

STAGE II FILL SEQUENCE PLAN LENA ROAD CLASS I LANDFILL MANATEE COUNTY

BRADENTON, FLORIDA
SEPTEMBER 2017



MANATEE COUNTY UTILITIES DEPARTMENT
SOLID WASTE DIVISION

3333 LENA ROAD
BRADENTON, FLORIDA 34211



DRAWING INDEX

DRAWING NO.	DRAWING TITLE
C-1	COVER
C-2	GENERAL SITE PLAN
C-3	SITE TOPOGRAPHIC SURVEY
C-4	EXISTING GRADE - JANUARY 25, 2010
C-5	STAGE II LANDFILL - EXCAVATION SEQUENCE 1 (FROM-TO)
C-6	STAGE II LANDFILL - EXCAVATION SEQUENCE 2 (FROM-TO)
C-7	STAGE II LANDFILL - FILL SEQUENCE 3 (FROM-TO)
C-8	STAGE II LANDFILL - EXCAVATION SEQUENCE 4 (FROM-TO)
C-9	STAGE II LANDFILL - EXCAVATION SEQUENCE 5 (FROM-TO)
C-10	STAGE II LANDFILL - FILL SEQUENCE 6 (FROM-TO)
C-11	STAGE II LANDFILL - FILL SEQUENCE 7 (FROM-TO)
C-12	STAGE II LANDFILL - CROSS SECTIONS
C-13	DETAILS
C-14	STAGE II LANDFILL - GAS WELL LOCATIONS

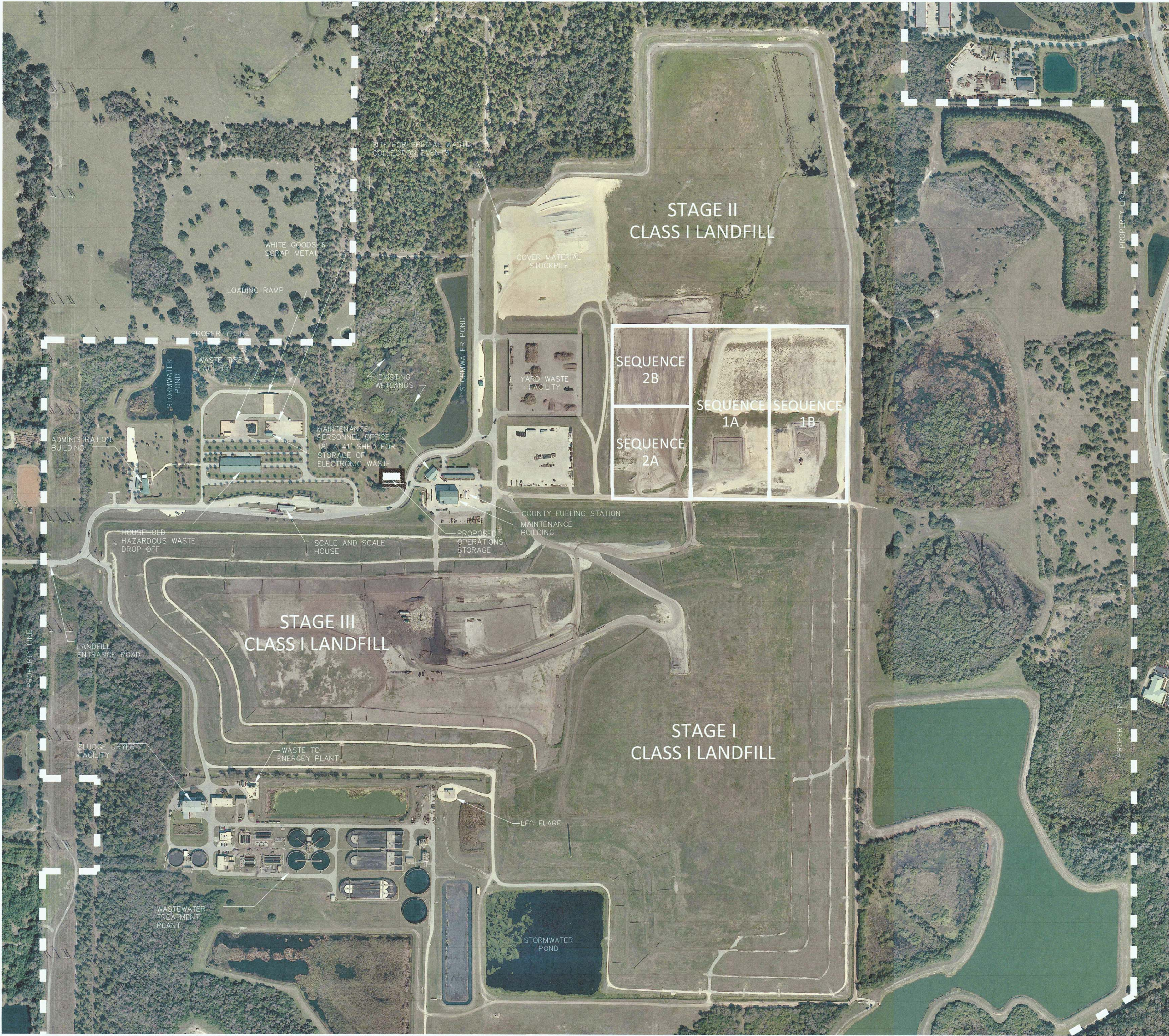
THIS UPDATE TO LENA ROAD CLASS I LANDFILL FILL SEQUENCE PLAN, INCLUDES MODIFICATIONS TO THE SITE PLAN TO SHOW PROPOSED OPERATIONS STORAGE BUILDING AND REVISED STAGE II, FILL SEQUENCE 1A & 1B, TO ALLOW PLACING WASTE UP TO ACTUAL LIMITS PREVIOUSLY APPROVED BY FDEP. AS SUCH SCS ENGINEERS ARE ONLY SIGNING AND SEALING SHEETS C-1, COVER, C-2, GENERAL SITE PLAN, AND C-5, STAGE II LANDFILL-EXCAVATION SEQUENCE 1. THE REMAINING STAGE II FILL SEQUENCES WILL CONTINUE IN ACCORDANCE WITH THE CURRENT FDEP APPROVED FILL SEQUENCE PLAN DRAWINGS DATED OCTOBER 2015, PREPARED, SIGNED, AND SEALED BY ATKINS.

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS, INC.
3922 COCONUT PALM DRIVE, SUITE 102
TAMPA, FLORIDA 33619
PH. (813) 621-0080 FAX. (813) 623-6757
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892
WWW.SCSENGINEERS.COM

SCS PROJECT NO. 09217088.01



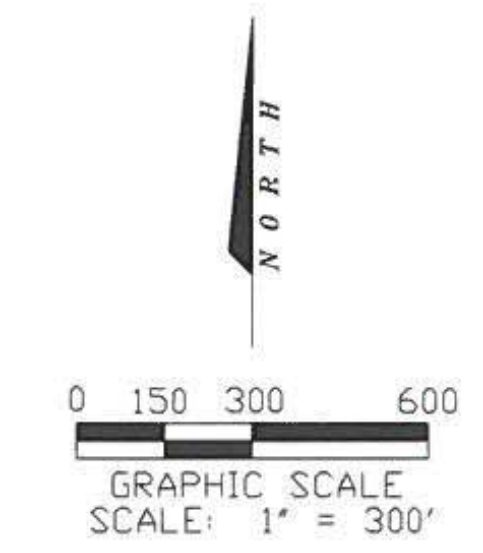
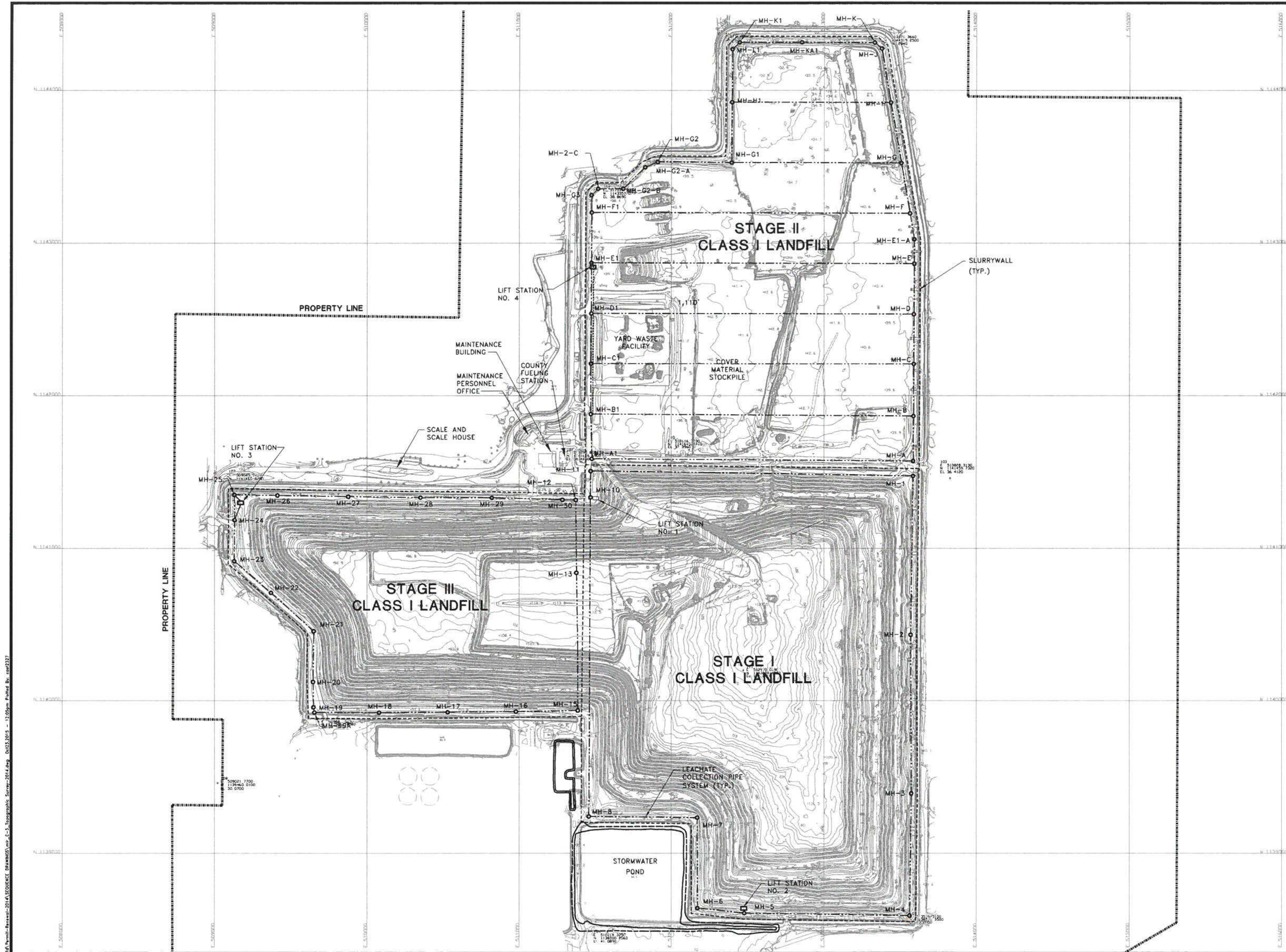
CARLOS A. RESTREPO, P.E.
LICENSE NO. 70208



- NOTES:
1. AERIAL PHOTOGRAPHY PERFORMED BY I.F. ROOKS & ASSOCIATES, INC. 106 N.W. DRANE ST., PLANT CITY, FLORIDA 33566. PHOTO DATE: MARCH 4, 2015. SHOWN FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT REFLECT ACTUAL CONDITIONS.
 2. LOCATION OF OPERATIONS STORAGE BUILDING IS APPROXIMATE AND SHOWN FOR INFORMATIONAL PURPOSES ONLY.

SCS ENGINEERS STEAPNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 3922 COCONUT PALM DRIVE SUITE 102, TAMPA, FL 33619 PH (813) 621-0080 FAX NO. (813) 623-6757 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892		CLIENT MANATEE COUNTY UTILITIES DEPARTMENT SOLID WASTE DIVISION 3333 LENA ROAD BRADENTON, FL 34211		SHEET TITLE GENERAL SITE PLAN		REV		DATE	DESCRIPTION	CHK. BY
PROJ. NO. 09217088.01		DWG. BY: KKC		CHK. BY: DRC		APP. BY: CAR				
CADD FILE: C-2-GENERAL SITE PLAN		DATE: SEPTEMBER 2017		SCALE: AS SHOWN		DRAWING NO. C-2				
SHEET 2 of 14										

CARLOS A. RESTREPO
LICENSE NO. 70208
STATE OF FLORIDA
PROFESSIONAL ENGINEER

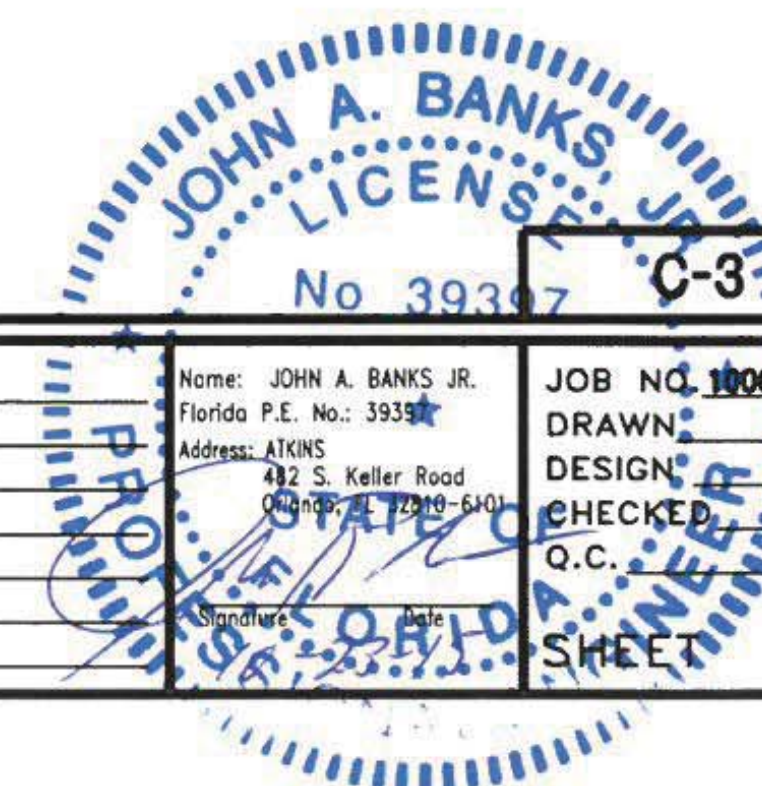


NOTE:

- LEACHATE COLLECTION SYSTEM
- SLURRY WALL
- EXISTING CONTOURS
- EXISTING MANHOLE
- EXISTING LIFT STATION
- PROPERTY LINE

NOTE:

AERIAL PHOTOGRAMMETRY PROVIDED BY:
I.F. ROOKS & ASSOCIATES, INC.
DATE FLOWN: MARCH 4, 2015



ATKINS

5300 W. BOY SCOUT BOULEVARD
TAMPA, FLORIDA 33607
FBPR CERTIFICATE OF AUTHORIZATION NO.24

482 SOUTH KELLER ROAD
Orlando, FL 32810-6101
TEL. (407) 647-7275
FAX. (407) 647-0624
www.atkinsglobal.com

CLIENT
**MANATEE COUNTY
BOARD OF COUNTY COMMISSIONERS**

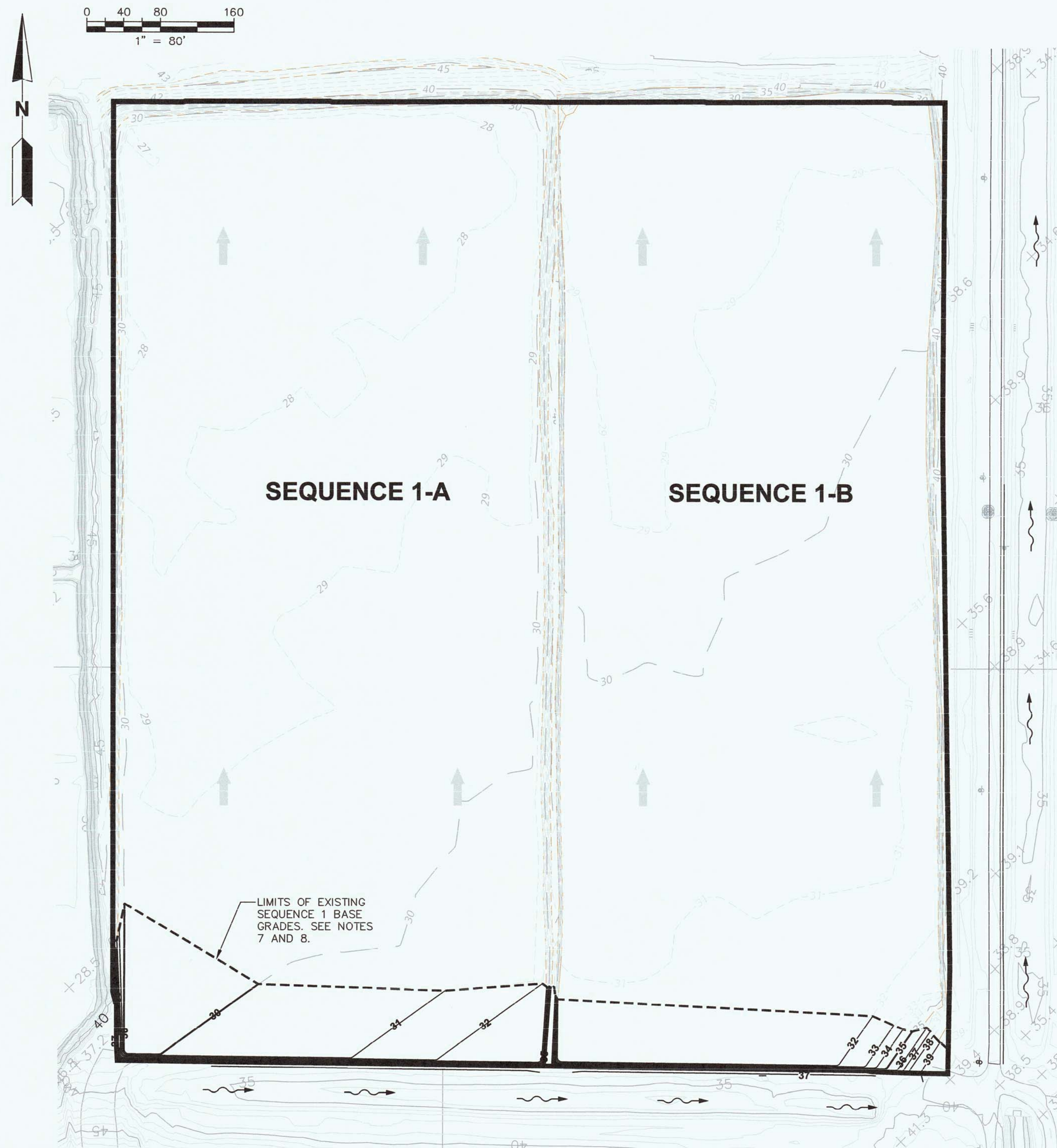
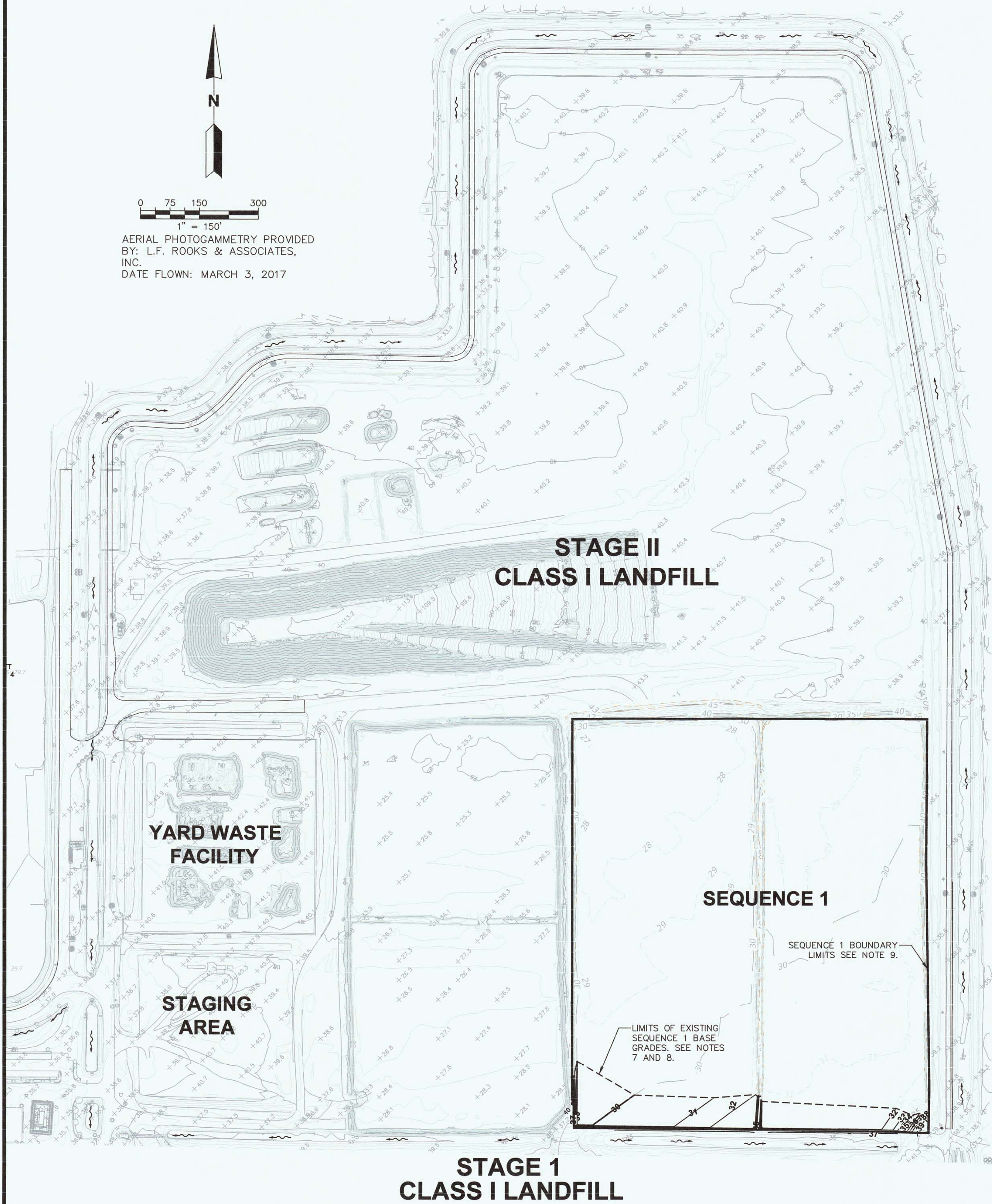
PROJECT
**LENA ROAD LANDFILL
2015 OPERATION PERMIT RENEWAL
SEQUENCE DRAWINGS**

TASK
**SITE TOPOGRAPHIC SURVEY
SURVEY DATE: MARCH 4, 2015**

ORIGINAL JAN. 2015
REVISIONS:
1.
2.
3.
4.
5.

6.	7.	8.	9.	10.	11.	12.
JOB NO. 100049521						
DRAWN: EGC						
DESIGN: EGC						
CHECKED: JAB						
O.C.: JAB						
SHEET / #						

G:\PROJECT\Manatee\09217088.01 - Lena Rec Minor Mod August 2017 DWG\Engineering Drawings\C-5_SEQ_1.dwg Sep 13, 2017 - 2:50pm Layout Name: Layout1 By: 4382kcc



- LEGEND:**
- LEACHATE COLLECTION SYSTEM
 - PROPOSED INTERMEDIATE CONTOURS
 - PROPOSED INDEX CONTOURS
 - EXISTING CONTOURS
 - CONSTRUCTION LINES
 - SLOPE BREAK SYMBOL
 - STORMWATER FLOW
 - DIRECTION OF FILLING
 - LIMITS OF EXISTING BASE GRADES
 - EXISTING MANHOLE
 - EXISTING LIFT STATION
 - PAVED ROAD
 - DIRT ROAD

- GENERAL NOTES:**
1. THE SEQUENCE INCLUDES THE EXCAVATION THE SOUTHEAST PORTION OF STAGE II IN TWO DIFFERENT PHASES. SEQUENCE 1-A SHALL BE EXCAVATED FIRST AND WASTE SHALL BE PLACED AND COMPACTED IN LIFTS UP TO THE ORIGINAL EXISTING GRADES. SEQUENCE 1-B SHALL BE EXCAVATED PRIOR TO SEQUENCE 1-A GETTING FULL AND WASTE SHALL BE PLACED IN THE SAME MANNER AS SEQUENCE SHALL START ON THE SOUTH SIDE AND PROCEED NORTH.
 2. OPERATORS WILL ACHIEVE THE ELEVATIONS SHOWN ON THIS SEQUENCE BY USING THEIR CAD AIDED EARTHWORK SYSTEM (CAES) GIS BASED EQUIPMENT MOUNTED ON THE LANDFILL COMPACTORS. AT THE END OF EACH WORKING DAY THE WORKING FACE GRADES AND DEGREE OF COMPACTION WILL BE CHECKED BY MAPPING THE AREA OF THE WORKING FACE WITH THE CAES SYSTEM MOUNTED ON THE COMPACTORS.
 3. A TEMPORARY BERM MIGHT BE NEEDED TO DIVERT THE RUNOFF AWAY FROM THE EXCAVATED AREA.
 4. INITIAL COVER, CONSISTING OF 6 INCHES OF SOIL SHALL BE APPLIED AT THE END OF EACH WORKING DAY OVER EXPOSED WASTE. TEMPORARY COVER SUCH AS TARPULINS MAYBE USED IF WASTE WILL NOT BE EXPOSED FOR MORE THAN 18 HOURS. INCREASE THE FREQUENCY OF APPLICATION IF WIND AND OR RAIN DISPERSE WASTE.
 5. OPERATORS WILL ACHIEVE THE ELEVATIONS IN THE AREAS THAT WILL NOT RECEIVE WASTE WITHIN 180 DAYS, APPLY A 12 INCHES INTERMEDIATE COVER SOIL OVER THE EXISTING 6 INCHES OF INITIAL COVER.
 6. ALL AREAS WITH INITIAL OR INTERMEDIATE COVER SHALL BE INSPECTED WEEKLY DEPENDING ON THE WEATHER CONDITIONS FOR DAMAGES AREAS SHALL BE REPAIRED QUICKLY AS SHALL BE COVERED WITH SOD, SEED, OR MULCH TO PROTECT THE AREA FROM ADDITIONAL DAMAGE.
 7. SEQUENCE 1-A BASEGRADE SURVEY PROVIDED BY ATKINS, DATE MAY 9, 2016.
 8. SEQUENCE 1-B BASEGRADE SURVEY PROVIDED BY ATKINS, DATED NOV 29, 2016.
 9. SEQUENCE 1 WASTE BOUNDARY LIMITS IN ACCORDANCE WITH CURRENTLY FDEP APPROVED FILL SEQUENCE PLAN DATE OCTOBER 2015.

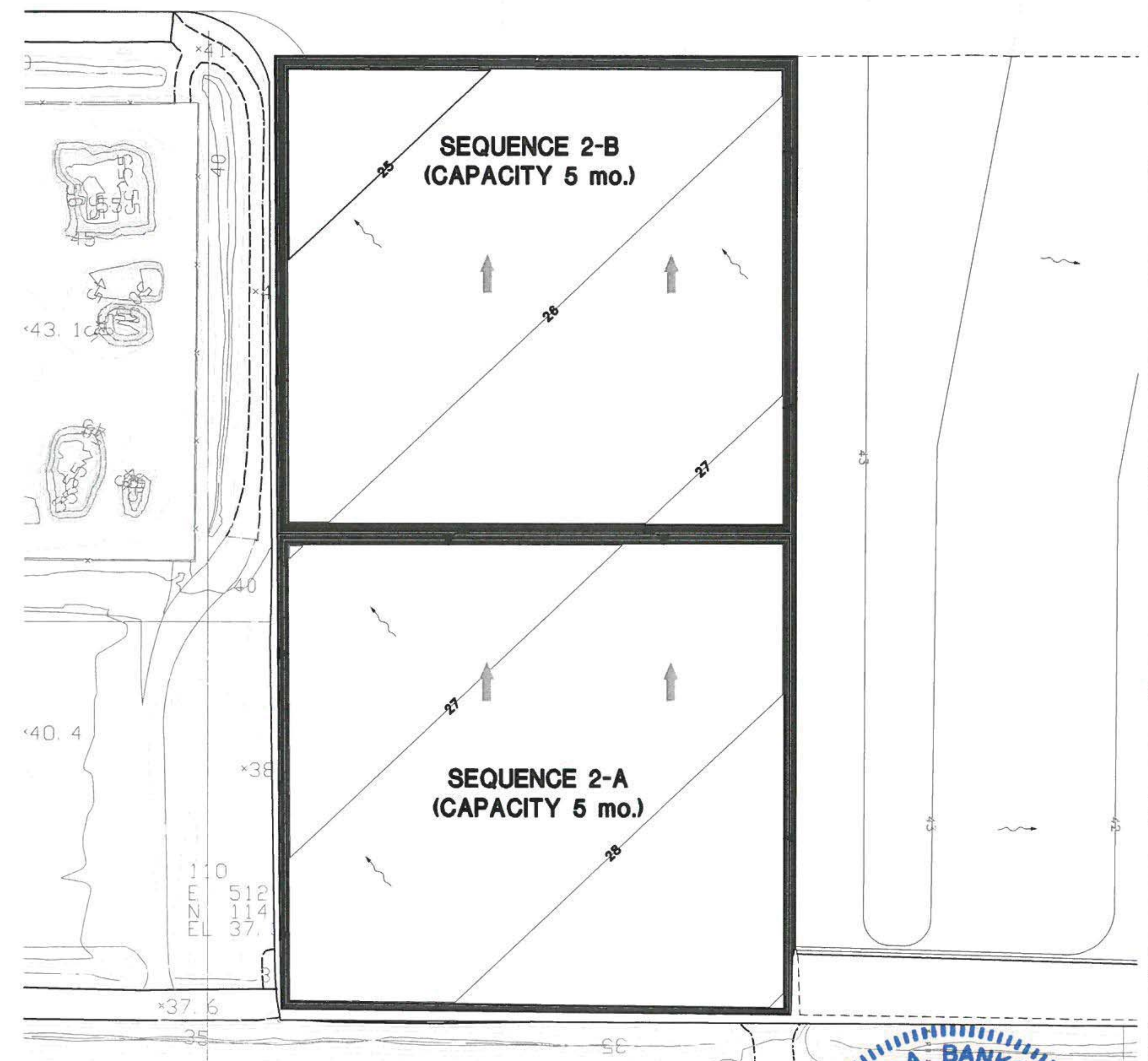
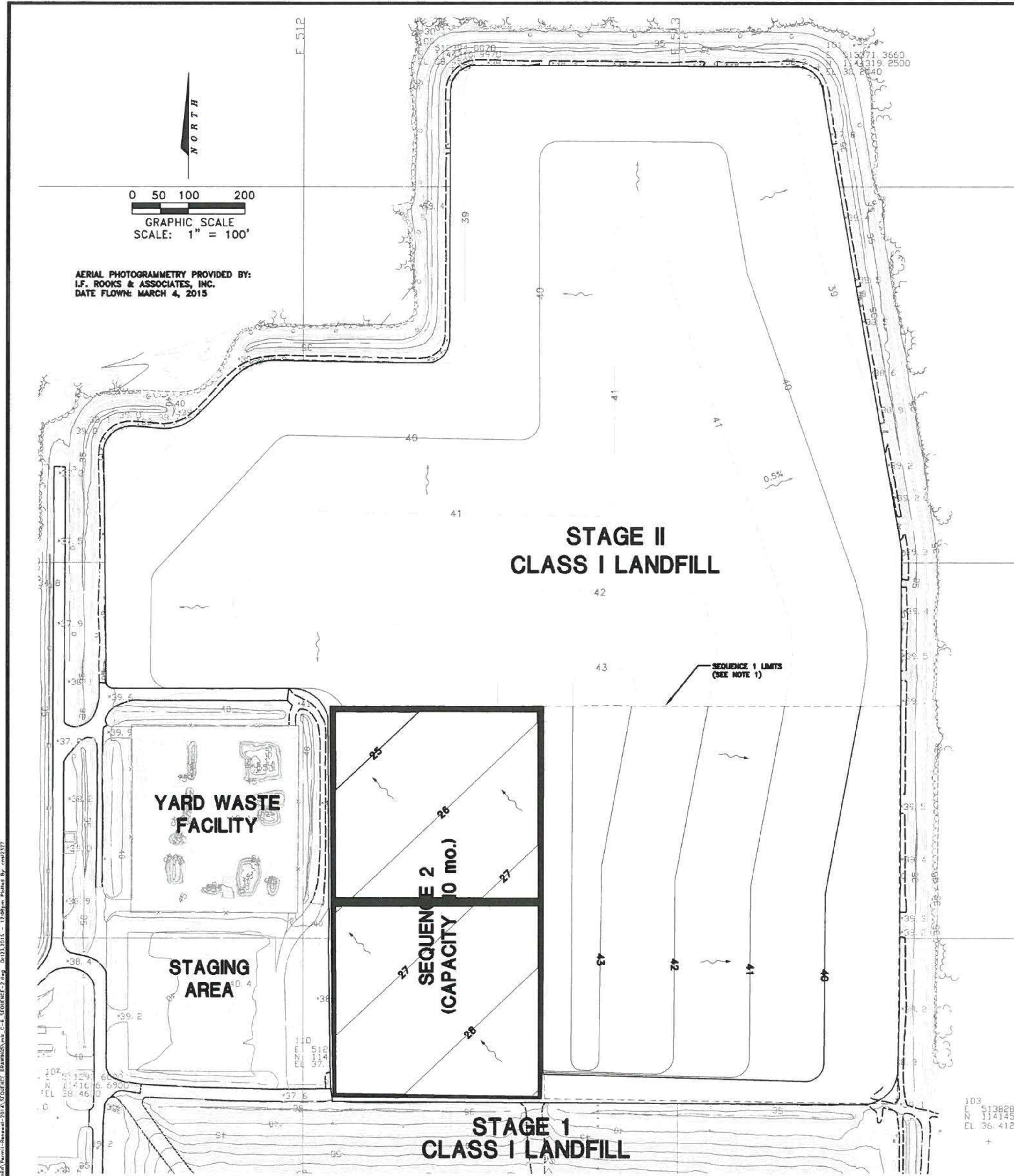
CHK BY	
DESCRIPTION	
DATE	
REV	
SEQUENCE I	
STAGE II FILL SEQUENCE PLAN	
LENA ROAD CLASS I LANDFILL	
CLIENT	
MANATEE COUNTY UTILITIES DEPARTMENT	
SOLID WASTE DIVISION	
3333 LENA ROAD	
BRADENTON, FL 34211	
SCS ENGINEERS	
STEARNS, CONRAD AND SCHMIDT	
CONSULTING ENGINEERS	
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PH (813) 621-0080 FAX NO. (813) 623-6767	
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892	
PROJ. NO.	09217088.01
DRAWN BY	KKC
CHECKED BY	SRF
APP. BY	CAR
CADD FILE:	
C-5_SEQ_1	
DATE:	
SEPTEMBER 2017	
SCALE:	
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DRAWING NO.	
C-5	
SHEET 2 of 14	

LEGEND:

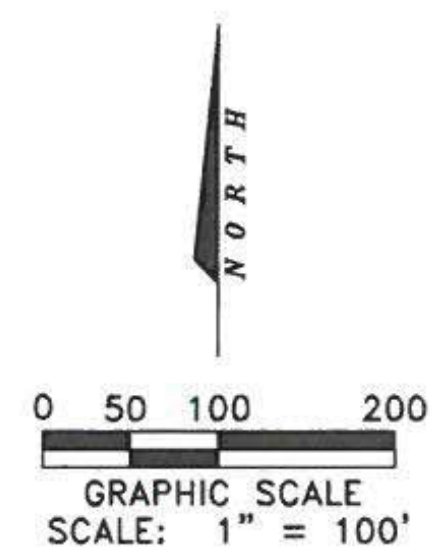
- LEACHATE COLLECTION SYSTEM
- PROPOSED INTERMEDIATE CONTOURS
- PROPOSED INDEX CONTOURS
- EXISTING CONTOURS
- CONSTRUCTION LINES
- SLOPE BREAK SYMBOL
- STORMWATER FLOW
- DIRECTION OF FILLING
- STORMWATER DRAIN PIPE
- EXISTING MANHOLE
- EXISTING LIFT STATION
- PAVED ROAD
- DIRT ROAD

GENERAL NOTES:

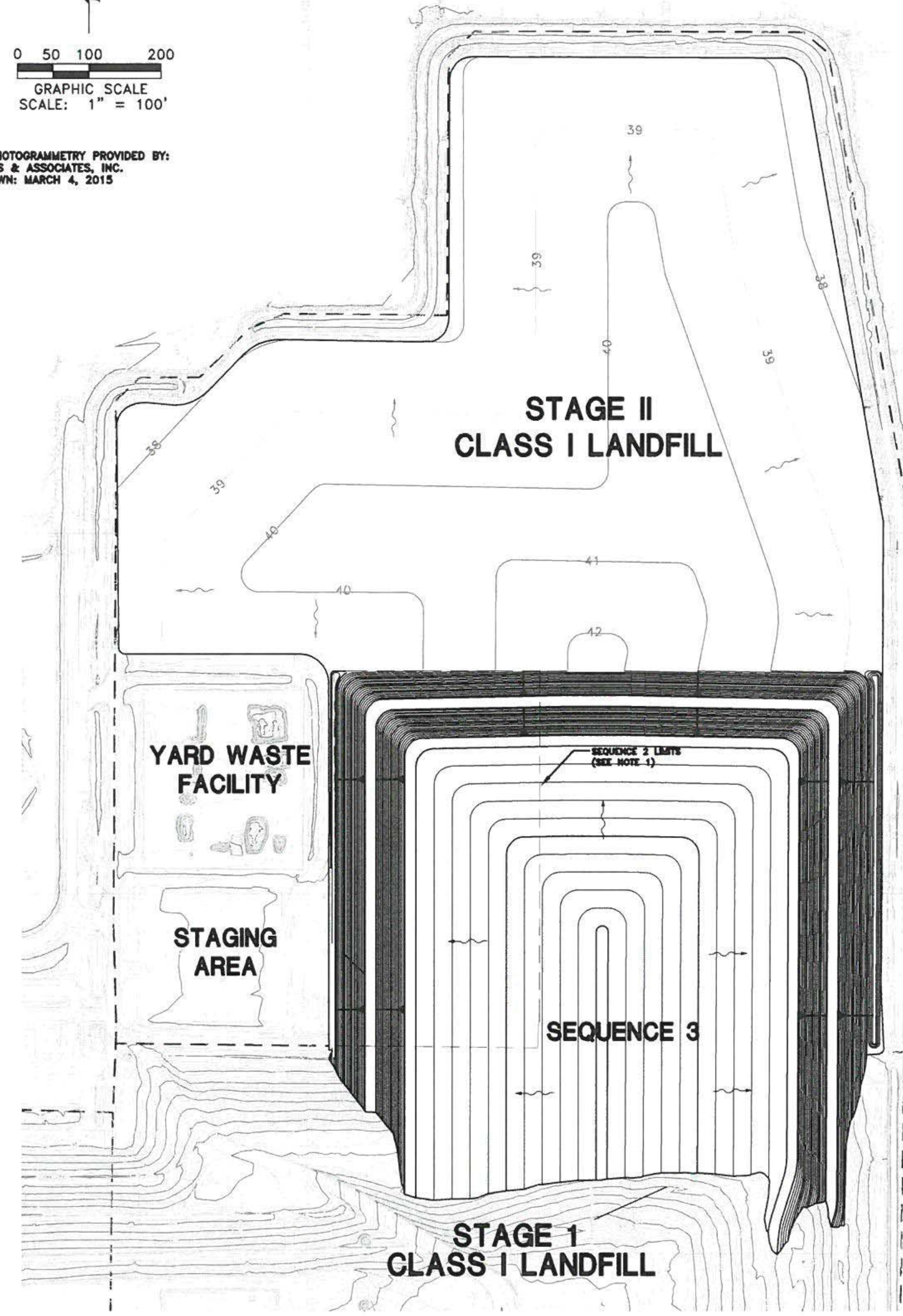
- SEQUENCE 1 SHALL BE FILLED TO THE GRADES THAT EXISTED PRIOR TO EXCAVATION OF THE SEQUENCE.
- THIS SEQUENCE INCLUDES THE EXCAVATION THE SOUTH WEST PORTION OF STAGE II IN TWO DIFFERENT PHASES. SEQUENCE 2-A SHALL BE EXCAVATED FIRST AND WASTE SHALL BE PLACED AND COMPACTED IN LIFTS UP TO THE ORIGINAL EXISTING GRADES. SEQUENCE 2-B SHALL BE EXCAVATED PRIOR TO SEQUENCE 2-A GETTING FULL AND WASTE SHALL BE PLACED IN THE SAME MANNER AS SEQUENCE 2-A.
- OPERATORS WILL ACHIEVE THE ELEVATIONS SHOWN ON THIS SEQUENCE BY USING THEIR CAD AIDED EARTHWORK SYSTEM (CAES) GIS BASED EQUIPMENT MOUNTED ON THE LANDFILL COMPACTORS. AT THE END OF EACH WORKING DAY THE WORKING FACE GRADES AND DEGREE OF COMPACTION WILL BE CHECKED BY MAPPING THE AREA OF THE WORKING FACE WITH THE CAES SYSTEM MOUNTED ON THE COMPACTORS.
- A TEMPORARY BERM MIGHT BE NEEDED TO DIVERT THE RUNOFF AWAY FROM THE EXCAVATED AREA
- INITIAL COVER, CONSISTING OF 6-INCHES OF SOIL SHALL BE APPLIED AT THE END OF EACH WORKING DAY OVER EXPOSED WASTE. TEMPORARY COVER SUCH AS TAPPAULINS MAYBE USED IF WASTE WILL NOT BE EXPOSED FOR MORE THAN 18 HOURS. INCREASE THE FREQUENCY OF APPLICATION IF WIND AND OR RAIN DISPERSE WASTE.
- OPERATORS WILL ACHIEVE THE ELEVATIONS IN AREAS THAT WILL NOT RECEIVE WASTE WITHIN 180 DAYS, APPLY A 12-INCHES INTERMEDIATE COVER SOIL OVER THE EXISTING 6-INCHES OF INITIAL COVER.
- ALL AREAS WITH INITIAL OR INTERMEDIATE COVER SHALL BE INSPECTED WEEKLY DEPENDING ON THE WEATHER CONDITIONS FOR DAMAGES DUE TO EROSION. DAMAGES AREAS SHALL BE REPAIRED QUICKLY AS OPERATIONS PERMIT. DAMAGED AREAS SHALL BE COVERED WITH SOD, SEED, OR MULCH TO PROTECT THE AREAS FROM ADDITIONAL DAMAGE.



ATKINS 5300 W. BOY SCOUT BOULEVARD TAMPA, FLORIDA 33607 FBPR CERTIFICATE OF AUTHORIZATION NO.24	482 SOUTH KELLER ROAD Orlando, FL 32810-6101 TEL. (407) 647-7275 FAX. (407) 647-0624 www.atkinsglobal.com	CLIENT	PROJECT	TASK	ORIGINAL JAN. 2015	6.	JOHN A. BANKS JR. Florida P.E. No. 39397 Address: ATKINS 482 S. Keller Road Orlando, FL 32810-6101 Signature: _____ Professional Engineer	JOB NO. 100040621 DRAWN: RGC DESIGN: RGC CHECKED: JAB Q.C.: JAB SHEET / #
		MANATEE COUNTY	LENA ROAD LANDFILL	STAGE II LANDFILL	REVISIONS:	7.		
		BOARD OF COUNTY COMMISSIONERS	2015 OPERATION PERMIT RENEWAL	SEQUENCE II	1. APRIL 2010	8.		
			SEQUENCE DRAWINGS	CAPACITY (10 MONTHS)	2.	9.		

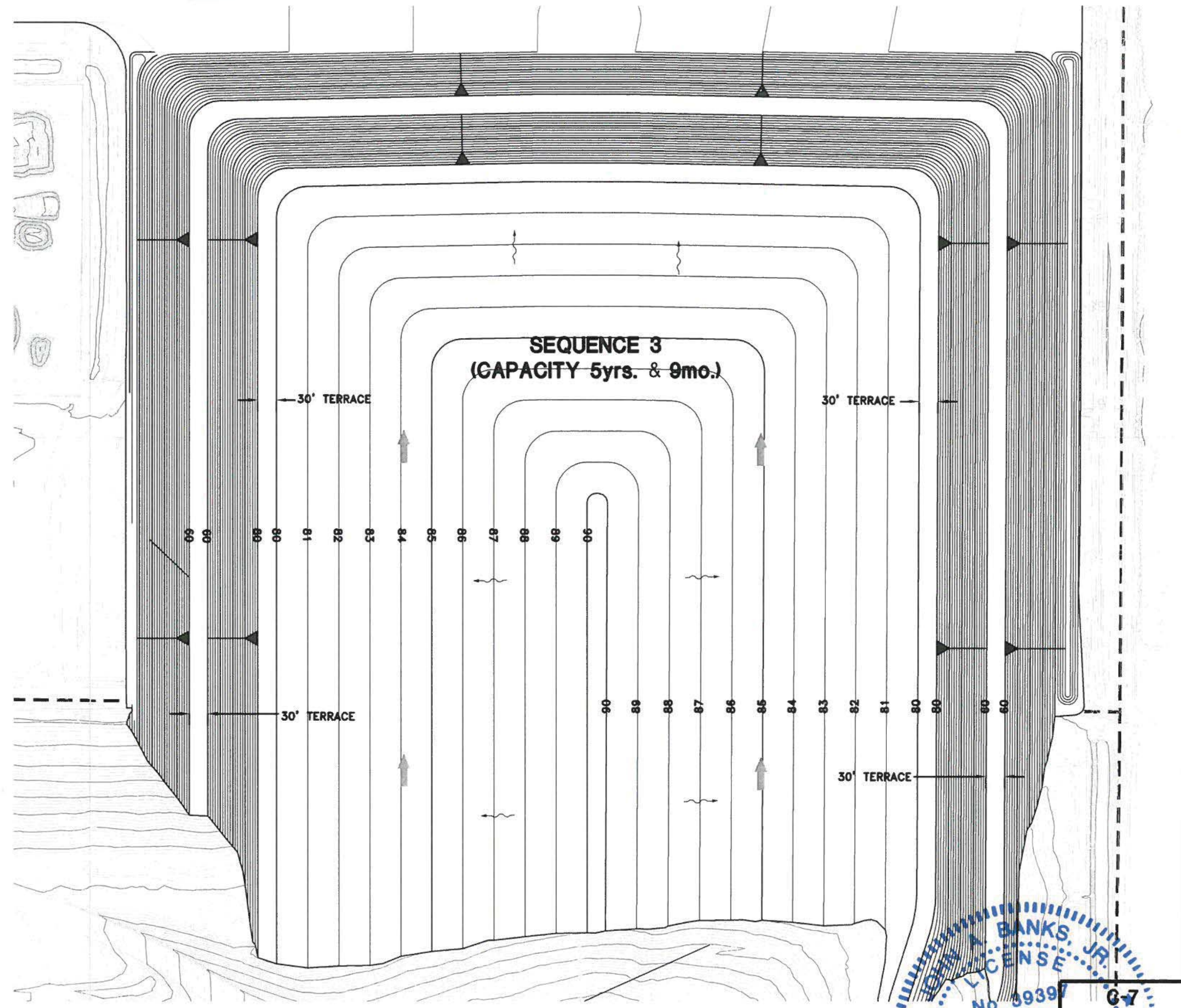


AERIAL PHOTOGRAMMETRY PROVIDED BY:
L.F. ROOKS & ASSOCIATES, INC.
DATE FLOWN: MARCH 4, 2015



- LEGEND:
- LEACHATE COLLECTION SYSTEM
 - PROPOSED INTERMEDIATE CONTOURS
 - PROPOSED INDEX CONTOURS
 - EXISTING CONTOURS
 - CONSTRUCTION LINES
 - SLOPE BREAK SYMBOL
 - STORMWATER FLOW
 - DIRECTION OF FILLING
 - STORMWATER DRAIN PIPE
 - EXISTING MANHOLE
 - EXISTING LIFT STATION
 - ▬ PAVED ROAD
 - ▬ DIRT ROAD

- GENERAL NOTES:
1. SEQUENCE 2 SHALL BE FILLED TO THE GRADES EXISTING PRIOR TO EXCAVATION OF THE SEQUENCE.
 2. THIS SEQUENCE INCLUDES THE FILLING OF THE SOUTH PORTION OF STAGE II. FILL SHALL START ON THE SOUTH SIDE OF THE FILL SEQUENCE AND PROCEED NORTH. WASTE SHALL BE PLACED AND COMPACTED IN LIFTS UP TO THE GRADES SHOWN FOR THIS SEQUENCE.
 3. OPERATORS WILL ACHIEVE THE ELEVATIONS SHOWN ON THIS SEQUENCE BY USING THEIR CAD AIDED EARTHWORK SYSTEM (CAES) GIS BASED EQUIPMENT MOUNTED ON THE LANDFILL COMPACTORS. AT THE END OF EACH WORKING DAY THE WORKING FACE GRADES AND DEGREE OF COMPACTION WILL BE CHECKED BY MAPPING THE AREA OF THE WORKING FACE WITH THE CAES SYSTEM MOUNTED ON THE COMPACTORS.
 4. A TEMPORARY BERM MIGHT BE NEEDED TO DIVERT THE RUNOFF AWAY FROM THE FILL AREA.
 5. INITIAL COVER, CONSISTING OF 6-INCHES OF SOIL SHALL BE APPLIED AT THE END OF EACH WORKING DAY OVER EXPOSED WASTE. TEMPORARY COVER SUCH AS TAPALINS MAYBE USED IF WASTE WILL NOT BE EXPOSED FOR MORE THAN 18 HOURS. INCREASE THE FREQUENCY OF APPLICATION IF WIND AND OR RAIN DISPERSE WASTE.
 6. OPERATORS WILL ACHIEVE THE ELEVATIONS IN AREAS THAT WILL NOT RECEIVE WASTE WITHIN 180 DAYS, APPLY A 12-INCHES INTERMEDIATE COVER SOIL OVER THE EXISTING 6-INCHES OF INITIAL COVER.
 7. ALL AREAS WITH INITIAL OR INTERMEDIATE COVER SHALL BE INSPECTED WEEKLY DEPENDING ON THE WEATHER CONDITIONS FOR DAMAGES DUE TO EROSION. DAMAGED AREAS SHALL BE REPAIRED QUICKLY AS OPERATIONS PERMIT. DAMAGED AREAS SHALL BE COVERED WITH SOD, SEED, OR MULCH TO PROTECT THE AREAS FROM ADDITIONAL DAMAGE.

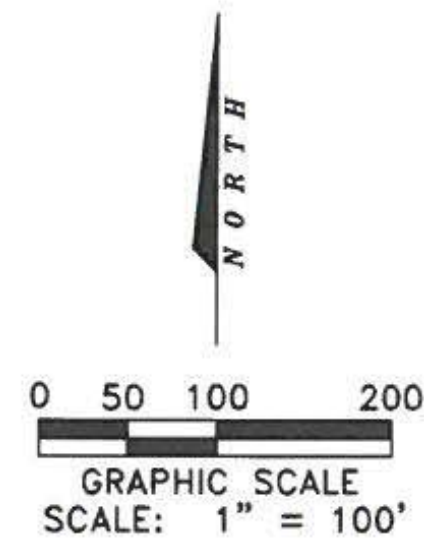


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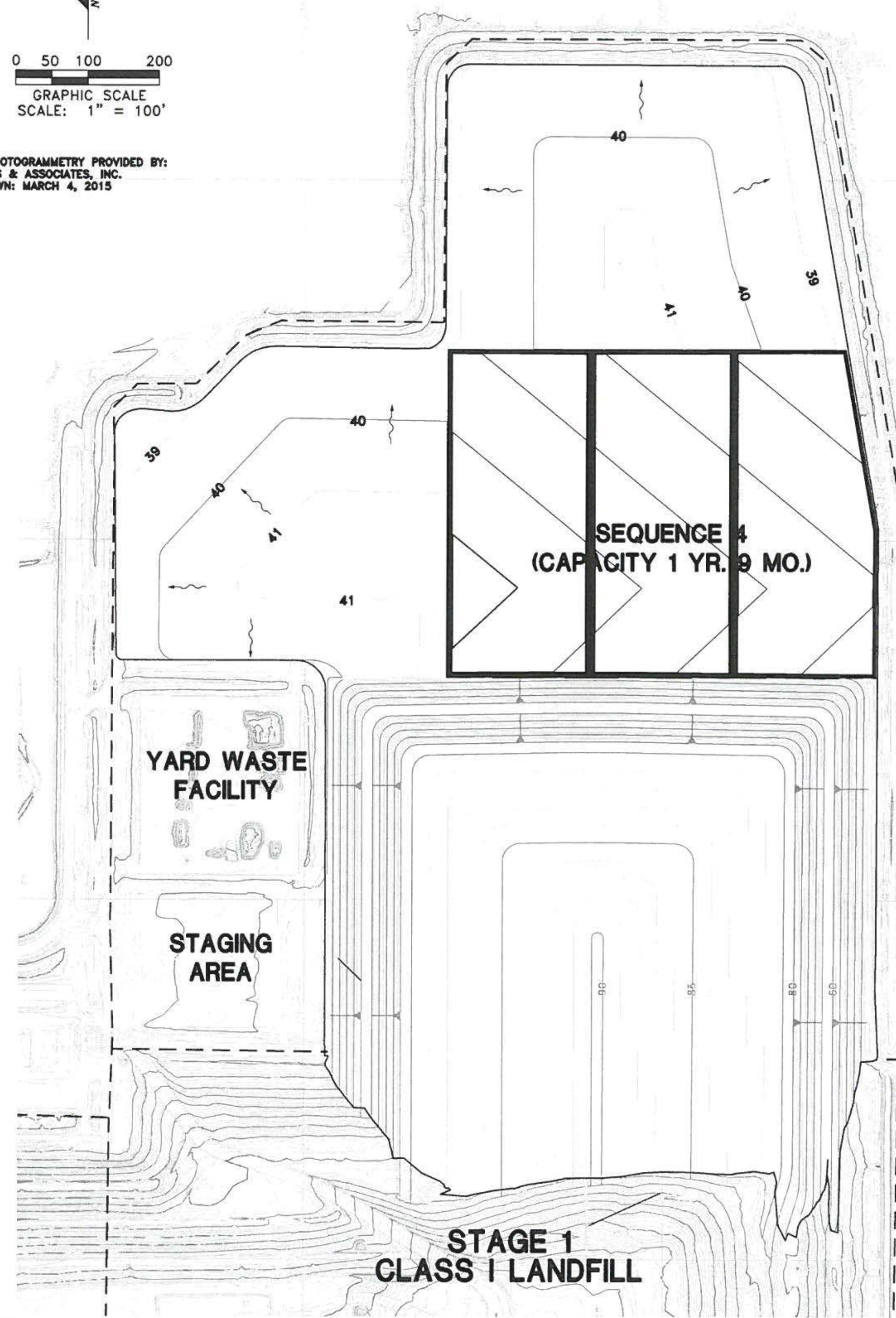
5300 W. BOY SCOUT BOULEVARD
TAMPA, FLORIDA 33607
FBPR CERTIFICATE OF AUTHORIZATION NO.24

482 SOUTH KELLER ROAD
Orlando, FL 32810-6101
TEL. (407) 647-7275
FAX. (407) 647-0624
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CLIENT	PROJECT	TASK	ORIGINAL JAN. 2015	6.	Name: JOHN A. BANKS JR. Florida P.E. No.: 39397	JOB NO. 100040621
MANATEE COUNTY	LENA ROAD LANDFILL	STAGE II LANDFILL	REVISIONS:	7.	Address: ATKINS 482 S. Keller Road Orlando, FL 32810-6101	DRAWN BY RGC
BOARD OF COUNTY COMMISSIONERS	2015 OPERATION PERMIT RENEWAL	SEQUENCE 3	1. APRIL 2010	8.	Signature: [Signature]	DESIGN BY RGC
	SEQUENCE DRAWINGS	CAPACITY (5 YEARS- 9 MONTHS)	2.	9.	10-23-15	CHECKED BY JAB
			3.	10.		Q.C. BY JAB
			4.	11.		SHEET / #
			5.	12.		



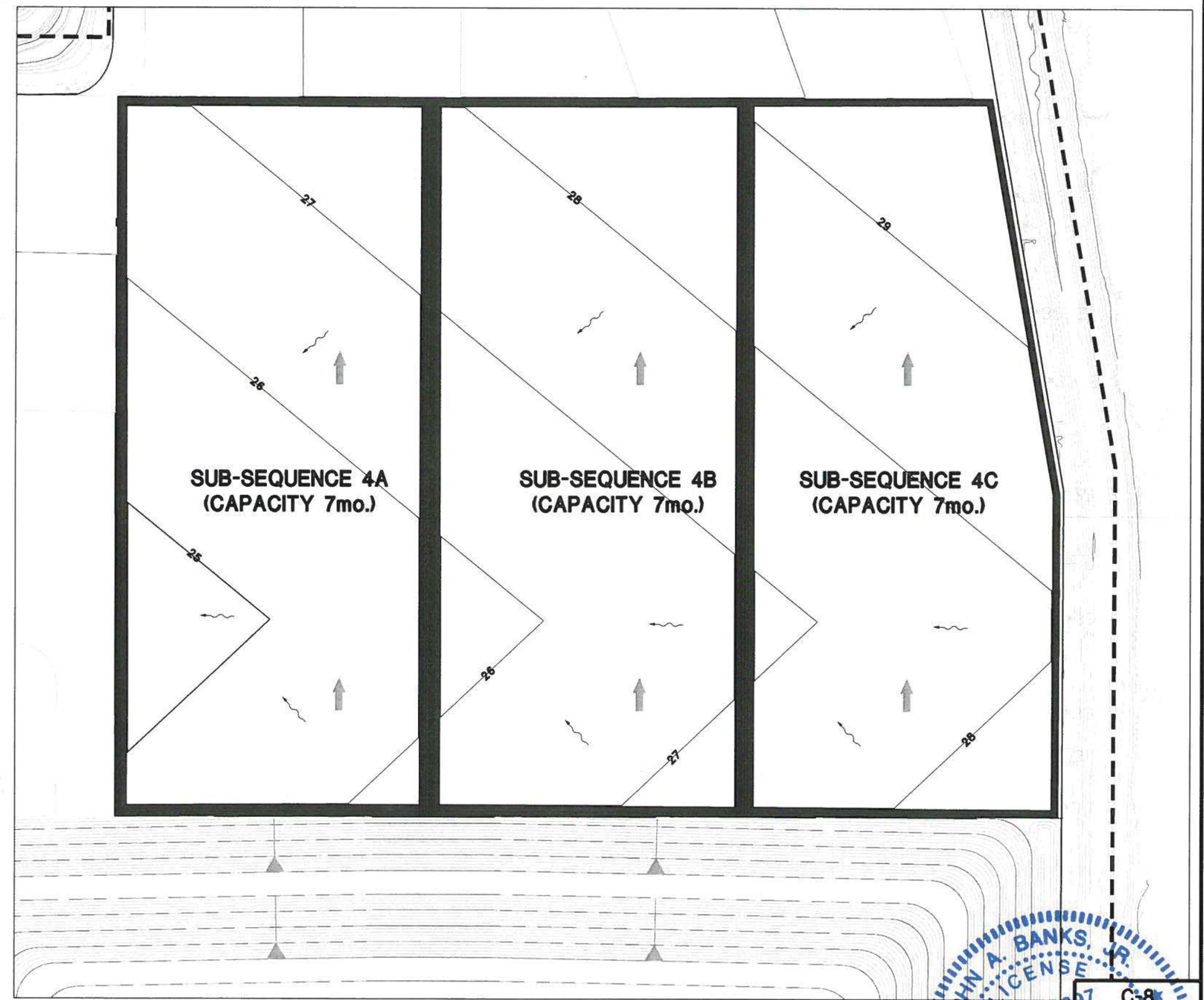
AERIAL PHOTOGRAMMETRY PROVIDED BY:
L.F. ROOKS & ASSOCIATES, INC.
DATE FLOWN: MARCH 4, 2015



- LEGEND:
- LEACHATE COLLECTION SYSTEM
 - PROPOSED INTERMEDIATE CONTOURS
 - PROPOSED INDEX CONTOURS
 - EXISTING CONTOURS
 - CONSTRUCTION LINES
 - SLOPE BREAK SYMBOL
 - STORMWATER FLOW
 - DIRECTION OF FILLING
 - STORMWATER DRAIN PIPE
 - EXISTING MANHOLE
 - EXISTING LIFT STATION
 - PAVED ROAD
 - DIRT ROAD

GENERAL NOTES:

- THIS SEQUENCE INCLUDES THE EXCAVATION OF THE CENTRAL PORTION OF STAGE II NORTH OF FILL SEQUENCE 3 IN THREE DIFFERENT PHASES. EXCAVATION SHALL START ON THE WEST SIDE OF THE FILL SEQUENCE AND PROCEED EAST. EACH SUB-SEQUENCE SHALL BE FILLED STARTING FROM THE SOUTH AND PROCEEDING NORTH. WASTE SHALL BE PLACED AND COMPACTED IN LIFTS UP TO THE GRADES SHOWN FOR THIS SEQUENCE.
- OPERATORS WILL ACHIEVE THE ELEVATIONS SHOWN ON THIS SEQUENCE BY USING THEIR CAD AIDED EARTHWORK SYSTEM (CAES) OR BASED EQUIPMENT MOUNTED ON THE LANDFILL COMPACTORS. AT THE END OF EACH WORKING DAY THE WORKING FACE GRADES AND DEGREE OF COMPACTION WILL BE CHECKED BY MAPPING THE AREA OF THE WORKING FACE WITH THE CAES SYSTEM MOUNTED ON THE COMPACTORS.
- A TEMPORARY BERM MIGHT BE NEEDED TO DIVERT THE RUNOFF AWAY FROM THE FILL AREA.
- INITIAL COVER, CONSISTING OF 6-INCHES OF SOIL SHALL BE APPLIED AT THE END OF EACH WORKING DAY OVER EXPOSED WASTE. TEMPORARY COVER SUCH AS TAPAJULINS MAYBE USED IF WASTE WILL NOT BE EXPOSED FOR MORE THAN 18 HOURS. INCREASE THE FREQUENCY OF APPLICATION IF WIND AND OR RAIN DISPERSE WASTE.
- OPERATORS WILL ACHIEVE THE ELEVATIONS IN AREAS THAT WILL NOT RECEIVE WASTE WITHIN 180 DAYS, APPLY A 12-INCHES INTERMEDIATE COVER SOIL OVER THE EXISTING 6-INCHES OF INITIAL COVER.
- ALL AREAS WITH INITIAL OR INTERMEDIATE COVER SHALL BE INSPECTED WEEKLY DEPENDING ON THE WEATHER CONDITIONS FOR DAMAGES DUE TO EROSION. DAMAGED AREAS SHALL BE REPAIRED QUICKLY AS OPERATIONS PERMIT. DAMAGED AREAS SHALL BE COVERED WITH SOO, SEED, OR MULCH TO PROTECT THE AREAS FROM ADDITIONAL DAMAGE.



ATKINS

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CLIENT
**MANATEE COUNTY
BOARD OF COUNTY COMMISSIONERS**

PROJECT
**LENA ROAD LANDFILL
2015 OPERATION PERMIT RENEWAL
SEQUENCE DRAWINGS**

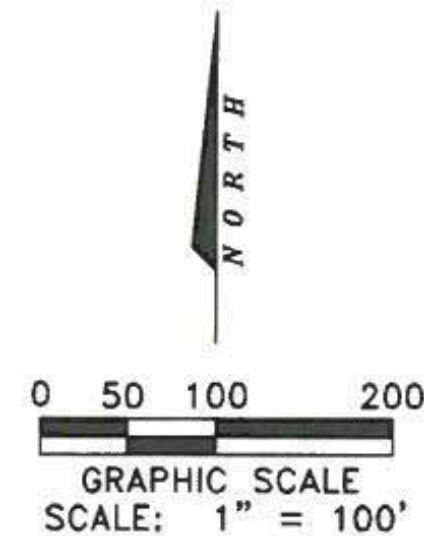
TASK
**STAGE II LANDFILL
SEQUENCE 4
CAPACITY (1 YEARS- 9 MONTHS)**

ORIGINAL JAN. 2015
REVISIONS:
1. APRIL 2010
2.
3.
4.
5.

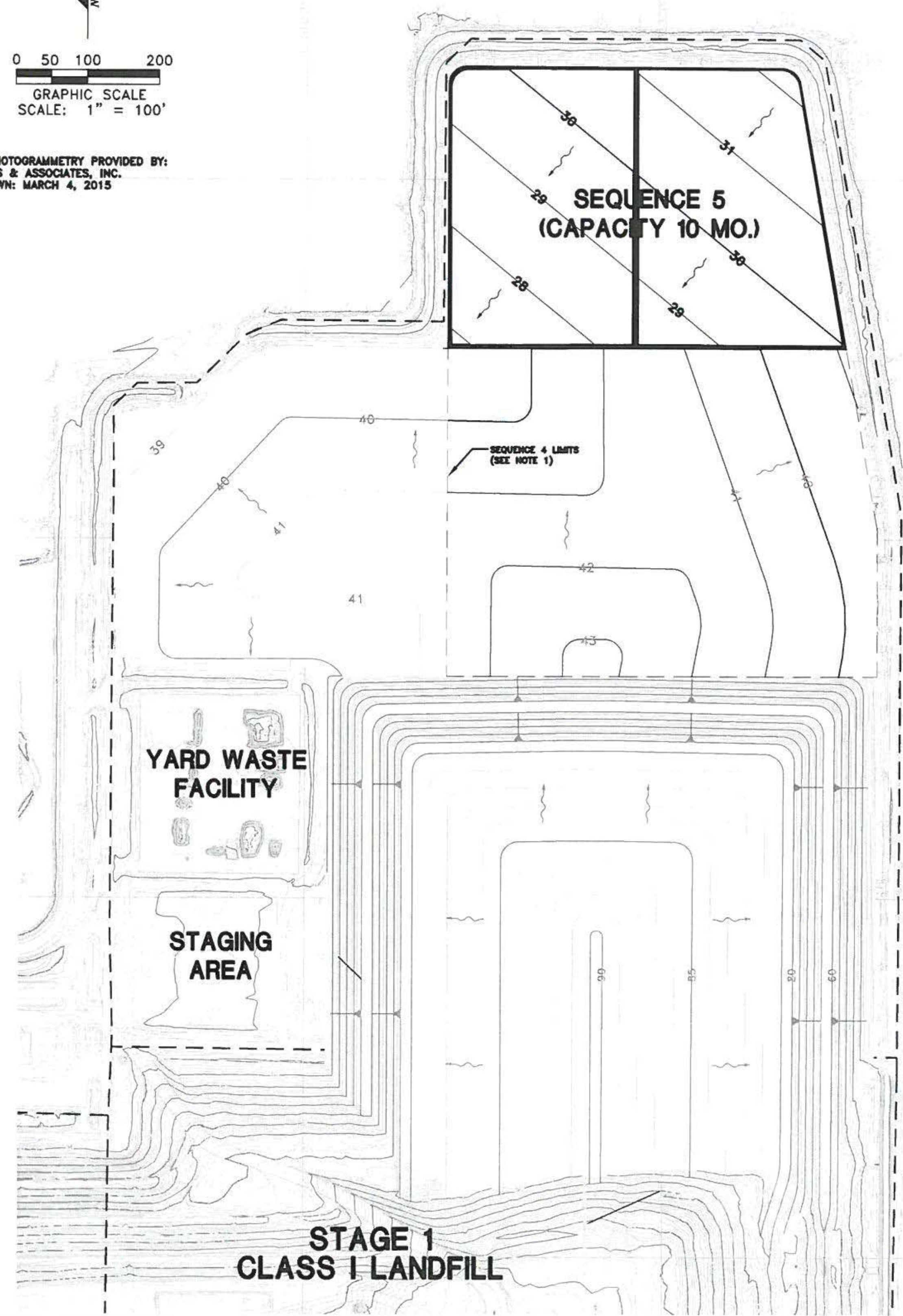
6.
7.
8.
9.
10.
11.
12.

Name: JOHN A. BANKS JR.
Florida P.E. No.: 39397
Address: ATKINS
482 S. Keller Road
Orlando, FL 32810-6101
Signature: _____ Date: _____

JOB NO. 10000621
DRAWN: HCC
DESIGN: HCC
CHECKED: JAB
Q.C.: JAB
SHEET / #

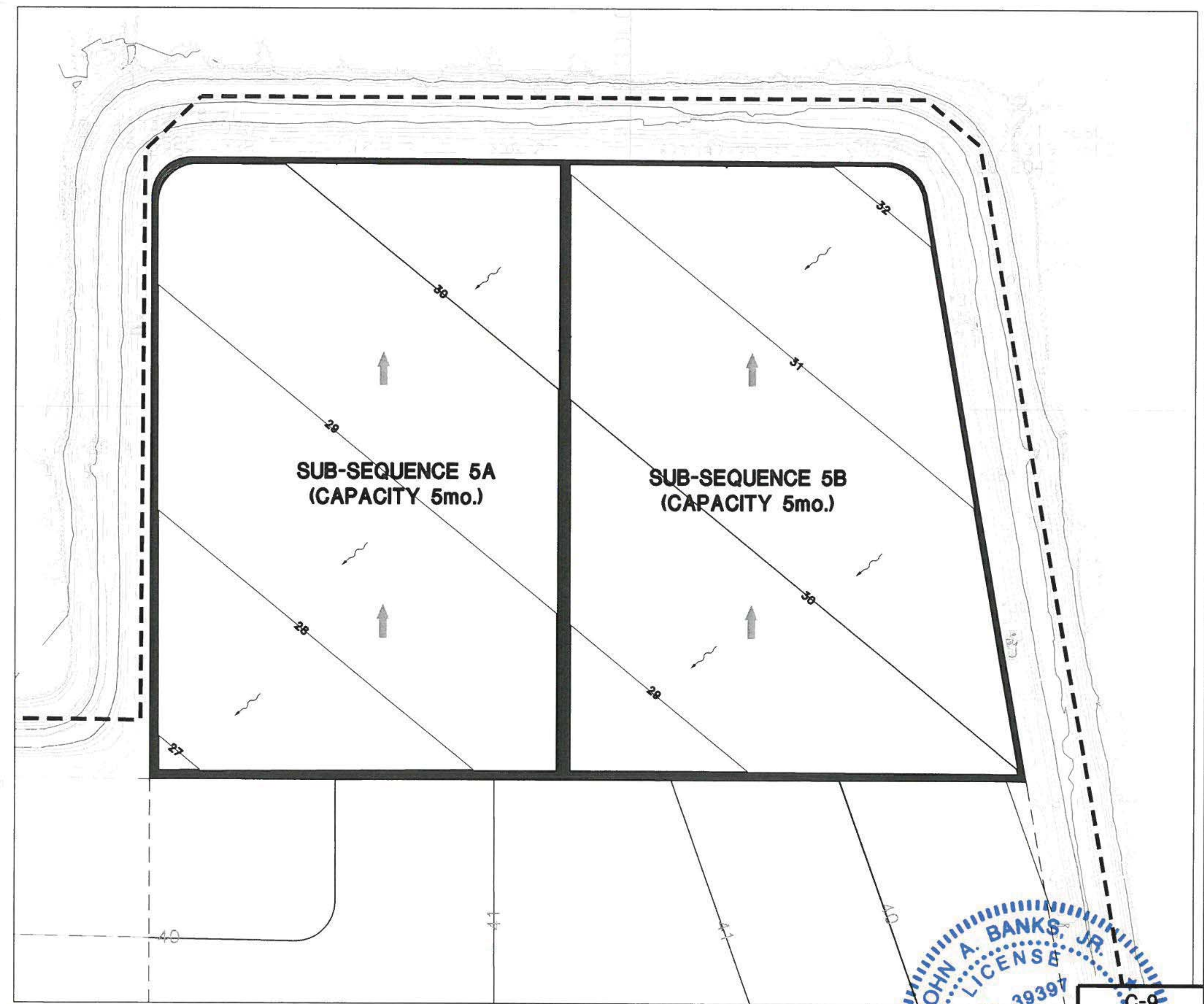


AERIAL PHOTOGRAMMETRY PROVIDED BY:
L.F. ROOKS & ASSOCIATES, INC.
DATE FLOWN: MARCH 4, 2013



- LEGEND:
- LEACHATE COLLECTION SYSTEM
 - PROPOSED INTERMEDIATE CONTOURS
 - PROPOSED INDEX CONTOURS
 - EXISTING CONTOURS
 - CONSTRUCTION LINES
 - SLOPE BREAK SYMBOL
 - STORMWATER FLOW
 - DIRECTION OF FILLING
 - STORMWATER DRAIN PIPE
 - EXISTING MANHOLE
 - EXISTING LIFT STATION
 - ▬ PAVED ROAD
 - ▬ DIRT ROAD

- GENERAL NOTES:
1. SEQUENCE 4 SHALL BE FILLED TO THE GRADES THAT EXISTED PRIOR TO EXCAVATION OF THE SEQUENCE.
 2. THIS SEQUENCE INCLUDES THE EXCAVATION THE NORTH PORTION OF STAGE II IN TWO DIFFERENT PHASES. SEQUENCE 5-A SHALL BE EXCAVATED FIRST AND WASTE SHALL BE PLACED AND COMPACTED IN LIFTS UP TO THE ORIGINAL EXISTING GRADES. SEQUENCE 5-B SHALL BE EXCAVATED PRIOR TO SEQUENCE 5-A GETTING FULL AND WASTE SHALL BE PLACED IN THE SAME MANNER AS SEQUENCE 5-A.
 3. OPERATORS WILL ACHIEVE THE ELEVATIONS SHOWN ON THIS SEQUENCE BY USING THEIR CAD AIDED EARTHWORK SYSTEM (CAES) GIS BASED EQUIPMENT MOUNTED ON THE LANDFILL COMPACTORS. AT THE END OF EACH WORKING DAY THE WORKING FACE GRADES AND DEGREE OF COMPACTION WILL BE CHECKED BY MAPPING THE AREA OF THE WORKING FACE WITH THE CAES SYSTEM MOUNTED ON THE COMPACTORS.
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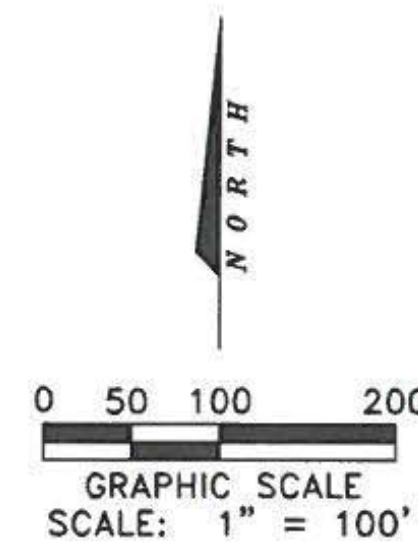


ATKINS

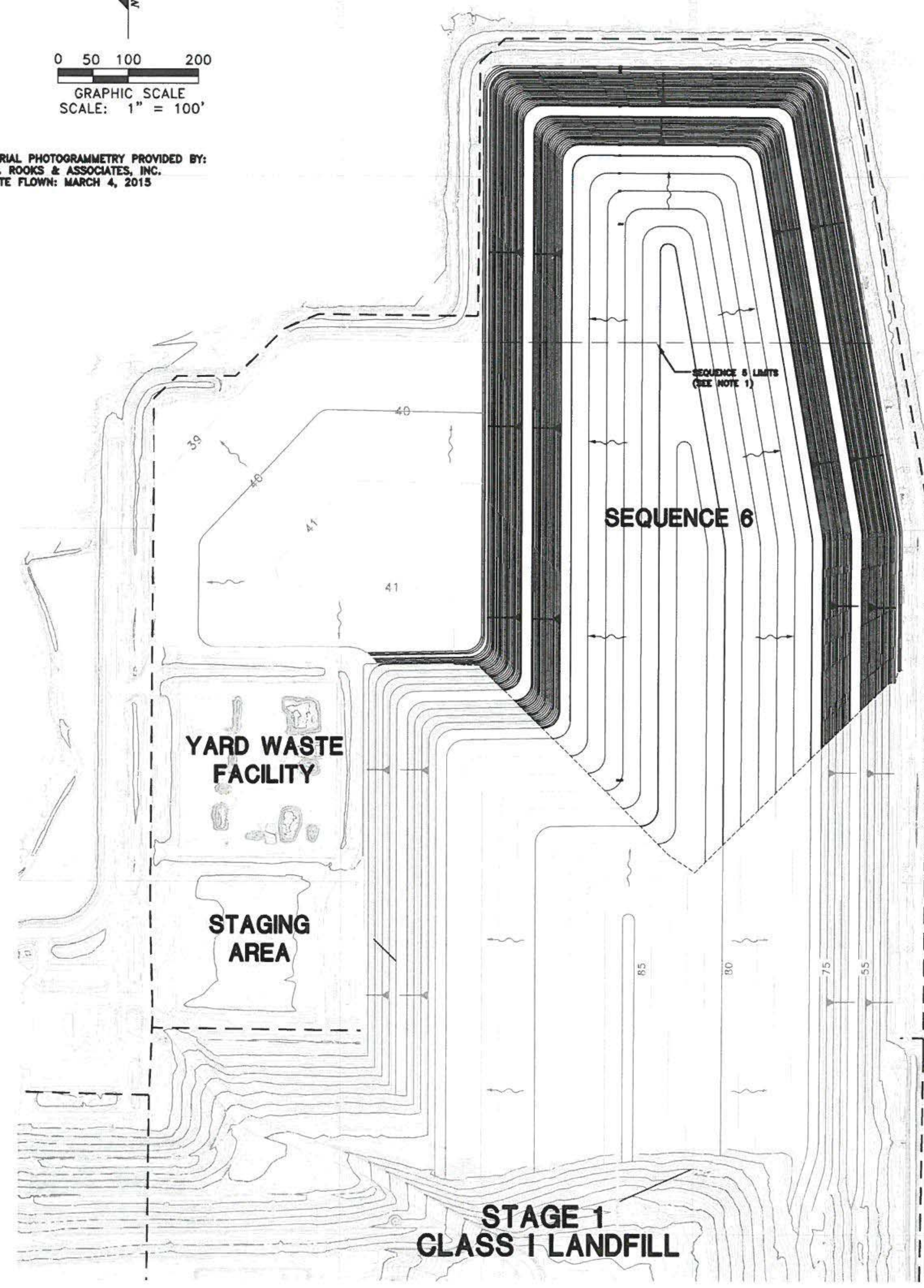
5300 W. BOY SCOUT BOULEVARD
TAMPA, FLORIDA 33607
FBPR CERTIFICATE OF AUTHORIZATION NO.24

482 SOUTH KELLER ROAD
Orlando, FL 32810-6101
TEL. (407) 647-7275
FAX. (407) 647-0624
www.atkinsglobal.com

CLIENT	PROJECT	TASK	ORIGINAL JAN. 2015	6.	Name: JOHN A. BANKS JR.	JOB NO. 100940621
MANATEE COUNTY	LENA ROAD LANDFILL	STAGE II LANDFILL	REVISIONS:	7.	Florida P.E. No.: 39397	DRAWN: RGC
BOARD OF COUNTY COMMISSIONERS	2015 OPERATION PERMIT RENEWAL	SEQUENCE 5	1. APRIL 2010	8.	Address: ATKINS	DESIGN: RGC
	SEQUENCE DRAWINGS	CAPACITY (10 MONTHS)	2.	9.	482 S. Keller Road	CHECKED: JAB
			3.	10.	Orlando, FL 32810-6101	Q.C.: JAB
			4.	11.	Signature: _____	SHEET / #
			5.	12.	Date: _____	

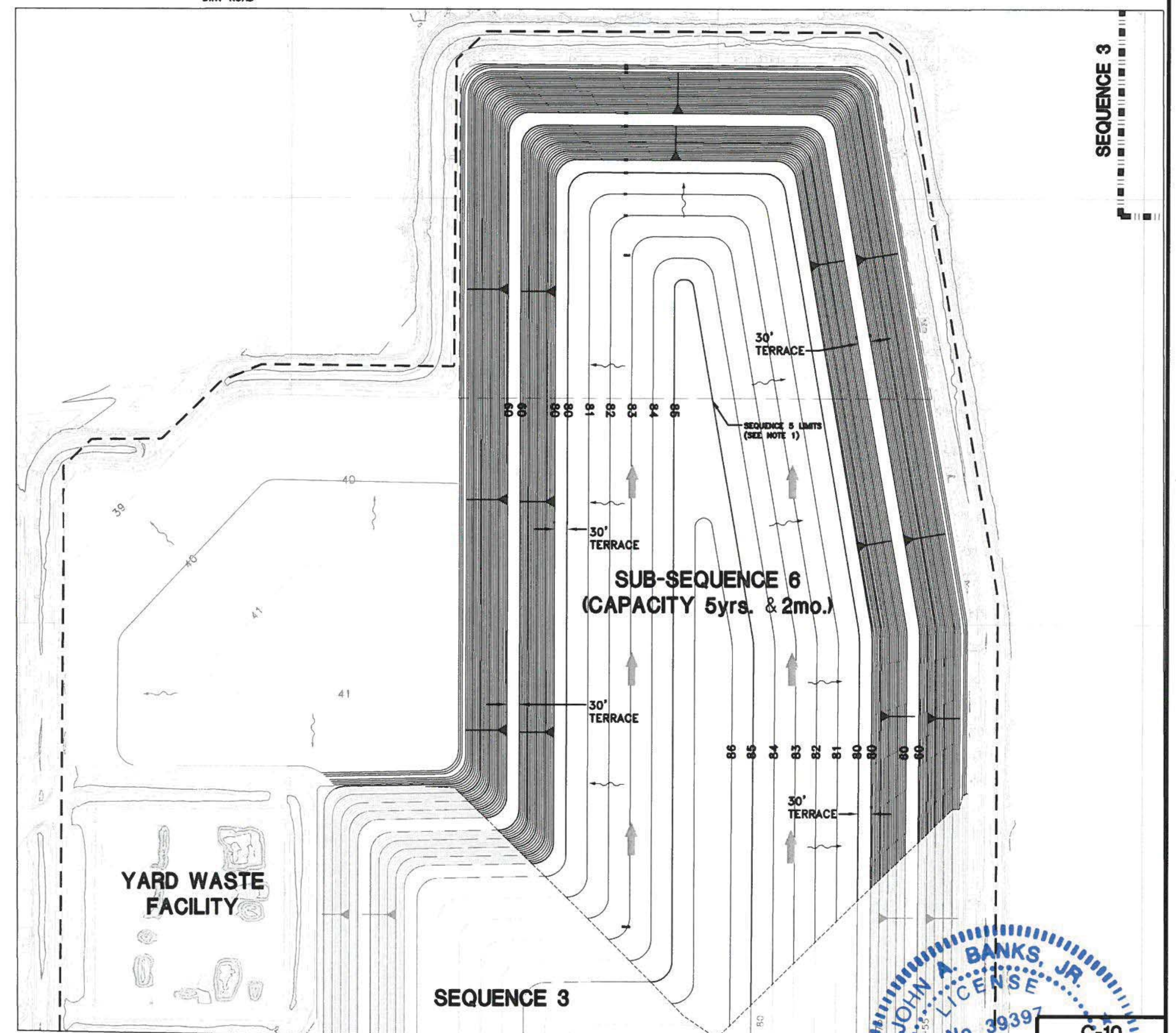


AERIAL PHOTOGRAMMETRY PROVIDED BY:
L.F. ROOKS & ASSOCIATES, INC.
DATE FLOWN: MARCH 4, 2015



- LEGEND:
- LEACHATE COLLECTION SYSTEM
 - PROPOSED INTERMEDIATE CONTOURS
 - PROPOSED INDEX CONTOURS
 - EXISTING CONTOURS
 - CONSTRUCTION LINES
 - SLOPE BREAK SYMBOL
 - STORMWATER FLOW
 - DIRECTION OF FILLING
 - STORMWATER DRAIN PIPE
 - EXISTING MANHOLE
 - EXISTING LIFT STATION
 - ▬ PAVED ROAD
 - ▬ DIRT ROAD

- GENERAL NOTES:
1. SEQUENCE 5 SHALL BE FILLED TO THE GRADES THAT EXISTED PRIOR TO EXCAVATION OF THE SEQUENCE.
 2. THIS SEQUENCE INCLUDES THE FILLING OF THE NORTH PORTION OF STAGE II. FILL SHALL START ON THE SOUTH SIDE OF THE FILL SEQUENCE AND PROCEED NORTH. WASTE SHALL BE PLACED AND COMPACTED IN LIFTS UP TO THE GRADES SHOWN FOR THIS SEQUENCE.
 3. OPERATORS WILL ACHIEVE THE ELEVATIONS SHOWN ON THIS SEQUENCE BY USING THEIR CAD AIDED EARTHWORK SYSTEM (CAES) GIS BASED EQUIPMENT MOUNTED ON THE LANDFILL COMPACTORS. AT THE END OF EACH WORKING DAY THE WORKING FACE GRADES AND DEGREE OF COMPACTION WILL BE CHECKED BY MAPPING THE AREA OF THE WORKING FACE WITH THE CAES SYSTEM MOUNTED ON THE COMPACTORS.
 4. A TEMPORARY BERM MIGHT BE NEEDED TO DIVERT THE RUNOFF AWAY FROM THE FILL AREA.
 5. INITIAL COVER, CONSISTING OF 6-INCHES OF SOIL SHALL BE APPLIED AT THE END OF EACH WORKING DAY OVER EXPOSED WASTE. TEMPORARY COVER SUCH AS TAPAJULINS MAYBE USED IF WASTE WILL NOT BE EXPOSED FOR MORE THAN 18 HOURS. INCREASE THE FREQUENCY OF APPLICATION IF WIND AND OR RAIN DISPERSE WASTE.
 6. OPERATORS WILL ACHIEVE THE ELEVATIONS IN AREAS THAT WILL NOT RECEIVE WASTE WITHIN 180 DAYS, APPLY A 12-INCHES INTERMEDIATE COVER SOIL OVER THE EXISTING 6-INCHES OF INITIAL COVER.
 7. ALL AREAS WITH INITIAL OR INTERMEDIATE COVER SHALL BE INSPECTED WEEKLY DEPENDING ON THE WEATHER CONDITIONS FOR DAMAGES DUE TO EROSION. DAMAGED AREAS SHALL BE REPAIRED QUICKLY AS OPERATIONS PERMIT. DAMAGED AREAS SHALL BE COVERED WITH SOO, SEED, OR MULCH TO PROTECT THE AREAS FROM ADDITIONAL DAMAGE.



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TAMPA, FLORIDA 33607
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Orlando, FL 32810-6101
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www.atkinsglobal.com

CLIENT
**MANATEE COUNTY
BOARD OF COUNTY COMMISSIONERS**

PROJECT
**LENA ROAD LANDFILL
2015 OPERATION PERMIT RENEWAL
SEQUENCE DRAWINGS**

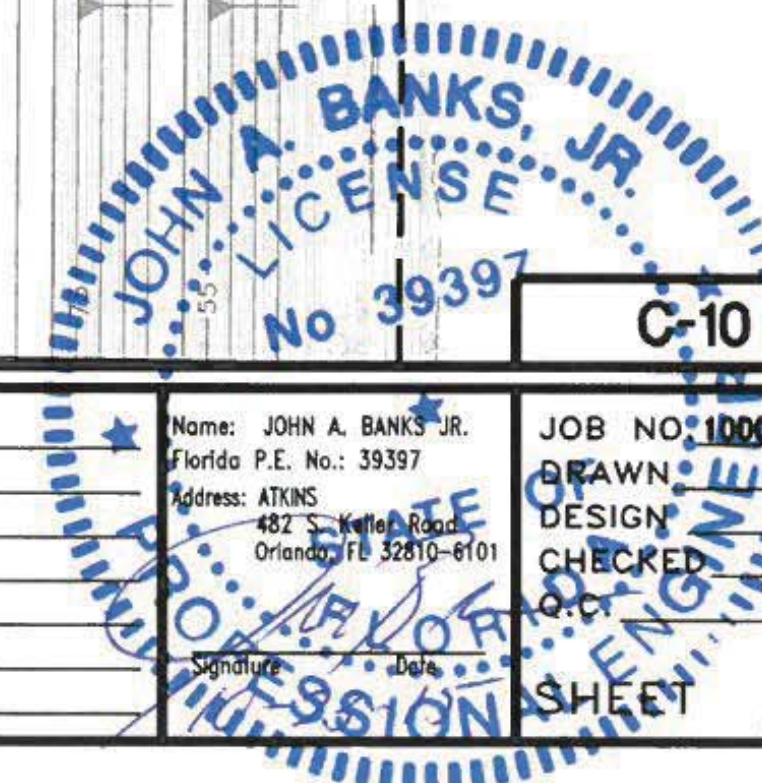
TASK
**STAGE II LANDFILL
SEQUENCE 6
CAPACITY (5 YEARS - 2 MONTHS)**

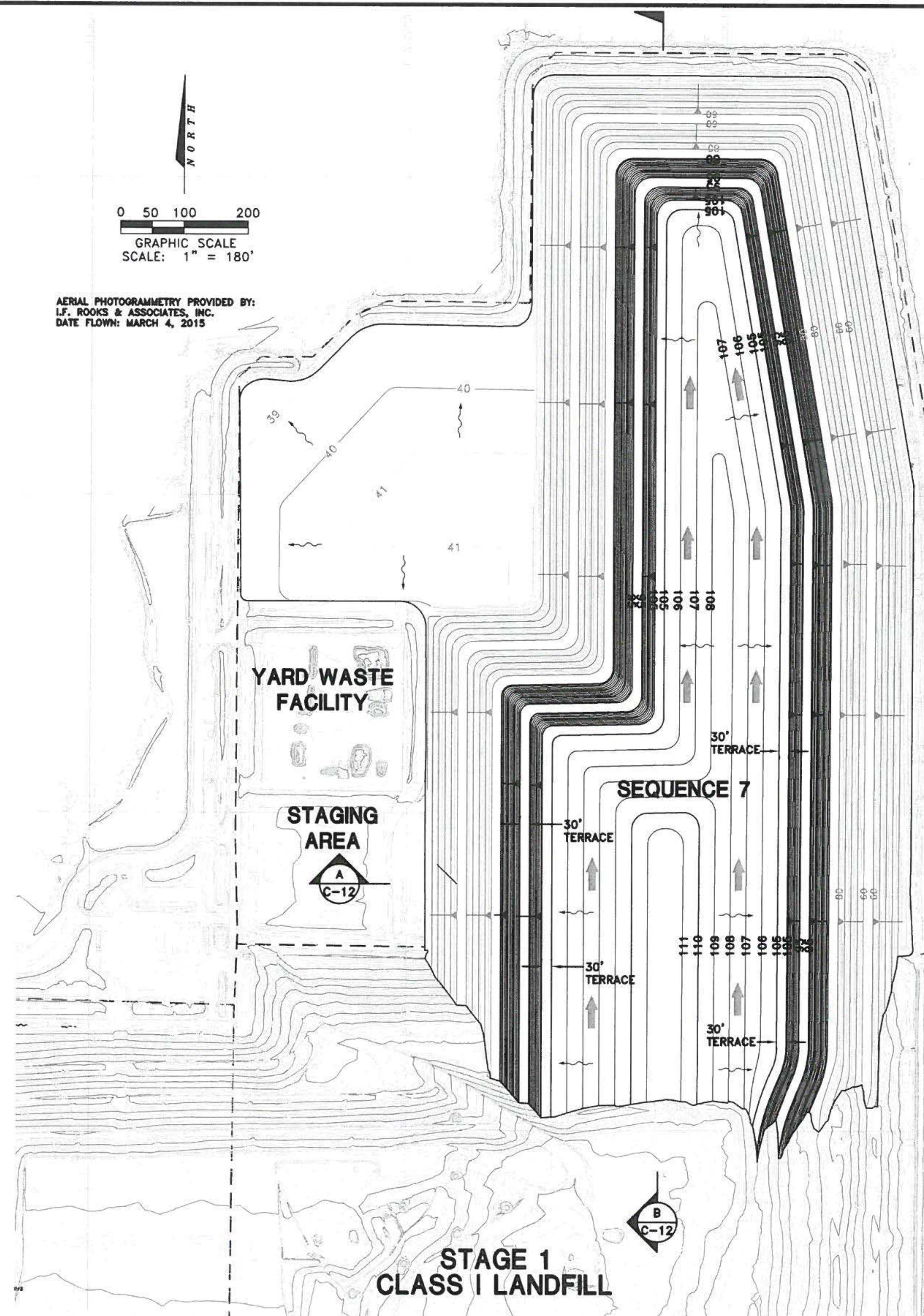
ORIGINAL JAN. 2015
REVISIONS:
1. APRIL 2010
2.
3.
4.
5.

6.
7.
8.
9.
10.
11.
12.

Name: JOHN A. BANKS, JR.
Florida P.E. No.: 39397
Address: ATKINS
482 S. Keller Road
Orlando, FL 32810-6101

JOB NO: 10040621
DRAWN: RGC
DESIGN: RGC
CHECKED: JAB
DATE: 1/15/15
SHEET / #





- LEGEND:**
- LEACHATE COLLECTION SYSTEM
 - PROPOSED INTERMEDIATE CONTOURS
 - PROPOSED INDEX CONTOURS
 - EXISTING CONTOURS
 - - - CONSTRUCTION LINES
 - ▲ SLOPE BREAK SYMBOL
 - SLOPE BREAK SYMBOL
 - STORMWATER FLOW
 - ← DIRECTION OF FILLING
 - - - STORMWATER DRAIN PIPE
 - EXISTING MANHOLE
 - EXISTING LIFT STATION
 - ▒ PAVED ROAD
 - ▒ DIRT ROAD

- GENERAL NOTES:**
1. THIS SEQUENCE INCLUDES THE FILLING OF THE TOP PORTION OF SEQUENCE 6. FILL SHALL START ON THE SOUTH SIDE OF THE FILL SEQUENCE AND PROCEED NORTH. WASTE SHALL BE PLACED AND COMPACTED IN LIFTS UP TO THE GRADES SHOWN FOR THIS SEQUENCE.
 2. OPERATORS WILL ACHIEVE THE ELEVATIONS SHOWN ON THIS SEQUENCE BY USING THEIR CAD AIDED EARTHWORK SYSTEM (CAES) OR BASED EQUIPMENT MOUNTED ON THE LANDFILL COMPACTORS. AT THE END OF EACH WORKING DAY THE WORKING FACE GRADES AND DEGREE OF COMPACTION WILL BE CHECKED BY MAPPING THE AREA OF THE WORKING FACE WITH THE CAES SYSTEM MOUNTED ON THE COMPACTORS.
 3. A TEMPORARY BERM MIGHT BE NEEDED TO DIVERT THE RUNOFF AWAY FROM THE FILL AREA.
 4. INITIAL COVER, CONSISTING OF 6-INCHES OF SOIL SHALL BE APPLIED AT THE END OF EACH WORKING DAY OVER EXPOSED WASTE. TEMPORARY COVER SUCH AS TAPULINS MAYBE USED IF WASTE WILL NOT BE EXPOSED FOR MORE THAN 18 HOURS. INCREASE THE FREQUENCY OF APPLICATION IF WIND AND OR RAIN DISPERSE WASTE.
 5. OPERATORS WILL ACHIEVE THE ELEVATIONS IN AREAS THAT WILL NOT RECEIVE WASTE WITHIN 180 DAYS, APPLY A 12-INCHES INTERMEDIATE COVER SOIL OVER THE EXISTING 6-INCHES OF INITIAL COVER.
 6. ALL AREAS WITH INITIAL OR INTERMEDIATE COVER SHALL BE INSPECTED WEEKLY DEPENDING ON THE WEATHER CONDITIONS FOR DAMAGES DUE TO EROSION. DAMAGED AREAS SHALL BE REPAIRED QUICKLY AS OPERATIONS PERMIT. DAMAGED AREAS SHALL BE COVERED WITH SOIL, SEED, OR MULCH TO PROTECT THE AREAS FROM ADDITIONAL DAMAGE.

YARD WASTE FACILITY

**STAGING
AREA**

SEQUENCE 7

STAGE 1 CLASS I LANDFILL

ATKINS

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CLIENT
MANATEE COUNTY
BOARD OF COUNTY COMMISSIONERS

PROJECT
LENA ROAD LANDFILL
2015 OPERATION PERMIT RENEWAL
SEQUENCE DRAWINGS

TASK	
	STAGE II LANDFILL
	SEQUENCE 7
	CAPACITY (5 YEARS - 4 MONTHS)

ORIGINAL JAN. 2015
REVISIONS:
1. APRIL 2010
2. _____
3. _____
4. _____
5. _____

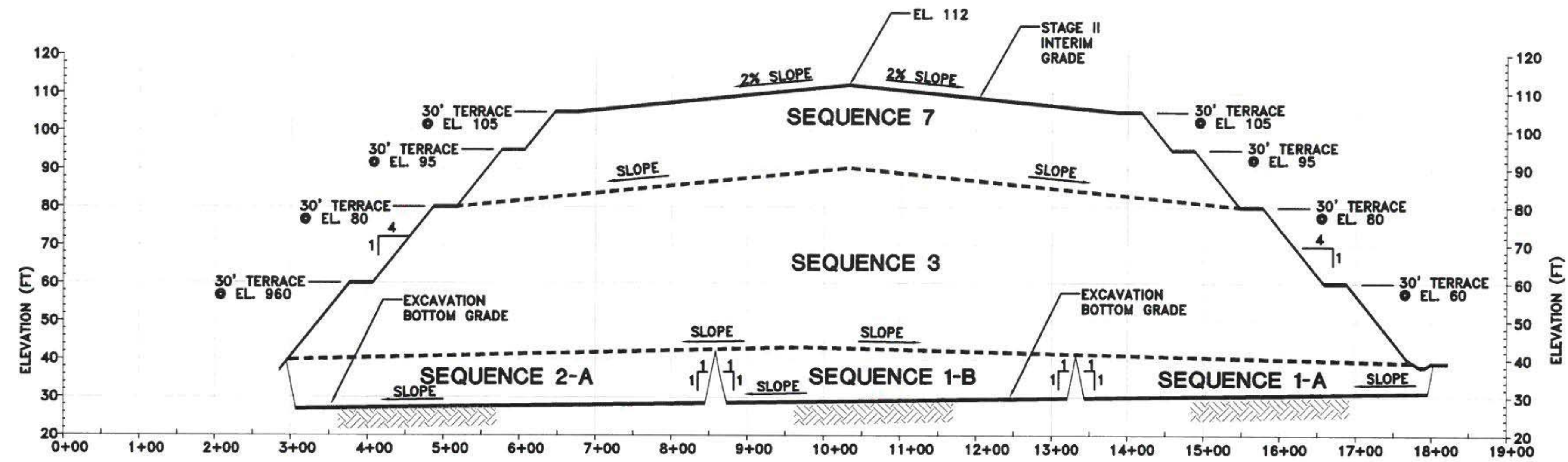
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

Name: JOHN A. BANKS JR.
Florida P.E. No.: 39397
Address: ATKINS
482 S. Keller Road
Orlando, FL 32810-6141

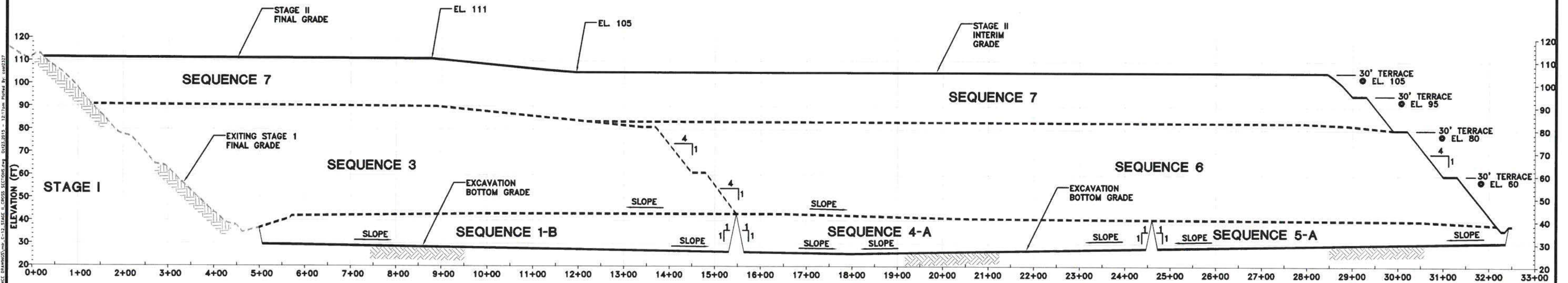
Signature _____ Date _____

JOB NO. **100040621**
 DRAWN **RGC**
 DESIGN **RGC**
 CHECKED **JAB**
 G.C. **JAB**
 SHEET / #

C-1



SECTION A
SCALE: N.T.S. C-11



SECTION B
SCALE: N.T.S. C-11

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TAMPA, FLORIDA 33607
FBPR CERTIFICATE OF AUTHORIZATION NO.24

CLIENT
**MANATEE COUNTY
BOARD OF COUNTY COMMISSIONERS**

PROJECT
**LENA ROAD LANDFILL
2015 OPERATION PERMIT RENEWAL
SEQUENCE DRAWINGS**

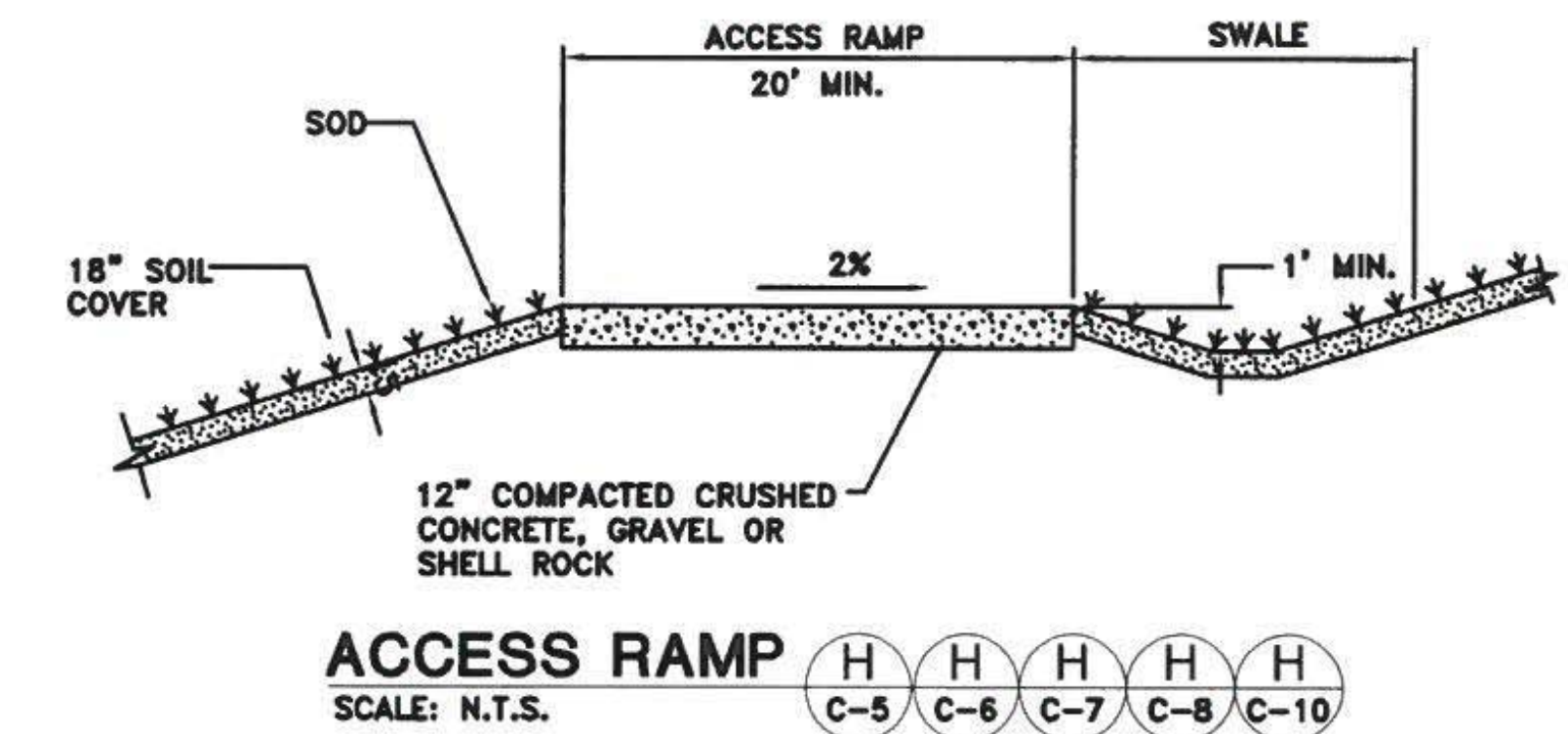
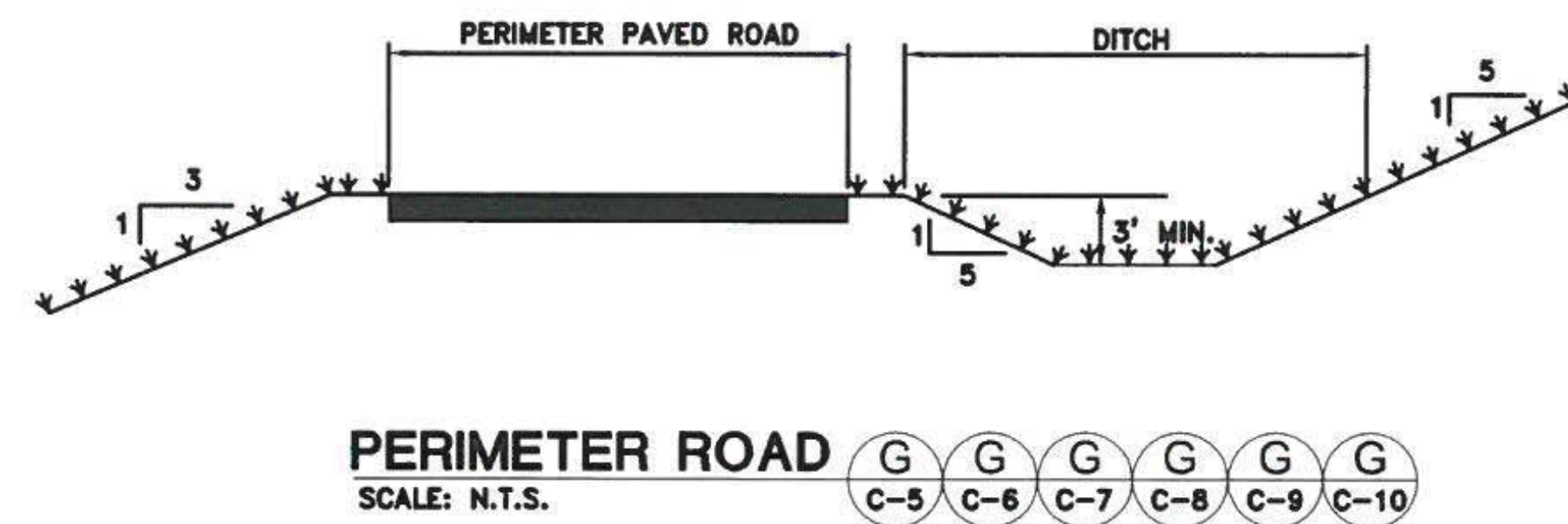
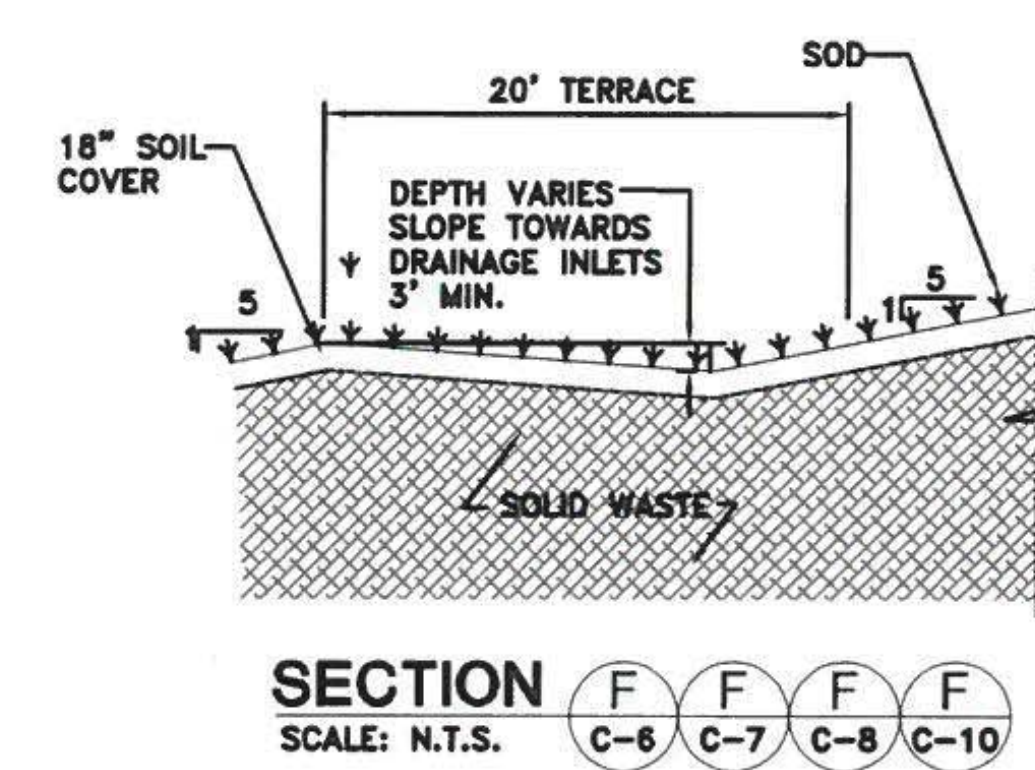
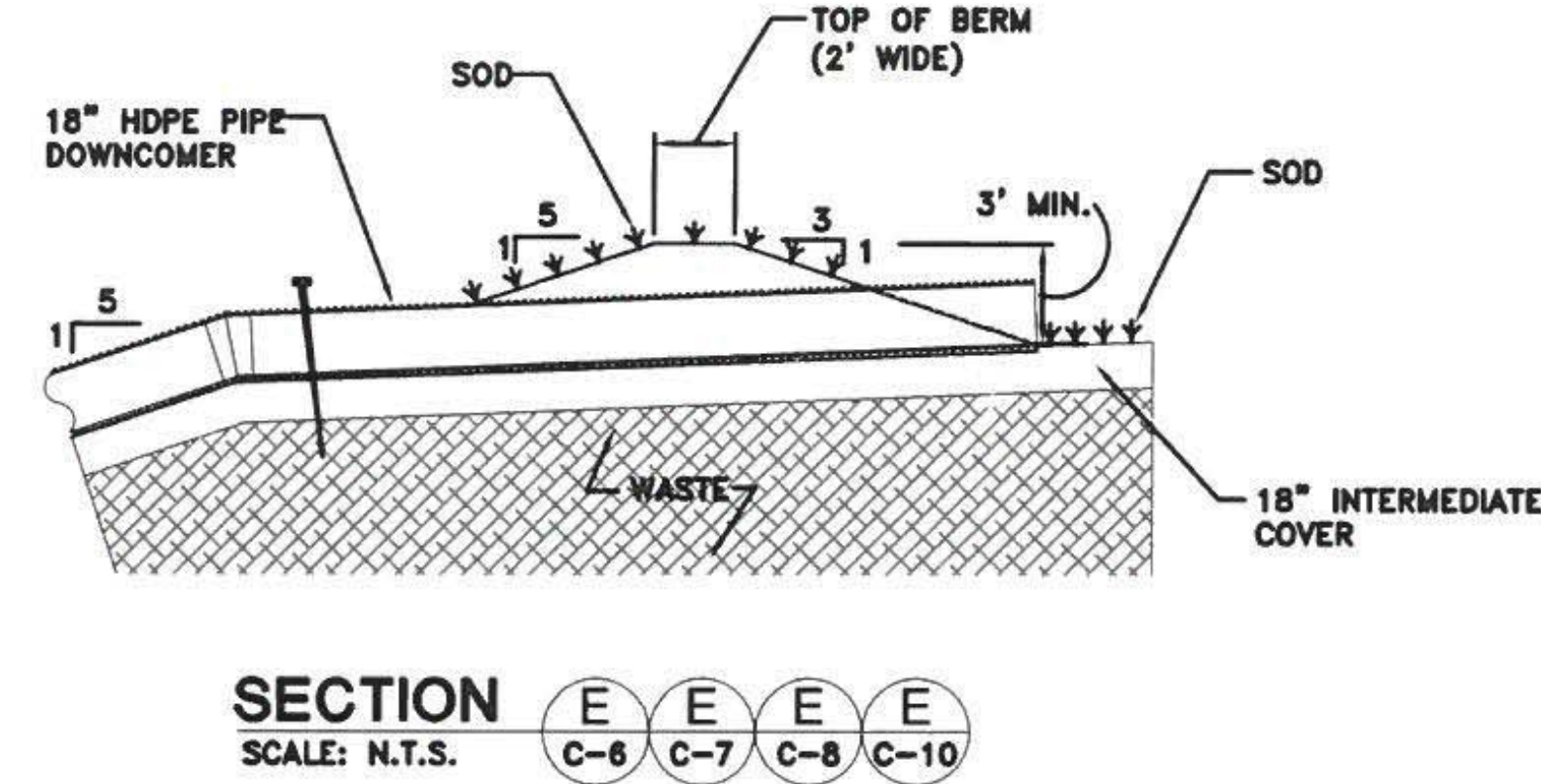
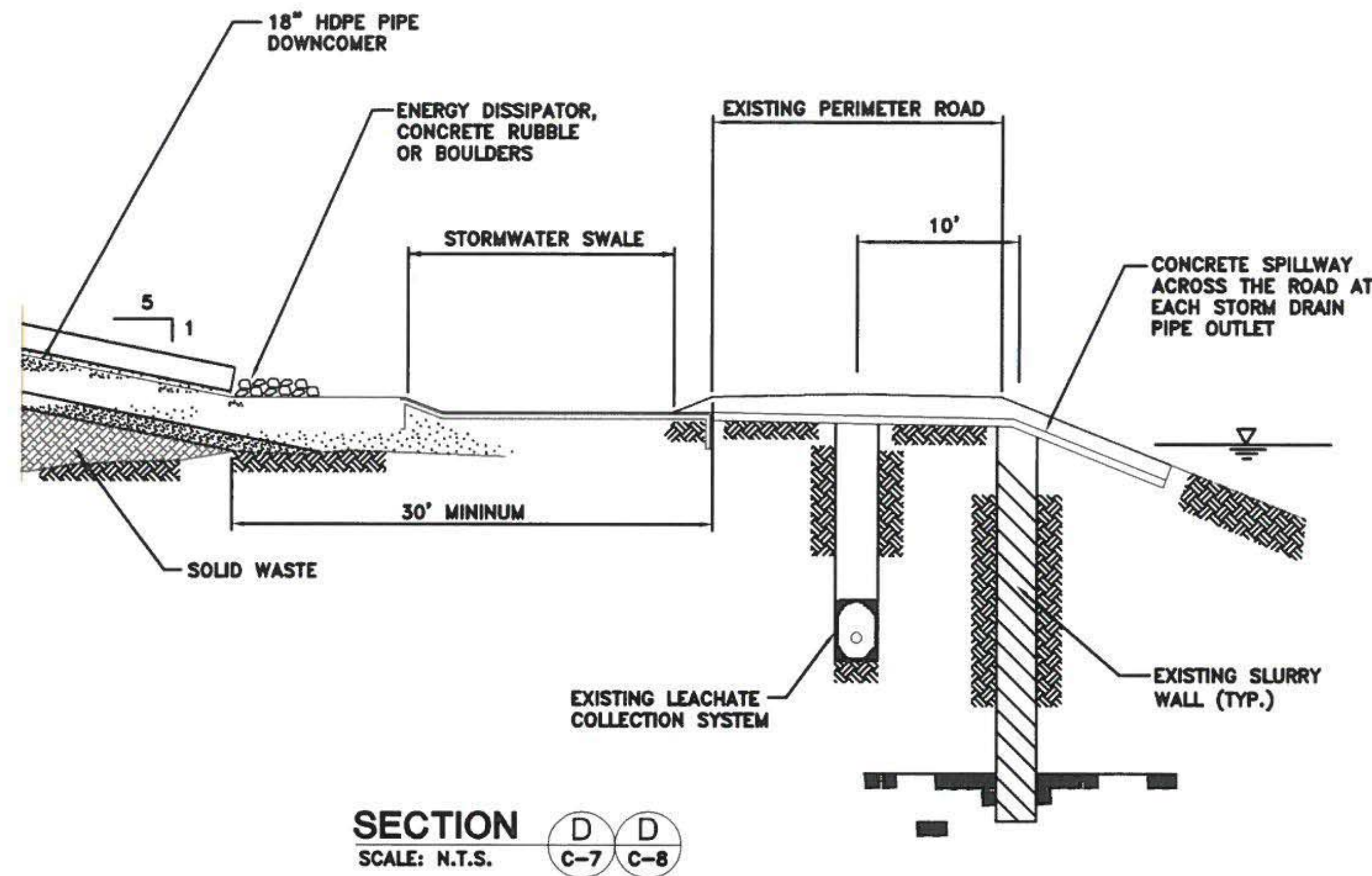
TASK
**STAGE II - LANDFILL
CROSS SECTIONS**

ORIGINAL JAN. 2015
REVISIONS:
1. _____
2. _____
3. _____
4. _____
5. _____

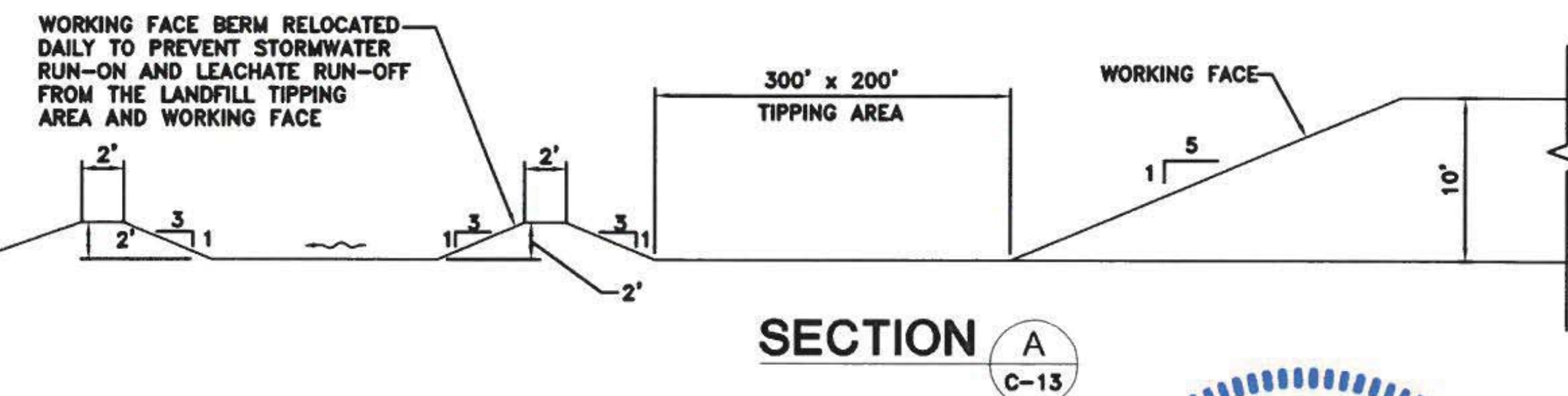
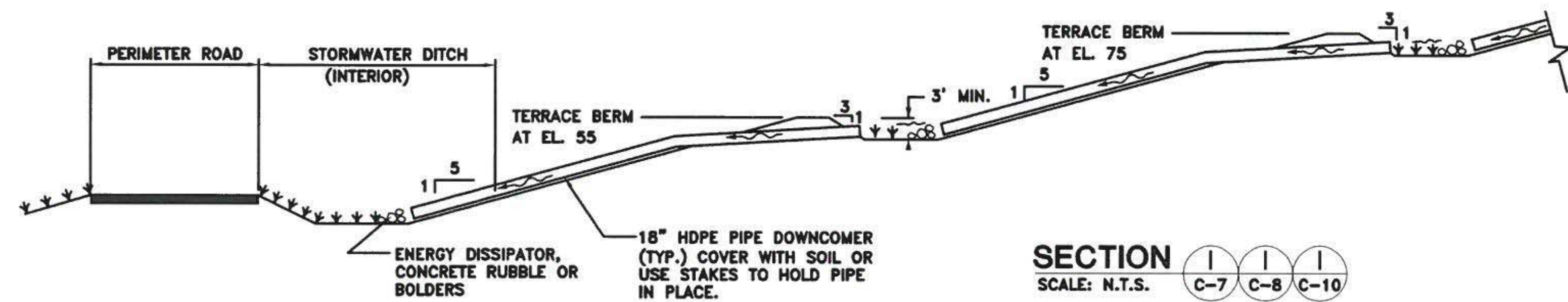
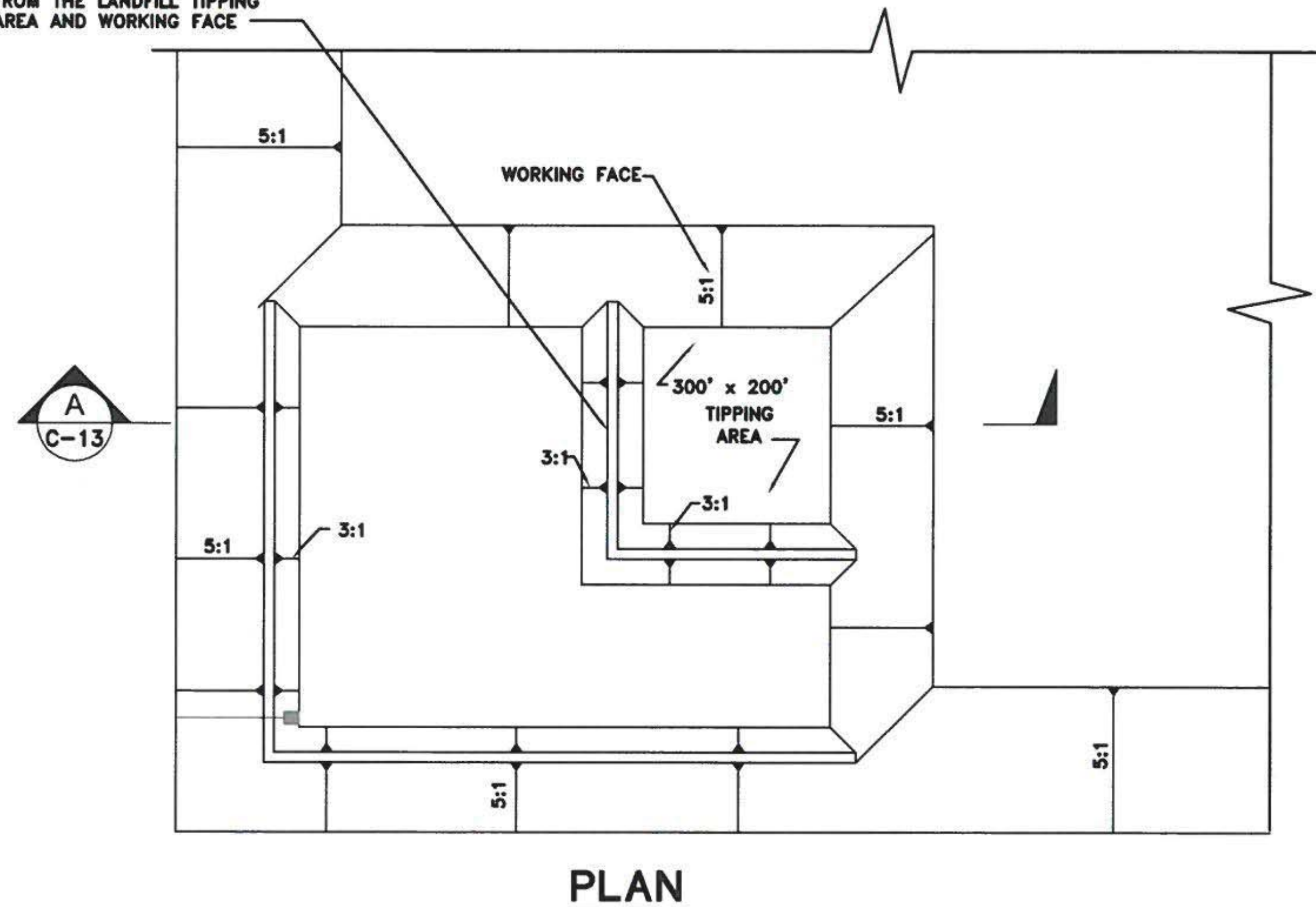
6. _____
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9. _____
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11. _____
12. _____

Name: JOHN A. BANKS JR.
Florida P.E. No. 39397
Address: ATKINS
482 S. Keller Road
Orlando, FL 32810-6101
Signature: _____
Title: _____

C-12
JOB NO. 100040621
DRAWN: RGC
DESIGN: RGC
CHECKED: JAB
P.O.: JAB
SHEET / #



WORKING FACE BERM RELOCATED DAILY TO PREVENT STORMWATER RUN-ON AND LEACHATE RUN-OFF FROM THE LANDFILL TIPPING AREA AND WORKING FACE



TYPICAL WORKING FACE DETAIL
SCALE: N.T.S.

- REVISED "SECTION D" STORMWATER ENERGY DISSIPATOR DETAIL
- REVISED "SECTION I" TO SHOW THE STORMWATER DOWNCOMERS ABOVE GRADE WITHOUT THE STORMWATER INLETS AND THE ENERGY DISSIPATORS AS CONCRETE RUBBLE OR BOLDERS.
- REVISED "SECTION E" REMOVED TEXT "TEMPORARY".

JOHN A. BANKS, JR.
LICENSE NO. 39397
C-13

ATKINS

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Orlando, FL 32810-6101
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TAMPA, FLORIDA 33607
FBPR CERTIFICATE OF AUTHORIZATION NO.24

CLIENT
MANATEE COUNTY
BOARD OF COUNTY COMMISSIONERS

PROJECT
LENA ROAD LANDFILL
2015 OPERATION PERMIT RENEWAL
SEQUENCE DRAWINGS

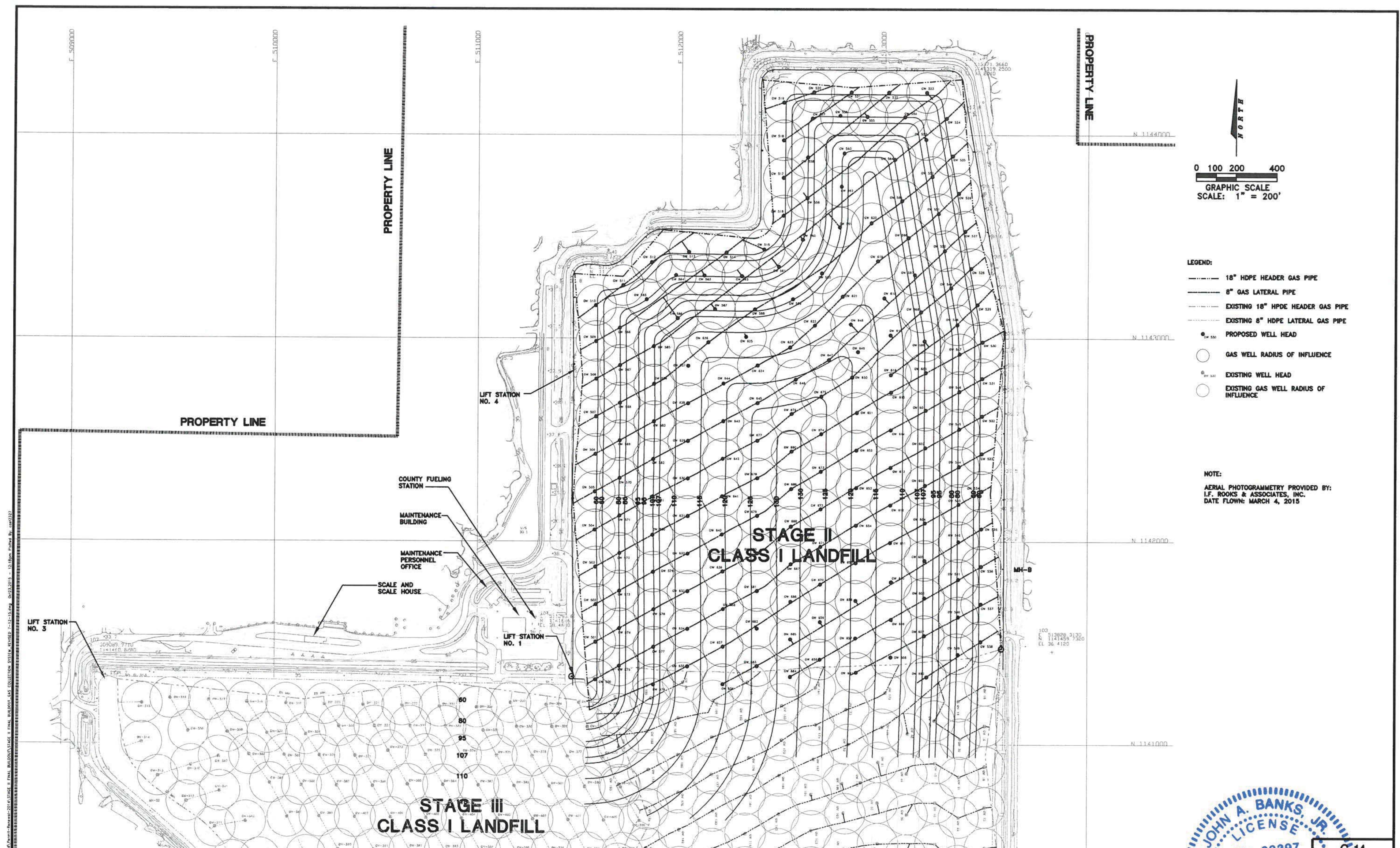
TASK
DETAILS

ORIGINAL JAN. 2015
REVISIONS:
1. MAY 5, 2015
2.
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5.

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10.
11.
12.

Name: JOHN A. BANKS JR.
Florida P.E. No.: 39397
Address: 4825 S. Keller Road
Orlando, FL 32810-6101

JOB NO. 100040621
DRAWN: RGC
DESIGN: RGC
CHECKED: JAB
DATE: 10/1/15
SHEET / #



- LEGEND:
- 18" HDPE HEADER GAS PIPE
 - 6" GAS LATERAL PIPE
 - EXISTING 18" HDPE HEADER GAS PIPE
 - EXISTING 6" HDPE LATERAL GAS PIPE
 - PROPOSED WELL HEAD
 - GAS WELL RADIUS OF INFLUENCE
 - EXISTING WELL HEAD
 - EXISTING GAS WELL RADIUS OF INFLUENCE

NOTE:
AERIAL PHOTOGRAMMETRY PROVIDED BY:
I.F. ROOKS & ASSOCIATES, INC.
DATE FLOWN: MARCH 4, 2015

JOHN A. BANKS, JR.
LICENSE
No 39397

ATKINS

482 SOUTH KELLER ROAD
Orlando, FL 32810-6101
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CLIENT
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BOARD OF COUNTY COMMISSIONERS

PROJECT
LENA ROAD LANDFILL
2015 OPERATION PERMIT RENEWAL
SEQUENCE DRAWINGS

TASK
STAGE II
GAS WELL LOCATIONS

ORIGINAL JAN. 2015
REVISIONS:
1.
2.
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10.
11.
12.

Name: JOHN A. BANKS, JR.
Florida P.E. No. 39397
Address: ATKINS
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Orlando, FL 32810-6101
Signature: _____ Date: _____

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DRAWN: RGC
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CHECKED: JAB
DATE: JAB
SHEET / #