



September 21, 2010

Steven G. Morgan
Solid Waste Section
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

RE: Response to Second Request for Additional Information
Central County Solid Waste Disposal Complex, Sarasota County
Phase I Partial Closure
Pending Permit No.: 130542-014-SF/01
WACS No.: SWD/58/51614

Dear Mr. Morgan:

On behalf of Sarasota County Solid Waste Management Department, HDR Engineering, Inc. (HDR) is pleased to provide the following information in response to the Florida Department of Environmental Protection's (FDEP) August 12, 2010 Second Request for Additional Information (RAI #2) regarding the Central County Solid Waste Disposal Complex Class I Landfill Phase I Partial Closure Permit Application.

All revisions to the narrative reports are shown with deletions struckthrough (~~struckthrough~~) and additions underlined (underlined) along with a change line indicator in the left margin.

Responses to each of the comments in the August 12, 2010 RAI are provided below in the same order presented in RAI. In each case the FDEP request is repeated in italics with the response immediately following in **bold**.

The following appendices are enclosed with the response document and are referenced in the responses to comments:

ATTACHMENT A	NOTICE OF APPLICATION CORRESPONDENCE
ATTACHMENT B	TPO DESIGN MEMORANDUM
ATTACHMENT C	REVISED DRAWING SHEETS
ATTACHMENT D	TPO PHOTOS

Dept. Of Environmental Protection
SEP 21 2010
Southwest District

GENERAL:

1. *The requested information and comments below do not repeat the information submitted by the applicant. However, every effort has been made to concisely refer to the section, page, drawing detail number, etc. where the information has been presented in the original submittal.*
2. *Please submit **4 copies** of all requested information. Please specify if revised information is intended to supplement, or replace, previously submitted information. Please submit all revised plans and reports as a complete package. For revisions to the narrative reports, deletions may be struckthrough (~~struckthrough~~) and additions may be underlined underlined or similar notation method. This format will expedite the review process. Please include revision date on all revised pages.*
3. *Please provide a summary of all revisions to drawings, and indicate the revision on each of the applicable plan sheets. Please use a consistent numbering system for drawings. If new sheets must be added to the original plan set, please use the same numbering system with a prefix or suffix to indicate the sheet was an addition, e.g. Sheet 1A, 1B, P1-A, etc.*
4. *Please be advised that although some comments do not explicitly request additional information, the intent of all comments shall be to request revised calculations, narrative, technical specifications, QA documentation, plan sheets, clarification to the item, and/or other information as appropriate. **Please be reminded that all calculations must be signed and sealed by the registered professional engineer (or geologist as appropriate) who prepared them.***

The following information is needed in support of the solid waste application [Chapter 62-701, Florida Administrative Code (F.A.C.)]:

*Comment 1. **Rule 62-701.320(8), F.A.C.** Please publish the attached Notice of Application and provide proof of publication to the Department.*

Response 1: The Notice of Application for the project was published on May 13, 2010 in the Sarasota Herald Tribune. The proof of publication for the advertisement was submitted to the Department on May 21, 2010 in correspondence dated May 20, 2010. A copy of the correspondence and associated letters to elected officials of the notice are provided in Attachment A.

Attachment O.3:

*Comment 2. **EGC Uplift Calculations***

a. The varying suction factor values used for upper, middle, and lower 1/3 slopes calculation appear inconsistent with the recommended values for suction

factor at upper, middle, and lower slope presented on Figure 3 of the Gleason, Houlihan, and Giroud (1998) reference provided with this application. Please verify and provide supporting information and/or references for the assumed suction factor values used and revise these calculations, as appropriate.

Response 2a: Please refer to the design memo provided in Attachment B regarding the design process to determine the appropriate suction factor values used in the Phase I EGC Uplift Calculations. Please insert this memo in the References section for the wind uplift calculations to supplement the references provided previously.

b. The calculated factors of safety for against uplift range from 1.16 to 1.37. Unless supporting justification is provided, a minimum factor of safety of 1.5 for final cover anchor trench design is typically provided for landfill closure projects. Please provide supporting information and/or references for the accepted uplift factors of safety for this project.

Response 2.b.: The exposed geomembrane cover (EGC) design is based on 130 mph basic wind speed determined from the Florida Building Code for Sarasota County. This is the velocity recommended by the building code to develop wind loads for design of buildings, structures and parts thereof.

As shown in the calculations, the maximum wind uplift forces of the EGC are calculated based on the design wind speed recommended by the building code. The required counter balancing forces are determined to prevent uplift of the EGC during a design wind event. Accordingly, any factor of safety greater than 1.0 indicates that the counter balancing force is greater than the uplift force. In other words, the design could withstand a wind speed greater than 130 mph recommended by the building code. Since all the factor of safety values for uplift are greater than 1.0, this indicates that the EGC design exceeds the minimum requirements of the building code.

Please note that, in HDR's interpretation, the factor of safety of 1.5 referenced in Rule 62-701, F.A.C. is in regard to slope stability and geotechnical foundation failure. This factor of safety is unrelated to the factor of safety provided in these calculations for wind uplift. There is no impact to slope stability or geotechnical foundation failure as a result of the EGC.

c. The calculated factor of safety for against anchor trench pullout range from 1.08 to 1.21. Unless supporting justification is provided, a minimum factor of safety of 1.5 for final cover anchor trench design is typically provided for landfill closure projects. Please provide supporting information and/or references for the accepted uplift factors of safety for this project.

Response 2.c.: Please refer to the response provided for Comment 2.b above. The same principles apply to the factor of safety determination for anchor trench pullout.

APPENDIX D – REVISED DRAWINGS (RULE 62-701.600(3), F.A.C.)

Please provide the following additional information and revisions to the revised Closure Construction Design Drawings. Please provide revised reduced-sized drawings in Appendix D, as appropriate, based on your response to the comments below. The drawings may be reviewed in their entirety after the responses to this request for information.

Please note that the following revised drawings are being provided in Attachment C as part of this RAI response for the Department's review which are in addition to the revisions provided to respond to the comments from the Department provided in this section.

- **Sheet C-04 – This sheet has been revised to reflect the intermediate cover contours for the project. These contours represent a 2-foot difference from the contours provided on Sheet C-05 which represent the final cover contours.**
- **Sheet C-05 – The locations of the stormwater drains from the mid-slope terrace have been adjusted to account for the locations of the leachate collection pump stations (LCP) located on the north toe of the Phase I Closure. The stormwater pipe will be angled from the terrace to provide sufficient setback from the LCPs. This results in a slight reduction in slope of the downdrains from 33% (3H:1V) to a minimum of 22%. Therefore, the flow rate available in the 24-inch downdrain pipes is reduced from 112 cfs to 92 cfs which remains sufficiently greater than the required flow rate of 12.4 cfs for the 25-year 24-hour design storm. With the reduced slope, the downdrains maintain sufficient flow capacity for the design storm.**

*Comment 3. **Sheets C-016:** The plan view on Sheet C-013 and Section A on Sheet C-016 show a proposed 2H:1V side slope above the side access road. Rule 62-701.500(7)(c), F.A.C. and Rule 62-701.600(3)(e), F.A.C. respectively specify that above-grade operation and closure side slopes shall not be steeper than 3H:1V. Please verify and revise the temporary closure design shown on these sheets accordingly.*

Response 3: The 2H:1V side slope above the side access road must be constructed to provide the stormwater swale above the access road. The 2H:1V slope is only in very limited areas of the landfill above the access road. The waste will be constructed at a 3H:1V slope in accordance with the filling plan, however, during construction of the closure and access road, the waste in these areas will be cut out and replaced with soil at 2H:1V. The revised Sheet C-16 which clarifies the conditions at the access road along the south slope is provided in Attachment C. A line representing the existing top of

waste is also provided to show areas of excavated waste that will be required to construct the access road.

APPENDIX E – REVISED LONG-TERM CARE PLAN (RULE 62-701.600(4), F.A.C.)

Please provide the following additional information and revisions to the revised Long-Term Care Plan.

Comment 4. §2.6.6: Based on the smoothness of TPO material to be utilized on this project, it appears that it would be difficult for landfill personnel to access (i.e. walk on) the TPO side slope to conduct the inspections described in this section. Please explain how inspection will be conducted.

Response 4: The TPO material provides a rubbery tackiness which allows personnel to walk on the material on a slope. Please refer to the photos provided in Attachment D for examples of access on the TPO surface by inspection and construction personnel at a project site in Texas.

If you have any questions or concerns regarding the comment responses or attached documents, please contact me at (813) 282-2776 or (813) 270-8058.

Sincerely,
HDR Engineering, Inc.



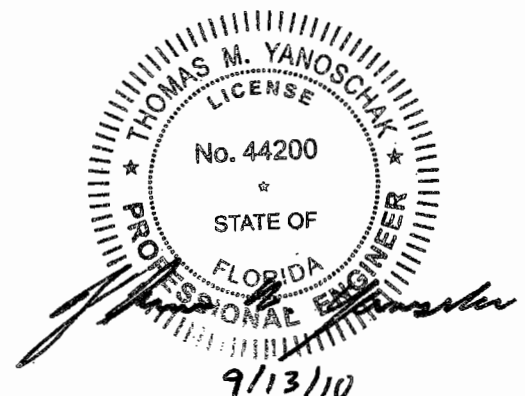
Richard A. Siemering
Solid Waste Section Manager



Thomas M. Yanoschak, P.E.
Senior Project Manager
Florida PE No. 44200

HDR Florida Certificate of Authorization No. 00004213

Cc: Gary Bennett, Sarasota County Solid Waste Operations
Lois Rose, Sarasota County Solid Waste Operations
Peter Peduzzi, P.E., Sarasota County Project Manager



ATTACHMENT A

NOTICE OF APPLICATION CORRESPONDENCE

May 20, 2010

Ms. Susan J. Pelz, P.E.
Florida Department of Environmental Protection
Southwest District
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

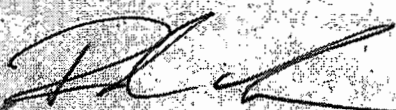
**RE: Sarasota County Solid Waste Operations
Central County Solid Waste Disposal Complex – Class I Landfill
Phase I Closure Construction Permit Application
Notice of Application Proof of Publication and Notification Correspondences**

Dear Ms. Pelz:

In accordance with Rule 62-701.320(8)(a) of the Florida Administrative Code, please find attached for your records the proof of publication of the notice of application from the Sarasota Herald-Tribune regarding the Sarasota County Central County Solid Waste Disposal Complex Class I Phase I Closure application submitted to the FDEP on April 30, 2010. In addition, the notification of application correspondences with associated proof of delivery receipts to the Chair of the Sarasota County Board of County Commissioners, the state Representative for the jurisdiction of the facility, and the state Senator for the jurisdiction of the facility are attached as required by Rule 62-701.320(8)(b), F.A.C.

Please contact me with any questions at (813) 282-2776 or (813) 270-8058.

Sincerely,
HDR ENGINEERING, INC.



Richard Siemering
Solid Waste Section Manager

Enclosures

cc: Peter Peduzzi, P.E., Sarasota County
Spencer Anderson, P.E., Sarasota County
Gary Bennett, Sarasota County
Lois Rose, Sarasota County

AFFIDAVIT OF PUBLICATION

SARASOTA HERALD-TRIBUNE
PUBLISHED DAILY
SARASOTA, SARASOTA COUNTY, FLORIDA

STATE OF FLORIDA
COUNTY OF SARASOTA

BEFORE THE UNDERSIGNED AUTHORITY PERSONALLY APPEARED SHARI BRICKLEY, WHO ON OATH SAID SHE IS CLASSIFIED DIRECTOR OF ADVERTISING FOR THE SARASOTA HERALD-TRIBUNE, A DAILY NEWSPAPER PUBLISHED AT SARASOTA, IN SARASOTA COUNTY FLORIDA; AND CIRCULATED IN SARASOTA COUNTY DAILY; THAT THE ATTACHED COPY OF ADVERTISEMENT BEING A NOTICE IN THE MATTER OF:

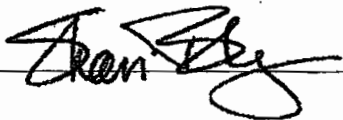
Legal description documented below:

IN THE COURT WAS PUBLISHED IN THE SARASOTA EDITION OF SAID NEWSPAPER IN THE ISSUES OF:

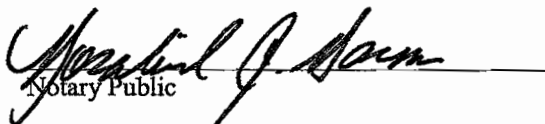
5/13 1x

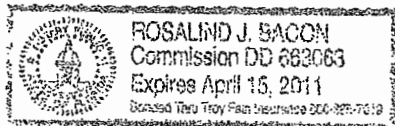
AFFIANT FURTHER SAYS THAT THE SAID SARASOTA HERALD-TRIBUNE IS A NEWSPAPER PUBLISHED AT SARASOTA, IN SAID SARASOTA COUNTY, FLORIDA, AND THAT THE SAID NEWSPAPER HAS THERETOFORE BEEN CONTINUOUSLY PUBLISHED IN SAID SARASOTA COUNTY, FLORIDA, EACH DAY, AND HAS BEEN ENTERED AS SECOND CLASS MAIL MATTER AT THE POST OFFICE IN SARASOTA, IN SAID SARASOTA COUNTY, FLORIDA, FOR A PERIOD OF ONE YEAR NEXT PRECEDING THE FIRST PUBLICATION OF THE ATTACHED COPY OF ADVERTISEMENT; AND AFFIANT FURTHER SAYS THAT SHE HAS NEITHER PAID NOR PROMISED ANY PERSON, FIRM OR CORPORATION ANY DISCOUNT, REBATE, COMMISSION OR REFUND FOR THE PURPOSE OF SECURING THIS ADVERTISEMENT FOR PUBLICATION IN THE SAID NEWSPAPER.

SIGNED



SWORN OR AFFIRMED TO, AND SUBSCRIBED BEFORE ME THIS 14 DAY OF May, A.D., 2010
BY SHARI BRICKLEY WHO IS PERSONALLY KNOWN TO ME.


Notary Public



Notice of Application

The Department of Environmental Protection announces receipt of an application for permit from Sarasota County for landfill closure construction of the Class I, Phase I Landfill. This proposed project will be located at the Central County Solid Waste Disposal Complex at 4000 Knights Trail Road, Nokomis, FL 34275. This application is being processed and is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the Southwest District FDEP Offices at 13051 N. Telecom Pkwy, Temple Terrace, FL 33637.

Date of pub: May 13, 2010

May 13, 2010

Commissioner Joseph A. Barbetta, Chairman
Sarasota County Board of County Commissioners
1660 Ringling Blvd.
Sarasota, FL 34236

RE: Sarasota County Central County Solid Waste Disposal Complex
Class I Landfill Phase I Closure
FDEP Construction Permit Notice of Application

Dear Chairman Barbetta:

In accordance with Rule 62-701.320(8)(b) of the Florida Administrative Code, please accept this correspondence as notification that Sarasota County Solid Waste Operations has filed an application with the Florida Department of Environmental Protection (DEP) for a permit to construct the closure of the Class I Phase I Landfill at the Central County Solid Waste Disposal Complex. The official public Notice of Application has been published in the Sarasota Herald Tribune within 14 days of receipt of the application by the DEP.

If you desire any additional information about this project, please feel free to contact me at (813) 258-2776.

Sincerely,
HDR Engineering, Inc.



Richard A. Siemering
Sr. Project Manager

cc: Lois Rose, Sarasota County Solid Waste Operations
Susan Pelz, PE, Florida Department of Environmental Protection

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Timmons, Jason

From: UPS Quantum View [auto-notify@ups.com]
Sent: Friday, May 14, 2010 10:57 AM
To: Timmons, Jason
Subject: UPS Delivery Notification, Tracking Number 1Z10622X0356988921



***Do not reply to this e-mail. UPS and HDR Engineering Inc will not receive your reply.

At the request of HDR Engineering Inc, this notice is to confirm that the following shipment has been delivered.

Important Delivery Information

Delivery Date / Time: 14-May-2010 / 10:05 AM

Delivery Location: RECEPTION

Signed by: AZIMI

Shipment Detail

Ship To:

Commissioner Joseph A. Barbetta
Sarasota County Board of County Com
1660 RINGLING BLVD
ROOM 251
SARASOTA
FL
34236
US

UPS Service: GROUND

Weight: 1.0 LBS

Tracking Number: 1Z10622X0356988921

Reference Number 1: 124466

Reference Number 2: 00000

**Proof of Delivery**

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number: 1Z10622X0356988921
Service: GROUND
Weight: 1.00 Lb
Shipped/Billed On: 05/13/2010
Delivered On: 05/14/2010 10:05 A.M.
Delivered To: SARASOTA, FL, US
Signed By: AZIMI

Location: RECEPTION

Thank you for giving us this opportunity to serve you.

Sincerely,

UPS

Tracking results provided by UPS: 05/18/2010 4:12 P.M. ET

May 13, 2010

Representative Doug Holder
410 House Office Building
402 South Monroe Street
Tallahassee, FL 32399-1300

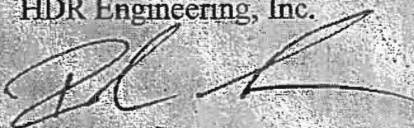
RE: Sarasota County Central County Solid Waste Disposal Complex
Class I Landfill Phase I Closure
FDEP Construction Permit Notice of Application

Dear Representative Holder:

In accordance with Rule 62-701.320(8)(b) of the Florida Administrative Code, please accept this correspondence as notification that Sarasota County Solid Waste Operations has filed an application with the Florida Department of Environmental Protection (DEP) for a permit to construct the closure of the Class I Phase I Landfill at the Central County Solid Waste Disposal Complex. The official public Notice of Application has been published in the Sarasota Herald Tribune within 14 days of receipt of the application by the DEP.

If you desire any additional information about this project, please feel free to contact me at (813) 258-2776.

Sincerely,
HDR Engineering, Inc.



Richard A. Siemering
Sr. Project Manager

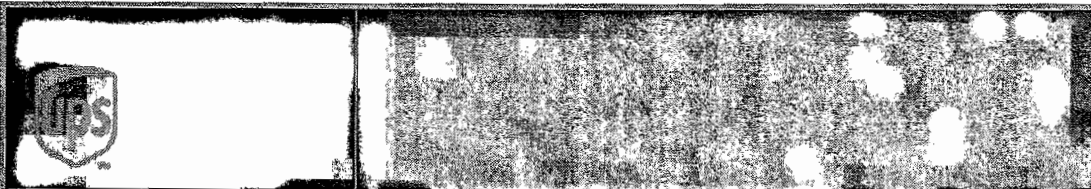
xcc: Lois Rose, Sarasota County Solid Waste Operations
Susari Pelz, PE, Florida Department of Environmental Protection

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Timmons, Jason

From: UPS Quantum View [auto-notify@ups.com]
Sent: Friday, May 14, 2010 9:57 AM
To: Timmons, Jason
Subject: UPS Delivery Notification, Tracking Number 1Z10622X0354103504



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At the request of HDR Engineering Inc, this notice is to confirm that the following shipment has been delivered.

Important Delivery Information

Delivery Date / Time: 14-May-2010 / 9:24 AM
Delivery Location Left At: OFFICE
Signed by: J MOON

Shipment Detail

Ship To:
Representative Doug Holder
404 S MONROE ST
TALLAHASSEE
FL
32399
US
UPS Service: GROUND
Weight: 1.0 LBS
Tracking Number: 1Z10622X0354103504
Reference Number 1: 124466
Reference Number 2: 00000

**Proof of Delivery**

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number: 1Z10622X0354103504
Service: GROUND
Weight: 1.00 Lb
Shipped/Billed On: 05/13/2010
Delivered On: 05/14/2010 9:24 A.M.
Delivered To: TALLAHASSEE, FL, US
Signed By: J MOON

Location: OFFICE

Thank you for giving us this opportunity to serve you.

Sincerely,

UPS

Tracking results provided by UPS: 05/18/2010 4:12 P.M. ET

May 13, 2010

Senator Nancy C. Detert
318 Senate Office Building
404 South Monroe Street
Tallahassee, FL 32399-1100

RE: Sarasota County Central County Solid Waste Disposal Complex
Class I Landfill Phase I Closure
FDEP Construction Permit Notice of Application

Dear Senator Detert:

In accordance with Rule 62-701.320(8)(b) of the Florida Administrative Code, please accept this correspondence as notification that Sarasota County Solid Waste Operations has filed an application with the Florida Department of Environmental Protection (DEP) for a permit to construct the closure of the Class I Phase I Landfill at the Central County Solid Waste Disposal Complex. The official public Notice of Application has been published in the Sarasota Herald Tribune within 14 days of receipt of the application by the DEP.

If you desire any additional information about this project, please feel free to contact me at (813) 258-2776.

Sincerely,
HDR Engineering, Inc.



Richard A. Siemering
Sr. Project Manager

cc: Lois Rose, Sarasota County Solid Waste Operations
Susan Pelz, PE, Florida Department of Environmental Protection

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Timmons, Jason

From:
Sent:
To:
Subject:

UPS Quantum View [auto-notify@ups.com]
Friday, May 14, 2010 9:57 AM
Timmons, Jason
UPS Delivery Notification, Tracking Number 1Z10622X0354113119



***Do not reply to this e-mail. UPS and HDR Engineering Inc will not receive your reply.

At the request of HDR Engineering Inc, this notice is to confirm that the following shipment has been delivered.

Important Delivery Information

Delivery Date / Time: 14-May-2010 / 9:24 AM

Delivery Location Left At: OFFICE

Signed by: J MOON

Shipment Detail

Ship To:

Senator Nancy C. Detert

404 S MONROE ST

TALLAHASSEE

FL

32399

US

UPS Service: GROUND

Weight: 1.0 LBS

Tracking Number: 1Z10622X0354113119

Reference Number 1: 124466

Reference Number 2: 00000

**Proof of Delivery**

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number: 1Z10622X0354113119
Service: GROUND
Weight: 1.00 Lb
Shipped/Billed On: 05/13/2010
Delivered On: 05/14/2010 9:24 A.M.
Delivered To: TALLAHASSEE, FL, US
Signed By: J MOON

Location: OFFICE

Thank you for giving us this opportunity to serve you.

Sincerely,

UPS

Tracking results provided by UPS: 05/18/2010 4:11 P.M. ET

**Proof of Delivery**

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number: 1Z10622X0355300183
Service: GROUND
Weight: 1.00 Lb
Shipped/Billed On: 05/20/2010
Delivered On: 05/21/2010 10:09 A.M.
Delivered To: TAMPA, FL, US
Signed By: MCCLAIN

Location: OFFICE

Thank you for giving us this opportunity to serve you.

Sincerely,

UPS

Tracking results provided by UPS: 08/12/2010 9:01 A.M. ET

ATTACHMENT B
TPO DESIGN MEMORANDUM

To: Jason Timmons, PE	
From: Kanishka Perera, Ph.D., PE	Project: Sarasota Phase I Closure RAI Response
CC: Mark Roberts, PE; Richard Siemering	
Date: August 27, 2010	Job No: 131392

RE: Wind Suction Coefficient

HDR prepared this memorandum to provide supporting information to justify the wind suction coefficients used to calculate uplift forces from the design wind speed for the Sarasota CCSWDC Phase I Exposed TPO Cover design.

The values of the wind suction coefficient, λ , historically used in EGC design, were presented by Giroud, et al. (1995) based on published data obtained from models tested in wind tunnels. These values range from 0.55 for the lower third of the slope to 0.85 for the upper third of the slope and 1.00 for the top deck, with an average value of 0.70 for the entire slope exposed to wind. These values are typically used as conservative values where the medium underlying the geomembrane is sufficiently permeable to prevent the development of negative air pressure under the geomembrane as the geomembrane is experiencing wind uplift. HDR discussed the wind suction coefficient with Dr. J.P. Giroud in 2009. Dr. Giroud explained that the original estimations for wind suction coefficients are conservative and suggested revising the suction coefficients based on designs prepared for hydraulic structures in France and Japan.

HDR reviewed two designs of reservoirs and dams lined with EGCs and the performance of these systems. Based on this review and Dr. Giroud's recommendations, HDR decreased the original published values by 23% for EGCs on landfill slopes. The percent reduction was calculated based on the wind suction coefficients used in the most conservative hydraulic structure design reviewed by HDR and the performance of the structure at design wind speeds over the last 30 years. Therefore, the following wind suction coefficients were determined for landfill EGC design:

- $\lambda = 0.77$ for the top deck of the landfill,
- $\lambda = 0.65$ for the top third of the slope,
- $\lambda = 0.54$ for the middle third of a slope,
- $\lambda = 0.42$ for the lower third of a slope.

These values were reviewed and accepted by Dr. Giroud for a similar landfill EGC design approved as final cover for a Class I landfill in Georgia. These same values have been used for the Sarasota Phase I Closure EGC design.

Use 130 mph
for Sarasota
County.

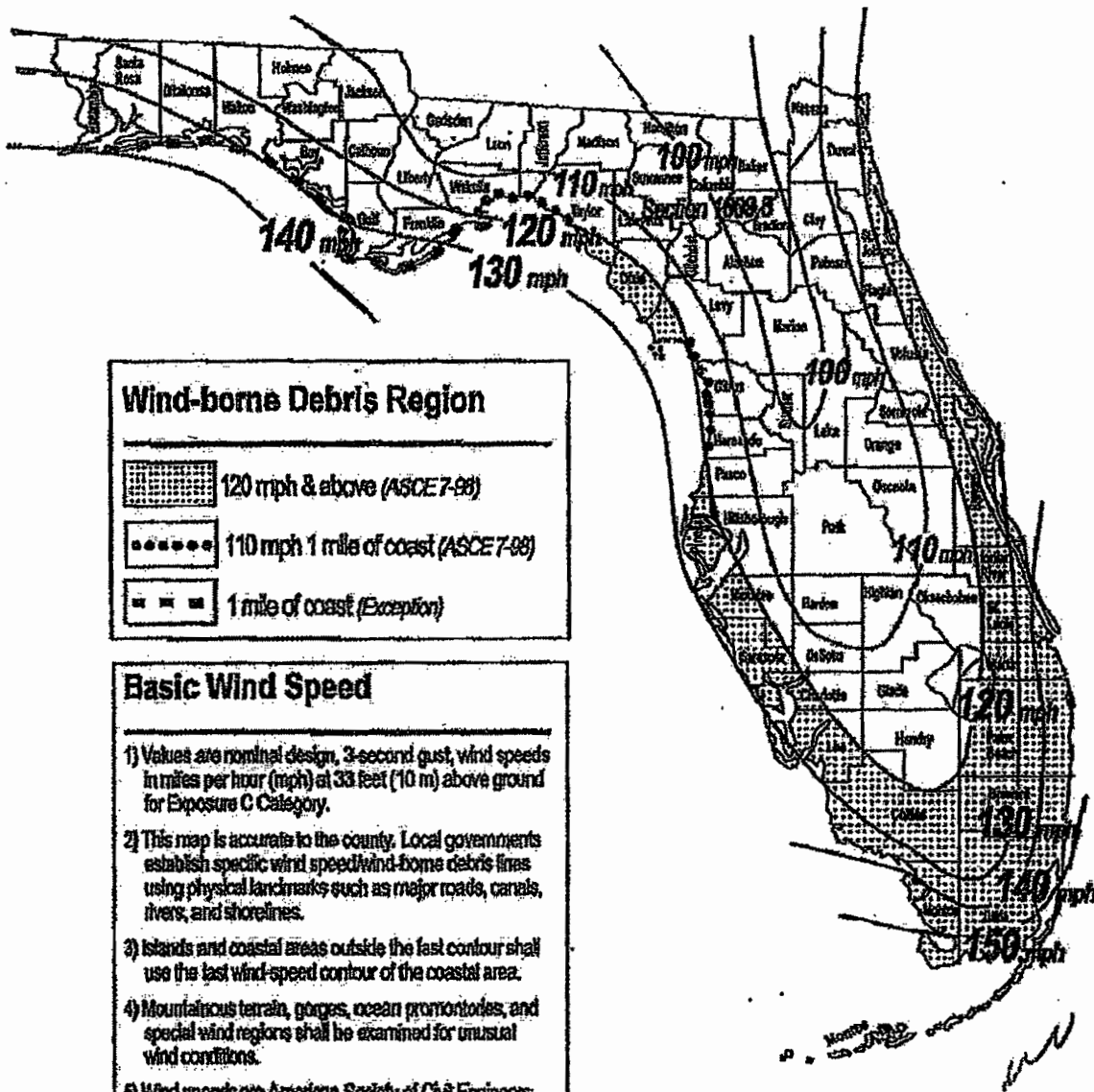
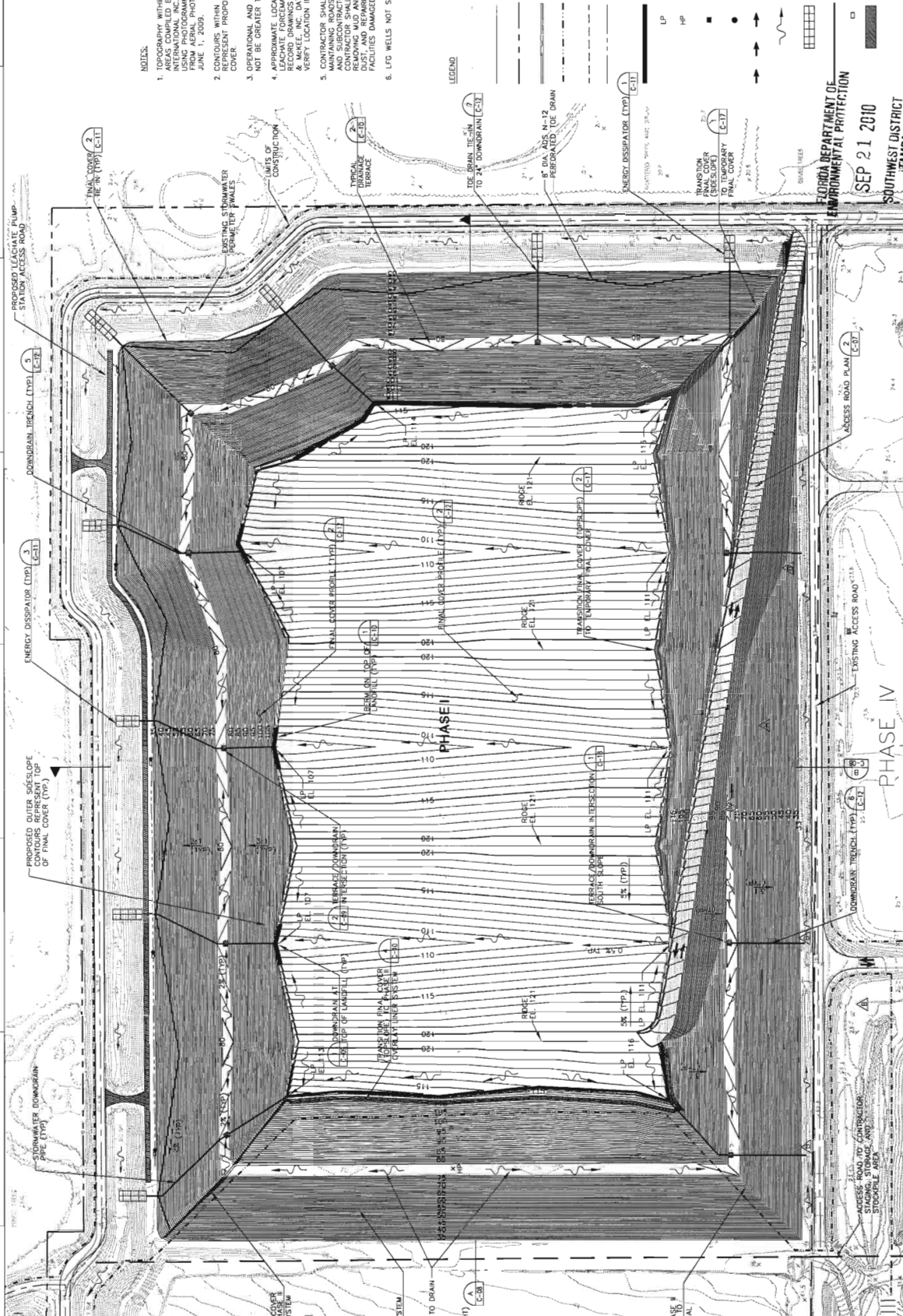


Figure 1609
STATE OF FLORIDA
WIND-BORNE DEBRIS REGION & BASIC WIND SPEED

ATTACHMENT C
REVISED DRAWING SHEETS

1 2 3 4 5 6 7 8



NOTES:

1. TOPOGRAPHY WITHIN PHASES II AND IV AREAS COMPILED BY KUCERA INTERNATIONAL, INC. OF WILLOUGHBY, OHIO. PHOTOGRAPHIC DATA WAS OBTAINED FROM AERIAL PHOTOGRAPHS DATED JUNE 1, 2009.
2. CONTOURS WITHIN PHASE I CLOSURE AREA REPRESENT PROPOSED TOP OF FINAL COVER.
3. SUBSIDIARY AND FINAL PHASES SHALL NOT BE GREATER THAN 3%.
4. APPROXIMATE LOCATION OF PHASE I LEACHATE FOREMAN OBTAINED FROM RECORD DRAWINGS BY CAMP DRESSER ENGINEERS, INC. DATED APRIL 1998. VERIFY LOCATION IN FIELD.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ROADS USED BY CONTRACTOR AND SUBCONTRACTORS DURING PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING MUD AND TRASH, SUPPRESSING DUST, AND REPAIRING ROADS AND OTHER FACILITIES DAMAGED BY HIS VEHICLES.
6. LFG WELLS NOT SHOWN FOR CLARITY.

LEGEND

- EXISTING CONTOUR
- PROPOSED ELEVATION
- SPECIAL BOUNDARY
- EXISTING ROADWAY
- LIMITS OF CONSTRUCTION
- PHASE LIMITS
- APPROX. LOCATION OF PHASE I LEACHATE FOREMAN (SEE NOTE 4)
- TOP OF BERM
- LOW POINT
- HIGH POINT
- TERRACE/DRAINAGE INTERSECTION
- PHASE I LEACHATE PUMP STATION
- CONSTRUCTION TRAFFIC ROUTE (SEE NOTE 5)
- STORMWATER FLOW DIRECTION
- FABRIC-FORMED CONCRETE APRON
- TIE DRAIN
- VAULT BOX
- LEACHATE PUMP STATION STABILIZED ACCESS ROAD

PHASE I FINAL BUILD-OUT GRADING PLAN

SEP 21 2010

SOUTHWEST DISTRICT TAMPA

Central County Solid Waste Disposal Complex PHASE I CLASS I LANDFILL CLOSURE PERMIT DRAWINGS

FLORIDA

PROJECT MANAGER: SEMERING

REVIEWED BY: T. M. YANOSCHAK

CIVIL DESIGNER: C. RESTREPO

DRAWN BY: L. MARSHNER

DRAWN BY: B. JOHNSON

ISSUE	DATE	DESCRIPTION
C	8/2010	ISSUED FOR RAI #2
B	6/2010	ISSUED FOR RAI #1
A	4/2010	ISSUED FOR PERMIT

HDR Engineering, Inc.
2401 California St., Ste. 100
Boulder, CO 80502
303.440.2000
303.440.2001

PROJECT NUMBER	00918-125174-002
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THOMAS M. YANOSCHAK, P. E.
CERTIFICATE NO. 44200

FLORIDA

00C-05

1"=100'

FILENAME

SHEET

ATTACHMENT D

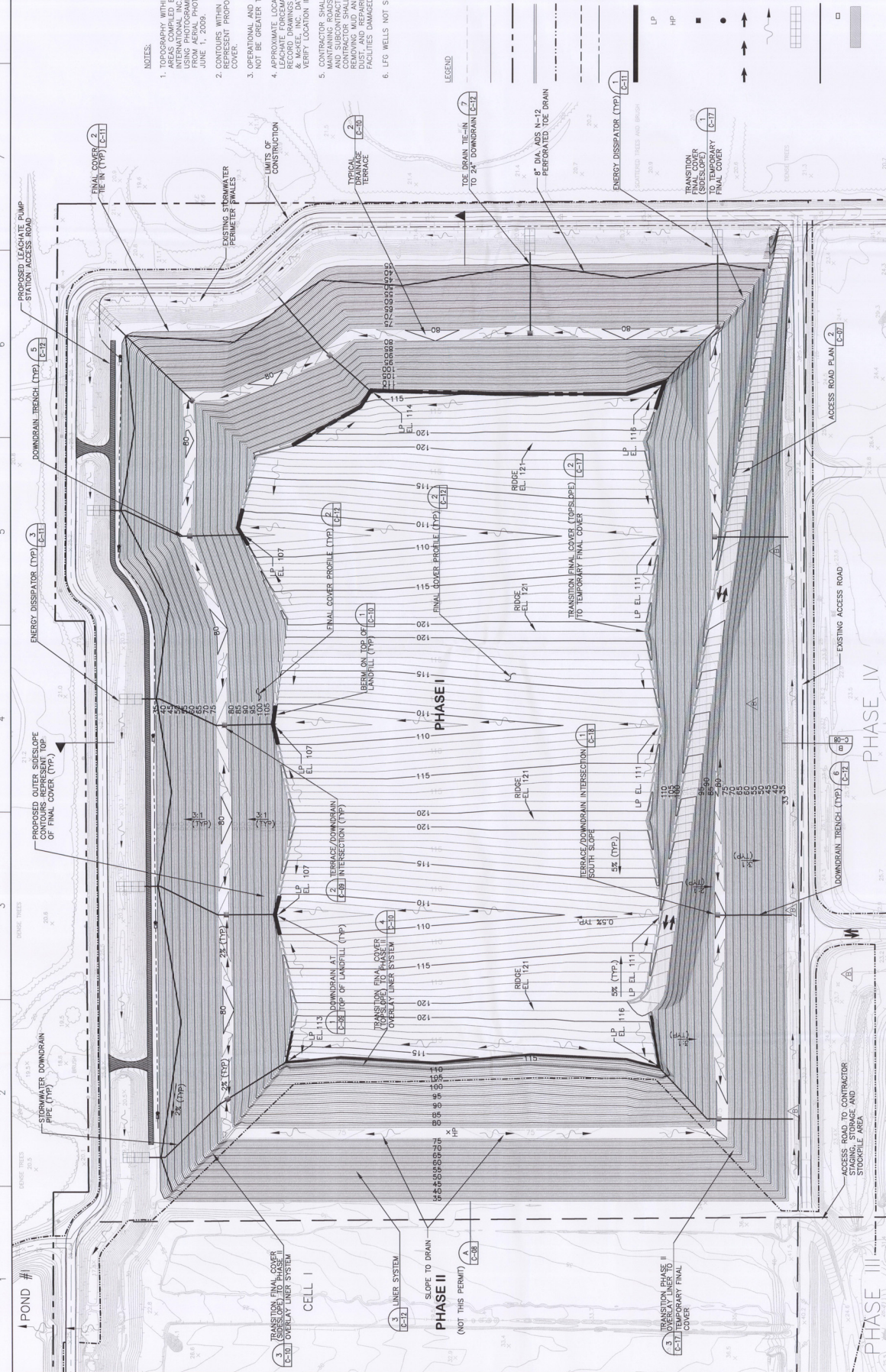
TPO PHOTOS



3H:1V EGC – Tessman Road Landfill, Texas - TPO with solar panels



3H:1V EGC – Tessman Road Landfill, Texas - TPO with solar panels



NOTES:

1. TOPOGRAPHY WITHIN PHASES III AND IV SHALL BE OBTAINED FROM THE SURVEY OF THE LAND BY THE SURVEYOR OF THE COUNTY OF WILLOUGHBY, OHIO USING PHOTOGRAMMETRIC METHODS DATED JUNE 1, 2009.
2. CONTOURS WITHIN PHASE I CLOSURE AREA REPRESENT PROPOSED TOP OF FINAL COVER.
3. OPERATIONAL AND FINAL GRADES SHALL NOT BE GREATER THAN 3:1.
4. APPROXIMATE LOCATION OF PHASE I, II, AND III CLOSURE AREAS OBTAINED FROM RECORD DRAWING BY MCKEE, INC. DATED APRIL 1998. VERIFY LOCATION IN FIELD.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND SUBCONTRACTORS DURING PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND SUBCONTRACTORS DURING PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND SUBCONTRACTORS DURING PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND SUBCONTRACTORS DURING PROJECT.
6. LFG WELLS NOT SHOWN FOR CLARITY.

LEGEND

- EXISTING CONTOUR
- PROPOSED ELEVATION
- SPECIAL BOUNDARY
- EXISTING ROADWAY
- LIMITS OF CONSTRUCTION
- PHASE LIMITS
- APPROX. LOCATION OF PHASE I LEACHATE FORCE MAIN (SEE NOTE 4)
- TOP OF BERM
- LOW POINT
- HIGH POINT
- TERRACE/DOWNDRAIN INTERSECTION
- TRANSITION TO TEMPORARY FINAL COVER
- CONSTRUCTION TRAFFIC ROUTE (SEE NOTE 5)
- STORMWATER FLOW DIRECTION
- PERFORATED TOE DRAIN
- TOE DRAIN
- VAULT BOX
- LEACHATE PUMP STATION
- STABILIZED ACCESS ROAD

HDR Engineering, Inc.
2021 California St., Ste. 100
Burlington, MA 01803
(978) 264-2700
www.hdr.com

PROJECT NUMBER: 001916-125174-002

ISSUE	DATE	DESCRIPTION
C	8/2010	ISSUED FOR RAI #2
B	6/2010	ISSUED FOR RAI #1
A	4/2010	ISSUED FOR PERMIT

PROJECT MANAGER: R. SEWING

REVIEWED BY: T. M. YANOSCHAK
CIVIL DESIGN: C. RESTREPO
DRAWN BY: L. KARSHNER
DRAWN BY: B. JOHNSON

9/13/12

THOMAS W. YANOSCHAK, P. E.
CERTIFICATE NO. 44200

Central County Solid Waste Disposal Complex
PHASE I CLASS I LANDFILL CLOSURE
PERMIT DRAWINGS

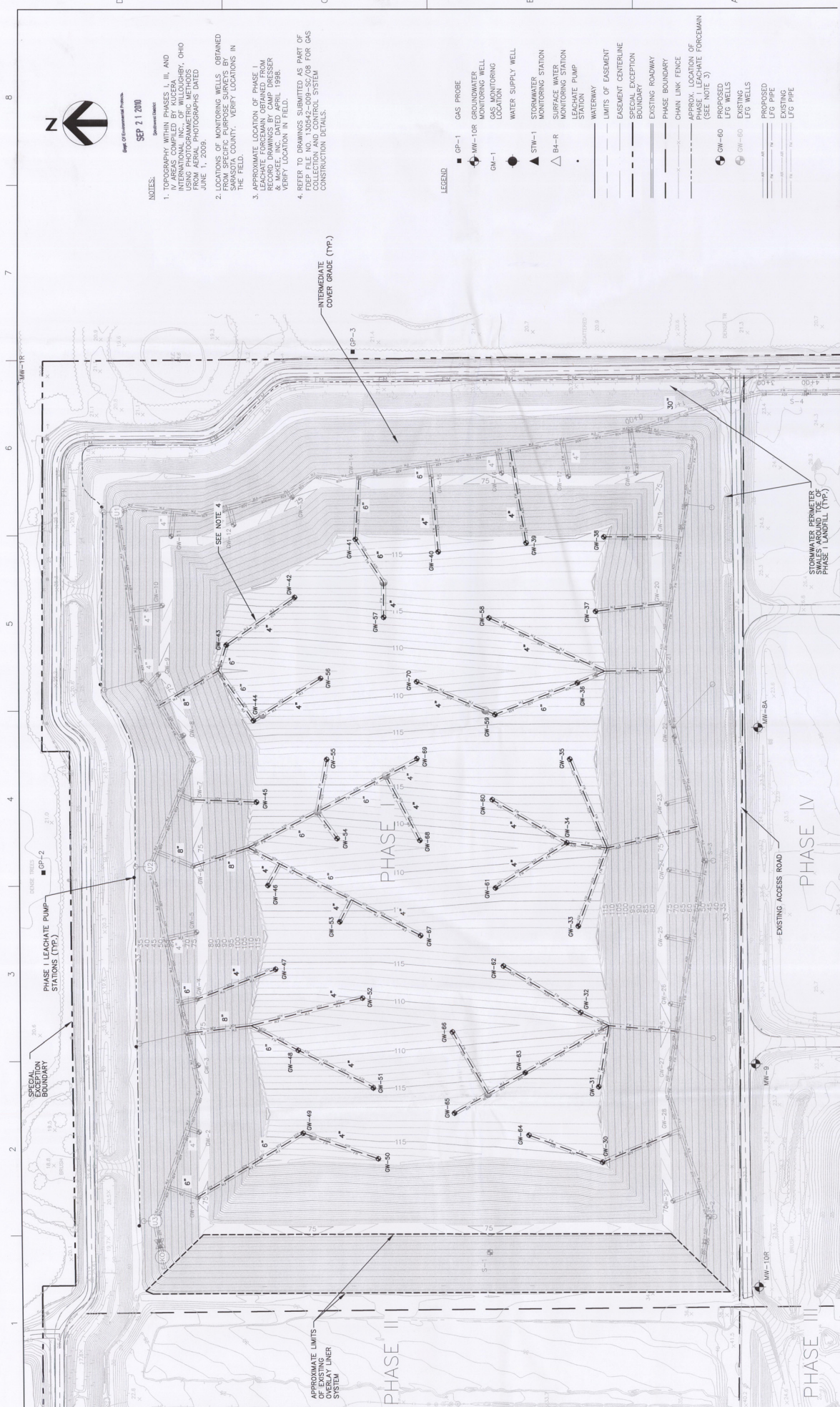
SARASOTA COUNTY
FLORIDA

PHASE I FINAL BUILD-OUT GRADING PLAN

0 1" 2" 3" 4" 5" 6" 7" 8" 9" 10" 11" 12" 13" 14" 15" 16" 17" 18" 19" 20" 21" 22" 23" 24" 25" 26" 27" 28" 29" 30" 31" 32" 33" 34" 35" 36" 37" 38" 39" 40" 41" 42" 43" 44" 45" 46" 47" 48" 49" 50" 51" 52" 53" 54" 55" 56" 57" 58" 59" 60" 61" 62" 63" 64" 65" 66" 67" 68" 69" 70" 71" 72" 73" 74" 75" 76" 77" 78" 79" 80" 81" 82" 83" 84" 85" 86" 87" 88" 89" 90" 91" 92" 93" 94" 95" 96" 97" 98" 99" 100"

0 1" 2" 3" 4" 5" 6" 7" 8" 9" 10" 11" 12" 13" 14" 15" 16" 17" 18" 19" 20" 21" 22" 23" 24" 25" 26" 27" 28" 29" 30" 31" 32" 33" 34" 35" 36" 37" 38" 39" 40" 41" 42" 43" 44" 45" 46" 47" 48" 49" 50" 51" 52" 53" 54" 55" 56" 57" 58" 59" 60" 61" 62" 63" 64" 65" 66" 67" 68" 69" 70" 71" 72" 73" 74" 75" 76" 77" 78" 79" 80" 81" 82" 83" 84" 85" 86" 87" 88" 89" 90" 91" 92" 93" 94" 95" 96" 97" 98" 99" 100"

0 1" 2" 3" 4" 5" 6" 7" 8" 9" 10" 11" 12" 13" 14" 15" 16" 17" 18" 19" 20" 21" 22" 23" 24" 25" 26" 27" 28" 29" 30" 31" 32" 33" 34" 35" 36" 37" 38" 39" 40" 41" 42" 43" 44" 45" 46" 47" 48" 49" 50" 51" 52" 53" 54" 55" 56" 57" 58" 59" 60" 61" 62" 63" 64" 65" 66" 67" 68" 69" 70" 71" 72" 73" 74" 75" 76" 77" 78" 79" 80" 81" 82" 83" 84" 85" 86" 87" 88" 89" 90" 91" 92" 93" 94" 95" 96" 97" 98" 99" 100"



FUTURE INTERMEDIATE COVER GRADES

SITE CONDITIONS

1" = 100'

SCALE

FILE NAME

1"

2"

1/8" = 100'

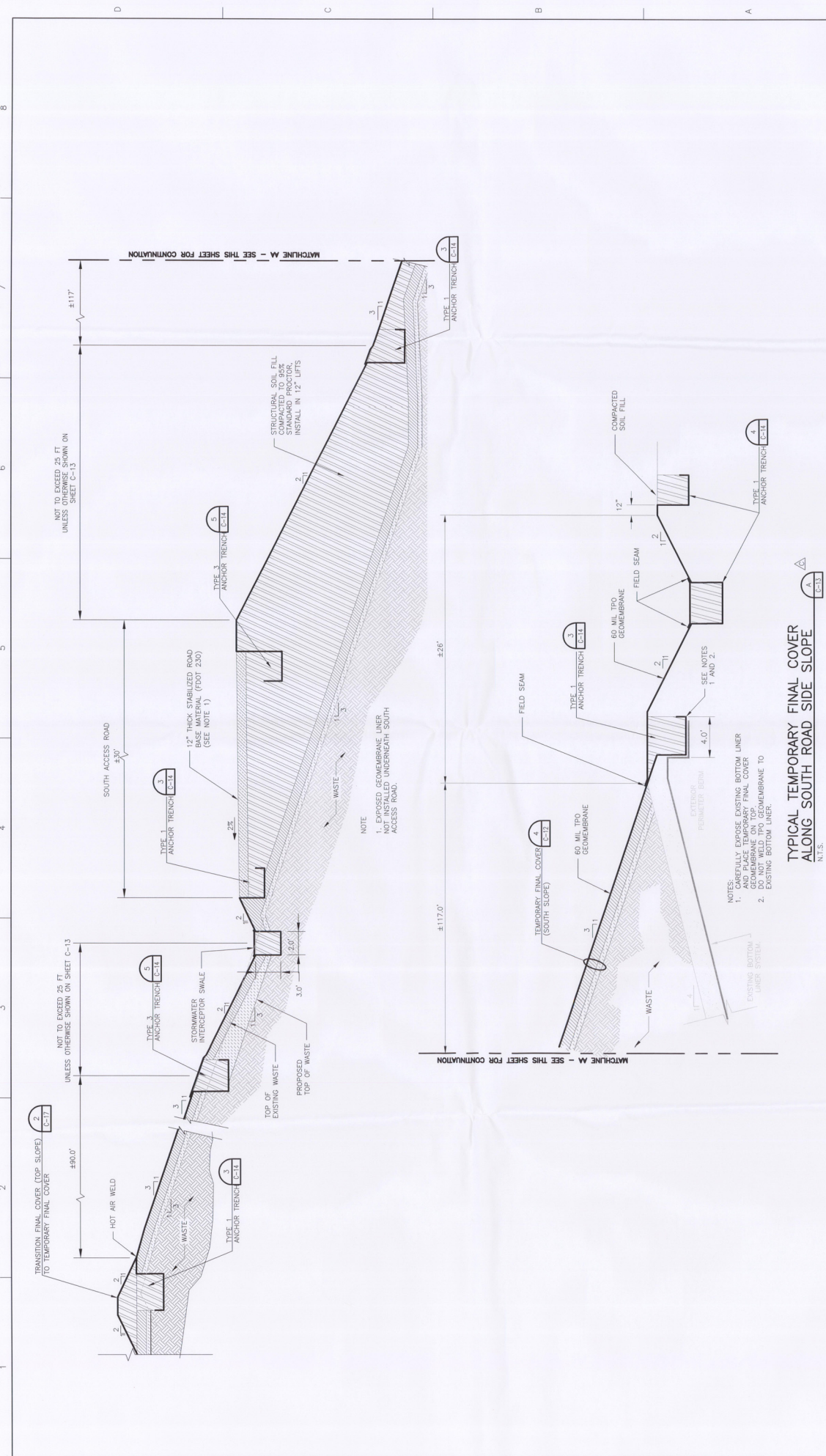
SCALE

SHEET

1/8" = 100'

SCALE

00C-04



TYPICAL TEMPORARY FINAL COVER
ALONG SOUTH ROAD SIDE SLOPE
N.T.S.

HDR
HDR Engineering, Inc.
2821 California Rd., Ste. 100
Tampa, FL 33607
(813) 842-2700
www.hdr.com

ISSUE	DATE	DESCRIPTION
C	8/2/2010	ISSUED FOR RAI #2
B	6/2/2010	ISSUED FOR RAI #1
A	4/2/2010	ISSUED FOR PERMIT

PROJECT MANAGER	SIEMERING
REVIEWED BY	T. M. YANOSCHAK
CIVIL DESIGN	C. RESTREPO
DRAWN BY	L. KARSHNER
CHECKED BY	B. JOHNSON

Professional Engineer
No. 44200
THOMAS W. JOHNSON, P. E.
9/17/10
CERTIFICATE NO. 44200

**Central County Solid Waste
Disposal Complex
PHASE I CLASS I LANDFILL
CLOSURE
PERMIT DRAWINGS**

SARASOTA COUNTY
FLORIDA

**PHASE I TEMPORARY FINAL COVER
ANCHOR TRENCH SECTIONS AND DETAILS**

FILENAME: 00C-16.dwg
SCALE: N.T.S.
SHEET: 00C-16