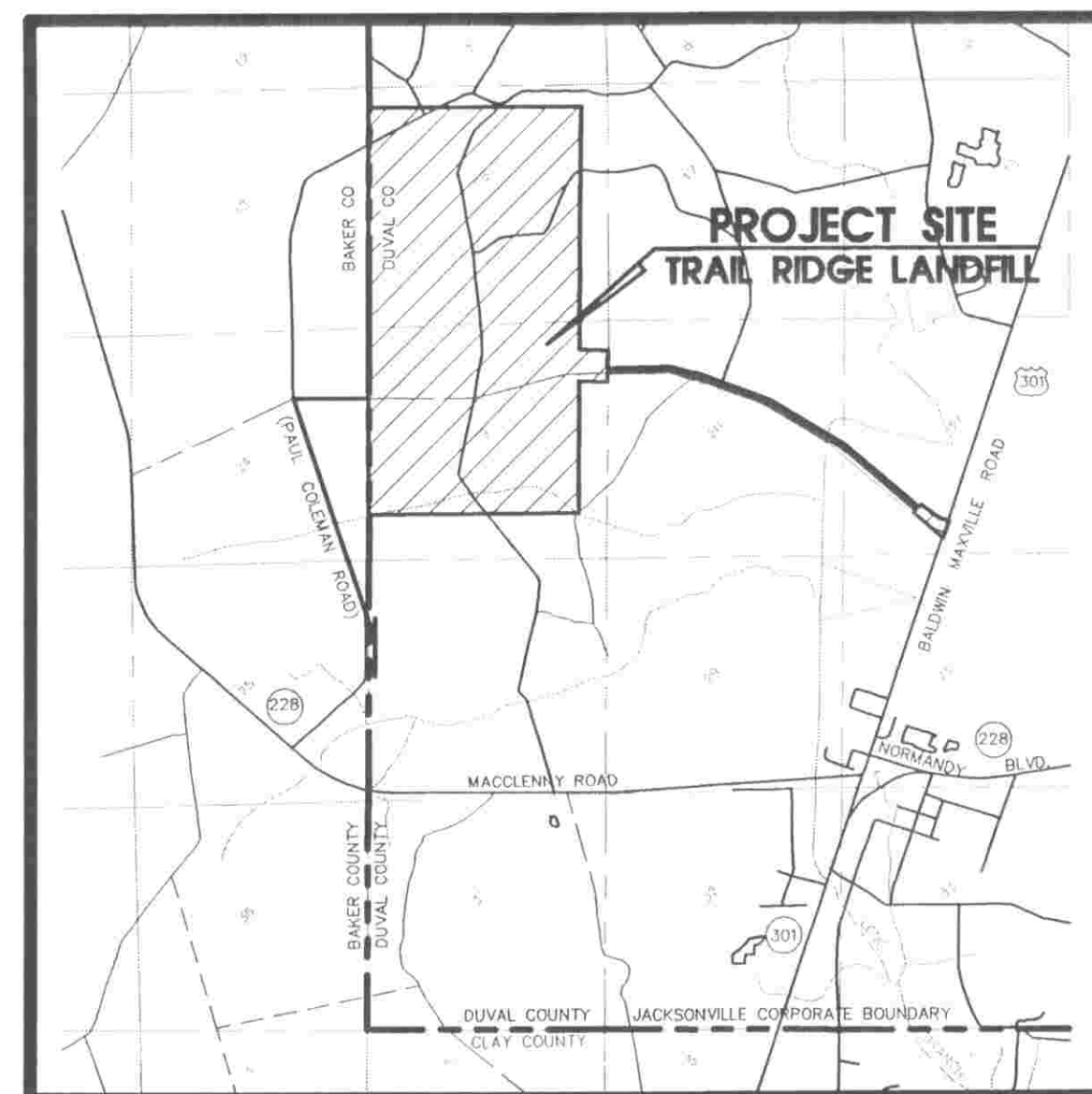
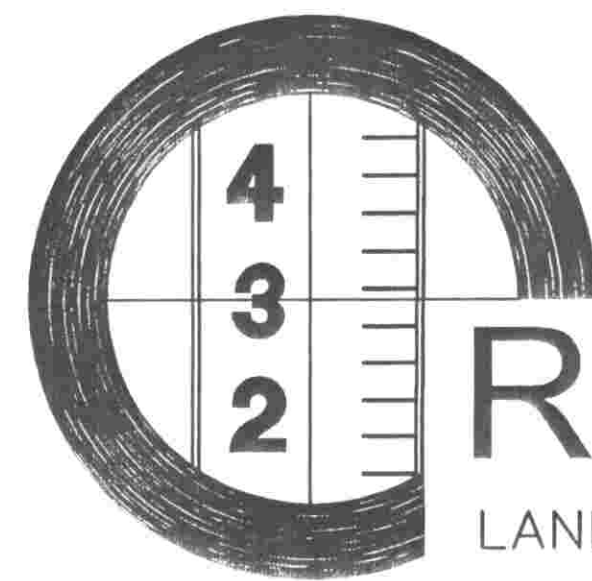


SPECIFIC PURPOSE “AS - BUILT” SURVEY OF TRAIL RIDGE LANDFILL INCREMENTAL CLOSURE FOR TRAIL RIDGE LANDFILL, INC. AND CITY OF JACKSONVILLE, FLORIDA



VICINITY MAP



Robert M. Angas Associates, Inc.

LAND SURVEYORS, PLANNERS AND CIVIL ENGINEERS
 SINCE 1924

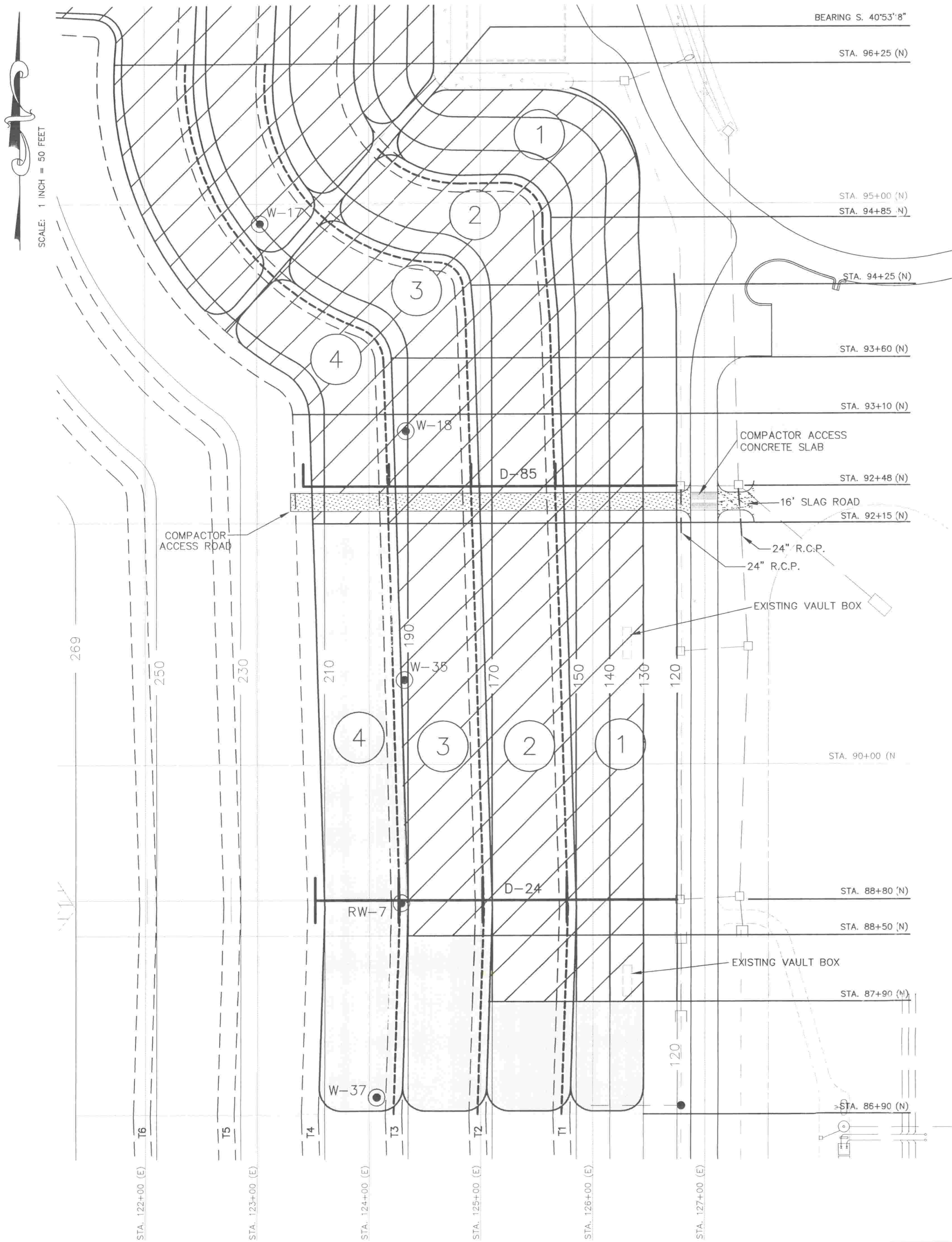
14775 St. Augustine Road, Jacksonville, FL. 32258
 Telephone: (904) 642-8550 Fax: (904) 642-4165
 Certificate of Authorization No.: LB 3624
 (FORMERLY SUNSHINE STATE SURVEYORS)

UPDATED: JULY, 2002
 UPDATED: DECEMBER, 1997
 UPDATED: AUGUST, 1994
 DATE: SEPTEMBER, 1993

INDEX OF DRAWINGS

SHEET NO.	DESCRIPTION
SHEET NUMBER 1	COVER SHEET
SHEET NUMBER 2	KEY MAP
INCREMENTAL CLOSURES	
CL-1	SIDE SLOPE UNITS 5 - 8
CL-2	SIDE SLOPE UNITS 5 - 11
CL-3	SIDE SLOPE UNITS 1 - 4 (PARTIAL)
CL-3A	SIDE SLOPE UNITS 1 - 4 (COMPLETE)
CL-4	SIDE SLOPE UNITS 12 - 17
CL-5	SIDE SLOPE UNITS 18 - 20
CL-6	SIDE SLOPE UNITS 21-23

RECEIVED
 JUL 26 2002



EASTERN SLOPE

LOCATION STATION	INITIAL COVER			FINAL COVER		
	DESIGN	AS-BUILT	DATE	DESIGN	AS-BUILT	DATE
STA. 86+90 N						
ANCHOR BERM						
STA. 126+18.50E	136.03	135.97	3-01-02	139.19	139.19	6-5-02
TERRACE 1						
STA. 125+80.37E	148.74	148.68	3-01-02	151.90	151.90	6-5-02
STA. 125+72.87E	146.24	146.24	3-01-02	149.40	149.40	6-5-02
TERRACE 2						
STA. 125+05.37E	168.74	168.72	3-01-02	171.90	171.86 *	6-6-02
STA. 124+97.87E	166.24	166.21	3-18-02	169.40	169.50	6-6-02
TERRACE 3						
STA. 124+30.37E	188.74	188.64	3-18-02	191.90	192.00	6-6-02
STA. 124+22.87E	186.24	186.23	3-18-02	189.40	189.50	6-6-02
TERRACE 4						
STA. 123+55.37E	208.74	208.71	3-18-02	211.90	211.45 *	6-11-02
STA. 123+47.87E	206.24	205.57 **	4-26-02	209.40	208.95 *	6-11-02
STA. 87+80 N						
ANCHOR BERM						
STA. 126+18.50E	135.77	135.76	3-01-02	138.93	138.96	6-5-02
TERRACE 1						
STA. 125+82.09E	147.84	147.82	3-01-02	151.00	151.00	6-5-02
STA. 125+74.59E	145.34	145.34	3-01-02	148.50	148.53	6-5-02
TERRACE 2						
STA. 125+07.09E	167.84	167.84	3-01-02	171.00	171.10	6-6-02
STA. 124+99.59E	165.34	165.33	3-18-02	168.50	168.60	6-6-02
STA. 88+30 N						
TERRACE 3						
STA. 124+33.58E	187.34	187.24	3-18-02	190.50	190.54	6-6-02
STA. 124+26.08E	184.84	184.83	3-18-02	188.00	188.05	6-6-02
TERRACE 4						
STA. 123+58.58E	207.34	207.32	3-18-02	210.50	210.15 *	6-11-02
STA. 123+51.08E	204.84	203.80	6-11-02	208.00	207.80 *	6-11-02
STA. 88+65 N						
TERRACE 4						
STA. 123+59.61E	206.99	206.37 **	4-26-02	210.15	209.53 *	6-11-02
STA. 123+52.11E	204.49	204.49	4-26-02	207.65	207.05 *	6-11-02
STA. 88+95 N						
TERRACE 4						
STA. 123+59.61E	206.99	203.64 **	5-01-02	210.15	209.45 *	6-11-02
STA. 123+52.11E	204.49	203.64 **	5-01-02	207.65	206.90 *	6-11-02
STA. 91+85 N						
TERRACE 4						
STA. 123+51.09E	209.83	209.83	4-26-02	212.99	212.55 *	6-11-02
STA. 123+43.59E	207.33	207.32	4-26-02	210.49	210.15 *	6-11-02

NOTES:

- * TOP SOIL THICKNESS WAS CHECKED BY ETM OR LAW ENGINEERING AND MET OR EXCEEDED 24 INCH THICKNESS.
- ** ADDITIONAL CLAY WAS ADDED TO AMEND INITIAL COVER. CLAY THICKNESS WAS CHECKED BY LAW ENGINEERING AND MET OR EXCEEDED 12 INCH THICKNESS.

DATE OF LAST FIELD WORK: JUNE 25, 2002

GAS WELLS			
GAS WELL NUMBER	WELL COORDINATES		SURFACE ELEVATION
	NORTH	EAST	
RW-7	88+77.05	124+29.13	188.40
W-37	87+02.80	124+06.66	194.81

LEGEND			
—25.0—	FINAL CONTOUR:	-----	TERRACE
	DOWNCOMER PIPE (HDPE)	-----	TERRACE UNDERDRAIN
D-24	DOWNCOMER PIPE NUMBER	①	SIDE SLOPE UNIT
□	EXISTING DRAINAGE STRUCTURE	T1	TERRACE NUMBER
▭	EXISTING PAVED DITCH	▭	LIMITS OF SIDE SLOPE CLOSURE (THIS PROJECT)
—	DITCH	▨	CLOSED SIDE SLOPE UNIT (NOT IN THIS PROJECT)
● W-25	GAS WELL	STA.	STATION
R.C.P.	REINFORCED CONCRETE PIPE		

SEE SHEET NO. 2 FOR GENERAL NOTES

SHEET NO. CL-3A

SPECIFIC PURPOSE "AS-BUILT"

INCREMENTAL CLOSURE CLOSURE UNITS 1 - 4

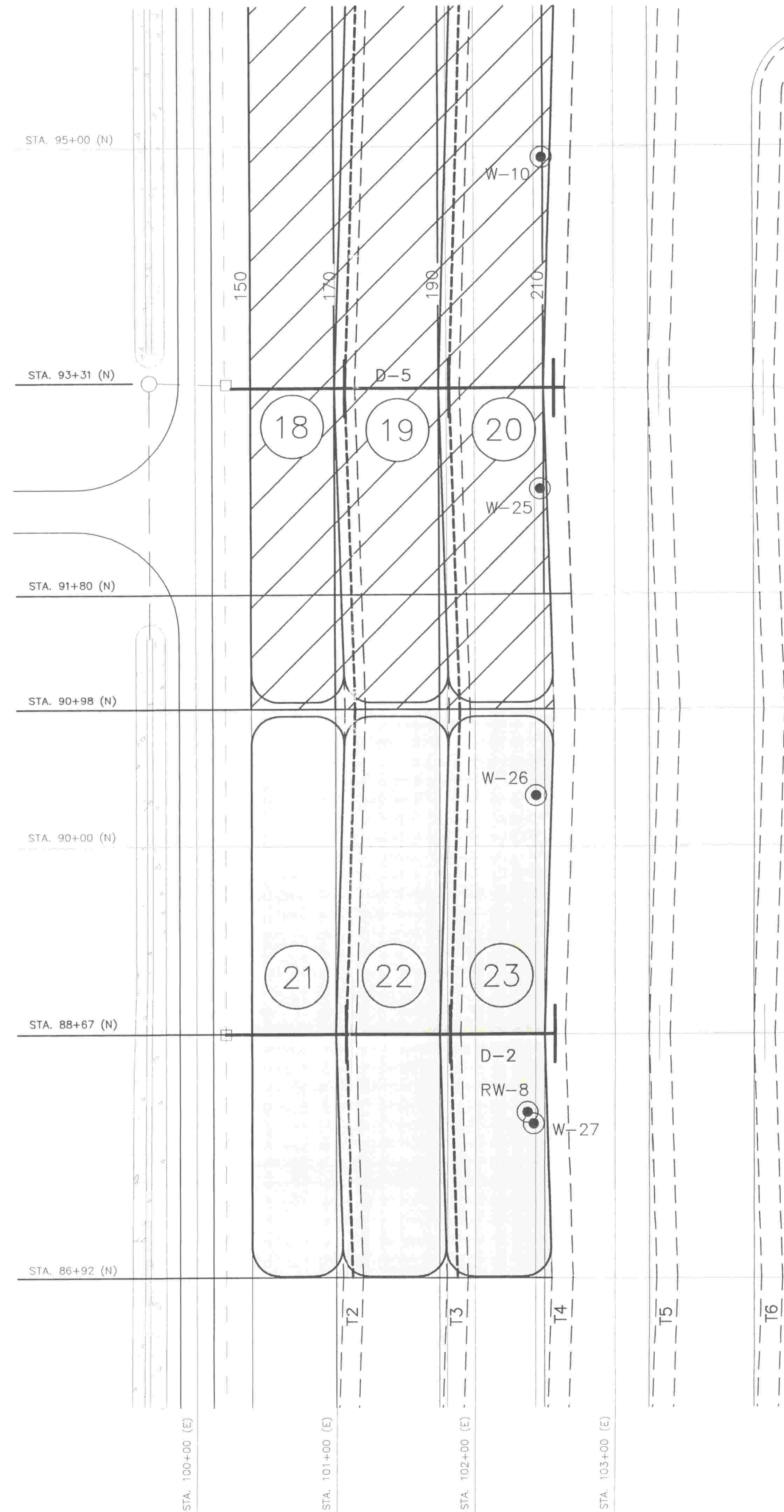
TRAIL RIDGE LANDFILL FOR TRAIL RIDGE LANDFILL, INC. AND CITY OF JACKSONVILLE, FLORIDA

(FORMERLY SUNSHINE STATE SURVEYORS)

Robert M. Angas Associates, Inc.
 LAND SURVEYORS, PLANNERS AND CIVIL ENGINEERS SINCE 1924
 14775 St. Augustine Road, Jacksonville, FL 32258
 Telephone: (904) 642-8550 Fax: (904) 642-4165
 Certificate of Authorization No.: LB 3624

NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENCED SURVEYOR AND MAPPER.

JOSEPH LESLIE REYNOLDS, III
 PROFESSIONAL SURVEYOR AND MAPPER
 STATE OF FLORIDA, LS No. 5517



WESTERN SLOPE

LOCATION STATION	INITIAL COVER			FINAL COVER		
	DESIGN	AS-BUILT	DATE	DESIGN	AS-BUILT	DATE
STA. 86+92 N						
ANCHOR BERM						
STA. 100+80.16E	160.32	160.31	2-15-02	163.48	163.58	5-28-02
TERRACE 2						
STA. 101+05.12E	168.64	168.57	2-15-02	171.80	171.80	5-28-02
STA. 101+12.62E	166.14	166.13	2-15-02	169.30	169.40	5-28-02
TERRACE 3						
STA. 101+80.12E	188.64	188.62	2-15-02	191.80	191.70 *	5-28-02
STA. 101+87.62E	186.14	186.12	2-15-02	189.30	189.30	5-28-02
TERRACE 4						
STA. 102+55.12E	208.64	208.54	2-21-02	211.80	211.80	5-28-02
STA. 102+62.62E	206.14	206.04	2-21-02	209.30	209.20 *	5-28-02
DOWNCOMER - SOUTHERN INLET @ STA. 88+52 N						
ANCHOR BERM						
STA. 100+80.22E	160.34	160.24	2-15-02	163.50	163.50	5-28-02
TERRACE 2						
STA. 101+00.18E	166.99	166.97	2-15-02	170.15	170.15	5-28-02
STA. 101+07.68E	164.49	164.49	2-15-02	167.65	167.70	5-28-02
TERRACE 3						
STA. 101+75.18E	186.99	186.99	2-15-02	190.15	190.15	5-28-02
STA. 101+82.68E	184.49	184.49	2-15-02	187.65	187.47 *	5-28-02
TERRACE 4						
STA. 102+50.18E	206.99	206.96	2-21-02	210.15	210.25	5-28-02
STA. 102+57.68E	204.49	204.39	2-21-02	207.65	206.73 *	5-28-02
DOWNCOMER - NORTHERN INLET @ STA. 88+82 N						
ANCHOR BERM						
STA. 100+80.22E	160.34	160.32	2-15-02	163.50	163.50	5-28-02
TERRACE 2						
STA. 101+00.17E	166.99	166.89	2-15-02	170.15	170.15	5-28-02
STA. 101+07.67E	164.49	164.49	2-15-02	167.65	167.43 *	5-28-02
TERRACE 3						
STA. 101+75.17E	186.99	186.89	2-15-02	190.15	189.95 *	5-28-02
STA. 101+82.67E	184.49	184.49	2-15-02	187.65	187.36 *	5-28-02
TERRACE 4						
STA. 102+50.17E	206.99	206.90	2-21-02	210.15	210.15	5-28-02
STA. 102+57.67E	204.49	204.49	2-21-02	207.65	206.76 *	5-28-02
STA. 90+88 N						
ANCHOR BERM						
STA. 100+79.84E	160.31	160.21	2-21-02	163.47	163.47	6-5-02
TERRACE 2						
STA. 101+06.32E	169.04	168.94	2-21-02	172.20	172.20	6-5-02
STA. 101+13.82E	166.54	166.54	2-21-02	169.70	169.77	6-5-02
TERRACE 3						
STA. 101+81.32E	189.04	189.03	2-21-02	192.20	192.20	6-5-02
STA. 101+88.82E	186.54	186.54	2-21-02	189.70	189.70	6-5-02
TERRACE 4						
STA. 102+56.32E	209.04	208.94	2-21-02	212.20	212.20	6-5-02
STA. 102+63.82E	206.54	206.50	2-21-02	209.70	209.70	6-5-02

NOTES:

- * TOP SOIL THICKNESS WAS CHECKED BY ETM OR LAW ENGINEERING AND MET OR EXCEEDED 24 INCH THICKNESS.

DATE OF LAST FIELD WORK: JUNE 25, 2002

GAS WELLS			
GAS WELL NUMBER	WELL COORDINATES		SURFACE ELEVATION
	NORTH	EAST	
W-26	90+36.17	102+43.35	208.66
W-27	88+02.99	102+41.64	207.82
RW-8	88+11.31	102+37.26	205.91

LEGEND			
—25.0—	FINAL CONTOURS	-----	TERRACE
—D-24	DOWNCOMER PIPE (HDPE)	-----	TERRACE UNDERDRAIN
—D-24	DOWNCOMER PIPE NUMBER	①	SIDE SLOPE UNIT
—□—	EXISTING DRAINAGE STRUCTURE	T1	TERRACE NUMBER
—	EXISTING PAVED DITCH	▭	LIMITS OF SIDE SLOPE CLOSURE (THIS PROJECT)
—	DITCH	▨	CLOSED SIDE SLOPE UNIT (NOT IN THIS PROJECT)
● W-25	GAS WELL	STA.	STATION
—R.C.P.	REINFORCED CONCRETE PIPE		

SEE SHEET NO. 2 FOR GENERAL NOTES

SHEET NO. CL-6

SPECIFIC PURPOSE "AS-BUILT"

**INCREMENTAL CLOSURE
CLOSURE UNITS 21 - 23**
TRAIL RIDGE LANDFILL
FOR TRAIL RIDGE LANDFILL, INC.
AND CITY OF JACKSONVILLE, FLORIDA

FORMERLY SUNSHINE STATE SURVEYORS

Robert M. Angas Associates, Inc.
LAND SURVEYORS, PLANNERS AND CIVIL ENGINEERS
SINCE 1924

14775 St. Augustine Road, Jacksonville, FL 32258
Telephone: (904) 642-8550 Fax: (904) 642-4165
Certificate of Authorization No. LB 3024



REVISIONS:

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JOSEPH LESLIE REYNOLDS, III
PROFESSIONAL SURVEYOR AND MAPPER
STATE OF FLORIDA, LS No. 5517

STA. 103+00 (E)

STA. 102+00 (E)

STA. 101+00 (E)

STA. 100+00 (E)

STA. 92+00 (N)

STA. 91+00 (N)

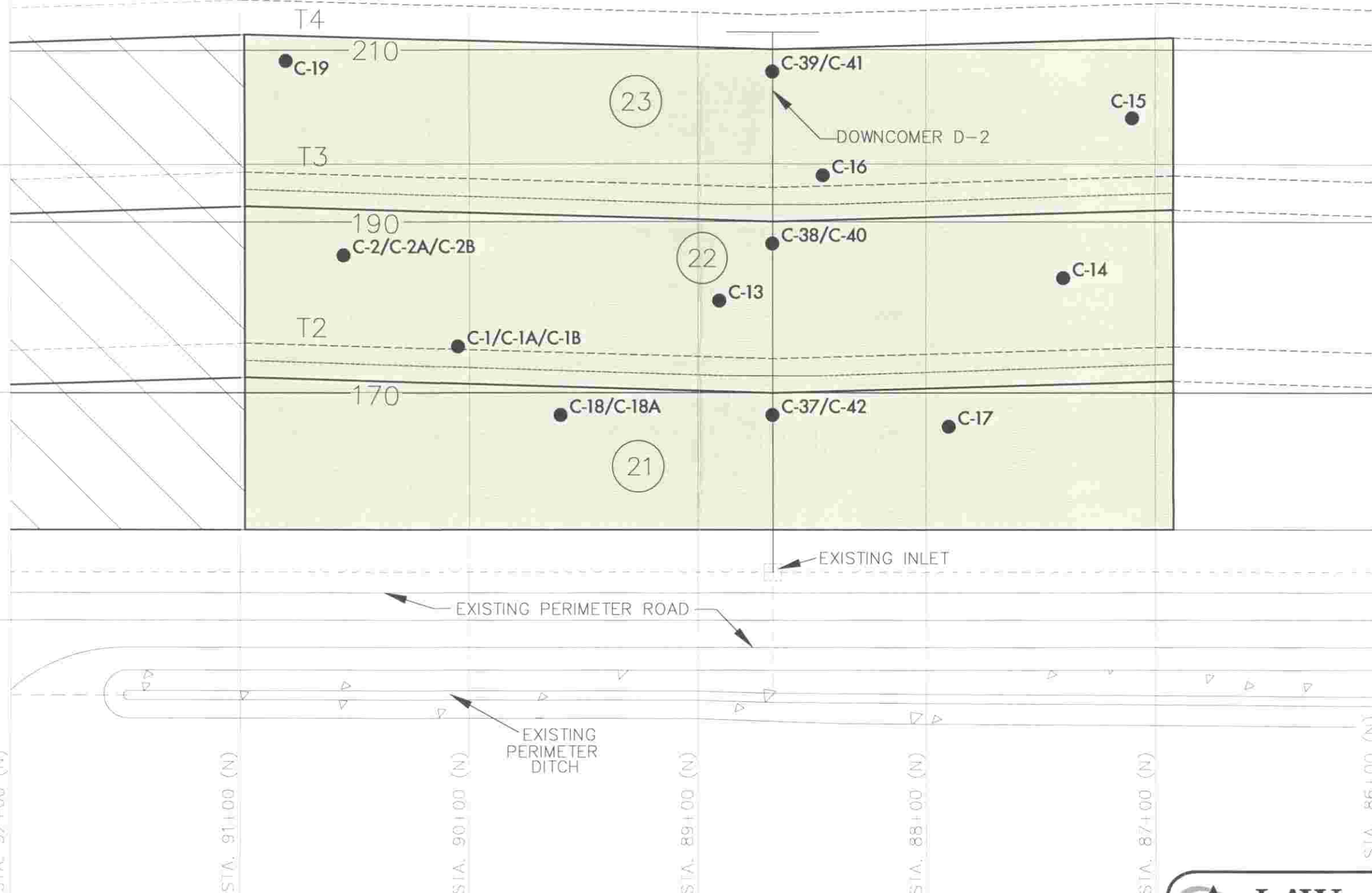
STA. 90+00 (N)

STA. 89+00 (N)

STA. 88+00 (N)

STA. 87+00 (N)

STA. 86+00 (N)



LEGEND

- C-1** ● FIELD DENSITY TEST LOCATION
- EXISTING CLOSURE AREA
- CURRENT CLOSURE AREA

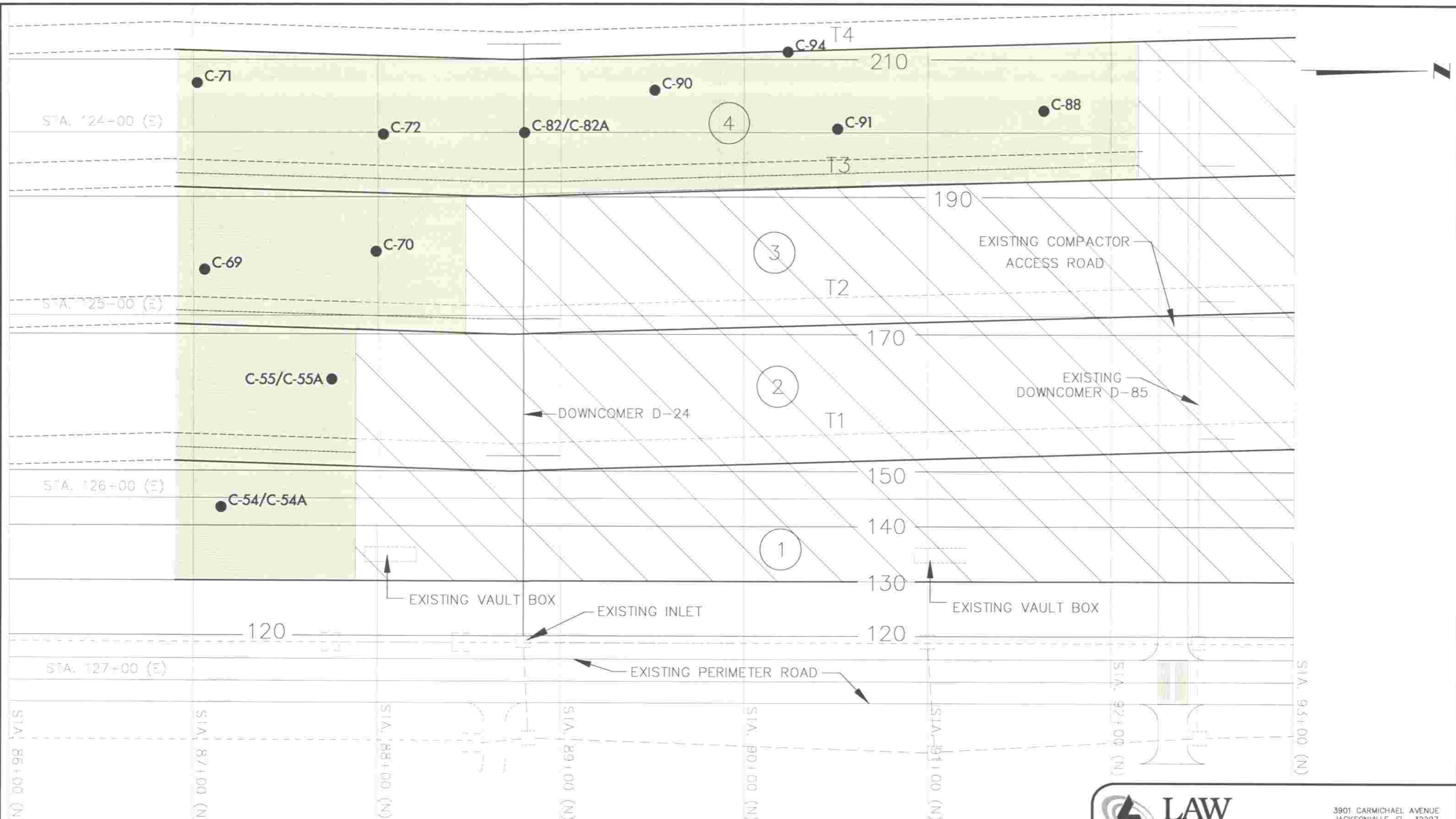
- SIDE SLOPE CLOSURE UNIT
- T2** TERRACE NUMBER
- TERRACE UNDERDRAIN
- CENTERLINE OF PERIMETER SWALE

LAW
 RESOURCES CREATING SOLUTIONS

3901 CARMICHAEL AVENUE
 JACKSONVILLE, FL 32207
 (904) 396-5173

SUBGRADE - UNITS 21-23
 Field Density Test Locations
 Trail Ridge Landfill Incremental Closure
 Jacksonville, Florida

DRAWN: JP	DATE: 6/6/02	SCALE: 1"=50'
CHECKED: JT	PROJ. NO. 40562-1-4214	APPROX.



LEGEND

- C-1 ● FIELD DENSITY TEST LOCATION
- EXISTING CLOSURE AREA
- CURRENT CLOSURE AREA

- SIDE SLOPE CLOSURE UNIT
- TERRACE NUMBER
- TERRACE UNDERDRAIN
- CENTERLINE OF PERIMETER SWALE

LAW
RESOURCES CREATING SOLUTIONS

3901 CARMICHAEL AVENUE
JACKSONVILLE, FL 32207
(904) 396-5173

SUBGRADE - UNITS 1-4		
Field Density Test Locations		
Trail Ridge Landfill Incremental Closure		
Jacksonville, Florida		
DRAWN: JP	DATE: 6/6/02	SCALE: 1"=50'
CHECKED: JT	PROJ. NO. 40562-1-4214	APPROX.

STA. 103+00 (E)

STA. 102+00 (E)

STA. 101+00 (E)

STA. 100+00 (E)

STA. 92+00 (N)

STA. 91+00 (N)

STA. 90+00 (N)

STA. 89+00 (N)

STA. 88+00 (N)

STA. 87+00 (N)

STA. 86+00 (N)



LEGEND

- C-57(P-19) FIELD DENSITY TEST LOCATION (NUMBER IN PARENTHESIS REPRESENTS PERMEABILITY TEST)
- EXISTING CLOSURE AREA
- CURRENT CLOSURE AREA

- 21 SIDE SLOPE CLOSURE UNIT
- T2 TERRACE NUMBER
- TERRACE UNDERDRAIN
- CENTERLINE OF PERIMETER SWALE

LAW
RESOURCES CREATING SOLUTIONS

3901 CARMICHAEL AVENUE
JACKSONVILLE, FL 32207
(904) 396-5173

CLAY LAYER - UNITS 21-23
Field Density Test Locations (1st Lift)
Trail Ridge Landfill Incremental Closure
Jacksonville, Florida

DRAWN: JP	DATE: 6/6/02	SCALE: 1"=50'
CHECKED: JT	PROJ. NO. 40562-1-4214	APPROX.

STA. 103+00 (E)



STA. 102+00 (E)

STA. 101+00 (E)

STA. 100+00 (E)

STA. 92+00 (N)

STA. 91+00 (N)

STA. 90+00 (N)

STA. 89+00 (N)

STA. 88+00 (N)

STA. 87+00 (N)

STA. 86+00 (N)

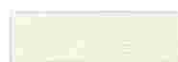
LEGEND

C-57(P-19)

FIELD DENSITY TEST LOCATION
(NUMBER IN PARENTHESIS REPRESENTS PERMEABILITY TEST)



EXISTING CLOSURE AREA



CURRENT CLOSURE AREA

21

SIDE SLOPE CLOSURE UNIT

T2

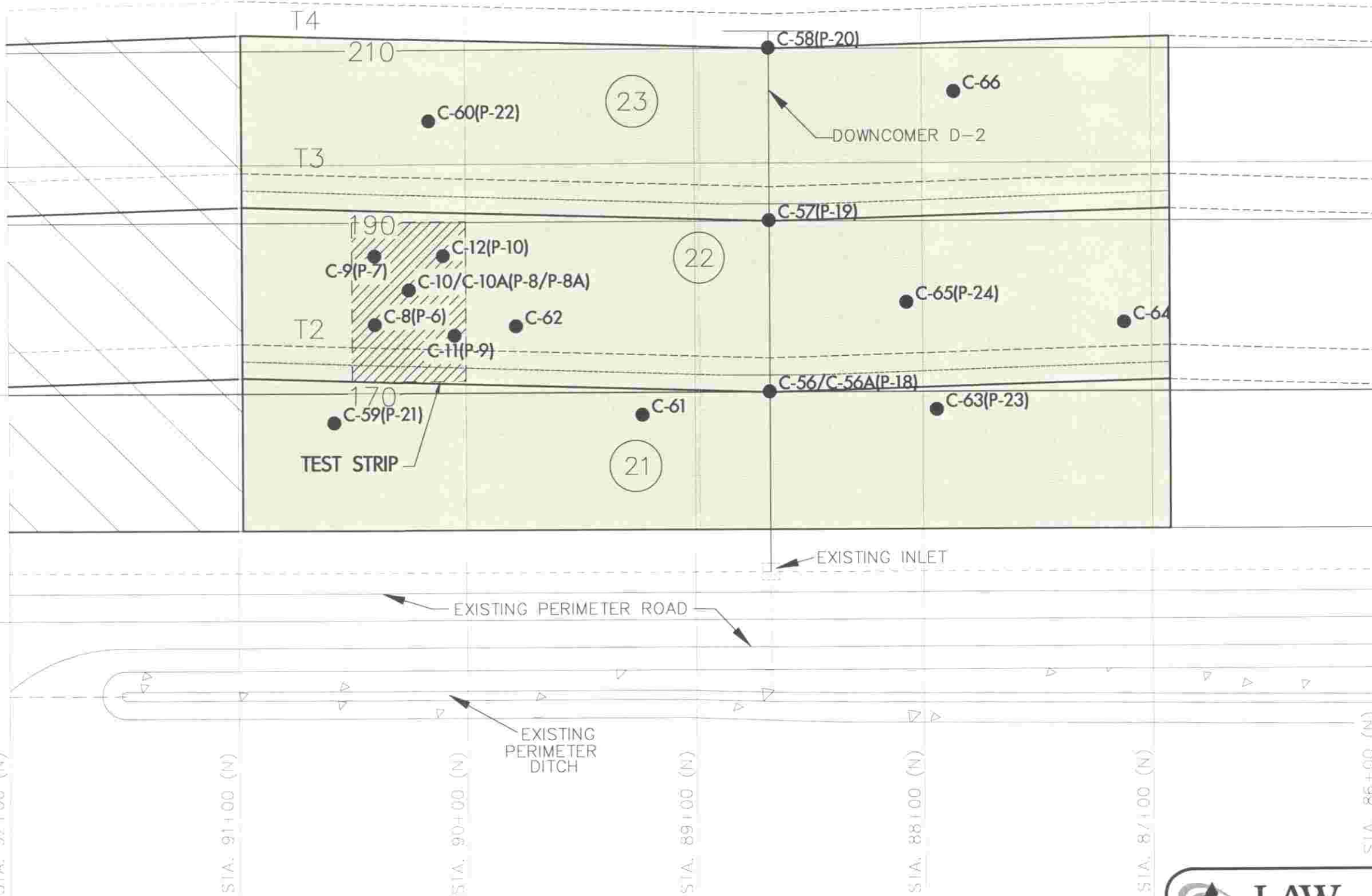
TERRACE NUMBER



TERRACE UNDERDRAIN



CENTERLINE OF PERIMETER SWALE



LAW

RESOURCES CREATING SOLUTIONS

3901 CARMICHAEL AVENUE
JACKSONVILLE, FL 32207
(904) 396-5173

CLAY LAYER - UNITS 21-23
Field Density Test Locations (2nd lift)
Trail Ridge Landfill Incremental Closure
Jacksonville, Florida

DRAWN: JP

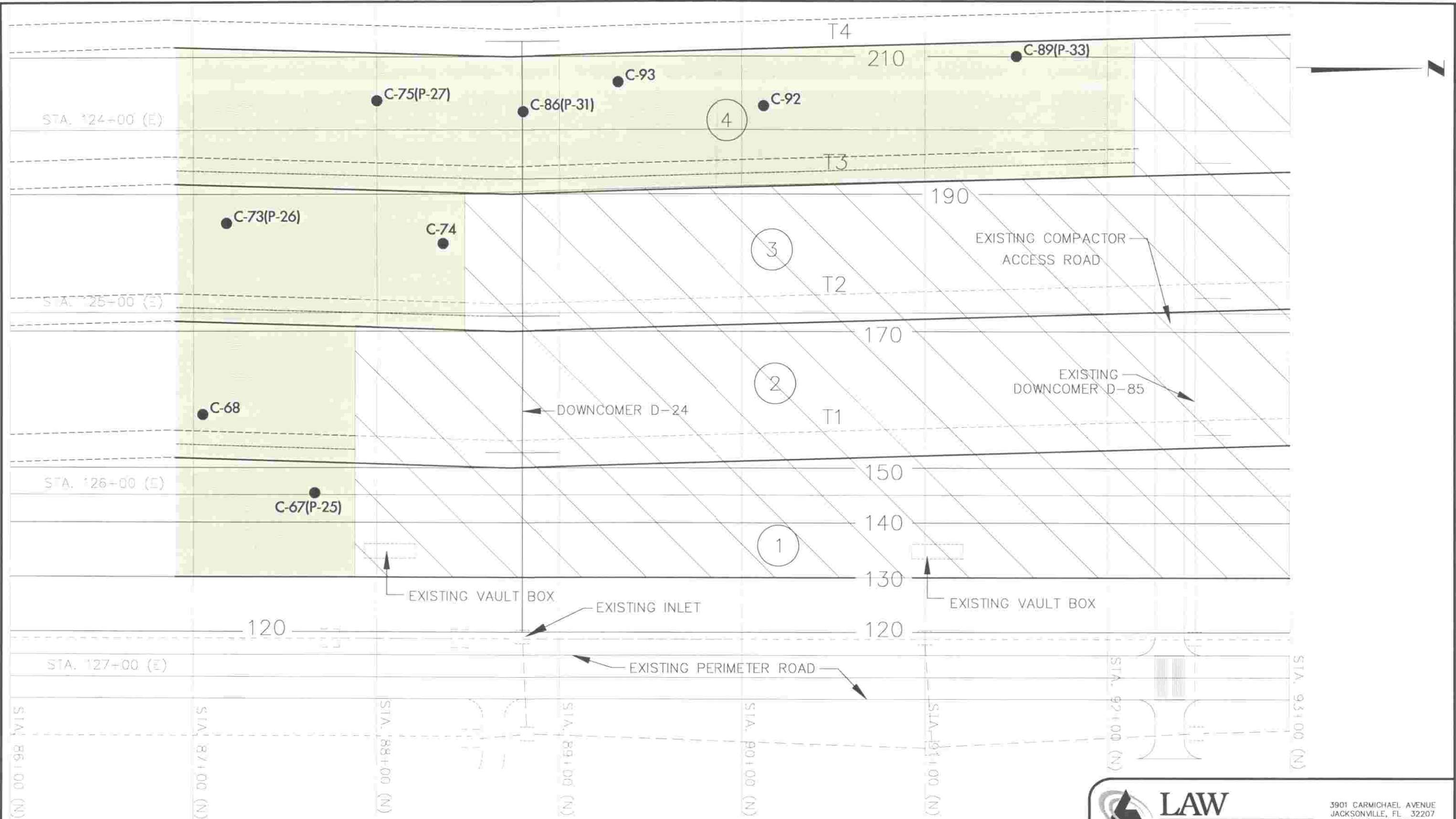
DATE: 6/6/02

SCALE: 1"=50'

CHECKED: JT

PROJ. NO. 40562-1-4214

APPROX.

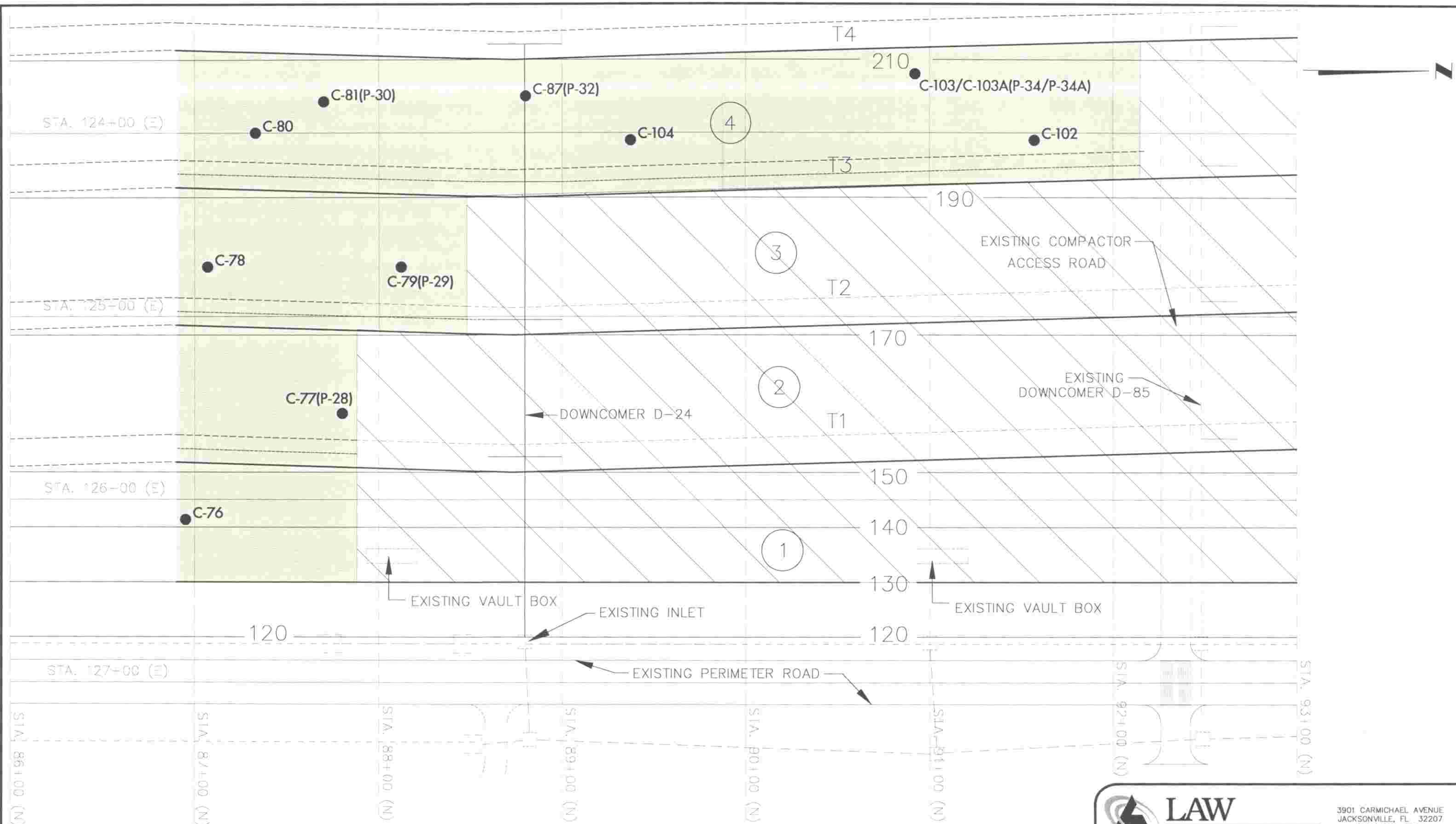


- LEGEND**
- C-57(P-19) FIELD DENSITY TEST LOCATION (NUMBER IN PARENTHESIS REPRESENTS PERMEABILITY TEST)
 - EXISTING CLOSURE AREA
 - CURRENT CLOSURE AREA
 - 4 SIDE SLOPE CLOSURE UNIT
 - T2 TERRACE NUMBER
 - TERRACE UNDERDRAIN
 - CENTERLINE OF PERIMETER SWALE

LAW
 RESOURCES CREATING SOLUTIONS
 3901 CARMICHAEL AVENUE
 JACKSONVILLE, FL 32207
 (904) 396-5173


CLAY LAYER - UNITS 1-4
 Field Density Test Locations (1st Lift)
 Trail Ridge Landfill Incremental Closure
 Jacksonville, Florida


DRAWN: JP	DATE: 6/6/02	SCALE: 1"=50'
CHECKED: JT	PROJ. NO. 40562-1-4214	APPROX.





LEGEND


● C-57(P-19) FIELD DENSITY TEST LOCATION (NUMBER IN PARENTHESIS REPRESENTS PERMEABILITY TEST)


 EXISTING CLOSURE AREA

 CURRENT CLOSURE AREA

 SIDE SLOPE CLOSURE UNIT

 TERRACE NUMBER

 TERRACE UNDERDRAIN

 CENTERLINE OF PERIMETER SWALE

LAW
RESOURCES CREATING SOLUTIONS

3901 CARMICHAEL AVENUE
JACKSONVILLE, FL 32207
(904) 396-5173

CLAY LAYER - UNITS 1-4
Field Density Test Locations (2nd lift)
Trail Ridge Landfill Incremental Closure
Jacksonville, Florida

DRAWN: JP	DATE: 6/6/02	SCALE: 1"=50'
CHECKED: JT	PROJ. NO. 40562-1-4214	APPROX.

STA. 103+00 (E)

STA. 102+00 (E)

STA. 101+00 (E)

STA. 100+00 (E)

STA. 92+00 (N)

STA. 91+00 (N)

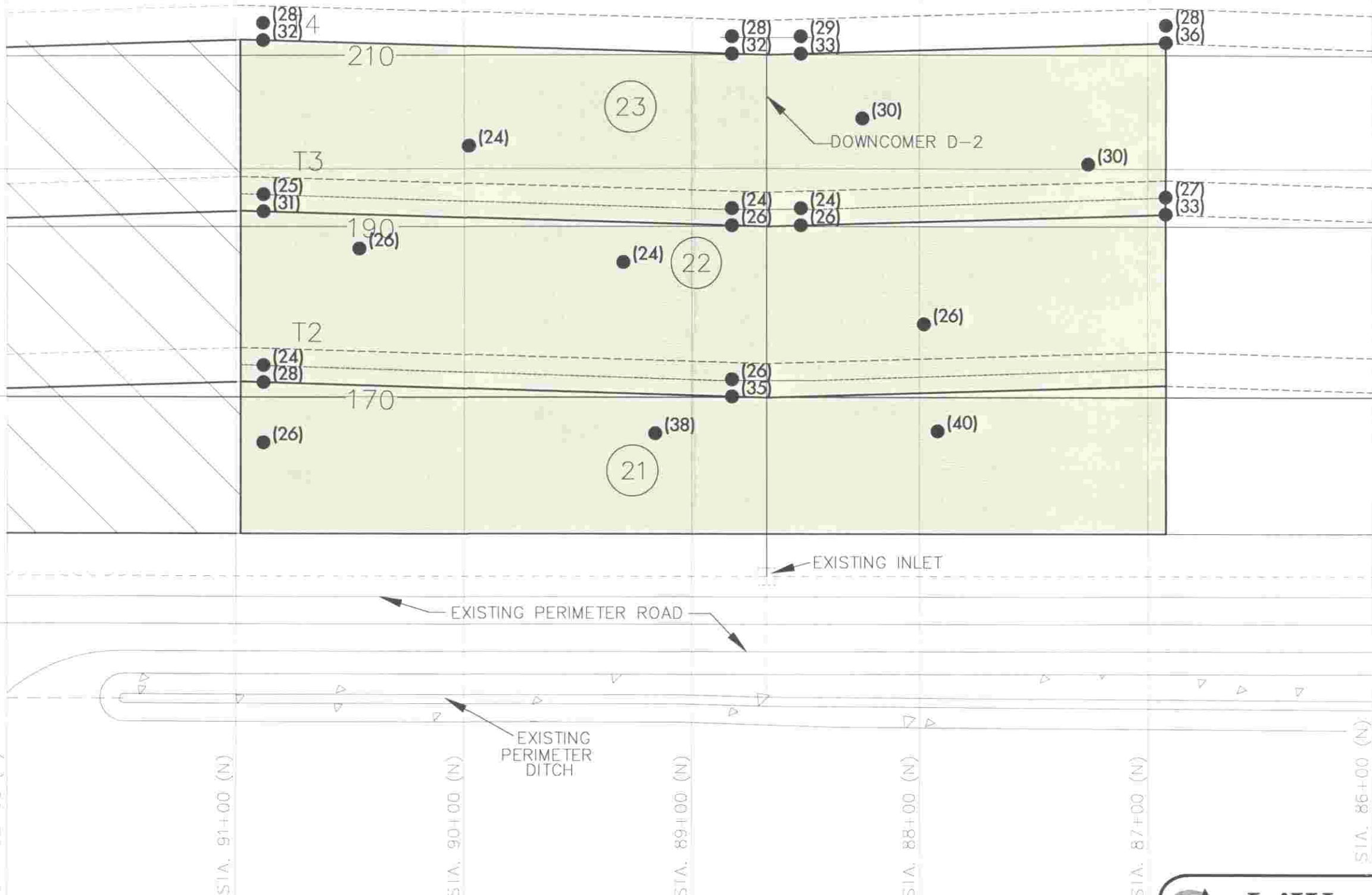
STA. 90+00 (N)

STA. 89+00 (N)




STA. 88+00 (N)





STA. 87+00 (N)

STA. 86+00 (N)



LEGEND

-  EXISTING CLOSURE AREA
-  CURRENT CLOSURE AREA
-  TOPSOIL LAYER TEST LOCATION
(NUMBER REPRESENTS THICKNESS IN INCHES)

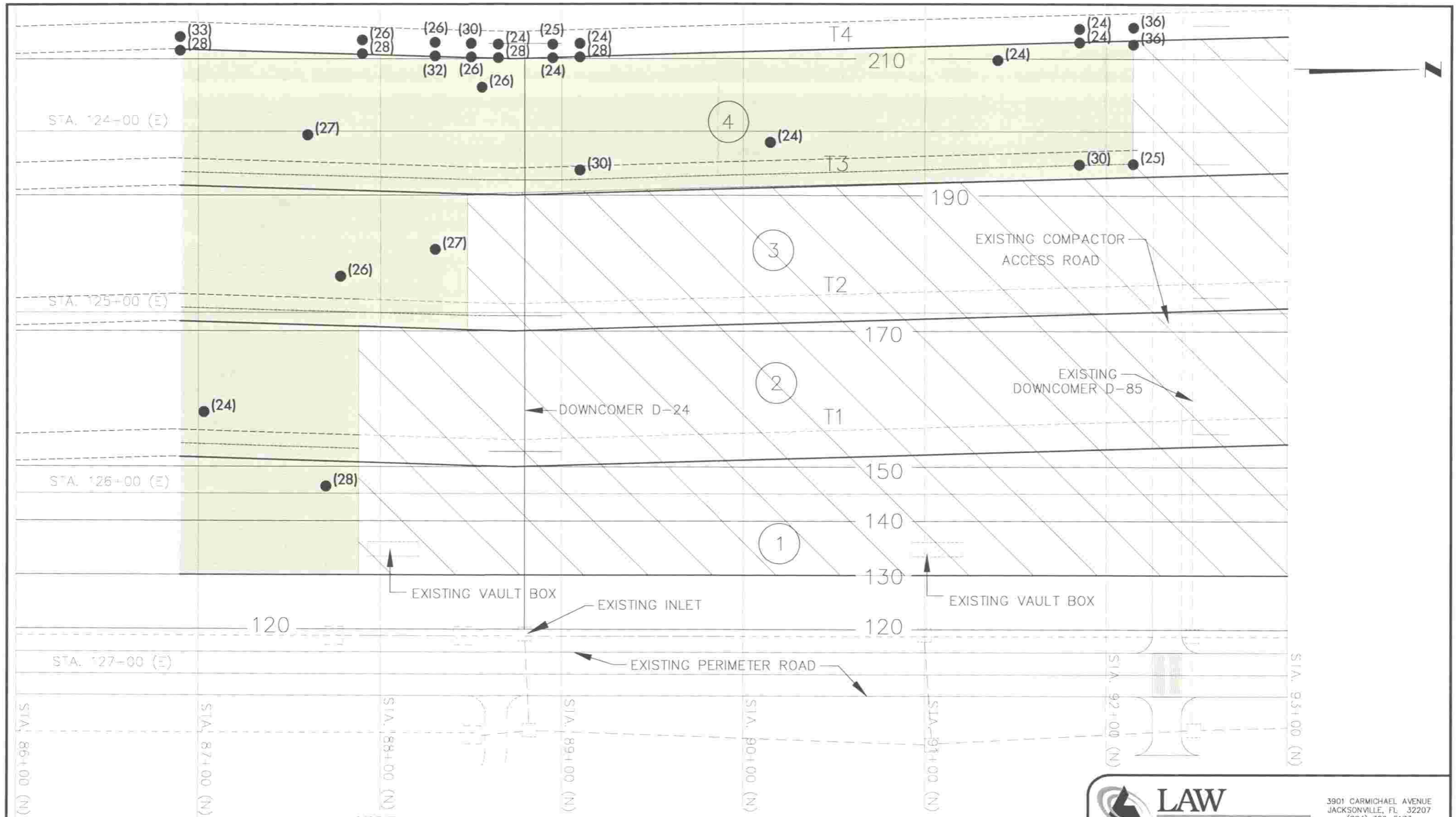
-  SIDE SLOPE CLOSURE UNIT
-  TERRACE NUMBER
-  TERRACE UNDERDRAIN
-  CENTERLINE OF PERIMETER SWALE

 **LAW**
RESOURCES CREATING SOLUTIONS

3901 CARMICHAEL AVENUE
JACKSONVILLE, FL 32207
(904) 396-5173

TOPSOIL LAYER - UNITS 21-23
Top Soil Test Locations
Trail Ridge Landfill Incremental Closure
Jacksonville, Florida

DRAWN: JP	DATE: 6/6/02	SCALE: 1"=50'
CHECKED: JT	PROJ. NO. 40562-1-4214	APPROX.



LEGEND

- (38) TOPSOIL LAYER TEST LOCATION (NUMBER REPRESENTS THICKNESS IN INCHES)
- EXISTING CLOSURE AREA
- CURRENT CLOSURE AREA
- 4 SIDE SLOPE CLOSURE UNIT
- T2 TERRACE NUMBER
- TERRACE UNDERDRAIN
- CENTERLINE OF PERIMETER SWALE

LAW
RESOURCES CREATING SOLUTIONS

3901 CARMICHAEL AVENUE
JACKSONVILLE, FL 32207
(904) 396-5173

TOPSOIL LAYER - UNITS 1-4
Top Soil Test Locations
Trail Ridge Landfill Incremental Closure
Jacksonville, Florida

DRAWN: JP	DATE: 6/6/02	SCALE: 1"=50'	APPROX.
CHECKED: JT	PROJ. NO. 40562-1-4214		