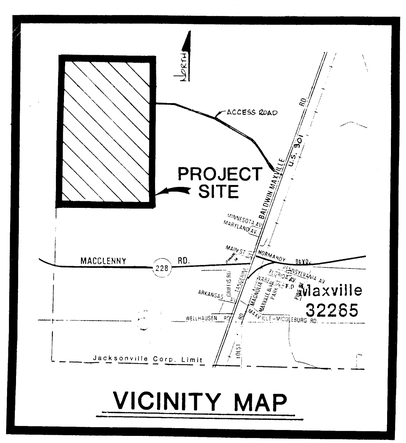
IVACS# 33528

TRAIL RIDGE LANDFILL

FOR

TRAIL RIDGE LANDFILL, INC.

PLAN "A"



VICINITY MAP

SCALE 1"= 4000'

England-Thims & Miller, Inc.

Consulting & Design Engineers

JACKSONVILLE, FLORIDA

PROJECT NO.: E89-113-9

DATE: JULY 27, 1990

SECTION OR DETAIL SYMBOL

SECTION OR DETAIL NUMBER
SHEET ON WHICH SECTION OR DETAIL IS DRAWN
SHEET ON WHICH SECTION OR DETAIL IS TAKEN

INDEX OF DRAWINGS

DRAWING NO.	DESCRIPTION
1	COVER SHEET
2	AERIAL PHOTOGRAPH
3	AERIAL PHOTOGRAPH
4	BOUNDARY SURVEY
5	TOPOGRAPHIC/WETLAND SURVEY
6	SOIL MAP
7	GEOMETRY PLAN
8	PROPOSED GRADES PLAN
9	BOTTOM LINER PHASING PLAN
10	SECTION
11	SECTION
12	SECTION
13	SECTION
14	EXTRACTION
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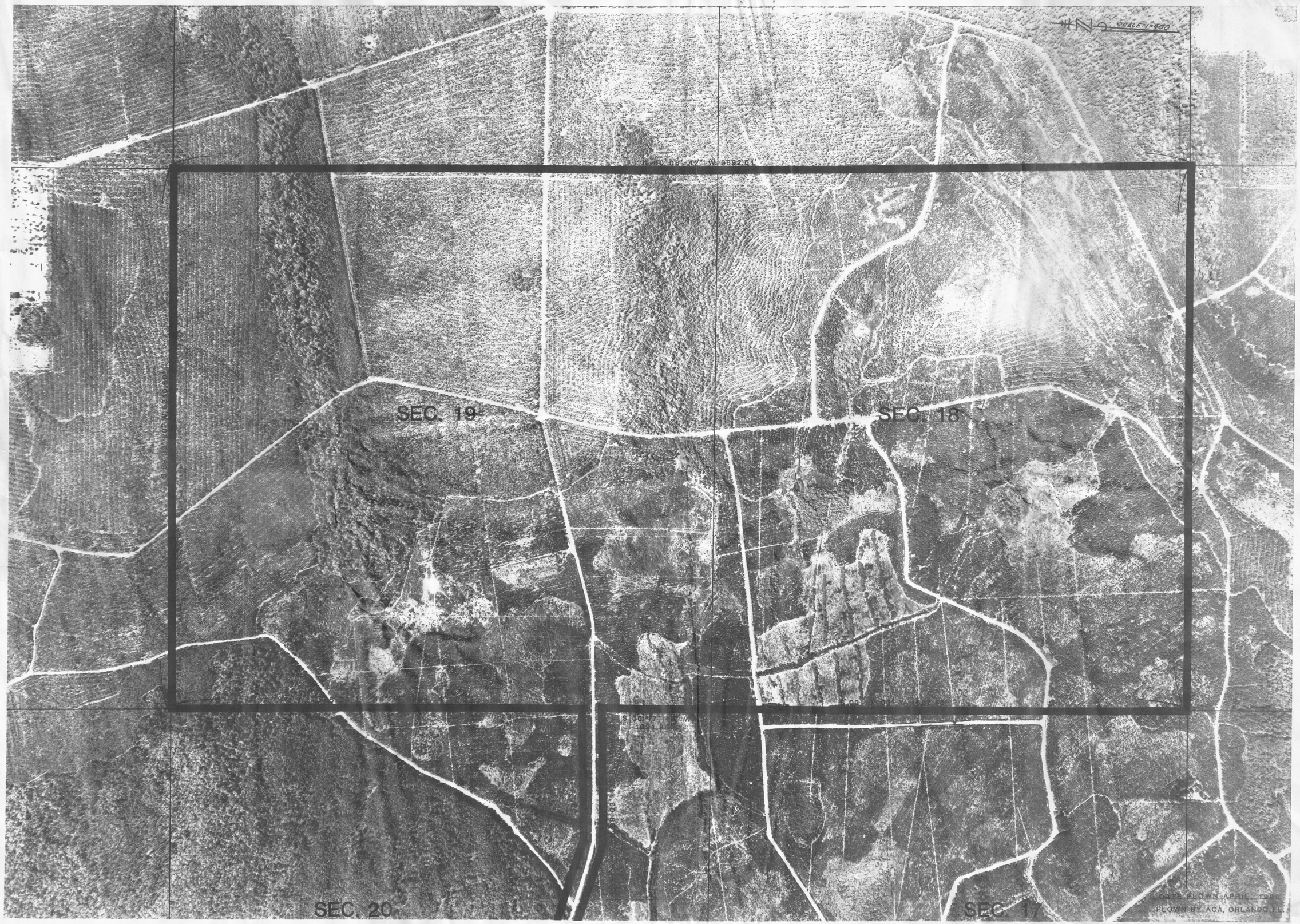
41	

1" = 1000'

2	England · Thims & Miller, Inc. Consulting & Design Engineers JACKSONVILLE, FLORIDA	AERIAL PHOTOGRAPH TRAIL RIDGE LANDFILL (PLAN A)	ENG. PROJ. NO.: E89-113-9 DRAWN BY: E.A.H CHECKED BY: J.A.T DATE: JUNE 18, 1990	REVISIONS

RELEASED FOR CONSTRUCTION

BY



DOUGLAS G. [signature] 7-27-90

REVISIONS

ENG. PROJ. NO. 89-113-9
DRAWN BY: RWH
CHECKED BY: JAT
DATE: JUNE 18, 1990

AERIAL PHOTOGRAPH

TRAIL RIDGE LANDFILL
(PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO.
3

PROJ. NO. 89-113-9

MAP SHOWING BOUNDARY SURVEY OF :

A PORTION OF SECTIONS 18, 20 AND 21, TOGETHER WITH SECTION 19, ALL LYING IN TOWNSHIP 3 SOUTH, RANGE 23 EAST, JACKSONVILLE, DUVAL COUNTY, FLORIDA

BEING MORE PARTICULARLY DESCRIBED BELOW:

PARCEL A

SECTION 18, EXCEPT THE NORTH 600 FEET THEREOF, TOGETHER WITH SECTION 19, ALL LYING IN TOWNSHIP 3 SOUTH, RANGE 23 EAST, JACKSONVILLE, DUVAL COUNTY, FLORIDA, CONTAINING 1190.506 ACRES, MORE OR LESS.

PARCEL B

A PORTION OF SECTION 20, TOWNSHIP 3 SOUTH, RANGE 23 EAST, JACKSONVILLE, DUVAL COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE NORTHWEST CORNER OF SAID SECTION 20, AND RUN THENCE SOUTH 00°17'46" WEST, ALONG THE WEST LINE OF SAID SECTION 20, 1091.96 FEET TO THE POINT OF BEGINNING.

FROM THE ABOVE DESCRIBED POINT OF BEGINNING, RUN THENCE NORTH 89°03'11" EAST, DEPARTING SAID WEST LINE OF SECTION 20, A DISTANCE OF 1396.84 FEET; RUN THENCE SOUTH 74°29'55" EAST , A DISTANCE OF 624.12 FEET; RUN THENCE SOUTH 70°15'45" EAST, A DISTANCE OF 1692.00 FEET; RUN THENCE SOUTH 59°25'01" EAST, A DISTANCE OF 1913.07 FEET TO A POINT LYING ON THE EAST LINE OF SAID SECTION 20; RUN THENCE SOUTH 00°19'33" WEST, ALONG SAID EAST LINE, A DISTANCE OF 127.49 FEET; RUN THENCE NORTH 49°19'49" WEST, DEPARTING SAID EAST LINE OF SAID SECTION 20, A DISTANCE OF 57.82 FEET; RUN THENCE NORTH 59°25'01" WEST, A DISTANCE OF 1910.90 FEET; RUN THENCE NORTH 70°15'45" WEST, A DISTANCE OF 1678.81 FEET; RUN THENCE NORTH 74°29'55" WEST, A DISTANCE OF 605.97 FEET; RUN THENCE SOUTH 89°03'11" WEST, A DISTANCE OF 1384.55 FEET TO A POINT LYING ON THE WEST LINE OF SAID SECTION 20; RUN THENCE NORTH 00°17'46" EAST, A DISTANCE OF 100.02 FEET TO THE POINT OF BEGINNING.

THE ABOVE DESCRIBED PARCEL OF LAND CONTAINING 12.927 ACRES, MORE OR LESS.

PARCEL C

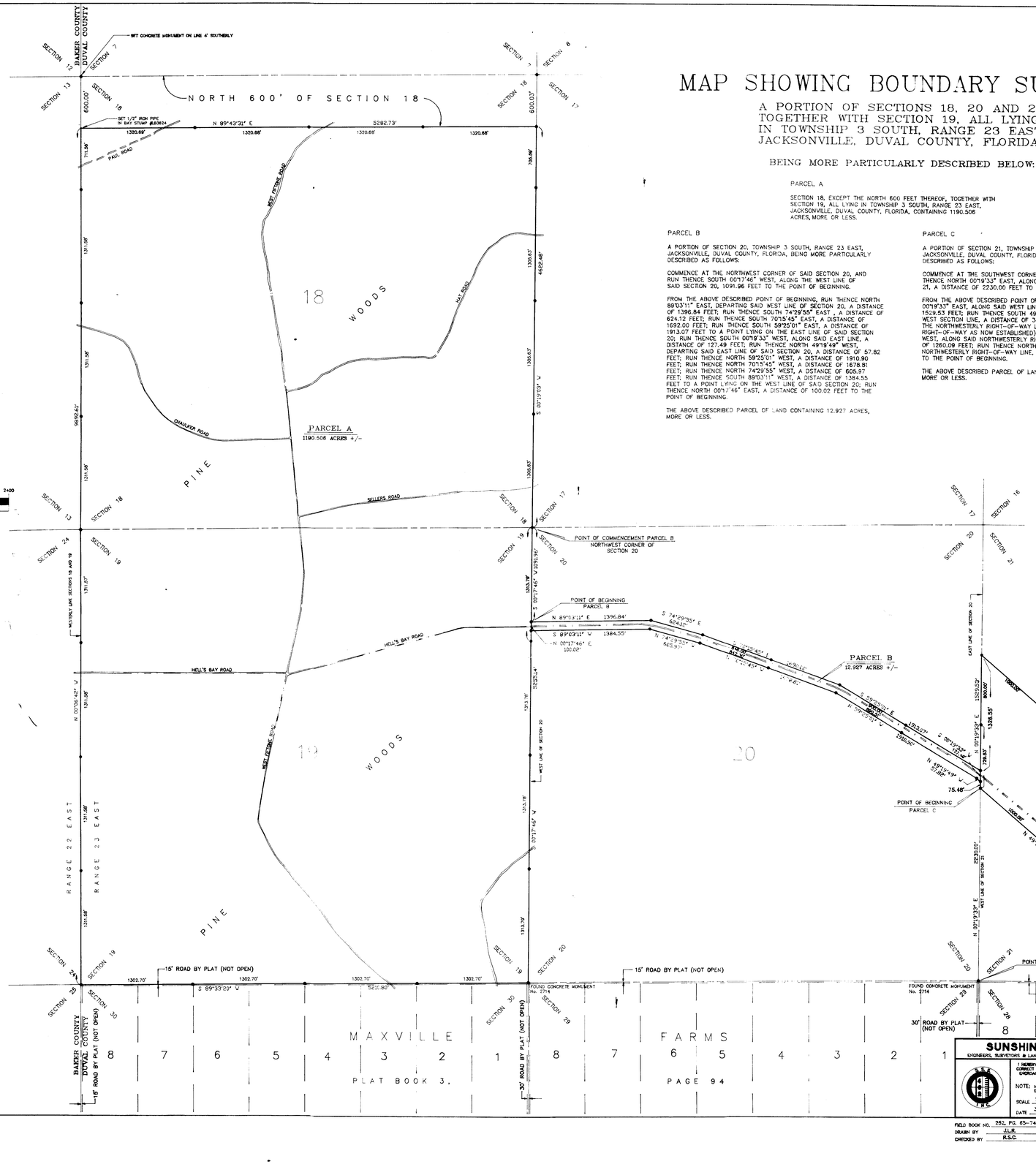
A PORTION OF SECTION 21, TOWNSHIP 3 SOUTH, RANGE 23 EAST, JACKSONVILLE, DUVAL COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHWEST CORNER OF SAID SECTION 21, AND RUN THENCE NORTH 00°19'33" EAST, ALONG THE WEST LINE OF SAID SECTION 21, A DISTANCE OF 2230.00 FEET TO THE POINT OF BEGINNING.

FROM THE ABOVE DESCRIBED POINT OF BEGINNING, CONTINUE NORTH 00°19'33" EAST, ALONG SAID WEST LINE OF SECTION 21, A DISTANCE OF 1529.53 FEET; RUN THENCE SOUTH 49°19'49" EAST, DEPARTING SAID WEST SECTION LINE, A DISTANCE OF 3432.02 FEET TO A POINT LYING ON THE NORTHWESTERLY RIGHT-OF-WAY LINE OF U.S. 301, (A 206 FOOT RIGHT-OF-WAY AS NOW ESTABLISHED); RUN THENCE SOUTH 18°21'35" WEST, ALONG SAID NORTHWESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1260.09 FEET; RUN THENCE NORTH 49°19'49" WEST, DEPARTING SAID NORTHWESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 2920 20 FEET TO THE POINT OF BEGINNING.

THE ABOVE DESCRIBED PARCEL OF LAND CONTAINING 85.000 ACRES, MORE OR LESS.

NOTES:
1.) BEARINGS BASED ON THE WESTERLY LINES OF SECTIONS 18 AND 19, T-3-S, R-23-E AS BEING N 00°06'42" W.
2.) TRAIL ROADS SHOWN HEREON = = = ARE GRAPHIC REPRESENTATIONS ONLY AND DO NOT REPRESENT A FIELD LOCATION.
3.) ⊙ DENOTES FOUND CONCRETE MONUMENT.
4.) ⊕ DENOTES SET CONCRETE MONUMENT: L.B. No. 3624.
5.) THIS SURVEY PERFORMED WITHOUT BENEFIT OF TITLE ABSTRACT.
6.) NO ATTEMPT WAS MADE TO LOCATE ANY INTERIOR FENCES OR STRUCTURES, IF ANY.



SUNSHINE STATE SURVEYORS, INC.
ENGINEERS, SURVEYORS & LAND PLANNERS 3131 ST. JOHNS BLUFF RD. SOUTH, JACKSONVILLE, FLORIDA 32216

I HEREBY CERTIFY THAT THE SURVEY REPRESENTED HEREON, IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT THERE ARE NO ENCROACHMENTS EXCEPT AS SHOWN, AND MEETS THE MINIMUM TECHNICAL STANDARDS AS SET FORTH IN CHAPTER 5J-17, F.A.C.

NOTE: NOT VALID WITHOUT RAISED EMBOSSED SEAL

SCALE 1" = 600'

DATE 3 - 22 - 90

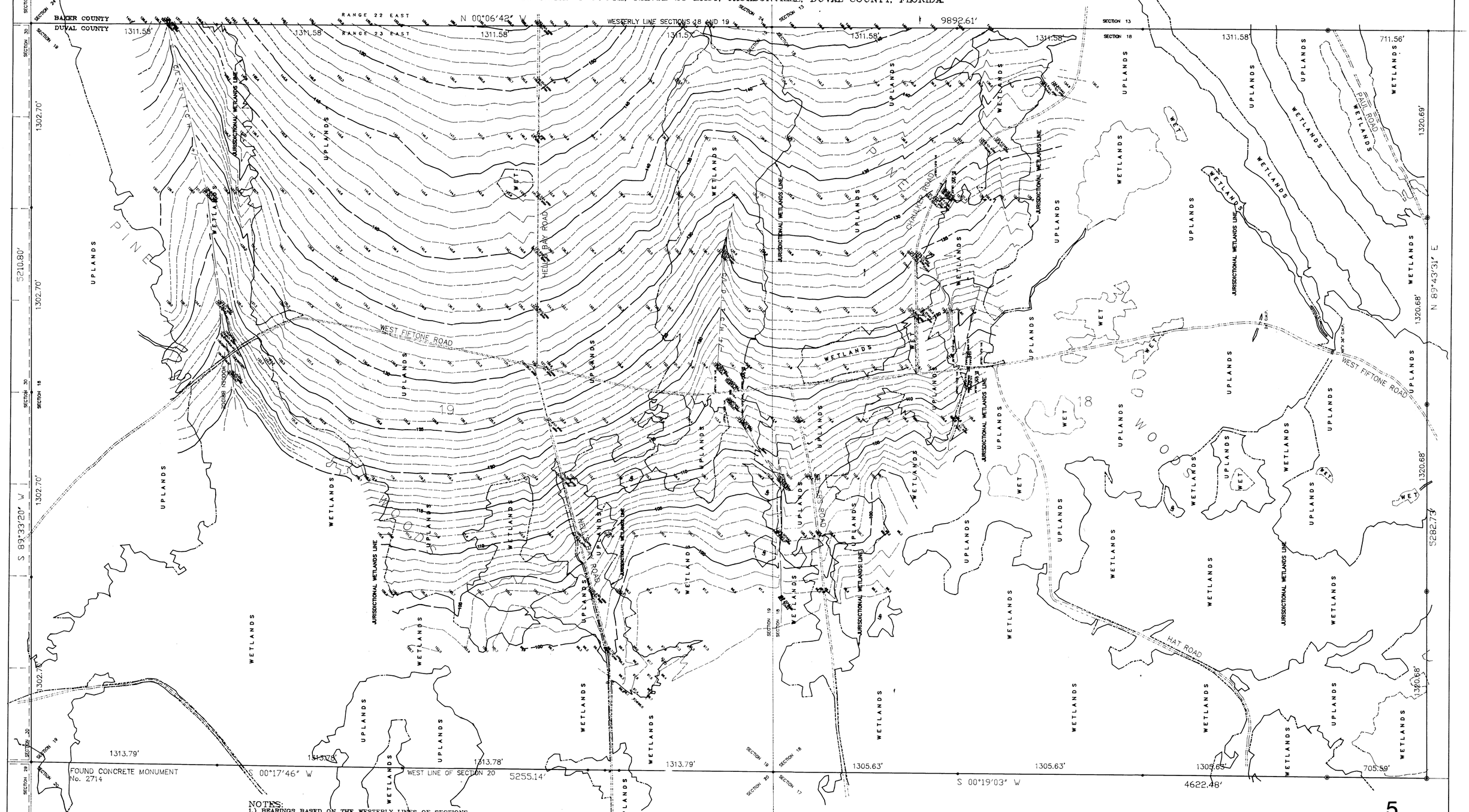
REGISTERED SURVEYOR NO. 4343, FLORIDA

LEGEND
- CONC. MON. FOUND
- CONC. MON. (SET)
- IRON CORNER (SET)
- POINTS
- CORNER (FOUND)
- CROSS CUT

FIELD BOOK NO. 252, PG. 65-74 249, PG. 61-70
DRAWN BY J.L.R.
CHECKED BY R.S.C.
ORDER NO. 589-1031
FILE NO. 900-3774

MAP SHOWING SPECIFIC PURPOSE, JURISDICTIONAL WETLANDS AND LIMITED TOPOGRAPHIC SURVEY LYING WITHIN:

SECTION 18 AND 19, LESS THE NORTH 600 FEET OF SECTION 18,
TOWNSHIP 3 SOUTH, RANGE 23 EAST, JACKSONVILLE, DUVAL COUNTY, FLORIDA.



NOTES:

1.) BEARINGS BASED ON THE WESTERLY LINES OF SECTIONS 18 AND 19, T-3-S, R-23-E AS BEING N 00°06'42" W.
2.) ELEVATIONS BASED ON U.S.C.& G. BENCHMARK AJ-59, LOCATED NEAR INTERSECTION OF U.S. HWY. No. 301 AND STATE RD. No. 228; BENCHMARK ELEVATION : 88.412'.
3.) TRAIL ROADS SHOWN HEREON ARE A GRAPHIC REPRESENTATION AND WERE NOT A CONSIDERATION IN RELATION TO THE CONTOUR LINES.
4.) 88 DENOTES SPOT ELEVATION.
5.) ● DENOTES FOUND CONCRETE MONUMENT.
6.) ● DENOTES SET CONCRETE MONUMENT; L.B. No. 3624.
7.) ——— DENOTES CONTOUR LINE (ONE FOOT INTERVALS)
8.) ——— DENOTES CONTOUR LINE (FIVE FOOT INTERVALS).
9.) ——— DENOTES APPROXIMATE LOCATION OF TRAIL ROAD
10.) C.M.P. DENOTES CORRUGATED METAL PIPE.
11.) ——— DENOTES ARMY CORPS OF ENGINEERS, ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, AND DEPT. OF ENVIRONMENTAL REGULATION JURISDICTIONAL WETLANDS LINE.
12.) ——— DENOTES ARMY CORPS OF ENGINEERS AND ST. JOHNS RIVER WATER MANAGEMENT DISTRICT JURISDICTIONAL WETLANDS LINE.
13.) THIS IS NOT A BOUNDARY SURVEY.

5

SUNSHINE STATE SURVEYORS, INC.
ENGINEERS, SURVEYORS & LAND PLANNERS 3131 ST. JOHNS BLUFF RD. SOUTH, JACKSONVILLE, FLORIDA 32216

I HEREBY CERTIFY THAT THE SURVEY REPRESENTED HEREON IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT THERE ARE NO ENCROACHMENTS EXCEPT AS SHOWN, AND MEETS THE MINIMUM TECHNICAL STANDARDS AS SET FORTH IN CHAPTER 21HH-6 F.A.C.

NOTE: NOT VALID WITHOUT RAISED EMBOSSED SEAL

SCALE 1" = 300'

DATE 3 - 22 - 90

ROBERT S. CORBAL

REGISTERED SURVEYOR, No. 4341, FLORIDA

LEGEND

- ◎ CONC. MON. FOUND
- ◉ CONC. MON. (SET)
- • IRON CORNER (SET)
- ✶ FENCE
- ○ CORNER (FOUND)
- • CROSS CUT

E 89-118-9

6

DRAWING NO.

England-Thims & Miller, Inc.

Consulting & Design Engineers

JACKSONVILLE, FLORIDA

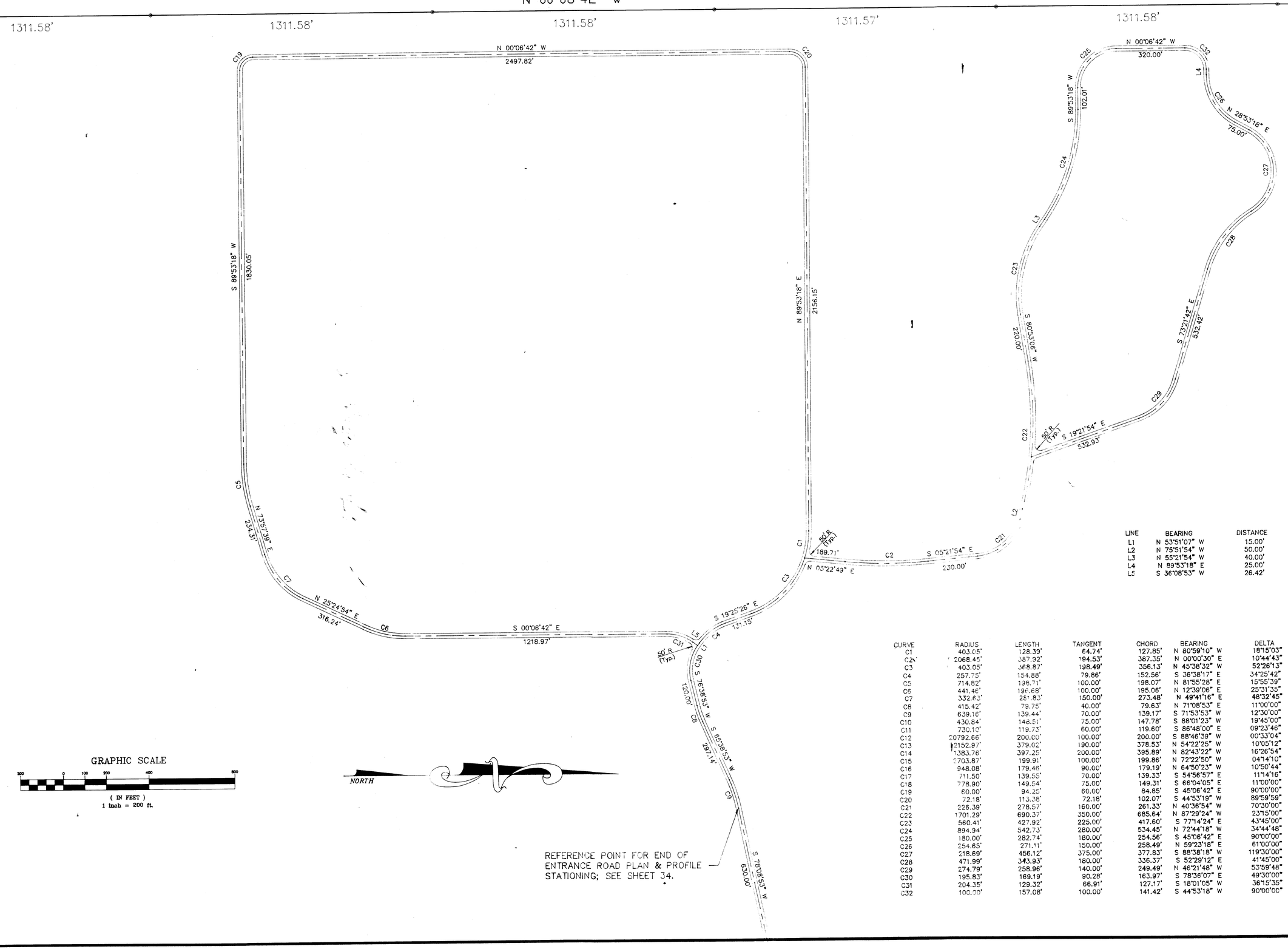
SITE PLAN

TRAIL RIDGE LANDFILL
(PLAN A)

ENG. PROJ. NO.	E 89-113-9
DRAWN BY:	TLC
CHECKED BY:	JAT
DATE:	JUNE 18, 1990

REVISIONS

RELEASED FOR CONSTRUCTION _____ BY _____



LINE	BEARING	DISTANCE
L1	N 53°51'07" W	15.00'
L2	N 75°51'54" W	50.00'
L3	N 55°21'54" W	40.00'
L4	N 89°53'18" E	25.00'
L5	S 36°08'53" W	26.42'

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	403.05'	128.39'	64.74'	127.85'	N 80°59'10" W	18°15'03"
C2	2068.45'	387.92'	194.53'	387.35'	N 00°00'30" E	10°44'43"
C3	403.05'	368.87'	198.49'	356.13'	N 45°38'32" W	52°26'13"
C4	257.75'	154.88'	79.86'	152.56'	S 36°38'17" E	34°25'42"
C5	714.82'	198.71'	100.00'	198.07'	N 81°55'28" E	15°55'39"
C6	441.46'	196.68'	100.00'	195.06'	N 12°39'06" E	25°31'35"
C7	332.63'	281.83'	150.00'	273.48'	N 49°41'16" E	48°32'45"
C8	415.42'	79.75'	40.00'	79.63'	N 71°08'53" E	11°00'00"
C9	639.16'	139.44'	70.00'	139.17'	S 71°53'53" W	12°30'00"
C10	430.84'	146.51'	75.00'	147.78'	S 88°01'23" W	19°45'00"
C11	730.16'	119.73'	60.00'	119.60'	S 86°48'00" E	09°23'46"
C12	20792.66'	200.00'	100.00'	200.00'	S 88°46'39" W	00°33'04"
C13	2152.97'	379.02'	190.00'	378.53'	N 54°22'25" W	10°05'12"
C14	1383.76'	397.25'	200.00'	395.89'	N 82°43'22" W	16°26'54"
C15	2703.87'	199.91'	100.00'	199.86'	N 72°22'50" W	04°14'10"
C16	948.08'	179.46'	90.00'	179.19'	N 64°50'23" W	10°50'44"
C17	711.50'	139.55'	70.00'	139.33'	S 54°56'57" E	11°14'16"
C18	778.90'	149.54'	75.00'	149.31'	S 66°04'05" E	11°00'00"
C19	60.00'	94.25'	60.00'	84.85'	S 45°06'42" E	90°00'00"
C20	72.18'	113.38'	72.18'	102.07'	S 44°53'19" W	89°59'59"
C21	226.39'	278.57'	160.00'	261.33'	N 40°36'54" W	70°30'00"
C22	1701.29'	690.37'	350.00'	685.64'	N 87°29'24" W	23°15'00"
C23	560.41'	427.92'	225.00'	417.60'	S 77°14'24" E	43°45'00"
C24	894.94'	542.73'	280.00'	534.45'	N 72°44'18" W	34°44'48"
C25	180.00'	282.74'	180.00'	254.56'	S 45°06'42" E	90°00'00"
C26	254.65'	271.11'	150.00'	258.49'	N 59°23'18" E	61°00'00"
C27	218.69'	456.12'	375.00'	377.83'	S 88°38'18" W	119°30'00"
C28	471.99'	343.93'	180.00'	336.37'	S 52°29'12" E	41°45'00"
C29	274.79'	258.96'	140.00'	249.49'	N 46°21'48" W	53°59'48"
C30	195.83'	169.19'	90.28'	163.97'	S 78°36'07" E	49°30'00"
C31	204.35'	129.32'	66.91'	127.17'	S 18°01'05" W	36°15'35"
C32	100.00'	157.08'	100.00'	141.42'	S 44°53'18" W	90°00'00"

REVISIONS

ENG PROJ NO: 89-13-9
DRAWN BY: KKK
CHECKED BY: JAT
DATE: APRIL, 1990

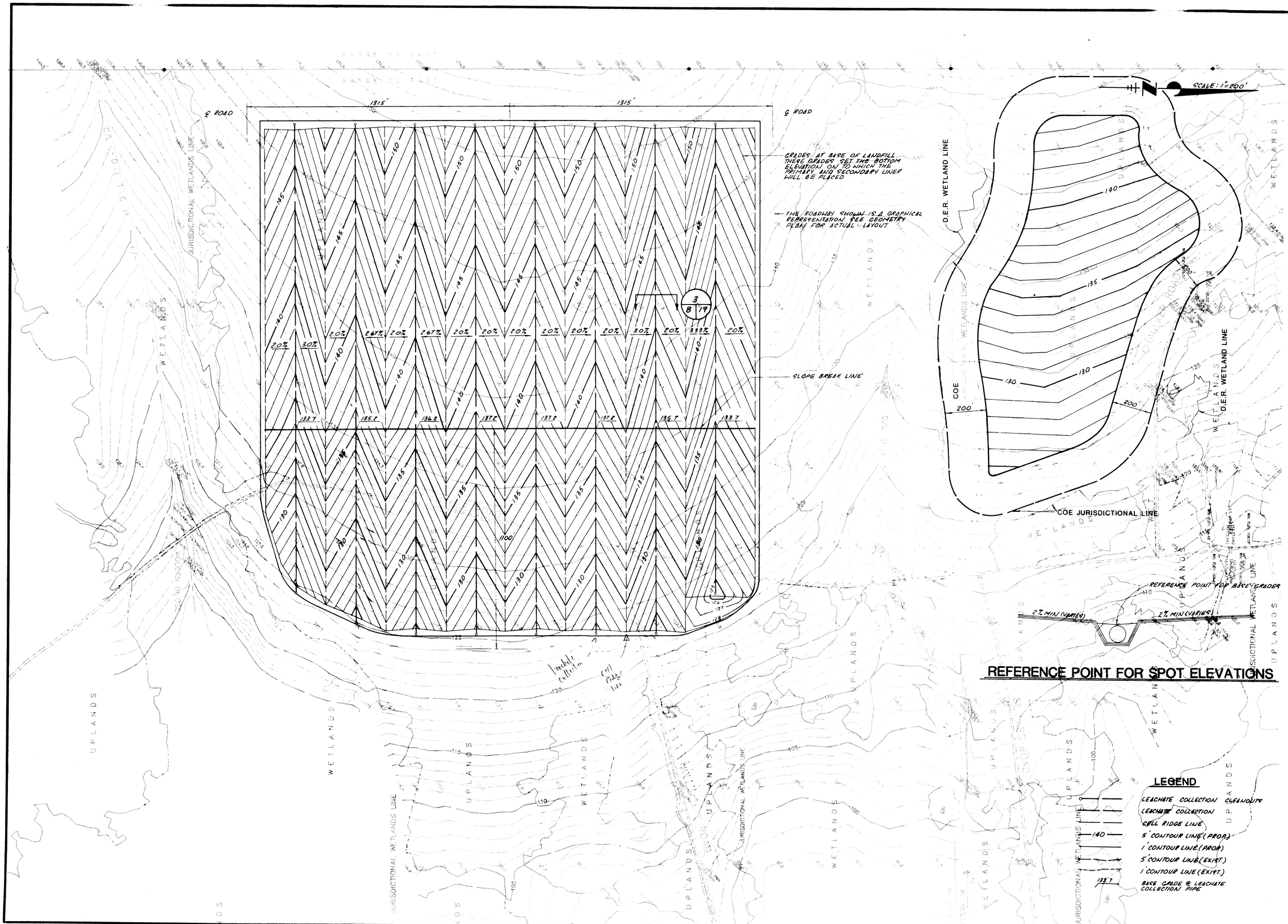
GEOMETRY PLAN

TRAIL RIDGE LANDFILL

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO.
7

PROJ NO



England-Thimy & Miller, Inc.

BASE GRADES PLAN

TRAIL RIDGE LANDFILL
(PLAN A)

E89-113-9
RWH
RGF
JUNE 18, 1990

8

NORTH
1" = 200'

PHASE IV

CLASS I

PHASE II

PHASE V

PHASE III

PHASE I

CLASS III

TOE OF SLOPE

TOP OF SLOPE

PERIMETER ROAD
SEE GEOMETRY PLAN, SHEET 7

C.O.E. JURISDICTIONAL WETLAND LINE
(ONLY LINE AROUND CLASS I IS SHOWN)

C.O.E. JURISDICTIONAL WETLAND LINE

TEMPORARY INTERCEPTOR DITCH

LIMITS OF PHASE I LANDFILL LINER

PHASE I DRAINAGE SYSTEM

8" ϕ LEACHATE COLLECTION PIPE (TYP.)

LEACHATE COLLECTION SYSTEM SUMP (TYP.)

LEACHATE STORAGE & CONTAINMENT AREA
SEE DETAIL 1 | 9 | 21

18" ϕ HDPE LEACHATE COLLECTION SIDE SLOPE RISER

SEE DETAILS, SHEET 40

STORMWATER RETENTION POND

STORMWATER RETENTION POND

B-2-S,I
B-3-S,I
B-9-S,I
B-30
B-29
B-28
B-27
B-26
B-25-S,I,D
B-24
B-23
B-14-S,I,D
B-13-S,I
B-22
B-12-S,I,D
B-21
B-11-S,I
B-20
B-7-S,I,D
B-19
B-18
B-17
B-16
B-15-S,I
B-10-S,I
B-8-S,I
SW-1
SW-2
SW-3

1 & 2 | 9 | 20

4:1

220

220

LEGEND

- PROPOSED SHALLOW MONITORING WELL
- PROPOSED SHALLOW & INTERMEDIATE MONITORING WELL
- PROPOSED SHALLOW, INTERMEDIATE, & DEEP MONITORING WELL
- EXISTING SHALLOW & INTERMEDIATE MONITORING WELL
- EXISTING SHALLOW, INTERMEDIATE, & DEEP MONITORING WELL.
- SURFACE WATER SAMPLING POINTS (APPROXIMATE LOCATION)

MONITORING WELL PHASING PLAN

CLASS I

PHASE I ... B-2, B-3, B-7, B-11, B-12, B-18, B-19, B-20, B-21, B-22

PHASE II ... B-16, B-17

PHASE III ... B-13, B-14, B-23

PHASE IV ... -0-

PHASE V ... B-24, B-25, B-26, B-27, B-28, B-29, B-30

CLASS III

PRIOR TO RECEIVING WASTE ... B-8, B-9, B-10, B-15

REVISIONS

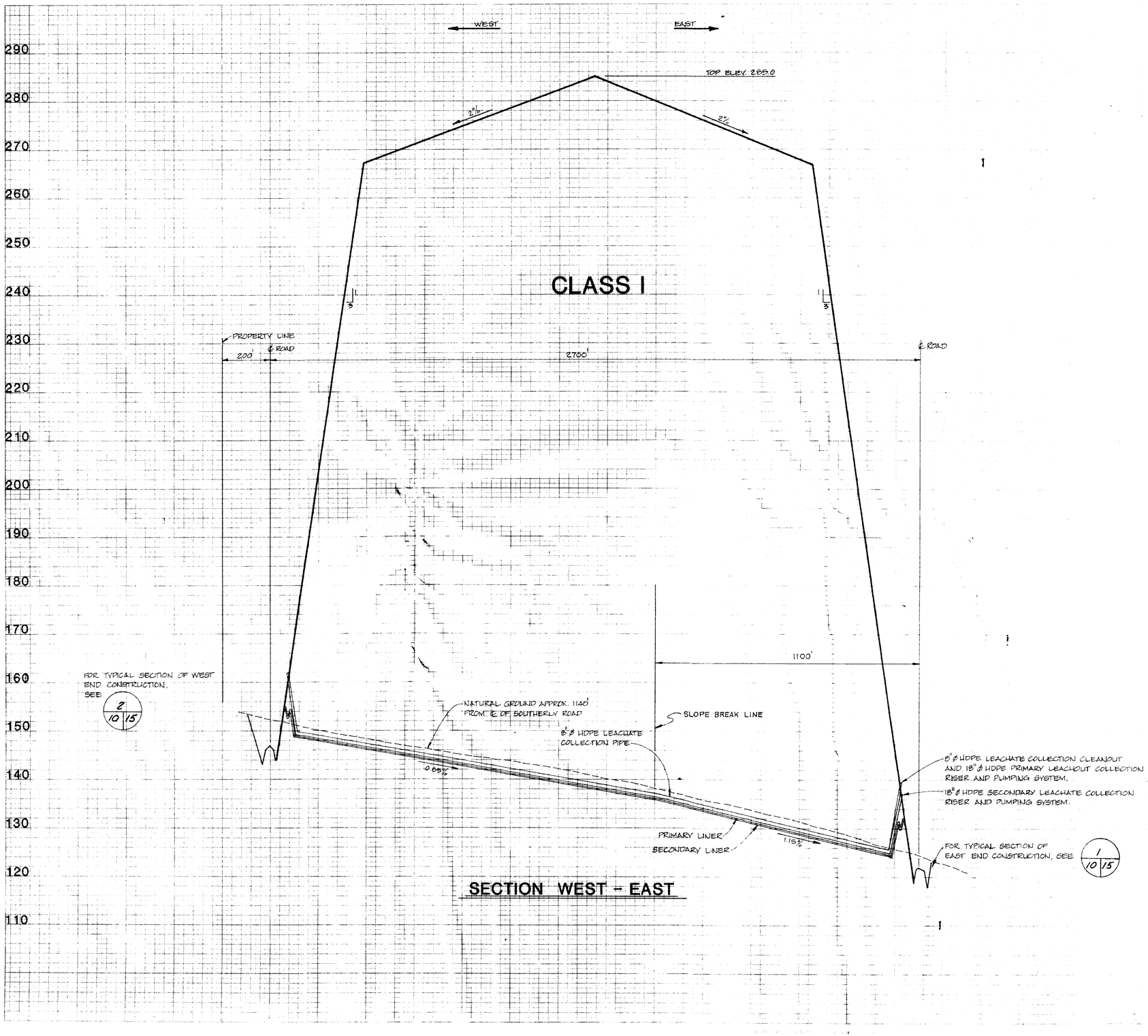
PROJECT # 689-13-9
TRACT: B-
TECH: DLD
CHECKED: B-
SAW
DATE
JULY 23, 1990

BOTTOM LINER PHASING PLAN

TRAIL RIDGE LANDFILL
(PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE FLORIDA

DRAWING NO.
9



SECTION WEST - EAST

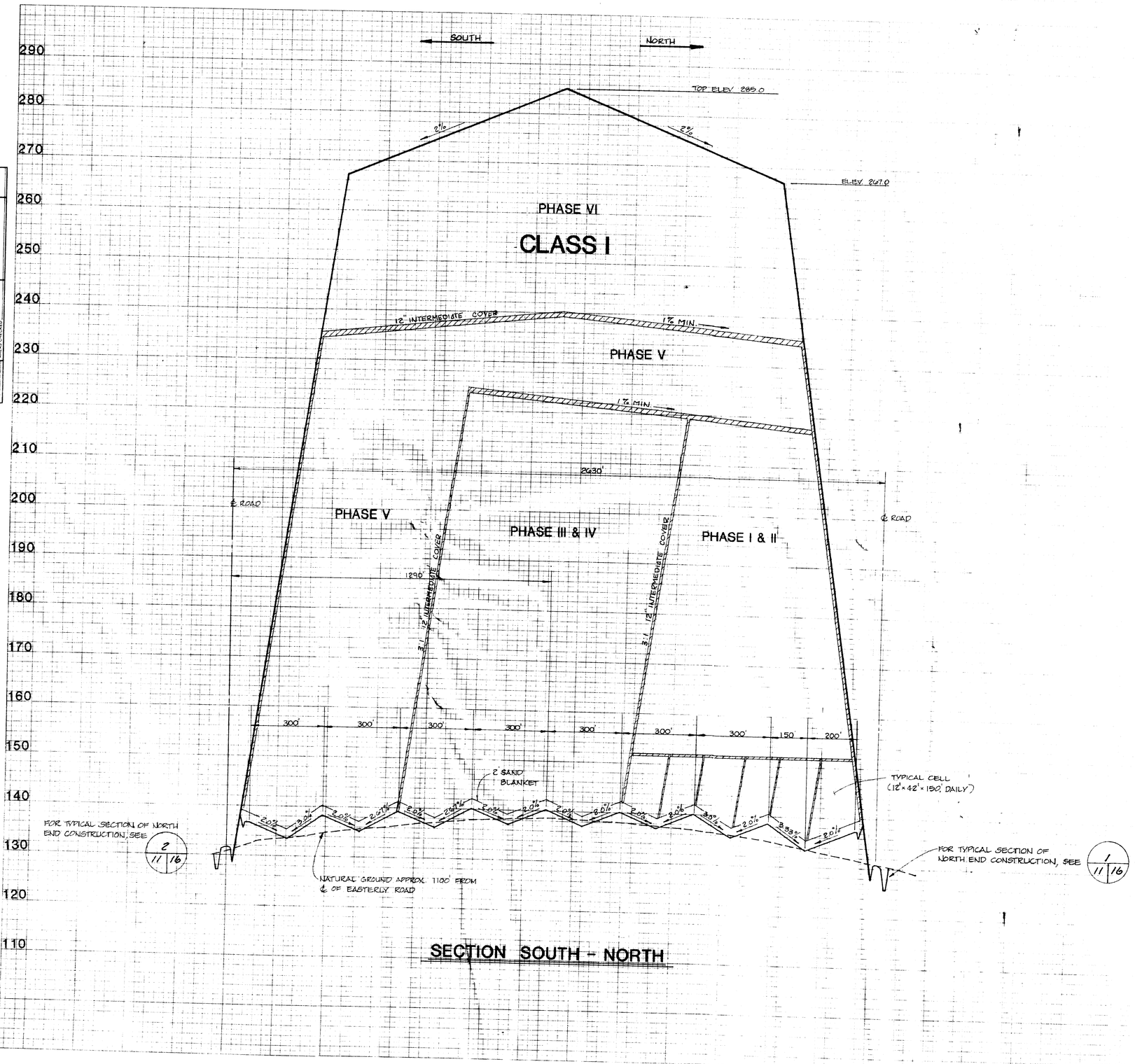
SCALE: 1" = 200' HORIZ.
1" = 10' VERT.

CLASS I	
TRAIL RIDGE LANDFILL (PLAN A)	
England·Thims & Miller, Inc. Consulting & Design Engineers 3131 St. Johns Bluff Road So. Jacksonville, FL 32216 904-642-8990	
DWG. PROJ. NO. E89-113-9	REVISIONS
DRAWN BY TLD	
CHECKED BY RSP	
DATE JUNE, 1990	
DRAWING NO. 10	

FINAL SURVEY — NOTE BOOK No. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

ORIGINAL SURVEY — NOTE BOOK No. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

89-113-9



SECTION SOUTH - NORTH

SCALE: 1" = 200' HORIZ.
1" = 10' VERT.

CLASS I

TRAIL RIDGE LANDFILL
(PLAN A)

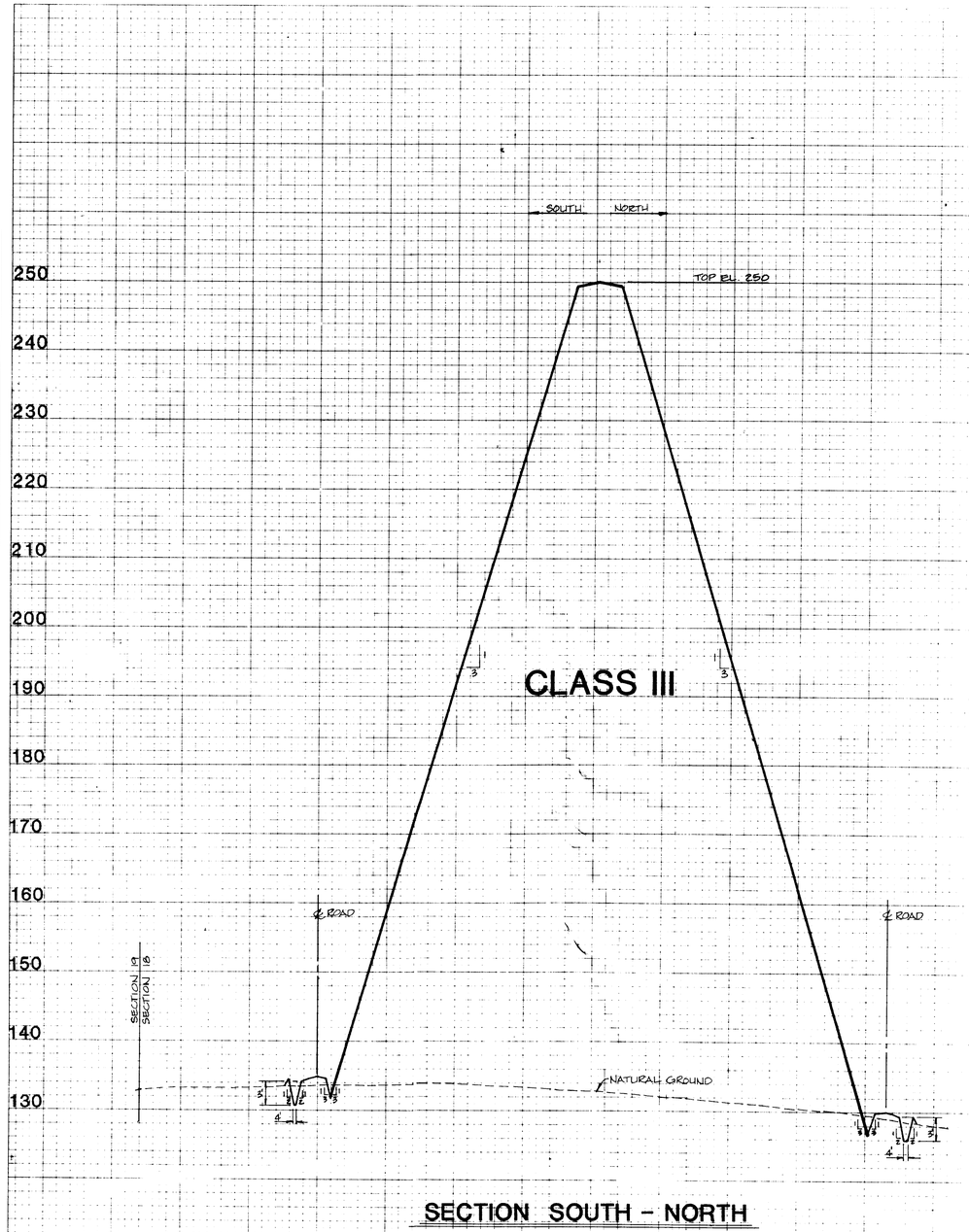
England·Thims & Miller, Inc.
Consulting & Design Engineers
3131 S. John's Bluff Road So. Jacksonville, FL 32246
904-642-8990

JOB ORDER NO.	EBA-113-9
DRAWN BY	TLD
CHECKED BY	DSF
DATE	JUNE, 1990
REVISIONS	
DRAWING NO.	11

89-113-9

FINAL SURVEY
NOTE BOOK
No.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
DATE
BY

ORIGINAL SURVEY
NOTE BOOK
No.
SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED
DATE
BY



SECTION SOUTH - NORTH

SCALE: 1" = 100' HORIZ.
1" = 10' VERT.

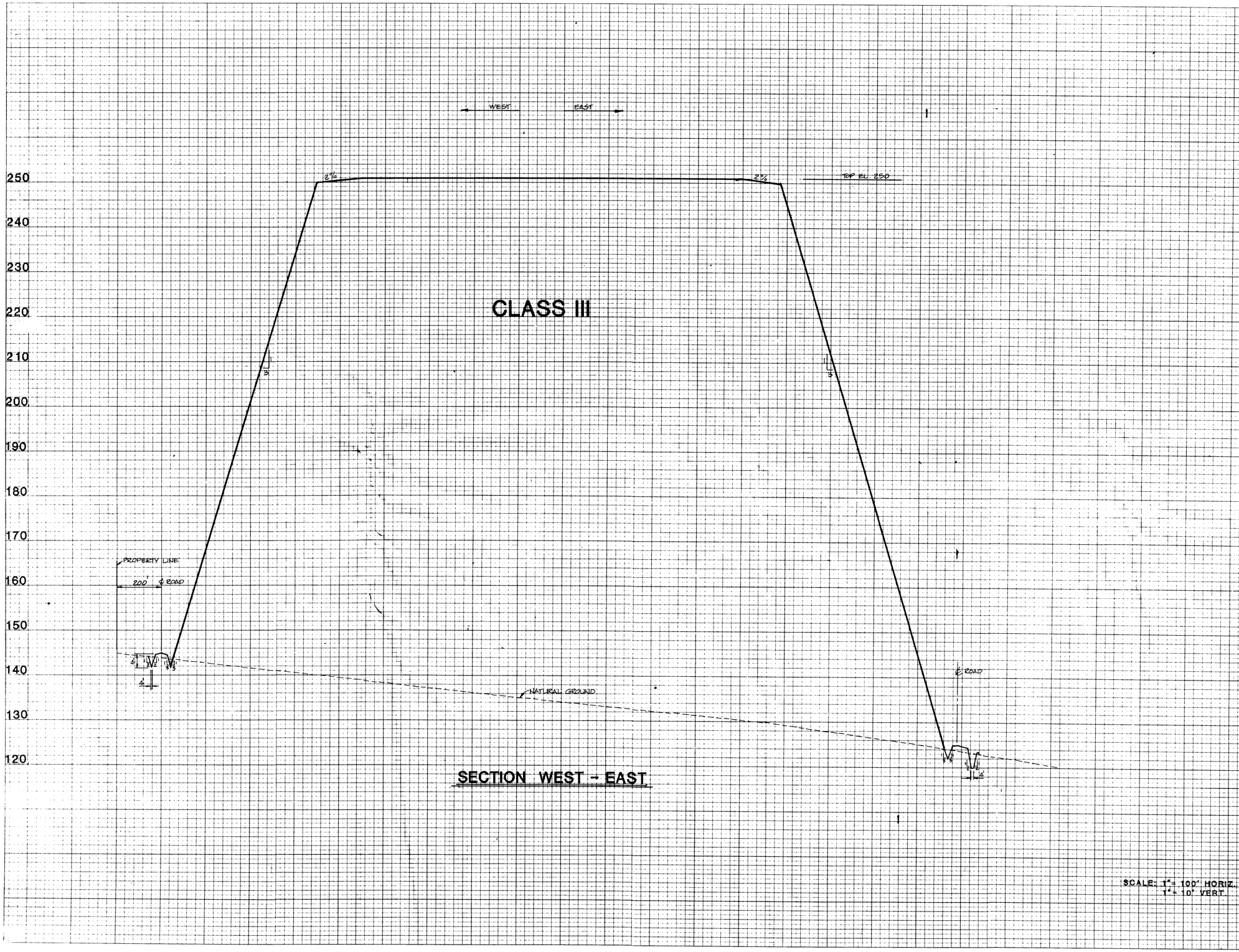
CLASS III

TRAIL RIDGE LANDFILL
(PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
3131 St Johns Bluff Road So. Jacksonville, FL 32216
904-642-8990

JOB NO.	REVISIONS	DRAWING NO.
89-113-9		12
DESIGNED BY: TEP		
DRAWN BY: TEP		
CHECKED BY: JAT		
DATE: JUNE 1990		

89-113-9



SCALE: 1" = 100' HORIZ.
1" = 10' VERT.

CLASS III

TRAIL RIDGE LANDFILL
(PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
3131 St. Johns Bluff Road So. Jacksonville, FL 32216
904-642-8990

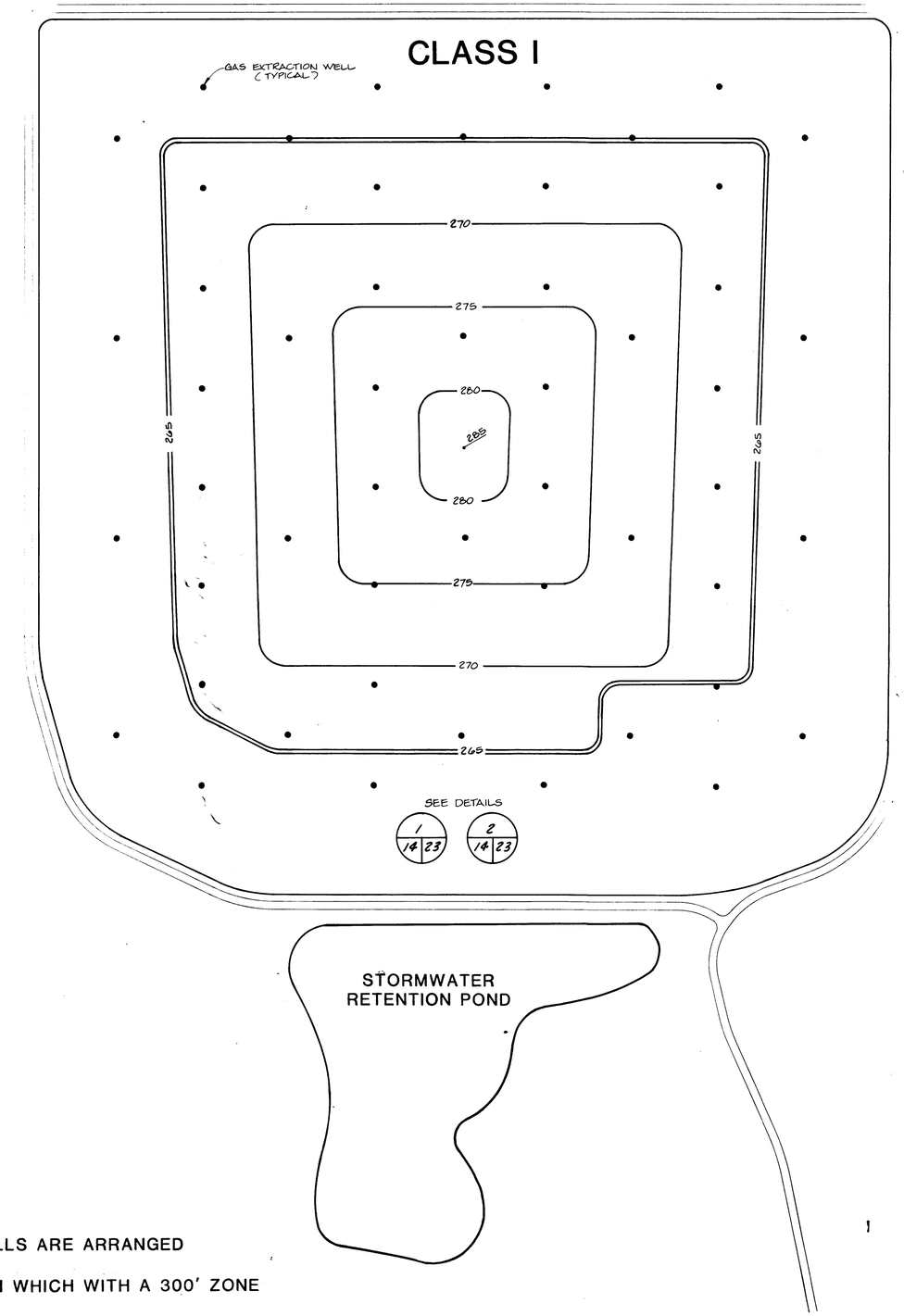
ENG. PROJ. NO.	89-113-9
DRAWN BY	TLD
CHECKED BY	SAW
DATE	JUNE, 1990
REVISIONS	
DRAWING NO.	13

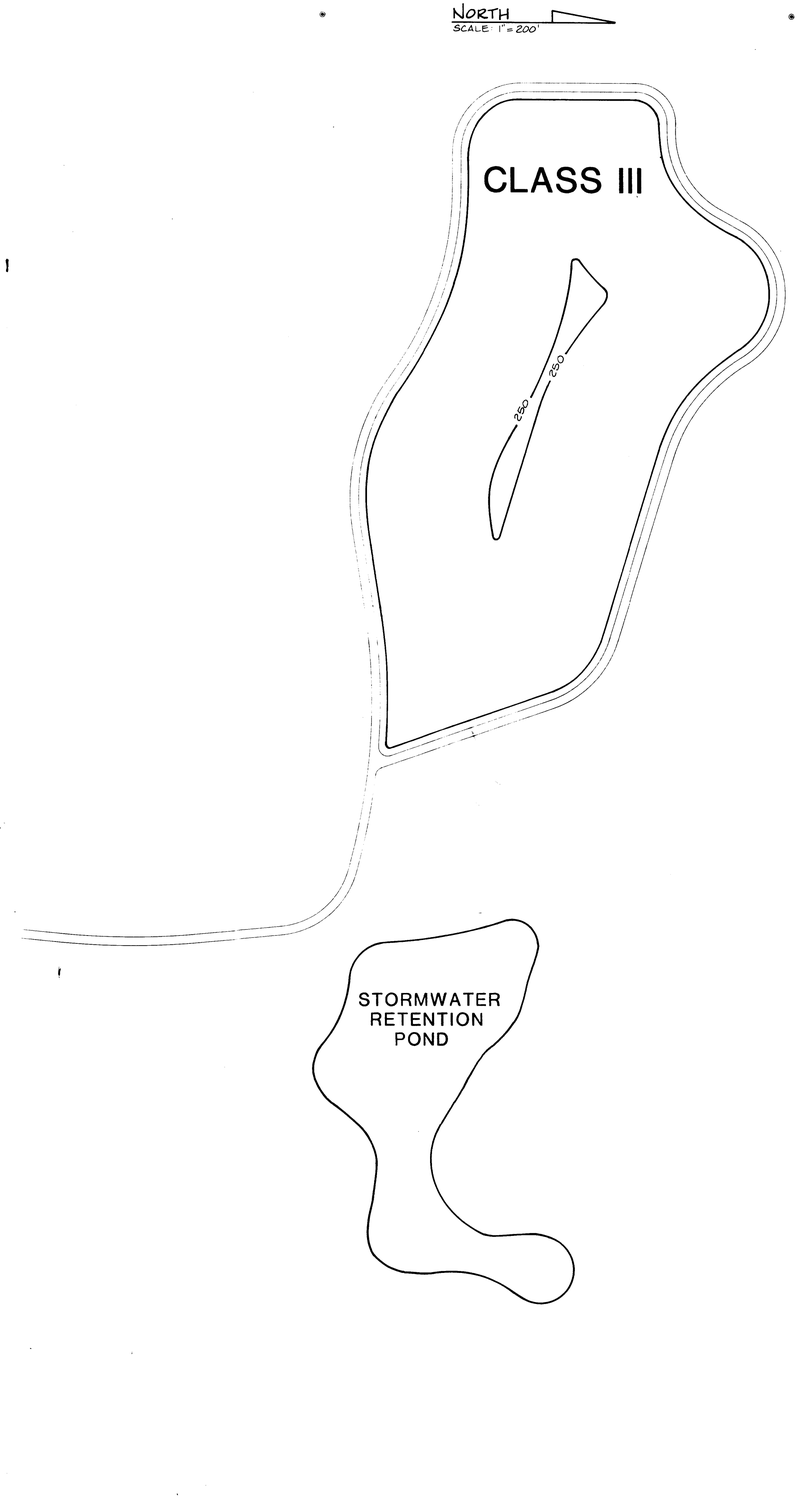
FINAL SURVEY — NOTE BOOK NO. — SURVEYED / PLOTTED / TEMPLATE / AREAS / AREAS CHECKED

ORIGINAL SURVEY — NOTE BOOK NO. — SURVEYED / PLOTTED / TEMPLATE / AREAS / AREAS CHECKED

PLATE 3 CROSS SECTION O. P. R. & R. E. STANDARD
DIETZGEN CORPORATION

89-113-9





NOTE: THE GAS EXTRACTION WELLS ARE ARRANGED IN A HEXAGONAL CONFIGURATION WHICH WITH A 300' ZONE OF INFLUENCE RESULTS IN A 100% OVERLAP OF EACH WELL.

REVISIONS

ENG. PROJ. NO. 89-113-9
DRAWN BY: TLD
CHECKED BY: SJK
DATE: JUNE 18, 1990

GAS EXTRACTION WELL LOCATIONS

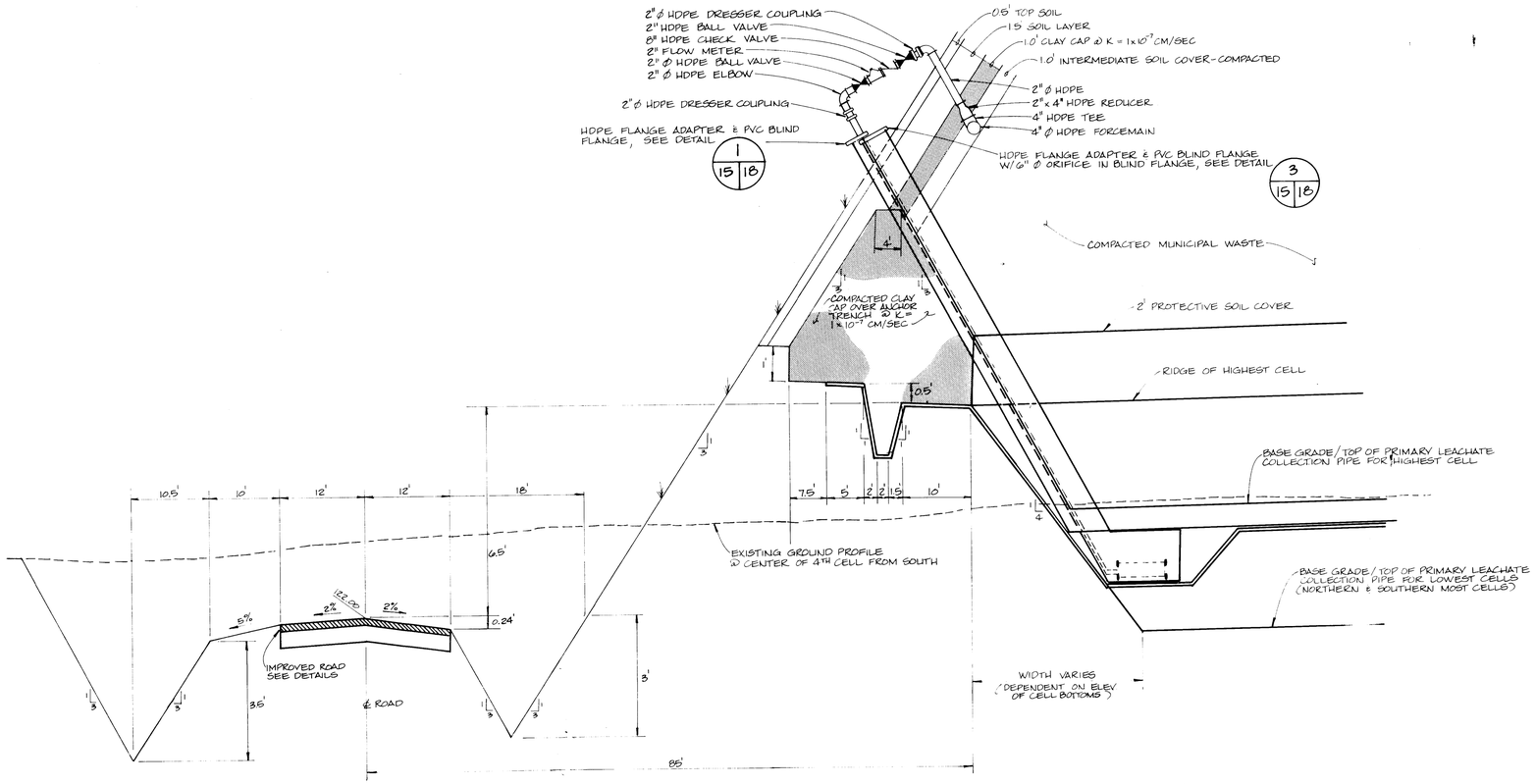
TRAIL RIDGE LANDFILL
(PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO.
14

RELEASED FOR CONSTRUCTION

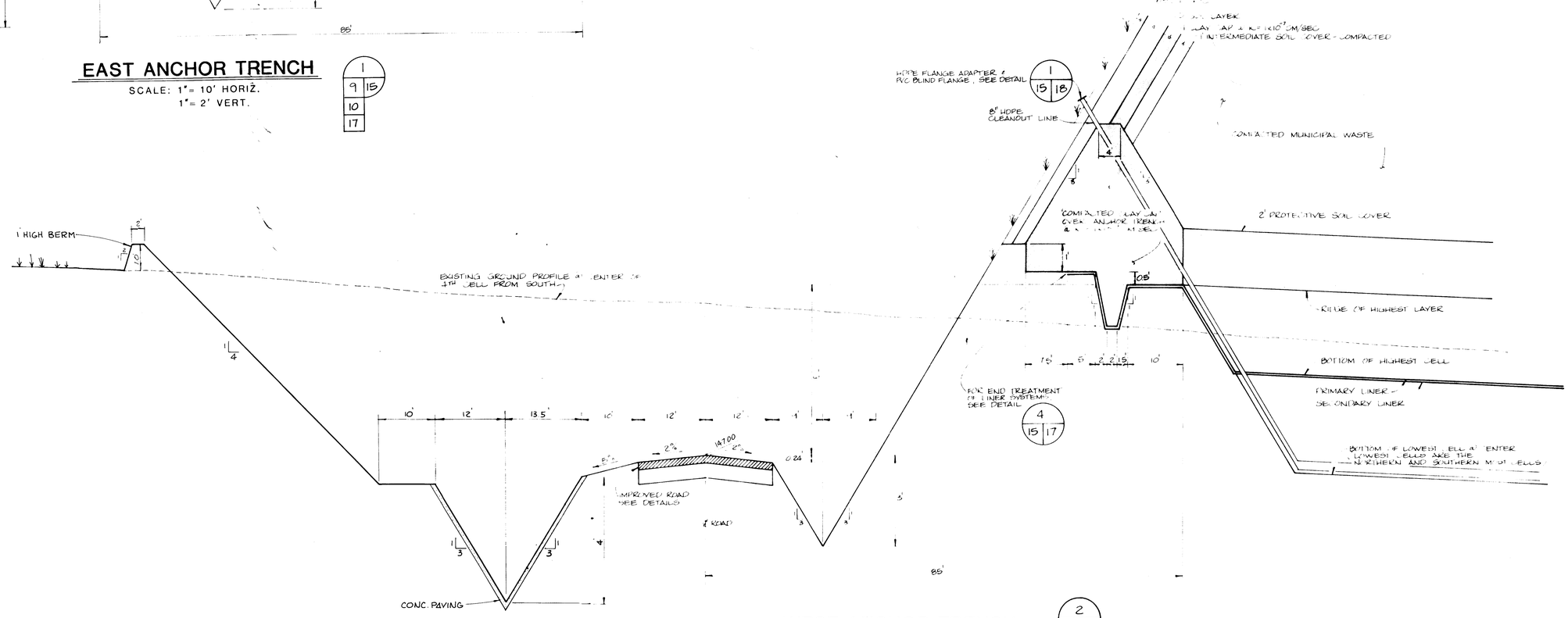
PROJ. NO. 89-113-9



EAST ANCHOR TRENCH

SCALE: 1" = 10' HORIZ.
1" = 2' VERT.

1/9 15 10 17



WEST ANCHOR TRENCH

SCALE: 1" = 10' HORIZ.
1" = 2' VERT.

2/10 15

REVISIONS

ENG. PROJ. NO. 89-113-9
DRAWN BY RWH
CHECKED BY RSF
DATE JUNE 18, 1990

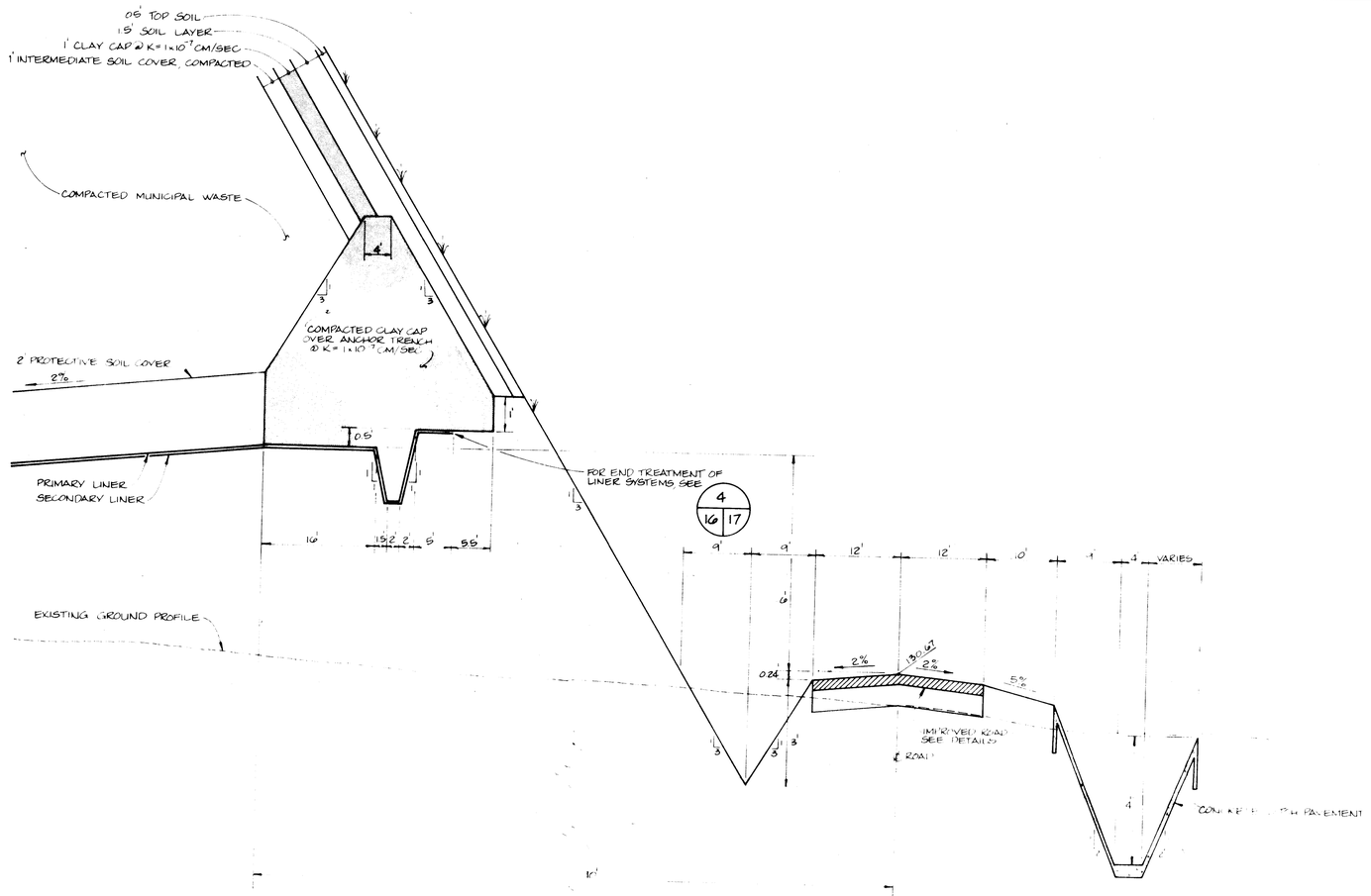
ANCHOR TRENCH (E&W) DETAILS

TRAIL RIDGE LANDFILL (PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO.
15

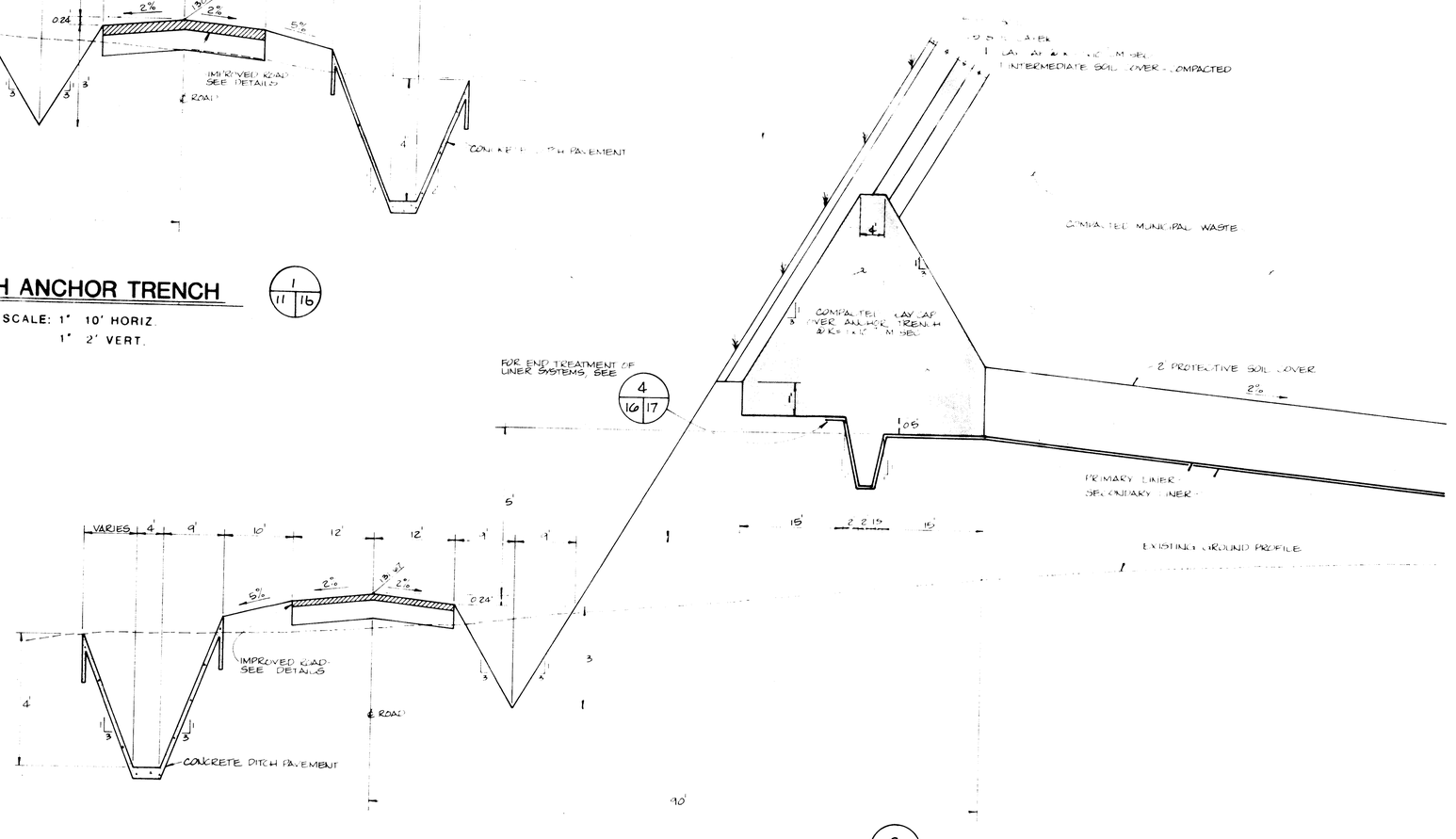
PROJ. NO. 89-113-9



NORTH ANCHOR TRENCH

1/11|16

SCALE: 1" 10' HORIZ.
1" 2' VERT.



SOUTH ANCHOR TRENCH

2/11|16

SCALE: 1" 10' HORIZ.
1" 2' VERT.

REVISIONS

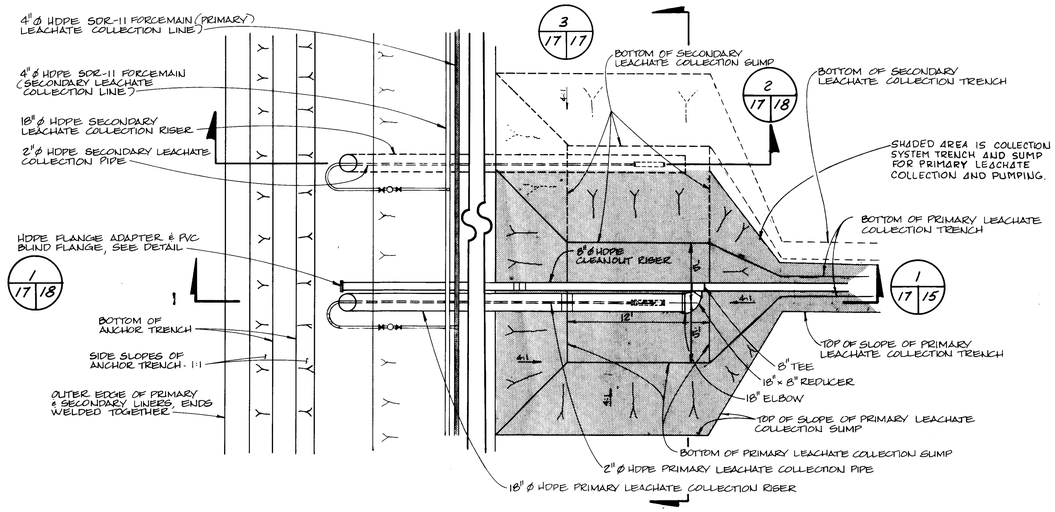
ENG. PROJ. NO. 89-113-9
DRAWN BY RMH
CHECKED BY RSF
DATE JUNE 18, 1990

ANCHOR TRENCH (N&S) DETAILS

TRAIL RIDGE LANDFILL
(PLAN A)

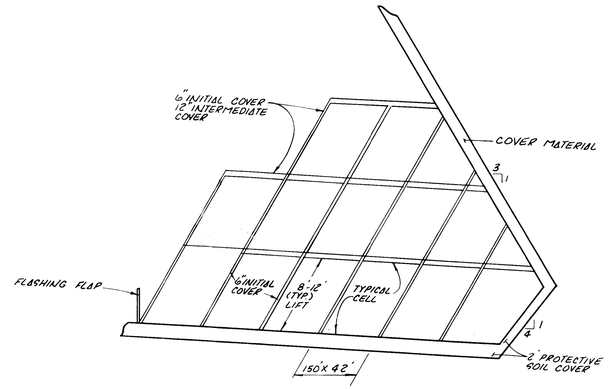
England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO.
16



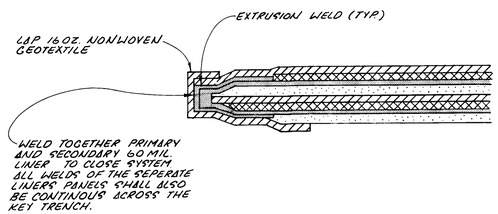
PRIMARY AND SECONDARY LEACHATE COLLECTION SYSTEM SUMP PLAN

SCALE: 1" = 6'



TYPICAL SECTION THRU CELLS

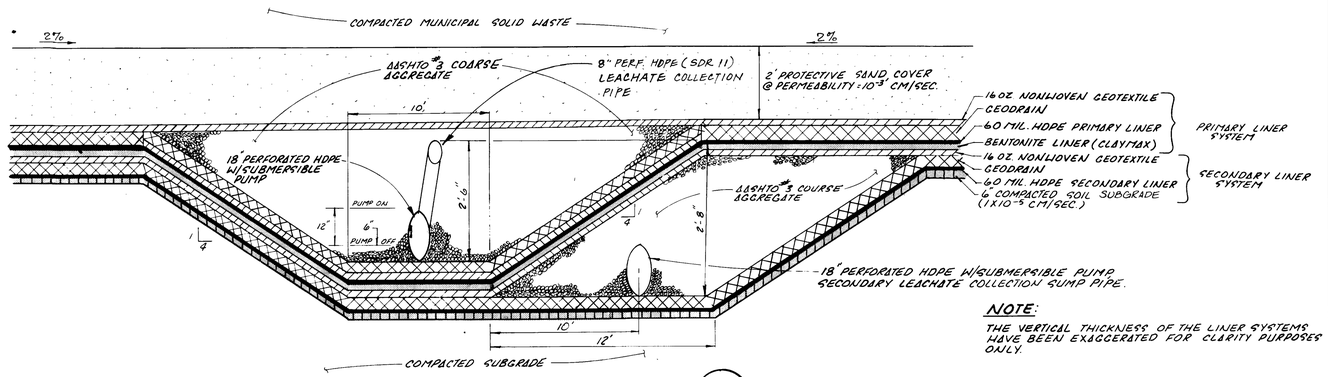
SCALE: 1"=50' HOR.
1"=10' VERT.



PRIMARY AND SECONDARY LINER END TREATMENT

N.T.S.

4/15/16/17



LEACHATE COLLECTION SYSTEM

3/17/17

NOTE:
THE VERTICAL THICKNESS OF THE LINER SYSTEMS HAVE BEEN EXAGGERATED FOR CLARITY PURPOSES ONLY.

REVISIONS

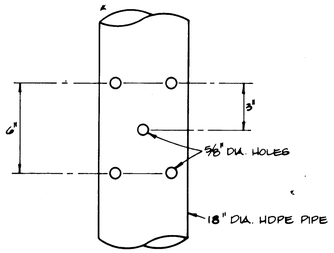
ENG PROJ. NO 89-13-9
DRAWN BY RWH
CHECKED BY RSF
DATE JUNE 18, 1990

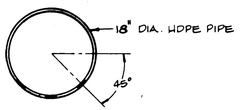
LEACHATE COLLECTION DETAILS

TRAIL RIDGE LANDFILL
(PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

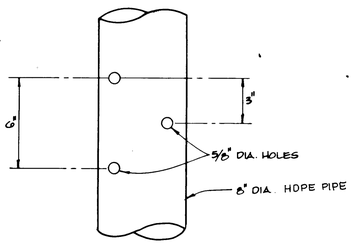
DRAWING NO
17

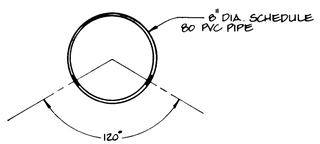




LEACHATE COLLECTION SUMP PIPING PERFORATION

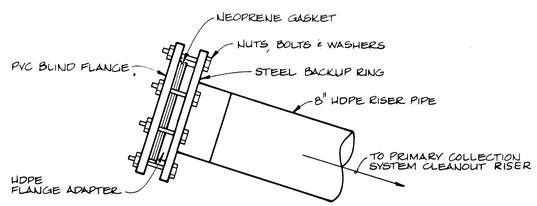
N.T.S.





LEACHATE COLLECTION PIPING PERFORATION

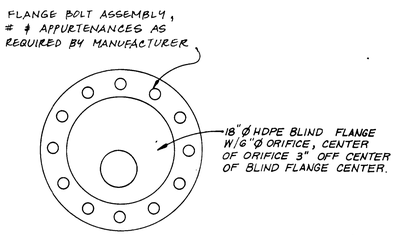
N.T.S.



LEACHATE CLEANOUT RISER

N.T.S.

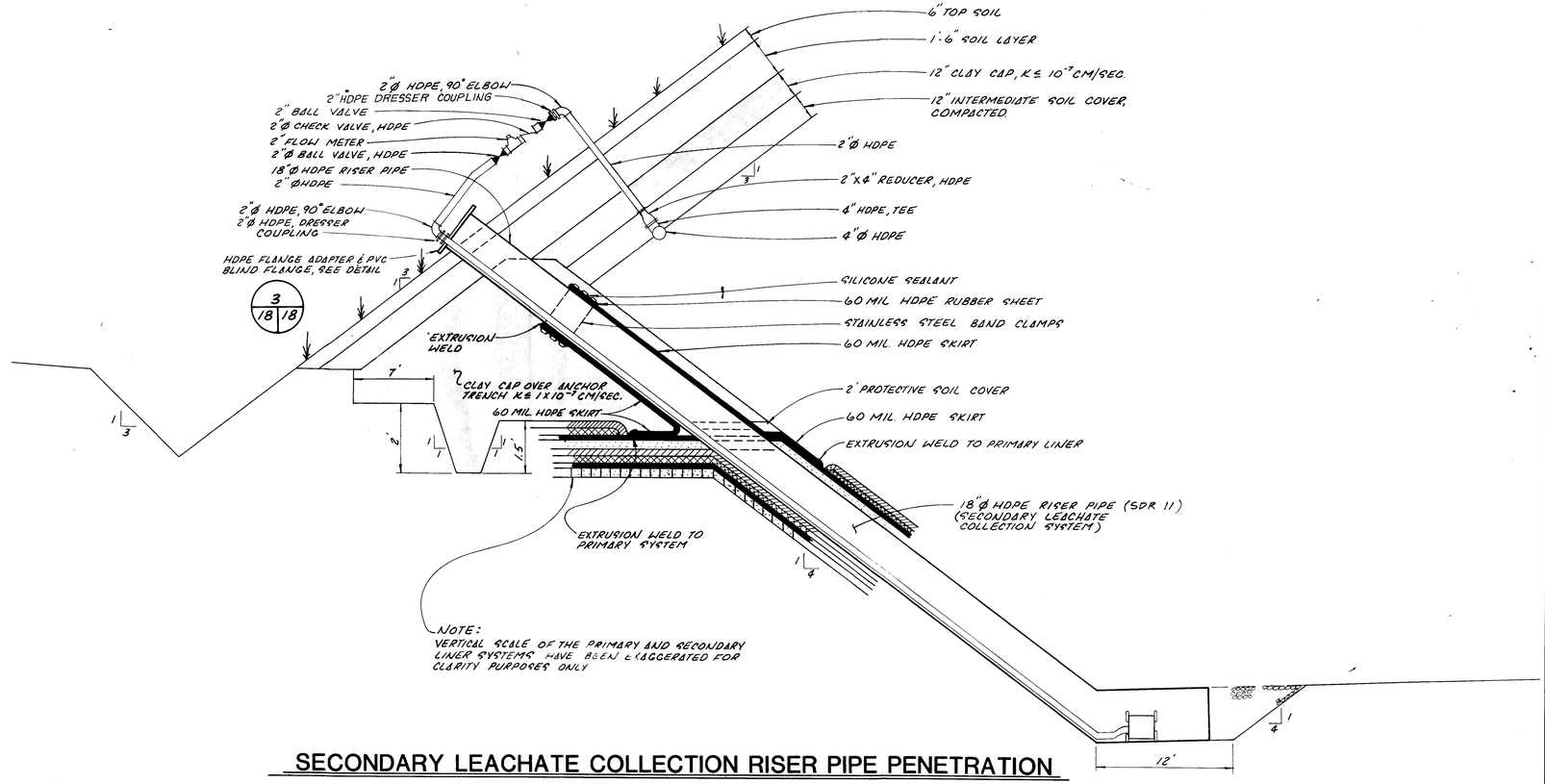
1/15/18



FLANGE FOR LEACHATE COLLECTION RISER

N.T.S.

3/15 18/18



SECONDARY LEACHATE COLLECTION RISER PIPE PENETRATION

SCALE: 1"=2' VERT.
1"=6' HORIZ.

2/17 18/18

REVISIONS

ENG. PROJ. NO. E 89-113-4
DRAWN BY: C.D.T.
CHECKED BY: R.F.
DATE: JUNE 18, 1990

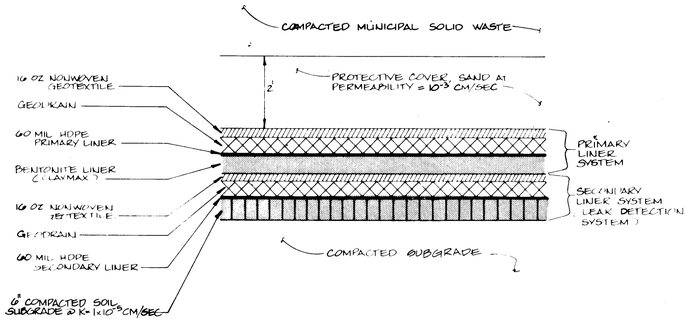
LEACHATE COLLECTION DETAILS

TRAIL RIDGE LANDFILL (PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

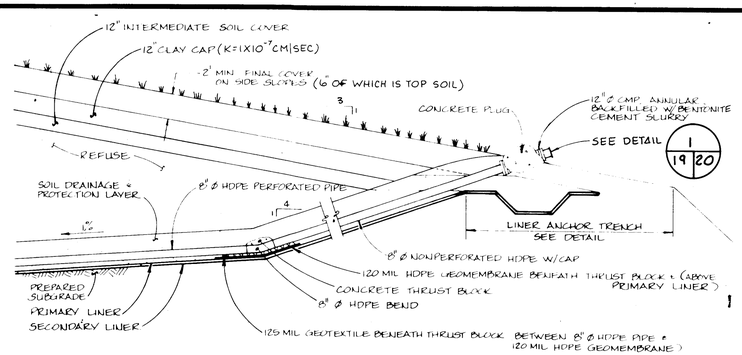
DRAWING NO.
18

PROJ. NO. 89-113-4



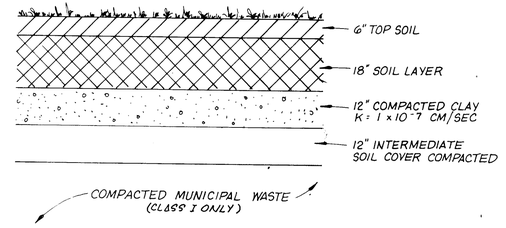
PRIMARY / SECONDARY LINER SYSTEM

N.T.S.



LEACHATE CLEANOUT RISER

N.T.S.

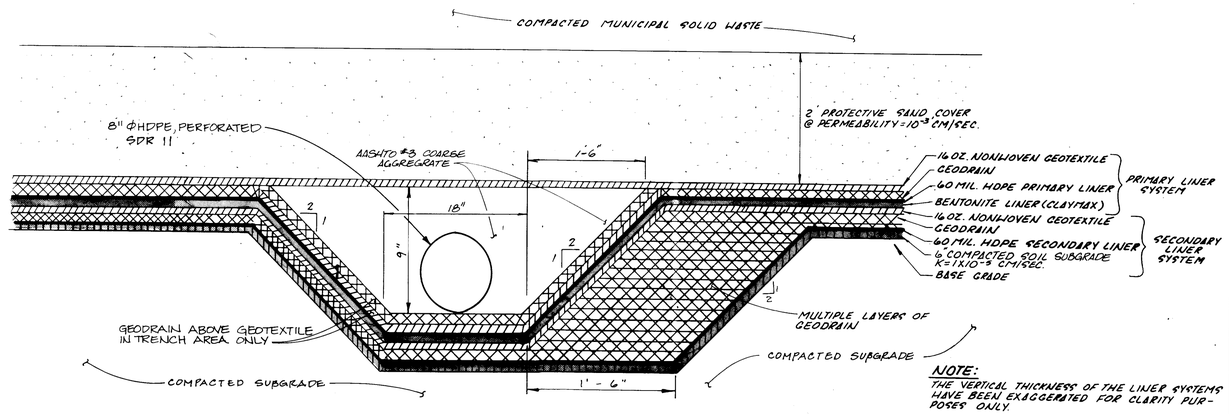


FINAL COVER - CLASS I & III

N.T.S.

LINER MATERIAL SCHEDULE

MATERIAL	MANUFACTURER & PRODUCT
16 oz. NONWOVEN GEOTEXTILE	TREVIRA 1155 OR EQUAL
GEODRAIN	POLYNET PN-3000 OR EQUAL
60 MIL HDPE LINER	NATIONAL SEAL COMPANY, HDPE 60 MIL OR EQUAL
BENTONITE LINER	CLAYMAX



NOTE: THE VERTICAL THICKNESS OF THE LINER SYSTEMS HAVE BEEN EXAGGERATED FOR CLARITY PURPOSES ONLY.

LEACHATE COLLECTION SYSTEM

NTS

1 / 8 / 19

REVISIONS

ENG. PROJ. NO 89-113-9
DRAWN BY RHH
CHECKED BY RCF
DATE JUNE 18, 1990

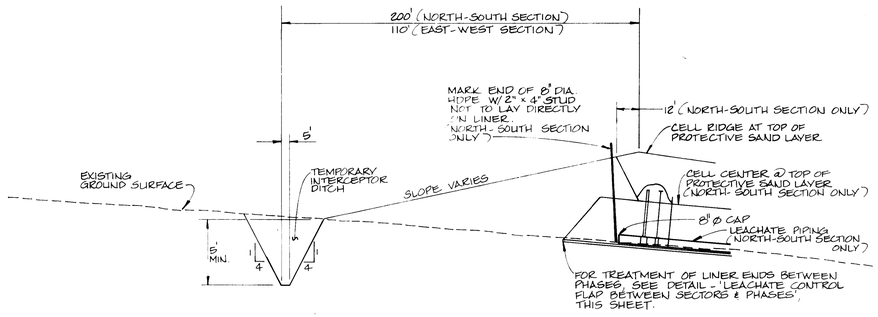
LINER DETAILS

TRAIL RIDGE LANDFILL
(PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE FLORIDA

DRAWING NO
19

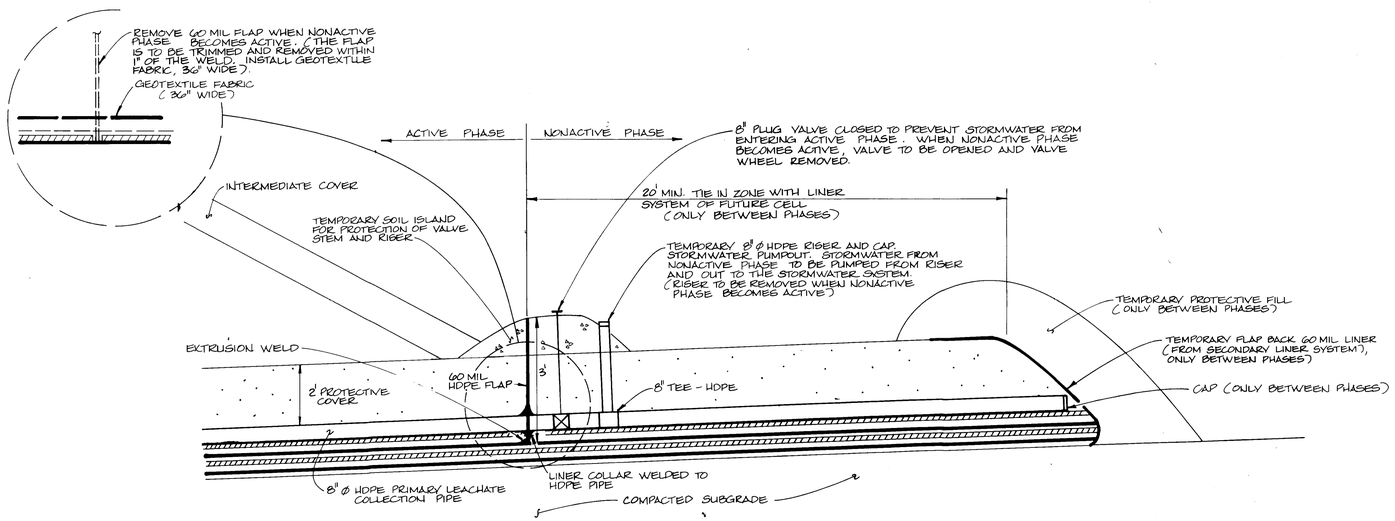
PROJ NO 89-113-9



PHASING SECTION

N.T.S.

2 / 9 / 20



LEACHATE CONTROL FLAP BETWEEN NORTH-SOUTH PHASES

N.T.S.

1 / 9 / 20

NOTE: EAST-WEST SECTION IDENTICAL EXCEPT DELETE LEACHATE PIPING

REVISIONS

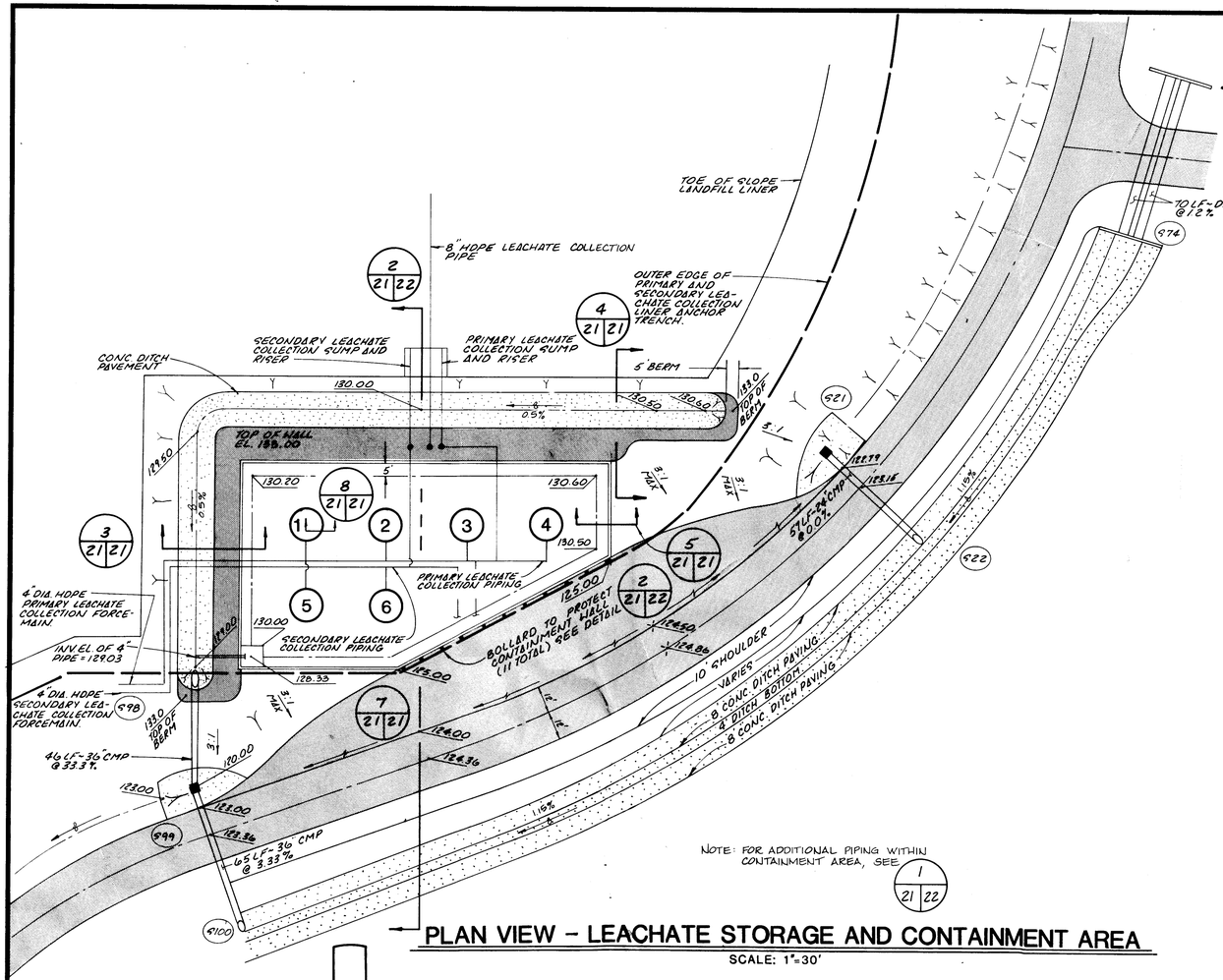
ENG PROJ. NO. E 89-113-9
DRAWN BY C.D.T.
CHECKED BY R.S.F.
DATE JUNE 18, 1990

PHASING DETAILS

TRAIL RIDGE LANDFILL (PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

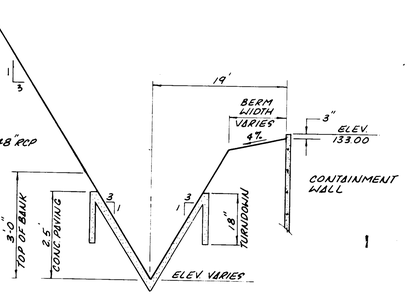
DRAWING NO.
20



PLAN VIEW – LEACHATE STORAGE AND CONTAINMENT AREA

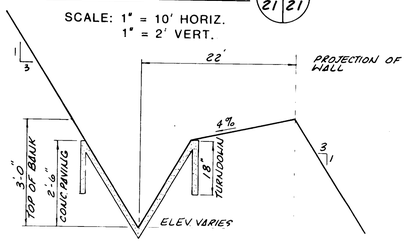
SCALE: 1"=30'

NOTE: FOR ADDITIONAL PIPING WITHIN CONTAINMENT AREA, SEE 1 / 21 / 22



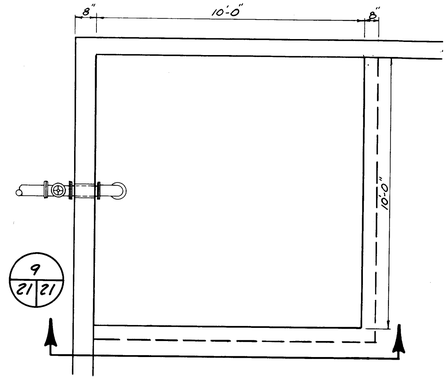
DITCH SECTION 3 / 21 / 21

SCALE: 1" = 10' HORIZ.
1" = 2' VERT.



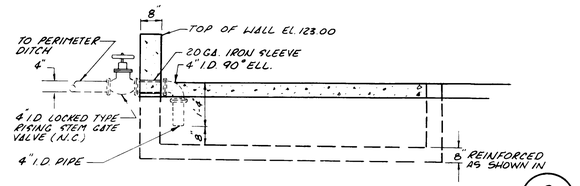
DITCH SECTION 4 / 21 / 21

SCALE: 1" = 10' HORIZ.
1" = 2' VERT.



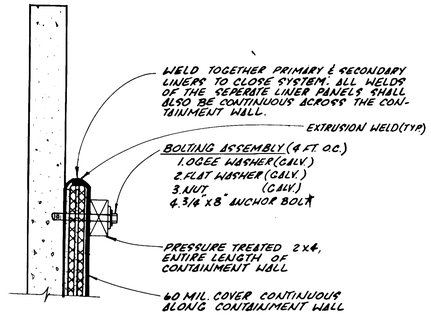
DRAINAGE OUTFALL – PLAN 7 / 21 / 21

NTS



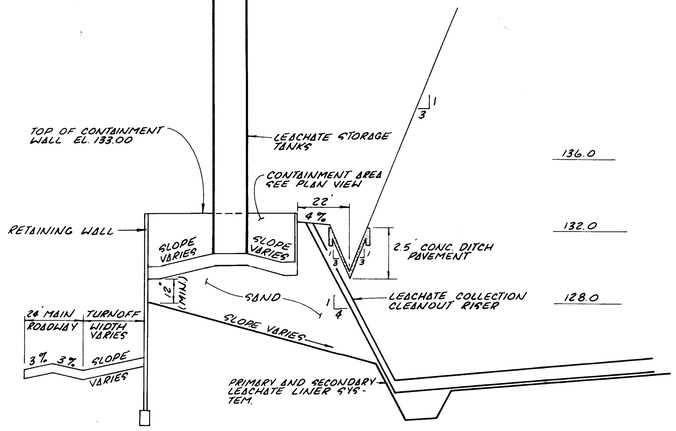
SUMP DRAINAGE OUTFALL – SECTION 9 / 21 / 21

NTS



LINER SEAL TO CONTAINMENT WALL 6 / 21 / 21 / 22

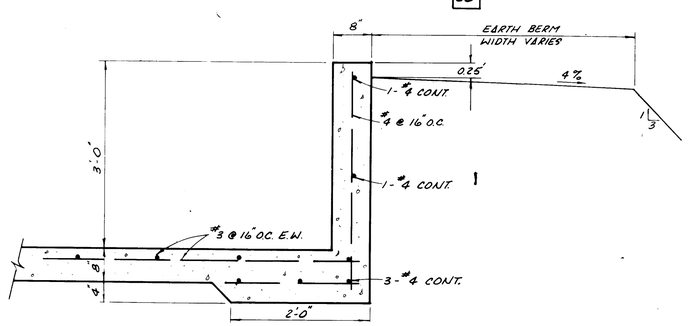
NTS



LEACHATE CONTAINMENT AREA – SECTION

SCALE: 1"=4' VERT.
1"=30' HORIZ.

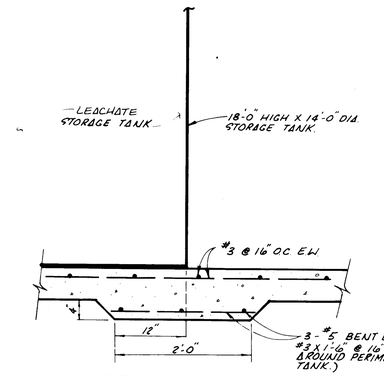
2 / 21 / 21



CONTAINMENT WALL – SECTION

NTS

5 / 22 / 21 / 21



STORAGE TANK FOUNDATION 8 / 22 / 21 / 21

NTS

REVISIONS

ENG. APP. 89-113-9
DRAWN BY RJH
CHECKED BY RSF
DATE JUNE 18, 1990

LEACHATE CONTAINMENT AREA DETAILS

TRAIL RIDGE LANDFILL (PLAN A)

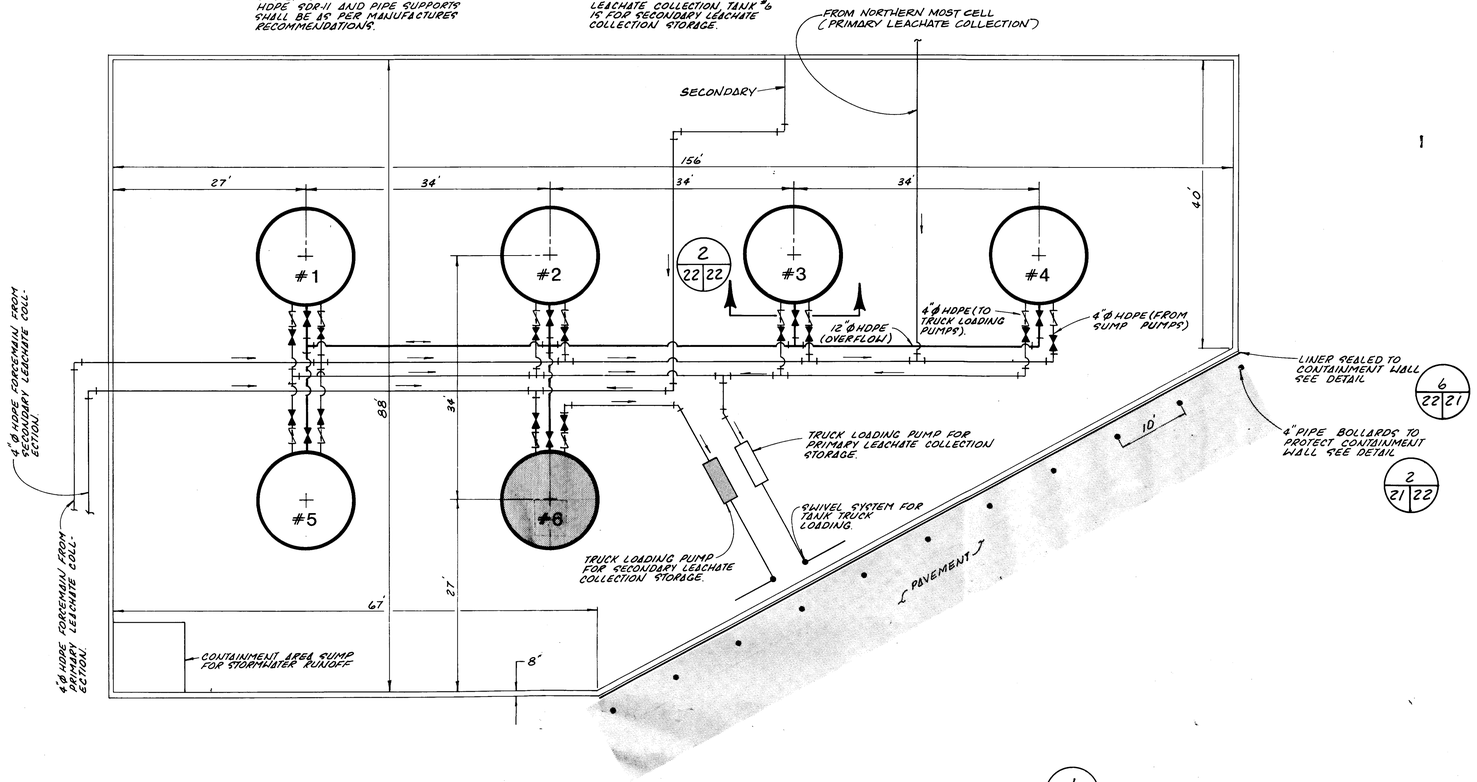
England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE FLORIDA

DRAWING NO.
21

PROJECT NO. 89-113-9

NOTE: ALL EXPOSED PIPE SHALL BE HDPE SDR-11 AND PIPE SUPPORTS SHALL BE AS PER MANUFACTURES RECOMMENDATIONS.

NOTE: TANKS #1-5 ARE FOR PRIMARY LEACHATE COLLECTION, TANK #6 IS FOR SECONDARY LEACHATE COLLECTION STORAGE.



LEACHATE STORAGE , PUMPING AND CONTAINMENT

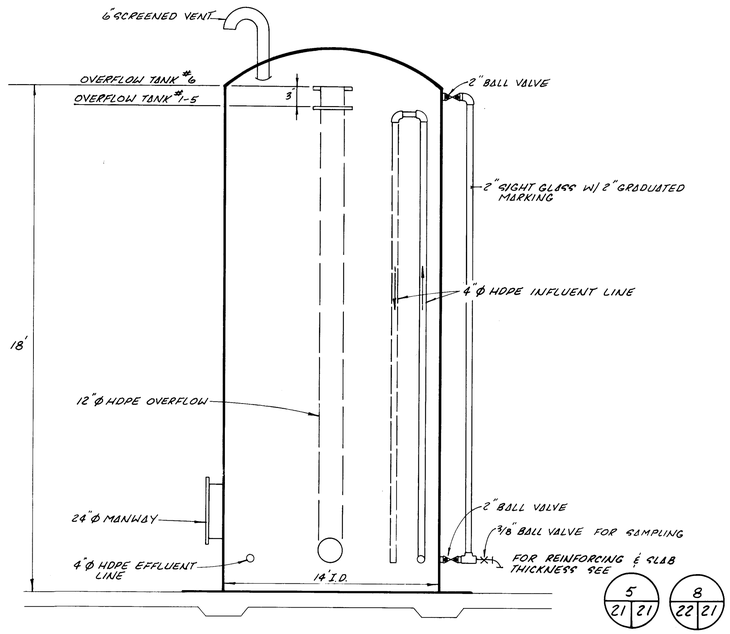
1 / 21 | 22

SCALE: 1" = 10'

LEGEND

SPRING LEVERED CHECK VALVE

GATE VALVE

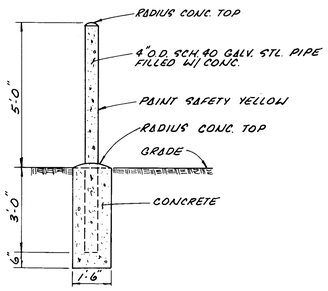


LEACHATE STORAGE TANKS

2 / 22 | 22

NTS

NOTE: TANKS SHALL BE MARKED WITH 12" HIGH NUMERALS AS INDICATED. TANKS SHALL BE FIBERGLASS. (INDUSTRIAL PLASTICS SYSTEMS, INC. OR EQUAL)



BOLLARD DETAIL

N.T.S.

2 / 21 | 22 / 22

REVISIONS

ENG PROJ. NO 89-113-9

DRAWN BY RNH

CHECKED BY RSF

DATE JUNE/8,1990

LEACHATE COLLECTION AREA DETAILS

TRAIL RIDGE LANDFILL (PLAN A)

England-Thims & Miller, Inc.

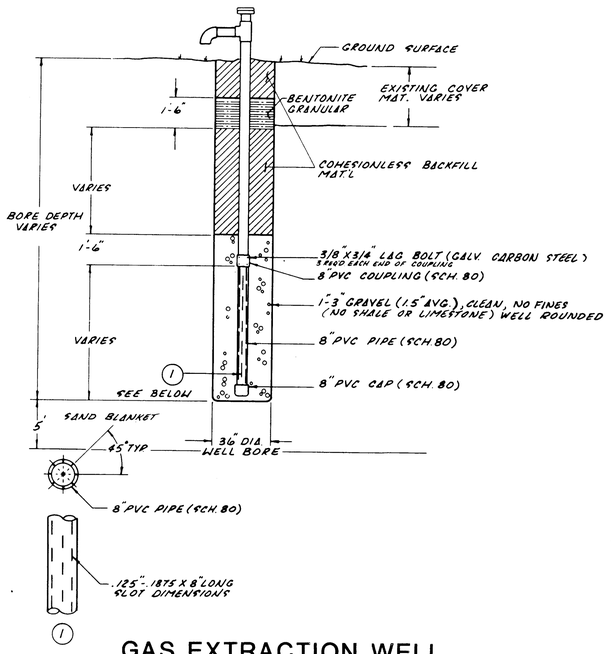
Consulting & Design Engineers

JACKSONVILLE, FLORIDA

DRAWING NO.

22

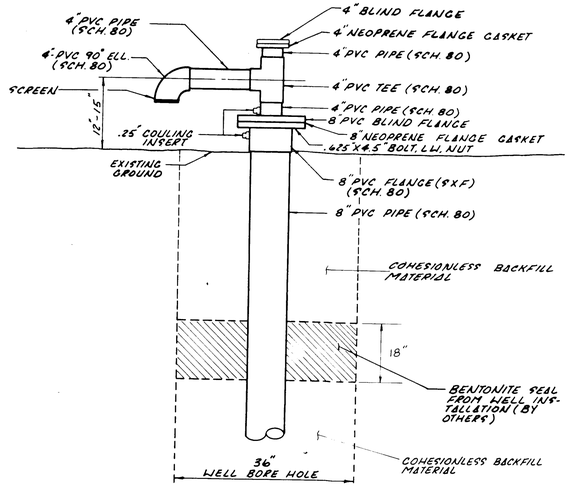
PROJ NO 89-113-9



GAS EXTRACTION WELL

NTS

1 / 14 / 23



WELL HEAD ASSEMBLY

NTS

2 / 14 / 23

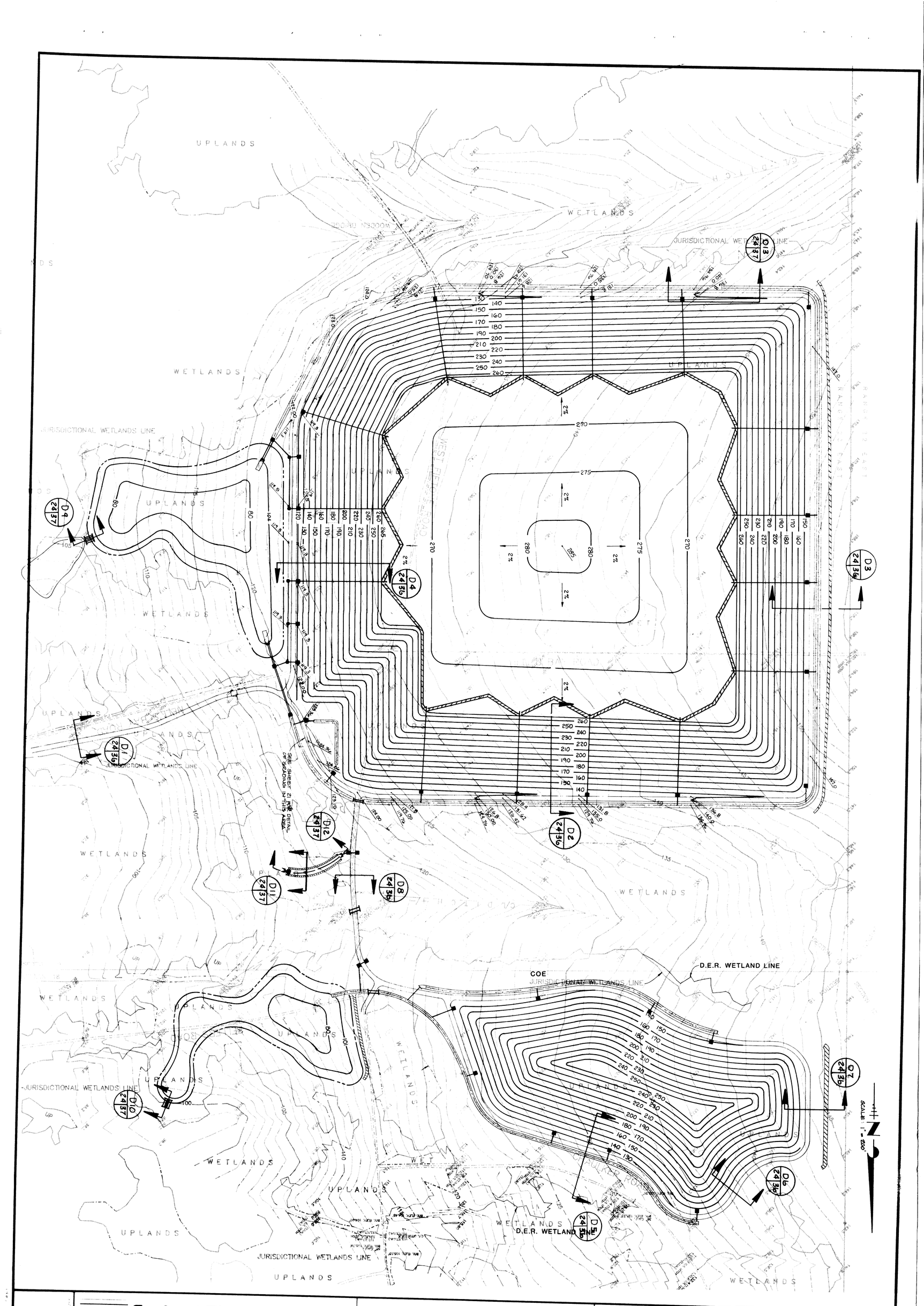
PROJECT NO.	89-13-9
DRAWN BY	RLH
CHECKED BY	RSF
DATE	JUNE 11, 1990

GAS EXTRACTION WELL DETAILS

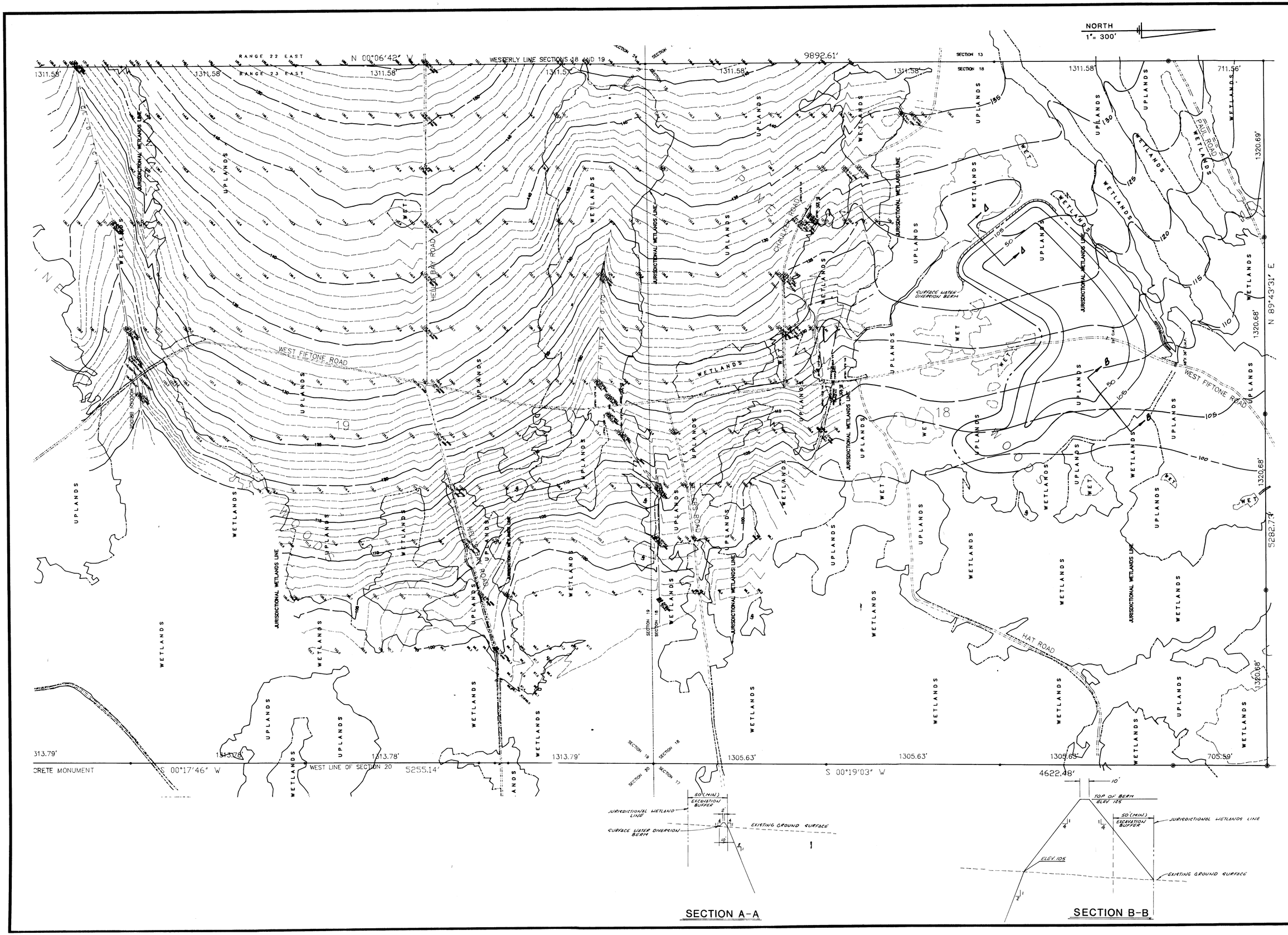
TRAIL RIDGE LANDFILL
(PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO.
23



24	England-Thims & Miller, Inc. Consulting & Design Engineers	FINAL CONTOUR PLAN	89-115-9	
		TRAIL RIDGE LANDFILL	T.L.D.	
			S.A.H.	
			JUNE 18, 1990	



REVISIONS

ENG PROJ NO E89-113-9
DRAWN BY TLD
CHECKED BY JAT
DATE JULY 23, 1990

NORTH BORROW AREA

TRAIL RIDGE LANDFILL

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO.
24A

PROJ NO E89-113-9

SCALE: 1" = 200'

SURFACE WATER DIVERSION BERM SEE D3 25|36

1' HIGH BERM, SEE D7 25|36

50 LF ~ 42" CMP @ 0.0%

100 LF ~ 24" CMP @ 0.0%

371 LF ~ 18" ADS @ 33.5%

4.3 Ac | 4.6 Ac | 1.7 Ac | 1.8 Ac | 4.6 Ac | 4.8 Ac | 4.7 Ac | 2.8 Ac | 3.0 Ac | 4.5 Ac

270 | 275 | 280 | 265

5.9 Ac | 5.9 Ac | 5.9 Ac | 5.7 Ac | 5.6 Ac | 5.0 Ac | 5.9 Ac | 6.6 Ac | 3.4 Ac

3.0 Ac | 2.9 Ac | 5.1 Ac | 4.9 Ac | 3.9 Ac | 3.9 Ac | 4.6 Ac | 2.3 Ac | 5.7 Ac | 4.0 Ac | 2.6 Ac | 2.8 Ac | 4.1 Ac | 7.7 Ac

50 LF ~ 42" CMP @ 0.0%

377 LF ~ 18" ADS @ 33.3%

405 LF ~ 18" ADS @ 33.3%

313 LF ~ 18" ADS @ 33.3%

50 LF ~ 36" CMP @ 0.0%

50 LF ~ 24" CMP @ 0.0%

FIRE HYDRANT ASSEMBLY

280 LF ~ 42" CMP @ 1.0%

80 LF ~ 24" CMP @ 0.0%

50 LF ~ 42" CMP @ 1.0%

30 LF ~ 42" CMP @ 0.0%

220 LF ~ 42" CMP @ 1.6%

50 LF ~ 24" CMP @ 0.0%

205 LF ~ 48" CMP @ 1.5%

50 LF ~ 24" CMP @ 0.0%

46 LF ~ 36" CMP @ 33.3%

57 LF ~ 24" CMP @ 0.0%

50 LF ~ 42" CMP @ 0.0%

130 LF ~ 48" CMP @ 1.0%

130 LF ~ DBL 48" RCP @ 1.2%

8" ϕ PVC FORCEMAIN

2" GATE VALVE (TYP. 20 PLACES)

20 LF ~ 2" PERFORATED PVC (TYP. 20 PLACES)

INSTALL DUAL FILTER BED SYSTEM

"8" PVC FORCE MAIN

13.1 Ac

D.H.W. 25) = 110.2
N.W.L. = 104.0
BOTTOM = 80.0

BERM TO TOP OF BANK

8" ϕ GATE VALVE

3' DEEP DISPERSION POND

75 LF ~ 48" CMP @ 1.0%

130 LF ~ DBL 48" RCP @ 1.2%

FIRE HYDRANT ASSEMBLY

270 LF ~ DBL 48" RCP @ 1.2%

SEE SHEET 21 FOR DETAIL OF GRADING IN THIS AREA.

65 LF ~ 36" CMP @ 33.3%

1 DEEP DISPERSION POND

FOR DETAIL, SEE D12 25|37

6" PVC FORCEMAIN

2" GATE VALVE (TYP. 4 PLACES)

20 LF ~ 2" PERFORATED PVC (TYP. 10 PLACES)

INSTALL DUAL FILTER BED SYSTEM.

CLASS III STORM-WATER PUMP STATION

TOB EL 117.0
D.H.W. EL 115.3
BOTTOM EL 114.0

40 LF ~ 15" CMP @ 1.25%

20 LF ~ 15" CMP @ 0.8%

70 LF ~ DBL 48" RCP @ 1.2%

35 LF ~ 15" CMP @ 0.8%

0.3 Ac | 0.3 Ac | 0.3 Ac | 0.4 Ac

44 LF ~ DBL 48" CMP @ 1.44%

35 LF ~ 15" CMP @ 8.6%

125 LF ~ 15" CMP @ 7%

130 LF ~ 48" CMP @ 1.2%

150 LF ~ 48" CMP @ 1.2%

2.0 Ac | 3.8 Ac | 3.7 Ac | 5.5 Ac | 3.5 Ac | 5.1 Ac | 4.4 Ac | 3.0 Ac | 3.5 Ac | 3.7 Ac

48 LF ~ 30" CMP @ 0.0%

48 LF ~ 24" CMP @ 0.0%

130 LF ~ 36" CMP @ 0.0%

10.8 Ac
D.H.W. 25) = 103.9
N.W.L. = 101.0
BOTTOM = 80.0

BERM TO TOP OF BANK EL 105.0

40 LF ~ QUAD 24" RCP @ 1.6%

3' DEEP DISPERSION POND

FOR DETAIL, SEE D11 25|37

6" GATE VALVE

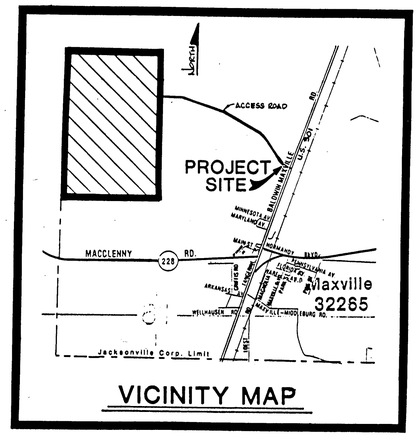
England·Thims & Miller, Inc.

STORMWATER MANAGEMENT PLAN

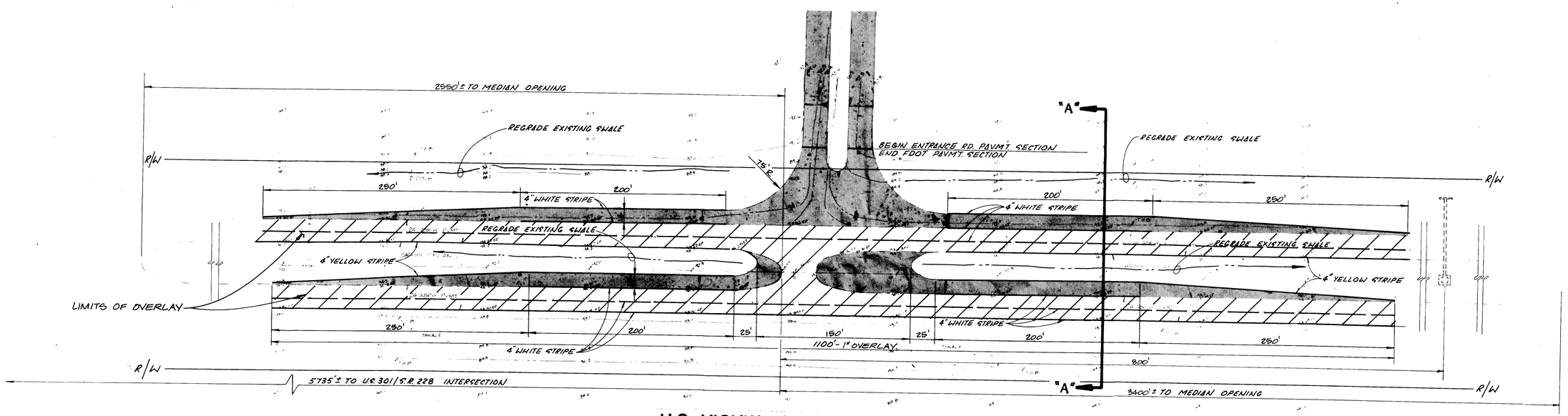
TRAIL RIDGE LANDFILL (PLAN A)

89-113-9	TLD	SAW	JUNE 18, 1990

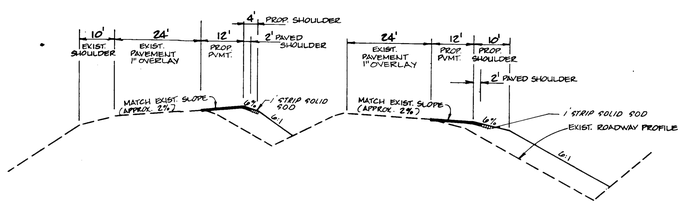
25



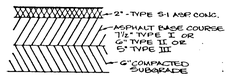
VICINITY MAP



U.S. HIGHWAY 301 / STATE ROAD 200
(206' R/W)



SECTION "A"-"A"



D.O.T. ASPHALT PAVEMENT SECTION
N.T.S.

NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH D.O.T. PERMIT
2. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED
3. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION OF EXISTING UNDERGROUND UTILITIES WITHIN D.O.T. RIGHT-OF-WAY

U.S. HIGHWAY 301
/ STATE ROAD 200

TRAIL RIDGE LANDFILL
(PLAN A)

89-113-9 | TLD | JAT | JUNE 18, 1990

England-Thims & Miller, Inc.
Consulting & Design Engineers

DRAWING NO. 26

JT - 89-113-9

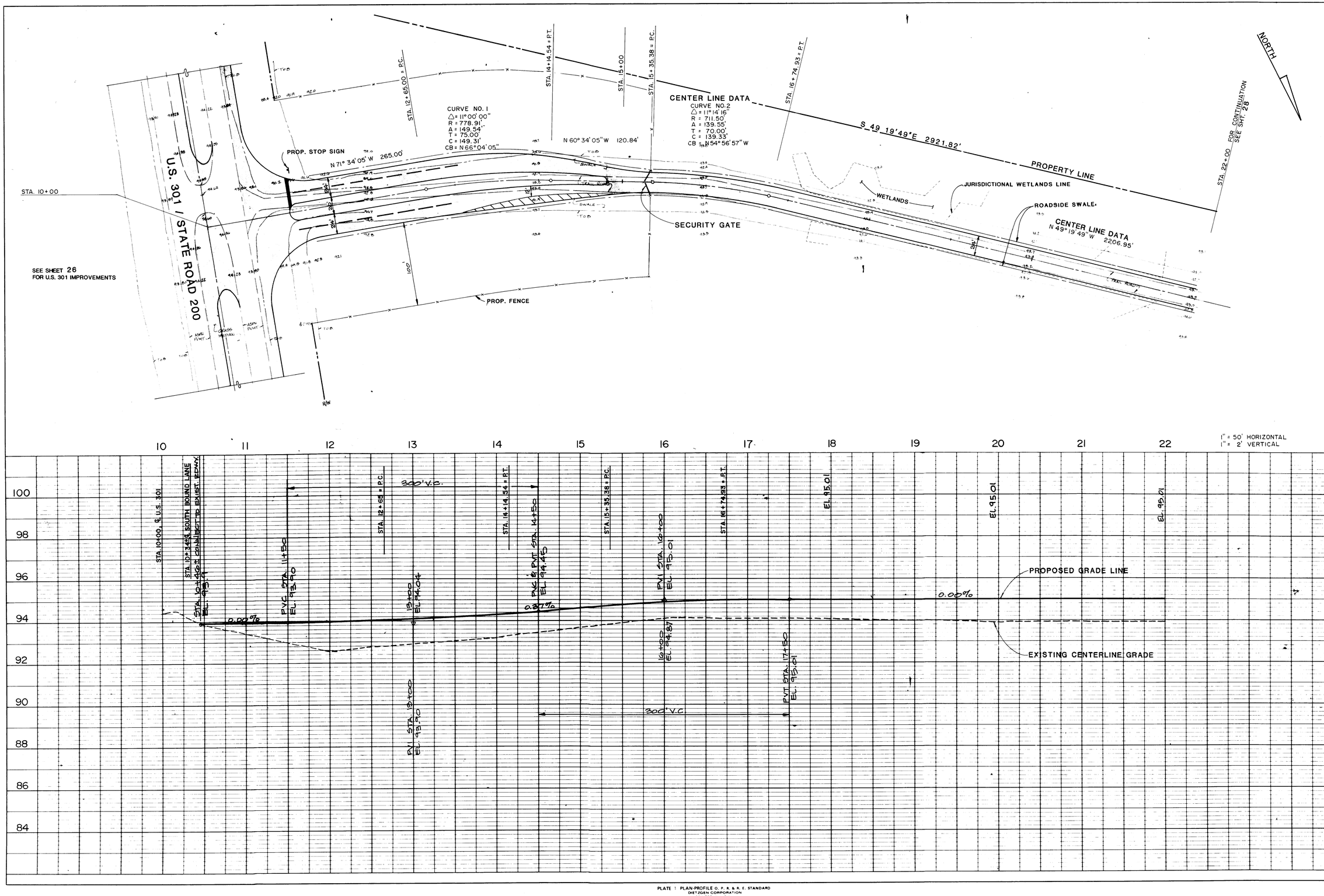


PLATE 1 PLAN-PROFILE O. P. R. & R. E. STANDARD
DIETZGEN CORPORATION
PRINTED IN U.S.A.

PLAN
NOTE BOOK
No.
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RT OF WAY CHECKED
BY
DATE

PROFILE
NOTE BOOK
No.
SURVEYED
PLOTTED
GRADES CHECKED
B M & NOTED
STRUCTURE NOTATIONS CHECKED
BY
DATE

REVISIONS

ENG. PROJ. NO. E89-113-9
DRAWN BY: TLD
CHECKED BY: JAT
DATE: JUNE 18, 1990

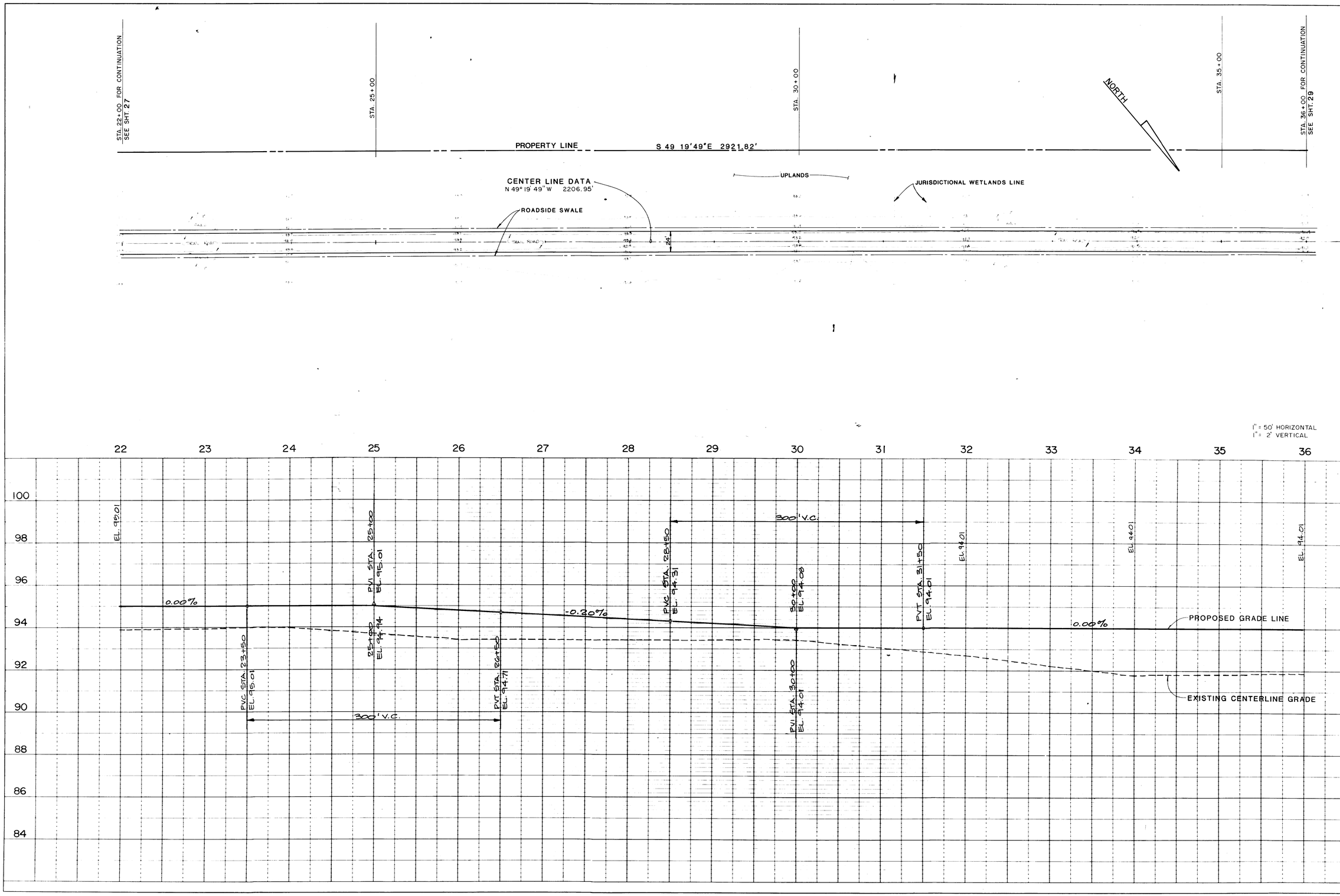
PLAN AND PROFILE
(STA. 10+00 - STA. 22+00)

TRAIL RIDGE LANDFILL
(PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO.
27

JT PROJ NO 89-113-9



PLAN

NOTE BOOK

PROFILE

NOTE BOOK

PLATE PLAN PROFILE O. P. R. & R. E. STANDARD
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ENG. PROJ. NO. E89-113-9
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DATE JUNE 18, 1990

PLAN AND PROFILE
(STA. 22+00 - STA. 36+00)

TRAIL RIDGE LANDFILL
(PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO.
28

JT PROJ NO. 89-113-9

STA. 36+00 FOR CONTINUATION SEE SHT. 28

STA. 38+81.88 = P.C.

STA. 40+00

CENTER LINE DATA
CURVE NO. 3
△ = 10° 05' 12"
R = 2152.97'
A = 379.02'
T = 190.00'
C = 378.53'
CB = N54° 22' 45" W

STA. 42+60.90 = P.T.

STA. 45+00

NORTH

STA. 50+00 FOR CONTINUATION SEE SHT. 30

S 49 19' 49" W 2921.82

PROPERTY LINE

JURISDICTIONAL WETLANDS LINE

CENTER LINE DATA
N 49° 19' 49" W 2206.95'

N 00 19' 33" E 75.48'

N 49 19' 49" W 57.82'

EXISTING DITCH

CONSTRUCT 5 ~ 50 L.F. OF 60" x 38" ERCP WITH ENDWALLS.

CENTER LINE DATA
N 59° 25' 01" W 1640.06'

N 59 25' 01" W ~ 1910.90'

ROADSIDE SWALE

CONSTRUCT 50 L.F. OF 30" RCP WITH ENDWALLS

DRAINAGE AREA = 19.0 Ac.

24'

TRAIL ROAD

100 LF-15" RCP W/M.E.S.

SECURITY GATE

PROPERTY LINE

S 59 25' 01" E 1913.07'

DRAINAGE AREA = 410.0 Ac.

1" = 50' HORIZONTAL
1" = 2' VERTICAL

36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

98 96 94 92 90 88 86 84 82

EL. 94.01

0.00%

PVC STA. 36+50
EL. 94.01

300' V.C.

PVI STA. 38+00
EL. 94.01

STA. 38+81.88 P.C.

PVT & PVC STA. 39+50
EL. 93.20

0.50%

PVI STA. 41+00
EL. 92.70

PVI STA. 41+00
EL. 92.51

300' V.C.

PVT STA. 42+50
EL. 92.51

STA. 42+60.90 = P.T.

EL. 92.51

EL. 92.51

EL. 92.51

EL. 92.51

PROPOSED GRADE LINE

0.00%

EXISTING CENTLINE GRADE

PROPOSED 2~60" x 38" ERCP
INV. EL. 86.99 N & S

REMOVE EXIST. 36" CMP INV. 87.20

REMOVE EXIST. 36" CMP INV. 86.97

PROPOSED 30" RCP
INV. EL. 86.39 N&S

REMOVE EXIST. 36" CMP INV. 86.39

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PROFILE
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PLOTTED
GRADES CHECKED
B.M. & NOTES
STRUCTURE NOTATIONS CHECKED
NOTE BOOK
No.

DATE
BY

REVISIONS

ENG. REC. NO. E89-113-9
DRAWING BY TLD
CHECKED BY JAT
DATE JUNE 18, 1990

PLAN AND PROFILE
(STA. 36+00 - STA. 50+00)

TRAIL RIDGE LANDFILL
(PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO.
29

PLATE 1 PLAN-PROFILE O. P. R. & R. E. STANDARD
DIETZGEN CORPORATION
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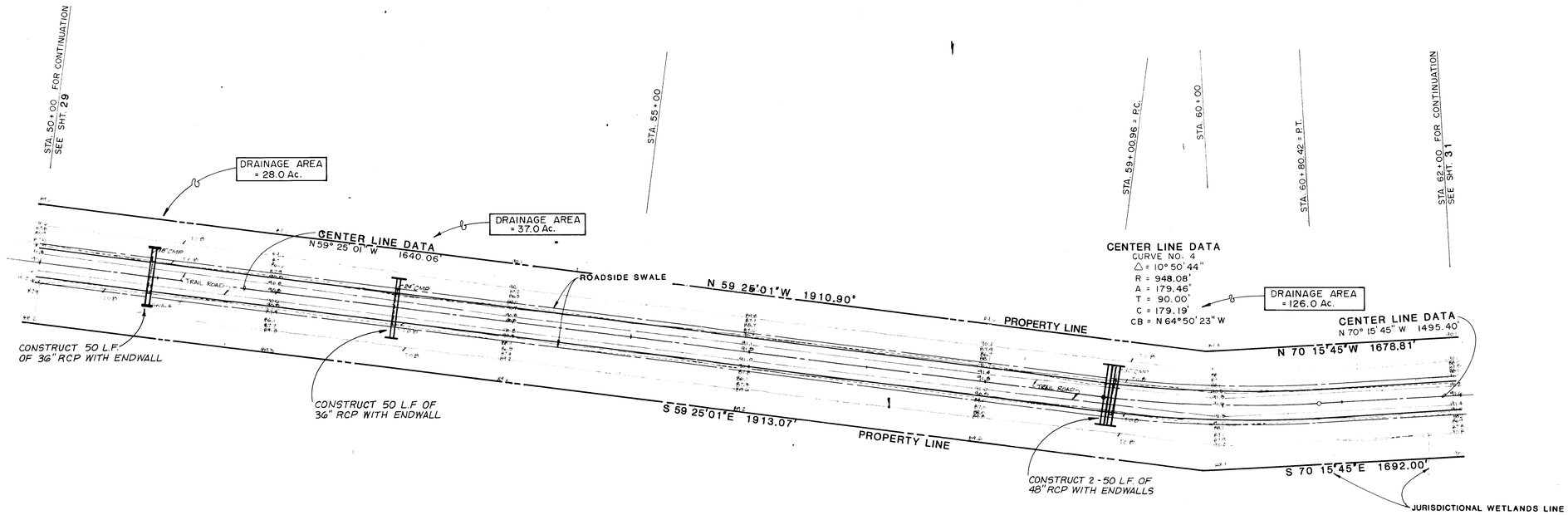
JT 89-113-9



PLAN — SURVEYED — PLOTTED — NOTE BOOK — ALIGNMENT CHECKED — BY — No. — DATE

PROFILE — SURVEYED — PLOTTED — NOTE BOOK — GRADES CHECKED — BY — No. — ALL PLAN NOTATIONS CHECKED — DATE

PLATE 1 PLAN-PROFILE O. P. R. & R. E. STANDARD
DIETZGEN CORPORATION
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REVISIONS

ENG PROJ. NO 89-113-9

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DATE JUNE 18, 1990

PLAN AND PROFILE
(STA. 50+00 – STA. 62+00)

TRAIL RIDGE LANDFILL
(PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE FLORIDA

DRAWING NO
30

JT PROJ NO 89-113-9

STA. 62+00 FOR CONTINUATION SEE SHT. 30

STA. 65+00

STA. 70+00

NORTH

STA. 75+00

STA. 75+75.82 = P.C.

STA. 76+00 FOR CONTINUATION SEE SHT. 32

CENTER LINE DATA
N 70° 15' 45" W 1495.40'

N 70 15'45"W 1678.81'

PROPERTY LINE

ROADSIDE SWALE

TRAIL ROAD

100 LF-15" RCP W/M.E.S.

PROPERTY LINE

S 70 15'45"E 1692.00'

SECURITY GATE

JURISDICTIONAL WETLANDS LINE

1" = 50' HORIZONTAL
1" = 2' VERTICAL

62 63 64 65 66 67 68 69 70 71 72 73 74 75 76

98 96 94 92 90 88 86 84 82

EL. 92.51

300' V.C.

PVC STA. 67+50
EL. 92.51

69+00
EL. 92.90

PVI STA. 69+00
EL. 92.51

PVT & PVC STA. 70+50
EL. 93.26

PVI STA. 72+00
EL. 94.01

PVT STA. 73+50
EL. 94.01

STA. 75+75.82 = P.C.
EL. 94.9

0.00%

+0.50%

PROPOSED GRADE LINE
0.00%

TE+00
EL. 93.82

EXISTING CENTERLINE GRADE

300' V.C.

PLATE 1 PLAN-PROFILE O. P. R. & R. E. STANDARD
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PLAN
SURVEYED BY
PLOTTED BY
NOTE BOOK
ALIGNMENT CHECKED BY
No.
DATE

PROFILE
SURVEYED BY
PLOTTED BY
NOTE BOOK
GRADES CHECKED BY
No.
DATE

REVISIONS

ENG PROJ NO 89-113-9
DRAWN BY TLD
CHECKED BY JAT
DATE JUNE 18, 1990

PLAN AND PROFILE
(STA. 62+00 - STA. 76+00)

TRAIL RIDGE LANDFILL
(PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO
31

JT PROJ NO 89-113-9

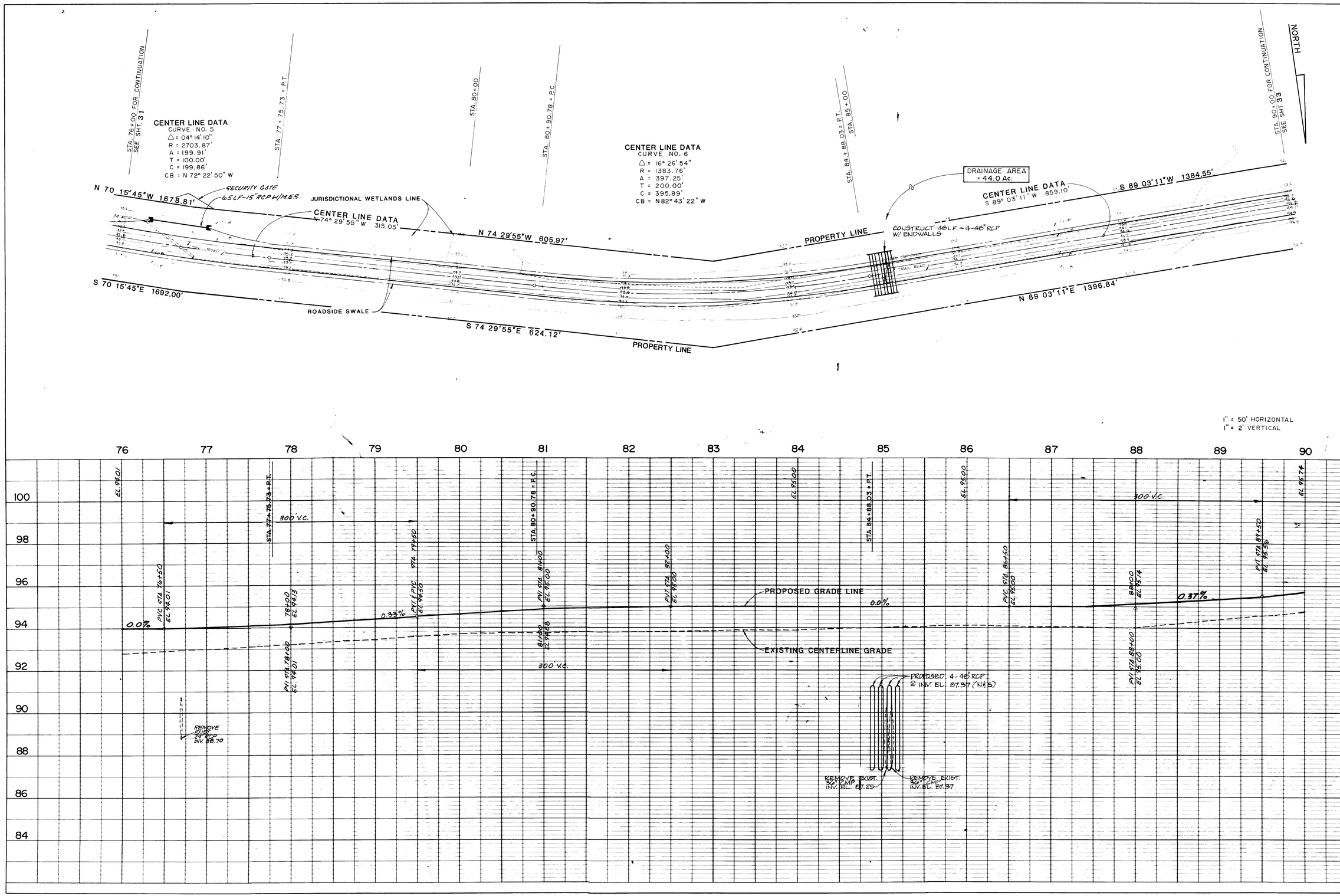

PLATE 1 PLAN-PROFILE O. P. R. & R. E. STANDARD
DIETZGEN CORPORATION
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PLAN
NOTE BOOK
NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE

PROFILE
NOTE BOOK
NO.
SURVEYED
PLOTTED
GRADES CHECKED
B.M. & NOTED
STRUCTURE NOTATIONS CHECKED
BY
DATE

REVISIONS

ENG. PROJ. NO. E89-113-9
DRAWN BY TLD
CHECKED BY JAT
DATE JUNE 11, 1990

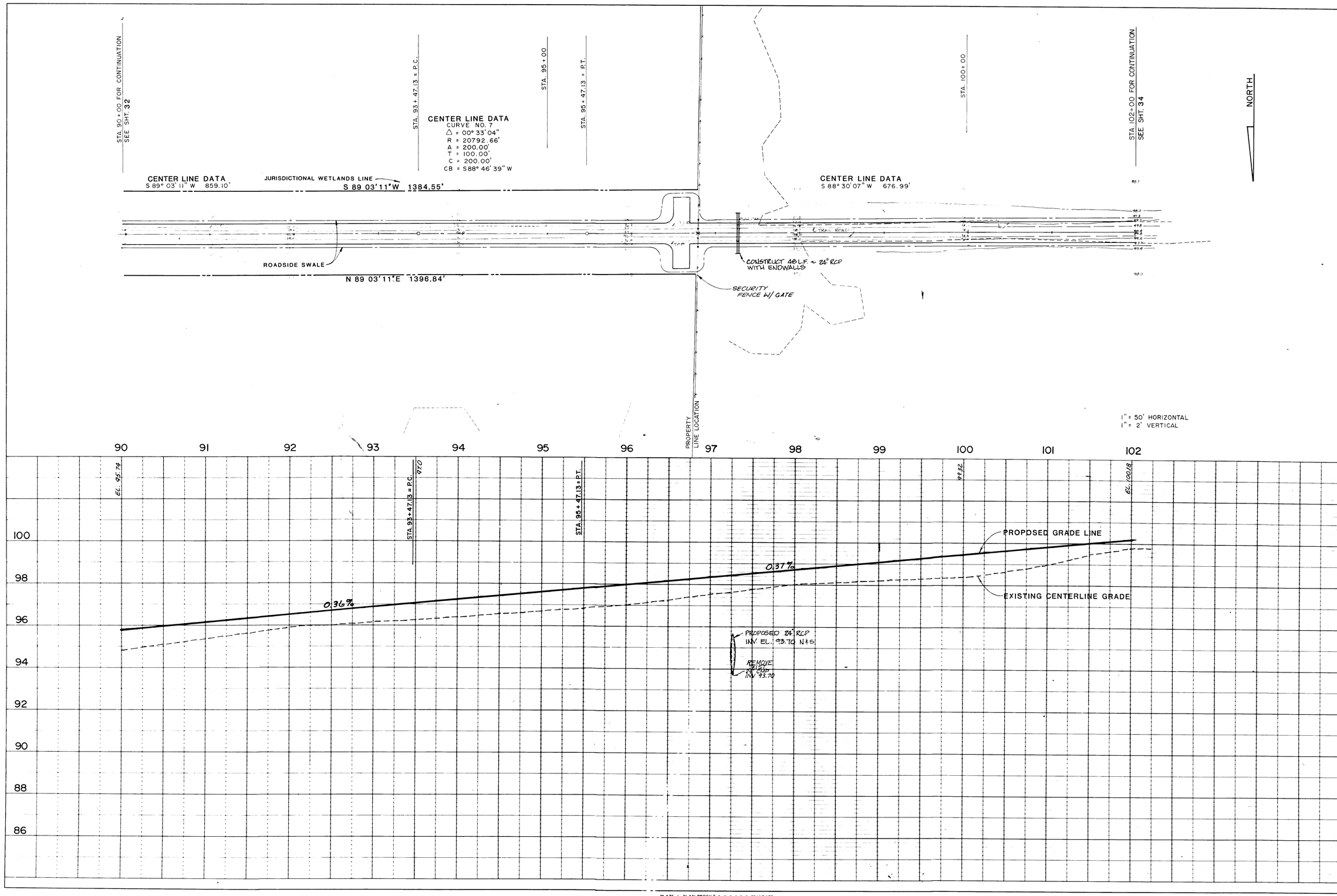
PLAN AND PROFILE
(STA. 76+00 - STA. 90+00)

TRAIL RIDGE LANDFILL
(PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO.
32

JT PROJ NO 89-113-9



PLAN
NOTE BOOK
No.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT OF WAY CHECKED

PROFILE
NOTE BOOK
No.

PLATE PLAN-PROFILE O. P. R. & R. E. STANDARD
DIETZGEN CORPORATION
PRINTED IN U.S.A.

REVISIONS

ENG. PROJ. NO. E89-113-9
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CHECKED BY JAT
DATE 1990

PLAN AND PROFILE
(STA. 90+00 - 102+24.12)

TRAIL RIDGE LANDFILL
(PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE FLORIDA

DRAWING NO.
33

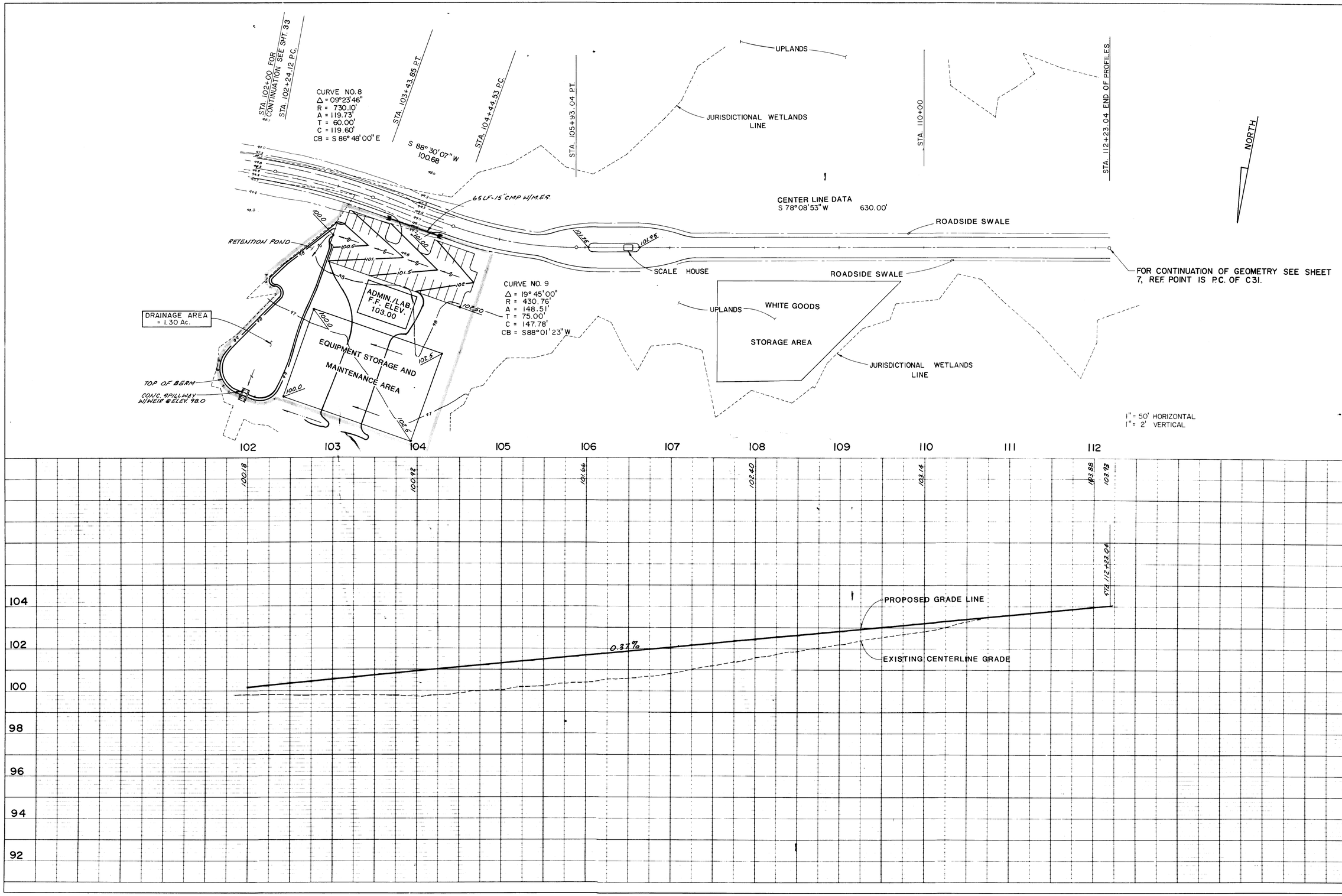


PLATE 1 PLAN PROFILE U.S.A.R.E. STANDARD DIETZGEN CORPORATION

PLAN
NOTE BOOK No.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
R/W NOTED
STRUCTURE NOTATIONS CHECKED
BY
DATE

PROFILE
NOTE BOOK No.
SURVEYED
PLOTTED
GRADES CHECKED
B.M. NOTED
STRUCTURE NOTATIONS CHECKED
BY
DATE

REVISIONS

ENG. PROJ. NO. 89-113-9
DRAWN BY RWH
CHECKED BY JAT
DATE JUNE 18, 1990

PLAN AND PROFILE
(STA. 102+00 - 112+23.04)

TRAIL RIDGE LANDFILL
(PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO.
34

PROJ. NO. 89-113-9

STRUCTURE NUMBER	STRUCTURE DESCRIPTION	TOP ELEVATION	SLOT ELEVATION	INVERT ELEVATION
S 1	EXTEND PIPE THRU BERM	---	---	265.00 (18" W)
S 2	MOD. FDOT TYPE 'E' INLET (DETAIL A)	146.50	143.76 (S)	141.76 (18" E) 141.76 (42" W)
S 3	CONST. MITERED END INTO CONC. PAVING	---	---	141.76 (42" E)
S 4	EXTEND PIPE THRU BERM	---	---	265.00 (18" W)
S 5	MOD. FDOT TYPE 'E' INLET (DETAIL A)	146.50	143.76 (S)	141.76 (18" E) 141.30 (42" W)
S 6	CONST. MITERED END INTO CONC. PAVING	---	---	141.30 (42" E)
S 7	FDOT TYPE 'E' INLET	145.09	142.35 (S)	139.85 (24" N)
S 8	CONST. MITERED END INTO CONC. PAVING	---	---	139.85 (24" S)
S 9	EXTEND PIPE THRU BERM	---	---	265.00 (18" N)
S 10	MOD. FDOT TYPE 'E' INLET (DETAIL A)	138.91	136.17 (W)	134.17 (18" S) 134.17 (42" N)
S 11	CONST. MITERED END INTO CONC. PAVING	---	---	134.17 (42" S)
S 12	EXTEND PIPE THRU BERM	---	---	265.00 (18" N)
S 13	MOD. FDOT TYPE 'E' INLET (DETAIL A)	134.91	132.17 (W)	130.17 (18" S) 130.17 (42" N)
S 14	CONST. MITERED END INTO CONC. PAVING	---	---	130.17 (42" S)
S 15	EXTEND PIPE THRU BERM	---	---	265.00 (18" N)
S 16	MOD. FDOT TYPE 'E' INLET (DETAIL A)	131.81	129.07 (W)	127.07 (18" S) 127.07 (42" N)
S 17	CONST. MITERED END INTO CONC. PAVING	---	---	127.07 (42" S)

STRUCTURE NUMBER	STRUCTURE DESCRIPTION	TOP ELEVATION	SLOT ELEVATION	INVERT ELEVATION
S 18	EXTEND PIPE THRU BERM	---	---	265.00 (18" N)
S 19	MOD. FDOT TYPE 'E' INLET (DETAIL A)	126.23	123.49 (W)	121.49 (18" S) 121.49 (42" N)
S 20	CONST. MITERED END INTO CONC. PAVING	---	---	121.49 (42" S)
S 21	FDOT TYPE 'E' INLET	122.65	119.91 (NW)	115.45 (24" NE)
S 22	CONST. MITERED END INTO CONC. PAVING	---	---	115.45 (24" SW)
S 23	EXTEND PIPE THRU BERM	---	---	265.00 (18" E)
S 24	MOD. FDOT TYPE 'E' INLET (DETAIL B)	121.50	118.76 (S)	116.76 (18" W) 116.76 (42" E)
S 25	FDOT TYPE 'E' INLET W/ 7' TYPE J BOTTOM (ALTERNATE A)	121.50	118.76 (S)	116.76 (42" W) 113.76 (42" N)
S 26	EXTEND PIPE THRU BERM	---	---	265.00 (18" E)
S 27	MOD. FDOT TYPE 'E' INLET (DETAIL A)	121.50	118.76 (N)	116.76 (18" W) 116.76 (42" E)
S 28	FDOT TYPE 'E' INLET W/ 7' TYPE J BOTTOM (ALTERNATE A)	121.50	118.76 (N)	116.76 (42" W) 113.76 (42" S)
S 29	FDOT TYPE 'E' INLET	121.50	118.76 (N) 118.76 (S)	116.76 (24" E)
S 30	FDOT TYPE 'E' INLET W/ 7' TYPE J BOTTOM (ALTERNATE A)	121.50	118.76 (N) 118.76 (S)	116.76 (24" W) 110.96 (42" N) 110.46 (48" SE)
S 31	INLET STRUCTURE	115.00	107.80 (SW)	109.16 (48" NW) 102.89 (DBL. 48" SE)
S 32	EXTEND PIPE THRU BERM	---	---	265.00 (18" SE)
S 33	MOD. FDOT TYPE 'E' INLET (DETAIL B)	121.77	119.03 (SW)	117.03 (18" NW) 109.85 (42" SE)

STRUCTURE NUMBER	STRUCTURE DESCRIPTION	TOP ELEVATION	SLOT ELEVATION	INVERT ELEVATION
S 34	CONST. MITERED END INTO CONC. PAVING	---	---	109.85 (42" NW)
S 35	FDOT TYPE 'E' INLET	123.02	120.28 (SW)	115.85 (24" SE)
S 36	CONST. MITERED END INTO CONC. PAVING	---	---	115.85 (24" NW)
S 37	EXTEND PIPE THRU BERM	---	---	265.00 (18" S)
S 38	MOD. FDOT TYPE 'E' INLET (DETAIL B)	126.80	124.06 (W)	122.06 (18" N) 122.06 (42" S)
S 39	CONST. MITERED END INTO CONC. PAVING	---	---	122.06 (42" N)
S 40	EXTEND PIPE THRU BERM	---	---	265.00 (18" S)
S 41	MOD. FDOT TYPE 'E' INLET (DETAIL B)	131.94	129.20 (W)	127.20 (18" N) 127.20 (42" S)
S 42	CONST. MITERED END INTO CONC. PAVING	---	---	127.20 (42" N)
S 43	EXTEND PIPE THRU BERM	---	---	265.00 (18" S)
S 44	MOD. FDOT TYPE 'E' INLET (DETAIL B)	135.04	132.30 (W)	130.30 (18" N) 130.30 (42" S)
S 45	CONST. MITERED END INTO CONC. PAVING	---	---	130.30 (42" N)
S 46	EXTEND PIPE THRU BERM	---	---	265.00 (18" S)
S 47	MOD. FDOT TYPE 'E' INLET (DETAIL B)	139.03	136.29 (W)	134.29 (18" N) 134.29 (42" S)
S 48	CONST. MITERED END INTO CONC. PAVING	---	---	134.29 (42" N)
S 49	FDOT TYPE 'E' INLET	144.76	142.02 (N)	139.85 (24" S)
S 50	CONST. MITERED END INTO CONC. PAVING	---	---	139.85 (24" N)

STRUCTURE NUMBER	STRUCTURE DESCRIPTION	TOP ELEVATION	SLOT ELEVATION	INVERT ELEVATION
S 51	EXTEND PIPE THRU BERM	---	---	265.00 (18" W)
S 52	MOD. FDOT TYPE 'E' INLET (DETAIL B)	146.50	143.76 (N)	141.76 (18" E) 141.30 (42" W)
S 53	CONST. MITERED END INTO CONC. PAVING	---	---	141.30 (42" E)
S 54	EXTEND PIPE THRU BERM	---	---	265.00 (18" W)
S 55	MOD. FDOT TYPE 'E' INLET (DETAIL B)	146.50	143.76 (N)	141.76 (18" E) 141.76 (42" W)
S 56	CONST. MITERED END INTO CONC. PAVING	---	---	141.76 (42" E)
S 57	FDOT TYPE 'E' INLET	134.50	131.76 (W)	130.76 (30" N)
S 58	CONST. MITERED END INTO CONC. PAVING	---	---	130.76 (30" S)
S 59	FDOT TYPE 'E' INLET	130.27	127.53 (NW)	126.53 (30" NE)
S 60	CONST. MITERED END INTO CONC. PAVING	---	---	126.53 (30" SW)
S 61	FDOT TYPE 'E' INLET	128.15	125.41 (NW)	124.41 (30" NE)
S 62	CONST. MITERED END INTO CONC. PAVING	---	---	124.41 (30" SW)
S 63	FDOT TYPE 'E' INLET	124.50	121.76 (NW)	120.00 (24" NE)
S 64	CONST. MITERED END INTO CONC. PAVING	---	---	120.00 (24" SW)
S 65	FDOT TYPE 'E' INLET	123.50	120.76 (NW) 120.76 (SE)	117.41 (30" NE)
S 66	CONST. MITERED END INTO CONC. PAVING	---	---	117.41 (30" SW)
S 67	FDOT TYPE 'E' INLET	ERR	ERR (SW)	ERR (30" NW)

STRUCTURE NUMBER	STRUCTURE DESCRIPTION	TOP ELEVATION	SLOT ELEVATION	INVERT ELEVATION
S 68	CONST. MITERED END INTO CONC. PAVING	---	---	125.35 (30" NW)
S 69	FDOT TYPE 'E' INLET	135.72	132.98 (NW)	131.98 (30" SW)
S 70	CONST. MITERED END INTO CONC. PAVING	---	---	131.98 (30" NE)
S 71	FDOT TYPE 'E' INLET	139.91	137.17 (NW)	136.17 (30" SW)
S 72	CONST. MITERED END INTO CONC. PAVING	---	---	136.17 (30" NE)
S 73	CONCRETE ENDWALL DOUBLE 48" RCP	---	---	118.00 (DBL. 48" E)
S 74	CONCRETE ENDWALL DOUBLE 48" RCP	---	---	117.16 (DBL. 48" W)
S 75	INLET STRUCTURE	115.70	110.70 (NW)	106.13 (DBL. 48" S)
S 76	JUNCTION BOX	120.00	---	102.89 (DBL 48" N & S) 108.26 (48" SW)
S 77	CONCRETE ENDWALL DOUBLE 48" CMP	---	---	106.40 (DBL. 48" E)
S 78	CONCRETE ENDWALL DOUBLE 48" CMP	---	---	105.48 (DBL. 48" W)
S 79	CONCRETE ENDWALL 48" CMP	---	---	115.80 (48" NE)
S 80	CONST. MITERED END INTO CONC. PAVING	---	---	114.60 (48" SW)
S 81	4:1 MITERED END SECTION	---	---	101.65 (QUAD 24" NE)
S 82	4:1 MITERED END SECTION	---	---	101.00 (QUAD 24" SW)
S 83	FDOT TYPE 'E' INLET	121.50	118.76 (S)	116.76 (24" E)
S 84	FDOT TYPE 'E' INLET W/ 7' TYPE J BOTTOM (ALTERNATE A)	121.50	118.76 (S)	116.76 (24" W) 111.56 (42" S) 111.06 (48" N)

STRUCTURE NUMBER	STRUCTURE DESCRIPTION	TOP ELEVATION	SLOT ELEVATION	INVERT ELEVATION
S 85	FDOT TYPE 'E' INLET	121.50	118.76 (N) 118.76 (S)	116.76 (24" E)
S 86	FDOT TYPE 'E' INLET W/ 7' TYPE J BOTTOM (ALTERNATE A)	121.50	118.76 (S)	116.76 (24" W) 109.01 (42" S) 109.01 (48" NE)
S 87	FDOT TYPE 'E' INLET	116.65	115.90 (N) 115.90 (S)	114.44 (15" E)
S 88	FDOT TYPE 'E' INLET	116.65	115.90 (N) 115.90 (S)	114.16 (15" W) 114.16 (15" NE)
S 89	FDOT TYPE 'E' INLET	114.65	113.90 (N) 113.90 (S)	112.96 (15" NE)
S 90	FDOT TYPE 'E' INLET	114.65	113.90 (N) 113.90 (S)	112.68 (15" SW) 112.68 (15" N)
S 91	CONST. MITERED END INTO CONC. PAVING	---	---	111.77 (15" S)
S 92	4:1 MITERED END SECTION	---	---	105.49 (TRIP. 54" NE)
S 93	4:1 MITERED END SECTION	---	---	105.49 (TRIP. 54" SW)
S 94	4:1 MITERED END SECTION	---	---	114.00 (15" SW)
S 95	FDOT TYPE 'E' INLET	116.00	114.70 (W)	111.50 (15" E)
S 96	CONCRETE ENDWALL DOUBLE 48" CMP	---	---	112.80 (DBL. 48" E)
S 97	CONCRETE ENDWALL DOUBLE 48" CMP	---	---	112.25 (DBL. 48" W)
S 98	CONST. MITERED END INTO CONC. PAVING	---	---	129.00 (36" NE)
S 99	FDOT TYPE 'E' INLET	120.00	---	113.67 (36" NW) 113.67 (36" NE)
S 100	CONST. MITERED END INTO CONC. PAVING	---	---	111.50 (36" SW)
S 101	4:1 MITERED END SECTION	---	---	111.00 (15" W)
S 102	4:1 MITERED END SECTION	---	---	101.33 (DBL. 48" SW)
S 103	4:1 MITERED END SECTION	---	---	101.33 (DBL. 48" NW)

REVISIONS

FILE NO. 89.139
DRAWN BY RWH
CHECKED BY SAW
DATE JUNE 18, 1990

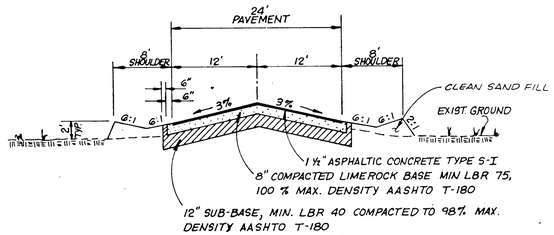
SCHEDULE OF DRAINAGE STRUCTURES

TRAIL RIDGE LANDFILL (PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO.

35

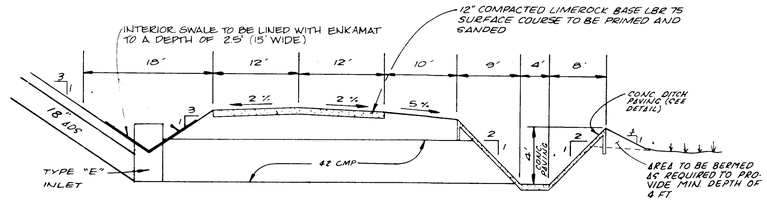


STA. 11+30 TO STA. 112 + 23

ENTRANCE ROAD DETAIL

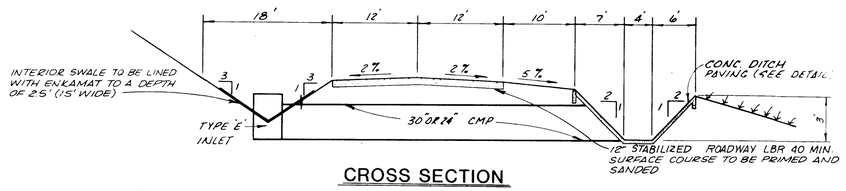
SCALE 1" - 10' HORIZ.
1" - 5' VERT.

D1 / 24 / 36



NORTHERLY AND SOUTHERLY ROADWAY DETAIL (CLASS I)

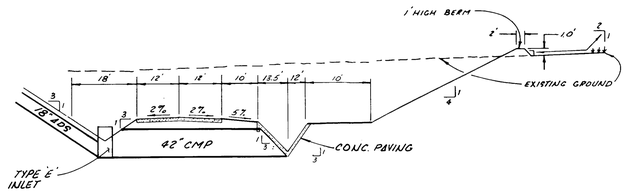
D2B / 24 / 36



CROSS SECTION

NORTHERLY, SOUTHERLY & EASTERLY ROADWAY (CLASS III)

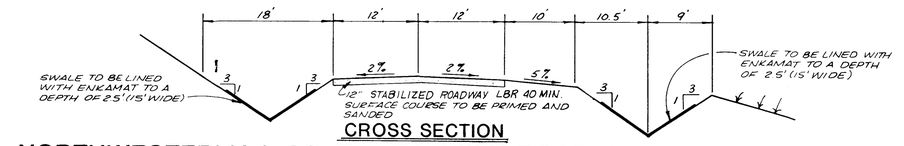
D5 / 24 / 36



CROSS SECTION

WESTERLY ROAD DETAIL (CLASS I)

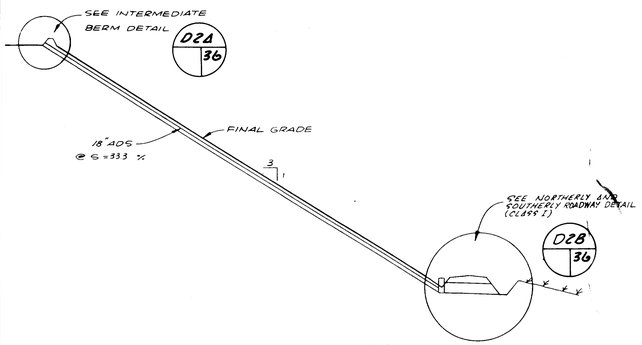
D3 / 24 / 36



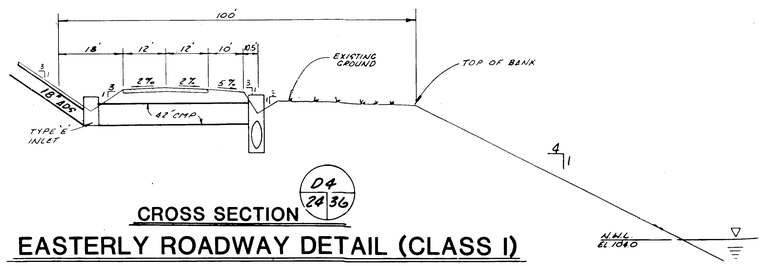
CROSS SECTION

NORTHWESTERLY & SOUTHWESTERLY ROADWAY DETAIL (CLASS III)

D6 / 24 / 36

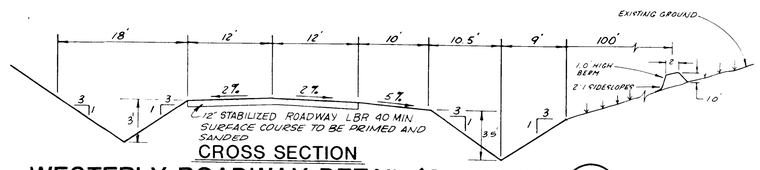


CROSS SECTION D2 / 24 / 36



CROSS SECTION D4 / 24 / 36

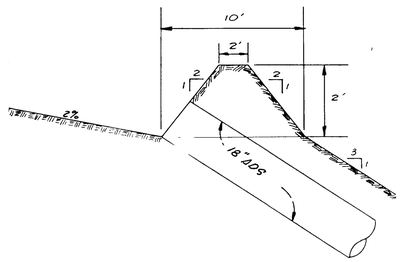
EASTERLY ROADWAY DETAIL (CLASS I)



CROSS SECTION

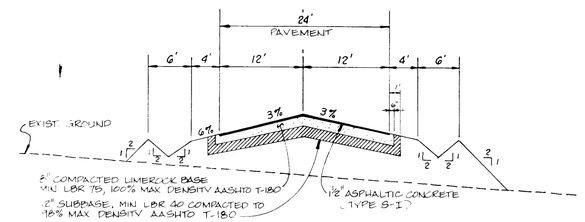
WESTERLY ROADWAY DETAIL (CLASS III)

D7 / 24 / 36



INTERMEDIATE BERM DETAIL

D2A / 24 / 36



ROADWAY SECTION BETWEEN CLASS I & CLASS III LANDFILLS

SCALE: 1"= 10' HORIZ.
1"= 2' VERT.

D8 / 24 / 36

REVISIONS

ENG. PROJ. NO. E89-113-9
DRAWN BY RMH
CHECKED BY SJH
DATE JUNE 18, 1990

PAVING AND DRAINAGE DETAILS

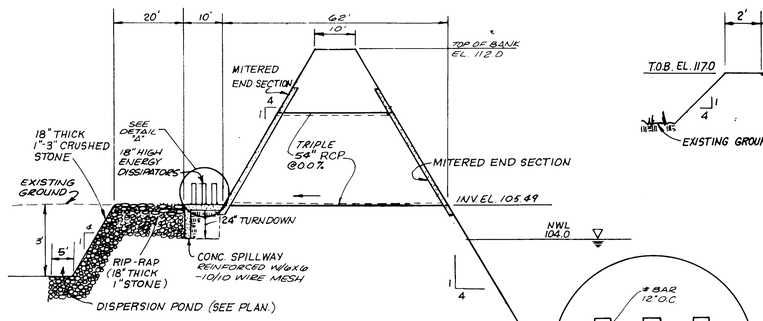
TRAIL RIDGE LANDFILL (PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO.

36

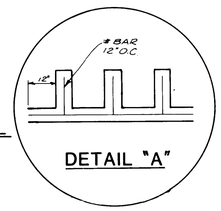
PROJ NO E89-113-9



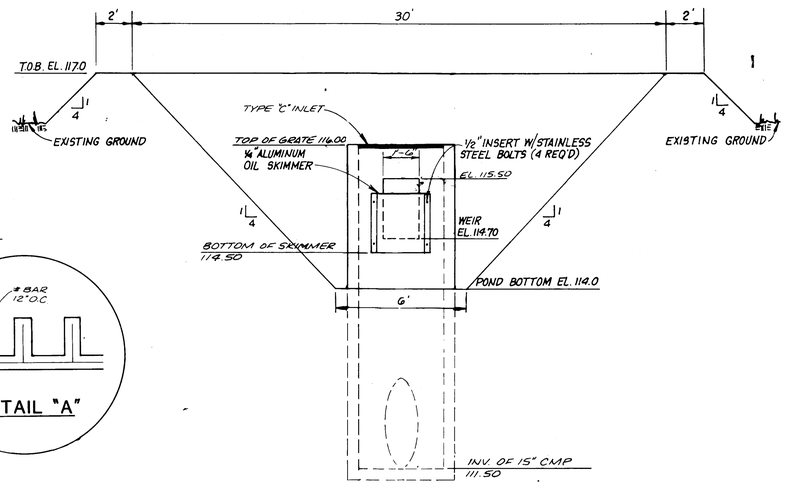
CROSS SECTION
CLASS 1 OUTFALL STRUCTURE DETAIL

N.T.S.

D9 / 24 / 36



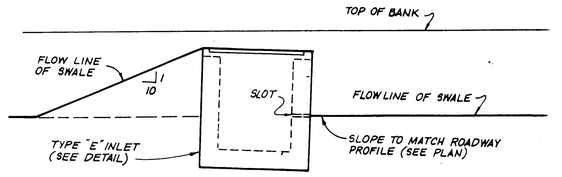
DETAIL "A"



CROSS SECTION
ROADWAY DETENTION POND DETAIL

N.T.S.

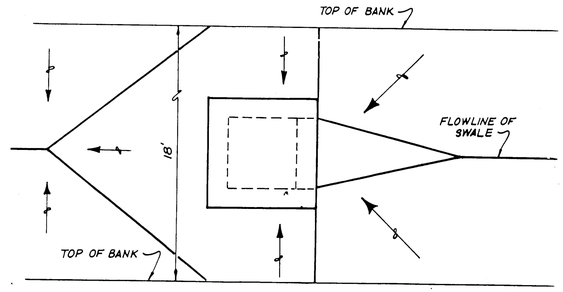
D11 / 24 / 37



SWALE GRADING PROFILE

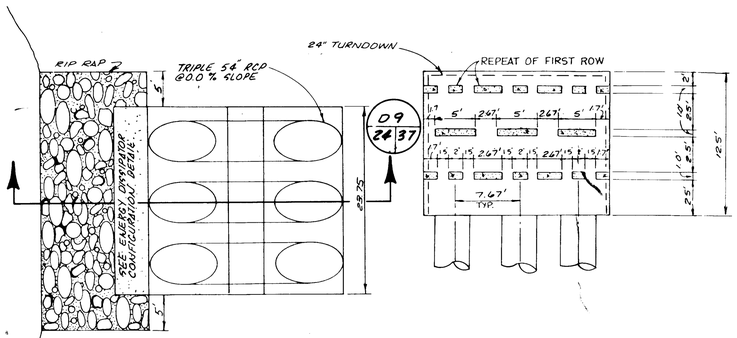
(IN VICINITY OF TYPE "E" INLET)

D15 / 24 / 37



PLAN VIEW

D13 / 24 / 37



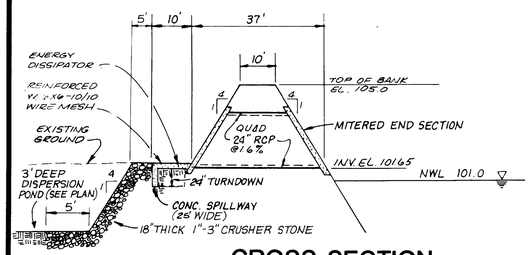
PLAN VIEW
CLASS I OUTFALL STRUCTURE DETAIL

N.T.S.

PLAN VIEW
ENERGY DISSIPATOR CONFIGURATION DETAIL

N.T.S.

D9 / 24 / 37



CROSS SECTION
CLASS III OUTFALL STRUCTURE DETAIL

N.T.S.

D10 / 24 / 37

N.T.S.

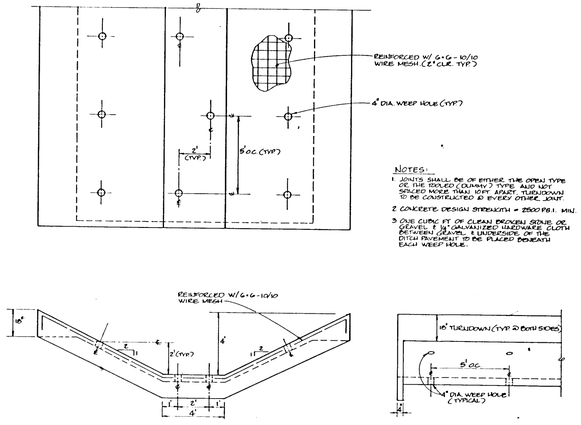
REVISIONS

ENG. PROJ. NO. 87-113-9
DRAWN BY: RHH
CHECKED BY: JAT
DATE: JUNE 18, 1990

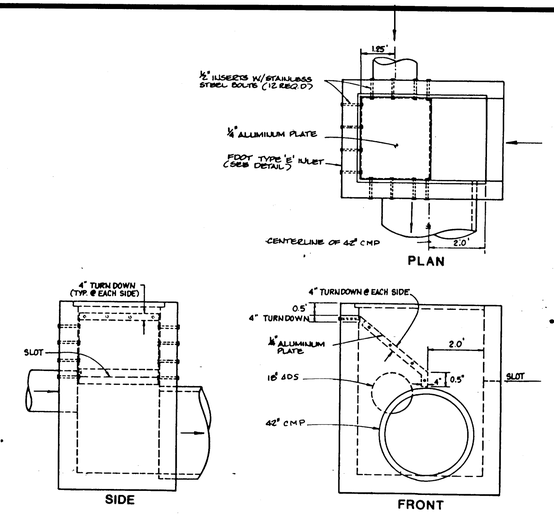
PAVING AND DRAINAGE DETAILS
TRAIL RIDGE LANDFILL
(PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO.
37

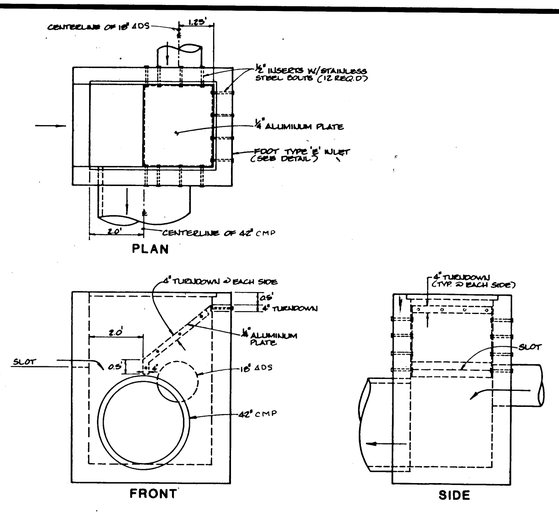


CONC. PAVING W/WEEP HOLES



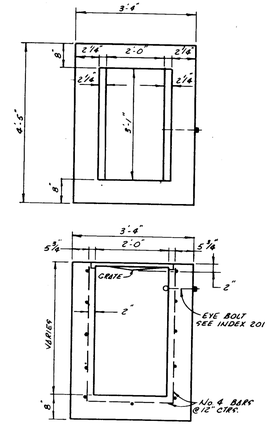
MODIFIED FDOT TYPE "E" INLET DETAIL - A

FOR STRUCTURES S-2, S-5, S-10, S-13, S-16, S-19, AND S-27

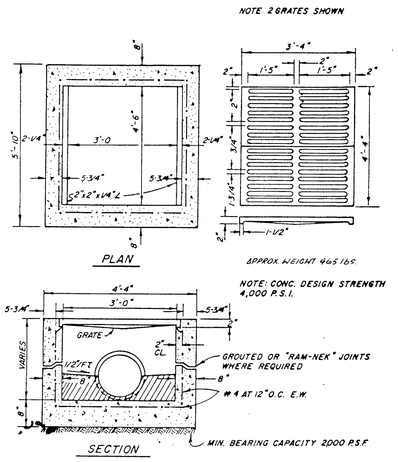


MODIFIED FDOT TYPE "E" INLET DETAIL - B

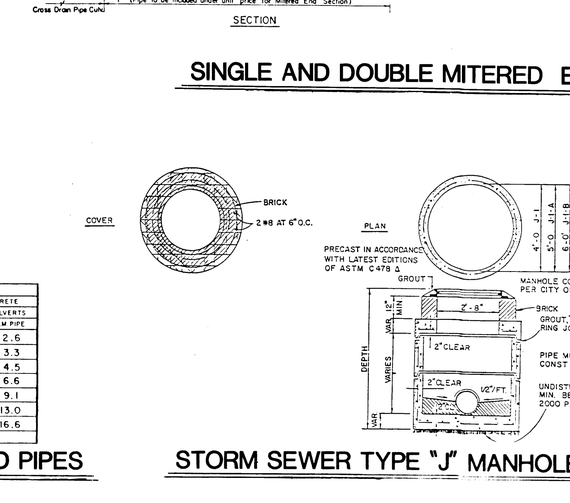
FOR STRUCTURES S-24, S-33, S-38, S-41, S-44, S-47, S-52, AND S-55.



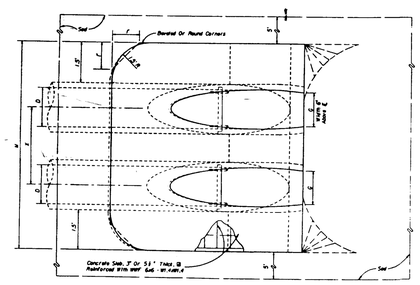
FDOT TYPE "C" INLET



FDOT TYPE "E" INLET



SINGLE AND DOUBLE MITERED END DETAIL FOR ROUND CONC. PIPE



DIMENSIONS AND QUANTITIES

	D	F	A	B	C	E	F	G	#	2'-0" CONCRETE SLAB (12" I.D. Pipe)				SODDING (150 LBS.)			
										Single Pipe	Double Pipe	Triple Pipe	Quad Pipe	Single Pipe	Double Pipe	Triple Pipe	Quad Pipe
2:1 Slope	15"	0'-2"	2'-6"	4'-0"	4'-10"	2'-0"	1'-2"	1'-10"	1'-2"	1.9	1.9	2.2	2.3	2.6	2.6	2.9	3.2
	18"	0'-2"	2'-9"	4'-3"	5'-1"	2'-0"	1'-3"	1'-11"	1'-3"	2.3	2.4	2.8	2.9	3.2	3.3	3.7	4.1
	24"	0'-2"	3'-3"	4'-9"	5'-7"	2'-0"	1'-4"	2'-0"	1'-4"	3.2	3.3	3.8	3.9	4.4	4.5	5.1	5.7
	30"	0'-2"	3'-9"	5'-3"	6'-1"	2'-0"	1'-6"	2'-2"	1'-6"	4.6	4.8	5.5	5.7	6.3	6.6	7.4	8.2
	36"	0'-2"	4'-3"	5'-9"	6'-7"	2'-0"	1'-8"	2'-4"	1'-8"	6.3	6.5	7.5	7.8	8.7	9.1	10.2	11.3
	42"	0'-2"	4'-9"	6'-3"	7'-1"	2'-0"	1'-10"	2'-6"	2'-0"	8.8	9.1	10.6	11.1	12.4	13.0	14.5	16.1
	48"	0'-2"	5'-3"	6'-9"	7'-7"	2'-0"	2'-1"	2'-9"	2'-0"	11.2	11.6	13.4	14.1	15.7	16.6	18.4	20.4
	54"	0'-2"	5'-9"	7'-3"	8'-1"	2'-0"	2'-3"	3'-0"	2'-3"	16.2		19.8		23.3			
4:1 Slope	15"	0'-2"	2'-6"	4'-0"	4'-10"	2'-0"	1'-2"	1'-10"	1'-2"	1.9	1.9	2.2	2.3	2.6	2.6	2.9	3.2
	18"	0'-2"	2'-9"	4'-3"	5'-1"	2'-0"	1'-3"	1'-11"	1'-3"	2.3	2.4	2.8	2.9	3.2	3.3	3.7	4.1
	24"	0'-2"	3'-3"	4'-9"	5'-7"	2'-0"	1'-4"	2'-0"	1'-4"	3.2	3.3	3.8	3.9	4.4	4.5	5.1	5.7
	30"	0'-2"	3'-9"	5'-3"	6'-1"	2'-0"	1'-6"	2'-2"	1'-6"	4.6	4.8	5.5	5.7	6.3	6.6	7.4	8.2
	36"	0'-2"	4'-3"	5'-9"	6'-7"	2'-0"	1'-8"	2'-4"	1'-8"	6.3	6.5	7.5	7.8	8.7	9.1	10.2	11.3
	42"	0'-2"	4'-9"	6'-3"	7'-1"	2'-0"	1'-10"	2'-6"	2'-0"	8.8	9.1	10.6	11.1	12.4	13.0	14.5	16.1
	48"	0'-2"	5'-3"	6'-9"	7'-7"	2'-0"	2'-1"	2'-9"	2'-0"	11.2	11.6	13.4	14.1	15.7	16.6	18.4	20.4
	54"	0'-2"	5'-9"	7'-3"	8'-1"	2'-0"	2'-3"	3'-0"	2'-3"	16.2		19.8		23.3			

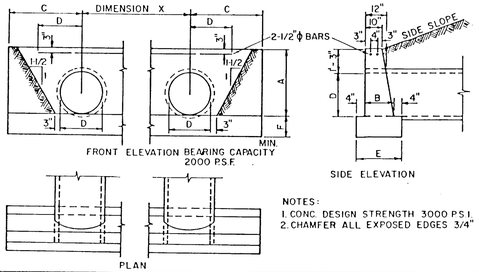
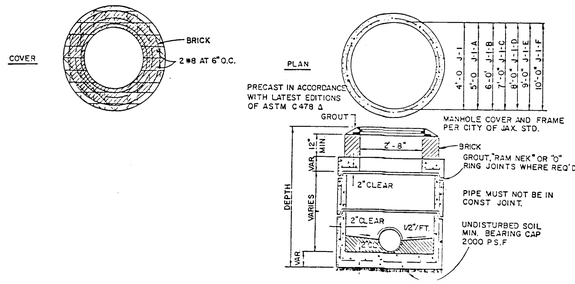


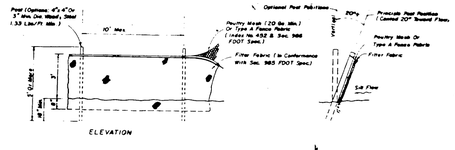
TABLE OF CONSTRUCTION DATA AND ESTIMATED QUANITIES FOR ROUND PIPE CULVERTS

CONSTRUCTION DATA									QUANITIES IN ONE ENDWALL - CU. YDS OF CONCRETE					
	AREA OF OPENING - SQ. FT.			DIMENSIONS					2 PIPE CULVERTS		3 PIPE CULVERTS		4 PIPE CULVERTS	
D	2 PIPES	3 PIPES	4 PIPES	X	A	B	C	E	F	CONC PIPE	C.M. PIPE	CONC PIPE	C.M. PIPE	CONC PIPE	C.M. PIPE
15"	2.4	3.6	4.9	2'-7"	2'-6"	1'-2"	4'-9"	1'-10"	1'-2"	1.9	1.9	2.2	2.3	2.6	2.6
18"	3.5	5.3	7.0	2'-10"	2'-9"	1'-3"	5'-3"	1'-11"	1'-3"	2.3	2.4	2.8	2.9	3.2	3.3
24"	6.3	9.4	12.6	3'-5"	3'-3"	1'-4"	6'-3"	2'-0"	1'-4"	3.2	3.3	3.8	3.9	4.4	4.5
30"	9.9	14.7	19.6	4'-3"	3'-9"	1'-6"	7'-3"	2'-2"	1'-6"	4.6	4.8	5.5	5.7	6.3	6.6
36"	14.1	21.2	28.3	5'-1"	4'-3"	1'-8"	8'-3"	2'-4"	1'-8"	6.3	6.5	7.5	7.8	8.7	9.1
42"	19.2	28.9	38.5	6'-0"	4'-9"	1'-10"	9'-3"	2'-6"	2'-0"	8.8	9.1	10.6	11.1	12.4	13.0
48"	25.1	37.7	50.3	6'-9"	5'-3"	2'-1"	10'-3"	2'-9"	2'-0"	11.2	11.6	13.4	14.1	15.7	16.6
54"	31.8	47.7	63.6	7'-8"	5'-9"	2'-6"	11'-3"	3'-2"	2'-3"	16.2		19.8		23.3	

CONC. ENDWALL FOR MULTIPLE 15" - 54" ROUND PIPES



STORM SEWER TYPE "J" MANHOLE



SILT FENCE - TYPICAL DETAIL

NTS

NOTES

1. STEEL POSTS WHICH SUPPORT SILT FENCE TO BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE.
2. TOE OF SILT FENCE TO BE TRENCHED IN WITH SPADE OR MECHANICAL TRENCHER SO THAT DOWNSLOPE FACE OF TRENCH IS FLAT AND PERPENDICULAR TO LINE OF FLOW.
3. TRENCH TO BE MIN. OF 6 INCHES DEEP AND THREE TO FOUR FEET WIDE TO ALLOW FOR SILT FENCE TO BE LAID IN GROUND AND BACKFILLED.
4. SILT FENCE TO BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO MOVENWIRE WHICH IS IN TURN ATTACHED TO STEEL FENCE POST.
5. ACCUMULATED SILT TO BE REMOVED WHEN IT REACHES DEPTH OF 6 INCHES AND UNIFORMLY DISTRIBUTED OVER SOIL IN PROJECT CONSTRUCTION AREA.
6. REMOVE AND DISPOSE OF SILT FENCE AFTER PROJECT HAS BEEN ACCEPTED BY OWNER AT NO ADDITIONAL COST TO OWNER.

SILT FENCE TYPICAL DETAIL

REVISIONS

ENG. PROJ. NO. E-89-113-9
DRAWN BY: C.D.T.
CHECKED BY: S.W.
DATE: JUNE 18, 1990

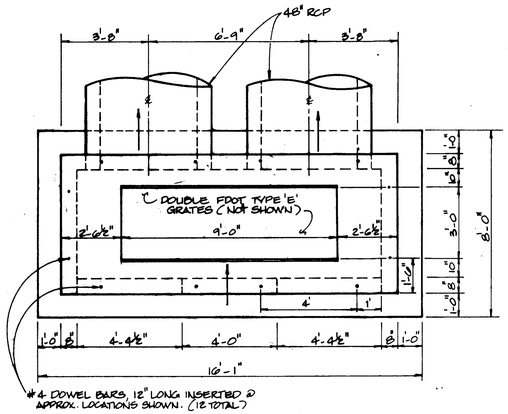
PAVING AND DRAINAGE DETAILS

TRAIL RIDGE LANDFILL (PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO.
38

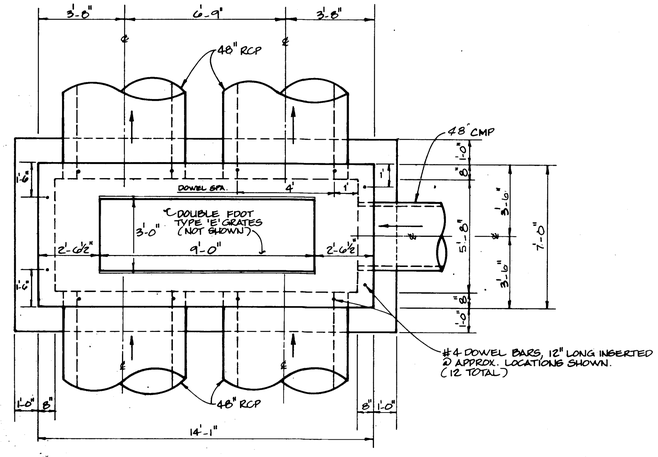
CASED FOR CONSTRUCTION
BY
DATE



INLET STRUCTURE DETAIL

STRUCTURE S75

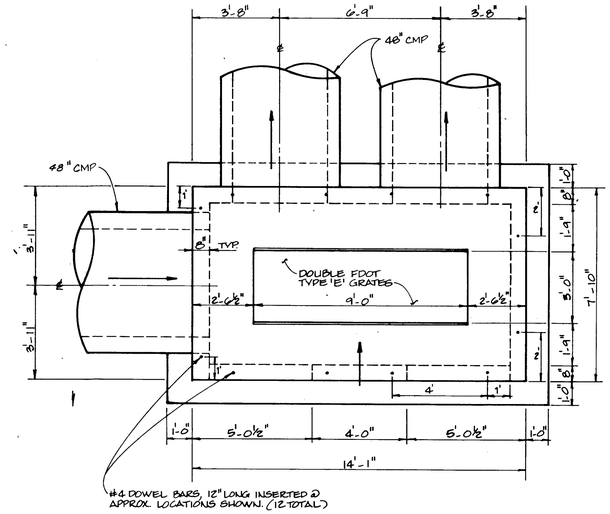
N.T.S.



JUNCTION BOX DETAIL

STRUCTURE S76

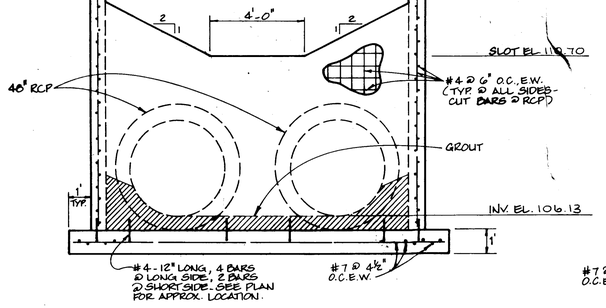
N.T.S.



INLET STRUCTURE DETAIL

STRUCTURE S31

N.T.S.



INLET STRUCTURE DETAIL

STRUCTURE S75

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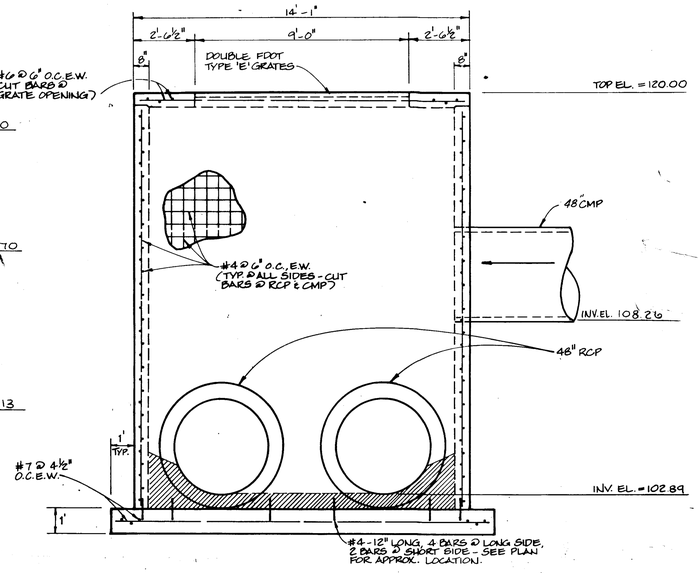

JUNCTION BOX DETAIL

STRUCTURE S76

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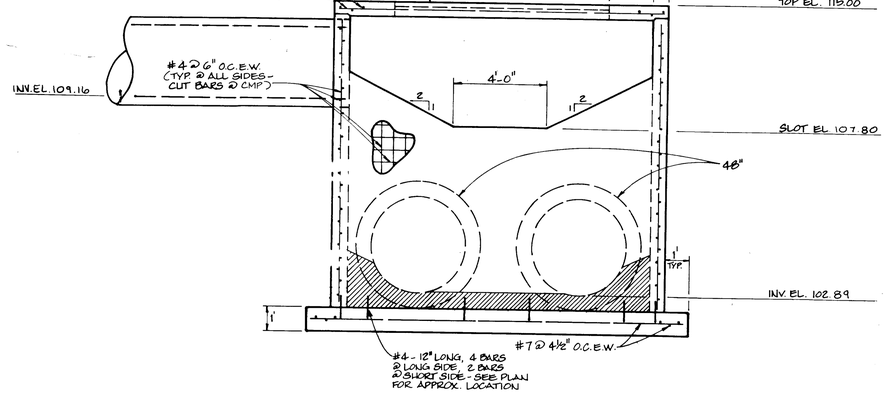


INLET STRUCTURE DETAIL

STRUCTURE S31

N.T.S.

REVISIONS

ENG. PROJ. NO. E 89-113-9

DRAWN BY: TLO

CHECKED BY: S.A.W.

DATE: JUNE 18, 1990

PAVING AND DRAINAGE DETAILS

TRAIL RIDGE LANDFILL (PLAN A)

England-Thims & Miller, Inc.

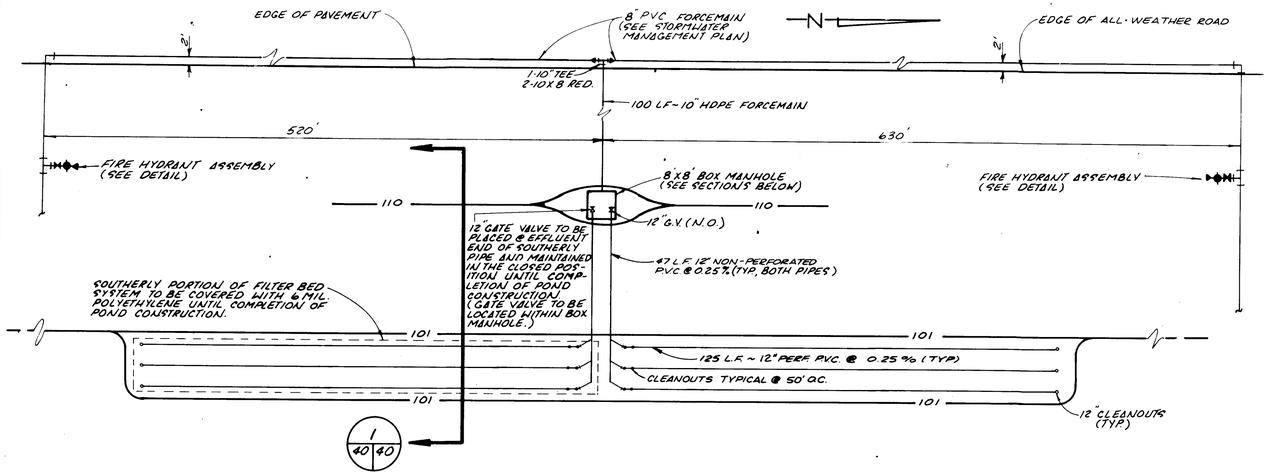
Consulting & Design Engineers

JACKSONVILLE, FLORIDA

DRAWING NO.

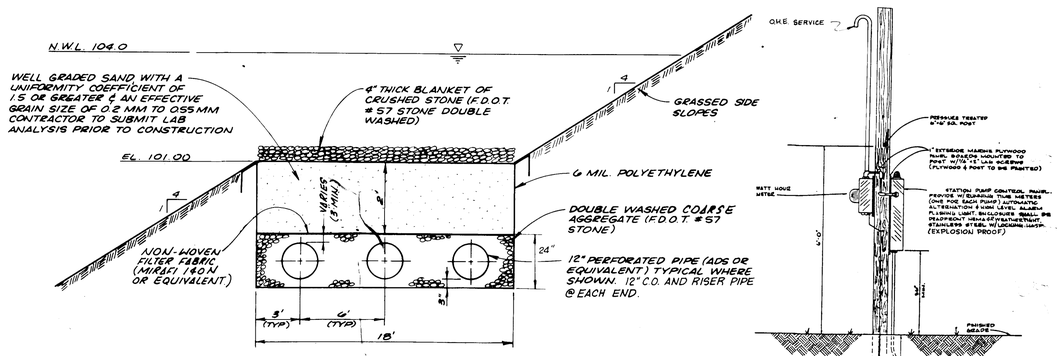
39

PROJ NO. 89-113-9



CLASS I FILTER BED SYSTEM PLAN VIEW

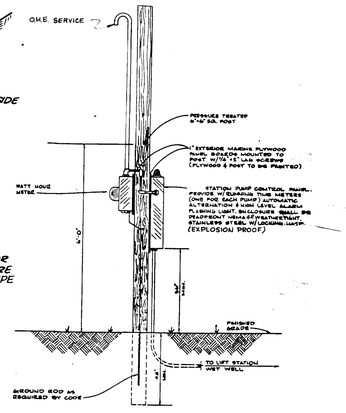
NTS



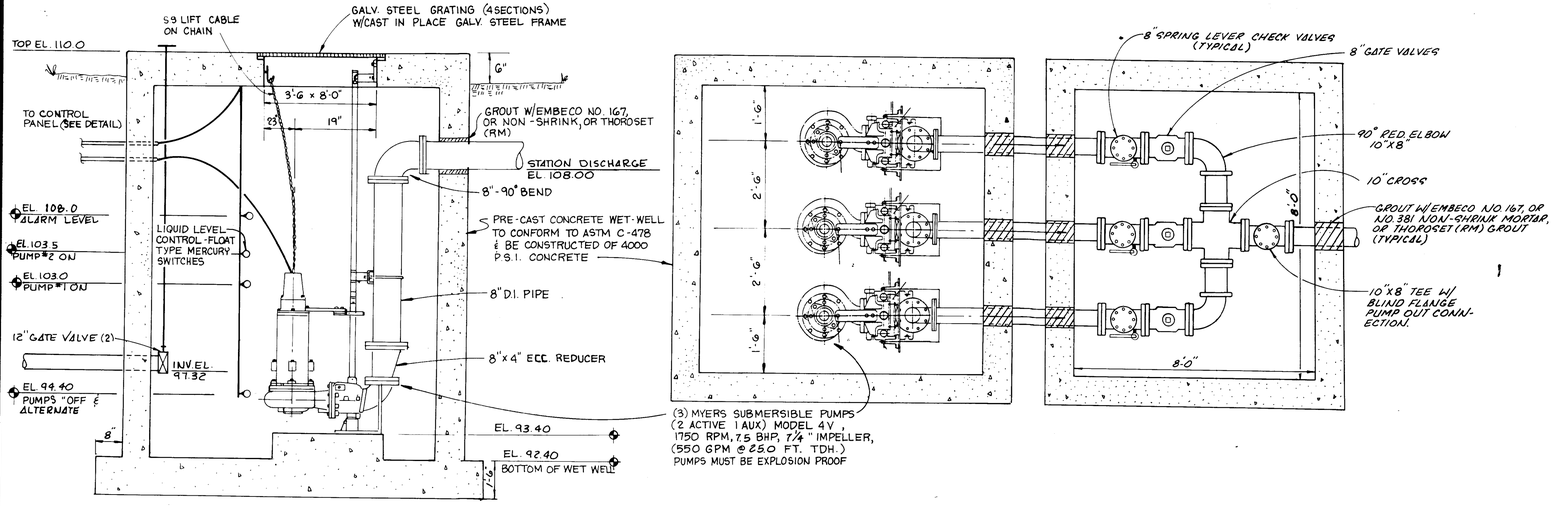
CLASS I FILTER BED SECTION

NTS

1/40/40

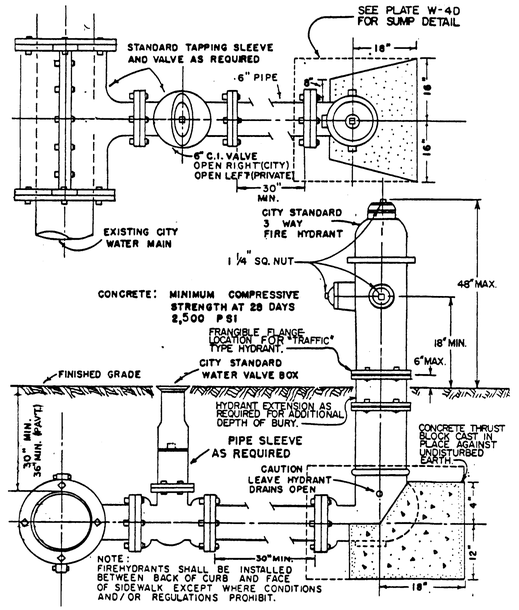


CONTROL PANEL - POST MOUNTED

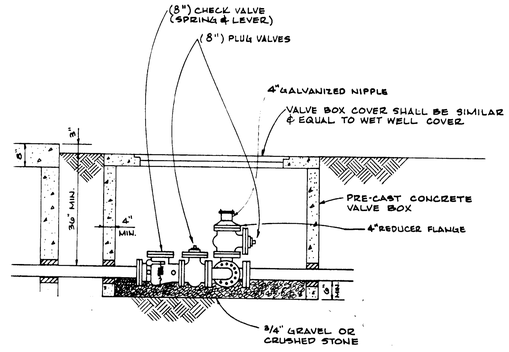


CLASS I STORMWATER PUMP STATION SECTIONS

(N.T.S.)



STD. FIRE HYDRANT DETAIL



VALVE PIT SECTION

REVISIONS

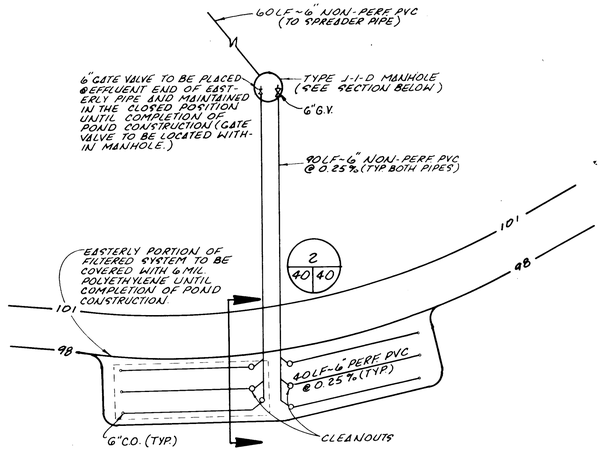
ENG. PROJ. NO. 87-113-9
DRAWN BY LP
CHECKED BY SJW
DATE JUNE 18,1990

CLASS I FILTER BED SYSTEMS DETAILS

TRAIL RIDGE LANDFILL (PLAN A)

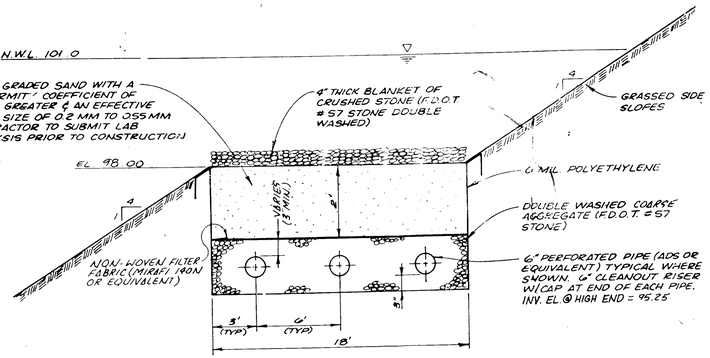
England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE, FLORIDA

DRAWING NO.
40



CLASS III FILTER BED SYSTEM PLAN VIEW

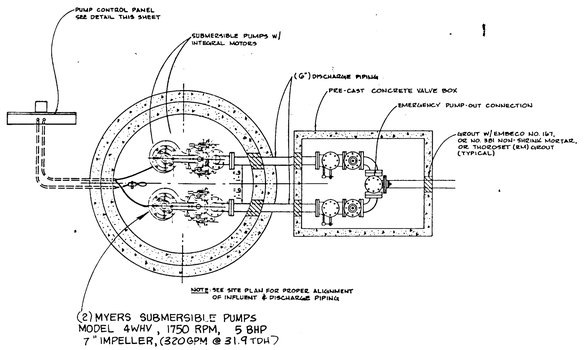
NTS



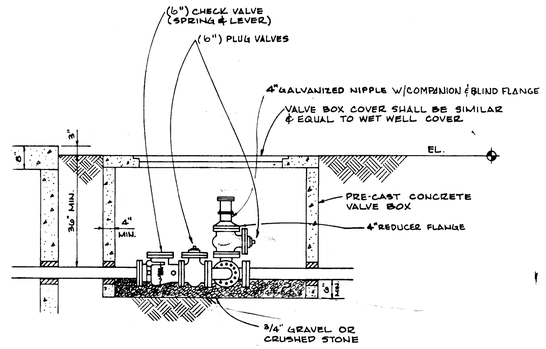
CLASS III FILTER BED SYSTEM SECTION

NTS

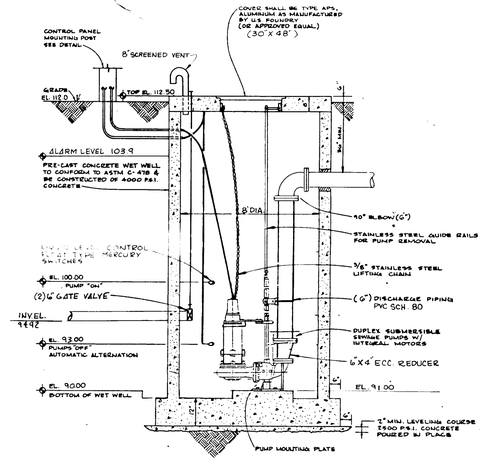
2 / 40 | 40



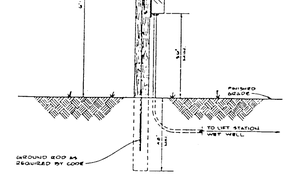
PLAN VIEW



VALVE PIT SECTION



PUMP STATION SECTION



CONTROL PANEL - POST MOUNTED

ENG PROJ. NO.	89113.9
DRAWN BY	RMH
CHECKED BY	JAT
DATE	JUNE 18, 1990

REVISIONS

CLASS III FILTER BED SYSTEM DETAILS

TRAIL RIDGE LANDFILL (PLAN A)

England-Thims & Miller, Inc.
Consulting & Design Engineers
JACKSONVILLE FLORIDA

DRAWING NO.
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89113.9