# CONTAMINATION ASSESSMENT PLAN ADDENDUM HOWCO ENVIRONMENTAL SERVICES, INC. OGC CASE NO. 91-1176

FEBRUARY, 1993

FLORIDA GROUNDWATER SERVICES, INC.

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February 1, 1993

Ms. Janet DeBiasio
Environmental Specialist I
Florida Department of Environmental Regulation
Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619



RE: Contamination Assessment Plan (CAP) Addendum
Quality Assurance Project Plan (QAPP) Addendum
Howco Environmental Services, Inc., Pinellas County
OGC Case No. 91-1176 / FGS Project No. G92-308.04

Dear Ms. DeBiasio:

The following information is provided as requested in your letter to Mr. Tim Hagen (HOWCO) dated December 4, 1992. Our responses correspond numerically to your comments.

Comment 1:

There are many references in the CAP to Chapter 17-770, Florida Administrative Code (FAC), "Petroleum Contamination Site Cleanup" criteria. Since the CAP and Quality Assurance Project Plan (QAPP) were to be prepared in accordance with the requirements set forth in Exhibit III of Consent Order OGC Case #91-176, the CAP and QAPP need to make references consistent with Exhibit III, Corrective Actions for Groundwater Contamination Cases.

Response 1:

Paragraph 21 of the initial CAP Consent Order permits HOWCO's implementation of Corrective Action Provisions under Chapter 17-770, FAC if and when applicable. Therefore, as appropriate to the specific circumstance, all future correspondence shall reference Exhibit III of the Consent Order as well as Chapter 17-770, FAC. However, since this site stores, handles and processes fuels, waste oil and other petroleum products and is regulated under Chapter 17-762 and 17-770, FAC, this assessment and subsequent remedial actions should be addressed pursuant to FDER's petroleum cleanup criteria (Chapter 17-770, FAC) unless the current sampling protocol indicates otherwise. The first round of testing will be to confirm the appropriateness of proceeding under Chapter, 17-770, FAC.

OK per L.T. 2.1.93

Comment 2:

**There are references in the CAP and PCAR to analytical procedures and cleanup criteria for the Kerosene and Mixed Product analytical groups in Chapter 17-770, FAC. No information has been provided to demonstrate that the contaminants of concern for this site are diesel, Jet-A, JP-5, kerosene, equivalent petroleum product, Jet-B, JP-4, or gasoline analytical product.**

Response 2:

Table 1-1 of the PCAR summarizes the waste streams accepted by HOWCO. Since residual petroleum products accepted include waste fuels and oils from storage tanks at gasoline stations, airport fueling facilities, ship bilges, etc..., it is theoretically possible that any of the petroleum products mentioned in Comment 2 could be a contaminant of concern. Furthermore, HOWCO does not accept any petroleum products, including "used oil", that would be considered a hazardous waste because of mixing of the oil with hazardous waste as defined in 40 CFR Section 261, Subpart D. Therefore, the contaminants of concern are probably best characterized as being from the "Mixed Product" analytical group rather than the "Kerosene Analytical" group as both are defined in Chapter 17-770.200(7), FAC (Figure 1 shows locations of existing tank farms).

Need parameters to address aluminum & plating waste handling; ie. Ni, pH; also pesticides due to citrus materials handled; and PCB's. 8080/608 ? 8140/8150 614/615

Comment 3:

**A detailed description of past and present site operations needs to be provided. In particular, there was no discussion of activities at the former and present wash rack area and Areas 2,3,4,5,6,7,8 and the southern half of Area 9. An asphalt production operation in the vicinity of the current wash rack area was mentioned but not investigated. The location of all pipelines for wastewater management, etc. should be identified on a site map.**

Response 3:

Section 2.1 of the PCAR summarizes the results of an "operational/environmental" audit of the facility conducted by ERM personnel during August through December, 1991. The audit included a historical records review, interviews with current and previous owners, employees and other personnel knowledgeable about historical operational practices, historical photography review, etc. The results of the audit gave a general description of past and present site operations having as much detail as the available information could provide. More specific details regarding particular areas of concern would have to be researched on a case by case basis.

The old and new wash rack areas have always been used for cleaning road dirt and dust from trucks, rinse trailers and other company vehicles, the wash rack is concrete lined, bermed and has a collection sump for wastewater (Figure 2). All wastewater generated from the wash rack is recovered and treated at the on-site WWTP.

Areas 2,3,4,5,6,7,8 and the southern half of Area 9 are essentially traffic routes for vehicles entering the site, unloading and exiting (Note gates accessing each of these areas as shown on PCAR Figure 1-3).

An asphalt paving contractor formerly used the area east of the existing wash rack area for vehicle parking (Area 1 in the PCAP). This contractor utilized an aboveground 2,000-gallon fuel tank. However, no manufacturing of asphalt was conducted on-site. Six soil borings and eight test pits were conducted in this area for the PCAR on August 15, 1991. Results of the investigation are summarized in Section 3.1 of the PCAR.

Figure 2 shows all drain locations for the collection of wastewater and piping routes to the WWTP.

Comment 4:

**More details on the existing stormwater management system should be provided. Is the stormwater collected before treatment in the wastewater treatment plant? The dimensions of the drainage swale should be provided. Has the drainage swale ever overflowed?**

Response 4:

Figure 2 also shows how stormwater is collected across the site. As shown, all stormwater is directed by gravity drainage to two centrally located catch basins. Also, an approximate five foot (5') wide concrete swale has been constructed to move stormwater more effectively from the eastern portion of the site. Stormwater collected in the loading slabs, containment areas, etc. was pumped to the WWTP and treated prior to discharge to the City of St. Petersburg sanitary sewer. Stormwater collected from non-contained areas is also pumped to the WWTP. However, during excessive rainfall events some stormwater is allowed to discharge to the storm sewer system at the outfall. The drainage swale and catch basins have both overflowed during heavy rainfall events.

Comment 5:

**In Exhibit II of the Consent Order, the Summary of Violations includes the unpermitted discharge of petroleum contaminated stormwater to the groundwater and to the storm sewer system. These areas should be discussed, identified on a site map and investigated in the CAP.**

Response 5:

Figure 3 shows the locations of suspect areas identified in Exhibit II of the Consent Order. As shown, groundwater samples will be collected from these areas and analyzed for the parameters specified in Section 2.2.2 of the CAP.

Comment 6:

**Table-1 of the PCAR lists the main waste streams accepted by HOWCO for processing. These waste streams include sludge and liquid from oil/water separators, stormwater from terminals, groundwater from recovery wells, water from an aluminum refinisher and citrus sludge. The sources and waste characterization of these waste streams should be provided and discussed. A detailed description of where and how each of these waste streams is processed should also be provided. Other waste streams that are accepted should also be listed and discussed.**

Response 6:

Response #2 addresses your concerns regarding the sources of the main waste streams accepted by HOWCO. All accepted wastes can be best described as non-hazardous petroleum liquids and sludges. HOWCO will not accept any petroleum waste material without accompanying laboratory certification documenting that the material is non-hazardous petroleum.

Petroleum liquids are received at the Oil Processing Plant (see Figure 2). Specially designed cooker tanks remove excessive water from the fluids leaving behind a suitable "oil" that can be recycled for fuel or lubricating purposes. Sludges from oil/water separators are dewatered using a sludge press. Remaining solids are dried, blended and subsequently tested and incinerated at an off-site DER licensed thermal treatment facility. All wastewater generated during these recycling processes is treated (i.e. air stripping, charcoal, etc.), tested and discharged to the City of St. Petersburg Sanitary Sewer pursuant to permit #SPFL-5093-86-32.

Comment 7:

**The CAP needs to include the necessary investigations to identify, characterize and delineate the extent of all potential contaminant sources at the site. Analytical parameters may need to be expanded in response to comments 3 and 6 above.**

Response 7:

In order to further assess and characterize contaminated soil beneath the site, 12 additional soil borings will be installed at the locations shown on Figure 3. All borings will be conducted using the hollow-stem auger drilling technique. Information compiled form these borings will be evaluated and subsequently correlated with information obtained during the PCAR to more definitively characterize and delineate the extent of soil contamination. All tasks related to the hollow stem auger borings will be conducted in accordance with the following:

1) Each boring will be sampled at depth intervals of five feet (5') to the water table depth using a standard split spoon sampler (ASTM-D-1586) with stainless steel sleeves. Samples will be preserved and shipped to the laboratory for analysis.

2) Soil samples will be screened for organic vapors using the headspace methodology described in Chapter 17-770, FAC.

3) Soil samples collected at 5' depth intervals from all soil borings will be analyzed for Total Recoverable Petroleum Hydrocarbons (TRPH) via EPA Method 9073. Additional soil samples will be preserved for further analysis pending the TRPH test results.

4) At least one soil sample from each of the six areas previously identified in the PCAP as having excessively contaminated soil (Areas 1 through 6) will be laboratory analyzed for Volatile Organics and Semi-Volatile Organics by EPA Methods 8010, 8020 and for the 8 RCRA metals. The location and depth interval selected for these comprehensive discrete sample analyses will be determined on the basis of the TRPH and OVA test results. Specifically, the sample indicating the highest OVA and TRPH concentration will be selected for the analyses for petroleum related compounds.

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5) A background soil sample will be collected at a depth of five feet (5') BGS at the location shown on Figure 3 and analyzed for TRPH, and 8 RCRA metals.

6) After completion, borings will be filled with cement grout from total depth to the ground surface consistent with FDER 17-532, FAC procedures.

Comment 8:

**A well survey locating all private water supply wells within a 1/4 mile radius of public water supply wells within a 1/2 mile radius should be performed. The use and construction details of wells identified during the well survey should be reported, and a map illustrating the location of the wells in relation to the subject site should be provided.**

Response 8:

The well survey will be conducted and results submitted in tabular and graphic format.

Comment 9:

**The presence of all surface waters within a 1/2 mile radius of the subject site should be identified and located on a site map.**

Response 9:

No surface water bodies exist within 1/2 mile radius of the site.

Comment 10:

**The CAP proposal to use HOWCO's in-house laboratory to analyze groundwater samples form temporary monitor wells for solvent and petroleum related parameters is not acceptable. HOWCO does not have a Department approved Comprehensive Quality Assurance Plan. In accordance with Exhibit III of the Consent Order and Chapter 17-160, FAC, a QAPP is required for sampling and analysis activities. The QAPP that was submitted does not include HOWCO for analytical activities. Depending on the specific analytical methods, that need to be identified, additional parameters and test methods may also need to be included.**

Response 10:

HOWCO agrees to conduct all analytical testing at an outside laboratory in accordance with the QAPP provisions.

Comment 11:

**Soil contamination at the site has not been completely delineated vertically and horizontally. A site map that shows the extent of soil contamination based on existing analytical data or OVA screening and proposed sampling locations should be provided.**

Response 11:

The results of the supplementary soil investigations described in Response 7 will be correlated with previous OVA and laboratory analytical results from the PCAR. A site map will be prepared for the CAR which summarizes all soils investigations and shows the horizontal extent of soil contamination. Representative cross-sections will also be included in the CAR to show the vertical extent of soil contamination.

Comment 12:

**Please provide the justification for the location of the test pits and soil borings.**

Response 12:

As shown on Figure 2-1 of the PCAR, test pits and soil borings were conducted within or adjacent to all potential sources of soil contamination. Areas that were not accessible to excavating or drilling equipment were hand augered to obtain soil samples. No drilling was conducted within containment ares (i.e. wash rack, sludge storage area, etc.) since this activity could damage the integrity of the concrete slabs thus providing an avenue for subsequent contaminant migration.

Comment 13:

**Table 3-3 in the PCAR is incomplete. Data was not provided for test pits TP-8 and TP-17 through TP-27 and for soil borings SB-12 and SB-13. According to the heading for Table 3-3, the OVA data in the table is from October 1991. Please note that the OVA work for TP-1 through TP-11 was conducted in August 1991.**

Response 13:

Table 3-3 in the PCAR incorrectly identifies the test pits and soil borings. For example, TP-1 should be typed TP-12, TP-2 should be typed TP-13 and so on... TP-1 through TP-11 were conducted in August, 1991 and summary data area not included on Table 3-3 which includes only the October data set. TP-8 (TP-19 on PCAR Figure 2-1) was abandoned and therefore no OVA data is available for that location. Soil borings SB-12 and SB-13 were never conducted (see Response 16). The heading for Table 3-3 is correct.

Comment 14:

**The vertical extent of excessively contaminated soils, as that phrase is used in the PCAR, was not completed for the following test pit or soil boring locations: TP-4, TP-8, TP-13, TP-16, TP S-7, TP S-10, SB-5 and SB-6. According to the test pit location map in Exhibit A and Figure 2-1 of the PCAR, test pits TP S-1 through TP-11 are the same as TP-1 through TP-11. However, there are inconsistencies with the sampling depths and OVA readings in the PCAR as described in Appendix A, shown on the cross-sections in Appendix A and listed in Table 3-3.**

Response 14:

The vertical extent of excessively contaminated soils in some test pit and soil boring locations were not determined. The purpose of the PCAR was primarily to establish the presence of such contamination and preliminarily estimate quantities for long range remedial planning. Data from the additional soil borings to be conducted for the CAR will provide more precise estimates of the volume of excess soil contamination. TP S-1 through TP S-11 are identical to TP-1 through TP-11. Inconsistencies with the sampling depths and OVA readings summarized in the PCAR are due to the misidentification of test pits in areas 3 through 9 summarized on Table 3-3 (see Response 13). The cross-sections in Appendix A summarizes OVA data from TP-1 through TP-11 are shown on PCAR Figure 2-1. Table 3-3 summarizes OVA data for TP-12 through TP-27 (see Response 13).

Comment 15:

**Section 3.0 and Figure 3-1 in the PCAR identify excessively contaminated soils, as that phrase is used in the PCAR, in Areas 1 through 6. According to data in Table 3-3 and Appendix A of the PCAR, excessively contaminated soils were also identified in Areas 8 and 9. No data was provided for Areas 3 and 5. The CAR should contain a section dealing with the potential for excessively contaminated soils to exist beneath concrete pads and paved or covered areas.**

Response 15:

The CAR will include maps showing the extent of excessively contaminated soil in all suspect areas. The potential for soil contamination beneath concrete containment pads will be determined by interpolating data between boring locations (i.e. interpretive cross-sections, isopach maps, etc..).

Comment 16:

**Data for soil borings SB-1 and SB-2 are listed in Table 3-3 in the PCAR. Please identify these soil borings on a site map. Please identify the location(s) of the soil samples collected form Area 1 and Area 2 on August 26, 1991 and November 16, 1991.**

Response 16:

On Figure 2-1, soil borings SB-1 and SB-2 are incorrectly labeled as SB-12 and SB-13, respectively. The composite soil sample collected from Areas 1 and 2 on August 26, 1991 were taken from two "random" test pits within the contaminated soil, one from each area. Duplicate samples were collected for additional lead tests in the same random manner on November 16, 1991.

Comment 17:

**All soil samples which were collected for laboratory analysis were composite. This may be acceptable for acceptance from a disposal facility, but is not appropriate for contaminant and source characterization.**

Response 17:

All soil sampling and laboratory analytic procedures for the CAR will involve discrete soil sampling procedures as described in Response 7.

Comment 18:

**Based on contaminant levels of lead in some of the composite samples collected in December 1991 (up to 549 mg/kg), sample(s) should be proposed for TCLP analysis.**

Response 18:

Total lead analyses will be conducted on-site to determine lead levels in on-site soils. If it is determined that disposal of any contaminated soil is required, appropriated testing will be conducted (TCLP may not be necessary).

Comment 19:

**The detection limit for the PCB analysis of the composite soil sample from Areas 1 and 2 was 80 mg/kg, which exceeds the regulatory level of 50 mg/kg.**

Response 19:

At least one discrete soil sample will be tested in accordance with EPA Method 8080 (Pesticides and PCB's). Test results will be reported at the method detection limits (MDL) or regulatory level (50 mg/kg), whichever is lower.

Comment 20:

**Based on the data provided in the CAP and PCAR, additional soil investigations should be conducted, at a minimum, on the south side of the drainage swale, east of SB-6 and SB-5, and in the vicinity of TP-13 and TP-16.**

Response 20:

Boring B-6 will test the area south of the drainage swale. Boring B-12 will test the are east of both ERM borings SB-6 and SB-5, boring B-2 will test previous test pit location TB_13 and finally B-5 will test previous test pit location TP-16 (see Figure 3).

Comment 21:

**Please provide the justification for the location of the proposed monitor wells. The location for the deep well was not identified on the site map. The intended purpose of this deep well is not clear. One deep well may not be adequate to delineate the extent of groundwater contamination.**

Response 21:

Figure 3 shows the locations of water table groundwater monitoring wells to be installed to preliminarily determine the potential for groundwater contamination. The locations and number of wells recommended should be adequate to intercept any groundwater contaminant plume migrating away from the source areas identified in the PCAR. Also, the proposed well locations will test the groundwater in all of the areas where excess soil contamination has been documented (Areas 1, 2, 3, 4, 5 and 6). Furthermore, the preliminary monitoring well locations will be in a position suitable to detect any off-site movement of potential plumes.

The construction and placement of a deep well(s) will be contingent upon the findings of the groundwater test results from the initial five wells and data obtained from the additional 12 soil borings.

Comment 22:

The CAP proposes the installation of one deep monitoring well after the installation of one deep boring to 35 to 40 feet. It is not clear from the text exactly how this well will be located and how the final screened interval will be decided upon. For instance, the deep well might be located downgradient of the area of highest contamination. This however presents a problem because only one well is planned for the deeper zones, thus there is no sure way to determine the downgradient direction in this deeper zone. The CAP also states the deeper well will be screened from approximately 30 to 35 feet. The test of the CAP should probably indicate that the final well screened interval will be determined based on the first permeable zone encountered below the shallow monitoring interval.

Response 22:

The deep well(s) will be installed after evaluating the preliminary soil and groundwater test results (see Response 21). The screened interval of the deep well(s) will be determined on the basis of results obtained from a deep boring indicating depths, interval thicknesses and hydrologic properties of water bearing units and confining layers. The screened interval will be within the first permeable zone encountered below the shallow monitoring interval.

Comment 23:

The written description of the construction of the deep well is not consistent with the well figure provided. The text suggests the outer 4" casing will extend to 30 feet and the five foot screen on attached to the inner 2" casing will span the 30 to 35 foot interval. This configuration would result in the one foot of sand pack and one foot of bentonite extending up into the outer casing. This is probably not a good design due to the fact that the cement at the base of the outer casing may become damaged during the subsequent drilling of the hole for the inner casing. For this reason the well design should insure that this interval is regrouted during well completion, not filled with sand and bentonite. Well construction should conform to the well diagram provided (see Figure 4).

Response 23:

The deep well(s) will be constructed so that no sand or bentonite extend up into the outer casing. The well construction will conform to the details provided in CAP Figure 4.

Comment 24:

The CAP proposes to install monitor wells to a depth of 10 feet which may not be sufficient. Some of the test pits were excavated to a depth of 7 feet without encountering the water table. The actual depth of the monitor wells may need to be determined in the field.

Response 24:

The actual depth of the monitor wells will be determined in the field. All monitoring wells will be installed by a Water Well Contractor licensed to perform work in the State of Florida. Each well will be constructed with at least one foot of screen above the seasonal high water table. The minimum length of screen at all well locations will be 7.5 feet as shown on CAP Figure 3A.

Comment 25:

**In Exhibit I of the Consent Order, the Process Description states that there are 4 monitor wells on-site. Please provide all available information of these wells including lithology logs, construction details, elevation in NGVD, water level information, water quality information, the location of each well on a site map, the present condition of each well, when the wells were installed and the purpose of the wells.**

Response 25:

Well construction details of any existing site wells will be provided in the CAR.

Comment 26:

**The Industrial Wastewater Discharge permit requires HOWCO to monitor for phenols, however your groundwater monitoring plan does not include this parameter. Explain the rationale for omitting this constituent.**

Response 26:

The groundwater monitoring plan (CAP Section 2.2.2) is amended to include additional laboratory analysis of groundwater samples for phenols in accordance with EPA Method 604.

Comment 27:

**Applicable portions of the CAP shall be signed and sealed pursuant to Rule 17-103.110(4), FAC. The CAP is considered to be an interpretive geological document and as such should be signed and sealed by a Professional Geologist (PG).**

Response 27:

Both the CAP and CAP Addendum have been signed and sealed by a P.G. CAP Cover letters with new signatures are attached.

I trust that these responses have adequately addressed your comments as they relate to the CAP. If you have any questions regarding the enclosed material, please feel free to give me a call at (813) 254 - 8202.

Sincerely,

**FLORIDA GROUNDWATER SERVICES, INC.**

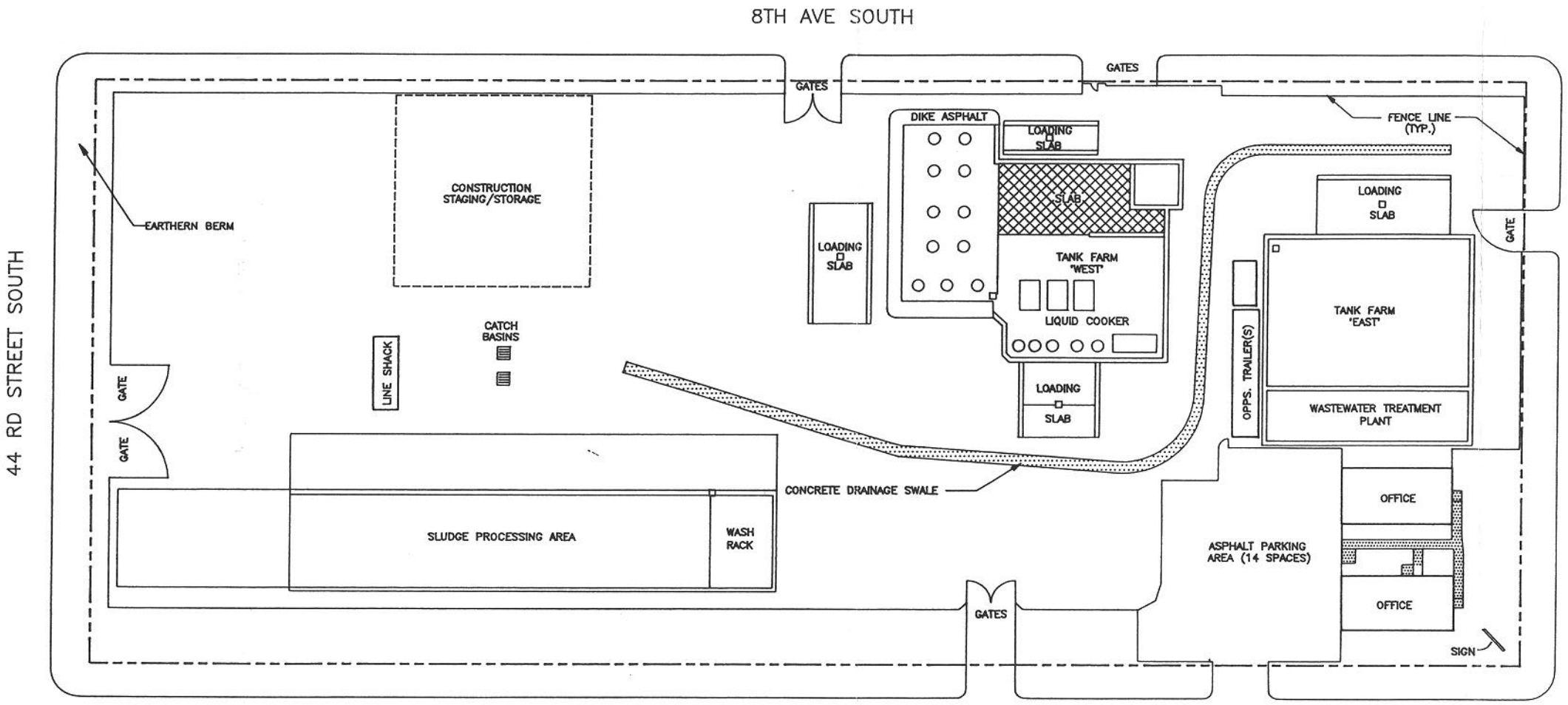
Lawrence A. Gordon, P.G
Project Manager

Richard L. Hagberg
Project Director

cc: Laurel Lockett - Carlton, Fields et al
Tim Hagen - HOWCO

LAG\sm\92-308.04

Scale: 1" = 60'

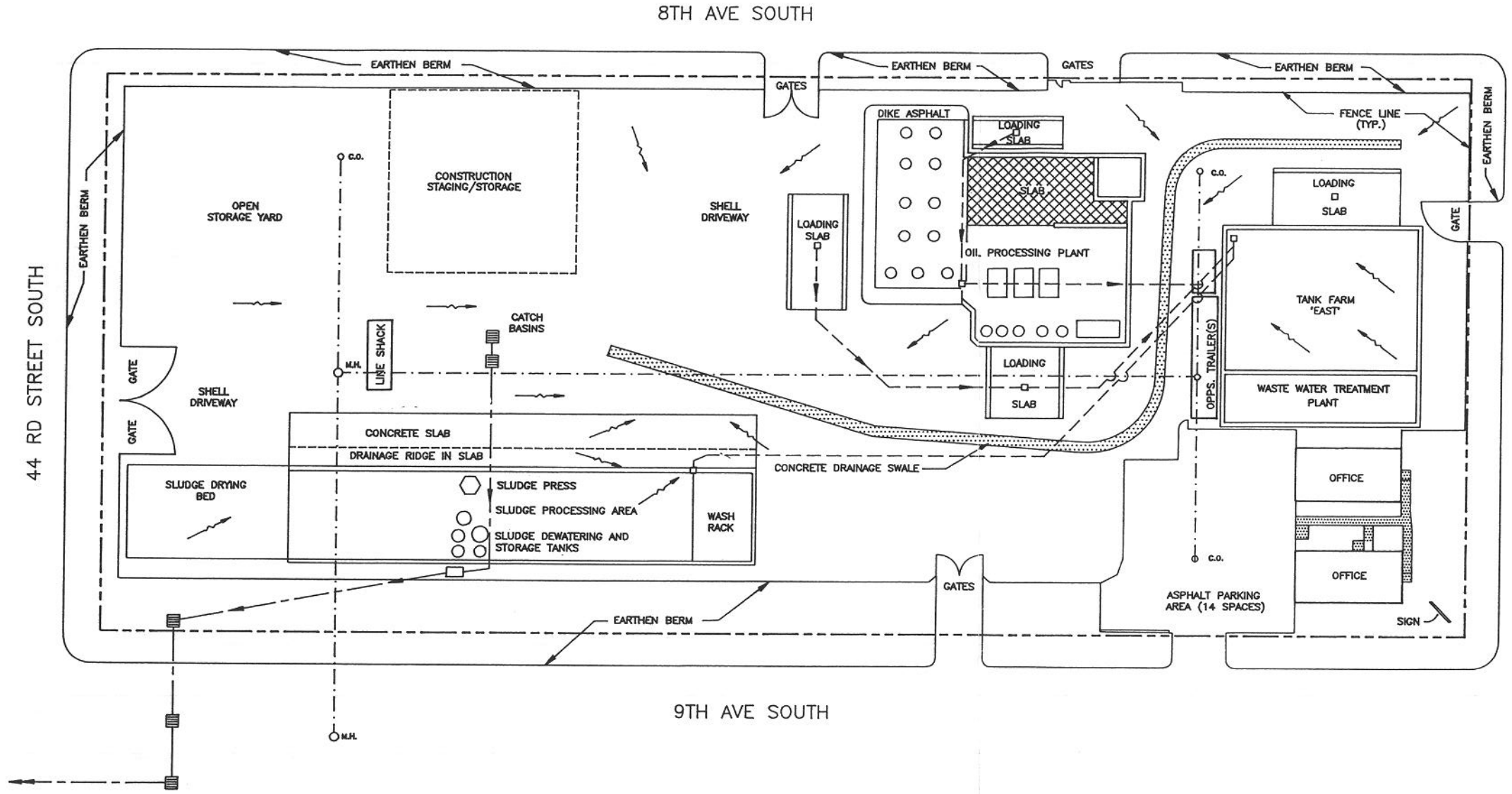



FLORIDA REMEDIATION SERVICES, INC.

308 SOUTH BOULEVARD TAMPA, FLORIDA 33606 (813)-254-8202
CONTAMINATED SOIL TREATMENT/GROUNDWATER REMEDIATION/TANK MANAGEMENT AND REMOVAL
R92-077.81/R20771A/MAC

**FIGURE 1**
**HOWCO ENVIRONMENTAL**
**CURRENT CONFIGURATION**

Scale: 1" = 60'




LEGEND

- WASTEWATER / OIL DRAIN LINES
- STORMWATER RUNOFF DIRECTION
- STORMWATER CATCH BASIN
- OIL/WATER SEPARATOR
- WASTEWATER TREATMENT PLANT DISCHARGE TO (POTW) PLANT
- O S.S. SANITARY SEWER MANHOLE
- O C.O. SANITARY SEWER CLEAN-OUT
- WASTEWATER PIPELINE FROM DRAIN LOCATION TO WWTP
- SANITARY SEWER LINE
- STORMWATER SEWER LINE

NOTE: INFORMATION FOR LOCATION OF WASTEWATER, STORMWATER, AND SANITARY LINES WERE TAKEN FROM DRAWING PRODUCED BY VLASTIMIR W. DJORDJEVIC PROFESSIONAL ENGINEERING DATED NOVEMBER 3, 1992.

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# FIGURE 2
# PIPING AND DRAINAGE DIAGRAM
# HOWCO ENVIRONMENTAL

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CONTAMINATED SOIL TREATMENT/GROUNDWATER REMEDIATION/TANK MANAGEMENT AND REMOVAL
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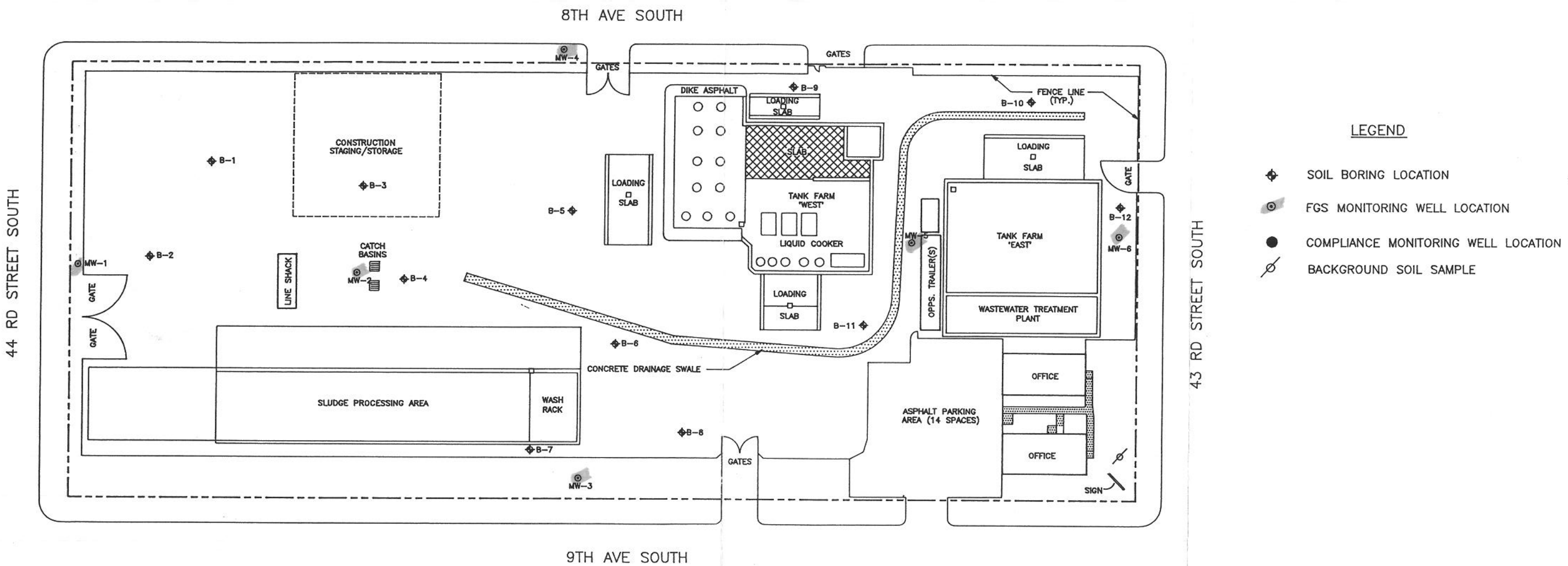
Scale: 1" = 60'




LEGEND

- SOIL BORING LOCATION
- FGS MONITORING WELL LOCATION
- COMPLIANCE MONITORING WELL LOCATION
- BACKGROUND SOIL SAMPLE

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CONTAMINATED SOIL TREATMENT/GROUNDWATER REMEDIATION/TANK MANAGEMENT AND REMOVAL
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**FIGURE 3**
**PROPOSED SOIL BORINGS**
**ANS MONITORING WELL LOCATIONS**