The following document was received in electronic format. It is inserted as received in the Central District 04-15-2011. The transmittal sheet with date stamp follows this page. The transmittal sheet was scanned and inserted before the electronic document.

Geosyntec
consultants

13101 Telecom Dr., Suite 120
Temple Terrace Florida 33637
(813) 558-0990 - (813) 558-9726 FAX

TRANSMITTAL

Date	*14-Apr-11*	**Job No.**	*FL1868.04*
Attention	*Mr. Thomas Lubozynski, P.E.*		
Re:	*Response to Request for Add'l Information* *Class I - Lateral Expansion Construction* *J.E.D. Solid Waste Mgmt. Facility* *Permit App No. SC49-0199726-017*		

To: *Mr. Thomas Lubozynski, P.E.*
FDEP - Solid Waste Section, Central District
3319 Maguire Boulevard, Suite 232
Orlando, FL 32803-3767
phone: (407) 893-3328

RECEIVED
APR 15 2011
DEP Central Dist.

We are sending you:

- [X] Attached/ Enclosed
- [ ] Under separate covers via the following items
- [ ] Tracings
- [ ] Drilling Log
- [ ] Test Results
- [ ] Photostats
- [ ] Contracts
- [ ] Documents
- [ ] Prints
- [ ] Photos
- [ ] Sepias/Drawings
- [ ] CD ROM

Copies	Date	No.	Description
3	*14-Apr-11*		*Response to RAI dated 18 March 2011 (Hardcopy)*
1	*14-Apr-11*		*Response to RAI dated 18 March 2011 (CD-ROM)*

These are transmitted as checked below:

- [X] For approval
- [ ] Approved as submitted
- [ ] Resubmit _____ copies for approval
- [ ] For your use
- [ ] Approved as noted
- [ ] Submit _____ copies for distribution
- [ ] As you requested
- [ ] Returned for corrections
- [ ] Return _____ corrected prints

Remarks _____

Copy to *Mike Kaiser, WSI*

Signed *Craig R. Browne, P.E.*

J:_GEAG (Projects)\J\JED LF\FL1868 JED Lateral Expansion\RAI\RAI #1 and response\Transmittal Form_Tom Lubozynski_110414.xls

Geosyntec consultants

13101 Telecom Drive, Suite 120
Temple Terrace, Florida 33637
PH 813.558.0990
FAX 813.558.9726
www.geosyntec.com

14 April 2011

Mr. Thomas Lubozynski, P.E.
Waste Program Administrator
Florida Department of Environmental Protection
Central District Office
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

Subject: **Response to Request for Additional Information dated 18 March 2011**
J.E.D. Solid Waste Management Facility (WACS #89544)
Class I – Lateral Expansion Construction
Osceola County, Florida
(Permit Application No. SC49-0199726-017)

Dear Mr. Lubozynski:

On behalf of Omni Waste of Osceola County, LLC (Omni), Geosyntec Consultants (Geosyntec) has prepared this letter to respond to Florida Department of Environmental Protection's (FDEP's) first request for additional information (RAI) regarding the major permit modification application for lateral expansion of the J.E.D. Solid Waste Management Facility (JED facility) located in St. Cloud, Florida. The permit modification application was received by the FDEP on 18 February 2011. The RAI was addressed to Mr. Mike Kaiser of Omni in a letter dated 18 March 2011.

Each FDEP comment has been provided below in italic font followed by the corresponding response in normal font. In this response, deletions to the original document have been shown with a strikethrough and additions have been shown with an underline.

RESPONSE TO FDEP COMMENTS

FDEP Comment #1

1. Based on our review, we believe the major modification is seeking a permit for the following:

a. Changing the geometry and area for previously approved Cells 11 through 23 as represented on Drawing 7 of 40, dated 2/17/2011. Some of portions of these cells extend into the new lateral expansion area.

b. Adding Cells 22 and 23 in the lateral expansion area.

c. Changing phasing for the landfill construction and operation. The new phasing is shown on Drawing 26A of 4, 2/17/2011.

d. Changing the leachate management system

i. Eliminating the temporary leachate storage location

ii. building the permanent leachate storage location

iii. Adding the piping for the change in storage location and the revised cells 11-21 and new cells 22-23.

Is our understanding of your application correct? What is the planned schedule for these changes? Most important, which actions do you expect to construct during the 5-year period for permit

Response # 1:

FDEP's understanding of the application is primarily correct with two exceptions:

1. Item "*a.*" refers to "previously approved Cells 11 through 23." The wording should be revised to "previously approved Cells 11 through 21" because Cells 22 and 23 have not yet been approved.

2. Item "*d.i.*" refers to eliminating the temporary leachate storage location. It is anticipated that the currently permitted future leachate storage area (refer to Sheet 7 of the Vertical Expansion Permit Drawings, dated September 2007) will be constructed as previously approved. However, this will be a temporary rather than permanent facility as it will ultimately be removed after the permanent leachate storage facility is constructed in the location shown on Sheet 7 of the Lateral Expansion Permit Drawings, dated February 2011. To further clarify, Sheet 3B of the Lateral Expansion

Permit Drawings has been revised with a callout and note to describe the future leachate storage locations. Sheet 3B is included in **Attachment 1**.

The proposed changes are expected to begin over the next five year period when Cell 11 is constructed. For the purposes of defining construction schedule, Cell 8 is proposed for construction starting in the fall of 2011 and completed in the spring of 2012. It is expected that Cells 9, 10, and 11 will be constructed over the next five year period (i.e., through spring of 2017). It is noted that the base grading of Cells 8, 9, and 10 is proposed to remain unchanged from that currently permitted, while the base grading for Cell 11 will change per the major modification application submitted to FDEP on 18 February 2011.

FDEP Comment #2

2. Definitively state that there will be no construction of the solid waste facilities in the jurisdictional wetland or in 100-year floodplain until:
a. The wetlands are no longer considered jurisdictional wetlands
b. Compensating storage of has been provided for the 100-year floodplain area.

Response # 2:

Omni will not construct the proposed solid waste facilities in the jurisdictional wetland or in the 100-year floodplain until a) the wetlands are no longer considered jurisdictional wetlands (i.e., after the wetland impacts have been mitigated) and b) compensating storage has been provided for the 100-year floodplain area (i.e., stormwater management features for the lateral expansion areas have been constructed), respectively. The Permit Application Report text (Sections 2.2 and 2.6.2, respectively) has been updated to reflect these statements and is provided in **Attachment 2**. It is noted that the complete text of the Report is included in **Attachment 2** because revisions made as a result of this and other responses to FDEP comments (see below) have changed the page numbering throughout the document.

FDEP Comment # 3

3. On Page 5 of 39, DEP Form 62-700.900(1), in Appendix A of the Report, provide an approximate date as to when the site will be ready to be inspected for construction completion.

Response # 3:

It is noted that the next construction event (Cell 8) is projected to being in fall of 2011 and be completed on March 1, 2012. Accordingly, page 5 of 39 of DEP Form 62-700.900(1) has been updated to indicate March 1, 2012 as the date for completion of Cell 8 construction. The estimated construction schedule for Cells 9 and beyond are discussed in Response #1. The revised page of the FDEP form is included in **Attachment 3**.

FDEP Comment # 4

4. *In the Report, Section 1.3, page 5, you state the current FDEP-approved Technical Specification and Construction Quality Assurance Plan would be followed. To avoid confusion, please provide specific references to the documents you consider to be the current FDEP-approved Technical Specification and Construction Quality Assurance Plan.*

Response # 4:

Section 1.3 of the Report has been updated to specifically reference the current FDEP-approved Technical Specifications and Construction Quality Assurance Plan. The revised Permit Application Report text is provided in **Attachment 2**.

FDEP Comment # 5

5. *In the Report Section 2.2 - Prohibitions, page 6, it is stated that "no solid waste will be placed...in a natural or artificial body of water." This statement is incorrect. The prohibition Rule 62-701.300(2)(d) specifically includes jurisdictional wetlands. As noted in the Report Section 1.2.1 - Previous Permit Applications, page 3,"…the footprint of the landfill will be expanded laterally and will impact additional wetland areas." Will the jurisdictional wetlands be mitigated in accordance with an ERP permit prior to the construction of the lateral expansion?*

Response # 5:

The jurisdictional wetlands will be mitigated in accordance with valid FDEP ERP and U.S. Army Corps of Engineers (ACOE) permits prior to construction of the lateral expansion. The text in Section 2.2 of the Report has been modified accordingly and is provided in **Attachment 2.**

FDEP Comment # 6

6. In the Report Section 2.2 - Prohibitions, page 6, it is stated that yard trash storage areas will meet all siting criteria. In the Report Section 2.2 - Prohibitions, page 6, it is stated that yard trash will be accepted for processing, reuse, or recycling. Yard Trash is not checked off in Appendix A - Application Form 62-701.900(1) Part B Item 8, page 6 of 39. Indicate whether yard trash will be accepted for disposal and/or processing?

Response # 6:

The text in Section 2.2 of the Report has been revised to indicate that yard trash is not accepted for disposal or processing at the JED facility. The FDEP Application Form is correct and therefore no changes have been made to the form. The revised Report text is provided in **Attachment 2**.

FDEP Comment # 7

7. In the Report Section 5.2 - LEACHATE MANAGEMENT SYSTEM Maintenance, page 14, the statement is made that future leachate collection pipes and cleanouts will be 8-inch diameter. Be more specific on 'future'; does this refer to all new construction of cells 8 and beyond or the entire landfill collection pipeline? In Appendix G Section 1 INTRODUCTION, the reference is made to the collection pipe increase from 6 inch to 8 inch which alludes to the replacement of all existing 6 inch collection pipe with 8 inch pipe.

Response # 7:

Cells 8, 9, and 10 are currently permitted to use a 6-inch diameter leachate collection pipe and do not require an 8-inch diameter leachate collection pipe based on existing permit design modeling. However, if the lateral expansion is approved prior to construction of Cell 8, an 8-inch diameter leachate collection pipe will be used in Cell 8 and subsequent cell construction. If a permit is not issued for the lateral expansion, all existing permitted cells will be constructed with a 6-inch collection pipe as currently designed and permitted. Text in section 5.2 of the Report has been added to clarify this statement. The revised Report text is included in **Attachment 2**.

Regarding Appendix G, Section 1, it was not intended that all existing 6-inch diameter leachate collection pipe be converted to 8-inch diameter leachate collection pipe. Rather, only future (not currently constructed) cells would use 8-inch diameter leachate collection pipe and all existing

(currently constructed) cells would remain as-is with 6-inch diameter leachate collection pipe. Appendix G, Section 1 text has been revised to clarify the statement above. The revised Appendix G text is included in **Attachment 4**.

FDEP Comment # 8

8. In the Report Appendix A - Application Form 62-701.900(1), Part B Item 19, Gas Recovery is indicated as well as on Lateral Expansion Permit Drawing 29A GMW Plan II. If this permit modification is to include the approval of a gas to energy facility, submit supporting documentation. If not, submit a statement declaring a gas to energy permit is not being sought at this time.

Response # 8:

A landfill gas to electrical energy (LFGE) facility is requested to be permitted under this permit modification application. Omni intends to partner with a 3rd party developer to construct and operate a LFGE facility in the location shown on Drawing 29A. Omni will continue to maintain the current landfill gas collection and control system (GCCS) and will install and maintain all future GCCS components, including all wells, header piping and flares, in accordance with permit conditions and as shown on the permit drawings. Landfill gas collected in the GCCS will be diverted to the LFGE operator and converted to electrical energy. Any landfill gas not consumed by the LFGE operator will continue be destructed in Omni's flare(s) in accordance with permit requirements. Omni will obtain FDEP Air Construction and Title V permit modifications as necessary for operation of the LFGE facility and other permits as required by Osceola County. Provided below is a general description of the planned LFGE facility.

The initial LFGE facility will be consist of approximately four internal combustion engine driven electric generators (Gensets). This initial number of Gensets is expected to consume a significant volume of the LFG presently being destructed at Omni's flare system (2,000 standard cubic feet per minute (SCFM)). Each Genset will consist of equipment housed in sound reducing modular containers and will be capable of consuming approximately 500 (SCFM) of landfill gas and producing approximately 1.4 MW of electrical energy. The modular containerized Gensets will allow for ease of expansion as additional landfill gas is available for use by the LFGE operator. Although highly dependent on actual landfill gas volumes produced by the waste mass, it is estimated up to 16 Gensets could be stationed at the LFGE facility at final build-out,

producing over 22 MW of electrical energy. If desired, the size of the Gensets may be increased, thereby reducing the total number required to meet future landfill gas generation rates.

In addition to the Gensets, auxiliary equipment and structures will be necessary to support the LFGE operations. The auxiliary equipment will serve to dehydrate, condition and deliver the landfill gas consistent with the operating requirements of the Gensets. An overhead electric distribution line will be installed within the JED facility property boundary along the main access road from U.S. Highway 441 to the LFGE facility. Generator step-up transformers and switchgear will be installed to interconnect the generators to the electric distribution system. Additional auxiliary equipment will be installed as needed to condition and treat the landfill gas for efficient operation of additional Gensets. The facility will include buildings for operations control, and maintenance and equipment storage. Details of the LFGE facility described above are depicted on Sheet 32C of the Lateral Expansion Permit Drawings, which is included in **Attachment 1**.

FDEP Comment # 9

9. In the Report Appendix A - Application Form 62-701.900(1), Part B Item 23, the leachate treatment method is stated as oxidation. The leachate storage facility is comprised of four holding cells, 3 covered and 1 uncovered. Does oxidation treatment occur in all four cells? If not, provide a more specific answer for the oxidation treatment of the leachate.

Response # 9:

As approved by FDEP Permit No. SO49-0199726-011, oxidation (aeration) occurs only in Cell 2 (Storage Area 2) of the leachate storage facility. The remaining 3 covered cells are for storage only. Accordingly, Item 23 on the FDEP form (page 8 of 39) has been revised to provide a more specific answer for the oxidation treatment of the leachate and is provided in **Attachment 3**.

FDEP Comment # 10

10. In the Report Appendix G - Leachate Management System Design, will the permanent leachate storage facility continue to utilize four holding cells: three covered and one uncovered?

Response # 10:

Omni intends for the permanent leachate storage facility to utilize four holding cells where one cell is uncovered (with oxidation treatment) and three cells are covered. The text of the Leachate Management System calculation package (Appendix G) has been revised accordingly and is included in **Attachment 4**.

FDEP Comment # 11

11. An approved closure and long-term care cost estimate and proof of financial assurance will be required by the Department at least 60 days prior to the acceptance of any solid waste in the lateral expansion cells, Rule 62-701.630, F.A.C. Will you be seeking deferred financial assurance for any of the cells?

Response # 11:

Omni will be seeking deferred financial assurance for each cell that has not been currently constructed. At present this includes Cells 8 through 23. Accordingly, FDEP form 62-701.900(29) has been duly completed and is included as **Attachment 5.**

FDEP Comment # 12

12. Rule 62-701.300(2)(b), F.A.C. requires that no waste be placed within 500 feet of existing or approved potable water well. Part C of the application refers to Section 2.2 for the information. Appendix C Sections 2.2.5 and 4.7 notes the well survey, which includes the on-site well. Figure 5 shows the well location and Table 12 notes that the well is potable.

The well is within 500 feet of proposed waste disposal. The Department does not see any plans for addressing this prohibition (e.g. set-backs, abandonment, etc.) Please discuss and include expected timeframe for the plans.

Response # 12:

Omni will decommission the existing on-site potable water well prior to placement of waste within 500 feet of this existing well. At that time, a new (replacement) well will be constructed at least 500 feet away from the proposed waste disposal limits south of the future administrative area as shown on Drawing 7 (See **Attachment 1**). Based on the geometry of the proposed cells

in the expansion area, the existing well will need to be decommissioned prior to placement of waste in Cell 19. The decommissioning of the existing well and installation of a replacement well will be performed in accordance with applicable South Florida Water Management District, FDEP and Osceola County permitting requirements.

FDEP Comment # 13

13. Appendix F, Page 8 of 13, Section 7 Results states that inspection of Tables 3 and 4 prove the slope requirements of 0.3 percent and 1.0 percent will be met, post-settlement. We could not find the calculations, data, or summary tables that show those calculations have been accomplished for each cell 11 through 23. Provide a table or other summary of data and results that provide the basis for the conclusions stated in Section 7 (for example, a table with pre- and post-settlement elevations and the resulting calculated slope for each cell).

Response # 13:

Table 3 of the Settlement calculations has been revised to include pre- and post-settlement elevations and a note has been added to describe the settlement point ID format to clarify what points correspond to a given Cell. Table 4, which includes the pre- and post-settlement calculated slopes for each cell, has been reformatted to more clearly show that calculations have been provided for each Cell. Figure 3 has also been revised with Cell identification labels to clarify what settlement points correspond to a given Cell. The revised Tables and Figure are provided in **Attachment 6**.

FDEP Comment # 14

14. Appendix I, Drawings 5 and 6 of 40:

a. The legend indicates the subbase elevations are indicated by an underlined number. There are no underlined numbers inside the cells.

b. There is only one labeled contour in each cell. This is not sufficient to depict how the subbase will be prepared.

c. The subbase elevations seem to be properly represented on drawings 9A and 9B.

d. Submit revised Drawings 5 and 6.

Response # 14:

The legend on Drawings 5 and 6 has been revised to remove the underlined number format to be consistent with the contour labels actually shown on the drawings. In addition, elevation labels have been added to the contours in each cell to more clearly indicate how the subbase is sloped. As indicated by Note 7 of Drawings 5 and 6, the subbase grades were provided to illustrate test locations relative to the JED facility layout. Revised versions of Drawings 5 and 6 are provided in **Attachment 1**.

FDEP Comment # 15

15. Appendix I, Drawings 9A and 9B: These drawings are supposed to depict the prepared subbase. However, they do not show the elevation for the prepared subbase for the leak detection trench. (The leak detection trench is designed to be lower that the leachate collections system as shown in Detail PL on Drawing 18.) Please clarify.

Response # 15:

The elevations for the prepared subbase for the leak detection trench are not depicted on Drawings 9A and 9B for clarity. Consistent with the Vertical Expansion Drawings (dated September 2007), these elevations are not depicted because the grading contours would not be legible. In lieu of providing these elevations on the plan view sheet, additional callouts are provided on revised Drawings 9A and 9B that refer the reviewer to Detail PL on Drawing 18. Revised Drawings 9A and 9B are included in **Attachment 1**.

FDEP Comment # 16

16. Appendix I, Drawings 10, 11:

- *a. The contours seem to be two feet above the contour elevations in Drawings 9A and 9B. However, according to the legend these are the subbase elevations, just like those depicted on Drawings 9A and 9B.*
- *b. The cross section drawing of the liner and leachate collection system (Detail PL on Drawing 18) does not indicate that the leachate collection system will be two feet above the subbase elevation.*
- *c. Please clarify.*

Response # 16:

Drawings 10 and 11 have been revised to indicate the correct legend text for top of liner protective layer grades. In addition, the details on Drawing 18 have been revised to indicate that the liner protective layer of the leachate collection system will be two feet above the subbase elevation. Revised Drawings 10, 11, and 18 are included in **Attachment 1**.

FDEP Comment # 17

17. Appendix C Section 5.2 indicates that the facility does not propose to change the MPIS at this time. Changes to the MPIS will be proposed with the permitting of each future phase. The Department agrees.

Response # 17:

Comment noted.

FDEP Comment # 18

18. Please submit the September 2010 sampling data to Tallahassee in ADaPT format using the following WACS numbers and report type:

MW Testsite Name	WACS #	Zone	ADaPT Report Type for Initial Sample
DP-20	27858	A	ASSMT
DP-21	27859	C	ASSMT
MW-24A	27860	A	ASSMT
MW-25A	27861	A	ASSMT
MW-26A	27862	A	ASSMT
MW-27C	27863	C	ASSMT

Response # 18:

The September 2010 sampling data will be submitted to Tallahassee (under separate cover) in ADaPT form at using the WACS numbers and report type indicated above. It is noted that the surface water sampling data will also be submitted in ADaPT format to Tallahassee. A copy of the data transmittal compact disk (CD) will be sent to the FDEP Central District office as well.

FDEP Comment # 19

Appendix C Tables and Figures.

19. Please revise Table 1 to include latitude and longitude.

Response # 19:

Table 1 has been revised to include latitude and longitude. The revised table is included in **Attachment 7** along with the other replacement tables and figure of the Hydrogeological Investigation Report.

FDEP Comment # 20

20. Section 2.2.2 states, "A tabular summary of both the previous and recently installed monitoring well/piezometers construction details is provided in Tables 2A through 2D..".

a. Table 2A is for the "A" zone wells. There are 2 pages of Table 2A. The foot note indicates pages "1 of 2" and "2 of 2". The 2 pages appear to be the same table with the exception of:

i. Minor latitude difference for MW-24A and MW-25A.

ii. The latitude position for MW-26A on Table 2A (1 of 2) is about 1,000 feet north of the latitude reported on Table 2A (2 of 2) and shown on the maps.

Neither one of the Table 2As includes the "A" Zone wells: DP-2, DP-4, DP-6, DP-7, DP-10, DP-12, and DP-13. Please clarify and submit the correct Table 2A(s).

b. Table 8 indicates DP-20 has a detect of Arochlor 1221 at 0.24 ug/L. The laboratory data indicates that this value should have a "U" qualifier. Please correct and resubmit the appropriate document.

c. Table 10 lists the units for metals as "mg/L". The freshwater criteria listed for metals in Table 10 should have "ug/L" as the units. Please correct and resubmit the table.

d. Table 10 shows the detection level for Mercury at 0.08 ug/L which is above the Class III freshwater quality standard for Mercury of 0.012 ug/L (Rule 62-. 302.530, F.A.C.). In the future a low level detection method must be used for the surface water samples to reach an appropriate detection limit.

e. Table 11 lists all of the units as "mg/L". For at least some of the parameters, the units should be listed as "ug/L". Please check, correct, and resubmit Table 11 with the appropriate units.

f. Table 12 does not include the latitude and longitude for the potable wells. If the latitude and longitude are known please provide this information. At a minimum, the latitude and longitude (in degrees, minutes and seconds (to two decimal places) must be provided for the on-site wells.

g. Figure 4 appears to have a drafting error. Some letters and numbers (4s and 5s) were not printed. At a minimum please check and correct the following:
i. SPT 4 and 5 from 2002.
ii. SPT 4 and 5 from 2010
iii. MW-4 and MW-5 of the MPIS wells
iv. MW-24A and MW-25A for the 2010 wells
v. DP-4, DP-5, DP-14, DP-15, DP-24

Response # 20:

a. Table 2A with the footnote indicating pages "1 of 2" is an outdated table, which was inadvertently included in the Appendix C submittal. The version of Table 2A with a footnote indicating pages "1 of 1" is the correct table. The correct version of this table is re-submitted in **Attachment 7**. It is noted that this table has been updated to include a new note indicating that wells DP-2, DP-4, DP-6, DP-7, DP-10, DP-12, and DP-13 have been decommissioned and are not included on the table.

b. Table 8 has been updated to indicate a "U" qualifier for Arochlor 1221, which is consistent with the laboratory data. The revised table is included as **Attachment 7**.

c. Table 10 has been revised with the correct units and is included as **Attachment 7**.

d. Comment noted.

e. The units for the parameters noted on Table 11 have been checked and revised. The updated table is included in **Attachment 7**.

f. Table 12 has been revised to show the latitude and longitude of the on-site potable water well. The revised table is included in **Attachment 7**.

g. The errors noted on Figure 4 appear to be the result of a plotting issue. The figure has been re-plotted and the items noted above now display properly. The corrected version of Figure 4 is included in **Attachment 7**.

FDEP Comment # 21

21. Table 4.1 of the Biennial Report clearly shows that the background pH at the site is between 4.5 and 6 pH standard units. Based on these background levels the Department intends to specify in the MPIS that the lower compliance level for the ground water pH will be dropped from 6.5 to 4.5 standard units. Do you agree?

Response # 21:

On occasion, pH levels in the background wells at the JED facility have been lower than 4.5 standard units. A summary table, provided in **Attachment 8**, shows the number of instances that each well was measured to have a pH below 4.5 standard units and also the lowest recorded pH measurement at each well. This table was developed based on the information presented in Table 4-1 of the 3rd Biennial Report. Inspection of the summary table (**Attachment 8**) reveals that MW-2A was measured to have a minimum pH of 2.69 standard units (July 2004 monitoring event), while several other wells exhibit minimum pH readings of less than 4.5 standard units. Accordingly, it is recommended that FDEP consider lowering the compliance level for the ground water pH from 6.5 to a value less than 4.5 standard units, or at least recognize that background pH levels have historically been as low as 2.69 standard units.

FDEP Comment # 22

22. There are exceedances with Ammonia, Benzene, and Vinyl Chloride. The facility believes that these exceedances are related to landfill gas. Please provide an update on the status of the gas migration study referred in the Biennial Report?

Response # 22:

Comment noted. A separate status report regarding landfill gas migration issues at the facility has been submitted to the FDEP under separate cover.

Response # 22:

Comment noted. A separate status report regarding landfill gas migration issues at the facility has been submitted to the FDEP under separate cover.

CLOSURE

If you have any questions or require additional information, please do not hesitate to contact Mr. Mike Kaiser of Waste Services, Inc. at (904) 673-0446, mkaiser@wsii.us, or the undersigned at (813) 558-0990.

Sincerely,

4/14/2011

Craig Browne, P.E.
Engineer
P.E. Number 68613

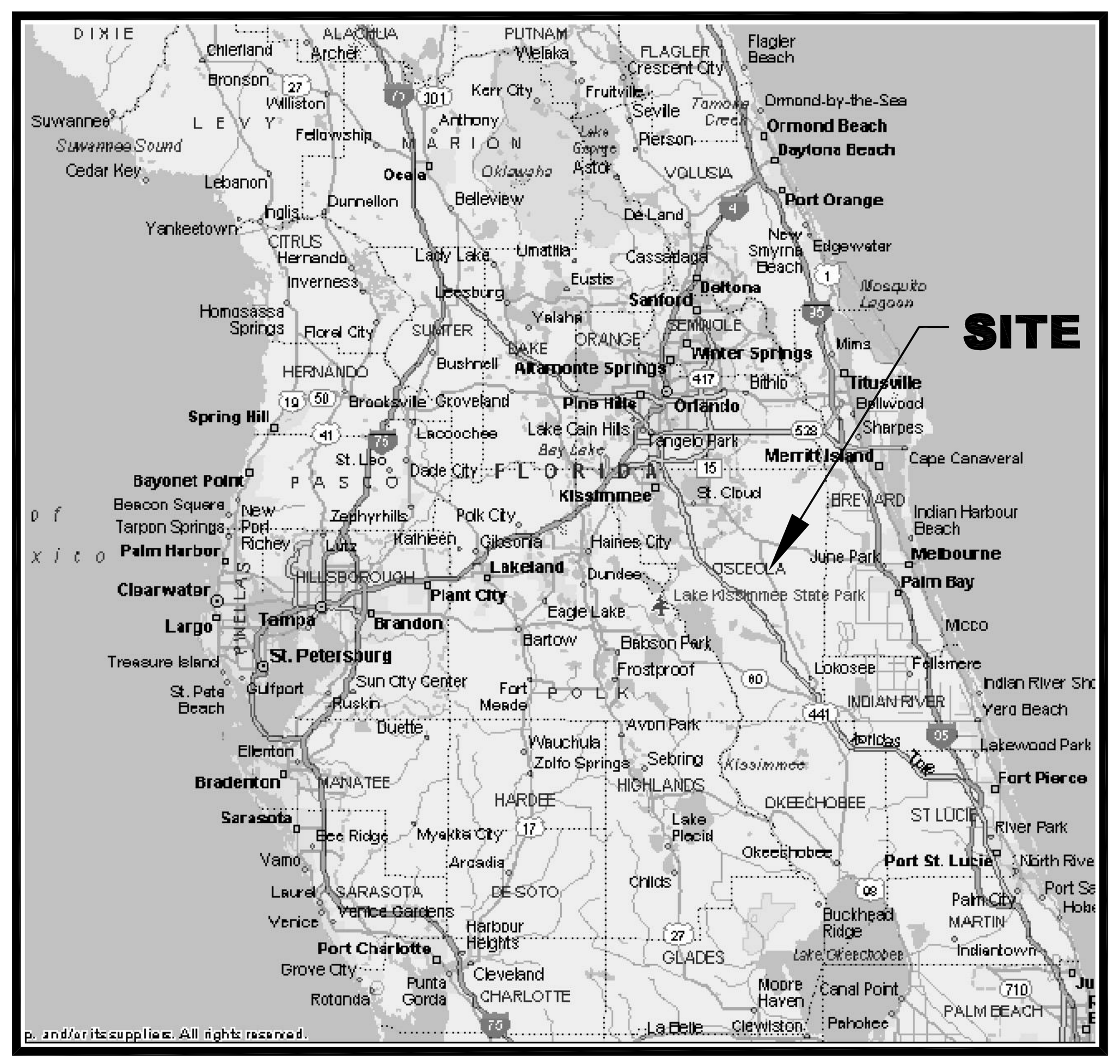
Attachments

Copies to: Mike Kaiser, WSI

ATTACHMENT 1

Revised Sheets of Lateral Expansion Permit Drawings

J.E.D. SOLID WASTE MANAGEMENT FACILITY
ST.CLOUD, FLORIDA
LATERAL EXPANSION
MAJOR SOLID WASTE PERMIT MODIFICATION
FEBRUARY 2011
(REVISED, APRIL 2011)

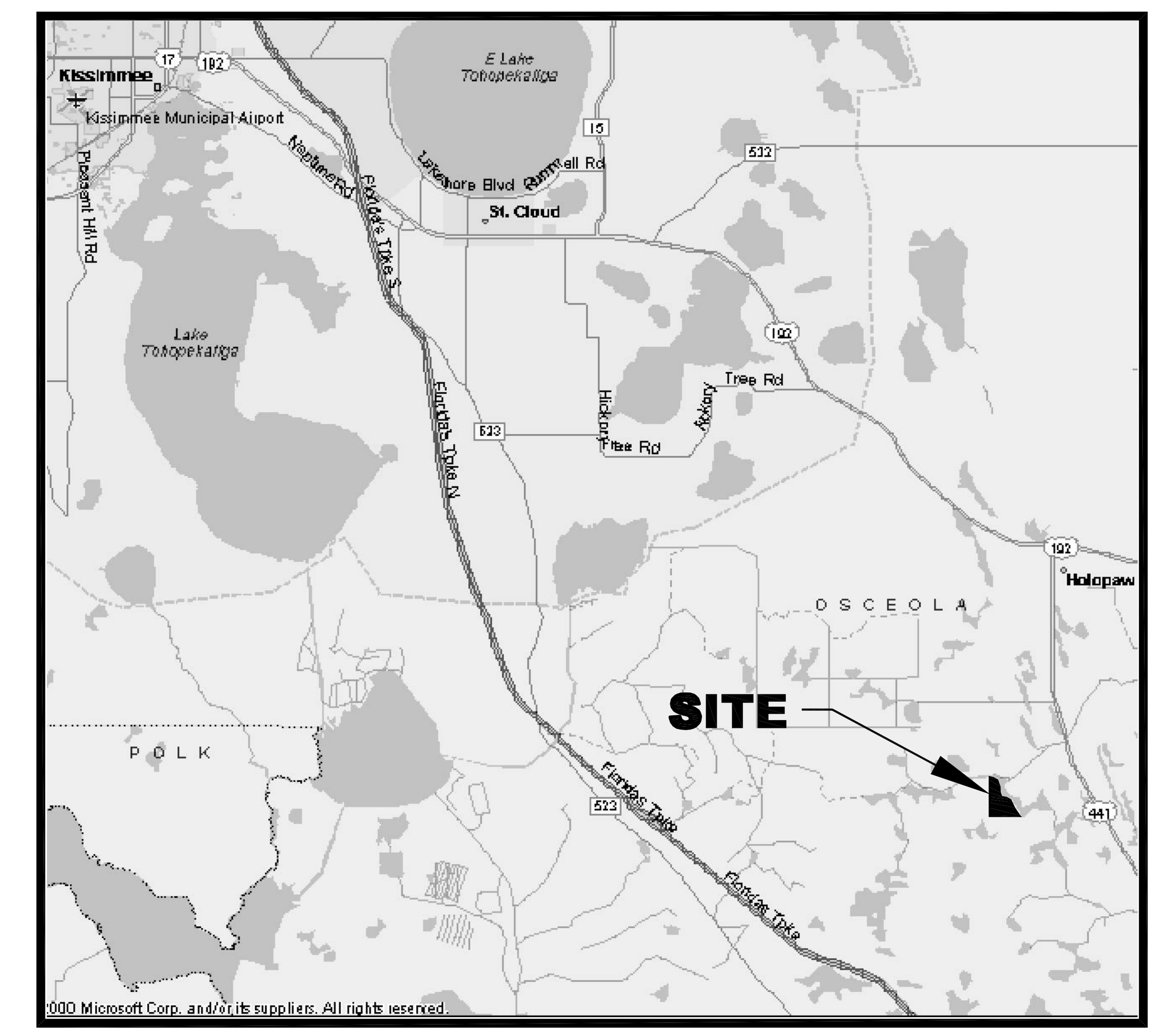


LOCATION MAP

0 32
SCALE: 1" = 32 MILES

LIST OF DRAWINGS

SHEET	TITLE	REVISION	COMMENTS
1	TITLE SHEET	1	
2	PARCEL SURVEY AND LEGAL DESCRIPTION	0	NOTE 1,2
3	GENERAL SITE AND SURROUNDING AREA INFORMATION	0	NOTE 1,2
3A	EXISTING SITE CONDITIONS AND RECENT AERIAL PHOTOGRAPH	0	
3B	RECENT TOPOGRAPHIC MAP OF THE SITE	1	
4	MISCELLANEOUS SITE INFORMATION	0	NOTE 1,2
5	SITE CHARACTERIZATION PLAN I	1	
6	SITE CHARACTERIZATION PLAN II	1	
7	SITE DEVELOPMENT PLAN	1	
8	PHASE 2 BASE GRADING PLAN	0	NOTE 1,3
9	PHASE 3 BASE GRADING PLAN	0	NOTE 1,3
9A	BASE GRADING PLAN I FOR FUTURE CELLS	1	
9B	BASE GRADING PLAN II FOR FUTURE CELLS	1	
10	LEACHATE COLLECTION SYSTEM LAYOUT PLAN I	1	
11	LEACHATE COLLECTION SYSTEM LAYOUT PLAN II	1	
12	LANDFILL CROSS SECTIONS I	0	
12A	LANDFILL CROSS SECTIONS II	0	
12B	LANDFILL CROSS SECTIONS III	0	
13	PERIMETER BERM TYPICAL SECTIONS	0	
14	LINER SYSTEM DETAILS I - CELLS 8 THROUGH 23	0	
15	LINER SYSTEM DETAILS II - CELLS 8 THROUGH 23	0	
16	LEACHATE SUMP PLAN - CELLS 8 THROUGH 23	0	
17	SECONDARY SUMP CROSS SECTIONS - CELLS 8 THROUGH 23	0	
17A	PRIMARY SUMP CROSS SECTIONS - CELLS 8 THROUGH 23	0	
18	LEACHATE SUMP CROSS SECTIONS - CELLS 8 THROUGH 23	1	
19	LEACHATE COLLECTION SYSTEM DETAILS - CELLS 8 THROUGH 23	0	
20	LEACHATE STORAGE FACILITY PLAN	0	NOTE 1,2
21	LEACHATE STORAGE FACILITY CROSS SECTIONS	0	NOTE 1,2
22	LEACHATE MANAGEMENT SYSTEM SCHEMATIC DIAGRAM I	0	NOTE 1,2
23	LEACHATE MANAGEMENT SYSTEM SCHEMATIC DIAGRAM II	0	NOTE 1,2
24	UPDATED GROUNDWATER MONITORING NETWORK AND BENCH MARKS	0	NOTE 1,2
25	PHASE 2 CONSTRUCTION SEQUENCING	0	NOTE 1,2
26	PHASE 3 CONSTRUCTION SEQUENCING	0	NOTE 1,2
26A	FUTURE CONSTRUCTION AND WASTE FILL SEQUENCING	0	
27	WASTE FILL SEQUENCING PLAN I	0	NOTE 1,3
28	WASTE FILL SEQUENCING PLAN II	0	NOTE 1,3
29	GAS MANAGEMENT SYSTEM (GMS) PLAN I	0	
29A	GMS PLAN II	0	
29B	CONCEPTUAL LAYOUT OF HORIZONTAL GAS COLLECTORS	0	
30	GAS MANAGEMENT DETAILS I	0	NOTE 1,2
31	GAS MANAGEMENT DETAILS II	0	
32	GAS MANAGEMENT DETAILS III	0	
32A	GAS MANAGEMENT DETAILS IV	0	
32B	LFG PIPELINE DETAILS I	0	
32C	LFG TO ENERGY FACILITY DETAILS	0	
33	REVISED FINAL COVER SYSTEM GRADING PLAN I	0	
34	REVISED FINAL COVER SYSTEM GRADING PLAN II	0	
35	FINAL COVER SYSTEM DETAILS	0	NOTE 1,3
36	STORM WATER MANAGEMENT PLAN I	0	NOTE 4
37	STORM WATER MANAGEMENT PLAN II	0	NOTE 4
38	STORM WATER MANAGEMENT DETAILS I	0	NOTE 4
39	STORM WATER MANAGEMENT DETAILS II	0	NOTE 4
40	STORM WATER MANAGEMENT DETAILS III	0	NOTE 4



VICINITY MAP

0 4
SCALE: 1" = 4 MILES

SEQUENTIAL DETAIL NUMBER — 1L / 7 — SHEET ON WHICH THE ABOVE DETAIL IS PRESENTED

DETAIL REFERENCE KEY

DETAIL NUMBER — 1L / 5 — SHEET ON WHICH THE ABOVE DETAIL IS FIRST REFERENCED

DETAIL (TYPICAL)
LINER SYSTEM AT BASE
SCALE: NTS
XREF: FL1695.01X004.DWG

DETAIL BAR REFERENCE KEY

EXAMPLE: DETAIL 1 WHICH IS PRESENTED ON SHEET 7 WAS FIRST REFERENCED ON SHEET 5.

CL / 5 — SEQUENTIAL SECTION LETTER — SHEET ON WHICH THE ABOVE SECTION IS PRESENTED

SECTION REFERENCE KEY

SECTION LETTER — CL / 3 — SHEET ON WHICH THE ABOVE SECTION IS FIRST REFERENCED

SECTION (TYPICAL)
PERIMETER BERM
SCALE: 1" = 10
XREF: FL1695.01X083.DWG

SECTION BAR REFERENCE KEY

EXAMPLE: SECTION C WHICH IS PRESENTED ON SHEET 5 WAS FIRST REFERENCED ON SHEET 3.

NOTES:

1. THESE LATERAL EXPANSION PERMIT DRAWINGS MODIFY PREVIOUSLY APPROVED PERMIT DRAWINGS (AS INDICATED BY NOTES 2 AND 3). ONLY THE SHEETS THAT HAVE BEEN MODIFIED (INDICATED IN BOLD FONT IN THE DRAWING LIST) ARE INCLUDED IN THE PERMIT DRAWING SET. THERE ARE NO SUBSTANTIAL CHANGES TO THE REMAINING DRAWINGS (WHICH HAVE BEEN SCREENED IN THE DRAWING LIST).
2. REFER TO RENEWAL PERMIT DRAWINGS FOR PHASES 2 AND 3 SUBMITTED TO FDEP IN SEPTEMBER 2006.
3. REFER TO MAJOR MODIFICATION PERMIT DRAWINGS FOR PHASES 1 THROUGH 3 SUBMITTED TO FDEP IN SEPTEMBER 2007.
4. THE DRAWINGS RELATED TO THE STORM WATER MANAGEMENT SYSTEM HAVE BEEN MODIFIED AND SUBMITTED TO FDEP ALONG WITH THE ERP CONCEPTUAL PERMIT MODIFICATION APPLICATION.
5. THE SECTIONS AND DETAILS NUMBERING IN THIS LATERAL EXPANSION PERMIT DRAWING SET HAVE BEEN FOLLOWED BY THE LETTER "L" TO DISTINGUISH THEM FROM SECTIONS AND DETAILS SUBMITTED IN PREVIOUS PERMIT DRAWING SETS FOR THE JED FACILITY IN 2006 AND 2007.

PERMIT DRAWING

REV	DATE	DESCRIPTION	DRN	APP
1	APR 2011	REVISED PER FDEP COMMENTS, RAI #1	NSS	CRB
0	FEB 2011	ISSUED FOR FDEP APPROVAL	JWO	CRB

Geosyntec consultants
13101 TELECOM DRIVE, SUITE 120
TEMPLE TERRACE, FLORIDA 33637 USA
PH: 813.558.0990 - FX:813.558.9726
AUTHORIZATION NUMBER: 4321

WSI Waste Services, Inc.
1501 OMNI WAY
ST. CLOUD, FLORIDA 34773
TEL: 407-891-3720 FAX: 407-891-3730

TITLE: TITLE SHEET

PROJECT: LATERAL EXPANSION MAJOR SOLID WASTE PERMIT MODIFICATION

SITE: J.E.D. SOLID WASTE MANAGEMENT FACILITY

SIGNATURE
DATE
CRAIG BROWNE - LICENSE NO. 68613

CRAIG R. BROWNE LICENSE No. 68613 STATE OF FLORIDA PROFESSIONAL ENGINEER

DESIGN BY: CRB/JWO	DATE: FEBRUARY 2011
DRAWN BY: JWO	PROJECT NO.: FL1868
CHECKED BY: CRB	FILE: FL1868.02P011
REVIEWED BY: JAB	DRAWING NO.:
APPROVED BY: CRB	1 OF 40

N

0 300' 600'

SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE LOCATION OF INTERMITTENT STREAM
- EXISTING GROUND ELEVATION (FEET) (SEE NOTE 3)
- EXISTING FENCE
- WETLAND BOUNDARY BY PHOTO INTERPRETATION BY BRA (SEE NOTE 4)
- WETLAND BOUNDARY BY FIELD SURVEY (SEE NOTE 4)
- 100-YEAR FLOODPLAIN (SEE NOTE 5)

NOTES:

1. NORTHING AND EASTING COORDINATES SHOWN REPRESENT FLORIDA STATE PLANE EAST ZONE NORTH AMERICAN DATUM OF 1983 (NAD83).THE ELEVATIONS SHOWN REPRESENT NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29)(FEET).
2. THE PROPERTY BOUNDARY IS BASED ON A COMPOSITE BOUNDARY SURVEY PROVIDED BY JOHNSTON SURVEYING INC., KISSIMMEE FLORIDA, DATED AUGUST 12, 1999.
3. TOPOGRAPHIC INFORMATION SHOWN ON THIS DRAWING WAS PROVIDED BY BASE MAPPING CO. LTD BASED ON AN AERIAL PHOTOGRAPH TAKEN ON 24 JULY 2010.
4. THE WETLAND BOUNDARY INFORMATION SHOWN IS BASED ON A FIELD SURVEY DATED 15 MAY 2002 BY JOHNSTON SURVEYING INC. OF WETLANDS BOUNDARIES FLAGGED BY BIOLOGICAL RESEARCH ASSOCIATES, INC. (BRA) AND JDS PERMIT, A PHOTO INTERPRETATION OF WETLAND BOUNDARIES BY BRA IN AREAS OUTSIDE THE LIMITS OF CONSTRUCTION, AND A FIELD SURVEY DATED 24 NOVEMBER 2010 BY PEAVEY & ASSOCIATES OF WETLAND BOUNDARIES FLAGGED BY ENTRIX, INC.
5. THE 100-YEAR FLOODPLAIN BOUNDARY SHOWN WAS PROVIDED BY THE OSCEOLA COUNTY GIS DEPARTMENT ON JANUARY 9, 2002 AND RECONFIRMED WITH THE OSCEOLA COUNTY GIS DEPARTMENT ON 24 SEPTEMBER 2010.
6. FUTURE LEACHATE STORAGE FACILITY IS THE FACILITY DEPICTED ON SHEET 7 OF THE VERTICAL EXPANSION PERMIT DRAWINGS (SEPTEMBER 2007). RELATIVE TO THE LATERAL EXPANSION CONSTRUCTION, THIS WILL BE A TEMPORARY LEACHATE STORAGE FACILITY. THE FINAL PROPOSED LOCATION FOR THE LEACHATE STORAGE FACILITY IS DEPICTED ON SHEET 7 OF THIS LATERAL EXPANSION PERMIT DRAWING SET.

REV	DATE	DESCRIPTION	DRN	APP
1	APR 2011	REVISED PER FDEP COMMENTS, RAI #1	NSS	CRB
0	FEB 2011	ISSUED FOR FDEP APPROVAL	JWO	CRB

Geosyntec consultants
13101 TELECOM DRIVE, SUITE 120
TEMPLE TERRACE, FLORIDA 33637 USA
PH: 813.558.0990 - FX:813.558.9726
AUTHORIZATION NUMBER: 4321

WSI Waste Services, Inc.
1501 OMNI WAY
ST. CLOUD, FLORIDA 34773
TEL: 407-891-3720 FAX: 407-891-3730

TITLE: RECENT TOPOGRAPHIC MAP OF THE SITE

PROJECT: LATERAL EXPANSION MAJOR SOLID WASTE PERMIT MODIFICATION

SITE: J.E.D. SOLID WASTE MANAGEMENT FACILITY

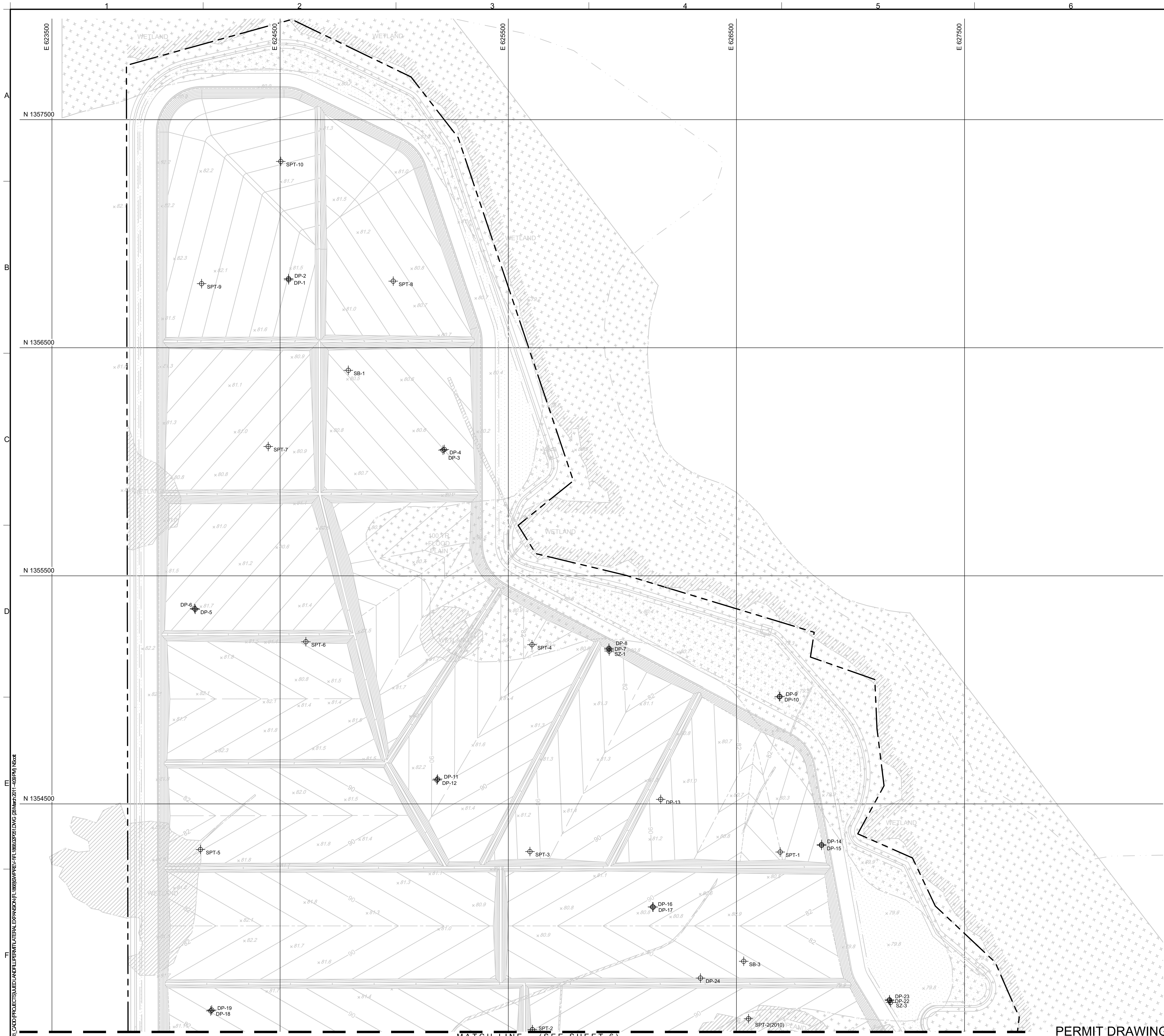
SIGNATURE
4/14/2011
DATE
CRAIG BROWNE - LICENSE NO. 68613

CRAIG R. BROWNE LICENSE No. 68613 STATE OF FLORIDA PROFESSIONAL ENGINEER

DESIGN BY:	CRB/JWO	DATE:	FEBRUARY 2011
DRAWN BY:	JWO	PROJECT NO.:	FL1868
CHECKED BY:	CRB	FILE:	FL1868.02P03B1
REVIEWED BY:	JAB	DRAWING NO.:	3B OF 40
APPROVED BY:	CRB		

PERMIT DRAWING

P:\CADD\PROJECTS\JED LANDFILL\PERMIT\LATERAL EXPANSION\FL1868\SWAPP\FL1868.02P03B1.DWG (6 April 2011 - 8:57 AM) Cbrowne



N

0 200' 400'

SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- EXISTING GROUND ELEVATION (FEET) (SEE NOTE 4)
- APPROXIMATE LOCATION OF INTERMITTENT STREAM
- SUBBASE ELEVATION (FEET) (SEE NOTE 7)
- WETLAND BOUNDARY BY PHOTO INTERPRETATION BY BRA (SEE NOTE 5)
- WETLAND BOUNDARY BY FIELD SURVEY (SEE NOTE 5)
- 100-YEAR FLOODPLAIN (SEE NOTE 6)
- STORMWATER MANAGEMENT POND
- BORROW AREA BOUNDARY
- DP-2 — DIRECT PUSH / MONITORING WELL LOCATION
- SZ-1 — SHELL ZONE WELL LOCATION
- SB-1 — ROTOSONIC BORING LOCATION
- SPT-1 — STANDARD PENETRATION TEST (SPT) BORING LOCATION
- SPT-1(2010) — STANDARD PENETRATION TEST (SPT) BORING LOCATION PERFORMED BY GEOSYNTEC IN 2010

Point#	Northing	Easting	Top of Casing EL. (FT)	Ground EL. (FT)
DP-1	1,356,797.91	624,537.79	84.12	81.20
DP-2	1,356,802.93	624,536.96	84.11	81.20
DP-3	1,356,050.85	625,213.95	82.22	79.30
DP-4	1,356,053.84	625,219.58	82.24	79.30
DP-5	1,355,353.25	624,128.08	84.13	81.60
DP-6	1,355,356.37	624,125.45	84.23	81.60
DP-7	1,355,177.88	625,941.53	82.63	79.60
DP-8	1,355,182.23	625,941.31	82.78	79.60
DP-9	1,354,970.41	626,691.23	81.58	78.90
DP-10	1,354,970.16	626,687.84	81.59	78.90
DP-11	1,354,609.00	625,190.27	84.06	81.20
DP-12	1,354,604.52	625,187.66	84.18	81.20
DP-13	1,354,519.86	626,168.29	83.09	80.00
DP-14	1,354,321.35	626,873.19	81.97	78.90
DP-15	1,354,318.16	626,873.34	81.98	78.90
DP-16	1,354,048.17	626,132.23	82.57	79.50
DP-17	1,354,047.58	626,135.33	82.58	79.50
DP-18	1,353,592.44	624,195.90	84.38	81.20
DP-19	1,353,596.07	624,200.39	84.34	81.20
DP-20	1,353,034.67	625,503.33	83.07	79.80
DP-21	1,353,030.01	625,502.82	83.00	79.80
DP-22	1,353,637.77	627,171.49	81.00	78.30
DP-23	1,353,641.31	627,170.88	81.27	78.30
DP-24	1,353,736.22	626,342.40	82.22	79.20
SB-1	1,356,401.00	624,799.00	-	80.00

Point#	Northing	Easting	TOC (FT)	Gr. EL (FT)
SB-2	1,353,191.00	624,139.00	-	82.00
SB-3	1,353,810.00	626,532.00	-	79.20
SPT-1	1,354,289.00	626,692.00	-	79.30
SPT-2	1,353,510.00	625,606.00	-	79.40
SPT-3	1,354,291.00	625,595.00	-	80.10
SPT-4	1,355,198.00	625,604.00	-	80.20
SPT-5	1,354,300.00	624,151.00	-	82.30
SPT-6	1,355,211.00	624,613.00	-	80.80
SPT-7	1,356,067.00	624,448.00	-	80.40
SPT-8	1,356,792.00	624,996.00	-	80.10
SPT-9	1,356,781.00	624,156.00	-	81.50
SPT-10	1,357,317.00	624,503.00	-	81.00
SPT-11	1,351,994.00	624,604.00	-	80.70
SPT-12	1,351,602.00	625,635.00	-	80.40
SPT-13	1,351,240.00	626,443.00	-	81.10
SPT-14	1,350,398.00	626,102.00	-	81.00
SPT-15	1,349,802.00	625,707.00	-	80.70
SZ-1	1,355,170.25	625,942.43	82.43	79.60
SZ-2	1,353,030.47	625,511.10	83.16	79.80
SZ-3	1,353,629.43	627,175.45	81.27	78.30
SPT-1(2010)	1,352,101.58	626,189.62	-	79.93
SPT-2(2010)	1,353,558.01	626,553.26	-	78.79
SPT-3(2010)	1,352,965.21	627,387.97	-	78.22
SPT-4(2010)	1,352,714.69	627,035.50	-	77.46
SPT-5(2010)	1,351,944.10	626,526.17	-	83.54
SPT-6(2010)	1,352,144.14	627,742.12	-	78.19

NOTES:

1. NORTHING AND EASTING COORDINATES SHOWN REPRESENT FLORIDA STATE PLANE EAST ZONE NORTH AMERICAN DATUM OF 1983 (NAD83).
2. THE ELEVATIONS SHOWN REPRESENT NATIONAL GEODETIC VERTICAL DATUM OF1929 (NGVD29)(FEET).
3. THE PROPERTY BOUNDARY IS BASED ON A COMPOSITE BOUNDARY SURVEY PROVIDED BY JOHNSTON SURVEYING INC., KISSIMMEE FLORIDA, DATED AUGUST 12, 1999.
4. TOPOGRAPHIC INFORMATION SHOWN ON THIS DRAWING WAS PROVIDED BY BASE MAPPING CO. LTD BASED ON AN AERIAL PHOTOGRAPH TAKEN ON 24 JULY 2010.
5. THE WETLAND BOUNDARY INFORMATION SHOWN IS BASED ON A FIELD SURVEY DATED 15 MAY 2002 BY JOHNSTON SURVEYING INC. OF WETLANDS BOUNDARIES FLAGGED BY BIOLOGICAL RESEARCH ASSOCIATES, INC. (BRA) AND JDS PERMIT, A PHOTO INTERPRETATION OF WETLAND BOUNDARIES BY BRA IN AREAS OUTSIDE THE LIMITS OF CONSTRUCTION, AND A FIELD SURVEY DATED 24 NOVEMBER 2010 BY PEAVEY & ASSOCIATES OF WETLAND BOUNDARIES FLAGGED BY ENTRIX, INC.
6. THE 100-YEAR FLOODPLAIN BOUNDARY SHOWN WAS PROVIDED BY THE OSCEOLA COUNTY GIS DEPARTMENT ON JANUARY 9, 2002 AND RECONFIRMED WITH THE OSCEOLA COUNTY GIS DEPARTMENT ON 24 SEPTEMBER 2010.
7. PROPOSED SUBBASE GRADING IS SHOWN IN THE BACKGROUND TO ILLUSTRATE TEST LOCATIONS RELATIVE TO THE JED DISPOSAL FACILITY LAYOUT.

REV	DATE	DESCRIPTION	DRN	APP
1	APR 2011	REVISED PER FDEP COMMENTS, RAI #1	NSS	CRB
0	FEB 2011	ISSUED FOR FDEP APPROVAL	JWO	CRB

Geosyntec consultants
13101 TELECOM DRIVE, SUITE 120
TEMPLE TERRACE, FLORIDA 33637 USA
PH: 813.558.0990 - FX:813.558.9726
AUTHORIZATION NUMBER: 4321

WSI Waste Services Inc.
1501 OMNI WAY
ST. CLOUD, FLORIDA 34773
TEL: 407-891-3720 FAX: 407-891-3730

TITLE: SITE CHARACTERIZATION PLAN I

PROJECT: LATERAL EXPANSION
MAJOR SOLID WASTE PERMIT MODIFICATION

SITE: J.E.D. SOLID WASTE MANAGEMENT FACILITY

SIGNATURE
4/14/2011
DATE
CRAIG BROWNE - LICENSE NO. 68613

CRAIG R. BROWNE LICENSE No. 68613 STATE OF FLORIDA PROFESSIONAL ENGINEER

DESIGN BY:	CRB/JWO	DATE:	FEBRUARY 2011
DRAWN BY:	JWO	PROJECT NO.:	FL1868
CHECKED BY:	CRB	FILE:	FL1868.02P051
REVIEWED BY:	JAB	DRAWING NO.:	
APPROVED BY:	CRB	5 OF 40	

PERMIT DRAWING

N

0 200' 400'

SCALE IN FEET

LEGEND

PROPERTY BOUNDARY

EXISTING GROUND ELEVATION (FEET) (SEE NOTE 4)

APPROXIMATE LOCATION OF INTERMITTENT STREAM

SUBBASE ELEVATION (FEET) (SEE NOTE 7)

WETLAND BOUNDARY BY PHOTO INTERPRETATION BY BRA (SEE NOTE 5)

WETLAND BOUNDARY BY FIELD SURVEY (SEE NOTE 5)

100-YEAR FLOODPLAIN (SEE NOTE 6)

STORMWATER MANAGEMENT POND

BORROW AREA BOUNDARY

DP-2 DIRECT PUSH / MONITORING WELL LOCATION

SZ-1 SHELL ZONE WELL LOCATION

SB-1 ROTOSONIC BORING LOCATION

SPT-1 STANDARD PENETRATION TEST (SPT) BORING LOCATION

SPT-1(2010) STANDARD PENETRATION TEST (SPT) BORING LOCATION PERFORMED BY GEOSYNTEC IN 2010

Point#	Northing	Easting	Top of Casing EL. (FT)	Ground EL. (FT)
DP-1	1,356,797.91	624,537.79	84.12	81.20
DP-2	1,356,802.93	624,536.96	84.11	81.20
DP-3	1,356,050.85	625,213.95	82.22	79.30
DP-4	1,356,053.84	625,219.58	82.24	79.30
DP-5	1,355,353.25	624,128.08	84.13	81.60
DP-6	1,355,356.37	624,125.45	84.23	81.60
DP-7	1,355,177.88	625,941.53	82.63	79.60
DP-8	1,355,182.23	625,941.31	82.78	79.60
DP-9	1,354,970.41	626,691.23	81.58	78.90
DP-10	1,354,970.16	626,687.84	81.59	78.90
DP-11	1,354,609.00	625,190.27	84.06	81.20
DP-12	1,354,604.52	625,187.66	84.18	81.20
DP-13	1,354,519.86	626,168.29	83.09	80.00
DP-14	1,354,321.35	626,873.19	81.97	78.90
DP-15	1,354,318.16	626,873.34	81.98	78.90
DP-16	1,354,048.17	626,132.23	82.57	79.50
DP-17	1,354,047.58	626,135.33	82.58	79.50
DP-18	1,353,592.44	624,195.90	84.38	81.20
DP-19	1,353,596.07	624,200.39	84.34	81.20
DP-20	1,353,034.67	625,503.33	83.07	79.80
DP-21	1,353,030.01	625,502.82	83.00	79.80
DP-22	1,353,637.77	627,171.49	81.00	78.30
DP-23	1,353,641.31	627,170.88	81.27	78.30
DP-24	1,353,736.22	626,342.40	82.22	79.20
SB-1	1,356,401.00	624,799.00	-	80.00

Point#	Northing	Easting	TOC (FT)	Gr. EL (FT)
SB-2	1,353,191.00	624,139.00	-	82.00
SB-3	1,353,810.00	626,532.00	-	79.20
SPT-1	1,354,289.00	626,692.00	-	79.30
SPT-2	1,353,510.00	625,606.00	-	79.40
SPT-3	1,354,291.00	625,595.00	-	80.10
SPT-4	1,355,198.00	625,604.00	-	80.20
SPT-5	1,354,300.00	624,151.00	-	82.30
SPT-6	1,355,211.00	624,613.00	-	80.80
SPT-7	1,356,067.00	624,448.00	-	80.40
SPT-8	1,356,792.00	624,996.00	-	80.10
SPT-9	1,356,781.00	624,156.00	-	81.50
SPT-10	1,357,317.00	624,503.00	-	81.00
SPT-11	1,351,994.00	624,604.00	-	80.70
SPT-12	1,351,602.00	625,635.00	-	80.40
SPT-13	1,351,240.00	626,443.00	-	81.10
SPT-14	1,350,398.00	626,102.00	-	81.00
SPT-15	1,349,802.00	625,707.00	-	80.70
SZ-1	1,355,170.25	625,942.43	82.43	79.60
SZ-2	1,353,030.47	625,511.10	83.16	79.80
SZ-3	1,353,629.43	627,175.45	81.27	78.30
SPT-1(2010)	1,352,101.58	626,189.62	-	79.93
SPT-2(2010)	1,353,558.01	626,553.26	-	78.79
SPT-3(2010)	1,352,965.21	627,387.97	-	78.22
SPT-4(2010)	1,352,714.69	627,035.50	-	77.46
SPT-5(2010)	1,351,944.10	626,526.17	-	83.54
SPT-6(2010)	1,352,144.14	627,742.12	-	78.19

NOTES:

1. NORTHING AND EASTING COORDINATES SHOWN REPRESENT FLORIDA STATE PLANE EAST ZONE NORTH AMERICAN DATUM OF 1983 (NAD83).
2. THE ELEVATIONS SHOWN REPRESENT NATIONAL GEODETIC VERTICAL DATUM OF1929 (NGVD29)(FEET).
3. THE PROPERTY BOUNDARY IS BASED ON A COMPOSITE BOUNDARY SURVEY PROVIDED BY JOHNSTON SURVEYING INC., KISSIMMEE FLORIDA, DATED AUGUST 12, 1999.
4. TOPOGRAPHIC INFORMATION SHOWN ON THIS DRAWING WAS PROVIDED BY BASE MAPPING CO. LTD BASED ON AN AERIAL PHOTOGRAPH TAKEN ON 24 JULY 2010.
5. THE WETLAND BOUNDARY INFORMATION SHOWN IS BASED ON A FIELD SURVEY DATED 15 MAY 2002 BY JOHNSTON SURVEYING INC. OF WETLANDS BOUNDARIES FLAGGED BY BIOLOGICAL RESEARCH ASSOCIATES, INC. (BRA) AND JDS PERMIT, A PHOTO INTERPRETATION OF WETLAND BOUNDARIES BY BRA IN AREAS OUTSIDE THE LIMITS OF CONSTRUCTION, AND A FIELD SURVEY DATED 24 NOVEMBER 2010 BY PEAVEY & ASSOCIATES OF WETLAND BOUNDARIES FLAGGED BY ENTRIX, INC.
6. THE 100-YEAR FLOODPLAIN BOUNDARY SHOWN WAS PROVIDED BY THE OSCEOLA COUNTY GIS DEPARTMENT ON JANUARY 9, 2002 AND RECONFIRMED WITH THE OSCEOLA COUNTY GIS DEPARTMENT ON 24 SEPTEMBER 2010.
7. PROPOSED SUBBASE GRADING IS SHOWN IN THE BACKGROUND TO ILLUSTRATE TEST LOCATIONS RELATIVE TO THE JED DISPOSAL FACILITY LAYOUT.

REV	DATE	DESCRIPTION	DRN	APP
1	APR 2011	REVISED PER FDEP COMMENTS, RAI #1	NSS	CRB
0	FEB 2011	ISSUED FOR FDEP APPROVAL	JWO	CRB

Geosyntec consultants
13101 TELECOM DRIVE, SUITE 120
TEMPLE TERRACE, FLORIDA 33637 USA
PH: 813.558.0990 - FX:813.558.9726
AUTHORIZATION NUMBER: 4321

WSI Waste Services, Inc.
1501 OMNI WAY
ST. CLOUD, FLORIDA 34773
TEL: 407-891-3720 FAX: 407-891-3730

TITLE: SITE CHARACTERIZATION PLAN II

PROJECT: LATERAL EXPANSION MAJOR SOLID WASTE PERMIT MODIFICATION

SITE: J.E.D. SOLID WASTE MANAGEMENT FACILITY

SIGNATURE

4/14/2011

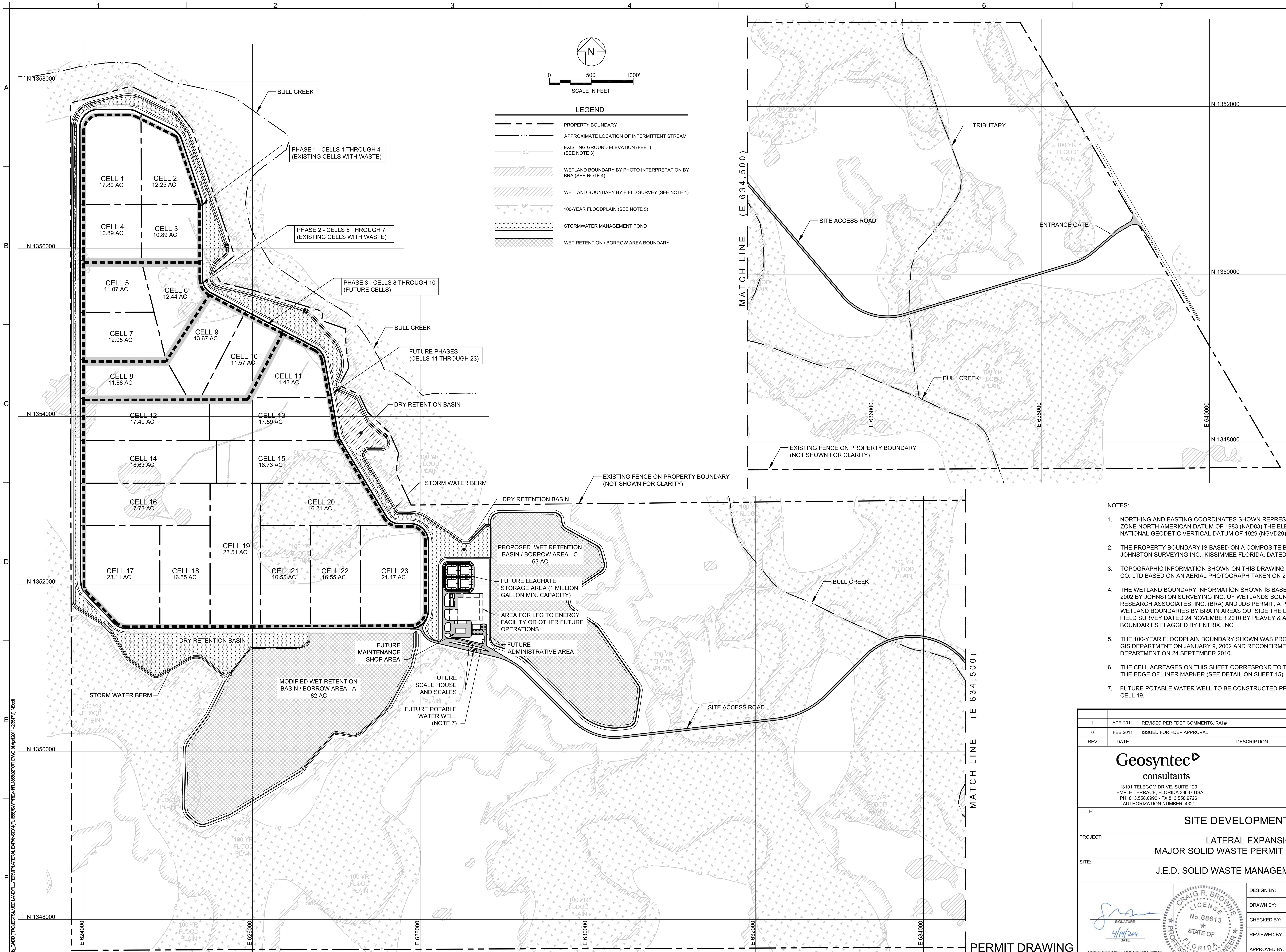
DATE

CRAIG BROWNE - LICENSE NO. 68613

CRAIG R. BROWNE LICENSE No. 68613 STATE OF FLORIDA PROFESSIONAL ENGINEER

DESIGN BY:	CRB/JWO	DATE:	FEBRUARY 2011
DRAWN BY:	JWO	PROJECT NO.:	FL1868
CHECKED BY:	CRB	FILE:	FL1868.02P051
REVIEWED BY:	JAB	DRAWING NO.:	6 OF 40
APPROVED BY:	CRB		

PERMIT DRAWING



NOTES:

1. NORTHING AND EASTING COORDINATES SHOWN REPRESENT FLORIDA STATE PLANE EAST ZONE NORTH AMERICAN DATUM OF 1983 (NAD83).THE ELEVATIONS SHOWN REPRESENT NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29)(FEET).
2. THE PROPERTY BOUNDARY IS BASED ON A COMPOSITE BOUNDARY SURVEY PROVIDED BY JOHNSTON SURVEYING INC., KISSIMMEE FLORIDA, DATED AUGUST 12, 1999.
3. TOPOGRAPHIC INFORMATION SHOWN ON THIS DRAWING WAS PROVIDED BY BASE MAPPING CO. LTD BASED ON AN AERIAL PHOTOGRAPH TAKEN ON 24 JULY 2010.
4. THE WETLAND BOUNDARY INFORMATION SHOWN IS BASED ON A FIELD SURVEY DATED 15 MAY 2002 BY JOHNSTON SURVEYING INC. OF WETLANDS BOUNDARIES FLAGGED BY BIOLOGICAL RESEARCH ASSOCIATES, INC. (BRA) AND JDS PERMIT, A PHOTO INTERPRETATION OF WETLAND BOUNDARIES BY BRA IN AREAS OUTSIDE THE LIMITS OF CONSTRUCTION, AND A FIELD SURVEY DATED 24 NOVEMBER 2010 BY PEAVEY & ASSOCIATES OF WETLAND BOUNDARIES FLAGGED BY ENTRIX, INC.
5. THE 100-YEAR FLOODPLAIN BOUNDARY SHOWN WAS PROVIDED BY THE OSCEOLA COUNTY GIS DEPARTMENT ON JANUARY 9, 2002 AND RECONFIRMED WITH THE OSCEOLA COUNTY GIS DEPARTMENT ON 24 SEPTEMBER 2010.
6. THE CELL ACREAGES ON THIS SHEET CORRESPOND TO THE LINED AREA AS MEASURED TO THE EDGE OF LINER MARKER (SEE DETAIL ON SHEET 15).
7. FUTURE POTABLE WATER WELL TO BE CONSTRUCTED PRIOR TO PLACEMENT OF WASTE IN CELL 19.

REV	DATE	DESCRIPTION	DRN	APP
1	APR 2011	REVISED PER FDEP COMMENTS, RAI #1	NSS	CRB
0	FEB 2011	ISSUED FOR FDEP APPROVAL	JWO	CRB

Geosyntec consultants
13101 TELECOM DRIVE, SUITE 120
TEMPLE TERRACE, FLORIDA 33637 USA
PH: 813.558.0990 - FX:813.558.9726
AUTHORIZATION NUMBER: 4321

WSI Waste Services Inc.
1501 OMNI WAY
ST. CLOUD, FLORIDA 34773
TEL: 407-891-3720 FAX: 407-891-3730

TITLE: SITE DEVELOPMENT PLAN

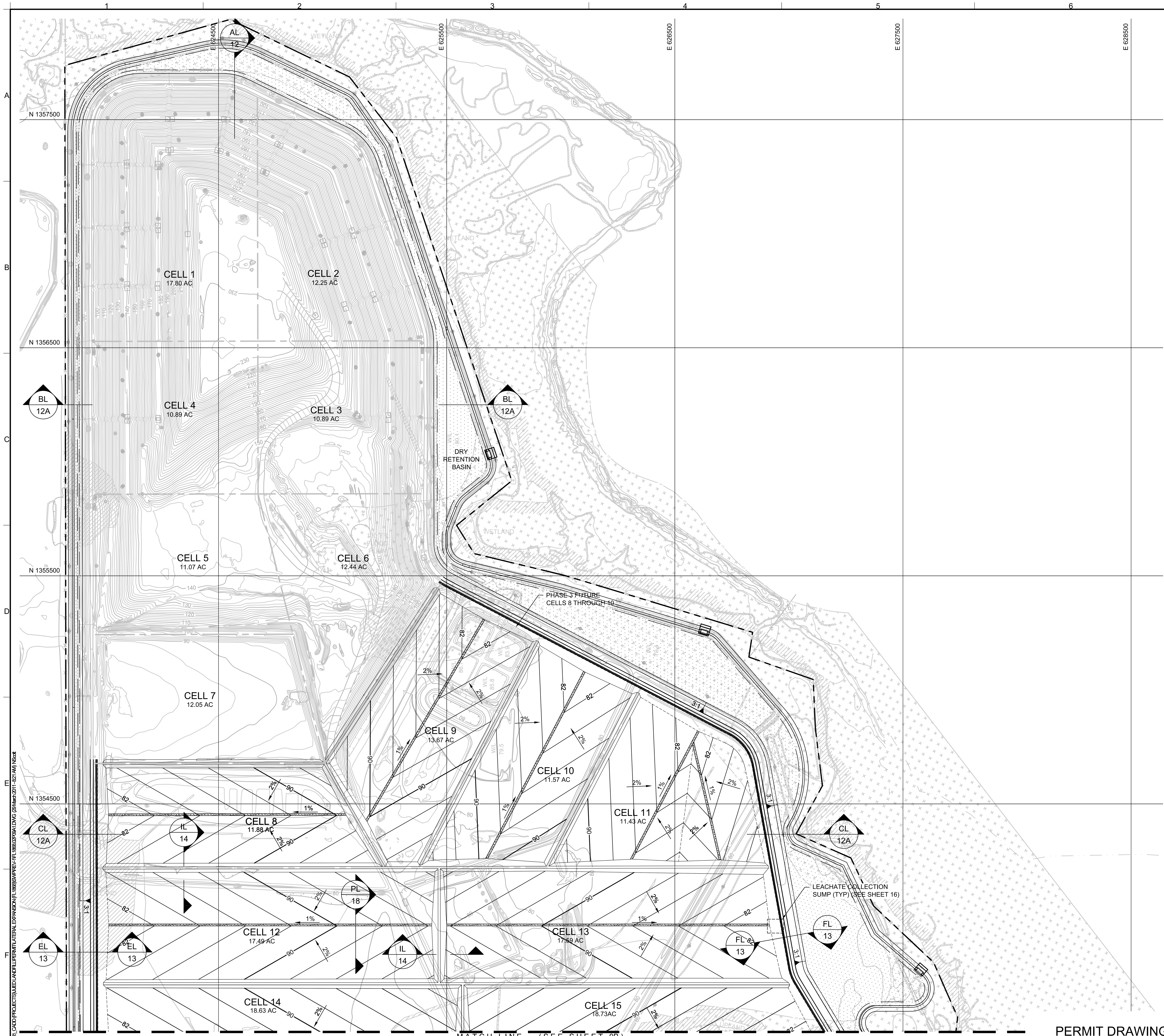
PROJECT: LATERAL EXPANSION
MAJOR SOLID WASTE PERMIT MODIFICATION

SITE: J.E.D. SOLID WASTE MANAGEMENT FACILITY

SIGNATURE
4/14/2011
DATE
CRAIG BROWNE - LICENSE NO. 68613

CRAIG R. BROWNE LICENSE No. 68613 STATE OF FLORIDA PROFESSIONAL ENGINEER

DESIGN BY:	CRB/JWO	DATE:	FEBRUARY 2011
DRAWN BY:	JWO	PROJECT NO.:	FL1868
CHECKED BY:	CRB	FILE:	FL1868.02P071
REVIEWED BY:	JAB	DRAWING NO.:	
APPROVED BY:	CRB	7 OF 40	



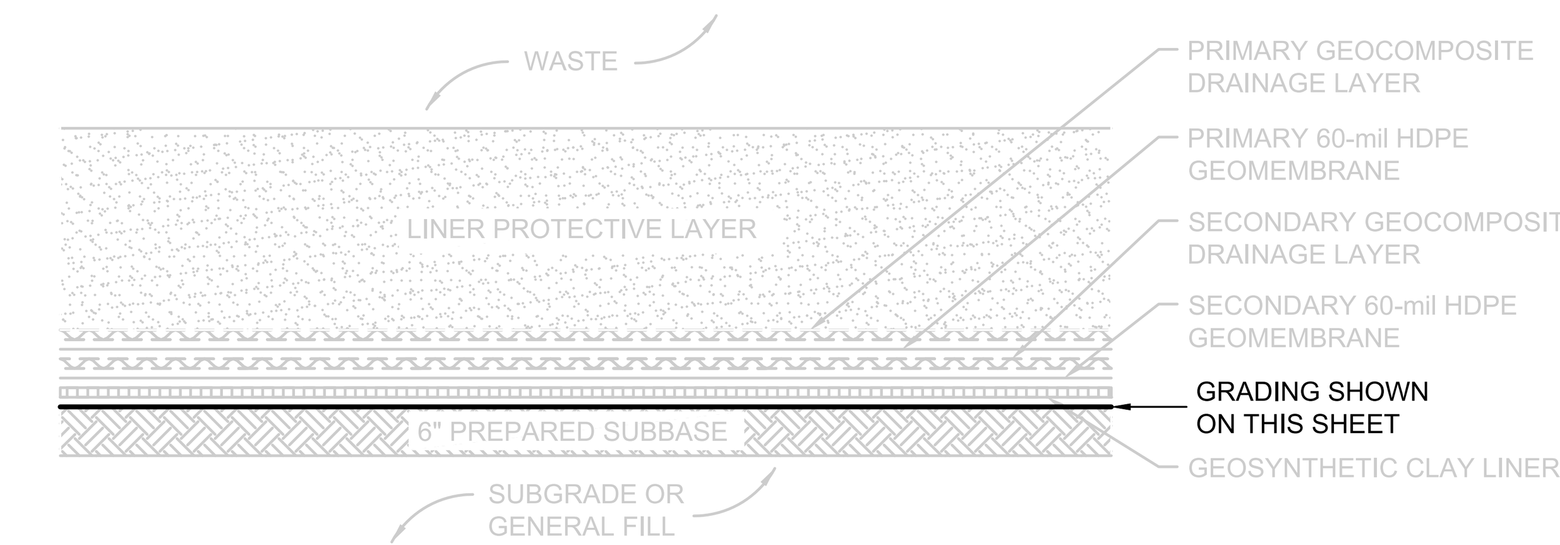
N

0 200' 400'

SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE LOCATION OF INTERMITTENT STREAM
- EXISTING GROUND ELEVATION (FEET) (SEE NOTE 4)
- EXISTING FENCE
- WETLAND BOUNDARY BY PHOTO INTERPRETATION BY BRA (SEE NOTE 5)
- WETLAND BOUNDARY BY FIELD SURVEY (SEE NOTE 5)
- 100-YEAR FLOODPLAIN (SEE NOTE 6)
- STORMWATER MANAGEMENT BASIN
- PROPOSED SUBBASE ELEVATION (FEET)
- LEAK DETECTION TRENCH (PL / 18)



GRADING KEY MAP

SCALE: 1" = 2"

XREF: FL1868.02X2012

CONSTRUCTION AND WASTE FILL SEQUENCE NOTES:

1. PHASE I (CELLS 1 THROUGH 4) HAS BEEN COMPLETED AND HAS WASTE DISPOSED IN THE CELLS.
2. THE SIDESLOPES OF CELLS 1 THROUGH 5 HAVE BEEN PARTIALLY CLOSED.
3. PHASE 2 (CELLS 5 THROUGH 7) HAS BEEN COMPLETED AND HAS WASTE DISPOSED IN CELLS 5 AND 6.
4. PHASES 3 THROUGH 8 WILL BE CONSTRUCTED IN ACCORDANCE WITH THESE PERMIT DRAWINGS (LATERAL EXPANSION PERMIT DRAWINGS DATED FEBRUARY 2010).

NOTES:

1. NORTHING AND EASTING COORDINATES SHOWN REPRESENT FLORIDA STATE PLANE EAST ZONE NORTH AMERICAN DATUM OF 1983 (NAD83).
2. THE ELEVATIONS SHOWN REPRESENT NATIONAL GEODETIC VERTICAL DATUM OF1929 (NGVD29)(FEET).
3. THE PROPERTY BOUNDARY IS BASED ON A COMPOSITE BOUNDARY SURVEY PROVIDED BY JOHNSTON SURVEYING INC., KISSIMMEE FLORIDA, DATED AUGUST 12, 1999.
4. TOPOGRAPHIC INFORMATION SHOWN ON THIS DRAWING WAS PROVIDED BY BASE MAPPING CO. LTD BASED ON AN AERIAL PHOTOGRAPH TAKEN ON 24 JULY 2010.
5. THE WETLAND BOUNDARY INFORMATION SHOWN IS BASED ON A FIELD SURVEY DATED 15 MAY 2002 BY JOHNSTON SURVEYING INC. OF WETLANDS BOUNDARIES FLAGGED BY BIOLOGICAL RESEARCH ASSOCIATES, INC. (BRA) AND JDS PERMIT, A PHOTO INTERPRETATION OF WETLAND BOUNDARIES BY BRA IN AREAS OUTSIDE THE LIMITS OF CONSTRUCTION, AND A FIELD SURVEY DATED 24 NOVEMBER 2010 BY PEAVEY & ASSOCIATES OF WETLAND BOUNDARIES FLAGGED BY ENTRIX, INC.
6. THE 100-YEAR FLOODPLAIN BOUNDARY SHOWN WAS PROVIDED BY THE OSCEOLA COUNTY GIS DEPARTMENT ON JANUARY 9, 2002 AND RECONFIRMED WITH THE OSCEOLA COUNTY GIS DEPARTMENT ON 24 SEPTEMBER 2010.

REV	DATE	DESCRIPTION	DRN	APP
1	APR 2011	REVISED PER FDEP COMMENTS, RAI #1	NSS	CRB
0	FEB 2011	ISSUED FOR FDEP APPROVAL	JWO	CRB

Geosyntec consultants
13101 TELECOM DRIVE, SUITE 120
TEMPLE TERRACE, FLORIDA 33637 USA
PH: 813.558.0990 - FX:813.558.9726
AUTHORIZATION NUMBER: 4321

WSI Waste Services Inc.
1501 OMNI WAY
ST. CLOUD, FLORIDA 34773
TEL: 407-891-3720 FAX: 407-891-3730

TITLE: BASE GRADING PLAN I FOR FUTURE CELLS

PROJECT: LATERAL EXPANSION
MAJOR SOLID WASTE PERMIT MODIFICATION

SITE: J.E.D. SOLID WASTE MANAGEMENT FACILITY

SIGNATURE
4/14/2011
DATE
CRAIG BROWNE - LICENSE NO. 68613

CRAIG R. BROWNE LICENSE No. 68613 STATE OF FLORIDA PROFESSIONAL ENGINEER

DESIGN BY:	CRB/JWO	DATE:	FEBRUARY 2011
DRAWN BY:	JWO	PROJECT NO.:	FL1868
CHECKED BY:	CRB	FILE:	FL1868.02P09A1
REVIEWED BY:	JAB	DRAWING NO.:	
APPROVED BY:	CRB	9A OF 40	

PERMIT DRAWING

NOTES:

1. NORTHING AND EASTING COORDINATES SHOWN REPRESENT FLORIDA STATE PLANE EAST ZONE NORTH AMERICAN DATUM OF 1983 (NAD83).

2. THE ELEVATIONS SHOWN REPRESENT NATIONAL GEODETIC VERTICAL DATUM OF1929 (NGVD29)(FEET).

3. THE PROPERTY BOUNDARY IS BASED ON A COMPOSITE BOUNDARY SURVEY PROVIDED BY JOHNSTON SURVEYING INC., KISSIMMEE FLORIDA, DATED AUGUST 12, 1999.

4. TOPOGRAPHIC INFORMATION SHOWN ON THIS DRAWING WAS PROVIDED BY BASE MAPPING CO. LTD BASED ON AN AERIAL PHOTOGRAPH TAKEN ON 24 JULY 2010.

5. THE WETLAND BOUNDARY INFORMATION SHOWN IS BASED ON A FIELD SURVEY DATED 15 MAY 2002 BY JOHNSTON SURVEYING INC. OF WETLANDS BOUNDARIES FLAGGED BY BIOLOGICAL RESEARCH ASSOCIATES, INC. (BRA) AND JDS PERMIT, A PHOTO INTERPRETATION OF WETLAND BOUNDARIES BY BRA IN AREAS OUTSIDE THE LIMITS OF CONSTRUCTION, AND A FIELD SURVEY DATED 24 NOVEMBER 2010 BY PEAVEY & ASSOCIATES OF WETLAND BOUNDARIES FLAGGED BY ENTRIX, INC.

6. THE 100-YEAR FLOODPLAIN BOUNDARY SHOWN WAS PROVIDED BY THE OSCEOLA COUNTY GIS DEPARTMENT ON JANUARY 9, 2002.

LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE LOCATION OF INTERMITTENT STREAM
- EXISTING GROUND ELEVATION (FEET) (SEE NOTE 4)
- EXISTING FENCE
- WETLAND BOUNDARY BY PHOTO INTERPRETATION BY BRA (SEE NOTE 5)
- WETLAND BOUNDARY BY FIELD SURVEY(SEE NOTE 5)
- 100-YEAR FLOODPLAIN (SEE NOTE 6)
- STORMWATER MANAGEMENT BASIN
- WET RETENTION / BORROW AREA BOUNDARY
- PROPOSED SUBBASE ELEVATION (FEET)
- LEAK DETECTION TRENCH

REV	DATE	DESCRIPTION	DRN	APP
1	APR 2011	REVISED PER FDEP COMMENTS, RAI #1	NSS	CRB
0	FEB 2011	ISSUED FOR FDEP APPROVAL	JWO	CRB

Geosyntec consultants
13101 TELECOM DRIVE, SUITE 120
TEMPLE TERRACE, FLORIDA 33637 USA
PH: 813.558.0990 - FX:813.558.9726
AUTHORIZATION NUMBER: 4321

WSI Waste Services, Inc.
1501 OMNI WAY
ST. CLOUD, FLORIDA 34773
TEL: 407-891-3720 FAX: 407-891-3730

TITLE: BASE GRADING PLAN II FOR FUTURE CELLS

PROJECT: LATERAL EXPANSION
MAJOR SOLID WASTE PERMIT MODIFICATION

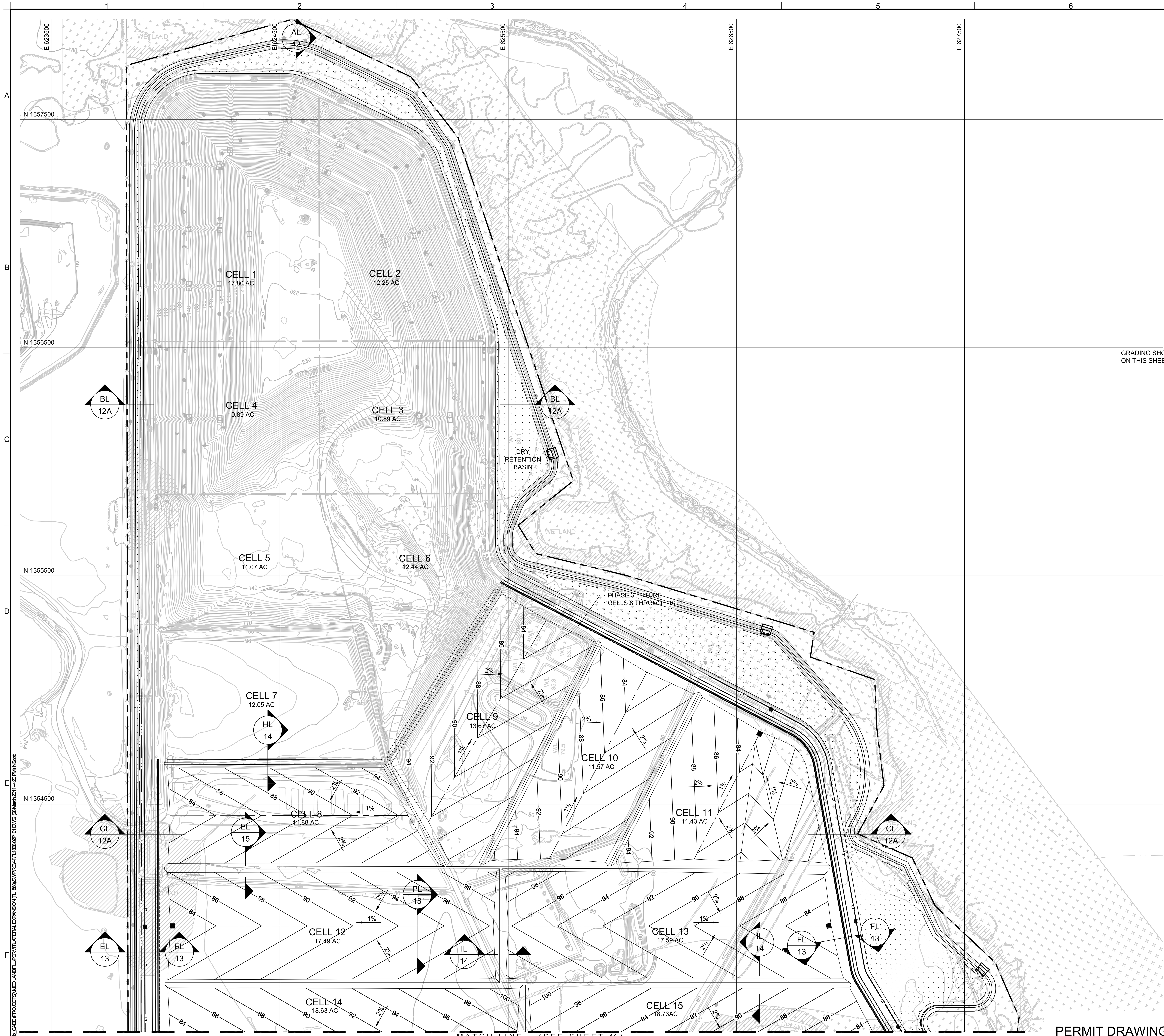
SITE: J.E.D. SOLID WASTE MANAGEMENT FACILITY

SIGNATURE
4/14/2011
DATE
CRAIG BROWNE - LICENSE NO. 68613

CRAIG R. BROWNE LICENSE No. 68613 STATE OF FLORIDA PROFESSIONAL ENGINEER

DESIGN BY:	CRB/JWO	DATE:	FEBRUARY 2011
DRAWN BY:	JWO	PROJECT NO.:	FL1868
CHECKED BY:	CRB	FILE:	FL1868.02P09A1
REVIEWED BY:	JAB	DRAWING NO.:	9B OF 40
APPROVED BY:	CRB		

PERMIT DRAWING



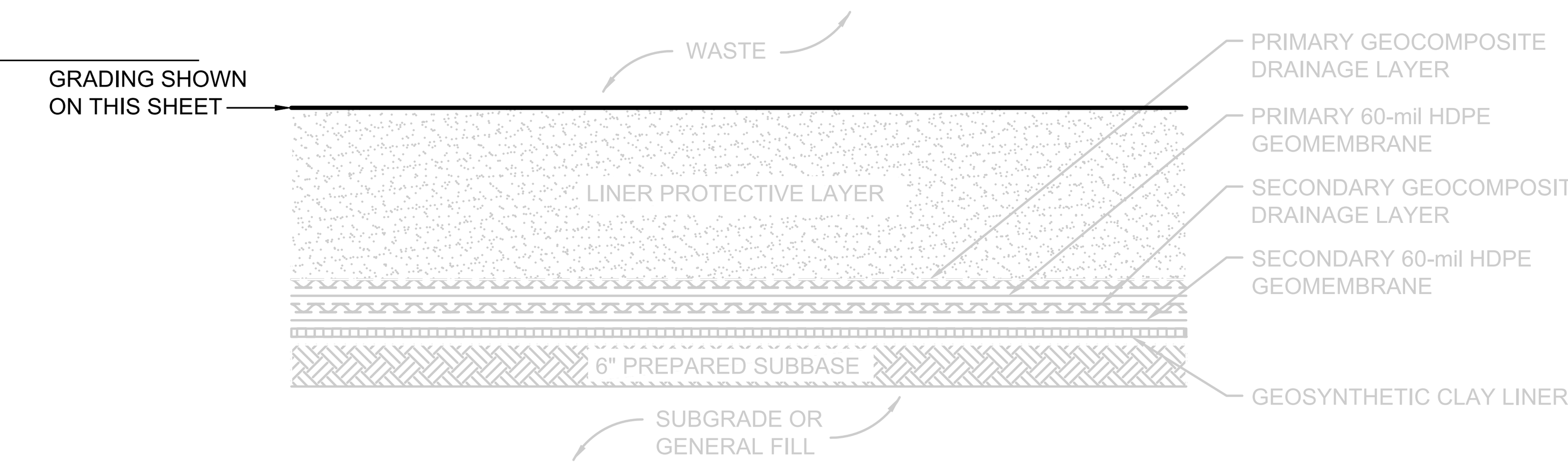
N

0 200' 400'

SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE LOCATION OF INTERMITTENT STREAM
- EXISTING GROUND ELEVATION (FEET) (SEE NOTE 4)
- EXISTING FENCE
- WETLAND BOUNDARY BY PHOTO INTERPRETATION BY BRA (SEE NOTE 5)
- WETLAND BOUNDARY BY FIELD SURVEY (SEE NOTE 5)
- 100-YEAR FLOODPLAIN (SEE NOTE 6)
- STORMWATER MANAGEMENT BASIN
- PROPOSED TOP OF PROTECTIVE COVER LAYER ELEVATION (FEET)
- LEACHATE TRANSMISSION PIPE AND MANHOLE
- LEACHATE COLLECTION PIPE AND SUMP



GRADING KEY MAP

SCALE: 1" = 2"

XREF: FL1868.02X2012

CONSTRUCTION AND WASTE FILL SEQUENCE NOTES:

1. PHASE I (CELLS 1 THROUGH 4) HAS BEEN COMPLETED AND HAS WASTE DISPOSED IN THE CELLS.
2. THE SIDESLOPES OF CELLS 1 THROUGH 4 HAVE BEEN PARTIALLY CLOSED.
3. PHASE 2 (CELLS 5 THROUGH 7) HAS BEEN CONSTRUCTED AND HAS WASTE DISPOSED IN CELLS 5 AND 6. CELL 7 WASTE DISPOSAL OPERATIONS ARE PENDING FDEP APPROVAL.
4. PHASES 3 THROUGH 8 WILL BE CONSTRUCTED IN ACCORDANCE WITH THESE PERMIT DRAWINGS (LATERAL EXPANSION PERMIT DRAWINGS DATED FEBRUARY 2010).

NOTES:

1. NORTHING AND EASTING COORDINATES SHOWN REPRESENT FLORIDA STATE PLANE EAST ZONE NORTH AMERICAN DATUM OF 1983 (NAD83).
2. THE ELEVATIONS SHOWN REPRESENT NATIONAL GEODETIC VERTICAL DATUM OF1929 (NGVD29)(FEET).
3. THE PROPERTY BOUNDARY IS BASED ON A COMPOSITE BOUNDARY SURVEY PROVIDED BY JOHNSTON SURVEYING INC., KISSIMMEE FLORIDA, DATED AUGUST 12, 1999.
4. TOPOGRAPHIC INFORMATION SHOWN ON THIS DRAWING WAS PROVIDED BY BASE MAPPING CO. LTD BASED ON AN AERIAL PHOTOGRAPH TAKEN ON 24 JULY 2010.
5. THE WETLAND BOUNDARY INFORMATION SHOWN IS BASED ON A FIELD SURVEY DATED 15 MAY 2002 BY JOHNSTON SURVEYING INC. OF WETLANDS BOUNDARIES FLAGGED BY BIOLOGICAL RESEARCH ASSOCIATES, INC. (BRA) AND JDS PERMIT, A PHOTO INTERPRETATION OF WETLAND BOUNDARIES BY BRA IN AREAS OUTSIDE THE LIMITS OF CONSTRUCTION, AND A FIELD SURVEY DATED 24 NOVEMBER 2010 BY PEAVEY & ASSOCIATES OF WETLAND BOUNDARIES FLAGGED BY ENTRIX, INC.
6. THE 100-YEAR FLOODPLAIN BOUNDARY SHOWN WAS PROVIDED BY THE OSCEOLA COUNTY GIS DEPARTMENT ON JANUARY 9, 2002.

REV	DATE	DESCRIPTION	DRN	APP
1	APR 2011	REVISED PER FDEP COMMENTS, RAI #1	NSS	CRB
0	FEB 2011	ISSUED FOR FDEP APPROVAL	JWO	CRB

Geosyntec consultants
13101 TELECOM DRIVE, SUITE 120
TEMPLE TERRACE, FLORIDA 33637 USA
PH: 813.558.0990 - FX:813.558.9726
AUTHORIZATION NUMBER: 4321

WSI Waste Services, Inc.
1501 OMNI WAY
ST. CLOUD, FLORIDA 34773
TEL: 407-891-3720 FAX: 407-891-3730

TITLE: LEACHATE COLLECTION SYSTEM LAYOUT PLAN I

PROJECT: LATERAL EXPANSION MAJOR SOLID WASTE PERMIT MODIFICATION

SITE: J.E.D. SOLID WASTE MANAGEMENT FACILITY

SIGNATURE

4/14/2011

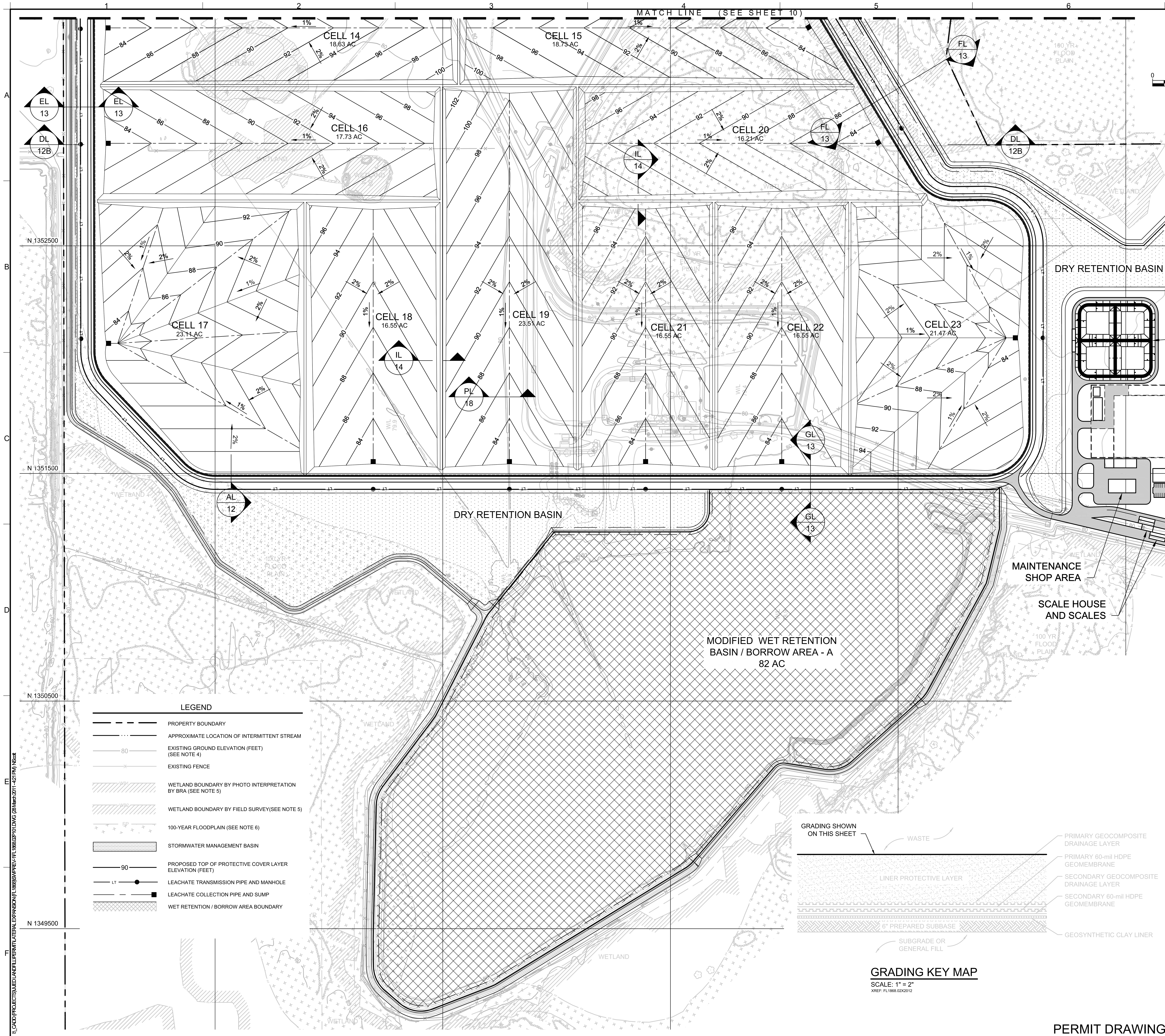
DATE

CRAIG BROWNE - LICENSE NO. 68613

CRAIG R. BROWNE LICENSE No. 68613 STATE OF FLORIDA PROFESSIONAL ENGINEER

DESIGN BY:	CRB/JWO	DATE:	FEBRUARY 2011
DRAWN BY:	JWO	PROJECT NO.:	FL1868
CHECKED BY:	CRB	FILE:	FL1868.02P101
REVIEWED BY:	JAB	DRAWING NO.:	10 OF 40
APPROVED BY:	CRB		

PERMIT DRAWING



MATCH LINE (SEE SHEET 10)
CELL 14
18.63 AC
CELL 15
18.73 AC
CELL 16
17.73 AC
CELL 17
23.11 AC
CELL 18
16.55 AC
CELL 19
23.51 AC
CELL 20
16.21 AC
CELL 21
16.55 AC
CELL 22
16.55 AC
CELL 23
21.47 AC
DRY RETENTION BASIN
PROPOSED WET RETENTION BASIN / BORROW AREA - C
63 AC
FUTURE LEACHATE STORAGE AREA
AREA FOR LFG TO ENERGY FACILITY OR OTHER FUTURE OPERATIONS
ADMINISTRATIVE AREA
MAINTENANCE SHOP AREA
SCALE HOUSE AND SCALES
DRY RETENTION BASIN
MODIFIED WET RETENTION BASIN / BORROW AREA - A
82 AC
SCALE IN FEET
LEGEND
PROPERTY BOUNDARY
APPROXIMATE LOCATION OF INTERMITTENT STREAM
EXISTING GROUND ELEVATION (FEET) (SEE NOTE 4)
EXISTING FENCE
WETLAND BOUNDARY BY PHOTO INTERPRETATION BY BRA (SEE NOTE 5)
WETLAND BOUNDARY BY FIELD SURVEY(SEE NOTE 5)
100-YEAR FLOODPLAIN (SEE NOTE 6)
STORMWATER MANAGEMENT BASIN
PROPOSED TOP OF PROTECTIVE COVER LAYER ELEVATION (FEET)
LEACHATE TRANSMISSION PIPE AND MANHOLE
LEACHATE COLLECTION PIPE AND SUMP
WET RETENTION / BORROW AREA BOUNDARY
GRADING SHOWN ON THIS SHEET
WASTE
LINER PROTECTIVE LAYER
PRIMARY GEOCOMPOSITE DRAINAGE LAYER
PRIMARY 60-mil HDPE GEOMEMBRANE
SECONDARY GEOCOMPOSITE DRAINAGE LAYER
SECONDARY 60-mil HDPE GEOMEMBRANE
6" PREPARED SUBBASE
GEOSYNTHETIC CLAY LINER
SUBGRADE OR GENERAL FILL
GRADING KEY MAP
SCALE: 1" = 2"

PERMIT DRAWING

NOTES:

1. NORTHING AND EASTING COORDINATES SHOWN REPRESENT FLORIDA STATE PLANE EAST ZONE NORTH AMERICAN DATUM OF 1983 (NAD83).
2. THE ELEVATIONS SHOWN REPRESENT NATIONAL GEODETIC VERTICAL DATUM OF1929 (NGVD29)(FEET).
3. THE PROPERTY BOUNDARY IS BASED ON A COMPOSITE BOUNDARY SURVEY PROVIDED BY JOHNSTON SURVEYING INC., KISSIMMEE FLORIDA, DATED AUGUST 12, 1999.
4. TOPOGRAPHIC INFORMATION SHOWN ON THIS DRAWING WAS PROVIDED BY BASE MAPPING CO. LTD BASED ON AN AERIAL PHOTOGRAPH TAKEN ON 24 JULY 2010.
5. THE WETLAND BOUNDARY INFORMATION SHOWN IS BASED ON A FIELD SURVEY DATED 15 MAY 2002 BY JOHNSTON SURVEYING INC. OF WETLANDS BOUNDARIES FLAGGED BY BIOLOGICAL RESEARCH ASSOCIATES, INC. (BRA) AND JDS PERMIT, A PHOTO INTERPRETATION OF WETLAND BOUNDARIES BY BRA IN AREAS OUTSIDE THE LIMITS OF CONSTRUCTION, AND A FIELD SURVEY DATED 24 NOVEMBER 2010 BY PEAVEY & ASSOCIATES OF WETLAND BOUNDARIES FLAGGED BY ENTRIX, INC.
6. THE 100-YEAR FLOODPLAIN BOUNDARY SHOWN WAS PROVIDED BY THE OSCEOLA COUNTY GIS DEPARTMENT ON JANUARY 9, 2002.

REV	DATE	DESCRIPTION	DRN	APP
1	APR 2011	REVISED PER FDEP COMMENTS, RAI #1	NSS	CRB
0	FEB 2011	ISSUED FOR FDEP APPROVAL	JWO	CRB

Geosyntec consultants
13101 TELECOM DRIVE, SUITE 120
TEMPLE TERRACE, FLORIDA 33637 USA
PH: 813.558.0990 - FX:813.558.9726
AUTHORIZATION NUMBER: 4321

WSI Waste Services, Inc.
1501 OMNI WAY
ST. CLOUD, FLORIDA 34773
TEL: 407-891-3720 FAX: 407-891-3730

TITLE:
LEACHATE COLLECTION SYSTEM LAYOUT PLAN II

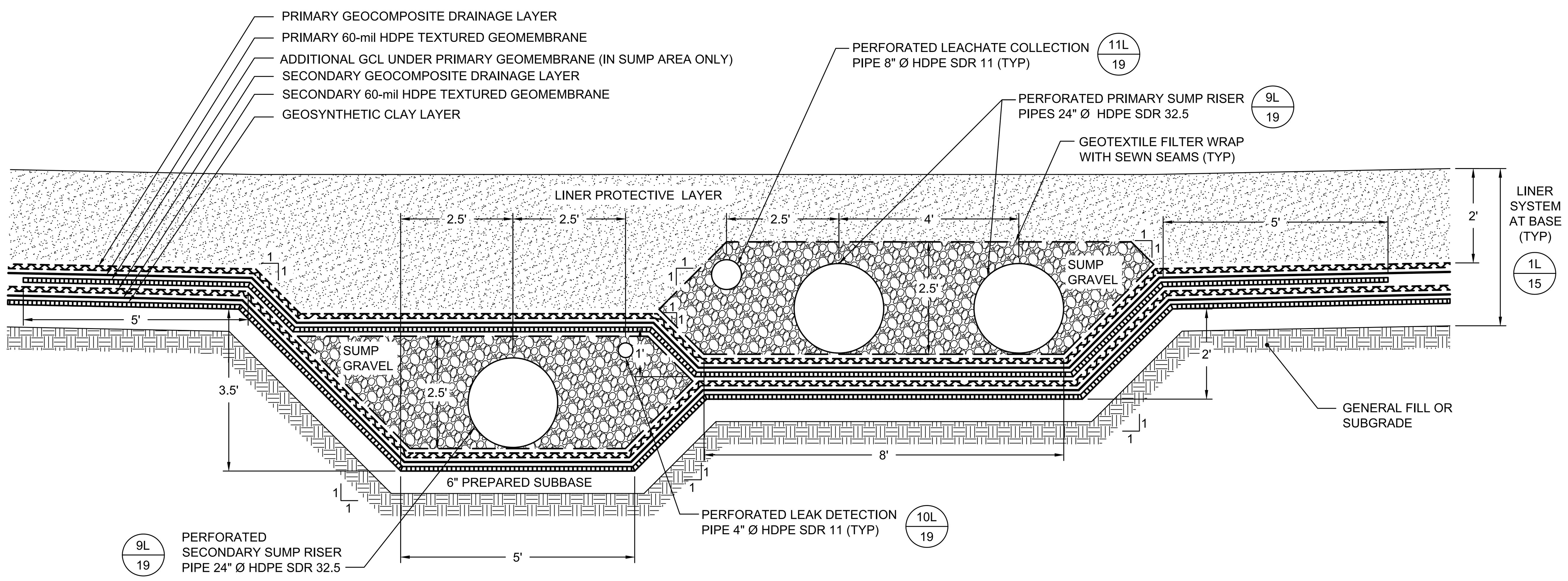
PROJECT:
LATERAL EXPANSION
MAJOR SOLID WASTE PERMIT MODIFICATION

SITE:
J.E.D. SOLID WASTE MANAGEMENT FACILITY

SIGNATURE
4/14/2011
DATE
CRAIG BROWNE - LICENSE NO. 68613

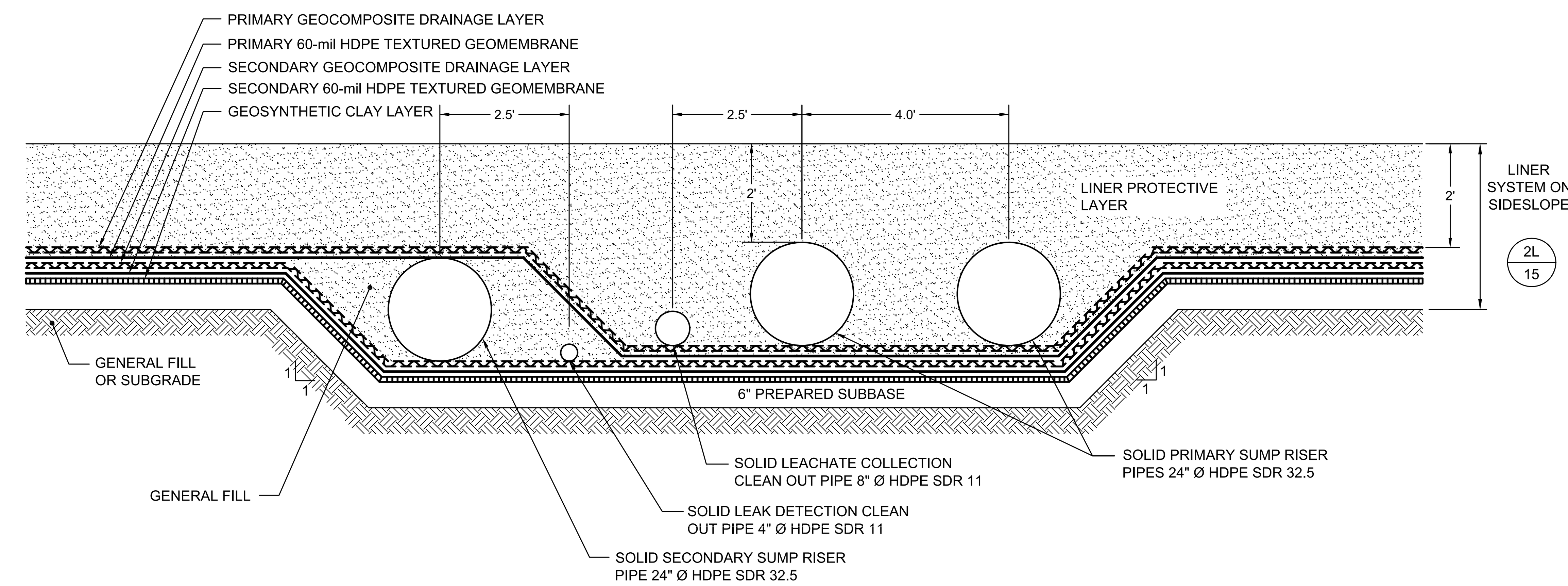
CRAIG R. BROWNE LICENSE No. 68613 STATE OF FLORIDA PROFESSIONAL ENGINEER

DESIGN BY:	CRB/JWO	DATE:	FEBRUARY 2011
DRAWN BY:	JWO	PROJECT NO.:	FL1868
CHECKED BY:	CRB	FILE:	FL1868.02P101
REVIEWED BY:	JAB	DRAWING NO.:	
APPROVED BY:	CRB	11 OF 40	



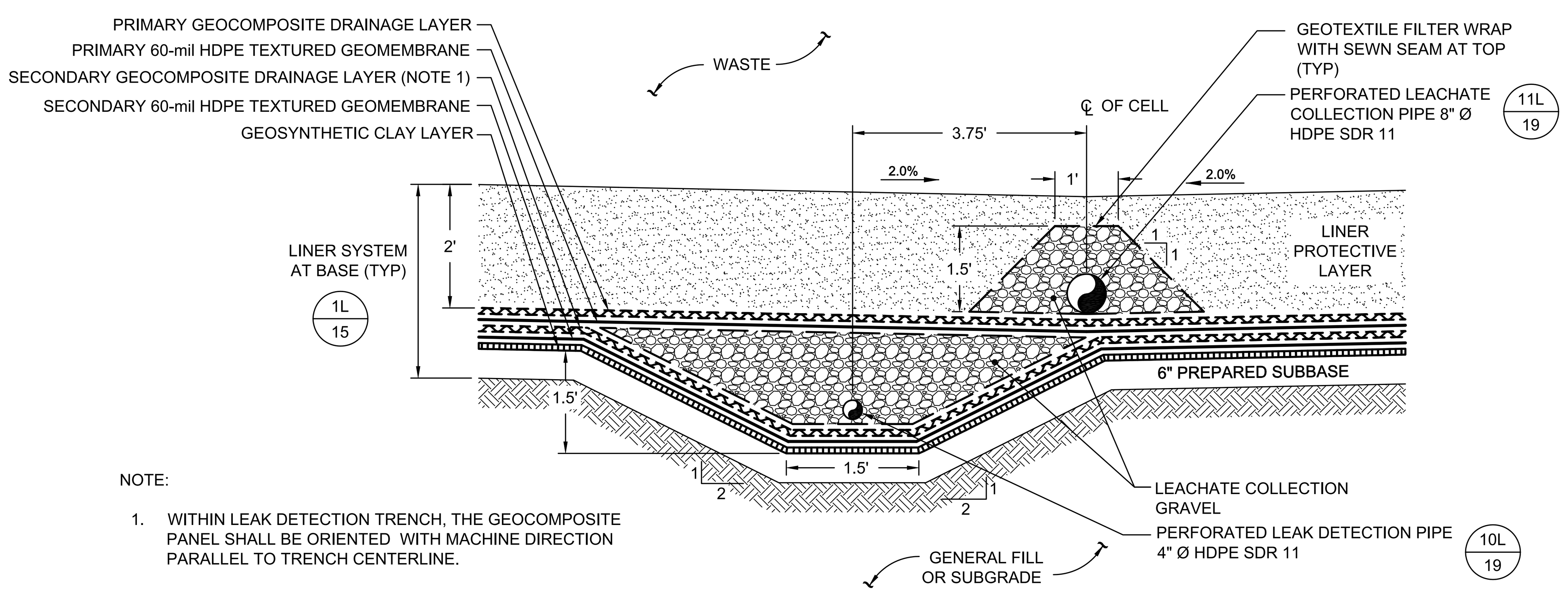
NL 16 SECTION LEACHATE COLLECTION SUMP

SCALE: NOT TO SCALE
XREF: FL1868.02X019



OL 16 SECTION RISER TRENCH ON SIDE SLOPE

SCALE: NOT TO SCALE
XREF: FL1868.02X020



NOTE:

1. WITHIN LEAK DETECTION TRENCH, THE GEOCOMPOSITE PANEL SHALL BE ORIENTED WITH MACHINE DIRECTION PARALLEL TO TRENCH CENTERLINE.

PL 10 SECTION LEACHATE COLLECTION AND LEAK DETECTION SYSTEMS

SCALE: NOT TO SCALE
XREF: FL1868.02X016

NOTE: THIS SHEET IS IDENTICAL TO SHEET 18 OF THE 2007 VERTICAL EXPANSION PERMIT DRAWINGS EXCEPT THAT THE WIDTH OF THE SUMP WAS INCREASED TO ALLOW FOR GREATER SPACING BETWEEN SUMP PIPING. ALSO, THE GEOMETRY OF THE LEAK DETECTION CORRIDOR WAS MODIFIED (WIDER BASE AND SHALLOWER SLOPES) TO FACILITATE CONSTRUCTION.

REV	DATE	DESCRIPTION	DRN	APP
1	APR 2011	REVISED PER FDEP COMMENTS, RAI #1	NSS	CRB
0	FEB 2011	ISSUED FOR FDEP APPROVAL	JWO	CRB

Geosyntec consultants
13101 TELECOM DRIVE, SUITE 120
TEMPLE TERRACE, FLORIDA 33637 USA
PH: 813.558.0990 - FX:813.558.9726
AUTHORIZATION NUMBER: 4321

WSI Waste Services, Inc.
1501 OMNI WAY
ST. CLOUD, FLORIDA 34773
TEL: 407-891-3720 FAX: 407-891-3730

TITLE: LEACHATE SUMP CROSS SECTIONS - CELLS 8 THROUGH 23

PROJECT: LATERAL EXPANSION
MAJOR SOLID WASTE PERMIT MODIFICATION

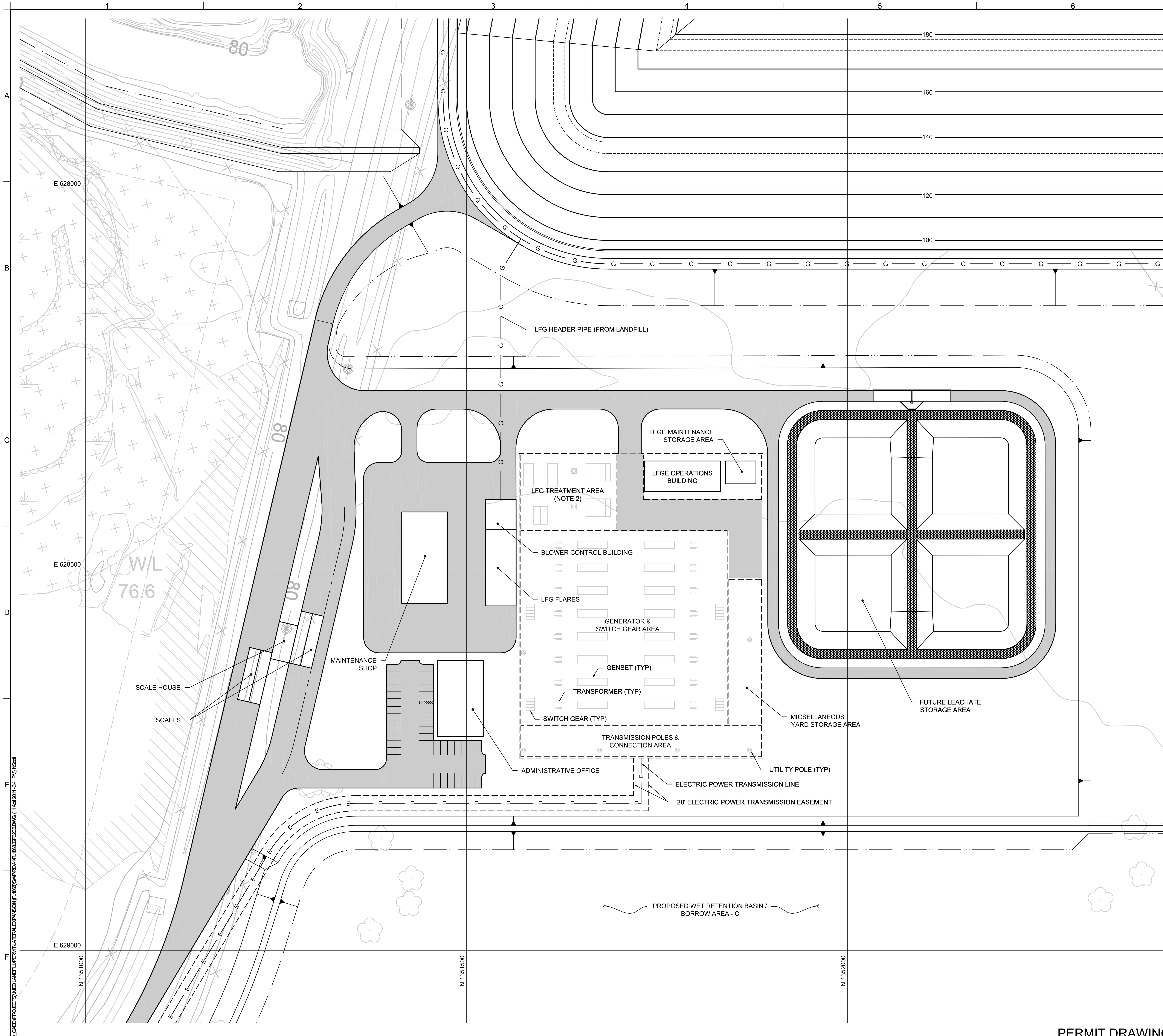
SITE: J.E.D. SOLID WASTE MANAGEMENT FACILITY

SIGNATURE
4/14/2011
DATE
CRAIG BROWNE - LICENSE NO. 68613

CRAIG R. BROWNE LICENSE No. 68613 STATE OF FLORIDA PROFESSIONAL ENGINEER

DESIGN BY:	CRB/JWO	DATE:	FEBRUARY 2011
DRAWN BY:	JWO	PROJECT NO.:	FL1868
CHECKED BY:	CRB	FILE:	FL1868.02P181
REVIEWED BY:	JAB	DRAWING NO.:	
APPROVED BY:	CRB	18 OF 40	

PERMIT DRAWING



N

0 60' 120'
SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE LOCATION OF INTERMITTENT STREAM
- EXISTING GROUND ELEVATION (FEET)
- EXISTING FENCE
- WETLAND BOUNDARY BY PHOTO INTERPRETATION BY BRA
- WETLAND BOUNDARY PER BY FIELD SURVEY
- 100-YEAR FLOODPLAIN
- LATERAL EXPANSION FINAL COVER ELEVATION (FEET)
- PAVED AREAS

NOTES:

1. NORTHING AND EASTING COORDINATES SHOWN REPRESENT FLORIDA STATE PLANE EAST ZONE NORTH AMERICAN DATUM OF 1983 (NAD83).THE ELEVATIONS SHOWN REPRESENT NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29)(FEET).
2. EQUIPMENT IN LFGE TREATMENT AREA MAY CONSIST OF SILOXANES AND SULFUR REMOVAL, COMPRESSION, REFRIGERATION, AND MOISTURE REMOVAL AND OTHER TREATMENT AS NEEDED BY LFGE SYSTEM OPERATOR.

REV	DATE	DESCRIPTION	DRN	APP
0	APR 2011	ISSUED PER FDEP COMMENTS, RAI #1	NSS	CRB

Geosyntec consultants
13101 TELECOM DRIVE, SUITE 120
TEMPLE TERRACE, FLORIDA 33637 USA
PH: 813.558.0990 - FX:813.558.9726
AUTHORIZATION NUMBER: 4321

WSI Waste Services Inc.
1501 OMNI WAY
ST. CLOUD, FLORIDA 34773
TEL: 407-891-3720 FAX: 407-891-3730

TITLE: LFG TO ENERGY FACILITY DETAILS

PROJECT: LATERAL EXPANSION
MAJOR SOLID WASTE PERMIT MODIFICATION

SITE: J.E.D. SOLID WASTE MANAGEMENT FACILITY

SIGNATURE
4/14/2011
DATE
CRAIG BROWNE - LICENSE NO. 68613

CRAIG R. BROWNE LICENSE No. 68613 STATE OF FLORIDA PROFESSIONAL ENGINEER

DESIGN BY: CRB/JWO	DATE: FEBRUARY 2011
DRAWN BY: JWO	PROJECT NO.: FL1868
CHECKED BY: CRB	FILE: FL1868.02P32C0
REVIEWED BY: JAB	DRAWING NO.:
APPROVED BY: CRB	32C OF 40

PERMIT DRAWING

ATTACHMENT 2

Revised pages of Permit Application Report

Applicant:

Omni Waste of Osceola County, LLC
1501 Omni Way
St. Cloud, Florida 34773

LANDFILL LATERAL EXPANSION – APPLICATION FOR A MAJOR PERMIT MODIFICATION

J.E.D. SOLID WASTE MANAGEMENT FACILITY

Prepared by:

Geosyntec consultants
13101 Telecom Drive, Suite 120
Temple Terrace, FL 33637
Authorization No. 4321
Project No. FL1868

CRAIG R. BROWNE LICENSE No. 68613 STATE OF FLORIDA PROFESSIONAL ENGINEER

February 2011
(Revised April 2011)

Craig Browne, P.E.
Florida Registration No. 68613
Date: 4/14/2011

TABLE OF CONTENTS

1. INTRODUCTION 1
1.1 Terms of Reference 1
1.2 Project Background 2
1.2.1 Previous Permit Applications 2
1.3 Purpose and Scope 4
1.4 Organization of Permit Application 5

2. GENERAL INFORMATION 7
2.1 Introduction 7
2.2 Prohibitions 7
2.3 Compliance History 8
2.4 Public Notification 8
2.5 Airport Safety 9
2.6 Location Requirements 9
2.6.1 Overview 9
2.6.2 Floodplain 9
2.6.3 Horizontal Separation 10
2.7 Landfill Storage Capacity and Anticipated Life 10
2.8 Land Use Information 11
2.8.1 Conformance with Local Zoning 11
2.8.2 Neighboring Land Use 11

3. HYDROGEOLOGICAL AND GEOTECHNICAL INVESTIGATIONS 12

4. GEOTECHNICAL DESIGN 13
4.1 Bearing Capacity 13
4.2 Slope Stability 13
4.3 Subgrade Settlement Analysis 14

5. LEACHATE MANAGEMENT SYSTEM 15
5.1 Description 15
5.2 Maintenance 15
5.3 Design Calculations 15

6. LANDFILL GAS MANAGEMENT SYSTEM 17

7. LANDFILL CLOSURE 18
7.1 Closure Sequencing and Permitting 18
7.2 Final Cover System Design 18

7.3 Surface-Water Drainage System 18
7.4 Financial Responsibilities 19

APPENDICES

Appendix A FDEP Form 62.701.900(1)

Appendix B General Landfill Information

Appendix C Hydrogeologic Investigation Report and Conceptual Water Quality Monitoring Plan

Appendix D Geotechnical Investigation Report

Appendix E Slope Stability Analysis

Appendix F Settlement Analysis

Appendix G Leachate Management System Design

Appendix H Gas Management System Design

Appendix I Lateral Expansion Permit Drawings

1. INTRODUCTION

1.1 Terms of Reference

Geosyntec Consultants (Geosyntec) has prepared this major modification permit application to laterally expand the J.E.D. Solid Waste Management Facility (JED facility), a Class I Municipal Solid Waste (MSW) landfill located in Osceola County, Florida. The JED facility is owned and operated by Omni Waste of Osceola County, LLC (Omni), which is a wholly owned subsidiary of Waste Services, Inc. (WSI). The permit application is submitted to the Florida Department of Environmental Protection, Central District (FDEP) on behalf of Omni. The permit application has been prepared to comply with the requirements of Chapter 62-701, Solid Waste Management Facilities, of the Florida Administrative Code (FAC). FDEP Form 62-701.900(1), Application for a Permit to Construct, Operate, Modify or Close a Solid Waste Management Facility has been used to verify the completeness of this application and is included in Appendix A of this Major Modification Permit Application.

The JED facility is currently operating under construction and operation permits (Permit #'s SC49-0199726-004 and SO49-0199726-005) issued by the FDEP in March 2007. The 5-year construction and operation permit expires in January 2012. The current permit authorizes the construction and operation of Phases 1 through 3, which consists of Cells 1 through 10. Based on the currently permitted design for the JED facility, the maximum elevation of the landfill is 330 feet (NGVD) with a waste landfill footprint of approximately 264 acres. This major modification application is being submitted to laterally expand the waste landfill footprint to approximately 363 acres while maintaining the current permitted maximum elevation of 330 feet (NGVD). It also includes other design changes for future Phases (i.e., Phase 4 and beyond) that will be constructed at the JED facility. The primary design changes proposed in this application include expansion of the permitted landfill footprint and corresponding modifications to cell layout geometry and the leachate, gas, and storm water management systems.

This Major Modification Permit Application presents site investigation, analysis, and results for the proposed lateral expansion of the JED facility. However, if there are no changes to the evaluations presented in the previous Solid Waste or Environmental Resource Permit (ERP) applications, this Major Modification Permit Application incorporates the evaluations by referencing the appropriate sections and/or appendices of the relevant Permit Applications. FDEP Form 62-701.900(1), Application for a Permit to Construct, Operate, Modify or Close a Solid Waste Management Facility, has been completed for the proposed major design modifications and is included as Appendix A in this major modification application. A notice of application, if needed, will be published as directed by FDEP and a proof of publication will be provided to FDEP. This Major Modification Permit Application was prepared by Mr. Craig Browne, P.E., and Dr. Victor Damasceno of Geosyntec. The application was reviewed by Mr. John Banks, P.E., of Geosyntec in accordance with the peer review policy of the firm. Professional engineer

certification is provided on the cover sheet of this report, on the FDEP Form 62-701.900(1), and on each sheet of the permit drawings.

1.2 Project Background

The initial site development at the JED facility and construction of Cell 1A was completed in Jan 2004. The waste disposal at the JED facility started on 26 January 2004. Cells 1B through 7 were subsequently completed starting in 2004 with Cell 1B and most recently, construction of Cell 7 was completed in 2010. These cells have been or are being used for waste disposal. Waste is primarily being deposited in Cells 5 and 6 at this time.

The current 5-year construction and operation permit authorizes the development of Phases 1 through 3 at the JED facility. Phase 1 consists of four cells, Cells 1 through 4, and has a footprint of approximately 53 acres. Phase 2 consists of three cells, Cells 5 through 7, and has a footprint of approximately 36 acres. Phase 3 also consists of three cells, Cells 8 through 10, and has a footprint of approximately 37 acres. The combined footprint of Phases 1 through 3 is approximately 126 acres. The currently permitted top elevation of the JED facility is 330 feet (NGVD).

The existing interim leachate storage facility is located in the future Cell 9 footprint and was constructed during the initial start-up of the JED facility (construction of Phase 1, Cell 1A). The existing interim leachate storage facility will continue to be used during the operation of Cells 1 through 8 and will be relocated to a permanent location (adjacent to the proposed administrative area) prior to construction of Cell 9. It is intended that the permanent leachate storage facility will be used for operations at the JED facility after the construction of Cell 9 and for the remainder of the currently permitted operations..

1.2.1 Previous Permit Applications

The construction and operation permits for Phase 1 of the JED facility were issued by FDEP based on an application prepared by Geosyntec entitled *Application for a Permit to Construct and Operate a Class I Landfill.* The application (3 volumes) was submitted to FDEP in May 2002 and is hereafter referred to as the 2002 Solid Waste Permit Application. A 50-sheet permit drawings set entitled *Oak Hammock Disposal, A Solid Waste Facility, Permit Drawings* was issued along with the 2002 Solid Waste Permit Application. This permit drawing set is hereafter referred to as the 2002 Permit Drawings.

A Conceptual ERP for the entire JED facility and an Individual ERP for Phase 1 development were issued by FDEP based on an application prepared by Geosyntec entitled *Application for Environmental Resources Permit, Oak Hammock Disposal Facility.* The Conceptual and Individual ERP application was also submitted to FDEP in May 2002 and is hereafter referred to as the 2002 ERP Application.

The wildlife and wetlands impacts due to the original development of the JED facility were discussed in the 2002 ERP Application. All wetland impacts due to the currently permitted facility layout were accomplished during the initial site development and construction of Phase 1. The mitigation plan proposed for the originally impacted wetlands has been

implemented. As noted earlier, the footprint of the landfill will be expanded laterally and will impact additional wetland areas. Impacts to any wetland dependant wildlife associated with the proposed expansion will be mitigated through the purchase of credits in an off-site mitigation bank. A gopher tortoise relocation permit will be obtained and any gopher tortoises inhabiting the area of the proposed expansion will be moved to an approved recipient site as referenced in the permit. An ERP application is being submitted concurrently with this major modification application to modify the conceptual ERP and is hereinafter referred to as the 2011 Conceptual ERP Modification Application. This ERP application provides detail regarding the environmental aspects, including wetland impacts, of the proposed lateral expansion.

The construction and operation permits for Phases 1 through 3 of the JED facility were issued by FDEP based on an application prepared by Geosyntec entitled *Renewal Permit Application to Construct and Operate Phases 2 and 3 of the Oak Hammock Disposal Facility*. The application was submitted to FDEP in September 2006 and is hereafter referred to as the 2006 Solid Waste Renewal Permit Application. A 40-sheet permit drawing set entitled *Oak Hammock Disposal Facility, Phases 2 and 3, Renewal Permit Drawings* was issued along with the 2006 Solid Waste Renewal Permit Application. This permit drawing set is hereafter referred to as the 2006 Renewal Permit Drawings.

An Individual ERP for Phase 2 development was issued by FDEP based on an application prepared by Geosyntec entitled *Application for an Environmental Resources Permit for Phase 2 Construction, Oak Hammock Disposal Facility*. The application was submitted to FDEP in November 2006 and is hereafter referred to as the 2006 ERP Application.

A major modification application to vertically expand the JED facility was prepared by Geosyntec and submitted to FDEP in an application entitled *Major Modification Application for Vertical Expansion of the J.E.D. Solid Waste Management Facility (Phases 1 through 3).* The application was submitted to FDEP in September 2007 and is hereafter referred to as the 2007 Vertical Expansion Permit Application. A permit drawing set entitled *J.E.D. Solid Waste Management Facility, Vertical Expansion Permit Drawings, Phases 1 through 3,* was issued along with the 2007 Vertical Expansion Permit Application. This permit drawing set is hereafter referred to as the 2007 Vertical Expansion Permit Drawings.

An Individual ERP for Phase 3 development and a modification to the Conceptual ERP was issued by FDEP based on an application prepared by Geosyntec entitled *Major Modification of Environmental Resources Permit Applications for the Vertical Expansion of the J.E.D. Solid Waste Management Facility*. The application was submitted to FDEP in October 2007 and is hereafter referred to as the 2007 ERP Application.

This major modification application is being submitted to modify the existing solid waste construction and operation permits for the JED facility. The major modification application presents design and analysis in support of the proposed lateral expansion and the landfill design modifications for the future cells that will be constructed at the JED facility. The permit drawings submitted along with this major modification application

(hereafter referred to as the Lateral Expansion Permit Drawings) only include the sheets that have substantial modifications with respect to the 2006 Renewal Permit Drawings and 2007 Vertical Expansion Permit Drawings. The sheets with no substantial modifications refer to the respective sheets in the 2006 Renewal Permit Drawings or 2007 Vertical Expansion Permit Drawings and are not included along with the Lateral Expansion Permit Drawings.

It is noted that storm water calculations in support of the proposed lateral expansion are not included in this solid waste major modification application. As in the past, storm water calculations are included as part of an ERP application, which for the lateral expansion is submitted concurrently to modify the Conceptual ERP for the JED facility.

1.3 Purpose and Scope

This major modification application proposes lateral expansion of the JED facility and other landfill design modifications for the future cells that will be constructed at the facility. It is noted that the base grade configuration of Cells 8, 9, and 10 (the next cells that will be constructed as part of Phase 3 development) will not be impacted by the proposed major modification. All future cells (Cells 11 through 23) will be constructed in accordance with the revised landfill design proposed in this major modification application. The landfill design and other modifications included in this major modification application are as follows:

- Laterally expand the permitted landfill footprint from approximately 264 acres to 363 acres as indicated in the Lateral Expansion Permit Drawings;
- Modify the configuration (footprint and grading geometry) of Cells 11 through 21 and add Cells 22 and 23;
- Modify the top of final cover grades for all future Phases.
- Modify the leachate management system design to accommodate the revised landfill configuration.
- Modify the gas collection and control system to account for the revised configuration of the landfill.
- Add a gas collection header pipe that is located outside the limits of waste to convey collected gas to a central control (e.g., combustion) system.
- Modify the geometry of Borrow Area A and C and remove the previously proposed Borrow Area B. As this pertains to stormwater management (wet retention capacity), these modifications are discussed further in the 2011 Conceptual ERP Modification Application.

The following landfill information and evaluations are provided in support of the lateral expansion and the design modifications proposed in this major modification application.

- General Landfill Information;
- Hydrogeologic and Geotechnical Investigations;
- Slope Stability Analysis;
- Settlement Analysis;
- Leachate Management System Design;
- Landfill Gas Management System Design;

There are no changes to the remaining information or evaluations (investigations, design, and/or analyses) presented in the 2006 Solid Waste Renewal Permit Application and 2007 Vertical Expansion Permit Application. For example, the current FDEP-approved Technical Specifications and Construction Quality Assurance (CQA) Plan are not proposed to change and are therefore not re-submitted with this Lateral Expansion Permit Application. For reference purposes, the current FDEP-approved technical specifications and CQA Plan are as follows:

- Technical Specifications for Cell Construction – submitted with the 2007 Vertical Expansion Permit Application, dated September 2007.
- Technical Specifications for Closure – submitted with the Intermediate Modification for Partial Closure of Phase 1 (Cells 1-4), dated November 2008.
- CQA Plan for Cell Construction and Closure – submitted with the 2007 Vertical Expansion Permit Application, dated September 2007.

Additionally, the current FDEP-approved Operation Plan, which was updated in June 2010 to meet the requirements of the revised solid waste regulations, Chapter 62-701, FAC, is not proposed to change as a result of this Lateral Expansion Permit Application.

1.4 Organization of Permit Application

To address the requirements of Chapter 62-701 of the FAC, the remainder of this permit application is organized as follows:

- *Section 2: General Information*: This section addresses applicable parts of FDEP Form 62-701.900(1) not otherwise addressed in the narrative portion of this document or in the attached appendices.
- *Section 3: Hydrogeologic and Geotechnical Investigations*: This section discusses the additional Hydrogeologic and Geotechnical Investigations performed to characterize the subsurface beneath the lateral expansion area.
- *Section 4: Geotechnical Design*: This section summarizes the results of analyses for bearing capacity, slope stability, and subgrade settlement.

- *Section 5: Leachate Management System*: This section describes the landfill double-composite liner, leachate collection, leachate transmission, and leachate storage systems.
- *Section 6: Landfill Gas Management*: This section describes the gas collection, gas conveyance, and gas control systems.
- *Section 7: Landfill Closure*: This section discusses the closure sequencing and permitting, closure design, final cover storm water management, and financial responsibilities.

2. GENERAL INFORMATION

2.1 Introduction

The purpose of this section is to present and address landfill permit general requirements of Chapter 62-701, FAC, not specifically addressed in other sections or appendices of this permit application. This section is specifically organized to provide information keyed to applicable parts of FDEP Form 62-701.900(1) for the JED facility.

2.2 Prohibitions

This section provides information required by Parts C.1 through C.10 of Form 62-701.900(1) that pertain to regulatory landfill prohibitions as described in Section 62-701.300, FAC.

The JED facility satisfies FDEP siting criteria requirements described by Section 62-701.300(2). No solid waste will be placed:

- in an area where geological formations or other subsurface features will not provide adequate support (the geology below the lateral expansion is discussed in Section 3 and the stability of the landfill is discussed in detail in Section 4 of this permit application);
- within 500 feet of any existing or approved potable water well (a well survey is provided in the Hydrological Investigation Report found in Appendix C);
- in dewatered pits (see Lateral Expansion Permit Drawings);
- in a natural or artificial body of water. It is noted that a portion of the existing Borrow Area/ Wet Retention Basin 'A" will be filled to an elevation above the existing ground water table to allow the construction of the lateral expansion – refer to Lateral Expansion Permit Drawings. Also, the lateral expansion will be constructed over portions of currently existing wetlands as described further in the 2011 Conceptual ERP Modification Application. However, construction of solid waste facilities in the existing jurisdictional wetland areas will not occur until the wetlands are no longer considered jurisdictional (i.e., the wetland impacts have been mitigated in accordance with valid ERP and U.S. Army Corps of Engineers (ACOE) permits);
- within 200 feet a natural or artificial body of water except where the facility is designed with permanent leachate control methods, which will result in compliance with water quality standards and criteria (the leachate management system is described in Section 5 of this permit application); or
- on the right of way of any public highway, road, or alley (refer to Lateral Expansion Permit Drawings).

The exemptions stated in Sections 62-701.300(12) through (18), FAC, are not applicable to the JED facility because:

- yard trash is not accepted for disposal or processing,
- tanks will meet all siting criteria,
- CCA treated wood will not be processed for use outside of the lined waste disposal facility,
- no indoor, vehicle, or container storage of waste will be allowed, and
- there are no existing facilities (i.e., facilities that were constructed prior to 27 May 2001) at the site.

Other Class I landfill prohibitions will be enforced at the JED facility. Specifically:

- no open burning of solid waste will be allowed;
- no hazardous waste will be accepted for disposal;
- no liquids or non-liquids containing polychlorinated biphenyls (PCBs) will be accepted for disposal;
- no biomedical waste will be accepted for disposal unless the biomedical waste has been properly incinerated;
- no special waste (lead-acid batteries, used oil, yard trash, white goods, or whole tires) will be accepted for disposal in the landfill (however, yard trash, white goods, and whole tires will be accepted for processing, reuse, or recycling);
- no prohibited liquid waste will be accepted for disposal; and
- no prohibited commingled used oil will be accepted for disposal.

The JED facility is not located within 3,000 feet of Class I surface waters. The nearest surface water to the landfill is the intermittent stream, Bull Creek, which is designated as a Class III surface water by FDEP. The nearest Class I surface water is located approximately 13 miles east of the JED facility.

2.3 Compliance History

As required by Section 62-701.320(7), FAC, a history of solid waste management facility enforcement actions against Omni or parent company WSI in the State of Florida is presented in Appendix B-1.

2.4 Public Notification

A public notice for the Major Modification Permit Application will be published in the Osceola Sentinel within 14 days of submittal of the Major Modification Permit Application to the Florida Department of Environmental Protection (FDEP) in accordance with the

requirements of Rule 62-701.320(8)(a), FAC. This is a newspaper of general circulation in Osceola County. A proof of publication of the Notice of Application (NOA) will be provided to FDEP within a week of publishing the NOA.

Within 14 days of submittal of the Major Modification Permit Application, Omni will notify the Board of County Commissioners, municipality officials, the Senators, and the Representative serving the district about the proposed lateral expansion of the JED facility to satisfy the requirements of Rule 62-701.320(8)(b), FAC.

2.5 Airport Safety

Information as required by Section 62-701.320(13), FAC is presented below. This information responds to Parts D-14 and E-1 of Form 62-701.900(1).

As part of the 2007 Vertical Expansion Permit application process, the FAA was contacted to ensure that the proposed vertical expansion of the JED facility is not a safety concern with respect to air traffic and nearby airports. FAA performed a study and concluded that the proposed maximum elevation of 330 ft (NGVD) for the JED facility would not be a hazard to air navigation. The most recent FAA "Determination of No Hazard to Air Navigation" issued in February 2010 is included as Appendix B-2 of this major modification application.

The JED facility will satisfy the siting requirements for airport safety and notification. The closest licensed and operating airport runway is Tedford Ranch Airport (FAA ID 31FL), located approximately 3.9 miles east of the landfill, which exceeds the minimum 10,000-foot FDEP separation requirement as shown on the figure included in Appendix B-3. Because the proposed lateral expansion is located within a six mile radius of the Tedford Ranch Airport, it is necessary to notify the airport, the Federal Aviation Administration (FAA), and the Florida Department of Transportation. Proof of notification is provided in Appendix B-4.

2.6 Location Requirements

2.6.1 Overview

General criteria restrictions as described in Section 62-701.340, FAC are discussed below. This information responds to Part E and F of Form 62-701.900(1).

2.6.2 Floodplain

As shown in the Lateral Expansion Permit Drawings, the landfill expansion area is partially located within the 100-year flood plain, which has been identified on Osceola County maps received from the Osceola County GIS Department. However, as documented in the 2002 ERP Application and 2011 Conceptual ERP Modification Application (submitted concurrently with this application), the landfill footprint and stormwater management system features (including swales, dry retention basins, and wet retention basins) are a net contributor to the 100-year flood waters (prior to development) rather than a receptor of flood waters. Since the landfill stormwater management system

was designed to retain all runoff from the 100-year storm event, more water has been taken out of the 100-year floodplain than the infringed floodplain was able to store. Therefore, compensating water storage capacity is provided and the net storage capacity of the floodplain outside of the JED facility has increased. Calculations verifying the capability of the landfill storm water management system to contain the 100-year storm event are submitted as part of the concurrent 2011 Conceptual ERP Modification Application. In summary, the JED facility will not restrict the flow of the 100-year storm event and will provide excess compensating storage.

The landfill is designed to prevent washout of solid waste in an extreme storm event. The storm water management system berms defining the retention basins at the perimeter of the landfill have been constructed to an elevation more than four feet higher than the 100-year flood elevation indicated by the Osceola County maps. Additionally, the landfill cells are and will be constructed within a perimeter berm that is approximately 16 feet above existing site grades. The landfill liner system perimeter anchor trench is designed to be approximately 15 feet higher than the 100-year flood elevation.

It is noted that prior to construction of solid waste facilities within the 100-year floodplain, compensating storage will be provided by means of constructing the proposed storm water management system as described in the 2011 Conceptual ERP Modification Application.

2.6.3 Horizontal Separation

The Lateral Expansion Permit Drawings include dimensions between the landfill liner system perimeter anchor trench, which corresponds to the toe of the proposed final cover system slope, and the property boundary. As shown on these drawings, the minimum horizontal separation between waste placed in the proposed landfill and the landfill property boundary is 138 feet, which exceeds the 100-foot setback requirement of Section 62-701.340(3)(c), FAC.

2.7 Landfill Storage Capacity and Anticipated Life

The total waste storage volume for the currently permitted JED facility (i.e., in Cells 1 through 21) was previously calculated to be approximately 53.2 million cubic yards (cyd) in the 2007 Vertical Expansion Permit Application. With the proposed lateral expansion, the total waste storage volume is calculated to be approximately 81.4 million cyd. Approximately 7.8 million cyd of the total waste storage volume has been consumed as of 24 July 2010 (the date of the most recent aerial topographic survey). Accordingly, the remaining available waste storage volume at JED with the proposed lateral expansion is approximately 73.6 million cyd.

The estimated operational life of the JED facility is highly variable and is dependent on regional economical and waste disposal market driven influences. Assuming an average waste disposal rate of 6,000 tons/day received at the JED facility during 2011, an industry average in-place waste and cover soil density of 1,600 pounds per cyd, landfill operations for 6 days per week or 286 days per year, and a 3% annual waste growth rate,

the remaining life of the JED facility with the lateral expansion is calculated to be approximately 23 years. Supporting documents and calculations are provided in Appendix B-5.

2.8 Land Use Information

2.8.1 Conformance with Local Zoning

The facility is in compliance with Osceola County's comprehensive plan and local zoning ordinances. In April 2003, the Comprehensive Development Plan to construct and operate the JED facility was approved by Osceola County. Should it become necessary, further ordinance or Comprehensive Plan changes will be obtained from Osceola County.

2.8.2 Neighboring Land Use

The site is bound by the Bronson Inc.'s property to the north and west, Clay Whaley's property to the south, and highway U.S. 441 to the east as shown on Sheet 3 of the 2006 Renewal Permit Drawings. According to Osceola County zoning maps, areas adjacent to the JED landfill are zoned as Agricultural Development and Conservation District, AC District.

3. HYDROGEOLOGICAL AND GEOTECHNICAL INVESTIGATIONS

The information and analyses referenced in this section are based on the requirements of Section 62-701.410, FAC. As part of the 2002 Solid Waste Permit Application, Kubal-Furr & Associates (KFA) prepared a Hydrogeological Investigation Report. In support of the lateral expansion, Geosyntec has performed an additional Hydrogeological Investigation, a report of which is provided in Appendix C of this permit application. Appendix C also includes a conceptual groundwater monitoring plan for the expanded landfill footprint.

In conjunction with the additional hydrogeologic investigation, Geosyntec has prepared an updated Geotechnical Investigation Report, which is provided in Appendix D of this permit application. The geotechnical investigation was conducted to characterize the underlying soils and to define the engineering properties of the soils for the landfill settlement and slope stability analyses. Information provided by both the hydrogeological investigation and the geotechnical investigation was used in performing the geotechnical design for the JED landfill, which is described further in Section 4 of this permit application.

4. GEOTECHNICAL DESIGN

The information and analyses provided in the remainder of this section are based on the requirements of Sections 62-701.400(2) and 62-701.410(2)(e), FAC.

4.1 Bearing Capacity

Bearing capacity analysis was performed and included as Appendix F of the 2007 Vertical Expansion Permit Application. A worst-case loading scenario was assumed to evaluate the factor of safety against bearing capacity failure. The bearing capacity analysis was conservatively performed by assuming that the load due to the landfill at final build-out (i.e., at elevation 330 ft) acts uniformly across the minimum width of the landfill. Because the facility is being laterally expanded, while maintaining the same maximum waste fill elevation, the loading assumptions will not change and the minimum foundation width will actually increase. As such, the factor of safety against bearing capacity failure is no less than 14.5 as calculated for the 2007 Vertical Expansion Permit Application. A factor of safety of 3 or higher is typically considered acceptable.

4.2 Slope Stability

The landfill design modifications proposed in this major modification application include changes to the cell floor configurations, while the side slope inclination and the maximum height of the landfill are to be maintained. As a result, slope stability analyses were performed to ensure adequate factor of safety against slope failure for the proposed configuration of the JED facility. The stability analyses performed and the results of the analyses are presented in Appendix E of this major modification application.

The slope stability analyses evaluated circular (rotational) shear failure surfaces within the waste mass and the foundation soils. The stability of the outer perimeter berm of the landfill was also evaluated. Representative non-circular (block) shear failure surfaces through the waste mass and along the bottom liner system for final and interim waste slopes were previously evaluated in the 2007 Vertical Expansion Permit Application (see Appendix H, Case 2 and Case 4, respectively). Because Cases 2 and 4, evaluated in the 2007 Vertical Expansion Permit Application, are representative of liner system and interim waste slope geometry in the lateral expansion, re-evaluation of these cases was not performed.

As previously approved by FDEP, a factor of safety of 1.5 for all permanent slopes and 1.3 for all temporary/interim slopes was established as minimum criteria in accordance with the regulations and the current state-of-practice for landfill design. Based on the results of the slope stability analyses presented in Appendix E, the minimum factor of safety for the proposed landfill configuration met or exceeded the established criteria.

4.3 Subgrade Settlement Analysis

The permitted footprint of the JED facility will be laterally expanded from approximately 264 acres to 363 acres while maintaining a maximum top of final cover system elevation of 330 feet, NGVD. As a result of the expanded top deck area, the waste thickness in portions of Phase 3 will increase and the waste thickness in future Phases will be different than previously evaluated due to modifications in cell base grade and final cover geometry. Accordingly, a settlement analysis was performed to evaluate the post-settlement slope of the bottom liner system in the Phase 3 and future Phase cells. The settlement calculations are attached as Appendix F of this major modification permit application.

Both total and differential subgrade settlements were evaluated for representative critical sections as part of the foundation analysis in accordance with Section 62-701.410(2)(e)2, FAC. The results of the settlement analysis were used to evaluate the impact of anticipated settlements on the performance of the leachate collection system and the proposed liner system. A one-dimensional settlement analysis was performed to estimate the total settlement at each end of the critical sections taking into consideration the thickness of the compacted subgrade fill, bottom liner system, waste deposit, and the final cover system. Post-settlement

Based on the results of the settlement analysis presented in Appendix F, the post-settlement slope of the cell floor (for Phase 3 and future cells) is calculated to be greater than 1.0 percent for the proposed configuration of the JED facility while the post-settlement slope of the leachate collection and leak detection pipes in Cells 8 through 23 is calculated to be greater than 0.3 percent. Accordingly, the cell floor and leachate collection system corridor slopes have been designed to meet the requirements of Section 62-701.400(4)(c), F.A.C. In addition, the strain in bottom liner system was calculated to be essentially negligible.

5. LEACHATE MANAGEMENT SYSTEM

5.1 Description

The leachate management system consists of primary and secondary leachate collection and removal systems in each cell, a leachate transmission pipeline, and flexible leachate storage containers. The liner system in each cell is sloped such that leachate drains towards a single low point (i.e., sump) located along the perimeter of the landfill. The elevation of the liner subgrade is above the seasonal high ground water level except in the sump areas. Sump construction will place the bottom of the sumps 2 to 3 feet below the upper reach of the seasonal high water level. This is identical to the currently approved sump design because the location of the seasonal high water level in the lateral expansion area is essentially the same as that in the currently approved landfill footprint. As explained in the 2006 Permit Renewal Application, the primary difficulty with regard to this configuration is related to construction. WSI will attempt to schedule construction in the sump area during periods of low groundwater. Otherwise, the sump area will be dewatered during construction. After construction, the liner system will be held in place by the weight of the protective cover soils.

The leachate collection system design within the expansion area cells is proposed to be essentially the same as that presented in the 2007 Vertical Expansion Permit Application. The details of the liner system and leachate collection system are presented on Sheets 14 through 19 of the Lateral Expansion Permit Drawings (See Appendix I). Collected leachate will be pumped from the sumps into an 8-inch diameter HDPE leachate transmission line where it is conveyed to an on-site leachate storage facility. The on-site leachate storage facility consists of a flexible container system. From the on-site storage containers, leachate will be transported by truck to a wastewater treatment plant or recirculated as described in Section 6.5 of the 2007 Vertical Expansion Permit Application.

5.2 Maintenance

The existing leachate collection system (LCS) includes 6-inch diameter perforated leachate collection pipes and cleanouts. Future leachate collection pipes and cleanouts (i.e., piping used in cells that have not currently been constructed) will be 8-inch diameter to more readily facilitate maintenance in longer pipe runs. The collection pipes will be video inspected and/or cleaned and maintained, as necessary, through the side slope cleanout pipes. The leachate collection pipe cleanouts can be accessed at the top of the perimeter berms as shown in the Lateral Expansion Permit Drawings. Leachate collection pipes can be cleaned by flushing with high-pressure water from a hose or by snaking in the case of severe blockages.

5.3 Design Calculations

Detailed calculations of components of the leachate collection and transmission system proposed to be modified as part of the lateral expansion are provided in the "Leachate

Management System" calculation package found in Appendix G. The calculation package includes the following analyses:

- Structural stability evaluation of the proposed 8-inch diameter HDPE leachate collection pipe.
- Leachate pump sizing.
- Transmission pipe sizing.
- Leachate storage capacity.

As noted in the calculation package found in Appendix G, re-evaluation of the geocomposite design for the primary and secondary leachate collection systems was not performed. This is because the geocomposite design assumptions (namely, the drainage length, slope, and maximum waste thickness/loading) made in the 2007 Vertical Expansion Permit Application are consistent with the proposed geocomposite configuration for the lateral expansion area.

6. LANDFILL GAS MANAGEMENT SYSTEM

Because the JED facility receives biodegradable wastes, it has a gas management system (GMS) that complies with the requirements of Rule 62-701.530, FAC. As currently constructed, the GMS consists of active vertical and horizontal landfill gas (LFG) extraction wells, lateral and header conveyance piping within the waste, and a flare located at the northwest corner of Cell 1. The layout of the future LFG extraction wells and associated piping was modified to incorporate the proposed lateral expansion area. The GMS was also modified to include a perimeter gas header pipe (i.e. LFG pipeline) to convey collected gas to a central location for flaring or for use in a future gas to energy system. The GMS design and supporting calculations are provided in Appendix H of this major modification application. The GMS design includes (i) estimation of LFG generation rates for the facility; (ii) selection of design radius of influence for perimeter and interior wells; (iii) sizing of the lateral and header pipes needed for LFG conveyance; (iv) assessing the vacuum and flow requirements for the flare and blower to handle the flow rates of LFG generated from the facility; and (v) estimation of the condensate generation to size the condensate management system.

A network of gas monitoring probes is installed along the property boundary (or the storm water berm where property boundary is far away from the waste limits) to detect lateral migration of landfill gases in accordance with the requirements of Rule 62-701.530(2)(b). At present, gas monitoring probes 7 through 22 have been installed, which correspond to the perimeter of the Phases 1 through 3 areas. The location of existing and future gas monitoring probes is shown on Sheets 29 and 29A of the Lateral Expansion Permit Drawings.

7. LANDFILL CLOSURE

The general approach for closure of the JED facility will remain identical to that presented in the 2006 Permit Renewal Application and as modified in the 2007 Vertical Expansion Permit Application. A brief summary of the landfill closure is provided in the following sections.

7.1 Closure Sequencing and Permitting

Each portion of the proposed landfill will be closed as it reaches the maximum design height on a close-as-you-go basis. The ongoing, partial closure of the landfill (i.e., close as you go) is proposed to minimize leachate generation in the landfill. Partial closure will be accomplished concurrent with waste placement in the landfill. Areas that have reached final elevations will receive the final cover system within 180 days of reaching the final elevation, or a 12-inch thick intermediate cover will be placed over the area.

A closure report will be prepared at the time a closure permit from FDEP is requested. A closure permit application, in the form of an Intermediate Permit Modification Application, will be submitted to FDEP a minimum of 180 days prior to the initiation of closure construction.

7.2 Final Cover System Design

The general design of the final cover system for the lateral expansion is the same as that presented in the 2007 Vertical Expansion Permit Application. Namely, the final cover system will include 3H:1V side slopes (between benches) with 15-ft wide benches every 40 vertical feet (at elevations 138, 178, 218, 258, and 298 feet, NGVD) and the top slopes will be graded at 5 percent.

The final cover system performance evaluation provided in Appendix H of the 2007 Vertical Expansion Permit Application remains valid because the configuration of the side slopes remains the same for the lateral expansion area. The final cover system performance evaluation included analysis of head on the geomembrane in the final cover system, veneer stability, and soil erosion resistance.

7.3 Surface-Water Drainage System

Drainage swales are incorporated in the final cover system on the top and on the side slopes of the landfill as indicated in the Lateral Expansion Permit Drawings and 2011 Conceptual ERP Modification Application drawings. The drainage swales will convey water to the downdrains. The downdrains will convey the storm water runoff to the storm water detention basins at the toe of the landfill. The downdrains consist of corrugated HDPE pipes that tie into energy dissipater/junction boxes located at the toe of the waste slope.

Design calculations confirming the adequacy of the drainage swales and the downdrains to convey the storm water runoff are presented in the 2011 Conceptual ERP Modification Application that is submitted concurrently with this Lateral Expansion Permit Application.

7.4 Financial Responsibilities

As currently approved by FDEP, Omni is operating under a phased financial assurance for the JED facility whereby closure and long-term care financial assurance is provided only for those cells that have been constructed. At present, Cells 1 through 7 have been constructed, and a financial assurance mechanism in the amount of $5,950,241.32 (for closure) and $7,404,650.74 (for long-term care) has been approved by FDEP in November 2010 for closure and long term care of the Cells 1 through 7 area. Each time a new cell is constructed, a minor modification permit application is submitted to increase the financial assurance costs and update the funding mechanism accordingly. Also, when a portion of the landfill is closed, a minor modification permit application is submitted to reduce the financial assurance closure costs and associated funding mechanism. Because this lateral expansion permit application does not include modifications to increase the footprint of the currently constructed cells, adjustments to the currently approved financial assurance costs and funding mechanism are not provided herein.

ATTACHMENT 3

Revised Pages of DEP Permit Application Form

8. Applicant name (operating authority): Omni Waste of Osceola County, LLC

Mailing address: 1501 Omni Way (Street or P.O. Box) St. Cloud (City) FL (State) 34773 (Zip)

Contact person: Mike Kaiser Telephone: (904) 673-0446

Title: Regional Engineer

mkaiser@wasteservicesinc.com (E-Mail address (if available))

9. Authorized agent/Consultant: Geosyntec Consultants

Mailing address: 13101 Telecom Drive, Suite 120 (Street or P.O. Box) Temple Terrace (City) FL (State) 33637 (Zip)

Contact person: Craig Browne, P.E. Telephone: (813) 558-0990

Title: Project Engineer

cbrowne@geosyntec.com (E-Mail address (if available))

10. Landowner (if different than applicant): N/A

Mailing address: _____ (Street or P.O. Box) _____ (City) _____ (State) _____ (Zip)

Contact person: _____ Telephone: (_____) _____

_____ (E-Mail address (if available))

11. Cities, towns and areas to be served:
Primarily Osceola, Brevard, Indian River, Okeechobee, Orange, Polk, Volusia, Sumter, Lake, Seminole, Pasco, Hillsborough, Hardee, and Highlands Counties. Other Florida counties are served as waste streams are available.

12. Population to be served:

Current: 5,800,000 (approx.) Five-Year Projection: 6,000,000 (approx.)

13. Date site will be ready to be inspected for completion: Spring 2012 (for Cell 8 construction)

14. Expected life of the facility: 23 years (See Appendix B-5 of Report)

15. Estimated costs: (Estimated costs correspond only to construction and corresponding closure for the approximately 99 acre lateral expansion area.)

Total Construction: $ 24750000 Closing Costs: $ 10000000

16. Anticipated construction starting and completion dates:

From: 10/1/2011 To: 10/1/2034

17. Expected volume or weight of waste to be received:

_____ yds^3/day 6,000 tons/day _____ gallons/day

21. Leachate collection method:

☑ Collection pipes
☑ Geonets (geocomposite)
☐ Well points
☐ Perimeter ditch
☐ Other Describe:
☑ Sand layer
☐ Gravel layer
☐ Interceptor trench
☐ None

22. Leachate storage method:

☐ Tanks
☑ Surface impoundments with flexible storage containers
☐ Other Describe:

23. Leachate treatment method:

☑ Oxidation
☐ Secondary
☐ Advanced
☑ Other
☐ Chemical treatment
☐ Settling
☐ None

Oxidation performed through aeration in the uncovered Cell 2 of the leachate storage area. Cells 1, 3, and 4 are covered with no oxidation activity.

24. Leachate disposal method:

☑ Recirculated
☑ Transported to WWTP
☐ Injection well
☐ Evaporation
☐ Other
☐ Pumped to WWTP
☐ Discharged to surface water/wetland
☐ Percolation ponds
☐ Spray Irrigation

ATTACHMENT 4

Revised Pages of Appendix G – Leachate Management System Calculations

Written by: **V.M.Damasceno** Date: **11/11/2010** Reviewed by: **C. Browne** Date:

Client: **WSI** Project: **JED Lateral Expansion** Project No.: **FL1868** Phase No.: **01**

LEACHATE MANAGEMENT SYSTEM
J.E.D. SOLID WASTE MANAGEMENT FACILITY
ST. CLOUD, OSCEOLA COUNTY, FLORIDA

1 INTRODUCTION

The purpose of this calculation package is to perform the engineering design and evaluate the performance of the proposed leachate management system that will be constructed at the J.E.D. Solid Waste Management Facility (JED facility) lateral expansion, a Class I landfill located in Osceola County, Florida. This calculation package is being submitted as part of a lateral expansion permit modification application.

The leachate management system consists of (i) leachate collection and removal systems in all cells, (ii) a leachate transmission system, and (iii) a leachate storage area. The proposed leachate collection and removal systems incorporate a geocomposite drainage layer (on top of a geomembrane), which is designed to collect the leachate that percolates vertically through the waste and convey it to a sump for removal from the cell. For each cell, the leachate collection system includes (i) a geocomposite drainage layer, (ii) leachate collection pipes, and (iii) a leachate collection sump. Sump pumps will remove leachate from each sump and transfer it via a leachate transmission line to the on-site leachate storage area. The performance of the leachate management system was previously evaluated in Appendix G of the report titled "Major Modification Application for Vertical Expansion of the J.E.D. Solid Waste Management Facility, Phases 1 through 3," prepared by Geosyntec Consultants in September 2007(Geosyntec, 2007).

The geocomposite drainage layer and leachate collection sump configurations, as well as the leachate transmission and storage systems, are proposed to be the same as those previously analyzed and presented by Geosyntec (2007). However, it is proposed that the leachate collection pipe used in future cells (i.e., those cells not currently constructed) be increased from 6 to 8-in diameter to more readily facilitate pipe inspection and maintenance in the longer cells. As such, the structural stability of the proposed 8-in pipe is evaluated herein. In addition, because the total landfill footprint is increasing and the largest cell acreage (and corresponding leachate inflow) is greater than that previously analyzed, the sump pump sizing, leachate transmission pipeline capacity, and leachate storage capacity are re-evaluated.

2 SYSTEM CONFIGURATION

2.1 Leachate Collection System

The layout of the leachate collection system proposed at the JED facility is depicted on Sheets 10 and 11 of the lateral expansion permit drawings. This permit modification will increase the number of cells in the landfill from 21 to 23. The base of cells 8 through 23 will be graded in a "herringbone" pattern with an 8-in leachate collection pipe (perforated HDPE collection pipe surrounded by high-permeability gravel wrapped in a geotextile) installed in the valley of the "herringbone" floor grades along the center of each cell. For Cells 17 and 23, multiple 8-in leachate collection pipes will be used to convey leachate to the respective sump locations.

2.2 Leachate Transmission System

The components of the leachate removal system include the leachate sump pumps and the associated fittings and piping. The transmission system consists of piping used to convey the leachate from the sumps to the leachate storage facility.

Each cell will be equipped with three submersible leachate pumps. Two pumps are dedicated to the removal of leachate from the primary leachate collection system and the other pump will be dedicated to removing leachate collected from the secondary leachate collection (leak detection) system. As previously described by Geosyntec (2007), sump pump sizing requirements were based on the peak daily leachate generated from the largest cell.

2.3 Leachate Storage

The interim leachate storage facility was constructed at the time of initial site development in 2003 and consists of four flexible geomembrane bladders with a total storage capacity of over a million gallons. The interim leachate storage facility will continue to be used during operation of Cells 1 through 8 at the JED facility.

The interim leachate storage facility is located in the footprint of Cell 9, which will be constructed as part of the Phase 3 development at the JED facility. The interim leachate storage facility will be moved to a permanent location, as shown on Sheet 7 of the Lateral Expansion Permit Drawings, during construction of Cell 8. The permanent leachate storage facility, which will consist of four cells (one for oxidation/aeration treatment and three for covered storage), will then be used for future operation of the JED facility.

ATTACHMENT 5

FDEP Financial Assurance Deferral Form

Department of Environmental Protection

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

DEP Form # 62-701.900(29)
Form Title: Financial Assurance Deferral Application
Effective Date January 6, 2010
Incorprated in Rule 62-701.630(2), F.A.C.

FINANCIAL ASSURANCE DEFERRAL APPLICATION

1. In accordance with Rules 62-701.630(2)(c) and 62-701.730(11)(b), Florida Administrative Code (F.A.C.), a permittee may delay submitting proof of financial assurance for a solid waste disposal unit by submitting this form to the appropriate District Office with DEP Form 62-701.900(1) - Application For A Permit To Construct, Operate, Modify Or Close A Solid Waste Management Facility. A separate deferral form must be submitted for each disposal unit for which a deferral is sought.

2. The permittee understands and acknowledges the following:

   a. The solid waste disposal unit for which a deferral is being sought has never received solid waste for storage or disposal.

   b. The permit to which this deferral applies does not authorize operation of the solid waste disposal unit, or the permit requires a specific separate approval by the Department prior to operation being authorized.

   c. The permittee must identify the type of financial mechanism (e.g., surety bond, letter of credit, trust fund) it intends to use, and provide reasonable assurance during the permit application process that it is capable of obtaining and using the identified mechanism.

   d. The permittee agrees to submit acceptable proof of financial assurance at least sixty (60) days prior to the planned date of initial acceptance of waste.

   e. Under no circumstances shall the referenced solid waste disposal unit receive waste until the permittee has received written approval from the Department that financial assurance acceptable to the Department has been properly submitted and funded.

3. The permittee understands that by deferring the submittal of proof of financial assurance for facility closure, there may be consequent delays in authorization to receive waste. The Department's acceptance of this deferral is no guarantee that subsequent financial assurance documentation submittal(s) will meet the requirements of Rule 62-701.630, F.A.C.

Facility Name: J.E.D. Solid Waste Management Facility County: Osceola

Disposal Unit: Cells 8 through 23 (See #1. above) DEP I.D. No.: 89544 (WACS #, if issued)

Intended Financial Mechanism: Insurance Certificate (See #2.c. above) Permit App. No.: SC49-0199726-017 (if issued)

Applicant: Omni Waste of Osceola County, LLC
Legal Entity as Listed on the Permit Application

Mailing address: 1501 Omni Way (Street or P.O. Box) St. Cloud, FL 34773 (City, State and Zip Code)

Acknowledgment

The undersigned applicant or authorized representative certifies that this application is true, correct and complete, understands the details of financial assurance deferral identified above and affirms that the applicant/permittee will comply with these terms.

Mike Kaiser
Signature of Authorized Representative*

4/11/11
Date

Mike Kaiser
Print or Type Name

(904) 673-0446
Telephone Number

Regional Engineer
Title

mkaiser@wsii.us
E-mail

* - president of corporation, managing member of LLC, or equivalent for entity type

Waste Services, Inc.

2893 Executive Park Drive, Suite 305, Weston, Florida 33331

January 24, 2011

RE: Omni Waste of Osceola County, LLC

To Whom It May Concern:

This is to confirm that Michael Kaiser is an authorized signatory of Omni Waste of Osceola County, LLC (the "Corporation"), with authority to execute and deliver all documents and instruments required in connection with environmental matters for the Corporation, including without limitation, permit applications, modifications and financial assurances for permits issued to the Corporation.

Omni Waste of Osceola County, LLC

William P. Hulligan
Manager

Waste Services, Inc.

William P. Hulligan
Executive Vice President, U.S. Operations

ATTACHMENT 6

Revised Tables and Figure of Appendix F - Settlement Calculations

Table 3

Summary of Settlement Calculation Results

Point ID[1,2]	Init. Elev. (ft)	Final Elev. (ft)	Settlement	Point ID[1,2]	Init. Elev. (ft)	Final Elev. (ft)	Settlement
8.1	80.390	79.671	0.719 ft	16.2	86.509	82.112	4.397 ft
8.2	86.749	82.168	4.581 ft	16.3	94.568	89.729	4.839 ft
8.3	90.522	85.658	4.864 ft	16.4	90.703	85.987	4.716 ft
8.4	90.267	85.516	4.751 ft	16.5	85.495	81.551	3.944 ft
8.5	85.805	81.795	4.01 ft	17.1	80.500	79.431	1.069 ft
9.1	80.254	79.524	0.73 ft	17.2	84.003	82.083	1.92 ft
9.2	86.667	82.240	4.427 ft	17.3	86.070	83.835	2.235 ft
9.3	90.281	85.544	4.737 ft	17.4	86.609	82.502	4.107 ft
9.4	91.262	86.585	4.677 ft	17.5	90.028	85.186	4.842 ft
9.5	85.495	81.697	3.798 ft	17.6	90.683	87.218	3.465 ft
10.1	80.305	79.585	0.72 ft	17.7	86.004	82.412	3.592 ft
10.2	86.615	82.363	4.252 ft	18.1	80.341	79.633	0.708 ft
10.3	91.012	86.564	4.448 ft	18.2	86.692	82.188	4.504 ft
10.4	90.625	86.039	4.586 ft	18.3	90.942	86.015	4.927 ft
10.5	85.674	81.905	3.769 ft	18.4	91.432	86.553	4.879 ft
11.1	80.508	79.513	0.995 ft	18.5	85.399	81.493	3.906 ft
11.2	84.003	81.134	2.869 ft	19.1	80.283	79.572	0.711 ft
11.3	86.306	82.559	3.747 ft	19.2	87.044	82.522	4.522 ft
11.4	82.169	80.467	1.702 ft	19.3	96.683	91.956	4.727 ft
11.5	85.814	84.140	1.674 ft	19.4	91.360	86.697	4.663 ft
11.6	92.700	88.055	4.645 ft	19.5	85.360	81.817	3.543 ft
11.7	85.284	81.910	3.374 ft	20.1	80.192	79.455	0.737 ft
12.1	80.354	79.640	0.714 ft	20.2	87.763	83.453	4.31 ft
12.2	86.423	82.097	4.326 ft	20.3	93.059	88.373	4.686 ft
12.3	94.582	89.831	4.751 ft	20.4	92.750	88.301	4.449 ft
12.4	90.516	86.073	4.443 ft	20.5	87.995	83.626	4.369 ft
12.5	85.174	81.507	3.667 ft	21.1	80.337	79.618	0.719 ft
13.1	80.461	79.768	0.693 ft	21.2	86.714	82.512	4.202 ft
13.2	86.627	82.323	4.304 ft	21.3	90.929	86.138	4.791 ft
13.3	94.432	89.746	4.686 ft	21.4	89.953	85.546	4.407 ft
13.4	91.365	86.654	4.711 ft	21.5	85.232	81.709	3.523 ft
13.5	86.179	82.103	4.076 ft	22.1	80.232	79.527	0.705 ft
14.1	80.385	79.665	0.72 ft	22.2	87.209	82.555	4.654 ft
14.2	87.182	82.383	4.799 ft	22.3	91.439	87.829	3.61 ft
14.3	94.937	90.016	4.921 ft	22.4	92.663	87.955	4.708 ft
14.4	90.765	86.163	4.602 ft	22.5	85.663	81.917	3.746 ft
14.5	85.458	81.625	3.833 ft	23.1	80.500	79.523	0.977 ft
15.1	80.329	79.615	0.714 ft	23.2	84.276	81.433	2.843 ft
15.2	87.964	83.449	4.515 ft	23.3	87.918	85.750	2.168 ft
15.3	94.935	90.037	4.898 ft	23.4	84.130	82.194	1.936 ft
15.4	92.701	88.397	4.304 ft	23.5	84.141	82.170	1.971 ft
15.5	86.782	82.817	3.965 ft	23.6	88.883	84.995	3.888 ft
16.1	80.325	79.602	0.723 ft	23.7	84.497	81.640	2.857 ft

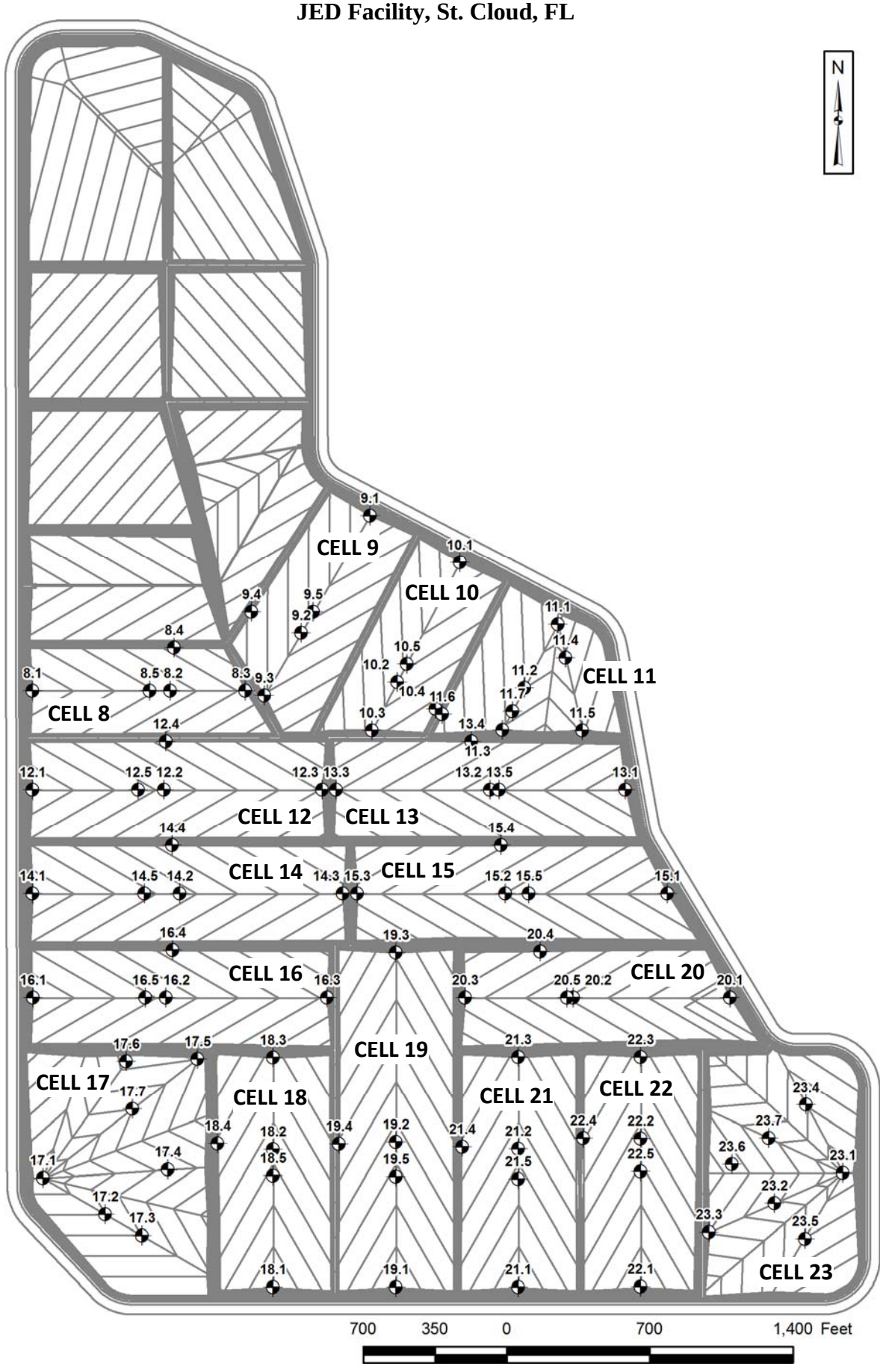
Notes: 1. Refer to Figures 3 and 4 for point location.
2. Definition of Point ID: X.Y where X is the Cell number and Y is the point identified within the Cell.

Table 4

Summary of Slope and Tensile Strain Calculation Results

Cell	Point 1	Point 2	Initial Slope (%)	Final Slope (%)	Allowable (%)	Strain (%)
8	8.2	8.1	1	0.37	0.30	3.8E-03
	8.3	8.2	1	0.96	0.30	7.7E-04
	8.4	8.5	2	1.55	1.00	5.2E-03
9	9.2	9.1	1	0.41	0.30	3.8E-03
	9.3	9.2	1	0.93	0.30	8.5E-04
	9.4	9.5	2	1.63	1.00	5.2E-03
10	10.2	10.1	1	0.42	0.30	3.7E-03
	10.3	10.2	2	1.58	1.00	1.2E-03
	10.4	10.5	2	1.59	1.00	5.5E-03
11	11.2	11.1	1	0.46	0.30	3.9E-03
	11.3	11.2	1	0.62	0.30	3.1E-03
	11.4	11.1	1	0.57	0.30	3.3E-03
	11.5	11.4	1	1.01	0.30	-7.7E-05
	11.6	11.7	2	1.79	1.00	7.3E-03
12	12.2	12.1	1	0.38	0.30	3.8E-03
	12.3	12.2	1	1.00	0.30	5.7E-04
	12.4	12.5	2	1.68	1.00	5.2E-03
13	13.2	13.1	1	0.39	0.30	3.6E-03
	13.3	13.2	1	0.99	0.30	5.2E-04
	13.4	13.5	2	1.67	1.00	4.2E-03
14	14.2	14.1	1	0.38	0.30	3.8E-03
	14.3	14.2	1	0.96	0.30	1.5E-04
	14.4	14.5	2	1.68	1.00	5.2E-03
15	15.2	15.1	1	0.48	0.30	3.5E-03
	15.3	15.2	1	0.91	0.30	5.0E-04
	15.4	15.5	2	2.06	1.00	2.7E-03
16	16.2	16.1	1	0.39	0.30	3.8E-03
	16.3	16.2	1	0.97	0.30	5.6E-04
	16.4	16.5	2	1.66	1.00	5.2E-03
17	17.2	17.1	1	0.76	0.30	2.1E-03
	17.3	17.2	1	0.85	0.30	1.4E-03
	17.4	17.1	1	0.50	0.30	3.7E-03
	17.7	17.1	1	0.54	0.30	3.5E-03
	17.5	17.7	1	0.69	0.30	2.7E-03
	17.6	17.7	2	2.05	1.00	-1.1E-03
18	18.2	18.1	1	0.38	0.30	3.8E-03
	18.3	18.2	1	0.85	0.30	8.5E-04
	18.4	18.5	2	1.62	1.00	5.5E-03
19	19.2	19.1	1	0.42	0.30	3.8E-03
	19.3	19.2	1	1.02	0.30	2.3E-04
	19.4	19.5	2	1.53	1.00	6.0E-03
20	20.2	20.1	1	0.52	0.30	3.5E-03
	20.3	20.2	1	0.94	0.30	6.9E-04
	20.4	20.5	2	1.80	1.00	5.6E-04
21	21.2	21.1	1	0.43	0.30	3.6E-03
	21.3	21.2	1	0.81	0.30	1.2E-03
	21.4	21.5	1	1.21	0.30	3.8E-03
22	22.2	22.1	1	0.42	0.30	3.8E-03
	22.3	22.2	1	1.32	0.30	-3.1E-03
	22.4	22.5	2	1.86	1.00	6.0E-03
23	23.2	23.1	1	0.53	0.30	4.0E-03
	23.3	23.2	1	1.23	0.30	-2.2E-03
	23.4	23.1	1	0.71	0.30	2.1E-03
	23.5	23.1	1	0.72	0.30	2.3E-03
	23.7	23.1	1	0.53	0.30	3.6E-03
	23.6	23.7	2	1.53	1.00	8.3E-03

Figure 3
Locations of Analyzed Settlement Points on Liner Grading Plan
JED Facility, St. Cloud, FL



ATTACHMENT 7

Revised Tables and Figure of Appendix C – Hydrogeological Investigation Report

Table 1

Summary of Lithologic Borings
Omni Waste of Osceola County, LLC
J.E.D. Solid Waste Management Facility, Osceola County, FL

Station ID	Easting	Northing	Latitude	Longitude	Ground Elevation	Total Depth	Borehole Diameter
	Coordinates (FL State Plane East NAD83, ft)		Coordinates (NAD83)		ft. NGVD 1929	ft. bgs	in.
SPT-1 (2010)	626190	1352101	28° 03' 11.96''	81° 05' 34.59''	79.93	62	3 7/8
SPT-2 (2010)	626553	1353558	28° 03' 26.39''	81° 05' 30.55''	78.79	72	3 7/8
SPT-3 (2010)	627388	1352965	28° 03' 20.52''	81° 05' 21.23''	78.22	66	3 7/8
SPT-4 (2010)	627035	1352714	28° 03' 18.03''	81° 05' 25.16''	77.46	162	3
SPT-5 (2010)	626177	1352128	28° 03' 12.22''	81° 05' 34.74''	83.54	162	3 7/8
SPT-6 (2010)	627742	1352144	28° 03' 12.39''	81° 05' 17.27''	78.19	156	3

Notes:

ft. = feet
NGVD 1929 = National Geodetic Vertical Datum of 1929
bgs = below ground surface
in = inch

Table 2A
Summary of A-Zone Monitoring Well/Piezometer Construction Details
Omni Waste of Osceola County, LLC
J.E.D. Solid Waste Management Facility, Osceola County, FL

Well Designation*	Latitude (NAD 1983)	Longitude (NAD 1983)	WACS ID	Date Installed	Top of PVC Casing Elevation (ft. NGVD 1929)	Total Depth (ft. BTOC)	Screen Setting			
							(ft. BTOC)		(ft. NGVD 1929)	
							Top	Bottom	Top	Bottom
DP-14	NA	NA	NA	11/8/2001	81.97	18.07	13.1	18.1	68.9	63.9
DP-16	NA	NA	NA	11/9/2001	82.57	18.07	13.1	18.1	69.5	64.5
DP-19	NA	NA	NA	11/15/2001	84.34	18.14	13.1	18.1	71.2	66.2
DP-20	NA	NA	27858	11/12/2001	83.07	18.27	13.3	18.3	69.8	64.8
DP-22	NA	NA	NA	11/9/2001	81.00	17.7	12.7	17.7	68.3	63.3
DP-24	NA	NA	NA	11/12/2001	82.22	18.02	13.0	18.0	69.2	64.2
MW-1A	28 03 48.55	81 05 59.88	19900	12/9/2003	95.12	23.0	13.0	23.0	82.1	72.1
MW-2A	28 03 51.99	81 05 59.90	19903	12/10/2003	95.21	22.6	12.6	22.6	82.6	72.6
MW-3A	28 03 55.34	81 05 59.91	19906	12/11/2003	94.64	22.8	12.8	22.8	81.9	71.9
MW-4A	28 03 58.97	81 05 59.92	19909	12/12/2003	95.48	23.1	13.1	23.1	82.4	72.4
MW-5A	28 04 02.92	81 05 59.95	19912	11/24/2003	95.32	22.5	12.5	22.5	82.8	72.8
MW-6A	28 04 06.50	81 05 59.15	19915	11/25/2003	94.72	22.6	12.6	22.6	82.2	72.2
MW-7A	28 04 07.13	81 05 54.78	19918	11/26/2003	95.48	23.3	13.3	23.3	82.2	72.2
MW-8A	28 04 06.20	81 05 50.64	19921	12/5/2003	94.67	22.5	12.5	22.5	82.2	72.2
MW-9A	28 04 04.34	81 05 46.60	19924	12/4/2003	94.66	22.4	12.4	22.4	82.3	72.3
MW-10A	28 04 00.07	81 05 44.77	19927	12/3/2003	96.25	22.1	12.1	22.1	84.1	74.1
MW-11A	28 03 55.43	81 05 43.27	19930	12/3/2003	93.56	22.8	12.8	22.8	80.7	70.7
MW-12A	28 03 52.08	81 05 43.26	19933	12/2/2003	95.10	23.0	13.0	23.0	82.1	72.1
MW-13A	28 03 48.67	81 05 43.25	19936	12/8/2003	95.19	22.5	12.5	22.5	82.7	72.7
MW-16A	28 03 44.55	81 05 40.22	22342	9/21/2007	88.69	18.63	8.6	18.6	80.1	70.1
MW-17A	28 03 42.38	81 05 35.42	22345	9/22/2007	88.86	19.88	9.9	19.9	79.0	69.0
MW-18A	28 03 37.21	81 05 35.16	22348	9/11/2007	87.56	17.70	7.7	17.7	79.9	69.9
MW-19A	28 03 33.40	81 05 39.60	22351	9/11/2007	87.54	17.65	7.7	17.7	79.9	69.9
MW-20A	28 03 31.82	81 05 45.45	22354	9/19/2007	87.12	17.93	7.9	17.9	79.2	69.2
MW-21A	28 03 32.10	81 05 52.48	22357	9/14/2007	87.20	18.04	8.0	18.0	79.2	69.2
MW-22A	28 03 32.35	81 05 59.48	22360	9/14/2007	87.71	18.00	8.0	18.0	79.7	69.7
MW-23A	28 03 42.41	81 05 59.79	22363	9/25/2007	97.90	27.75	17.8	27.8	80.2	70.2
MW-24A	28 03 10.54	81 05 30.92	27860	8/26/2010	86.97	23.34	13.3	23.3	73.6	63.6
MW-25A	28 03 26.45	81 05 30.47	27861	8/26/2010	82.36	23.49	13.5	23.5	68.9	58.9
MW-26A	28 03 20.38	81 05 21.22	27862	8/26/2010	82.01	23.83	13.8	23.8	68.2	58.2

Notes:

ft. = feet

NGVD 29 = National Geodetic Vertical Datum of 1929

btoc = below top of casing

NA = data not applicable

*Wells DP-2, DP-4, DP-6, DP-7, DP-10, DP-12, and DP-13 have been decommissioned (removed) and are not included in the table above.

Table 2C
Summary of C-Zone Monitoring Well/Piezometer Construction Details
Omni Waste of Osceola County, LLC
J.E.D. Solid Waste Management Facility, Osceola County, FL

Well Designation	Latitude (NAD 1983)	Longitude (NAD 1983)	WACS ID	Date Installed	Top of PVC Casing Elevation (ft. NGVD 1929)	Total Depth (ft. BTOC)	Screen Setting			
							(ft. BTOC)		(ft. NGVD 1929)	
							Top	Bottom	Top	Bottom
DP-15	NA	NA	NA	11/8/2001	81.98	53.1	43.1	53.1	38.9	28.9
DP-17	NA	NA	NA	11/9/2001	82.58	53.1	43.1	53.1	39.5	29.5
DP-18	NA	NA	NA	11/19/2001	84.38	53.2	43.2	53.2	41.2	31.2
DP-21	NA	NA	27859	11/12/2001	83.00	53.2	43.2	53.2	39.8	29.8
DP-23	NA	NA	NA	11/9/2001	81.27	53.0	43.0	53.0	38.3	28.3
MW-1C	28 03 48.63	81 05 59.88	19902	12/9/2003	95.18	75.2	65.2	75.2	30.0	20.0
MW-2C	28 03 51.90	81 05 59.89	19905	12/10/2003	95.32	68.4	58.4	68.4	36.9	26.9
MW-3C	28 03 55.28	81 05 59.91	19908	12/11/2003	94.66	68.7	58.7	68.7	36.0	26.0
MW-4C	28 03 59.04	81 05 59.92	19911	12/12/2003	95.39	72.5	62.5	72.5	32.9	22.9
MW-5C	28 04 02.83	81 05 59.95	19914	11/24/2003	95.39	73.0	63.0	73.0	32.4	22.4
MW-6C	28 04 06.46	81 05 59.22	19917	11/25/2003	94.58	73.2	63.2	73.2	31.4	21.4
MW-7C	28 04 07.13	81 05 54.86	19920	11/25/2003	94.93	73.3	63.3	73.3	31.6	21.6
MW-8C	28 04 06.17	81 05 50.55	19923	12/5/2003	94.50	73.9	63.9	73.9	30.6	20.6
MW-9C	28 04 04.29	81 05 46.53	19926	12/4/2003	94.54	73.8	63.8	73.8	30.8	20.8
MW-10C	28 04 00.01	81 05 44.74	19929	12/3/2003	96.36	73.7	63.7	73.7	32.7	22.7
MW-11C	28 03 55.36	81 05 43.26	19932	12/2/2003	93.65	73.4	63.4	73.4	30.3	20.3
MW-12C	28 03 52.01	81 05 43.26	19935	12/1/2003	95.10	73.6	63.6	73.6	31.5	21.5
MW-13C	28 03 48.60	81 05 43.25	19938	12/8/2003	95.04	73.0	63.0	73.0	32.1	22.1
MW-16C	28 03 44.50	81 05 40.11	22344	9/21/2007	88.77	67.7	57.7	67.7	31.1	21.1
MW-17C	28 03 42.31	81 05 35.31	22347	9/20/2007	88.85	67.3	57.3	67.3	31.5	21.5
MW-18C	28 03 37.10	81 05 35.22	22350	9/12/2007	87.42	67.2	57.2	67.2	30.3	20.3
MW-19C	28 03 33.37	81 05 39.72	22353	9/10/2007	87.44	66.7	56.7	66.7	30.7	20.7
MW-20C	28 03 31.82	81 05 45.57	22356	9/18/2007	87.35	66.8	56.8	66.8	30.6	20.6
MW-21C	28 03 32.10	81 05 52.61	22359	9/17/2007	87.13	62.6	52.6	62.6	34.6	24.6
MW-22C	28 03 32.36	81 05 59.60	22362	9/13/2007	87.55	67.3	57.3	67.3	30.3	20.3
MW-23C	28 03 42.51	81 05 59.80	22365	9/24/2007	97.93	67.1	57.1	67.1	40.9	30.9
MW-27C	28 03 12.45	81 05 17.15	27863	8/27/2010	81.66	58.3	48.3	58.3	33.4	23.4

Notes:

ft. = feet

NGVD 29 = National Geodetic Vertical Datum of 1929

btoc = below top of casing

NA = data not applicable

Table 8
Summary of Groundwater Analytical Results - Pesticides, Herbicides, Polychlorinated Biphenyls, and Other Organic Compounds
Omni Waste of Osceola County, LLC
J.E.D. Solid Waste Management Facility, Osceola County, FL

Compound	Units	MCL	GCTL	DP-20		DP-21		MW-24A		MW-25A		MW-26A		MW-27C	
				Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
			Date	9/2/2010		9/2/2010		9/2/2010		9/2/2010		9/2/2010		9/2/2010	
Fumigants (EPA Test Method 8011)															
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	0.2	0.2	0.0057	U	0.0057	U	0.0058	U	0.0057	U	0.0057	U	0.0057	U
1,2-Dibromoethane (EDB)	ug/L	0.02	0.02	0.007	U	0.007	U	0.0071	U	0.007	U	0.007	U	0.007	U
Polychlorinated Biphenyls (EPA Test Method 8082)															
Aroclor 1016	ug/L	*	*	0.14	U	0.14	U	0.15	U	0.14	U	0.15	U	0.14	U
Aroclor 1221	ug/L	*	*	0.24	U	0.23	U	0.26	U	0.24	U	0.25	U	0.24	U
Aroclor 1232	ug/L	*	*	0.25	U	0.24	U	0.27	U	0.25	U	0.26	U	0.25	U
Aroclor 1242	ug/L	*	*	0.13	U	0.13	U	0.14	U	0.13	U	0.14	U	0.13	U
Aroclor 1248	ug/L	*	*	0.28	U	0.28	U	0.3	U	0.28	U	0.29	U	0.28	U
Aroclor 1254	ug/L	*	*	0.39	U	0.39	U	0.43	U	0.4	U	0.41	U	0.4	U
Aroclor 1260	ug/L	*	*	0.18	U	0.18	U	0.2	U	0.19	U	0.19	U	0.19	U
Arochlor Mixture	ug/L	0.5*	0.5*	1.61	ND	1.59	ND	1.75	ND	1.63	ND	1.69	ND	1.63	ND
Pesticides (EPA Test Method 8081)															
4,4'-DDD	ug/L	NS	0.1	0.0084	UJ	0.0083	UJ	0.0091	UJ	0.0085	UJ	0.0087	UJ	0.0085	UJ
4,4'-DDE	ug/L	NS	0.1	0.0089	U	0.0088	U	0.0097	U	0.0091	U	0.0093	U	0.0091	U
4,4'-DDT	ug/L	NS	0.1	0.014	U	0.014	U	0.015	U	0.014	U	0.015	U	0.014	U
Aldrin	ug/L	NS	0.002	0.0072	U	0.0071	U	0.0079	U	0.0074	U	0.0075	U	0.0074	U
alpha-BHC	ug/L	NS	0.006	0.0084	U	0.0083	U	0.0091	U	0.0085	U	0.0087	U	0.0085	U
alpha-Chlordane	ug/L	2	2	0.007	U	0.0069	U	0.0076	U	0.0071	U	0.0073	U	0.0071	U
beta-BHC	ug/L	NS	0.02	0.009	U	0.0089	U	0.0098	U	0.0092	U	0.0094	U	0.0092	U
delta-BHC	ug/L	NS	2.1	0.012	U	0.012	U	0.013	U	0.012	U	0.013	U	0.012	U
Dieldrin	ug/L	NS	0.002	0.0077	U	0.0077	U	0.0084	U	0.0079	U	0.0081	U	0.0079	U
Endosulfan I	ug/L	NS	42	0.0094	U	0.0093	U	0.011	U	0.0096	U	0.0098	U	0.0096	U
Endosulfan II	ug/L	NS	42	0.0068	U	0.0067	U	0.0074	U	0.0069	U	0.0071	U	0.0069	U
Endosulfan Sulfate	ug/L	NS	42	0.0097	U	0.0096	U	0.011	U	0.0099	U	0.011	U	0.0099	U
Endrin	ug/L	2	2	0.0095	U	0.0094	U	0.011	U	0.0097	U	0.0099	U	0.0097	U
Endrin Aldehyde	ug/L	NS	NS	0.009	U	0.0089	U	0.0098	U	0.0092	U	0.0094	U	0.0092	U
Endrin Ketone	ug/L	NS	NS	0.0056	U	0.0056	U	0.0061	U	0.0057	U	0.0059	U	0.0057	U
gamma-BHC (Lindane)	ug/L	0.2	0.2	0.0087	U	0.0086	U	0.0095	U	0.0089	U	0.0091	U	0.0089	U
gamma-Chlordane	ug/L	NS	2	0.0079	U	0.0079	U	0.0087	U	0.0081	U	0.0083	U	0.0081	U
Heptachlor	ug/L	0.4	0.4	0.011	U	0.01	U	0.012	U	0.011	U	0.011	U	0.011	U
Heptachlor Epoxide	ug/L	0.2	0.2	0.0084	U	0.0083	U	0.0091	U	0.0085	U	0.0087	U	0.0085	U
Methoxychlor	ug/L	40	40	0.012	U	0.012	U	0.013	U	0.012	U	0.013	U	0.012	U
Toxaphene	ug/L	3	3	0.53	U	0.53	U	0.58	U	0.54	U	0.55	U	0.54	U
Chlorinated Herbicides (EPA Test Method 8151A)															
2,4,5-T	ug/L	NS	70	0.053	U	0.053	U	0.053	U	0.053	U	0.053	U	0.053	U
2,4,5-TP (Silvex)	ug/L	50	50	0.056	U	0.056	U	0.056	U	0.056	U	0.056	U	0.056	U
2,4-D	ug/L	70	70	0.091	U	0.091	U	0.091	U	0.091	U	0.091	U	0.091	U
Dinoseb	ug/L	7	7	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U	0.28	U
Pentachlorophenol	ug/L	1	1	0.043	U	0.043	U	0.043	U	0.043	U	0.043	U	0.043	U

Notes:
MCL = Maximum Contaminant Level
GCTL = Groundwater Cleanup Target Level
mg/L - micrograms per liter
NS = No standard established
= = The analyte was detected
U = Indicates that the compound was analyzed for but not detected above minimum reporting limit
I = The reported value is between the laboratory method detection limit and the laboratory practical quantification limit
J = Estimated value
Bolded and Shaded = Indicates the compound was detected above applicable regulatory limit
* = Arochlor standards are for mixtures
Arochlor mixture total presented is a sum of arochlor detection levels

Table 10
Summary of Surface Water Analytical Results - Metals and Inorganic Constituents
Omni Waste of Osceola County, LLC
J.E.D. Solid Waste Management Facility, Osceola County, FL

Compound	Units	Class III Surface Fresh Water Standards	SW-3			SW-4		
			Result	Qualifier	Standard*	Result	Qualifier	Standard*
		Date	9/2/2009			9/2/2009		
Inorganic Constituents (various analytical Methods)								
Ammonia as N, Unionized	mg/L	0.02	0.01	U	-	0.01	U	-
Biochemical Oxygen Demand (BOD)	mg/L	NS	2	U	-	2	U	-
Carbon, Total Organic	mg/L	NS	31.2	=	-	27.8	=	-
Chemical Oxygen Demand	mg/L	NS	93	=	-	83	=	-
Chlorophyll a (Monochromatic)	mg/m^3	NS	2.3	U		2.2	=	-
Nitrate as Nitrogen	mg/L	NS	0.07	U	-	0.07	U	-
Nitrogen, Total as Nitrogen	mg/L	NS	1.02	=	-	1.06	=	-
Phosphorus, Total	mg/L	NS	0.0342	=	-	0.0365	=	-
Solids, Total Dissolved (TDS)	mg/L	NS	83	=	-	58	=	-
Solids, Total Suspended (TSS)	mg/L	NS	5	U	-	5	U	-
Mercury (EPA Test Method 7470A)								
Mercury, Total	ug/L	0.012	0.08	U	-	0.08	U	-
Metals (EPA Test Method 6010)								
Antimony, Total	ug/L	4,300	0.3	U	-	0.3	U	-
Arsenic, Total	ug/L	50	0.34	=,I	-	0.32	=,I	-
Barium, Total	ug/L	NS	8.7	=	-	6.6	=	-
Beryllium, Total	ug/L	0.13	0.3	U	-	0.3	U	-
Cadmium, Total	ug/L	hardness dependant*	0.17	U	0.21	0.17	U	0.12
Calcium, Total	mg/L	NS	3.06	=	-	1.32	=	-
Chromium, Total	ug/L	hardness dependant*	0.6	U	14.96	0.6	U	8.51
Cobalt, Total	ug/L	NS	0.2	U	-	0.2	U	-
Coliform, Fecal	CFU/100mL	800	50		-	136	B	-
Copper, Total	ug/L	hardness dependant*	0.5	U	1.9	0.5	U	1.1
Hardness (Total as $CaCO_3$)	mg/L	NS	11.8		-	5.9		-
Iron, Total	mg/L	1	1.06	=	-	0.95	=	-
Lead, Total	ug/L	hardness dependant*	0.3	U	0.21	0.3	U	0.09
Magnesium, Total	mg/L	NS	1.01	=	-	0.64	=	-
Nickel, Total	ug/L	hardness dependant*	0.3	U	26	0.3	U	14
Selenium, Total	ug/L	5	0.9	U	-	0.9	U	-
Silver, Total	ug/L	0.07	0.09	U	-	0.09	U	-
Thallium, Total	ug/L	6.3	0.4	U	-	0.4	U	-
Vanadium, Total	ug/L	NS	1.2	U	-	1.2	U	-
Zinc, Total	ug/L	hardness dependant*	4	=,I	17	3	U	10

Notes:

mg/L - milligrams per liter

ug/L - micrograms per liter

CFU/100mL = Colony forming units per 100 milliliters

mg/m^3 = milligrams per cubic meter

= = The analyte was detected

U = Indicates that the compound was analyzed for but not detected above minimum reporting limit

I = The reported value is between the laboratory method detection limit and the laboratory practical quantification limit

* = Standard is calculated using hardness. Equation for Standard calculation taken from 62-302.530 F.A.C.

Table 11
Summary of Surface Water Analytical - Organic Constituents
Omni Waste of Osceola County, LLC
J.E.D. Solid Waste Management Facility, Osceola County, FL

Compound	Units	Class III Surface Fresh Water Standards	SW-3		SW-4	
			Result	Qualifier	Result	Qualifier
		Date	9/2/2010		9/2/2010	
1,1,1,2-Tetrachloroethane	ug/L	NS	0.18	U	0.18	U
1,1,1-Trichloroethane (TCA)	ug/L	270	0.17	U	0.17	U
1,1,2,2-Tetrachloroethane	ug/L	10.8	0.11	U	0.11	U
1,1,2-Trichloroethane	ug/L	16	0.17	U	0.17	U
1,1-Dichloroethane	ug/L	NS	0.13	U	0.13	U
1,1-Dichloroethene	ug/L	3.2	0.16	U	0.16	U
1,2,3-Trichloropropane	ug/L	0.2	0.42	U	0.42	U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	NS	2.3	U	2.3	U
1,2-Dibromoethane (EDB)	ug/L	13	0.17	U	0.17	U
1,2-Dichlorobenzene	ug/L	99	0.478	U	0.478	U
1,2-Dichloroethane (EDC)	ug/L	37	0.18	U	0.18	U
1,2-Dichloropropane	ug/L	14	0.12	U	0.12	U
1,4-Dichlorobenzene	ug/L	3	0.13	U	0.13	U
2-Butanone (MEK)	ug/L	120,000	3.8	U	3.8	U
2-Hexanone	ug/L	NS	2.2	U	2.2	U
4-Methyl-2-pentanone (MIBK)	ug/L	23,000	0.65	U	0.65	U
Acetone	ug/L	1,700	5.6	U	5.6	U
Acetonitrile	ug/L	20,000	18	U	18	U
Benzene	ug/L	71.28	0.21	U	0.21	U
Bromochloromethane	ug/L	NS	0.27	U	0.27	U
Bromodichloromethane	ug/L	22	0.17	U	0.17	U
Bromoform	ug/L	360	0.42	U	0.42	U
Bromomethane	ug/L	35	0.22	U	0.22	U
Carbon Disulfide	ug/L	110	2.36	U	2.36	U
Carbon Tetrachloride	ug/L	4.42	0.34	U	0.34	U
Chlorobenzene	ug/L	17	0.16	U	0.16	U
Chloroethane	ug/L	NS	0.22	U	0.22	U
Chloroform	ug/L	470.8	0.35	U	0.35	U
Chloromethane	ug/L	470.8	0.11	U	0.11	U
cis-1,2-Dichloroethene	ug/L	NS	0.36	U	0.36	U
cis-1,3-Dichloropropene	ug/L	12	0.2	U	0.2	U
Dibromochloromethane	ug/L	34	0.19	U	0.19	U
Dibromomethane	ug/L	13	0.18	U	0.18	U
Ethylbenzene	ug/L	610	0.519	U	0.519	U
Iodomethane (Methyl Iodide)	ug/L	NS	2.68	U	2.68	U
m,p-Xylenes	ug/L	370*	1.04	U	1.04	U
Methylene Chloride	ug/L	1,580	0.21	U	0.21	U
o-Xylene	ug/L	370*	0.14	U	0.14	U
Styrene	ug/L	460	0.291	U	0.291	U
Tetrachloroethene (PCE)	ug/L	8.85	0.11	U	0.11	U
Toluene	ug/L	480	0.19	U	0.19	U
trans-1,2-Dichloroethene	ug/L	11,000	0.12	U	0.12	U
trans-1,3-Dichloropropene	ug/L	12	0.23	U	0.23	U
trans-1,4-Dichloro-2-butene	ug/L	NS	2.2	U	2.2	U
Trichloroethene (TCE)	ug/L	80.7	0.16	U	0.16	U
Trichlorofluoromethane	ug/L	NS	0.22	U	0.22	U
Vinyl Acetate	ug/L	700	1.9	U	1.9	U
Vinyl Chloride	ug/L	2.4	0.22	U	0.22	U

Notes:

ug/L - micrograms per liter

ND = Indicates that the compound was analyzed for but not detected above minimum reporting limit

= = The analyte was detected

U = Indicates that the compound was analyzed for but not detected above minimum reporting limit

* = standard is for total xylenes

Table 12
Summary of Water Well Inventory
Omni Waste of Osceola County, LLC
J.E.D. Solid Waste Management Facility, Osceola County, FL

	Object ID	Well Coordinates (NAD83)		Data Source	Owner Name	Predominant Use of Well	FLUid Identification	Permitted Usage		Well Construction Details			
		Latitude	Longitude					Daily Peak (GPD)	Daily Average (GPD)	Surface Casing Depth (ft. BLS)	Well Total Depth (ft. BLS)	Surface Casing Diameter (inches)	Primary Stratigraphic Production Zone
Water Wells Identified from Various Databases (September 2010)	1	28° 03' 08.47''	81° 05' 31.10''	OCEHD, SFWMD, SUPERACT	JED Disposal Facility	Potable	AAJ6820	NA	NA	255	380	4	Upper Floridan Aquifer System
	2	NA	NA	SFWMD	JED Disposal Facility	Dewatering[A]	AAJ5471	NA	NA	NA	NA	NA	Surficial Aquifer System
	3	NA	NA	OCEHD	Florida Mulch	Potable	NA	NA	NA	NA	NA	NA	Upper Floridan Aquifer System
Water Wells Indentified During Initial Hydrogeologic Investigation (Kubal-Furr, 2002)	GANN	NA	NA	Kubal-Furr (2002)	Ganarelli Ranch	Presumed Potable	NA	NA	NA	NA	NA	4	NA
	GSW	NA	NA	Kubal-Furr (2002)	Ganarelli Ranch	Presumed Potable	NA	NA	NA	NA	NA	4	NA
	ST	NA	NA	Kubal-Furr (2002)	Bronson Ranch	Presumed Potable	NA	NA	NA	NA	NA	2	NA

Notes:

NA = not applicable/available

GPD = gallons per day

ft. BLS = feet below land surface

[A] = No well is installed at this location. The permit specifies a surface water withdrawal with a centrifugal pump for dewatering purposes.

NORTH

0 500' 1000'

SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- CURRENT PERMITTED WASTE BOUNDARY
- PROPOSED WASTE BOUNDARY
- SPT-1 (2010) — SOIL BORING INSTALLED AUGUST 2010
- MW-27C — MONITORING WELL INSTALLED AUGUST 2010
- SB-1 — DEEP SOIL BORING LOCATION INSTALLED DURING 2002 INVESTIGATION
- DP-1 — SHALLOW PIEZOMETER LOCATIONS INSTALLED DURING 2002 INVESTIGATION
- SZ-1 — DEEP PIEZOMETER LOCATION INSTALLED DURING 2002 INVESTIGATION
- SW-4 — EXISTING SURFACE WATER QUALITY SAMPLE LOCATION
- MW-1A/B/C — EXISTING GROUND WATER QUALITY MONITORING WELL
- SPT-1 — SOIL BORING INSTALLED 2002

SW-4
MW-7A/B/C
MW-6A/B/C
MW-8A/B/C
MW-9A/B/C
SPT-10
MW-5A/B/C
MW-10A/B/C
MW-4A/B/C
SPT-9
DP-2
DP-1
SPT-8
BULL CREEK
MW-3A/B/C
A
SB-1
MW-11A/B/C
MW-2A/B/C
SPT-7
DP-4
DP-3
MW-12A/B/C
MW-1A/B/C
MW-13A/B/C
MW-16A/B/C
DP-6
DP-5
MW-23A/B/C
SPT-6
SPT-4
DP-8
DP-7
SZ-1
MW-17A/B/C
DP-9
DP-10
SW-3 LOCATED APPROXIMATELY 3,500' TO THE EAST SOUTHEAST
DP-11
DP-12
MW-18A/B/C
DP-13
DP-14
SPT-5
SPT-3
MW-19A/B/C
SPT-1
DP-15
MW-22A/B/C
MW-21A/B/C
MW-20A/B/C
DP-16
DP-17
SB-3
DP-24
DP-23
DP-22
SZ-3
DP-19
DP-18
MW-25A
SPT-2
SPT-2 (2010)
B
SB-2
DP-20
SZ-2
DP-21
MW-26A
SPT-3 (2010)
SPT-4 (2010)
B'
SPT-1 (2010)
MW-27C
SPT-6 (2010)
SPT-11
MW-24A
SPT-5 (2010)
A'
SPT-12

2010 HYDROGEOLOGICAL AND GEOTECHNICAL INVESTIGATION ADDENDUM LOCATIONS
J.E.D. SOLID WASTE MANAGEMENT FACILITY

Geosyntec consultants

TAMPA, FL

DATE:	MAR 2011	FILE NO.	FL1868.02F03
PROJECT NO.	FL1868	FIGURE NO.	4

I:_CADD (PROJECTS)\JJED LANDFILL\PERMIT\LATERAL EXPANSION (FL1868)\FIGURES\FL1868.02\FL1868.02F03.DWG (1 October 2010) nscott

ATTACHMENT 8

Summary Table of pH Measurements in Ground Water Monitoring Wells

Table 1

Groundwater Field Measured pH Values Below 4.5 std units
J.E.D. Solid Waste Management Facility

Well ID	Type	Lowest Recorded pH Measurement	No. of Instances Where Recorded pH was Below 4.5	No. of Monitoring Events for Well
MW-1A	B	3.51	1	13
MW-2A	B	2.69	1	13
MW-3A	B	3.79	2	13
MW-4A	B	4.53	0	13
MW-5A	B	4.19	8	13
MW-6A	B	4.51	0	13
MW-7A	D	4.36	1	13
MW-8A	D	4.16	5	13
MW-9A	D	3.59	2	13
MW-10A	D	4.33	2	13
MW-11A	D	4.58	0	13
MW-12A	D	4.18	9	13
MW-13A	D	4.77	0	13
MW-14A	D	4.24	1	13
MW-15A	D	4.27	1	13
MW-16A	D	4.67	0	7
MW-17A	D	4.23	1	4
MW-18A	D	4.55	0	4
MW-19A	D	4.71	0	7
MW-20A	D	4.71	0	4
MW-21A	D	4.14	2	4
MW-22A	B	4.34	1	4
MW-23A	B	4.41	1	7
MW-1B	B	4.61	0	9
MW-2B	B	4.41	4	12
MW-3B	B	4.56	0	12
MW-4B	B	3.47	4	12
MW-5B	B	4.07	8	12
MW-6B	B	4.53	0	9
MW-7B	D	4.5	0	12
MW-8B	D	3.34	1	12
MW-9B	D	4.59	0	12
MW-10B	D	4.19	1	12
MW-11B	D	4.65	0	12
MW-12B	D	4.46	1	12
MW-13B	D	4.61	0	12
MW-14B	D	4.58	0	7
MW-15B	D	3.21	3	7
MW-16B	D	4.78	0	7
MW-17B	D	4.93	0	4
MW-18B	D	4.51	0	4
MW-19B	D	4.67	0	6
MW-20B	D	4.97	0	4
MW-21B	D	4.85	0	4
MW-22B	B	4.6	0	4
MW-23B	B	4.36	1	6
MW-1C	B	4.86	0	8
MW-2C	B	4.8	0	11
MW-3C	B	4.7	0	11
MW-4C	B	5.2	0	11
MW-5C	B	4.65	0	11
MW-6C	B	4.6	0	8
MW-7C	D	4.92	0	11
MW-8C	D	4.55	0	11
MW-9C	D	4.78	0	11
MW-10C	D	4.51	0	11
MW-11C	D	4.98	0	11
MW-12C	D	4.23	1	11
MW-13C	D	4.66	0	11
MW-14C	D	5.11	0	7
MW-15C	D	5.12	0	7
MW-16C	D	4.89	0	7
MW-17C	D	5.31	0	4
MW-18C	D	5.21	0	4
MW-19C	D	5.15	0	5
MW-20C	D	5.1	0	4
MW-21C	D	5.1	0	4
MW-22C	B	6.68	0	4
MW-23C	B	5.1	0	5