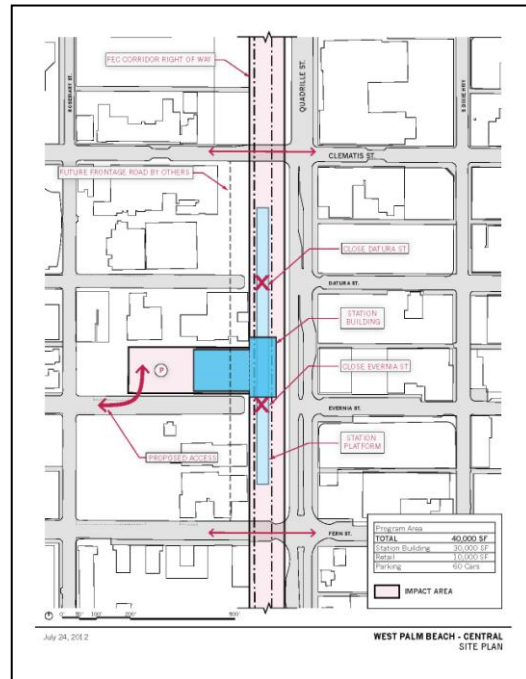
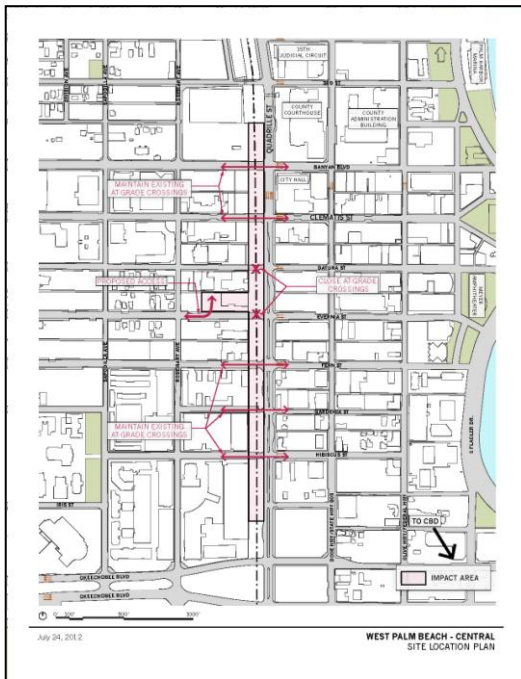
Within the FEC ROW, both main line tracks may be subject to alignment considerations subject to additional ROW from FDOT. The tracks could remain or would shift to the west side of the FEC ROW to avoid a portion of the ROW that was previously sold to FDOT. Both main line tracks would come back on existing alignment through Okeechobee Boulevard.

The north edge of the 35-foot wide center island platform would commence just south of Clematis Street and end north of Fern Street. The high-level platform would physically block the intersections at Datura and Evernia Streets, thus two street closures would be required, due to the short block grid. The City of West Palm Beach is receptive to this need.

On the west side of the ROW closures could be mitigated by creating a frontage road. The City's Master Plan notes "Incentives are offered for the dedication of right-of-way (ROW) which will allow for the construction of a new road adjacent to the west side of the FEC ROW between Gardenia Street and Clematis Street."

For this site's three-block edge along Quadrille Boulevard, significant streetscaping and traffic calming would be considered to support FDOT's desire to transform Quadrille Boulevard into a pedestrian-friendly corridor.

### West Palm Beach Central Station



## 2.3.2 Downtown Fort Lauderdale

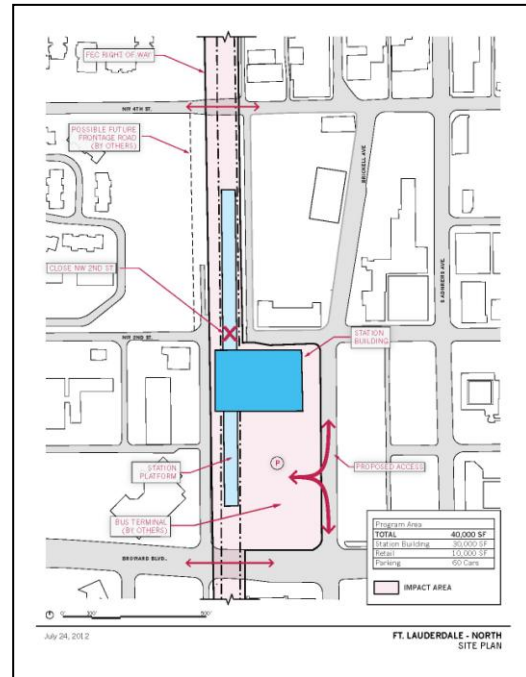
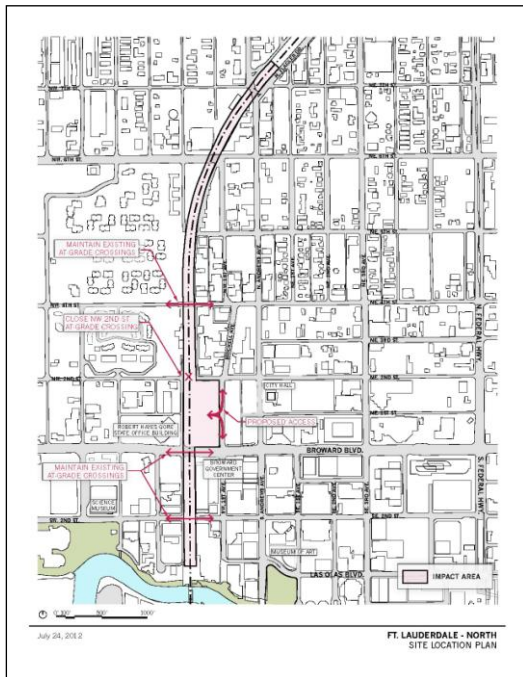
### 2.3.2.1 Fort Lauderdale – North

For this site location alternative, the AAF station would be located north of Broward Boulevard. The station’s 800-foot long, 35-foot wide platform would be located north of Broward Boulevard and south of NW Fourth Street. The high-level platform would block one intersection and thus NW Second Street would be closed. The City is receptive to this need.

The station would extend to the east side of the FEC ROW onto the existing Broward Transit Center property bounded by Broward Avenue, NW First Avenue and NW Second Street. Along with the County and City, AAF would jointly redevelop the existing bus terminal site and other sites to accommodate, AAF passenger rail, regional and local buses, and future WAVE (light rail service).

AAF’s on-site customer facilities would include ticketing, secure waiting area for ticketed passengers located in space above the platform level, and retail. Parking to support the retail would be provided on site. No dedicated passenger parking would be provided on-site; the City supports use of existing parking capacity available within a close radius of the station.

### Fort Lauderdale North Station



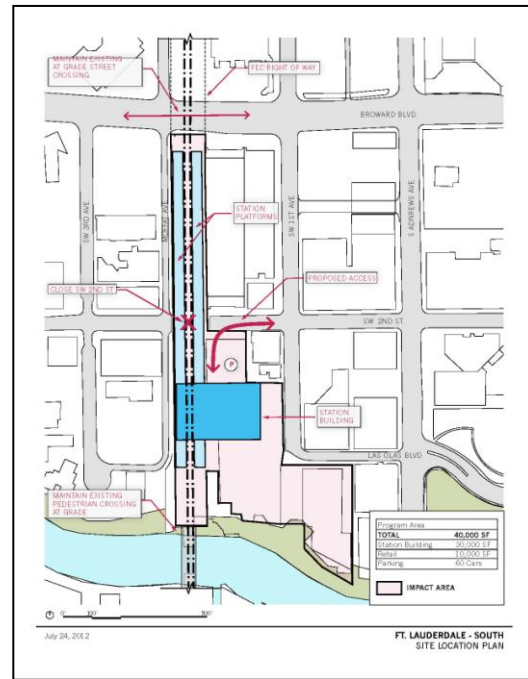
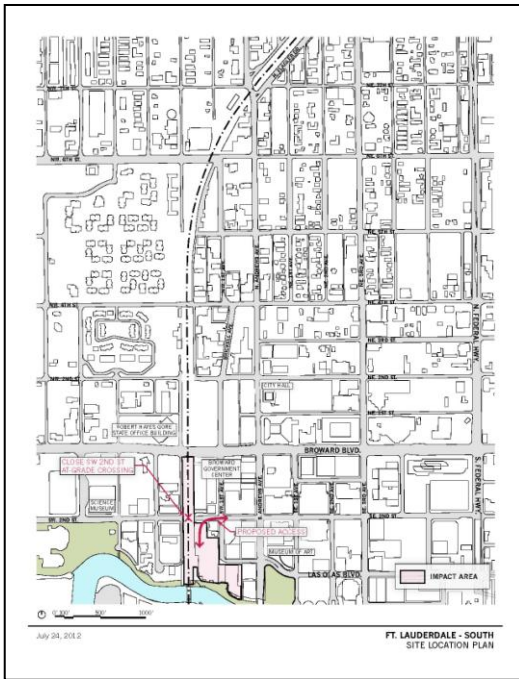
#### 2.3.2.2 Fort Lauderdale – South

For this site location alternative, the AAF station would be located just south of Broward Boulevard and north of the existing railroad bridge over the New River. No track work would be undertaken within 100 feet of the existing bridge. To tie into the existing track alignment over the river crossing, the station would employ a side platform configuration in lieu of the center island platform described for the Fort Lauderdale-North alternative as well as those alternatives in West Palm Beach. The 800-foot long high-level platforms would block one intersection. The City has indicated that closing Broward Boulevard would be out of the question. In all likelihood closing SW Second Street would also be highly problematic. The latter is a necessity for the success of this station location alternative.

The station would extend to the east side of the FEC ROW onto the privately controlled Las Olas Riverfront property. AAF's on-site customer facilities would include ticketing, secure waiting area for ticketed passengers located in space above the platform level, and retail. Parking to support the retail would be provided on site. No dedicated passenger parking would be provided on-site; the City supports use of existing parking capacity available within a close radius of the station. The existing at-grade pedestrian crossing across the FEC tracks would be preserved.



### Fort Lauderdale South Station



### 2.3.3 Downtown Miami / Government Center

Miami's downtown station will be located on a multi-block, nine-acre site owned by AAF's affiliate. This site was the location of the original Florida East Coast Miami Station built by Henry Flagler. The site is centrally situated at the heart of the City's Government Center district, an area characterized by a concentration of City, County, State and Federal government facilities, as well as cultural and civic uses. The Overtown neighborhood is located to the north of the site, and the Flagler Street retail corridor is to the south.

The area possesses strong transit connections the north and south (there are two Metrorail stations) and excellent connectivity with other destinations Downtown (there are two Metro Mover stations) plus multiple convenient and well-used bus routes.

#### 2.3.3.1 Miami – South At Grade

This station alternative is an at-grade option. At the north end, two main line tracks would pass under the Dolphin Expressway overpass at grade. The Port Lead would remain in service; the single track would peel off the main line at Eighth Street and head east into the Port of Miami. The passenger track arrangement would fan out to four tracks between Eighth and Fifth Streets, allowing for platforms south of 5th Street.

The Miami layout provides a combination of side and center island platforms. All four tracks would be accessed also by a low-level service platform. The 1,000-foot long platforms would be located between Fifth Street, which would remain open, and Third Street, which would need to be closed. Therefore the entire track and station platform footprint would realize its full width at the south edge of Fifth Street. Four tracks would cross Sixth and Fifth Streets at grade.

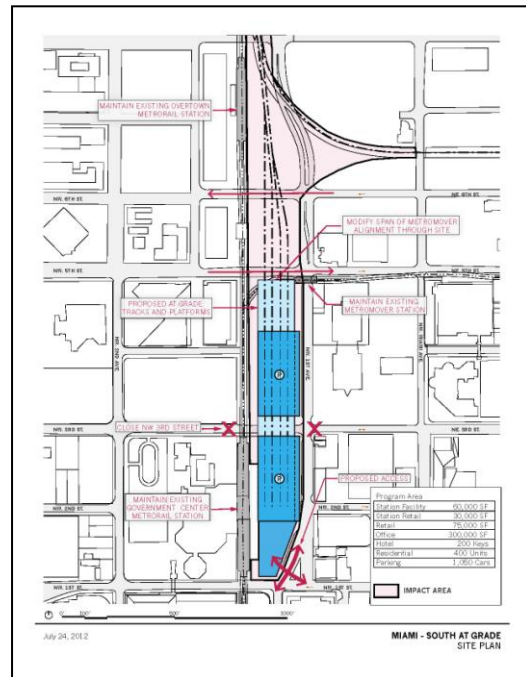
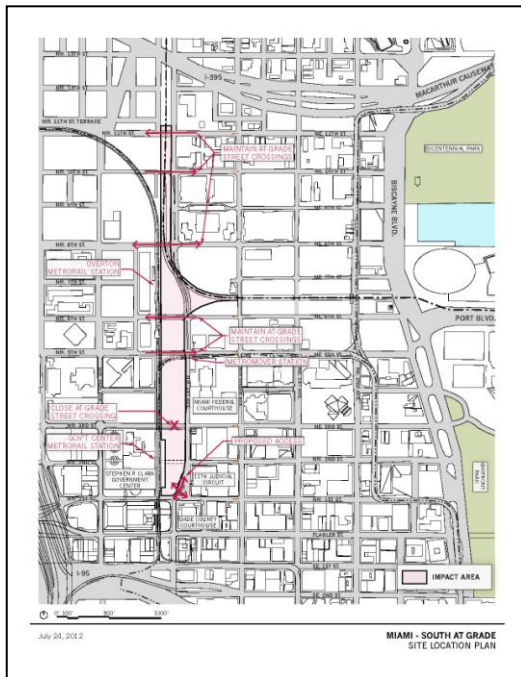
This alternative would not impact the existing Overtown Metrorail Station or existing Government Center Metrorail and Metro Mover Stations. The existing Metro Mover station at NE Fifth Street would also be maintained. However, it would not be possible to squeeze four passenger rail tracks and platforms under the existing Metro Mover alignment without altering the existing pier spacing; hence, the Metro Mover span through the property owned by AAF's affiliate would be rebuilt.

The AAF station would have multiple points of pedestrian access. Passenger facilities would be located at the south end of the platforms. Mixed-use development would be situated on the property south of the station platforms, incorporating the station's primary entry at NW First Street and NW First Avenue. The following TOD uses are anticipated:

- Retail
- Office
- Limited Service Hotel
- Residential
- Parking

The architectural program would be accommodated in several building masses. A fifteen-story office building would anchor the southern end of the property. A thirty-story residential and hotel tower would front on NW First Avenue at Third Street. Structured parking garages would be built in the air rights over the station platforms between Second and Third Streets and between Third and Fourth Streets.

### Miami South at Grade Station



#### 2.3.3.2 Miami – Central Elevated

This alternative is an elevated option. The station layout assumes the same passenger and service platform configuration as the at-grade alternative described above, except the station platform footprint would be accommodated entirely on an elevated viaduct structure approximately 45 feet above grade. This alternative shifts the platform closer toward the northern portion of the property owned by AAF’s affiliate.

At the north end, the main line tracks would pass under the Dolphin Expressway overpass at grade, and single Port Lead track would peel off the main line at Eighth Street and heads east to the Port of Miami. Unlike the previous alternative, here the two Station Lead tracks would then immediately commence a maximum 3% incline onto the viaduct. The existing at-grade crossings at NW Eleventh and NW Tenth Streets would be eliminated due to the climbing passenger tracks; these streets would become blocked by a retaining wall.

Closure of Tenth and Eleventh Streets would be carefully mitigated and balanced by road capacity enhancements. For example, the frontage road located immediately west of the FECR ROW could potentially be extended to connect the street grid in the Overtown neighborhood to the existing Thirteenth or Fourteenth Street at-grade crossings under I-395 and the proposed viaduct underpass at Eighth or Ninth Streets.

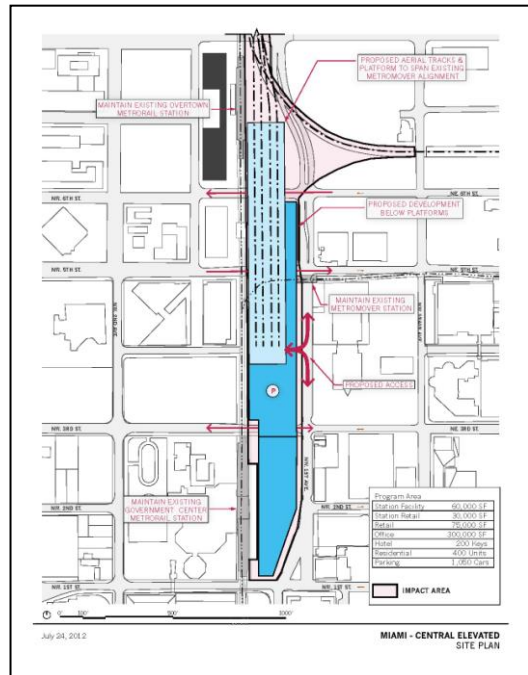
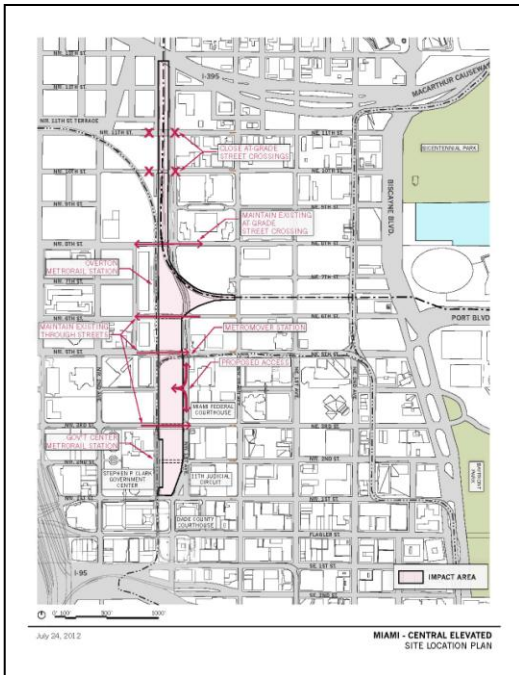
By Ninth Street the elevated railroad approaching the station would transition from retained embankment to viaduct structure. The Port Lead track would remain at grade for continued freight operations. A minimum overhead clearance of 23'-6" above top of rail would be maintained as the Port Lead track passes under the elevated Station Lead tracks.

After the Station Lead tracks fan out into four tracks, the 1,000-foot long platform zone would commence just south of Seventh Street and end just south of Fourth Street. The entire track and station platform footprint thus would pass over Eighth Street, the Port Lead, Sixth Street, Fifth Street, and the Metro Mover. This alternative would not impact the major through streets of Eighth, Sixth and Fifth Street, the existing Overtown Metrorail Station or existing Government Center Metrorail and Metro Mover Stations.

The AAF station would have multiple points of pedestrian access. The headhouse’s primary entry would front NW First Avenue opposite the Federal Courthouse. A three to four story liner of passenger-oriented functions and retail would create a continuous street wall extending to the north. Structured parking would be concealed behind the liner, under the tracks and platforms.

Mixed-use development would be situated immediately south of the station headhouse. The same TOD programs as the at-grade alternative described for the at-grade scenario would be anticipated, in roughly the same massing.

### Miami Central Elevated Station



### **3.0 EXISTING CONDITIONS/LAND USE**

The existing corridor is typically 100 ft wide through Palm Beach, Broward and Miami-Dade Counties, and has had freight and/or passenger service within the corridor throughout its 100-year plus history. Much of southeast Florida can trace its early development to this corridor and communities such as West Palm Beach, Fort Lauderdale and Miami grew around the corridor and it has become an integral part of the community fabric.

The corridor traverses established and heavily developed areas of the three counties. Land uses transition from density, central business district urban, to medium density residential, to industrial and commercial uses. Little to no vacant and/or undeveloped land exists along the corridor. Due to the age of the existing corridor, established neighborhoods and communities have evolved in conjunction with the corridor.

### **4.0 REGIONAL GEOLOGIC/HYDROGEOLOGIC FEATURES**

#### **4.1 Regional Geology**

The regional geology of southeast Florida consists primarily of permeable limestone, sandstone, sand, and shell. The uppermost lithologic unit of the aquifer system is the Pamlico sand formation. The Pamlico sand consists of cream to brown very fine to coarse quartz sand that is well sorted. Under the Pamlico sand is the Miami Limestone (formerly Miami Oolite) which is white to pale orange and consists of Oolite and bryozoans limestone. Underlying the Miami limestone is the Anastasia formation which consists of alternating layers of shelly sandstone and unconsolidated sand with interfingering lenses of the Fort Thompson and Key Largo formations. The Fort Thompson consists of freshwater, brackish water and marine limestone. The Key Largo Formation is highly crystalline, very porous and contains corals, bryozoans and mollusks. Underlying these formations is the Tamiami Formation which is composed of numerous sequences of sandstone and limestone. Underlying the Tamiami Formation is the Hawthorn Formation. The Hawthorn Formation consists of gray to green claystone and siltstone. The lower part of the Tamiami and Hawthorn Formations comprise the major part of the Floridan Aquiclude which is the confining layer between the Surficial Biscayne Aquifer and the Floridan Aquifer.

#### **4.2 Regional Hydrogeology**

Two major aquifer systems have been identified in Palm Beach County, Broward County and Miami-Dade County (herein referred to as the Tri-County Area). The lower aquifer system is commonly known as the Floridan Aquifer but has recently been renamed to Floridan Aquifer System because it is composed of two or more distinct aquifers. This system is extensive, occurring in all of Florida and parts of adjacent states. In the Tri-County Area, the Floridan Aquifer system surface is about 950 to 1,000 feet below sea level. Overlying the Floridan Aquifer system is a 550- to 800-foot thick sequence, consisting of green clay, silt, limestone, and fine sand, referred to as the intermediate confining unit (previously called the Floridan aquiclude). A few zones within this sequence may be minor aquifers, but in general, the sediments are relatively impermeable. These sediments mostly belong to the Hawthorn Formation (Miocene age), but the uppermost sediments locally may belong to the Tamiami Formation (Pliocene age). Overlying the intermediate confining unit is the surficial aquifer system, the source of freshwater supplies for the Tri-County Area.



The surficial aquifer system comprises all materials from the water table to the top of the intermediate confining unit. These materials are primarily cavity-riddled limestone and sandstone, sand, shell, and clayey sand with minor clay or silt and range in age from Pliocene to Holocene. Practically speaking, the top of the system may be considered to be the land surface because virtually all of the Tri-County Area formerly was seasonally or perennially flooded, although drainage by canals in recent years has reduced the occurrence of flooding. The base of the system is defined hydraulically by a significant contrast in average permeability. It is the surface, mappable over a multicounty area, that separates the thick section of generally permeable sediments (surficial aquifer system) from a thick section of sediments having generally low permeability (intermediate confining unit). The upper part of the intermediate confining unit is usually green clay or silt, locally sandy, except near the coast where it is composed of green, fine-grained calcarenite. Sediments of the surficial aquifer system have a wide range of permeability, and locally may be divided into one for more aquifers separated by less permeable or semi confining units. Separating or underlying these aquifers are less-permeable sand, limestone, silt, and clay, which generally act as leaky units. The Tri-County Area is underlain by the shallower Biscayne Aquifer which is the sole source of potable water for these counties.

The Biscayne Aquifer is the best known and contains the most permeable materials of the surficial aquifer system. The aquifer consists of highly permeable limestone and less permeable sand and sandstone. Water in the Biscayne Aquifer is unconfined and generally flows in an east, south-east gradient or toward the ocean or, in more localized gradient influences, streams, rivers and the extensive system of canals in south Florida. The Biscayne Aquifer, named after Biscayne Bay, is the source of the most important water supplies developed in southeastern Florida. It is the most productive of the shallow nonartesian aquifers in the area and is one of the most permeable in the world. The aquifer extends along the eastern coast from southern Miami-Dade County into coastal Palm Beach County as a wedge-shaped underground reservoir having the thin edge to the west. It underlies the Everglades as far as northern Broward County, though in that area it is comparatively thin, and the permeability is not as high as it is farther east and south.

## **5.0 METHODOLOGY**

A preliminary evaluation of the FEC corridor for the development of passenger rail service from downtown West Palm Beach to downtown Miami was conducted to determine potential contamination concerns along the Project corridor for the proposed construction improvements. This evaluation was based on visual reconnaissance of the project area, available Geographic Information Systems (GIS) Databases, and review of on-line regulatory databases.

### **5.1 Records Search**

#### **GIS Search**

The environmental screening of potential contaminated sites within the project area was performed using GIS data from the Florida Geographic Data Library (FGDL), the Florida Department of Environmental Protection (FDEP) GIS website and the South Florida Water Management District (SFWMD) GIS website was completed. The purpose of the contamination screening was to identify potential contamination threats that may limit use of the proposed project. In order to perform the

environmental screening for the Project, a buffer width of 150 feet from the centerline of the rail corridor and proposed station alternatives was established. The following GIS datasets were searched for potential contaminated sites: Brownfield Areas, Gasoline Service Stations, Hazardous Material Sites, Solid Waste Facilities, and Petroleum Tanks. A total of two hundred twenty-six (226) potentially contaminated sites were identified within the 150 foot buffer along the FEC right of way and within the vicinity of the proposed station alternatives.

### **Regulatory Records Review**

As a part of the screening process, an online search of state and county environmental databases for the potential contamination sites identified by the GIS Screening was performed for the study corridor. The following databases were used:

- Palm Beach County Environmental Resources Management (ERM) Countywide Information Network for Electronic Media (CINEMA) website,
- Broward County Environmental Inquiry and Resources System (ENVIROS) Website,
- Miami-Dade Department of Regulatory and Economic Resources (RER) emPOWER Library,
- FDEP Department of Waste Management OCULUS website.

### **Field Review**

Windshield surveys were conducted to verify the location of the potential contamination sites within 150 feet of the FEC right-of-way, at the proposed station alternative sites, and within the general vicinity of the project.

Once the Field Review and regulatory file research was conducted each potential site was assigned a "Risk" rating that expresses the degree for potential contamination concerns. The contamination rating system is divided into degrees of risk: "Low", "Medium", and "High". This system expresses the degree of concern for potential contamination problems. Risk ratings were assigned following the guidelines and definitions in Chapter 22, Section 2.2.3. (1-17-08 revision) of the FDOT Project Development & Environment (PD&E) Study Manual.

<b>Low</b>	Former or current operation has hazardous waste generator identification number, or deals with hazardous materials; however, based on all available information there is no expectation that there would be any expectation of contamination. There are no activities associated with the referenced site/sites that would generate contamination.
<b>Medium</b>	Indications are found (reports, Notice of Violations, consent orders, etc.) that identify known soil and/or water contamination and that the problem does not need remediation, is being remediated (i.e., air stripping of the ground water, etc.), or that continued monitoring is required.
<b>High</b>	Potential for contamination problems. Further Assessment will be required to determine the actual presence and /or levels of contamination and the need for remedial action.

## 6.0 POTENTIAL CONTAMINATION IMPACTS

Within the project area there are one hundred ninety-nine (199) Low Risk sites; thirteen (13) Medium Risk sites; and fourteen (14) High Risk sites. The sites listed as Medium and High risk are summarized in Table 1. A table and figure identifying the locations and status of the two hundred twenty-six (226) sites are included in Attachment I. Summary information along with available pertinent information from the regulatory files for the High and Medium Risk sites is included in Attachment II.

**Table 1**  
**High and Medium Risk Contamination and Hazardous Waste Sites**

FDEP Facility ID	Mainline Impact	Station Impact	Facility Name	Address	Regulatory Status	Distance (ft)	Risk
8514561	Yes	Yes WPB- North	Cemex Construction	501 7 <sup>th</sup> St. West Palm Beach	PARM approved August 2007.	Adjacent	High
8630703	Yes	No	Palm Beach County Judicial Center	414 N Dixie Hwy, West Palm Beach	CAR submitted April 4, 1994.	Adjacent	High
8944518	No	Yes WPB - South	City of West Palm Beach El Campeon Acquisition	440 Evernia Street, West Palm Beach	RAP addendum approved April 1, 1994.	Adjacent	High
8842045	Yes	No	Avis Rent a Car Systems	1 NW Yamato Road, Boca Raton	SAR disapproved 5/2012.	50	High
9811743	Yes	No	Petroliance, LLC	2541 NE 4 <sup>th</sup> Ave, Pompano Beach	RAP approved.	Adjacent	High
55245	Yes	No	Tire Recycling Systems	616 NW 2 <sup>nd</sup> Ave, Fort Lauderdale	Active solid waste site	Adjacent	High
8737224	Yes	No	J&L Feed & Supply	133 SW 3 <sup>rd</sup> Ave, Dania	NAMP suspended in 2008.	Adjacent	High
9806980	Yes	No	Master Craft Automotive	800 N Dixie Hwy, Hollywood	RAP submitted 2/20/2012.	50	High
9101384	Yes	No	Trout Used Cars	18315 W Dixie Hwy, Miami	MOP approved in 1994.	Adjacent	High
8505326	Yes	No	AMOCO #4357- Maule Lake	18100 Biscayne Blvd. North Miami Beach	Documented contamination	Adjacent	High
8503539	Yes	No	181 <sup>st</sup> St. Unlimited Car Washing	18100 Biscayne Blvd, North Miami Beach	RAP implemented In 1995	Adjacent	High
60083	Yes	No	Pace Dump	Biscayne Blvd @ 147 <sup>th</sup> St, North Miami Beach	Solid waste site.	Adjacent	High
99220	Yes	No	Presslers	NE 146 <sup>th</sup> Street @ Biscayne Blvd, Miami	Solid waste site.	Adjacent	High
57135	Yes	No	Munisport Landfill	14301 Biscayne Blvd, North Miami	Former NPL Site. Assessment ongoing	Adjacent	High
8514160	Yes	No	Triple M Petroleum	6710 Georgia Avenue, West Palm Beach	Limited Closure Report - contamination remains onsite.	Adjacent	Medium
9809962	Yes	No	Lake Worth Recreation Center	1121 Lucerne Ave, Lake Worth	NAMP ongoing.	Adjacent	Medium
8514475	Yes	No	US Food Mart	874 N Dixie Hwy, Lantana	Groundwater monitoring (2004-2005)	60	Medium
8942634	Yes	No	Chevron-Flamingo	301 E Atlantic Avenue, Delray	PARM ongoing.	25	Medium



94293	Yes	No	Boca Raton Army Airfield Dump	2500 NW 1 <sup>st</sup> Ave, Boca Raton	Inactive solid waste site.	Adjacent	Medium
9201874	Yes	No	Titan Maritime Industries	410 SW 4 <sup>th</sup> Terrace, Dania	Assessment required for petroleum discharge.	Adjacent	Medium
99394	Yes	No	NE Community Center Dump	Charleston @ 24 <sup>th</sup> ST.	No Regulatory Information Available	1500	Medium
8504026	Yes	No	Shell Station	18560 Biscayne Blvd., Miami	NAMP approved 1/2011	Adjacent	Medium
8522037	Yes	No	Crystal Springs Water Co.	7580 NE 4 <sup>th</sup> CT, Miami	MOP Last quarterly report dated 10/00.	Adjacent	Medium
9803397	Yes	No	Miami City R/W Former Dixie Transport	5520 NE 4 <sup>th</sup> Ave., Miami	Additional assessment 4/2012.	20	Medium
9804881	Yes	No	A&B Container	1551 NW 1 <sup>st</sup> Ave, Miami	SAR submitted in 5/10.	Adjacent	Medium
9047223	Yes	Yes Miami	Arena Ventures	701 Arena Blvd. , Miami	PARM approved 7/2004. TCAR disapproved 11/2011	Adjacent	Medium
9502539/ 8841986	Yes	Yes Miami	City of Miami Chilled Water Line	112 NW 3 <sup>rd</sup> St., Miami	Source removal 11/2009 and 9/2011. No closure.	Adjacent	Medium

**Legend:** SAR – Site Assessment Report ;PARM – Post Active Remediation Monitoring; NAMP – Natural Attenuation Monitoring; LCARA – Limited contamination Assessment Report Addendum; RAP - Remedial Action Plan; CAR – Contamination Assessment Report; MOP – Monitoring only Plan; AS/SVE – Air Sparge/Soil vapor Extraction; O&M – Operation & Maintenance; SARA – Site Assessment Report Addendum

For these sites receiving a High or Medium risk ranking that may be impacted by acquisition, drainage features, underground utilities, or dewatering activities, preliminary subsurface investigations to establish the presence of soil or groundwater contamination would need to be conducted prior to construction activities when warranted.

A Low Risk site is located within the footprint at each of the Preferred Station Alternatives in West Palm Beach and Fort Lauderdale. The West Palm Beach site (Sewell Hardware Co., 501 Evernia Street) and the Fort Lauderdale site (Broward County Mass Transit, 101 NW 1st Avenue) both have registered 500 gallon aboveground storage tanks (ASTs) associated with emergency generators. Although there is no documentation within the database concerning contamination associated with the ASTs, prior to construction activities at these sites, the ASTs must be properly closed in accordance to Chapter 62-762 Florida Administrative Code.

## 7.0 CONCLUSIONS AND RECOMENDATIONS

Construction requirements and methodology for the proposed system upgrades with the FEC ROW will result in minimal subsurface disturbance and impacts to existing contaminated areas are not anticipated. At proposed station locations, construction impacts can be minimized by the avoidance of areas of known and/or suspected contamination during the design of the drainage, lighting and foundations. In the event that it is necessary for construction activities to occur in contaminated areas, a Phase II investigation would need to be conducted. Where drainage, lighting and foundation improvements will

impact contaminated properties and cannot be avoided in the areas of concern, technical special provisions such as Remedial Action Plans will be developed as part of the Phase II investigations. If contamination is identified in these areas prior to construction, remedial actions can be developed and implemented to minimize impacts. Any contaminated or hazardous wastes encountered through ground-disturbing activities during construction for any of the alternatives would be handled and disposed of in accordance with regulatory requirements.

For dewatering activities, potentially contaminated sites located within a 500-ft radius of the project corridor will need to be properly re-assessed and properly addressed before applying for a dewatering permit from any environmental regulatory agency to avoid potential contamination plume exacerbation and determine proper groundwater management associated with such sites.

Although contaminated sites have been identified within 150 feet of the FEC ROW and in the vicinity of the proposed station alternatives, neither the **No-Build** nor **Preferred Build Alternative** is anticipated to impact known contaminated or hazardous waste sites along the project corridor.

## 8.0. REFERENCES

Palm Beach County Environmental Resources Management (ERM) Countywide Information Network for Electronic Media (CINEMA) website.

Broward County Environmental Inquiry and Resources System (ENVIROS) Website.

Miami-Dade Department of Regulatory and Economic Resources (RER) emPOWER Library.

FDEP Department of Waste Management OCULUS website.

Florida Geographic Data Library (FGDL).

United States Department of Agriculture Soil Conservation Service Soil Survey, Palm Beach County, Issued December 1978.

United States Department of Agriculture Soil Conservation Service Soil Survey, Broward County, Issued 1978. Revised May 1984.

United States Department of Agriculture Soil Conservation Service Soil Survey, Miami-Dade County, Issued January 1996.

United States Geological Survey Water Resources Investigations Report 87-4034.

**ATTACHMENT I**  
**IDENTIFIED CONTAMINATED SITES**

All Aboard Florida  
Potential Contaminated Sites

Map ID Number	Facility ID	County	Facility Name	Address	City	Status	Distance To FEC Railway R/W (Feet)	Contamination Risk	Map Page Number
H1	8514561	Palm Beach	Cemex Construction	501 7th STREET	West Palm Beach	Cleanup Ongoing - PARM Approved August 2007	Adjacent	High	1
H2	8630703	Palm Beach	Palm Beach County Judicial Center	414 N Dixie Highway	West Palm Beach	CAR submitted 4/94. No Additional Info Available.	Adjacent	High	1
H3	8944518	Palm Beach	El Campeon Acquisition	440 Everina St.	West Palm Beach	RAP Approved 4/94; Not Implemented	Adjacent	High	2
H4	9811743	Broward	Petroliance LLC Ber 09-21-41040C	2451 NE 4th Ave.	Pompano Beach	RAP Approved 4/12	Adjacent	High	30
H5	55245	Broward	Tire Recycling Systems	616 NW 2nd Ave.	Fort Lauderdale	No Regulatory Information Available	Adjacent	High	39
H6	8737224	Broward	J & L Feed and Supply	133 SW 3RD Ave.	Dania	NAM Plan Suspended After 12/08	Adjacent	High	44
H7	9806980	Broward	Master Craft Automotive	800 N Dixie Hwy.	Hollywood	RAP Submitted 4/12.	50	High	46
H8	8505326	Miami-Dade	AMOCO #4357-Maule Lake	18100 Biscayne Blvd.	North Miami Beach	Discharge 12/86. No Recent Assessment	Adjacent	High	51
H9	8503539	Miami-Dade	181ST St. Unlimited Car Washing	18100 Biscayne Blvd.	North Miami Beach	Discharge 2/95. Assessment Required	Adjacent	High	51
H10	60083	Miami-Dade	Pace Dump	Biscayne Blvd. @ 147th St.	North Miami Beach	No Regulatory Information Available	Adjacent	High	53
H11	99220	Miami-Dade	Pressler's	NE 146 St. @ Biscayne Blvd.	North Miami Beach	No Regulatory Information Available	Adjacent	High	53
H12	57135	Miami-Dade	Munisport	14301 Biscayne Blvd.	North Miami Beach	NPL Site. RAP 3/02 thru 9/06. MOP Ongoing	Adjacent	High	53
H13	9101384	Miami-Dade	Trout Used Cars	18395 W Dixie Hwy.	Miami	MOP Approved 8/94. No Further Info Available	Adjacent	High	50
M1	8514160	Palm Beach	Triple M Petroleum Inc	6710 Georgia Ave.	West Palm Beach	LCSR 6/10. Further Assessment Required.	Adjacent	Medium	5
M2	9809962	Palm Beach	Lake Worth Recreation Complex	1121 Lucerne Ave.	Lake Worth	NAM Ongoing	Adjacent	Medium	8
M3	8514475	Palm Beach	U S Food Mart	874 N Dixie Hwy.	Lantana	MOP Impl. 1/04-2/05. No Closure to Date	58	Medium	9
M4	8942634	Palm Beach	Chevron - Flamingo	301 E Atlantic Ave.	Delray Beach	PARM Ongoing	24	Medium	17
M5	8842045	Palm Beach	Avis Rent A Car System Inc.	1 NW Yamato Rd.	Boca Raton	SAR Disapproved 4/12. RAP Requested	52	Medium	22
M6	94293	Palm Beach	Boca Raton Army Airfield Dump	W of Old Dixie Hwy., N of NW 20 St.	Boca Raton	Inactive Solid Waste Site. No Ongoing Monitoring	Adjacent	Medium	23
M7	9201874	Broward	Titan Maritime Industries	410 SW 4th Terr.	Dania	SR 12/92. No Site Closure	Adjacent	Medium	44
M8	99394	Broward	NE Community Center Dump	Charleston at 24th ST	Hollywood	No Regulatory Information Available	1500	Medium	46
M9	8504026	Miami-Dade	Shell Station	18560 Biscayne Blvd.	Aventura	NAM Ongoing	Adjacent	Medium	50
M10	8522037	Miami-Dade	Crystal Springs Water Co.	7580 NE 4th Ct.	Miami	MOP Approved 6/96. No MOP Reports After 10/00	Adjacent	Medium	57
M11	9803397	Miami-Dade	Miami City ROW Former Dixie Transport	5520 NE 4TH AVE	Miami	NAM Approved 11/02. SAR Requested 5/10	21	Medium	58
M12	9804881	Miami-Dade	A&B Container Repairs Inc.	1551 NW 1st Ave.	Miami	MOP Impl. 2/07. Further Assessment Required	Adjacent	Medium	61
M13	9047223	Miami-Dade	Arena Ventures	701 Arena Blvd.	Miami	TCAR Disapproved 11/11. Add'l Assessment Req.	Adjacent	Medium	61
M14	8841986	Miami-Dade	City of Miami Chilled Water Line Facility	112 NW 3 St.	Miami	SR 9/11. Further Assessment Required.	Adjacent	Medium	61
L1	8734611	Palm Beach	Rinker Materials	433 7th St.	West Palm Beach	No Documented Contamination	Adjacent	Low	1
L2	9602120	Palm Beach	East Coast Dry Cleaners	719 N Dixie Hwy.	West Palm Beach	No Regulatory Information Available	540	Low	1
L3	8630772	Palm Beach	Palm Beach Town - Police Vehicle Mtc.	679 N Dixie Hwy.	West Palm Beach	No Documented Contamination	520	Low	1
L4	98336	Palm Beach	Dixie and 6th St. Debris Staging Area	Dixie Hwy. @ 6th St.	West Palm Beach	No Regulatory Information Available	Adjacent	Low	1
L5	8623169	Palm Beach	Palm Beach - Central Fuel Depot	627 N Dixie Hwy.	West Palm Beach	No Documented Contamination	400	Low	1
L6	98355	Palm Beach	Quadrille @ 6th St. Debris Staging Area	Quadrille Blvd. @ 6th St.	West Palm Beach	No Regulatory Information Available	Adjacent	Low	1
L7	9806414	Palm Beach	Elmore Property	504 N. Quadrille Blvd.	West Palm Beach	SRCO - Cleanup Complete	Adjacent	Low	1
L8	9102375	Palm Beach	Palm Beach City - Central Energy Plant	410 4th St.	West Palm Beach	No Documented Contamination	Adjacent	Low	1
L9	9102487	Palm Beach	Palm Beach County Judicial Parking Lot	600 3rd St.	West Palm Beach	SRCO - Cleanup Complete	Adjacent	Low	2
L10	8737265	Palm Beach	Sewell Hardware Co. Inc.	501 Evernia St.	West Palm Beach	No Documented Contamination	Adjacent	Low	2
L11	8839095	Palm Beach	West Palm Beach County Property	437 Iris St.	West Palm Beach	No Documented Contamination	99	Low	2
L12	94327	Palm Beach	WPB -Terminals Dump	NE Corner of Florida Ave. @ O St.	West Palm Beach	Former Refuse and Lawn Waste Dump	Adjacent	Low	2
L13	9810868	Palm Beach	City Place South Tower	550 Okeechobee Blvd.	West Palm Beach	No Documented Contamination	Adjacent	Low	2
L14	94314	Palm Beach	Flamingo Park	Dixie Hwy @ Park Pl. and Kanuga Dr.	West Palm Beach	Former Garbage and Trash Dump	Adjacent	Low	3
L15	9807710	Palm Beach	Mcarthur Dairy	456 Flamingo Dr.	West Palm Beach	No Documented Contamination	Adjacent	Low	3
L16	8736143	Palm Beach	A W Merrell and Sons Inc.	501 Monceaux Rd.	West Palm Beach	No Documented Contamination	Adjacent	Low	3
L17	8944920	Palm Beach	Cheney Bros. Inc.	516 Monceaux Rd.	West Palm Beach	SRCO - Cleanup Complete	Adjacent	Low	3
L18	9804150	Palm Beach	Level 3 Communications LLC - WPBHFLA1	515 Hampton St.	West Palm Beach	No Documented Contamination	Adjacent	Low	4
L19	8623118	Palm Beach	Walden Sandblasting Co.	3900 Georgia Ave.	West Palm Beach	No Documented Contamination	Adjacent	Low	4
L20	8841104	Palm Beach	Goodfriend OSNA	4200 Georgia Ave.	West Palm Beach	No Documented Contamination	Adjacent	Low	4
L21	9202495	Palm Beach	Montoya Art Studio	4110 Georgia Ave.	West Palm Beach	No Documented Contamination	Adjacent	Low	4

All Aboard Florida  
Potential Contaminated Sites

L22	9803268	Palm Beach	Coach USA	4210 S Georgia Ave.	West Palm Beach	SRCO - Cleanup Complete	Adjacent	Low	4
L23	98346	Palm Beach	Phipps Park Debris Staging Area	4301 South Dixie Hwy.	West Palm Beach	No Regulatory Information Available	Adjacent	Low	4
L24	8837889	Palm Beach	Johnson Charles Landscaping	4504 Georgia Ave.	West Palm Beach	SRCO - Cleanup Complete	Adjacent	Low	4
L25	8630436	Palm Beach	Krispi Bakery	532 E. Lakewood Rd.	West Palm Beach	No Documented Contamination	Adjacent	Low	4
L26	8838296	Palm Beach	Independent Seafoods Inc.	5300 Georgia Ave.	West Palm Beach	No Documented Contamination	Adjacent	Low	5
L27	9203033	Palm Beach	Kenco Ltd.	5414 Georgia Ave.	West Palm Beach	No Documented Contamination	Adjacent	Low	5
L28	8623145	Palm Beach	Schrader Co. Inc.	6601 Norton Ave.	West Palm Beach	No Documented Contamination	Adjacent	Low	5
L29	9300413	Palm Beach	Regency Party Rentals	6615 Norton Ave.	West Palm Beach	No Documented Contamination	Adjacent	Low	5
L30	8630658	Palm Beach	Lowen Air Conditioning Inc.	6620 Georgia Ave.	West Palm Beach	No Documented Contamination	Adjacent	Low	5
L31	8623117	Palm Beach	Rhoads Construction Inc.	6904 Georgia Ave.	West Palm Beach	No Documented Contamination	Adjacent	Low	5
L32	9809289	Palm Beach	Winn-Dixie Store #309	7915 S Dixie Hwy.	West Palm Beach	No Documented Contamination	Adjacent	Low	6
L33	9804321	Palm Beach	Florida East Coast Railway Locomotive	Old Dixie Hwy. @ NE 14th St.	West Palm Beach	SRCO - Cleanup Complete	Adjacent	Low	7
L34	8623073	Palm Beach	William Thies & Sons Inc.	201 E Coast Ave.	Lake Worth	No Documented Contamination	Adjacent	Low	8
L35	9202589	Palm Beach	Bryant Auto Service Inc.	1106 4th Ave. S	Lake Worth	No Documented Contamination	Adjacent	Low	8
L36	8623267	Palm Beach	Leonards Hitchland Rinker Materials	1010 6th Ave.	Lake Worth	No Documented Contamination	Adjacent	Low	8
L37	9102180	Palm Beach	E J Brodbeck & Sons Inc.	1105 S 6th Ave.	Lake Worth	No Documented Contamination	32	Low	8
L38	9803018	Palm Beach	No Name Paint & Body Inc.	805 S G St.	Lake Worth	No Documented Contamination	25	Low	8
L39	9501303	Palm Beach	South Plaza Laundry	1226 South Dixie Hwy.	Lake Worth	No Regulatory Information Available	94	Low	9
L40	100175	Palm Beach	Deveau	1301 Wingfield St	Lake Worth	No Regulatory Information Available	Adjacent	Low	9
L41	66597	Palm Beach	Southern Waste Systems	790 Hillbrath Drive	Lantana	No Documented Contamination	1000	Low	9
L42	94291	Palm Beach	Barnes Property Landfill	1/4 mile N of Lantana Bd., E of 8th St.	Lantana	No Regulatory Information Available	Adjacent	Low	9
L43	8944697	Palm Beach	CEK Warehouse	523 N. East Coast Ave.	Lantana	No Documented Contamination	26	Low	9
L44	9100891	Palm Beach	Robert Myers Painting Inc.	1202 S Dixie Hwy.	Lantana	No Regulatory Information Available	67	Low	10
L45	8514807	Palm Beach	U-Haul Center #787-21	1319 N Federal Hwy.	Boynton Beach	No Documented Contamination	Adjacent	Low	13
L46	8514473	Palm Beach	One Stop #42	1017 N Federal Hwy.	Boynton Beach	SRCO - Cleanup Complete	Adjacent	Low	13
L47	9100619	Palm Beach	Ken Snow Auto Repair	421 NE 7th Ave.	Boynton Beach	No Regulatory Information Available	38	Low	13
L48	8943878	Palm Beach	Tire Kingdom #33	725 Federal Hwy.	Boynton Beach	SRCO - Cleanup Complete	Adjacent	Low	13
L49	9803852	Palm Beach	Easy Pay Tire Store	619 Federal Hwy.	Boynton Beach	No Documented Contamination	38	Low	13
L50	9802876	Palm Beach	Auto Service Center	301 N. Federal Hwy.	Boynton Beach	No Documented Contamination	109	Low	13
L51	8734204	Palm Beach	Bellsouth Tel. Inc. # 8104 Central Office	221 SE 4th St.	Boynton Beach	No Documented Contamination	Adjacent	Low	13
L52	8838956	Palm Beach	Gold Coast Concrete Contractors Inc.	225 SE 5th Ave.	Boynton Beach	No Documented Contamination	Adjacent	Low	14
L53	8945268	Palm Beach	Fenton Construction	214 SE 7th Ave.	Boynton Beach	No Documented Contamination	Adjacent	Low	14
L54	8623224	Palm Beach	White Aluminum Products Inc.	215 SE 8th Ave.	Boynton Beach	No Documented Contamination	Adjacent	Low	14
L55	9200969	Palm Beach	Commercial Roofing	1112 SE 1st St.	Boynton Beach	No Regulatory Information Available	Adjacent	Low	14
L56	8629252	Palm Beach	P&P Machine	209 SE 12th Ave.	Boynton Beach	No Documented Contamination	Adjacent	Low	14
L57	8629079	Palm Beach	A&A Fences Inc. - Lessee	1210 SE 1st St.	Boynton Beach	No Documented Contamination	Adjacent	Low	14
L58	8735790	Palm Beach	Boynton Builders Supply Inc.	210 SE 12th Ave.	Boynton Beach	No Documented Contamination	Adjacent	Low	14
L59	9401461	Palm Beach	Delray Beach City Master Pump Station	280 NE 4th Ave.	Delray Beach	No Documented Contamination	Adjacent	Low	17
L60	9804031	Palm Beach	Former Standard Oil Facility	142-150 NW 4th Ave.	Delray Beach	Cleanup Complete	25	Low	17
L61	9200682	Palm Beach	FL Power & Light Co.	60 N. Railroad Ave.	Delray Beach	No Documented Contamination	Adjacent	Low	17
L62	9101934	Palm Beach	C & T Wolf Enterprises Inc.	200 SE 3rd St.	Delray Beach	No Regulatory Information Available	51	Low	18
L63	8944953	Palm Beach	Carey & Knuth Electrical Contractors	380 SE 2nd Ave.	Delray Beach	No Documented Contamination	Adjacent	Low	18
L64	9400968	Palm Beach	Maynard Harry Property	1203 S Swinton Ave.	Delray Beach	No Documented Contamination	Adjacent	Low	18
L65	65866	Palm Beach	South County Transfer Station	SW 4 Ave. and Linton Blvd.	Delray Beach	Closed for Remodeling. No Monitoring Conducted	Adjacent	Low	19
L66	98330	Palm Beach	Miller Park Debris Staging Area	1905 SW 4th Ave.	Delray Beach	No Regulatory Information Available	Adjacent	Low	19
L67	65764	Palm Beach	Delray Beach Landfill	Linton Blvd. @ SW 4th St.	Delray Beach	No Regulatory Information Available	Adjacent	Low	19
L68	8734538	Palm Beach	Boca Transmission Service	4000 NW 1st Ave.	Boca Raton	No Documented Contamination	Adjacent	Low	22
L69	9047293	Palm Beach	Jennings Towing and Recovery Service	98 NW Spanish River Blvd.	Boca Raton	No Regulatory Information Available	Adjacent	Low	22
L70	94294	Palm Beach	Boca Raton NW 35 St. Dump	NW 35 St. and Boca Raton Blvd.	Boca Raton	Vegatative Debris Only	Adjacent	Low	22
L71	8513912	Palm Beach	Palm Beach Transportation Inc.	1450 NW 1st Ave.	Boca Raton	SRCO - Cleanup Complete	Adjacent	Low	24
L71	8513969	Palm Beach	Britgar Motors	699 NW 1st Ave.	Boca Raton	No Documented Contamination	68	Low	24
L73	8629075	Palm Beach	Plumbing Experts Inc.	303 NW 1st Ave.	Boca Raton	No Documented Contamination	52	Low	24
L74	9046335	Palm Beach	One Way Cleaners	51 NW 1st Ave.	Boca Raton	No Regulatory Information Available	50	Low	24
L75	9700947	Palm Beach	Boca Mizner Cleaners	51 NW 1st St.	Boca Raton	No Regulatory Information Available	50	Low	24
L76	9502914	Palm Beach	Boca Coin Laundry	101 W Palmetto	Boca Raton	No Regulatory Information Available	50	Low	24



All Aboard Florida  
Potential Contaminated Sites

L77	8734544	Palm Beach	Coastal Tire & Auto Service Inc.	35 SW 1st Ave.	Boca Raton	No Documented Contamination	48	Low	24
L78	9500742	Palm Beach	Dry Cleaning Depot	198 S Dixie Hwy.	Boca Raton	No Regulatory Information Available	75	Low	25
L79	9202811	Palm Beach	Southeast FL Rail Corridor Spill	MP 996.50 Camino Real Blvd.	Boca Raton	SRCO - Cleanup Complete	Adjacent	Low	25
L80	65853	Palm Beach	Boca Raton Garbage Dump	SW 18 St., W of Old Dixie Hwy.	Boca Raton	Planned for City Park. No Assessment Information	Adjacent	Low	26
L81	8502200	Broward	Texaco - Deerfield Muffler	225 N Dixie Hwy.	Deerfield Beach	SRCO - Cleanup Complete	Adjacent	Low	26
L82	8627694	Broward	Artic Ice	1223 SW 1st Way	Deerfield Beach	No Documented Contamination	Adjacent	Low	28
L83	54100	Broward	The Tire Source d/b/a Birchfield	1717 SW 1st Way, Bay 23	Deerfield Beach	No Regulatory Information Available	Adjacent	Low	28
L84	8622721	Broward	Pre-Cast Specialties Inc.	1380 NE 48th St. & N Dixie Hwy.	Pompano Beach	No Documented Contamination	Adjacent	Low	28
L85	8502170	Broward	Sunshine Service	1120 NE 48th St.	Pompano Beach	No Documented Contamination	30	Low	28
L86	9047069	Broward	D & L Telecommunications Inc.	3430 NE 6th Tr.	Pompano Beach	No Documented Contamination	Adjacent	Low	29
L87	9800053	Broward	Petrotech Southeast Inc.	2681 NE 4th Ave.	Pompano Beach	SRCO - Cleanup Complete	Adjacent	Low	30
L88	9801976	Broward	Pompano Beach City - Well #13	1650 NE 5th Ave.	Pompano Beach	No Documented Contamination	Adjacent	Low	31
L89	98109	Broward	Pompano Transfer Station Debris Staging Area	1400 NE 3rd Ave.	Pompano Beach	Proposed Dump Site. No Assessment Information	Adjacent	Low	31
L90	9801678	Broward	Slaton Car Leasing & Automotive	1595 N Federal Hwy.	Pompano Beach	SRCO - Cleanup Complete	80	Low	32
L91	9600815	Broward	Corvette Assoc.	837 N Dixie Hwy.	Pompano Beach	No Documented Contamination	93	Low	32
L92	9801682	Broward	FL East Coast Railway Spill	N. Dixie Hwy. @ NW 6th St.	Pompano Beach	SRCO - Cleanup Complete	Adjacent	Low	32
L93	9501456	Broward	Wards City Dry Cleaners	12 NE 3rd St.	Pompano Beach	No Regulatory Information Available	49	Low	32
L94	8628167	Broward	Nolando Co.	1190 S Dixie Hwy.	Pompano Beach	Clean-up Not Required	Adjacent	Low	33
L95	9401934	Broward	Keiths Automotive	1224 S Dixie Hwy.	Pompano Beach	No Documented Contamination	Adjacent	Low	33
L96	9063828	Broward	Atlantic Builders Supply Inc.	1350 S Dixie Hwy.	Pompano Beach	SRCO - Cleanup Complete	Adjacent	Low	33
L97	9101622	Broward	Pioneer Metals of Ft. Lauderdale Inc.	1610 S Dixie Hwy.	Pompano Beach	SRCO - Cleanup Complete	Adjacent	Low	34
L98	9801104	Broward	Alpine Engineered Products	1761 SW 7th Ave.	Pompano Beach	SRCO - Cleanup Complete	Adjacent	Low	34
L99	9812170	Broward	Andrew Wirghts Property	6001 NE 14th Ave.	Fort Lauderdale	SRCO - Cleanup Complete	Adjacent	Low	34
L100	9800232	Broward	Commercial Center	1121 E. Commercial Blvd.	Fort Lauderdale	No Documented Contamination	Adjacent	Low	35
L101	9700858	Broward	Glenayre Associates Inc.	4801 NE 12th Ave.	Fort Lauderdale	No Documented Contamination	Adjacent	Low	35
L102	8732144	Broward	Dixie Rental	4308 NE 11th Ave.	Oakland Park	No Regulatory Information Available	Adjacent	Low	35
L103	98096	Broward	Eastside Village Lofts Debris Staging Area	4100 N. Dixie Hwy.	Oakland Park	Proposed Dump Site. No Assessment Information	Adjacent	Low	35
L104	8622584	Broward	Sears Roebuck & Co. #8875	1201 NE 38th St.	Oakland Park	SRCO - Cleanup Complete	Adjacent	Low	36
L105	9103095	Broward	Martin Motors	3301 N Dixie Hwy.	Oakland Park	SRCO - Cleanup Complete	60	Low	36
L106	9103495	Broward	Citgo - Willies	3299 N Dixie Hwy.	Oakland Park	No Regulatory Information Available	47	Low	36
L107	8944169	Broward	Deem Investments	2664 N Dixie Hwy.	Wilton Manors	Clean-up Not Required	Adjacent	Low	37
L108	8944211	Broward	AAA Auto Club	2630 N Dixie Hwy.	Wilton Manors	Clean-up Not Required	Adjacent	Low	37
L109	8628129	Broward	Barton & Miller Cleaners	2600 N Dixie Hwy.	Wilton Manors	No Documented Contamination	Adjacent	Low	37
L110	9100857	Broward	Mercer Drycleaners	1212 NE 26th St.	Wilton Manors	No Documented Contamination	Adjacent	Low	37
L111	9501072	Broward	Mercer Cleaners	1212 NE 26th St.	Wilton Manors	No Documented Contamination	Adjacent	Low	37
L112	9602369	Broward	Haywood Inc.	1215 NE 17th Ct.	Fort Lauderdale	No Documented Contamination	Adjacent	Low	37
L113	9400817	Broward	Georgia Stevens Property	1646 NE 12th Tr.	Fort Lauderdale	No Documented Contamination	Adjacent	Low	37
L114	9800818	Broward	Brewster Robert T. Property	1501 NE 13th Ave.	Fort Lauderdale	No Documented Contamination	Adjacent	Low	37
L115	8622328	Broward	Cemex - Sunrise Ready - Mix	1050 NE 5th Tr.	Fort Lauderdale	Clean-up Not Required	Adjacent	Low	38
L116	8732557	Broward	Riteway Leather Ref Inc.	725 Progresso Dr.	Fort Lauderdale	No Documented Contamination	40	Low	39
L117	9500339	Broward	Right Way Leather Refinishers & DC	725 Progresso Dr.	Fort Lauderdale	No Documented Contamination	40	Low	39
L118	8622577	Broward	FO-LO Trust	535 NW 1st Ave.	Fort Lauderdale	Clean-up Not Required	Adjacent	Low	39
L119	8622468	Broward	FL Power & Light Co. #7632	209 NW 2nd St.	Fort Lauderdale	SRCO - Cleanup Complete	Adjacent	Low	39
L120	9802794	Broward	Level 3 Communications LLC	200 NW 2nd St.	Fort Lauderdale	No Documented Contamination	40	Low	39
L121	8732214	Broward	Former Gory Roof Tile	1773 NE 205th St.	Fort Lauderdale	No Regulatory Information Available	Adjacent	Low	39
L122	8841125	Broward	Florida Dept. of Management Services	210 W Broward Blvd.	Fort Lauderdale	No Documented Contamination	Adjacent	Low	39
L123	9102325	Broward	Broward County Government Center	115 S Andrews Ave.	Fort Lauderdale	No Documented Contamination	Adjacent	Low	39
L124	9800307	Broward	Las Olas Riverfront LP	300 SW 1st Ave.	Fort Lauderdale	SRCO - Cleanup Complete	400	Low	39
L125	9400195	Broward	City of Fort Lauderdale Riverwalk	Brickell Ave. @ SW 1st Ave.	Fort Lauderdale	No Documented Contamination	Adjacent	Low	39
L126	8627682	Broward	Riverfront Marina Inc.	420 SW 3rd Ave.	Fort Lauderdale	No Documented Contamination	Adjacent	Low	40
L127	8627627	Broward	Mercury Services Property	430 S Flagler Ave.	Fort Lauderdale	No Regulatory Information Available	50	Low	40
L128	8733168	Broward	Andys Garage	608 S Flagler Ave.	Fort Lauderdale	No Documented Contamination	40	Low	40
L129	9806113	Broward	FL Power & Light - Orchid Substation	642 SW 2nd Ave.	Fort Lauderdale	SRCO - Cleanup Complete	50	Low	40
L130	9501187	Broward	PCI Independent BMW Service	210 SW 14th St.	Fort Lauderdale	No Documented Contamination	43	Low	40
L131	9806058	Broward	Petrochemical Transport - Road Spill	SE 28th St. @ Railroad	Fort Lauderdale	SRCO - Cleanup Complete	Adjacent	Low	41

All Aboard Florida  
Potential Contaminated Sites

L132	55102	Broward	East Marsh Nursery Trash LF #1	1/4 Mile East of FLL	Dania	No Regualtory Information Available	Adjacent	Low	42
L133	55103	Broward	East Marsh Nursery Trash LF #2	1/4 Mile East of FLL	Dania	No Regulatory Information Available	Adjacent	Low	42
L134	8501942	Broward	Airport Chevron #47269	345 N Federal Hwy.	Dania	No Documented Contamination	Adjacent	Low	43
L135	8627809	Broward	Broward Linen Service - Former	303 N Federal Hwy.	Dania	SRCO - Cleanup Complete	Adjacent	Low	43
L136	9500502	Broward	My Dry Cleaners	322 E Dania Beach Blvd.	Dania	No Documented Contamination	Adjacent	Low	44
L137	8841656	Broward	Color Rite Building Supply	14 SW 3rd Ave.	Dania	No Documented Contamination	Adjacent	Low	44
L138	8628040	Broward	Settes Enterprises	401 SW 2nd Pl.	Dania	No Documented Contamination	Adjacent	Low	44
L139	9400063	Broward	Aman Plastics	302 SW 4th Ct.	Dania	No Documented Contamination	40	Low	44
L140	9810400	Broward	Former Hess Station	1476 Dixie Hwy.	Dania Beach	No Documented Contamination	50	Low	45
L141	9807953	Broward	Cementcraft Inc.	2200 N Dixie Hwy.	Hollywood	No Documented Contamination	54	Low	45
L142	8502118	Broward	Union 76 - Hoagie's	1402 N Dixie Hwy.	Hollywood	No Documented Contamination	50	Low	46
L143	8838036	Broward	Goldman Property	614 N Dixie Hwy.	Hollywood	No Regulatory Information Available	50	Low	46
L144	9804786	Broward	Moody Property	430 N Dixie Hwy.	Hollywood	No Documented Contamination	50	Low	46
L145	8622354	Broward	Hollywood City - Fire Station #1	421 N 21st Ave.	Hollywood	No Regulatory Information Available	70	Low	46
L146	8945539	Broward	State Supply Co.	224 N Dixie Hwy.	Hollywood	No Regulatory Information Available	50	Low	46
L147	9103671	Broward	Bello Property	230 S Dixie Hwy.	Hollywood	No Documented Contamination	50	Low	46
L148	9200118	Broward	Best German Auto Repair	440 S Dixie Hwy.	Hollywood	No Documented Contamination	50	Low	46
L149	9502230	Broward	Wynona of Hollywood (Formerly)	500 S Dixie Hwy.	Hollywood	No Regulatory Information Available	50	Low	47
L150	9101728	Broward	Gregs Landscaping	1008 S Dixie Hwy.	Hollywood	Clean-up Not Required	50	Low	47
L151	8502087	Broward	Harry's Auto Repair	1148 S Dixie Hwy.	Hollywood	No Documented Contamination	50	Low	47
L152	8841660	Broward	Atlantic Asphalt	500 NE 1st Ave.	Hallandale	No Documented Contamination	70	Low	48
L153	9101852	Broward	Firestone #46698288	S Dixie Hwy. @ Hallandale Blvd.	Hallandale	No Regulatory Information Available	50	Low	48
L154	8731770	Broward	Smith Plumbing Inc.	824 S Dixie Hwy.	Hallandale	No Regulatory Information Available	50	Low	48
L155	8733338	Miami-Dade	A&S Transmission Inc.	18110 Biscayne Blvd.	North Miami Beach	No Documented Contamination	Adjacent	Low	51
L156	9500250	Miami-Dade	Spotmaster Clean (Formerly)	17900 Biscayne Blvd.	North Miami Beach	No Documented Contamination	Adjacent	Low	51
L157	9800004	Miami-Dade	Spotmaster Cleaners Inc.	18000 Biscayne Blvd.	North Miami Beach	No Regulatory Information Available	Adjacent	Low	51
L158	9811153	Miami-Dade	Taharah Inc. DBA Classic Cleaners	17841 Biscayne Blvd.	North Miami Beach	No Documented Contamination	Adjacent	Low	51
L159	9602388	Miami-Dade	FI Department of Transportation - ROW	Biscayne Blvd. @ 163rd St.	North Miami Beach	No Documented Contamination	Adjacent	Low	52
L160	9809228	Miami-Dade	SAE Institute	16051 W Dixie Hwy.	North Miami Beach	SRCO - Cleanup Complete	Adjacent	Low	52
L161	9808037	Miami-Dade	Miami-Dade WSA Offsite Chlorine Bldg.	15500 Biscayne Blvd.	North Miami Beach	No Documented Contamination	Adjacent	Low	52
L162	100001	Miami-Dade	Taylor Park	15450 Dixie Hwy.	North Miami Beach	No Documented Contamination	Adjacent	Low	52
L163	9801698	Miami-Dade	Citgo Station	15200 Biscayne Blvd.	North Miami Beach	No Documented Contamination	26	Low	52
L164	9102624	Miami-Dade	Prestige Motorcar Imports Inc.	14800 Biscayne Blvd.	North Miami Beach	No Documented Contamination	Adjacent	Low	52
L165	8521979	Miami-Dade	Cemex - North Miami Ready - Mix	2001 NE 146th St.	North Miami Beach	SRCO - Cleanup Complete	Adjacent	Low	53
L166	9811115	Miami-Dade	OXXO Care Cleaners	14490 Biscayne Blvd. #106	North Miami Beach	No Documented Contamination	Adjacent	Low	53
L167	8944556	Miami-Dade	Blanchard Machinery Inc.	14301 NE 19th Ave.	North Miami Beach	No Documented Contamination	Adjacent	Low	53
L168	8505565	Miami-Dade	Sunoco FOK Service Inc.	14200 Biscayne Blvd.	North Miami Beach	SRCO - Cleanup Complete	Adjacent	Low	53
L169	9200479	Miami-Dade	Metro Limo Inc.	1995 NE 142nd St.	North Miami	SRCO - Cleanup Complete	Adjacent	Low	53
L170	8622072	Miami-Dade	Battery Sales Inc.	12275 NE 13th Ave.	North Miami	Clean-up Not Required	Adjacent	Low	53
L171	59840	Miami-Dade	Envirosafe Recycling	12050 NE 14th Ave.	North Miami	Inactive Site. NFAP 2002	800	Low	54
L172	98224	Miami-Dade	Public Works Complex Debris Staging Area	893 NE 109th St.	Biscayne Park	Proposed Dump Site. No Assessment Information	500	Low	55
L173	9502793	Miami-Dade	Tropical Chevrolet	8880 Biscayne Blvd.	Miami Shores	No Documented Contamination	Adjacent	Low	56
L174	8522055	Miami-Dade	El Portal Village	500 NE 87th St.	Miami Shores	No Documented Contamination	Adjacent	Low	56
L175	8733415	Miami-Dade	South FI Water Management District S-27	NE 82nd St. & 4th Ct.	Miami	No Documented Contamination	Adjacent	Low	57
L176	9202233	Miami-Dade	Beloff Painting Co. Inc.	7525 NE 3rd Pl.	Miami	No Documented Contamination	Adjacent	Low	57
L177	8839457	Miami-Dade	X-Ray Equipment Co.	7500 NE 4th Ct.	Miami	SRCO - Cleanup Complete	Adjacent	Low	57
L178	9701200	Miami-Dade	Walton Wholesale	7110 NE 4th Ct.	Miami	Cleanup Not Required	Adjacent	Low	57
L179	9500068	Miami-Dade	Stobs Brothers Storage Utility	7010 NE 4th Ct.	Miami	No Documented Contamination	Adjacent	Low	57
L180	9600285	Miami-Dade	Dade Towel Co.	7000 NE 4th Ct.	Miami	No Regulatory Information Available	Adjacent	Low	57
L181	9046353	Miami-Dade	Citgo - Lemmon City	421 NE 61st St.	Miami	SRCO - Cleanup Complete	77	Low	58
L182	9800443	Miami-Dade	Antique Shop	3535 NE 2nd Ave.	Miami	No Documented Contamination	79	Low	59
L183	8629015	Miami-Dade	Ft Dallas Docks Inc.	160 NE 30th St.	Miami	No Regulatory Information Available	Adjacent	Low	60
L184	8945123	Miami-Dade	Tarmac FL Inc - Buena Vista Concrete Plant	3111 North Miami Ave.	Miami	SRCO - Cleanup Complete	Adjacent	Low	60
L185	9501815	Miami-Dade	Miller Machinery and Supply Co.	127 NE 27th St.	Miami	No Regulatory Information Available	Adjacent	Low	60
L186	9101148	Miami-Dade	FI East Coast Properties	62 NE 27th St.	Miami	SRCO - Cleanup Complete	Adjacent	Low	60

All Aboard Florida  
Potential Contaminated Sites

L187	9806630	Miami-Dade	F P & L - Overtown Substation	77 NE 20th St.	Miami	No Documented Contamination	Adjacent	Low	60
L188	99980	Miami-Dade	Biscayne Park	NE 1st Ct. @ NE 19th St.	Miami	No Documented Contamination	Adjacent	Low	60
L189	59749	Miami-Dade	Sun Recycling #6	2000 N Miami Drive	Miami	No Documented Contamination	Adjacent	Low	60
L190	9700107	Miami-Dade	Community Partnership for Homeless Inc.	1550 North Miami Ave.	Miami	No Documented Contamination	Adjacent	Low	61
L191	8944027	Miami-Dade	Abboud Station	1401 NW 1st Ave.	Miami	No Documented Contamination	Adjacent	Low	61
L192	9803820	Miami-Dade	MCI	666 North Miami Ave.	Miami	No Documented Contamination	Adjacent	Low	61
L193	8945057	Miami-Dade	AT&T	13 NW 6th St.	Miami	No Documented Contamination	Adjacent	Low	61
L194	9801720	Miami-Dade	Level 3 Communications LLC	49 NW 5th St.	Miami	No Documented Contamination	Adjacent	Low	61
L195	8734440	Miami-Dade	Bellsouth Telephone Inc.	45 NW 5th St.	Miami	No Documented Contamination	Adjacent	Low	61
L196	9502539	Miami-Dade	Miami-Dade County GSA Property	NW 3rd St. @ 1st Ave.	Miami	No Documented Contamination	120	Low	61
L197	9804893	Miami-Dade	Stephen P. Clark Center	111 NW 1st St.	Miami	No Documented Contamination	Adjacent	Low	61
L198	9200477	Miami-Dade	Dade County Courthouse Center	175 NW 1st Ave.	Miami	No Documented Contamination	Adjacent	Low	61
L199	9800911	Miami-Dade	Miami-Dade Courthouse	73 W Flagler St.	Miami	No Documented Contamination	Adjacent	Low	61

**KEY**

**CAR - Contamination Assessment Report**

**LCSR - Limited Closure Summary Report**

**MOP - Monitoring Only Plan**

**NAM - Natural Attenuation Monitoring**

**NFAP - No Further Action Proposal**

**PARM - Post-Active Remediation Monitoring**

**RAP - Remedial Action Plan**

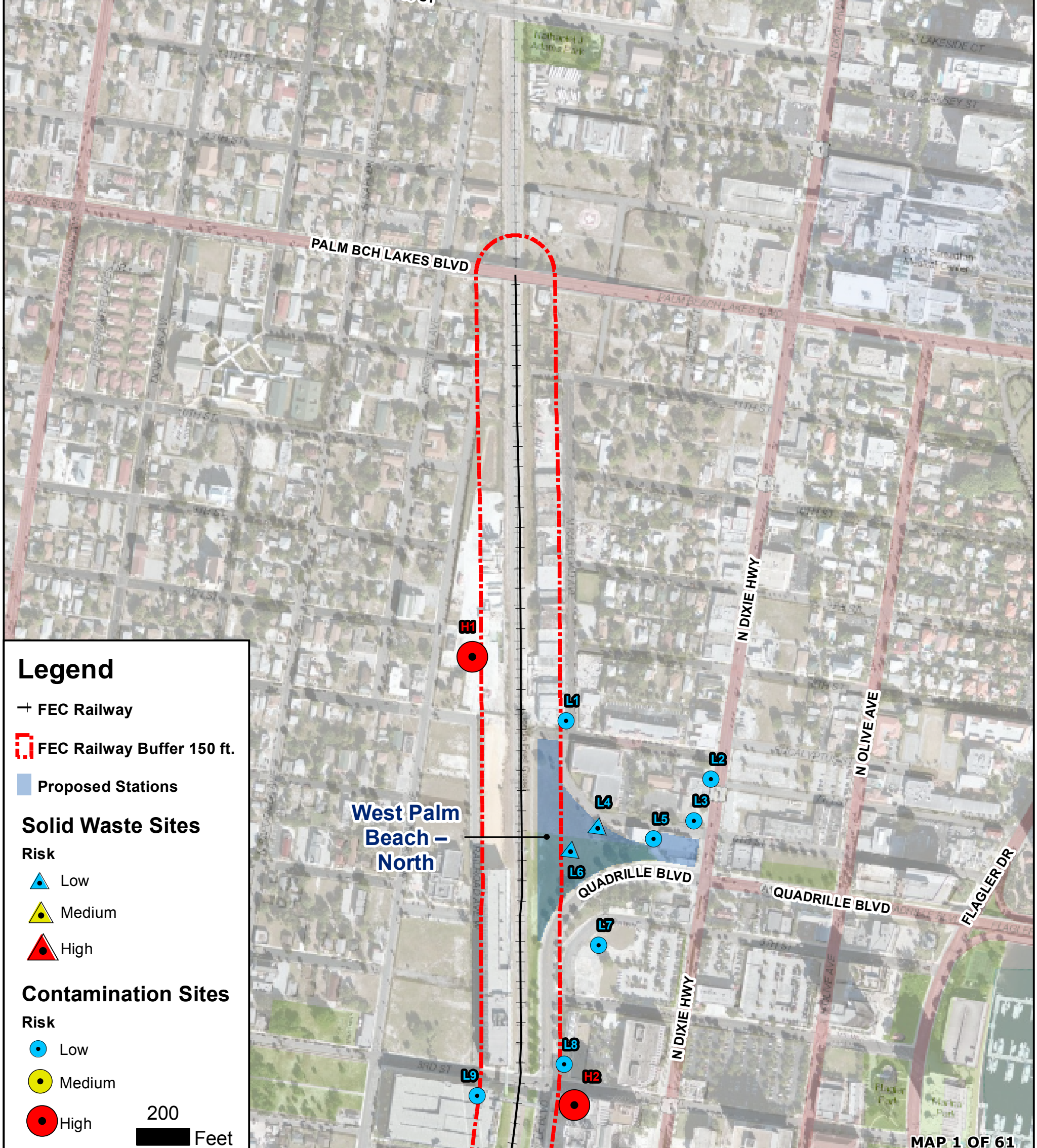
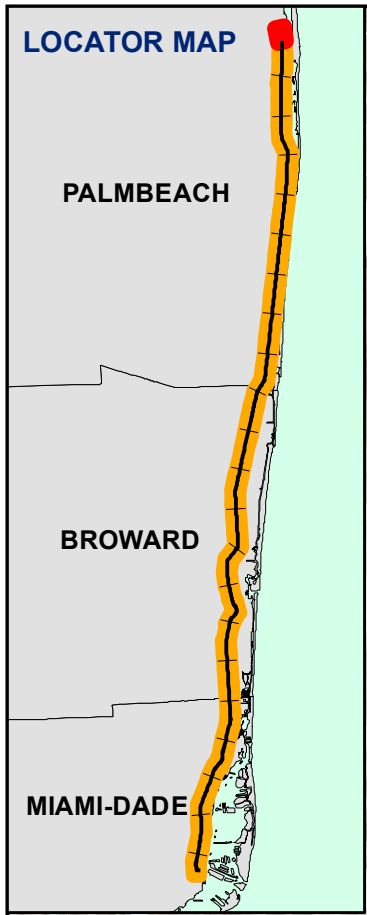
**SAR - Site Assessment Report**

**SR - Source Removal**

**SRCO - Site Rehabilitation Completion Order**

**TCAR - Tank Closure Assessment Report**





**Legend**

- + FEC Railway
- ▭ FEC Railway Buffer 150 ft.
- ▭ Proposed Stations

**Solid Waste Sites**

Risk

- ▲ Low
- ▲ Medium
- ▲ High

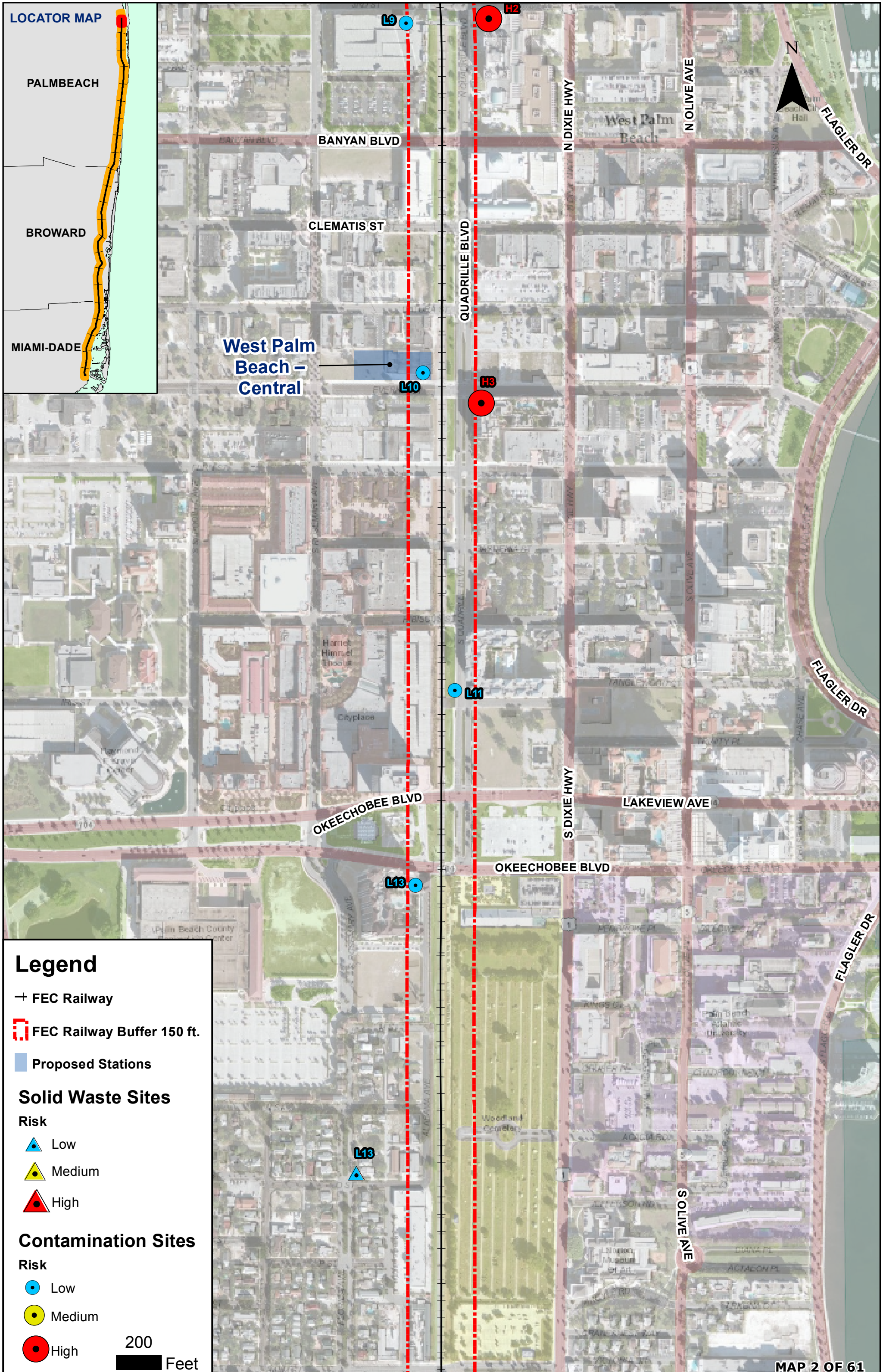
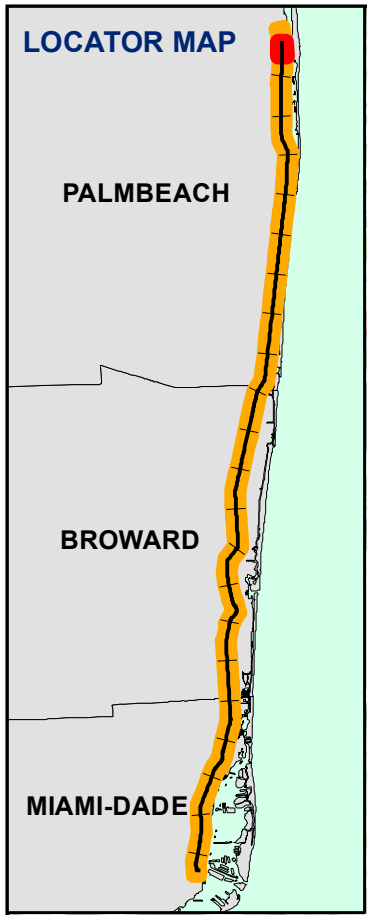
**Contamination Sites**

Risk

- Low
- Medium
- High

200 Feet





**Legend**

- + FEC Railway
- ▭ FEC Railway Buffer 150 ft.
- ▭ Proposed Stations

**Solid Waste Sites**

**Risk**

- ▲ Low
- ▲ Medium
- ▲ High

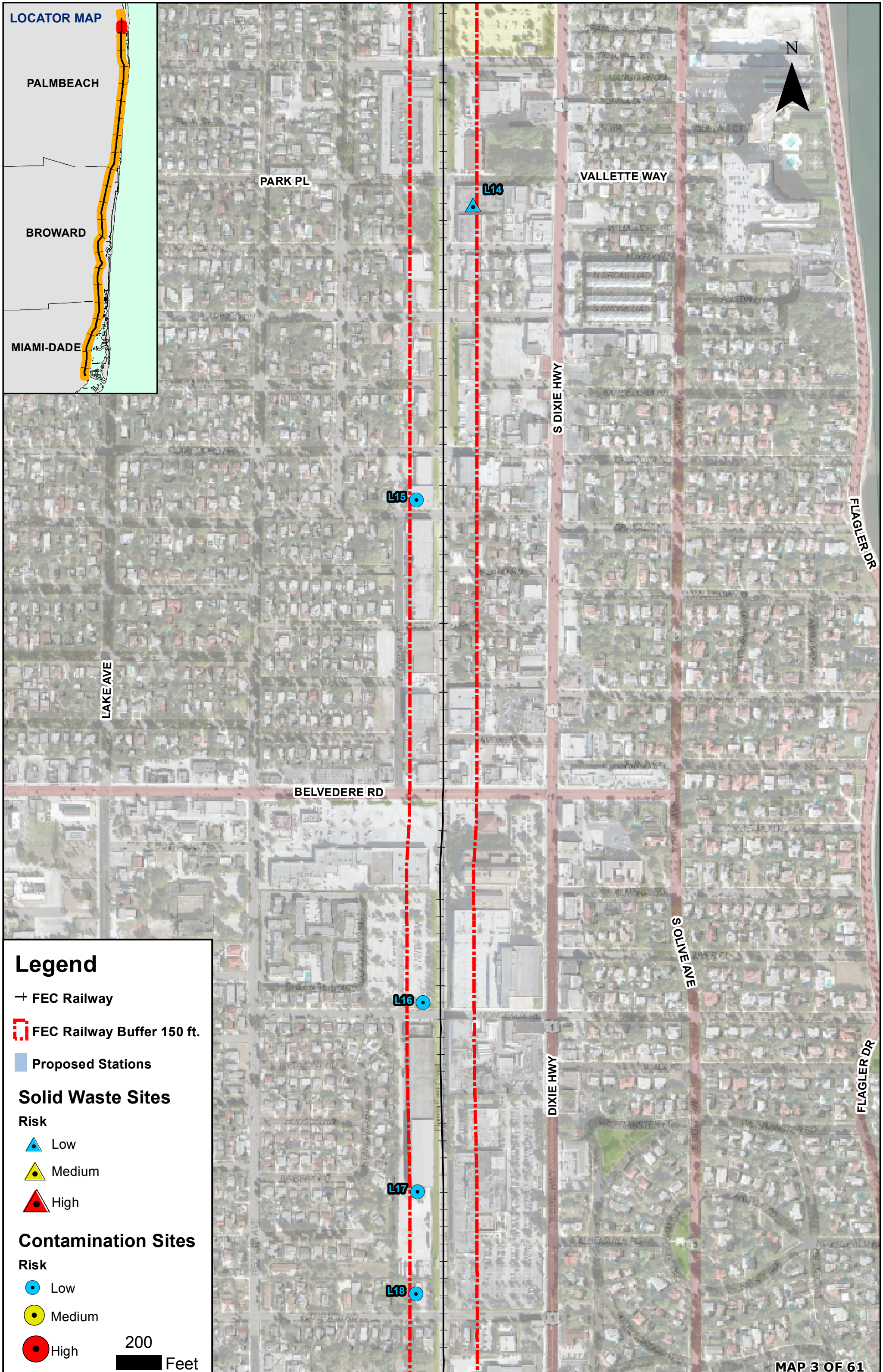
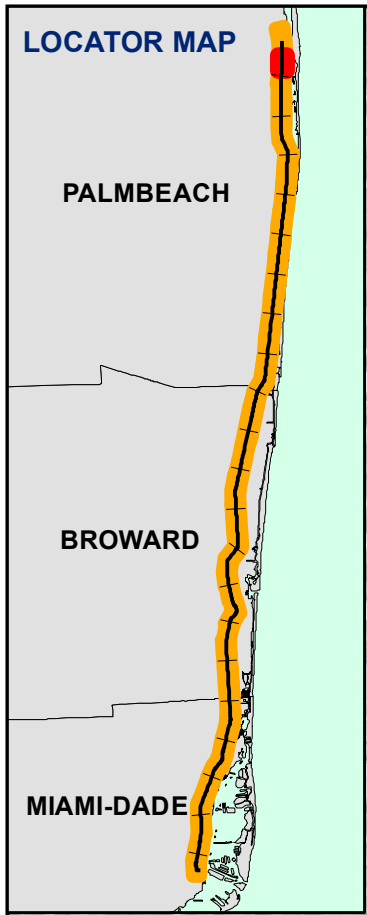
**Contamination Sites**

**Risk**

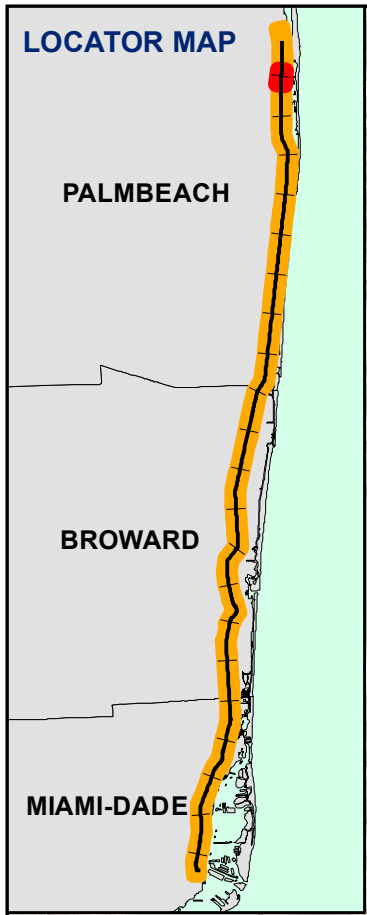
- Low
- Medium
- High

200 Feet

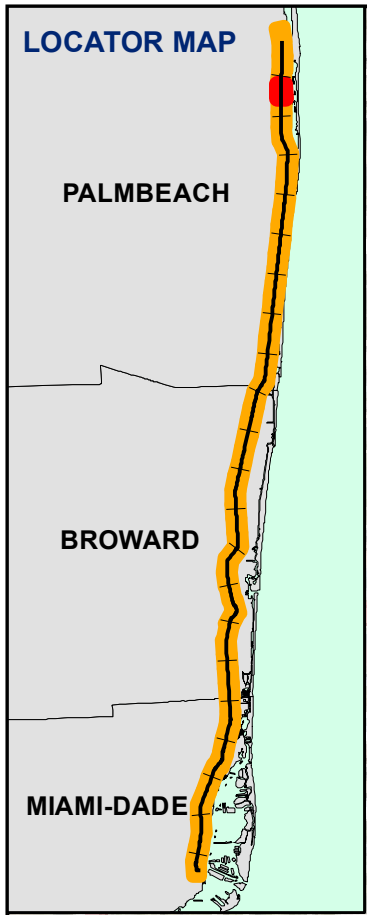












**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations

**Solid Waste Sites**

Risk

- Low
- Medium
- High

**Contamination Sites**

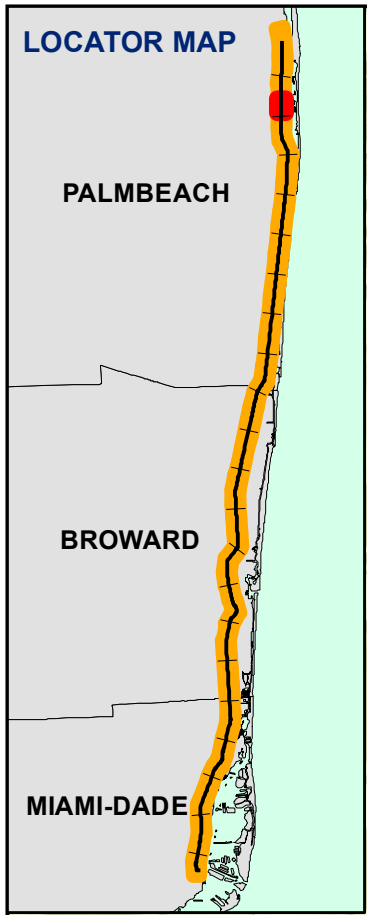
Risk

- Low
- Medium
- High

200 Feet



**LOCATOR MAP**



PALMBEACH

BROWARD

MIAMI-DADE



GEORGIA AVE

L32

GREGORY RD

DIXIE HWY

22 AVE N

FORDHAM DR

LAKESIDE DR

N D ST

**Legend**

+ FEC Railway

FEC Railway Buffer 150 ft.

Proposed Stations

**Solid Waste Sites**

Risk

▲ Low

▲ Medium

▲ High

**Contamination Sites**

Risk

● Low

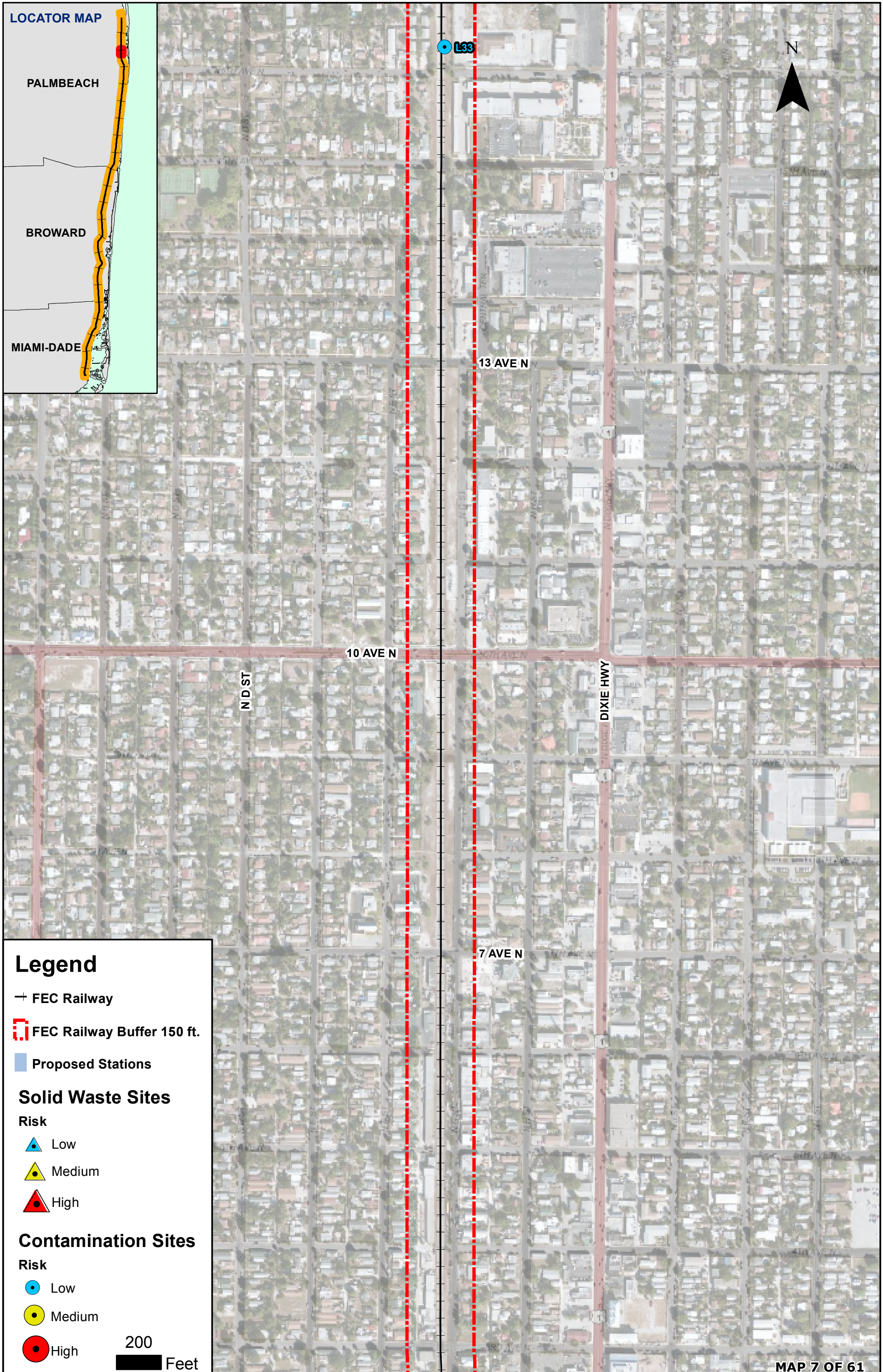
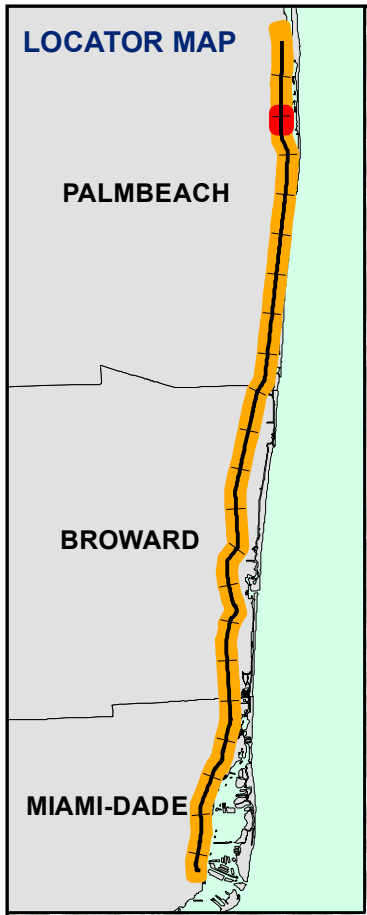
● Medium

● High

200 Feet

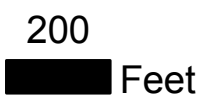
L33



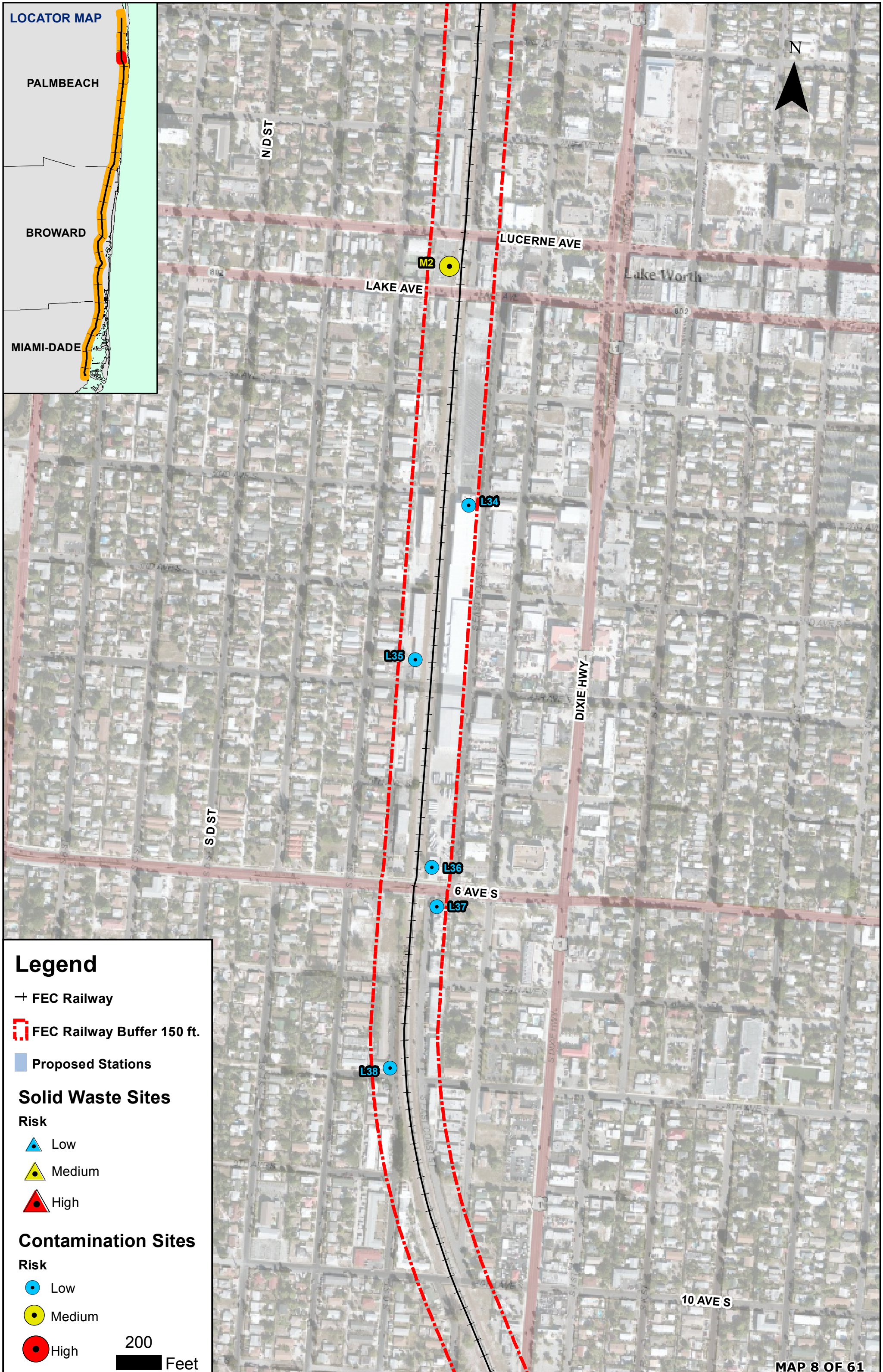
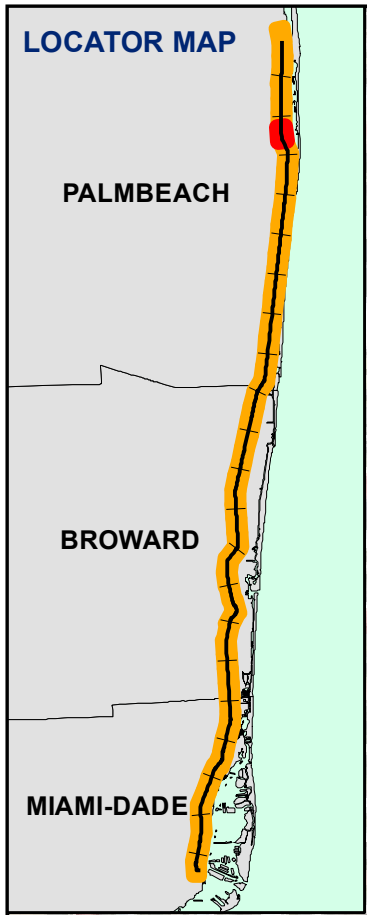


**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations
- Solid Waste Sites**
- Risk
  - Low
  - Medium
  - High
- Contamination Sites**
- Risk
  - Low
  - Medium
  - High

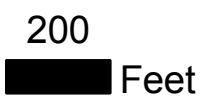






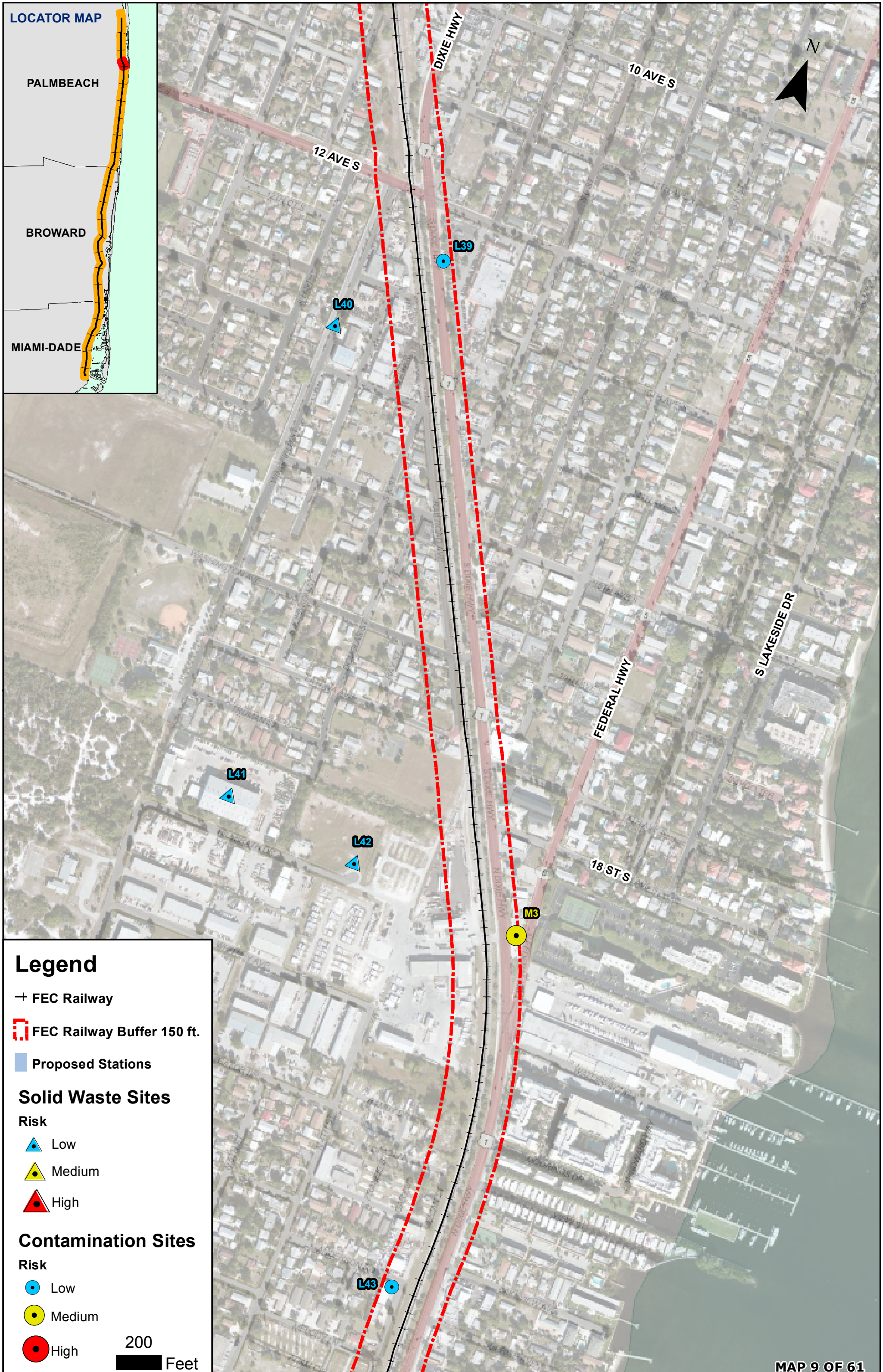
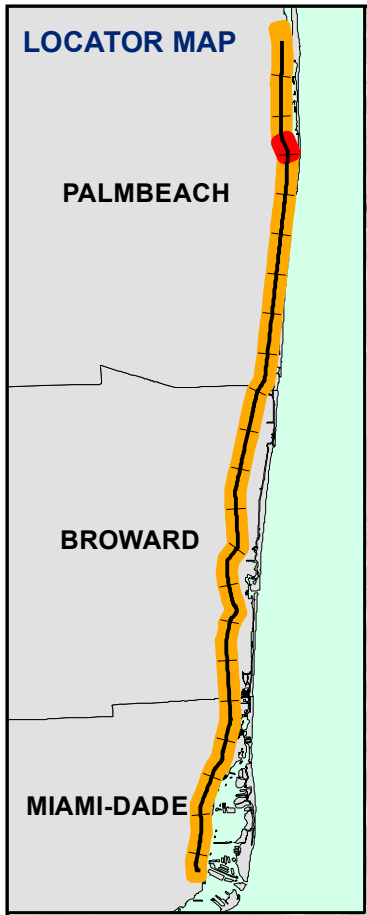
**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations
- Solid Waste Sites**
- Risk
  - Low
  - Medium
  - High
- Contamination Sites**
- Risk
  - Low
  - Medium
  - High





LOCATOR MAP



Legend

- + FEC Railway
  - [Red dashed line] FEC Railway Buffer 150 ft.
  - [Blue square] Proposed Stations
  - Solid Waste Sites**
  - Risk
    - [Blue triangle] Low
    - [Yellow triangle] Medium
    - [Red triangle] High
  - Contamination Sites**
  - Risk
    - [Blue circle] Low
    - [Yellow circle] Medium
    - [Red circle] High
- 200 Feet

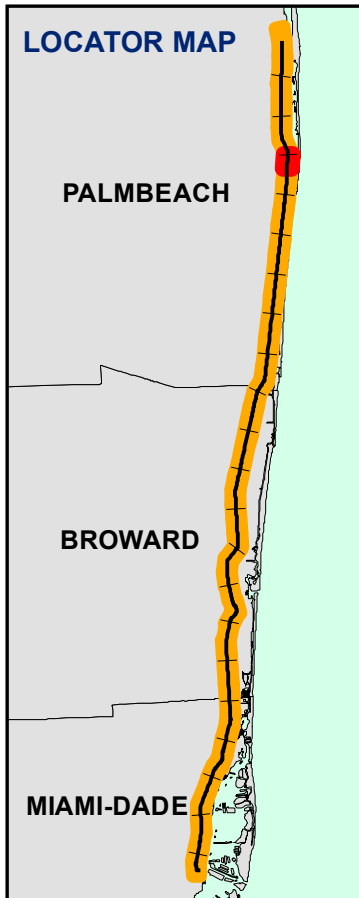


LOCATOR MAP

PALMBEACH

BROWARD

MIAMI-DADE



LANTANA RD

812

OCEAN AVE

FEDERAL HWY

L43

L44

HYPOLUXO RD

Legend

+ FEC Railway

FEC Railway Buffer 150 ft.

Proposed Stations

Solid Waste Sites

Risk

Low

Medium

High

Contamination Sites

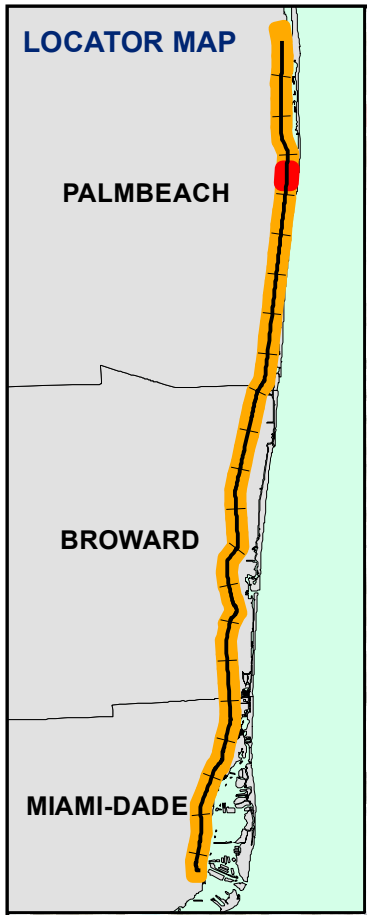
Risk

Low

Medium

High

200 Feet



**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations

**Solid Waste Sites**

Risk

- Low
- Medium
- High

**Contamination Sites**

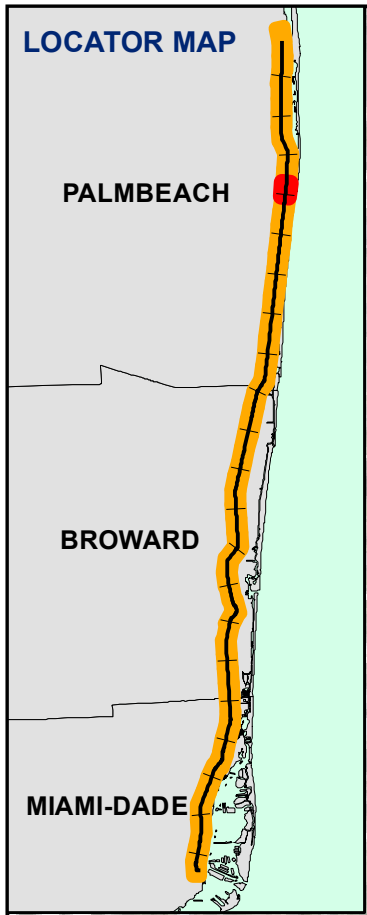
Risk

- Low
- Medium
- High


200 Feet

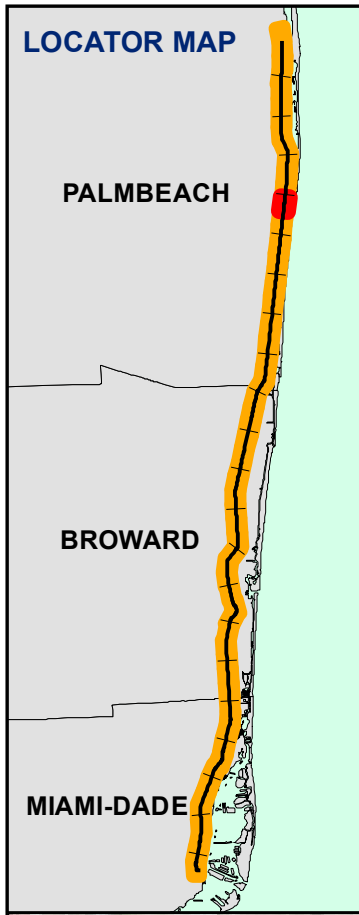


**LOCATOR MAP**



**Legend**

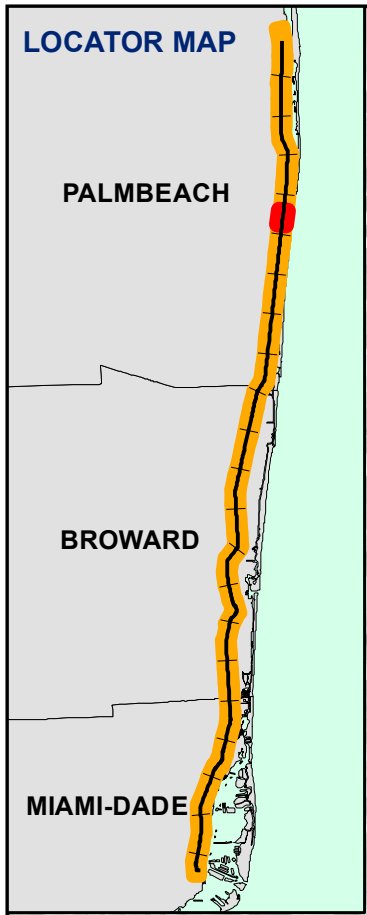
- + FEC Railway
-  FEC Railway Buffer 150 ft.
-  Proposed Stations
- Solid Waste Sites**
- Risk
  -  Low
  -  Medium
  -  High
- Contamination Sites**
- Risk
  -  Low
  -  Medium
  -  High
-  200 Feet



**Legend**

- + FEC Railway
  - FEC Railway Buffer 150 ft.
  - Proposed Stations
  - Solid Waste Sites**
  - Risk
    - Low
    - Medium
    - High
  - Contamination Sites**
  - Risk
    - Low
    - Medium
    - High
- 200 Feet





**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations

**Solid Waste Sites**

Risk

- Low
- Medium
- High

**Contamination Sites**

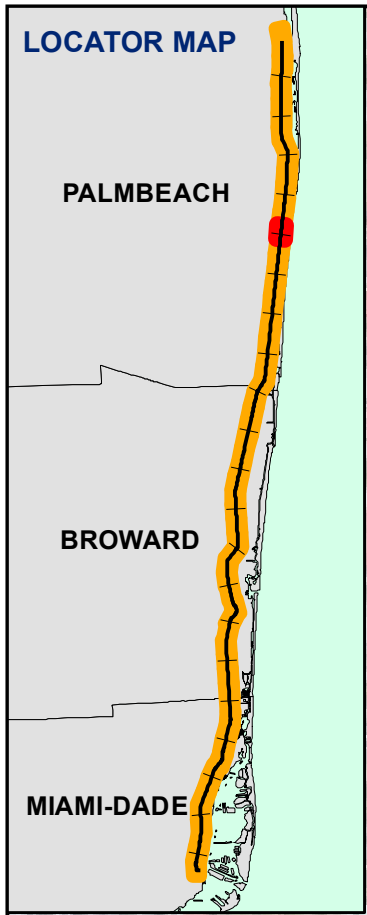
Risk

- Low
- Medium
- High

200 Feet



LOCATOR MAP



PALMBEACH

BROWARD



MIAMI-DADE

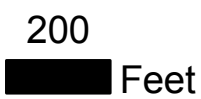


SE 23 AVE

FEDERAL HWY

Legend

- + FEC Railway
-  FEC Railway Buffer 150 ft.
-  Proposed Stations
- Solid Waste Sites**
- Risk
  -  Low
  -  Medium
  -  High
- Contamination Sites**
- Risk
  -  Low
  -  Medium
  -  High



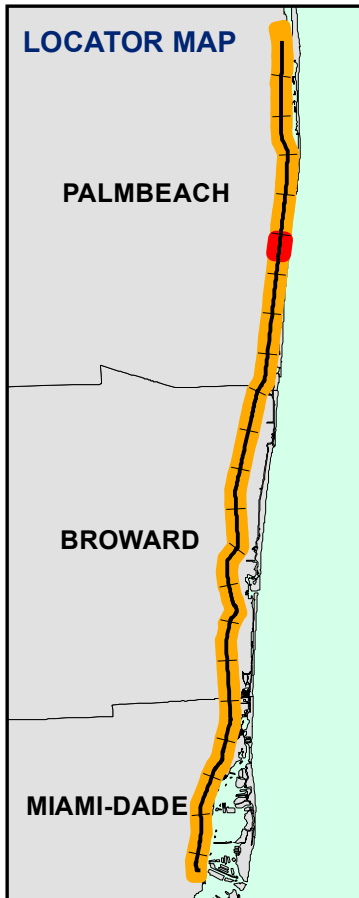


**LOCATOR MAP**

PALMBEACH

BROWARD

MIAMI-DADE



GULFSTREAM BLVD

FEDERAL HWY

SEACREST BLVD

**Legend**

+ FEC Railway

FEC Railway Buffer 150 ft.

Proposed Stations

**Solid Waste Sites**

Risk

Low

Medium

High

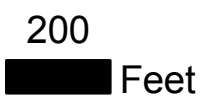
**Contamination Sites**

Risk

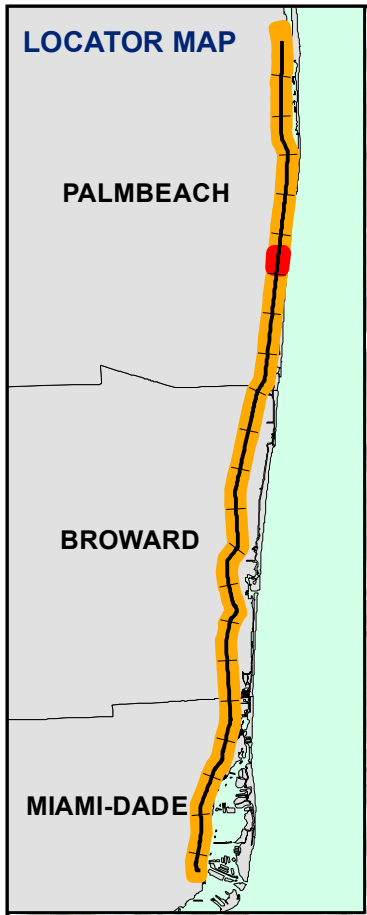
Low

Medium

High







**Legend**

- + FEC Railway
- ▭ FEC Railway Buffer 150 ft.
- ▭ Proposed Stations

**Solid Waste Sites**

Risk

- ▲ Low
- ▲ Medium
- ▲ High

**Contamination Sites**

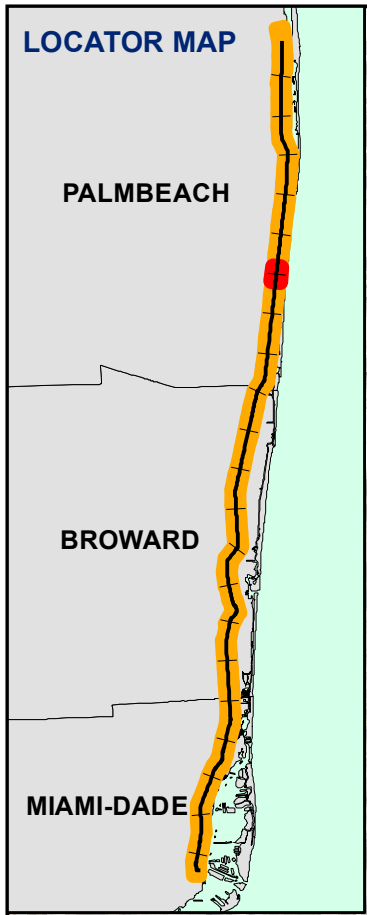
Risk

- Low
- Medium
- High

200 Feet



LOCATOR MAP



PALMBEACH

BROWARD

MIAMI-DADE



SE 1 ST

SWINTON AVE

SE 6 AVE

L62

L63

SE 4TH ST

SE 10 ST

L64

DIXIE HWY

NE 5 AVE/OLD DIXIE  
FEDERAL HWY

Legend

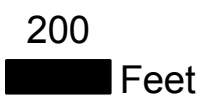
- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations

Solid Waste Sites

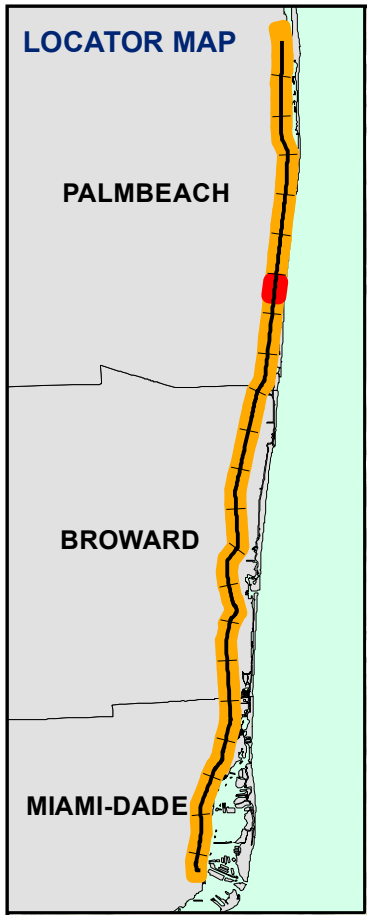
- Risk
- Low
  - Medium
  - High

Contamination Sites

- Risk
- Low
  - Medium
  - High







**Legend**

- + FEC Railway
  - FEC Railway Buffer 150 ft.
  - Proposed Stations
  - Solid Waste Sites**
  - Risk**
  - Low
  - Medium
  - High
  - Contamination Sites**
  - Risk**
  - Low
  - Medium
  - High
- 200 Feet

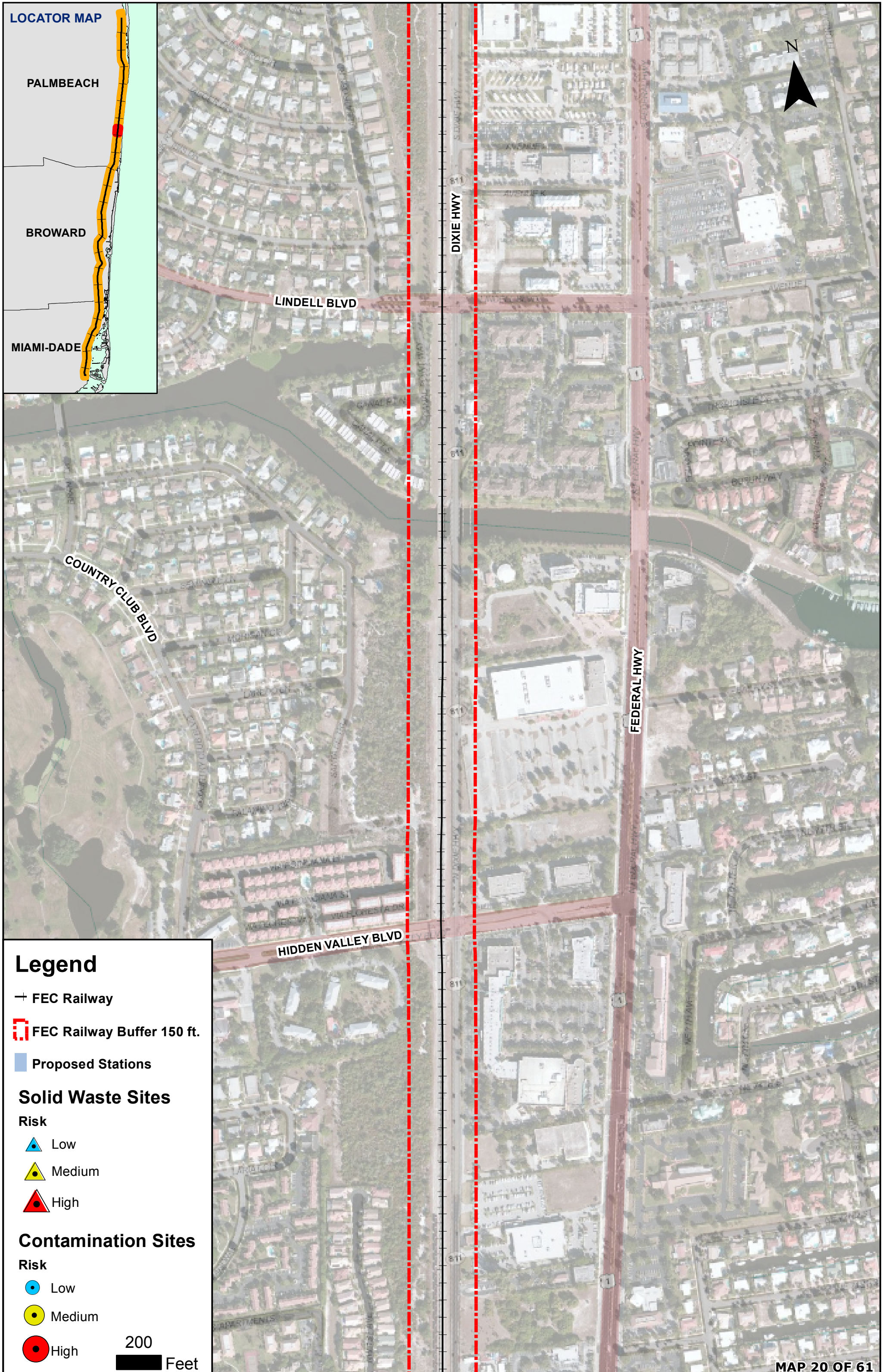
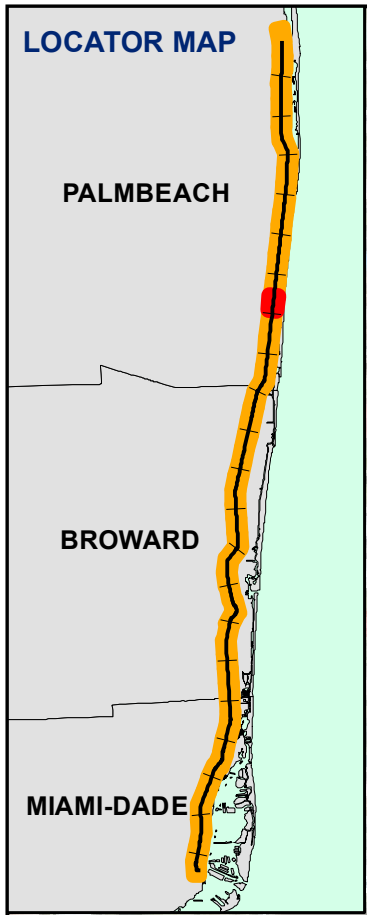


**LOCATOR MAP**

PALMBEACH

BROWARD

MIAMI-DADE



**Legend**

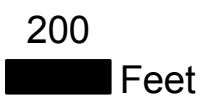
- + FEC Railway
- [Red dashed line] FEC Railway Buffer 150 ft.
- [Blue square] Proposed Stations

**Solid Waste Sites**

- Risk
- [Blue triangle] Low
  - [Yellow triangle] Medium
  - [Red triangle] High

**Contamination Sites**

- Risk
- [Blue circle] Low
  - [Yellow circle] Medium
  - [Red circle] High





**LOCATOR MAP**

**PALMBEACH**

**BROWARD**

**MIAMI-DADE**

NW 2 AVE

DIXIE HWY

FEDERAL HWY

N

**Legend**

+ FEC Railway

FEC Railway Buffer 150 ft.

Proposed Stations

**Solid Waste Sites**

Risk

▲ Low

▲ Medium

▲ High

**Contamination Sites**

Risk

● Low

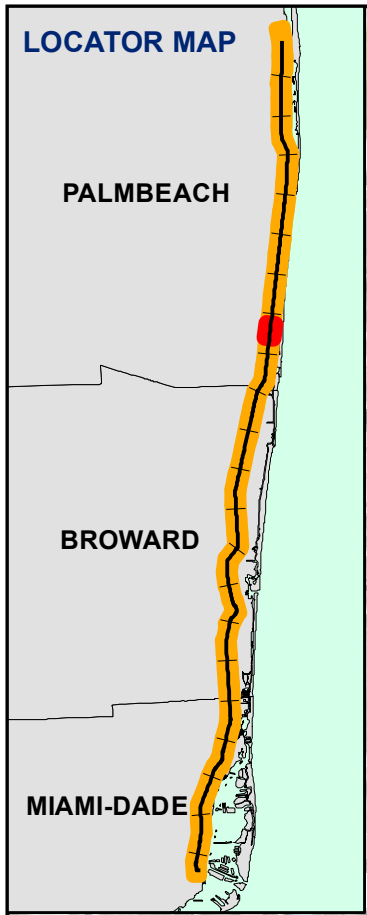
● Medium

● High

200 Feet



**LOCATOR MAP**



PALMBEACH

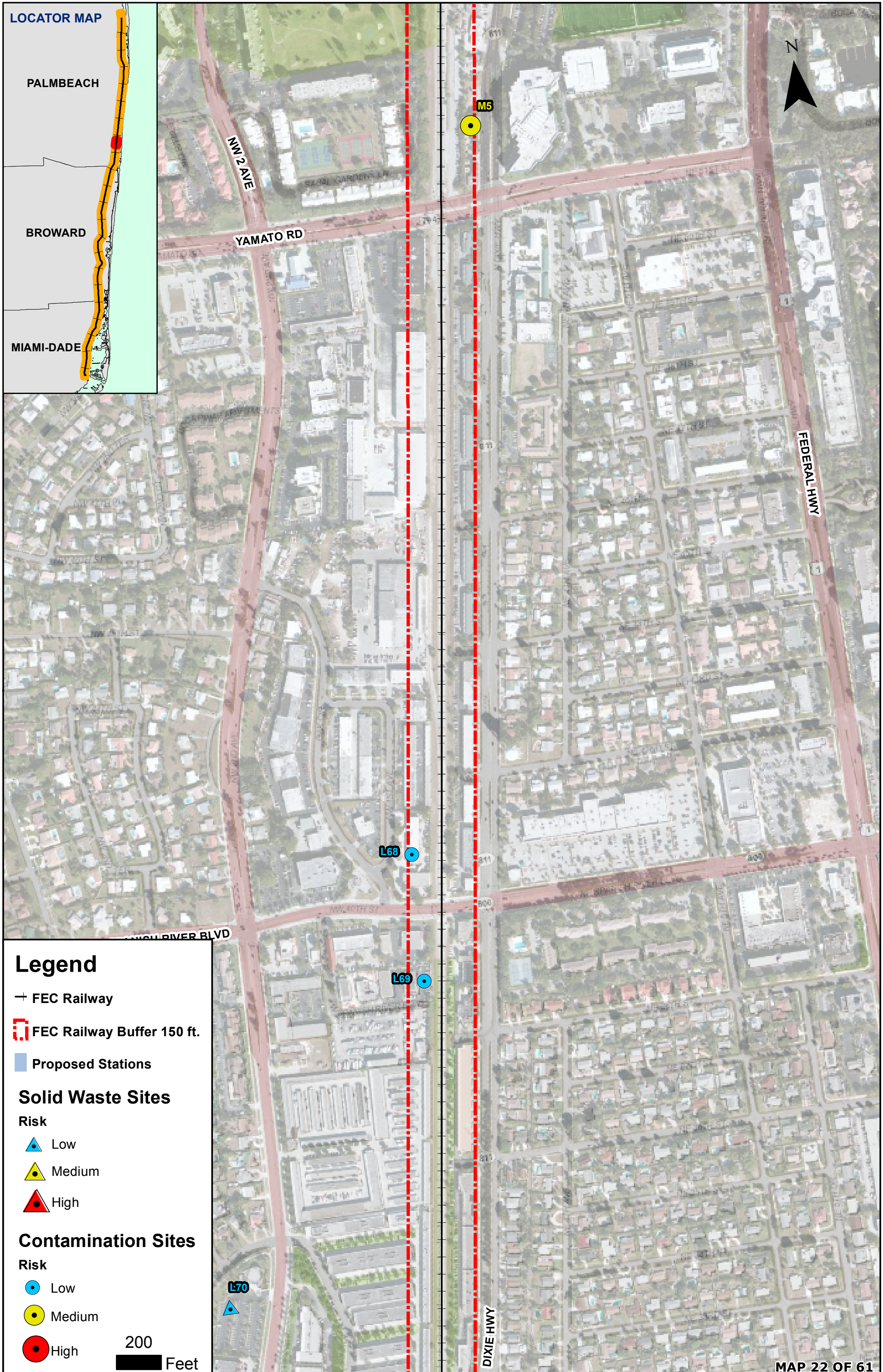
BROWARD

MIAMI-DADE



**Legend**

- + FEC Railway
  -  FEC Railway Buffer 150 ft.
  -  Proposed Stations
  - Solid Waste Sites**
  - Risk
    -  Low
    -  Medium
    -  High
  - Contamination Sites**
  - Risk
    -  Low
    -  Medium
    -  High
- 200 Feet



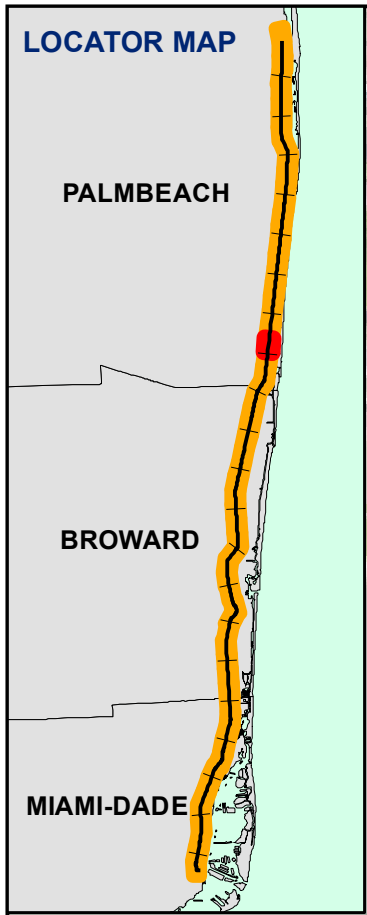


LOCATOR MAP

PALMBEACH

BROWARD

MIAMI-DADE



L70

DIXIE HWY



NW 28 ST

NW 2 AVE

M5

NW 20 ST

NE 20 ST

FEDERAL HWY

Legend

+ FEC Railway

FEC Railway Buffer 150 ft.

Proposed Stations

Solid Waste Sites

Risk

Low

Medium

High

Contamination Sites

Risk

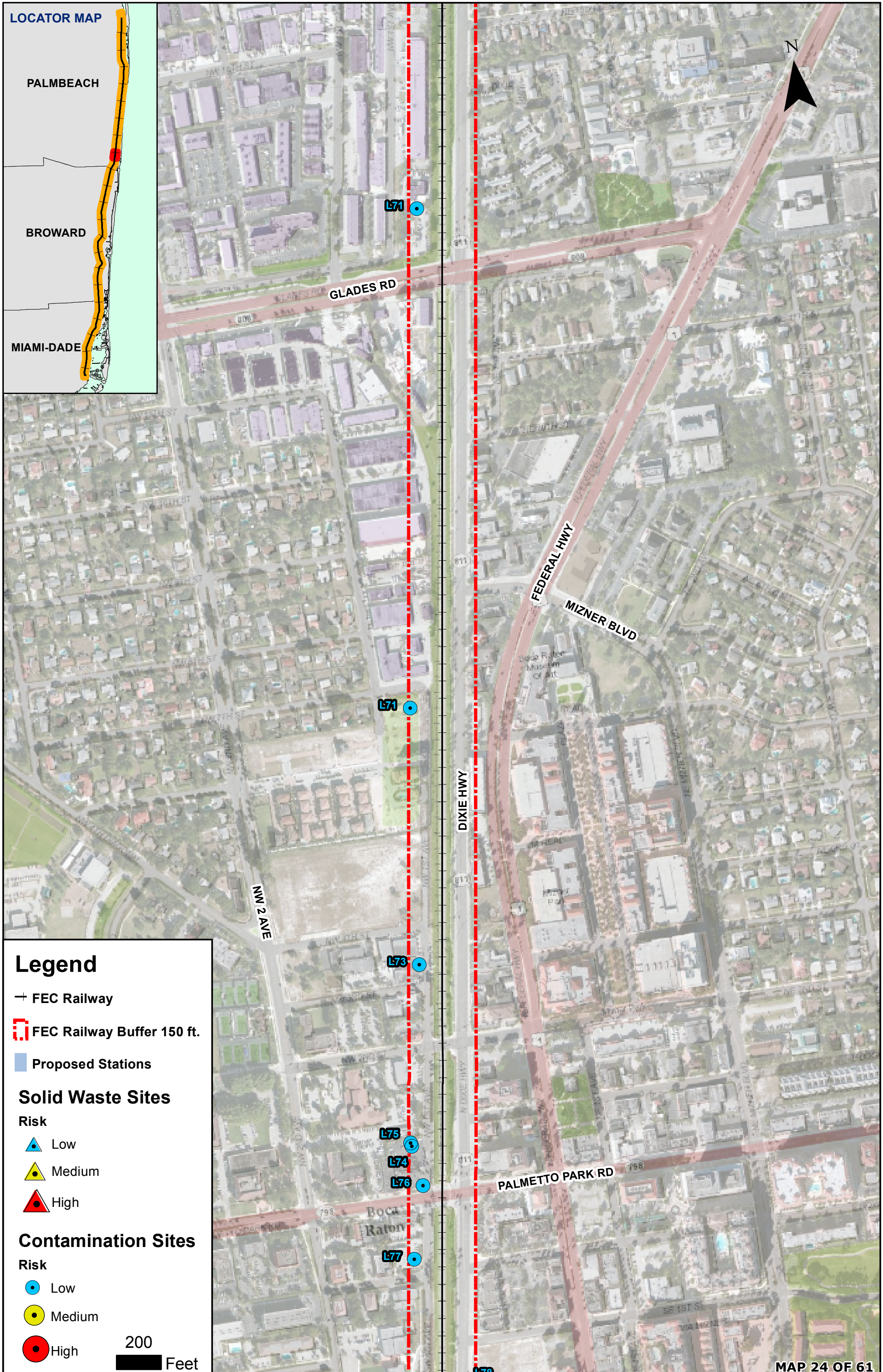
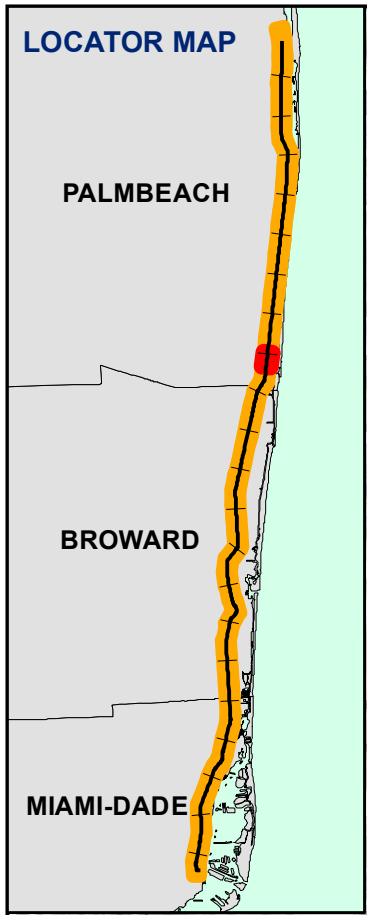
Low

Medium

High

200 Feet





**Legend**

- + FEC Railway
- [Red dashed line] FEC Railway Buffer 150 ft.
- [Blue square] Proposed Stations

**Solid Waste Sites**

Risk

- [Blue triangle] Low
- [Yellow triangle] Medium
- [Red triangle] High

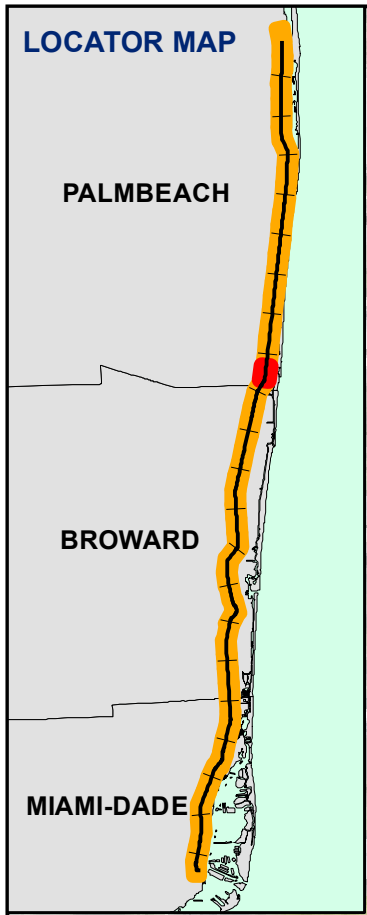
**Contamination Sites**

Risk

- [Blue circle] Low
- [Yellow circle] Medium
- [Red circle] High

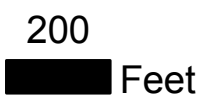
200 Feet





**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations
- Solid Waste Sites**
- Risk
  - Low
  - Medium
  - High
- Contamination Sites**
- Risk
  - Low
  - Medium
  - High



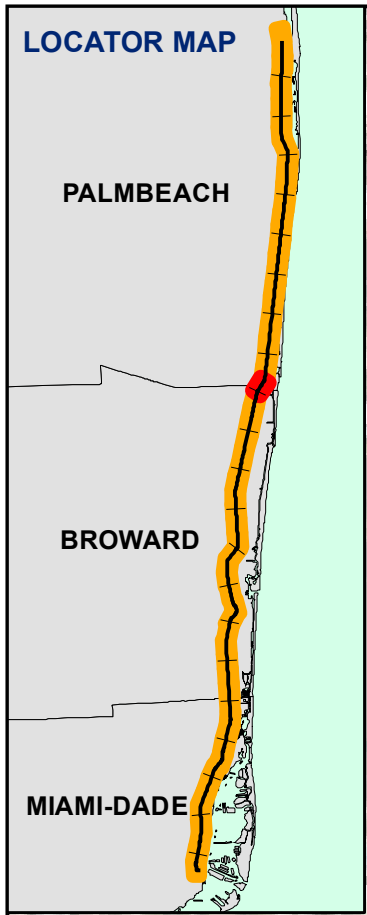


LOCATOR MAP

PALMBEACH

BROWARD

MIAMI-DADE



SW 18 ST

L80

DIXIE HWY

FEDERAL HWY

US 1/ SR 5

DIXIE HWY

NE 2 ST

L31

NE 2ND ST

DIXIE HWY

NW 2 ST

HILLSBORO BLVD

Legend

+ FEC Railway

FEC Railway Buffer 150 ft.

Proposed Stations

Solid Waste Sites

Risk

Low

Medium

High

Contamination Sites

Risk

Low

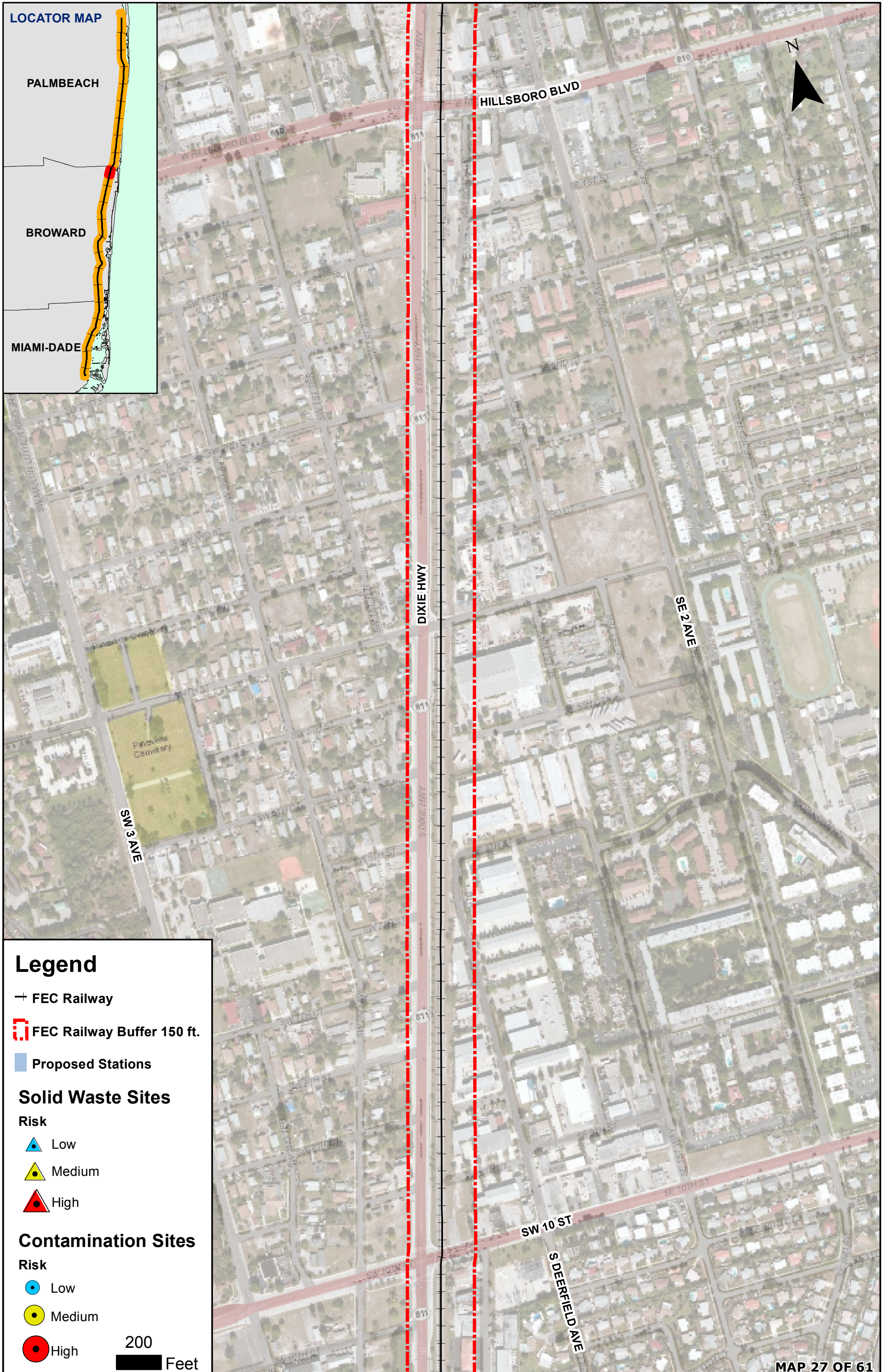
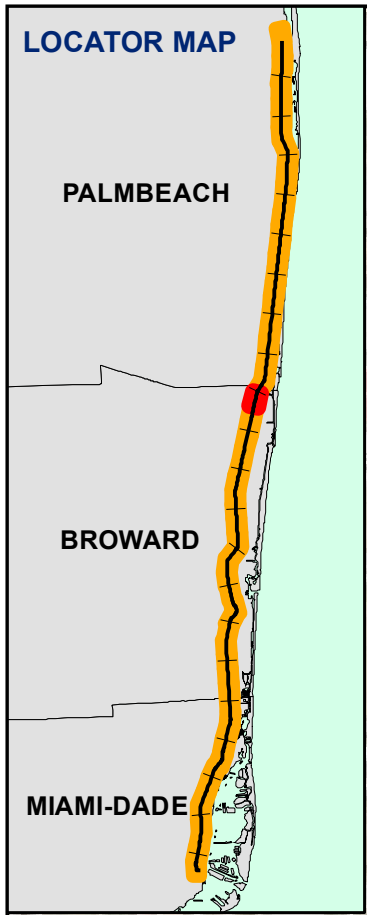
Medium

High

200

Feet





**Legend**

- + FEC Railway
- [Red dashed line] FEC Railway Buffer 150 ft.
- [Blue square] Proposed Stations

**Solid Waste Sites**

Risk

- [Blue triangle] Low
- [Yellow triangle] Medium
- [Red triangle] High

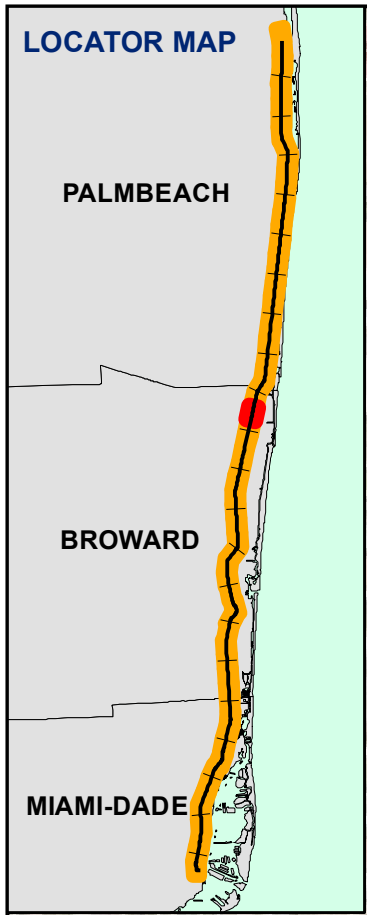
**Contamination Sites**

Risk

- [Blue circle] Low
- [Yellow circle] Medium
- [Red circle] High

200 Feet





**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations

**Solid Waste Sites**

Risk

- Low
- Medium
- High

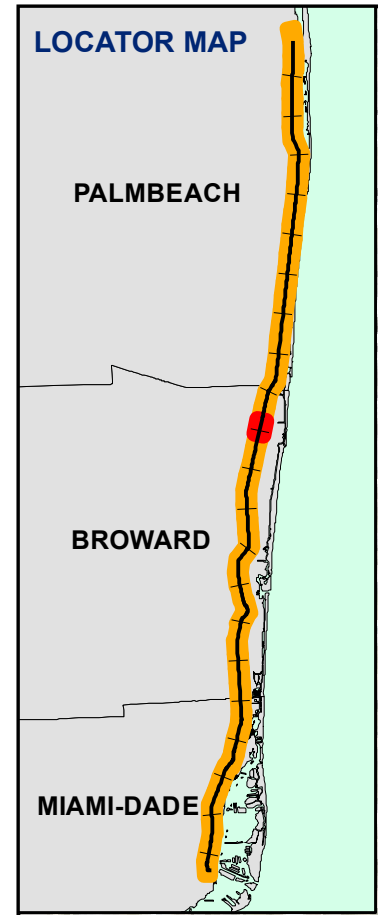
**Contamination Sites**

Risk

- Low
- Medium
- High

200 Feet





**Legend**

- + FEC Railway
- [Red dashed line] FEC Railway Buffer 150 ft.
- [Blue square] Proposed Stations

**Solid Waste Sites**

Risk

- [Blue triangle] Low
- [Yellow triangle] Medium
- [Red triangle] High

**Contamination Sites**

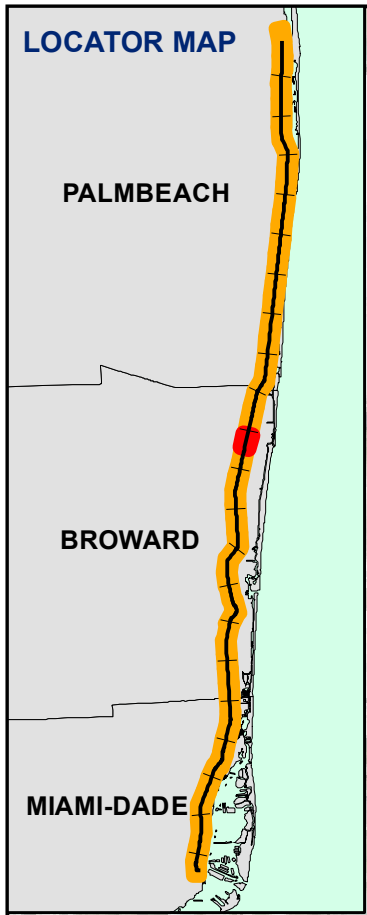
Risk

- [Blue circle] Low
- [Yellow circle] Medium
- [Red circle] High

200 Feet



**LOCATOR MAP**




PALMBEACH

BROWARD

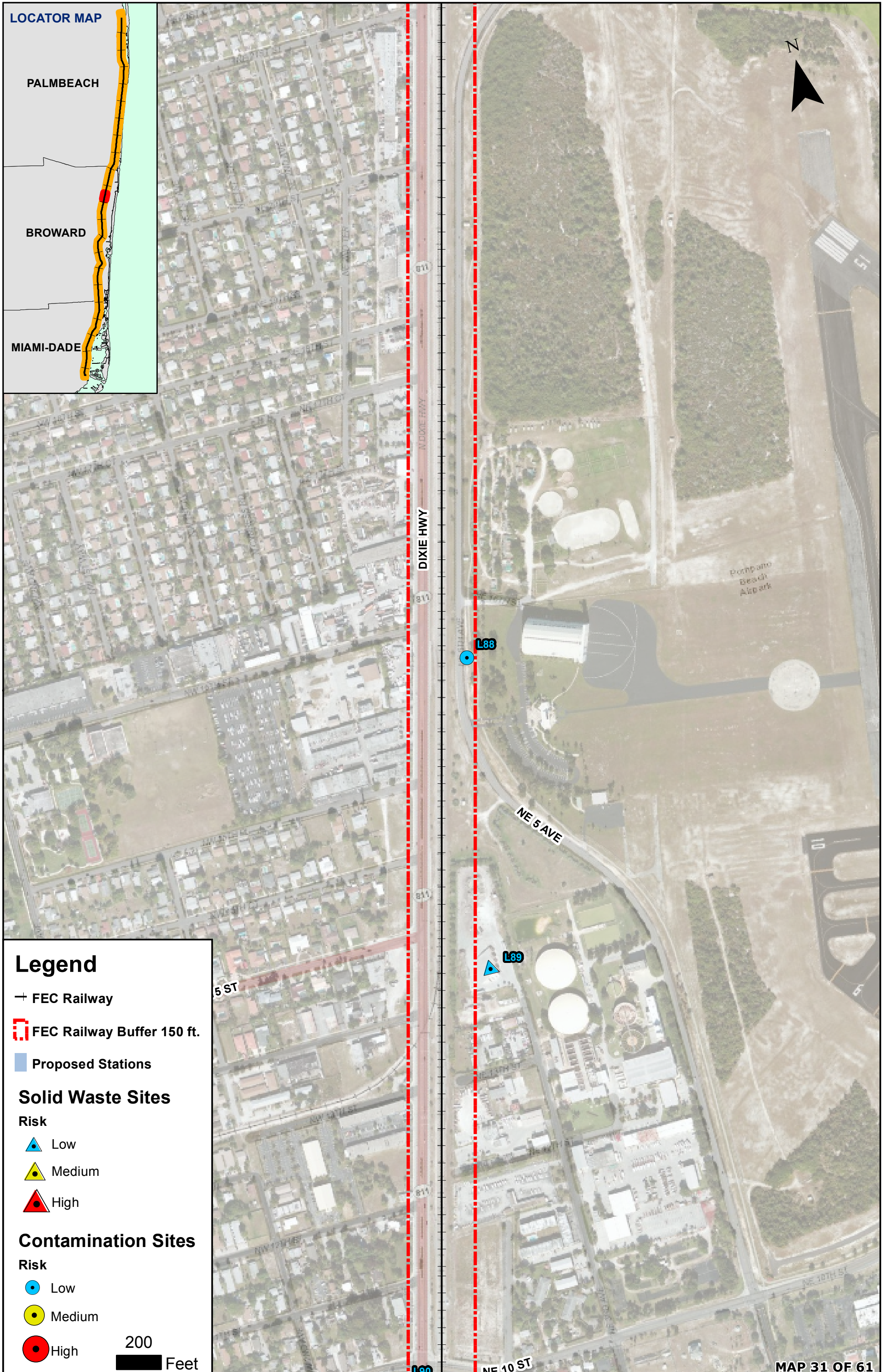
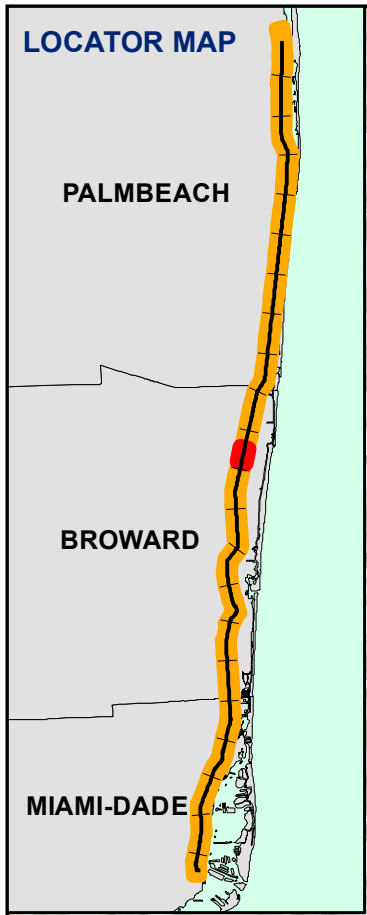
MIAMI-DADE



**Legend**

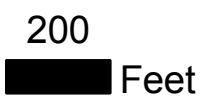
- + FEC Railway
-  FEC Railway Buffer 150 ft.
-  Proposed Stations
- Solid Waste Sites**
- Risk
  -  Low
  -  Medium
  -  High
- Contamination Sites**
- Risk
  -  Low
  -  Medium
  -  High
-  200 Feet



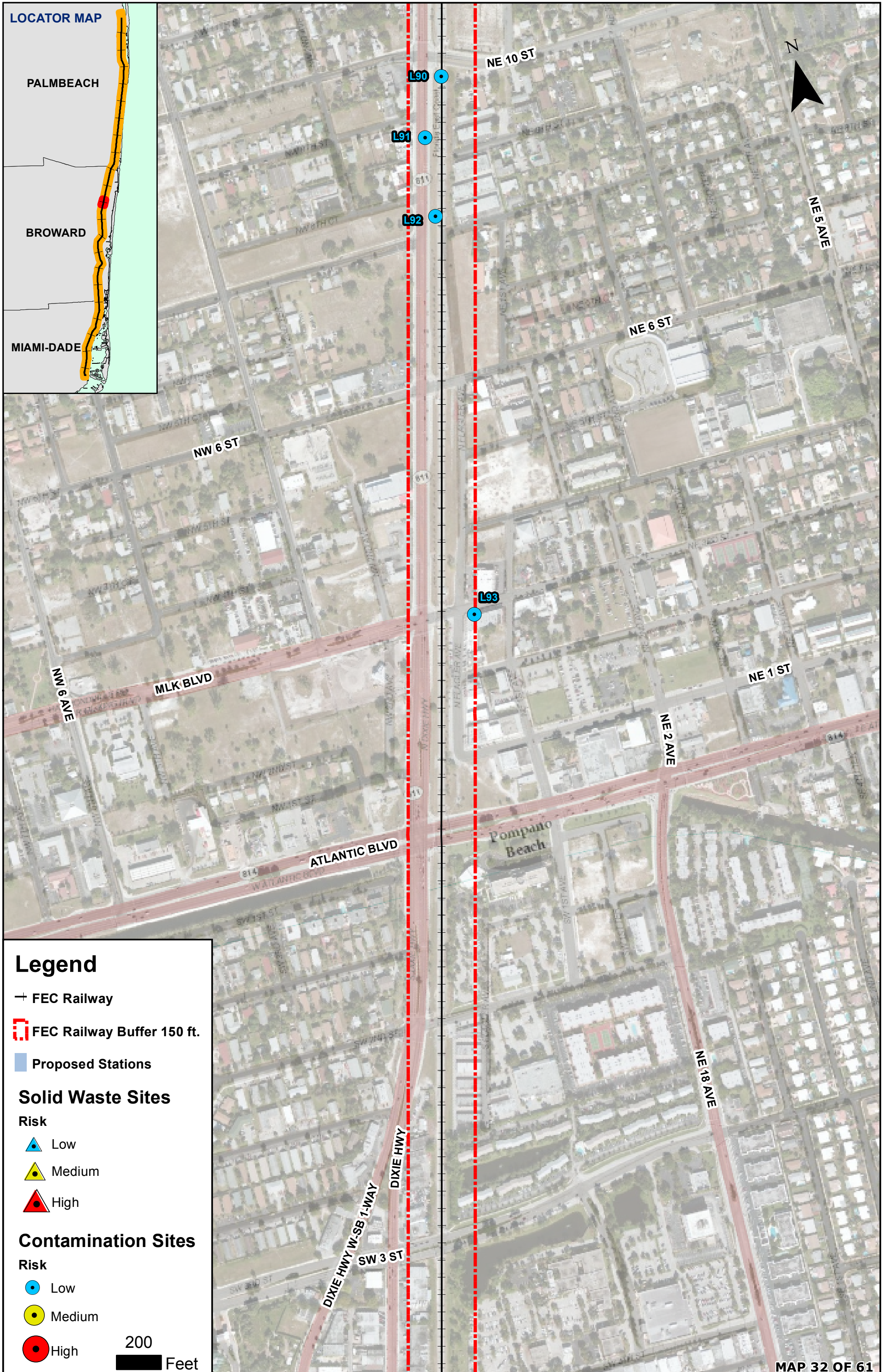
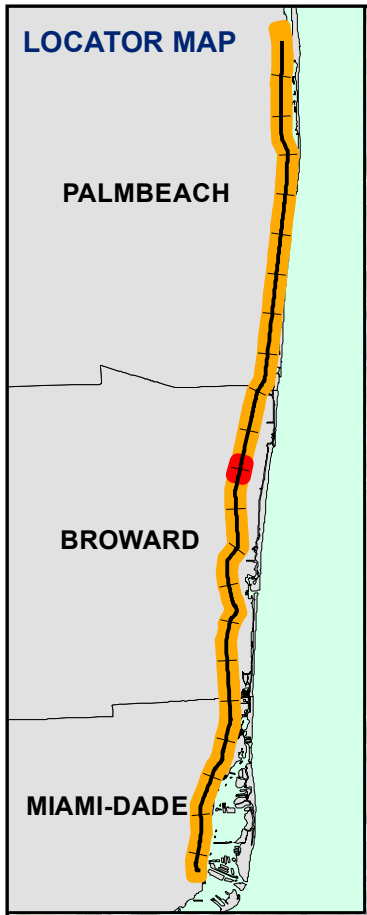


**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations
- Solid Waste Sites**
- Risk**
- Low
- Medium
- High
- Contamination Sites**
- Risk**
- Low
- Medium
- High







**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations

**Solid Waste Sites**

Risk

- Low
- Medium
- High

**Contamination Sites**

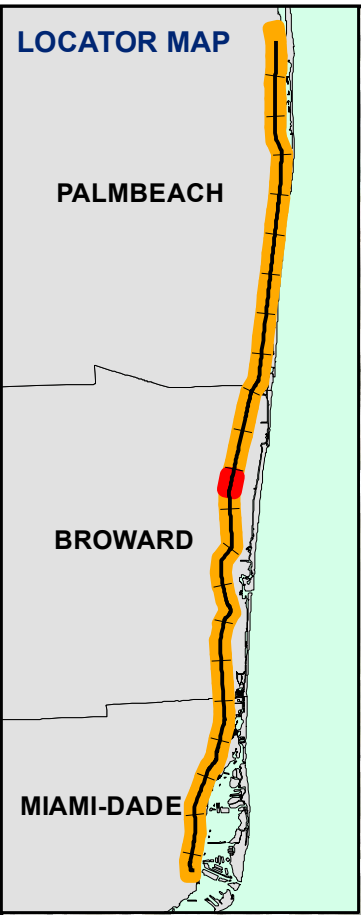
Risk

- Low
- Medium
- High

200 Feet



**LOCATOR MAP**



PALMBEACH

BROWARD

MIAMI-DADE



**Legend**

+ FEC Railway

FEC Railway Buffer 150 ft.

Proposed Stations

**Solid Waste Sites**

Risk

▲ Low

▲ Medium

▲ High

**Contamination Sites**

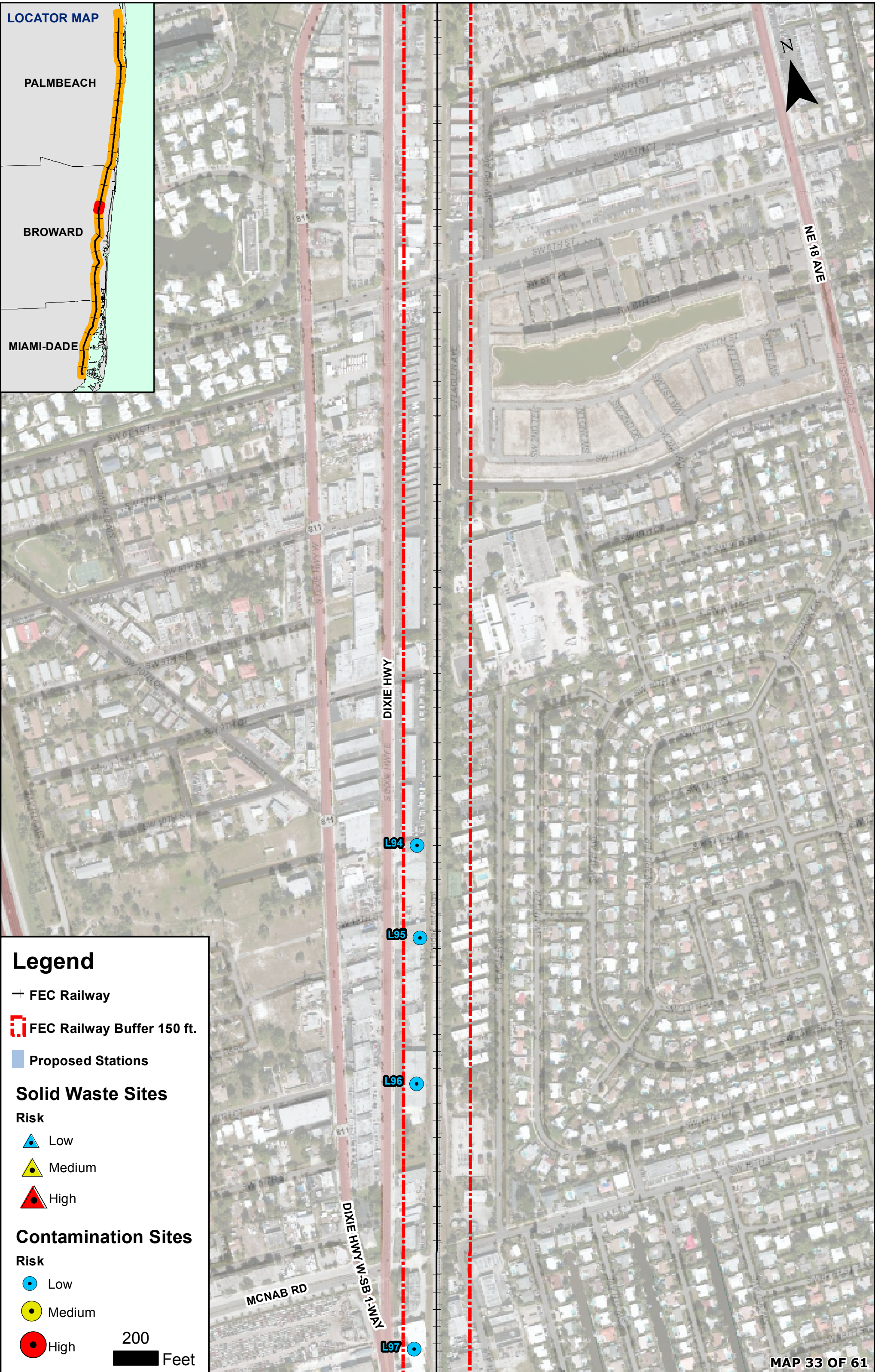
Risk

● Low

● Medium

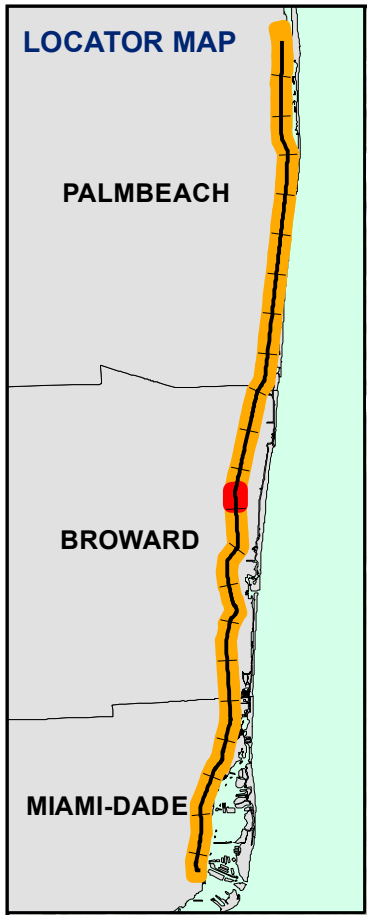
● High

200 Feet





**LOCATOR MAP**



PALMBEACH

BROWARD

MIAMI-DADE



L97

L98

L99

DIXIE HWY

CYPRESS CREEK RD

NE 56 ST

NE 15 AVE

**Legend**

+ FEC Railway

FEC Railway Buffer 150 ft.

Proposed Stations

**Solid Waste Sites**

Risk

▲ Low

▲ Medium

▲ High

**Contamination Sites**

Risk

● Low

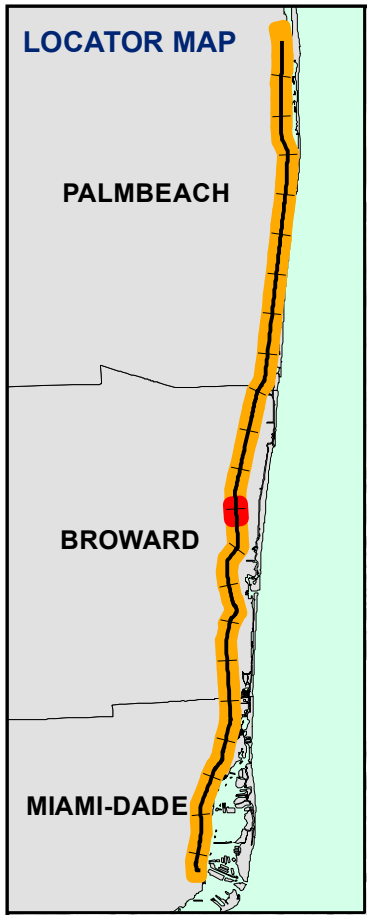
● Medium

● High

200 Feet



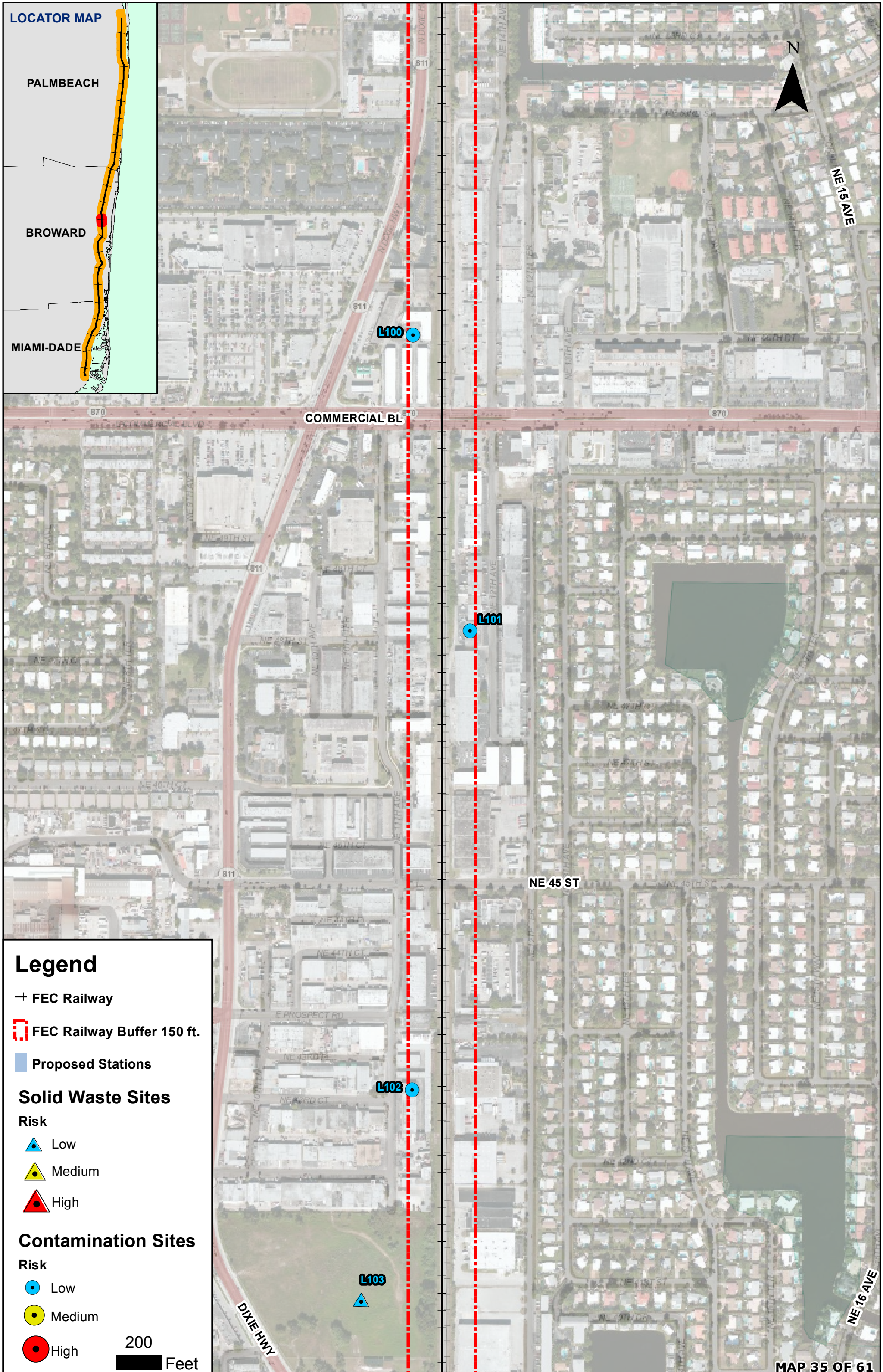
**LOCATOR MAP**



PALMBEACH

BROWARD

MIAMI-DADE



**Legend**

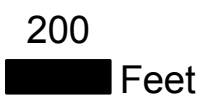
- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations

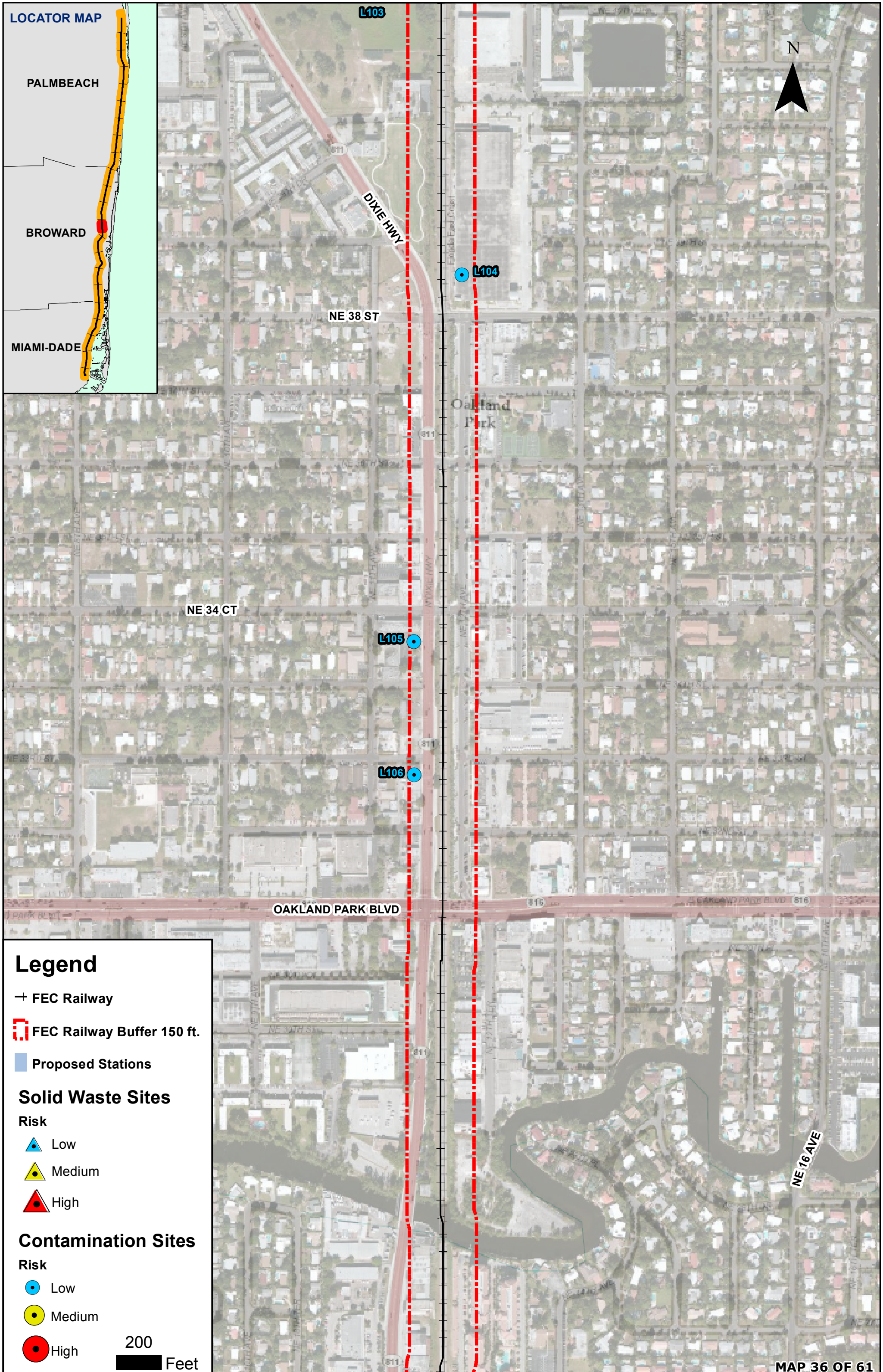
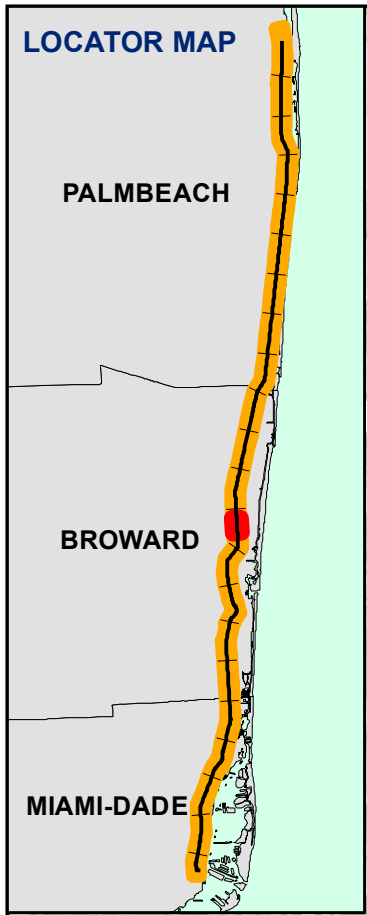
**Solid Waste Sites**

- Risk
- ▲ Low
  - ▲ Medium
  - ▲ High

**Contamination Sites**

- Risk
- Low
  - Medium
  - High

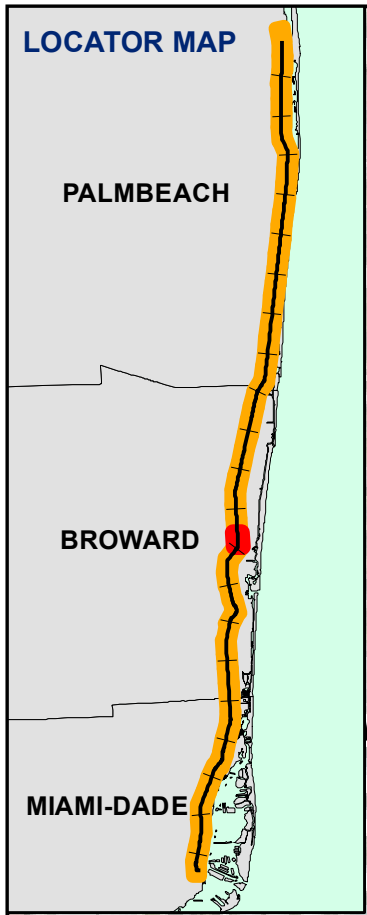




**Legend**

- + FEC Railway
  - FEC Railway Buffer 150 ft.
  - Proposed Stations
  - Solid Waste Sites**
  - Risk
    - Low
    - Medium
    - High
  - Contamination Sites**
  - Risk
    - Low
    - Medium
    - High
- 200 Feet





DIXIE HWY

L107  
DIXIE HWY  
L109  
NE 26 ST

L110  
L111

NE 15 AVE  
NE 16 AVE

Colohatchee Park

NE 18 ST

L112

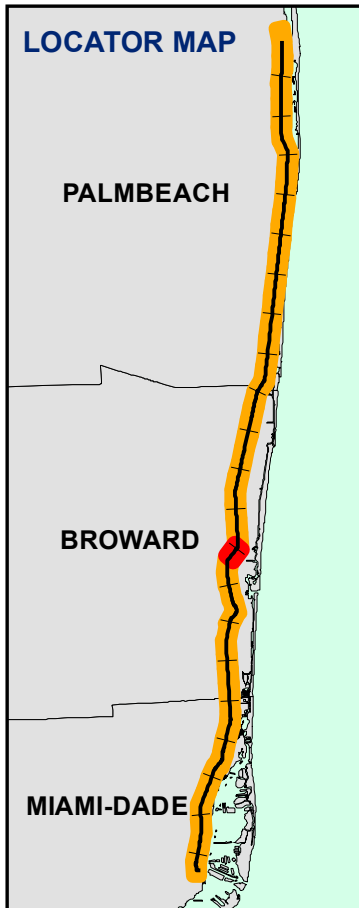
NE 17 CT

L113

L114



LOCATOR MAP



PALMBEACH

BROWARD

MIAMI-DADE



Legend

+ FEC Railway

[-] FEC Railway Buffer 150 ft.

■ Proposed Stations

Solid Waste Sites

Risk

▲ Low

▲ Medium

▲ High

Contamination Sites

Risk

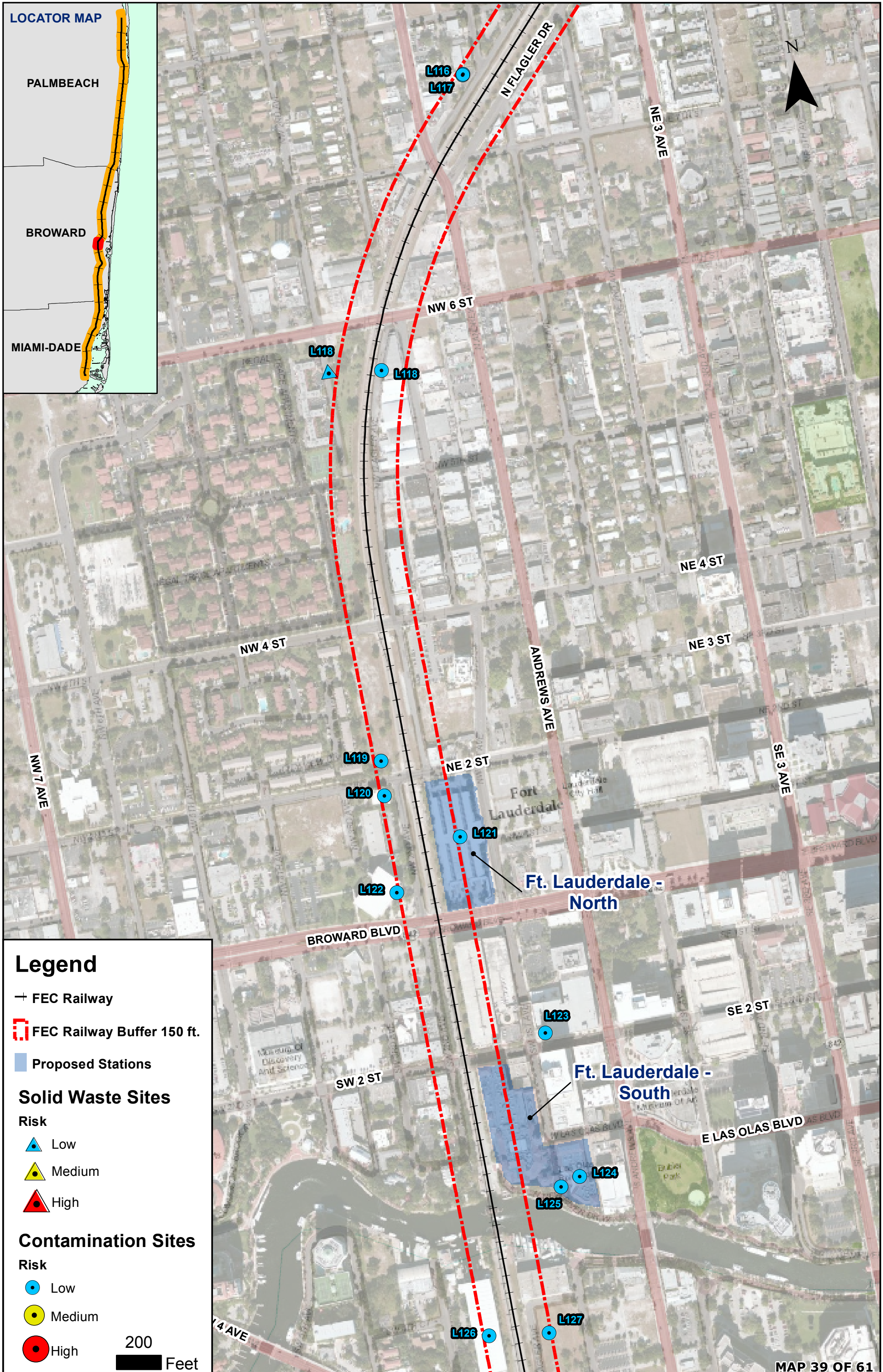
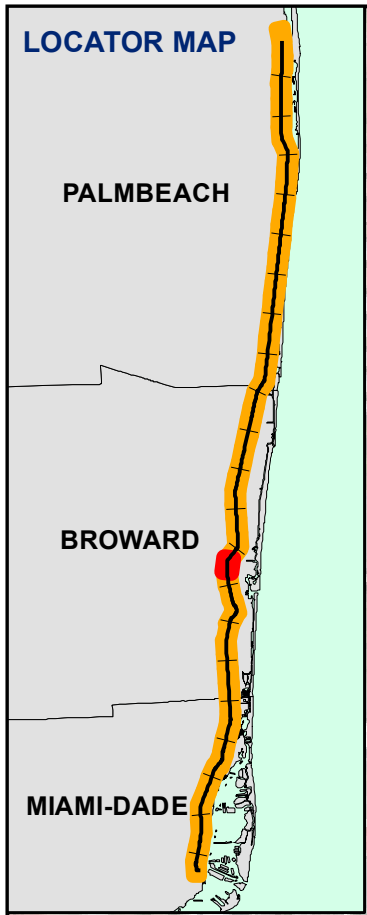
● Low

● Medium

● High

200 Feet





LOCATOR MAP

PALMBEACH

BROWARD

MIAMI-DADE

L116  
L117

L118  
L118

L119  
L120

L122

L121

L123

L124  
L125

L126

L127

N FLAGLER DR

NW 6 ST

NE 3 AVE

NW 4 ST

NE 2 ST

NE 4 ST

NE 3 ST

NW 7 AVE

ANDREWS AVE

SE 3 AVE

BROWARD BLVD

Ft. Lauderdale - North

SE 2 ST

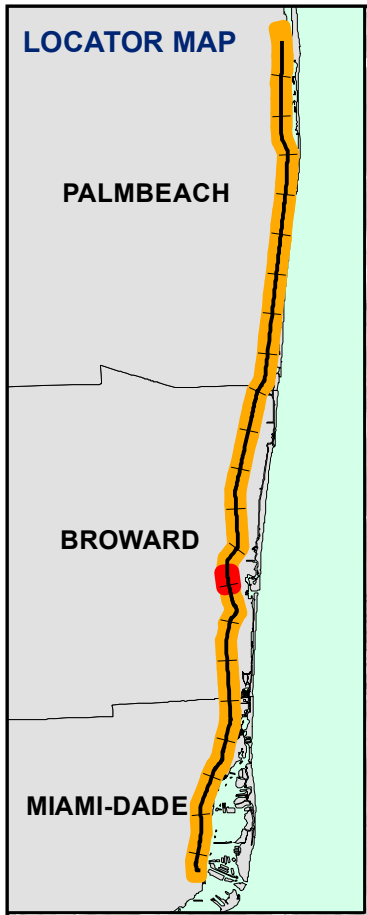
Ft. Lauderdale - South

E LAS OLAS BLVD

SW 2 ST

W 4 AVE





**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations

**Solid Waste Sites**

Risk

- Low
- Medium
- High

**Contamination Sites**

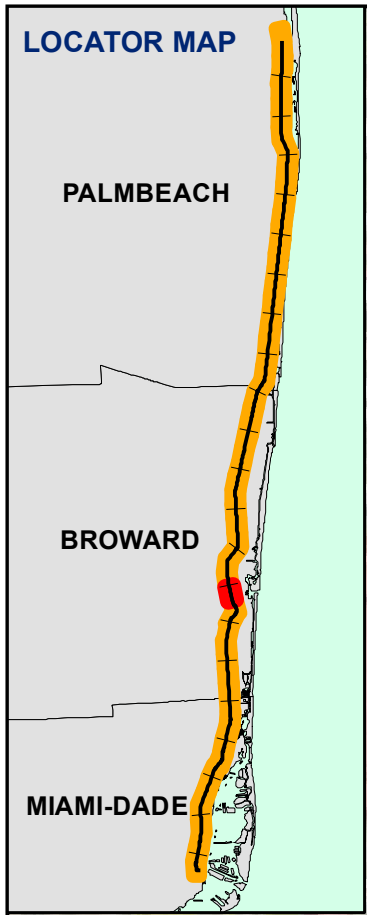
Risk

- Low
- Medium
- High

200 Feet



**LOCATOR MAP**



PALMBEACH

BROWARD

MIAMI-DADE



SW 17 ST

SE 17 ST

SE 3 AVE

SW 4 AVE

SW 24 ST

ANDREWS AVE

US 1

SE 24 ST

REALIGN. OF SR 5

SE 30 ST

SW 2 AVE

L131

FEC VEHICLE MAINTENANCE FACILITY

**Legend**

+ FEC Railway

FEC Railway Buffer 150 ft.

Proposed Stations

**Solid Waste Sites**

Risk

Low

Medium

High

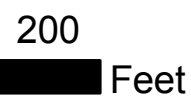
**Contamination Sites**

Risk

Low

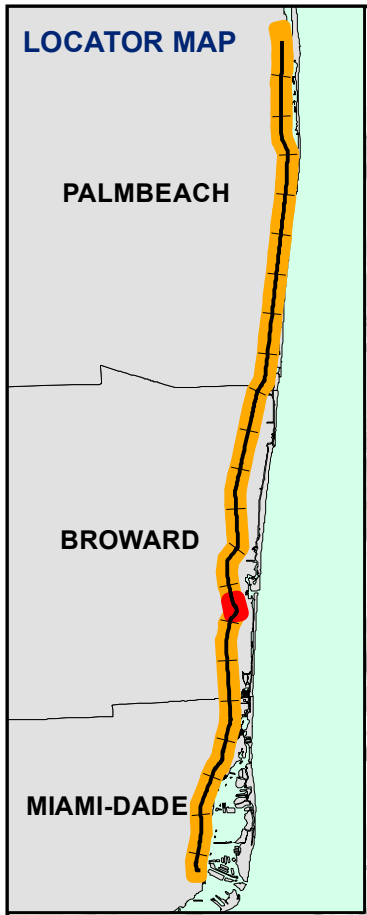
Medium

High





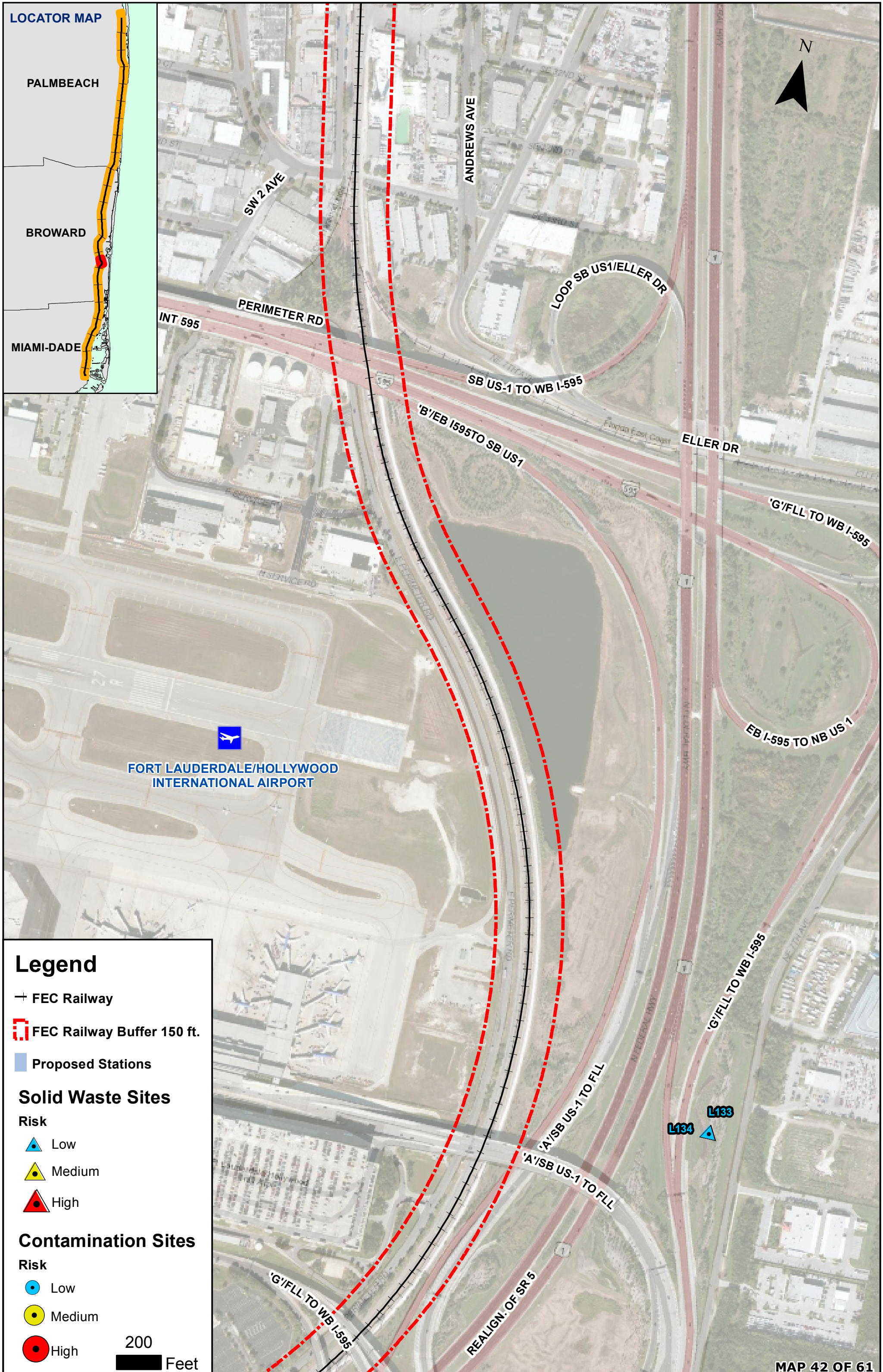
LOCATOR MAP



PALMBEACH

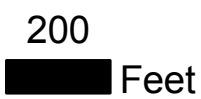
BROWARD

MIAMI-DADE



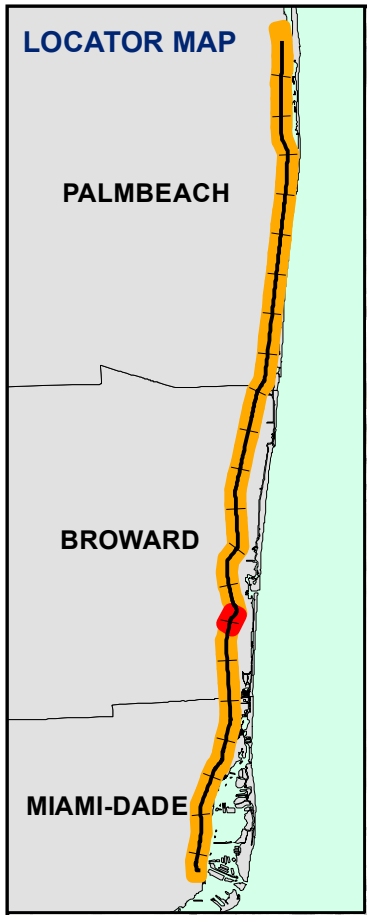
Legend

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations
- Solid Waste Sites**
- Risk
  - Low
  - Medium
  - High
- Contamination Sites**
- Risk
  - Low
  - Medium
  - High





**LOCATOR MAP**



PALMBEACH

BROWARD

MIAMI-DADE

**FORT LAUDERDALE/HOLLYWOOD  
INTERNATIONAL AIRPORT**

'G'/FLL TO WB I-595

'B'/EB I-595 TO SB US 1

'A'/SB US-1 TO FLL

'K'/FRM FLL TO FLL

'E'/NB US-1 TO FLL

'F'/NB US1 TO FLL/PT

TAYLOR RD

REALIGN. OF SR 5

ON RAMP US1 FROM FLL

'D'/NB US-1 TO FLL

PERIMETER RD

GRIFFIN ROAD

US 1



**Legend**

+ FEC Railway

FEC Railway Buffer 150 ft.

Proposed Stations

**Solid Waste Sites**

Risk

▲ Low

▲ Medium

▲ High

**Contamination Sites**

Risk

● Low

● Medium

● High

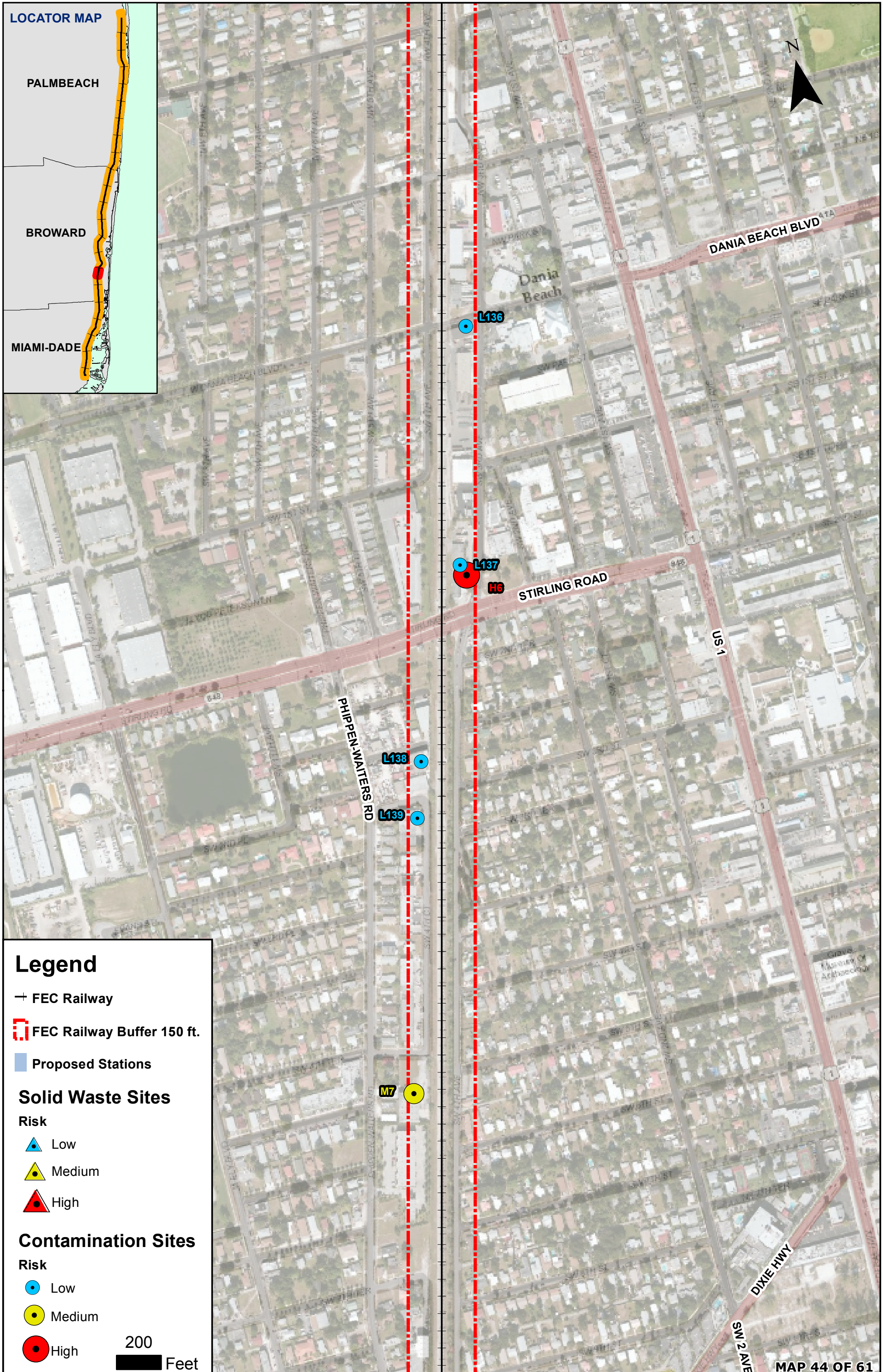
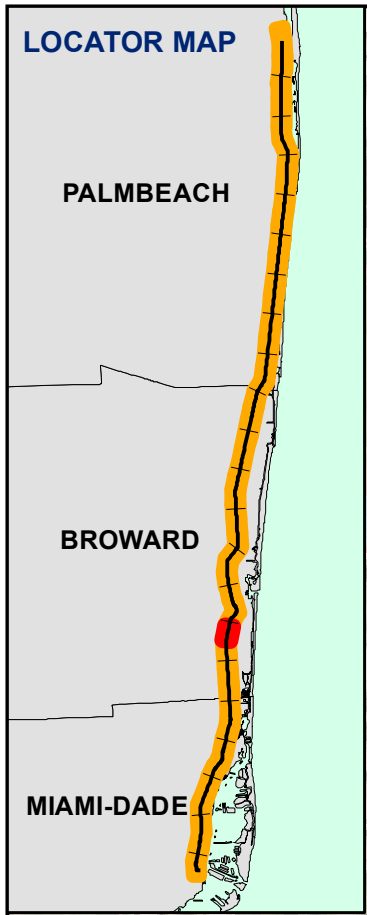
200 Feet

L134

L135



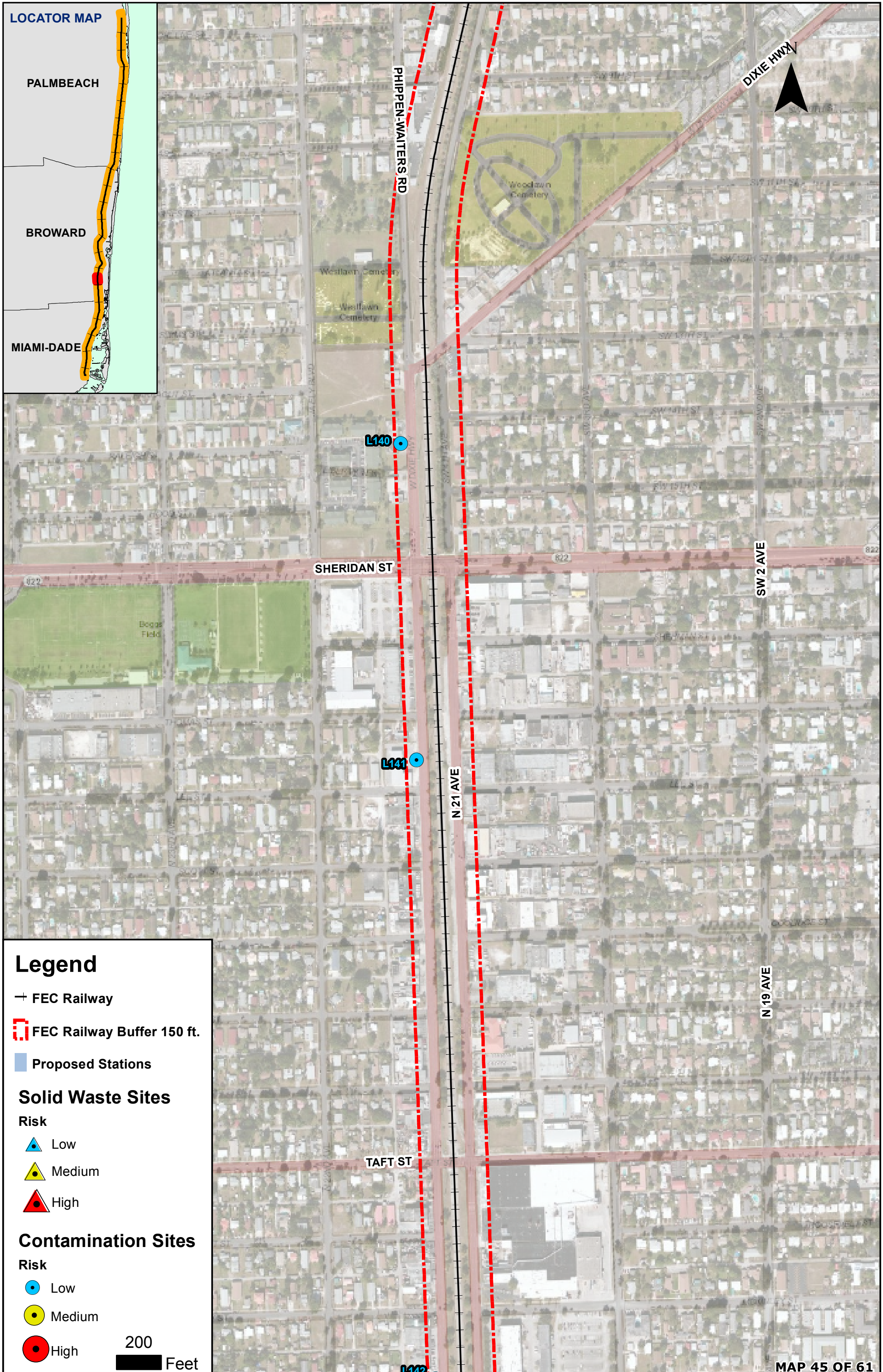
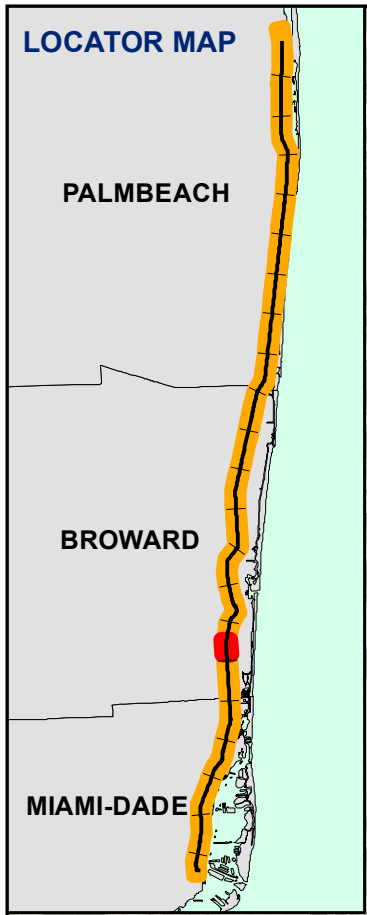
LOCATOR MAP



Legend

- + FEC Railway
  - [Red dashed line] FEC Railway Buffer 150 ft.
  - [Blue square] Proposed Stations
  - Solid Waste Sites**
  - Risk
    - [Blue triangle] Low
    - [Yellow triangle] Medium
    - [Red triangle] High
  - Contamination Sites**
  - Risk
    - [Blue circle] Low
    - [Yellow circle] Medium
    - [Red circle] High
- 200 Feet





**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations

**Solid Waste Sites**

Risk

- Low
- Medium
- High

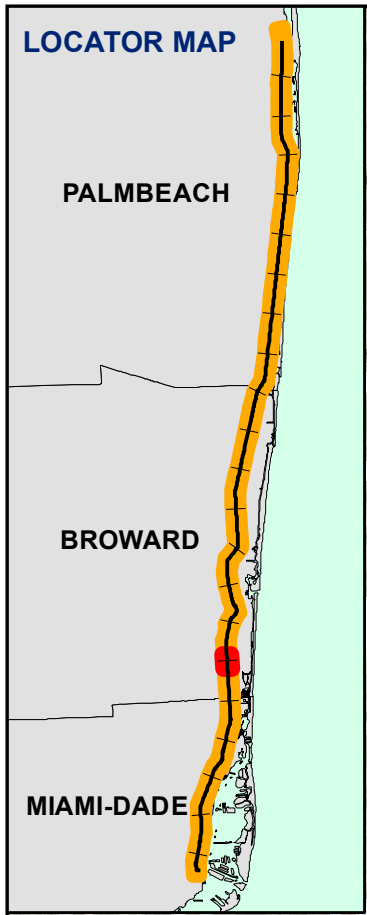
**Contamination Sites**

Risk

- Low
- Medium
- High

200 Feet





**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations

**Solid Waste Sites**

Risk

- Low
- Medium
- High

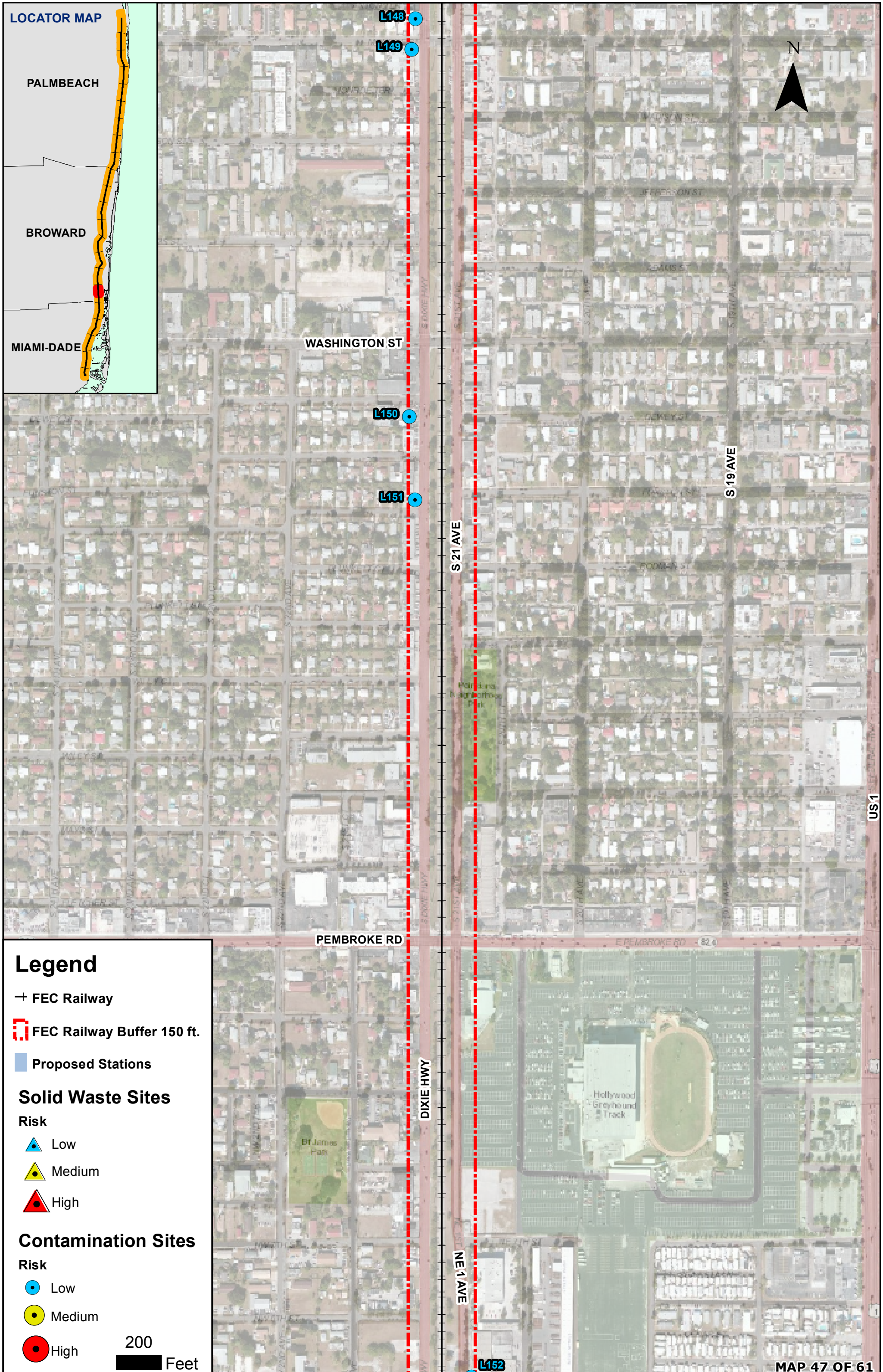
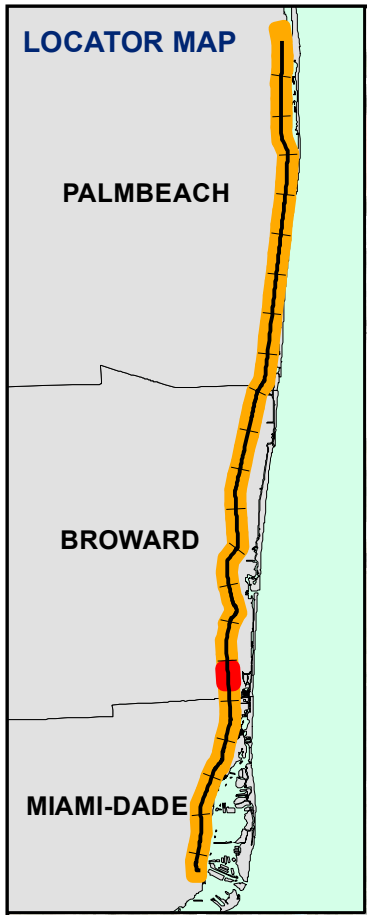
**Contamination Sites**

Risk

- Low
- Medium
- High

200 Feet





**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations

**Solid Waste Sites**

Risk

- Low
- Medium
- High

**Contamination Sites**

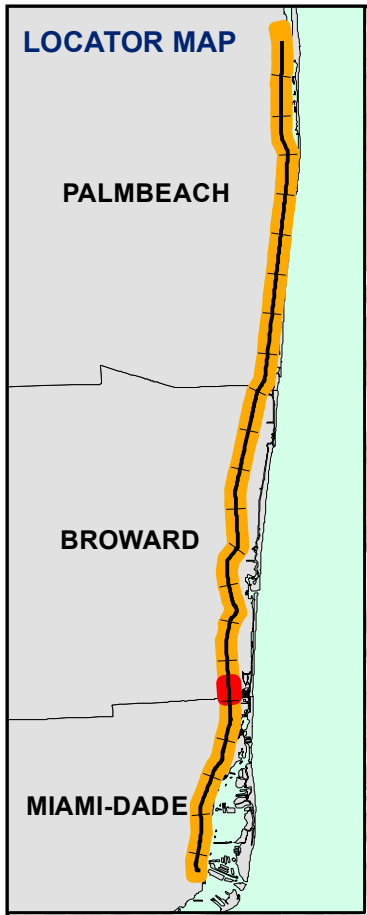
Risk

- Low
- Medium
- High

200 Feet



**LOCATOR MAP**



PALMBEACH

BROWARD

MIAMI-DADE



DIXIE HWY

L152

NE 1 AVE

HALLANDALE BCH BLVD

L153

SE 1 AVE

US 1

SE 3 ST

SE 4 AVE

Hollandale

OLD FEDERAL HWY

Ellisden Park

**Legend**

+ FEC Railway

FEC Railway Buffer 150 ft.

Proposed Stations

**Solid Waste Sites**

Risk

▲ Low

▲ Medium

▲ High

**Contamination Sites**

Risk

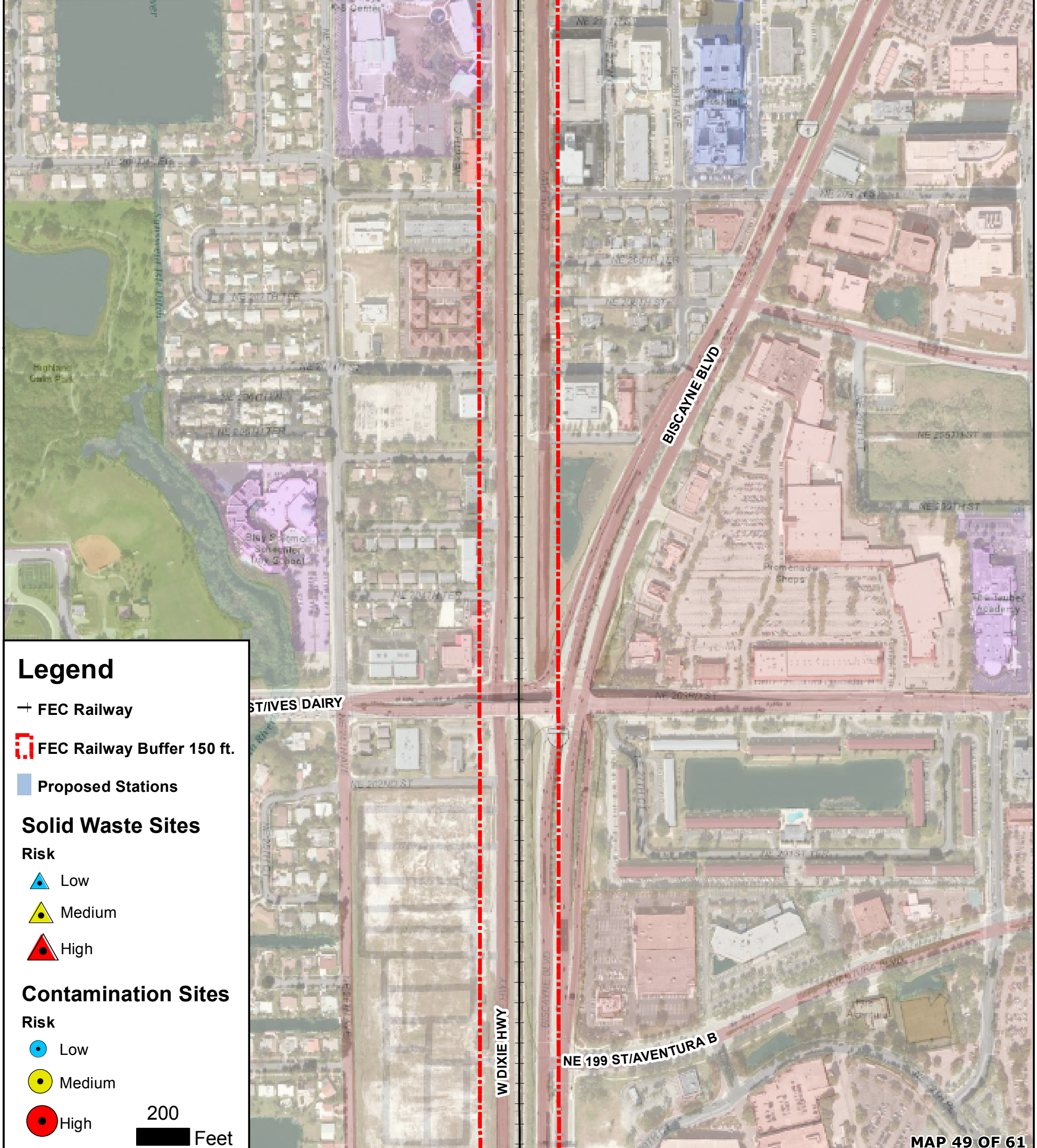
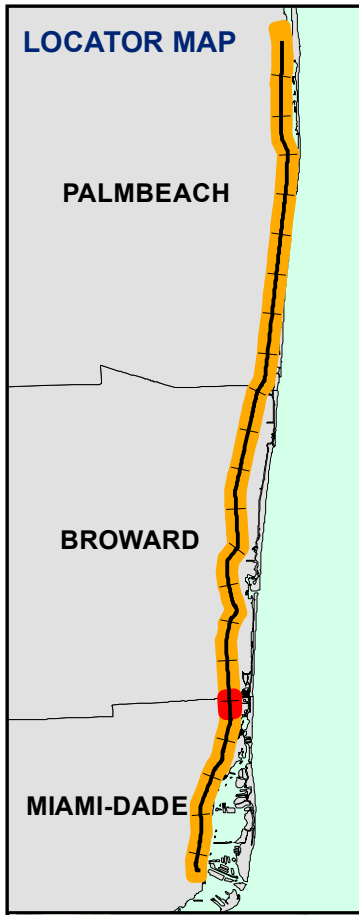
● Low

● Medium

● High

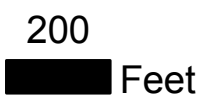
200 Feet



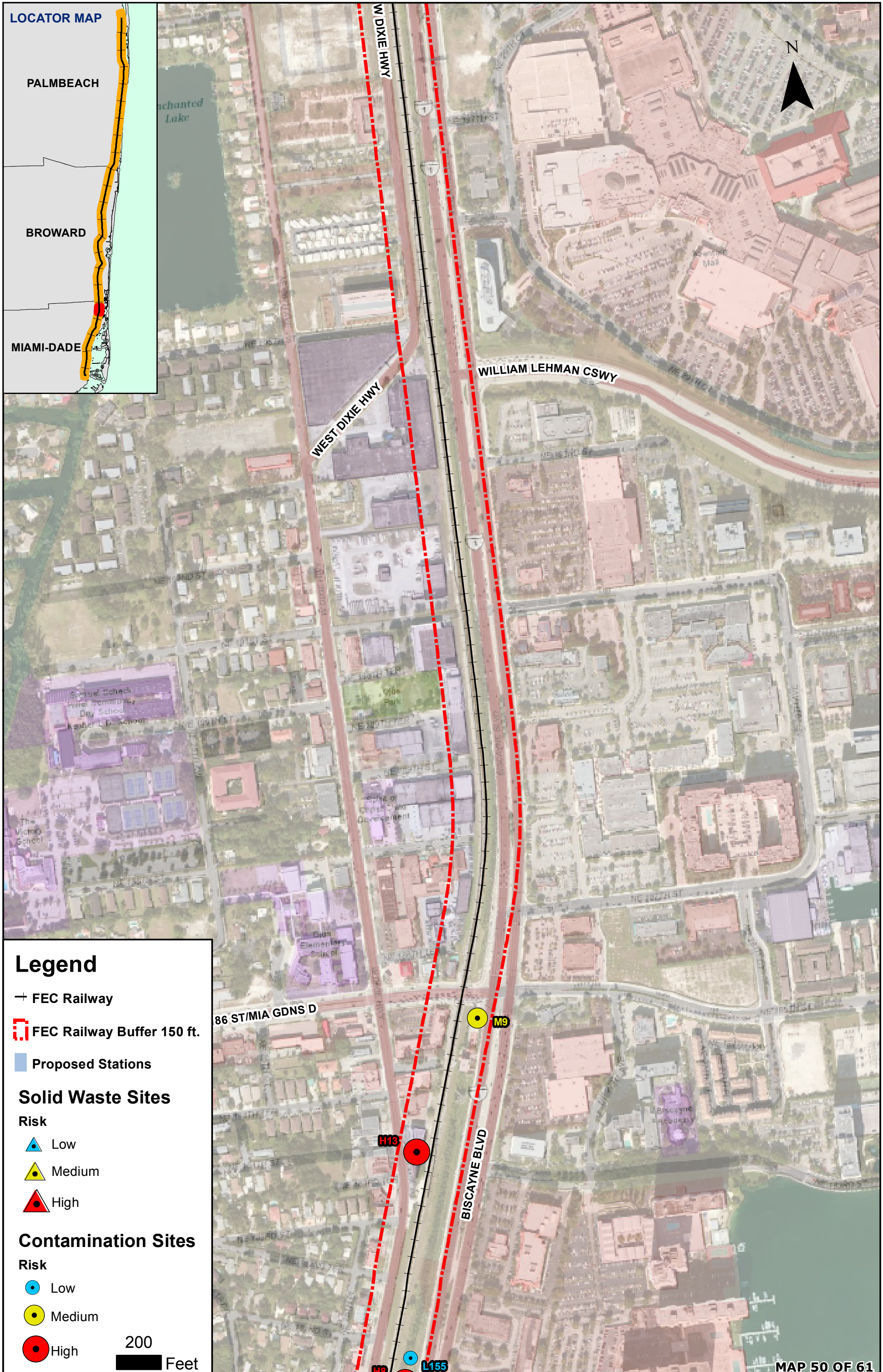
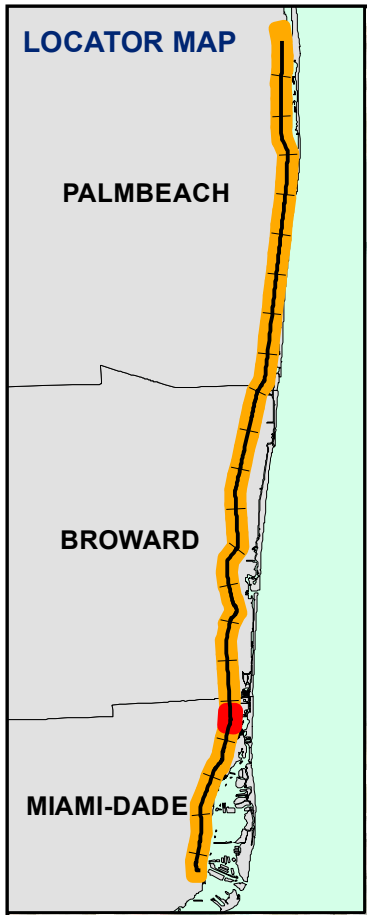


**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations
- Solid Waste Sites**
- Risk
  - Low
  - Medium
  - High
- Contamination Sites**
- Risk
  - Low
  - Medium
  - High







**Legend**

- + FEC Railway
- [Red dashed box] FEC Railway Buffer 150 ft.
- [Blue square] Proposed Stations

**Solid Waste Sites**

Risk

- [Blue triangle] Low
- [Yellow triangle] Medium
- [Red triangle] High

**Contamination Sites**

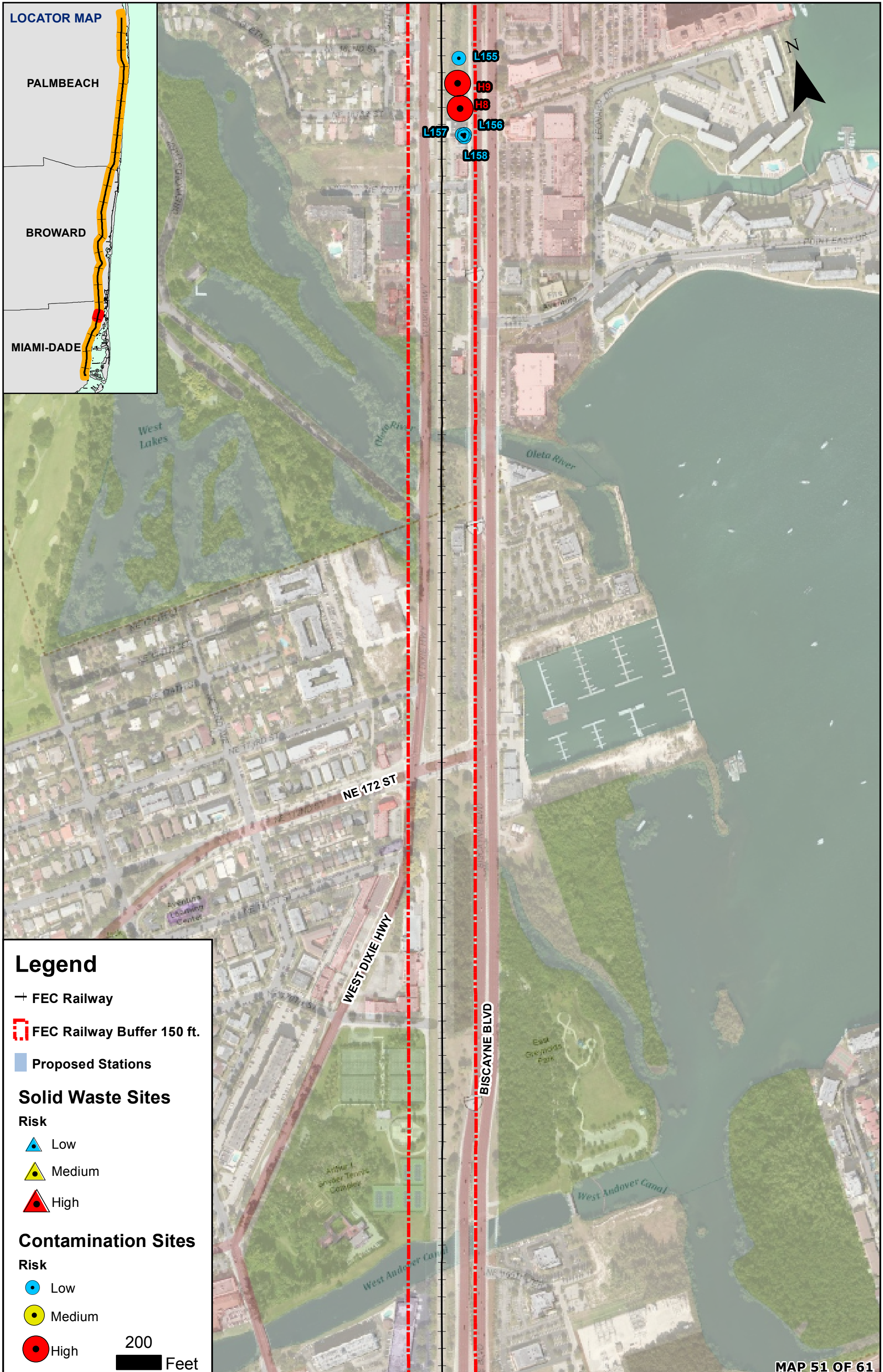
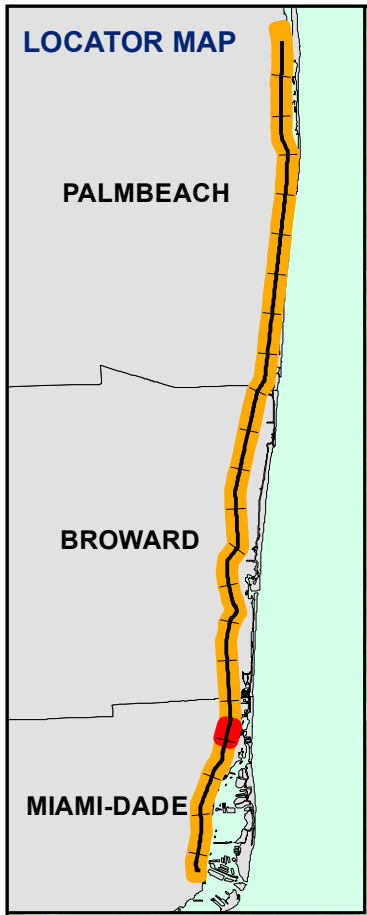
Risk

- [Blue circle] Low
- [Yellow circle] Medium
- [Red circle] High

200 Feet







**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations

**Solid Waste Sites**

Risk

- Low
- Medium
- High

**Contamination Sites**

Risk

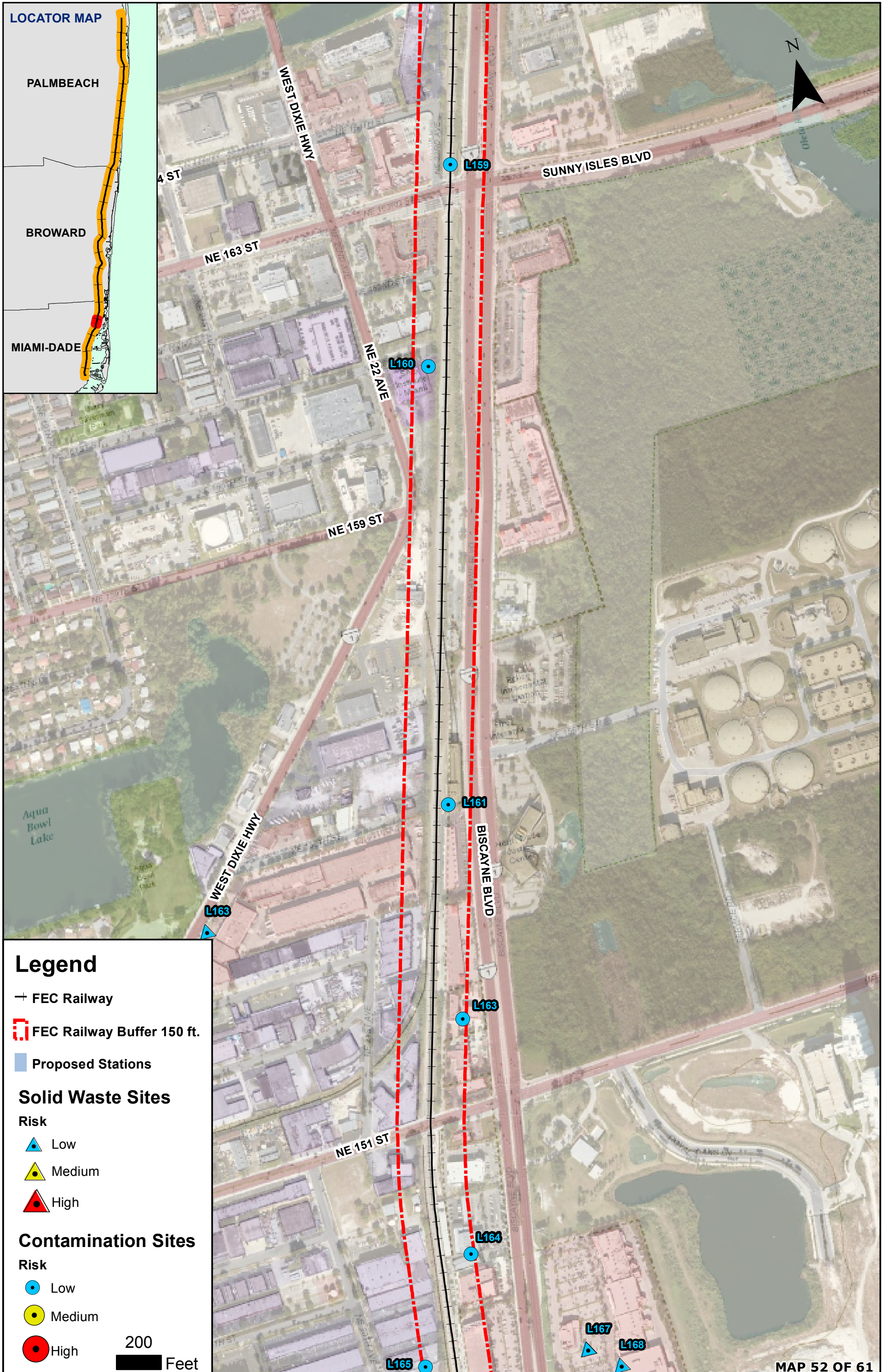
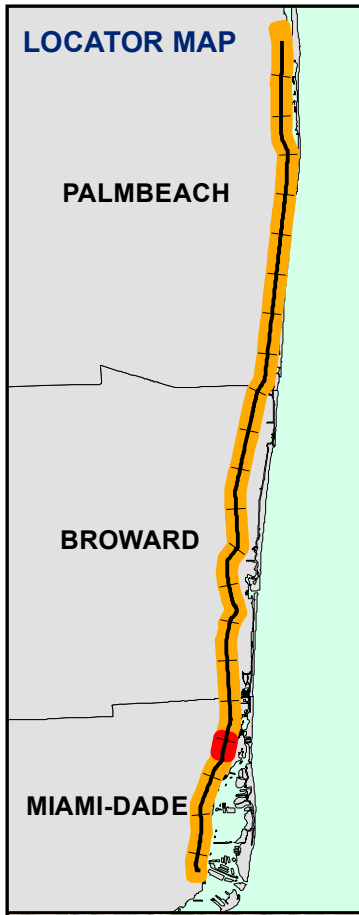
- Low
- Medium
- High

200 Feet

- L155
- H9
- H8
- L156
- L157
- L158







**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations

**Solid Waste Sites**

Risk

- Low
- Medium
- High

**Contamination Sites**

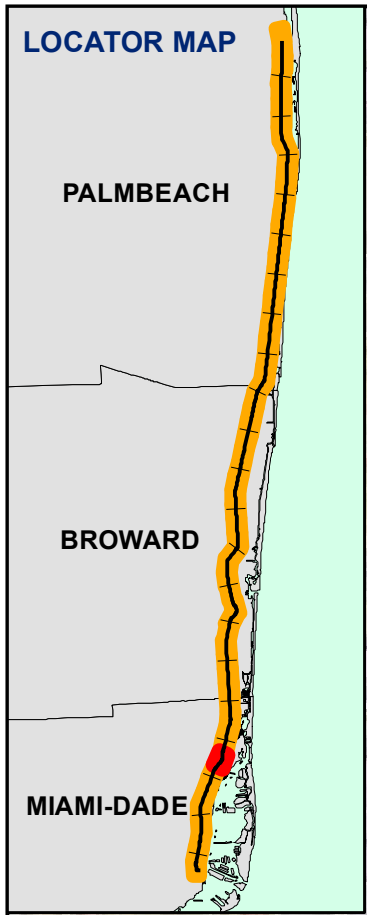
Risk

- Low
- Medium
- High

200 Feet



LOCATOR MAP



PALMBEACH

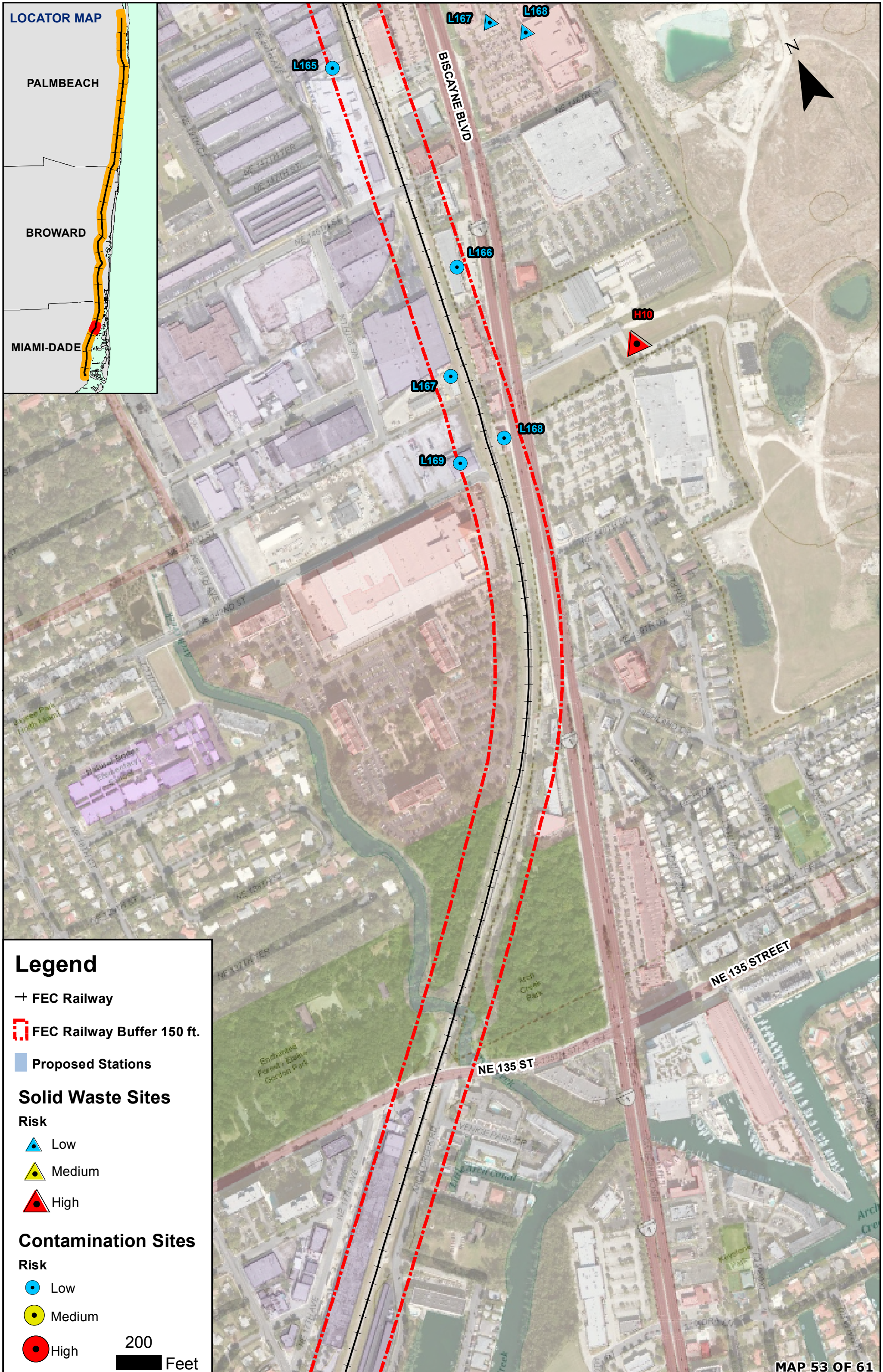
BROWARD

MIAMI-DADE

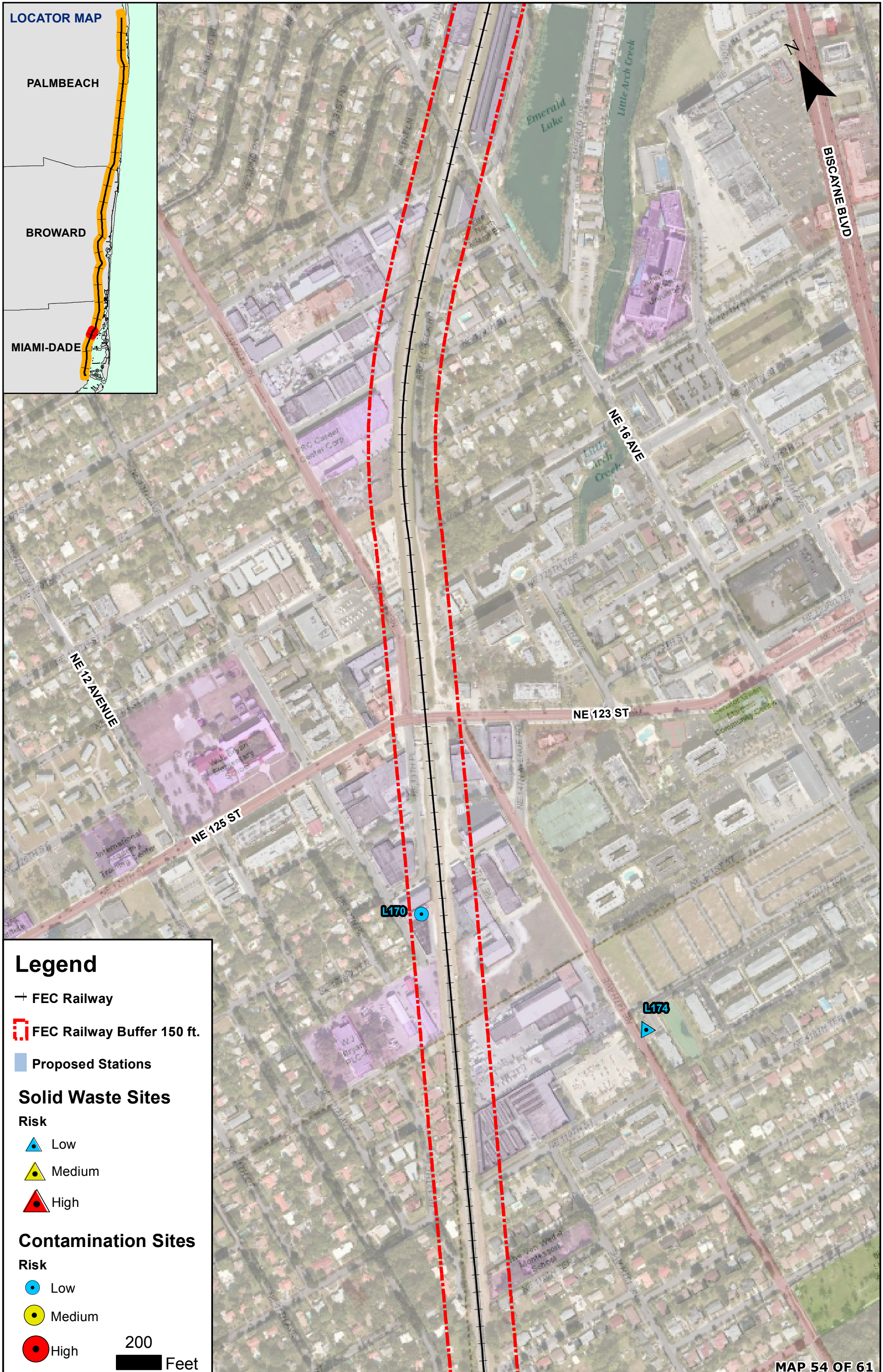
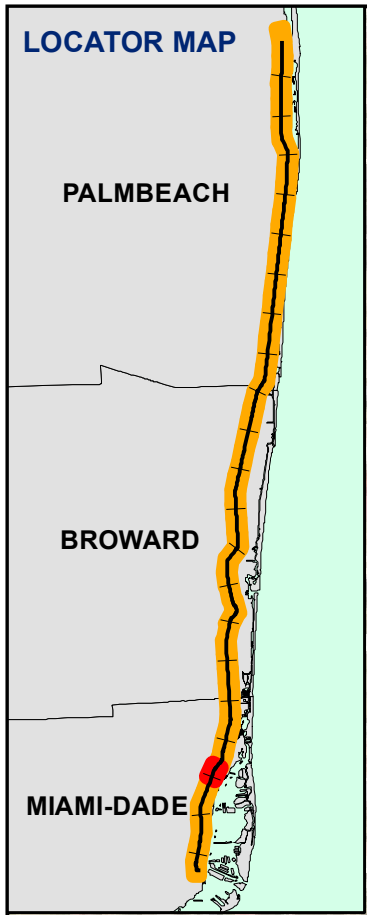


Legend

- +— FEC Railway
  - ▭ FEC Railway Buffer 150 ft.
  - ▭ Proposed Stations
  - Solid Waste Sites**
  - Risk
    - ▲ Low
    - ▲ Medium
    - ▲ High
  - Contamination Sites**
  - Risk
    - Low
    - Medium
    - High
- 200 Feet

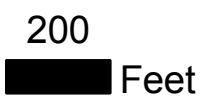






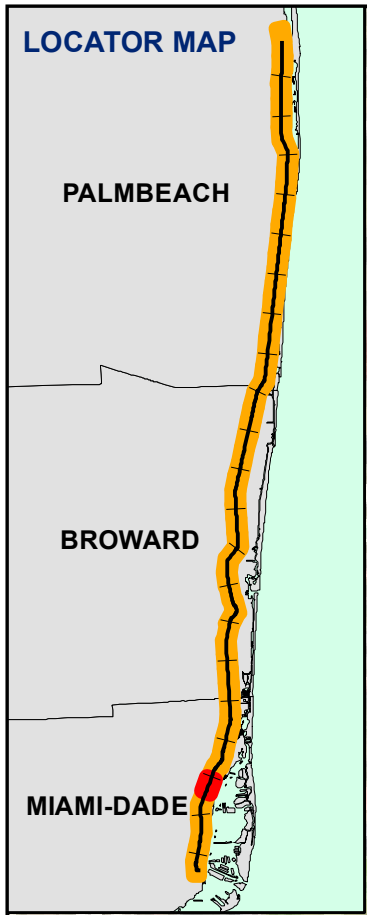
**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations
- Solid Waste Sites**
- Risk
  - Low
  - Medium
  - High
- Contamination Sites**
- Risk
  - Low
  - Medium
  - High





**LOCATOR MAP**



PALMBEACH

BROWARD

MIAMI-DADE



**Legend**

+ FEC Railway

FEC Railway Buffer 150 ft.

Proposed Stations

**Solid Waste Sites**

Risk

▲ Low

▲ Medium

▲ High

**Contamination Sites**

Risk

● Low

● Medium

● High

200 Feet

L175



GRIFFING BLVD

MEMORIAL HWY

BISCAYNE BLVD



LOCATOR MAP

PALMBEACH

BROWARD

MIAMI-DADE

GRAIN COURSE

GRAIN COURSE

SHORELAND BLVD/NE 96

NE 10 AVENUE

NE 6 AVE

BISCAYNE BLVD

NE 87 ST

L174

L173

Legend

- + FEC Railway
- [Red dashed line] FEC Railway Buffer 150 ft.
- [Blue square] Proposed Stations

Solid Waste Sites

- Risk
- [Blue triangle] Low
  - [Yellow triangle] Medium
  - [Red triangle] High

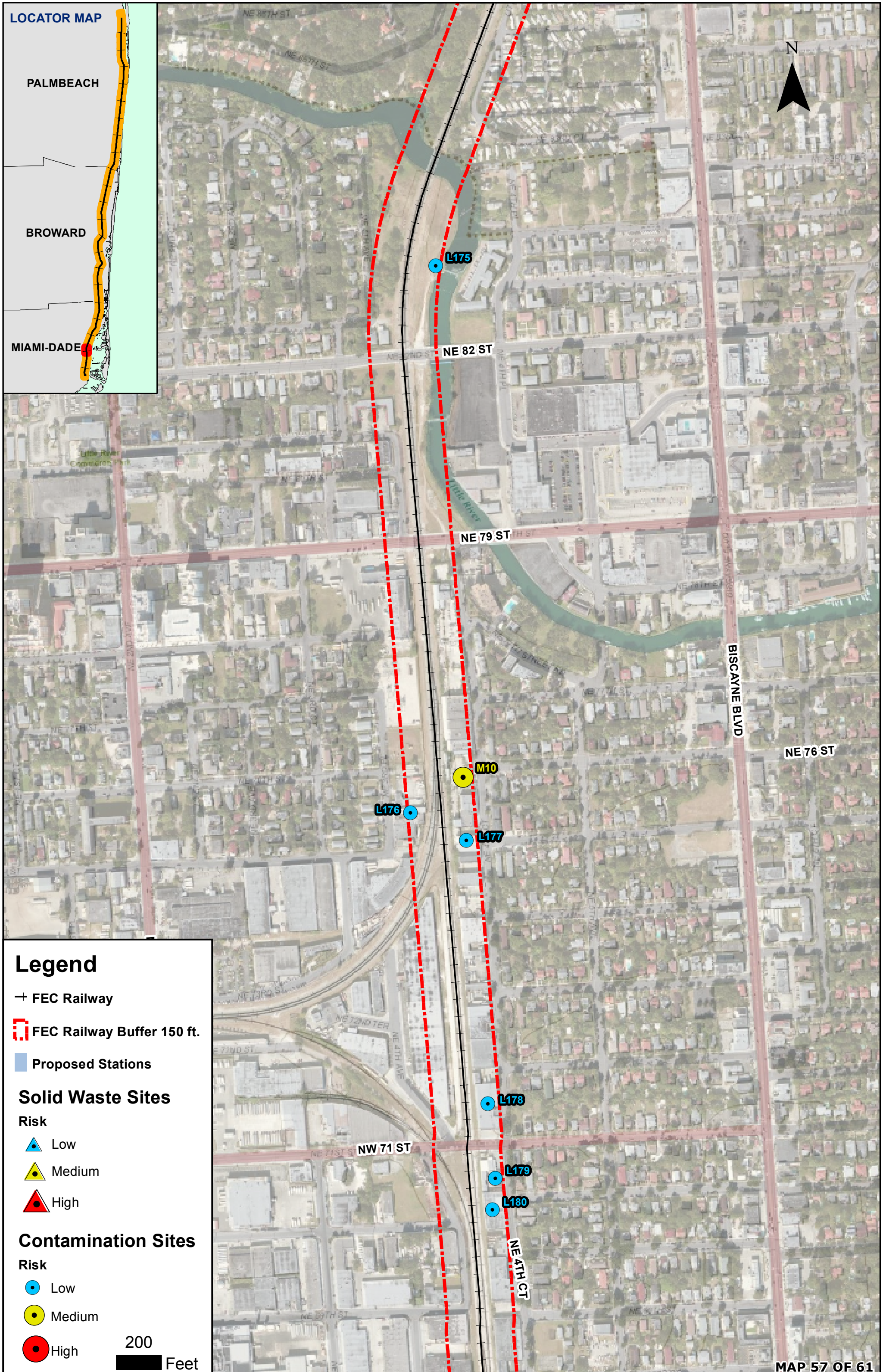
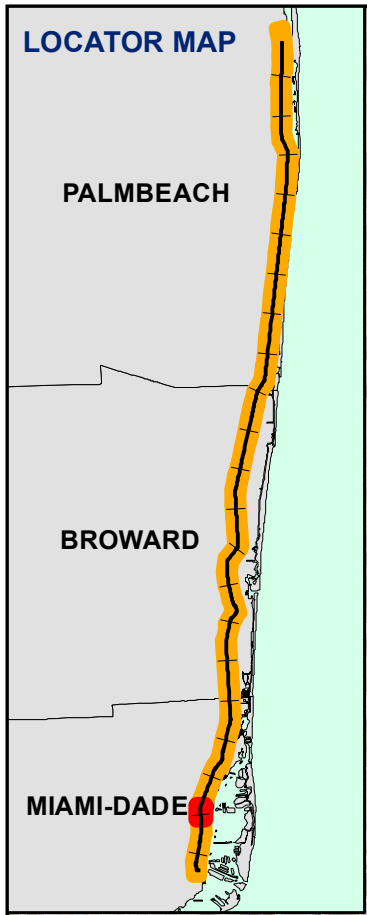
Contamination Sites

- Risk
- [Blue circle] Low
  - [Yellow circle] Medium
  - [Red circle] High


200 Feet



**LOCATOR MAP**



**Legend**

- + FEC Railway
  -  FEC Railway Buffer 150 ft.
  -  Proposed Stations
  - Solid Waste Sites**
  - Risk
    -  Low
    -  Medium
    -  High
  - Contamination Sites**
  - Risk
    -  Low
    -  Medium
    -  High
- 200 Feet

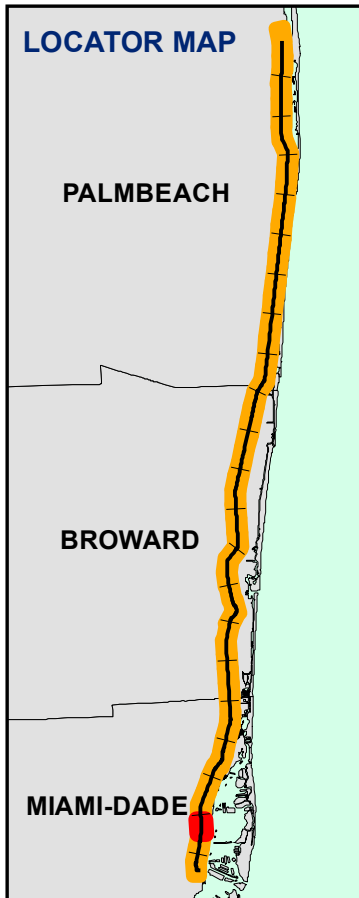


**LOCATOR MAP**

**PALMBEACH**

**BROWARD**

**MIAMI-DADE**



Upper Eastside

Teresa Kindergarten

Little Haiti

Little Haiti Park Project

Morningside Elementary School

NE 62 ST/DR MLK JR B

L181

NE 61 ST/DR MLK JR B

NE 2ND AVE

NE 4TH CT

BISCAYNE BLVD

M11

NE 54 ST

FEDERAL HIGHWAY

**Legend**

+ FEC Railway

FEC Railway Buffer 150 ft.

Proposed Stations

**Solid Waste Sites**

Risk

▲ Low

▲ Medium

▲ High

**Contamination Sites**

Risk

● Low

● Medium

● High

200 Feet

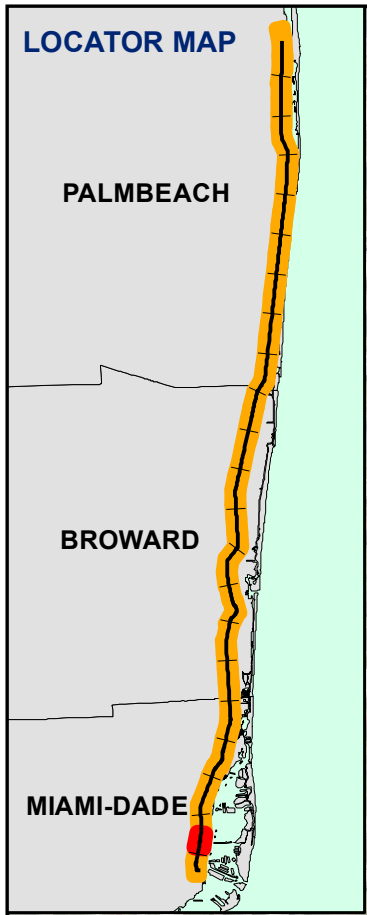


**LOCATOR MAP**

**PALMBEACH**

**BROWARD**

**MIAMI-DADE**



NW 46TH STREET

N MIA

NE 2 AVE

FEDERAL HIGHWAY

AIRPORT EXPWY

NE 36 ST

BISCAYNE BLVD

JULIATUTTLE CSWY

L182

Edgewater

**Legend**

+ FEC Railway

FEC Railway Buffer 150 ft.

Proposed Stations

**Solid Waste Sites**

Risk

Low

Medium

High

**Contamination Sites**

Risk

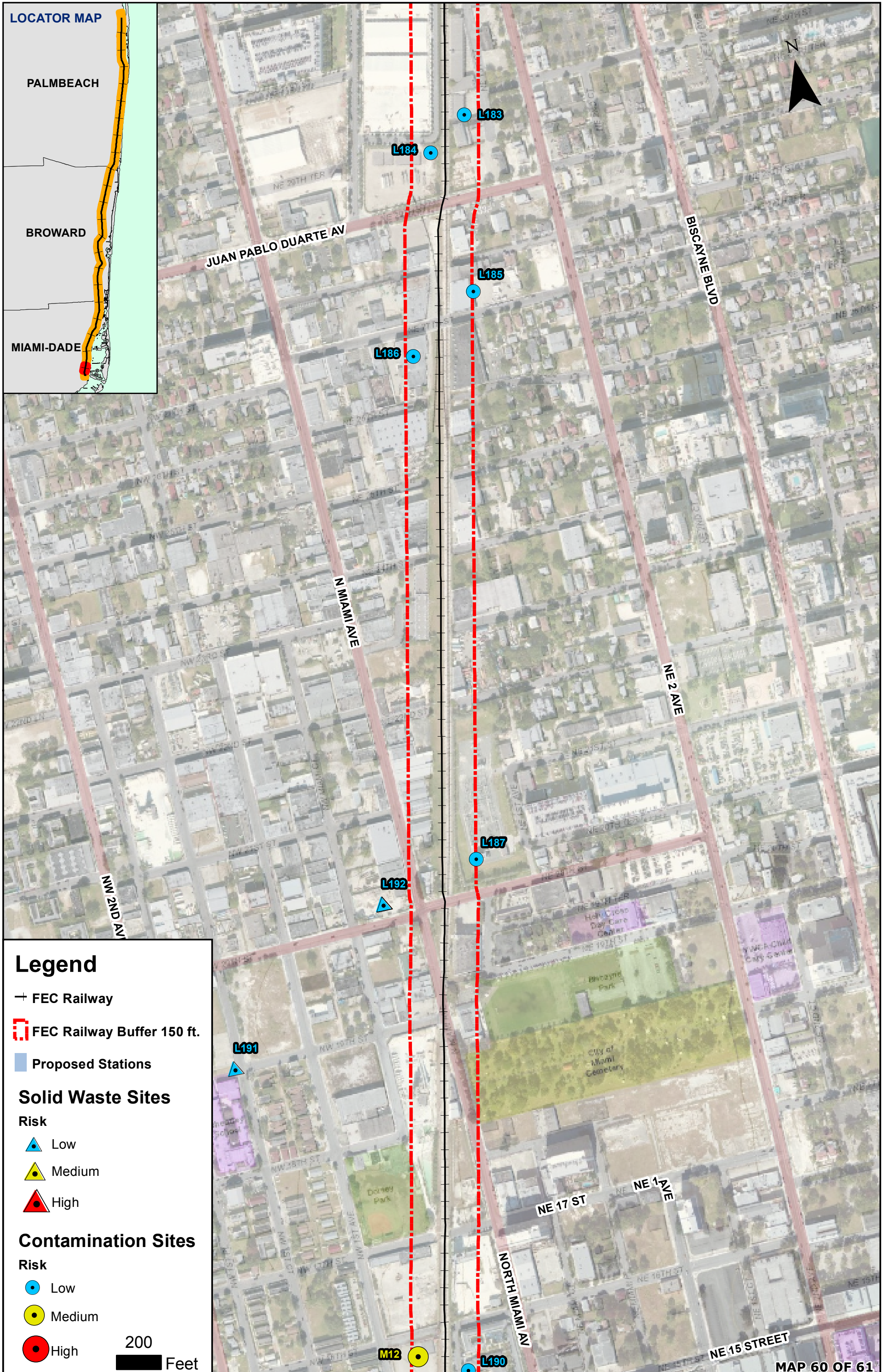
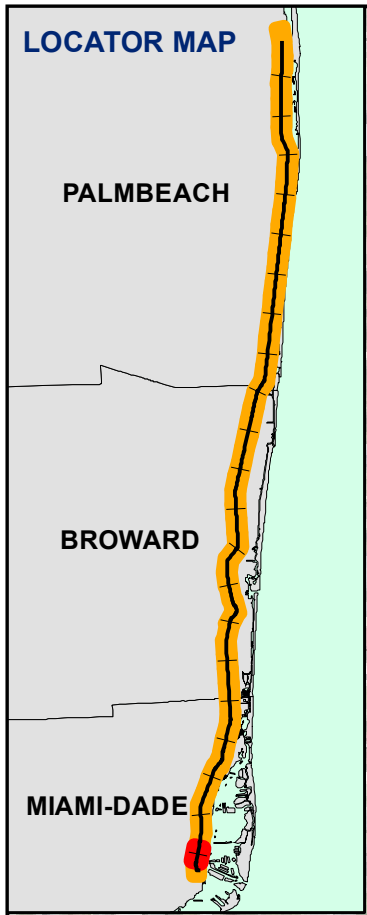
Low

Medium

High

200 Feet





**Legend**

- + FEC Railway
- [Red dashed line] FEC Railway Buffer 150 ft.
- [Blue square] Proposed Stations

**Solid Waste Sites**

Risk

- [Blue triangle] Low
- [Yellow triangle] Medium
- [Red triangle] High

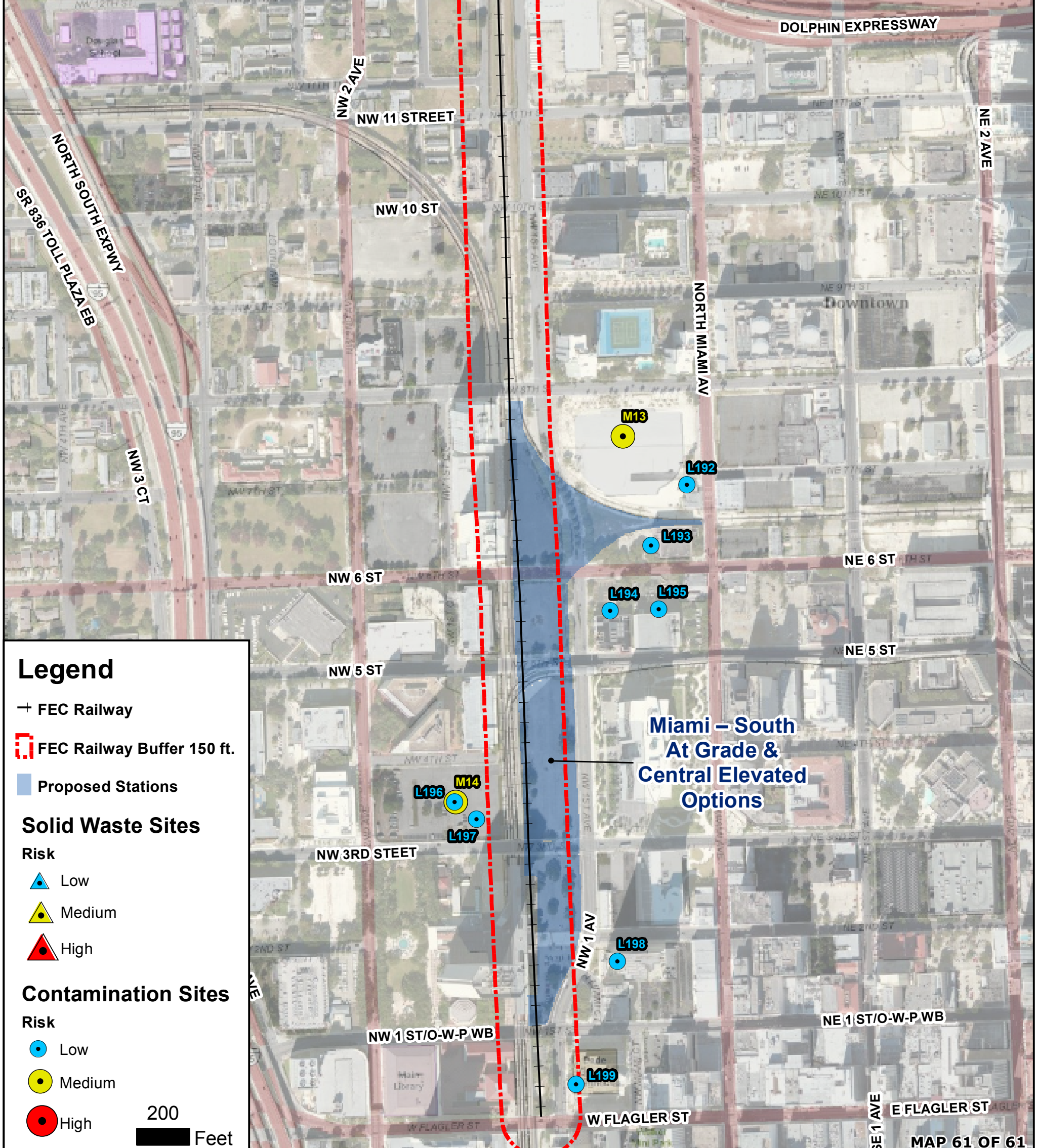
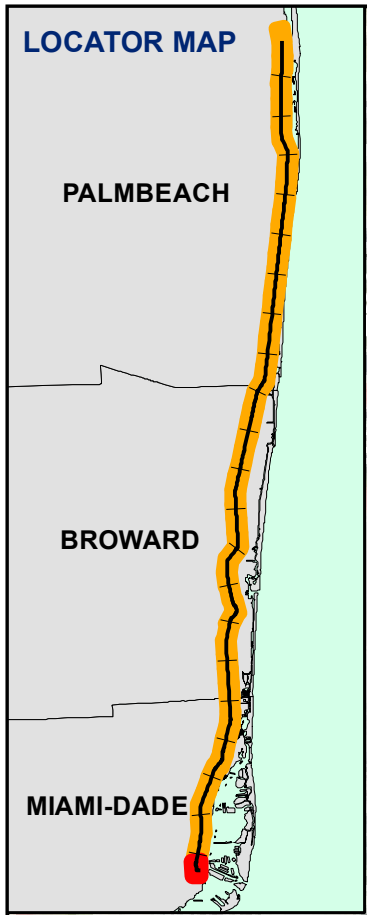
**Contamination Sites**

Risk

- [Blue circle] Low
- [Yellow circle] Medium
- [Red circle] High

200 Feet





**Legend**

- + FEC Railway
- FEC Railway Buffer 150 ft.
- Proposed Stations

**Solid Waste Sites**

Risk

- Low
- Medium
- High

**Contamination Sites**

Risk

- Low
- Medium
- High

200 Feet



**ATTACHMENT II**  
**REGULATORY FILE REVIEW**  
**INFORMATION**



## High/Medium Risk Sites Summaries

### *High Risk Sites*

**H1. Cemex Construction – 501 7th Street, West Palm Beach.** FDEP ID # 8514561: A hydrocarbon discharge occurred in August 1985. A RAP was implemented March 1992. A PARM was approved August 2007. The risk assessment is based on the regulatory file information indicating the PARM was not implemented, and because the site is adjacent to the project corridor.

**H2. Palm Beach County Judicial Center – 414 N Dixie Highway, West Palm Beach.** FDEP ID # 8630703: Hydrocarbon discharges occurred from several UST removals prior to 1990. A CAR submitted in May 1990 documented contamination throughout the site. A CAR submitted in April 1994 verified contamination exists on site. The risk assessment is based on lack of documentation indicating that any further assessments had been conducted or remedial actions implemented, and because the site is adjacent to the project corridor.

**H3. El Campeon Acquisition – 440 Evernia St. West Palm Beach.** FDEP ID# 8944518: Hydrocarbon Contamination was documented on site in December 1993. A RAP was submitted and approved in April 1994. The risk assessment was assigned because the site is adjacent to the project corridor, and because the regulatory information indicating that remedial action was not undertaken.

**H4. Petroliance LLC Ber 09-21-41040C – 2451 NE 4th Ave., Pompano Beach.** FDEP ID # 0811743: A hydrocarbon discharge was documented on site in February 2009, followed by a source removal. A SAR was submitted in November 2011 documenting groundwater contamination. A RAP was approved in April 2012. This risk assessment is due to lack of regulatory information indicating the RAP was implemented, and because the site is adjacent to the project corridor.

**H5. Tire Recycling Systems – 616 NW 2nd Ave., Fort Lauderdale.** FDEP ID# 55245: This is an active solid waste site with no regulatory information available. This risk assessment is based on the lack of any contamination assessments or monitoring conducted, and because the site is adjacent to the project corridor.

**H6. J & L Feed and Supply – 133 SW 3rd Ave., Dania.** FDEP ID# 8737224: A hydrocarbon discharge occurred during a UST removal in November 1991. A CAR was approved in December 1993. A source removal occurred January 1995. A NAMP was approved and implemented in August 2006, and suspended in December 2008 due to a low Petroleum Cleanup Site Priority score. Although some site cleanup was performed this risk assessment was based on the lack of documentation indicating site closure, and because the site is adjacent to the project corridor.

**H7. Master Craft Automotive – 800 N Dixie Highway, Hollywood.** FDEP ID# 9806980: A hydrocarbon discharge occurred during a UST removal in May 2005. A source removal occurred June 2005. A RAP submitted in January 2012 has not yet been approved. This risk assessment is due to the lack of RAP implementation and the site's close proximity to the project corridor.

**H8. AMOCO #4357-Maule Lake – 18100 Biscayne Blvd., North Miami Beach.** FDEP ID# 8505326: A Hydrocarbon discharge occurred in December 1986. A CAP was approved in January 1991 but no remedial action has been indicated in the regulatory files. No subsequent assessment has been conducted. This risk assessment is based upon the lack of remediation activities performed, and because the site is adjacent to the project corridor.

**H9. 181st Street Unlimited Car Washing – 18100 Biscayne Blvd., North Miami Beach.** FDEP ID# 8503539: A hydrocarbon discharged occurred in February 1995. No cleanup or site assessment is documented in the regulatory files. This risk assessment is based on the lack of remediation activities performed and because the site is adjacent to the project corridor.

**H10. Pace Dump – Biscayne Blvd. @ 147th St., North Miami Beach.** FDEP ID# 60083: This is an inactive Solid Waste site. No regulatory information available. This risk assessment is based on the lack of any contamination assessment performed, and because the site is adjacent to the project corridor.

**H11. Pressler's – NE 146th Street @ Biscayne Blvd., North Miami Beach.** FDEP ID# 99220: Solid Waste site. No regulatory information available. This risk assessment is based on the lack of any contamination assessments performed, and because the site is adjacent to the project corridor.

**H12. Munisport – 14301 Biscayne Blvd., North Miami Beach.** FDEP ID# 57135: Solid Waste site and a former NPL site. A RAP was implemented March 2002 and continued through September 2006. A MOP is ongoing. The risk assessment is based on lack of site closure and because the site is adjacent to the project corridor.

**H13. Trout Used Cars – 18395 W Dixie Highway, Miami.** FDEP ID# 9101384: A hydrocarbon discharge was documented in February 1992 during a UST removal. A CAR/MOP was submitted and approved In August 1994. This risk assessment is based on no documentation of MOP results, and because the site is adjacent to the project corridor.

### ***Medium Risk Sites***

**M1. Triple M Petroleum – 6710 Georgia Avenue, West Palm Beach.** FDEP ID# 8514160: A hydrocarbon discharge occurred during a UST removal in December 1988. A source removal occurred in May 2010. A LCSR in June 2010 indicated contamination still exists on site. No subsequent information is available. Although remediation activity occurred, this risk assessment is based on the June 2010 LCAR results and because the site is adjacent to the project corridor.

**M2. Lake Worth Recreation Complex – 1121 Lucerne Ave., Lake Worth.** FDEP ID# 9809962: Hydrocarbon discharges are suspected to have occurred on the property prior to the 1960's. A SAR submitted August 2008 verified that contamination exists on the property. A NAM was approved and implemented in April 2011 and is ongoing. This medium risk was assigned based on existing contamination at the site that is being monitored.



**M3. U S Food Mart – 874 N Dixie Highway, Lantana.** FDEP ID# 8514475: A hydrocarbon discharge occurred in October 1987 during a UST removal. A SAR submitted in August 1994 and a CAR submitted in May 1995 documented contamination on site. A RAP was implemented in May 2002. A MOP was implemented in January 2004 and continued through 2005. No additional information is available. This medium risk assessment is based on the RAP and MOP implementations, and because the site is located in close proximity to the project corridor.

**M4. Chevron- Flamingo – 301 E Atlantic Blvd., Delray Beach.** FDEP ID# 8942634: A hydrocarbon discharge was documented during a June 1989 UST removal. A NAMP was implemented in November 2006 and continued until September 2009. A LSRAP was approved in December 2009 and Implemented in September 2010. A PARM was implemented in April 2012 and is ongoing. This risk assessment is based upon the remedial activities of the LSRAP and the PARM, and because of the proximity of the site to the project corridor.

**M5. Avis Rent A Car Inc. – 1 NW Yamato Road, Boca Raton.** FDEP ID# 8842045: A hydrocarbon discharge occurred in December 2011. A LSAR submitted in May 2012 was disapproved by Palm Beach ERM stating that a RAP was required to be submitted. This site's risk assessment is Medium because of the site's distance to the project corridor.

**M6. Boca Raton Army Airfield Dump – W of Old Dixie Highway, N of 20<sup>th</sup> Street, Boca Raton.** FDEP ID# 94293: Closed former solid waste site. The site is immediately west of the project corridor, has been paved over, and now serves as the City of Boca Raton Municipal Complex. There is no ongoing monitoring. Although the site is adjacent to the project corridor, this site's risk assessment is based on the westerly direction of the groundwater flow, away from the project.

**M7. Titan Maritime Industries – 410 SW 4<sup>th</sup> Terrace, Dania.** FDEP ID# 9201874: A hydrocarbon discharge was documented in March 1992. A source removal occurred in June 1992. Although a source removal did occur, this site's risk assessment is based on lack of site closure documentation, indicating that contamination may still exist.

**M8. NE Community Center Dump – Charleston @ 24 Street, Hollywood.** FDEP ID# 99394: This is a former Solid Waste site. This risk assessment is due to the site's 1500-foot distance from the project corridor, but the lack of any assessment information does not preclude contamination.

**M9. Shell Station – 18560 Biscayne Blvd., Aventura.** FDEP ID# 8504026: Two hydrocarbon discharges occurred in 1988. FDEP approved NFAPs for both in December 1994. Another hydrocarbon discharge occurred in May 1995 during a UST removal. Remediation activities were not conducted for many years due to modifications to the State reimbursement program. A SAR was approved in November 2010 and in January 2011 a NAM plan was implemented and is ongoing. This site's risk assessment is based on low level contamination that remains on site and that the site is adjacent to the project area

**M10. Crystal Springs Water Co. – 7580 NE 4<sup>th</sup> Ct., Miami.** FDEP ID# 8522037: A hydrocarbon discharge occurred in November 1988 during a UST removal. An August 1990 CAR documented contamination, and a RAP was approved in December 1991. A source removal occurred in February 1992 and a MOP

was approved in June 1996. The last MOP quarterly report in the regulatory file is dated October 2000 without closure. Although some remedial activities have occurred, this site's risk assignment is based upon lack of closure documentation in the regulatory files and because it is adjacent to the project corridor.

**M11. Miami City ROW Former Dixie Transport – 5520 NE 4<sup>th</sup> Ave., Miami.** FDEP ID# 9803397: A hydrocarbon discharge occurred during a UST removal in October 1996. A SAR submitted May 2001 confirmed contamination. A NAM plan was approved in November 2002 but there is no implementation documentation in the regulatory files. DERM requested another SAR in May 2010 that has yet to be submitted. No additional information is available. Although not immediately adjacent to the project corridor, this site's risk assessment is based upon documented contamination and the lack of remedial activities in the regulatory files.

**M12. A & B Container Repairs – 1551 NW 1<sup>st</sup> Ave., Miami.** FDEP ID# 9804881: A hydrocarbon discharge occurred in February 2001. A SAR was submitted in May 2006 and a MOP implemented in February 2007. A SSAR submitted in April 2012 indicated contamination remains on site. No additional information is available. This risk is assigned because the site is adjacent to the project corridor, and because remediation is still required.

**M13. Arena Ventures – 701 Arena Blvd., Miami.** FDEP ID# 9047223: Contamination was suspected during a UST removal in February 2004. A RAP was approved in March 2004 and remedial activities were completed in April 2004. A PARM was implemented in July 2004 and monitoring continued through February 2007. A TCAR was submitted to PERA in November 2011, but was disapproved. A TCARA submission is pending. This risk is assigned because the site is adjacent to the project corridor, and because remediation is still required.

**M14. City of Miami Chilled Water Line Facility – 112 NW 3<sup>rd</sup> Street, Miami.** FDEP ID# 8841986: A hydrocarbon discharge occurred in September 1995 during a UST removal. A SAR was approved in March 1999 and several source removals occurred over the next few years. SARs submitted in January 2002, June 2006, and May 2008 indicated contamination remaining on site. A Source Removal Report submitted in September 2011 indicated that additional assessment is required. This risk is assigned because the site is adjacent to the project corridor, and because contamination remains.



**H1**

**CEMEX CONSTRUCTION**



FILE COPY ✓

**Department of Environmental  
Resources Management**

2300 North Jog Road, 4th Floor  
West Palm Beach, FL 33411-2743  
(561) 233-2400  
FAX: (561) 233-2414  
www.co.palm-beach.fl.us/erm

**Palm Beach County  
Board of County  
Commissioners**

Addie L. Greene, Chairperson

Jeff Koons, Vice Chair

Karen T. Marcus

Warren H. Newell

Mary McCarty

Burt Aaronson

Jess R. Santamaria

**County Administrator**

Robert Weisman

August 31, 2007

Mr. David Sonders, E.I.  
ARCADIS U.S., Inc.  
185 NW Spanish River Blvd., Suite 110  
Boca Raton, FL 33431

Subject: Post Active Remediation Monitoring Plan Approval  
Rinker Materials Corporation  
501 7th Street  
West Palm Beach, Palm Beach County  
FDEP Facility ID# 508514561  
Discharge Date: 08/27/85 (EDI)

Dear Mr. Sonders:

The Palm Beach County Department of Environmental Resources Management (ERM), on behalf of the Florida Department of Environmental Protection (FDEP), has reviewed the Quarter 1 Operation and Maintenance Report and Post Active Remediation Monitoring (PARM) Plan dated August 28, 2007 (received August 30, 2007), submitted for the petroleum product discharge referenced above. Pursuant to Paragraph 62-770.750(3)(a), Florida Administrative Code (F.A.C.), ERM approves the PARM Plan.

A cost proposal to implement the monitoring plan at this facility needs to be submitted. Please mail the proposal to me at the letterhead address. Water-level measurements must be made immediately prior to each sampling event. The analytical results (laboratory report), chain of custody record form, cumulative summary tables as required by Subparagraph 62-770.600(8)(a)25., F.A.C. (updated as applicable), site map(s) that illustrate the most recent analytical results, and the water-level elevation information (cumulative summary table and most recent flow interpretation map), must be submitted to ERM according to the time frame established in an executed work order.

The monitoring wells to be sampled, the sampling parameters, and the sampling frequency are as follows:

*"An Equal Opportunity  
Affirmative Action Employer"*



Mr. David Sonders, E.I.  
August 31, 2007  
Page 2

<u>Monitoring Wells</u>	<u>Contaminants of Concern</u>	<u>Frequency</u>
MW-7, MW-8, MW-12, MW-13, MW-19R, MW-22, MW-23, MW- 24, MW-26, MW-27 and MW-28	BTEX, MTBE, PAHs, TRPHs	Quarterly

If concentrations of contaminants of concern in any of the designated wells increase above the action levels listed below, a verbal authorization request should be submitted to ERM so the well or wells can be resampled no later than 30 days after the initial positive results are known. If the results of the resampling confirm the initial sampling results, then the monitoring report referenced in Paragraph 62-770.750(5)(d), F.A.C., must be signed and sealed by an appropriate registered professional pursuant to Rule 62-770.490, F.A.C., and must include a recommendation as described in Paragraph 62-770.750(5)(e), F.A.C.

Source wells:

MW-12, MW-19R, MW-22, MW-23, MW-27 and MW-28: 100 µg/L Benzene; 200 µg/L MTBE; 140 µg/L Naphthalene; 50,000 µg/L TRPH.

Perimeter wells (temporary point of compliance):

MW-7, MW-8, MW-13, MW-24 and MW-26: 1 µg/L Benzene; 20 µg/L MTBE; 14 µg/L Naphthalene; 5,000 µg/L TRPH.

If the applicable No Further Action criteria of Rule 62-770.680, F.A.C., are met at the end of the monitoring period (for at least the last two sampling events), a Site Rehabilitation Completion Report with a No Further Action Proposal, that summarizes the monitoring program and contains documentation to support the opinion that the cleanup objectives have been achieved, must be submitted to ERM as required in Subsection 62-770.750(7), F.A.C. If the applicable No Further Action criteria of Rule 62-770.680, F.A.C., are not met following one year of monitoring, then the monitoring report must include a recommendation as described in Paragraph 62-770.750(5)(e), F.A.C.

The FDEP Facility Number for this facility is 508514561. Please use this identification on all future correspondence with the FDEP or ERM. If you should have any questions concerning the review or the needed proposal, please contact Philip G. Norton, Hydrogeologist at (561) 681-3867 or at the letterhead address.

Sincerely,



David C. Gibson, P.G.  
Senior Hydrogeologist

KLE/pgn

cc: Phil Norton, Palm Beach County ERM  
Jeffrey R. Porter, Rinker Materials Corporation, 1501 Belvedere Road, West Palm Beach, FL  
33406

**H-2**

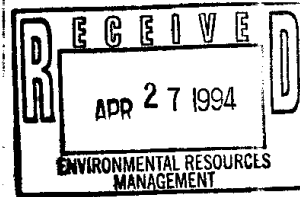
**PALM BEACH COUNTY JUDICIAL CENTER**





# ecology and environment, inc.

1415 EAST SUNRISE BOULEVARD, FORT LAUDERDALE, FL 33304, (305) 779-2771  
International Specialists in the Environment



April 26, 1994

Mr. Tim Neal  
Palm Beach County Department of  
Environmental Resources Management  
3111 South Dixie Highway  
Suite 248  
West Palm Beach, Florida 33405

**Re: Letter Report of Limited Contamination Assessment Activities at the Palm Beach County Judicial Center Site, 414 Third Street, West Palm Beach, Florida (FDEP Facility No. 508630703)**

Dear Tim:

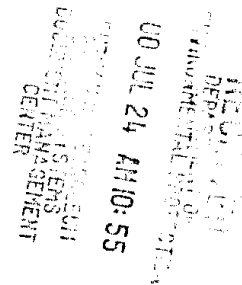
Ecology and Environment, Inc., (E & E) has developed this Letter Contamination Assessment Report for the Palm Beach County Judicial Center (Judicial Center) site under Palm Beach County Department of Environmental Resources Management (PBCDERM) Contract No. R90-1821D. This letter report is based on information gathered during limited contamination assessment activities conducted by E & E personnel between December 14 and 20, 1993. The scope-of-work (SOW) performed by E & E was similar to the activities described in E & E's revised letter proposal, dated November 19, 1993, and included collection of well-boring soil samples for headspace analysis, installation of five shallow monitoring wells, and collection/analysis of groundwater samples from the newly installed wells.

Based on instructions from PBCDERM, the primary focus of E & E's work on site was the installation of the five shallow monitoring wells described above; the locations of these monitoring wells were pre-determined by PBCDERM. The wells were installed by E & E during construction of the Judicial Center facility, and within an on-site groundwater contaminant plume previously assessed/delineated by Jambal and Associates, Inc. (JAI). According to PBCDERM, JAI's contamination assessment report (CAR) for the Judicial Center site was approved on July 27, 1990; the site property formerly contained more than 30 fuel underground storage tanks (USTs)/fuel underground storage vaults (USVs); and a former USV containing kerosene analytical group fuel(s) was suggested/identified by PBCDERM as a source for the dissolved contaminant plume present in E & E's well installation areas (see Figure 1).

It should be noted that site file/background information (including JAI's 1990 CAR) could not be obtained by E & E prior to/during this limited site investigation and, based on instructions from PBCDERM, E & E did not include groundwater flow data and site conclusions/recommendations sections in this letter report. This report does include qualitative/quantitative site data and results for E & E's December 1993 field activities. These data and results are discussed in the following sections:

- o Soil Headspace Survey Results and Composite Soil Sample Analytical Results;
- o Monitoring Well Installations;
- o Groundwater Sample Analytical Results; and
- o Quality Assurance/Quality Control Results.

recycled paper



### Soil Headspace Survey Results and Composite Soil Sample Analytical Results

Soil headspace samples were collected from post-hole digger/bucket auger/hollow-stem auger cuttings produced during installation of each of the five shallow monitoring wells shown on Figure 1. Soil headspace readings for each well boring are included in the lithologic logs presented in Attachment A. At each monitoring well location, soil headspace samples were collected from land surface to a depth of at least one foot below the on-site water table (i.e., the depth at which visibly water-saturated soils were encountered); visibly water-saturated soils were encountered at a depth of approximately 10 feet below land surface (BLS) except at monitoring well MW2 (see Attachment A), which was located in a topographically higher area. Four to five composite sample sets, each set consisting of two samples, were collected at each well boring location; sample intervals for each boring are presented/described in Attachment A. E & E also collected a composite sample (JSS2) from the drummed soil cuttings generated during well installation activities and analyzed the sample for disposal parameters specified in Chapter 17-775.400(2), Florida Administrative Code, (FAC); the complete laboratory report of soil sample analytical results is presented in Attachment B.

Contaminant concentrations greatly in excess of clean soils criteria specified in Chapter 17-775, FAC, were present in the composite soil sample collected from the drummed cuttings generated during well installation activities (Note: all soil cuttings from installation of well borings JM1 through JM5 were drummed; composite soil sample JSS2 was composed of sample aliquots collected from soils within each drum). The composite soil sample JSS2 contained elevated concentrations of total recoverable petroleum hydrocarbons (TRPHs; 15,000 milligrams per kilogram [mg/kg]), polynuclear aromatic hydrocarbons (PAHs; including a total naphthalenes concentration of 106,000 micrograms per kilogram [ug/kg]), total BTEX (i.e., BTEX = benzene + toluene + ethylbenzene + total xylenes; 840 ug/kg), purgeable halocarbons (including 110 ug/kg tetrachloroethene), and metals (including 6.4 mg/kg lead).

Soil headspace samples collected from 6 to 10 feet BLS at well borings JM3 and JM4 were likely contaminated in excess of the 50 parts per million (ppm) standard for kerosene group excessively contaminated soil. These soil samples exhibited petroleum odors and unfiltered (i.e., total organic vapor) headspace readings in excess of 1000 ppm. However, methane-corrected headspace readings, as specified by Chapter 17-770, FAC, could not be calculated for these samples because hydrocarbon vapors saturated the organic vapor analyzer's [OVA's] filter and produced false methane values in excess of 1000 ppm. A slightly elevated, methane-corrected headspace reading was measured in a soil sample collected from 10 to 13 feet BLS at the well JM2 boring (see Figure 1), but this value (27 ppm) was below Chapter 17-770, FAC, standards. Below the water table, elevated headspace readings and moderate petroleum odors were present in the samples collected from the JM2, JM3, and JM4 well borings (see Attachment A; all saturated-zone soil headspace data were collected to screen for the presence/absence of groundwater contamination).

Based on the presence of observable petroleum contamination (i.e., petroleum odors) and relatively elevated headspace readings detected at well borings JM2, JM3 and JM4, it is likely that the elevated concentrations of petroleum analytes in composite soil sample JSS2 were primarily derived from vadose-zone/groundwater-saturated cuttings obtained at the JM2, JM3, and JM4 borings. Analytical results for groundwater samples collected from shallow monitoring wells JM2, JM3, and JM4 (discussed below) provide further evidence that the greatest levels of petroleum contamination present in E & E's limited study area derived from the JM2/JM3/JM4 locations. As shown on Figure 1, wells JM2, JM3, and JM4 are located nearest the former fuel USV area (i.e., the reported/historical contaminant source area).



### Monitoring Well Installations

The locations of E & E-installed shallow monitoring wells JM1 through JM5 are shown on Figure 1. Lithologic logs for the five wells are presented in Attachment A; well construction details are included in the lithologic logs. Shallow monitoring wells JM1 and JM2 were manually installed using a portable tripod system and bentonite mud. Shallow monitoring wells JM3, JM4, and JM5 were installed using hollow-stem augers. After installation, the new monitoring wells were developed using a centrifugal pump. With the approval of PBCDERM, a bentonite-degrader additive (active ingredient: sodium hexametaphosphate) was used to aid in the development of wells JM1 and JM2. All drill cuttings and development water were drummed and are temporarily being stored on site prior to disposal by a licensed waste management firm.

### Groundwater Sample Analytical Results

Groundwater samples were collected from the five newly installed monitoring wells and were analyzed for purgeable aromatic hydrocarbons, plus methyl tert-butyl ether (MTBE; United States Environmental Protection Agency [EPA] Method 8020), and PAHs (EPA Method 8310). Groundwater sample analytical results are summarized on Table 1; the complete laboratory analytical reports for these samples are presented in attachments B and C.

The groundwater samples collected from monitoring wells JM3 and JM4 exhibited total naphthalenes concentrations at or in excess of the 100 ug/L cleanup standard specified in Chapter 17-770, FAC (see Table 1). Other PAH compounds, including fluoranthene, fluorene, phenanthrene, and benzo[a]anthracene, were also present above cleanup standards (i.e., above method detection limits) in the groundwater samples collected from monitoring wells JM2, JM3, and JM4 (see Table 1). Benzene and total BTEX (total BTEX = benzene + toluene + ethylbenzene + total xylenes) were not present above Chapter 17-770, FAC, cleanup standards in any of the groundwater samples collected from monitoring wells JM1 through JM5.

### Quality Assurance/ Quality Control Results

One equipment rinsate blank (JRB1) was collected in conjunction with groundwater sampling conducted on December 16, 1993, and analyzed for purgeable aromatic hydrocarbons, MTBE, and PAHs. Purgeable aromatic hydrocarbons, MTBE, and PAHs were not detected in equipment rinsate blank JRB1 or in the associated laboratory method blanks (see attachments B and C). Duplicate groundwater sample JM3-D demonstrated very good agreement with groundwater sample JM3. Method blank contaminants and matrix spike/recovery discrepancies associated with analysis of composite soil sample JSS2 are currently being investigated by E & E's Analytical Services Center (ASC; see attachments B and C); the ASC will submit a letter to PBCDERM explaining related data quality effects (if any).

Mr. Tim Neal  
April 26, 1994  
Page Four

If you have any questions or comments regarding this letter report, please contact me at (305) 779-2771 or Joe Latona at (904) 877-1978.

Sincerely,

**ECOLOGY AND ENVIRONMENT, INC.**

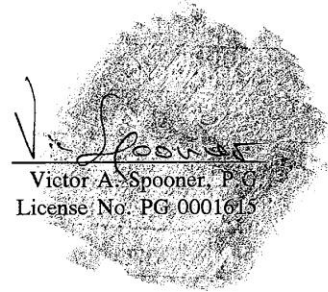


Victor A. Spooner, P.G.  
Project Manager

VS-1/PN5RPT

Attachments

cc: J. Wilcox; E & E--Buffalo/Central File (PN5)  
J. Latona; E & E--Tallahassee  
E & E--Fort Lauderdale/Project File (PN5)





**Table 1**  
**SUMMARY GROUNDWATER SAMPLE ANALYTICAL RESULTS**  
**(December 15, 16, and 20, 1993)**  
**JUDICIAL CENTER SITE**

Compound	Concentration (ug/L)						
	12/15/93		12/16/93			12/20/93	
	JM4 <sup>a</sup>	JM5	JM3 <sup>b</sup>	JM3-D <sup>b</sup>	JEB1	JM1	JM2 <sup>a</sup>
Benzene	2.9	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	4.1	0.74	ND	ND	2.2
Total Xylenes	ND	ND	5.5	ND	ND	ND	ND
<b>Total BTEX</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>
MTBE	ND	ND	ND	ND	ND	ND	ND
Napthalene	ND(10)	ND	170	180	ND	ND	ND(10)
<b>Total Napthalenes</b>	<b>100</b>	<b>ND</b>	<b>640</b>	<b>650</b>	<b>ND</b>	<b>ND</b>	<b>ND(10)</b>
Fluoranthene	7.4	ND	21	22	ND	ND	30
Benzo(a)anthracene	ND(2)	ND	ND(5)	ND(5)	ND	ND	6.2
Fluorene	8.5	ND	16	14	ND	ND	7.5
Phenanthrene	12	ND	24	25	ND	ND	12

VS-1/PN6RPT.TBI

<sup>a</sup>Detection limits for polynuclear aromatic hydrocarbons elevated by a factor of 2.

<sup>b</sup>Detection limits for polynuclear aromatic hydrocarbons elevated by a factor of 5.

**Key:**

ug/L = Micrograms per liter.

JM3-D = Duplicate groundwater sample collected from monitoring well JM3.

BTEX = Benzene, toluene, ethylbenzene, and total xylenes.

ND = Not detected above normal detection limit.

ND( ) = Not detected above detection limit indicated in parentheses.

Source: Ecology and Environment, Inc., 1994.

**H3**

**EL CAMPEON ACQUISITON**





Lawton Chiles  
Governor

# Florida Department of Environmental Protection

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Virginia B. Wetherell  
Secretary

April 1, 1994

Mr. Jeffrey E. Halverson  
City of West Palm Beach  
1045 Charlotte Avenue  
West Palm Beach, Florida 33401-3506

RE: City of West Palm Beach  
440 Evernia Street (El Campeon Acquisition)  
West Palm Beach, Florida  
DEP Facility #508944518

Dear Mr. Halverson:

The Department has concluded its review of the Remedial Action Plan (RAP) dated March 1994 (received March 14, 1994) and RAP Addendum dated March 18, 1994, submitted for the referenced site. The Department has determined that the actions proposed in this RAP inclusive of supplemental information dated through March 18, 1994, provide reasonable assurance that the contaminant concentrations at the site will be reduced to the levels set forth in Chapter 17-770, Florida Administrative Code (F.A.C.). Pursuant to Rule 17-770.700(3), F.A.C., the Department approves the RAP.

You are required to initiate the remedial actions described in the RAP and supplemental information within two (2) months of receipt of this Order. These limited scope remedial actions are to be implemented in accordance with Chapter 17-770, F.A.C., and shall continue until cleanup of the contaminated groundwater to the target levels of the Department's "No Further Action and Monitoring Only Guidelines for Petroleum Contaminated Sites" is achieved. If the limited scope remediation does not result in achieving monitoring only levels, a RAP modification to propose a more conventional long term cleanup strategy should be submitted within two months of termination of the limited scope RAP.

You are also required to submit record drawings ("as built" drawings) of the treatment system within four (4) months of receipt of this Order. These drawings must be certified by a professional engineer.

Mr. Jeffrey E. Halverson  
April 1, 1994.  
Page 2

Persons whose substantial interests are affected by this Remedial Action Plan Approval Order have the right to challenge the Department's decision. Such a challenge may include filing a petition for an administrative determination (hearing) as described in the following paragraphs. However, pursuant to Chapter 17-103, F.A.C., you may request an extension of time to file the Petition. All requests for extensions of time or petitions for administrative determinations must be filed directly with the Department's Office of General Counsel at the address given below within twenty-one (21) days of receipt of this notice (do not send them to the Bureau of Waste Cleanup).

Notwithstanding the above, a person whose substantial interests are affected by this Remedial Action Plan Approval Order may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within twenty-one (21) days of receipt of this notice. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information:

- (a) The name, address, and telephone number of each petitioner, the Department file number (DEP facility number), and the name and address of the facility;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by each petitioner, if any;
- (e) A statement of facts which each petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes each petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by each petitioner, stating precisely the action each petitioner wants the Department to take with respect to the Department's action or proposed action.



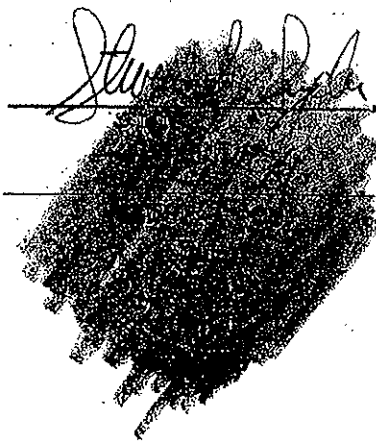
P.E. CERTIFICATION

The Remedial Action Plan for CITY OF WEST PALM BEACH  
EL CAMPEON ACQUISITION 440 EVERNIA ST WEST PALM BEACH, FL  
DEP FACILITY #508944SR has been reviewed.

I hereby certify that in my professional judgement, the components of this remedial action plan satisfy the requirements set forth in Chapter 17-770, F.A.C., and that the engineering design features incorporated in this plan provide reasonable assurances of achieving the objectives stated in Chapter 17-770, F.A.C., for remedial action. However, I have not evaluated and do not certify aspects of this plan that are outside my area of expertise (including, but not limited to electrical, mechanical, and structural features).

I personally completed this review.

This review was conducted by \_\_\_\_\_  
working under my direct supervision.



Mr. Jeffrey E. Halverson  
April 1, 1994  
Page 3

This Remedial Action Plan Approval Order is final and effective on the date of receipt of this Order unless a petition (or time extension) is filed in accordance with the preceding paragraphs. Upon the timely filing of a petition, this Order will not be effective until further order of the Department.

When the Order is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal, accompanied by the applicable filing fees, with the appropriate District Court of Appeal. The Notice of Appeal must be filed within thirty (30) days from the date the Final Order is filed with the Clerk of the Department.

The DEP Facility Number for this site is 508944518. Please use this identification on all future correspondence with the Department.

Any questions you may have on the technical aspects of this Remedial Action Plan Approval Order should be directed to Steve G. Snyder, P.E. at (407) 355-4011. Contact with the above-named person does not constitute a petition for administrative determination.

Sincerely,



John M. Ruddell, Director  
Division of Waste Management

JMR:JVA:SGS:kle

cc: File Copy

Southeast District Office, DEP

Palm Beach County Dept. of Environmental Resources Management

Daniel E. Wolf, P.E., Tower Environmental, Inc.



**H4**

**PETROLIANCE LLC BER 09-21-41040C**



# Florida Department of Environmental Protection

Bob Martinez Center  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Rick Scott  
Governor

Jennifer Carroll  
Lt. Governor

Herschel T. Vinyard Jr.  
Secretary

April 10, 2012

**CERTIFIED MAIL #7008 1140 0002 6709 3376**  
**RETURN RECEIPT REQUESTED**

Mr. Glenn White  
PetroLiance, LLC  
1009 Schieffelin Road  
Apex, NC 27502

Subject: Remedial Action Plan Approval Order  
PetroLiance, LLC BER 09-21-41040C  
2451 NE 4<sup>th</sup> Avenue  
Pompano Beach, Broward County  
FDEP Facility ID# 069811743  
Discharge Date: February 22, 2009 (Non-program)  
Involves UIC: No

Dear Mr. White:

The Broward County Pollution Prevention, Remediation and Air Quality Division (Division), on behalf of the Florida Department of Environmental Protection (Department), has reviewed the Remedial Action Plan (RAP) dated January 4, 2012 (received January 5, 2012), prepared and submitted by Environmental Consulting & Technology, Inc. for the petroleum product discharge referenced above. We found all the documents submitted to date to be adequate to meet the RAP requirements of Rule 62-770.700, Florida Administrative Code (F.A.C.). The Department has determined that the actions proposed in this RAP represent a reasonable strategy toward accomplishing the cleanup objectives of Chapter 62-770, F.A.C. Pursuant to Paragraph 62-770.700(8)(a), F.A.C., the Department approves the RAP as described in this RAP Approval Order (Order). However, if it appears during RAP implementation that the remedial strategy is not effective, a request for modification of this Order, pursuant to Subsection 62-770.700(15), F.A.C., may be submitted to the Department, or the Department may require the preparation and submittal of a RAP Modification to enhance the active remediation. Depending on the nature of the system modification, the Department may revoke this Order. The operation of the active remediation system must be initiated within 120 days, as required by Subsection 62-770.700(11), F.A.C.



Legal Issues

The Department's Order shall become final unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, Florida Statutes (F.S.) within 21 days of receipt of this Order. The procedures for petitioning for an administrative hearing are set forth below.

Persons affected by this Order have the following options:

- (A) If you choose to accept the Department's decision regarding the RAP you do not have to do anything. This Order is final and effective on the date filed with the Clerk of the Department, which is indicated on the last page of this Order.
- (B) If you choose to challenge the decision, you may do the following:
  - (1) File a request for an extension of time to file a petition for an administrative hearing with the Department's Agency Clerk in the Office of General Counsel within 21 days of receipt of this Order; such a request should be made if you wish to meet with the Department in an attempt to informally resolve any disputes without first filing a petition for an administrative hearing; or
  - (2) File a petition for an administrative hearing with the Department's Agency Clerk in the Office of General Counsel within 21 days of receipt of this Order.

Please be advised that mediation of this decision pursuant to Section 120.573, F.S., is not available.

How to Request an Extension of Time to File a Petition for an Administrative Hearing

For good cause shown, pursuant to Subsection 62-110.106(4), F.A.C., the Department may grant a request for an extension of time to file a petition for an administrative hearing. Such a request must be filed (received) by the Department's Agency Clerk in the Office of General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000, within 21 days of receipt of this Order. Petitioner, if different from PetroLiance, LLC, shall mail a copy of the request to PetroLiance, LLC at the time of filing. Timely filing a request for an extension of time tolls the time period within which a petition for an administrative hearing must be made.

### How to File a Petition for an Administrative Hearing

A person whose substantial interests are affected by this Order may petition for an administrative hearing under Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) by the Department's Agency Clerk in the Office of General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000, within 21 days of receipt of this Order. Petitioner, if different from PetroLiance, LLC, shall mail a copy of the petition to PetroLiance, LLC at the time of filing. Failure to file a petition within this time period shall waive the right of anyone who may request an administrative hearing under Sections 120.569 and 120.57, F.S.

Pursuant to Subsection 120.569(2), F.S. and Rule 28-106.201, F.A.C., a petition for an administrative hearing shall contain the following information:

- (a) The name, address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner's representative, if any; the facility owner's name and address, if different from the petitioner; the FDEP facility number, and the name and address of the facility;
- (b) A statement of when and how each petitioner received notice of the Department's action or proposed action;
- (c) An explanation of how each petitioner's substantial interests are or will be affected by the Department's action or proposed action;
- (d) A statement of the disputed issues of material fact, or a statement that there are no disputed facts;
- (e) A statement of the ultimate facts alleged, including a statement of the specific facts the petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the Department to take with respect to the Department's action or proposed action.



Mr. Glenn White  
FDEP Facility ID# 069811743  
Page 4  
April 10, 2012

This Order is final and effective on the date filed with the Clerk of the Department, which is indicated on the last page of this Order. Timely filing a petition for an administrative hearing postpones the date this Order takes effect until the Department issues either a final order pursuant to an administrative hearing or an Order Responding to Supplemental Information provided to the Department pursuant to meetings with the Department.

#### Judicial Review

Any party to this Order has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the Department's Agency Clerk in the Office of General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days after this Order is filed with the Department's clerk (see below).

#### Questions

Any questions regarding the Division's review of your RAP should be directed to David Vanlandingham, P.E. at (954) 519-1478. Questions regarding legal issues should be referred to the Department's Office of General Counsel at (850) 245-2242. Contact with any of the above does not constitute a petition for an administrative hearing or a request for an extension of time to file a petition for an administrative hearing.

Mr. Glenn White  
FDEP Facility ID# 069811743  
Page 5  
April 10, 2012

The FDEP Facility Number for this facility is 069811743. Please use this identification on all future correspondence with the Department or the Division.

Sincerely,



Robert C. Brown, P.E.  
Chief, Bureau of Petroleum Storage Systems


RCB /dv

ec: David Vanlandingham, P.E., Broward County - dvanlandingham@broward.org  
Barry Westmark, P.E., Environmental Consulting & Technology, Inc. -  
bwestmark@ectinc.com

FDEP File

cc: Michael Savelle, Petroleum Management Services, Inc., 4130 NE 25<sup>th</sup> Avenue, Fort  
Lauderdale, FL 33308

FILING AND ACKNOWLEDGMENT  
FILED, on this date, pursuant to  
§120.52 Florida Statutes, with the  
designated Department Clerk, receipt  
of which is hereby acknowledged.

  
Clerk  
(or Deputy Clerk)

4-17-12  
Date



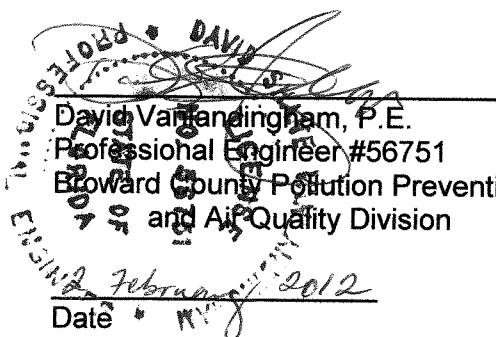
P.E. CERTIFICATION

Remedial Action Plan (RAP) dated January 4, 2012 (received January 5, 2012), for PetroLiance, LLC BER 09-21-41040C, located at 2451 NE 4<sup>th</sup> Ave., Pompano Beach, Broward County, FDEP Facility ID# 069811743.

I hereby certify that in my professional judgment, the components of this RAP prepared for the February 22, 2009, petroleum product discharge discovered at the above-referenced facility satisfy the requirements set forth in Chapter 62-770, Florida Administrative Code (F.A.C.), and that the engineering design features incorporated in this plan provide a reasonable strategy toward accomplishing the cleanup objectives of Chapter 62-770, F.A.C. However, I have not evaluated and do not certify aspects of this plan that are outside my area of expertise (including, but not limited to, electrical, mechanical, and structural features). Implementation of this RAP may not result in a complete cleanup of the discharge to the applicable cleanup target levels referenced in Chapter 62-770, F.A.C., or site-specific cleanup target levels. A subsequent phase of remedial design or natural attenuation monitoring may be necessary to accomplish the comprehensive cleanup in accordance with Chapter 62-770, F.A.C.

I personally completed this review.

This review was conducted by \_\_\_\_\_  
working under my direct supervision.

  
David Vanlandingham, P.E.  
Professional Engineer #56751  
Broward County Pollution Prevention, Remediation  
and Air Quality Division  
Date February 2012

**H5**

**TIRE RECYCLING SYSTEMS**

**(No regulatory information available)**



**H6**

**J & L FEED AND SUPPLY**




Environmental Protection and Growth Management Department  
POLLUTION PREVENTION, REMEDIATION AND AIR QUALITY DIVISION  
Mailing Address: 115 South Andrews Avenue, Room A-240, Fort Lauderdale, Florida 33301  
954-519-1260 • FAX 954-765-4804

December 10, 2008

Mr. Jerry Nuss  
Professional Service Industries, Inc.  
1748 33<sup>rd</sup> Street  
Orlando, Florida 32839

Re: **Natural Attenuation Quarterly Monitoring Report – Year 2, Quarter 3**  
Former J&L Feed and Supply, Inc., 133 SW 3<sup>rd</sup> Avenue, Dania FL  
FDEP Facility ID No. 068737224  
Discharge date: November 13, 1991 (ATRP), Score: 45  
Work Order No. 2008-06-W69459

	Initials _____
	Date _____

Dear Mr. Nuss:

The Broward County Pollution Prevention, Remediation and Air Quality Division (Division) has reviewed the report titled *Natural Attenuation Monitoring Report –Year 2, Quarter 3* (Report) dated November 26, 2008 (received December 2, 2008) submitted for the subject site. Based on the information submitted, the Report is acceptable. Please note the following comments:

- According to the July 11, 2007 Petroleum Cleanup Program Spending Procedures for Fiscal Year 2007-2008, no work order activities can be extended beyond December 31, 2008. Since no activities approved in Preapproval Work Order 2008-06-W69459 can be authorized after December 31, 2008, Field Event No. 4 is cancelled. Please reduce the final invoice accordingly.
- The Division agrees with your recommendation to continue Natural Attenuation Monitoring (NAM) at the site. The proposal to continue NAM is due to this office no later than **January 9, 2009**.
- If the elevated concentrations of naphthalene compounds continue to persist in the groundwater at the site, additional assessment activities may be required.

This letter will serve as notice of satisfactory completion of all items required to invoice Pre-Approval Work Order No. 2008-06-W69459. Please keep in mind that Section 2p of the Work Order Terms & Conditions attached to Pre-Approval Work Order No. 2009-06-W69459 dictates that a final invoice be submitted to the Local Program (in this case the Division) within 60 days of the date of this letter. Failure to submit the final invoice within this timeframe may result in “the automatic closure of the Work Order and forfeiture of the unpaid balance of the Work Order.” You must attach one copy of the original Work Order and integral template, a separate template documenting all changes, all Verbal Authorization Forms



Mr. Jerry Nuss  
December 10, 2008  
Page 2 of 2

(if applicable), an explanation of any cost reductions (if applicable), an original, notarized Contractor Invoice Sworn Affidavit & VCO/Subcontractor/Vendor/Summary Form, and a copy of this letter to your invoice.

If you have any questions or comments regarding this project, please contact this office at (954) 519-1288.

Sincerely,

POLLUTION PREVENTION, REMEDIATION and AIR QUALITY DIVISION



Fraser Mickle  
Hydrogeologist II

cc: Bill Buzick, FEC  
Juan Betancourt, FEC  
Grace Rivera, FDEP, Tallahassee

**H7**

**MASTER CRAFT AUTOMOTIVE**



Environmental Protection and Growth Management Department  
**POLLUTION PREVENTION, REMEDIATION AND AIR QUALITY DIVISION**  
One North University Drive, Suite 203, Plantation, Florida 33324  
954-519-1260 • Fax 954-765-4804

May 2, 2012

Asher Dahan  
A.J's Express, LLC  
851 Hollywood Boulevard  
Hollywood, FL 33019

**RE: Remedial Action Plan Addendum Review**  
**Former Mastercraft Automotive, 800 N. Dixie Highway, Hollywood, FL 33020**  
**FDEP Facility ID No. 069806980, EAR License #1000, Discharge Date: January 12, 2005**

Dear Mr. Dahan:

The Pollution Prevention, Remediation and Air Quality Division (Division) has reviewed the Remedial Action Plan Addendum (RAPA) dated and received April 20, 2012 for the above referenced site that was prepared by American Environmental Engineering of Florida, Inc. (AEEF). The RAPA was submitted in response to the Division's February 16, 2012 correspondence and proposes to utilize ozone and Klozur<sup>®</sup> CR to address petroleum groundwater contamination at the site.

The Division cannot approve the RAPA at this time it does not comply with the requirements for remedial action of Chapter 62-770, Florida Administrative Code (F.A.C.). The Division offers the following comments and/or requirements:

- As stated in the Division's February 16, 2012 correspondence, the RAPA does not comply with paragraph 62-770.700(3)(c) which requires that groundwater sampling used to determine the highest concentrations, to verify the extent of the contaminant plume, and to provide design data be obtained no longer than 270 days prior to the submittal of a remedial action plan. As such, a representative number of monitoring wells need to be sampled for BTEX, isopropylbenzene, and PAHs. Specifically, monitoring wells MW-1E, MW-3E, MW-6, MW-7, MW-8, MW-9, DW-3, DW-12 and DW-13 must be sampled for the parameters listed above. These monitoring wells have not been sampled since December 2010. The RAPA has proposed to conduct baseline sampling of MW-1E, MW-6 and DW-3 prior to Phase I of remediation. The Division would not object to using the sampling of these wells required above as part of the proposed baseline sampling.
- Since the design calculations presented in the RAPA may need to be modified based on the results of the sampling required in the previous bullet item, the next submittal must demonstrate that design calculations presented are adequate to address current site conditions or present revised designed calculations.
- The Division requires that the monitoring wells proposed to be sampled for baseline and quarterly for the contaminants of concern (COCs, i.e. volatile organic aromatics, VOAs, including isopropylbenzene; polynuclear aromatic hydrocarbon, PAHs; and total recoverable

petroleum hydrocarbons, TRPHs) during the implementation of Phase II of remediation be also sampled quarterly during the implementation of Phase I.

- The Division requires that DW-3 and DW-10 be sampled during the implementation of the Phase III of remediation. These wells shall be sampled for the COCs.
- The Division requires that that all on-site wells be sampled annually from the beginning of remedial action regardless of the remedial action implementation Phase IV. All wells shall be analyzed for the COCs.
- The Division requires that persulfate be sampled for baseline and monthly for the first quarter during the implementation of Phase III and Phase IV of remediation.
- As previously states, on May 14, 2007, the Florida Department of Environmental Protection issued a memorandum regarding "Quality Assurance and Related Issues". All data collected after that date must be presented in summary tables and figures in accordance with the requirements of the memorandum. Therefore, the analytical summary tables and figures must comply with this requirement in future reports. Specifically, the use of a less than sign ("<") and "ND" are not acceptable. The correct data qualifier from the original laboratory report (such as "U") must be used instead. The soil summary tables submitted in previous reports must also be revised as applicable. The memo is available at:

[http://www.dep.state.fl.us/waste/quick\\_topics/publications/pss/pcp/Quality-Assurance\\_14May07.pdf](http://www.dep.state.fl.us/waste/quick_topics/publications/pss/pcp/Quality-Assurance_14May07.pdf)

Additional information is available at:

<http://www.broward.org/PollutionPrevention/ContaminatedSites/Documents/RemediationTimesArchive/MayJune2011.pdf>

A Second Remedial Action Plan Addendum (RAPA II), certified (not just signed and sealed) by a Professional Engineer licensed in the State of Florida is due no later than **July 7, 2012**. Please be advised that Section 27-356(d)(4)b. of the Broward County Code (B.C.C.), requires that written extension requests (facsimile or email is adequate) must be submitted to the Division at least 20 days prior to the established due dates. Also, please note that Section 27-356(d)(4)c. of the B.C.C. requires that written notifications (facsimile or electronic mail is adequate) shall be provided to the Division at least three (3) working days prior to performing field activities at the site.

If you have any questions or require additional information, please contact me at (954) 519-1237.

Sincerely,

POLLUTION PREVENTION, REMEDIATION AND AIR QUALITY DIVISION



Norman Arrazola, P.E.  
Engineer III

ec: FDEP File  
Alizera Malek, P.G., AEEF

**H8**

**AMOCO #4357 – MAULE LAKE**



## SECTION 1

### INTRODUCTION AND BACKGROUND INFORMATION

#### Purpose

At the request of 181st Street Unlimited Car Washing, Inc., Cherokee Groundwater Consultants, Inc. (Cherokee) has completed a Contamination Assessment (CA) at the Maul Lake Amoco facility located at 18100 Biscayne Boulevard, North Miami Beach, Florida in Dade County.

On June 29, 1987, a Notice of Violation and Orders for Corrective Action were issued to the facility by the Metro-Dade Department of Environmental Resource Management (DERM) due to documented hydrocarbon contamination at the site. On July 27, 1989, a Site Rehabilitation Initiation Order was issued to the facility by the Florida Department of Environmental Regulation (FDER). An aboveground gasoline spill occurred at the site on February 6, 1990. A Final Notice Prior to Court Action was issued by the DERM on March 28, 1990.

#### Site Location

The site is located at 18100 Biscayne Boulevard, North Miami Beach in Dade County, Florida (Figure 1, Appendix A). Land use in the area ranges from commercial to residential. The site is bounded on the north by an auto repair facility, on the east by

Biscayne Boulevard, on the south by an auto rental facility and on the west by Florida East Coast Railway tracks. A shopping center is located east of the site, across Biscayne Boulevard. An abandoned service station with underground storage tanks is located approximately 300 feet northwest of the site.

#### Site Description

The present underground petroleum storage tank area is located adjacent to the northern property boundary (Figure 2, Appendix A). The facility utilizes three, 10,000-gallon, underground, fiberglass tanks for storage of regular, mid-grade and super unleaded gasolines and one, 8,000-gallon, underground fiberglass tank for diesel storage. These gasoline products are dispensed from six pump islands located east and west of the Amoco Kiosk.

#### Site History

The present underground petroleum storage tanks were installed in May 1978. The present compliance monitoring wells (numbers 1-8) were installed on October 3, 1985.

On December 18, 1986, hydrocarbon "layers" were observed in four monitoring wells during an inspection of the facility conducted by the DERM. Subsequently, a Notice of Violation and Orders for Corrective Action was issued by the DERM. On July 27, 1989, a Site Rehabilitation Order was issued by the FDER. A Final Notice

Prior to Court Action was issued by the DERM on March 28, 1990.

An aboveground gasoline discharge occurred at the site on February 6, 1990. The spill occurred when a car pulled away from the southwest pump island with the dispenser hose still in the gas tank opening. Approximately 20 to 25 gallons of fuel was spilled onto the concrete and asphalt surface before the emergency shut-off system could be activated. The fuel was flushed down a stormwater catchment basin and was diverted to the soakage pit located south of the Amoco Kiosk. A hydrocarbon sheen and odor was detected in the catchment basin during an inspection conducted by the DERM within minutes of the spill.

A contamination assessment plan (CAP), outlining the proposed methods for assessment of possible groundwater contamination associated with the soakage pit, was prepared by Cherokee and submitted to the DERM on October 2, 1990. The CAP was approved by the DERM on January 3, 1991.

#### Storage/Distribution System Structural Integrity

The three, 10,000-gallon storage tanks were tested for tightness on October 4 and 5, 1985. The tanks containing regular-unleaded and super-unleaded gasoline tested tight per the National Fire Prevention Association (NFPA) 329 criteria. The regular leaded tank test was inconclusive. The regular leaded tank was retested



on October 10, 1985, and tested tight per NFPA criteria. The tank test results were submitted to the DERM on July 17, 1987. The tank test results are included in Appendix C.

#### Initial Remedial Action

Cherokee has no record of initial remedial activities conducted at the site.

#### Previous Investigations

Cherokee has no record of previous investigations of the site.

#### Area Physiography

The site lies within the Atlantic Coastal Ridge physiographic region which includes most of eastern Dade County. The site is approximately five to ten feet above mean sea level (U.S.G.S., North Miami, Florida Quadrangle). The site is located approximately 1,500 feet west of Little Maul Lake and approximately 1,400 feet northwest of Maule Lake. The Oleta River is located approximately 1,000 feet west of the site.

#### Area Hydrogeology

The Biscayne Aquifer is the principal source of potable groundwater in Dade County, Florida. This aquifer consists of the Fort Thompson Formation, Key Largo Limestone, Anastasia Formation, Miami Oolite, and the Pamlico Sand at the surface. These units

are Pleistocene in age. In the coastal areas of northeastern Dade County, the Biscayne Aquifer includes the upper part of the Tamiami Formation of Miocene age. In Dade County most of the Tamiami Formation consists of relatively impermeable clastics composing the upper part of the aquiclude that confines water in the deeper Floridan aquifer. However, in northeastern Dade County the upper part of the formation is composed of permeable sandstone. The Fort Thompson Formation is predominantly light gray to cream, fossiliferous, sandy limestone and calcareous sandstone, with a few thin beds of gray and tan limestone (Schroeder, et. al., 1958, p. 12). The entire unit is riddled with solution cavities and is highly permeable. In Dade County the Fort Thompson Formation forms the major part of the Biscayne Aquifer. The Key Largo Limestone is a part of the upper Biscayne Aquifer along the coastal area of Dade County. The Key Largo Limestone is an ancient coral reef and is primarily composed of recemented reef detritus and precipitated limestone surrounding coral heads of the old reef (Schroeder et. al., 1958, p. 20). The Anastasia Formation represents the chief component of the Biscayne Aquifer along the coastal ridge in Broward and northern Dade counties. This formation is composed of sandy limestone and calcareous sandstone. The Miami Oolite, is typically a white to yellowish, massive, cross-bedded oolitic limestone. The Pamlico Sand is a quartz sand which mantles the coastal area of Broward and Dade Counties. The Biscayne Aquifer is approximately 200

feet thick along the coast in the Miami area and decreases in thickness gradually southward from Miami and rapidly westward towards the Everglades.

Numerous pump tests conducted in the greater Miami area indicate that the average transmissivity of the Biscayne Aquifer is approximately five million gallons per day per foot (gpd/ft) and the average storage coefficient is approximately 0.20 (Schroeder et. al., 1958, p. 38). This data is indicative of the highly permeable, cavernous limestone of the Fort Thompson Formation.

Regional groundwater flow within the Biscayne Aquifer is generally toward the coast, although in the central part of the Everglades it flows southward. Distortion of the regional hydraulic gradient can be caused by base flow to or from surface water bodies and concentrated pumping in wellfields and private wells.

#### Well Survey

The nearest potable water supply production wells, owned by the City of North Miami Beach (Permit No. 1300060W-Alvarez and Bacon, 1988), are located approximately 4.5 miles west of the site. The site is not within the cone of influence of any municipal supply wellfield. An automobile reconnaissance of the surrounding area and a survey of water use permits on file with the South Florida Water Management District indicated that no private potable wells



are located within a one-quarter mile radius of the site. Based on the criteria outlined in Florida Administrative Code (F.A.C) Chapter 17-3.403, the site is located in a Class G-II groundwater area.

## SECTION 2

### SITE ASSESSMENT

#### Monitoring Wells

In order to assess the extent of the dissolved hydrocarbon plume at the site, eight shallow monitoring wells and one deep monitoring well were installed at the site in addition to the eight compliance wells, previously installed at the site. Monitoring wells (MWs) No. 9, 10 and 14 are located on-site. Monitoring well No. 13 is located off-site in the median of Biscayne Boulevard, to the east, and MWs No. 11, 12, 15 and 16 are located off-site on the property immediately north of the facility. Locations of the shallow monitoring wells were selected based upon known areas of contamination and estimated groundwater flow direction and contamination dispersion patterns.

The shallow monitoring wells were installed utilizing hollow stem augers to depths of 14 or 15 feet below land surface (BLS). The shallow monitoring wells are two inches in diameter with the exception of MW No. 10 which is four inches in diameter. The wells are constructed of two-inch diameter, 0.015-inch slotted, Schedule 40 PVC well screen with four or five feet of solid Schedule 40 PVC riser. An 8/20 sand pack was placed in the annular space of the borehole to approximately one-foot above the well screen. A one-foot thick bentonite seal was placed above

the sand pack. The wells were then grouted with neat cement and water-tight locking well caps and traffic-bearing manhole covers were installed. A typical monitoring well construction diagram is shown in Figure 3, Appendix A.

To assess the vertical extent of dissolved hydrocarbons, the deep well (DW-1) was installed within the dissolved hydrocarbon plume. In the first stage of the DW-1 construction, a six-inch diameter, solid, Schedule 40 PVC casing was installed on December 11, 1990. The casing was installed to 25 feet BLS with a 10-inch inside diameter hollow stem rotary auger and was grouted into place. The deep well was installed inside the casing on December 13, 1990, utilizing the mud rotary drilling method. The well consists of 30 feet of two-inch diameter, Schedule 40 PVC, solid riser pipe above five feet of two-inch diameter, 0.010-inch slotted, Schedule 40 PVC well screen. A water-tight locking well cap and traffic-bearing manhole cover were installed flush with the land. Construction details of the deep monitoring well are illustrated in Figure 4, Appendix A. The well completion reports are included in Appendix D.

#### Site Specific Geology and Hydrogeology

The site specific lithology was determined by examination of cuttings generated during monitoring well installations. The shallow subsurface lithology is characterized by fill material



consisting of brown, fine to medium-grained quartz sand with limestone clasts to approximately three to five feet BLS underlain by brown, fine to medium-grained quartz sand to approximately 17 feet BLS. At approximately 17 feet BLS, dark gray, marly limestone was encountered which extended down to approximately 33 feet BLS where gray, fossiliferous limestone was encountered.

A buff colored, fossiliferous, oolitic limestone (Miami Oolite) was encountered during the installation of MWS No. 14-16 located to the north and northwest. The line of cross section A-A', illustrated in Figure 5, Appendix A, was used in constructing the hydrogeologic cross-section shown in Figure 6, Appendix A. The geologic well logs for the shallow monitoring wells and the deep monitoring well are contained in Appendix D.

In order to determine the site-specific hydraulic conductivity, slug tests were performed on December 19, 1990, utilizing MWS No. 8, 10 and 12. Two separate tests were conducted in each well. The slug test data were recorded using an Enviro Labs Model DL 120 data logger. Calculating the hydraulic conductivity (K) using a partially penetrating well is given by the following equation:

$$K = \frac{r_c^2 \ln(Re/r_w)}{2L} \cdot \frac{1}{t} \ln \frac{Y_0}{Y_t} \quad [1]$$

This equation was obtained from the June, 1976, issue of the

Water Resources Research Journal and the May-June, 1989, issue of Ground Water Journal (Vol. 27, No. 3), and employs the methods of Henry Bouwer and R.C. Rice. The variables are defined as follows:

K = Hydraulic Conductivity  
r<sub>c</sub> = Corrected Casing Radius (ft)  
ln = Natural Logarithm  
Re/R<sub>w</sub> = Resistance Network Analog  
L = Length of Available Well Screen Below Water Table (ft)  
Y<sub>o</sub> = Y Intercept of Slug out Data Response (ft)  
Y<sub>t</sub> = Y Value at Time T of Slug out Data Response (ft)  
t = Time (sec)

The average site-specific hydraulic conductivity (K) was determined to be approximately 0.0069 feet per minute. The transmissivity was determined by multiplying the aquifer thickness (b) by the K value. Assuming an aquifer thickness of 140 feet (Schroeder, et. al., 1958), the transmissivity is approximately 10,400 gallons per day per foot (gpd/ft). The calculations for determining the hydraulic conductivity and transmissivity are contained in Appendix E.

#### Groundwater Flow Direction

The monitoring wells at the site were surveyed to determine their elevation in relation to a stationary benchmark located at the south end of the northeastern pump island. The benchmark was assigned an elevation of 20 feet in absence of a known datum.

Water levels in the monitoring wells were then measured with an interface probe to the nearest 0.01 foot on two different dates. The average depth to the water table was 5.77 feet when measured on November 14, 1990, and 6.25 feet when measured on March 20, 1991. The groundwater flow maps for monitoring well water level measurements obtained on these dates are illustrated in Figures 7 and 8, Appendix A. Monitoring well casing elevations, depth to water and corrected groundwater elevations are summarized in Table 1, Appendix B. Groundwater flow direction across the site is to the east southeast and the hydraulic gradient (i) is approximately 0.0001 feet per foot.

The rate of groundwater flow was estimated to be approximately 0.0033 feet per day and was obtained using the following equation (Driscoll, 1986):

$$V = \frac{K \times i}{n}$$

Where:

V = rate of groundwater flow (feet/day)  
K = hydraulic conductivity (feet/day)  
i = hydraulic gradient (feet/foot)  
n = porosity

The calculations for determining the groundwater flow velocity are contained in Appendix E.



### Groundwater Assessment

A site-specific Quality Assurance Project Plan (QAPP) was prepared by Cherokee and submitted to the DERM. The QAPP was approved on July 18, 1990. Subsequently, groundwater samples were collected from MWS No. 5-8 on August 6, 1990. The samples were analyzed by a state approved laboratory for volatile organic aromatic (VOA) parameters including methyl tert butyl ether (MTBE) and polynuclear aromatic hydrocarbons (PAH) by EPA Methods 602 and 610. Hydrocarbon sheens were observed in MWS No. 1-4 on July 9, 1990, therefore groundwater samples were not collected from these wells. On November 14, 1990, groundwater samples were collected from MWS No. 9-12 and were analyzed for VOA and PAH parameters and MTBE. On January 31, 1991, groundwater samples were collected from MW No. 12, 13 and DW-1. The samples collected from MW No. 13 and DW-1 were analyzed for VOA and PAH parameters. Samples collected from MW No. 12 and DW-1 were analyzed for volatile organic halocarbons (VOH), 1,2-dibromoethane, and lead by EPA Methods 601, 504.1 and 293.2, respectively. In addition, a groundwater sample was collected from MW No. 9 and analyzed for VOA and VOH parameters, oil and grease, lead, pH and conductivity to assess possible groundwater contamination associated with the soakage pit located south of the pump islands. A split sample collected from MW No. 9 was relinquished to a DERM representative on-site. On March 20, 1991, groundwater samples were collected from MWS No. 14-16 and analyzed for VOA and PAH parameters.

Results of the analyses indicated that the groundwater from MWS No. 7, 11, 12 and 14 contained benzene and/or total VOA concentrations which exceeded the target levels prescribed in F.A.C. Chapter 17-770. Benzene concentrations detected in groundwater samples collected from MWS No. 7, 11 and 12 were 95 parts per billion (ppb), 110 ppb and 8.0 ppb, respectively. Total VOA concentrations in these samples were 1,055 ppb, 153.8 ppb and 579.2 ppb, respectively. A sample collected from MW No. 14 exhibited 520 ppb total xylenes. Benzene and/or total VOA concentrations were below detection limits (BDL) in samples collected from MWS No. 6, 8, 9, 13-16 and DW-1. Methyl tert butyl ether concentrations were BDL in all samples analyzed.

Groundwater samples collected from MWS No. 5, 7, 8, 11, 12 and 14 exhibited naphthalene and/or total PAH concentrations which exceeded F.A.C. Chapter 17-770 target levels. Naphthalene concentrations ranged from 58 ppb in MW No. 5 to 1,720 ppb in MW No. 7. A groundwater sample collected from MW No. 8 exhibited 108 ppb total PAH. Total PAH concentrations were BDL in samples collected from MWS No. 5-7, 9-16 and DW-1. Naphthalene concentrations were BDL in samples from MWS No. 6, 8-10, 13, 15, 16 and DW-1.

Groundwater samples collected from MWS No. 9 and 12 exhibited 0.0088 parts per million (ppm) and 0.027 ppm lead; however, these

concentrations are below F.A.C. Chapter 17-770 guidelines. A sample collected from DW-1 exhibited 1.8 ppb 1,1-dichloroethane and 3.4 ppb cis/trans-1,2-dichloroethylene. These concentrations are below the FDER guidance concentrations established for these compounds. Total VOH concentrations were BDL in samples collected from MWS No. 9 and 12. Concentrations of 1,2-dibromoethane were BDL in samples collected from MWS No. 9, 12 and DW-1. Equipment blank samples collected during each sampling event were BDL for all parameters analyzed.

The analytical results indicate that the dissolved hydrocarbon plume appears to be confined to the areas surrounding the underground petroleum storage tanks and the pump island near MW No. 7. A Dissolved Hydrocarbon Distribution Map is illustrated in Figure 9, Appendix A. A summary of the analytical results is contained in Table 2, Appendix B. The analytical laboratory reports and Chain of Custody Records are contained in Appendix F.

#### Free Product Distribution

Free product was first observed in MWS No. 1-4 during an inspection conducted by the DERM on December 18, 1986. During the course of Cherokee's investigation, free product sheens were observed in MWS No. 1-4 on July 9, 1990 and in MWS No. 1, 2 and 4 on November 4, 1990. No free product has been observed in MWS No. 5-16 during the course of Cherokee's investigation.



### Extent of Hydrocarbon-Bearing Soils

On December 11, December 13 and January 29, 1991, a total of eight soil borings were performed at the site in order to assess the vertical and horizontal extent of hydrocarbon-bearing soils. Soil samples were collected at two and four feet BLS at each location. Soil samples were also collected during the installation of MWS No. 9-16 and DW-1. The volatile organic content in these samples was determined utilizing an organic vapor analyzer (OVA, Foxboro Model 128) with a flame ionization detector in accordance with FDER's "Guidelines for Assessment and Remediation of Petroleum Contaminated Soils" (February 1991). As a result of diesel fuel being stored on-site, soil samples which exhibited OVA readings higher than 50 ppm were considered excessively contaminated. Soil samples with a volatile organic content greater than 50 ppm were collected at the locations of soil borings No. 5 and 7, near the eastern property boundary, and during the installation of MW No. 11. A soil sampled collected during the installation of DW-1 exhibited an OVA reading of 33 ppm. All other samples analyzed exhibited readings which were less than 10 ppm. Based on this information, contaminated soils appear to be located in the area surrounding the underground storage tanks and the area downgradient of the tanks. The site has an estimated volume of 350 cubic yards of contaminated soil. The volume was calculated based upon an areal extent of approximately 175 square yards and a depth of approximately two yards for dry soils observed during well installation procedures.

The soil boring locations, designated as SB-1 through SB-8, the soil sample locations and the highest OVA readings at each location are shown in Figure 10, Appendix A. Table 3, Appendix B contains a summary of the OVA results and Appendix G contains the OVA graphs for these samples.

### SECTION 3

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

1. The assessment was initiated as a result of free product discovered in the four tank area monitoring wells on December 18, 1986.
2. On June 29, 1987 a Notice of Violation and Orders for Corrective Action were issued to the facility by the DERM. The FDER issued a Site Rehabilitation Completion Order to the facility on July 27, 1989. A Final Notice Prior to Court Action was issued by the DERM on March 28, 1990.
3. During the course of Cherokee's investigation, free product sheens were observed in MWS No. 1-4 on July 9, 1990 and in MWS No. 1, 2 and 4 on November 4, 1990. No free product has been observed in MWS No. 5-16 during the course of Cherokee's investigation.
4. The facility utilizes three, 10,000-gallon and one, 8,000-gallon fiberglass, underground petroleum storage tanks which were installed in May 1978. The three, 10,000-gallon tanks were tested for tightness on October 4 and 5, 1985. Two of



the tanks tested tight on these dates. The other 10,000-gallon tank tested tight when retested on October 10, 1985.

5. No public water supply production wells are located within a  $\frac{1}{2}$ -mile radius of the site. No permitted private potable wells are located within a  $\frac{1}{4}$ -mile of the site.
6. The groundwater beneath the site is classified as G-II, based on the criteria outlined in F.A.C. Chapter 17-3.403.
7. Sediments beneath the site consist of approximately three to five feet of sandy fill material underlain by brown, fine to medium-grained quartz sand to approximately 17 feet BLS. Gray marly limestone is present from approximately 17 feet down to 33 feet BLS. A fossiliferous limestone is present from 33 feet to at least 35 feet BLS. A locally discontinuous, buff, fossiliferous, oolitic limestone was encountered during the installation of monitoring wells located north of the site.
8. The hydraulic gradient at the site is approximately 0.0001 feet per foot to the east southeast. The site-specific hydraulic conductivity was calculated to be approximately 0.0069 feet per minute and groundwater flow velocity was calculated to be 0.0033 feet per day. The transmissivity of

the surficial aquifer is approximately 10,400 gpd/ft assuming an aquifer thickness of 140 feet.

9. Laboratory analysis indicated that groundwater samples collected from MWS No. 7, 11, 12 and 14 contained benzene and/or total VOA concentrations which exceeded F.A.C. Chapter 17-770 target levels. Volatile organic aromatic concentrations were BDL in samples collected from MWS No. 6, 8, 9, 13, 15, 16 and DW-1. Groundwater samples collected from MWS No. 5, 7, 8, 11, 12 and 14 exhibited naphthalene and/or total PAH concentrations which exceeded F.A.C. Chapter 17-770 target levels. Total PAH concentrations were BDL in samples collected from MWS No. 5-7, 9-16 and DW-1. Naphthalene concentrations were BDL in samples collected from MWS No. 6, 8-10, 13, 15, 16 and DW-1. Equipment blank samples collected during each sampling event were BDL for all parameters analyzed.
10. Based on the OVA analysis of soil sample headspace, and the spatial relationship of the sample locations, there may be approximately 350 cubic yards of excessively contaminated soil at the site.
11. The horizontal and vertical extent of dissolved hydrocarbons has been defined.

12. The Contamination Assessment Report Summary Sheet is presented in Appendix H.

Recommendations

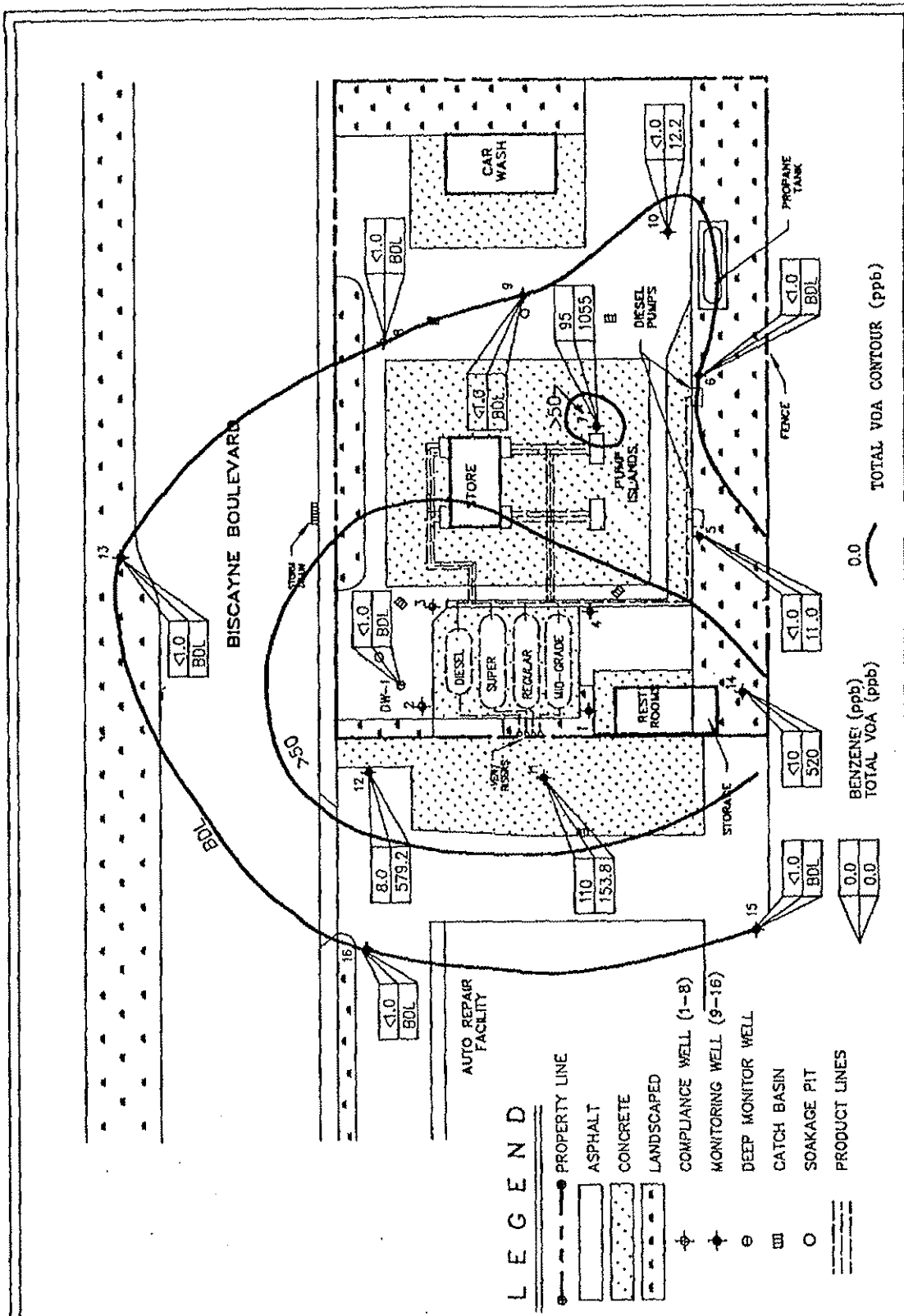
Based on the presence of elevated benzene, total naphthalene and total VOA concentrations detected in the groundwater beneath the site, Cherokee Groundwater Consultants, Inc. recommends that a Remedial Action Plan be developed which addresses the need to remediate the groundwater and soil at the site.



## SECTION 4

### REFERENCES

- Alvarez, J. and Bacon, D., 1988, Production Zones of Major Public Water Supply Wellfields for the Counties in the South Florida Water Management District: Technical Publication 88-4, SFWMD, p. I-21.
- Bouwer H. and Rice, R.C., 1976, A Slug Test for Determining Hydraulic Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells: Water Resources Research Journal, Vo. 12, No. 3, pp. 25-30.
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- Driscoll, F.G., 1986, Groundwater and Wells, 2nd ed.: Johnson Division, St. Paul, MN.
- North Miami, Florida Quadrangle, Photo Revision 1972, U.S.G.S. Topographic Map.
- Schroeder, M., Klein, H. and Hoy, N., 1958, Biscayne Aquifer of Dade and Broward Counties, Florida: Report of Investigations No. 17, Florida Geological Survey.
- "Ground Water Guidance Concentrations", Florida Department of Environmental Regulation, Division of Water Facilities, Bureau of Groundwater Protection, compiled by: Randy Merchant, February 1989.
- "Guidelines for Assessment and Remediation of Petroleum Contaminated Soils", Florida Department of Environmental Regulation, Division of Waste Management, Bureau of Waste Cleanup, Engineering Support Section, February 1991.
- "Guidelines for the Preparation of Contamination Assessment Reports for Petroleum Contaminated Sites", Florida Department of Environmental Regulation, Division of Waste Management, Bureau of Waste Cleanup, Technical Review Section, October 1989.



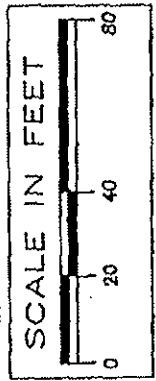
DISSOLVED HYDROCARBON DISTRIBUTION MAP

JOB NUMBER: UCOT-0624W  
 FIGURE: 9

AMOCO SERVICE STATION  
 18100 BISCAYNE BLVD.  
 NORTH MIAMI BEACH,  
 DADE COUNTY, FLORIDA

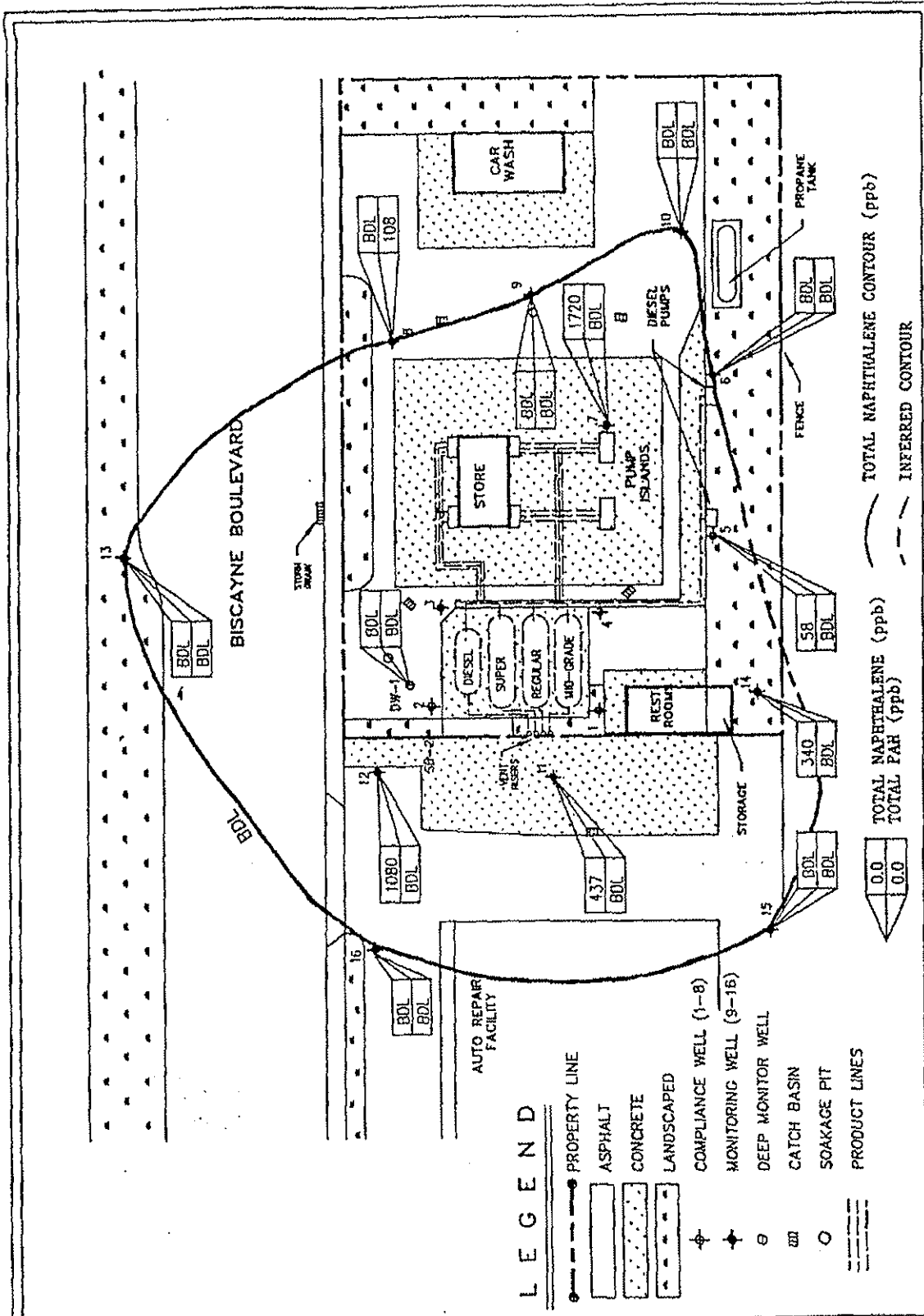
STATION NUMBER: 4357  
 DATE DRAWN: 4-24-91  
 DRAWN BY: E.L.H.

**Cherokee**  
 GROUNDWATER  
 CONSULTANTS, INC.



0.0 TOTAL VOC CONTOUR (ppb)

0.0 BENZENE (ppb)  
 0.0 TOTAL VOC (ppb)



TOTAL NAPHTHALENE (ppb) TOTAL NAPHTHALENE CONTOUR (ppb)  
 TOTAL PAH (ppb) INFERRED CONTOUR

PAH DISTRIBUTION MAP

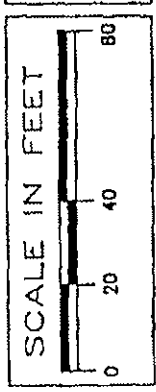
JOB NUMBER:  
UCOT-0624W

FIGURE:  
10

AMOCO SERVICE STATION  
18100 BISCAYNE BLVD.  
NORTH MIAMI BEACH,  
DADE COUNTY, FLORIDA

STATION NUMBER: 4357  
DATE DRAWN: 4-24-91  
DRAWN BY: E.L.H.

**Cherokee**  
GROUNDWATER  
CONSULTANTS, INC.





# HYDROCARBON-BEARING SOIL MAP

JOB NUMBER:  
UCOT-0624W

FIGURE:  
11



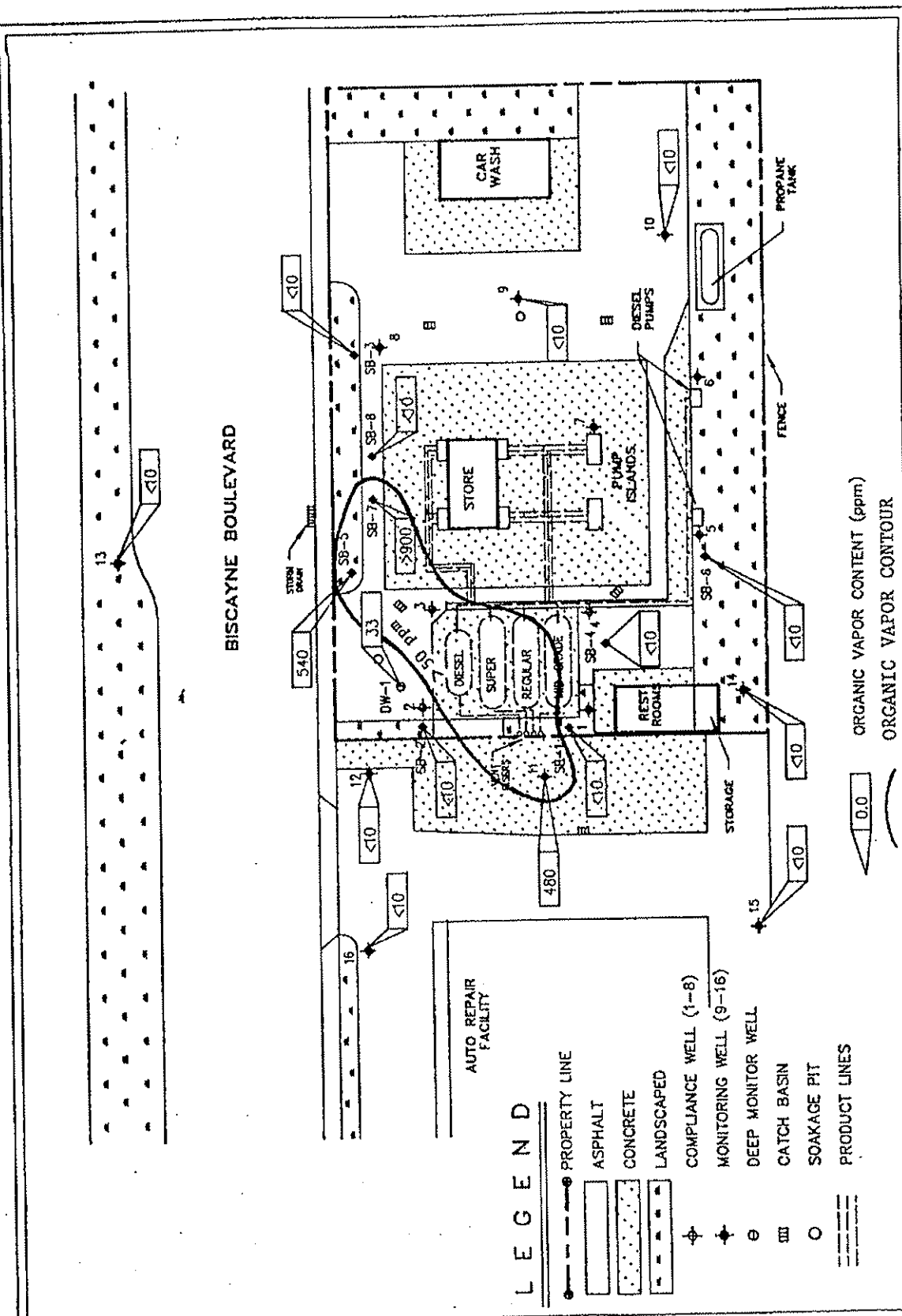
SCALE IN FEET



**Cherokee**  
GROUNDWATER  
CONSULTANTS, INC.

STATION NUMBER: 4357  
DATE DRAWN: 4-24-91  
DRAWN BY: E.L.H.

AMOCO SERVICE STATION  
18100 BISCAYNE BLVD.  
NORTH MIAMI BEACH,  
DADE COUNTY, FLORIDA



ORGANIC VAPOR CONTENT (ppm)  
ORGANIC VAPOR CONTOUR

**H9**

**181<sup>ST</sup> ST. UNLIMITED CAR WASHING**

FLORIDA  
UNDERGROUND



PETROLEUM TANK  
CONTRACTORS, INC.

Contractor:

Florida Underground Petroleum Tank Contractor's, Inc.  
6500 N.W. 15th Avenue  
Ft. Lauderdale, Fl 33309

Re: FDOT  
Closed Amoco Station  
18100 Biscayne Blvd.  
Miami, Fl

JT-557/7267

Owner: Florida Department Of Transportation  
Miami, Fl

Scope Of Work:

1. Remove (3) 10,000 gallon & (1) 8,000 gallon underground storage tank and all associated piping storm drains pertinent to tank removal.
2. All work is to be done by qualified licensed contractors.
3. Tank disposal will be done by Florida Underground Petroleum Tank Contractor's, Inc.
4. Any sludge or liquid pollutants remaining inside the tank at the time of excavation, will be removed and disposed of properly by a licensed hauler. Documentation of disposal will be provided upon request.
5. Tank removal will be done in accordance with section code 17 - 16, and A.P.I. - 1604 and NFPA 30.
6. Scope of work / project will commence within (30) days of narrative plan approval by city or county agencies, as well as environmental regulatory management facilities



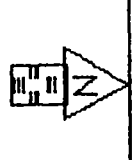
An Environmental Construction Company  
Licensed and Insured throughout the State of Florida as a Pollutant Storage Systems Contractor  
6500 N.W. 15th Avenue, Ft. Lauderdale, Florida 33309 • (305) 973-9999 • Florida Watts (800) 344-8893 • Fax (305) 969-7700



# TANK LOCATION MAP

PROGRAM TASK:  
I.R.A.

SHEET:  
1 OF 1

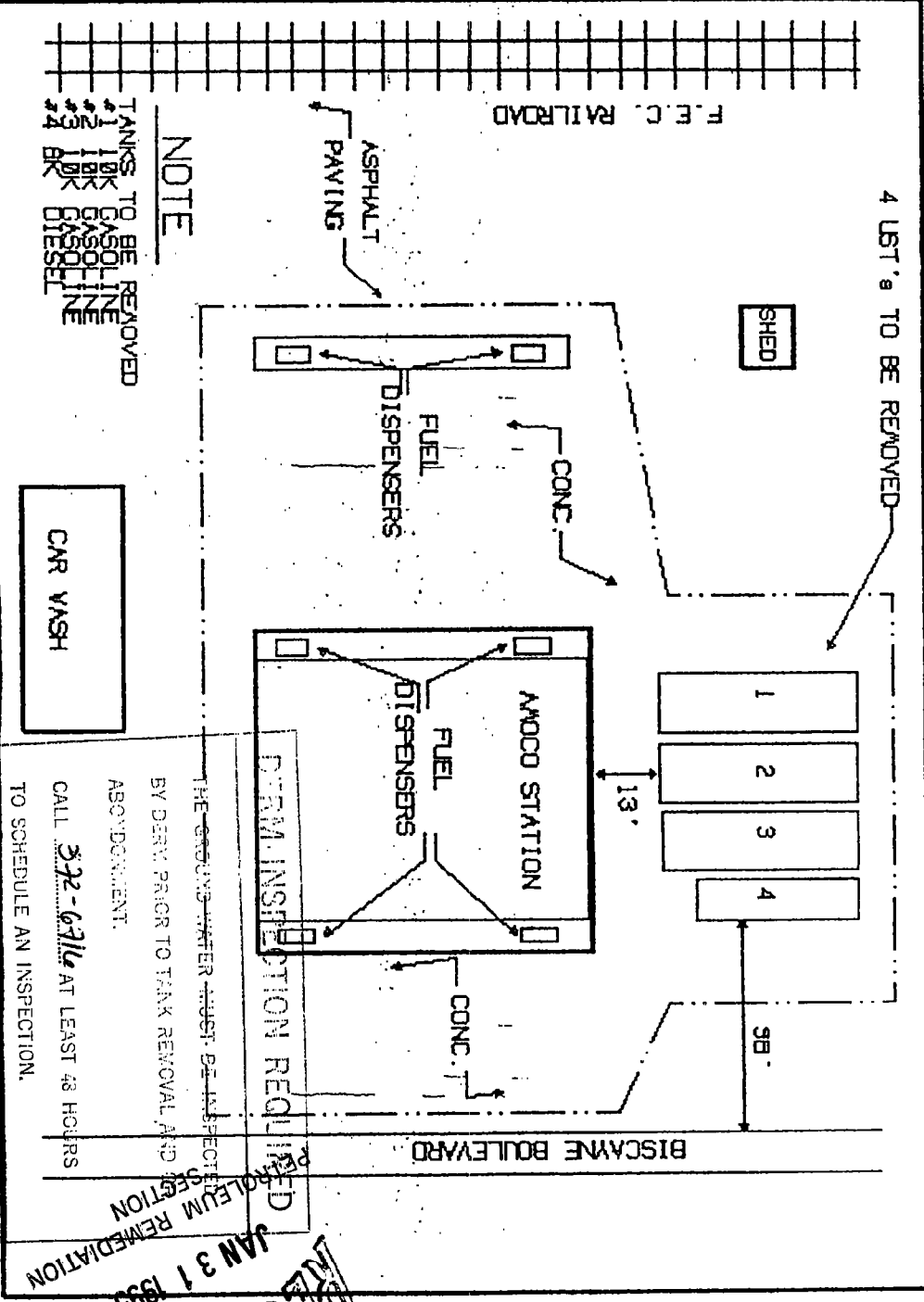


METRO-DORTMAN DADE COUNTY  
POLLUTION CONTROL DIVISION  
UNDERGROUND STORAGE FACILITIES

APPROVED

DATE 2/3/95

4 UBT's TO BE REMOVED



## NOTE

TANKS TO BE REMOVED  
100K GASOLINE  
100K GASOLINE  
100K GASOLINE  
100K DIESEL

PERM INSPECTION REQUIRED  
THE GROUND WATER MUST BE INSPECTED  
BY DENV PRIOR TO TANK REMOVAL AND  
ABANDONMENT.  
CALL 372-6316 AT LEAST 48 HOURS  
TO SCHEDULE AN INSPECTION.

SCALE:  
N, T, S,



FLORIDA  
UNDERGROUND  
PETROLEUM TANK  
CONTRACTORS, INC.

DEP. NO.:  
NOT AVAIL  
DATE BROKEN:  
1/27/95  
DRAWN BY: ROBERT

AMOCO STATION  
18100 BISCAYNE BLVD.  
MIAMI, FLORIDA

APPROVAL VALID

FOR 30 Days.

RECEIVED  
JAN 31 1995  
PETROLEUM REMEDIATION SECTION

METROPOLITAN DADE COUNTY  
 ENVIRONMENTAL RESOURCES MANAGEMENT  
 STORAGE TANK SECTION

33 SW 2ND AVENUE  
 SUITE 700  
 MIAMI FL 33130-1540

\$210 PAID

Date: 2/3/95

Reviewed by: GW

PROJECT NAME: FDOT  
 ADDRESS: 18100 BISCAYNE BLVD  
 CONTRACTOR: FLUH

U.T. -- 557/7267

P.C. --

Approval is hereby granted to the underground storage facilities as described below as meeting the Pollution Control requirements. However, this approval does not relieve the owner and/or contractor from their responsibilities of seeking approval from Building and Zoning, Fire Dept., and/or any other department that may be necessary prior to construction.

TANK	QUANTITY	CAPACITY	MATERIAL OF CONSTRUCTION		CATHODIC PROTECTION
Pipes	QUANTITY	STATUS	DIAMETER		CALCS
PIPING	FIBERGLASS	STEEL	COPPER	OTHER	PROTECTION SYSTEM
PRODUCT					
VENT					
SEC. CONTAINMENT	TANKS:				
	PIPING:				
PUMP SYSTEM	SUCTION:				
	SUBMERSIBLE:		LINE LEAK DETECTOR:		
OTHER	REMOVAL OF (3) 10,000 AND (1) 8000 GALLON USTs, SUBJECT TO ATTACHED LETTER AND CONDITIONS.				

PROVIDED:

1. Construction is completed according to approved plans.
2. Construction on this project must be commenced within one year of this approval, otherwise plans and specifications must be resubmitted for approval by this department.
3. The water supply for this building shall be in accordance with requirements of Dade County Health Department.
4. All water lines shall be located a minimum horizontal distance of 10 ft. from all septic tanks, drainfields, sewer lines, etc.
5. There may be county, municipal or other local regulations or restrictions to be complied with by the owner prior to construction of the facilities represented by these plans. We recommend that appropriate local agencies be consulted before starting construction.
6. The plumbing layout, sizes and slopes shall be approved by the Plumbing Department before installation.

METROPOLITAN DADE COUNTY, FLORIDA



ENVIRONMENTAL RESOURCES MANAGEMENT  
POLLUTION PREVENTION DIVISION  
SUITE 800  
33 S.W. 2nd AVENUE  
MIAMI, FLORIDA 33134  
(305) 375-8877

February 3, 1995

CERTIFIED MAIL NO. Z146648630  
RETURN RECEIPT REQUESTED

Jose Abru, Secretary  
State of Florida  
Department of Transportation  
District VI  
1000 NW 111 Avenue  
Miami, Florida 33172

Re: Proposal for Tank Removals at (UT-0557/7267) located at, near, or in the vicinity of 18100 Biscayne Boulevard, Miami, Dade County, Florida.

Dear Abru:

The Department of Environmental Resources Management (DERM) has received plans for tank removal at the above referenced location. The plans have been reviewed and approved by this office. All work must be completed in accordance with the approved plans and within thirty (30) days after receipt of this letter.

Be advised that this Department has documentation that the groundwater at this site is **contaminated** with hydrocarbons. In view of the above, the procedures outlined below must be followed as part of tank removal approval from the DERM. Please note that a copy of this letter has been attached to the approved plans and is now officially considered part of the plans.

When removing tanks at a suspected or known petroleum or petroleum product contamination site, the following procedures must be followed:

A. NOTIFICATION:

1. Contact the Inspection Coordinator from the Storage Tank Permitting Section at (305) 372-6716 at least 48 hours prior to removing the tank(s) to schedule an inspection.
2. Contact the appropriate Fire Department having jurisdiction over said project site. If the facility is located in unincorporated Dade County, you must contact Ray McDonald of the Metro Dade Fire Department at (305) 470-1760. If the facility is located within an incorporated municipality, please contact the representative Fire Department official for other requirements.



Mr. Abru  
February 3, 1995  
(UT-0557/7267)  
Page 2

B. CONTAMINATION PRESENT:

1. Remove all visible free floating product from the open excavation prior to backfilling with clean fill. You must properly dispose of the waste fuel. Documentation in the form of waste disposal receipt from a permitted waste hauler will be required.
2. If the soil is considered contaminated by the DERM official, contact the Hazardous Waste Section at (305) 372-6804 for further instructions. The following steps need to be taken:
  - a) All contaminated soil must be stored within a bermed area outside on an impervious surface and covered with an impermeable material (e.g., visquine) when left unattended or during rainfall.
  - b) Prior to consideration for disposal, a representative composite soil sample must be analyzed for the following components depending on the proposed disposal method:
    - 1) Oil and Grease
    - 2) E.P. Toxicity Lead and Chromium
    - 3) EPA 601 Method Organics
    - 4) EPA 602 Method Organics
    - 5) EPA 610 Method Organics if diesel has been stored on site
    - 6) Flash Point
    - 7) Total Hydrocarbon Scan

Samples shall be analyzed by a laboratory certified by the State of Florida in the applicable categories. Before obtaining the soil sample, a DERM inspection will be necessary or the resultant data may be deemed invalid.

- c) If other disposal options for the contaminated soil are being considered, then you must contact the Hazardous Waste Section at (305) 372-6804 for further information on required sampling.

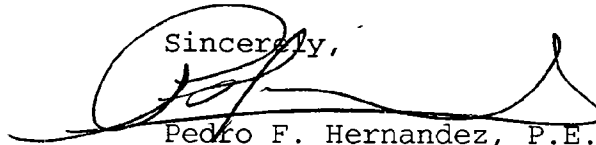
Mr. Abru  
February 3, 1995  
(UT-0557/7267)  
Page 3

C. DEWATERING:

1. This approval does NOT include dewatering of tank excavation. If dewatering is deemed necessary, then a pretreatment system must be proposed for the restoration of contaminated groundwater. Contact Issac Sznol of the Water Control Section at (305) 372-6681 for further information on obtaining a dewatering permit.

If you have any questions concerning the above, please contact Erik Neugaard of the Petroleum Remediation Section at (305) 372-6700.

Sincerely,



Pedro F. Hernandez, P.E., Chief  
Petroleum Remediation Section

EN

pc: Florida Underground Petroleum contractors, Inc. w/Approved Plans

**DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT**  
**PLAN APPROVAL CONDITIONS**  
**REQUIREMENTS FOR TANK CLOSURE:**

Obtaining plan approval from DERM and other applicable county departments and/or municipalities for tank removal, ~~as well as~~ the following requirements must be observed.

**NOTIFICATION:**

1. Contact the Inspection Coordinator for the Storage Tank Permitting Section at (305) 372-6716 at least 48 hours prior to removing the tanks to schedule a DERM inspection.  
**A DERM INSPECTOR MUST BE PRESENT AT TIME OF TANK REMOVAL.**
2. Contact the appropriate Fire Department having jurisdiction over the project site. If the facility is located in unincorporated Dade County, you must contact the Fire Prevention Bureau of the Metro-Dade Fire Department at (305) 470-1760. If the facility is located within an incorporated municipality, please contact the appropriate municipal Fire Department official for other requirements.

**PROCEDURES:**

If petroleum contamination is encountered during tank removal or soil excavations, the following steps must be taken:

1. Remove all visible free-floating product from the open excavation prior to backfilling with clean fill. You must properly dispose of the recovered petroleum product (i.e. free-product and/or absorbent material). Documentation in the form of waste disposal receipt from a permitted waste hauler will be required.
2. The excavated contaminated soil must be stored within a bermed area outside on an impervious surface and covered with an impermeable material (e.g. plastic film) at all times prior to disposal.
3. A composite soil sample must be collected and analyzed for the appropriate components depending upon tank contents and the proposed disposal method. Contact the DERM Hazardous Waste Section at (305) 372-6804 for a list of appropriate sampling parameters. Be advised that only soils classified as non-hazardous will be approved for local disposal.
4. A disposal plan must be submitted to the DERM Hazardous Waste Section and must consist of: Facility name/location, quantity of soil, sample results, and proposed disposal method (i.e. incineration, landfilling, etc.).

If tank sludges are encountered during closure, the following steps must be taken:

1. The sludges must be properly collected and secured in sealed containers on-site prior to disposal.
2. A sample must be obtained from the secured sludge material and analyzed for the appropriate components depending upon the tank contents and proposed disposal method. Contact the DERM Hazardous Waste Section at (305) 372-6804 for a list of appropriate sampling parameters.
3. A disposal plan must be submitted to the DERM Hazardous Waste Section and must consist of: Facility name/location, quantity of sludge, sample results, and proposed disposal method.



samples must be analyzed by a laboratory certified by the State of Florida in the applicable parameter categories.

**DISPOSAL TIMEFRAMES:**

1. All contaminated soils and tank sludges must be properly disposed of in accordance with the approved disposal plan within sixty (60) days from the date of the tank removal. Failure to do so may result in an enforcement action by this Department.
2. All removed storage systems must be properly disposed of in accordance with the approved demolition plan.

**DERM APPROVAL MUST BE OBTAINED PRIOR TO THE DISPOSAL OF SOILS OR SLUDGES**

**DEWATERING:**

1. If dewatering of the excavation is deemed necessary, a DERM dewatering permit must be obtained. If the excavation water is contaminated, a pre-treatment system must be proposed for the restoration of the discharge water. Contact the DERM Water Control Section at (305) 372-6681 for further information on obtaining a dewatering permit. For pre-treatment information, contact the DERM Storage Tank Remediation Section at (305) 372-6700.

**TANK CLOSURE ASSESSMENT REPORT (TCAR):**

1. Pursuant to Chapter 17-761 of the Florida Administrative Code (F.A.C.), a Tank Closure Assessment Report (TCAR) is required to be submitted to this Department within sixty (60) days of tank closure for all applicable tanks. If contamination is documented as per Chapters 17-761 and 17-770, F.A.C., the TCAR may be terminated and a contamination assessment, in accordance with 17-770, F.A.C., initiated. A TCAR is not required for eligible facilities participating in the Early Detection Incentive (EDI) and Reimbursement Programs pursuant to Section 376.3071, F.S.

**H10**

**PACE DUMP**

(No Regulatory Information Available)

**H11**

**PRESSLER'S**

(No Regulatory Information Available)



**H12**  
**MUNISPORT**

---

# Quarterly Landfill Gas Monitoring Report No. 32

*December 2011*

*Site:*

*Biscayne Landing (F.K.A. Munisport Landfill)  
15045 Biscayne Blvd.  
North Miami, Florida 33181  
(SW-1178/File 12838/FDEP Permit No. 0219514-009-SF)*

*Submitted to:*

*Florida Department of Environmental Protection  
Miami-Dade County Department of Permitting,  
Environment, and Regulatory Affairs  
Miami-Dade Fire and Rescue*



**ES CONSULTANTS, INC.**  
environmental and civil engineering

7700 N. KENDALL DRIVE, SUITE 607, MIAMI, FLORIDA 33156  
PH 305.412.8185 FX 305.412.8105 WEB [www.esconsultants.net](http://www.esconsultants.net)

Fangmei Zhang, P.E.

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Figure 1	Tower 1 Monitoring Locations
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Figure 4	BLB Utility Barrier Monitoring Locations
Figure 5	Sales Trailer Monitoring Locations
Figure 6	Sales Center Monitoring Locations
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Figure 8	Perimeter Gas Probe Locations
Figure 9	Overall Site Plan

## **Appendices**

Appendix A	Sampling and Reporting Schedule
Appendix B	GEM 2000 Calibration Data
Appendix C	Field Guidance for Operation of GEM™ 2000 Gas Analyzer
Appendix D	3 <sup>rd</sup> Quarter 2011 Field Sampling Sheets
Appendix E	Methane Concentration Versus Time Data and Graphs
Appendix F	Quest Controls Correspondence
Appendix G	PERA Correspondence





## 1.0 Landfill Gas Monitoring Overview

ES Consultants, Inc. (ESC) has prepared this quarterly Gas Monitoring Report (GMR) No. 32 on behalf of the City of North Miami (CNM). This report presents the results of the gas monitoring activities completed at the Biscayne Landing (BL) development site (formerly known as the Munisport Landfill) in North Miami, Florida in November 2011 for the third event of 2011.

Gas management and monitoring plans have been prepared and approved for several facilities at the BL site. The gas management plans and monitoring systems for temporary facilities are regulated by the Miami-Dade County Department of Permitting, Environment and Regulatory Affairs (PERA). Systems installed in permanent facilities, as part of the final closure and re-development of the site, are regulated by the Florida Department of Environmental Protection (FDEP) and are detailed in the Methane Gas Management Plan (MGMP) included in the FDEP Landfill Closure Permit (No. 0219514-009-SF). Perimeter gas probes were installed as required by the closure permit issued by the FDEP on December 9, 2009.

This quarterly report satisfies the reporting requirements established by PERA's Pollution Remediation Section and in the site's FDEP Solid Waste Closure Permit. As additional facilities or structures are added that require landfill gas (LFG) management and monitoring, they will be included in this report.

Quarterly reports are submitted to PERA, FDEP, and Miami-Dade Fire and Rescue (MDFR). A summary of the sampling and reporting requirements are provided in **Appendix A**. A GEM-2000 gas meter is used to record field measurements. Calibration data for the GEM-2000 is provided as **Appendix B**. A description of the methane gas sampling methodology is provided as **Appendix C**.

Field sampling sheets are provided as **Appendix D**. ESC has provided methane concentration versus time graphs for select gas probes in **Appendix E**. Additionally, temperature, barometric pressure and relative pressure readings were recorded at each sampling point. Field calibration of the GEM-2000 gas meter was conducted prior to sampling in each day using a gas mixture containing 15% methane by volume.

For discussion purposes, the following terms are utilized in this report and are defined below.

- Gas Vent or Collectors – Slotted or perforated PVC gas collection piping located within a gravel trench and below a building slab or membrane liner. Gas vents are utilized to collect gas fluxing from waste and divert the gas to exterior vents above grade. Vents are sampled to determine the quality of LFG diverted from beneath the building slab or other structures.
- Sand layer – Layer of coarse sand or gravel located beneath the concrete slab, above a 60-mil high-density polyethylene (HDPE) membrane liner. Gas probes may be located within this sand layer.
- Gas Probes – Perforated piping utilized for sampling within the sand layer between the concrete slab and the vapor barrier membrane. If elevated methane concentrations are detected in the probes, it would indicate LFG migration past the liner, which introduces the possibility of gas migration through the slab and into occupied or enclosed spaces.
- Sampling tubes – Polymer-based tubing located in the crawl spaces and utilized to sample areas which are difficult to access.



- Methane Gas Sensor – Continuous combustible gas sensor that monitors ambient lower explosive limit (LEL) conditions in crawl and select habitable spaces.

## 2.0 Description of Site Facilities

### 2.1 Gas Management System Components

The following table summarizes the facilities presently monitored at the site, their gas management system components and the monitoring points for each structure. Data collected from these monitoring points are the basis of this GMR.

**Gas Management System Components and Monitoring Points for Site Facilities**

Facility	Gas Vents	Gas Probes/ Sampling Tubes	Continuous Gas Sensors in Select Habitable Space (HS) or Crawl Space (CS)	Permanent or Temporary Facility
Sales Trailer <sup>1</sup>		● <sup>2</sup>	HS	Temporary
Sales Center <sup>3</sup>	●	●	HS	
Administration Building <sup>1</sup>		●	HS	
Tower 1 <sup>4</sup>	●	●	CS	Permanent
Tower 2 <sup>4</sup>	●	●	CS	
Garage 1	●	●	HS	
Biscayne Landing Boulevard	●	●	N/A <sup>5</sup>	

Notes:

1. The Sales Trailer and Administration Building are elevated on concrete blocks to allow dissipation of LFG through the crawl space.
2. The Sales Trailer crawl space monitoring is conducted via ambient air sampling.
3. The Sales Center does not contain a crawl space; instead, it is lined below the concrete floor slab with a geomembrane liner, which is passively vented by gravel trenches embedded with perforated PVC pipes below the liner.
4. Towers 1 and 2 contain crawl spaces with perimeter louvers to induce air flow. The waste beneath these structures was removed prior to construction.
5. N/A = Not applicable.

**Figures 1 through 4** show the sampling points associated with the permanent facilities. **Figures 5, 6, and 7** show the locations of the sampling points at the Sales Trailer, Sales Center and Administration Building, respectively. **Figure 8** shows the sampling points associated with the perimeter gas probes. **Figure 9** provides an overall site plan.

## 3.0 Summary of LFG Monitoring Results

ESC performed the LFG monitoring activities at the site and recorded, where necessary, additional information relating to the condition of the monitoring points, observed conditions, or other pertinent information. It should be noted that the relative pressures reported for this sampling event were slightly



elevated; this is due to the instrument's pressure transducer being zeroed at a slightly elevated pressure. Field calibration with the methane gas standards verified the accuracy of the methane and constituent gas readings, and thus the reported methane readings are considered to be accurate. In future sampling events ESC will ensure the calibration of the pressure transducer in the instrument. A summary of the monitoring events from this reporting period, conducted on November 17 and 18, 2011, are provided below.

### 3.1 Temporary Facilities

**Tables 1, 2 and 3** present the current and historical gas monitoring results since March 2009 for the Sales Trailer, Sales Center, and Administration Building, respectively. A description of the location of the sampling points is also provided in the tables.

According to project site personnel, methane gas sensors located within the temporary facilities did not report detections or alarms during this reporting period.

#### **Sales Trailer**

Monitoring data for monitoring points at the Sales Trailer are included in **Table 1**. STPROBE2, located within the waste footprint of the site, recorded a steady-state reading of 1350% LEL. These readings are consistent with historical data. **Appendix E** presents the methane concentration versus time data for this monitoring point.

#### **Sales Center**

Twelve (12) out of sixteen (16) monitoring points for the Sales Center reported 0% LEL, readings as reported in **Table 2**. Soil probes SCSOIL01 and SCSOIL02, both located within the waste footprint of the site, reported LFG with steady-state concentrations of 1332% LEL and 1382% LEL, respectively. These readings are consistent with historical data. Methane concentration versus time data for probes SCSOIL01 and SCSOIL02 are included in **Appendix E**.

#### **Administration Building**

All nineteen (19) sampling points at the Administration Building reported 0% LEL readings (See **Table 3**).

### 3.2 Permanent Facilities

#### 3.2.1 Perimeter Gas Probes

**Table 4** lists the results of the November 2011 sampling event and the historical data for previous monitoring events since 2009 for the perimeter gas monitoring probes. **Figures 8 and 9** show the locations of the perimeter gas probes. Eighteen (18) out of twenty (20) perimeter probes reported readings of 0% LEL.

Since the installation of additional passive gas venting trenches in August 2011 to address the elevated methane concentrations at GP-5 cluster gas probes reported in previous sampling events (before August 2011), this is the first monitoring event to monitoring these probes to evaluate the effectiveness of the installed trenches.



Gas probes GP-5 and GP-5N both reported 0% LEL readings, and GP-5S reported a reading of 2% LEL. This decreased methane concentrations compared to the historical levels suggest that the additional passive gas venting trenches has been effective. The GP-5 cluster gas probes will continue to be sampled in future routine quarterly monitoring events to confirm these results.

### 3.2.2 Tower 1

According to project site personnel and Quest Controls, Inc. (Quest Controls), methane gas sensors located in Tower 1 did not report alarms in the third quarter. Quest Controls correspondence is included as **Appendix F**.

**Table 5** shows the results for the sampling conducted at Tower 1. The eight (8) sampling locations are shown in **Figure 1**. All gas probes and gas vents at Tower 1 reported readings of 0% LEL in the third quarter. These readings are consistent with the historical data for Tower 1.

### 3.2.3 Tower 2

According to project site personnel and Quest Controls, methane gas sensors located within Tower 2 did not report alarms in the third quarter. Quest Controls correspondence is included as **Appendix F**.

**Table 6** shows the results for the gas monitoring conducted at Tower 2 (See **Figure 2** for the 19 sampling locations). All gas probes and gas vents reported readings of 0% LEL during this sampling event. These readings are consistent with the historical data for Tower 2.

### 3.2.4 Garage 1

According to project site personnel and Quest Controls, methane gas sensors located in Garage 1 did not report alarms in the third quarter. Quest Controls correspondence is included as **Appendix F**.

**Table 7** provides the results for the gas monitoring conducted at Garage 1, which is located across from Tower 1 and Tower 2 (See **Figure 3** for the 15 sampling locations). All seven (7) gas probes around the base of Garage 1 reported readings of 0% LEL during this sampling event. Two (2) gas vents in Garage 1 (PV-G1-3, and -5,) reported LFG concentrations above 0%. Elevated readings from vents are expected due to LFG being diverted to these venting locations and confirm that the gas collection system is operational.

### 3.2.5 Biscayne Landing Boulevard

**Table 8** shows the results for the sampling activities conducted at the Utility Barrier (See **Figure 4** for the five (5) sampling locations). Monitoring of the Utility Barrier spanning Biscayne Landing Boulevard reported results of 0% LEL in the three (3) gas probes and two (2) gas vents. These readings are consistent with historical data.

## 4.0 Summary

Based on sampling activities conducted for GMR No. 32, there is no reported migration of LFG into onsite structures. LFG concentrations at the site were generally reported within the historical results with

the exception of GP-5 gas probe cluster. The methane concentrations at GP-5 gas probe cluster decreased compared to the previous sampling results, likely because the passive gas venting trenches installed in August 2011 adjacent the cluster are effective.

## 5.0 Response to PERA Correspondence

This section is to respond to PERA comments provided in their correspondence dated November 1, 2011 (see **Appendix G**) regarding the Corrective Action Report (CAP) dated September 29, 2011 prepared by ESC. Please find below the original PERA comments in *italics* followed by ESC's response.

*Comment #1 – The EAS concurs with the proposed continued quarterly monitoring as part of the evaluation of the modified Passive Gas Venting Trench's effectiveness.*

**Response** Acknowledged

*Comment #2 – The existing passive trench location in relation to GP-5, as depicted on Figure 1 of the current submittal, is inconsistent with the earlier site plans (attached). The above inconsistency shall be addressed in the next submittal.*

**Response** The inconsistencies are due to the changes made in the field to the gas trenches subsequent to earlier, proposed site plans.

The existing onsite trenches (218 LF) were installed in two phases: 80 LF of initial trench was installed in August 2010 and an additional 138 LF of trench was installed in August 2011.

The initial 80 LF trench, as depicted on **Figure 1** (dated July 2011) of **Attachment G**, was installed according to the proposed plan in **Figure 2** (dated November 2008) of **Attachment G**. During the installation, the length and location of the trench was adjusted based on field conditions and elevated methane concentrations reported at GP-5N in one sampling event prior to installation (June 17, 2009) (see **Table 4**).

The additional 138 LF of trench, as depicted on **Figure 1** in our September 29, 2011 submittal, was installed according to the proposed plan in **Figure 1** (dated July 2011) of **Attachment G**. During the installation, the locations and length of the trench was adjusted in the field because elevated methane concentrations were measured at GP-5S on the day of trench installation and it was determined by ESC that the extension of the gas trench further to the south, beyond GP-5S, was warranted. The trench installation details and as-built drawings were provided in the September 29, 2011 CAP to PERA.

*Comment #3 – The calibration data sheet for the current monitoring event and for all subsequent monitoring events shall be submitted.*

**Response** See **Attachment B**. Gas analyzer calibration data will continue to be included in future gas monitoring reports.

## *Tables*

---





**Table 1**  
**Sales Trailer - Landfill Gas Monitoring Results**

Sampling Date	STPROBE1				STPROBE2				Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL	Elapsed Time (s)
	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal										
	<i>East side of the Sales Trailer</i>								<i>West side of Sales Trailer</i>									
16-Mar-09	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	NM	NM	NM	N/A <sub>c</sub>	-	71.5	21.3	<<<	<<<	30.15	0.00	77	1430	-
	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	NM	NM	NM	N/A <sub>c</sub>	-	73.4	26.3	<<<	<<<	30.15	0.00	77	1468	-
17-Jun-09	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	NM	NM	NM	N/A <sub>c</sub>	-	NM	NM	NM	NM	NM	NM	NM	NM	-
	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	NM	NM	NM	N/A <sub>c</sub>	-	NM	NM	NM	NM	NM	NM	NM	NM	-
28-Sep-09	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	NM	NM	NM	N/A <sub>c</sub>	-	4.0	1.9	19.2	74.5	29.94	-0.04	91	80	-
	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	NM	NM	NM	N/A <sub>c</sub>	-	3.9	2.3	18.9	74.9	29.94	-0.04	91	78	-
18-Dec-09	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	NM	NM	NM	N/A <sub>c</sub>	-	70.4	28.7	0.0	0.9	29.70	25.53	73	1408	-
	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	NM	NM	NM	N/A <sub>c</sub>	-	70.2	29.3	0.0	0.5	29.70	25.53	73	1404	-
17-Mar-10	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	NM	NM	NM	N/A <sub>c</sub>	-	72.4	25.1	1.7	0.6	29.98	-0.15	64	1448	-
	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	N/A <sub>c</sub>	NM	NM	NM	N/A <sub>c</sub>	-	70.3	28.5	0.9	0.0	29.98	-0.15	64	1406	-
26-May-10	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	NM	NM	NM	N/A <sub>1</sub>	-	81.9	22.5	0.0	<0.1	29.87	0.00	84	1638	-
	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	NM	NM	NM	N/A <sub>1</sub>	-	83.1	16.8	0.0	<0.1	29.87	0.00	84	1662	-
14-Sep-10	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	NM	NM	NM	N/A <sub>1</sub>	-	71.0	29.0	0.2	0.0	29.90	7.27	90	1420	-
	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	NM	NM	NM	N/A <sub>1</sub>	-	70.6	29.6	0.0	0.0	29.90	7.27	93	1412	240
17-Jan-11	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	NM	NM	NM	N/A <sub>1</sub>	-	67.2	32.7	0.0	0.1	29.89	-0.05	69	1344	120
	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	NM	NM	NM	N/A <sub>1</sub>	-	67.1	32.9	0.0	0.0	29.89	-0.05	69	1342	300
30-Mar-11	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	NM	NM	NM	N/A <sub>1</sub>	-	66.2	30.7	0.0	3.1	29.94	-0.04	84	1324	300
	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	NM	NM	NM	N/A <sub>1</sub>	-	66.2	30.7	0.0	3.1	29.94	-0.04	84	1324	300
1-Jul-11	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	NM	NM	NM	N/A <sub>1</sub>	-	67.1	31.9	0.0	1.0	29.96	-0.04	NM	1342	300
	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	NM	NM	NM	N/A <sub>1</sub>	-	67.1	31.9	0.0	1.0	29.96	-0.04	NM	1342	300
17-Nov-11	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	NM	NM	NM	N/A <sub>1</sub>	-	67.7	32.1	0.1	0.2	30.03	148.98	84	1354	60
	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	N/A <sub>1</sub>	NM	NM	NM	N/A <sub>1</sub>	-	67.5	32.3	0.1	0.2	30.03	148.98	84	1350	300
	<b>STCRAWL</b>								<b>STINSIDE</b>									
	<i>Crawl space below Sales Trailer</i>								<i>Inside the Sales Trailer</i>									
16-Mar-09	0.0	0.0	20.6	79.4	30.15	0.0	77	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
	0.0	0.0	20.6	79.3	30.15	0.0	77	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
16-Jun-09	0.0	0.0	21.1	78.9	29.86	0.0	88	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
	0.0	0.0	21.0	79.0	29.86	0.0	88	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
28-Sep-09	0.0	0.1	20.6	79.3	29.94	-0.04	91	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
	0.0	0.1	20.7	79.2	29.94	-0.04	91	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
18-Dec-09	0.0	0.1	22.0	77.9	29.70	25.53	73	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
	0.0	0.1	22.0	77.9	29.70	25.53	73	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
17-Mar-10	0.0	0.0	20.8	79.1	29.98	-0.15	63	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
	0.0	0.0	20.8	79.1	29.98	-0.15	63	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
26-May-10	0.0	0.0	17.9	82.0	29.87	0.00	86	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
	0.0	0.0	17.8	82.1	29.87	0.00	86	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
14-Sep-10	0.0	0.0	19.3	80.6	29.90	7.27	89	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
	0.0	0.0	19.3	80.6	29.90	7.27	89	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
17-Jan-11	0.0	0.0	20.4	79.6	29.89	-0.05	68	0	0	NM	NM	NM	NM	NM	NM	NM	NM	-
	0.0	0.0	20.4	79.6	29.89	-0.05	69	0	300	NM	NM	NM	NM	NM	NM	NM	NM	-
30-Mar-11	0.0	0.1	19.1	80.8	29.94	-0.04	85	0	0	NM	NM	NM	NM	NM	NM	NM	NM	-
	0.0	0.1	19.1	80.8	29.94	-0.04	85	0	120	NM	NM	NM	NM	NM	NM	NM	NM	-
1-Jul-11	0.0	0.0	20.9	79.1	29.96	-0.04	NM	0	0	NM	NM	NM	NM	NM	NM	NM	NM	-
	0.0	0.0	20.9	79.1	29.96	-0.04	NM	0	300	NM	NM	NM	NM	NM	NM	NM	NM	-
17-Nov-11	0.1	0.0	18.8	81.0	30.03	148.98	83	1	0	NM	NM	NM	NM	NM	NM	NM	NM	-
	0.0	0.0	18.8	81.1	30.03	148.98	83	0	300	NM	NM	NM	NM	NM	NM	NM	NM	-

**Notes:**

- Readings not taken because the key to the lock was not available.
- The lock on this gas probe was rusted and could not be opened. Lock needs replacement.
- Readings not available according to report by PBS&J.
- Probe has been cut and capped below grade.
- Probe has been removed.
- Reading was above GEM 2000 methane by volume and %LEL range.
- Samples collected from STINSIDE were not collected due to accessibility.
- NM = not measured.
- <<< = Outside of measurement range.
- Barometric pressure in inches of mercury.
- Relative pressure in inches of water.
- Not found, Destroyed.
- Beginning with data reported for Sept 2010, the first reported value is the peak methane reading, and the second reported value is the steady state methane reading. If no methane was detected, the first reading reported is the initial reading, and the second reading is the steady state reading. Prior to Sept. 2010, the first reported value is the initial reading, and the second reported value is the final reading.

**Table 2**  
**Sales Center - Landfill Gas Monitoring Results**

Sampling Date	SCPROB01				SCPROB02				SCPROB03				SCPROB04				SCPROB05				SCPROB06																											
	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL	Elapsed Time (s)												
	<i>Foundation probe west side</i>								<i>Foundation probe west side</i>								<i>Foundation probe west side</i>								<i>Foundation probe west side</i>								<i>Foundation probe west side</i>								<i>Foundation probe west side</i>							
13-Mar-09	0.0	0.0	18.5	81.5	30.08	0.00	80	0.0	-	0.0	0.0	19.2	81.1	30.08	0.00	80	0.0	-	0.0	0.0	17.2	82.7	30.08	0.0	80	0.0	-	0.0	0.0	18.1	81.8	30.08	0.0	80	0.0	-	0.0	0.0	18.5	81.5	30.08	0.0	80	0.0	-			
16-Jun-09	0.0	0.0	21.0	78.9	29.86	0.0	88	0.0	-	0.0	0.0	21.0	78.9	29.86	0.0	88	0.0	-	0.0	0.0	21.0	78.9	29.86	0.0	88	0.0	-	0.0	0.0	21.0	78.9	29.86	0.0	88	0.0	-	0.0	0.0	21.0	78.9	29.86	0.0	88	0.0	-			
28-Sep-09	0.0	0.0	19.2	80.6	29.86	0.0	88	0.0	-	0.0	0.0	19.9	80.0	29.86	0.0	88	0.0	-	0.0	0.1	20.0	79.8	29.86	0.0	88	0.0	-	0.0	0.1	15.7	84.2	29.90	-0.06	90	0.0	-	0.0	0.2	15.4	84.4	29.90	-0.06	90	0.0	-			
18-Dec-09	0.0	0.2	18.7	81.1	29.90	-0.06	90	0.0	-	0.0	0.2	16.7	83.1	29.90	-0.06	90	0.0	-	0.0	0.0	17.2	82.8	29.75	24.59	73	0.0	-	0.0	0.1	15.4	84.5	29.75	24.59	73	0.0	-												
17-Mar-10	0.0	0.3	14.7	80.0	29.75	24.59	76	0.0	-	0.0	0.3	18.2	81.6	29.75	24.59	74	0.0	-	0.0	0.0	20.7	79.1	29.98	-0.15	66	0.0	-	0.0	0.0	20.7	79.1	29.98	-0.15	66	0.0	-												
26-May-10	0.0	0.2	19.8	80.0	29.75	24.59	76	0.0	-	0.0	0.1	18.3	81.6	29.75	24.59	74	0.0	-	0.0	0.0	20.7	79.1	29.98	-0.15	66	0.0	-	0.0	0.0	19.1	80.8	29.98	-0.15	64	0.0	-												
14-Sep-10	0.0	0.0	20.8	79.1	29.98	-0.15	64	0.0	-	0.0	0.0	20.7	79.1	29.98	-0.15	66	0.0	-	0.0	0.0	16.3	83.5	29.87	0.00	84	0.0	-	0.0	0.0	16.3	83.5	29.87	0.00	84	0.0	-												
17-Jan-11	0.0	0.0	19.1	80.8	29.98	-0.15	64	0.0	-	0.0	0.0	20.8	79.2	29.98	-0.15	66	0.0	-	0.0	0.0	16.4	83.5	29.87	0.00	84	0.0	-	0.0	0.0	16.4	83.5	29.87	0.00	84	0.0	-												
30-Mar-11	0.0	0.1	17.1	82.5	29.87	0.00	83	0.0	-	0.0	0.0	17.5	82.4	29.87	0.00	86	0.0	-	0.0	0.0	17.3	82.7	29.90	7.27	86	0.0	-	0.0	0.0	17.3	82.7	29.90	7.27	86	0.0	-												
30-Jun-11	0.0	0.1	17.4	82.4	29.87	0.00	83	0.0	-	0.0	0.0	17.9	82.0	29.87	0.00	86	0.0	-	0.0	0.0	17.8	82.1	29.90	7.27	86	0.0	-	0.0	0.0	17.8	82.1	29.90	7.27	86	0.0	-												
17-Nov-11	0.4	0.3	18.3	81.3	30.06	148.86	81	2.0	0	0.0	0.0	17.7	81.5	30.06	148.86	80	0.0	0	0.0	0.0	17.1	82.8	29.90	7.27	85	0.0	120	0.0	0.0	17.1	82.8	29.90	7.27	85	0.0	120												
	<i>Foundation probe west side</i>								<i>Foundation probe west side</i>								<i>Foundation probe west side</i>								<i>Foundation probe west side</i>								<i>Foundation probe west side</i>								<i>Foundation probe west side</i>							
13-Mar-09	0.0	0.0	18.1	81.8	30.08	0.0	80	0.0	-	0.0	0.0	17.2	82.7	30.08	0.0	80	0.0	-	0.0	0.0	17.2	82.8	29.75	24.59	72	0.0	-	0.0	0.0	17.2	82.8	29.75	24.59	72	0.0	-												
16-Jun-09	0.0	0.0	21.0	78.9	29.86	0.0	88	0.0	-	0.0	0.0	21.0	78.9	29.86	0.0	88	0.0	-	0.0	0.0	20.0	79.8	29.86	0.0	88	0.0	-	0.0	0.0	20.0	79.8	29.86	0.0	88	0.0	-												
28-Sep-09	0.0	0.1	15.7	84.2	29.90	-0.06	90	0.0	-	0.0	0.1	20.5	79.4	29.90	-0.06	90	0.0	-	0.0	0.1	20.6	79.3	29.90	-0.06	90	0.0	-	0.0	0.2	15.4	84.4	29.90	-0.06	90	0.0	-												
18-Dec-09	0.0	0.2	15.3	84.5	29.75	24.59	73	0.0	-	0.0	0.0	17.2	82.8	29.75	24.59	72	0.0	-	0.0	0.0	17.2	82.8	29.75	24.59	72	0.0	-	0.0	0.2	15.3	84.5	29.75	24.59	73	0.0	-												
17-Mar-10	0.0	0.0	20.7	79.2	29.98	-0.15	65	0.0	-	0.0	0.0	20.6	79.3	29.98	-0.15	65	0.0	-	0.0	0.0	20.6	79.3	29.98	-0.15	65	0.0	-	0.0	0.0	20.7	79.2	29.98	-0.15	65	0.0	-												
26-May-10	0.0	0.0	16.3	83.5	29.87	0.00	84	0.0	-	0.0	0.0	16.2	83.7	29.87	0.00	84	0.0	-	0.0	0.0	16.2	83.7	29.87	0.00	84	0.0	-	0.0	0.0	16.3	83.5	29.87	0.00	84	0.0	-												
14-Sep-10	0.0	0.0	16.4	83.5	29.87	0.00	84	0.0	-	0.0	0.0	16.1	83.7	29.87	0.00	85	0.0	-	0.0	0.0	16.1	83.7	29.87	0.00	85	0.0	-	0.0	0.0	16.4	83.5	29.87	0.00	84	0.0	-												
17-Jan-11	0.0	0.0	18.1	81.9	29.93	0.06	85	0.0	0	0.0	0.0	17.7	82.3	29.94	-0.04	86	0.0	0	0.0	0.0	17.7	82.3	29.94	-0.04	86	0.0	0	0.0	0.0	18.1	81.9	29.93	0.06	85	0.0	0												
30-Mar-11	0.0	0.0	17.9	82.1	29.93	0.06	85	0.0	120	0.0	0.0	17.7	82.3	29.94	-0.04	86	0.0	120	0.0	0.0	17.7	82.3	29.94	-0.04	86	0.0	120	0.0	0.0	17.9	82.1	29.93	0.06	85	0.0	120												
30-Jun-11	0.0	0.2	19.9	79.9	29.96	0.04	NM	0.0	0	0.0	0.1	20.2	79.8	29.96	0.04	NM	0.0	0	0.0	0.1	20.2	79.8	29.96	0.04	NM	0.0	0	0.0	0.2	19.9	79.9	29.96	0.04	NM	0.0	0												
17-Nov-11	0.0	0.3	16.9	82.8	29.96	0.04	NM	0.0	300	0.0	0.0	17.9	82.1	29.96	0.04	NM	0.0	300	0.0	0.0	17.9	82.1	29.96	0.04	NM	0.0	300	0.0	0.3	16.9	82.8	29.96	0.04	NM	0.0	300												
	<i>Foundation probe west side</i>								<i>Foundation probe west side</i>								<i>Foundation probe west side</i>								<i>Foundation probe west side</i>								<i>Foundation probe west side</i>								<i>Foundation probe west side</i>							
13-Mar-09	0.0	0.0	18.5	81.5	30.08	0.0	79	0.0	-	0.0	0.0	19.1	81.3	30.08	0.0	80	0.0	-	0.0	0.0	18.4	81.4	29.90	7.27	86	0.0	-	0.0	0.0	18.4	81.4	29.90	7.27	86	0.0	-												
16-Jun-09	0.0	0.0	21.0	78.9	29.86	0.0	88	0.0	-	0.0	0.0	21.0	78.9	29.86	0.0	88	0.0	-	0.0	0.0	18.4	81.4	29.90	7.27	86	0.0	-	0.0	0.0	18.4	81.4	29.90	7.27	86	0.0	-												
28-Sep-09	0.0	0.1	20.5	79.3	29.90	-0.06	91	0.0	-	0.0	0.1	20.7	79.2	29.90	-0.06	91	0.0	-	0.0	0.1	20.7	79.2	29.90	-0.06	91	0.0	-	0.0	0.1	20.5	79.3	29.90	-0.06	91	0.0	-												
18-Dec-09	0.0	0.1	20.6	79.3	29.90	-0.06	91	0.0	-	0.0	0.1	20.8	79.1	29.90	-0.06	91	0.0	-	0.0	0.1	20.8	79.1	29.90	-0.06	91	0.0	-	0.0	0.1	20.6	79.3	29.90	-0.06	91	0.0	-												
17-Mar-10	0.0	0.0	16.9	83.0	29.75	24.59	71	0.0	-	0.0	0.2	19.9	79.9	29.75	24.59	73	0.0	-	0.0	0.2	19.9	79.9	29.75	24.59	73	0.0	-	0.0	0.0	16.9	83.0	29.75	24.59	71	0.0	-												
26-May-10	0.0	0.2	20.4	79.4	29.75	24.59	71	0.0	-	0.0	0.1	19.9	80.0	29.75	24.59	73	0.0	-	0.0	0.1	19.9	80.0	29.75	24.59	73	0.0	-	0.0	0.2	20.4	79.4	29.75	24.59	71	0.0	-												
14-Sep-10	0.0	0.0	20.6	79.3	29.98	-0.15	64	0.0	-	0.0	0.0	20.4	79.5	29.98	-0.15	64	0.0	-	0.0	0.0	20.4	79.5	29.98	-0.15	64	0.0	-	0.0	0.0	20.6	79.3	29.98	-0.15	64	0.0	-												
17-Jan-11	0.0	0.0	20.4	79.4	29.98	-0.15	64	0.0	-	0.0	0.0	20.4	79.4	29.98	-0.15	64	0.0	-	0.0	0.0	20.4	79.4	29.98	-0.15	64	0.0	-	0.0	0.0	20.4	79.4	29.98	-0.15	64	0.0	-												
30-Mar-11	0.0	0.0	16.5	82.7	29.87	0.0	85	0.0	-	0.0	0.1	17.1	82.7	29.87	0.0	83	0.0	-	0.0	0.1	17.1	82.7	29.87	0.0	83	0.0	-	0.0	0.0	16.5	82.7	29.87	0.0	85	0.0	-												
30-Jun-11	0.0	0.0	18.0	81.9	29.87	0.0	85	0.0	-	0.0	0.0	17.3	82.6	29.87	0.0	83	0.0	-	0.0	0.0	17.3	82.6	29.87	0.0	83	0.0	-	0.0	0.0	18.0	81.9	29.87	0.0	85	0.0	-												
17-Nov-11	0.1	0.0	18.5	81.3	30.06	148.86	80	1.0	0	0.0	0.0	18.6	81.2	30.06	148.86	81	0.0	0	0.0	0.0	18.6	81.2	30.06	148.86	81	0.0	0	0.0	0.0	18.5	81.3	30.06	148.86	80	1.0	0												

**Table 2**  
**Sales Center - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL	Elapsed Time (s)
<b>SCPROB07</b> <i>Foundation probe east side</i>										<b>SCPROB08</b> <i>Foundation probe east side</i>								
13-Mar-09	0.0	0.0	18.1	81.9	30.08	0.0	79	0.0	-	0.0	0.0	18.7	81.2	30.08	0.0	79	0.0	-
	0.0	0.0	18.2	81.7	30.08	0.0	79	0.0	-	0.0	0.0	18.6	81.1	30.08	0.0	79	0.0	-
16-Jun-09	0.0	0.0	21.0	78.9	29.86	0.0	88	0.0	-	0.0	0.0	21.0	78.9	29.86	0.0	88	0.0	-
	0.0	0.0	20.5	79.4	29.86	0.0	88	0.0	-	0.0	0.0	19.5	80.4	29.86	0.0	88	0.0	-
28-Sep-09	0.0	0.1	15.8	84.1	29.90	-0.06	91	0.0	-	0.0	0.3	17.2	82.5	29.90	-0.06	91	0.0	-
	0.0	0.1	16.1	83.8	29.90	-0.06	91	0.0	-	0.0	0.2	17.5	82.3	29.90	-0.06	91	0.0	-
18-Dec-09	0.2	0.2	18.7	81.1	29.70	25.53	73	4.0	-	0.0	0.2	20.1	79.6	29.70	25.53	73	0.0	-
	0.1	0.2	18.1	81.7	29.70	25.53	73	2.0	-	0.0	0.1	20.5	79.4	29.70	25.53	73	0.0	-
17-Mar-10	0.0	0.0	18.4	81.5	29.98	-0.15	64	0.0	-	0.0	0.0	20.6	79.3	29.98	-0.15	67	0.0	-
	0.0	0.0	18.2	81.6	29.98	-0.15	64	0.0	-	0.0	0.0	20.5	79.4	29.98	-0.15	67	0.0	-
26-May-10	0.0	0.0	15.7	84.1	29.87	0.00	82	0.0	-	0.0	0.0	18.1	81.8	29.87	0.00	84	0.0	-
	0.0	0.0	15.9	84.0	29.87	0.00	82	0.0	-	0.0	0.0	18.1	81.7	29.87	0.00	84	0.0	-
14-Sep-10	0.0	0.0	16.9	83.1	29.90	7.27	86	0.0	-	0.0	0.0	19.5	80.4	29.90	7.27	85	0.0	-
	0.0	0.0	16.7	83.2	29.90	7.27	85	0.0	120	0.0	0.0	19.6	80.4	29.90	7.27	85	0.0	120
17-Jan-11	0.0	0.1	17.6	82.3	29.89	-0.05	68	0.0	-	0.0	0.2	19.1	80.6	29.89	-0.05	68	0.0	-
	0.0	0.0	18.3	81.6	29.89	-0.05	68	0.0	300	0.0	0.2	19.7	80.1	29.89	-0.05	68	0.0	300
30-Mar-11	0.0	0.2	16.4	83.3	29.94	-0.04	83	0.0	0	0.0	0.3	18.5	81.2	29.94	-0.04	82	0.0	0
	0.0	0.2	16.7	83.6	29.94	-0.04	83	0.0	120	0.0	0.3	18.6	81.1	29.94	-0.04	82	0.0	120
30-Jun-11	0.0	0.1	20.7	79.2	29.96	0.04	NM	0.0	0	0.0	0.1	20.6	79.3	29.96	0.04	NM	0.0	0
	0.0	0.6	15.5	83.9	29.96	0.04	NM	0.0	300	0.0	0.1	20.3	79.6	29.96	0.04	NM	0.0	300
17-Nov-11	0.0	0.0	17.9	82.1	30.06	148.86	81	0.0	0	0.0	0.0	18.4	81.5	30.06	148.86	80	0.0	0
	0.0	0.4	16.7	82.8	30.06	148.86	81	0.0	300	0.0	0.0	18.7	81.3	30.06	148.86	80	0.0	300
<b>SCPROB09</b> <i>Foundation probe east side</i>										<b>SCPROB10</b> <i>Foundation probe east side</i>								
13-Mar-09	0.0	0.0	19.5	80.5	30.08	0.0	79	0.0	-	0.0	0.0	17.2	81.8	30.08	0.0	79	0.0	-
	0.0	0.0	19.5	80.9	30.08	0.0	79	0.0	-	0.0	0.0	17.4	81.5	30.08	0.0	79	0.0	-
16-Jun-09	0.0	0.0	21.0	78.9	29.86	0.0	88	0.0	-	0.0	0.0	21.0	78.9	29.86	0.0	88	0.0	-
	0.0	0.0	19.5	80.4	29.86	0.0	88	0.0	-	0.0	0.0	18.5	81.4	29.86	0.0	88	0.0	-
28-Sep-09	0.0	0.1	18.1	81.8	29.90	-0.06	91	0.0	-	0.0	0.1	18.1	81.8	29.90	-0.06	91	0.0	-
	0.0	0.1	19.2	80.7	29.90	-0.06	91	0.0	-	0.0	0.2	18.3	81.5	29.90	-0.06	91	0.0	-
18-Dec-09	0.0	0.1	18.2	81.7	29.70	25.53	73	0.0	-	0.0	0.0	17.0	83.0	29.70	25.53	74	0.0	-
	0.0	0.1	18.8	81.1	29.70	25.53	73	0.0	-	0.0	0.0	16.9	83.0	29.70	25.53	74	0.0	-
17-Mar-10	0.0	0.0	20.8	79.2	29.98	-0.15	65	0.0	-	0.0	0.0	18.8	81.8	29.98	-0.15	66	0.0	-
	0.0	0.0	20.4	79.5	29.98	-0.15	65	0.0	-	0.0	0.0	17.9	82.0	29.98	-0.15	66	0.0	-
26-May-10	0.0	0.0	17.6	82.2	29.87	0.00	83	0.0	-	0.0	0.0	14.7	85.2	29.87	0.00	85	0.0	-
	0.0	0.0	18.0	81.7	29.87	0.00	83	0.0	-	0.0	0.0	14.8	85.2	29.87	0.00	85	0.0	-
14-Sep-10	0.0	0.0	19.6	80.3	29.90	7.27	85	0.0	-	0.0	0.0	16.1	83.9	29.90	7.27	85	0.0	-
	0.0	0.0	19.7	80.3	29.90	7.27	85	0.0	120	0.0	0.0	15.9	84.0	29.90	7.27	85	0.0	120
17-Jan-11	0.0	0.2	19.3	80.1	29.89	-0.05	69	0.0	-	0.0	0.0	18.5	82.1	29.89	-0.05	69	0.0	-
	0.0	0.0	19.9	80.0	29.89	-0.05	69	0.0	300	0.0	0.0	17.2	82.8	29.89	-0.05	69	0.0	300
30-Mar-11	0.0	0.1	18.0	81.9	29.94	-0.04	82	0.0	0	0.0	0.0	17.1	82.9	29.94	-0.04	83	0.0	0
	0.0	0.1	18.6	81.3	29.94	-0.04	82	0.0	120	0.0	0.0	16.6	83.4	29.94	-0.04	83	0.0	120
30-Jun-11	0.0	0.1	20.7	79.2	29.96	0.04	NM	0.0	0	0.0	0.1	20.7	79.4	29.96	0.04	NM	0.0	0
	0.0	0.2	20.0	79.8	29.96	0.04	NM	0.0	300	0.0	0.0	20.4	79.6	29.96	0.04	NM	0.0	300
17-Nov-11	0.0	0.0	17.3	82.7	30.06	148.86	79	0.0	0	0.0	0.0	18.1	81.8	30.06	148.86	79	0.0	0
	0.0	0.0	18.1	81.8	30.06	148.86	79	0.0	300	0.0	0.0	18.1	81.8	30.06	148.86	79	0.0	300
<b>SCSOIL01</b> <i>Soil probe west side</i>										<b>SCSOIL02</b> <i>Soil probe east side</i>								
13-Mar-09	76.5	20.4	0.2	2.1	30.08	0.00	80	1530	-	37.0	15.8	8.4	37.9	30.08	0.00	80	740	-
	76.8	20.4	0.0	2.7	30.08	0.00	80	1536	-	51.1	20.9	5.7	35.7	30.08	0.00	80	1022	-
16-Jun-09	81.6	15.2	0.1	3.9	29.86	0.0	84	1632	-	55.5	4.1	0.7	39.1	29.86	0.0	84	1110	-
	80.4	15.7	0.0	3.6	29.86	0.0	85	1608	-	61.6	5.1	1.1	32.0	29.86	0.0	84	1232	-
30-Sep-09	82.4	17.9	0.4	0.0	29.90	21.14	90	1648	-	67.9	6.2	0.6	25.0	29.90	21.14	90	1358	-
	82.0	18.0	0.0	0.0	29.90	21.14	90	1640	-	67.7	6.3	0.4	25.6	29.90	21.14	90	1354	-
18-Dec-09	83.4	10.7	1.1	4.9	29.70	25.53	74	1668	-	73.4	5.0	0.1	21.8	29.70	25.53	72	1468	-
	87.2	9.3	0.0	3.6	29.70	25.53	74	1744	-	73.5	5.0	0.0	21.4	29.70	25.53	72	1470	-
17-Mar-10	28.9	9.5	12.2	48.9	29.98	-0.15	69	578	-	60.8	6.1	3.3	29.7	29.98	-0.15	69	1216	-
	71.7	20.6	2.1	5.3	29.98	-0.15	69	1434	-	61.9	7.4	2.7	28.0	29.98	-0.15	69	1238	-
26-May-10	72.5	26.6	0.0	0.0	29.87	0.00	85	1450	-	70.7	13.7	0.0	12.4	29.87	0.00	86	1414	-
	84.6	15.2	0.0	0.0	29.87	0.00	85	1692	-	75.1	15.0	0.0	9.8	29.87	0.00	86	1502	-
14-Sep-10	74.1	23.8	0.0	2.0	29.90	7.27	88	1482	120	72.6	6.3	0.0	21.3	29.90	7.27	85	1452	180
	73.9	24.6	0.0	1.4	29.90	7.27	86	1478	240	72.4	6.3	0.0	21.2	29.90	7.27	85	1448	240
17-Jan-11	63.3	29.1	0.0	7.7	29.89	-0.05	71	1266	240	52.8	24.5	0.0	22.7	29.89	-0.05	69	1056	120
	63.2	29.1	0.0	7.7	29.89	-0.05	71	1264	300	51.9	25.3	0.0	22.8	29.89	-0.05	69	1038	300
30-Mar-11	55.6	29.2	0.0	15.2	29.94	-0.04	84	1112	300	49.2	24.3	0.0	26.5	29.94	-0.04	84	984	300
	55.6	29.2	0.0	15.2	29.94	-0.04	84	1112	300	49.2	24.3	0.0	26.5	29.94	-0.04	84	984	300
30-Jun-11	50.9	31.0	0.0	17.9	29.96	0.04	NM	1018	300	52.4	25.9	0.0	21.7	29.96	0.04	NM	1048	300
	50.9	31.0	0.0	17.9	29.96	0.04	NM	1018	300	52.4	25.9	0.0	21.7	29.96	0.04	NM	1048	300
17-Nov-11	68.8	24.8	0.7	5.6	30.06	148.86	89	1376	60	69.1	8.2	0.0	22.7	30.06	148.86	78	1382	300
	66.6	23.8	1.2	9.4	30.06	148.86	89	1332	300	69.1	8.2	0.0	22.7	30.06	148.86	78	1382	300



**Table 2**  
**Sales Center - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL	Elapsed Time (s)
<b>SCVENT01</b> <i>Foundation vent west side</i>										<b>SCVENT02</b> <i>Foundation vent east side</i>								
16-Mar-09	0.0	0.0	20.0	80.0	30.08	0.00	80	0.0	-	0.0	0.0	20.5	79.5	30.08	0.00	79	0.0	-
	0.0	0.0	19.9	80.2	30.08	0.00	80	0.0	-	0.0	0.0	20.4	79.5	30.08	0.00	79	0.0	-
	0.0	0.0	20.7	79.1	29.86	0.0	86	0.0	-	0.0	0.0	21.1	78.9	29.86	0.0	85	0.0	-
16-Jun-09	0.0	0.0	20.7	79.1	29.86	0.0	86	0.0	-	0.0	0.0	21.1	78.9	29.86	0.0	85	0.0	-
	0.0	0.1	20.3	79.5	29.90	-0.06	90	0.0	-	0.0	0.6	19.4	80.0	29.90	-0.06	90	0.0	-
	0.0	0.1	20.3	79.6	29.90	-0.06	90	0.0	-	0.0	0.4	19.9	79.7	29.90	-0.06	90	0.0	-
28-Sep-09	0.4	0.3	19.7	79.6	29.75	24.59	76	8.0	-	0.6	0.4	20.4	78.6	29.70	25.53	76	12.0	-
	0.3	0.2	21.3	78.2	29.75	24.59	76	6.0	-	0.3	0.2	21.4	78.1	29.70	25.53	76	6.0	-
17-Mar-10	0.0	0.0	20.6	79.4	29.98	-0.15	67	0.0	-	0.1	0.3	19.9	79.6	29.98	-0.15	63	2.0	-
	0.0	0.0	20.1	79.8	29.98	-0.15	67	0.0	-	0.1	0.2	20.2	79.4	29.98	-0.15	63	2.0	-
	0.1	0.0	17.4	82.4	29.87	0.0	86	2.0	-	0.0	0.2	17.8	81.9	29.87	0.0	84	0.0	-
26-May-10	0.0	0.4	17.6	81.9	29.87	0.0	86	0.0	-	0.0	0.1	17.8	82.0	29.87	0.0	85	0.0	-
	0.0	0.0	19.3	80.6	29.90	7.27	87	0.0	-	0.0	0.0	19.3	80.4	29.90	7.27	87	0.0	-
	0.0	0.0	19.0	80.9	29.90	7.27	87	0.0	120	0.0	0.0	19.4	80.4	29.90	7.27	87	0.0	120
14-Sep-10	0.0	0.2	19.9	79.6	29.89	-0.05	70	0.0	-	0.1	0.1	20.3	79.6	29.89	-0.05	70	0.0	-
	0.0	0.2	20.3	79.5	29.89	-0.05	70	0.0	300	0.0	0.0	20.4	79.6	29.89	-0.05	70	0.0	300
17-Jan-11	0.0	0.1	19.3	80.6	29.94	-0.04	84	0.0	0	0.1	0.0	19.4	80.4	29.94	-0.04	86	2.0	0
	0.0	0.1	19.4	80.5	29.94	-0.04	84	0.0	120	0.0	0.0	19.6	80.4	29.94	-0.04	97	0.0	120
30-Mar-11	0.0	0.1	20.7	79.2	29.96	0.04	NM	0.0	0	0.0	0.3	20.6	79.0	29.96	0.04	NM	0.0	0
	0.0	0.1	20.9	79.0	29.96	0.04	NM	0.0	300	0.0	0.1	20.7	79.2	29.96	0.04	NM	0.0	300
30-Jun-11	0.0	0.0	18.1	81.6	30.06	148.86	95	0.0	0	0.0	0.0	18.8	81.1	30.06	148.86	88	0.0	0
	0.0	0.2	18.2	81.5	30.06	148.86	92	0.0	300	0.0	0.0	18.5	81.4	30.06	148.86	91	0.0	300
17-Nov-11	0.0	0.2	18.2	81.5	30.06	148.86	92	0.0	300	0.0	0.0	18.5	81.4	30.06	148.86	91	0.0	300
<b>SCIN</b> <i>Inside Sales Center</i>										<b>SCOUT</b> <i>Outside Sales Center</i>								
13-Mar-09	0.0	0.0	20.3	79.6	30.08	0.00	79	0.0	-	0.0	0.0	20.3	79.5	30.08	0.00	80	0.0	-
	0.0	0.0	20.3	79.7	30.08	0.00	79	0.0	-	0.0	0.0	20.3	79.5	30.08	0.00	80	0.0	-
16-Jun-09	0.0	0.0	21.2	78.7	29.84	0.0	77	0.0	-	0.0	0.0	21.1	78.9	29.85	0.0	88	0.0	-
	0.0	0.0	21.3	78.6	29.84	0.0	78	0.0	-	0.0	0.0	21.1	78.9	29.85	0.0	88	0.0	-
28-Sep-09	0.0	0.1	20.6	79.3	29.88	-0.06	82	0.0	-	0.0	0.1	20.4	79.5	29.90	-0.06	90	0.0	-
	0.0	0.1	20.8	79.1	29.88	-0.06	82	0.0	-	0.0	0.1	20.9	79.0	29.90	-0.06	90	0.0	-
18-Dec-09	0.0	0.1	21.9	77.9	29.75	24.59	69	0.0	-	0.0	0.1	22.0	77.9	29.75	24.59	72	0.0	-
	0.0	0.1	22.0	77.9	29.75	24.59	69	0.0	-	0.0	0.1	22.0	77.9	29.75	24.59	72	0.0	-
17-Mar-10	0.0	0.0	20.6	79.3	29.98	-0.15	71	0.0	-	0.0	0.0	20.7	79.2	29.98	-0.15	64	0.0	-
	0.0	0.0	20.6	79.2	29.98	-0.15	71	0.0	-	0.0	0.0	20.7	79.2	29.98	-0.15	64	0.0	-
26-May-10	0.0	0.0	18.6	81.2	29.87	0.0	71	0.0	-	0.0	0.1	17.9	81.9	29.87	0.0	86	0.0	-
	0.0	0.0	18.9	81.0	29.87	0.0	71	0.0	-	0.0	0.1	18.3	81.6	29.87	0.0	86	0.0	-
14-Sep-10	0.0	0.0	19.8	80.1	29.90	7.27	76	0.0	-	0.0	0.0	20.0	79.9	29.90	7.27	84	0.0	-
	0.0	0.0	19.9	80.1	29.90	7.27	76	0.0	120	0.0	0.0	19.9	80.0	29.90	7.27	84	0.0	120
17-Jan-11	0.0	0.0	20.4	79.6	29.89	-0.05	68	0.0	-	0.0	0.0	20.4	79.6	29.89	-0.05	69	0.0	-
	0.0	0.0	20.4	79.6	29.89	-0.05	68	0.0	300	0.0	0.0	20.4	79.6	29.89	-0.05	69	0.0	300
30-Mar-11	0.0	0.0	20.0	80.0	29.94	-0.04	80	0.0	0	0.0	0.1	19.1	80.8	29.94	-0.04	84	0.0	0
	0.0	0.0	20.0	80.0	29.84	-0.04	80	0.0	120	0.0	0.1	19.1	80.8	29.94	-0.04	84	0.0	120
30-Jun-11	0.0	0.1	20.7	79.2	29.96	0.04	NM	0.0	0	0.0	0.1	20.8	79.1	29.96	0.04	NM	0.0	0
	0.0	0.1	20.7	79.2	29.96	0.04	NM	0.0	300	0.0	0.0	20.9	79.1	29.96	0.04	NM	0.0	300
17-Nov-11	0.0	0.0	18.7	81.3	30.03	148.98	80	0.0	0	0.0	0.0	18.6	81.3	30.03	148.98	86	0.0	0
	0.0	0.0	18.9	81.1	30.03	148.98	78	0.0	300	0.0	0.0	18.7	81.2	30.03	148.98	86	0.0	300

**Notes:**

- a. Readings not taken because the key to the lock was not available.
- b. The lock on this gas probe was rusted and could not be opened. Lock needs replacement.
- c. These sampling points were not yet installed.
- d. NM = Not measured.
- f. Barometric pressure in inches of mercury.
- g. Relative pressure in inches of water.
- h. Beginning with data reported for Sept 2010, the first reported value is the peak methane reading, and the second reported value is the steady state methane reading. If no methane was detected the first reading reported is the initial reading, and the second reading is the steady state reading. Prior to Sept. 2010, the first reported value is the initial reading, and the second reported value is the final reading.

**Table 3  
Administration Building - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)
	<i>Crawl space, south end</i>					<i>Crawl space, south end</i>												
13-Mar-09	0.0	0.0	20.3	79.6	30.08	0.00	78	0.0	-	0.0	0.0	20.4	79.7	30.08	0.00	78	0.0	-
	0.0	0.0	20.3	79.6	30.08	0.00	78	0.0	-	0.0	0.0	20.4	79.7	30.08	0.00	78	0.0	-
17-Jun-09	0.0	0.0	20.0	79.9	29.92	0.00	84	0.0	-	0.0	0.0	20.0	79.9	29.92	0.00	84	0.0	-
	0.0	0.0	20.0	79.9	29.92	0.00	84	0.0	-	0.0	0.0	20.0	79.0	29.92	0.00	84	0.0	-
29-Sep-09	0.0	0.1	20.6	79.3	29.89	-0.13	90	0.0	-	0.0	0.1	20.7	79.2	29.89	-0.13	91	0.0	-
	0.0	0.1	20.6	79.3	29.89	-0.13	90	0.0	-	0.0	0.1	20.7	79.2	29.89	-0.13	91	0.0	-
18-Dec-09	0.0	0.3	19.9	79.6	29.61	<<<	74	0.0	-	0.0	0.6	20.1	79.2	29.61	<<<	73	0.0	-
	0.0	0.5	20.3	79.1	29.61	<<<	74	0.0	-	0.0	0.1	20.9	79.0	29.61	<<<	73	0.0	-
17-Mar-10	0.0	0.0	20.7	79.2	29.95	0.00	62	0.0	-	0.0	0.0	20.7	79.2	29.95	0.00	62	0.0	-
	0.0	0.0	20.7	79.2	29.95	0.00	62	0.0	-	0.0	0.0	20.6	79.3	29.95	0.00	62	0.0	-
28-May-10	0.0	0.0	17.9	82.0	29.78	-0.03	93	0.0	-	0.0	0.0	17.8	82.2	29.78	-0.03	93	0.0	-
	0.0	0.0	17.9	82.0	29.78	-0.03	93	0.0	-	0.0	0.0	18.3	81.7	29.78	-0.03	93	0.0	-
14-Sep-10	0.0	0.0	19.9	80.0	29.91	7.38	77	0.0	0	0.0	0.0	19.7	80.2	29.91	7.38	77	0.0	0
	0.0	0.0	19.8	80.1	29.91	7.38	77	0.0	120	0.0	0.0	19.9	80.0	29.91	7.38	77	0.0	120
17-Jan-11	0.0	0.2	19.9	79.8	29.80	0.02	69	0.0	0	0.0	0.0	20.1	79.9	29.80	0.02	69	0.0	0
	0.0	0.0	20.2	79.6	29.80	0.02	69	0.0	300	0.0	0.0	20.4	79.6	29.80	0.02	69	0.0	300
30-Mar-11	0.0	0.1	19.1	80.8	29.88	-0.11	87	0.0	0	0.0	0.0	19.4	80.6	29.88	-0.11	87	0.0	0
	0.0	0.2	19.0	80.8	29.88	-0.11	87	0.0	120	0.0	0.0	19.4	80.6	29.88	-0.11	87	0.0	120
5-Jul-11	0.1 <sub>h</sub>	0.0	20.2	79.2	29.95	-3.70	NM	0.0	0	0.1 <sub>h</sub>	0.0	20.4	79.0	29.95	-3.70	NM	2.0	240
	0.1 <sub>h</sub>	0.0	20.2	79.2	29.95	-3.70	NM	0.0	300	0.1 <sub>h</sub>	0.0	20.3	79.1	29.95	-3.70	NM	2.0	300
18-Nov-11	0.0	0.0	19.0	81.0	30.04	148.81	75	0.0	0	0.0	0.0	18.9	81.1	30.04	148.81	73	0.0	0
	0.0	0.0	19.1	80.9	30.04	148.81	75	0.0	300	0.0	0.0	19.0	81.0	30.04	148.81	73	0.0	300
	<b>ACGM03</b>					<b>ACGM04</b>												
	<i>Crawl space, south end</i>					<i>Crawl space, south end</i>												
13-Mar-09	0.0	0.0	20.3	79.6	30.08	0.00	78	0.0	-	0.0	0.0	20.3	79.7	30.08	0.00	78	0.0	-
	0.0	0.0	20.3	79.6	30.08	0.00	78	0.0	-	0.0	0.0	20.3	79.7	30.08	0.00	78	0.0	-
17-Jun-09	0.0	0.0	20.0	79.9	29.92	0.00	84	0.0	-	0.0	0.0	20.1	79.8	29.92	0.00	84	0.0	-
	0.0	0.0	20.0	79.9	29.92	0.00	84	0.0	-	0.0	0.0	20.1	79.8	29.92	0.00	84	0.0	-
29-Sep-09	0.0	0.0	20.8	79.2	29.89	-0.13	91	0.0	-	0.0	0.1	20.6	79.3	29.89	-0.13	91	0.0	-
	0.0	0.0	20.8	79.2	29.89	-0.13	91	0.0	-	0.0	0.2	20.5	79.3	29.89	-0.13	91	0.0	-
18-Dec-09	0.0	0.8	19.4	79.8	29.61	<<<	74	0.0	-	0.0	0.6	19.1	80.2	29.61	<<<	74	0.0	-
	0.0	0.8	20.5	79.7	29.61	<<<	74	0.0	-	0.0	0.6	20.1	79.3	29.61	<<<	74	0.0	-
17-Mar-10	0.0	0.0	20.8	79.1	29.95	0.00	62	0.0	-	0.0	0.0	20.7	79.1	29.95	0.00	61	0.0	-
	0.0	0.0	20.7	79.2	29.95	0.00	62	0.0	-	0.0	0.0	20.7	79.2	29.95	0.00	61	0.0	-
28-May-10	0.0	0.0	17.9	82.2	29.78	-0.03	93	0.0	-	0.0	0.0	17.5	82.3	29.78	-0.03	93	0.0	-
	0.0	0.0	17.9	81.9	29.78	-0.03	93	0.0	-	0.0	0.0	18.0	82.0	29.78	-0.03	93	0.0	-
14-Sep-10	0.0	0.0	20.0	79.9	29.91	7.38	77	0.0	0	0.0	0.0	19.9	80.0	29.91	7.38	77	0.0	0
	0.0	0.0	20.0	79.9	29.91	7.38	77	0.0	120	0.0	0.0	19.8	80.0	29.91	7.38	77	0.0	120
17-Jan-11	0.0	0.0	19.9	80.0	29.80	0.02	69	0.0	0	0.0	0.0	20.1	79.8	29.80	0.02	69	0.0	0
	0.0	0.0	20.1	79.8	29.80	0.02	69	0.0	300	0.0	0.0	20.3	79.7	29.80	0.02	69	0.0	300
30-Mar-11	0.0	0.2	19.2	80.6	29.88	-0.11	88	0.0	0	0.0	0.0	18.9	81.0	29.88	-0.11	88	0.0	0
	0.0	0.4	19.1	80.4	29.88	-0.11	88	0.0	120	0.0	0.0	19.1	80.9	29.88	-0.11	88	0.0	120
5-Jul-11	0.1 <sub>h</sub>	0.0	20.3	79.0	29.95	-3.70	NM	2.0	60	0.0 <sub>h</sub>	0.0	20.2	79.2	29.95	-3.70	NM	2.0	60
	0.1 <sub>h</sub>	0.0	20.2	79.2	29.95	-3.70	NM	0.0	300	0.0 <sub>h</sub>	0.0	20.2	79.2	29.95	-3.70	NM	2.0	300
18-Nov-11	0.0	0.0	18.9	81.1	30.04	148.81	73	0.0	0	0.0	0.0	19.0	80.9	30.04	148.81	73	0.0	0
	0.0	0.0	19.1	80.9	30.04	148.81	73	0.0	300	0.0	0.0	19.1	80.9	30.04	148.81	73	0.0	300
	<b>ACGM05</b>					<b>ACGM06</b>												
	<i>Crawl space, south end</i>					<i>Crawl space, south end</i>												
13-Mar-09	0.0	0.0	20.3	79.7	30.08	0.00	78	0.0	-	0.0	0.0	20.3	79.7	30.08	0.00	78	0.0	-
	0.0	0.0	20.3	79.7	30.08	0.00	78	0.0	-	0.0	0.0	20.3	79.7	30.08	0.00	78	0.0	-
17-Jun-09	0.0	0.0	20.1	79.8	29.92	0.00	84	0.0	-	0.0	0.0	20.1	79.8	29.92	0.00	84	0.0	-
	0.0	0.0	20.1	79.8	29.92	0.00	84	0.0	-	0.0	0.0	20.1	79.8	29.92	0.00	84	0.0	-
29-Sep-09	0.0	0.1	20.6	79.2	29.89	-0.13	91	0.0	-	0.0	0.0	20.8	79.2	29.89	-0.13	91	0.0	-
	0.0	0.1	20.7	79.2	29.89	-0.13	91	0.0	-	0.0	0.1	20.9	79.0	29.89	-0.13	91	0.0	-
18-Dec-09	0.0	0.3	20.1	79.6	29.61	<<<	74	0.0	-	0.0	0.6	21.9	77.5	29.61	<<<	74	0.0	-
	0.0	0.1	20.7	79.2	29.61	<<<	74	0.0	-	0.0	0.4	22.0	77.6	29.61	<<<	74	0.0	-
17-Mar-10	0.0	0.0	20.7	79.3	29.95	0.00	61	0.0	-	0.0	0.1	20.6	79.3	29.95	0.00	61	0.0	-
	0.0	0.0	20.6	79.4	29.95	0.00	61	0.0	-	0.0	0.0	20.7	79.3	29.95	0.00	61	0.0	-
28-May-10	0.0	0.0	17.9	82.0	29.78	-0.03	93	0.0	-	0.0	0.3	18.0	81.4	29.78	-0.03	93	0.0	-
	0.0	0.1	17.9	81.9	29.78	-0.03	93	0.0	-	0.0	0.0	18.1	81.9	29.78	-0.03	93	0.0	-
14-Sep-10	0.0	0.0	19.8	80.2	29.91	7.38	77	0.0	0	0.0	0.0	19.9	80.0	29.91	7.38	77	0.0	0
	0.0	0.0	19.8	80.1	29.91	7.38	77	0.0	120	0.0	0.0	19.5	80.4	29.91	7.38	77	0.0	180
17-Jan-11	0.0	0.1	20.0	79.7	29.80	0.02	70	0.0	0	0.0	0.0	20.1	79.9	29.80	0.02	70	0.0	0
	0.0	0.0	20.2	79.7	29.80	0.02	70	0.0	300	0.0	0.0	20.3	79.6	29.80	0.02	70	0.0	300
30-Mar-11	0.0	0.0	19.1	80.9	29.88	-0.11	89	0.0	0	0.0	0.4	18.9	80.7	29.88	-0.11	89	0.0	0
	0.0	0.1	19.0	80.9	29.88	-0.11	89	0.0	120	0.0	0.2	18.9	80.8	29.88	-0.11	89	0.0	120
5-Jul-11	0.1 <sub>h</sub>	0.0	20.4	78.9	29.95	-3.70	NM	2.0	300	0.0 <sub>h</sub>	0.0	20.3	79.1	29.95	-3.70	NM	0.0	0
	0.1 <sub>h</sub>	0.0	20.4	78.9	29.95	-3.70	NM	2.0	300	0.0 <sub>h</sub>	0.0	20.4	79.0	29.95	-3.70	NM	0.0	300
18-Nov-11	0.0	0.0	19.1	80.9	30.04	148.81	74	0.0	0	0.0	0.0	19.2	80.8	30.04	148.81	73	0.0	0
	0.0	0.0	19.0	81.0	30.04	148.81	74	0.0	300	0.0	0.0	19.0	81.8	30.04	148.81	73	0.0	300

**Table 3  
Administration Building - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	
<b>ACGM07</b>										<b>ACGM08</b>									
<i>Crawl space, south end</i>										<i>Crawl space, south end</i>									
13-Mar-09	0.0	0.0	20.3	79.7	30.08	0.00	78	0.0	-	0.0	0.0	20.4	79.6	30.08	0.00	78	0.0	-	
17-Jun-09	0.0	0.0	20.1	79.8	29.92	0.00	84	0.0	-	0.0	0.0	20.1	79.8	29.92	0.00	84	0.0	-	
29-Sep-09	0.0	0.1	20.7	79.2	29.89	-0.13	91	0.0	-	0.0	0.1	20.7	79.2	29.89	-0.13	91	0.0	-	
18-Dec-09	0.0	0.2	22.0	77.8	29.61	<<<	74	0.0	-	0.0	0.3	21.8	78.1	29.61	<<<	74	0.0	-	
17-Mar-10	0.0	0.0	20.7	79.2	29.95	0.00	61	0.0	-	0.0	0.0	20.7	79.2	29.95	0.00	61	0.0	-	
28-May-10	0.0	0.4	17.9	81.5	29.78	-0.03	93	0.0	-	0.0	0.0	18.3	81.7	29.78	-0.03	93	0.0	-	
14-Sep-10	0.0	0.0	19.8	80.1	29.91	7.38	77	0.0	0	0.0	0.0	19.8	80.1	29.91	7.38	77	0.0	0	
17-Jan-11	0.0	0.0	19.8	80.1	29.91	7.38	77	0.0	120	0.0	0.0	19.9	80.0	29.91	7.38	77	0.0	120	
30-Mar-11	0.0	0.2	18.9	80.8	29.88	-0.11	88	0.0	0	0.0	0.0	19.2	80.8	29.88	-0.11	89	0.0	0	
5-Jul-11	0.1 <sub>h</sub>	0.0	20.4	78.9	29.95	-3.70	NM	2.0	300	0.1 <sub>h</sub>	0.0	20.3	79.0	29.95	-3.70	NM	2.0	180	
18-Nov-11	0.0	0.0	19.2	80.8	30.04	148.81	73	0.0	0	0.0	0.0	19.0	81.0	30.04	148.81	73	0.0	0	
0.0	0.0	19.1	80.9	30.04	148.81	73	0.0	300	0.0	0.0	19.1	80.9	30.04	148.81	73	0.0	300		
<b>ACGM09</b>										<b>ACGM10</b>									
<i>Crawl space, north end</i>										<i>Crawl space, north end</i>									
13-Mar-09	0.0	0.0	20.4	79.6	30.08	0.00	78	0.0	-	0.0	0.0	20.3	79.7	30.08	0.00	78	0.0	-	
17-Jun-09	0.0	0.0	20.1	79.8	29.92	0.00	84	0.0	-	0.0	0.0	20.1	79.8	29.92	0.00	84	0.0	-	
29-Sep-09	0.0	0.0	20.8	79.2	29.89	-0.13	91	0.0	-	0.0	0.1	20.7	79.2	29.89	-0.13	90	0.0	-	
18-Dec-09	0.0	0.3	21.9	77.8	29.61	<<<	74	0.0	-	0.0	0.6	22.0	77.4	29.61	<<<	74	0.0	-	
17-Mar-10	0.0	0.0	20.7	79.2	29.95	0.00	61	0.0	-	0.0	0.4	22.0	77.5	29.61	<<<	74	0.0	-	
28-May-10	0.0	0.0	18.0	82.0	29.78	-0.03	93	0.0	-	0.0	0.0	17.9	82.0	29.78	-0.03	93	0.0	-	
14-Sep-10	0.0	0.0	17.8	81.9	29.78	-0.03	93	0.0	0	0.0	0.0	18.1	82.0	29.78	-0.03	93	0.0	0	
17-Jan-11	0.0	0.0	19.8	80.0	29.91	7.38	77	0.0	120	0.0	0.0	19.7	80.2	29.91	7.38	77	0.0	120	
30-Mar-11	0.0	0.3	18.8	80.9	29.88	-0.11	89	0.0	0	0.0	0.0	18.8	80.9	29.88	-0.11	89	0.0	0	
5-Jul-11	0.1 <sub>h</sub>	0.0	20.5	78.8	29.95	-3.70	NM	2.0	300	0.1 <sub>h</sub>	0.0	20.2	79.8	29.80	0.02	72	0.0	300	
18-Nov-11	0.0	0.0	18.9	81.0	30.05	147.79	76	0.0	0	0.0	0.2	18.6	81.2	29.88	-0.11	89	0.0	0	
0.0	0.0	19.0	81.0	30.05	147.79	76	0.0	300	0.0	0.3	18.6	81.2	29.88	-0.11	89	0.0	120		
0.1 <sub>h</sub>	0.0	20.3	79.0	29.95	-3.70	NM	2.0	300	0.1 <sub>h</sub>	0.0	20.5	78.8	29.95	-3.70	NM	2.0	60		
0.0	0.0	18.9	81.0	30.05	147.79	76	0.0	0	0.1 <sub>h</sub>	0.0	20.4	78.9	29.95	-3.70	NM	2.0	300		
0.0	0.0	19.0	81.0	30.05	147.79	76	0.0	0	0.0	0.0	19.0	81.0	30.05	147.79	85	0.0	0		
0.0	0.0	19.0	81.0	30.05	147.79	76	0.0	300	0.0	0.0	19.0	81.0	30.05	147.79	85	0.0	300		
<b>ACGM11</b>										<b>ACGM12</b>									
<i>Crawl space, north end</i>										<i>Crawl space, north end</i>									
13-Mar-09	0.0	0.0	20.3	79.6	30.08	0.00	78	0.0	-	0.0	0.0	20.4	79.6	30.08	0.00	78	0.0	-	
17-Jun-09	0.0	0.0	20.1	79.8	29.92	0.00	84	0.0	-	0.0	0.0	20.1	79.8	29.92	0.00	84	0.0	-	
29-Sep-09	0.0	0.1	20.6	79.3	29.89	-0.13	90	0.0	-	0.0	0.0	20.6	79.4	29.89	-0.13	90	0.0	-	
18-Dec-09	0.0	0.3	21.9	77.8	29.61	<<<	74	0.0	-	0.0	0.0	20.7	79.3	29.89	-0.13	90	0.0	-	
17-Mar-10	0.0	0.0	20.7	79.2	29.95	0.00	61	0.0	-	0.0	0.1	22.0	77.9	29.61	<<<	74	0.0	-	
28-May-10	0.0	0.0	18.2	82.0	29.78	-0.03	91	0.0	-	0.0	0.2	21.9	77.9	29.61	<<<	74	0.0	-	
14-Sep-10	0.0	0.1	19.1	80.6	29.91	7.38	77	0.0	0	0.0	0.0	20.7	79.1	29.95	0.00	61	0.0	-	
17-Jan-11	0.0	0.0	19.5	80.6	29.80	0.02	70	0.0	0	0.0	0.0	20.7	79.2	29.95	0.00	61	0.0	-	
30-Mar-11	0.0	0.6	18.4	80.9	29.88	-0.11	88	0.0	0	0.0	0.0	18.2	82.0	29.78	-0.03	92	0.0	-	
5-Jul-11	0.0	0.5	18.5	80.9	29.88	-0.11	88	0.0	120	0.0	0.0	19.6	80.3	29.91	7.38	77	0.0	0	
18-Nov-11	0.0	0.0	18.9	81.1	30.05	147.79	74	0.0	0	0.0	0.0	19.5	80.3	29.91	7.38	77	0.0	120	
0.0	0.0	19.0	81.0	30.05	147.79	74	0.0	300	0.0	0.0	20.3	79.7	29.80	0.02	69	0.0	0		
0.1 <sub>h</sub>	0.0	20.6	78.7	29.95	-3.70	NM	2.0	0	0.0	0.0	20.4	79.6	29.80	0.02	68	0.0	300		
0.1 <sub>h</sub>	0.0	20.6	78.7	29.95	-3.70	NM	2.0	300	0.0	0.0	19.0	80.8	29.88	-0.11	90	0.0	0		
0.0	0.0	18.9	81.1	30.05	147.79	74	0.0	0	0.0	0.0	19.1	80.9	29.88	-0.11	90	0.0	120		
0.0	0.0	19.0	81.0	30.05	147.79	74	0.0	300	0.1 <sub>h</sub>	0.0	20.5	78.8	29.95	-3.70	NM	2.0	0		
0.0	0.0	19.0	81.0	30.05	147.79	74	0.0	0	0.0 <sub>h</sub>	0.0	20.6	78.8	29.95	-3.70	NM	0.0	300		
0.0	0.0	19.0	81.0	30.05	147.79	74	0.0	0	0.0	0.0	19.0	81.0	30.05	147.79	74	0.0	0		
0.0	0.0	19.0	81.0	30.05	147.79	74	0.0	300	0.0	0.0	19.0	81.0	30.05	147.79	74	0.0	300		

**Table 3  
Administration Building - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	
<b>ACGM013</b>										<b>ACGM14</b>									
<i>Crawl space, north end</i>										<i>Crawl space, north end</i>									
13-Mar-09	0.0	0.0	20.4	79.6	30.08	0.00	78	0.0	-	0.0	0.0	20.1	79.8	30.08	0.00	78	0.0	-	
17-Jun-09	0.0	0.0	20.1	79.8	29.92	0.00	84	0.0	-	0.0	0.0	20.1	79.8	29.92	0.00	84	0.0	-	
29-Sep-09	0.0	0.1	20.8	79.1	29.89	-0.13	92	0.0	-	0.0	0.1	20.6	79.3	29.89	-0.13	90	0.0	-	
18-Dec-09	0.0	0.1	20.8	79.1	29.89	-0.13	92	0.0	-	0.0	0.1	20.7	79.2	29.89	-0.13	90	0.0	-	
17-Mar-10	0.0	0.2	21.7	78.1	29.61	<<<	74	0.0	-	0.0	0.1	21.7	78.2	29.61	<<<	74	0.0	-	
28-May-10	0.0	0.0	20.8	79.1	29.95	0.00	61	0.0	-	0.0	0.0	20.7	79.2	29.95	0.00	61	0.0	-	
14-Sep-10	0.0	0.0	19.9	80.1	29.91	7.38	77	0.0	0	0.0	0.4	19.3	80.6	29.91	7.38	77	0.0	60	
17-Jan-11	0.0	0.0	19.9	80.1	29.91	7.38	77	0.0	120	0.0	0.1	19.6	80.3	29.91	7.38	77	0.0	240	
30-Mar-11	0.0	0.0	19.9	80.0	29.80	0.02	68	0.0	0	0.0	0.4	19.5	80.0	29.80	0.02	68	0.0	0	
5-Jul-11	0.1 <sub>h</sub>	0.0	20.6	78.7	29.95	-3.70	NM	2.0	60	0.1 <sub>h</sub>	0.0	20.6	78.7	29.95	-3.70	NM	2.0	0	
18-Nov-11	0.0	0.0	18.9	81.1	30.05	147.79	75	0.0	300	0.0	0.0	18.9	81.1	30.05	147.79	78	0.0	0	
0.0	0.0	19.0	80.8	29.98	-0.11	89	0.0	0	0	0.0	0.0	19.1	80.8	29.88	-0.11	90	0.0	120	
0.0	0.1	19.0	80.8	29.98	-0.11	90	0.0	120	0	0.0	0.0	19.2	80.8	29.88	-0.11	90	0.0	120	
0.0 <sub>h</sub>	0.0	20.6	78.8	29.95	-3.70	NM	0.0	300	0	0.0 <sub>h</sub>	0.0	20.6	78.8	29.95	-3.70	NM	0.0	300	
0.0	0.0	18.9	81.0	30.05	147.79	75	0.0	0	0	0.0	0.0	18.9	81.1	30.05	147.79	78	0.0	0	
0.0	0.0	19.0	81.1	30.05	147.79	75	0.0	300	0	0.0	0.0	19.0	81.0	30.05	147.79	78	0.0	300	
<b>ACGM15</b>										<b>ACSOIL01</b>									
<i>Crawl space, north end</i>										<i>North end of Administration Building</i>									
13-Mar-09	0.0	0.0	20.1	79.8	30.08	0.00	78	0.0	-	0.0	6.3	14.0	79.6	30.08	0.00	78	0.0	-	
17-Jun-09	0.0	0.0	20.1	79.8	29.92	0.00	84	0.0	-	0.0	6.4	13.9	79.6	30.08	0.00	78	0.0	-	
29-Sep-09	0.0	0.1	20.6	79.3	29.89	-0.13	90	0.0	-	0.0	7.4	12.2	80.3	29.93	0.00	85	0.0	-	
18-Dec-09	0.0	0.3	21.9	77.8	29.61	<<<	73	0.0	-	0.0	6.0	14.2	79.8	29.89	-0.13	90	0.0	-	
17-Mar-10	0.0	0.3	22.0	77.7	29.61	<<<	73	0.0	-	0.0	6.1	14.2	79.7	29.89	-0.13	90	0.0	-	
28-May-10	0.0	0.0	20.6	79.3	29.95	0.00	61	0.0	-	0.3	7.3	10.2	82.1	29.61	<<<	78	6.0	-	
14-Sep-10	0.0	0.0	18.1	81.8	29.78	-0.03	92	0.0	-	0.0	6.9	11.0	81.9	29.61	<<<	78	6.0	-	
17-Jan-11	0.0	0.0	17.9	82.0	29.78	-0.03	92	0.0	-	0.0	4.7	16.0	79.3	29.95	0.00	62	0.0	-	
30-Mar-11	0.0	0.0	20.1	79.8	29.91	7.38	77	0.0	0	0.0	4.9	15.7	79.3	29.95	0.00	62	0.0	-	
5-Jul-11	0.0 <sub>h</sub>	0.0	20.6	78.8	29.95	-3.70	NM	0.0	300	0.0	5.0	13.4	81.5	29.78	-0.03	90	0.0	-	
18-Nov-11	0.0	0.0	18.9	81.0	30.05	147.79	79	0.0	0	0.0	9.8	5.5	84.6	29.91	7.38	75	0.0	0	
0.0	0.0	19.0	80.9	29.91	7.38	76	0.0	240	0	0.0	10.0	5.0	85.0	29.91	7.38	77	0.0	240	
0.0 <sub>h</sub>	0.0	20.6	78.8	29.95	-3.70	NM	0.0	300	0	0.0	5.6	15.7	78.7	29.80	0.02	66	0.0	0	
0.0	0.0	18.9	80.9	29.88	-0.11	90	0.0	0	0	0.0	5.8	15.3	78.9	29.80	0.02	67	0.0	300	
0.0	0.2	18.9	80.9	29.88	-0.11	90	0.0	0	0	0.0	6.4	13.5	80.1	29.88	-0.11	86	0.0	0	
0.0	0.2	18.9	80.9	29.88	-0.11	90	0.0	120	0	0.0	6.6	13.1	80.3	29.88	-0.11	86	0.0	120	
0.0 <sub>h</sub>	0.0	20.6	78.8	29.95	-3.70	NM	0.0	0	0	0.1 <sub>h</sub>	8.6	11.6	79.1	29.95	-3.70	NM	2.0	300	
0.0 <sub>h</sub>	0.0	20.6	78.8	29.95	-3.70	NM	0.0	300	0	0.1 <sub>h</sub>	8.6	11.6	79.1	29.95	-3.70	NM	2.0	300	
0.0	0.0	18.9	81.0	30.05	147.79	79	0.0	0	0	0.0	4.3	14.4	81.3	30.04	148.81	74	0.0	0	
0.0	0.0	19.0	80.9	30.05	147.79	79	0.0	300	0	0.0	4.3	14.5	81.2	30.04	148.81	74	0.0	300	
<b>ACSOIL02</b>										<b>ACIN</b>									
<i>South of Administration Building</i>										<i>Inside the Admin. Comp.</i>									
13-Mar-09	1.1	18.1	0.5	80.4	30.08	0.00	78	22.0	-	0.0	0.0	20.3	79.7	30.08	0.00	78	0.0	-	
17-Jun-09	1.8	13.2	0.4	84.5	29.92	0.00	84	36.0	-	0.0	0.0	20.3	79.8	30.08	0.00	78	0.0	-	
29-Sep-09	5.6	16.1	2.0	76.4	29.89	-0.13	90	112.0	-	0.0	0.0	20.2	79.7	29.92	0.0	76	0.0	-	
18-Dec-09	8.4	9.1	0.3	82.3	29.61	<<<	75	168.0	-	0.0	0.0	20.2	79.7	29.92	0.0	76	0.0	-	
17-Mar-10	0.0	12.6	5.5	81.8	29.95	0.00	62	0.0	-	0.0	0.2	22.1	77.7	29.61	<<<	74	0.0	-	
28-May-10	0.0	13.7	5.0	81.2	29.78	13.94	85	0.0	-	0.0	0.2	22.0	77.8	29.61	<<<	74	0.0	-	
14-Sep-10	0.3	16.5	0.3	82.8	29.91	7.38	76	6.0	240	0.0	0.0	20.8	79.1	29.95	0.00	68	0.0	-	
17-Jan-11	0.0	10.7	9.5	80.0	29.80	0.02	69	0.0	0	0.0	0.0	20.8	79.1	29.95	0.00	68	0.0	-	
30-Mar-11	0.0	10.1	9.7	80.2	29.88	-0.11	87	0.0	0	0.0	0.0	20.0	80.0	29.91	7.38	70	0.0	120	
5-Jul-11	0.1 <sub>h</sub>	15.0	3.0	80.6	29.95	-3.70	NM	2.0	180	0.0	0.0	20.3	79.7	29.80	0.02	71	0.0	0	
18-Nov-11	0.0	10.0	6.9	83.1	30.04	148.81	74	0.0	0	0.0	0.0	19.2	80.7	29.88	-0.11	71	0.0	300	
0.0	10.3	6.2	83.4	30.04	148.81	74	0.0	0	0	0.0	0.1	19.4	80.6	29.88	-0.11	71	0.0	120	
0.1 <sub>h</sub>	15.0	3.0	80.6	29.95	-3.70	NM	2.0	180	0	0.1 <sub>h</sub>	0.1	20.9	78.3	25.95	-3.70	NM	2.0	240	
0.1 <sub>h</sub>	14.9	3.5	81.0	29.95	-3.70	NM	2.0	300	0	0.0 <sub>h</sub>	0.1	20.9	78.4	25.95	-3.70	NM	0.0	300	
0.0	10.0	6.9	83.1	30.04	148.81	74	0.0	0	0	0.0	0.0	19.0	81.0	30.04	148.81	74	0.0	0	
0.0	10.3	6.2	83.4	30.04	148.81	74	0.0	300	0	0.0	0.0	19.0	81.0	30.04	148.81	74	0.0	300	



**Table 3  
Administration Building - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)
ACOUT																		
<i>Outside the Admin Comp.</i>																		
13-Mar-09	0.0	0.0	20.2	79.8	30.08	0.00	78	0.0	-									
	0.0	0.0	20.2	79.8	30.08	0.00	78	0.0	-									
17-Jun-09	0.0	0.0	21.0	78.9	29.93	0.00	85	0.0	-									
	0.0	0.0	21.0	78.9	29.93	0.00	85	0.0	-									
29-Sep-09	0.0	0.1	20.3	79.6	29.89	-0.13	91	0.0	-									
	0.0	0.1	20.5	79.4	29.89	-0.13	91	0.0	-									
18-Dec-09	0.0	0.1	20.9	80.0	29.61	<<<	76	0.0	-									
	0.0	0.1	20.0	79.9	29.61	<<<	76	0.0	-									
17-Mar-10	0.0	0.0	20.9	79.0	29.95	0.00	63	0.0	-									
	0.0	0.0	20.9	79.0	29.95	0.00	63	0.0	-									
28-May-10	0.0	0.0	17.9	81.9	29.78	-0.03	90	0.0	-									
	0.0	0.0	17.9	82.1	29.78	-0.03	90	0.0	-									
14-Sep-10	0.0	0.0	19.9	80.0	29.91	7.38	76	0.0	0									
	0.0	0.0	19.9	80.0	29.91	7.38	76	0.0	120									
17-Jan-11	0.0	0.1	20.2	79.8	29.80	0.02	69	0.0	0									
	0.0	0.1	20.1	79.8	29.80	0.02	69	0.0	300									
30-Mar-11	0.0	0.0	19.0	80.9	29.88	-0.11	87	0.0	0									
	0.0	0.0	19.2	80.8	29.88	-0.11	87	0.0	120									
5-Jul-11	0.0 <sub>h</sub>	0.0	20.8	78.5	29.95	-3.70	NM	0.0	0									
	0.0 <sub>h</sub>	0.0	20.7	78.6	29.95	-3.70	NM	0.0	300									
18-Nov-11	0.0	0.0	18.9	81.0	30.04	148.81	74	0.0	0									
	0.0	0.0	19.0	81.0	30.04	148.81	74	0.0	300									

**Notes:**

- a. Gas probe was destroyed during construction activities.
- b. Gas probe was flooded with water. NA: Readings were not taken because of flood.
- c. NM = Not measured.
- d. <<< = Outside of measurement range.
- e. Barometric pressure in inches of mercury.
- f. Relative pressure in inches of water.
- g. Beginning with data reported for Sept 2010, the first reported value is the peak methane reading, and the second reported value is the steady state methane reading. If no methane was detected the first reading reported is the initial reading, and the second reading is the steady state reading. Prior to Sept. 2010, the first reported value is the initial reading and the second reported value is the final reading.
- h. Gas Monitor read 0.6 methane in ambient air during this sampling event.



**Table 4  
Perimeter Probes - Landfill Gas Monitoring Results**

Sampling Date	GP-1								GP-2									
	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)
16-Mar-09	0.0	0.6	19.7	79.6	30.19	0.0	78	0.0	-	0.0	1.2	19.3	79.4	30.19	0.0	78	0.0	-
	0.0	0.7	19.7	79.6	30.19	0.0	78	0.0	-	0.0	1.3	19.1	79.4	30.19	0.0	78	0.0	-
17-Jun-09	0.0	0.7	19.5	79.5	29.85	0.0	93	0.0	-	0.0	1.6	18.8	79.6	29.85	0.0	91	0.0	-
	0.0	0.7	19.5	79.7	29.85	0.0	93	0.0	-	0.0	1.7	18.2	80.0	29.85	0.0	91	0.0	-
30-Sep-09	0.0	0.6	19.7	79.7	29.91	-0.17	87	0.0	-	0.0	1.0	17.9	81.1	29.91	-0.17	86	0.0	-
	0.0	0.7	19.7	79.6	29.91	-0.17	87	0.0	-	0.0	1.2	18.1	80.7	29.91	-0.17	86	0.0	-
18-Dec-09	0.0	0.3	21.8	78.2	29.65	22.14	74	0.0	-	0.0	0.1	21.9	78.0	29.65	22.14	75	0.0	-
	0.0	0.1	21.9	78.0	29.65	22.14	74	0.0	-	0.0	0.1	21.9	78.0	29.65	22.14	75	0.0	-
17-Mar-10	0.0	0.4	20.0	79.5	29.98	-0.15	61	0.0	-	0.0	1.1	19.5	79.3	29.98	-0.15	62	0.0	-
	0.0	1.5	18.8	79.7	29.98	-0.15	61	0.0	-	0.0	1.2	19.5	79.3	29.98	-0.15	64	0.0	-
26-May-10	0.0	1.7	16.2	82.0	29.83	0.0	88	0.0	-	0.0	1.6	17.1	81.2	29.83	0.0	87	0.0	-
	0.0	0.9	17.2	81.8	29.83	0.0	88	0.0	-	0.0	2.1	16.1	81.7	29.83	0.0	87	0.0	-
15-Sep-10	0.0	1.3	18.8	79.8	29.93	7.24	80	0.0	0	0.0	1.9	18.0	80.0	29.93	7.24	84	0.0	0
	0.0	1.8	18.2	79.9	29.93	7.24	80	0.0	240	0.0	1.3	18.5	80.2	29.93	7.24	83	0.0	240
17-Jan-10	0.0	0.8	19.3	79.9	29.91	-0.02	73	0.0	0	0.0	1.0	19.2	79.8	29.91	-0.02	75	0.0	0
	0.0	1.5	18.8	79.7	29.91	-0.02	73	0.0	240	0.0	1.2	19.2	79.6	29.91	-0.02	74	0.0	300
30-Mar-11	0.0	0.1	19.1	80.8	29.93	0.06	81	0.0	0	0.0	0.8	17.1	82.1	29.93	0.06	83	0.0	0
	0.0	1.6	17.6	80.8	29.93	0.06	81	0.0	120	0.0	1.5	17.7	80.8	29.93	0.06	85	0.0	120
5-Jul-11	0.0	0.5	20.3	79.2	29.91	0.19	NM	0.0	0	0.0	0.4	20.0	79.6	29.91	0.19	NM	0.0	0
	0.0	2.2	18.9	79.8	29.91	0.19	NM	0.0	300	0.0	2.8	17.4	79.8	29.91	0.19	NM	0.0	300
17-Nov-11	0.0	0.0	18.4	81.5	29.93	149.02	83	0.0	0	0.0	0.7	17.7	81.5	29.93	149.02	86	0.0	0
	0.0	1.4	17.1	81.4	29.93	149.02	83	0.0	300	0.0	0.8	17.6	81.6	29.93	149.02	88	0.0	300

Sampling Date	GP-3								GP-4									
	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)
13-Mar-09	0.0	3.1	17.2	79.7	30.19	0.0	83	0.0	-	0.0	12.9	9.5	77.3	30.19	0.0	86	0.0	-
	0.0	2.4	18.1	79.3	30.19	0.0	83	0.0	-	0.0	13.0	9.5	77.3	30.19	0.0	86	0.0	-
17-Jun-09	0.0	0.9	19.2	79.6	29.85	0.0	103	0.0	-	0.0	12.2	9.9	77.7	29.85	0.0	90	0.0	-
	0.0	0.5	19.9	79.5	29.85	0.0	103	0.0	-	0.0	11.8	10.3	77.9	29.85	0.0	90	0.0	-
30-Sep-09	0.0	1.6	19.2	79.2	29.91	-0.17	88	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
	0.0	0.8	19.9	79.5	29.91	-0.17	88	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
18-Dec-09	10.5	3.4	2.0	84.1	29.65	22.14	69	210	-	0.0	10.4	9.3	80.2	29.66	22.14	75	0.0	-
	9.6	3.2	3.1	84.1	29.65	22.14	69	192	-	0.0	10.0	9.5	80.5	29.66	22.14	75	0.0	-
11-Jan-10	0.0	4.0	13.9	82.3	30.24	-0.03	40	0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
	0.0	1.9	17.9	80.1	30.24	-0.03	40	0	-	NM	NM	NM	NM	NM	NM	NM	NM	-
17-Mar-10	0.0	4.0	16.1	79.9	29.98	-0.15	68	0.0	-	0.0	8.4	13.2	78.6	29.98	-0.15	65	0.0	-
	0.0	1.5	19.0	79.4	29.98	-0.15	68	0.0	-	0.0	8.2	12.9	78.8	29.98	-0.15	65	0.0	-
26-May-10	0.0	8.8	9.4	82.9	29.83	0.0	90	0.0	-	0.0	11.3	8.2	80.3	29.77	0.0	90	0.0	-
	0.0	3.8	14.0	82.2	29.83	0.0	90	0.0	-	0.0	12.1	7.4	80.4	29.77	0.0	94	0.0	-
15-Sep-10	0.0	5.9	6.3	88.0	29.93	7.24	85	0.0	0	0.0	10.6	5.5	83.7	29.93	7.24	93	0.0	0
	0.0	2.9	17.1	80.0	29.93	7.24	84	0.0	240	0.0	11.0	5.5	83.4	29.94	7.24	91	0.0	240
17-Jan-10	0.0	3.9	15.5	80.6	29.91	-0.02	74	0.0	0	0.0	7.6	13.4	79.0	29.91	-0.02	73	0.0	0
	0.0	1.6	18.5	80.0	29.91	-0.02	74	0.0	300	0.0	7.1	14.2	78.6	29.91	-0.02	73	0.0	300
30-Mar-11	0.0	8.1	10.6	81.3	29.93	0.06	87	0.0	0	0.0	6.3	13.9	79.9	29.93	0.06	84	0.0	0
	0.0	2.9	16.6	80.4	29.93	0.06	87	0.0	120	0.0	7.0	13.5	79.5	29.93	0.06	83	0.0	120
5-Jul-11	0.0	0.5	19.6	79.9	29.93	0.08	NM	0.0	0	0.0	0.3	20.1	79.9	29.95	0.05	NM	0.0	0
	0.0	3.1	17.2	79.7	29.93	0.08	NM	0.0	300	0.0	8.2	11.7	80.1	29.95	0.05	NM	0.0	300
17-Nov-11	0.0	3.3	19.0	82.1	29.93	149.02	91	0.0	0	0.0	5.6	12.7	81.4	29.96	148.98	88	0.0	0
	0.0	1.2	16.9	81.7	29.93	149.02	89	0.0	300	0.0	5.7	12.9	81.5	29.96	148.98	88	0.0	300

Sampling Date	GP-5								GP-6									
	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)
16-Mar-09	0.6	13.3	5.0	80.7	30.19	0.0	84	12	-	0.0	7.0	13.7	79.2	30.08	0.0	83	0.0	-
	16.5	23.6	4.5	54.9	30.19	0.0	84	330	-	0.0	7.0	13.7	79.2	30.08	0.0	83	0.0	-
17-Jun-09	0.0	9.8	10.2	79.8	29.94	0.0	80	0.0	-	0.0	9.2	11.1	79.6	29.92	0.0	88	0.0	-
	0.0	8.9	11.9	79.2	29.94	0.0	80	0.0	-	0.0	9.2	11.0	79.7	29.92	0.0	88	0.0	-
30-Sep-09	0.0	1.8	19.3	79.0	29.90	-0.14	84	0.0	-	0.0	10.9	12.9	76.1	29.94	-0.08	82	0.0	-
	0.1	3.0	17.8	79.0	29.90	-0.14	84	2.0	-	0.0	10.9	12.8	76.2	29.94	-0.08	82	0.0	-
18-Dec-09	0.1	1.1	17.5	83.3	29.66	22.14	76	2.0	-	0.0	7.8	13.4	78.8	30.05	25.69	70	0.0	-
	0.0	0.4	21.3	78.3	29.66	22.14	76	0.0	-	0.0	7.5	13.5	79.0	30.05	25.69	70	0.0	-
17-Mar-10	0.0	7.0	14.4	78.5	29.98	-0.15	64	0.0	-	0.0	6.9	14.0	78.9	29.98	0.0	62	0.0	-
	0.0	5.5	15.9	78.5	29.98	-0.15	64	0.0	-	0.0	7.0	13.9	79.0	29.98	0.0	62	0.0	-
28-May-10	0.8	18.3	3.8	76.7	29.77	0.0	89	16	-	0.0	1.3	16.7	81.9	29.75	0.24	94	0.0	-
	9.8	21.5	3.3	65.2	29.77	0.0	90	196	-	0.0	8.6	10.3	80.9	29.75	0.24	94	0.0	-
15-Sep-10	0.0	6.1	15.6	78.1	29.92	6.84	76	0	0	0.0	10.8	5.8	83.3	29.92	6.84	84	0.0	0
	0.0	3.5	15.5	81.0	29.92	6.84	76	0	240	0.0	10.9	5.9	83.1	29.92	6.84	84	0.0	240
17-Jan-11	5.5	13.0	9.3	72.2	29.91	-0.02	73	110	600	NM	NM	NM	NM	NM	NM	NM	NM	-
	5.5	13.0	9.3	72.2	29.91	-0.02	73	110	600	NM	NM	NM	NM	NM	NM	NM	NM	-
18-Jan-11	5.8	14.1	8.2	71.9	29.86	-0.06	116	116	600	0.0	4.2	16.3	79.4	29.92	0.00	80	0.0	0
	5.8	14.1	8.2	71.9	29.86	-0.06	116	116	600	0.0	8.0	12.8	79.2	29.92	0.00	84	0.0	300
21-Jan-11	0.3	9.4	11.5	79.2	29.79	-0.03	70	6	0	NM	NM	NM	NM	NM	NM	NM	NM	-
	0.2	11.0	10.8	78.0	29.79	-0.03	70	4	300	NM	NM	NM	NM	NM	NM	NM	NM	-
30-Mar-11	5.3	14.7	6.7	73.3	29.93	0.06	85	106	600	0.0	8.5	12.0	79.4	29.9	-0.1	86	0.0	0
	5.3	14.7	6.7	73.3	29.93	0.06	85	106	600	0.0	8.9	11.6	79.5	29.9	-0.1	86	0.0	120
30-Jun-11	3.5	18.4	4.0	73.9	29.95	0.05	NM	70	600	NM	NM	NM	NM	NM	NM	NM	NM	-
	3.5	18.4	4.0	73.9	29.95	0.05	NM	70	600	NM	NM	NM	NM	NM	NM	NM	NM	-
1-Jul-11	3.9	20.6	2.8	72.7	29.91	0.08	NM	78	360	0.0	0.3	19.8	79.9	29.94	0.09	NM	0.0	0
	3.7	19.9	3.1	73.3	29.91	0.08	NM	74	60									

**Table 4**  
**Perimeter Probes - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	
GP-5N										GP-5S									
17-Jun-09	1.8	6.3	10.5	81.1	29.94	0.0	80	36	-	0.0	2.8	14.6	82.4	29.94	0.0	83	0.0	-	
	3.3	8.0	10.0	78.6	29.94	0.0	80	66	-	0.0	1.4	18.5	80.0	29.94	0.0	83	0.0	-	
30-Sep-09	0.0	14.6	12.1	73.3	29.90	-0.14	83	0.0	-	0.1	3.4	17.5	79.1	29.90	-0.14	87	0.0	-	
	0.2	9.0	15.5	75.4	29.90	-0.14	84	4.0	-	0.0	0.5	20.0	79.5	29.90	-0.14	87	0.0	-	
18-Dec-09	0.1	5.8	12.0	82.3	29.66	22.14	75	2.0	-	0.0	0.3	21.5	78.1	29.66	22.14	75	0.0	-	
	0.0	3.0	15.0	82.0	29.66	22.14	75	0.0	-	0.0	0.3	21.7	77.9	29.66	22.14	75	0.0	-	
17-Mar-10	0.0	9.8	15.3	75.4	29.98	-0.15	70	0.0	-	0.0	5.1	15.5	79.3	29.98	-0.15	67	0.0	-	
	0.0	7.9	15.1	76.9	29.98	-0.15	70	0.0	-	0.0	1.8	18.3	79.5	29.98	-0.15	67	0.0	-	
28-May-10	0.2	17.8	3.8	77.6	29.77	0.0	91	0.0	-	0.0	4.2	14.0	81.9	29.77	0.0	88	0.0	-	
	0.0	22.2	1.7	76.5	29.77	0.0	91	0.0	-	0.0	16.0	1.3	82.6	29.77	0.0	88	0.0	-	
15-Sep-10	4.6	9.0	12.4	73.9	29.94	8.71	90	92.0	0	0.7	4.5	14.9	79.8	29.92	6.84	75	14.0	0	
	3.4	8.0	13.1	75.8	29.94	8.71	88	68.0	240	0.0	1.9	18.4	79.8	29.92	6.84	76	0.0	240	
17-Jan-11	0.0	10.5	9.4	80.1	29.91	-0.02	74	0	0	0.0	9.3	11.3	79.8	29.91	-0.02	73	0	0	
	0.0	4.4	17.3	78.4	29.91	-0.02	74	0	300	0.0	6.4	15.8	79.8	29.91	-0.02	73	0	300	
18-Jan-11	0.0	6.7	13.0	80.2	29.86	-0.06	81	0.0	0	0.0	7.2	12.1	80.7	29.86	-0.06	80	0.0	0	
	0.0	4.2	16.9	78.9	29.86	-0.06	81	0.0	300	0.0	7.6	13.5	78.9	29.86	-0.06	80	0.0	300	
21-Jan-11	0.0	8.6	11.0	80.5	29.79	-0.03	71	0.0	0	0.0	10.7	7.5	81.6	29.79	-0.03	70	0.0	0	
	0.0	4.2	17.5	78.3	29.79	-0.03	71	0.0	300	0.0	7.1	15.6	77.4	29.79	-0.03	70	0.0	300	
30-Mar-11	0.0	8.8	11.1	80.1	29.93	0.06	81	0.0	0	0.0	10.6	9.5	79.9	29.93	0.06	85	0.0	0	
	0.0	10.7	9.2	80.1	29.93	0.06	81	0.0	120	0.0	13.4	6.7	79.8	29.93	0.06	86	0.0	120	
30-Jun-11	0.0	0.7	19.6	79.7	29.95	0.05	NM	0.0	0	0.0	0.4	19.8	79.8	29.95	0.05	NM	0.0	0	
	0.0	4.3	17.9	77.8	29.95	0.05	NM	0.0	600	0.0	19.2	2.8	78.0	29.95	0.05	NM	0.0	600	
1-Jul-11	0.0	6.9	12.8	80.3	29.91	0.08	NM	0.0	0	0.0	0.2	20.3	79.5	29.91	0.08	NM	0.0	0	
	0.0	5.6	16.1	78.3	29.91	0.08	NM	0.0	600	0.0	16.8	5.4	77.8	29.91	0.08	NM	0.0	600	
5-Jul-11	0.0	2.2	16.8	80.4	29.95	-0.07	NM	0.0	0	0.0	0.4	20.1	79.5	29.93	0.08	NM	0.0	0	
	0.0	7.6	13.6	78.2	29.95	-0.07	NM	0.0	600	0.0	16.6	5.1	78.3	29.93	0.08	NM	0.0	600	
9-Aug-11	0.0	13.4	5.9	80.6	29.93	NM	91	0.0	0	4.1	15.7	16.0	65.1	29.93	NM	89	70.0	0	
	0.0	4.3	14.9	80.5	29.93	NM	90	0.0	360	1.4	18.9	2.1	77.7	29.93	NM	89	24.0	360	
15-Aug-11	0.5	6.2	15.5	77.8	29.90	NM	82	10.0	300	3.0	7.4	14.9	74.6	29.90	NM	92	61.0	800	
	0.5	6.2	15.5	77.8	29.90	NM	82	10.0	300	2.2	9.7	13.8	74.3	29.90	NM	93	43.0	1040	
22-Aug-11	13.7	4.8	17.0	64.7	29.97	NM	95	274.0	840	0.0	10.6	9.4	80.1	29.97	NM	90	0.0	0	
	10.7	4.6	16.8	68.2	29.97	NM	95	214.0	1020	0.0	10.6	10.7	78.5	29.97	NM	88	0.0	300	
29-Aug-11	0.8	7.4	14.6	77.1	29.90	NM	85	16.0	240	NM	NM	NM	NM	NM	NM	NM	NM	NM	
	0.8	7.4	14.6	77.1	29.90	NM	85	16.0	240	NM	NM	NM	NM	NM	NM	NM	NM	NM	
30-Aug-11	0.5	4.0	17.6	78.1	29.94	NM	87	10.0	180	0.0	9.8	10.5	79.5	29.94	NM	84	0.0	0	
	0.5	4.0	17.6	78.1	29.94	NM	87	10.0	180	0.0	3.1	16.8	80.0	29.94	NM	85	0.0	300	
8-Sep-11	0.4	8.4	14.5	76.7	29.93	NM	91	9.0	360	0.0	10.8	8.9	80.2	29.95	NM	83	0.0	0	
	0.4	8.4	14.5	76.7	29.93	NM	91	9.0	360	0.0	4.6	14.7	80.6	29.95	NM	89	0.0	300	
17-Nov-11	0.0	0.7	18.0	81.3	29.96	148.98	86	0.0	0	0.1	5.8	13.3	80.6	29.96	148.90	89	2.0	180	
	0.0	4.4	12.8	82.7	29.96	148.98	86	0.0	300	0.1	5.1	14.2	80.6	29.96	148.90	89	2.0	300	
GP-7										GP-8									
13-Mar-09	0.0	7.4	12.4	80.0	30.08	0.0	83	0.0	-	0.0	0.0	20.6	79.3	30.08	0.0	83	0.0	-	
	0.0	7.5	12.5	80.0	30.08	0.0	83	0.0	-	0.0	0.0	20.6	79.3	30.08	0.0	83	0.0	-	
17-Jun-09	0.0	16.3	1.9	81.5	29.92	0.0	96	0.0	-	0.0	8.8	12.0	79.1	29.92	0.0	87	0.0	-	
	0.0	16.6	1.7	81.6	29.92	0.0	96	0.0	-	0.0	14.1	6.4	79.4	29.92	0.0	87	0.0	-	
30-Sep-09	0.0	19.2	6.2	74.5	29.94	-0.08	85	0.0	-	0.0	0.1	20.5	79.4	29.94	-0.08	84	0.0	-	
	0.0	22.4	3.5	74.1	29.94	-0.08	83	0.0	-	0.0	16.6	8.0	75.4	29.94	-0.08	84	0.0	-	
22-Dec-09	0.0	12.9	5.3	81.9	30.05	25.69	69	0.0	-	0.0	6.1	14.3	79.6	30.07	35.47	71	0.0	-	
	0.0	13.4	3.9	82.7	30.05	25.69	69	0.0	-	0.0	6.2	13.6	80.2	30.07	35.47	71	0.0	-	
17-Mar-10	0.0	0.5	20.0	79.2	29.90	0.0	63	0.0	-	0.0	3.5	17.5	78.8	29.90	0.0	63	0.0	-	
	0.0	11.8	7.7	80.4	29.90	0.0	63	0.0	-	0.0	4.2	16.9	78.8	29.90	0.0	63	0.0	-	
28-May-10	0.0	9.6	8.6	81.7	29.75	0.24	96	0.0	-	0.0	5.9	12.2	81.9	29.75	0.24	94	0.0	-	
	0.0	10.2	8.1	81.7	29.75	0.24	96	0.0	-	0.0	16.2	12.0	81.8	29.75	0.24	94	0.0	-	
15-Sep-10	0.0	5.9	12.2	81.8	29.90	7.62	86	0.0	0	0.0	2.3	17.1	80.5	29.90	7.62	89	0.0	0	
	0.0	14.5	2.5	83.0	29.90	7.62	86	0.0	240	0.0	5.4	14.9	79.9	29.90	7.62	89	0.0	240	
18-Jan-11	0.0	9.9	14.6	75.4	29.92	0.00	84	0.0	0	0.0	3.6	15.6	80.6	29.92	0.00	83	0.0	0	
	0.0	9.6	15.0	75.2	29.92	0.00	84	0.0	300	0.0	9.3	10.3	80.3	29.92	0.00	83	0.0	300	
30-Mar-11	0.0	6.0	12.2	81.8	29.88	-0.11	84	0.0	0	0.0	4.3	15.1	80.6	29.88	-0.11	86	0.0	0	
	0.0	8.2	11.2	80.5	29.88	-0.11	84	0.0	120	0.0	4.1	15.6	80.3	29.88	-0.11	86	0.0	120	
1-Jul-11	0.0	1.5	19.0	79.5	29.94	0.09	NM	0.0	0	0.0	0.5	19.4	80.1	29.94	0.09	NM	0.0	0	
	0.0	11.1	9.0	79.9	29.94	0.09	NM	0.0	300	0.0	5.2	15.0	79.8	29.94	0.09	NM	0.0	300	
17-Nov-11	0.0	6.7	11.8	81.5	29.98	149.09	84	0.0	0	0.0	0.2	17.9	81.2	29.98	149.09	86	0.0	0	
	0.0	12.6	6.9	80.2	29.98	149.09	84	0.0	360	0.0	5.4	13.9	80.6	29.98	149.09	87	0.0	300	
GP-9										GP-10									
13-Mar-09	0.0	3.7	17.2	79.1	30.08	0.0	83	0.0	-	0.0	4.5	14.4	79.3	30.08	0.0	83	0.0	-	
	0.0	4.3	16.3	79.2	30.08	0.0	83	0.0	-	0.0	6.2	14.0	79.8	30.08	0.0	83	0.0	-	
17-Jun-09	0.0	7.4	13.1	79.3	29.90	0.0	84	0.0	-	0.0	6.1	12.7	81.1	29.92	0.0	93	0.0	-	
	0.0	7.1	14.0	78.8	29.92	0.0	84	0.0	-	0.0	6.0	12.9	81.0	29.92	0.0	93	0.0	-	
30-Sep-09	0.0	11.0	10.9</																

**Table 4  
Perimeter Probes - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	
<b>GP-11</b>										<b>GP-12</b>									
13-Mar-09	0.0	1.6	19.6	79.0	30.08	0.0	83	0.0	-	0.0	0.9	19.5	79.4	30.08	0.0	83	0.0	-	
	0.0	1.7	19.1	79.1	30.08	0.0	83	0.0	-	0.0	0.9	19.6	79.4	30.08	0.0	84	0.0	-	
17-Jun-09	0.0	1.8	18.9	79.2	29.92	0.0	87	0.0	-	0.0	1.8	18.5	79.5	29.92	0.0	85	0.0	-	
	0.0	1.8	18.9	79.2	29.92	0.0	87	0.0	-	0.0	1.9	18.4	79.6	29.92	0.0	85	0.0	-	
30-Sep-09	0.0	3.0	18.2	78.8	29.94	-0.08	83	0.0	-	0.0	2.5	18.7	78.8	29.94	-0.08	82	0.0	-	
	0.0	3.3	18.0	78.7	29.94	-0.08	83	0.0	-	0.0	2.4	18.8	78.8	29.94	-0.08	83	0.0	-	
22-Dec-09	0.0	1.6	19.8	78.5	29.61	22.14	76	0.0	-	0.0	0.7	20.2	79.1	30.07	33.47	72	0.0	-	
	0.0	1.8	19.5	77.7	29.61	22.14	76	0.0	-	0.0	0.2	20.8	79.0	30.07	33.47	72	0.0	-	
17-Mar-10	0.0	1.7	19.2	79.0	29.95	0.00	62	0.0	-	0.0	1.2	19.9	78.8	29.95	0.0	62	0.0	-	
	0.0	2.0	19.5	78.5	29.95	0.00	62	0.0	-	0.0	0.8	20.1	79.0	29.95	0.0	62	0.0	-	
28-May-10	0.0	1.8	16.2	81.9	29.78	-0.03	90	0.0	-	0.0	1.3	16.7	81.8	29.78	-0.03	93	0.0	-	
	0.0	2.1	16.0	81.7	29.78	-0.03	90	0.0	-	0.0	1.4	16.8	81.8	29.78	-0.03	92	0.0	-	
15-Sep-10	0.0	3.1	17.1	79.7	29.90	7.62	86	0.0	0	0.0	3.6	16.6	79.7	29.90	7.62	91	0.0	0	
	0.0	3.3	17.0	79.7	29.90	7.62	86	0.0	240	0.0	3.7	16.6	79.6	29.90	7.62	91	0.0	240	
18-Jan-11	0.0	1.1	18.2	80.7	29.90	0.01	79	0.0	0	0.8	1.4	18.8	79.0	29.90	0.01	84	16.0	300	
	0.0	2.3	17.9	79.7	29.90	0.01	80	0.0	300	0.8	1.4	18.8	79.0	29.90	0.01	84	16.0	300	
21-Jan-11	NM	NM	NM	NM	NM	NM	NM	NM	-	0.0	1.2	19.6	79.3	29.79	-0.03	69	0.0	0	
	NM	NM	NM	NM	NM	NM	NM	NM	-	0.0	0.9	19.7	79.4	29.79	-0.03	69	0.0	300	
30-Mar-11	0.0	1.4	17.2	81.3	29.9	-0.1	91.0	0.0	0	0.0	1.0	18.6	80.4	29.88	-0.11	91	0.0	0	
	0.0	1.7	18.0	80.3	29.9	-0.1	90.0	0.0	120	0.0	1.0	18.7	80.3	29.88	-0.11	90	0.0	120	
1-Jul-11	0.0	0.2	20.0	79.8	30.0	-0.15	NM	0.0	0	0.0	0.2	19.3	80.5	30.00	-0.15	NM	0.0	0	
	0.0	2.2	18.4	79.4	30.0	-0.15	NM	0.0	300	0.0	1.4	19.2	79.4	30.00	-0.15	NM	0.0	300	
17-Nov-11	0.0	0.3	17.9	81.4	29.98	149.09	84.0	0.0	0	0.0	1.4	15.0	82.0	29.98	149.09	89	0.0	0	
	0.0	1.2	17.3	81.4	29.98	149.09	83.0	0.0	300	0.0	1.3	16.9	81.7	29.98	149.09	87	0.0	300	
<b>GP-13</b>										<b>GP-14</b>									
13-Mar-09	0.0	1.2	19.5	79.3	30.08	0.0	84	0.0	-	0.0	0.4	19.8	79.7	30.08	0.0	83	0.0	-	
	0.0	1.2	19.4	79.2	30.08	0.0	84	0.0	-	0.0	0.4	19.8	79.6	30.08	0.0	83	0.0	-	
17-Jun-09	0.0	1.8	18.4	79.8	29.92	0.0	85	0.0	-	0.0	1.4	19.2	79.3	29.92	0.0	87	0.0	-	
	0.0	1.7	18.5	79.7	29.92	0.0	85	0.0	-	0.0	1.4	19.4	79.1	29.92	0.0	87	0.0	-	
29-Sep-09	NM	NM	NM	NM	NM	NM	NM	NM	-	0.0	1.7	18.9	79.4	29.89	-0.09	88	0.0	-	
	NM	NM	NM	NM	NM	NM	NM	NM	-	0.0	1.9	19.0	79.0	29.89	-0.09	88	0.0	-	
22-Dec-09	0.0	3.4	16.1	80.4	30.07	33.47	72	0.0	-	0.0	1.0	20.0	79.0	30.07	33.47	72	0.0	-	
	0.0	3.3	16.5	80.3	30.07	33.47	72	0.0	-	0.0	2.4	19.1	78.5	30.07	33.47	72	0.0	-	
17-Mar-10	0.0	1.6	19.6	78.7	29.92	0.00	63	0.0	-	0.0	1.0	20.0	78.9	29.92	0.00	62	0.0	-	
	0.0	1.9	19.0	79.0	29.92	0.00	63	0.0	-	0.0	1.2	19.5	79.3	29.92	0.00	62	0.0	-	
28-May-10	0.0	1.6	16.7	81.5	29.78	-0.03	93	0.0	-	0.0	0.7	16.7	81.5	29.78	-0.03	93	0.0	-	
	0.0	1.6	16.9	81.4	29.78	-0.03	93	0.0	-	0.0	0.9	16.9	81.4	29.78	-0.03	93	0.0	-	
15-Sep-10	0.0	3.0	17.1	79.9	29.90	7.62	91	0.0	0	0.0	2.7	17.4	79.8	29.90	7.62	89	0.0	0	
	0.0	3.0	17.1	79.8	29.90	7.62	90	0.0	240	0.0	2.7	17.4	79.8	29.90	7.62	90	0.0	240	
18-Jan-11	0.0	1.7	18.8	79.5	29.92	0.00	87	0.0	0	0.0	0.6	18.8	80.6	29.92	0.00	84	0.0	0	
	0.0	1.7	18.8	79.5	29.92	0.00	85	0.0	300	0.0	0.6	18.7	80.6	29.92	0.00	82	0.0	300	
30-Mar-11	0.0	1.3	18.2	80.5	29.88	-0.11	89	0.0	0	0.0	0.8	18.7	80.5	29.88	-0.11	89	0.0	0	
	0.0	1.3	18.2	80.4	29.88	-0.11	89	0.0	120	0.0	0.8	18.8	80.5	29.88	-0.11	90	0.0	120	
1-Jul-11	0.0	0.2	20.3	79.5	29.94	0.09	NM	0.0	0	0.0	0.2	20.1	79.7	29.94	0.09	NM	0.0	0	
	0.0	1.7	19.3	79.0	29.94	0.09	NM	0.0	300	0.0	0.9	19.9	79.2	29.94	0.09	NM	0.0	300	
17-Nov-11	0.0	1.0	17.4	81.7	29.98	149.09	93	0.0	0	0.0	0.1	17.7	81.2	29.98	149.09	94	0.0	0	
	0.0	3.4	15.1	81.4	29.98	149.09	93	0.0	300	0.0	1.0	17.6	81.4	29.98	149.09	86	0.0	300	
<b>GP-15</b>										<b>GP-16</b>									
13-Mar-09	0.0	0.6	19.5	79.6	30.08	0.0	83	0.0	-	0.0	0.4	20.0	79.5	30.19	0.0	84	0.0	-	
	0.0	0.7	19.7	79.5	30.08	0.0	83	0.0	-	0.0	0.4	20.1	79.5	30.19	0.0	84	0.0	-	
17-Jun-09	0.0	1.2	19.3	79.4	29.92	0.0	91	0.0	-	0.0	1.4	19.5	79.0	29.92	0.0	92	0.0	-	
	0.0	1.4	19.2	79.3	29.92	0.0	91	0.0	-	0.0	1.4	19.2	79.3	29.92	0.0	92	0.0	-	
29-Sep-09	0.0	1.4	18.9	79.8	29.89	-0.09	88	0.0	-	0.0	1.4	19.3	79.3	29.89	-0.09	90	0.0	-	
	0.0	1.6	18.4	80.0	29.89	-0.09	88	0.0	-	0.0	1.6	19.0	79.4	29.89	-0.09	90	0.0	-	
22-Dec-09	0.0	2.0	17.3	80.6	33.07	33.47	72	0.0	-	0.0	10.1	14.1	75.7	33.07	33.47	72	0.0	-	
	0.0	1.7	18.2	80.1	33.07	33.47	72	0.0	-	0.0	7.5	14.9	77.7	33.07	33.47	72	0.0	-	
17-Mar-10	0.0	0.8	20.1	79.0	29.92	0.00	62	0.0	-	0.0	0.7	20.2	79.0	29.92	0.00	62	0.0	-	
	0.0	0.6	20.1	79.2	29.92	0.00	62	0.0	-	0.0	0.9	19.7	79.3	29.92	0.00	62	0.0	-	
28-May-10	0.0	1.1	17.1	81.7	29.75	-0.05	92	0.0	-	0.0	0.8	17.5	81.5	29.75	-0.05	92	0.0	-	
	0.0	1.2	17.3	81.4	29.75	-0.05	92	0.0	-	0.0	0.8	17.6	81.7	29.75	-0.05	92	0.0	-	
15-Sep-10	0.0	4.7	15.1	80.1	29.90	7.62	88	0.0	0	0.0	2.3	17.8	79.8	29.90	7.62	90	0.0	0	
	0.0	4.7	15.3	80.0	29.90	7.62	89	0.0	240	0.0	2.9	17.0	79.9	29.90	7.62	90	0.0	240	
18-Jan-11	0.0	1.2	18.5	80.2	29.92	0.00	78	0.0	0	0.0	0.7	19.5	79.8	29.92	0.00	77	0.0	0	
	0.0	1.2	19.0	79.8	29.92	0.00	77	0.0	300	0.0	0.5	19.6	79.8	29.92	0.00	77	0.0	300	
30-Mar-11	0.0	0.8	18.6	80.6	29.88	-0.11	90	0.0	0	0.0	0.8	18.6	80.6	29.88	-0.11	90	0.0	0	
	0.0	1.0	18.4	80.6	29.88	-0.11	90	0.0	120	0.0	0.8	18.6	80.6	29.88	-0.11	90	0.0	120	
1-Jul-11	0.0	0.5	20.3	79.2	29.95	-5.02	NM	0.0	0	0.0	0.2	20.4	79.4	29.95	-5.02	NM	0.0	0	
	0.0	1.6	19.0	79.4	29.95	-5.02	NM	0.0	300	0.0	1.4	19.4	79.2	29.95	-5.02	NM	0.0	300	
17-Nov-11	0.0	1.3	15.8	83.0	29.98	149.09	91	0.0	0	0.0	0.9	17.6	81.4	29.98	149.09	90	0.0	0	
	0.0	1.1	17.3	81.5	29.98	149.09	92	0.0	300	0.0	1.6	16.8	81.5	29.98	149.09	89	0.0	300	



**Table 4  
Perimeter Probes - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	
GP-17										GP-18									
13-Mar-09	0.0	0.0	20.2	79.8	30.19	0.0	84	0.0	-	0.0	2.6	18.1	77.9	30.19	0.0	83	0.0	-	
	0.0	0.0	20.3	79.7	30.19	0.0	82	0.0	-	0.0	3.1	17.5	79.0	30.19	0.0	83	0.0	-	
17-Jun-09	0.0	3.2	18.8	77.8	29.92	0.0	92	0.0	-	0.0	2.3	18.3	79.3	29.92	0.0	93	0.0	-	
	0.0	3.2	18.9	77.8	29.92	0.0	92	0.0	-	0.0	3.5	17.0	79.4	29.92	0.0	93	0.0	-	
29-Sep-09	0.0	3.9	17.8	78.2	29.89	-0.09	90	0.0	-	0.0	2.9	16.8	80.3	29.88	-0.09	90	0.0	-	
	0.0	4.0	17.6	78.4	29.89	-0.09	90	0.0	-	0.0	4.6	16.6	78.9	29.88	-0.09	90	0.0	-	
22-Dec-09	0.0	1.7	18.6	79.7	30.07	33.47	72	0.0	-	0.0	2.0	17.9	80.1	30.07	33.47	72	0.0	-	
	0.0	2.0	19.1	79.0	30.07	33.47	72	0.0	-	0.0	1.7	18.9	79.3	30.07	33.47	72	0.0	-	
17-Mar-10	0.0	2.2	19.4	78.3	29.92	0.00	62	0.0	-	0.0	1.9	19.5	78.6	29.92	0.00	63	0.0	-	
	0.0	2.7	18.9	78.3	29.92	0.00	62	0.0	-	0.0	3.1	18.8	78.0	29.92	0.00	63	0.0	-	
28-May-10	0.0	2.6	16.0	81.3	29.75	-0.05	91	0.0	-	0.0	2.9	15.5	81.4	29.75	-0.05	95	0.0	-	
	0.0	2.6	16.3	81.0	29.75	-0.05	91	0.0	-	0.0	3.8	14.6	81.5	29.75	-0.05	95	0.0	-	
15-Sep-10	0.0	2.6	17.2	80.0	29.90	7.62	90	0.0	0	0.0	3.9	15.7	80.3	29.90	7.62	88	0.0	0	
	0.0	2.4	17.6	79.9	29.90	7.62	90	0.0	0	0.0	5.2	13.9	80.8	29.90	7.62	87	0.0	240	
18-Jan-11	0.0	2.3	18.2	79.5	29.92	0.00	74	0.0	0	0.0	1.4	18.1	80.5	29.92	0.00	73	0.0	0	
	0.0	2.1	18.5	79.4	29.92	0.00	74	0.0	300	0.0	2.1	17.6	80.3	29.92	0.00	74	0.0	300	
30-Mar-11	0.0	2.1	17.5	80.1	29.88	-0.11	90	0.0	0	0.0	2.3	16.8	80.8	29.88	-0.11	87	0.0	0	
	0.0	2.0	17.6	80.4	29.88	-0.11	90	0.0	120	0.0	3.3	16.1	80.5	29.88	-0.11	87	0.0	120	
1-Jul-11	0.0	2.4	18.3	79.3	29.95	-5.02	NM	0.0	0	0.0	0.7	20.0	79.3	29.95	-5.02	NM	0.0	0	
	0.0	2.8	18.2	79.0	29.95	-5.02	NM	0.0	300	0.0	3.8	17.3	78.9	29.95	-5.02	NM	0.0	300	
17-Nov-11	0.0	2.1	16.6	81.4	29.98	149.09	80	0.0	0	0.2	0.3	18.7	81.0	29.98	149.09	86	4.0	0	
	0.0	3.4	15.8	80.7	29.98	149.09	88	0.0	300	0.0	2.2	16.5	81.2	29.98	149.09	85	0.0	300	

**Notes:**

- Gas readings were taken on this date only on the probes that exceeded 25% LEL on the previous date's readings (i.e. GP-7 through GP-9 and GP-3).
- Water was pumped from GP-3 during the follow-up sampling of this probe.
- Gas probe was destroyed during construction activities. GP-8 replaced perimeter probe "Old GP-8" in quarterly monitoring schedule.
- Gas probe was destroyed by hurricane.
- GP-12 and GP-18 were sampled on August 1, 2006.
- GP-6 through 9 were relocated by the Phase 1B Gas Mitigation Plans and were sampled on October 25, 2006.
- Additional readings were taken on January 15, 2007 for GP-5 through 9 as a follow-up to the sampling event of January 7, 2007.
- Location not sampled on this date as part of the sampling schedule.
- Probe was cut off and capped below grade during construction activities.
- Readings not available according to report by PBS&J.
- GP-5 readings reported after a field calibration on 9/7/2007.
- Due to the % methane reading displayed being rounded to 1/10 of a percent, readings of 0.1% methane may display a reading of 1% or 2% LEL.
- No filter was used during sampling.
- Filter was used during sampling.
- Probes GP-2, GP-3, and GP-9A sampled on 7/30/08.
- Barometric pressure in inches of mercury.
- NM = Not measured.
- Relative pressure in inches of water.
- Beginning with data reported for Sept 2010, the the first reported value is the peak methane reading, and the second reported value is the steady state methane reading. If no methane was detected the first reading reported is the initial reading, and the second reading is the steady state reading. Prior to Sept. 2010, the first reported value is the initial reading, and the second reported value is the final reading.
- Gas Monitor read 0.6 methane in ambient air during this sampling event.

**Table 5  
Tower 1 - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL	Elapsed Time (s)	
GP-T1-13										GP-T1-14									
12-Mar-09	0.0	0.2	20.0	79.7	30.15	0.00	78	0.0	-	0.0	0.0	20.7	79.3	30.15	0.00	73	0.0	-	
	0.0	0.2	19.9	79.8	30.15	0.00	78	0.0	-	0.0	0.0	20.7	79.3	30.15	0.00	73	0.0	-	
16-Jun-09	0.0	0.9	19.5	79.5	29.95	0.00	81	0.0	-	0.4	1.2	19.0	79.3	29.95	0.00	78	8.0	-	
	0.0	0.9	19.4	79.6	29.95	0.00	81	0.0	-	0.0	1.9	18.4	79.6	29.95	0.00	78	0.0	-	
30-Sep-09	0.0	0.9	19.9	79.2	29.90	-0.13	81	0.0	-	0.0	2.0	16.6	81.4	29.90	-0.13	81	0.0	-	
	0.0	1.6	19.0	79.4	29.90	-0.13	81	0.0	-	0.0	1.9	16.7	81.4	29.90	-0.13	81	0.0	-	
16-Dec-09	0.2 <sub>b</sub>	0.9 <sub>b</sub>	17.3 <sub>b</sub>	81.6 <sub>b</sub>	29.97 <sub>b</sub>	23.48 <sub>b</sub>	81 <sub>b</sub>	4.0 <sub>b</sub>	-	0.0	0.8	21.0	78.2	29.97	23.48	75	0.0	-	
	0.2 <sub>b</sub>	0.8 <sub>b</sub>	17.7 <sub>b</sub>	81.3 <sub>b</sub>	29.97 <sub>b</sub>	23.48 <sub>b</sub>	81 <sub>b</sub>	4.0 <sub>b</sub>	-	0.0	0.6	20.7	78.6	29.97	23.48	75	0.0	-	
8-Jan-10	0.0	0.6	17.1	82.6	29.90	0.07	50	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-	
	0.0	0.5	16.8	82.9	29.90	0.07	50	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-	
18-Mar-10	0.0	0.1	20.6	79.3	29.98	0.0	68	0.0	-	0.0	0.1	20.6	79.2	29.98	0.0	63	0.0	-	
	0.0	0.3	19.1	80.6	29.98	0.0	68	0.0	-	0.0	0.4	19.9	79.6	29.98	0.0	63	0.0	-	
26-May-10	0.0	0.6	16.3	83.1	29.78	0.04	86	0.0	-	0.0	1.3	15.8	82.9	29.78	0.04	85	0.0	-	
	0.0	0.6	16.0	83.3	29.78	0.04	86	0.0	-	0.0	1.4	16.2	82.2	29.78	0.04	85	0.0	-	
15-Sep-10	0.0	2.3	16.5	81.1	29.92	7.17	82	0.0	0	0.0	3.1	16.3	80.5	29.92	7.17	84	0.0	0	
	0.0	2.3	16.5	81.1	29.92	7.17	81	0.0	120	0.0	2.4	17.1	80.5	29.92	7.17	84	0.0	240	
18-Jan-10	0.0	1.0	18.8	80.2	29.86	-0.06	76	0.0	0	0.0	0.5	19.6	79.9	29.86	-0.06	73	0.0	0	
	0.0	1.0	18.9	80.1	29.86	-0.06	76	0.0	300	0.0	0.5	19.6	79.9	29.86	-0.06	73	0.0	300	
30-Mar-11	0.0	0.7	18.6	80.7	29.89	0.00	78	0.0	0	0.0	0.7	19.2	80.0	29.89	0.00	83	0.0	0	
	0.0	0.7	18.5	80.8	28.89	0.00	78	0.0	120	0.0	0.8	19.0	80.2	29.89	0.00	76	0.0	120	
1-Jul-11	0.0	0.2	20.4	79.4	29.98	-0.25	NM	0.0	0	0.0	0.5	19.4	80.1	29.98	-0.25	NM	0.0	0	
	0.0	1.4	17.8	80.8	29.98	-0.25	NM	0.0	300	0.0	2.6	17.3	80.1	29.98	-0.25	NM	0.0	300	
18-Nov-11	0.0	0.9	17.9	81.1	30.05	148.61	75	0.0	0	0.0	0.2	17.5	81.4	30.05	148.61	76	0.0	0	
	0.0	0.9	17.9	81.1	30.05	148.61	75	0.0	300	0.0	0.0	19.0	81.0	30.05	148.61	76	0.0	300	
PV-T1-1										PV-T1-2									
12-Mar-09	0.0	5.9	8.4	85.7	30.15	0.00	75	0.0	-	0.0	0.4	17.6	81.8	30.15	0.00	74	0.0	-	
	0.0	5.8	7.9	86.2	30.15	0.00	75	0.0	-	0.0	0.4	17.3	82.1	30.15	0.00	74	0.0	-	
16-Jun-09	0.0	0.3	20.5	79.1	29.95	0.00	79	0.0	-	0.0	0.4	19.4	80.2	29.95	0.00	89	0.0	-	
	0.0	0.3	20.5	79.1	29.95	0.00	79	0.0	-	0.0	0.3	19.6	80.1	29.95	0.00	90	0.0	-	
30-Sep-09	0.0	0.1	20.6	79.3	29.90	-0.13	81	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-	
	0.0	0.1	20.8	79.1	29.90	-0.13	81	0.0	-	NM	NM	NM	NM	NM	NM	NM	NM	-	
16-Dec-09	0.0	10.6	5.9	83.7	29.97	23.48	79	0.0	-	0.0	0.1	21.4	78.4	29.97	23.48	79	0.0	-	
	0.0	10.5	5.6	83.9	29.97	23.48	79	0.0	-	0.0	0.1	21.7	78.2	29.97	23.48	79	0.0	-	
18-Mar-10	0.0	0.1	20.5	79.4	29.98	0.0	63	0.0	-	0.0	0.4	20.3	79.4	29.98	0.0	63	0.0	-	
	0.0	0.2	20.3	79.4	29.98	0.0	63	0.0	-	0.0	0.3	20.4	79.2	29.98	0.0	63	0.0	-	
26-May-10	0.0	8.2	6.1	85.5	29.78	0.04	85	0.0	-	0.0	1.2	15.2	83.6	29.78	0.04	82	0.0	-	
	0.0	8.3	5.7	85.8	29.78	0.04	85	0.0	-	0.0	1.0	15.5	83.5	29.78	0.04	82	0.0	-	
15-Sep-10	0.0	9.3	3.2	87.5	29.92	7.17	84	0.0	0	0.0	2.8	11.9	85.3	29.92	7.17	85	0.0	0	
	0.0	9.1	3.1	87.7	29.92	7.17	84	0.0	120	0.0	2.1	13.9	83.9	29.92	7.17	85	0.0	240	
18-Jan-10	0.0	0.7	17.8	81.5	29.86	-0.06	76	0.0	0	0.0	0.1	20.0	79.9	29.86	-0.06	75	0.0	0	
	0.0	0.9	17.0	82.1	29.86	-0.06	76	0.0	300	0.0	0.1	20.1	79.8	29.86	-0.06	75	0.0	300	
30-Mar-11	0.0	6.8	8.4	84.3	24.84	0.00	84	0.0	0	0.0	1.4	15.2	83.3	29.89	0.00	81	0.0	0	
	0.0	6.3	10.1	83.3	24.84	0.00	84	0.0	120	0.0	1.5	14.9	83.5	29.89	0.00	81	0.0	120	
1-Jul-11	0.0	1.8	17.9	80.3	29.98	4.43	NM	0.0	0	0.0	0.2	20.4	79.4	29.98	-0.12	NM	0.0	0	
	0.0	1.2	18.5	80.3	29.98	4.43	NM	0.0	300	0.0	0.2	20.0	79.8	29.98	-0.12	NM	0.0	300	
18-Nov-11	0.0	7.0	10.3	82.6	30.05	148.61	76	0.0	0	0.0	0.0	19.1	80.8	30.05	148.61	76	0.0	0	
	0.0	7.2	10.2	82.5	30.05	148.61	76	0.0	300	0.0	0.0	19.0	80.9	30.05	148.61	76	0.0	300	
PV-T1-3										PV-T1-4									
12-Mar-09	0.0	0.0	20.7	79.2	30.15	0.00	73.0	0.0	-	0.0	0.0	20.2	79.7	30.15	0.00	75	0.0	-	
	0.0	0.0	20.7	79.2	30.15	0.00	73.0	0.0	-	0.0	0.0	20.5	79.6	30.15	0.00	75	0.0	-	
16-Jun-09	0.0	0.7	17.1	82.2	29.95	0.0	92.0	0.0	-	0.0	0.0	20.9	79.0	29.95	0.00	88	0.0	-	
	0.0	0.6	17.4	81.9	29.95	0.0	95.0	0.0	-	0.0	0.0	20.9	79.0	29.95	0.00	88	0.0	-	
30-Sep-09	0.0	0.8	17.1	82.1	29.90	-0.13	81	0.0	-	0.9	1.7	14.2	83.1	29.90	-0.13	81	18.0	-	
	0.0	0.8	17.1	82.1	29.90	-0.13	81	0.0	-	0.8	1.9	15.3	82.3	29.90	-0.13	81	16.0	-	
16-Dec-09	0.1	0.1	21.7	78.1	29.97	23.48	79	2.0	-	0.0	0.1	21.9	78.0	29.97	23.48	79	0.0	-	
	0.0	0.1	21.9	78.0	29.97	23.48	79	0.0	-	0.0	0.1	21.8	78.1	29.97	23.48	79	0.0	-	
	0.0	0.9	17.1	81.8	29.98	0.0	68	0.0	-	0.0	0.3	18.5	81.0	29.98	0.0	70	0.0	-	
18-Mar-10	0.0	1.1	16.6	82.2	29.98	0.0	68	0.0	-	0.0	0.4	18.7	79.9	29.98	0.0	70	0.0	-	
	0.0	0.2	17.9	81.7	29.78	0.04	82	0.0	-	0.0	0.0	18.7	81.2	29.78	0.04	82	0.0	-	
26-May-10	0.0	0.0	18.9	81.0	29.78	0.04	82	0.0	-	0.0	0.0	18.9	81.1	29.78	0.04	82	0.0	-	
	0.0	0.0	19.7	80.2	29.92	7.17	85	0.0	0	0.0	0.8	17.4	81.7	29.92	7.17	84	0.0	0	
	0.0	0.0	19.9	80.1	29.92	7.17	86	0.0	120	0.0	0.0	19.4	80.6	29.92	7.17	84	0.0	240	
18-Jan-10	0.0	0.5	17.7	81.8	29.86	-0.06	77	0.0	0	0.0	0.1	19.6	80.4	29.86	-0.06	78	0.0	0	
	0.0	0.5	17.9	81.5	29.86	-0.06	77	0.0	300	0.0	0.1	19.5	80.4	29.86	-0.06	78	0.0	300	
30-Mar-11	0.0	0.4	18.2	81.2	29.89	0.00	80	0.0	0	0.0	0.0	20.6	79.4	29.89	0.00	82	0.0	0	
	0.0	0.3	18.4	81.1	29.89	0.00	81	0.0	120	0.0	0.0	20.6	79.4	29.89	0.00	81	0.0	120	
1-Jul-11	0.0	0.0	20.6	79.4	29.98	-0.12	NM	0.0	0	0.0	0.1	20.4	79.5	29.98	-0.25	NM	0.0	0	
	0.0	0.0	20.6	79.4	29.98	-0.12	NM	0.0	300	0.0	0.0	20.7	79.3	29.98	-0.25	NM	0.0	300	
18-Nov-11	0.0	0.0	18.9	81.0	30.05	148.61	76	0.0	0	0.0	0.0	18.9	81.0	30.05	148.61	76	0.0	0	
	0.0	0.0	19.0	80.9	30.05	148.61	76	0.0	300	0.0	0.0	18.9	81.0	30.05	148.61	74	0.0	300	

**Table 5  
Tower 1 - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL	Elapsed Time (s)
	PV-T1-5									PV-T1-6								
12-Mar-09	0.0	0.0	20.2	79.8	30.15	0.00	76	0.0	-	0.0	0.0	20.0	79.7	30.15	0.00	79	0.0	-
	0.0	0.0	20.2	79.8	30.15	0.00	76	0.0	-	0.0	0.0	20.0	79.4	30.15	0.00	79	0.0	-
16-Jun-09	0.0	0.0	20.7	79.1	29.95	0.0	88	0.0	-	0.0	1.2	19.4	79.3	29.95	0.0	84	0.0	-
	0.0	0.0	20.7	79.2	29.95	0.0	88	0.0	-	0.0	2.0	18.3	79.6	29.95	0.0	84	0.0	-
30-Sep-09	0.0	0.1	20.7	79.2	29.90	-0.13	81	0.0	-	0.0	0.1	21.0	78.9	29.90	-0.13	81	0.0	-
	0.0	0.1	20.7	79.2	29.90	-0.13	81	0.0	-	0.0	0.1	20.9	79.0	29.90	-0.13	81	0.0	-
16-Dec-09	0.0	0.7	20.8	78.5	29.97	23.48	79	0.0	-	0.0	0.2	21.8	78.0	29.97	23.48	80	0.0	-
	0.0	0.7	20.7	78.6	29.97	23.48	79	0.0	-	0.0	0.1	21.9	77.9	29.97	23.48	80	0.0	-
18-Mar-10	0.0	0.2	19.8	79.8	29.98	0.0	70	0.0	-	0.0	0.0	20.5	79.4	29.98	0.0	68	0.0	-
	0.0	0.2	20.1	79.7	29.98	0.0	70	0.0	-	0.0	0.2	20.5	79.3	29.98	0.0	68	0.0	-
26-May-10	0.0	0.0	18.5	81.5	29.78	0.04	81	0.0	-	0.0	0.0	18.6	81.3	29.78	0.04	85	0.0	-
	0.0	0.2	18.2	81.5	29.78	0.04	81	0.0	-	0.0	0.0	18.4	81.5	29.78	0.04	85	0.0	-
15-Sep-10	0.0	0.0	19.8	80.1	29.92	7.17	84	0.0	0	0.0	0.0	19.7	80.2	29.92	7.17	84	0.0	0
	0.0	0.0	19.9	80.0	29.92	7.17	84	0.0	120	0.0	0.0	19.7	80.2	29.92	7.17	84	0.0	120
18-Jan-10	0.4	0.6	15.9	83.1	29.86	-0.06	76	8.0	0	0.0	0.0	20.1	79.8	29.86	-0.06	76	0.0	0
	0.2	0.2	17.9	81.7	29.86	-0.06	75	4.0	300	0.0	0.0	20.4	79.6	29.86	-0.06	76	0.0	300
30-Mar-11	0.0	0.0	20.7	79.3	29.89	0.00	81	0.0	0	0.0	1.2	17.7	80.9	29.81	0.00	81	0.0	0
	0.0	0.3	17.9	81.7	29.89	0.00	81	0.0	120	0.0	1.3	17.6	81.0	29.89	0.00	82	0.0	120
30-Jun-11	0.0	0.1	20.6	79.3	29.98	-4.43	NM	0.0	0	0.0	0.0	20.7	79.3	29.98	-0.25	NM	0.0	0
1-Jul-11	0.0	0.7	16.2	83.0	29.98	-4.43	NM	0.0	300	0.0	0.1	20.3	79.6	29.98	-0.25	NM	0.0	300
18-Nov-11	0.0	0.8	17.5	81.7	30.05	148.61	74	0.0	0	0.0	0.1	18.8	81.1	30.05	148.61	76	0.0	0
	0.0	0.5	18.0	81.5	30.05	148.61	74	0.0	300	0.0	0.2	18.8	81.0	30.05	148.61	76	0.0	300

**Notes**

- a. Readings for GP-T1-L3 recorded using a charcoal filter
- b. Readings taken without use of a activated carbon filter.
- c. Location not sampled on this date as part of follow-up event.
- d. Barometric pressure in inches of mercury.
- e. NM = Not measured.
- f. Relative pressure in inches of water.
- g. Beginning with data reported for Sept 2010, the the first reported value is the peak methane reading, and the second reported value is the steady state methane reading. If no methane was detected the first reading reported is the initial reading, and the second reading is the steady state reading. Prior to Sept. 2010, the first reported value is the initial reading, and the second reported value is the final reading.

**Table 6  
Tower 2 - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	
<b>PV-T2-1</b>										<b>PV-T2-2</b>									
12-Mar-09	0.0	2.1	17.6	80.2	30.15	0.00	77	0.0	-	0.0	1.1	17.3	81.5	30.15	0.00	76	0.0	-	
	0.0	2.2	17.5	80.3	30.15	0.00	77	0.0	-	0.0	1.3	17.0	81.6	30.15	0.00	76	0.0	-	
16-Jun-09	0.0	2.6	17.8	79.5	29.91	0.00	81	0.0	-	0.0	0.5	20.7	78.2	29.91	0.00	79	0.0	-	
	0.0	2.1	17.4	79.8	29.91	0.00	82	0.0	-	0.0	0.4	20.8	78.8	29.91	0.00	79	0.0	-	
30-Sep-09	0.0	0.1	20.8	79.0	29.90	-0.13	82	0.0	-	0.0	0.2	20.7	79.1	29.90	-0.13	82	0.0	-	
	0.0	0.1	20.8	79.0	29.90	-0.13	82	0.0	-	0.0	0.1	20.8	79.1	29.90	-0.13	82	0.0	-	
16-Dec-09	0.0	0.3	21.8	77.9	29.97	23.48	80	0.0	-	0.0	0.1	22.0	77.9	29.97	23.48	80	0.0	-	
	0.0	0.2	21.9	77.9	29.97	23.48	80	0.0	-	0.0	0.1	21.9	78.0	29.97	23.48	80	0.0	-	
18-Mar-10	0.0	0.0	20.5	79.3	29.98	0.00	65	0.0	-	0.0	0.0	20.6	79.3	29.98	0.00	70	0.0	-	
	0.0	0.1	20.5	79.3	29.98	0.00	65	0.0	-	0.0	0.1	20.2	79.2	29.98	0.00	70	0.0	-	
26-May-10	0.0	1.8	16.1	81.9	29.77	-0.02	74	0.0	-	0.0	0.2	18.4	81.2	29.78	-0.04	81	0.0	-	
	0.0	2.0	16.0	81.9	29.77	-0.02	74	0.0	-	0.0	0.2	18.3	81.4	29.78	-0.04	81	0.0	-	
15-Sep-10	0.0	2.8	17.1	80.0	29.95	7.36	83	0.0	0	0.0	0.2	19.7	80.0	29.94	7.18	84	0.0	0	
	0.0	2.6	17.2	80.1	29.95	7.36	83	0.0	120	0.0	0.1	19.8	80.0	29.94	7.18	85	0.0	120	
18-Jan-11	0.0	0.0	20.2	79.8	29.86	-0.06	78	0.0	0	0.0	0.0	20.3	79.7	29.86	-0.06	78	0.0	0	
	0.0	0.0	20.2	79.7	29.86	-0.06	78	0.0	300	0.0	0.0	20.3	79.7	29.86	-0.06	78	0.0	300	
30-Mar-11	0.0	0.8	18.4	80.7	29.84	0.00	84	0.0	0	0.0	0.0	20.5	79.5	29.89	0.00	84	0.0	0	
	0.0	0.3	14.8	74.8	29.84	0.00	84	0.0	120	0.0	0.0	20.6	79.4	29.84	0.00	84	0.0	120	
1-Jul-11	0.0	0.1	20.5	79.4	29.98	-0.25	NM	0.0	0	0.0	0.1	20.7	79.2	29.98	-0.25	NM	0.0	0	
	0.0	2.5	14.6	82.9	29.98	-0.25	NM	0.0	300	0.0	0.1	20.6	79.3	29.98	-0.25	NM	0.0	300	
17-Nov-11	0.0	0.1	18.4	81.4	29.95	149.03	80	0.0	0	0.0	0.0	18.7	81.3	29.95	149.03	81	0.0	0	
	0.0	0.0	18.6	81.4	29.95	149.03	84	0.0	300	0.0	0.0	18.6	81.3	29.95	149.03	81	0.0	300	
<b>PV-T2-3</b>										<b>PV-T2-4</b>									
12-Mar-09	0.0	0.0	20.3	79.7	30.21	0.00	76	0.0	-	0.0	0.0	20.2	79.7	30.21	0.17	78	0.0	-	
	0.0	0.0	20.2	79.8	30.21	0.00	76	0.0	-	0.0	0.0	20.1	79.7	30.21	0.17	78	0.0	-	
16-Jun-09	0.0	0.0	20.7	79.2	29.91	0.00	90	0.0	-	0.0	0.0	21.0	78.9	29.88	0.00	80	0.0	-	
	0.0	0.1	20.7	79.1	29.91	0.00	90	0.0	-	0.0	0.0	21.1	78.8	29.88	0.00	80	0.0	-	
30-Sep-09	0.0	0.6	20.0	79.4	29.90	-0.13	82	0.0	-	0.0	0.1	20.9	79.0	29.90	-0.13	83	0.0	-	
	0.0	0.5	20.1	79.4	29.90	-0.13	82	0.0	-	0.0	0.1	20.7	79.2	29.90	-0.13	83	0.0	-	
16-Dec-09	0.0	0.2	20.9	78.9	29.97	23.48	80	0.0	-	0.0	0.4	20.9	78.7	29.97	23.48	80	0.0	-	
	0.0	0.3	21.0	78.7	29.97	23.48	80	0.0	-	0.0	0.3	21.0	78.7	29.97	23.48	80	0.0	-	
18-Mar-10	0.0	0.3	20.5	79.0	29.98	0.00	70	0.0	-	0.0	0.0	20.5	79.4	29.98	0.00	69	0.0	-	
	0.0	0.3	20.6	79.0	29.98	0.00	70	0.0	-	0.0	0.0	20.6	79.3	29.98	0.00	69	0.0	-	
26-May-10	0.0	0.5	18.3	81.3	29.78	-0.04	81	0.0	-	0.0	0.0	18.8	81.1	29.78	-0.04	81	0.0	-	
	0.0	0.5	18.1	81.3	29.78	-0.04	81	0.0	-	0.0	0.0	18.8	81.1	29.78	-0.04	81	0.0	-	
15-Sep-10	0.0	0.7	19.3	79.9	29.94	7.18	85	0.0	0	0.0	0.0	19.9	80.1	29.94	7.18	87	0.0	0	
	0.0	0.8	19.2	80.0	29.94	7.18	86	0.0	120	0.0	0.0	20.0	80.0	29.94	7.18	89	0.0	120	
18-Jan-11	0.0	0.1	19.8	80.1	29.86	-0.06	77	0.0	0	0.0	0.0	19.8	80.2	29.86	-0.06	77	0.0	0	
	0.0	0.1	19.9	80.0	29.86	-0.06	77	0.0	300	0.0	0.1	19.9	80.0	29.86	-0.06	77	0.0	300	
30-Mar-11	0.0	0.0	20.5	79.5	29.89	0.00	83	0.0	0	0.0	0.0	20.7	79.2	29.89	0.00	81	0.0	0	
	0.0	0.0	20.4	79.5	29.84	0.00	82	0.0	120	0.0	0.0	20.5	79.5	29.89	0.00	80	0.0	120	
1-Jul-11	0.0	0.1	20.6	79.3	29.98	-0.25	NM	0.0	0	0.0	0.0	20.7	79.3	29.98	-0.25	NM	0.0	0	
	0.0	0.0	20.7	79.3	29.98	-0.25	NM	0.0	300	0.0	0.0	20.6	79.4	29.98	-0.25	NM	0.0	300	
17-Nov-11	0.0	0.0	18.7	81.3	29.95	149.03	80	0.0	0	0.0	0.0	18.6	81.4	29.95	149.03	80	0.0	0	
	0.0	0.0	18.6	81.4	29.95	149.03	80	0.0	300	0.0	0.0	18.8	81.2	29.95	149.03	80	0.0	300	
<b>PV-T2-5</b>										<b>PV-T2-6</b>									
12-Mar-09	0.0	0.0	20.2	79.7	30.21	0.17	78	0.0	-	0.0	0.0	20.2	79.7	30.21	0.17	78	0.0	-	
	0.0	0.0	20.2	79.7	30.21	0.17	78	0.0	-	0.0	0.0	20.3	79.8	30.21	0.17	78	0.0	-	
16-Jun-09	0.0	0.0	21.2	78.8	29.88	0.00	80	0.0	-	0.0	0.0	21.2	78.8	29.88	0.00	83	0.0	-	
	0.0	0.0	21.1	78.8	29.88	0.00	80	0.0	-	0.0	0.0	21.2	78.8	29.88	0.00	83	0.0	-	
30-Sep-09	0.0	0.1	20.8	79.1	29.90	-0.13	83	0.0	-	0.0	0.1	20.7	79.1	29.91	-0.13	81	0.0	-	
	0.0	0.1	20.8	79.1	29.90	-0.13	83	0.0	-	0.0	0.1	20.9	79.0	29.91	-0.13	81	0.0	-	
16-Dec-09	0.0	0.1	20.5	79.4	29.97	23.48	80	0.0	-	0.0	0.5	20.1	79.4	29.97	23.48	79	0.0	-	
	0.0	0.2	21.0	78.9	29.97	23.48	80	0.0	-	0.0	0.1	20.0	79.9	29.97	23.48	79	0.0	-	
18-Mar-10	0.0	0.3	19.3	80.3	29.98	0.00	70	0.0	-	0.0	0.5	19.8	79.6	29.98	0.00	70	0.0	-	
	0.0	0.3	19.1	80.4	29.98	0.00	70	0.0	-	0.0	0.4	19.9	79.7	29.98	0.00	70	0.0	-	
26-May-10	0.0	0.0	18.8	80.9	29.78	-0.04	80	0.0	-	0.0	0.0	19.0	81.0	29.78	-0.04	80	0.0	-	
	0.0	0.0	19.1	80.9	29.78	-0.04	80	0.0	-	0.0	0.0	18.9	81.1	29.78	0.04	80	0.0	-	
15-Sep-10	0.0	0.0	19.9	80.0	29.94	7.18	87	0.0	0	0.0	0.0	19.8	80.1	29.94	7.18	86	0.0	0	
	0.0	0.0	20.0	80.0	29.94	7.18	89	0.0	120	0.0	0.0	19.8	80.2	29.94	7.18	86	0.0	120	
18-Jan-11	0.0	0.0	20.1	79.8	29.86	-0.06	77	0.0	0	0.0	0.0	20.3	79.7	29.86	-0.06	77	0.0	0	
	0.0	0.0	20.3	79.7	29.86	-0.06	77	0.0	300	0.0	0.0	20.2	79.7	29.86	-0.06	77	0.0	300	
30-Mar-11	0.0	0.0	20.5	79.5	29.89	0.00	80	0.0	0	0.0	0.0	20.7	79.3	29.89	0.00	81	0.0	0	
	0.0	0.0	20.6	79.4	29.89	0.00	80	0.0	120	0.0	0.0	20.7	79.3	29.89	0.00	81	0.0	120	
1-Jul-11	0.0	0.0	20.6	79.4	29.98	-0.25	NM	0.0	0	0.0	0.0	20.7	79.3	29.98	-0.25	NM	0.0	0	
	0.0	0.0	20.6	79.4	29.98	-0.25	NM	0.0	300	0.0	0.0	20.8	79.2	29.98	-0.25	NM	0.0	300	
17-Nov-11	0.0	0.0	18.8	81.2	29.95	149.03	80	0.0	0	0.0	0.0	18.9	81.1	29.95	149.03	80	0.0	0	
	0.0	0.0	18.7	81.3	29.95	149.03	80	0.0	300	0.0	0.0	18.9	81.1	29.95	149.03	80	0.0	300	





**Table 6**  
**Tower 2 - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	
<b>PV-T2-7</b>										<b>PV-T2-8</b>									
12-Mar-09	0.0	0.0	20.2	79.8	30.21	0.17	79	0.0	-	0.0	0.0	20.3	79.7	30.21	0.17	79	0.0	-	
	0.0	0.0	20.2	79.8	30.21	0.17	79	0.0	-	0.0	0.0	20.2	79.7	30.21	0.17	79	0.0	-	
16-Jun-09	0.0	0.0	21.1	78.9	29.88	0.00	84	0.0	-	0.0	0.0	21.0	78.9	29.88	0.00	84	0.0	-	
	0.0	0.0	21.0	78.9	29.88	0.00	84	0.0	-	0.0	0.0	21.0	78.9	29.88	0.00	84	0.0	-	
30-Sep-09	0.0	0.1	20.7	79.1	29.91	-2.72	81	0.0	-	0.0	2.6	16.5	80.9	29.91	-2.72	81	0.0	-	
	0.0	0.1	20.7	79.1	29.91	-2.72	81	0.0	-	0.0	2.0	17.3	80.7	29.91	-2.72	81	0.0	-	
16-Dec-09	0.0	0.3	19.1	80.6	29.97	23.48	80	0.0	-	0.0	0.7	17.3	82.0	29.97	23.48	81	0.0	-	
	0.0	0.3	19.9	79.8	29.97	23.48	80	0.0	-	0.0	0.6	18.0	81.4	29.97	23.48	81	0.0	-	
18-Mar-10	0.0	0.0	20.6	79.3	29.98	0.00	75	0.0	-	0.0	0.2	20.3	79.4	29.98	0.00	74	0.0	-	
	0.0	0.0	20.7	79.3	29.98	0.00	75	0.0	-	0.0	0.3	20.2	79.5	29.98	0.00	74	0.0	-	
26-May-10	0.0	0.0	18.9	81.0	29.78	-0.04	80	0.0	-	0.0	1.9	17.1	80.9	29.78	-0.04	80	0.0	-	
	0.0	0.0	18.9	81.1	29.78	-0.04	80	0.0	-	0.0	1.8	16.9	81.2	29.78	-0.04	80	0.0	-	
15-Sep-10	0.0	0.0	19.9	80.1	29.94	7.18	86	0.0	0	0.0	0.0	19.7	80.2	29.94	7.18	87	0.0	0	
	0.0	0.0	19.8	80.1	29.94	7.18	87	0.0	120	0.0	0.0	19.8	80.2	29.94	7.18	87	0.0	120	
18-Jan-11	0.0	0.1	19.8	80.1	29.86	-0.06	77	0.0	0	0.0	0.8	18.6	80.6	29.86	-0.06	77	0.0	0	
	0.0	0.1	19.8	80.1	29.86	-0.06	77	0.0	300	0.0	1.0	18.3	80.7	29.86	-0.06	77	0.0	300	
30-Mar-11	0.0	0.0	20.7	79.2	29.89	0.00	81	0.0	0	0.0	0.0	20.7	79.3	29.89	0.00	81	0.0	0	
	0.0	0.0	20.6	79.4	29.89	0.00	81	0.0	120	0.0	0.4	19.4	80.2	29.89	0.00	81	0.0	120	
1-Jul-11	0.0	0.0	20.6	79.4	29.98	-0.25	NM	0.0	0	0.0	0.1	20.6	79.3	29.98	-0.25	NM	0.0	0	
	0.0	0.0	20.7	79.3	29.98	-0.25	NM	0.0	300	0.0	0.6	19.7	79.7	29.98	-0.25	NM	0.0	300	
17-Nov-11	0.0	0.0	18.9	81.1	29.95	149.03	80	0.0	0	0.0	0.0	18.8	81.2	29.95	149.03	80	0.0	0	
	0.0	0.0	18.8	81.2	29.95	149.03	80	0.0	300	0.0	2.0	17.1	80.8	29.95	149.03	80	0.0	300	
<b>PV-T2-9</b>										<b>PV-T2-10</b>									
12-Mar-09	0.0	0.0	20.1	79.8	30.21	0.17	77	0.0	-	0.0	0.0	19.9	80.1	30.21	0.17	77	0.0	-	
	0.0	0.0	20.2	79.8	30.21	0.17	77	0.0	-	0.0	0.0	20.0	80.0	30.21	0.17	77	0.0	-	
16-Jun-09	0.0	0.1	21.1	78.8	29.88	0.00	84	0.0	-	0.0	0.0	21.1	78.9	29.88	0.00	84	0.0	-	
	0.0	0.0	21.0	78.8	29.88	0.00	87	0.0	-	0.0	0.0	21.0	78.8	29.88	0.00	84	0.0	-	
30-Sep-09	0.0	0.1	20.9	79.0	29.91	-2.72	83	0.0	-	0.0	0.5	20.0	79.5	29.91	-2.72	83	0.0	-	
	0.0	0.1	20.9	79.0	29.91	-2.72	83	0.0	-	0.0	0.5	19.9	79.6	29.91	-2.72	83	0.0	-	
16-Dec-09	0.0	0.2	20.1	79.7	29.97	23.48	81	0.0	-	0.0	0.4	18.4	81.1	29.97	23.48	81	0.0	-	
	0.0	0.3	20.9	78.8	29.97	23.48	81	0.0	-	0.0	0.6	19.1	80.2	29.97	23.48	81	0.0	-	
18-Mar-10	0.0	1.8	17.7	80.4	29.98	0.00	76	0.0	-	0.0	0.1	20.4	79.4	29.98	0.00	66	0.0	-	
	0.0	1.8	17.6	80.5	29.98	0.00	76	0.0	-	0.0	0.2	20.6	79.1	29.98	0.00	66	0.0	-	
26-May-10	0.0	0.0	18.8	81.2	29.78	-0.04	80	0.0	-	0.0	0.0	19.0	80.9	29.78	-0.04	81	0.0	-	
	0.0	0.0	18.9	81.0	29.78	-0.04	80	0.0	-	0.0	0.0	18.9	81.0	29.78	-0.04	81	0.0	-	
15-Sep-10	0.0	0.2	19.5	80.2	29.94	7.18	86	0.0	0	0.0	0.5	19.3	80.2	29.94	7.18	86	0.0	0	
	0.0	0.0	19.9	80.0	29.94	7.18	86	0.0	120	0.0	0.3	19.4	80.0	29.94	7.18	87	0.0	180	
18-Jan-11	0.0	0.4	19.1	80.4	29.86	-0.06	77	0.0	0	0.0	0.0	20.3	79.7	29.86	-0.06	77	0.0	0	
	0.0	0.0	20.3	79.7	29.86	-0.06	77	0.0	300	0.0	0.4	19.6	80.0	29.86	-0.06	77	0.0	300	
30-Mar-11	0.0	0.1	20.1	79.9	29.89	0.00	80	0.0	0	0.0	0.0	20.7	79.3	29.89	0.00	78	0.0	0	
	0.0	0.0	20.8	79.2	29.89	0.00	80	0.0	120	0.0	0.0	20.5	79.5	29.89	0.00	77	0.0	120	
1-Jul-11	0.0	0.0	20.7	79.3	29.98	-0.25	NM	0.0	0	0.0	0.0	20.7	79.3	29.98	-0.25	NM	0.0	0	
	0.0	0.0	20.7	79.3	29.98	-0.25	NM	0.0	300	0.0	0.1	20.4	79.5	29.98	-0.25	NM	0.0	300	
17-Nov-11	0.0	0.0	18.8	81.1	29.95	149.03	80	0.0	0	0.0	0.0	18.9	81.1	29.95	149.03	80	0.0	0	
	0.0	0.0	18.9	81.1	29.95	149.03	80	0.0	300	0.0	0.0	18.9	81.1	29.95	149.03	80	0.0	300	
<b>PV-T2-11</b>										<b>PV-T2-12</b>									
12-Mar-09	0.0	0.0	19.8	80.2	30.21	0.16	76	0.0	-	0.0	0.3	19.5	80.2	30.15	0.00	86	0.0	-	
	0.0	0.0	19.9	80.0	30.21	0.16	76	0.0	-	0.0	0.2	19.7	80.1	30.15	0.00	86	0.0	-	
16-Jun-09	0.0	0.0	21.1	78.9	29.91	0.00	85	0.0	-	0.0	0.0	21.2	78.7	29.91	0.00	79	0.0	-	
	0.0	0.0	21.0	78.9	29.91	0.00	85	0.0	-	0.0	0.1	21.0	78.8	29.91	0.00	79	0.0	-	
30-Sep-09	0.0	0.1	20.7	79.2	29.91	-2.72	83	0.0	-	0.0	0.5	20.5	79.1	29.90	-0.17	86	0.0	-	
	0.0	0.1	20.8	79.1	29.91	-2.72	83	0.0	-	0.0	0.5	20.4	79.1	29.90	-0.17	86	0.0	-	
16-Dec-09	0.0	0.6	20.1	79.3	29.97	23.48	80	0.0	-	0.0	0.3	19.9	79.7	29.97	23.48	80	0.0	-	
	0.0	0.6	20.2	79.2	29.97	23.48	80	0.0	-	0.0	0.3	20.5	79.2	29.97	23.48	80	0.0	-	
18-Mar-10	0.0	0.7	20.2	79.1	29.98	0.00	65	0.0	-	0.0	0.0	20.7	79.2	29.98	0.00	76	0.0	-	
	0.0	0.6	20.2	79.1	29.98	0.00	65	0.0	-	0.0	0.0	20.7	79.2	29.98	0.00	76	0.0	-	
26-May-10	0.0	0.0	18.7	81.1	29.78	-0.04	81	0.0	-	0.0	0.0	18.8	81.1	29.78	-0.04	80	0.0	-	
	0.0	0.0	18.9	81.0	29.78	-0.04	80	0.0	-	0.0	0.0	18.9	81.0	29.78	-0.04	80	0.0	-	
15-Sep-10	0.0	1.4	18.4	80.1	29.94	7.18	86	0.0	0	0.0	3.5	15.6	80.8	29.94	7.18	86	0.0	0	
	0.0	1.5	18.4	80.1	29.94	7.18	85	0.0	120	0.0	3.3	15.3	81.3	29.94	7.18	85	0.0	120	
18-Jan-11	0.0	0.0	20.3	79.7	29.86	-0.06	78	0.0	0	0.0	0.8	19.1	80.1	29.86	-0.06	79	0.0	0	
	0.0	0.0	20.3	79.7	29.86	-0.06	78	0.0	300	0.0	1.0	19.0	80.0	29.86	-0.06	79	0.0	300	
30-Mar-11	0.0	0.0	19.8	80.2	29.89	-0.12	80	0.0	0	0.0	0.0	19.7	80.3	29.84	-0.12	81	0.0	0	
	0.0	0.0	19.8	80.2	29.84	-0.12	80	0.0	120	0.0	0.0	19.7	80.3	29.84	-0.12	81	0.0	120	
1-Jul-11	0.0	0.2	20.3	79.5	29.98	-0.25	NM	0.0	0	0.0	0.1	20.5	79.4	29.98	-0.25	NM	0.0	0	
	0.0	0.3	19.7	80.0	29.98	-0.25	NM	0.0	300	0.0	0.3	20.2	79.5	29.98	-0.25	NM	0.0	300	
17-Nov-11	0.0	0.0	17.9	81.1	29.95	149.03	80	0.0	0	0.0	0.7	18.1	81.4	29.95	149.03	80	0.0	0	
	0.0	0.8	18.0	81.1	29.95	149.03	80	0.0	300	0.0	0.0	19.1	80.9	29.95	149.03	80	0.0	300	



**Table 6  
Tower 2 - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	
<b>PV-T2-13</b>										<b>PV-T2-14</b>									
12-Mar-09	0.0	0.0	20.3	79.8	30.15	0.00	82	0.0	-	0.0	0.0	20.1	79.7	30.15	0.00	82	0.0	-	
	0.0	0.0	20.3	79.7	30.15	0.00	82	0.0	-	0.0	0.0	19.8	80.1	30.15	0.00	82	0.0	-	
16-Jun-09	0.0	2.3	17.8	79.8	29.91	0.00	79	0.0	-	0.0	0.2	19.9	79.8	29.91	0.00	81	0.0	-	
	0.0	2.0	18.2	79.7	29.91	0.00	79	0.0	-	0.0	0.2	19.2	80.5	29.91	0.00	82	0.0	-	
30-Sep-09	0.0	0.5	20.3	79.2	29.90	-0.17	86	0.0	-	0.0	0.3	20.1	79.6	29.90	-0.17	86	0.0	-	
	0.0	0.4	20.4	79.2	29.90	-0.17	86	0.0	-	0.0	0.2	20.3	79.5	29.90	-0.17	86	0.0	-	
16-Dec-09	0.0	0.5	18.9	80.5	29.97	23.48	80	0.0	-	0.0	0.9	20.1	79.0	29.97	23.48	80	0.0	-	
	0.0	0.5	18.8	80.6	29.97	23.48	80	0.0	-	0.0	0.5	19.4	80.0	29.97	23.48	80	0.0	-	
18-Mar-10	0.0	0.5	20.0	79.4	29.98	0.00	65	0.0	-	0.0	0.9	18.9	79.9	29.98	0.00	65	0.0	-	
	0.0	0.6	19.8	79.5	29.98	0.00	65	0.0	-	0.0	0.4	20.1	79.4	29.98	0.00	65	0.0	-	
26-May-10	0.0	1.4	17.2	81.1	29.77	-0.02	78	0.0	-	0.0	0.4	18.4	81.4	29.77	-0.02	77	0.0	-	
	0.0	1.2	17.5	81.3	29.77	-0.02	78	0.0	-	0.0	0.0	18.9	81.0	29.77	-0.02	76	0.0	-	
15-Sep-10	0.0	1.9	18.1	80.0	29.95	7.36	90	0.0	0	NM	NM	NM	NM	NM	NM	NM	NM	NM	
	0.0	0.9	18.9	80.1	29.95	7.36	89	0.0	240	NM	NM	NM	NM	NM	NM	NM	NM	NM	
18-Jan-11	0.0	0.2	20.0	79.8	29.86	-0.06	80	0.0	0	NM	NM	NM	NM	NM	NM	NM	NM	NM	
	0.0	0.9	19.1	79.9	29.86	-0.06	80	0.0	300	NM	NM	NM	NM	NM	NM	NM	NM	NM	
30-Mar-11	0.0	1.3	18.5	80.2	29.84	-0.12	82	0.0	0	0.0	0.1	19.0	80.8	29.84	-0.12	82	0.0	0	
	0.0	1.2	18.6	80.2	29.84	-0.12	82	0.0	120	0.0	0.1	19.0	80.8	29.84	-0.12	82	0.0	120	
1-Jul-11	0.0	0.5	20.1	79.4	29.98	-0.25	NM	0.0	0	0.0	0.1	20.5	79.4	29.98	-0.25	NM	0.0	0	
	0.0	1.8	18.7	79.5	29.98	-0.25	NM	0.0	300	0.0	0.1	20.5	79.4	29.98	-0.25	NM	0.0	240	
18-Nov-11	0.0	0.9	17.6	81.3	30.05	148.61	75	0.0	0	0.0	0.9	17.6	81.3	30.05	148.60	75	0.0	0	
	0.0	0.6	18.1	81.1	30.05	148.61	75	0.0	300	0.0	0.6	18.1	81.1	30.05	148.60	75	0.0	300	
<b>PV-T2-15</b>										<b>GP-T2-15</b>									
12-Mar-09	0.0	0.0	20.0	79.8	30.15	0.00	76	0.0	-	0.0	0.0	20.2	79.8	30.15	0.00	86	0.0	-	
	0.0	0.0	20.1	79.9	30.15	0.00	76	0.0	-	0.0	0.0	20.2	79.7	30.15	0.00	86	0.0	-	
16-Jun-09	0.0	3.4	15.8	80.6	29.91	0.00	83	0.0	-	0.0	0.1	20.9	78.9	29.91	0.00	75	0.0	-	
	0.0	3.1	16.0	80.9	29.91	0.00	83	0.0	-	0.0	0.2	20.7	79.0	29.91	0.00	76	0.0	-	
30-Sep-09	0.0	3.2	18.2	78.6	29.90	-0.17	84	0.0	-	0.0	0.8	19.5	79.7	29.90	-0.17	86	0.0	-	
	0.0	3.1	18.3	78.6	29.90	-0.17	84	0.0	-	0.0	0.5	19.7	79.8	29.90	-0.17	86	0.0	-	
16-Dec-09	0.0	1.2	18.0	80.8	29.97	23.48	80	0.0	-	0.0	2.4	19.9	77.7	29.97	23.48	80	0.0	-	
	0.0	1.6	17.8	80.6	29.97	23.48	80	0.0	-	0.0	5.1	19.6	75.5	29.97	23.48	80	0.0	-	
18-Mar-10	0.0	0.8	19.5	79.6	29.98	0.00	65	0.0	-	0.0	0.5	19.7	79.8	29.98	0.00	76	0.0	-	
	0.0	1.1	19.4	79.5	29.98	0.00	65	0.0	-	0.0	0.5	19.6	79.8	29.98	0.00	76	0.0	-	
26-May-10	0.0	0.4	18.4	81.1	29.77	-0.02	77	0.0	-	0.0	0.1	18.8	80.9	29.78	-0.04	80	0.0	-	
	0.0	0.5	18.5	80.9	29.77	-0.02	76	0.0	-	0.0	0.2	18.5	81.1	29.78	-0.04	80	0.0	-	
15-Sep-10	0.0	1.0	19.1	79.9	29.95	7.18	84	0.0	0	0.0	0.5	18.5	80.9	29.94	7.18	89	0.0	0	
	0.0	0.4	19.4	80.1	29.95	7.18	84	0.0	240	0.0	0.5	18.5	80.9	29.94	7.18	88	0.0	120	
18-Jan-11	0.0	1.9	18.1	80.0	29.86	-0.06	78	0.0	0	0.0	0.3	20.0	79.7	29.86	-0.06	79	0.0	0	
	0.0	1.8	18.2	80.0	29.86	-0.06	78	0.0	300	0.0	0.3	19.9	79.8	29.86	-0.06	79	0.0	300	
30-Mar-11	0.0	2.6	17.9	79.6	29.84	-0.12	84	0.0	0	0.0	0.0	19.8	80.2	29.84	-0.12	81	0.0	0	
	0.0	2.7	17.7	79.6	29.84	-0.12	84	0.0	120	0.0	0.0	19.7	80.2	29.84	-0.12	81	0.0	120	
1-Jul-11	0.0	0.3	20.5	79.2	29.98	-0.25	NM	0.0	0	0.0	0.2	20.6	79.2	29.96	0.03	NM	0.0	0	
	0.0	0.3	20.4	79.3	29.98	-0.25	NM	0.0	300	0.0	0.5	20.2	79.3	29.96	0.03	NM	0.0	240	
18-Nov-11	0.0	0.6	18.4	80.9	30.05	148.61	75	0.0	0	0.0	0.0	18.8	81.1	29.95	149.03	81	0.0	0	
	0.0	0.4	18.5	81.1	30.05	148.61	75	0.0	300	0.0	0.2	18.6	81.1	29.95	149.03	81	0.0	300	
<b>GP-T2-16</b>										<b>GP-T2-17</b>									
12-Mar-09	0.0	0.5	19.1	80.4	30.15	0.00	85	0.0	-	0.0	0.1	20.0	79.8	30.15	0.00	72	0.0	-	
	0.0	0.1	19.5	80.3	30.15	0.00	85	0.0	-	0.0	0.1	20.2	79.8	30.15	0.00	72	0.0	-	
16-Jun-09	0.0	0.4	21.0	78.6	29.91	0.00	86	0.0	-	0.0	0.7	20.3	79.0	29.91	0.00	80	0.0	-	
	0.0	0.0	21.1	78.8	29.91	0.00	87	0.0	-	0.0	0.1	20.9	78.9	29.91	0.00	80	0.0	-	
30-Sep-09	0.0	0.1	20.7	79.2	29.90	-0.17	86	0.0	-	0.0	0.5	20.3	79.2	29.90	-0.17	84	0.0	-	
	0.0	0.1	20.7	79.2	29.90	-0.17	86	0.0	-	0.0	0.4	20.3	79.3	29.90	-0.17	84	0.0	-	
16-Dec-09	0.0	0.5	19.1	80.3	29.97	23.48	80	0.0	-	0.0	0.7	19.9	79.3	29.97	23.48	80	0.0	-	
	0.0	1.7	18.9	79.5	29.97	23.48	80	0.0	-	0.0	0.4	21.0	78.6	29.97	23.48	80	0.0	-	
18-Mar-10	0.0	0.1	20.5	79.3	29.98	0.00	65	0.0	-	0.0	0.0	20.7	79.2	29.98	0.00	65	0.0	-	
	0.0	0.0	20.7	79.2	29.98	0.00	65	0.0	-	0.0	0.4	20.6	79.1	29.98	0.00	65	0.0	-	
26-May-10	0.0	0.0	18.6	81.2	29.77	-0.02	78	0.0	-	0.0	0.2	18.6	81.2	29.77	-0.02	76	0.0	-	
	0.0	0.0	18.8	81.1	29.77	-0.02	78	0.0	-	0.0	0.0	19.0	80.9	29.77	-0.02	76	0.0	-	
15-Sep-10	0.0	0.0	19.8	80.1	29.95	7.36	83	0.0	0	0.0	0.3	19.5	80.2	29.95	7.36	84	0.0	0	
	0.0	0.0	19.8	80.1	29.95	7.36	84	0.0	120	0.0	0.0	19.9	80.0	29.95	7.36	8	0.0	240	
18-Jan-11	0.0	0.5	19.8	79.6	29.86	-0.06	80	0.0	0	0.0	0.2	20.0	79.7	29.86	-0.06	78	0.0	0	
	0.0	0.0	20.3	79.7	29.86	-0.06	80	0.0	300	0.0	0.0	20.3	79.7	29.86	-0.06	78	0.0	300	
30-Mar-11	0.0	0.8	17.9	81.2	29.84	-0.12	82	0.0	0	0.0	0.1	19.8	80.1	29.84	-0.12	84	0.0	0	
	0.0	0.4	19.1	80.5	29.84	-0.12	82	0.0	120	0.0	0.0	19.9	80.1	29.84	-0.12	84	0.0	120	
1-Jul-11	0.0	0.4	20.0	79.6	29.96	0.03	NM	0.0	0	0.0	0.1	20.6	79.3	29.96	0.03	NM	0.0	0	
	0.0	0.1	20.7	79.2	29.96	0.03	NM	0.0	300	0.0	0.1	20.7	79.2	29.96	0.03	NM	0.0	300	
18-Nov-11	0.0	0.2	18.7	81.0	30.05	148.61	75	0.0	0	0.0	0.4	18.6	81.0	30.05	148.61	75	0.0	0	
	0.0	0.1	18.9	81.0	30.05	148.61	75	0.0	300	0.0	0.1	18.9	81.0	30.05	148.61	75	0.0	300	

**Table 6  
Tower 2 - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)
<b>GP-T2-18</b>																		
12-Mar-09	0.0	0.2	20.0	79.7	30.15	0.00	78	0.0	-									
	0.0	0.2	19.9	79.8	30.15	0.00	77	0.0	-									
16-Jun-09	0.0	0.8	19.6	79.4	29.91	0.00	83	0.0	-									
	0.0	0.6	20.3	79.0	29.91	0.00	82	0.0	-									
30-Sep-09	0.0	0.9	19.9	79.2	29.90	-0.13	82	0.0	-									
	0.0	0.6	20.2	79.2	29.90	-0.13	82	0.0	-									
16-Dec-09	0.0	0.4	20.1	79.4	29.97	23.48	80	0.0	-									
	0.0	0.5	20.5	79.0	29.97	23.48	80	0.0	-									
18-Mar-10	0.0	0.1	20.7	79.2	29.98	0.00	65	0.0	-									
	0.0	0.2	20.5	79.2	29.98	0.00	65	0.0	-									
26-May-10	0.0	0.2	18.6	81.1	29.77	-0.02	79	0.0	-									
	0.0	0.1	18.6	81.3	29.77	-0.02	76	0.0	-									
15-Sep-10	0.0	0.1	19.7	80.2	29.95	7.36	81	0.0	0									
	0.0	0.2	19.8	80.0	29.95	7.36	80	0.0	120									
18-Jan-11	0.0	0.0	19.9	80.0	29.86	-0.06	78	0.0	0									
	0.0	0.1	19.9	79.9	29.86	-0.06	78	0.0	300									
30-Mar-11	0.0	0.1	19.9	79.9	29.90	0.00	83	0.0	0									
	0.0	0.2	19.8	79.9	29.90	0.00	83	0.0	120									
1-Jul-11	0.0	0.3	20.2	79.5	29.98	-0.25	NM	0.0	0									
	0.0	0.3	20.3	79.4	29.98	-0.25	NM	0.0	240									
17-Nov-11	0.0	0.1	18.5	81.3	29.95	149.03	81	0.0	0									
	0.0	0.1	18.6	81.3	29.95	149.03	80	0.0	300									

**Notes**

- Sampling at PV-T2-14 was not conducted, passive vent was not found.
- NM = Not measured.
- Barometric pressure in inches of mercury.
- Relative pressure in inches of water.
- Beginning with data reported for Sept 2010, the first reported value is the peak methane reading, and the second reported value is the steady state methane reading. If no methane was detected the first reading reported is the initial reading, and the second reading is the steady state reading. Prior to Sept. 2010, the first reported value is the initial reading, and the second reported value is the final reading.



**Table 7  
Garage 1 - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	
<b>GP-G1-10</b>										<b>GP-G1-11</b>									
12-Mar-09	0.0	0.0	20.6	79.4	30.15	0.00	77	0.0	-	0.0	0.0	20.6	79.3	30.15	0.00	77	0.0	-	
	0.0	0.0	20.6	79.3	30.15	0.00	77	0.0	-	0.0	0.0	20.6	79.4	30.15	0.00	77	0.0	-	
16-Jun-09	0.0	5.1	14.5	80.3	29.89	0.00	88	0.0	-	0.0	1.1	19.1	79.7	29.89	0.00	90	0.0	-	
	0.0	4.7	15.1	80.2	29.89	0.00	88	0.0	-	0.0	1.2	18.5	80.1	29.89	0.00	90	0.0	-	
30-Sep-09	0.0	5.0	15.3	80.0	29.91	-0.02	85	0.0	-	0.0	0.1	20.8	79.1	29.91	-0.02	85	0.0	-	
	0.0	2.9	17.5	79.6	29.91	-0.02	85	0.0	-	0.0	0.1	20.9	79.0	29.91	-0.02	85	0.0	-	
16-Dec-09	0.1	4.3	15.7	79.9	29.97	23.48	80	2.0	-	0.1	0.1	21.9	78.0	29.97	23.48	80	2.0	-	
	0.0	3.2	17.0	79.8	29.97	23.48	80	0.0	-	0.0	0.0	22.0	78.0	29.97	23.48	80	0.0	-	
18-Mar-10	0.0	0.2	20.4	79.3	29.98	0.00	63	0.0	-	0.0	0.1	20.7	79.1	29.98	0.00	63	0.0	-	
	0.0	0.4	20.4	79.1	29.98	0.00	63	0.0	-	0.0	0.1	20.8	79.1	29.98	0.00	63	0.0	-	
26-May-10	0.0	0.1	18.1	81.8	29.81	0.00	87	0.0	-	0.0	0.0	18.2	81.7	29.81	0.00	88	0.0	-	
	0.0	0.1	18.1	81.7	29.81	0.00	88	0.0	-	0.0	0.0	18.3	81.7	29.81	0.00	88	0.0	-	
15-Sep-10	0.0	3.7	15.4	80.8	29.96	7.29	83	0.0	0	0.0	0.0	19.5	80.5	29.96	7.29	83	0.0	0	
	0.0	3.0	16.0	80.9	29.96	7.29	83	0.0	120	0.0	0.0	19.6	80.3	29.96	7.29	83	0.0	120	
18-Jan-11	0.0	3.3	15.2	81.5	29.87	-0.09	76	0.0	0	0.0	0.7	19.1	80.2	29.87	-0.09	73	0.0	0	
	0.0	1.4	17.7	80.9	29.87	-0.09	76	0.0	300	0.0	0.9	18.5	80.5	29.87	-0.09	73	0.0	300	
30-Mar-11	0.0	0.5	19.4	80.0	29.95	0.00	78	0.0	0	0.0	1.5	18.1	80.4	29.95	0.00	78	0.0	0	
	0.0	0.3	19.8	79.7	29.95	0.00	76	0.0	120	0.0	1.5	17.9	80.5	29.95	0.00	78	0.0	120	
30-Jun-11	0.0	0.1	20.5	79.4	29.94	0.11	NM	0.0	0	0.0	0.2	20.3	79.5	29.94	0.11	NM	0.0	0	
	0.0	4.7	14.2	81.1	29.94	0.11	NM	0.0	300	0.0	1.6	17.9	80.5	29.94	0.11	NM	0.0	300	
18-Nov-11	0.0	0.0	18.9	81.0	30.08	148.78	76	0.0	0	0.0	0.0	19.0	80.9	30.08	148.78	79	0.0	0	
	0.0	0.0	18.9	81.6	30.08	148.78	76	0.0	300	0.0	0.0	18.9	81.0	30.08	148.78	79	0.0	300	
<b>GP-G1-12</b>										<b>GP-G1-13</b>									
12-Mar-09	0.0	0.0	20.6	79.4	30.15	0.00	77	0.0	-	0.0	0.0	20.7	79.2	30.15	0.00	77	0.0	-	
	0.0	0.0	20.6	79.4	30.15	0.00	77	0.0	-	0.0	0.0	20.7	79.2	30.15	0.00	77	0.0	-	
16-Jun-09	0.0	0.0	20.9	79.1	29.89	0.00	92	0.0	-	0.0	0.0	20.9	79.1	29.89	0.00	94	0.0	-	
	0.0	0.0	20.9	79.0	29.89	0.00	92	0.0	-	0.0	0.0	20.9	79.0	29.89	0.00	94	0.0	-	
30-Sep-09	0.0	0.1	20.8	79.1	29.91	-0.02	86	0.0	-	0.0	0.1	20.9	79.1	29.91	-0.02	86	0.0	-	
	0.0	0.1	20.8	79.1	29.91	-0.02	86	0.0	-	0.0	0.0	20.9	79.1	29.91	-0.02	86	0.0	-	
16-Dec-09	0.0	0.1	22.0	78.0	29.97	23.48	80	0.0	-	0.0	0.0	22.1	77.9	29.97	23.48	79	0.0	-	
	0.0	0.0	22.0	78.0	29.97	23.48	80	0.0	-	0.0	0.1	22.1	77.8	29.97	23.48	79	0.0	-	
18-Mar-10	0.0	0.0	20.8	79.1	29.98	0.00	63	0.0	-	0.0	0.0	20.7	79.2	29.98	0.00	63	0.0	-	
	0.0	0.2	20.5	79.2	29.98	0.00	63	0.0	-	0.0	0.1	20.7	79.3	29.98	0.00	63	0.0	-	
26-May-10	0.0	0.0	18.4	81.4	29.81	0.00	88	0.0	-	0.0	0.0	18.3	81.6	29.81	0.00	88	0.0	-	
	0.0	0.0	18.4	81.6	29.81	0.00	88	0.0	-	0.0	0.0	18.5	81.5	29.81	0.00	88	0.0	-	
15-Sep-10	0.0	1.5	18.3	80.1	29.96	7.29	83	0.0	0	0.0	0.0	19.6	80.4	29.96	7.29	84	0.0	0	
	0.0	3.4	15.9	80.6	29.96	7.29	83	0.0	240	0.0	0.0	19.5	80.4	29.96	7.29	84	0.0	120	
18-Jan-11	0.0	0.0	20.3	79.7	29.87	-0.09	74	0.0	0	0.0	0.0	20.4	79.6	29.87	-0.09	77	0.0	0	
	0.0	0.0	20.3	79.7	29.87	-0.09	75	0.0	300	0.0	0.0	20.4	79.6	29.87	-0.09	78	0.0	300	
30-Mar-11	0.0	0.0	20.4	79.6	29.95	0.00	79	0.0	0	0.0	0.0	20.5	79.3	29.95	0.00	79	0.0	0	
	0.0	0.0	20.6	79.4	29.95	0.00	78	0.0	120	0.0	0.0	20.5	79.3	29.95	0.00	78	0.0	120	
30-Jun-11	0.0	0.2	20.1	79.7	29.94	0.11	NM	0.0	0	0.0	0.1	20.5	79.4	29.94	0.11	NM	0.0	0	
	0.0	0.0	20.6	79.4	29.94	0.11	NM	0.0	300	0.0	0.1	20.5	79.4	29.94	0.11	NM	0.0	300	
18-Nov-11	0.0	0.6	18.1	81.3	30.09	148.81	74	0.0	0	0.0	0.2	18.9	80.8	30.09	148.81	74	0.0	0	
	0.0	0.0	18.9	81.0	30.09	148.81	74	0.0	300	0.0	0.5	18.1	81.3	30.09	148.81	74	0.0	300	
<b>GP-G1-14</b>										<b>GP-G1-15</b>									
12-Mar-09	0.0	0.8	18.6	80.5	30.15	0.00	77	0.0	-	0.0	0.0	20.3	79.6	30.15	0.00	75	0.0	-	
	0.0	1.4	17.4	80.9	30.15	0.00	77	0.0	-	0.0	0.0	20.4	79.6	30.15	0.00	75	0.0	-	
16-Jun-09	0.0	3.7	12.4	83.9	29.89	0.00	94	0.0	-	0.0	0.5	19.8	79.5	29.85	0.00	88	0.0	-	
	0.0	4.8	8.6	86.5	29.89	0.00	94	0.0	-	0.0	0.4	20.0	79.5	29.85	0.00	88	0.0	-	
30-Sep-09	0.0	3.7	13.5	82.8	29.91	-0.02	86	0.0	-	0.0	0.6	19.8	79.5	29.91	-0.02	84	0.0	-	
	0.0	4.8	13.2	83.0	29.91	-0.02	86	0.0	-	0.0	0.5	20.1	79.4	29.91	-0.02	84	0.0	-	
16-Dec-09	0.0	0.0	22.1	77.9	29.97	23.48	79	0.0	-	0.2	0.3	21.8	77.7	29.97	23.48	79	4.0	-	
	0.0	0.0	22.1	77.9	29.97	23.48	79	0.0	-	0.0	0.3	22.0	77.7	29.97	23.48	79	0.0	-	
18-Mar-10	0.0	0.4	20.1	79.4	29.98	0.00	62	0.0	-	0.0	0.1	20.5	79.4	29.98	0.00	71	0.0	-	
	0.0	0.5	20.0	79.4	29.98	0.00	62	0.0	-	0.0	0.4	19.9	79.6	29.98	0.00	71	0.0	-	
26-May-10	0.0	0.1	17.9	81.8	29.81	0.00	87	0.0	-	0.0	0.0	18.9	81.1	29.82	0.00	82	0.0	-	
	0.0	0.1	18.1	81.8	29.81	0.00	87	0.0	-	0.0	0.0	18.9	81.1	29.82	0.00	82	0.0	-	
15-Sep-10	0.0	0.0	19.6	80.3	29.96	7.29	84	0.0	0	0.0	0.0	19.5	80.3	29.96	7.20	86	0.0	0	
	0.0	2.8	16.0	81.1	29.96	7.29	85	0.0	240	0.0	0.0	19.7	80.2	29.96	7.20	86	0.0	120	
18-Jan-11	0.0	0.1	20.3	79.6	29.87	-0.09	79	0.0	0	0.0	0.2	19.8	79.9	29.87	-0.09	76	0.0	0	
	0.0	0.1	20.2	79.7	29.87	-0.09	79	0.0	300	0.0	0.1	20.1	79.8	29.87	-0.09	76	0.0	300	
30-Mar-11	0.0	0.0	20.6	79.7	29.95	0.00	79	0.0	0	0.0	0.1	19.3	80.6	29.90	0.00	90	0.0	0	
	0.0	0.1	20.0	79.8	29.95	0.00	77	0.0	120	0.0	0.1	19.2	80.7	29.90	0.00	90	0.0	120	
30-Jun-11	0.0	0.0	20.6	79.4	29.94	0.11	NM	0.0	0	0.0	0.1	20.6	79.3	29.94	0.11	NM	0.0	0	
	0.0	2.4	15.8	81.8	29.94	0.11	NM	0.0	300	0.0	0.3	20.2	79.5	29.94	0.11	NM	0.0	300	
18-Nov-11	0.0	0.2	18.8	80.9	30.09	148.81	73	0.0	0	0.0	0.1	18.8	81.0	30.09	148.81	76	0.0	0	
	0.0	0.1	18.9	81.0	30.09	148.81	73	0.0	300	0.0	0.1	19.0	80.9	30.09	148.81	76	0.0	300	



**Table 7  
Garage 1 - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)
<b>GP-G1-16</b>																		
12-Mar-09	0.0	0.0	20.1	79.8	30.15	0.00	80	0.0	-									
	0.0	0.0	20.1	79.8	30.15	0.00	80	0.0	-									
16-Jun-09	0.0	0.0	20.5	79.4	29.85	0.00	90	0.0	-									
	0.0	0.0	20.7	79.2	29.85	0.00	90	0.0	-									
30-Sep-09	0.0	0.1	20.2	79.7	29.91	-0.02	84	0.0	-									
	0.0	0.1	20.3	79.6	29.91	-0.02	84	0.0	-									
16-Dec-09	0.1	0.4	21.4	78.1	29.97	23.48	81	2.0	-									
	0.0	0.6	20.9	78.5	29.97	23.48	81	0.0	-									
18-Mar-10	0.0	0.3	19.7	79.9	29.98	0.00	62	0.0	-									
	0.0	0.4	19.8	79.9	29.98	0.00	62	0.0	-									
26-May-10	0.0	0.1	17.9	81.9	29.82	0.00	87	0.0	-									
	0.0	0.1	17.8	81.9	29.82	0.00	87	0.0	-									
15-Sep-10	0.0	1.4	17.3	81.2	29.96	7.20	85	0.0	0									
	0.0	2.8	17.2	79.9	29.96	7.20	86	0.0	240									
18-Jan-11	0.0	0.4	18.7	80.8	29.87	-0.09	77	0.0	0									
	0.0	0.4	19.4	80.2	29.87	-0.09	77	0.0	300									
30-Mar-11	0.0	0.0	20.5	79.4	29.95	0.00	80	0.0	0									
	0.0	0.1	20.2	79.4	29.95	0.00	78	0.0	120									
30-Jun-11	0.0	0.4	20.0	79.6	29.94	0.11	NM	0.0	0									
	0.0	0.1	20.5	79.4	29.94	0.11	NM	0.0	300									
18-Nov-11	0.0	0.1	18.7	81.1	30.09	148.81	76	0.0	0									
	0.0	0.1	18.8	81.0	30.09	148.81	76	0.0	300									
<b>PV-G1-1</b>																		
12-Mar-09	0.0	0.0	20.5	79.5	30.15	0.00	80	0.0	-	0.0	0.0	20.2	79.6	30.15	0.00	75	0.0	-
	0.0	0.0	20.6	79.4	30.15	0.00	80	0.0	-	0.0	0.0	20.2	79.6	30.15	0.00	75	0.0	-
16-Jun-09	0.0	0.0	21.1	78.8	29.85	0.00	93	0.0	-	0.0	0.0	21.0	78.8	29.89	0.00	86	0.0	-
	0.0	0.0	20.4	79.5	29.85	0.00	93	0.0	-	0.0	0.0	20.3	78.2	29.89	0.00	86	0.0	-
30-Sep-09	0.0	0.5	20.3	79.2	29.91	-0.02	85	0.0	-	0.0	0.1	20.8	79.2	29.91	-0.02	85	0.0	-
	0.0	0.5	20.2	79.3	29.91	-0.02	85	0.0	-	0.0	0.1	20.9	79.1	29.91	-0.02	85	0.0	-
16-Dec-09	0.0	0.4	20.7	78.9	29.97	23.48	81	0.0	-	0.0	0.0	22.1	77.8	29.97	23.48	79	0.0	-
	0.0	0.5	21.1	78.4	29.97	23.48	81	0.0	-	0.0	0.0	22.1	77.9	29.97	23.48	79	0.0	-
18-Mar-10	0.0	0.0	20.7	79.2	29.98	0.00	61	0.0	-	0.0	0.0	20.7	79.2	29.98	0.00	61	0.0	-
	0.0	0.0	20.7	79.2	29.98	0.00	61	0.0	-	0.0	0.0	20.6	79.3	29.98	0.00	61	0.0	-
26-May-10	0.0	0.0	18.6	81.3	29.81	0.00	86	0.0	-	0.0	0.0	18.5	81.6	29.81	0.00	83	0.0	-
	0.0	0.0	18.6	81.4	29.81	0.00	86	0.0	-	0.0	0.0	18.4	81.0	29.81	0.00	83	0.0	-
15-Sep-10	0.0	0.0	19.5	80.5	29.94	7.42	84	0.0	0	0.0	0.3	19.0	80.6	29.94	7.42	83	0.0	0
	0.0	0.0	19.4	80.6	29.94	7.42	84	0.0	120	0.0	0.2	19.0	80.6	29.94	7.42	83	0.0	120
18-Jan-11	0.0	0.0	20.4	79.6	29.87	-0.09	78	0.0	0	0.0	0.0	20.2	79.8	29.87	-0.09	71	0.0	0
	0.0	0.0	20.3	79.7	29.87	-0.09	78	0.0	300	0.0	0.8	19.3	79.9	29.87	-0.09	71	0.0	300
30-Mar-11	0.0	0.0	80.5	79.4	29.95	0.00	80	0.0	0	18.0	9.8	4.6	62.6	29.95	0.00	78	360	0
	0.0	0.0	20.5	79.4	29.95	0.00	80	0.0	120	0.0	0.2	19.0	80.0	29.95	0.00	77	0.0	120
30-Jun-11	0.0	0.1	20.5	79.4	29.94	0.11	NM	0.0	0	0.0	0.1	20.6	79.3	29.94	0.11	NM	0.0	0
	0.0	0.4	20.2	79.4	29.94	0.11	NM	0.0	300	0.0	0.4	20.2	79.4	29.94	0.11	NM	0.0	300
18-Nov-11	0.0	0.7	18.1	81.1	30.09	148.81	78	0.0	0	0.0	0.1	18.7	81.0	30.09	148.81	75	0.0	0
	0.0	0.0	19.0	81.0	30.09	148.81	78	0.0	300	0.0	0.0	19.0	81.0	30.09	148.81	75	0.0	300
<b>PV-G1-3</b>																		
12-Mar-09	12.0	6.7	13.6	69.4	30.15	0.00	76	240	-	0.4	5.0	10.9	83.1	30.15	0.00	75	8	-
	13.4	7.2	13.4	66.1	30.15	0.00	76	268	-	0.0	6.1	10.5	83.6	30.15	0.00	75	0.0	-
16-Jun-09	26.1	12.4	11.8	50.2	29.89	0.00	84	522	-	0.0	0.0	21.0	78.9	29.89	0.00	85	0.0	-
	27.5	15.5	9.9	47.0	29.89	0.00	83	550	-	0.0	0.0	21.0	78.9	29.89	0.00	85	0.0	-
30-Sep-09	26.5	20.5	9.4	43.6	29.91	-0.02	84	530	-	0.0	0.1	20.7	79.2	29.91	-0.02	84	0.0	-
	25.8	19.2	20.1	44.9	29.91	-0.02	84	516	-	0.0	0.1	20.7	79.2	29.91	-0.02	84	0.0	-
16-Dec-09	22.4	14.0	11.2	52.4	29.97	23.48	79	448	-	0.1	0.2	21.7	78.0	29.97	23.48	80	2	-
	23.5	15.0	10.7	51.0	29.97	23.48	80	470	-	0.0	0.2	21.7	78.1	29.97	23.48	80	0.0	-
18-Mar-10	7.3	5.2	15.9	70.6	29.98	0.00	67	146	-	0.0	1.8	17.5	80.7	29.98	0.00	69	0.0	-
	8.2	6.2	14.6	70.9	29.98	0.00	67	164	-	0.0	2.1	16.3	81.3	29.98	0.00	69	0.0	-
26-May-10	24.8	13.8	7.4	53.0	29.82	0.00	80	496	-	0.1	2.9	12.6	84.1	29.82	0.00	81	2	-
	23.6	10.1	9.6	56.6	29.82	0.00	80	472	-	0.0	3.0	12.4	84.5	29.82	0.00	81	0.0	-
15-Sep-10	16.3	8.3	13.5	66.3	29.94	7.42	84	326	60	0.0	0.0	19.6	80.3	29.96	7.20	84	0.0	0
	15.0	8.0	13.8	63.1	29.94	7.42	84	300	240	0.0	0.0	19.8	80.2	29.96	7.20	84	0.0	120
18-Jan-11	20.5	10.4	10.0	60.0	29.87	-0.09	71	410	0	0.1	3.2	15.2	81.5	29.87	-0.09	76	2	60
	17.1	9.9	11.0	62.1	29.87	-0.09	73	342	300	0.0	3.0	15.6	81.0	29.87	-0.09	76	0.0	300
30-Mar-11	20.8	12.1	82.0	58.8	29.95	0.00	82	416	60	0.6	1.1	19.6	78.6	29.95	0.00	84	12	0
	18.0	10.3	9.4	62.8	29.95	0.00	85	360	300	0.0	1.7	17.0	81.2	29.95	0.00	83	0.0	180
30-Jun-11	9.5	6.7	14.6	69.2	29.94	0.11	NM	190	240	0.0	0.2	20.6	79.2	29.94	0.11	NM	0.0	0
	9.4	6.6	14.7	69.3	29.94	0.11	NM	188	300	0.0	0.1	20.7	79.2	29.94	0.11	NM	0.0	300
18-Nov-11	7.5	4.2	15.7	72.5	30.09	148.81	75	150	300	0.1	6.9	5.5	87.5	30.09	148.81	74	1.0	0
	7.5	4.2	15.7	72.5	30.09	148.81	75	150	300	0.0	0.1	18.0	81.0	30.09	148.81	74	0.0	300



**Table 7  
Garage 1 - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	
<b>PV-G1-5</b>										<b>PV-G1-6</b>									
12-Mar-09	15.2	8.8	14.3	60.2	30.15	0.00	76	304	-	24.0	19.2	2.9	48.1	30.15	0.00	75	480	-	
	1.2	0.8	19.9	77.6	30.15	0.00	76	24.0	-	27.9	27.4	0.4	44.3	30.15	0.00	75	558	-	
16-Jun-09	43.9	26.8	1.7	28.4	29.89	0.00	85	878	-	0.0	0.0	21.2	78.7	29.89	0.00	85	0.0	-	
	26.0	15.4	6.8	51.7	29.89	0.00	85	520	-	0.0	0.0	21.2	78.7	29.89	0.00	85	0.0	-	
30-Sep-09	46.4	39.0	2.4	12.3	29.91	-0.02	84	928	-	0.5	0.3	20.4	78.8	29.91	-0.02	84	10	-	
	45.4	39.7	2.9	12.0	29.91	-0.02	84	908	-	0.4	0.2	20.6	78.8	29.91	-0.02	84	8	-	
16-Dec-09	44.8	30.5	0.7	24.0	29.97	23.48	79	896	-	3.8	1.4	20.5	74.5	29.97	23.48	79	76	-	
	45.7	30.7	2.0	21.6	29.97	23.48	79	914	-	3.3	1.9	20.9	73.9	29.97	23.48	79	66	-	
18-Mar-10	38.5	23.4	4.8	33.2	29.98	0.00	70	770	-	0.0	0.1	20.7	79.1	29.98	0.00	70	0.0	-	
	40.4	24.7	3.9	30.9	29.98	0.00	70	808	-	0.0	0.0	20.8	79.2	29.98	0.00	70	0.0	-	
26-May-10	50.6	29.1	0.8	15.6	29.82	0.00	81	1012	-	0.0	0.1	18.6	81.1	29.82	0.00	82	0.0	-	
	52.3	29.0	0.0	18.6	29.82	0.00	81	1046	-	0.0	0.0	18.5	81.3	29.82	0.00	82	0.0	-	
15-Sep-10	39.5	21.3	3.1	36.0	29.96	7.20	84	790	240	0.0	0.0	19.7	80.2	29.96	7.20	84	0.0	0	
	39.5	21.3	3.1	36.0	29.96	7.20	84	790	240	0.0	0.0	19.8	80.2	29.96	7.20	84	0.0	120	
18-Jan-11	47.9	30.8	0.0	21.4	29.87	-0.09	75	958	240	29.1	27.0	0.0	43.9	29.87	-0.09	77	582	300	
	47.9	30.8	0.0	21.4	29.87	-0.09	75	958	240	29.1	27.0	0.0	43.9	29.87	-0.09	77	582	300	
30-Mar-11	49.3	28.7	0.0	27.1	23.95	0.00	86	986	60	29.7	23.6	2.9	45.9	29.95	0.00	83	594	0	
	42.0	26.0	0.8	31.2	23.95	0.00	87	840	300	24.2	23.7	0.0	51.9	29.95	0.00	84	484	240	
30-Jun-11	41.5	28.9	0.1	29.5	29.94	0.11	NM	830	300	0.0	0.1	20.7	79.2	29.94	0.11	NM	0.0	0	
	41.5	28.9	0.1	29.5	29.94	0.11	NM	830	300	0.0	0.1	20.9	79.0	29.94	0.11	NM	0.0	300	
18-Nov-11	2.7	1.7	17.8	77.8	30.09	148.81	74	59	300	0.0	0.0	19.0	80.9	30.09	148.81	75	0.0	0	
	2.7	1.7	17.8	77.8	30.09	148.81	74	59	300	0.0	0.0	18.9	81.0	30.09	148.81	75	0.0	300	
<b>PV-G1-7</b>										<b>PV-G1-8</b>									
12-Mar-09	0.0	0.0	20.8	79.2	30.15	0.00	76	0.0	-	0.0	0.0	20.6	79.3	30.15	0.00	77	0.0	-	
	0.0	0.0	20.7	79.2	30.15	0.00	76	0.0	-	0.0	0.0	20.7	79.3	30.15	0.00	77	0.0	-	
16-Jun-09	0.0	0.0	21.2	78.7	29.89	0.00	85	0.0	-	0.0	0.0	21.2	78.8	29.89	0.00	85	0.0	-	
	0.0	0.0	21.2	78.7	29.89	0.00	85	0.0	-	0.0	0.0	21.2	78.8	29.89	0.00	85	0.0	-	
30-Sep-09	2.9	1.0	19.6	77.3	29.91	-0.02	84	58	-	0.0	0.1	20.4	79.4	29.91	-0.02	84	0	-	
	2.2	1.1	19.6	77.1	29.91	-0.02	84	44	-	0.0	0.0	20.6	79.4	29.91	-0.02	84	0	-	
16-Dec-09	29.3	25.1	3.3	42.3	29.97	23.48	79	586	-	0.2	4.0	15.3	80.6	29.97	23.48	79	4	-	
	29.8	23.5	4.1	42.6	29.97	23.48	79	596	-	0.0	3.4	15.9	80.7	29.97	23.48	79	0	-	
18-Mar-10	0.0	0.8	20.8	78.7	29.98	0.00	70	0.0	-	0.0	0.0	20.8	79.1	29.98	0.00	65	0.0	-	
	0.0	0.5	20.6	78.6	29.98	0.00	70	0.0	-	0.0	0.2	20.6	79.1	29.98	0.00	65	0.0	-	
26-May-10	0.0	0.0	19.1	80.9	29.82	0.00	82	0.0	-	0.0	0.0	19.0	80.9	29.82	0.00	83	0.0	-	
	0.0	0.0	19.0	80.9	29.82	0.00	82	0.0	-	0.0	0.0	19.0	80.9	29.82	0.00	82	0.0	-	
15-Sep-10	0.0	0.0	19.8	80.1	29.96	7.20	84	0.0	0	0.0	0.0	19.9	80.1	29.96	7.20	84	0.0	0	
	0.0	0.0	19.9	80.0	29.96	7.20	84	0.0	120	0.0	0.0	19.7	80.2	29.96	7.20	84	0.0	120	
18-Jan-11	10.5	11.0	2.8	75.6	29.87	-0.09	77	210	180	0.0	5.4	8.5	86.0	29.87	-0.09	78	0.0	0	
	4.5	4.2	12.6	78.8	29.87	-0.09	77	90	300	0.0	5.5	7.9	86.5	29.87	-0.09	78	0.0	300	
30-Mar-11	34.6	26.3	1.8	45.0	29.95	0.00	82	692	60	14.0	13.5	7.2	61.3	29.95	0.00	81	280	60	
	30.4	23.7	4.1	53.6	29.95	0.00	83	608	300	10.4	8.6	11.4	65.8	29.95	0.00	80	208	300	
30-Jun-11	22.7	16.9	6.7	53.7	29.94	0.11	NM	454.0	180	21.5	22.2	0.0	56.3	29.94	0.11	NM	430.0	180	
	21.9	17.2	6.7	54.2	29.94	0.11	NM	438.0	300	20.5	21.6	0.4	57.5	29.94	0.11	NM	410.0	300	
18-Nov-11	0.0	0.0	19.0	80.9	30.09	148.81	75	0.0	0	0.0	0.0	19.0	80.9	30.09	148.81	76	0.0	0	
	0.0	0.0	19.0	80.9	30.09	148.81	75	0.0	300	0.0	0.0	19.0	80.9	30.09	148.81	76	0.0	300	

**Notes**

- a. Location not scheduled to be sampled on this date.
- b. Location flooded with water.
- c. NM = Not measured.
- d. <<< - Outside measurement range.
- e. Barometric pressure in inches of mercury.
- f. Relative pressure in inches of water.
- g. Beginning with data reported for Sept 2010, the first reported value is the peak methane reading, and the second reported value is the steady state methane reading. If no methane was detected the first reading reported is the initial reading, and the second reading is the steady state reading. Prior to Sept. 2010, the first reported value is the initial reading, and the second reported value is the final reading.
- h. If no steady state readings were observed for methane, the final reading is reported as steady-state reading.



**Table 8  
Utility Barrier at Biscayne Landing Boulevard - Landfill Gas Monitoring Results**

Sampling Date	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	Barometric Pressure	Relative Pressure	Temp.	% LEL CH <sub>4</sub>	Elapsed Time (s)
16-Mar-09	0.0	0.5	19.7	79.6	30.19	0.00	83	0.0	-	0.0	0.0	20.1	79.8	30.19	0.00	83	0.0	-
	0.0	0.4	19.6	77.8	30.19	0.00	83	0.0	-	0.0	0.0	20.0	80.0	30.19	0.00	83	0.0	-
16-Jun-09	0.0	1.0	19.2	79.7	29.85	0.00	99	0.0	-	0.0	2.0	16.4	81.5	29.85	0.00	105	0.0	-
	0.0	2.4	17.7	79.8	29.85	0.00	99	0.0	-	0.0	1.9	16.4	81.6	29.85	0.00	105	0.0	-
30-Sep-09	0.0	1.1	18.9	80.0	29.90	-0.04	88	0.0	-	0.0	2.0	18.5	80.4	29.90	-0.04	88	0.0	-
	0.0	3.0	16.7	80.2	29.90	-0.04	88	0.0	-	0.0	3.6	17.5	78.8	29.90	-0.04	88	0.0	-
16-Dec-09	0.0	1.6	18.1	80.6	29.97	23.48	79	0.0	-	0.0	4.5	16.0	79.4	29.97	23.48	79	0.0	-
	0.0	2.9	18.3	78.7	29.97	23.48	79	0.0	-	0.0	4.0	16.2	79.8	29.97	23.48	79	0.0	-
17-Mar-10	0.0	3.3	18.0	78.6	29.98	-0.15	61	0.0	-	0.0	2.3	17.7	80.1	29.98	-0.15	61	0.0	-
	0.0	1.3	19.5	79.1	29.98	-0.15	61	0.0	-	0.0	0.5	19.8	79.6	29.98	-0.15	61	0.0	-
26-May-10	0.0	4.0	13.5	81.9	29.83	0.00	84	0.0	-	0.0	0.2	17.7	82.1	29.83	0.00	86	0.0	-
	0.0	0.3	17.6	81.9	29.83	0.00	84	0.0	-	0.0	5.8	14.0	80.0	29.83	0.00	86	0.0	-
14-Sep-10	0.0	0.0	19.8	80.0	29.94	7.23	77	0.0	0	0.0	1.7	18.1	80.2	29.94	7.23	77	0.0	0
	0.0	0.0	19.5	80.4	29.94	7.23	77	0.0	120	0.0	2.0	17.6	80.9	29.94	7.23	77	0.0	240
17-Jan-10	0.0	3.2	17.0	79.8	29.91	-0.02	74	0.0	0	0.0	4.0	15.5	80.0	29.91	-0.02	74	0.0	0
	0.0	0.6	19.8	79.6	29.91	-0.02	73	0.0	300	0.0	0.6	19.4	80.0	29.91	-0.02	74	0.0	300
30-Mar-11	0.0	0.9	18.2	80.8	29.88	-0.12	88	0.0	0	0.0	0.4	18.6	81.0	29.88	-0.12	88	0.0	0
	0.0	2.5	16.5	80.9	29.88	-0.12	88	0.0	120	0.0	0.2	18.8	80.9	29.88	-0.12	88	0.0	120
1-Jul-11	0.0	0.2	20.7	79.1	29.91	0.08	NM	0.0	0	0.0	1.1	19.9	79.0	29.91	0.08	NM	0.0	0
	0.0	5.1	15.8	79.1	29.91	0.08	NM	0.0	300	0.0	6.1	14.3	79.6	29.91	0.08	NM	0.0	300
18-Nov-11	0.0	0.1	18.9	81.0	30.09	148.75	77	0.0	0	0.0	2.1	16.8	86.3	30.09	148.82	76	0.0	0
	0.0	0.1	18.8	81.1	30.09	148.75	77	0.0	300	0.0	2.4	15.6	81.9	30.09	148.82	76	0.0	300
GP-1 West										East Vent								
16-Mar-09	0.0	0.7	18.5	80.2	30.19	0.00	83	0.0	-	0.0	0.5	19.8	79.5	30.19	0.00	83	0.0	-
	0.0	1.2	17.9	80.5	30.19	0.00	83	0.0	-	0.0	2.1	18.3	79.6	30.19	0.00	83	0.0	-
16-Jun-09	0.0	0.2	19.9	79.9	29.85	0.00	110	0.0	-	0.0	2.4	18.2	79.4	29.85	0.00	92	0.0	-
	0.0	0.3	19.7	79.8	29.85	0.00	110	0.0	-	0.0	2.4	18.2	79.4	29.85	0.00	92	0.0	-
30-Sep-09	0.0	9.1	10.5	80.4	29.90	-0.04	88	0.0	-	0.0	4.0	16.2	79.8	29.90	-0.04	88	0.0	-
	0.0	0.8	19.4	79.8	29.90	-0.04	88	0.0	-	0.0	4.4	16.1	79.6	29.90	-0.04	88	0.0	-
16-Dec-09	0.0	8.8	10.1	81.0	29.97	23.48	79	0.0	-	0.0	3.3	16.0	80.6	29.97	23.48	79	0.0	-
	0.0	5.1	13.4	81.4	29.97	23.48	79	0.0	-	0.0	3.0	15.8	81.1	29.97	23.48	79	0.0	-
17-Mar-10	0.0	1.8	18.5	79.6	29.98	-0.15	64	0.0	-	0.0	1.5	19.4	79.0	29.98	-0.15	61	0.0	-
	0.0	0.6	19.7	79.6	29.98	-0.15	64	0.0	-	0.0	1.0	19.9	79.1	29.98	-0.15	61	0.0	-
26-May-10	0.0	2.0	15.8	82.1	29.83	0.00	89	0.0	-	0.0	0.0	18.0	81.9	29.83	0.00	89	0.0	-
	0.0	0.0	18.3	81.7	29.83	0.00	89	0.0	-	0.0	2.4	15.4	82.1	29.83	0.00	88	0.0	-
14-Sep-10	0.0	10.1	4.6	85.3	29.94	7.22	77	0.0	0	0.0	3.8	16.6	79.7	29.94	7.23	76	0.0	0
	0.0	0.7	18.7	80.5	29.94	7.22	77	0.0	240	0.0	4.2	15.5	80.2	29.94	7.23	76	0.0	240
17-Jan-10	0.0	0.0	20.1	79.8	29.91	-0.02	76	0.0	0	0.0	1.1	19.1	79.9	29.91	-0.02	74	0.0	0
	0.0	0.7	19.4	79.9	29.91	-0.02	76	0.0	240	0.0	0.6	19.5	79.8	29.91	-0.02	74	0.0	300
30-Mar-11	0.0	1.8	10.7	79.4	29.93	0.00	81	0.0	0	0.0	0.6	18.5	80.8	29.84	-0.12	88	0.0	0
	0.0	0.4	19.9	79.6	29.93	0.00	79	0.0	120	0.0	1.2	17.9	80.8	29.84	-0.12	88	0.0	120
1-Jul-11	0.0	0.1	20.7	79.2	29.91	0.08	NM	0.0	0	0.0	0.3	20.5	79.2	29.91	0.08	NM	0.0	0
	0.0	3.0	18.0	79.0	29.91	0.08	NM	0.0	300	0.0	1.3	20.6	78.1	29.91	0.08	NM	0.0	300
18-Nov-11	0.0	0.1	18.7	81.0	30.06	148.72	75	0.0	0	0.0	1.4	17.8	80.8	30.06	148.72	75	0.0	0
	0.0	0.0	19.0	81.0	30.06	148.72	75	0.0	300	0.0	1.4	17.8	80.8	30.06	148.72	75	0.0	300
West Vent																		
16-Mar-09	0.0	0.4	19.9	88.6	30.19	0.00	83	0.0	-									
	0.0	0.4	19.7	79.7	30.19	0.00	83	0.0	-									
16-Jun-09	0.0	1.5	19.4	78.9	29.85	0.00	92	0.0	-									
	0.0	4.4	19.4	79.0	29.85	0.00	92	0.0	-									
30-Sep-09	0.0	4.7	16.1	79.2	29.90	-0.04	86	0.0	-									
	0.0	4.2	16.6	79.3	29.90	-0.04	86	0.0	-									
16-Dec-09	0.0	5.2	14.1	80.6	29.97	23.48	79	0.0	-									
	0.0	4.5	15.5	80.0	29.97	23.48	79	0.0	-									
17-Mar-10	0.0	1.1	19.6	79.2	29.98	-0.15	62	0.0	-									
	0.0	1.0	19.8	79.1	29.98	-0.15	62	0.0	-									
26-May-10	0.0	2.4	15.8	81.7	29.83	0.00	90	0.0	-									
	0.0	2.4	16.0	81.7	29.83	0.00	90	0.0	-									
14-Sep-10	0.0	4.0	16.1	79.9	29.94	7.23	76	0.0	0									
	0.0	4.0	15.9	79.9	29.94	7.23	76	0.0	120									
17-Jan-10	0.0	1.1	19.0	79.9	29.91	-0.02	75	0.0	0									
	0.0	1.0	19.2	79.8	29.91	-0.02	75	0.0	300									
30-Mar-11	0.4	0.4	20.3	78.9	29.93	0.00	82	8.0	0									
	0.0	1.7	18.7	79.6	29.93	0.00	83	0.0	120									
1-Jul-11	0.1	0.3	20.3	79.3	29.91	0.08	NM	2.0	0									
	0.0	0.2	20.6	79.2	29.91	0.08	NM	0.0	300									
18-Nov-11	0.0	1.2	17.9	80.8	30.06	148.72	75	0.0	0									
	0.0	1.2	17.9	80.8	30.06	148.72	75	0.0	300									

**Notes:**

- Access to the Sampling Location was not available
- Location was not sampled as part of the follow-up monitoring activities on this date.
- Readings were verified with an activated carbon filter in follow-up monitoring activities
- NM = Not measured.
- Barometric pressure in inches of mercury.
- Relative pressure in inches of water.
- Beginning with data reported for Sept 2010, the first reported value is the peak methane reading, and the second reported value is the steady state methane reading. If no methane was detected the first reading reported is the initial reading, and the second reading is the steady state reading. Prior to Sept. 2010, the first reported value is the initial reading, and the second reported value is the final reading.

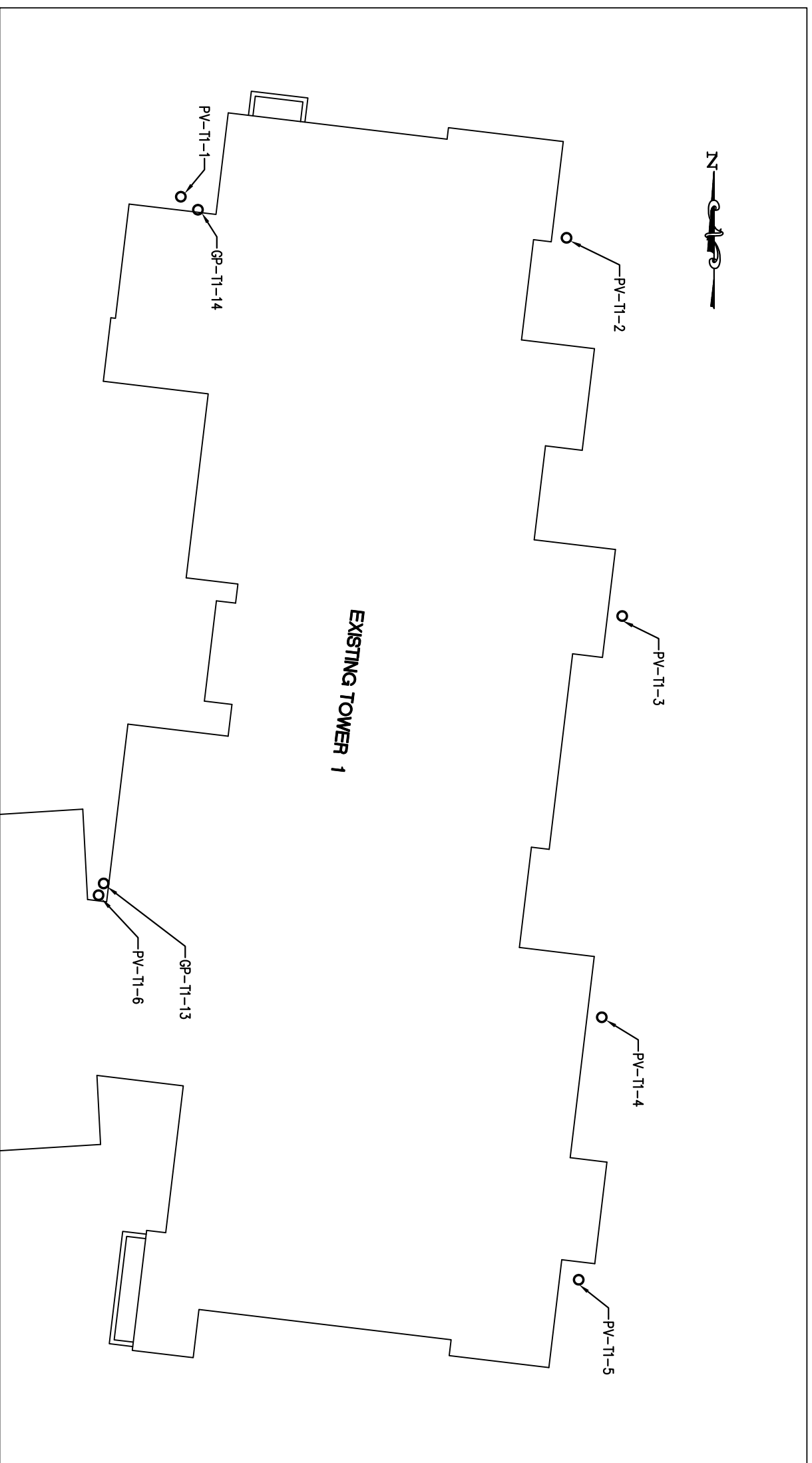
## *Figures*

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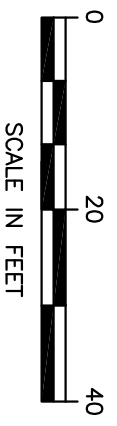



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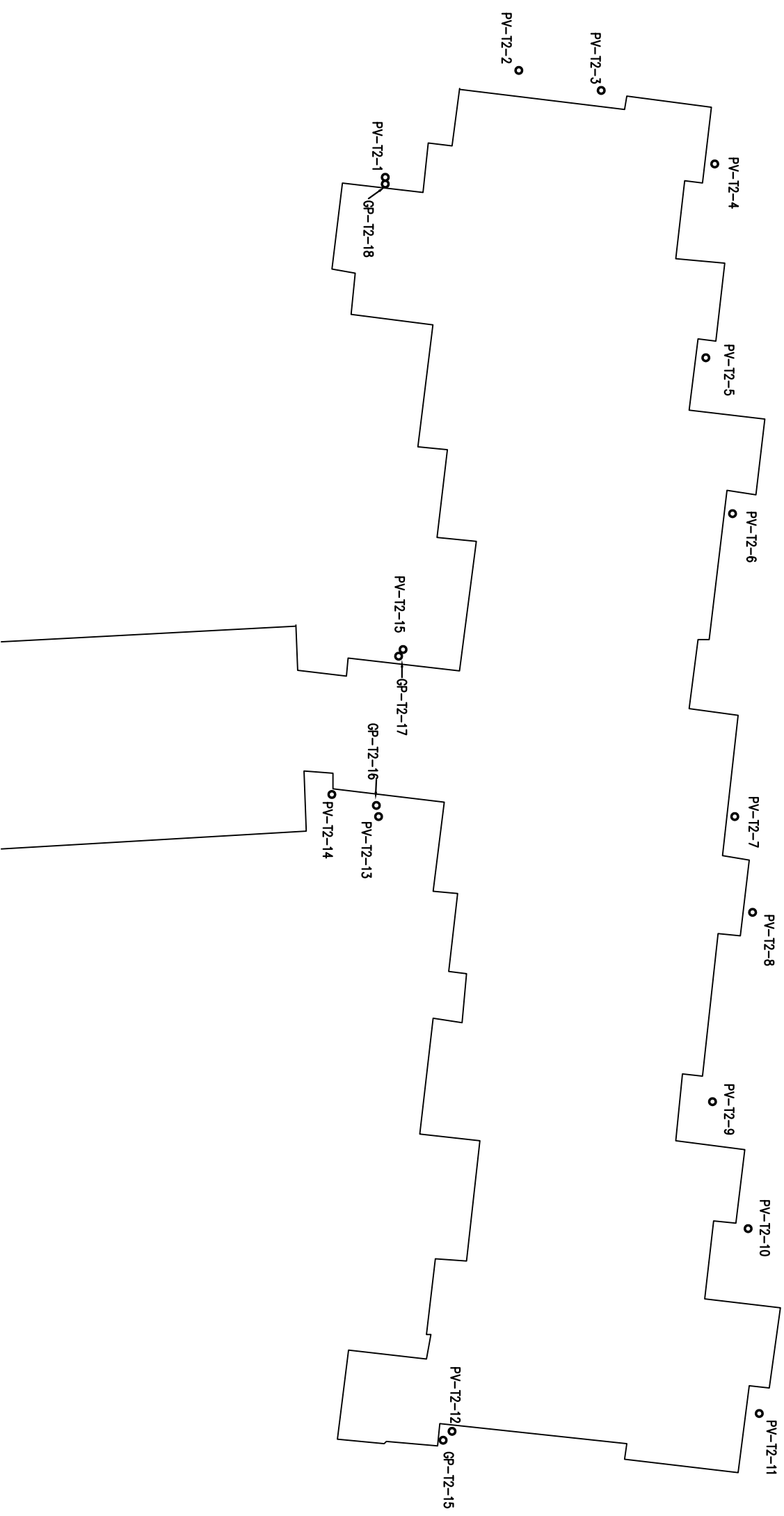




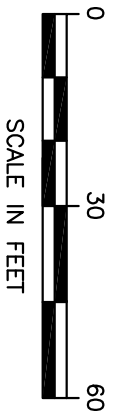
**TOWER 1**



BISCAYNE LANDING NORTH MIAMI, FLORIDA		Gas Monitoring	Tower 1 Monitoring Locations
 ES CONSULTANTS, INC. environmental & civil engineering			
Project 2011049		JULY 2011 Fig. 1	

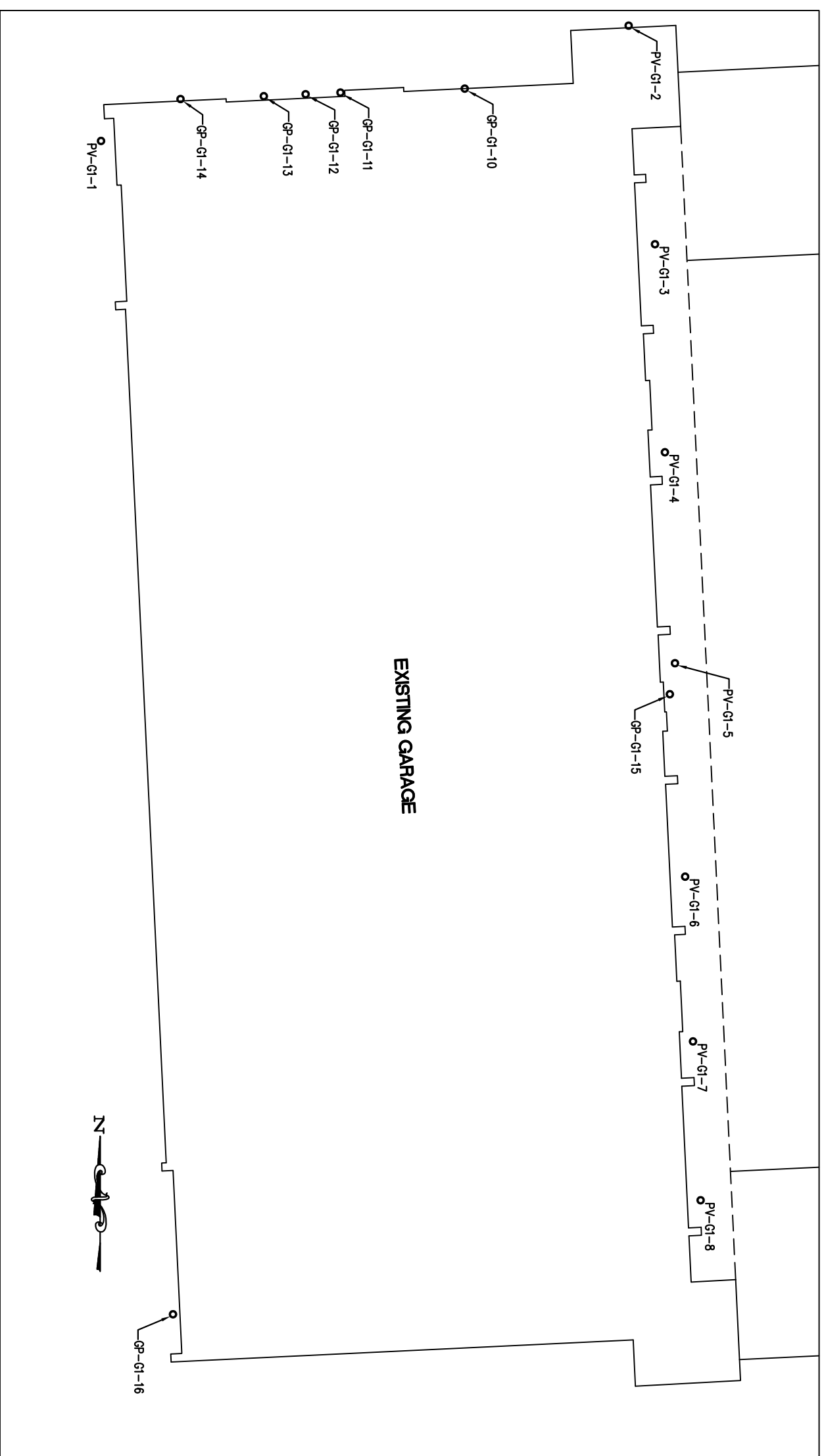


**TOWER 2**

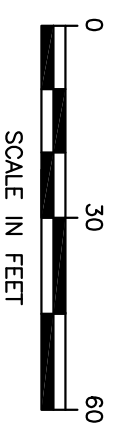



SCALE IN FEET

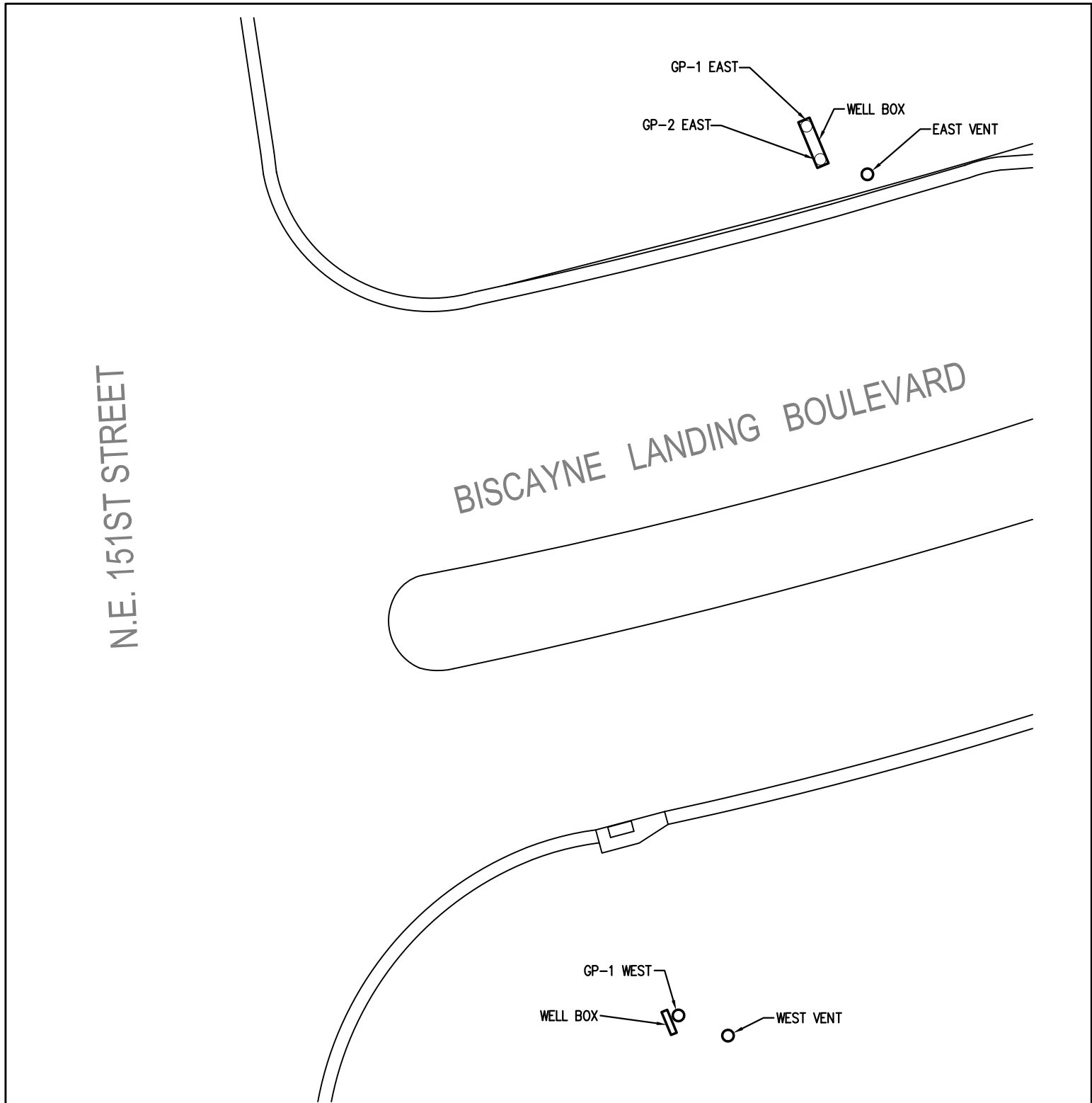
BISCAYNE LANDING NORTH MIAMI, FLORIDA		Gas Monitoring	
ES CONSULTANTS, INC. environmental & civil engineering		Tower 2 Monitoring Locations	
Project 2011049		JULY 2011 Fig. 2	



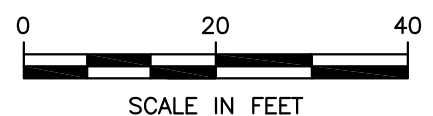
**GARAGE 1**




<p>BISCAYNE LANDING NORTH MIAMI, FLORIDA</p>	<p>Gas Monitoring</p>	<p>Garage 1 Monitoring Locations</p>
<p> ES CONSULTANTS, INC. environmental &amp; civil engineering</p>	<p>Project 2011049</p>	<p>JULY 2011 Fig. 3</p>

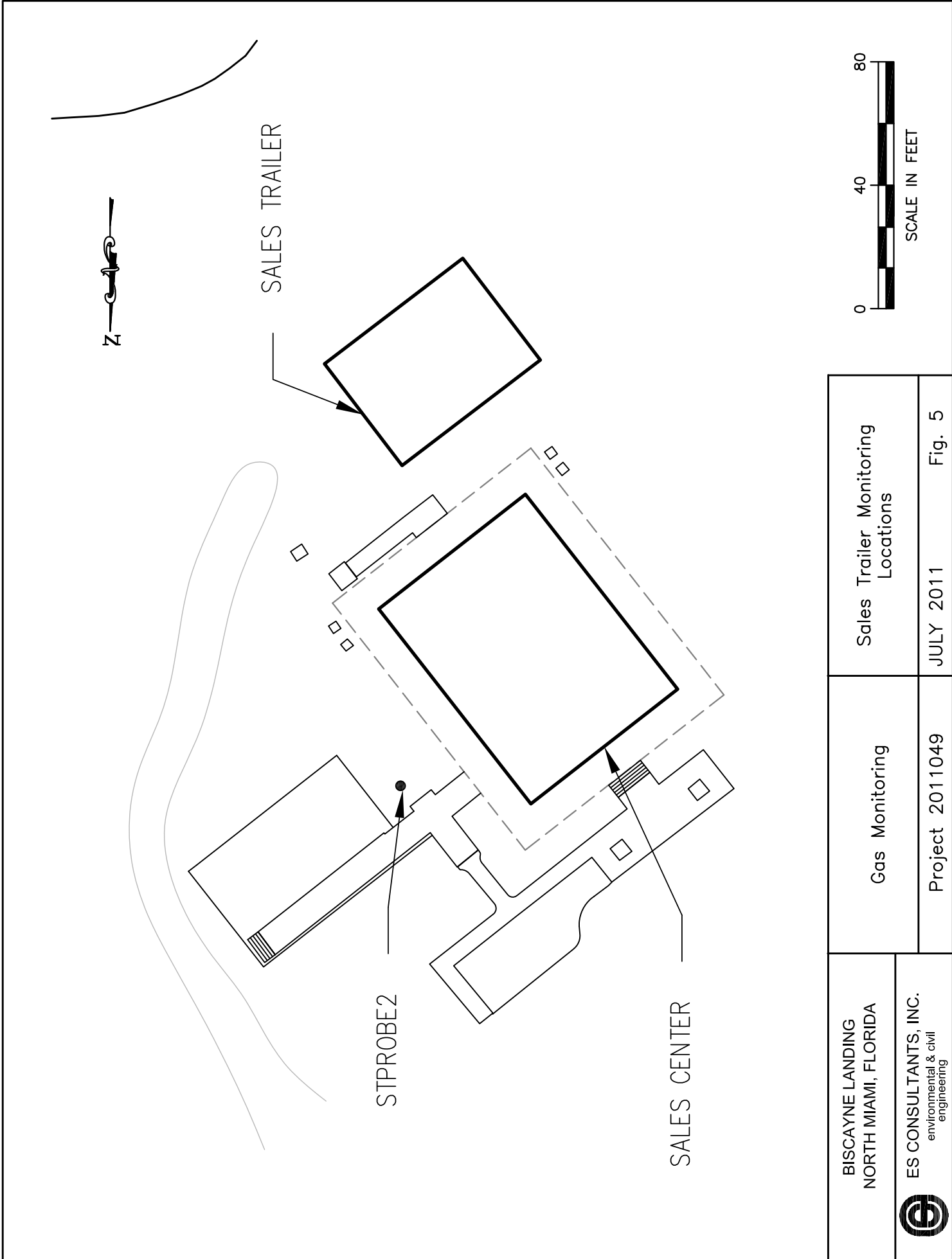


**UTILITY BARRIER AT BISCAYNE LANDING BOULEVARD**

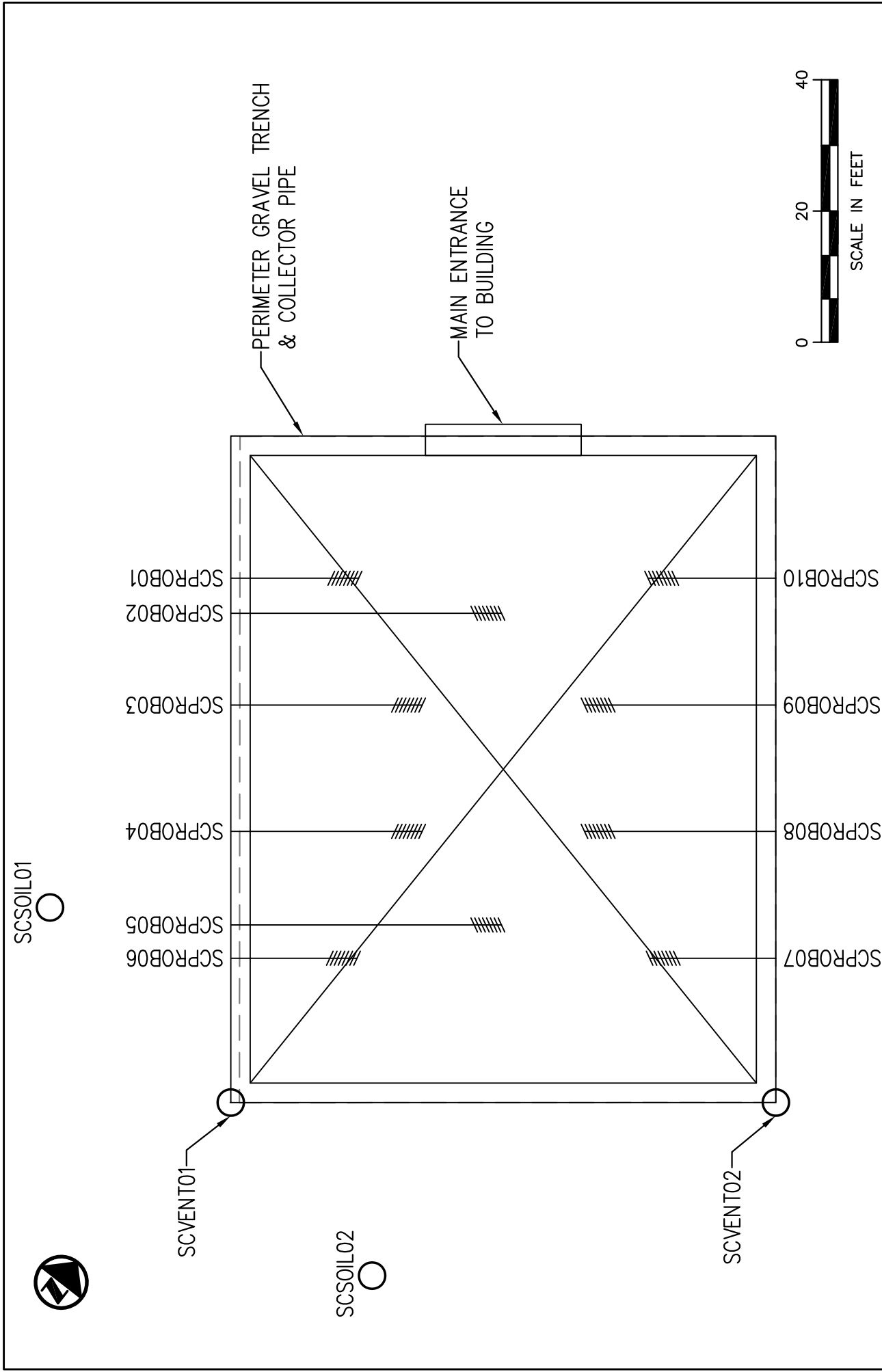



<p>BISCAYNE LANDING NORTH MIAMI, FLORIDA</p>	<p>Gas Monitoring</p>	<p>BLB Utility Barrier Monitoring Locations</p>
 <p>ES CONSULTANTS, INC. environmental &amp; civil engineering</p>	<p>Project 2011049</p>	<p>JULY 2011 Fig. 4</p>

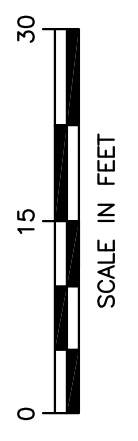
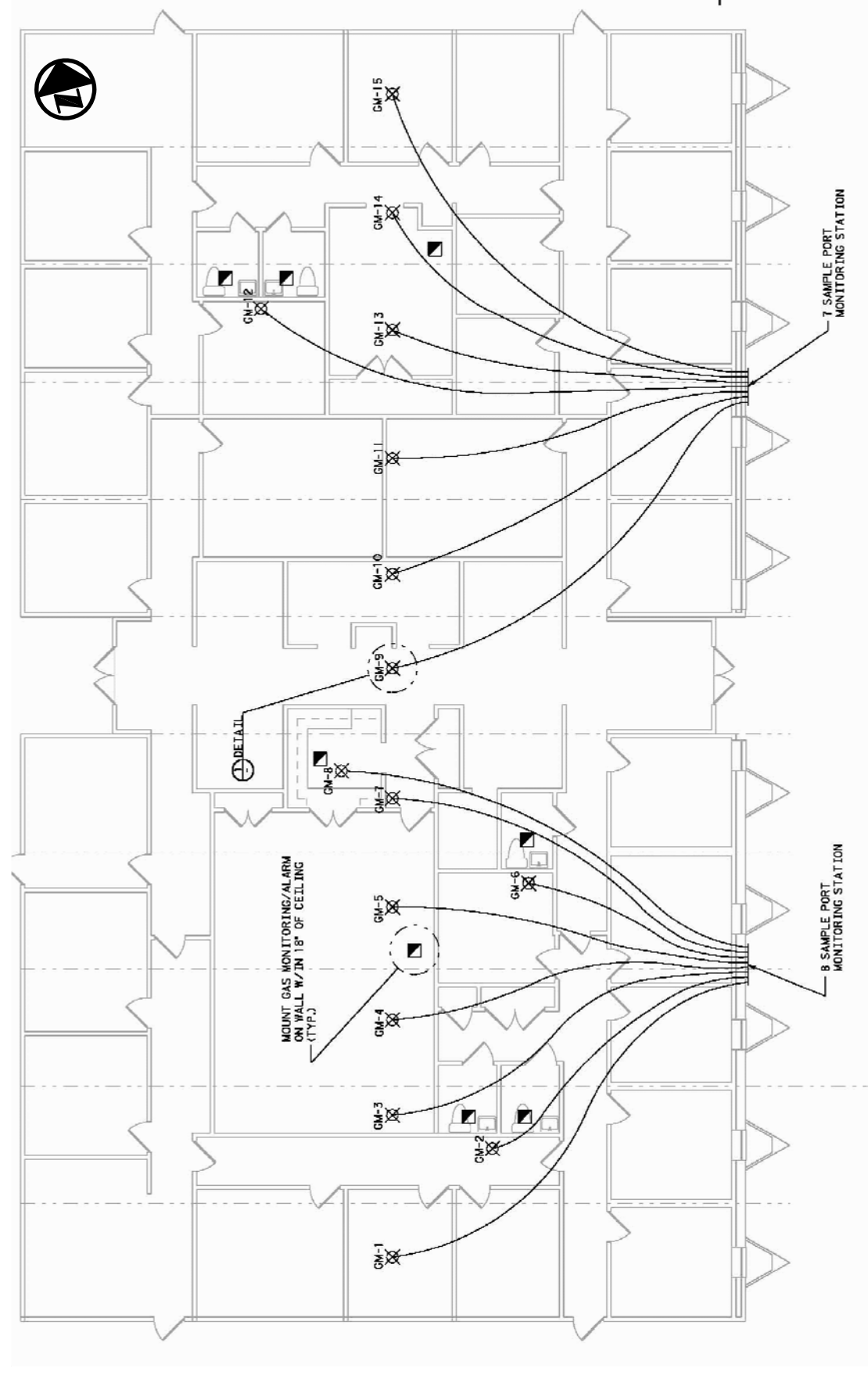
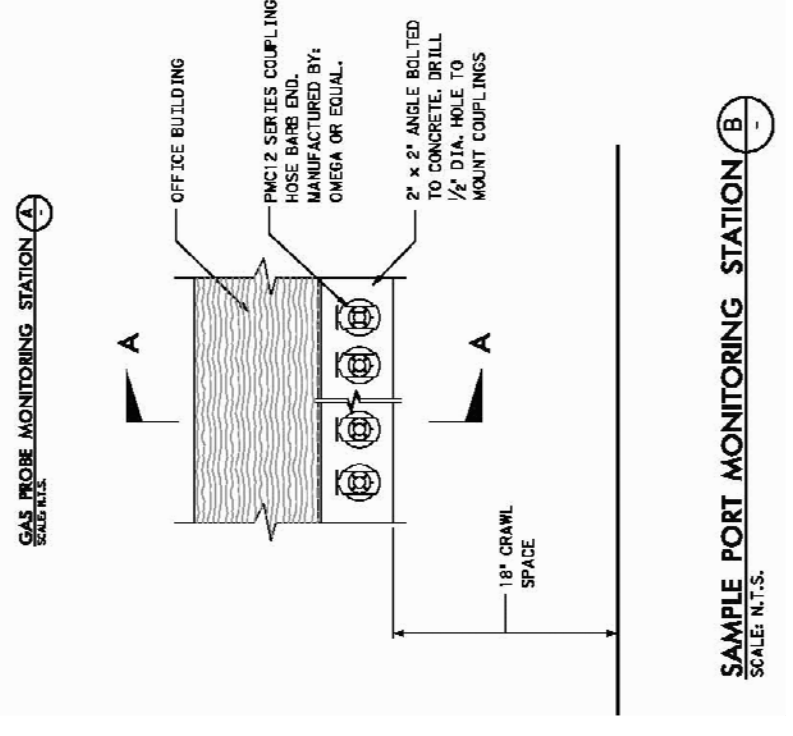
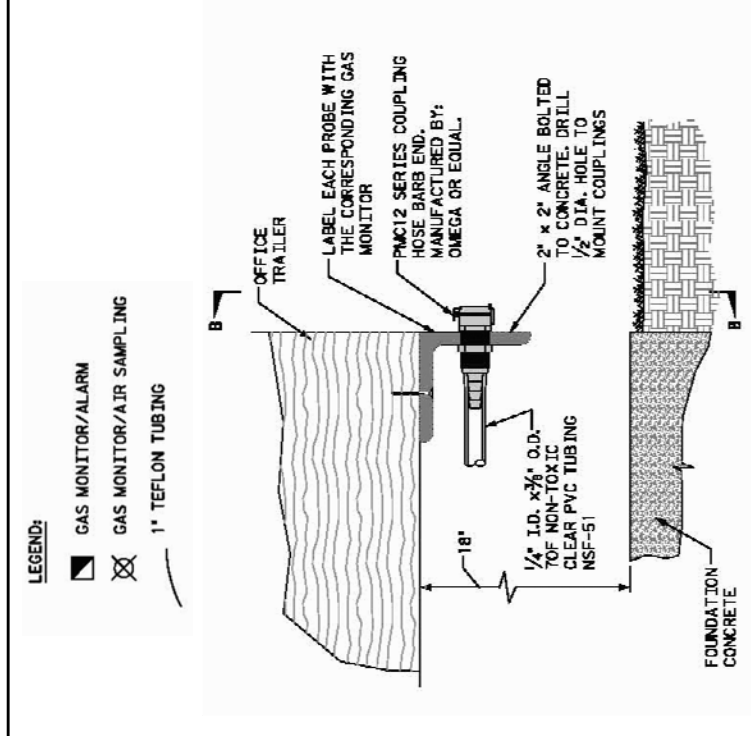
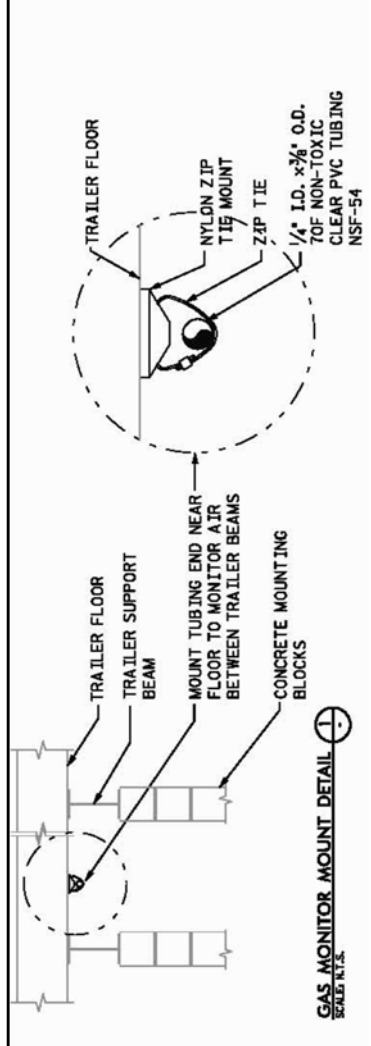




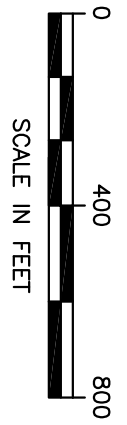
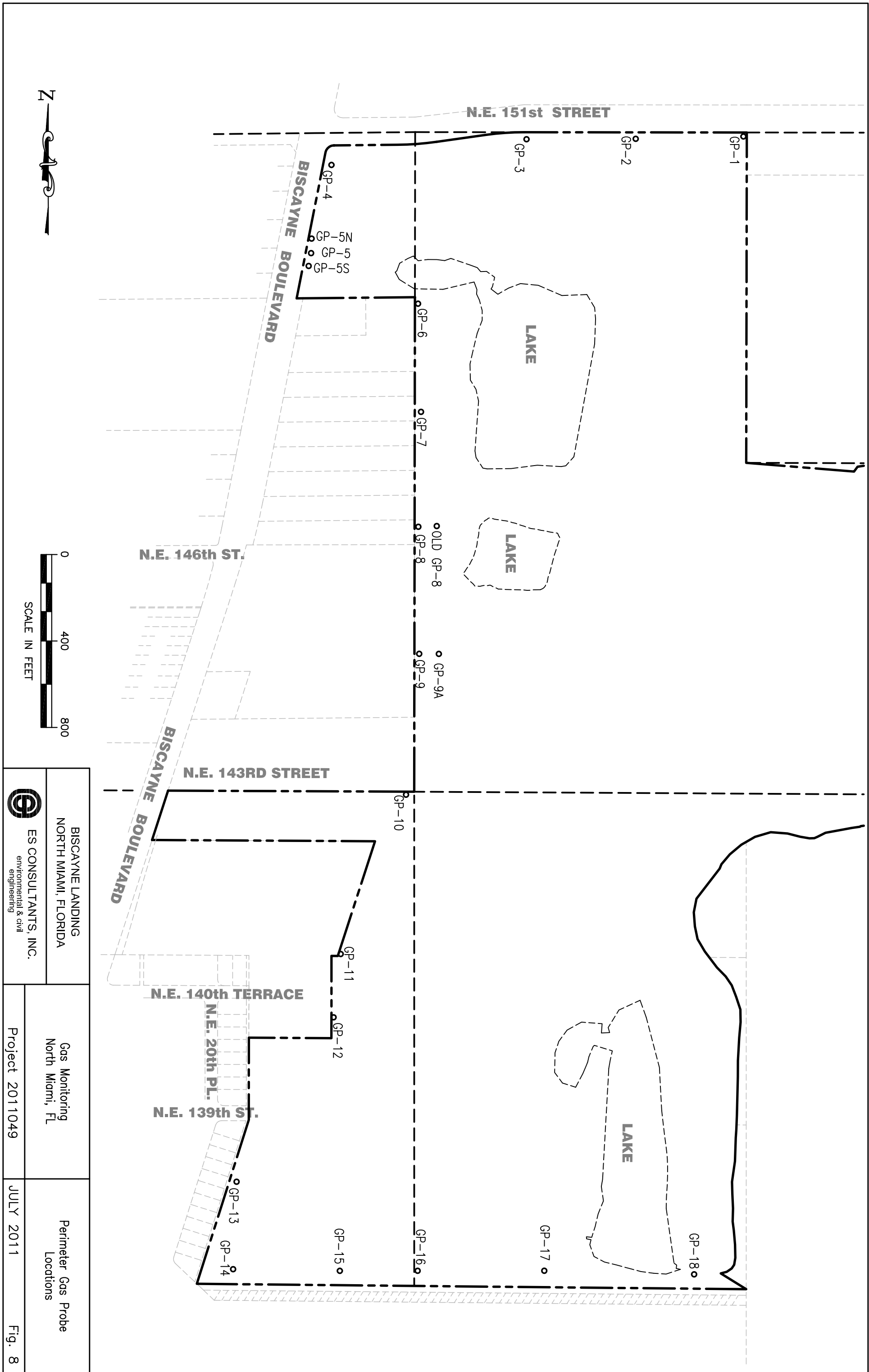
<b>BISCAYNE LANDING</b> NORTH MIAMI, FLORIDA  <b>ES CONSULTANTS, INC.</b> environmental & civil engineering	Gas Monitoring	Sales Trailer Monitoring Locations
	Project 2011049	JULY 2011



 <b>ES CONSULTANTS, INC.</b> environmental & civil engineering	BISCAYNE LANDING NORTH MIAMI, FLORIDA	
	Gas Monitoring	
Project 2011049		Sales Center Monitoring Locations



BISCAYNE LANDING NORTH MIAMI, FLORIDA ES CONSULTANTS, INC. environmental & civil engineering	Gas Monitoring North Miami, FL	Administration Building Monitoring Locations
	Project 2011049	JULY 2011




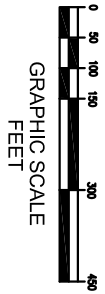
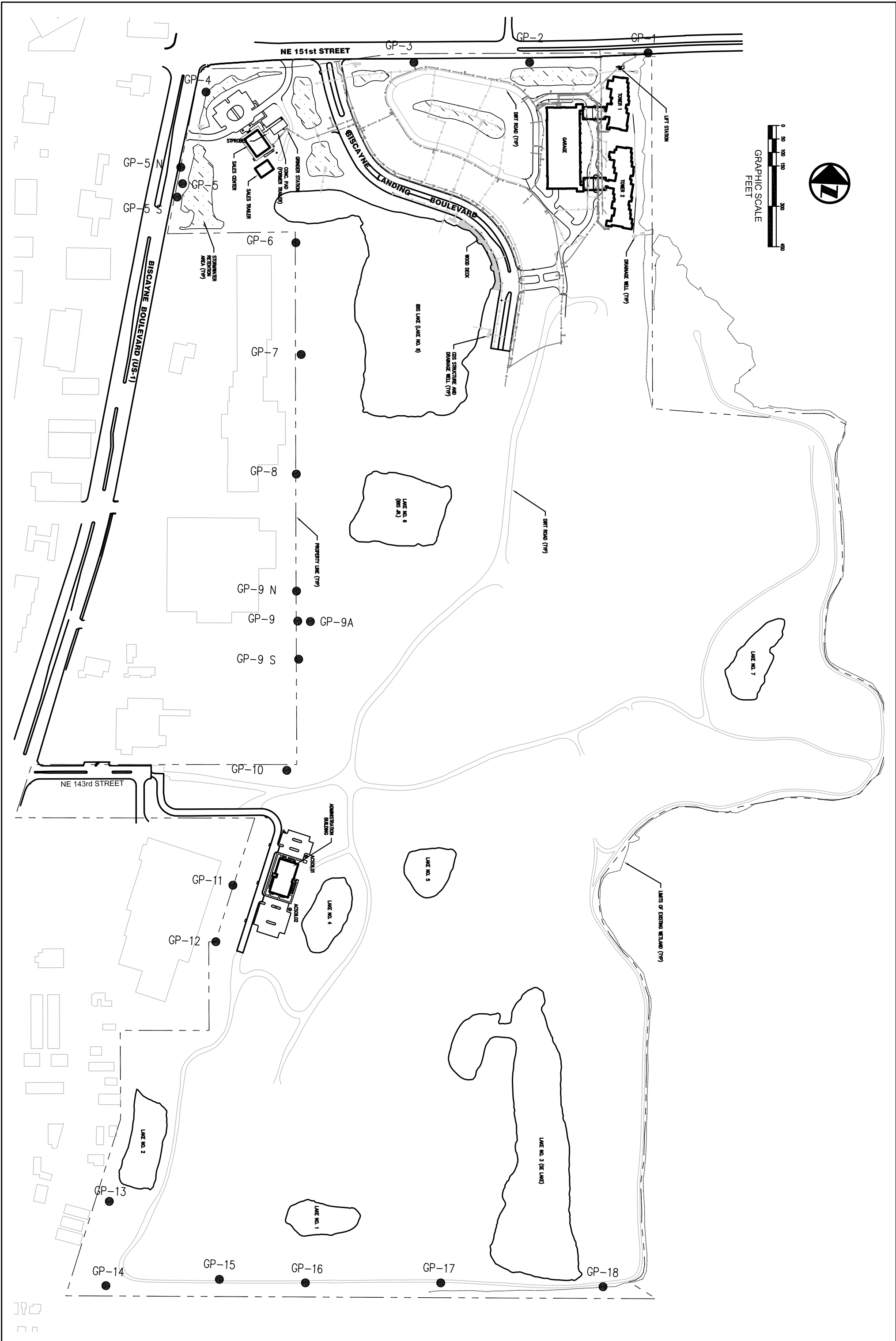

 <b>ES CONSULTANTS, INC.</b> environmental & civil engineering	BISCAYNE LANDING NORTH MIAMI, FLORIDA	Gas Monitoring North Miami, FL	Perimeter Gas Probe Locations
	Project 2011049		

Fig. 8





Gas Monitoring North Miami, FL	Biscayne Landing (SW-1178/File #12838) North Miami, FL	OVERALL SITE PLAN	
 ES CONSULTANTS, INC. environmental & civil engineering	Project 2011049	JULY 2011	Fig. 9

# *Appendix A*

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## *SAMPLING AND REPORTING SCHEDULE*



## Appendix A

### Sampling and Reporting Schedule

<b>Date</b>	<b>Activity</b>
January 2012	Perform quarterly sampling of Sales Trailer, Sales Center, Administration Compound, perimeter gas probes, Tower 1, Tower 2, Garage 1 and Biscayne Landing Boulevard.
January 31, 2012	Submit monitoring report to DERM and FDEP.
March 2012	Perform quarterly sampling of Sales Trailer, Sales Center, Administration Compound, perimeter gas probes, Tower 1, Tower 2, Garage 1 and Biscayne Landing Boulevard.
April 30, 2012	Submit monitoring report to DERM, MDFR, and FDEP.
June 2012	Perform quarterly sampling of Sales Trailer, Sales Center, Administration Compound, perimeter gas probes, Tower 1, Tower 2, Garage 1 and Biscayne Landing Boulevard.
July 31, 2012	Submit monitoring report to DERM, MDFR, and FDEP.
September 2012	Perform quarterly sampling of Sales Trailer, Sales Center, Administration Compound, perimeter gas probes, Tower 1, Tower 2, Garage 1 and Biscayne Landing Boulevard.
October 31, 2012	Submit monitoring report to DERM, MDFR, and FDEP.
December 2012	Perform quarterly sampling of Sales Trailer, Sales Center, Administration Compound, perimeter gas probes, Tower 1, Tower 2, Garage 1 and Biscayne Landing Boulevard.
January 31, 2013	Submit monitoring report to DERM, MDFR, and FDEP.



## *Appendix B*

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*GEM 2000 CALIBRATION DATA*



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## Appendix B Calibration Data

### Calibration Using 50% Methane Gas

	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>
<b>Target Concentrations*</b>	<b>50.0</b>	<b>35.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>4.0</b>
<b>Date</b>	<b>GEM 2000 Readings</b>					
17-Jan-11	48.1	35.6	-	-	-	5.0
18-Jan-11	47.9	34.8	-	-	-	3.2
21-Jan-11	49.2	36.0	-	-	-	4.0
15-Nov-11	50.1	35.2	-	-	-	4.1

### Calibration Using 15% Methane Gas

	% CH <sub>4</sub>	% CO <sub>2</sub>	ppm CO	ppm H <sub>2</sub> S	% O <sub>2</sub>	BAL
<b>Target Concentrations*</b>	<b>15.0</b>	<b>15.0</b>	<b>n/a</b>	<b>n/a</b>	<b>0.0</b>	<b>0.0</b>
<b>Date</b>	<b>GEM 2000 Readings</b>					
30-Jun-11	13.4	14.6	n/a	n/a	0.0	72.0
1-Jul-11	13.6	14.8	n/a	n/a	0.0	71.6
5-Jul-11	13.6	14.8	n/a	n/a	0.0	71.6
5-Jul-11	18.6	12.5	n/a	n/a	0.0	68.9
17-Nov-11	15.0	14.8	n/a	n/a	1.0	69.3
18-Nov-11	15.0	15.0	n/a	n/a	0.8	68.9

#### Notes

1. Certified Standards provided by PINE Environmental Services, Inc. Manufactured by Liquid Technology (Fla).
2. Calibration data recorded before 2011 has been removed for clarity.
3. Same day calibrations performed when temperature range exceeds 20 ° F.



## *Appendix C*

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### *FIELD GUIDANCE FOR OPERATION OF GEM 2000 PLUS GAS ANALYZER*



**ES CONSULTANTS, INC.**  
environmental and civil engineering

## Appendix C

### Field Guidance for Operation of GEM™ 2000 Plus Gas Analyzer

Step	Instructions
1	<p>Turn the system on by selecting the power button. The self test will commence once the power button is pressed. This will last approximately 20 seconds.</p> <p>Verify that the time and date are correct and the water trap, inlet-port particulate filter is clean and dry. Spare filters should be kept with the system in the event that the water trap, inlet-port particulate filter being utilized becomes clogged, contaminated and/or wet.</p>
2	<p>The instrument will display a reminder that sample hoses should be disconnected. Once the '←' is selected again, the purging process, which will last approximately 30 seconds, will commence.</p>
3	<p>After the purging process has been completed, connect the sample hose with the water trap, from the sample point (gas probe, sampling tube, or gas vent) to the inlet port of the instrument. Ensure that there is a tight seal. The connector should click into place.</p>
4	<p>Press the menu key on the instrument and scroll down to <b>Mode of Operation</b>. Select this option by pressing the '←' key and highlight <b>Landfill Gas Analyzer</b>. Press the '←' key again.</p>
5	<p>Using a methane gas canister with a known concentration, check the span calibration.</p>
6	<p>Connect the sample hose to the probe sample port or inside the gas vent. The pump is started by pressing the pump key. A static sample is taken immediately and a steady-state sample is taken once the reading has stabilized for 10 seconds or approximately 0.5 % by volume. The pump may be stopped by pressing the pump key.</p>
7	<p>The LCD display should show the current time/date, site date (if entered), gas readings and balance, percent LEL, barometric pressure, relative pressure, and temperature.</p>

Notes:

1. The methane gas sensor is sensitive to radio frequency (RF) interference. Gas readings may fluctuate if any device that transmits radio waves (e.g. cell phone) is used while conducting monitoring activities. **Please do not use a cell phone while taking LFG readings.**
2. A charcoal filter may also be used for sampling purposes if the presence of glues, cements, or bonding agents used in the construction of the PVC gas probes is suspected from anomalous %LEL readings

## *Appendix D*

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*2<sup>ND</sup> QUARTER 2011 FIELD SAMPLING SHEETS*



**ES CONSULTANTS, INC.**  
environmental and civil engineering





Biscayne Landing - LFG Monitoring Field Sheet

Date: 11/17/11  
 Time: 10:30

Weather Conditions/Temperature: Clouds

Name of Sampler: ANTHONY SCOTT

Page 2 of 3 GMR #: 32



Monitoring Point	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	Bal. %	LEL %	Temp. (F)	Pressure (Barometric/Relative)	Notes
SALES CENTER	0.0	0.0	17.4	82.1	0	81	30.06 / 148.86	
SCR0B07	0.0	0.3	16.9	81.7	0	81	30.06 / 148.86	
	0.0	0.3	16.8	81.9	0	81		
	0.0	0.4	16.8	82.5	0	81		
	0.0	0.4	16.7	82.5	0	81		
SCR0B08	0.0	0.0	16.4	81.5	0	80	30.06 / 148.86	
	0.0	0.0	16.4	81.5	0	80		
	0.0	0.0	16.4	81.4	0	79		
	0.0	0.0	16.5	81.4	0	80		
	0.0	0.0	16.6	81.3	0	80		
	0.0	0.8	15.7	81.3	0	80		
SCR0B09	0.0	0.8	15.3	82.9	0	79	30.06 / 148.86	
	0.0	0.0	17.9	82.0	0	79		
	0.0	0.0	17.9	82.0	0	79		
	0.0	0.0	18.0	81.5	0	79		
	0.0	0.0	18.1	81.5	0	79		
	0.0	0.0	18.1	81.4	0	79		
SCR0B10	0.0	0.0	18.1	81.4	0	79	30.06 / 148.86	
	0.0	0.0	18.5	81.4	0	79		
	0.0	0.0	18.6	81.4	0	79		
	0.0	0.0	18.1	81.8	0	78		
	0.0	0.0	18.1	81.8	0	78		







Biscayne Landing - LFG Monitoring Field Sheet

Date: 11/18/11

Time: 13:10

Weather Conditions/Temperature: Light rain

Name of Sampler: Anthony Pizzetti

Page 1 of 4 GMR #: 32



Monitoring Point	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	Bal. %	LEL %	Temp. (F)	Pressure (Barometric/Relative)	Notes
ACGM01	0.0	0.0	19.0	81.0	0	75	30.04" Hg / 1488.8" H <sub>2</sub> O	
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.1	80.9	0			
	0.0	0.0	19.0	81.0	0			
	0.0	0.0	19.1	80.9	0			
ACGM02	0.0	0.0	18.9	81.1	0	73		
	0.0	0.0	19.0	81.0	0			
	0.0	0.0	19.0	81.0	0			
	0.0	0.0	19.1	80.9	0			
	0.0	0.0	19.0	81.0	0			
ACGM03	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	19.1	80.9	0			
	0.0	0.0	19.1	80.9	0			
	0.0	0.0	19.1	80.9	0			
	0.0	0.0	19.1	80.9	0			
ACGM04	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.2	80.8	0			
	0.0	0.0	19.1	80.9	0			
	0.0	0.0	19.1	80.9	0			
	0.0	0.0	19.1	80.9	0			
ACGM05	0.0	0.0	19.1	80.9	0	74		
	0.0	0.0	19.1	80.9	0			
	0.0	0.0	19.1	80.9	0			
	0.0	0.0	19.2	80.7	0			
	0.0	0.0	19.1	80.9	0			
	0.0	0.0	19.0	81.0	0			



Biscayne Landing - LFG Monitoring Field Sheet

Date: 11/18/11

Time: 13:40

Weather Conditions/Temperature: Light Rain

Name of Sampler: Anthony Scott

Page 3 of 4 GMR #: 32



Monitoring Point	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	Bal. %	LEL %	Temp. (F)	Pressure (Barometric/Relative)	Notes
ACGM1	0.0	0.0	18.4	81.1	0	74	30.05" Hg / 147.79" H <sub>2</sub> O	
	0.0	0.0	19.0	81.0	0			
	0.0	0.0	19.0	81.0	0			
	0.0	0.0	19.0	81.0	0			
	0.0	0.0	19.0	81.0	0			
ACGM2	0.0	0.0	19.0	81.0	0	74	30.05" Hg / 147.79" H <sub>2</sub> O	
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.9	81.1	0			
ACGM3	0.0	0.0	18.4	81.0	0	75		
	0.0	0.0	18.4	81.1	0			
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.4	81.1	0			
ACGM4	0.0	0.0	19.1	80.9	0	78		<del>NOT FOUND / readings took off chart sheet</del> Found
	0.0	0.0	19.0	81.0	0			
	0.0	0.0	19.1	80.9	0			
	0.0	0.0	19.0	81.0	0			
	0.0	0.0	19.0	81.0	0			
ACGM5	0.0	0.0	18.9	81.0	0	79		NOT FOUND / readings took off chart sheet
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.1	80.9	0			
	0.0	0.0	19.0	80.9	0			

Biscayne Landing - LFG Monitoring Field Sheet

Date: 08/11/18/2011

Time: 13:55

Weather Conditions/Temperature: cloudy

Name of Sampler: Anthony Scott

Page 4 of 4 GMR #: 32



Monitoring Point	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	Bal %	LEL %	Temp. (F)	Pressure (Barometric/Relative)	Notes
ADMINISTRATION BUILDING								
ACSOIL01	0.0	4.3	19.4	81.3	0	74	30.04" Hg / 1488.81" H <sub>2</sub> O	
	0.0	4.3	19.6	81.2	0			
	0.0	4.3	19.5	81.1	0			
	0.0	4.3	19.4	81.1	0			
	0.0	4.3	19.5	81.2	0			
	0.0	4.3	19.5	81.2	0			
ACSOIL02	0.0	10.0	6.0	83.1	0	74	30.04" Hg / 1488.81" H <sub>2</sub> O	
	0.0	10.4	6.0	83.1	0			
	0.0	10.0	6.4	83.6	0			
	0.0	10.1	6.5	83.4	0			
	0.0	10.3	6.2	83.5	0			
	0.0	10.3	6.2	83.4	0			
ACGOUT	0.0	0.0	18.4	81.0	0	74	30.04" Hg / 1488.81" H <sub>2</sub> O	
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.1	80.9	0			
	0.0	0.0	19.0	81.0	0			
	0.0	0.0	19.0	81.0	0	74		
ACIN	0.0	5.0	19.9	81.0	0			
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	19.2	80.8	0			
	0.0	0.0	19.1	80.9	0			
	0.0	0.0	19.0	81.0	0			



Biscayne Landing - LFG Monitoring Field Sheet

Date: 11/18/11

Time: 11:05

Weather Conditions/Temperature: Cloudy

Name of Sampler: Anthony Scott

Page 1 of 1 GMR #: 32



Monitoring Point	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	Bal. %	LEL %	Temp. (F)	Pressure (Barometric/Relative)	Notes
UTILITY BARRIER								
GP-1 EAST	0.0	0.1	18.9	81.0	0	77	30.09" <sup>Hg</sup> / 148.75" <sup>H<sub>2</sub>O</sup>	
	0.0	0.1	18.8	81.4	0			
	0.0	0.1	18.8	81.1	0			
	0.0	0.1	18.9	81.0	0			
	0.0	0.1	18.9	81.1	0			
	0.0	0.1	18.9	81.1	0			
	0.0	0.1	18.9	81.1	0			
GP-2 EAST	0.0	0.1	16.6	88.3	0	>6	30.07" <sup>Hg</sup> / 148.02" <sup>H<sub>2</sub>O</sup>	
	0.0	0.1	15.5	82.0	0			
	0.0	0.5	15.5	82.0	0			
	0.0	2.5	15.5	81.9	0			
	0.0	2.5	15.5	81.9	0			
	0.0	2.4	15.6	81.9	0			
GP-1 WEST	0.0	0.1	18.7	81.0	0	75	30.06" <sup>Hg</sup> / 148.75" <sup>H<sub>2</sub>O</sup>	
	0.0	0.0	19.0	81.0	0			
	0.0	0.0	19.0	81.0	0			
	0.0	0.0	19.0	81.0	0			
	0.0	0.0	19.0	81.0	0			
	0.0	0.0	19.0	81.0	0			
EAST VENT	0.0	0.0	19.0	81.0	0	75	30.06" <sup>Hg</sup> / 148.75" <sup>H<sub>2</sub>O</sup>	
	0.0	1.4	17.8	80.8	0			
	0.0	1.5	17.6	80.4	0			
	0.0	1.5	17.6	80.9	0			
	0.0	1.4	17.7	81.0	0			
	0.0	1.4	17.7	81.0	0			
	0.0	1.5	17.6	80.8	0			
	0.0	1.4	17.8	80.8	0			
WEST VENT	0.0	1.2	17.9	80.8	0	75	30.06" <sup>Hg</sup> / 148.75" <sup>H<sub>2</sub>O</sup>	
	0.0	1.2	17.8	80.9	0			
	0.0	1.3	17.9	80.8	0			
	0.0	1.3	17.9	80.8	0			
	0.0	1.3	17.9	80.8	0			
	0.0	1.3	17.9	80.8	0			

Biscayne Landing - LFG Monitoring Field Sheet

Date: 11/18/2011  
 Time: 10:30

Weather Conditions/Temperature: cloudy / winds

Name of Sampler: Anthony / Scott

Page 1 of 3 GMR #: 32



Monitoring Point	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	Bal. %	LEL %	Temp. (F)	Pressure (Barometric/Relative)	Notes
GARAGE 1								
GP-G1-10	0.0	0.0	18.9	81.0	0	76	30.08" Hg / 148.70" H <sub>2</sub> O	
	0.0	0.1	18.8	81.0	0			
	0.0	0.0	18.9	81.0	0			
	0.0	0.0	18.2	81.1	0			
	0.0	0.0	18.9	81.0	0			
	0.0	0.0	18.8	81.0	0			
GP-G1-11	0.0	0.0	19.0	80.9	0	79	30.08" Hg / 148.78" H <sub>2</sub> O	
	0.0	0.0	18.8	81.0	0			
	0.0	0.0	18.9	81.0	0			
	0.0	0.0	18.4	81.0	0			
	0.0	0.0	18.9	81.0	0			
GP-G1-12	0.0	0.6	18.1	81.3	0	74	30.09" Hg / 148.81" H <sub>2</sub> O	
	0.0	0.2	18.2	81.1	0			
	0.0	0.0	18.0	81.1	0			
	0.0	0.0	18.9	81.0	0			
	0.0	0.0	18.9	81.0	0			
GP-G1-13	0.0	0.2	18.9	80.8	0	74	30.09" Hg / 148.81" H <sub>2</sub> O	
	0.0	0.4	18.3	81.3	0			
	0.0	0.5	18.2	81.3	0			
	0.0	0.5	18.1	81.3	0			
	0.0	0.4	18.1	81.3	0			
GP-G1-14	0.0	0.2	18.2	80.9	0	73	30.08" Hg / 148.81" H <sub>2</sub> O	
	0.0	0.0	19.0	81.0	0			
	0.0	0.0	18.8	80.9	0			
	0.0	0.1	18.8	81.1	0			
	0.0	0.1	18.8	81.0	0			



Biscayne Landing - LFG Monitoring Field Sheet

Date: 11/18/2011

Time: 9:30

Weather Conditions/Temperature: Cloudy and winds

Name of Sampler: ANTHONY / SCOH

Page 3 of 3 GMR #: 32

Biscayne Landings

Monitoring Point	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	Bal %	LEL %	Temp. (F)	Pressure (Barometric/Relative)	Notes
GARAGE 1								
PV-G1-4	0.1	6.4	5.5	87.5	0	74	30.09 Hg / 148.81 H <sub>2</sub> O	
	0.0	6.9	5.2	87.7	0			
	0.0	0.4	16.9	82.7	0			
	0.0	0.3	18.3	81.3	0			
	0.0	0.2	18.5	81.3	0			
	0.0	0.1	18.0	81.0	0			
PV-G1-5	2.1	0.0	17.8	81.0	0	74		
	2.5	1.6	17.8	79.3	47			
	1.1	1.9	17.0	80.0	54			
	2.7	1.7	17.8	77.8	54			
PV-G1-6	0.0	0.0	19.0	80.0	0	75	30.09 Hg / 148.81 H <sub>2</sub> O	
	0.0	0.0	18.8	81.0	0			
	0.0	0.0	18.9	80.9	0			
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	18.9	80.9	0			
	0.0	0.0	18.9	81.0	0			
PV-G1-7	0.0	0.0	19.0	80.9	0	75	30.09 Hg / 148.81 H <sub>2</sub> O	
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.0	80.9	0			
PV-G1-8	0.0	0.0	19.0	80.9	0	76	30.09 Hg / 148.81 H <sub>2</sub> O	
	0.0	0.0	19.0	81.0	0	76	30.09 Hg / 148.81 H <sub>2</sub> O	
	0.0	0.0	19.0	81.0	0	76	30.09 Hg / 148.81 H <sub>2</sub> O	
	0.0	0.0	19.0	81.0	0	76	30.09 Hg / 148.81 H <sub>2</sub> O	
	0.0	0.0	19.0	81.0	0	76	30.09 Hg / 148.81 H <sub>2</sub> O	
	0.0	0.0	19.0	81.0	0	76	30.09 Hg / 148.81 H <sub>2</sub> O	
	0.0	0.0	19.0	81.0	0	76	30.09 Hg / 148.81 H <sub>2</sub> O	
	0.0	0.0	19.0	81.0	0	76	30.09 Hg / 148.81 H <sub>2</sub> O	



Biscayne Landing - LFG Monitoring Field Sheet

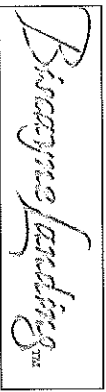
Date: 11/18/11

Time: 8:30

Weather Conditions/Temperature: Cloudy, Wind

Name of Sampler: Anthony Perziani

Page 1 of 2 GMR #: 32



Monitoring Point	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	Bal. %	LEL %	Temp. (F)	Pressure (Barometric/Relative)	Notes
TOWER 1								
PV-T1-4	0.0	0.0	18.9	81.0	0	76	30.05" Hg / 148.61" H <sub>2</sub> O	
	0.0	0.0	18.9	81.0	0			
	0.0	0.0	18.9	81.0	0			
	0.0	0.0	18.9	81.0	0			
	0.0	0.0	18.9	81.0	0			
PV-T1-5	0.0	0.8	17.5	81.7	0	76	30.05" Hg / 148.61" H <sub>2</sub> O	
	0.0	0.6	17.7	81.5	0			
	0.0	0.6	17.9	81.5	0			
	0.0	0.6	17.9	81.5	0			
	0.0	0.5	18.0	81.5	0			
	0.0	0.5	18.0	81.5	0			
PV-T1-6	0.0	0.1	18.8	81.1	0	76	30.05" Hg / 148.61" H <sub>2</sub> O	
	0.0	0.1	18.8	81.1	0			
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.0	80.9	0			
	0.0	0.1	18.8	81.1	0			
	0.0	0.2	18.8	81.0	0			

Biscayne Landing - LFG Monitoring Field Sheet

Date: 11/18/11

Time: 4: 8:45

Weather Conditions/Temperature: CLOUDY/WINDY

Name of Sampler: ANTHONY SCOLA

Page 2 of 2 GMR #: 32



Monitoring Point	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	Bal. %	LEL %	Temp. (F)	Pressure (Barometric/Relative)	Notes
TOWER 1								
GP-T1-13	0.0	0.9	17.9	81.1	0	75	30.05" Hg / 149.61" H <sub>2</sub> O	
	0.0	0.9	18.0	81.1	0			
	0.0	0.9	17.9	81.1	0			
	0.0	0.9	18.0	81.1	0			
	0.0	0.9	17.9	81.1	0			
GP-T1-14	0.0	0.2	17.5	81.4	0	76	30.05" Hg / 148.61" H <sub>2</sub> O	
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.9	80.9	0			
	0.0	0.0	18.9	81.0	0			
	0.0	0.0	18.9	81.0	0			
	0.0	0.0	19.0	81.0	0			
PV-T1-1	0.0	7.0	10.7	87.6	0.0	76	30.05" Hg / 148.61" H <sub>2</sub> O	
	0.0	7.1	10.2	87.6	0.0	76		
	0.0	7.2	10.7	87.6	0.0	76		
	0.0	7.2	10.7	87.6	0.0	76		
	0.0	7.2	10.2	87.5	0.0	76		
	0.0	7.2	10.2	87.5	0.0	76		
PV-T1-2	0.0	0.0	19.1	80.8	0	76	30.05" Hg / 148.61" H <sub>2</sub> O	
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.0	80.9	0			
PV-T1-3	0.0	0.0	19.0	80.9	0	76	30.05" Hg / 148.61" H <sub>2</sub> O	
	0.0	0.0	18.9	81.0	0			
	0.0	0.0	18.9	81.0	0			
	0.0	0.0	19.0	80.9	0			
	0.0	0.0	19.0	80.9	0			



Biscayne Landing - LFG Monitoring Field Sheet

Date: 11/17/11  
 Time: 17:15

Weather Conditions/Temperature: partly sunny

Name of Sampler: Anthony Scott

Page 2 of 4 GMR #: 32



Monitoring Point	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	Bal %	LEL %	Temp. (F)	Pressure (Barometric/Relative)	Notes
TOWER 2								
PV-T2-6	0.0	0.0	18.9	81.1	0	80	29.95" Hg / 149.03" H <sub>2</sub> O	
	0.0	0.0	18.8	81.1	0			
	0.0	0.0	18.8	81.2	0			
	0.0	0.0	18.8	81.3	0			
	0.0	0.0	18.8	81.3	0			
	0.0	0.0	18.9	81.1	0			
PV-T2-7	0.0	0.0	18.9	81.1	0	80	29.95" Hg / 149.03" H <sub>2</sub> O	
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.8	81.2	0			
	0.0	0.0	18.8	81.2	0			
	0.0	0.0	18.8	81.2	0			
	0.0	0.0	18.8	81.2	0			
PV-T2-8	0.0	0.3	18.8	81.2	0	80	29.95" Hg / 149.03" H <sub>2</sub> O	
	0.0	0.3	18.8	81.0	0			
	0.0	1.2	17.3	80.9	0			
	0.0	2.0	17.2	80.7	0			
	0.0	2.0	17.2	80.7	0			
	0.0	2.0	17.1	80.8	0			
	0.0	2.0	17.1	80.8	0			
	0.0	2.0	17.1	80.8	0			
PV-T2-9	0.0	0.0	19.0	81.0	0	80	29.95" Hg / 149.03" H <sub>2</sub> O	
	0.0	0.0	19.0	81.0	0			
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.9	81.1	0			
PV-T2-10	0.0	0.0	18.9	81.1	0	80	29.95" Hg / 149.03" H <sub>2</sub> O	
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.9	81.1	0			



Biscayne Landing - LFG Monitoring Field Sheet

Date: 11/17/2011  
 Time: 17:40

Weather Conditions/Temperature: partly cloudy

Name of Sampler: AVT/kosy/SCM

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Biscayne Landing

Monitoring Point	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	Bal. %	LEL %	Temp. (F)	Pressure (Barometric/Relative)	Notes
TOWER 2								
PVT-2-11	0.0	0.0	17.9	81.1	0	80	29.95" Hg / 149.03" H <sub>2</sub> O	
	0.0	0.0	17.9	81.1	0			
	0.0	1.0	17.7	81.2	0			
	0.0	1.0	17.7	81.3	0			
	0.0	0.9	17.9	81.3	0			
	0.0	0.8	18.0	81.1	0			
PVT-2-12	0.0	0.7	18.1	81.4	0	80	29.95" Hg / 149.03" H <sub>2</sub> O	
	0.0	0.0	18.2	81.1	0			
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.2	81.1	0			
	0.0	0.0	18.1	81.0	0			
	0.0	0.0	18.1	80.9	0			
PVT-2-13	0.0	0.8	17.6	81.3	0	75	30.05" Hg / 148.61" H <sub>2</sub> O	
	0.0	0.2	17.8	81.2	0			
	0.0	0.0	17.8	81.2	0			
	0.0	0.7	18.1	81.1	0			
	0.0	0.6	18.1	81.1	0			
PVT-2-14	0.0	0.0	18.9	81.1	0	75	30.05" Hg / 148.61" H <sub>2</sub> O	
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	18.8	81.2	0			
	0.0	0.0	18.9	81.1	0			
	0.0	0.0	19.0	81.0	0			
	0.0	0.0	19.4	80.9	0			
PVT-2-15	0.0	0.0	18.3	81.2	0	75	30.05" Hg / 148.61" H <sub>2</sub> O	
	0.0	0.6	18.3	81.2	0			
	0.0	0.2	18.4	81.0	0			
	0.0	0.5	18.5	81.0	0			
	0.0	0.5	18.5	81.0	0			
	0.0	0.4	18.5	81.0	0			
	0.0	0.4	18.5	81.1	0			

NOT FOUND / DETECTED  
 ABOVE LEVELS OF O<sub>2</sub> IN VICINITY  
 OF PVT-2-14  
 11/18/11 8:07

11/18/11 7:45

11/18/11 8:15



Biscayne Landing - LFG Monitoring Field Sheet

Date: 11/17/11  
 Time: 15:00

Weather Conditions/Temperature: SUNNY

Name of Sampler: ANTHONY SCOTT

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*Biscayne Landing*

Monitoring Point	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	Bal. %	LEL %	Temp. (F)	Pressure (Barometric/Relative)	Notes
PERIMETER PROBES								
GP-1	0.0	18.4	18.4	81.5	0	83	29.93"Hg / 149.02"H <sub>2</sub> O	
	0.0	0.8	17.7	81.4	0			
	0.0	1.0	17.5	81.4	0			
	0.0	1.3	17.3	81.4	0			
	0.0	1.3	17.2	81.4	0			
GP-2	0.0	1.4	17.1	81.4	0	86	29.93"Hg / 149.02"H <sub>2</sub> O	
	0.0	0.7	17.7	81.5	0	82		
	0.0	0.7	17.7	81.5	0	87		
	0.0	0.8	17.7	81.5	0	87		
	0.0	0.4	17.6	81.6	0	87		
GP-3	0.0	0.4	17.6	81.6	0	83	29.93"Hg / 149.02"H <sub>2</sub> O	
	0.0	0.8	17.6	81.6	0	83		
	0.0	1.3	16.7	81.8	0	90		
	0.0	1.6	16.5	81.8	0	90		
	0.0	1.3	16.9	81.8	0	89		
GP-4	0.0	1.7	16.9	81.8	0	89	29.96"Hg / 148.98"H <sub>2</sub> O	
	0.0	5.6	17.7	81.4	0	88		
	0.0	5.6	17.7	81.3	0			
	0.0	5.7	17.7	81.3	0			
	0.0	5.7	17.7	81.4	0			
GP-5-N	0.0	5.7	17.9	81.4	0	88	29.96"Hg / 148.98"H <sub>2</sub> O	
	0.0	6.6	18.0	81.3	0	88		
	0.0	6.6	18.0	81.3	0	88		
	0.0	5.7	17.9	81.4	0	88		
	0.0	5.2	17.7	81.4	0	88		

Biscayne Landing - LFG Monitoring Field Sheet

Date: 11/12/11

Time: 14:05

Weather Conditions/Temperature: sunny, wind

Name of Sampler: ANTHONY/SCOH

Page 2 of 5 GMR #: 3A

*Biscayne Landings*

Monitoring Point	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	Bal. %	LEL %	Temp. (F)	Pressure (Barometric/Relative)	Notes
PERIMETER PROBES								
GP-5	0.0	0.0	18.4	81.5	0	85	29.96" Hg / 148.48" H <sub>2</sub> O	
	0.0	2.2	16.5	81.3	0	87		
	0.0	2.1	16.5	81.4	0	87		
	0.0	2.2	16.5	81.2	0	87		
	0.0	2.1	16.6	81.2	0	87		
	0.0	2.2	16.5	81.2	0	87		
GP-5 S	0.0	8.1	10.3	81.5	0	89	29.96" Hg / 148.90" H <sub>2</sub> O	
	0.0	9.0	9.1	81.9	0	89		
	0.1	5.8	13.3	80.6	0	89		
	0.1	5.6	13.3	80.4	0	89		
	0.1	5.2	14.2	80.4	0	89		
	0.1	5.1	14.2	80.6	0	89		
GP-6	0.0	1.5	14.3	82.2	0	83	29.98" Hg / 149.09" H <sub>2</sub> O	
	0.0	3.7	14.3	82.0	0			
	0.0	4.0	14.5	81.4	0			
	0.0	4.8	14.4	80.7	0			
	0.0	14.4	14.4	80.7	0			
	0.0	14.4	14.4	80.8	0			
GP-7	0.0	6.7	11.8	81.5	0	84	29.98" Hg / 148.09" H <sub>2</sub> O	
	0.0	7.1	11.5	81.3	0	84		
	0.0	7.3	11.1	81.6	0	84		
	0.0	11.8	8.0	80.7	0	84		
	0.0	11.8	7.4	80.7	0	84		
	0.0	12.4	6.9	80.4	0	84		
	0.0	12.6	6.9	80.2	0	84		



Biscayne Landing - LFG Monitoring Field Sheet

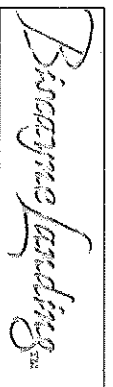
Date: 11/17/11

Time: 13:35

Weather Conditions/Temperature: Sunny

Name of Sampler: AMTKOH5/5041

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Monitoring Point	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	Bal. %	LEL %	Temp. (F)	Pressure (Barometric/Relative)	Notes
PERIMETER PROBES								
GP-8	0.0	0.2	17.9	81.2	0	86	29.98" Hg / 149.89" H <sub>2</sub> O	
	0.0	2.8	15.9	81.1	0	86		
	0.0	4.1	14.9	80.8	0	86		
	0.0	5.3	14.1	80.6	0	87		
	0.0	5.3	13.9	80.4	0	87		
	0.0	5.4	13.9	80.6	0	87		
GP-9	0.0	0.2	17.0	80.1	0	87	29.98" Hg / 149.09" H <sub>2</sub> O	
	0.0	19.7	9.7	80.0	0	88		
	0.0	9.1	11.1	80.3	0	88		
	0.0	2.0	12.7	80.3	0	89		
	0.0	6.5	13.1	80.4	0	89		
	0.0	6.3	13.3	80.3	0	89		
GP-10	0.0	1.2	8.5	83.2	0	92	29.98" Hg / 149.09" H <sub>2</sub> O	
	0.0	4.3	12.2	83.4	0			
	0.0	4.3	12.3	83.3	0			
	0.0	4.3	12.3	83.3	0			
	0.0	4.3	12.3	83.3	0			
GP-11	0.0	0.3	17.2	81.4	0	84	29.98" Hg / 149.09" H <sub>2</sub> O	
	0.0	1.3	17.2	81.5	0	83		
	0.0	1.3	17.0	81.5	0	83		
	0.0	1.3	17.1	81.6	0	83		
	0.0	1.2	17.2	81.6	0	83		
	0.0	1.2	17.3	81.4	0	83		
GP-12	0.0	1.4	15.0	82.0	0	84	29.98" Hg / 149.09" H <sub>2</sub> O	
	0.0	1.2	16.9	81.2	0	84		
	0.0	1.4	16.2	81.8	0	85		
	0.0	1.4	16.9	81.6	0	85		
	0.0	1.3	16.9	81.5	0			
	0.0	1.3	16.9	81.7	0			

Biscayne Landing - LFG Monitoring Field Sheet

Date: 11/12/11  
 Time: 13:55

Weather Conditions/Temperature: SUNNY

Name of Sampler: Anthony Costa

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Monitoring Point	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	Bal. %	LEL %	Temp. (F)	Pressure (Barometric/Relative)	Notes
PERIMETER PROBES								
GP-13	0.0	1.0	15.4	81.7	0	93	29.98" Hg / 149.09" H <sub>2</sub> O	
	0.0	3.0	15.4	81.4	0			
	0.0	3.0	15.4	81.5	0			
	0.0	3.0	15.5	81.4	0			
	0.0	3.0	15.3	81.5	0			
	0.0	3.4	15.1	81.4	0			
GP-14	0.0	0.1	12.7	81.2	0	90	29.98" Hg / 149.09" H <sub>2</sub> O	
	0.0	0.1	12.6	81.5	0	88		
	0.0	1.0	12.5	81.4	0	87		
	0.0	1.0	12.5	81.5	0	87		
	0.0	1.0	12.3	81.6	0	86		
	0.0	1.0	12.0	81.4	0	85		
GP-15	0.0	1.3	15.8	83.0	0	91	29.98" Hg / 149.09" H <sub>2</sub> O	
	0.0	1.2	12.1	81.6	0	90		
	0.0	1.2	12.8	81.4	0	88		
	0.0	1.2	12.2	81.5	0	90		
	0.0	1.2	12.3	81.4	0	92		
	0.0	1.1	12.3	81.5	0	92		
GP-16	0.0	0.9	12.6	81.4	0	89	29.98" Hg / 149.09" H <sub>2</sub> O	
	0.0	1.3	12.3	81.3	0			
	0.0	1.5	16.9	81.5	0			
	0.0	1.6	16.8	81.4	0			
	0.0	1.6	16.8	81.5	0			
GP-17	0.0	2.1	16.5	81.4	0	80	29.98" Hg / 149.09" H <sub>2</sub> O	
	0.0	2.8	16.2	80.9	0	80		
	0.0	3.1	16.0	80.8	0	80		
	0.0	3.5	15.7	80.8	0	80		
	0.0	3.4	15.8	80.7	0	88		
	0.0	3.4	15.8	80.7	0	88		

Biscayne Landing - LFG Monitoring Field Sheet

Date: 11/17/11  
 Time: 11:45

Weather Conditions/Temperature: SWWS

Name of Sampler: Anthony Scott

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Monitoring Point	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	Bal. %	LEL %	Temp. (F)	Pressure (Barometric/Relative)	Notes
GR-18	2.2	0.3	18.7	81.0	170	86	29.98	149.02
	0.0	1.2	17.4	81.3	0	85		
	0.0	1.9	16.8	81.0	0	85		
	0.0	2.2	16.6	81.0	0	85		
	0.0	2.2	16.5	81.2	0	85		
	0.0	2.2	16.5	81.2	0	85		
	0.0	2.2	16.5	81.2	0	85		

## *Appendix E*

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### *METHANE CONCENTRATION VERSUS TIME DATA AND GRAPHS*





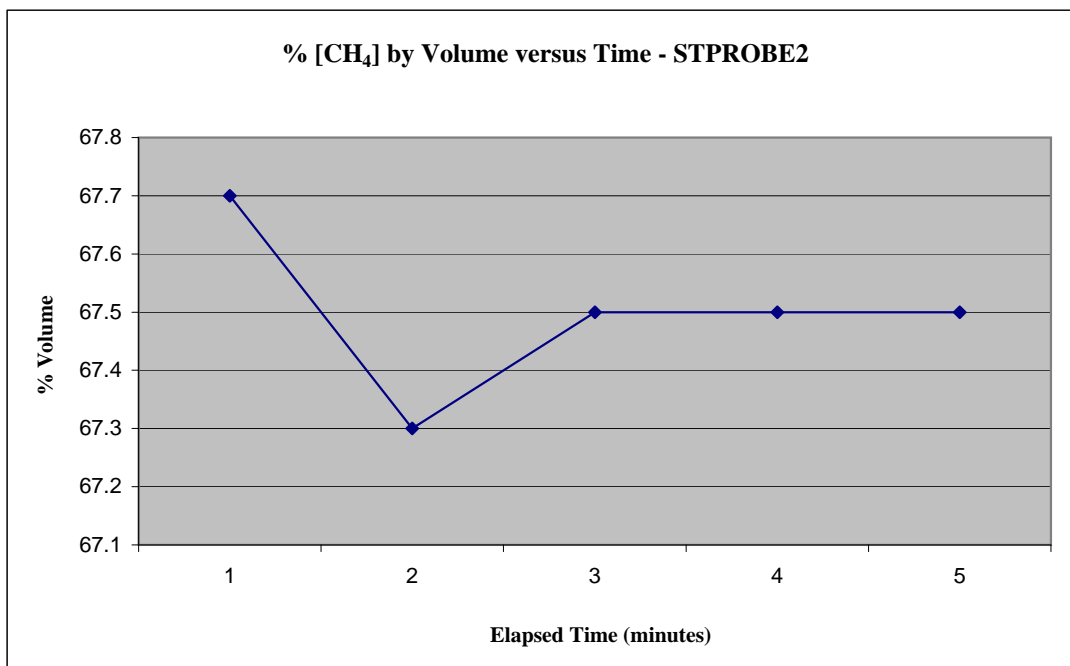
## Methane Concentration versus Time Results

### Monitoring Point: STPROBE2

Elapsed Time (Min)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	% LEL CH <sub>4</sub>	Temperature (°F)	Barometric Pressure "[Hg]
Static	67.5	32.0	0.3	0.2	1350	84	30.03
1	67.7	32.1	0.1	0.2	1354	84	30.03
2	67.3	32.3	0.1	0.2	1346	84	30.03
3	67.5	32.2	0.1	0.2	1350	84	30.03
4	67.5	32.4	0.0	0.2	1350	84	30.03
5	67.5	32.3	0.1	0.2	1350	84	30.03

Notes.

1. % LEL calculated after field measurement.
2. Barometric pressure in inches of mercury.



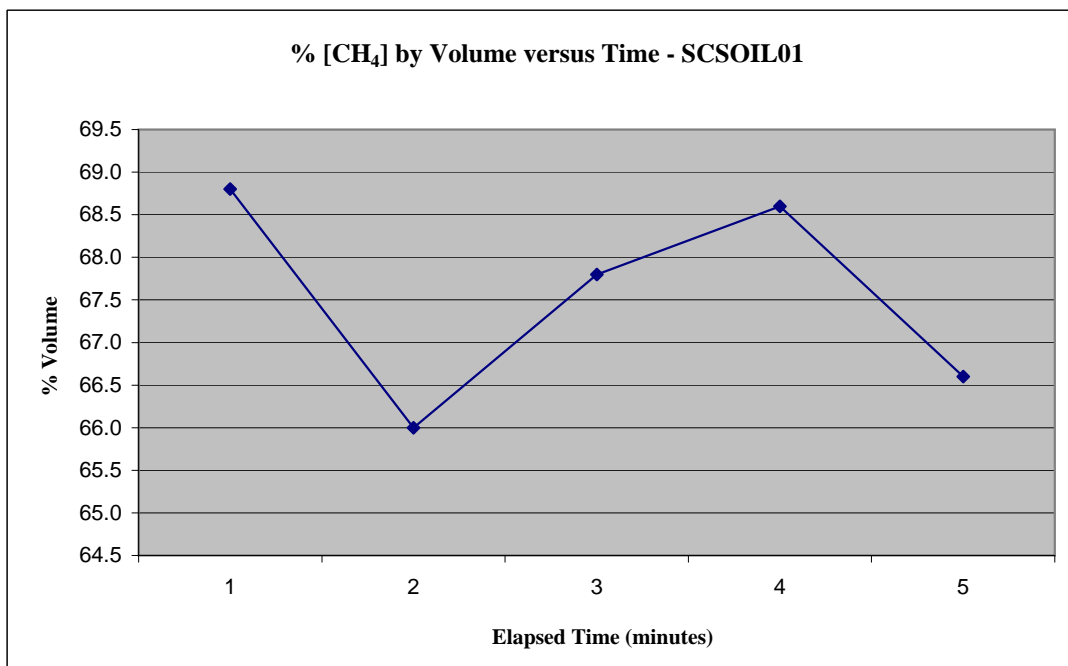
## Methane Concentration versus Time Results

### Monitoring Point: SCSOIL01

Elapsed Time (Min)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	% LEL CH <sub>4</sub>	Temperature (°F)	Barometric Pressure "[Hg]
Static	68.3	23.1	1.1	7.2	1366	89	30.06
1	68.8	24.8	0.7	5.6	1376	89	30.06
2	66.0	24.2	1.2	7.0	1320	89	30.06
3	67.8	24.2	1.0	7.0	1356	89	30.06
4	68.6	24.9	0.7	5.5	1372	89	30.06
5	66.6	23.8	1.2	9.4	1332	89	30.06

Notes.

1. % LEL calculated after field measurement.
2. Barometric pressure in inches of mercury.



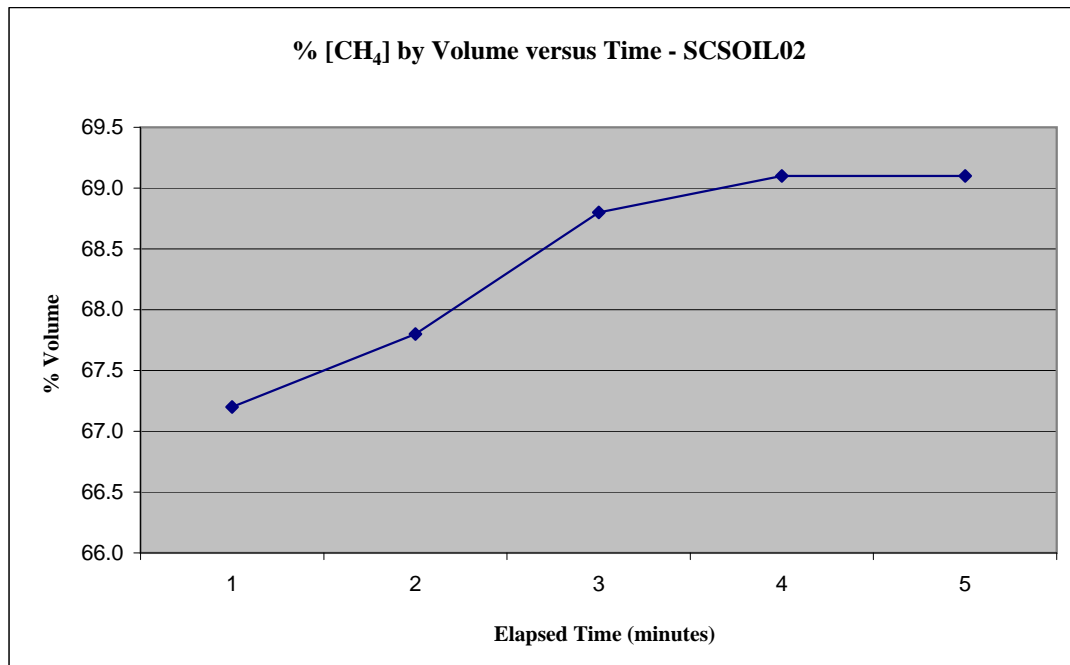
## Methane Concentration versus Time Results

### Monitoring Point: SCSOIL02

Elapsed Time (Min)	% CH <sub>4</sub>	% CO <sub>2</sub>	% O <sub>2</sub>	% Bal	% LEL CH <sub>4</sub>	Temperature (°F)	Barometric Pressure "[Hg]
Static	61.1	7.8	1.7	29.4	1222	78	30.06
1	67.2	8.1	0.0	24.7	1344	78	30.06
2	67.8	8.1	0.0	24.0	1356	78	30.06
3	68.8	8.1	0.0	22.9	1376	78	30.06
4	69.1	8.1	0.0	22.6	1382	78	30.06
5	69.1	8.2	0.0	22.7	1382	78	30.06

Notes.

1. % LEL calculated after field measurement.
2. Barometric pressure in inches of mercury.



## *Appendix F*

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### *QUEST CONTROLS CORRESPONDENCE*



**ES CONSULTANTS, INC.**  
environmental and civil engineering





October 1, 2011

Russell Benford  
City of North Miami Florida  
776 NE 125<sup>th</sup> Street  
North Miami, FL 33161

Ref: Biscayne Landing Alarm Calls for July 1, 2011 to September 30, 2011.

Dear Mr. Benford,

This letter is to inform you that there was no alarm activity for the gas sensors installed in Oaks I/Garage, Oaks I/Tower I, and Oaks I/Tower II during the monitoring period of July 1, 2011 through September 30, 2011.

Regards,

QCM, Inc.  
208 9<sup>th</sup> Street Dr West, Suite 100  
Palmetto, FL 34221

na

# *Appendix G*

---

*PERA CORRESPONDENCE*



**ES CONSULTANTS, INC.**  
environmental and civil engineering



Carlos A. Gimenez, Mayor

Permitting, Environment and Regulatory Affairs

Environmental Services
701 NW 1st Court, 4th Floor
Miami, Florida 33136-3912
T 305-372-6700 F 305-372-6982

miamidade.gov

November 1, 2011

Stephen E. Johnson
Interim City Manager
City of North Miami
776 Northeast 125 Street
North Miami, FL 33161

CERTIFIED MAIL NO. 7011 0470 0002 4383 4158
RETURN RECEIPT REQUESTED

Re: Corrective Action Report dated September 29, 2011, prepared by ESC, Inc. for the Biscayne Landing (F.K.A MUNISPORT) site located in the vicinity of Biscayne Boulevard (US-1) and Northeast 151st Street, Miami-Dade County, Florida (SW-1178/File # 12838).

Dear Mr. Johnson:

The Environmental Assessment Section (EAS) of the Permitting, Environment and Regulatory Affairs (PERA) has reviewed the referenced document received October 3, 2011 and offers the following comments:

- 1. The EAS concurs with the proposed continued quarterly monitoring as part of the evaluation of the modified Passive Gas Venting Trench's effectiveness.
2. The existing passive trench location in relation to GP-5, as depicted on Figure 3 of the current submittal, is inconsistent with the earlier site plans (attached). The above inconsistency shall be addressed in the next submittal.
3. The calibration data sheet for the current monitoring event and for all subsequent monitoring events shall be submitted.

Notwithstanding the above, pursuant to Chapter 24, Code of Miami-Dade County, continue with the designated methane monitoring. The next Quarterly Methane Gas Monitoring Report is due on or before January 31, 2012. A review fee of \$800 shall be included with the submittal.

Failure to adhere to the items and timeframes stipulated above may result in enforcement action for this site.

If you have any questions regarding this letter, please contact Serge V. Beregovoy (berregs@miamidade.gov) of the Environmental Assessment Section at (305) 372-6700.

Sincerely,

Handwritten signature of Wilbur Mayorga

Wilbur Mayorga, P.E., Chief
Pollution Control Division

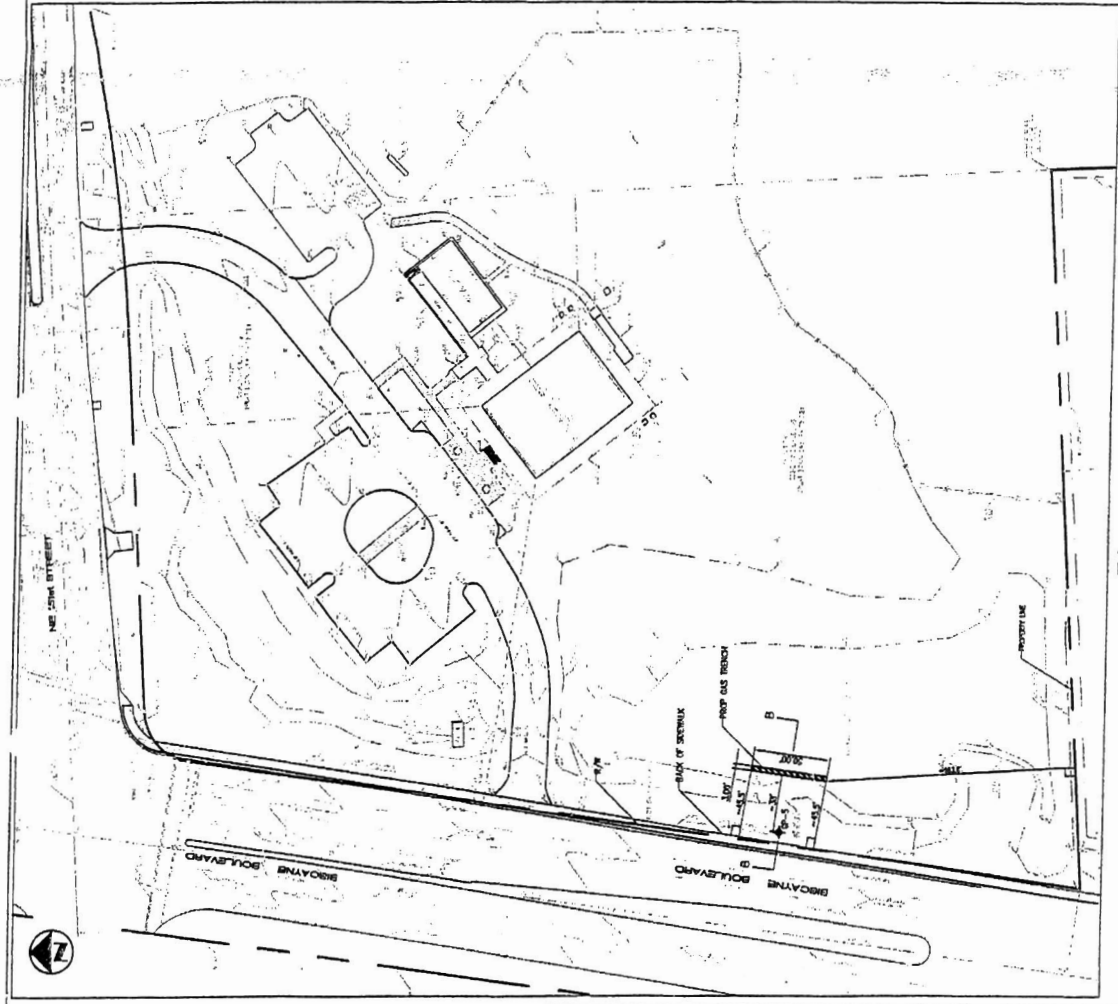
SVB

cc: Lee Martin, PE / Peter Grasel, PG, FDEP-TLH • Joe Lurix, FDEP-WPB • Eduardo F. Smith, P.E., ES Consultants, Inc.

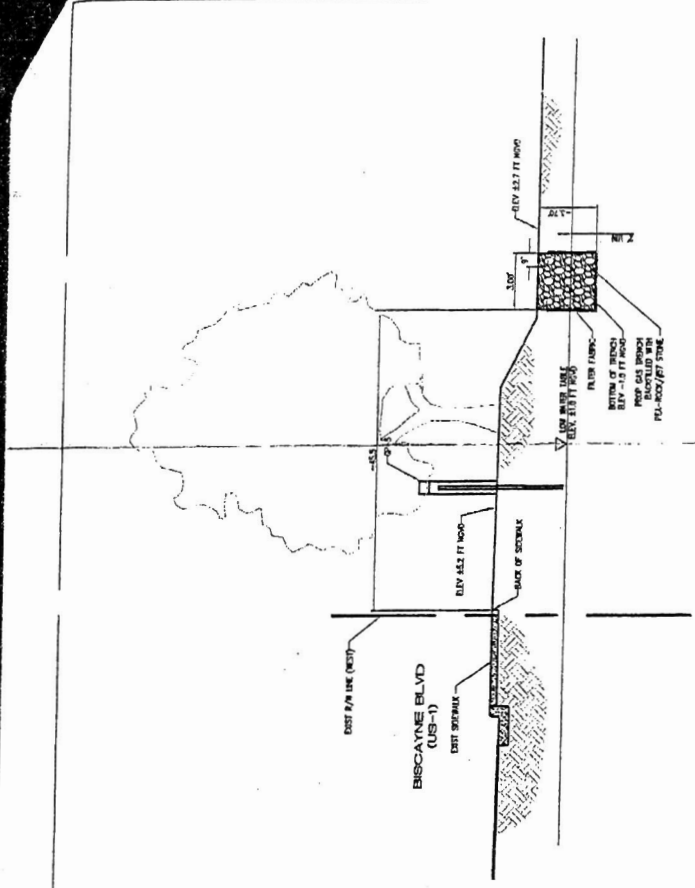
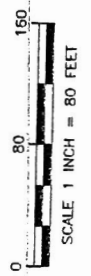
Delivering Excellence Every Day



TU



**PLAN**



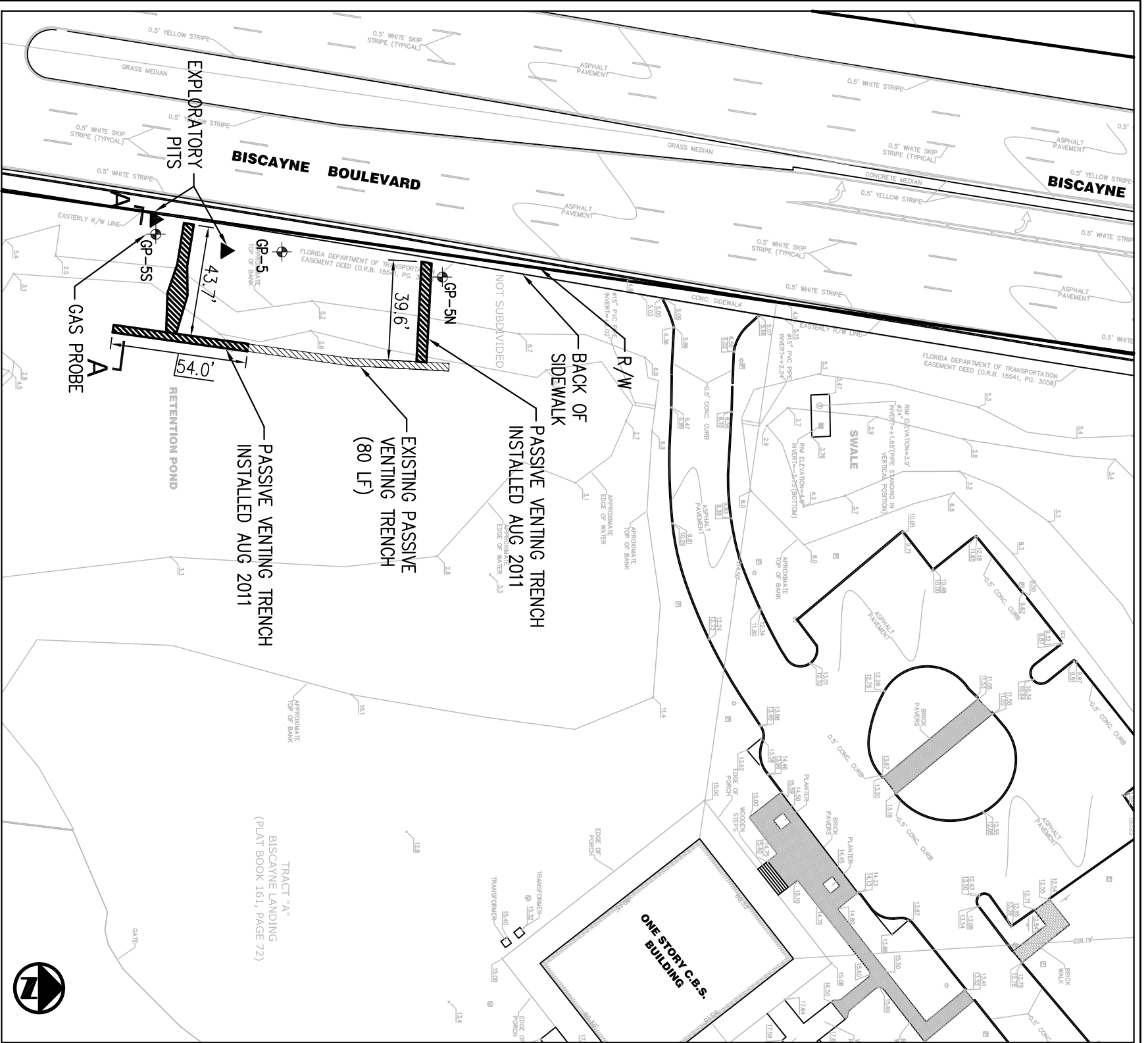
**SECTION B-B**  
N.T.S

<p>Biscayne-Landing, LLC North Miami, FL</p>	<p>Biscayne-Landing (SW-117B/File #12836) North Miami, FL</p>	<p>PROPOSED GAS TRENCH NEAR GP-5</p>
	<p>Project 2080023</p>	<p>Nov 2008</p>
		<p>Fig. 2</p>

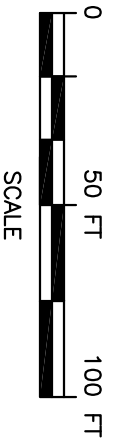
2/23/2007 1:1 S:\Biscayne Landing\2008 Restore\Gas Monitoring-207013\_2080023\GP-5 Venting Trench\Drawings\Fig 1 GP 5 Gas Trench.dwg





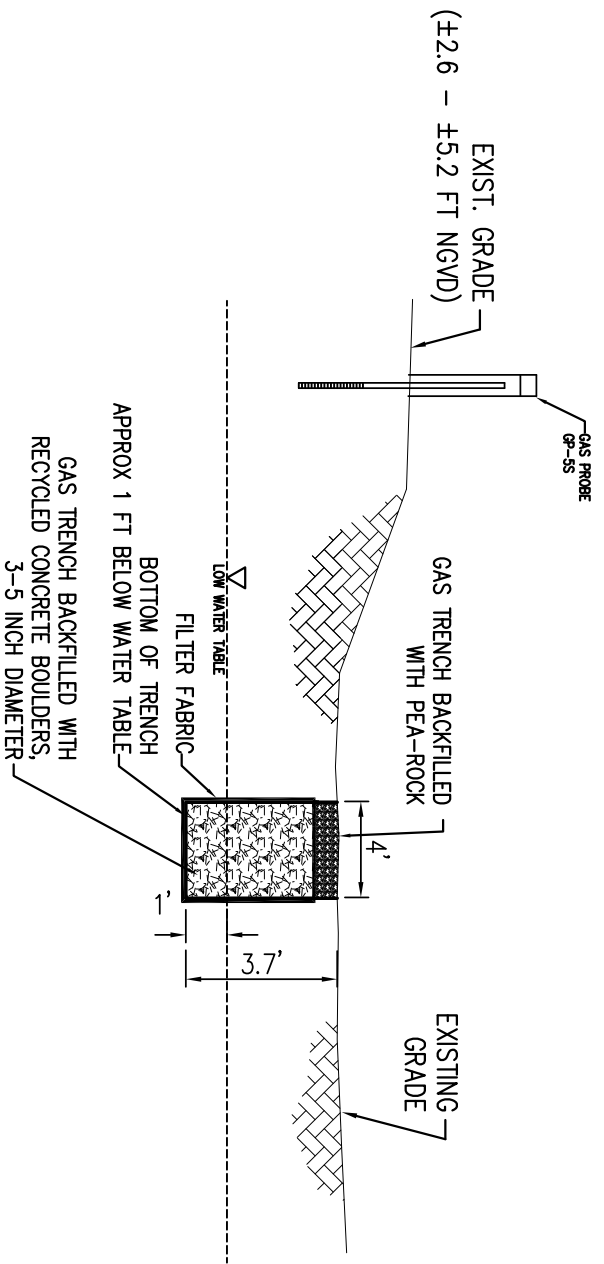


**PLAN**



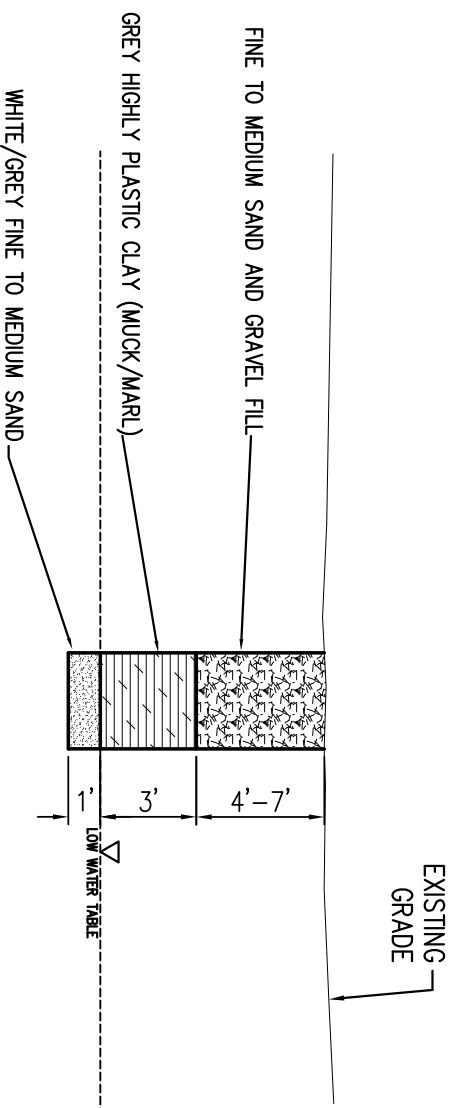
**NOTES:**

1. FOR REGULATORY APPROVAL PURPOSES ONLY.
2. DUE TO THE PRESENCE OF A LANDSCAPE BERM IN THE GP-5 AREA, THE TOTAL DEPTH OF THE TRENCH VARIED BETWEEN 3.7 FT AND 8 FT. THE TRENCH WAS CONSISTENTLY INSTALLED TO A DEPTH OF 1 FT BELOW THE WATER TABLE.



**SECTION A-A (TYP.)**

N.T.S



**EXPLORATORY PIT: TYPICAL LITHOLOGY**

N.T.S

Biscayne Landing, LLC North Miami, FL		Biscayne Landing (SW-1178/File #12838) North Miami, FL		ADDITIONAL GAS TRENCHES NEAR GP-5 INSTALLED AUG 2011	
ES CONSULTANTS, INC. environmental & civil engineering		Project 2011049		SEPT 2011 Fig. 1	

**H13**

**TROUT USED CARS**



Lawton Chiles  
Governor

# Florida Department of Environmental Protection

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Virginia B. Wetherell  
Secretary

August 11, 1994

Mr. Jack M. Poulos  
P.J.M. Corporation  
19800 West Dixie Highway  
North Miami Beach, Florida 33180

RE: Trout Used Cars  
18319 West Dixie Highway  
North Miami Beach, Florida  
DEP Facility #139101384  
DERM UT-1769/File-8106

Dear Mr. Poulos:

The Bureau of Waste Cleanup has reviewed the Contamination Assessment Report (CAR) Addendum and Monitoring Only Plan (MOP) dated April 27, 1994 (received May 2, 1994), submitted for this site. Pursuant to Section 17-770.600(6), Florida Administrative Code (F.A.C.), the Department approves the "monitoring only" proposal. Pursuant to Sections 17-770.660 and 17-770.700(3), F.A.C., you are required to complete the monitoring program outlined below, and to submit the analytical results to the Department within sixty (60) days of sample collection:

<u>Monitoring Wells</u>	<u>Parameters</u>	<u>Frequency</u>	<u>Duration</u>
MW-1, MW-5, MW-7	EPA Method 610	Quarterly	One year
MW-4	EPA Methods 602 and 610	Quarterly	One year

If contaminant concentrations in the designated wells increase above the concentrations listed below, then the resampling/supplemental assessment described in Section 17-770.660(6) should be performed. If the contaminant concentrations do not decrease below Section 17-770.730(5) target cleanup levels (unless higher alternative site rehabilitation levels have been established) after the duration of the monitoring period, then additional monitoring, supplemental contamination assessment and/or remediation may be required:

MWs-1, 5, and 7: 100 ppb total Naphthalenes .

MW-4: 10 ppb benzene, 75 ppb total VOA, 450 ppb total Naphthalenes

Persons whose substantial interests are affected by this Approval Order have the right to challenge the Department's decision. Such a challenge may include filing a petition for an administrative

Mr. Poulos  
Trout Used Cars  
August 11, 1994  
Page 2

determination (hearing) as described in the following paragraphs. However, pursuant to Chapter 17-103, F.A.C., you may request an extension of time to file the Petition. All requests for extensions of time to file a petition or petitions for administrative determinations must be filed directly with the Department's Office of General Counsel at the address given below within twenty-one (21) days of receipt of this notice (do not send them to the Bureau of Waste Cleanup).

Notwithstanding the above, a person whose substantial interests are affected by this Monitoring Only Plan Approval Order may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within twenty-one (21) days of receipt of this notice. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The petition shall contain the following information:

(a) The name, address, and telephone number of each petitioner, the Department file number (DEP facility number), and the name and address of the facility;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by each petitioner, if any;

(e) A statement of facts which each petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes each petitioner contends require reversal or modification of the Department's action or proposed action; and

(g) A statement of the relief sought by each petitioner, stating precisely the action each petitioner wants the Department to take with respect to the Department's action or proposed action.

This Approval Order is final and effective on the date of receipt of this Order unless a petition (or time extension) is filed in accordance with the preceding paragraphs. Upon the timely filing of a petition, this Order will not be effective until further order of the Department.

When the Order is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the clerk of the Department



MEMORANDUM

**TO:** Bert Conoly  
Project Coordinator  
FDEP/Bureau of Waste Cleanup

**DATE:** July 27, 1994

**FROM:** Pedro F. Hernandez, P.E., Chief  
Petroleum Remediation Section

**SUBJECT:** MOP Approval Order  
Trout Used Cars  
18319 W. Dixie Hwy.  
Miami, Florida  
FDEP Fac. #139101384  
DERM UT-1769

Enclosed for John Ruddell's signature is a MOP Approval Order for the above-referenced site.

The address for the pc is:

Eric Aserlind, P.G.  
Hydrologic Associates, Inc.  
8925 S.W. 148 Street, Suite 212  
Miami, Florida 33176

If you have any questions concerning this site, please contact Jane G. Dozier, P.G., of the Petroleum Remediation Section at (305) 372-6700.

JGD

Bureau of Waste Cleanup

AUG 5 1994

Petroleum Cleanup Section

METROPOLITAN DADE COUNTY, FLORIDA



AUG 31 1994



Petroleum Clean **ENVIRONMENTAL RESOURCES MANAGEMENT**  
POLLUTION PREVENTION DIVISION  
SUITE 800  
33 S.W. 2nd AVENUE  
MIAMI, FLORIDA 33130-1540  
(305) 372-6877

July 27, 1994  
CERTIFIED MAIL NO. P333153854  
RETURN RECEIPT REQUESTED

Mr. Jack M. Poulos  
P.J.M. Corporation  
19800 West Dixie Highway  
North Miami Beach, Florida 33180

Re: Oil/Water Separator Closure Assessment Report (OWSCAR) dated January 26, 1993, and March 16, 1993, and Contamination Assessment Report (CAR) addendum and Monitoring Only Plan (MOP) dated April 27, 1994, prepared by Hydrologic Associates U.S.A., Inc., for the Trout Used Cars/Metropolitan Petroleum Co. facility (UT-1769) located at, near, or in the vicinity of 18319 West Dixie Highway, North Miami Beach, Dade County, Florida.

Dear Mr. Poulos:

The Department of Environmental Resources Management (DERM) has reviewed the above-referenced OWSCAR, received March 8, 1993, and March 22, 1993. The DERM has determined that this OWSCAR meets the requirements of the plan approval dated December 2, 1992, and Chapter 24, Metropolitan Dade County Environmental Protection Ordinance.

The DERM has also reviewed the above referenced CAR addendum and MOP, received May 2, 1994. The DERM hereby APPROVES the CAR addendum. Furthermore, a letter recommending approval of the MOP is being forwarded to the Florida Department of Environmental Protection (FDEP) for review. The FDEP will determine final approval or disapproval of the MOP, and will notify the responsible parties by mail.

If you have any questions concerning the above, please contact Jane G. Dozier, P.G., of the Petroleum Remediation Section at (305) 372-6700.

Sincerely,

  
Pedro F. Hernandez, P.E., Chief  
Petroleum Remediation Section

JGD

pc: Bert Conoly - FDEP, 139101384  
Eric Aserlind, P.G. - Hydrologic Associates, Inc.

**M1**

**TRIPLE M PETROLEUM INC**



Department of Environmental  
Resources Management  
2300 North Jog Road, 4<sup>th</sup> Floor  
West Palm Beach, FL 33411-2743  
(561) 233-2400  
FAX: (561) 233-2414  
www.pbcgov.org/erm

Palm Beach County  
Board of County  
Commissioners

Burt Aaronson, Chair  
Karen T. Marcus, Vice Chair

Jeff Koons  
Shelley Vana  
Steven L. Abrams  
Jess R. Santamaria  
Priscilla A. Taylor

County Administrator  
Robert Weisman

"An Equal Opportunity  
Affirmative Action Employer"

June 18, 2010

Hamid Mirzadeh  
Triple M. Petroleum  
9890 Lake Worth Road  
Lake Worth, FL 33467

Palm Beach County – Regulated Storage Tanks  
Triple M. Petroleum  
6710 Georgia Avenue  
West Palm Beach, FL 33405

DEP Facility # 8514160

**Chapter 62-761/762, FAC, and the Palm Beach County Petroleum Storage Systems Ordinance 2003-20 - Limited Closure Summary Report – Review**

The Palm Beach County Department of Environmental Resources Management (ERM) is contracted with the Florida Department of Environmental Protection (Department) to conduct the Storage Tank System Compliance Verification Program for facilities located in Palm Beach County. ERM has reviewed the June 16, 2010 Limited Closure Summary Report (LCSR) that was submitted by Pangean-CMD Associates, Inc. for the above referenced facility. The LCSR appears to comply with the Department's April 1998 "Storage Tank Closure Assessment Requirements".

Department records currently show that there is existing petroleum product contamination at this facility. This letter is not intended to address the status of the reported contamination at this facility in any way. If you have any questions please contact Patrick Wille at 561-233-2505 and/or pwille@pbcgov.org.

Sincerely,

Bruce Wayne  
Environmental Program Supervisor

cc: Van Richmond, Pangean-CMD Associates, Inc.

**M2**

**LAKE WORTH RECREATION COMPLEX**





## Florida Department of Environmental Protection

Bob Martinez Center  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Rick Scott  
Governor

Jennifer Carroll  
Lt. Governor

Herschel T. Vinyard, Jr.  
Secretary

April 6, 2011

**CERTIFIED MAIL #7010 1870 0000 1330 3109**  
**RETURN RECEIPT REQUESTED**

Mr. Walt Smyser  
Water/Sewer Engineer  
Lake Worth Utilities Water Systems  
City of Lake Worth  
1900 2<sup>nd</sup> Avenue North  
Lake Worth, FL 33461

Subject: Site Assessment Report and Natural Attenuation Monitoring Plan Approval  
Lake Worth Recreation Complex  
1121 Lucerne Avenue  
Lake Worth, Palm Beach County  
FDEP Facility ID# 509809962  
Discharge Date: 11/07/07 (Non-program)

Dear Mr. Smyser:

The Palm Beach County Department of Environmental Resources Management (ERM), on behalf of the Florida Department of Environmental Protection (Department), has reviewed the Site Assessment Report (SAR) (and Addendum) and Natural Attenuation Monitoring (NAM) Plan dated August 1, 2008 and February 25, 2011 (received August 6, 2008 and February 28, 2011), submitted for the petroleum product discharge referenced above. Pursuant to Paragraphs 62-770.600(9)(a) and 62-770.690(5)(a), Florida Administrative Code (F.A.C.), ERM approves the SARs/NAM Plan. Pursuant to Subsection 62-770.690(8), F.A.C., you are required to complete the monitoring program outlined below. The first sampling event must be performed within 60 days of receipt of this Natural Attenuation Monitoring Plan Approval Order (Order). Water-level measurements must be made immediately prior to each sampling event. The analytical results (laboratory report), chain of custody record form, cumulative summary tables as required by Subparagraph 62-770.600(8)(a)25., F.A.C. (updated as applicable), site map(s) that illustrate the most recent analytical results, and the water-level elevation information (cumulative summary table and most recent flow interpretation map), must be submitted to ERM within 60 days of sample collection.

[www.dep.state.fl.us](http://www.dep.state.fl.us)

Mr. Walt Smyser  
FDEP Facility ID# 509809962  
Page 2  
April 6, 2011

The monitoring wells to be sampled, the sampling parameters, and the sampling frequency are as follows:

<u>Monitoring Wells</u>	<u>Contaminants of Concern</u>	<u>Frequency</u>
MW-1, MW-2, MW-3, MW-4 and MW-5	PAHs, TRPHs	Quarterly

If concentrations of contaminants of concern in any of the designated wells increase above the action levels listed below, the well or wells must be resampled no later than 30 days after the initial positive results are known. If the results of the resampling confirm the initial sampling results, then the monitoring report referenced in Paragraph 62-770.690(8)(d), F.A.C., must be signed and sealed by an appropriate registered professional pursuant to Rule 62-770.490, F.A.C., and must include a recommendation as described in Paragraph 62-770.690(8)(e), F.A.C.

Source wells:

MW-1 and MW-2: 140 µg/L Naphthalene; 280 µg/L 1-Methylnaphthalene; 280 µg/L 2-Methylnaphthalene; 50,000 µg/L TRPH.

Perimeter wells (temporary point of compliance):

MW-3, MW-4 and MW-5: 14 µg/L Naphthalene; 28 µg/L 1-Methylnaphthalene; 28 µg/L 2-Methylnaphthalene; 5,000 µg/L TRPH.

If the applicable No Further Action criteria of Rule 62-770.680, F.A.C., are met for two consecutive sampling events, a Site Rehabilitation Completion Report with a No Further Action Proposal, that summarizes the monitoring program and contains documentation to support the opinion that the cleanup objectives have been achieved, must be submitted to ERM as required in Subsection 62-770.690(10), F.A.C. If the applicable No Further Action criteria of Rule 62-770.680, F.A.C., are not met following one year of monitoring, then the monitoring report must include a recommendation as described in Paragraph 62-770.690(8)(f), F.A.C.

Legal Issues

The Department's Order shall become final unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, Florida Statutes (F.S.), within 21 days of receipt of this Order. The procedures for petitioning for an administrative hearing are set forth below.

Persons affected by this Order have the following options:

Mr. Walt Smyser  
FDEP Facility ID# 509809962  
Page 3  
April 6, 2011

- (A) If you choose to accept the Department's decision regarding the SARs/NAM Plan you do not have to do anything. This Order is final and effective on the date filed with the Clerk of the Department, which is indicated on the last page of this Order.
- (B) If you choose to challenge the decision, you may do the following:
- (1) File a request for an extension of time to file a petition for an administrative hearing with the Department's Agency Clerk in the Office of General Counsel within 21 days of receipt of this Order; such a request should be made if you wish to meet with the Department in an attempt to informally resolve any disputes without first filing a petition for an administrative hearing; or
  - (2) File a petition for an administrative hearing with the Department's Agency Clerk in the Office of General Counsel within 21 days of receipt of this Order.

Please be advised that mediation of this decision pursuant to Section 120.573, F.S., is not available.

#### How to Request an Extension of Time to File a Petition for an Administrative Hearing

For good cause shown, pursuant to Subsection 62-110.106(4), F.A.C., the Department may grant a request for an extension of time to file a petition for an administrative hearing. Such a request must be filed (received) by the Department's Agency Clerk in the Office of General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000, within 21 days of receipt of this Order. Petitioner, if different from the City of Lake Worth, shall mail a copy of the request to the City of Lake Worth at the time of filing. Timely filing a request for an extension of time tolls the time period within which a petition for an administrative hearing must be made.

#### How to File a Petition for an Administrative Hearing

A person whose substantial interests are affected by this Order may petition for an administrative hearing under Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) by the Department's Agency Clerk in the Office of General Counsel at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000, within 21 days of receipt of this Order. Petitioner, if different from the City of Lake Worth, shall mail a copy of the petition to the City of Lake Worth at the time of filing. Failure to file a petition within this time period shall waive the right of anyone who may request an administrative hearing under Sections 120.569 and 120.57, F.S.

Mr. Walt Smyser  
FDEP Facility ID# 509809962  
Page 4  
April 6, 2011

Pursuant to Subsection 120.569(2), F.S. and Rule 28-106.201, F.A.C., a petition for an administrative hearing shall contain the following information:

- (a) The name, address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner's representative, if any; the facility owner's name and address, if different from the petitioner; the FDEP facility number, and the name and address of the facility;
- (b) A statement of when and how each petitioner received notice of the Department's action or proposed action;
- (c) An explanation of how each petitioner's substantial interests are or will be affected by the Department's action or proposed action;
- (d) A statement of the disputed issues of material fact, or a statement that there are no disputed facts;
- (e) A statement of the ultimate facts alleged, including a statement of the specific facts the petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the Department to take with respect to the Department's action or proposed action.

This Order is final and effective on the date filed with the Clerk of the Department, which is indicated on the last page of this Order. Timely filing a petition for an administrative hearing postpones the date this Order takes effect until the Department issues either a final order pursuant to an administrative hearing or an Order Responding to Supplemental Information provided to the Department pursuant to meetings with the Department.

#### Judicial Review

Any party to this Order has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the Department's Agency Clerk in the Office of General Counsel at 3900

Mr. Walt Smyser  
FDEP Facility ID# 509809962  
Page 5  
April 6, 2011

Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days after this Order is filed with the Department's clerk (see below).

Questions


Any questions regarding ERM's review of your SARs/NAM Plan should be directed to David C. Gibson, P.G. at (561) 233-2483. Questions regarding legal issues should be referred to the Department's Office of General Counsel at (850) 245-2242. Contact with any of the above does not constitute a petition for administrative hearing or request for an extension of time to file a petition for administrative hearing.



Mr. Walt Smyser  
FDEP Facility ID# 509809962  
Page 6  
April 6, 2011

The FDEP Facility Number for this facility is 509809962. Please use this identification on all future correspondence with the Department or ERM.


Sincerely,

  
Charles T. Williams, Acting Chief  
Bureau of Petroleum Storage Systems

CTW/dcg

ec: David C. Gibson, P.G., Palm Beach County ERM - [dcgibson@pbcgov.org](mailto:dcgibson@pbcgov.org)  
Bret D. Hammell, P.E., Ardaman & Associates, Inc. - [bhammell@ardaman.com](mailto:bhammell@ardaman.com)  
cc: FDEP File

FILING AND ACKNOWLEDGMENT  
FILED, on this date, pursuant to  
§120.52 Florida Statutes, with the  
designated Department Clerk, receipt  
of which is hereby acknowledged.

  
Clerk  
(or Deputy Clerk)

  
Date



P.G. CERTIFICATION

Site Assessment Report (and Addendum) and Natural Attenuation Monitoring Plan dated August 1, 2008 and February 25, 2011 (received August 6, 2008 and February 28, 2011), for Lake Worth Recreation Complex, located at 1121 Lucerne Avenue, Lake Worth, FDEP Facility ID# 509809962.

I hereby certify that in my professional judgment, the components of this Natural Attenuation Monitoring Plan prepared for the November 7, 2007 petroleum discharge discovered at the above referenced facility satisfy the requirements set forth in Chapter 62-770, Florida Administrative Code (F.A.C.), and that the monitor wells and analytical parameters specified in this plan provide reasonable assurance of verification of site conditions while achieving the objectives stated in Chapter 62-770, F.A.C., for remediation by natural attenuation.

I personally completed this review.

This review was conducted by \_\_\_\_\_  
working under my direct supervision.

David C. Gibson, P.G.  
Professional Geologist 0000409  
Resources Protection Division  
Palm Beach County Department of  
Environmental Resources Management

March 10, 2011  
Date

**M3**

**U S FOOD MART**



**Department of Environmental  
Resources Management**

3323 Belvedere Road, Building 502

West Palm Beach, FL 33406-1548

(561) 233-2400

FAX: (561) 233-2414

www.pbcgov.com



**Palm Beach County  
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Robert Weisman

*"An Equal Opportunity  
Affirmative Action Employer"*

January 20, 2006

Ms. Wendy Barhydt  
Handex of Florida, Inc.  
2055 S. Congress Ave.  
Delray Beach, FL 33445

Dear Ms. Barhydt:

**SUBJECT: DELIVERABLE REVIEW**  
PRE-APPROVAL WORK ORDER #2005-50-W07668,  
U.S. GAS, 874 NORTH DIXIE HIGHWAY, LANTANA,  
DEP FACILITY #508514475

The Palm Beach County Department of Environmental Resources Management (ERM) has reviewed the Post Active Remediation Monitoring Report Year 2, Quarter 2 dated December 16, 2005 (received December 22, 2005) prepared and submitted by Handex of Florida, Inc., for the subject site. ERM staff found the report adequate to meet the requirements of Chapter 62-770, Florida Administrative Code and the task description provided in the above referenced Work Order.

Based on the data provided in the report, ERM staff concurs with the recommendation to continue with Post Active Remediation Monitoring (PARM) at the subject site. Although ERM staff concurs with continuing PARM, the last three quarters of groundwater quality results from MW-3 and MW-3R (MW-3: 06/08/05 -156 µg/l Benzene; MW-3R: 09/29/05 - 262 µg/l Benzene; and MW-3R: 12/01/05 - 262 µg/l) indicate there is most likely a UST problem not related to the previously remediated groundwater contamination. This problem seems to be related to the damaged vent stacks and the vent lines should be tested for leaks. If the Benzene concentrations detected from MW-3R in ongoing PARM remain elevated or increase; then a discharge will need to be filed. Therefore, submit a proposal for an additional year of PARM, and the above comments needs to be addressed during the execution of the PARM.

Ms. Wendy Barhydt  
January 20, 2006  
Page 2

Should you have any questions concerning this review, please contact Jerry Cook,  
P.G., Hydrogeologist, at (561) 233-2507.

Sincerely,



David C. Gibson, P.G.  
Senior Hydrogeologist  
Resources Protection

dgc:jmc:kle

cc: Grace Rivera, Environmental Manager  
Bureau of Petroleum Storage Systems, DEP

RECEIVED  
DEPARTMENT OF  
ENVIRONMENTAL PROTECTION  
2006 JAN 25 A 10:28  
OFFICE OF THE ATTORNEY GENERAL  
STATE OF FLORIDA  
TALLAHASSEE, FL 32301  
352/241-2000



**M4**

**CHEVRON - FLAMINGO**



January 3, 2012

053-3911.11

Mr. Jerry Cook, PG  
Palm Beach County  
Department of Environmental Resource Management  
2300 North Jog Road, 4<sup>th</sup> Floor  
West Palm Beach, FL 33411

**RE: POST ACTIVE REMEDIATION MONITORING REPORT  
FORMER FLAMINGO CHEVRON  
301 EAST ATLANTIC AVENUE  
DELRAY BEACH, FLORIDA  
FACILITY IDENTIFICATION NO. 508942634**

**RECEIVED**  
JAN 04 2012  
ENVIRONMENTAL RESOURCES MANAGEMENT

Dear Mr. Cook:

Golder Associates Inc. (Golder) is pleased to submit this Post Active Remediation Monitoring (PARM) Report for the former Flamingo Chevron service station (the site) located at 301 East Atlantic Avenue, Delray Beach, Florida. This report addresses the quarterly groundwater monitoring activities at the site. The field activities and report have been prepared under the Florida Department of Environment Protection (FDEP) Task Assignment GC652-012H.

### **SITE BACKGROUND**

Reportedly, the site was constructed in 1941 and operated as a gasoline service station from 1952 to 1987. The former underground storage tanks (USTs) were located underneath the concrete patio area, just south of the on-site building. The information pertaining to the former locations of lines and dispensers was not available. However, due to the tight space of the site, they were most likely located in the same area as the former USTs.

Assessment activities were conducted at the site from August 1989 through October 2006. Reportedly, petroleum constituents were detected in groundwater at concentrations greater than groundwater cleanup target levels (GCTLs). From 2007 through 2009, natural attenuation monitoring (NAM) was conducted at the site. Based on the May 2009 groundwater analytical results, concentrations of petroleum constituents were detected in the groundwater at concentrations exceeding the GCTLs and the natural attenuation default concentrations (NADCs) in monitoring well MW-1.

Based on discussions with the FDEP and the Department of Environmental Resources Management (DERM) in September and October 2009, Golder prepared a Limited Scope Remedial Action Plan (LSRAP) and proposed to conduct a one-day AS/SVE pilot test and a four-day AS/SVE event (10 hours per day) to remediate the petroleum-impacted groundwater in the vicinity of MW-1. The LSRAP was approved by the FDEP on December 17, 2009 and implemented in September 2010. A Pilot Test Summary Report was submitted to DERM on November 12, 2010, which summarized the AS/SVE event. The report concluded that AS/SVE was a viable option to remediate petroleum-impacted groundwater at the site.

In a February 25, 2011, correspondence DERM concurred with Golder's conclusion that AS/SVE was a viable remedial option and requested a proposal to implement three months of four day long AS/SVE events followed by a groundwater monitoring event to evaluate effectiveness. Golder submitted a proposal for the requested scope of work and Task Assignment GC652-012G was issued on April 13, 2011. The three months of AS/SVE events were conducted in May, June, and July 2011 with subsequent groundwater sampling in August 2011 to evaluate the effectiveness of this remedial option. Analytical results from groundwater samples collected in August 2011 indicated a decrease in petroleum

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9428 Baymeadows Road, Suite 400  
Jacksonville, FL 32256 USA  
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Golder Associates: Operations in Africa, Asia, Australasia, Europe, North America and South America

constituent concentrations in groundwater in the vicinity of monitoring wells MW-1 and MW-7 to levels below GCTLs. Given these results, Golder recommended continuing with quarterly groundwater monitoring for three additional quarters in their September 2011 report. DERM concurred with Golder's recommendation and the current Task Assignment (GC652-012H) was issued on November 22, 2011 for two quarters of PARM.

## **GROUNDWATER QUALITY MONITORING**

### **Groundwater Elevation Determination**

Prior to groundwater sample collection, depth-to-water measurements, from the top-of-casing (TOC), were measured from selected monitoring wells. The depth-to-water measurements ranged from 10.95 feet to 11.47 feet below ground surface (bgs). These measurements were used in conjunction with the surveyed TOC elevations to determine the approximate groundwater elevations in the shallow surficial aquifer. The groundwater elevation across the site is relatively flat. A summary of the groundwater elevations are presented in Table 1. A groundwater elevation map generated using the data collected on December 8, 2011 is presented in Figure 1.

### **Groundwater Analytical Results**

Groundwater samples were collected from three monitoring wells (MW-1, MW-4D, and MW-7) to evaluate groundwater conditions. Samples were submitted to Intralabs, Inc. (Intra) and analyzed by EPA Method 8260B for volatile organic compounds (VOCs) and by EPA Method 8270C for polycyclic aromatic hydrocarbons (PAHs).

Analytical results indicated that naphthalene (30 micrograms per liter;  $\mu\text{g/l}$ ) was present in groundwater from monitoring well MW-1 at a concentration above its GCTL of 14  $\mu\text{g/l}$  and ethylbenzene, 1-methylnaphthalene, and 2-methylnaphthalene were present at concentrations exceeding the method detection limit (MDL) but below GCTLs. The concentrations represent an increase in petroleum constituent concentrations in groundwater in the vicinity of monitoring well MW-1.

Groundwater samples from monitoring wells MW-4D and MW-7 did not contain any petroleum constituents at concentrations above MDLs. These results are consistent with the results from the previous monitoring event in August 2011. The groundwater analytical results are presented in Table 2 and in Figure 2. The laboratory analytical report and chain-of-custody form are presented in Attachment A. The groundwater sampling and instrument calibration forms are presented in Attachment B.

## **CONCLUSIONS AND RECOMMENDATIONS**

Analytical results from groundwater samples collected in December 2011 indicate an increase in naphthalene concentrations in groundwater from monitoring well MW-1 to levels above GCTLs, but below NADCs. Petroleum constituent concentrations in groundwater from monitoring wells MW-4D and MW-7 remained below MDLs. These results indicate that the petroleum-impacted groundwater appears to be isolated in the vicinity of monitoring well MW-1 and that impacted groundwater is not significantly migrating at the site. Additionally, these results indicate a slight rebound in petroleum constituent concentrations since the last AS/SVE event in July 2011. Given these results, Golder recommends continuing with quarterly PARM to monitor petroleum constituent concentrations at the site. Additionally, Golder recommends including monitoring wells MW-3 (if accessible) and MW-6R in the upcoming quarterly monitoring event to evaluate the potential migration of petroleum-impacted groundwater at the site. A verbal change order (VCO) can be submitted if DERM concurs with the additional groundwater sampling. If the next sampling event (scheduled for March 2012) indicates additional increases in petroleum constituent concentration, then Golder may recommend conducting additional AS/SVE events. This report completes the requirements of task assignment GC652-012H. Golder will submit an invoice for the first event of this task assignment under separate cover upon request by Palm Beach County.

If you should have questions concerning this report or the remedial activities please contact the undersigned at (904) 363-3430.

Sincerely,

**GOLDER ASSOCIATES INC.**

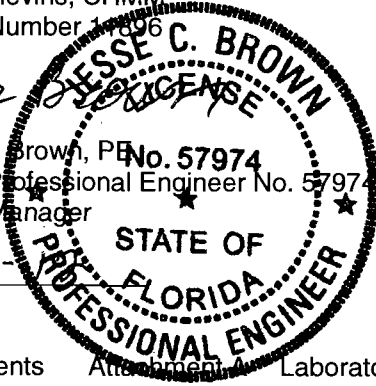


Kirk A. Blevins, CHMM  
CHMM Number 1-896



Jesse C. Brown, PE No. 57974  
Florida Professional Engineer No. 57974  
Project Manager

1-3 -  
Date



Attachments Attachment A Laboratory Analytical Report  
Attachment B Groundwater Sampling and Calibration Forms

KAB/JCB/as

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**TABLE 1  
GROUNDWATER ELEVATIONS**

**Facility Name: Former Chevron-Flamingo Service Station  
Facility Identification Number: 50/8942634  
Delray Beach, Florida**

WELL NO.	MW-1			MW-2			MW-3			MW-4D			MW-5		
	DIAMETER	2 inches		4 inches			4 inches			4 inches			1 inches		
WELL DEPTH	23	feet		21	feet		21	feet		35	feet		20	feet	
SCREEN INTERVAL	13-23	feet		11-21	feet		11-21	feet		30-35	feet		10-20	feet	
TOC ELEVATION	99.24	feet		99.12	feet		99.56	feet		99.35	feet		99.11	feet	
DATE	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP
10/6/1992	86.63	12.61	0.00	86.60	12.52	0.00	86.76	12.80	0.00	86.81	12.54	0.00		NM	NM
3/6/2006	87.61	11.63	0.00	87.57	11.55	0.00		NM		87.66	11.69	0.00		NM	NM
8/17/2006	86.73	12.51	0.00	86.65	12.47	0.00		NM		86.65	12.70	0.00	86.64	12.47	0.00
1/15/2007	86.26	12.98	0.00	86.24	12.88	0.00		NM		86.54	12.81	0.00	86.25	12.86	0.00
4/17/2007	85.65	13.59	0.00	85.66	13.46	0.00		NM		85.67	13.68	0.00	85.66	13.45	0.00
7/13/2007	89.52	9.72	0.00	89.48	9.64	0.00		NM		89.53	9.82	0.00		NM	NM
11/5/2007	89.85	9.39	0.00	89.81	9.31	0.00		NM		89.97	9.38	0.00		NM	NM
5/7/2008	87.41	11.83	0.00	87.39	11.73	0.00		NM		87.42	11.93	0.00		NM	NM
5/19/2008	87.23	12.01	0.00	87.22	11.90	0.00		NM		87.25	12.10	0.00	87.23	11.88	0.00
10/13/2008	90.33	8.91	0.00	90.29	8.83	0.00		NM		90.33	9.02	0.00	90.32	8.79	0.00
5/26/2009	87.59	11.65	0.00	87.59	11.53	0.00		NM		87.61	11.74	0.00	87.73	11.38	0.00
1/12/2011	86.24	13.00	0.00	86.24	12.88	0.00		NM		86.25	13.10	0.00	86.36	12.75	0.00
8/18/2011	85.65	13.59	0.00	85.68	13.44	0.00		NM		85.68	13.67	0.00	85.68	13.43	0.00
12/8/2011	88.17	11.07	0.00	88.15	10.97	0.00		NM		88.17	11.18	0.00	88.16	10.95	0.00



**TABLE 1  
GROUNDWATER ELEVATIONS**

**Facility Name: Former Chevron-Flamingo Service Station  
Facility Identification Number: 50/8942634  
Delray Beach, Florida**

WELL NO. DIAMETER WELL DEPTH SCREEN INTERVAL TOC ELEVATION	MW-6			MW-7			MW-6R								
	1	inches		1	inches		2	inches		inches			inches		
	20	feet		20	feet		20	feet		feet			feet		
	10-20	feet		10-20	feet		10-20	feet		feet			feet		
	99.39	feet		99.64	feet		99.33	feet		feet			feet		
DATE	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP
10/6/1992	99.39		0.00	99.64		0.00									
3/6/2006	99.39		0.00	99.64		0.00									
8/17/2006	86.64	12.75	0.00	86.68	12.96	0.00									
1/15/2007	86.25	13.14	0.00	86.28	13.36	0.00									
4/17/2007	85.66	13.73	0.00	85.66	13.98	0.00									
7/13/2007	90.17	9.22	0.00	89.65	9.99	0.00									
11/5/2007	89.99	9.40	0.00	89.99	9.65	0.00									
5/7/2008	87.55	11.84	0.00	87.55	12.09	0.00									
5/19/2008	87.25	12.14	0.00	87.25	12.39	0.00									
10/13/2008	90.48	8.91	0.00	90.47	9.17	0.00									
5/26/2009	87.74	11.65	0.00	87.73	11.91	0.00									
1/12/2011		Destroyed		86.37	13.27	0.00	86.24	13.09	0.00						
8/18/2011				85.68	13.96	0.00	85.66	13.67	0.00						
12/8/2011				88.17	11.47	0.00	88.06	11.27	0.00						

Notes: No Data = Blank DTW = Depth to Water  
TOC = Top of Casing NM = Not Measured

Checked by: KAB



**TABLE 2  
GROUNDWATER ANALYTICAL RESULTS**

**Facility Name: Former Chevron-Flamingo Service Station  
Facility Identification Number: 50/8942634  
Delray Beach, Florida**

Sample		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	TRPH	Naphthalene	1-Methyl-naphthalene	2-Methyl-naphthalene	Benzo(b)-flouranthene	Benzo(k)-flouranthene	Indeno(1,2,3-c,d)-pyrene	Dibenzo(a,h)-anthracene	Benzo(g,h,i)-perylene
Location	Date														
<b>GCTL</b>		1	40	30	20	20	5,000	14	28	28	0.05	0.50	0.05	0.005	210
<b>NADC</b>		100	400	300	200	200	50,000	140	280	280	0.50	5.00	0.50	0.05	2100
MW-1	4/1992	<b>32</b>	<b>152</b>	13	<b>258</b>	<1.0	NS	<b>180</b>	<b>30</b>	<b>70</b>	<10	<10	<10	<10	<10
	2/1993	<b>9</b>	NR	NR	NR	BDL	NS	<b>136</b>	NR	NR	NR	NR	NR	NR	NR
	11/1993	1	NR	NR	NR	<1.0	NS	<b>95</b>	NR	NR	NR	NR	NR	NR	NR
	3/1994	<2.0	NR	NR	NR	<2.0	NS	<b>90</b>	NR	NR	NR	NR	NR	NR	NR
	2/1995	BDL	NR	NR	NR	BDL	NS	BDL	NR	NR	NR	NR	NR	NR	NR
	11/1997	<b>3.3</b>	4.8	<b>120.1</b>	<b>292</b>	BDL	NS	<b>45.6</b>	13.9	17	NR	NR	NR	NR	NR
	3/6/2006	<0.13	3.1	<b>77</b>	<b>130</b>	<0.35	2400	1.7	1.1	0.76 l	<0.032	<0.039	<0.037	<0.045	<0.027
	1/15/2007	0.55 l	0.63 l	<b>65</b>	9.3	<2.0	480	14	2.7	3.7	<0.19	<0.46	<0.19	<0.19	<0.93
	4/17/2007	<0.80	2.0 l	<b>190</b>	<b>44</b>	1.8	<b>7100</b>	<b>53</b>	13	15	<0.61	<0.077	<0.10	<0.17	<0.13
	7/13/2007	0.66 l	3.7 l	<b>120</b>	<b>190</b>	1.1 l	1600	<b>36</b>	18	17	<0.061	<0.077	<0.10	<0.17	<0.13
	11/5/2007	<0.058	2.6	<b>86</b>	<b>130</b>	<0.065	0.66	<b>44</b>	12	13	<0.057	<0.057	<0.068	<0.18	<0.079
	5/7/2008	0.34 l	1.2	<b>95</b>	<b>64</b>	<0.15	0.56	<b>40</b>	7.1	8.3	<0.057	<0.057	<0.069	<0.19	<0.080
	10/13/2008	<0.18	2.3	<b>100</b>	<b>130</b>	<0.15	1.1	<b>55</b>	11	13	<0.071	<0.071	<0.085	<0.23	<0.099
	5/26/2009	<0.18	5.1	<b>88</b>	<b>230</b>	<0.15	0.31	<b>75</b>	15	19	<0.23	<0.20	<0.15	<0.14	<0.21
	10/11/2010	<0.28	<0.24	3.8	<b>150</b>	<0.21	NS	<b>36</b>	12	13	NR	NR	<0.030	<0.028	<0.042
	1/12/2011	0.28U	0.88l	22	<b>270</b>	0.21U	NS	<b>100</b>	<b>29</b>	<b>39</b>	0.13U	0.21U	0.40U	0.12U	0.19U
	8/18/2011	0.50U	0.50U	0.50U	0.94l	0.50U	NS	0.56l	0.085U	0.076U	0.076U	0.038U	0.066U	0.066U	0.057U
12/8/2011	0.40U	0.40U	0.57l	18.0	0.40U	NS	<b>30</b>	10.2	7.23	0.015U	0.015U	0.015U	0.0015U	0.015U	

**TABLE 2  
GROUNDWATER ANALYTICAL RESULTS**

**Facility Name: Former Chevron-Flamingo Service Station  
Facility Identification Number: 50/8942634  
Delray Beach, Florida**

Sample		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	TRPH	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Benzo(b)flouranthene	Benzo(k)flouranthene	Indeno(1,2,3-c,d)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene
Location	Date														
GCTL		1	40	30	20	20	5,000	14	28	28	0.05	0.50	0.05	0.005	210
NADC		100	400	300	200	200	50,000	140	280	280	0.50	5.00	0.50	0.05	2100
MW-2	4/1992	BDL	NR	NR	NR	BDL	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/1995	BDL	NR	NR	NR	BDL	NS	BDL	BDL	NR	NR	NR	NR	NR	NR
	3/6/2006	<0.55	<0.54	<0.58	<1.22	<0.80	NS	<0.10	<0.10	<0.077	0.041 I	0.050 I	<b>0.34</b>	<b>0.072 I</b>	0.010 I
	1/15/2007	<1.0	<5.0	<1.0	<2.0	<2.0	<110	<0.93	<0.93	<0.93	<0.19	<0.46	<0.19	<0.19	<0.93
	4/17/2007	<0.40	<0.42	<0.36	<0.80	<0.92	67 I	0.51 I	<0.11	<0.10	<0.061	<0.077	<0.10	<0.17	<0.13
	7/13/2007	<0.40	<0.42	<0.36	<0.80	1.2 I	31 I	<0.11	<0.11	<0.10	<0.061	<0.077	<0.10	<0.17	<0.13
	11/5/2007	0.11 I	0.090 I	0.91 I	0.15 I	3.0	<0.062	<0.011	<0.013	<0.0088	<0.014	<0.014	<0.017	<0.046	<0.020
	5/7/2008	0.92 I	0.26 I	19	1.1 I	7.0	0.17 I	0.14 I	<0.013	<0.0089	<0.014	<0.014	<0.017	<0.047	<0.020
	10/13/2008	<b>2.9</b>	0.31 I	11	3.2	<0.15	0.14 I	<b>16</b>	2.3	0.90	<0.014	<0.014	<0.017	<0.047	<0.020
	5/26/2009	<0.18	<0.19	2.8	<0.36	<0.15	<0.063	3.10	0.50	0.34	<0.023	<0.020	<0.015	<0.014	<0.021
	1/12/2011	0.28U	0.24U	0.65I	0.68U	0.21U	NS	0.18I	0.021U	0.022U	0.044U	0.021U	0.040U	0.012U	0.019U
MW-3	4/1992	BDL	NR	NR	NR	BDL	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/1995	BDL	NR	NR	NR	BDL	NS	BDL	BDL	NR	NR	NR	NR	NR	NR

**TABLE 2  
GROUNDWATER ANALYTICAL RESULTS**

**Facility Name: Former Chevron-Flamingo Service Station  
Facility Identification Number: 50/8942634  
Delray Beach, Florida**

Sample		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	TRPH	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Benzo(b)-flouranthene	Benzo(k)-flouranthene	Indeno(1,2,3-c,d)-pyrene	Dibenzo(a,h)-anthracene	Benzo(g,h,i)-perylene
Location	Date														
<b>GCTL</b>		1	40	30	20	20	5,000	14	28	28	0.05	0.50	0.05	0.005	210
<b>NADC</b>		100	400	300	200	200	50,000	140	280	280	0.50	5.00	0.50	0.05	2100
MW-4D	4/1992	<1.0	NR	NR	NR	13.4	NS	<0.124	NR	NR	NR	NR	NR	NR	NR
	3/6/2006	<0.55	<0.54	<0.58	<1.22	<0.80	NS	0.13 I	<0.10	<0.077	<0.032	<0.039	<0.037	<0.045	<0.027
	1/15/2007	<1.0	<5.0	<1.0	<2.0	4.7	84 I	<0.93	<0.93	<0.93	<0.19	<0.46	<0.19	<0.19	<0.93
	4/17/2007	<0.40	<0.42	<0.36	<0.80	25	NS	<0.11	<0.11	<0.10	<0.061	<0.077	<0.10	<0.17	<0.13
	4/24/2007	NS	NS	NS	NS	NS	44 I	NS	NS	NS	NS	NS	NS	NS	NS
	7/13/2007	<0.40	<0.42	<0.36	<0.80	8.8	<41	0.31 I	<0.11	<0.10	<0.061	<0.077	<0.10	<0.17	<0.13
	11/5/2007	<0.058	<0.063	0.84 I	1.21	3.2	<0.062	<0.011	<0.013	<0.0089	<0.014	<0.014	<0.017	<0.047	<0.020
	5/7/2008	<0.18	<0.19	<0.16	<0.36	2.1	<0.063	<0.011	<0.013	<0.0089	<0.014	<0.014	<0.017	<0.047	<0.020
	10/13/2008	<0.18	<0.19	<0.16	<0.36	0.30 I	<0.063	<0.011	<0.013	<0.0089	<0.014	<0.014	<0.017	<0.047	<0.020
	5/26/2009	<0.18	<0.19	0.19I	0.50I	0.33 I	<0.062	<0.015	<0.029	<0.016	<0.023	<0.020	<0.015	<0.014	<0.021
	1/12/2011	0.28U	0.24U	0.25U	0.68U	0.21U	NS	0.022U	0.021U	0.022U	0.013U	0.021U	0.040U	0.012U	0.019U
8/18/2011	0.50U	0.50U	0.50U	0.50U	0.50U	NS	0.077U	0.087U	0.077U	0.077U	0.039U	0.068U	0.068U	0.058U	
12/8/2010	0.40U	0.40U	0.40U	0.80U	0.40U	NS	0.050U	0.050U	0.050U	0.015U	0.015U	0.015U	0.0051U	0.015U	
MW-5	8/17/2006	<0.058	<0.063	1.8	<0.11	<0.065	<0.063	<0.011 J	0.079 I	0.012 I	<0.014	<0.014	<0.017	<0.047	<0.020
	1/12/2011	0.28U	0.24U	0.25U	0.68U	0.21U	NS	0.037I	0.021U	0.022U	0.013U	0.021U	0.040U	0.012U	0.019U
MW-6 **	8/17/2006	<0.058	<0.063	<0.078	<0.11	<0.065	<0.063	<0.011 J	<0.013	<0.0089	<0.014	<0.014	<0.017	<0.047	<0.020
	1/15/2007	<1.0	<5.0	<1.0	<2.0	<2.0	<100	<0.93	<0.93	<0.93	<0.19	<0.46	<0.19	<0.19	<0.93
	4/17/2007	<0.40	<0.42	<0.36	<0.80	<0.92	100 I	<0.11	<0.11	<0.10	<0.061	<0.077	<0.10	<0.17	<0.13
	7/13/2007	<0.40	<0.42	<0.36	<0.80	<0.92	50 I	<0.11	0	<0.10	<0.061	<0.077	<0.10	<0.17	<0.13
	11/5/2007	<0.058	<0.063	0.21 I	0.57 I	<0.065	<0.062	<0.011	<0.013	<0.0088	<0.014	<0.014	<0.017	<0.046	<0.020
	5/7/2008	<0.18	<0.19	<0.16	<0.36	<0.15	0.097	<0.011	<0.013	<0.0089	<0.014	<0.014	<0.017	<0.047	<0.020
	10/13/2008	<0.18	<0.19	<0.16	<0.36	<0.15	<0.066	<0.012	<0.014	<0.0093	<0.015	<0.015	<0.018	<0.049	<0.021
5/26/2009	<0.18	<0.19	<0.16	<0.36	<0.15	0.070 I	<0.016	<0.030	<0.017	<0.024	<0.021	<0.016	<0.015	<0.022	

**TABLE 2  
GROUNDWATER ANALYTICAL RESULTS**

**Facility Name: Former Chevron-Flamingo Service Station  
Facility Identification Number: 50/8942634  
Delray Beach, Florida**

Sample		Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	TRPH	Naphthalene	1-Methyl-naphthalene	2-Methyl-naphthalene	Benzo(b)-flouranthene	Benzo(k)-flouranthene	Indeno(1,2,3-c,d)-pyrene	Dibenzo(a,h)-anthracene	Benzo(g,h,i)-perylene
Location	Date														
<b>GCTL</b>		1	40	30	20	20	5,000	14	28	28	0.05	0.50	0.05	0.005	210
<b>NADC</b>		100	400	300	200	200	50,000	140	280	280	0.50	5.00	0.50	0.05	2100
MW-6R	1/12/2011	0.28U	0.24U	0.25U	0.68U	0.21	NS	0.035I	0.021U	0.022U	0.013U	0.021U	0.040U	0.012U	0.019U
MW-7	8/17/2006	<0.058	<0.063	<0.078	<0.11	<0.065	<0.066	<0.011 J	<0.013	<0.0089	<0.014	<0.014	<0.017	<0.047	<0.020
	1/15/2007	<1.0	<5.0	<1.0	<2.0	<2.0	60 I	<0.95	<0.95	<0.95	<0.19	<0.48	<0.19	<0.19	<0.95
	4/17/2007	<0.40	<0.42	<0.36	<0.80	<0.92	78 I	0.18 I	<0.11	<0.10	<0.061	<0.077	<0.10	<0.17	<0.13
	7/13/2007	<0.40	<0.42	<0.36	<0.80	<0.92	65 I	<0.11	<0.11	<0.10	<0.061	<0.077	<0.10	<0.17	<0.13
	11/5/2007	<0.058	<0.063	<0.078	<0.11	<0.065	<0.063	<0.011	<0.013	<0.0088	<0.014	<0.014	<0.017	<0.046	<0.020
	5/7/2008	<0.18	<0.19	<0.16	<0.36	<0.15	<0.063	<0.011	<0.013	<0.0089	<0.014	<0.014	<0.017	<0.047	<0.020
	10/13/2008	<0.18	<0.19	0.56 I	0.65 I	<0.15	<0.063	<0.011	<0.013	<0.0089	<0.014	<0.014	<0.017	<0.047	<0.020
	5/26/2009	<0.18	<0.19	<0.16	0.46I	<0.15	<0.063	<0.015	<0.029	<0.016	<0.023	<0.020	<0.015	<0.014	<0.021
	1/12/2011	0.28U	0.24U	0.25U	0.68U	0.21U	NS	0.023U	0.022U	0.023U	<b>0.17I</b>	0.20	0.042U	0.089I	0.057I
	8/18/2011	0.50U	0.50U	0.50U	0.50U	0.50U	NS	0.076U	0.085U	0.076U	0.076U	0.038U	0.066U	0.066U	0.057U
12/8/2011	0.40U	0.40U	0.40U	0.80U	0.40U	NS	0.050U	0.050U	0.050U	0.015U	0.015U	0.015U	0.0051U	0.015U	

**Notes:**

Analytical results are reported in microgram per liter (µg/L)

GCTL - Groundwater Cleanup Target Levels

NADC - Natural Attenuation Default Concentrations

NR - Not reported

NS - Not sampled

**Bold** - Exceeds GCTLs

BDL - Below detection limit

\*\* - MW-6 was destroyed during onsite construction activities in August 2009.

MW-3 is inaccessible due to construction by current owners.

TRPH - Total Recoverable Petroleum Hydrocarbons

MTBE - Methyl-tert-butyl-ether

I - Result between Minimum Detection Limit and Practical Quantitation Limit.

J - Estimated value; Value may not be accurate.

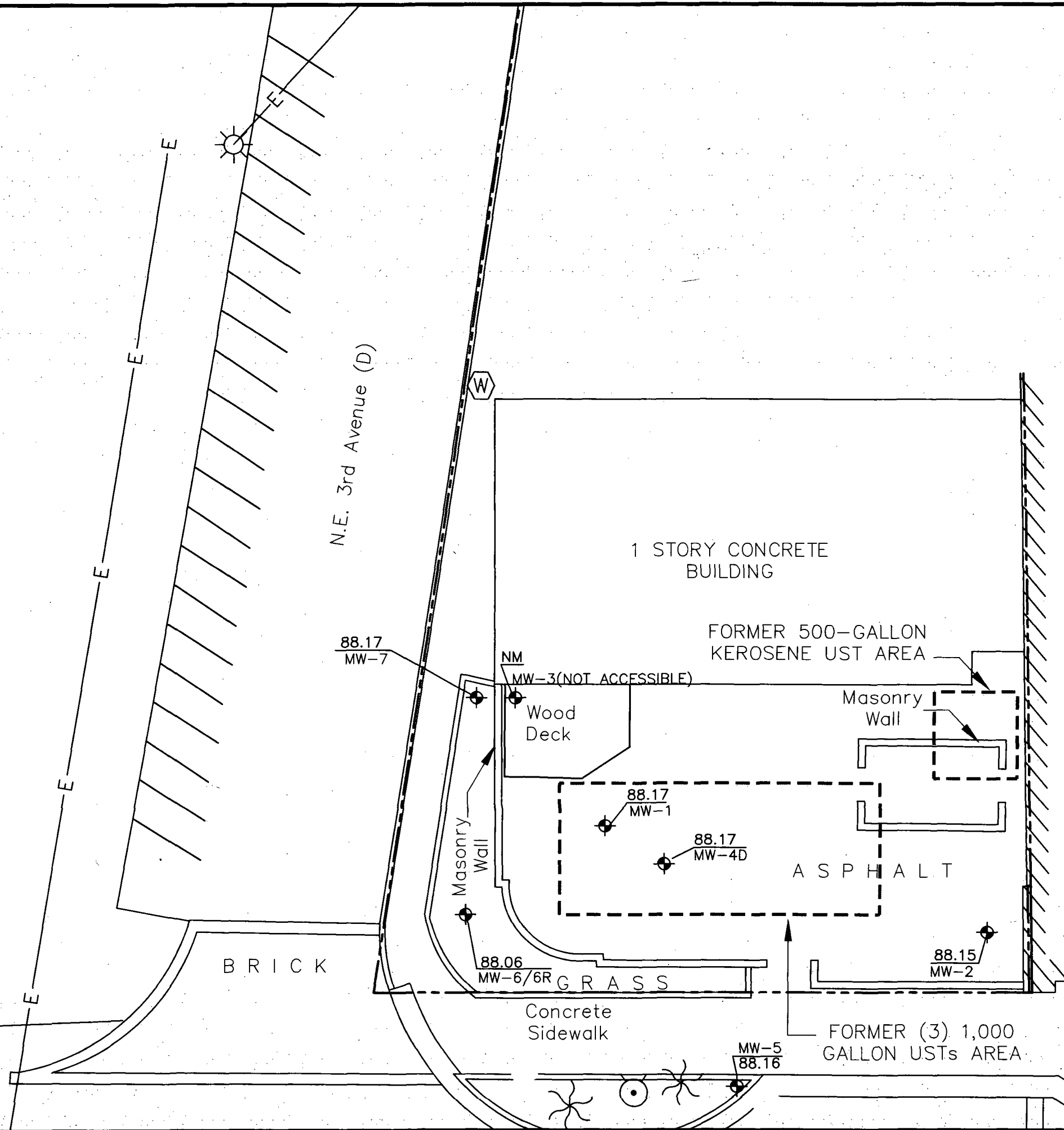
U - Compound was analyzed for, but not detected

Checked by: KAB





Drawing file: 0533911PB1-HC001.dwg Jan 03, 2012 - 3:27pm

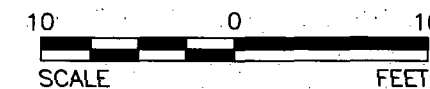


**LEGEND**

- PROPERTY BOUNDARY
- FORMER UST AREA
- MONITORING WELL LOCATION
- GROUNDWATER ELEVATION

**REFERENCES**

1.) BASE MAP OBTAINED FROM SURV TECH SOLUTIONS, INC., DATE SURVEYED 9/13/06.



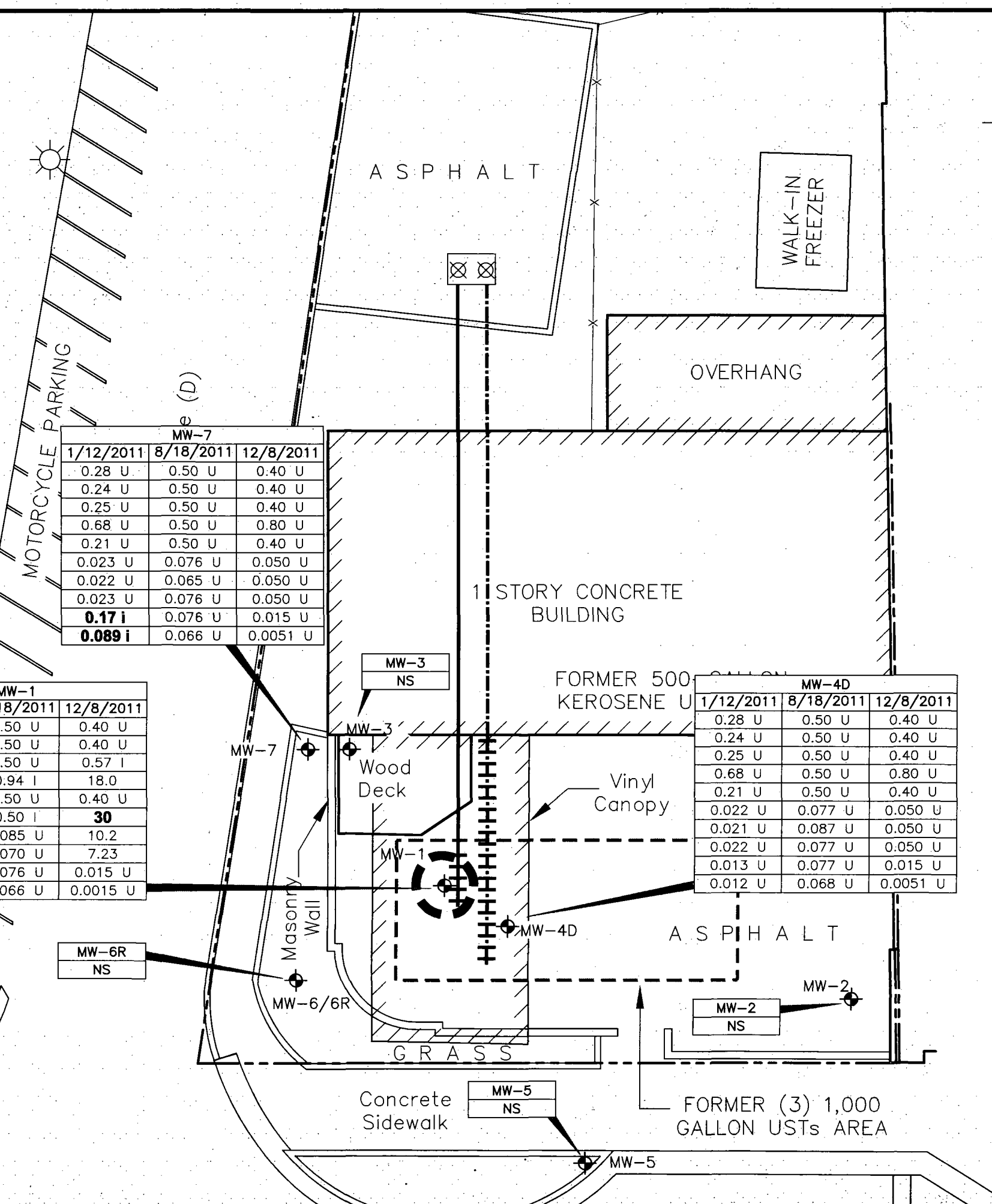
PROJECT  
 Former Chevron-Flamingo Service Station  
 301 East Atlantic Avenue  
 Delray Beach, FL  
 FAC ID 50-8942634

TITLE  
**GROUNDWATER ELEVATION  
 MAP**  
 - DECEMBER 8, 2011 -

PROJECT No.	053-3911		
FILE No.	3911PB1-HC001		
REV. 0	SCALE	AS SHOWN	
DESIGN	KAB	12/20/11	
CADD	MRM	12/21/11	
CHECK	KAB	12/28/11	
REVIEW	JCB	12/28/11	

**FIGURE 1**

Drawing file: 0533911PB1-HC002.dwg Jan 03, 2012 - 3:27pm



MW-7		
1/12/2011	8/18/2011	12/8/2011
0.28 U	0.50 U	0.40 U
0.24 U	0.50 U	0.40 U
0.25 U	0.50 U	0.40 U
0.68 U	0.50 U	0.80 U
0.21 U	0.50 U	0.40 U
0.023 U	0.076 U	0.050 U
0.022 U	0.065 U	0.050 U
0.023 U	0.076 U	0.050 U
<b>0.17 i</b>	0.076 U	0.015 U
<b>0.089 i</b>	0.066 U	0.0051 U

MW-1		
1/12/2011	8/18/2011	12/8/2011
0.28 U	0.50 U	0.40 U
0.88 I	0.50 U	0.40 U
22	0.50 U	0.57 I
<b>270</b>	0.94 I	18.0
0.21 U	0.50 U	0.40 U
<b>100</b>	0.50 I	<b>30</b>
<b>29</b>	0.085 U	10.2
<b>39</b>	0.070 U	7.23
0.13 U	0.076 U	0.015 U
0.12 U	0.066 U	0.0015 U

MW-4D		
1/12/2011	8/18/2011	12/8/2011
0.28 U	0.50 U	0.40 U
0.24 U	0.50 U	0.40 U
0.25 U	0.50 U	0.40 U
0.68 U	0.50 U	0.80 U
0.21 U	0.50 U	0.40 U
0.022 U	0.077 U	0.050 U
0.021 U	0.087 U	0.050 U
0.022 U	0.077 U	0.050 U
0.013 U	0.077 U	0.015 U
0.012 U	0.068 U	0.0051 U

MW-1	MONITORING WELL ID
12/8/2011	DATE SAMPLED
1	BENZENE
40	TOLUENE
30	ETHYLBENZENE
20	TOTAL XYLENES
20	MTBE
14	NAPHTHALENE
28	1-METHYLNAPHTHALENE
28	2-METHYLNAPHTHALENE
0.05	BENZO(b)FLOURANTHENE
0.005	DIBENZO(a,h)ANTHRACENE

**LEGEND**

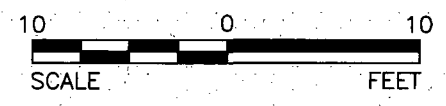
- BUILDING
- PROPERTY BOUNDARY
- FORMER UST AREA
- FENCE
- ASW-1 SCREEN
- HVEW-1 SCREEN
- ESTIMATED EXTENT OF PETROLEUM IMPACTED GROUNDWATER (>GCTLs)
- MONITORING WELL LOCATION
- SOIL VAPOR EXTRACTION/AIR SPARGING WELL

**NOTES**

- 1.) U - CONCENTRATION BELOW THE LABORATORY'S METHOD DETECTION LEVEL (MDL).
- 2.) I - RESULT BETWEEN MINIMUM DETECTION LIMIT AND PRACTICAL QUANTITATION LIMIT.
- 3.) BOLD - EXCEEDS GROUNDWATER CLEANUP TARGET LEVEL (GCTL).
- 4.) NS - NOT SAMPLED.

**REFERENCES**

- 1.) BASE MAP OBTAINED FROM SURV TECH SOLUTIONS, INC., DATE SURVEYED 9/13/06.



**Golder Associates**  
Boca Raton, Florida

PROJECT  
Former Chevron-Flamingo Service Station  
301 East Atlantic Avenue  
Delray Beach, FL  
FAC ID 50-8942634

TITLE  
**GROUNDWATER ANALYTICAL RESULTS**

PROJECT No.	053-3911
FILE No.	3991PB1-HC002
REV. 0	SCALE AS SHOWN
DESIGN	KAB 12/20/11
CADD	MRM 12/28/11
CHECK	KAB 12/28/11
REVIEW	JCB 12/28/11

**FIGURE 2**



Jupiter Environmental Laboratories, Inc.  
150 S. Old Dixie Highway  
Jupiter, FL 33458  
Phone: (561)575-0030  
Fax: (561)575-4118  
www.jupiterlabs.com  
clientservices@jupiterlabs.com

December 15, 2011

Tommy Carr  
Intralabs, Inc.  
1909 Southampton Road  
Jacksonville, FL 32207

RE: LOG# 1128738  
Project ID: Chevron Flamingo  
COC# 28737

Dear Tommy Carr:

Enclosed are the analytical results for sample(s) received by the laboratory on Thursday, December 08, 2011. Results reported herein conform to the most current NELAC standards, where applicable, unless indicated by \* in the body of the report. The enclosed Chain of Custody is a component of this package and should be retained with the package and incorporated therein.

Results for all solid matrices are reported in dry weight unless otherwise noted. Results for all liquid matrices are reported as received in the laboratory unless otherwise noted. Results relate only to the samples received. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

Samples are disposed of after 30 days of their receipt by the laboratory unless extended storage is requested in writing. The laboratory maintains the right to charge storage fees for archived samples. This report will be archived for 5 years after which time it will be destroyed without further notice, unless prior arrangements have been made.

Certain analyses are subcontracted to outside NELAC certified laboratories, please see the Project Summary section of this report for NELAC certification numbers of laboratories used. A Statement of Qualifiers is available upon request.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ann McKewin for  
Kacia Baldwin  
V.P. of Operations

Report ID: 1128738 - 901722  
12/15/2011

Page 1 of 7

**FDOH# E86546**  
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## SAMPLE ANALYTE COUNT

Workorder: 1128738

Project ID: Chevron Flamingo

Lab ID	Sample ID	Method	Analytes Reported
1128738001	MW-7	EPA 8260B	10
		EPA 8270/PAH SIM	21
1128738002	MW-1	EPA 8260B	10
		EPA 8270/PAH SIM	21
1128738003	MW-4D	EPA 8260B	10
		EPA 8270/PAH SIM	21

FDOH# E86546

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**SAMPLE SUMMARY**

Workorder: 1128738

Project ID: Chevron Flamingo

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1128738001	MW-7	Aqueous Liquid	12/8/2011 08:40	12/8/2011 15:33
1128738002	MW-1	Aqueous Liquid	12/8/2011 09:50	12/8/2011 15:33
1128738003	MW-4D	Aqueous Liquid	12/8/2011 10:15	12/8/2011 15:33





**ANALYTICAL RESULTS**

Workorder: 1128738  
Project ID: Chevron Flamingo

Lab ID: **1128738001** Date Received: 12/8/2011 15:33 Matrix: Aqueous Liquid  
Sample ID: **MW-7** Date Collected: 12/8/2011 08:40

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
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**Volatiles by GC/MS**

Analysis Desc: BTEX/MTBE by 8260B (W)

Preparation Method: EPA 5030B

Analytical Method: EPA 8260B

Benzene	U	ug/L	1.00	0.400	1	12/9/2011 08:30	SS	12/9/2011 23:57	SS	
Ethylbenzene	U	ug/L	1.00	0.400	1	12/9/2011 08:30	SS	12/9/2011 23:57	SS	
Toluene	U	ug/L	1.00	0.400	1	12/9/2011 08:30	SS	12/9/2011 23:57	SS	
Xylenes- Total	U	ug/L	3.00	0.800	1	12/9/2011 08:30	SS	12/9/2011 23:57	SS	
m & p-xylene	U	ug/L	2.00	0.400	1	12/9/2011 08:30	SS	12/9/2011 23:57	SS	
o-Xylene	U	ug/L	1.00	0.400	1	12/9/2011 08:30	SS	12/9/2011 23:57	SS	
tert-Butyl methyl ether (MTBE)	U	ug/L	1.00	0.400	1	12/9/2011 08:30	SS	12/9/2011 23:57	SS	
Dibromofluoromethane (S)	80 %		70-130		1	12/9/2011 08:30	SS	12/9/2011 23:57	SS	
Toluene d8 (S)	92 %		70-130		1	12/9/2011 08:30	SS	12/9/2011 23:57	SS	
4-Bromofluorobenzene (S)	90 %		70-130		1	12/9/2011 08:30	SS	12/9/2011 23:57	SS	

**Semivolatiles by EPA 8270C**

Analysis Desc: PAH List by 8270C SIM (W)

Preparation Method: EPA 3510C SIM

Analytical Method: EPA 8270/PAH SIM

1-Methylnaphthalene	U	ug/L	0.100	0.050	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
2-Methylnaphthalene	U	ug/L	0.100	0.050	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
Acenaphthene	U	ug/L	0.050	0.025	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
Acenaphthylene	U	ug/L	0.050	0.025	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
Anthracene	U	ug/L	0.050	0.025	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
Benzo(a)anthracene	U	ug/L	0.050	0.025	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
Benzo(a)pyrene	U	ug/L	0.050	0.015	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
Benzo(b)fluoranthene	U	ug/L	0.050	0.015	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
Benzo(g,h,i)perylene	U	ug/L	0.050	0.015	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
Benzo(k)fluoranthene	U	ug/L	0.050	0.015	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
Chrysene	U	ug/L	0.050	0.025	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
Dibenzo(a,h)anthracene	U	ug/L	0.050	0.0051	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
Fluoranthene	U	ug/L	0.050	0.025	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
Fluorene	U	ug/L	0.050	0.025	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.050	0.015	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
Naphthalene	U	ug/L	0.100	0.050	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
Phenanthrene	U	ug/L	0.050	0.025	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
Pyrene	U	ug/L	0.050	0.025	1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
Nitrobenzene-d5 (S)	100 %		30-110		1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
2-Fluorobiphenyl (S)	76 %		30-110		1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	
p-Terphenyl-d14 (S)	85 %		30-140		1	12/12/2011 11:16	AMM	12/14/2011 13:09	SC	

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**ANALYTICAL RESULTS**

Workorder: 1128738

Project ID: Chevron Flamingo

Lab ID: **1128738002** Date Received: 12/8/2011 15:33 Matrix: Aqueous Liquid  
Sample ID: **MW-1** Date Collected: 12/8/2011 09:50

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
<b>Volatiles by GC/MS</b>										
Analysis Desc: BTEX/MTBE by 8260B (W)					Preparation Method: EPA 5030B					
					Analytical Method: EPA 8260B					
Benzene		U ug/L	1.00	0.400	1	12/9/2011 08:30	SS	12/10/2011 00:23	SS	
Ethylbenzene	0.570i	ug/L	1.00	0.400	1	12/9/2011 08:30	SS	12/10/2011 00:23	SS	
Toluene		U ug/L	1.00	0.400	1	12/9/2011 08:30	SS	12/10/2011 00:23	SS	
Xylenes- Total	18.0	ug/L	3.00	0.800	1	12/9/2011 08:30	SS	12/10/2011 00:23	SS	
m & p-xylene	3.36	ug/L	2.00	0.400	1	12/9/2011 08:30	SS	12/10/2011 00:23	SS	
o-Xylene	14.6	ug/L	1.00	0.400	1	12/9/2011 08:30	SS	12/10/2011 00:23	SS	
tert-Butyl methyl ether (MTBE)		U ug/L	1.00	0.400	1	12/9/2011 08:30	SS	12/10/2011 00:23	SS	
Dibromofluoromethane (S)	105	%	70-130		1	12/9/2011 08:30	SS	12/10/2011 00:23	SS	
Toluene d8 (S)	115	%	70-130		1	12/9/2011 08:30	SS	12/10/2011 00:23	SS	
4-Bromofluorobenzene (S)	110	%	70-130		1	12/9/2011 08:30	SS	12/10/2011 00:23	SS	

<b>Semivolatiles by EPA 8270C</b>										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	10.2	ug/L	0.100	0.050	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
2-Methylnaphthalene	7.23	ug/L	0.100	0.050	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
Acenaphthene	0.106	ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
Acenaphthylene		U ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
Anthracene		U ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
Benzo(a)anthracene		U ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
Benzo(a)pyrene		U ug/L	0.050	0.015	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
Benzo(b)fluoranthene		U ug/L	0.050	0.015	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
Benzo(g,h,i)perylene		U ug/L	0.050	0.015	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
Benzo(k)fluoranthene		U ug/L	0.050	0.015	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
Chrysene		U ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
Dibenzo(a,h)anthracene		U ug/L	0.050	0.0051	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
Fluoranthene		U ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
Fluorene	0.029i	ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
Indeno(1,2,3-cd)pyrene		U ug/L	0.050	0.015	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
Naphthalene	30.0	ug/L	0.100	0.050	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
Phenanthrene		U ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
Pyrene		U ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
Nitrobenzene-d5 (S)	134	%	30-110		1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	J2
2-Fluorobiphenyl (S)	72	%	30-110		1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	
p-Terphenyl-d14 (S)	76	%	30-140		1	12/13/2011 10:44	AMM	12/14/2011 13:31	SC	



## ANALYTICAL RESULTS

Workorder: 1128738

Project ID: Chevron Flamingo

Lab ID: **1128738003** Date Received: 12/8/2011 15:33 Matrix: Aqueous Liquid  
 Sample ID: **MW-4D** Date Collected: 12/8/2011 10:15

Parameters	Results	Units	PQL	MDL	DF	Prepared	By	Analyzed	By	Qual
<b>Volatiles by GC/MS</b>										
Analysis Desc: BTEX/MTBE by 8260B (W)					Preparation Method: EPA 5030B					
					Analytical Method: EPA 8260B					
Benzene	U	ug/L	1.00	0.400	1	12/9/2011 08:30	SS	12/10/2011 00:48	SS	
Ethylbenzene	U	ug/L	1.00	0.400	1	12/9/2011 08:30	SS	12/10/2011 00:48	SS	
Toluene	U	ug/L	1.00	0.400	1	12/9/2011 08:30	SS	12/10/2011 00:48	SS	
Xylenes- Total	U	ug/L	3.00	0.800	1	12/9/2011 08:30	SS	12/10/2011 00:48	SS	
m & p-xylene	U	ug/L	2.00	0.400	1	12/9/2011 08:30	SS	12/10/2011 00:48	SS	
o-Xylene	U	ug/L	1.00	0.400	1	12/9/2011 08:30	SS	12/10/2011 00:48	SS	
tert-Butyl methyl ether (MTBE)	U	ug/L	1.00	0.400	1	12/9/2011 08:30	SS	12/10/2011 00:48	SS	
Dibromofluoromethane (S)	108 %		70-130		1	12/9/2011 08:30	SS	12/10/2011 00:48	SS	
Toluene d8 (S)	118 %		70-130		1	12/9/2011 08:30	SS	12/10/2011 00:48	SS	
4-Bromofluorobenzene (S)	114 %		70-130		1	12/9/2011 08:30	SS	12/10/2011 00:48	SS	

<b>Semivolatiles by EPA 8270C</b>										
Analysis Desc: PAH List by 8270C SIM (W)					Preparation Method: EPA 3510C SIM					
					Analytical Method: EPA 8270/PAH SIM					
1-Methylnaphthalene	U	ug/L	0.100	0.050	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
2-Methylnaphthalene	U	ug/L	0.100	0.050	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
Acenaphthene	U	ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
Acenaphthylene	U	ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
Anthracene	U	ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
Benzo(a)anthracene	U	ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
Benzo(a)pyrene	U	ug/L	0.050	0.015	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
Benzo(b)fluoranthene	U	ug/L	0.050	0.015	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
Benzo(g,h,i)perylene	U	ug/L	0.050	0.015	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
Benzo(k)fluoranthene	U	ug/L	0.050	0.015	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
Chrysene	U	ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
Dibenzo(a,h)anthracene	U	ug/L	0.050	0.0051	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
Fluoranthene	U	ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
Fluorene	U	ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
Indeno(1,2,3-cd)pyrene	U	ug/L	0.050	0.015	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
Naphthalene	U	ug/L	0.100	0.050	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
Phenanthrene	U	ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
Pyrene	U	ug/L	0.050	0.025	1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
Nitrobenzene-d5 (S)	108 %		30-110		1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
2-Fluorobiphenyl (S)	75 %		30-110		1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	
p-Terphenyl-d14 (S)	72 %		30-140		1	12/13/2011 10:44	AMM	12/14/2011 13:53	SC	



**ANALYTICAL RESULTS QUALIFIERS**

Workorder: 1128738

Project ID: Chevron Flamingo

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**PARAMETER QUALIFIERS**

J2 Surrogate recovery was outside defined limits due to matrix interference.

**PROJECT COMMENTS**

1128738 A reported value of U indicates that the compound was analyzed for but not detected above the MDL. A value flagged with an "i" flag indicates that the reported value is between the laboratory method detection limit and the practical quantitation limit.







# Login Checklist

Cooler Unpacked/Checked by: JC Date: 12/8/11

Project ID: 1128738

## Cooler Check

Cooler ID	Cooler Temp (C)	# of Samples in Cooler	*Tracking #	Evidence Tape			
				Present?		Intact?	
				Yes	No	Yes	No
	3	3			✓		✓

Note: if the temperature of a cooler is above 6C or an evidence seal is damaged then identify the bottles in the affected cooler(s) on the sample discrepancy form.

\*Write tracking number only if waybill copy cannot be placed in the folder

### Condition of Containers:

**Loose Caps:** Yes \_\_\_\_\_ No ✓

If yes, fill out sample discrepancy form.

**Broken Containers:** Yes \_\_\_\_\_ No ✓

If yes, fill out sample discrepancy form.

**Acid Preserved Samples:** Are their pHs  $\leq 2$ ? Yes \_\_\_\_\_ No \_\_\_\_\_ N/A ✓

If no, fill out sample discrepancy form and check unpreserved containers with same Field ID.

**Base Preserved Samples:** Are their pHs  $\geq 12$  or 9? Yes \_\_\_\_\_ No \_\_\_\_\_ N/A ✓

(Cyanide  $\geq 12$ ; Sulfide  $\geq 9$ )

If no, fill out sample discrepancy form and check unpreserved containers with same Field ID.

**Are all samples in cooler on COC?:** Yes ✓ No \_\_\_\_\_

If no, fill out sample discrepancy form.

**Are all samples on COC in cooler?:** Yes ✓ No \_\_\_\_\_

If no, fill out sample discrepancy form.

N/A = not Applicable

**Form FD 9000-24  
GROUNDWATER SAMPLING LOG**

SITE NAME: Chevron Flamingo	SITE LOCATION: Delray Beach
WELL NO: MW- 7	SAMPLE ID: MW- 7
DATE: 12/8/11	

**PURGING DATA**

WELL DIAMETER (inches): 4.1	TUBING DIAMETER (inches): 4.4	WELL SCREEN INTERVAL DEPTH: 10 feet to 20 feet	STATIC DEPTH TO WATER (feet): 11.47	PURGE PUMP TYPE OR BAILER: PP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = ( 20 feet - 11.47 feet ) X 0.16 gallons/foot = 0.34 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = gallons + ( gallons/foot X feet ) + gallons = gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 13	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 13	PURGING INITIATED AT: 0823	PURGING ENDED AT: 0838	TOTAL VOLUME PURGED (gallons): 1.4							
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (V)	COLOR/ODOR (describe)
0829	0.5	0.5	0.08	11.5	7.56	24.11	324	3.66	1.87	174.1	clear/none
0832	0.3	0.8	0.1	11.5	7.48	25.37	337	3.39	1.63	163.4	"
0835	0.3	1.1	0.1	11.5	7.47	25.38	341	3.34	1.38	157.4	"
0838	0.3	1.4	0.1	11.5	7.47	25.41	341	3.26	1.43	154.4	"
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

**SAMPLING DATA**

SAMPLED BY (PRINT) / AFFILIATION: Kirk Blevins/Golder				SAMPLER(S) SIGNATURE(S): <i>Kirk Blevins</i>				SAMPLING INITIATED AT: 0838		SAMPLING ENDED AT: 0843		
PUMP OR TUBING DEPTH IN WELL (feet): 13				TUBING MATERIAL CODE: PE		FIELD-FILTERED: Y <input checked="" type="checkbox"/>		FILTER SIZE: _____ µm				
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/>				TUBING Y <input checked="" type="checkbox"/> (replaced)		DUPLICATE: Y <input checked="" type="checkbox"/>						
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE		SAMPLE PUMP FLOW RATE (gal per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH						
Mw-7	3	CG	40 ml	HCl	None	--	8260B		RFPP		20.1	
Mw-7	2	AG	1L	None	None	--	8270C		APP		0.1	
REMARKS: ST = 0840												
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)												
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)												

**NOTES:** 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.  
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)  
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)  
"J" = indicates that the calibration result for the parameter of concern was outside of the acceptable criteria for standard range.

**Form FD 9000-24  
GROUNDWATER SAMPLING LOG**

SITE NAME: Chevron Flamingo		SITE LOCATION: Delray Beach	
WELL NO: MW- 1	SAMPLE ID: MW- 1	DATE: 12/8/11	

**PURGING DATA**

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 13 feet to 23 feet	STATIC DEPTH TO WATER (feet): 11.07	PURGE PUMP TYPE OR BAILER: PP							
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable) = ( 23 feet - 11.07 feet ) X 0.16 gallons/foot = 1.9 gallons											
EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable) = 0.0 gallons + (0.0026 gallons/foot X 60 feet) + 0.15 gallons = 0.15 gallons											
INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 12	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 12		PURGING INITIATED AT: 0926	PURGING ENDED AT: 0948	TOTAL VOLUME PURGED (gallons): 2.6						
TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP	COLOR/ODOR (describe)
0942	2.0	2.0	0.13	11.3	8.12	24.48	412	0.66	10.3	-11.2	CLEAR/NONE
0944	0.2	2.2	0.1	11.3	8.12	24.10	407	0.67	8.63	-11.3	"
0946	0.2	2.4	0.1	11.3	8.12	24.01	407	0.68	5.14	-11.0	"
0948	0.2	2.6	0.1	11.3	8.11	24.03	406	0.68	3.21	-10.9	"
WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016											
PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)											

**SAMPLING DATA**

SAMPLED BY (PRINT) / AFFILIATION: Kirk Blevins/Golder				SAMPLER(S) SIGNATURE(S): <i>Kirk Blevins</i>			SAMPLING INITIATED AT: 0948		SAMPLING ENDED AT: 0952	
PUMP OR TUBING DEPTH IN WELL (feet): 12				TUBING MATERIAL CODE: PE		FIELD-FILTERED: Y (M) Filtration Equipment Type:		FILTER SIZE: _____ µm		
FIELD DECONTAMINATION: PUMP Y (N)				TUBING Y (N) (replaced)		DUPLICATE: Y (N)				
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD		SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (gal per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH				
Mw-1	3	CG	40 ml	HCl	None	--	8260B		RFPF	0.1
Mw-1	2	AG	1L	None	None	--	8270C		APP	0.1
REMARKS: ST = 0950										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)										
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)										

**NOTES:** 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.  
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)  
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2);  
optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)  
"J" = indicates that the calibration result for the parameter of concern was outside of the acceptable criteria for standard range.

Form FD 9000-24  
GROUNDWATER SAMPLING LOG

SITE NAME: Chevron Flamingo		SITE LOCATION: Delray Beach	
WELL NO: MW- 4D		SAMPLE ID: MW- 4D	
DATE: 12/8/11			

**PURGING DATA**

WELL DIAMETER (inches): 84	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 30 feet to 35 feet	STATIC DEPTH TO WATER (feet): 11.18	PURGE PUMP TYPE OR BAILER: PP
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WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY  
(only fill out if applicable)

= ( 32 feet - 11.18 feet ) X \_\_\_\_\_ gallons/foot = \_\_\_\_\_ gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME  
(only fill out if applicable)

= 0.0 gallons + ( 0.0026 gallons/foot X 60 feet ) + 0.1 gallons = 0.26 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 32	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 32	PURGING INITIATED AT: 0957	PURGING ENDED AT: 1014	TOTAL VOLUME PURGED (gallons): 1.5
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TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) $\mu\text{mhos/cm}$ or $\mu\text{S/cm}$	DISSOLVED OXYGEN (circle units) $\mu\text{g/l}$ or % saturation	TURBIDITY (NTUs)	ORP	COLOR/ODOR (describe)
1005	0.6	0.6	0.08	11.4	7.90	24.27	414	0.74	9.81	-37.9	clear/odor
1008	0.3	0.9	0.1	11.4	7.89	24.22	414	0.61	7.63	-37.1	"
1011	0.3	1.2	0.1	11.4	7.88	24.26	414	0.60	6.38	-36.4	"
1014	0.3	1.5	0.1	11.4	7.89	24.28	415	0.61	5.68	-46.8	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88  
 TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016  
 PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

**SAMPLING DATA**

SAMPLED BY (PRINT) / AFFILIATION: Kirk Blevins/Golder	SAMPLER(S) SIGNATURE(S): <i>Kirk Blevins</i>	SAMPLING INITIATED AT: 1014	SAMPLING ENDED AT: 1021
PUMP OR TUBING DEPTH IN WELL (feet): 32	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y <input checked="" type="checkbox"/>	FILTER SIZE: _____ $\mu\text{m}$
FIELD DECONTAMINATION: PUMP Y <input checked="" type="checkbox"/>	TUBING Y <input checked="" type="checkbox"/> (replaced)	DUPLICATE: Y <input checked="" type="checkbox"/>	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (gal per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
MW-4D	3	CG	40 ml	HCl	None	-	8260B	RFPP	40.1
MW-4D	2	AG	1L	None	None	-	8270C	APP	0.1

REMARKS: ST = 1015

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

- NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.  
 2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)  
 pH:  $\pm 0.2$  units Temperature:  $\pm 0.2$  °C Specific Conductance:  $\pm 5\%$  Dissolved Oxygen: all readings  $\leq 20\%$  saturation (see Table FS 2200-2); optionally,  $\pm 0.2$  mg/L or  $\pm 10\%$  (whichever is greater) Turbidity: all readings  $\leq 20$  NTU; optionally  $\pm 5$  NTU or  $\pm 10\%$  (whichever is greater)  
 "J" = indicates that the calibration result for the parameter of concern was outside of the acceptable criteria for standard range.



**Field Instrument pH Calibration Records**

INSTRUMENT (MAKE/MODEL NO.) YSI 556 MPS INSTRUMENT NO. 1

**STANDARD INFORMATION**

Project Number: 053-3911-11 Project Name: CHEVILIN FANZANO

Standard Vendor: LSS/TRS

Prepared Date: NOV 2011 Where Prepared: GOLDER ASSOCIATES

Purchase Date: NOV 2011 Expiration Date: Varies Grade: N/A Units: Standard Units

Standard 4.01 @25 °C Lot # 1AJ303 Exp Date NOV 2012 Purch Date NOV 2011

Standard 7.00 @25 °C Lot # 1AK075 Exp Date NOV 2012 Purch Date NOV 2011

Standard 10.0 @25 °C Lot # 1AG299 Exp Date JUL 2013 Purch Date AUG 2011

DATE (mm/dd/yy)	TIME (hr:min)	TEMP DEG C	STD VALUE	INSTRUMENT RESPONSE	% DEV	PASS/ FAIL	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
12/08/11	0752	18.84	4.01	4.01	0	P	N	C	KB
	0753	18.93	7.00	7.05	0.7	P	N	C	KB
	0754	18.97	10.0	10.14	1.4	P	N	C	KB
	1022	19.43	4.01	4.00	0.2	P	N	C	KB
	1022	19.44	7.00	7.08	1.1	P	N	C	KB
	1023	19.38	10.0	9.98	0.2	P	N	C	KB

Acceptable calibration check is if the meter reads within +/- 0.2 pH units of the value of appropriate calibration standard.





Field Instrument Dissolved Oxygen & Oxidation-Reduction Potential Calibration Records  
 INSTRUMENT (MAKE/MODEL NO.) YSI 556 MPS INSTRUMENT NO. 1

**STANDARD INFORMATION**

Project Number: 053-3911-11 Project Name: CHEVRON FLAMINGO

Standard Vendor: GEOTECH

Prepared Date: NOV 2011 Where Prepared: GOLDER ASSOCIATES

Grade: N/A DO Units: mg/L ORP Units: mV

ORP Standard 220@25°C Lot #1A1254 Exp Date JUNE 2012 Pur Date NOV 2011

DO Standard Air Calibration Chamber in Air (Table FS 2200-2)

Standard \_\_\_\_\_

Standard \_\_\_\_\_

DATE (mm/dd/yy)	TIME (hr:min)	TEMP DEG C	CHART 100% VALUE	INSTRUMENT RESPONSE	% DEV	PASS/ FAIL	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
12/28/11	0744	17.00	9.665	11.70 / 121%	0	P	N	C	KB
"	1020	17.93	9.486	10.91 / 115%	0	P	N	C	KB

Acceptable calibration check is if the meter reads within +/- 0.3 mg/L of the value of appropriate calibration standard. Need to record DO readings in mg/L and use Table FS 2200-2 "Dissolved Oxygen Saturation". ORP calibration reading must be within +/- 10 mV from the theoretical redox standard value at that temperature.



Field Instrument Conductivity Calibration Records

INSTRUMENT (MAKE/MODEL NO.) YSI 556 MPS INSTRUMENT NO. 1

STANDARD INFORMATION

Project Number: 053-311-11 Project Name: CHEVILYN FLAUNGO

Standard Vendor: TRS/LABCHEM

Prepared Date: AUG 2011 Where Prepared: GOLDER ASSOCIATES

Grade: N/A Units: umhos/uS-cm

Standard 100@25°C Lot # 1AH158 Exp Date AUG 2012 Pur Date AUG 2011

Standard 500@25°C Lot # 91587 Exp Date MAY 2012 Pur Date MAY 2011

Standard 2000@25°C Lot # 91588 Exp Date MAY 2012 Pur Date MAY 2011

DATE (mm/dd/yy)	TIME (hr:min)	TEMP DEG C°	STD VALUE	INSTRUMENT RESPONSE	% DEV	PASS/ FAIL	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
12/02/11	0755	19.16	100	105	5	P	N	C	KA
↓	0756	18.93	500	485	3	P	N	C	KA
	0757	18.50	2000	1920	4	P	N	C	KA
	1025	19.58	100	103	3	P	N	C	KA
↓	1025	19.71	500	490	2	P	N	C	KA
	1026	19.72	2000	1989	0.6	P	N	C	KA

Acceptable calibration check is if the meter reads within +/- 5% of the appropriate calibration standard.

Note: Standards and instrument response readings are corrected to 25°C.



### Field Instrument Turbidity Calibration Records

INSTRUMENT (MAKE/MODEL NO.) HACH 2100 P INSTRUMENT NO. 5

Project Number: 053-3911-11 Project Name: CHEVRON FLAMINGO

Standard Vendor: HACH

Prepared Date: AUG 2011 Where Prepared: GOLDER ASSOCIATES

Purchase Date: AUG 2011 Expiration Date: APR 2013 Lot Number: SEE BELOW

Units: Nephelometric Turbidity Unit

Standard < 0.1 Nephelometric Turbidity Unit LOT# A1171

Standard 20 Nephelometric Turbidity Unit LOT# A1133

Standard 100 Nephelometric Turbidity Unit LOT# A1159

Standard 800 Nephelometric Turbidity Unit LOT# A1119

DATE (mm/dd/yy)	TIME (hr.min)	TEMP DEG C	STD VALUE	INSTRUMENT RESPONSE	% DEV	PASS/FAIL	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
12/28/11	0759	NA	4.63	4.47	3.4	P	N	C	KB
	0759		56.7	56.0	1.2	P	N	C	KB
	0800		507	518	1.8	P	N	C	KB
	1025		4.63	4.60	0.6	P	N	C	KB
	1025		56.7	55.3	2.5	P	N	C	KB
	1026		507	503	0.8	P	N	C	KB

Calibration values for turbidity needs to be within 10% of the standard for values between 0.1-10 NTU; 8% for values between 11-40 NTU; 6.5% for values between 41-100 NTU and 5% for values >100 NTU.



Equipment Services Program  
Jacksonville, FL

Calibration Standards Data

Used during:  
11/16/2011 to Current

Parameter	Temperature	pH			Conductivity			ORP	Turbidity			
Value	ERTCO Thermometer	4.01	7	10	100	500	2000	220	0.1-10	11.0-40	41.0-100	>100
Measurement	Celcius	pH	pH	pH	uS/cm	uS/cm	uS/cm	mV	NTU	NTU	NTU	NTU
Volume	-1 to 101 C	250	250	250	250	250	250	250	15	15	15	15
Unit of Measure	Degrees C	m/L	m/L	m/L	m/L	m/L	m/L	m/L	m/L	m/L	m/L	m/L
Lot #	2401	1AJ303	1AK075	1AG299	1AH158	1050381	1050382	1AI254	A1171	A1133	A1159	A1119
Purchase Date	May '04	Nov-11	Nov-11	Aug-11	Aug-11	May-11	May-11	Nov-11	Aug-11	Aug-11	Aug-11	Aug-11
Preparation Date	Oct-11	Nov-11	Nov-11	Aug-11	Aug-11	May-11	May-11	Nov-11	Aug-11	Aug-11	Aug-11	Aug-11
Expiration Date	Oct-12	Nov-12	Nov-12	Jul-13	Aug-12	May-12	May-12	Jun-12	Jun-13	Jun-13	Jun-13	Jun-13
Vendor Name	hf scientific	TRS	TRS	TRS	TRS	AQUA	AQUA	TRS	HACH	HACH	HACH	HACH
Loc. of Preparation	hf scientific	GOLDER	GOLDER	GOLDER	GOLDER	GOLDER	GOLDER	GOLDER	GOLDER	GOLDER	GOLDER	GOLDER
Acceptance Criteria	+/- 0.2°C	+/- 0.2 pH units			+/- 5%			+/- 20mV	+/- 10%	+/- 8.0%	+/- 6.5%	+/- 5%

"Loc. of Preparation" indicates the transfer of solutions from manufacturers' containers to GAI containers for field use, except where otherwise noted.  
No solutions are mixed or created at Golder.

"Preparation Date" is typically 1 - 3 days prior to scheduled activity, except in the case of thermometer calibration check.

ORP solution will yield more calibrations if kept clean and it requires less than 50 mL to perform a calibration check.

NIST Thermometer: Serial # 2401, Product # 1005, Inscription: ERTCO, Scale range: -1 to 101 C, Total Immersion, Scale division: 0.1

**M5**

**AVIS RENT A CAR INC**





Department of Environmental  
Resources Management  
2300 North Jog Road, 4<sup>th</sup> Floor  
West Palm Beach, FL 33411-2743  
(561) 233-2400  
FAX: (561) 233-2414  
www.pbcgov.com/erm

■  
Palm Beach County  
Board of County  
Commissioners

Karen T. Marcus, Chair  
Shelley Vana, Vice Chair

Paulette Burdick

Steven L. Abrams

Burt Aaronson

Jess R. Santamaria

Priscilla A. Taylor

County Administrator  
Robert Weisman

*"An Equal Opportunity  
Affirmative Action Employer"*

May 4, 2012

Mr. John McNally  
Shook, Hardy & Bacon L.L.P.  
Miami Center, Suite 2400  
201 S. Biscayne Blvd.  
Miami, Florida 33131-4332

Dear Mr. McNally:

SUBJECT: **DOCUMENT REVIEW**  
AVIS RENT A CAR SYSTEM INC., 1 NW YAMATO ROAD,  
BOCA RATON, FDEP FACILITY #508842045

The Palm Beach County Department of Environmental Resources Management (ERM) has reviewed the Limited Site Assessment Report dated April 5, 2012 (received April 11, 2012), prepared by Professional Service Industries, Inc., for the subject site. The following comments are provided concerning ERM staff's review of the above referenced report.

1. Soil analytical data and OVA readings must be displayed on a site map with soil sample locations.
2. No groundwater elevation contour lines are depicted on the Groundwater Flow Direction Map. It's not possible to evaluate the accuracy of the groundwater flow direction without groundwater elevation contour lines.
3. It does not appear that groundwater samples were collected from monitor wells MW-1 and MW-2. Since these wells are presumably closest to the point of the discharge, groundwater quality data from these wells may be useful to determine an appropriate remediation technique.
4. The vertical extent of the contaminant plume has not been identified. It may be necessary to install one or more deeper wells to determine the vertical extent of groundwater contamination in order to evaluate an appropriate remediation technique.

Mr. John McNally  
May 4, 2012  
Page 2

5. Based on the data provided in the above referenced report, it appears active remediation will be necessary to provide for site rehabilitation. Although the report recommends continued monitoring, contaminant concentrations exceed the Natural Attenuation Default Concentrations specified in Chapter 62-770, Florida Administrative Code (F.A.C.). Therefore, a Remedial Action Plan must be submitted in accordance with Section 62-770.700, F.A.C. However, ERM staff recommends supplemental assessment as discussed above to more fully define the extent and magnitude of the contaminant plume in order to select an appropriate remediation technology.

Responses to these comments must be provided to ERM within approximately 30 days following receipt of this correspondence. If you have any questions concerning this review, please contact me at (561) 233-2483.

Sincerely,



David C. Gibson, P.G.  
Senior Hydrogeologist  
Resources Protection

dcg:kle

cc: Grace Rivera, Environmental Manager  
Bureau of Petroleum Storage Systems, FDEP  
Avinash Thummadi, Professional Service Industries, Inc.  
7950 NW 64th Street, Miami, FL 33166

**M6**

**BOCA RATON ARMY AIRFIELD DUMP**

(No Regulatory Information Available)

**M7**

**TITAN MARITIME INDUSTRIES**

Elr. Inc.  
2310 N.W. 55<sup>th</sup> Ct  
Suite 130 Ft. La 33309

Bureau of Waste Cleanup  
# 4797  
FEB 9 1993

PETROLEUM CONTAMINATION  
INITIAL REMEDIAL ACTION REPORT FORM

Engineering Support Section

An Initial Remedial Action report, summarizing the initial remedial action (IRA), should be prepared to satisfy the requirements of Chapters 17-770.630(1)4; 17-773.500(1)(a)4; and 17-773.500(2)(a)4, Florida Administrative Code, (FAC). This form may be used for the IRA report. The report should be sent to the appropriate local program and:

Florida Department of Environmental Regulation  
Bureau of Waste Cleanup  
Engineering Support Section  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

- I. FACILITY NAME: TITAN MARITIME INDUSTRIES, INC.  
Facility Address: 410 SOUTHWEST 4TH TERRACE / Dania Fl  
DER Facility Number (if applicable): D69201894  
Date IRA Initiated: 6/29/92 Date IRA Completed: 12/4/92
- II. FREE PRODUCT RECOVERY NOT APPLICABLE (N/A)
- A. Type(s) of Product Discharged: N/A
- B. Quantity
1. Estimated Gallons Lost: N/A
  2. Gallons Recovered: \_\_\_\_\_ through \_\_\_\_\_ (date)
  3. Attach Exhibit Indicating Amount of Product Recovered, Dates and Cumulative Totals.
- C. Attach a Scaled Site Plan, Indicating the Locations and Product Thickness in Wells, Boreholes, Excavations, or Utility Conduits and Wells Utilized for Recovery of Free Product.
- D. Method of Product Recovery: N/A
- E. Type of Discharge During Product Recovery: N/A





- F. Type of Treatment, i.e., Oil/Water Separator: N/A
- G. Attach Written Proof of Proper Disposal of Recovered Product: N/A

### III. SOIL EXCAVATION

NOTE: Soil shall be defined as excessively contaminated using the procedure stated in Chapter 17-770.200(2), FAC. Representative soil sampling shall be performed as close to the time of excavation as possible, but at no time shall exceed three (3) months prior to the start of excavation. Stockpiled soils greater than thirty (30) days on site waiting for treatment and disposal, must be re-sampled immediately prior to disposal to assure soils are still excessively contaminated.

If soil sampling data indicates that the amount of soil that is excessively contaminated exceeds 1500 cubic yards, treatment of all excessively contaminated soil at the site shall be addressed in a remedial action plan, and no soil IRA activities shall be performed except for the removal of soils in the immediate vicinity of the tanks.

Only soil above the ambient water table at the time of excavation can be considered as excessively contaminated soil.

Unless the established weight per unit volume of 1.4 tons/cubic yard (as referenced in FAC Rule 17-775) is used for the excavated soil, the weight per unit volume must be determined by a field test (in which an accurately measured volume of soil is weighed) at the time of excavation.

- A. Volume of Contaminated Soil Excavated in Cubic Yards: 19.7 yd<sup>3</sup>. Dimensions Including Depth of Excavation(s): APPROXIMATELY 15' IN LENGTH BY 10 1/2 FT IN WIDTH BY 8 1/2 FT IN DEPTH

NOTE: Attach written proof from the Department in the form of an Alternate Procedure Approval Order authorizing excavating over 1500 cubic yards if applicable. Authorization must be prior to the excavation of soils.

- B. Type(s) of Product in Soil: GASOLINE

- C. Depth (ft) to Ambient Groundwater at the Time of Excavation(s): ~ 8 1/2 FEET
- D. Did Dewatering (i.e. groundwater depression) Occur at Time of Excavation?: NO
- E. Type of Instrument and Method Used to Determine Excessive Soil Contamination: FLAME IONIZATION DETECTOR (FID) BY HEAD-SPACE METHOD.
- F. Attach a table that compares the OVA-FID readings taken with charcoal filter verses readings without filter. Include vertical depths for each sample. (SEE ATTACHMENTS)
- G. Using the OVA procedure for defining excessively contaminated soil as referenced in Rule 17-770.200(2), FAC, include a scaled site plan with the information listed below:
1. Location of excavation, old tank farm, dispensers, and product lines, present tank farm, and all soil samples. The corresponding OVA-FID readings for each soil sample (with charcoal filter and without) and its depth must be given.
  2. Sampling Procedure is as follows:  
Start sampling in a location where it is suspected that excessively contaminated soil exists. Sample from the first soil boring outward in a grid pattern, at five (5) to ten (10) foot intervals, until the perimeter of the excessively contaminated soil plume is defined. Vertical sampling should be performed starting approximately at the initial area of contamination and continued at three (3) foot intervals, or fraction thereof, until a depth approximately one (1) foot above the water table is reached.
- H. Copies of Laboratory Analyses for Pre Treatment Soil Samples as Required in Chapter 17-775.410(3), Table II, FAC Must be Attached. (SEE ATTACHMENT)
- I. Were Tanks Replaced at this Site?: NO

IV. SOIL TREATMENT AND DISPOSAL

A. Method of Treatment of Excessively Contaminated Soil: THERMAL TREATMENT / INCINERATION

B. For Off Site Treatment and Disposal at Permitted STTF, Land Farms, or Landfills Attach Documentation From the Treatment Facility Which Confirms the Weight or Volume of Soil Treated and Date Received.

For Other Treatment and Disposal Methods (i.e. On-Site Land Farming, Bioremediation), Attach Post Treatment Laboratory Analyses for Each 250-300 Cubic Yards of Treated Soil in Accordance With Chapter 17-775.400 and the "Guidelines for Assessment and Remediation of Petroleum Contaminated Soils", Edition February 1991 or Most Current Revision.

For Mobile Thermal Treatment Units, Attach Laboratory Analysis per Chapter 17-775(5), FAC.

C. Method of Disposal of Contaminated Soil and Indicate Recipient and Address: CONCRETE/ROAD CONSTRUCTION MATERIAL  
PINKER MATERIALS 1200 NW 139th AVE MIAMI, FL

V. ADDITIONAL COMMENTS: \_\_\_\_\_

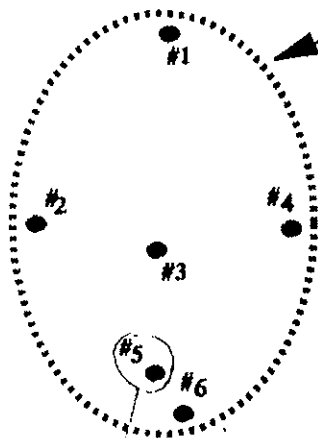
OLIVER ABELEDA  
Person Completing Form

Oliver Abeleda 1/20/93  
Signature, Date

ENVIRONMENTAL CONSULTANT, ENVIRONMENTAL  
Title, Affiliation PROPERTY  
ASSESSMENT,  
INC.

SOUTHWEST 4TH TERRACE

SUBJECT BUILDING



EXCAVATION AREA  
AND  
FORMER TANK LOCATION

N  
O  
R  
T  
H

ENVIRONMENTAL  
PROPERTY  
ASSESSMENT, INC.

ATTACHMENT 1 - SITE MAP  
TITAN MARITIME  
410 SOUTHWEST 4TH TERRACE  
DANIA, FLORIDA

PROJECT 922350  
APPROX. SCALE:  
1" = 6'

ORGANIC VAPOR READINGS

SAMPLE NO.	LOCATION/DEPTH	READING (PPM) W/OUT FILTER	READING (PPM) W/FILTER
1	NORTH WALL/8 FT.	0	0
2	WEST WALL/8FT.	0	0
3	CENTER/9 FT.	0	0
4	EAST WALL/8 FT.	0	0
5	SOUTH WALL/8 FT.	500	0
6	SOUTH WALL/8 FT.	0	0
ENVIRONMENTAL PROPERTY ASSESSMENT, INC.		TITAN MARITIME 410 SW 4TH TERRACE DANIA, FLORIDA	PROJECT NUMBER: 922350 DATE SAMPLED: 12/4/92





Laboratories, Inc. FORT LAUDERDALE • SAVANNAH

RESULTS OF ANALYSIS

CLIENT: EPAI
SAMPLE NUMBER: 010-110492
LOCATION: 922350/1
ADDITIONAL DATA:
SAMPLED BY: OLIVER ABELEDA, EPAI
SUBMITTED BY: OLIVER ABELEDA, EPAI
DATE SAMPLED: 11/04/92
DATE REPORTED: NOV. 20 1992
REVISION: 0

FL DRINKING WATER: #86144
FL ENVIRONMENTAL: #E86006
GEORGIA: #828
SOUTH CAROLINA: #96015
EPA: FL095
DATE RECEIVED: 11/04/92
SAMPLE MATRIX: SOIL

Table with 6 columns: Parameter, Method, Result, Units, Detection Limit, Analysis Date. Rows include EPA 8010, AROM VOL ORGAN, TRPH IN SOLID, TOTAL HALIDES, ARSENIC, T, BARIUM, T, CADMIUM, T, CHROMIUM, T, MERCURY, T, LEAD, T, SELENIUM, T, SILVER, T.

VALUE OF BMDL = BELOW METHOD DETECTION LIMIT

Handwritten signature of Donald S. McCorquodale, Jr.

DONALD S. MCCORQUODALE, JR., PHD
MICROBIOLOGIST



Laboratories, Inc. FORT LAUDERDALE • SAVANNAH

-CERTIFICATIONS-

EPA: #FLO95  
FL DRINKING WATER: #86144  
FL ENVIRONMENTAL: #E86006  
GA # 828  
SC # 96015

CLIENT: E.P.A.I.  
SAMPLE: 010-110492/ 922350-1  
DATA FILE: >K0607::D2  
DATE ANALYZED: 11/06/92 22:48  
DILUTION FACTOR: 5.00000

EPA METHOD 8020 - PURGEABLE AROMATICS

CAS No.	PARAMETER	CONCENTRATION (ug/kg)	*MDL (ug/kg)
71-43-2	BENZENE	27.40	(1.00)
108-90-7	CHLOROBENZENE	0.00	(1.00)
95-50-1	o-DICHLOROBENZENE	0.00	(1.00)
91-73-1	m-DICHLOROBENZENE	0.00	(1.00)
106-46-7	p-DICHLOROBENZENE	0.00	(1.00)
100-41-1	ETHYLBENZENE	590.00	(1.00)
109-06-8	2-PICOLINE	0.00	(25.0)
110-86-1	PYRIDINE	0.00	(50.0)
100-42-5	STYRENE	0.00	(1.00)
108-88-3	TOLUENE	1468.00	(1.00)
108-38-3	THIOPHENOL	0.00	(50.0)
1330-20-7	TOTAL XYLENES	18910.00	(1.00)

ACTUAL DETECTION LIMIT = METHOD DETECTION LIMIT x DILUTION FACTOR  
A value of 0.0 = BMDL (BELOW METHOD DETECTION LIMIT)

\_\_\_\_\_  
KYLE A. JOHNSON - Chemist



Laboratories, Inc. FORT LAUDERDALE • SAVANNAH

-CERTIFICATIONS-

EPA: #FLO95
FL DRINKING WATER: #86144
FL ENVIRONMENTAL: #E86006
GA # 828
SC # 96015

CLIENT: E.P.A.I.
SAMPLE: 010-110492/ 922350-1

DATA FILE: >K0607::D2

DATE ANALYZED: 11/06/92 22:48

DILUTION FACTOR: 5.00000

EPA METHOD 8010 - PURGEABLE HALOCARBONS

Table with 4 columns: CAS No., PARAMETER, CONCENTRATION (ug/kg), and \*MDL (ug/kg). Lists various chemical compounds and their measured concentrations and detection limits.

\*MDL = ACTUAL METHOD DETECTION LIMIT = MDL x DILUTION FACTOR
BMDL = A 0.0ug/l value

Signature of Lyle A. Johnson, Chemist



AGGREGATE DIVISION

1000 1st 137th Ave

33416-4636

**GENERAL TERMS AND CONDITIONS OF SALE**

- Prices quoted are based on Seller's normal operating hours on weekdays. Loading during other hours, or on Saturdays, Sundays and holidays, will be subject to special arrangement. All quotations subject to withdrawal after 30 days if not accepted in writing.
- Purchaser agrees to give Seller reasonable notice of the date and quantity to be loaded. Seller agrees to load as quickly as conditions permit, but shall not be liable for any loss, damage, or delay, occasioned by strikes, labor difficulties, fires, accidents, breakdowns, storm, war, delays of carrier, or by any other cause beyond Seller's control.
- A \$5.00 service charge will be added to the total cost of the aggregate, on all loads of less than 5 tons.
- The Seller does not guarantee Rail or Truck rates.
- The Seller shall not be responsible for any damages incurred after the aggregate has been loaded at the quarry.
- Any exception or claim by the Purchaser shall be deemed waived unless made in writing within seventy-two (72) hours from the time of loading. The Seller shall be given full opportunity to investigate any exception or claim, but in no event shall the Seller's liability exceed the purchase price of the material against which the claim is made. The weights of the shipper will be the absolute billing quantities unless otherwise agreed in writing between Rinkers Materials Corporation and Consignee.
- Any taxes that are, or may be, levied by any political body on the materials quoted herein, or on the purchase or sale thereof, or on incidental transportation charges when the same are paid or are required to be paid or collected by the Seller, shall be added to the prices quoted herein.
- If the Purchaser fails to comply with the terms of payment stated on the face hereof, the Seller reserves the right to cancel any unfilled portion of any contracts or order and the Purchaser shall remain liable for all unpaid accounts.
- If invoice is not paid when due, interest will accrue at the rate of 18% per annum. If after due dates the account is placed in the hands of any attorney or collection agency for collection of all or part of amount of invoice or invoices, the customer shall be liable for all costs of collection including a reasonable attorney's fee (for trial and/or appeal) or collection charge in an amount not less than 15% of the balance due.

I.D. NO. SOLD TO DELIVER TO		Shipper's No. CUSTOMER PURCHASE ORDER NO.		<b>CREDIT TERMS</b>  ALL APPROVED CREDIT SALES ACCOUNTS ARE DUE AND PAYABLE ON OR BEFORE THE 10TH OF THE MONTH FOLLOWING THE MONTH OF PURCHASE.
DATE TIME IN: TIME OUT:		PLEASE REMIT TO: P.O. BOX 24636 WEST PALM BEACH, FLORIDA 33416-4636		
TONS DESCRIPTION		GROSS TARE NET		29 1/2
CARRIER NAME TRUCK & TRAILER NO.		FREIGHT		
PURCHASER ASSUMES RESPONSIBILITY AFTER TRUCK REACHES DELIVERY SITE OR, IF INDEPENDENT TRUCKER, AFTER TRUCK LEAVES PICKUP POINT. PRODUCER'S LIABILITY IS LIMITED TO REPLACEMENT IN KIND AT PLANT WHEN AVAILABLE.		STATE SALES TAX		
RECEIVED BY DATE		TOTAL		

CUSTOMER'S COPY

POOR ORIGINAL



AGGREGATE DIVISION

1200 NW 137TH AVE

33416-4636

GENERAL TERMS AND CONDITIONS OF SALE

- 1 Prices quoted are based on Seller's normal operating hours on weekdays. Loading during other hours, or on Saturdays, Sundays and holidays, will be subject to special arrangement. All quotations subject to withdrawal after 30 days if not accepted in writing
2 Purchaser agrees to give Seller reasonable notice of the date and quantity to be loaded. Seller agrees to load as quickly as conditions permit, but shall not be liable for any loss, damage, or delay, occasioned by strikes, labor difficulties, fires, accidents, breakdowns, storm, war, delays of carrier, or by any other cause beyond Seller's control
3 A \$5.00 service charge will be added to the total cost of the aggregate, on all loads of less than 5 tons
4 The Seller does not guarantee Rail or Truck rates.
5 The Seller shall not be responsible for any damages incurred after the aggregate has been loaded at the quarry.
6 Any exception or claim by the Purchaser shall be deemed waived unless made in writing within seventy-two (72) hours from the time of loading. The Seller shall be given full opportunity to investigate any exception or claim, but in no event shall the Seller's liability exceed the purchase price of the material against which the claim is made. The weights of the shipper will be the absolute billing quantities unless otherwise agreed in writing between Rinkers Materials Corporation and Consignee.
7 Any taxes that are, or may be, levied by any political body on the materials quoted herein, or on the purchase or sale thereof, or on incidental transportation charges when the same are paid or are required to be paid or collected by the Seller, shall be added to the prices quoted herein.
8 If the Purchaser fails to comply with the terms of payment stated on the face hereof, the Seller reserves the right to cancel any unfiled portion of any contracts or order and the Purchaser shall remain liable for all unpaid accounts.
9 If invoice is not paid when due, interest will accrue at the rate of 18% per annum. If after due dates the account is placed in the hands of any attorney or collection agency for collection of all or part of amount of invoice or invoices, the customer shall be liable for all costs of collection including a reasonable attorney's fee (for trial and/or appeal) or collection charge in an amount not less than 15% of the balance due.

Form containing fields for I.D. NO., Shipper's No., CREDIT TERMS, DATE, TIME IN, TIME OUT, GROSS TARE NET, and a table with columns for TONS, DESCRIPTION, UNIT PRICE, and AMOUNT. Includes handwritten notes and a signature.

CUSTOMER'S COPY

1202 8/86

Handwritten notes and signatures at the bottom of the page.



**M8**

**NE COMMUNITY CENTER DUMP**

(No Regulatory Information Available)

**M9**

**SHELL STATION**



Carlos A. Gimenez, Mayor

Permitting, Environment and Regulatory Affairs

Environmental Services

701 NW 1st Court, 4th Floor

Miami, Florida 33136-3912

T 305-372-6700 F 305-372-6982

miamidade.gov

December 15, 2011

Allen G. Register  
Manager, Environmental Services,  
East Region  
Shell Oil Products US  
1073 Willa Springs Drive, Suite #1013  
Winter Springs, Florida 32708

CERTIFIED MAIL NO. 7011 0470 0002 4383 7180  
RETURN RECEIPT REQUESTED

Re: Quarterly Status Report (QSR) dated November 18, 2011 and prepared by Groundwater & Environmental Services, Inc. for the discharge discovered May 24, 1995 for the former Shell Station #128811 facility (UT-0670/File-3900/DEP-13/8504026) located at, near, or in the vicinity of 18560 Biscayne Boulevard, Miami, Miami-Dade County, Florida.

Dear Mr. Register:

The Department of Permitting, Environment and Regulatory Affairs (Department) has reviewed the above-referenced document received November 21, 2011. The report indicates that the contaminant levels are within the Monitoring Only Plan (MOP) criteria as set forth in the Approval Order issued by the Department on February 16, 2011.

Pursuant to the above, continue with the designated monitoring, items and timeframes as stipulated in the MOP Approval Order. However, provisions of Chapter 376, Florida Statutes, may limit requirements of the responsible party for further assessment and/or cleanup at this site dependent upon program eligibility and site priority score. Non-reimbursable voluntary cleanup work may continue to be performed at the site, as long as the work is performed in accordance with Chapter 62-770, Florida Administrative Code (F.A.C.). Reports shall include the analytical results (laboratory report), chain of custody record form [Form 62-770.900(2) or an equivalent chain of custody form that includes all the items required by Form 62-770.900(2)], the tables required pursuant to subparagraph 62-770.600(8)(a)25., F.A.C., updated as applicable, site maps that illustrate the analytical results, and the water-level elevation information (summary table and flow map). Additionally, when natural attenuation monitoring is considered complete pursuant to paragraph 62-770.690(8)(g), F.A.C., the responsible party shall submit two copies of a Site Rehabilitation Completion Report with a No Further Action Proposal. Applicable portions of the Site Rehabilitation Completion Report shall be signed and sealed by an appropriate registered professional pursuant to Rule 62-770.490, F.A.C. The Site Rehabilitation Completion Report shall include the documentation required in paragraph 62-770.690(8)(d), F.A.C., to support the opinion that site cleanup objectives have been achieved.

*With my Sincerely Every Day*

Allen Register  
Shell Station #128811  
(UT-0670 / File-3900)  
FDEP #13/8504026  
December 15, 2011  
Page 2

The Department shall be notified in writing a minimum of three (3) working days prior to the implementation of any sampling or field activities. Email notifications shall be directed to [DERMPCD@miamidade.gov](mailto:DERMPCD@miamidade.gov). Please include the Department file number on all correspondence.

If you have any questions concerning the above, please contact David B. Shapiro, P.G. ([ShapiD@miamidade.gov](mailto:ShapiD@miamidade.gov)) of the Environmental Assessment Section at (305) 372-6700.

Sincerely,

A handwritten signature in black ink, appearing to read "Wilbur Mayorga for". The signature is stylized and cursive.

Wilbur Mayorga, P.E., Chief  
Pollution Control Division

dbs

pc: FDEP file  
Annette Dokken – EQUIVA Services LLC ([Annette.dokken@shell.com](mailto:Annette.dokken@shell.com))  
Jack Wells, P.G. – GES ([jwells@gesonline.com](mailto:jwells@gesonline.com))

**M10**

**CRSTAL SPRINGS WATER COMPANY**



MIAMI-DADE COUNTY, FLORIDA



RECEIVED  
DEPARTMENT OF  
ENVIRONMENTAL PROTECTION



00 DEC 13 PM 1:30

ENVIRONMENTAL RESOURCES MANAGEMENT  
POLLUTION CONTROL DIVISION  
33 S.W. 2nd AVENUE  
SUITE 800  
MIAMI, FLORIDA 33130-1540  
(305) 372-6817

BUREAU OF PETROLEUM  
STORAGE SYSTEMS  
DOCUMENT MANAGEMENT  
CENTER  
November 30, 2000

Mr. Manny Korn  
Crystal Springs Water Company  
5331 Northwest 35<sup>th</sup> Terrace  
Fort Lauderdale, Florida 33309

CERTIFIED MAIL NO. 7000 0600 0027 7981 7462  
RETURN RECEIPT REQUESTED

Re: Monitoring Only Plan (MOP) Quarterly Status Report (QSR) dated October 15, 2000 and prepared by Blasland, Bouck & Lee, Inc. for the Crystal Springs Water Company (UT-2750/File-8785/DEP-138522037) located at, near, or in the vicinity of 7580 Northeast 4<sup>th</sup> Court, Miami, Miami-Dade County, Florida.

Dear Mr. Korn:

The Department of Environmental Resources Management (DERM) has reviewed the above-referenced document received October 26, 2000. The report indicates that the contaminant levels are within the MOP criteria as set forth in the Approval Order issued by DERM on December 16, 1999. However, the No Further Action Plan (NFAP) is not approved pending two consecutive quarterly sampling events below Groundwater Cleanup Target Levels.

Provisions of Chapter 376, Florida Statutes, may limit requirements of the responsible party for further assessment and/or cleanup at this site dependent upon program eligibility and site priority score. Non-reimbursable voluntary cleanup work may continue to be performed at the site, as long as the work is performed in accordance with Chapter 62-770, FAC.

If you have any questions concerning the above, please contact Jeannie Lanio of the Pollution Remediation Section at (305) 372-6700.

Sincerely,

Wilbur Mayorga, P.E., Chief  
Pollution Remediation Section

JL

pc: Grace Rivera - FDEP  
David S. Robertson, P.G.  
BB & L, Inc.  
185 NW Spanish River Blvd., Suite 110  
Boca Raton, Fl. 33431-4230

**M11**  
**MIAMI CITY ROW**  
**FORMER DIXIE TRANSPORT**

*18*  
CORRESPONDENCE IN  
**FDEP COPY**

**RECEIVED**

FEB 03 2010

DERM  
POLLUTION CONTROL  
DIVISION

**NATURAL ATTENUATION MONITORING COMPLETION REPORT  
NO FURTHER ACTION PROPOSAL**

**CITY OF MIAMI RIGHT-OF-WAY  
UT-4631/FILE-6462/DEP-139803397  
5520 NE 4th AVENUE  
MIAMI, FLORIDA 33137  
EBS Project No. 820-0901016.04  
January 29, 2010**

**PREPARED FOR**

**CITY OF MIAMI, FLORIDA  
DEPARTMENT OF ECONOMIC DEVELOPMENT  
444 SW 2nd AVENUE, 3rd FLOOR  
MIAMI, FLORIDA, 33130**

**PREPARED BY**

**EBS ENGINEERING, INC.  
4715 NW 157 ST. STE. 202  
MIAMI, FLORIDA 33014  
Tel. 305-625-5252 • Fax 305-625-7110**

**EBS ENGINEERING, INC.**

ENGINEERING & ENVIRONMENTAL SERVICES

January 29, 2010

Mr. Wilbur Mayorga, P.E.  
Miami-Dade County  
Department of Environmental Resources Management  
Pollution Control Division  
701 NW 1st Court, 8th Floor  
Miami, Florida 33136-3912

RMC QA'ed  
Initials \_\_\_\_\_ Date \_\_\_\_\_

Subject: Natural Attenuation Completion Report/No Further Action Proposal  
**City of Miami Right-of-Way (UT-4631/File-6462/DEP-139803397)**  
5520 NE 4th Avenue  
Miami, Florida 33137  
EBS Engineering Project No. 820-0901016.04

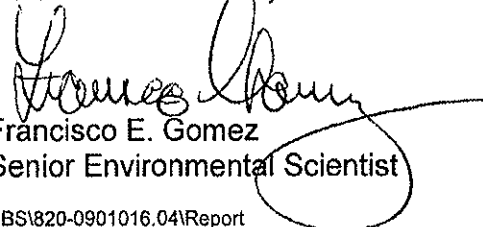
Dear Mr. Mayorga:

EBS Engineering, Inc. (EBS) is pleased to present the results of the latest groundwater sampling and laboratory analysis for the above-referenced project site in accordance with the Amended Natural Attenuation Monitoring Plan (MOP) Approval Order dated September 16, 2005. This report presents an overview of the project including: acquisition and laboratory analysis of one groundwater sample from Monitoring Well #3 (MW-3), and our conclusions and recommendations.

The groundwater sample was collected on November 20, 2009 in accordance with the standard operating procedures for field sampling DEP-SOP-001/01. Laboratory groundwater results for this monitoring event were below cleanup concentrations for the second consecutive quarter, therefore meeting the No Further Action criteria established in Rule 62-770.680 Florida Administrative Code (FAC).

Should you have any questions in reference to this matter, please do not hesitate to contact us at (305) 625-5252.

Sincerely,  
**EBS ENGINEERING, INC.**

  
Francisco E. Gomez  
Senior Environmental Scientist  
EBS\820-0901016.04\Report

  
Benjamin S. Essig, P.E.  
Principal Engineer, 41770

cc.: Harry James, City of Miami, Economic Development

City of Miami Right-of-Way  
5520 NE 4th Avenue, Miami, Florida  
January 29, 2010

**EBS** ENGINEERING, INC.

## TABLE OF CONTENTS

- 1.0 INTRODUCTION
- 2.0 GROUNDWATER SAMPLING PROCEDURE
- 3.0 FINDINGS

## APPENDICES

- Appendix A: Figures
- Appendix B: Laboratory Results and Chain of Custody Records
- Appendix C: Groundwater Sampling Work Sheet

## 1.0 INTRODUCTION

At the request of the City of Miami, Department of Economic Development, EBS Engineering, Inc. (EBS), supervised the fourth quarterly natural attenuation groundwater monitoring sampling for the right-of-way site approximately located at 5520 NE 4th Avenue in Miami, Florida. The groundwater sampling was conducted in accordance with the Amended Natural Attenuation MOP Approval Order dated September 16, 2005, requiring the sampling of MW-3 on a quarterly basis for laboratory analysis of polycyclic aromatic hydrocarbons (PAH) and total recoverable petroleum hydrocarbons (TRPH). A map illustrating the location of the site and a site plan illustrating the location of MW-3 are included as **Figure 1** and **Figure 2, Appendix A**.

## 2.0 GROUNDWATER SAMPLING PROCEDURE

On November 20, 2009, one groundwater sample was collected from monitoring well MW-3 and returned to Xenco Laboratories (Xenco) for analysis. Following measurement of the water column, the monitoring well was purged of a maximum of five well volumes using a peristaltic pump with new tubing. The groundwater sampling was in accordance with the current Florida Department of Environmental Protection (FDEP) Standard Operating Procedure for Field Activities DEP-SOP-001/01 and Florida Administrative Code (FAC) Chapter 62-160 Quality Assurance Rule.

## 3.0 FINDINGS

One groundwater sample was submitted to Xenco for analysis of PAH by EPA Method 8270C and TRPH by Florida method FL-PRO. Laboratory analytical results indicated that naphthalene, 1-methylnaphthalene, 2-methylnaphthalene and FL-PRO contaminant concentrations were reported below their respective FAC Chapter 62-770 Cleanup Target Limit (CTL) for the second consecutive monitoring event. The laboratory analytical report and chain-of-custody record are included in **Appendix B**. Laboratory data are summarized in **Table 1**. Based on the above stated results, the site meets the applicable FAC 62-770.680 No Further Action criteria. Following DERM approval, EBS recommends abandonment of the on-site monitoring wells.

Table 1 - Summary of Laboratory Groundwater Results City of Miami Right of Way, 5520 NE 4th Avenue, Miami, Florida 33137					
Well Number	Date	Naphthalene (ug/L)	1-Methylnaphthalene (ug/L)	2-Methylnaphthalene (ug/L)	FL-PRO (mg/L)
MW-3	2/20/09	8	2	3	1.922
	5/26/09	1.21	0.885	0.669	<b>5.610</b>
	8/28/09	1.38	0.981	1.88	2.00
	11/20/09	0.368	0.453	0.951	0.601
FAC 62-770 CTL		20	20	20	5

ug/L - Micrograms per Liter  
 CTL - Cleanup Target Limit

FAC - Florida Administrative Code  
 mg/L - Milligrams per Liter



**M12**

**A & B CONTAINER REPAIRS INC**



**Environmental Resources Management**  
 Pollution Control Division  
 Pollution Remediation Section  
 33 SW 2nd Avenue • 7th Floor  
 Miami, Florida 33130-1540  
 T 305-372-6700 F 305-372-6729

**miamidade.gov**

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- Housing Finance Authority
- Human Services
- Independent Review Panel
- International Trade Consortium
- Juvenile Services
- Medical Examiner
- Metro-Miami Action Plan
- Metropolitan Planning Organization
- Park and Recreation
- Planning and Zoning
- Police
- Procurement Management
- Property Appraisal
- Public Library System
- Public Works
- Safe Neighborhood Parks
- Seaport
- Solid Waste Management
- Strategic Business Management
- Team Metro
- Transit
- Task Force on Urban Economic Revitalization
- Vizcaya Museum And Gardens
- Water & Sewer

February 22, 2007

**CERTIFIED MAIL NO. 7006 0810 0000 6962 2962**  
**RETURN RECEIPT REQUESTED**

**Mr. Elliot Monter**  
**FLNY 1<sup>st</sup> Ave. Co., LLC**  
**C/O Leopold, Korn & Leopold, P.A.**  
**119 NE 39<sup>th</sup> Street**  
**Miami, Florida 33137**

**CERTIFIED MAIL NO. 7006 0810 0000 6962 2979**  
**RETURN RECEIPT REQUESTED**

**Mr. Hector J. Rodriguez**  
**A & B Container Repairs**  
**P.O. Box 012294**  
**Miami, Florida 33101-2294**

**Re: Quarterly Status Report (QSR) dated December, 2006 and prepared by GFA International, Inc. for the discharge discovered on February 15, 2001 for the former A&B Container repairs facility (UT-6109/File-17838/DEP-139804881) located at, near, or in the vicinity of 1501 NW 1<sup>st</sup> Avenue, Miami, Miami-Dade County, Florida.**

**Dear Messrs. Monter and Rodriguez:**

The Department of Environmental Resources Management (DERM) has reviewed the above-referenced document received January 29, 2007. The report indicates that the contaminant levels are within the Monitoring Only Plan (MOP) criteria as set forth in the Approval Order issued by DERM on October 17, 2006.

Pursuant to the above and to Chapter 62-770, Florida Administrative Code (F.A.C.), continue with the designated monitoring, items and timeframes as stipulated in the MOP Approval Order. Reports shall include the analytical results (laboratory report), chain of custody record form [Form 62-770.900(2) or an equivalent chain of custody form that includes all the items required by Form 62-770.900(2)], the tables required pursuant to subparagraph 62-770.600(8)(a)25., F.A.C., updated as applicable, site maps that illustrate the analytical results, and the water-level elevation information (summary table and flow map).

Messrs. Monter and Rodriguez  
February 22, 2007  
File # 17838 / UT # 6109  
FDEP Facility ID# 139804881  
Page 2 of 2


Additionally, when natural attenuation monitoring is considered complete pursuant to paragraph 62-770.690(8)(g), F.A.C., the responsible party shall submit two copies of a Site Rehabilitation Completion Report with a No Further Action Proposal. Applicable portions of the Site Rehabilitation Completion Report shall be signed and sealed by an appropriate registered professional pursuant to Rule 62-770.490, F.A.C. The Site Rehabilitation Completion Report shall include the documentation required in paragraph 62-770.690(8)(d), F.A.C., to support the opinion that site cleanup objectives have been achieved.

Lorna Bucknor of DERM must be notified in writing a minimum of three (3) working days prior to the implementation of any sampling or field activities.

Be advised that failure to comply with the above may result in enforcement action for this site.

If you have any questions concerning the above, please contact Theodore B Harrison of the Pollution Remediation Section at (305) 372-6700.

Sincerely,



Wilbur Mayorga, P.E., Chief  
Pollution Control Division

tbh

pc:

Grace Rivera – FDEP-BPSS

Karine G. Gloetzner, EI – GFA International, 442 NW 35<sup>th</sup> Street, Boca Raton, FL 33431



Carlos A. Gimenez, Mayor

Permitting, Environment and Regulatory Affairs  
Environmental Services  
701 NW 1st Court, 4th Floor  
Miami, Florida 33136-3912  
T 305-372-6700 F 305-372-6982

miamidade.gov

May 17, 2012

Mr. Elliot Monter  
FLNY 1<sup>st</sup> Ave. Co., LLC  
C/O Leopold, Korn & Leopold, P.A.  
119 NE 39<sup>th</sup> Street  
Miami, Florida 33137

CERTIFIED MAIL NO. 7011 0470 0002 4384 2535  
RETURN RECEIPT REQUESTED

Mr. Hector J. Rodriguez  
A & B Container Repairs  
P.O. Box 012294  
Miami, Florida 33101-2294

CERTIFIED MAIL NO. 7011 0470 0002 4384 2542  
RETURN RECEIPT REQUESTED

Re: Site Assessment Report Addendum dated April 5, 2012 for the discharge discovered on February 15, 2001 for the former A&B Container repairs facility (UT-6109/File-17838/DEP-139804881) located at, near, or in the vicinity of 1501 NW 1<sup>st</sup> Avenue, Miami, Miami-Dade County, Florida.

Dear Messrs. Monter and Rodriguez:

The Environmental Assessment Section (EAS) of the Department of Permitting, Environment and Regulatory Affairs (PERA) has reviewed the above document received on April 12, 2012.

The EAS concurs with your request for a meeting with you and your consultant to discuss assessment/remediation strategies to address the groundwater contamination at the site.

Therefore, within fifteen (15) days of receipt of this letter, please contact Ms. Socorro Sanchez at (305) 372-6700 to schedule the requested meeting.

Failure to adhere to the items and timeframes stipulated above may result in enforcement action for this site.

If you have any questions concerning the above, please contact Serge V. Beregovoy (berregs@miamidade.gov) of the Environmental Assessment Section at (305) 372-6700.

Sincerely,

Wilbur Mayorga, P.E., Chief  
Pollution Control Division

SVB

pc: FDEP - copy  
Alfred J. Malefatto - 777 South Flagler Drive, Ste. 300 East, West Palm Beach, FL 33401  
Amity R. Barnard, M.S. -- GFA International, 442 NW 35<sup>th</sup> Street, Boca Raton, FL 33431

**M13**

**ARENA VENTURES**



Carlos A. Gimenez, Mayor

Permitting, Environment and Regulatory Affairs

Environmental Services  
701 NW 1st Court, 4th Floor  
Miami, Florida 33136-3912  
T 305-372-6700 F 305-372-6982

miamidade.gov

December 5, 2011

CERTIFIED MAIL #7007 2680 0000 0622 2884  
RETURN RECEIPT REQUESTED

Mr. Glenn F. Straub, Manager  
Arena Ventures, LLC  
11198 Polo Club Road  
Wellington, FL 33414

Re: Tank Closure Assessment Report (TCAR) dated November 1, 2011 and prepared by GFA International for the Arena Ventures (Former Miami Arena) facility (UT-2101/File-8322/DEP-139047223) located at, near, or in the vicinity of 701 Arena Blvd., Miami, Miami-Dade County, Florida.

Dear Mr. Straub:

The Environmental Evaluation Section (EES) of the Department of Permitting, Environment and Regulatory Affairs (PERA) has reviewed the above referenced document received November 4, 2011 pertaining to the removal of one (1) 1,000 gallon diesel underground storage tank (UST) system and has determined that this closure does not meet the requirements of Rule 62-761.800, Florida Administrative Code (FAC). The following is required:

1. The submitted report states "this TCAR describes assessment activities associated with the previous removal of one (1) 1,000-gallon-capacity Underground Storage Tank (UST) previously located at the subject property" and that soil and groundwater assessment were conducted in the location of the former UST. Please note that PERA does not have records of being notified of the closure of a UST system at the above referenced site and did not observe said closure. Therefore, the following is required:
  - a. Indicate the date in which said UST system was removed, and provide the rationale used to determine that the locations of the soil and groundwater samples collected are representative of the UST system area. Additionally, please provide appropriate documentation (i.e., pictures, etc.) that supports that said UST system was removed.
  - b. Provide a description of the condition of the soils (i.e., staining, odors, etc.) removed from the UST system's excavation, the walls of said excavation, and clarify the fate of said soils (i.e., reused or disposed off-site). Please note, if soils were disposed off-site, then the corresponding disposal manifest(s) and pre-burn analytical results or waste characterization results shall be provided. Be advised that based on the information provided, further assessment may be required.
  - c. Provide the depth of the UST system's excavation and clarify if the groundwater table was encountered (including a description of the conditions of the groundwater, if applicable). Be advised that based on the information provided, further assessment may be required.
  - d. PERA records indicate that piping associated with the UST was connected to a former emergency generator. However, Figure 2 does not depict the UST, any of its associated components and the current or historical pertinent site features. Therefore,

*Delivering Excellence Every Day*



provide a scaled site map that clearly depicts the UST, the UST's associated components (piping, fill port, sump, monitoring well(s), etc.), the extent of the excavation(s), all soil and groundwater sampling locations, former historical site features (buildings, open and covered ground areas, etc.), property boundaries and all other pertinent site features. Be advised based on the information provided, further assessment may be required in accordance with the Florida Department of Environmental Protection's (FDEP's) *Storage Tank System Closure Assessment Requirements* guidance document (revised April 1998 and available for download at: [www.dep.state.fl.us/waste/quick\\_topics/.../pss/tanks/.../6closure.pdf](http://www.dep.state.fl.us/waste/quick_topics/.../pss/tanks/.../6closure.pdf)).

Be advised, if the information and/or the documentation required above cannot be provided or does not provide supporting evidence that said UST system was removed, then additional investigation (i.e., Ground Penetrating Radar Survey, exploratory excavating, etc.) may be required.

2. A review of the analytical results indicates that concentrations of Benzo(a)Pyrene (i.e., 0.236 mg/kg) and Benzo(a)Pyrene Equivalents (i.e., 0.389 mg/kg) for soil sample SB-1(8') exceed the Chapter 62-777, FAC, Cleanup Target Levels (CTLs). Therefore, notwithstanding the information provided for comments 1a, 1b and 1c above, to confirm the presence of the contaminants noted above, two soil borings shall be advanced within one foot of SB-1. Soil samples shall be collected from each boring from the same interval as SB-1 and the samples shall be analyzed for PAHs. Be advised that based on the results further assessment may be required.
3. The submitted report indicates that on October 6, 2011 a temporary monitoring well (TMW-1) was installed within the approximate center of the backfilled UST excavation. However, the corresponding Well Construction Diagram and Groundwater Sampling Log were not provided in this report. Therefore, said documentation shall be provided in the next deliverable.
4. Indicate the method used to clean out the UST system and provide the corresponding waste disposal manifest(s) and disposal receipt for the tank carcass and associated components. Please note that the disposal manifest(s) shall indicate the following:
  - a. The site name and address where the waste was generated.
  - b. The name of the transportation company that hauled the generated waste from the site.
  - c. The name and address of the facility where the waste was ultimately disposed.
  - d. A description of the disposed waste (to include the volume of the disposed waste).
  - e. All applicable signatures and dates.

PERA shall be notified in writing a minimum of three (3) working days prior to the implementation of any sampling or field activities. Email notifications shall be directed to [DERMPCD@miamidade.gov](mailto:DERMPCD@miamidade.gov). Please include the PERA file number on all correspondence.

Pursuant to the above, and the provisions of Rule 62-761.800, FAC and Sections 24-7(26) and 24-25 of the Miami-Dade County Environmental Protection Ordinance, you are hereby required to submit to this office for review:

Mr. Straub / Arena Ventures, LLC  
UT-2101/F-8322  
FDEP #139047223  
December 5, 2011  
Page 3 of 3

Within thirty (30) days of receipt of this letter, two (2) copies of an addendum to this report that addresses the comments the above. Please note that for all future submittals to PERA, one of the two required copies shall be provided in a compact disk (CD) as a single pdf file.

Failure to adhere to the items and timeframes stipulated above may result in enforcement actions for this site.

If you have any questions concerning the above, please contact Stanley Edouard ([edouas@miamidade.gov](mailto:edouas@miamidade.gov)) of the EES at (305) 372-6700.

Sincerely,



Wilbur Mayorga, P.E., Chief  
Pollution Control Division

se

pc: FDEP file copy 139047223

ec: Mr. Steven Snyder, Senior Project Manager – GFA International, [ssnyder@teamgfa.com](mailto:ssnyder@teamgfa.com)  
Ms. Yanett Rodriguez, PERA, [rodriy@miamidade.gov](mailto:rodriy@miamidade.gov)  
Ms. Sharon Crabtree, PERA, [crabts@miamidade.gov](mailto:crabts@miamidade.gov)

**M14**

**CITY OF MIAMI**

**CHILLED WATER LINE FACILITY**

# Memorandum



**Date:** October 18, 2011

**To:** Julie Balogh, Manager  
Airport and Contracts Section, DPERA

**From:** Wilbur Mayorga, P.E., Chief  
Pollution Control Division, DPERA

A handwritten signature in black ink, appearing to read "W. Mayorga", written over the printed name of the sender.

**Subject:** Interim Source Removal Report (SRR) dated September 29, 2011  
Children's Courthouse/City of Miami Chilled Water Line Facility  
UT-2165/File-8366/DEP-138841986  
112 North Street  
Miami, FL

---

The Environmental Assessment Section (EAS) has completed its review of the above referenced document dated September 29, 2011 (received September 30, 2011). We have found that the report does not entirely comply with the applicable portions of Rule 62-770.300, Florida Administrative Code (F.A.C.). We have the following comments for the responsible party:

1. The submitted map does not show the location of the areas where the recent soil excavations occurred. A scaled site map shall be submitted that shows the locations and dimensions of the excavations, and the source of contamination (i.e., former concrete tank farms). This map shall also include all pertinent features such as right-of-ways, utilities, sewers and subsurface stormwater drainage structures in the immediate vicinity of the contamination.
2. The DPERA inspection conducted on June 9, 2011 documented free product (FP) in the excavation. Therefore, the consultant shall provide proper documentation of recovery and disposal of the FP. Furthermore, the current report states that groundwater pumping and treatment was conducted. The consultant shall provide full details of this operation which shall include at a minimum the volume, type of treatment, sample results following treatment demonstrating achievement of groundwater cleanup levels prior to discharge, and disposal method and location of the treated water. The consultant shall be advised that prior Department approval is required for any groundwater remediation or treatment.

An addendum to the SRR is required. However, provisions of Chapter 376, Florida Statutes, may limit requirements of the responsible party for further assessment and/or cleanup at this site dependent upon program eligibility and site priority score. Non-reimbursable voluntary cleanup work may continue to be performed at the site, as long as the work is performed in accordance with Chapter 62-770, FAC.

If you have any questions concerning the above, please contact Vishal Katoch, P.G. (katocv@miamidade.gov) of the EAS at (305) 372-6614.

VK

Pc: FDEP file Copy