

Sunray Services, Inc. / USA Waste Services, Inc.

Tontitown Class I Landfill Permit Modification

Washington County, Arkansas

Permit Drawings
December 1996
Project #9541-12B

Sun 1 Mod Dec 96

OWNER CONTACT:
SUNRAY SERVICES, INC.
Mr. Kevin Hodges, PE
104 Old Missouri Rd.
Springdale, AR 72764
(501) 751-7024



VICINITY MAP
SCALE: N.T.S.

28631

DRAWING LIST

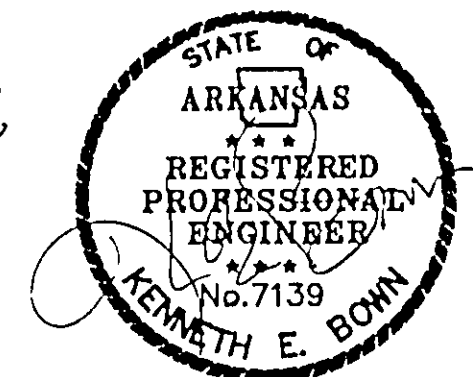
SHEET NUMBER	DESCRIPTION	REVISION	
		NO.	DATE
0	COVER SHEET	0	
1	SITE LAYOUT	0	
2	LANDFILL GRADING AND BOTTOM LINER PLAN	0	
3	LANDFILL FINAL COVER	0	
4	LANDFILL CROSS SECTION N1200	0	
5	LANDFILL CROSS SECTION N1000	0	
6	LANDFILL CROSS SECTION N800	0	
7	LANDFILL CROSS SECTION N600	0	
8	LANDFILL CROSS SECTION N400	0	
9	LANDFILL CROSS SECTION N200	0	
10	LANDFILL CROSS SECTION N00	0	
11	LANDFILL CROSS SECTION E650	0	
12	STORMWATER DRAINAGE PLAN	0	
13	BORROW AREA LAYOUT	0	
14	LEACHATE INTERCEPTOR DETAILS	0	
15	SINGLE/DOUBLE COMPOSITE LINER DETAILS AND CAP DETAILS	0	
16	LEACHATE COLLECTION/LEAK DETECTION DETAILS	0	
17	RETAINING WALL PLAN & CROSS SECTION	0	
18	LEACHATE STORAGE TANK PLAN AND ELEVATION	0	
19	HDPE LINER DETAILS	0	
20	MISCELLANEOUS DETAILS	0	

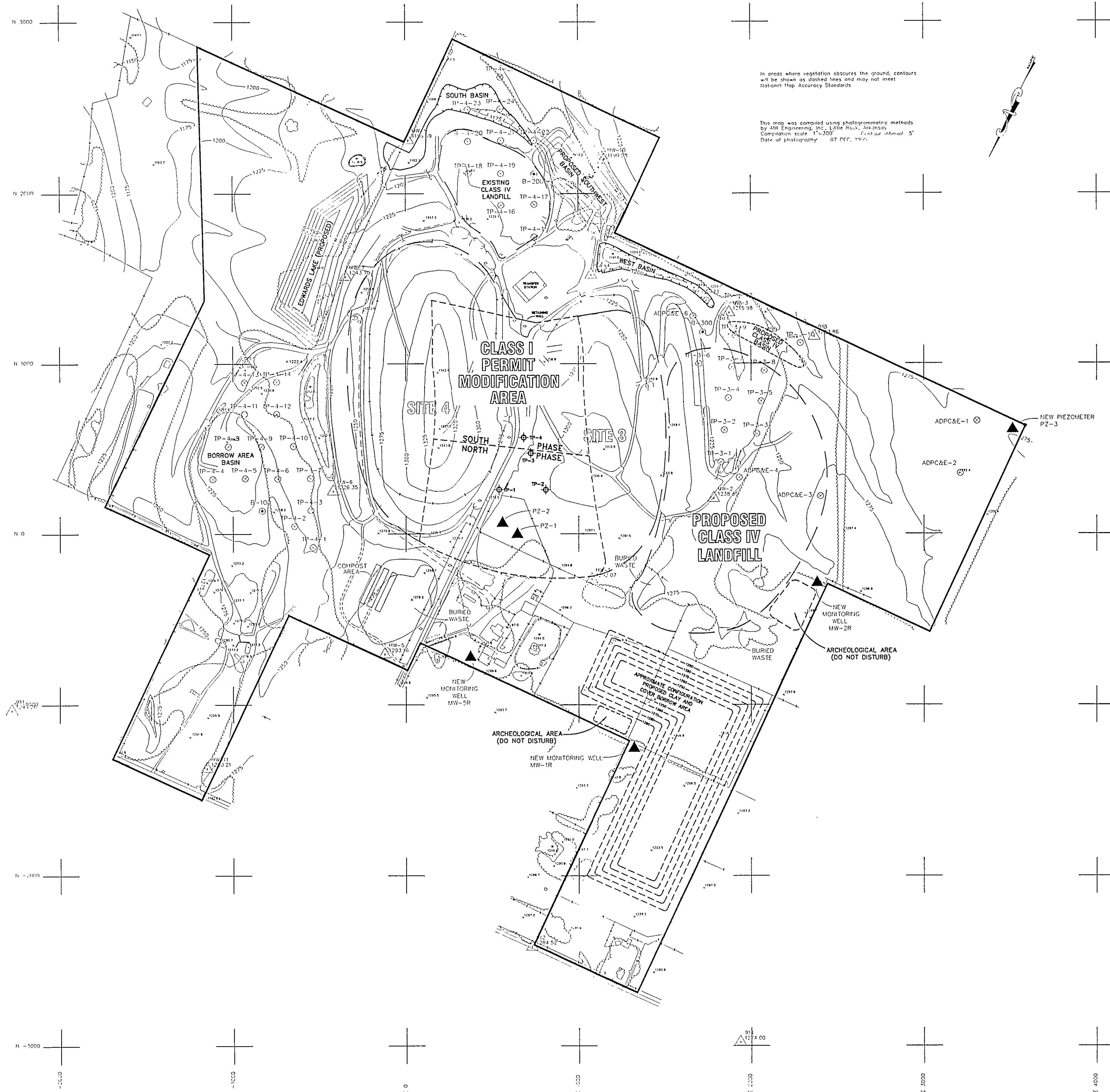
Prepared By:

GEC

GENESIS
ENVIRONMENTAL CONSULTING, INC.

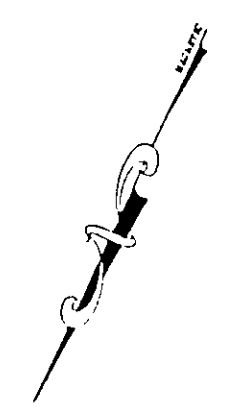
11400 West Baseline Road
Little Rock, AR 72209
(501) 455-2199





In areas where vegetation obscures the ground, contours will be shown as dashed lines and may not meet National Map Accuracy Standards.

This map was compiled using photogrammetric methods by AMI Engineering, Inc., Little Rock, Arkansas. Completion date: 12-2000. Contour interval: 5'. Date of photography: 07 DEC, 1997.



LEGEND	
—	PROPERTY LINE
x x x x x	FENCE
====	ROAD (ASPHALT)
-----	ROAD (GRAVEL)
—1300—	CONTOUR LINE
TP-3	PRESITE TEST PIT
⊙	TEST PIT
⊕	PIEZOMETER / BORING
△	MONITORING WELL / CONTROL POINT
▲	PROPOSED PIEZOMETERS
---	APPROXIMATE LIMIT OF BOTTOM LINER AREA
- - - -	APPROXIMATE LANDFILL LIMITS
□	BURIED WASTE (PRE-SUNRAY)
~~~~~	TREE OR VEGETATION
W	WATER (SEDIMENTATION BASIN)

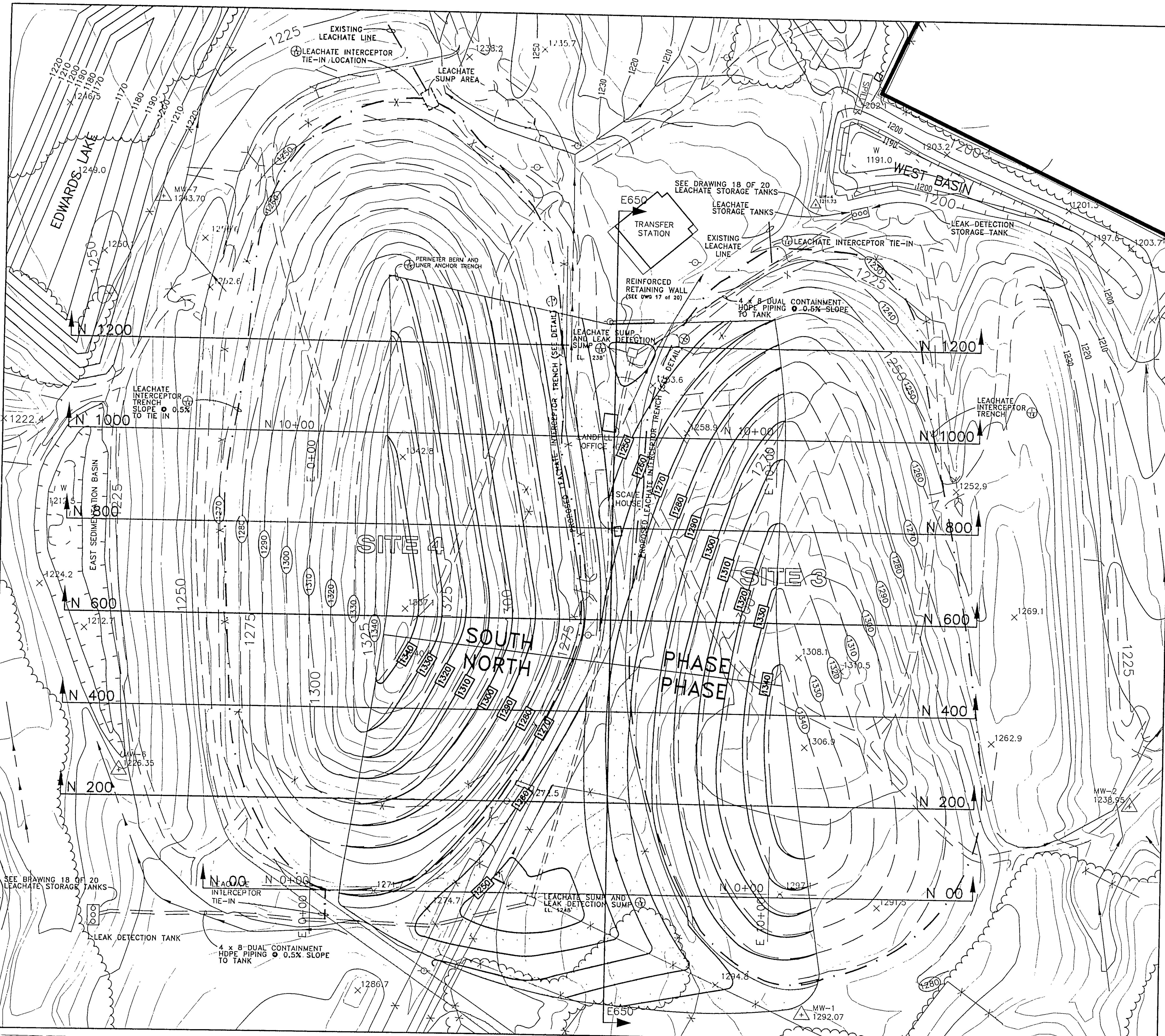
DRAWING 1 of 20

**SITE LAYOUT**  
**CLASS I LANDFILL PERMIT MODIFICATION**  
 TONTITOWN, ARKANSAS  
 SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.

Design by: KEB	<b>GEC</b> GENESIS ENVIRONMENTAL CONSULTING, INC.	Project No.: 9541-128
Checked by: PC	11400 West Bosque Road Little Rock, AR 72209	Date: DEC 1996
Drawn by: JFH		Scale: 1"=300'

C:\WORK\GEC\9541\TSK12B\10F20





**LEGEND:**

	APPROXIMATE DOUBLE COMPOSITE LINER CONTOUR
	DEC. 7, 1995 AERIAL SURVEY CONTOURS
	TOP OF DOUBLE COMPOSITE OR SINGLE COMPOSITE LINER CONTOUR
	APPROX. PERMIT CONTOUR (PERMITS 123-SP-2 & 162-SR-2)
	SPOT ELEVATION
	PROPERTY LINE
	DRAINAGE PATHWAY
	MONITORING WELL OR BENCH MARK
	PROPOSED LEACHATE INTERCEPTOR TRENCH

**DRAWING 2 of 20**

**LANDFILL GRADING AND BOTTOM LINER PLAN**  
**CLASS I LANDFILL PERMIT MODIFICATION**

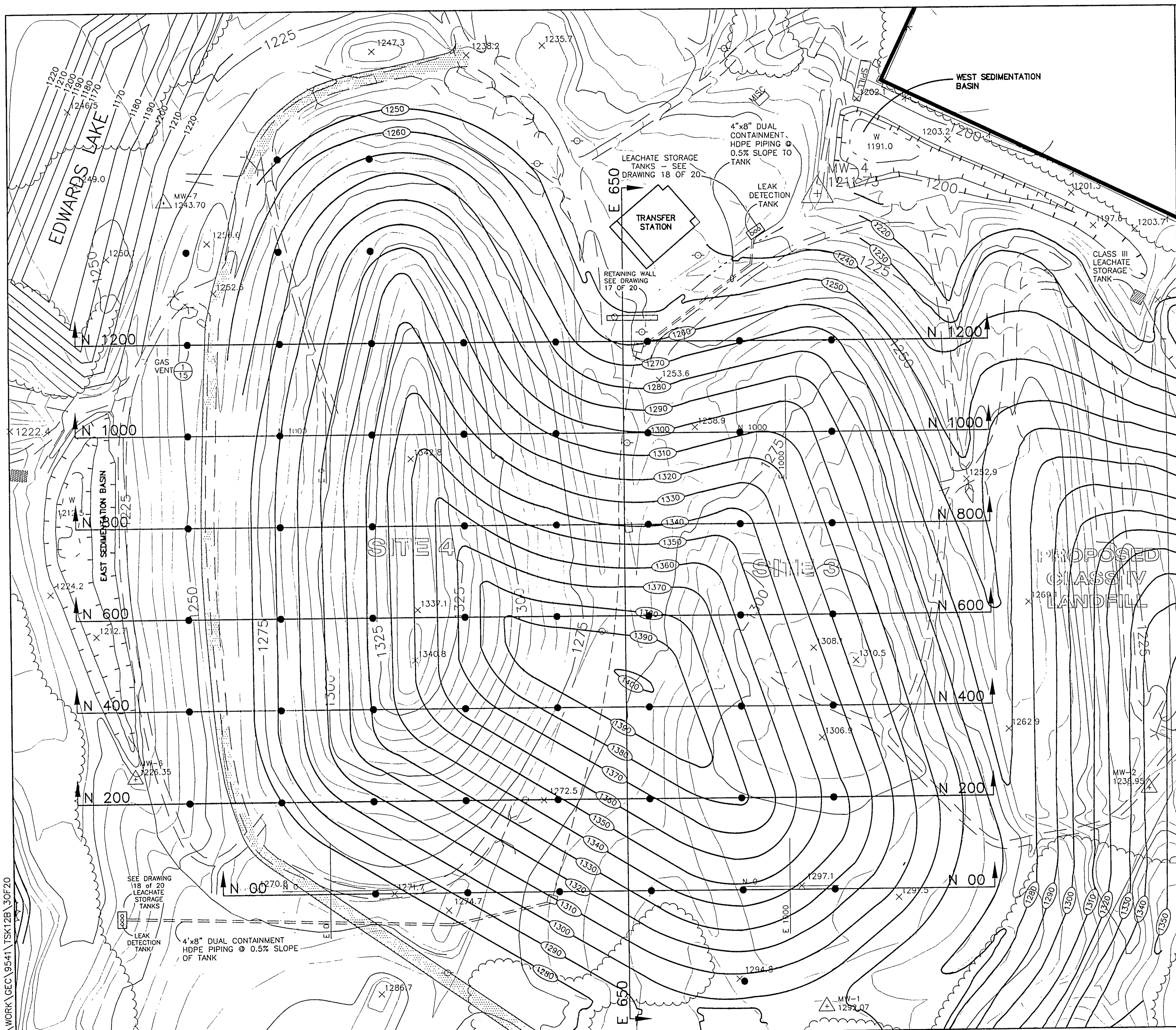
TONTITOWN, ARKANSAS  
 SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.

Design by: KEB		GENESIS ENVIRONMENTAL CONSULTING, INC.	Project #: 9541-12B
Checked by: PC			Date: DEC 1996

11400 West Roskine Road

C:\WORK\GEC\9541\TSK12B\20F20





NOTE: GAS VENTS ARE SPACED AT 200' O.C. (LOCATIONS ARE APPROX.)  
 ACTUAL PLACEMENT OF VENTS WILL DEPEND ON FINISHED GRADE OF  
 LANDFILL

LEGEND:	
•	PASSIVE GAS VENT (LOCATION APPROXIMATE)
-1275-	DEC. 7, 1995 AERIAL SURVEY CONTOURS
—(1310)—	FINAL FINISHED CONTOURS
x 1296.2	SPOT ELEVATION
—	PROPERTY LINE
+	MONITORING WELL OR BENCH MARK
▨	RIP RAP AREA

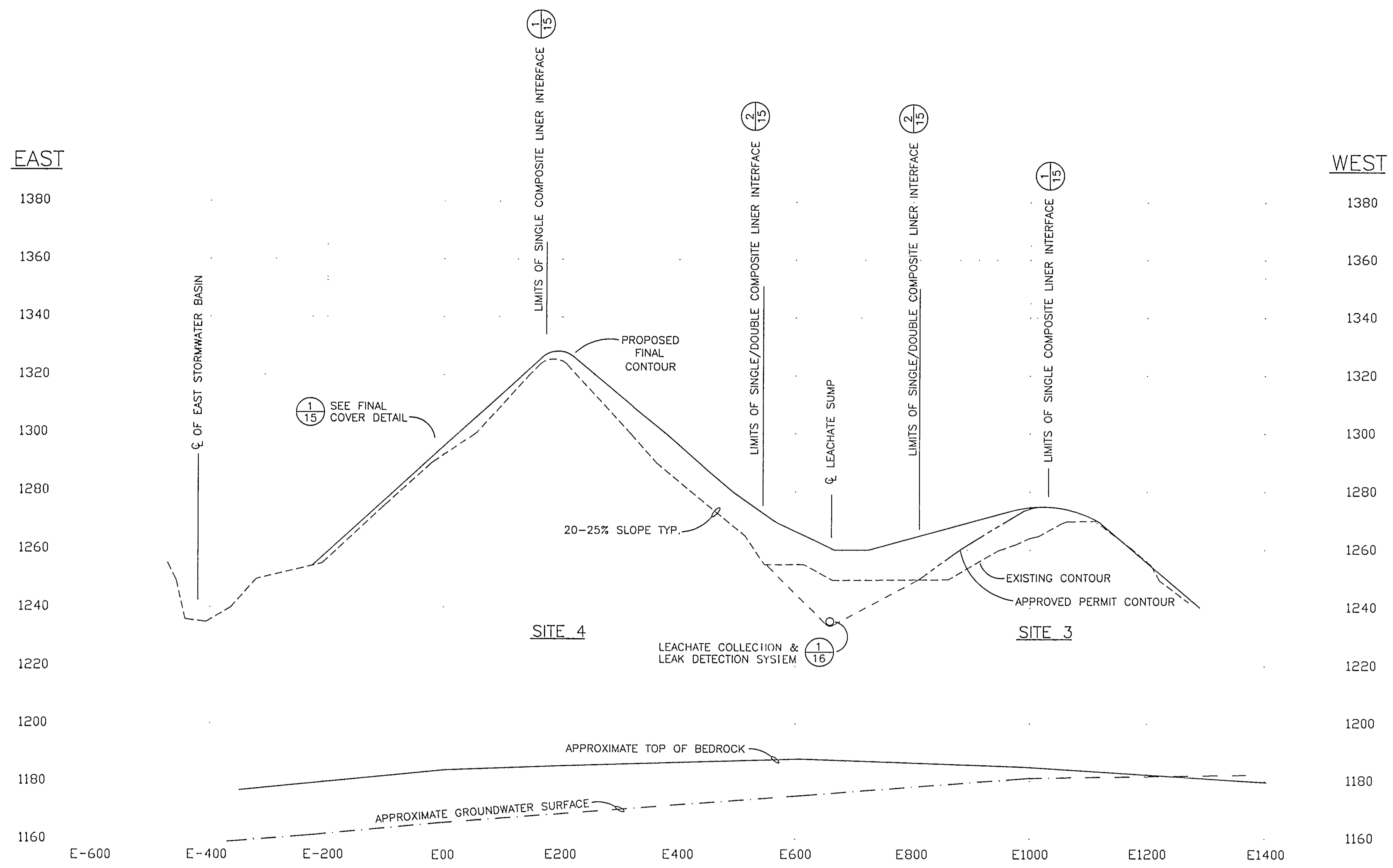
**DRAWING 3 of 20**

**LANDFILL FINAL COVER  
 CLASS I LANDFILL PERMIT MODIFICATION**

TONTOWN, ARKANSAS  
 SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.

Design by: KEB	GENESIS ENVIRONMENTAL CONSULTING, INC. 11400 West Boswine Road Little Rock, AR 72209	Project No.: 9541-120
Checked by: BE		Date: DEC 1996
Drawn by: JFH		Scale: 1"=100'

\\WORK\GEC\9541\TSK12B\30F20



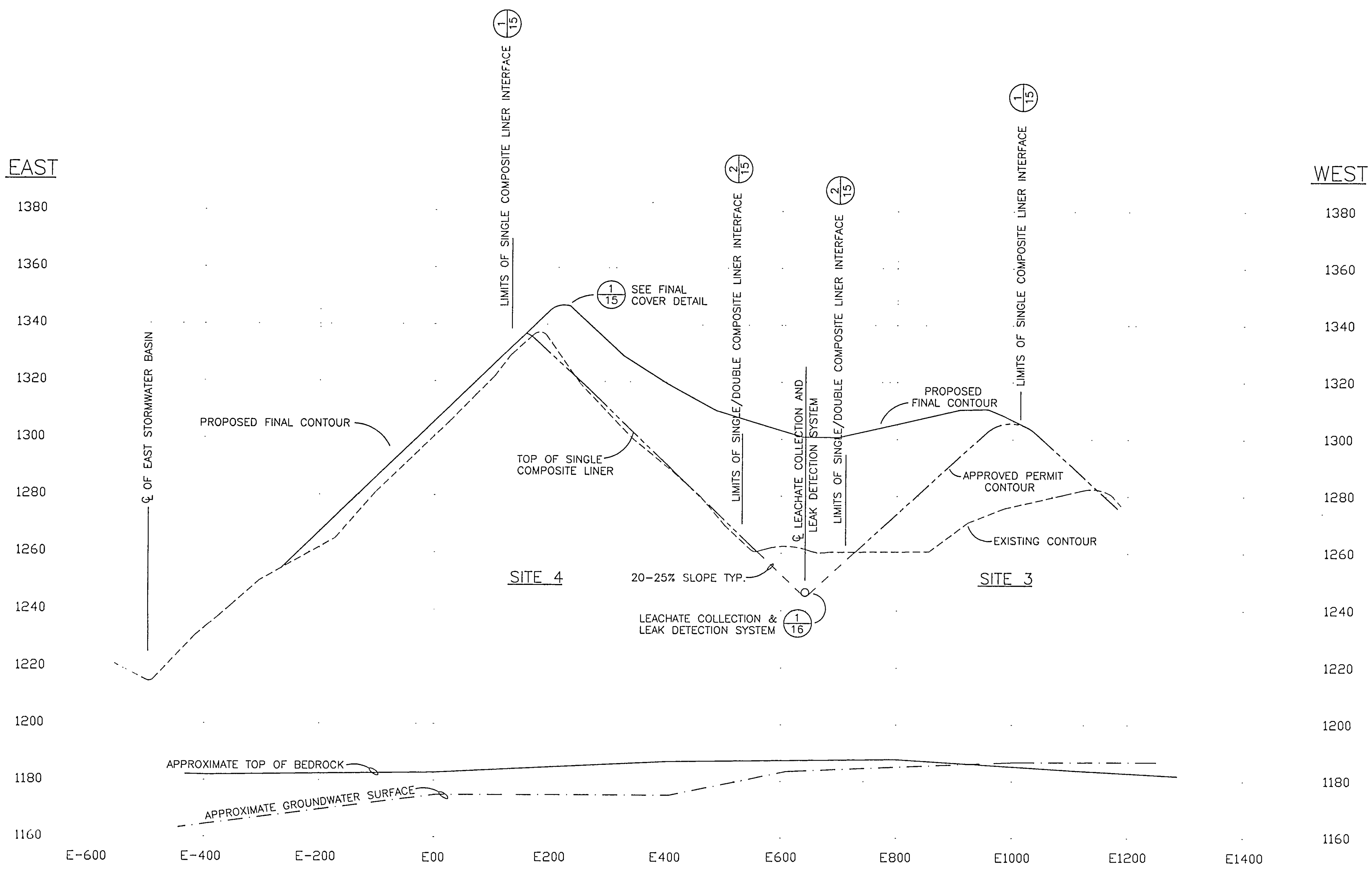
SECTION N1200  
 H 1"=100'  
 V 1"=20'

LEGEND	
	PROPOSED FINAL CONTOURS
	EXISTING GRADE (FROM AERIAL PHOTOGRAPH DATED 12/95)
	PROPOSED BOTTOM
	APPROVED PERMIT CONTOUR

NOTE: REFER TO DRAWING 2 AND 3 OF 20 FOR CROSS-SECTION LOCATION

DRAWING 4 of 20		
LANDFILL CROSS-SECTION N1200 CLASS I LANDFILL PERMIT MODIFICATION TONTITOWN, ARKANSAS SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.		
Design by: KEB		Project No.: 9541-128
Checked by: PWC	GENESIS ENVIRONMENTAL CONSULTING, INC.	Date: DEC 1996
Drawn by: JFH	11400 West Baseline Road Little Rock, AR 72209	Scale: AS SHOWN

C:\WORK\GEC\9541\TSK128\40F20



SECTION N1000

H 1" = 100'  
V 1" = 20'

LEGEND	
	PROPOSED FINAL CONTOURS
	EXISTING GRADE (FROM AERIAL PHOTOGRAPH DATED 12/95)
	PROPOSED BOTTOM
	APPROVED PERMIT CONTOUR

NOTE: REFER TO DRAWING 2 AND 3 OF 20 FOR CROSS-SECTION LOCATION

DRAWING 5 of 20

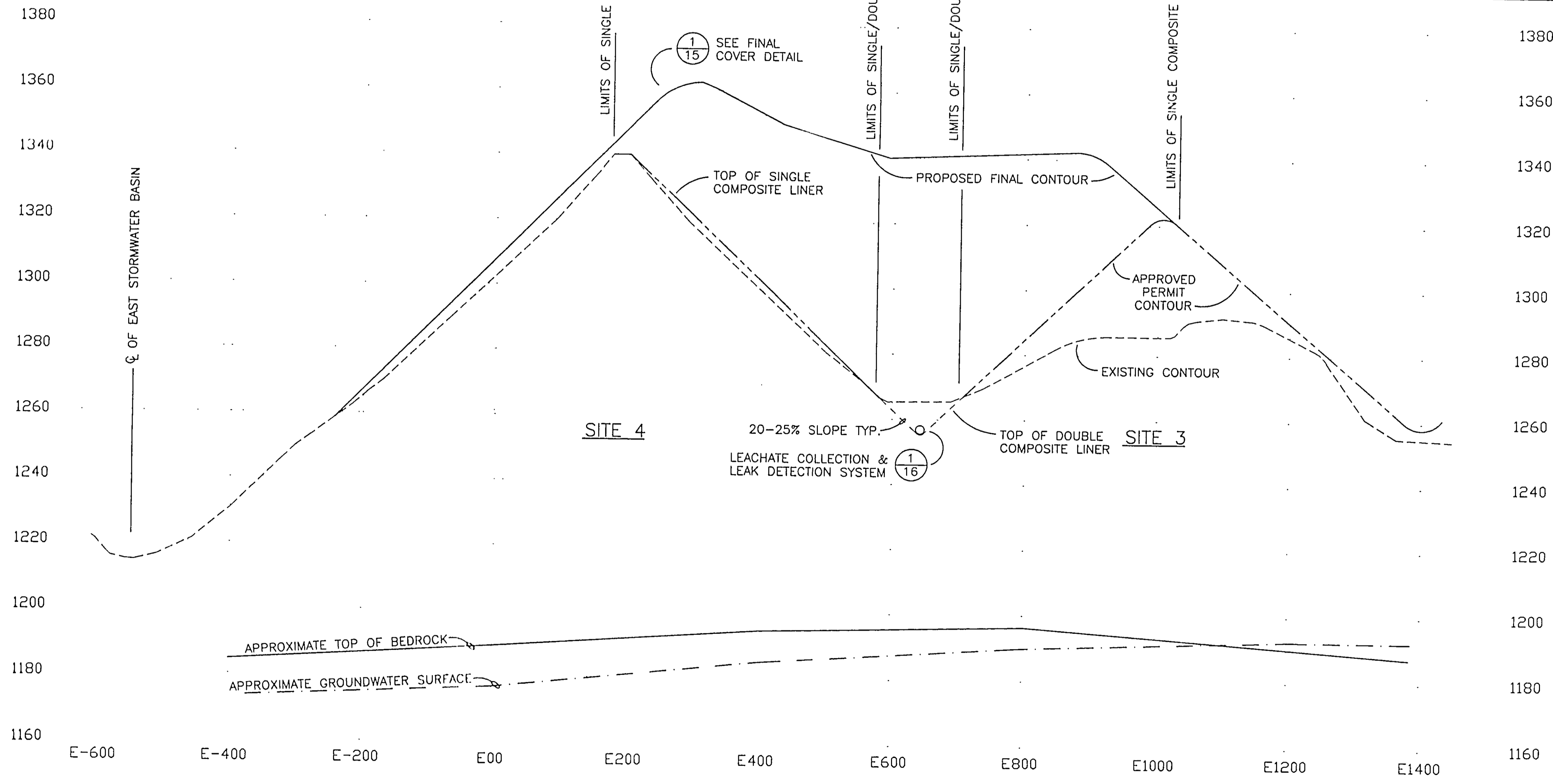
LANDFILL CROSS-SECTION N1000  
CLASS I LANDFILL PERMIT MODIFICATION  
TONTITOWN, ARKANSAS  
SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.

Design by: KEB	 GENESIS ENVIRONMENTAL CONSULTING, INC. 11400 West Baseline Road Little Rock, AR 72209	Project No.: 9541-120
Checked by: PWC		Date: DEC 1996
Drawn by: JFH		Scale: AS SHOWN

C:\WORK\GEC\9541\TSK12B\50F20

EAST

WEST



SECTION N800  
 H 1"=100'  
 V 1"=20'

LEGEND	
	PROPOSED FINAL CONTOURS
	EXISTING GRADE (FROM AERIAL PHOTOGRAPH DATED 12/95)
	PROPOSED BOTTOM
	APPROVED PERMIT CONTOUR

NOTE: REFER TO DRAWING 2 AND 3 OF 20 FOR CROSS-SECTION LOCATION

DRAWING 6 of 20

LANDFILL CROSS-SECTION N800  
 CLASS I LANDFILL PERMIT MODIFICATION  
 TONTITOWN, ARKANSAS  
 SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.

Design by: KEB	GENESIS ENVIRONMENTAL CONSULTING, INC. 11400 West Baseline Road Little Rock, AR 72205	Project No.: 9541-120
Checked by: PWC		Date: DEC 1996
Drawn by: JFH		

C:\WORK\GEC\9541\TSK12B\60F20

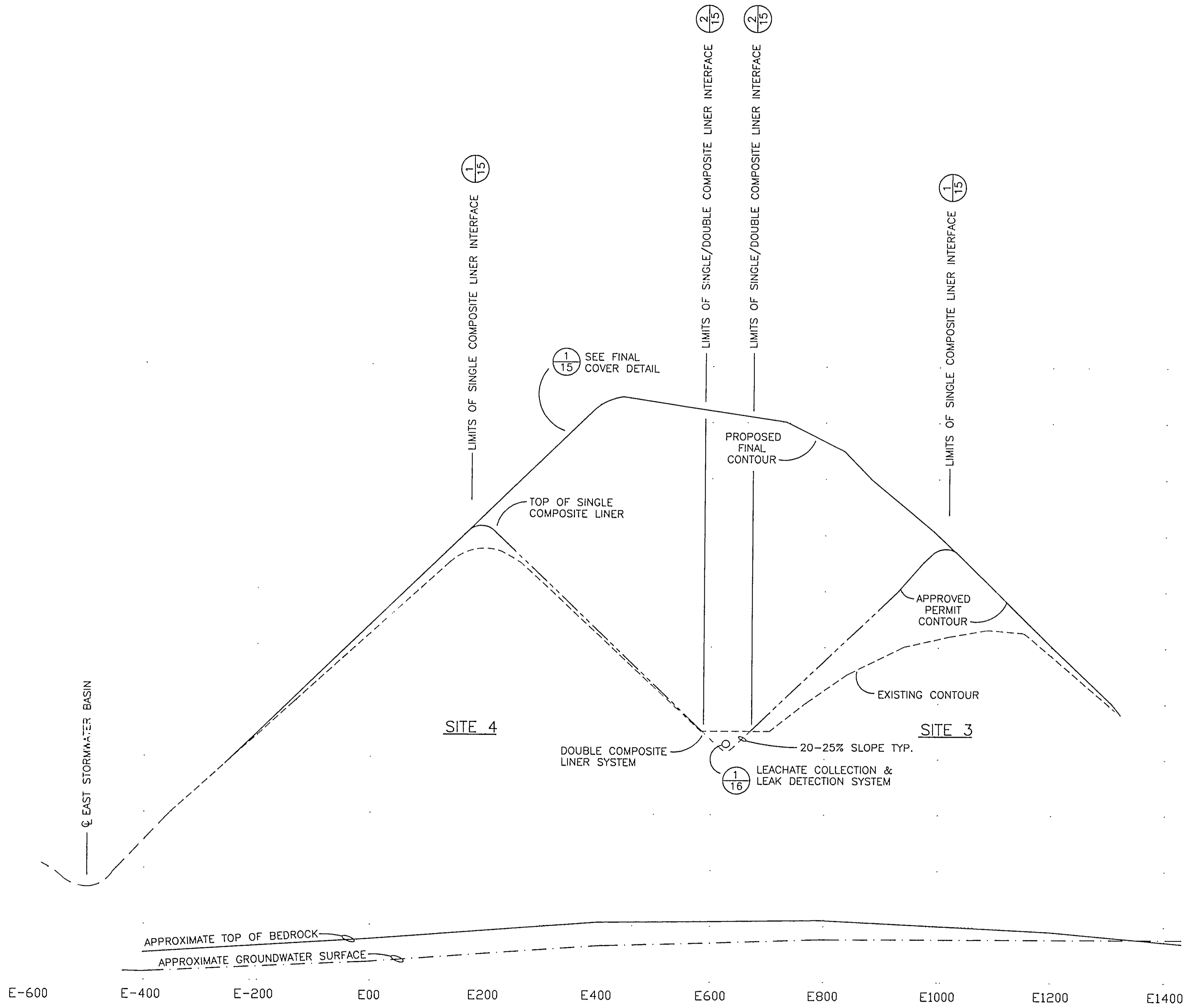


EAST

WEST

1400  
1380  
1360  
1340  
1320  
1300  
1280  
1260  
1240  
1220  
1200  
1180

1400  
1380  
1360  
1340  
1320  
1300  
1280  
1260  
1240  
1220  
1200  
1180



SECTION N600  
 H 1"=100'  
 V 1"=20'

LEGEND	
	PROPOSED FINAL CONTOURS
	EXISTING GRADE (FROM AERIAL PHOTOGRAPH DATED 12/95)
	PROPOSED BOTTOM
	APPROVED PERMIT CONTOUR

NOTE: REFER TO DRAWING 2 AND 3 OF 20 FOR CROSS-SECTION LOCATION

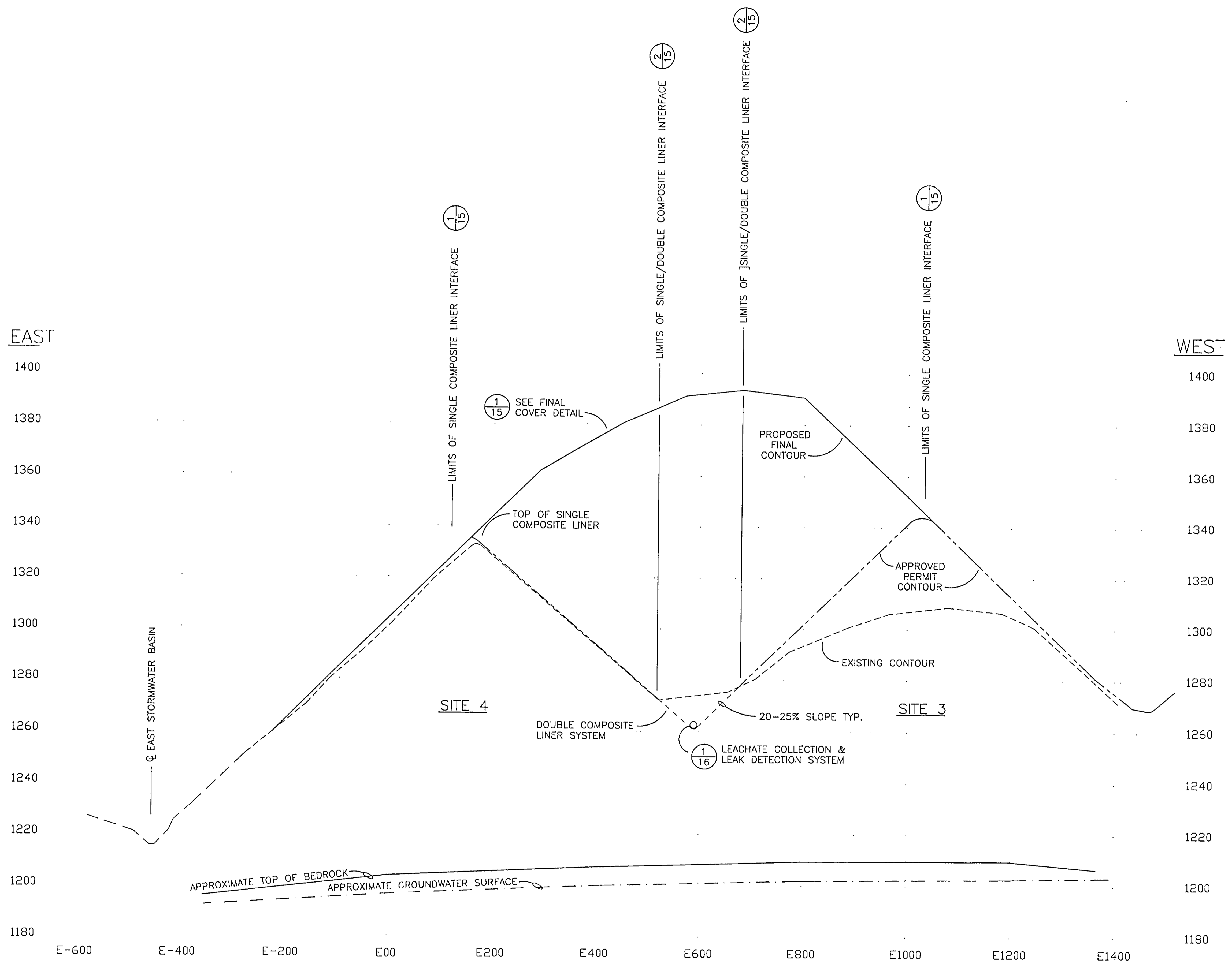
DRAWING 7 of 20

LANDFILL CROSS-SECTION N600  
 CLASS I LANDFILL PERMIT MODIFICATION  
 TONTITOWN, ARKANSAS  
 SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.

Design by: KEB	GENESIS ENVIRONMENTAL CONSULTING, INC. 11400 West Bowline Road Little Rock, AR 72209	Project No.: 9541-128
Checked by: PWC		Date: DEC 1996
Drawn by: JFH		Scale: AS SHOWN

C:\WORK\GEC\9541\TSK12B\70F20





SECTION N400  
 H 1"=100'  
 V 1"=20'

LEGEND	
—————	PROPOSED FINAL CONTOURS
- - - - -	EXISTING GRADE (FROM AERIAL PHOTOGRAPH DATED 12/95)
- - - - -	PROPOSED BOTTOM
- - - - -	APPROVED PERMIT CONTOUR

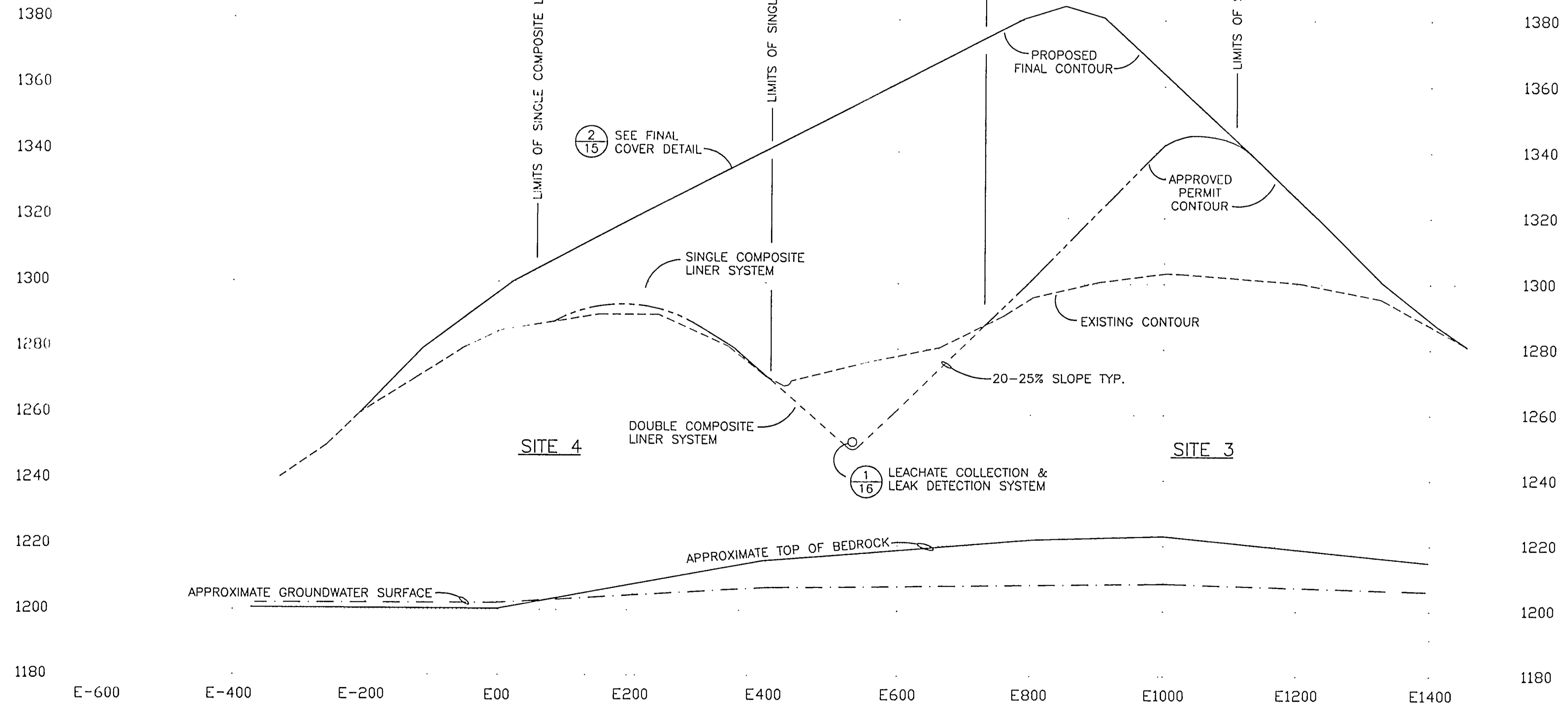
NOTE: REFER TO DRAWING 2 AND 3 OF 20 FOR CROSS-SECTION LOCATION

DRAWING 8 of 20		
LANDFILL CROSS-SECTION N400 CLASS I LANDFILL PERMIT MODIFICATION TONTITOWN, ARKANSAS SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.		
Design by: KEB	 GENESIS ENVIRONMENTAL CONSULTING, INC. 11400 West Baseline Road Little Rock, AR 72209	Project No.: 9541-120
Checked by: PWC		Date: DEC 1996
Drawn by: JFH		Scale: AS SHOWN

C:\WORK\GEC\9541\TSK12B\80F20

EAST

WEST



SITE 4

SITE 3

### SECTION N200

H 1" = 100'  
V 1" = 20'

LEGEND	
	PROPOSED FINAL CONTOURS
	EXISTING GRADE (FROM AERIAL PHOTOGRAPH DATED 12/95)
	PROPOSED BOTTOM
	APPROVED PERMIT CONTOUR

NOTE: REFER TO DRAWING 2 AND 3 OF 20 FOR CROSS-SECTION LOCATION

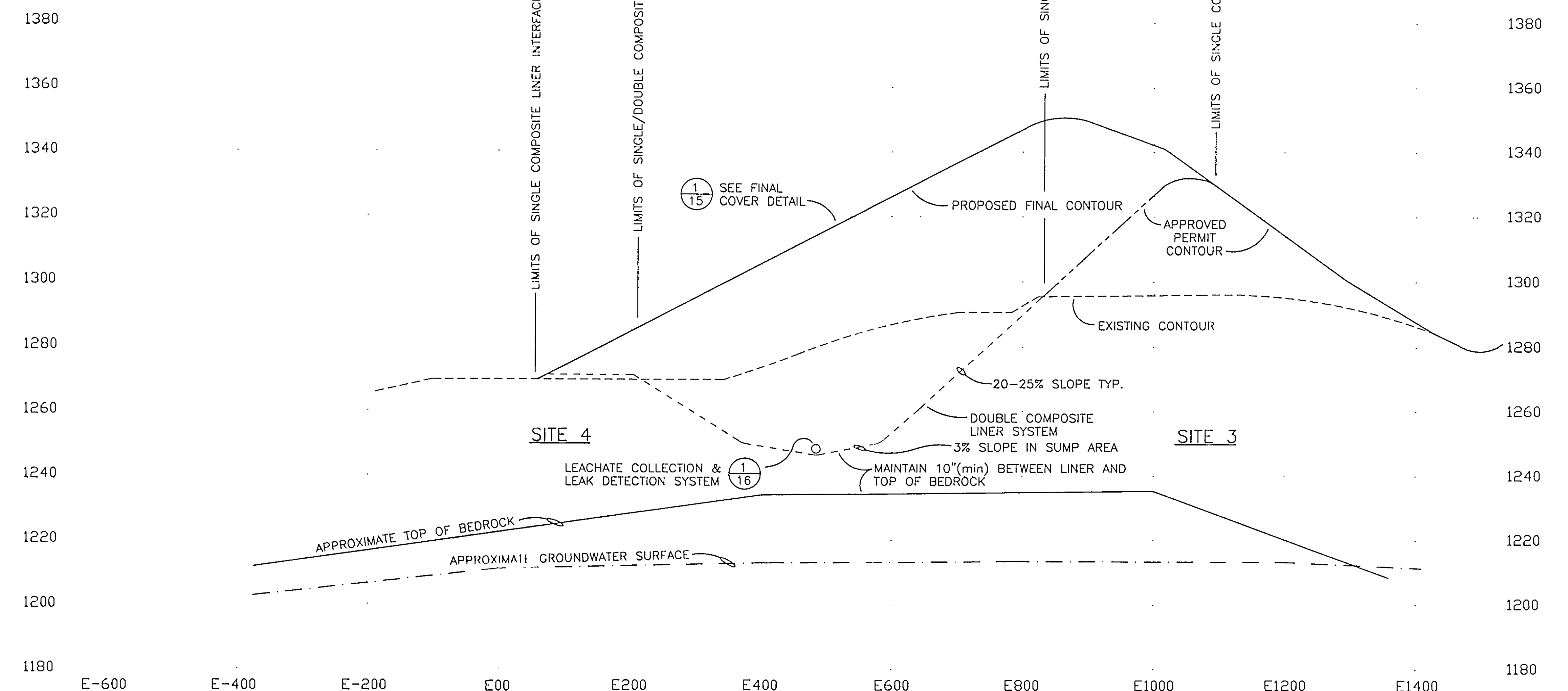
DRAWING 9 of 20

LANDFILL CROSS-SECTION N200  
 CLASS I LANDFILL PERMIT MODIFICATION  
 TONTITOWN, ARKANSAS  
 SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.

Design by: KEB	 GENESIS ENVIRONMENTAL CONSULTING, INC. 11400 West Baseline Road Little Rock, AR 72209	Project No.: 9541-120
Checked by: PWC		Date: DEC 1996
Drawn by: JFH		Scale: AS SHOWN

EAST

WEST



SECTION N00

H 1"=100'  
V 1"=20'

LEGEND	
	PROPOSED FINAL CONTOURS
	EXISTING GRADE (FROM AERIAL PHOTOGRAPH DATED 12/95)
	PROPOSED BOTTOM
	APPROVED PERMIT CONTOUR

NOTE: REFER TO DRAWING 2 AND 3 OF 20 FOR CROSS-SECTION LOCATION

DRAWING 10 of 20

LANDFILL CROSS-SECTION N00  
 CLASS I LANDFILL PERMIT MODIFICATION  
 TONTITOWN, ARKANSAS  
 SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.

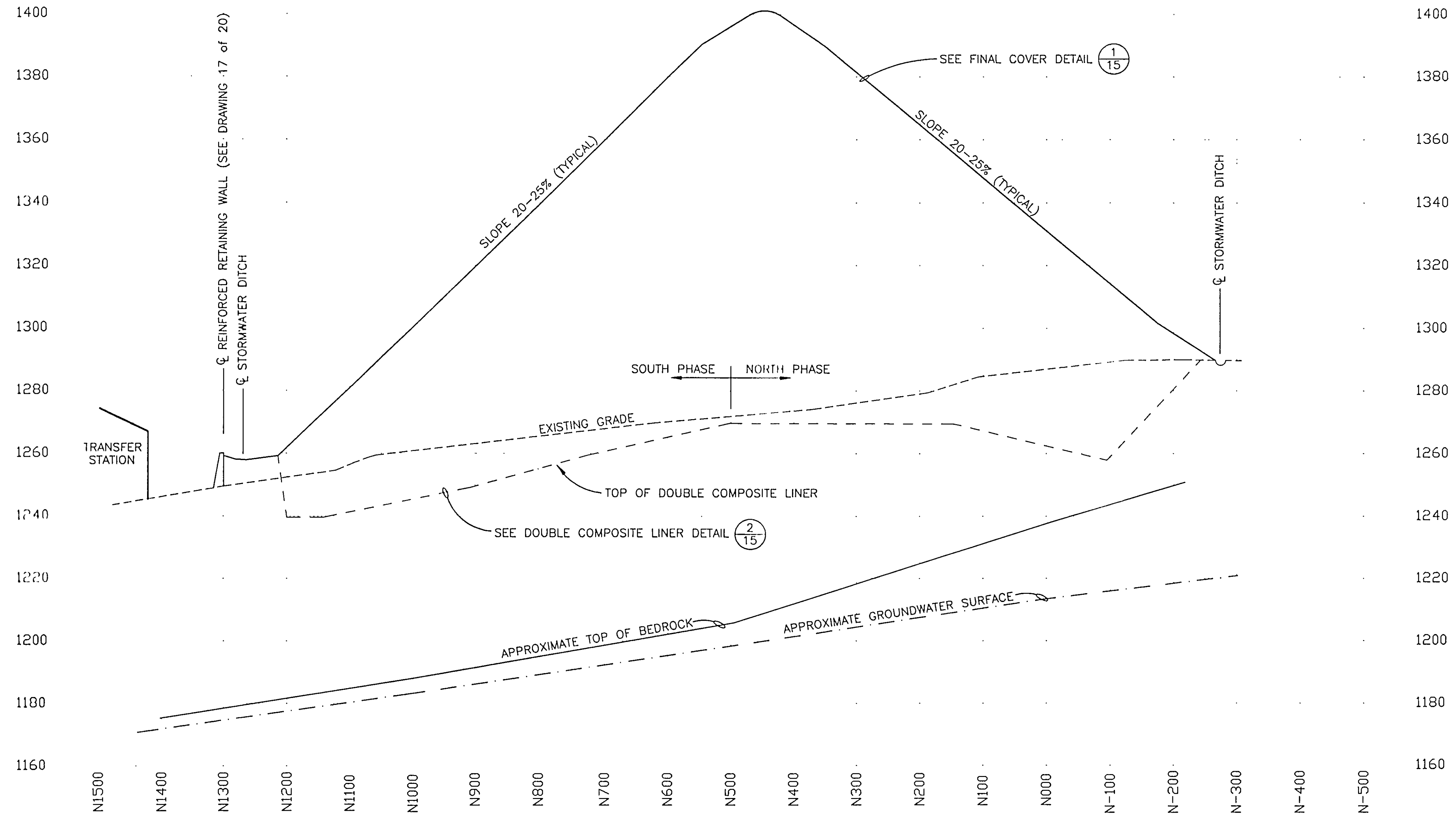
Design by: KEB		GENESIS ENVIRONMENTAL CONSULTING, INC.	Project No.: 9541-128
Checked by: PWC		Date: DEC 1996	
Drawn by: JFH		11400 West Baseline Road Little Rock, AR 72209	Scale: AS SHOWN

C:\WORK\GEC\9541\TSK12B\10DF20



SOUTH

NORTH



SECTION E6+50

H 1"=100'  
V 1"=20'

LEGEND

- PROPOSED FINAL CONTOURS
- - - - EXISTING GRADE (FROM AERIAL PHOTOGRAPH DATED 12/95)
- - - - PROPOSED BOTTOM
- · - · - APPROVED PERMIT CONTOUR

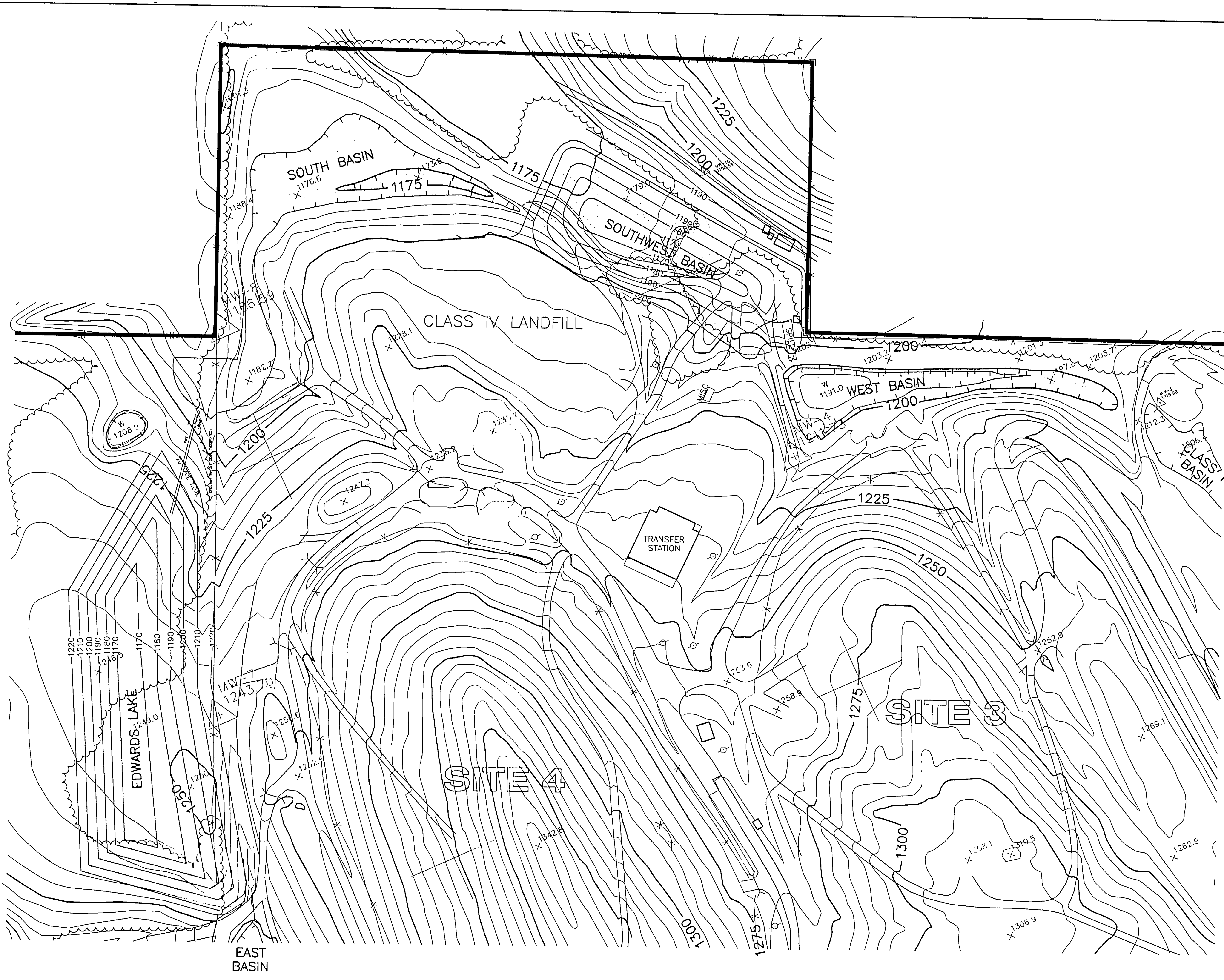
NOTE: REFER TO DRAWING 2 AND 3 OF 20 FOR CROSS-SECTION LOCATION

DRAWING 11 of 20

LANDFILL CROSS-SECTION E650  
 CLASS I LANDFILL PERMIT MODIFICATION  
 TONTITOWN, ARKANSAS  
 SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.

Design by: KEB	 GENESIS ENVIRONMENTAL CONSULTING, INC. 11400 West Baseline Road Little Rock, AR 72209	Project No.: 9541-120
Checked by: PWC		Date: DEC 1996
Drawn by: JFH		Scale: AS SHOWN

C:\WORK\GEC\9541\TSK12B\110F20



LEGEND	
	PROPERTY LINE
	FENCE
	ROAD (ASPHALT)
	ROAD (GRAVEL)
	CONTOUR LINE
	MONITORING WELL/ CONTROL POINT
	PROPOSED PIEZOMETERS
	BURIED WASTE (PRE-SUNRAY)
	TREE OR VEGETATION
	WATER (SEDIMENTATION BASIN)

**DRAWING 12 of 20**

**STORMWATER DRAINAGE BASINS  
CLASS I LANDFILL PERMIT MODIFICATION**

TONTITOWN, ARKANSAS  
SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.

Design by: KEB		GENESIS ENVIRONMENTAL CONSULTING, INC. 11400 West Baseline Road Little Rock, AR 72205	Project No.: 9541-120
Checked by: PWC			Date: DEC 1996
Drawn by: JFH			

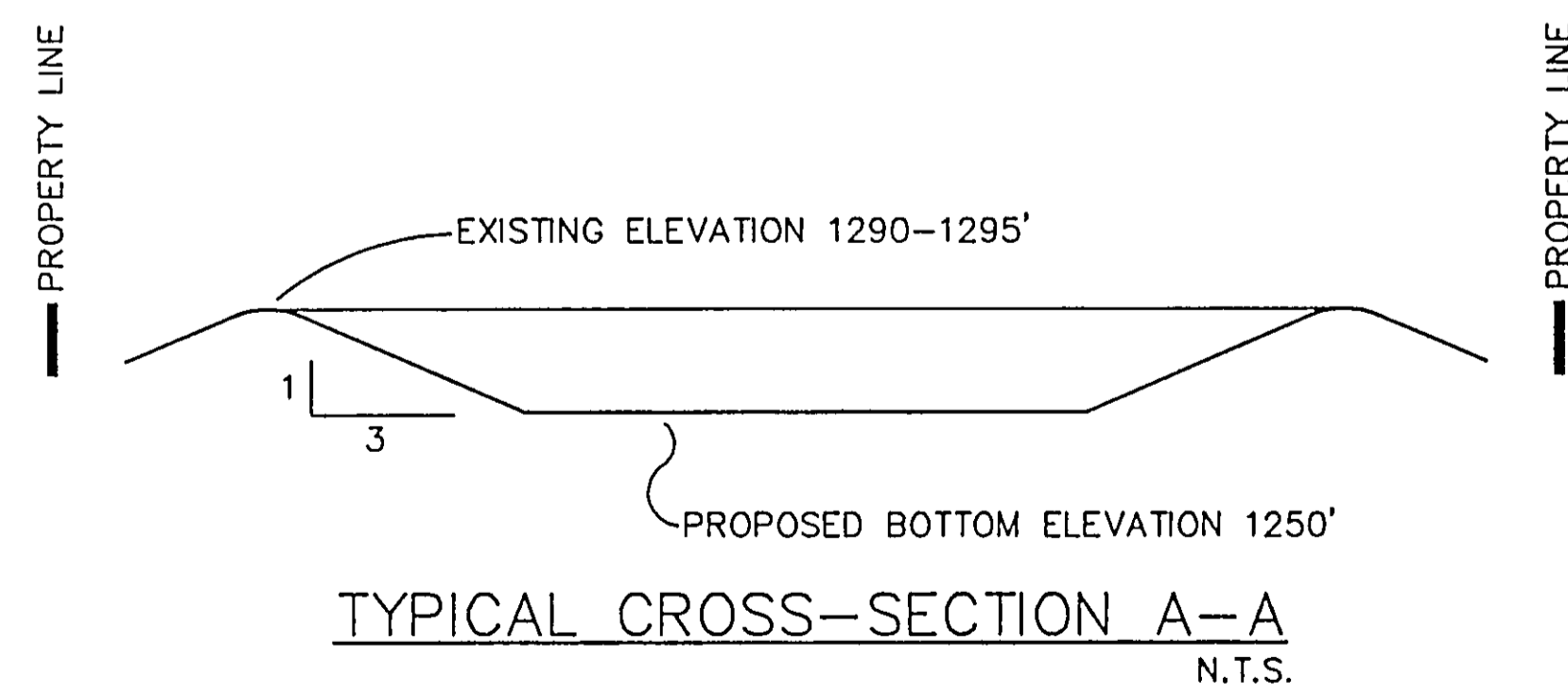
C:\WORK\GEC\9541\TSK12B\12OF20

**CLASS I LANDFILL  
(SITE 3)**

**PROPOSED  
CLASS IV  
LANDFILL**

**PHASE I  
BORROW AREA**

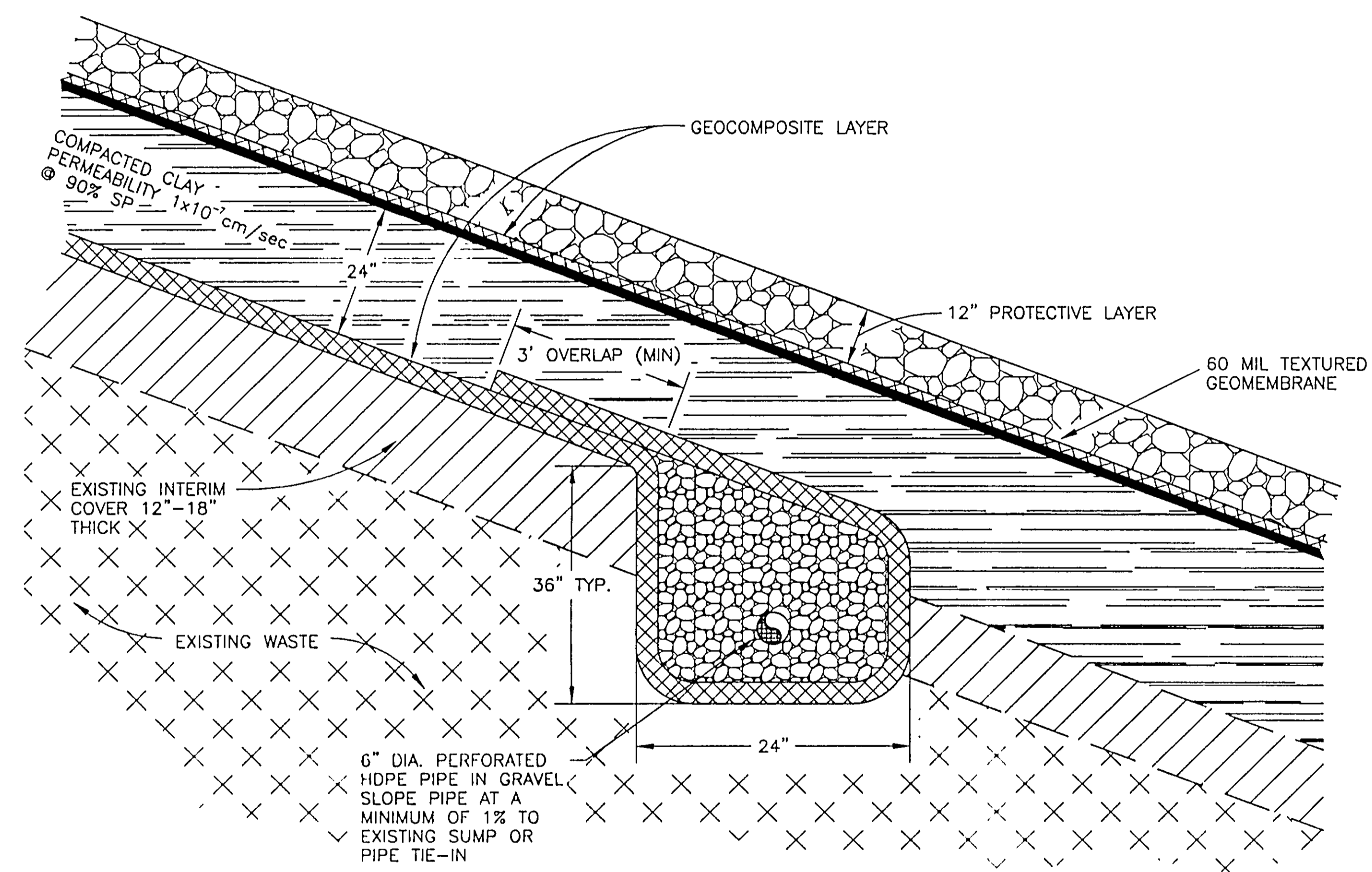
LEGEND	
—	PROPERTY LINE
x-x-x-x-x	FENCE
==	ROAD
—1300—	CONTOUR LINE
- - - - -	DRAINAGE PATHWAY
△	MONITORING WELL
▲	PIEZOMETERS
- - - - -	APPROXIMATE LANDFILL LIMITS
~~~~~	TREE OR VEGETATION
W	WATER (SEDIMENTATION BASIN)



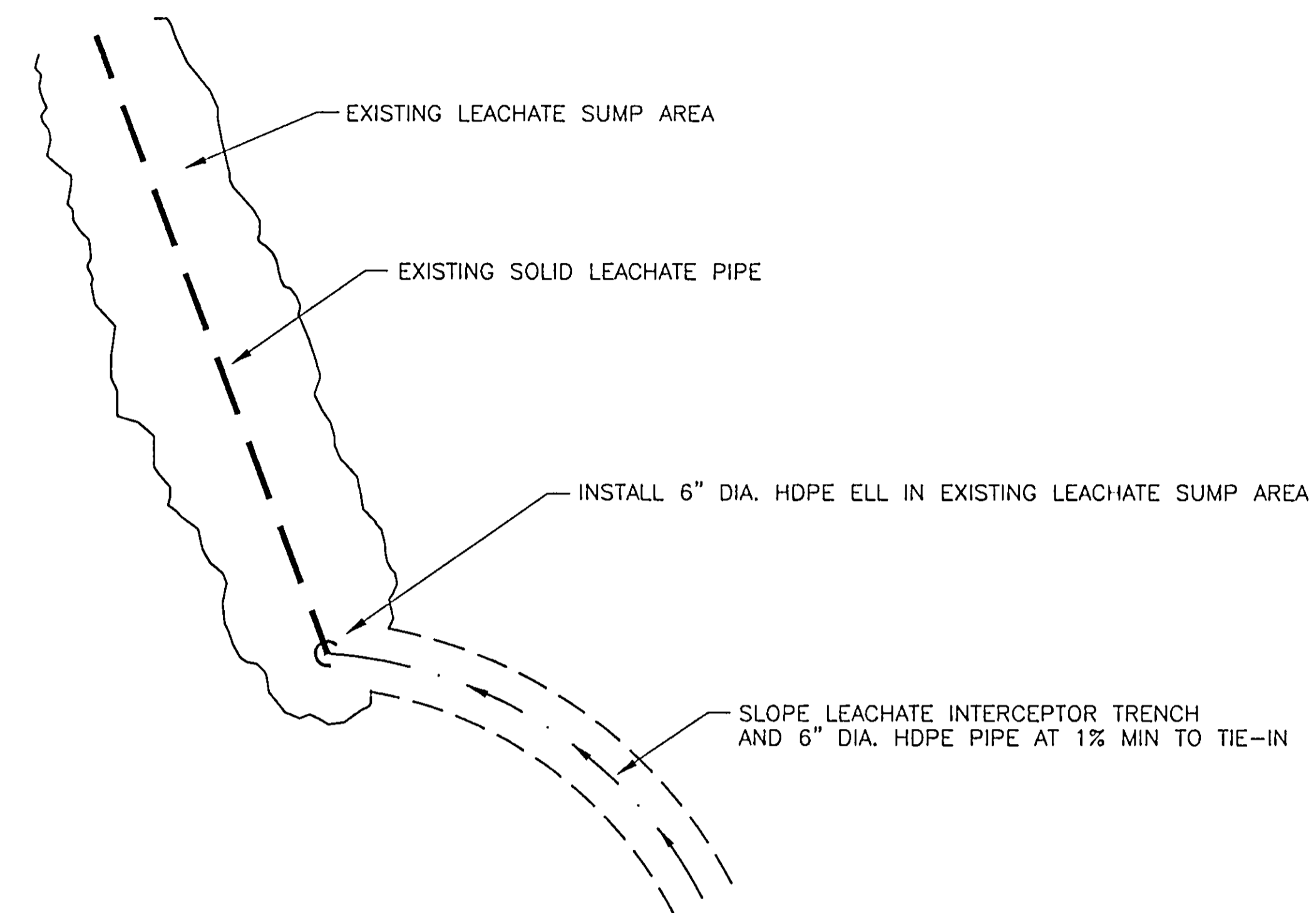
DRAWING 13 of 20
BORROW AREA LAYOUT
CLASS I LANDFILL PERMIT MODIFICATION
 TONTITOWN, ARKANSAS
 SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.

Design by: KEB	GEC GENESIS ENVIRONMENTAL CONSULTING, INC. 11400 West Baseline Road Little Rock, AR 72209	Project No.: 9541-126
Checked by: PC		Date: DEC 1996
Drawn by: JFH		Scale: 1"=100'

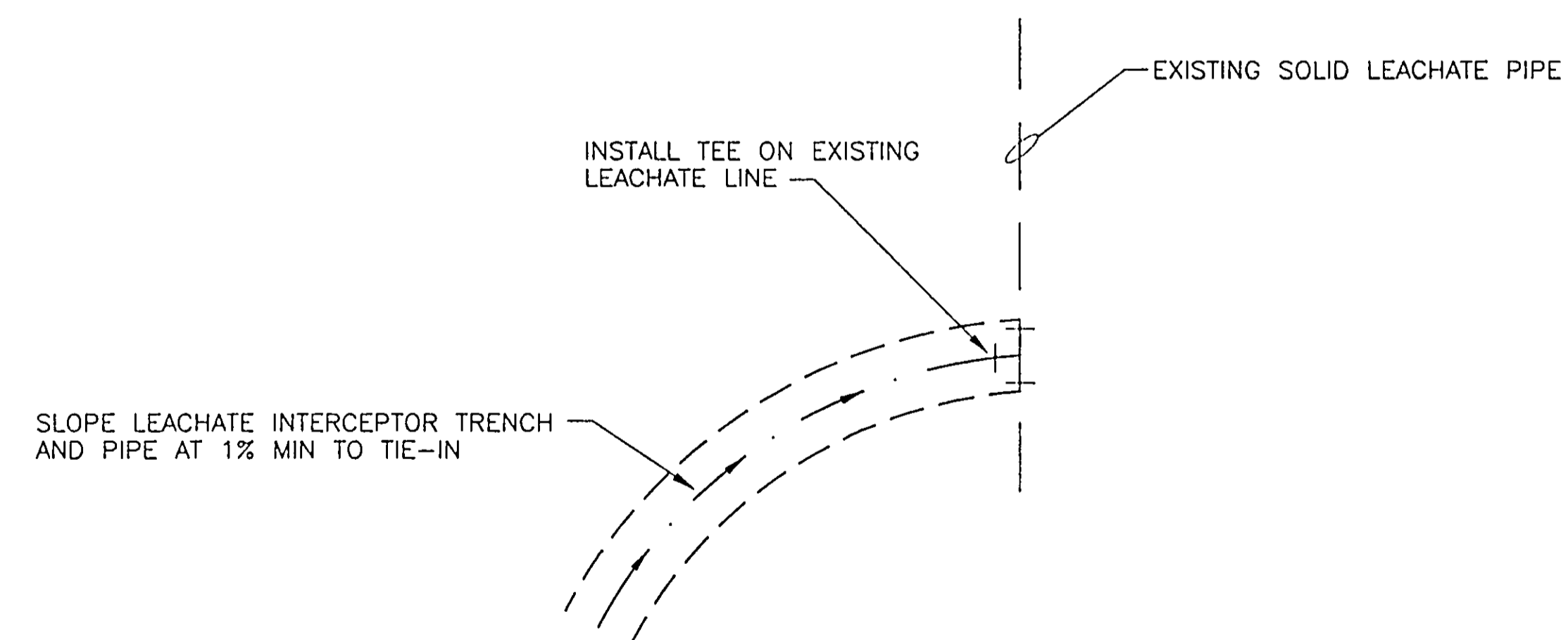
C:\WORK\GEC\9541\TSK12B\13DF20



LANDFILL COVER AND LEACHATE INTERCEPTOR TRENCH DETAIL
 DETAIL 1/14



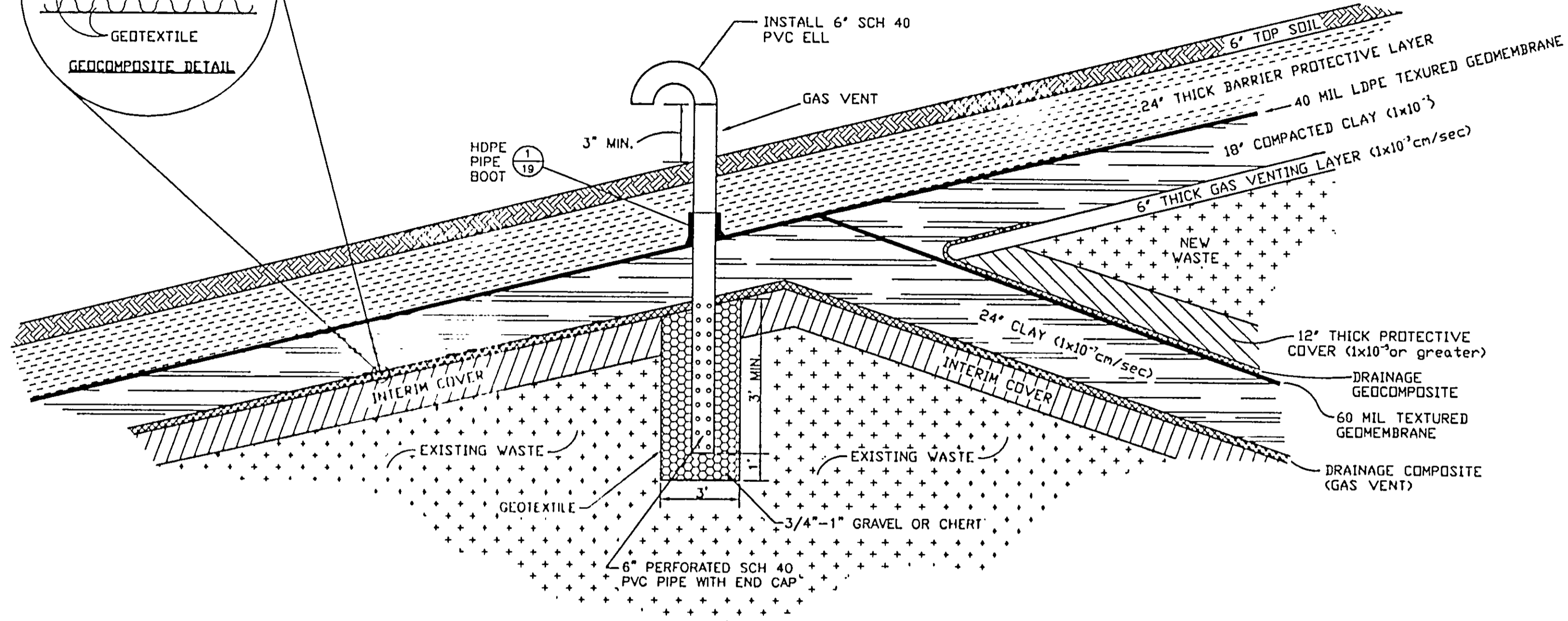
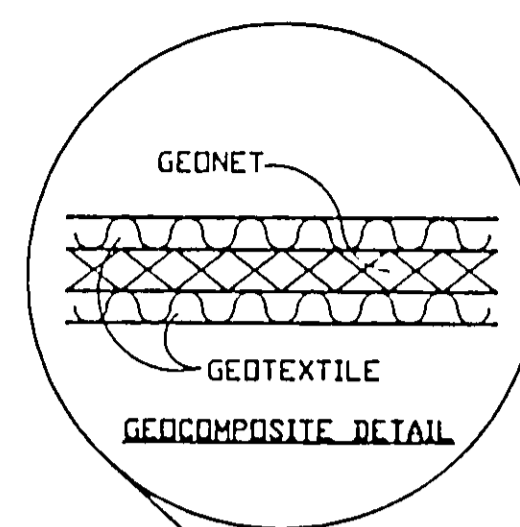
SITE 4 LEACHATE INTERCEPTOR TRENCH TIE-IN
 DETAIL 2/14



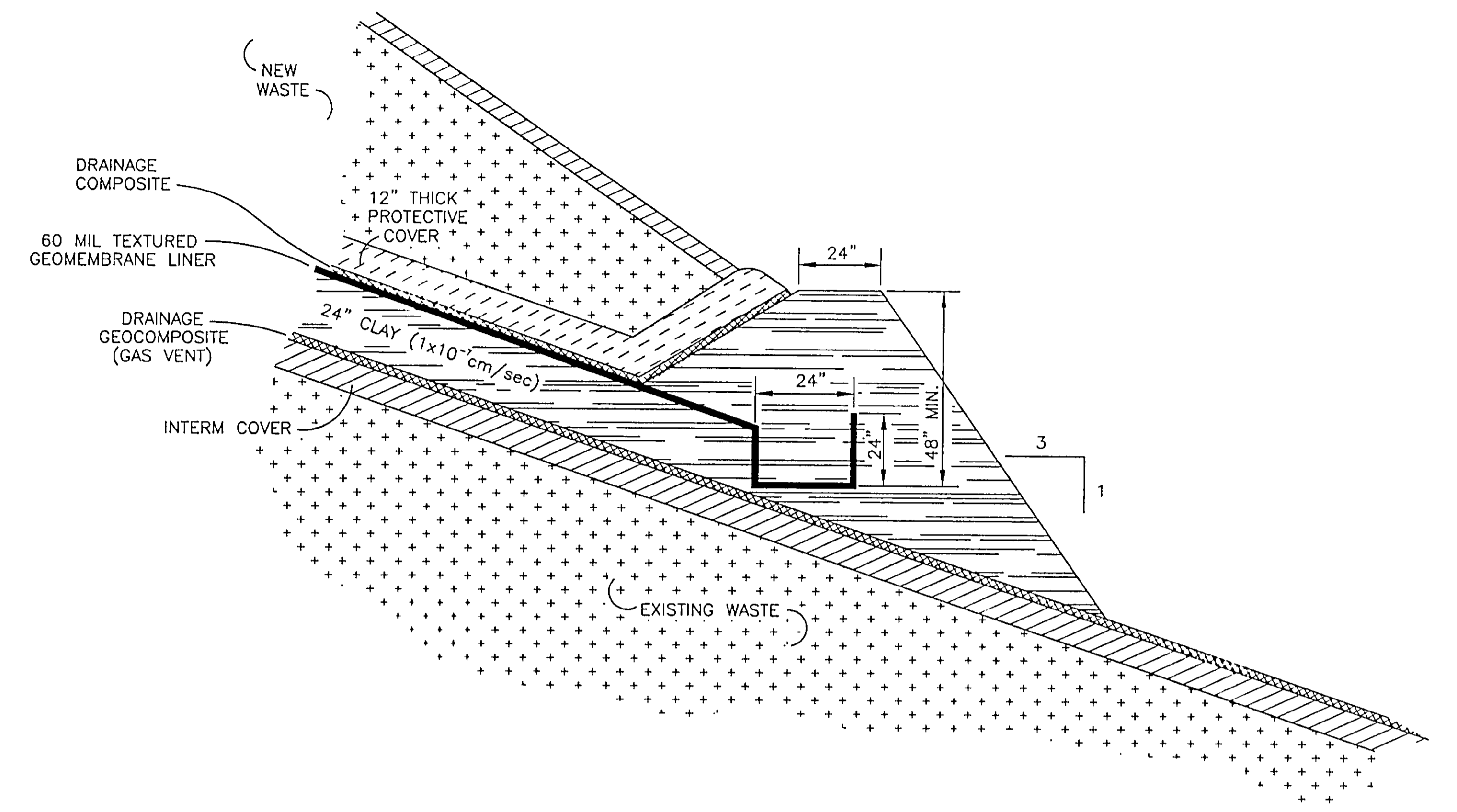
SITE 3 LEACHATE INTERCEPTOR TRENCH TIE-IN
 DETAIL 3/14

DRAWING 14 of 20		
LEACHATE INTERCEPTOR DETAILS CLASS I LANDFILL PERMIT MODIFICATION		
TONTITOWN, ARKANSAS SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.		
Design by: KEB		Project No.: 9541
Checked by: PC		Date: DEC 1996
Drawn by: JFH	11400 West Browline Road Little Rock, AR 72209	Scale: N.T.S.

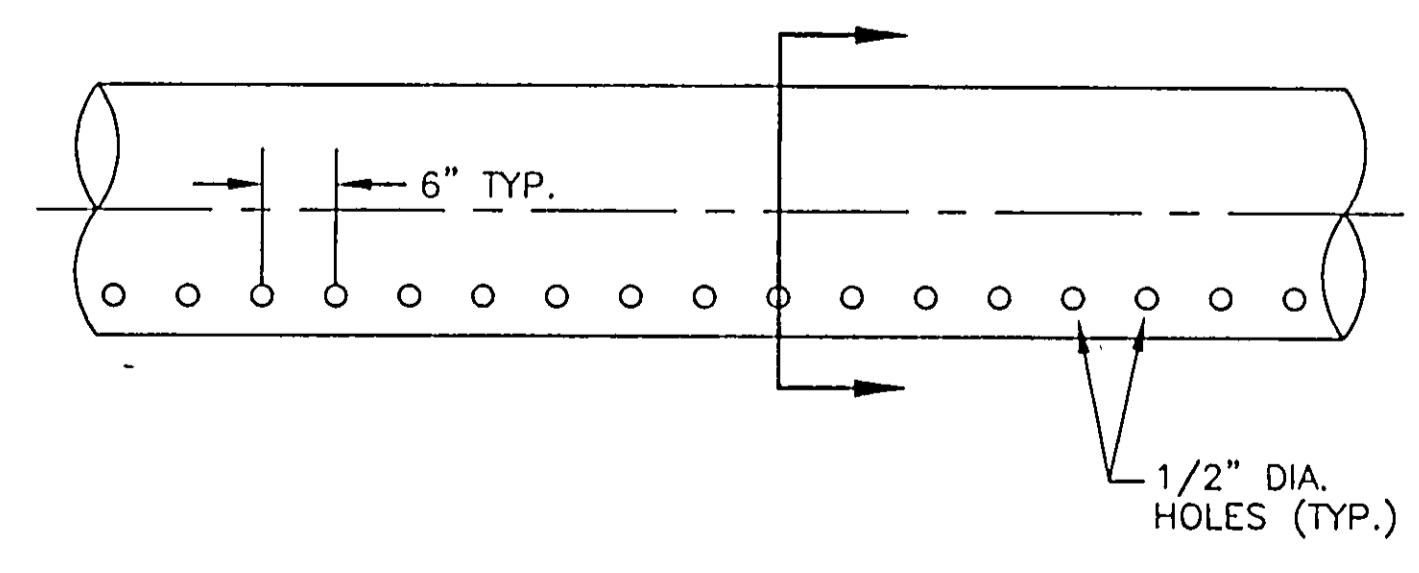
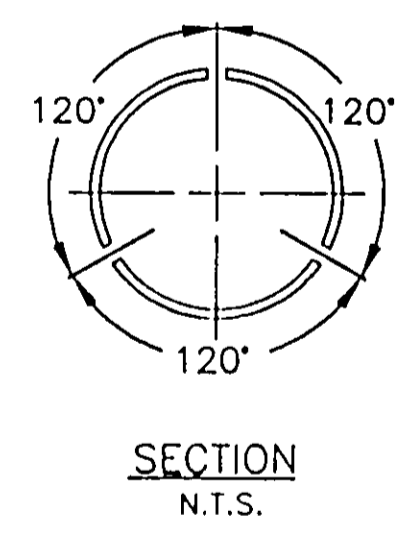
C:\WORK\GEC\9541\TSK12B\14OF20



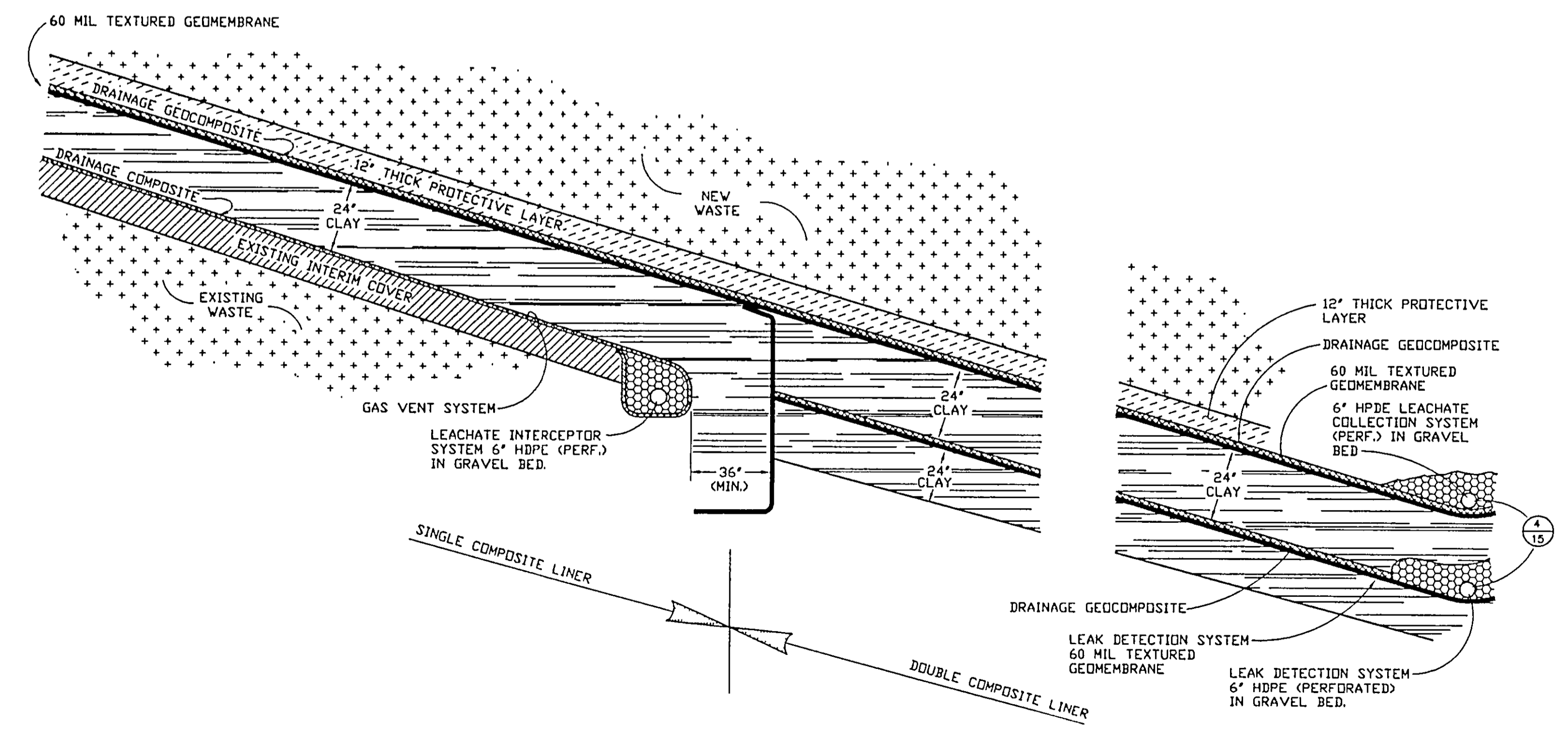
DETAIL $\frac{1}{15}$ CAP AND SINGLE COMPOSITE LAYER



DETAIL $\frac{3}{15}$ PERIMETER BERM AND LINER ANCHOR TRENCH



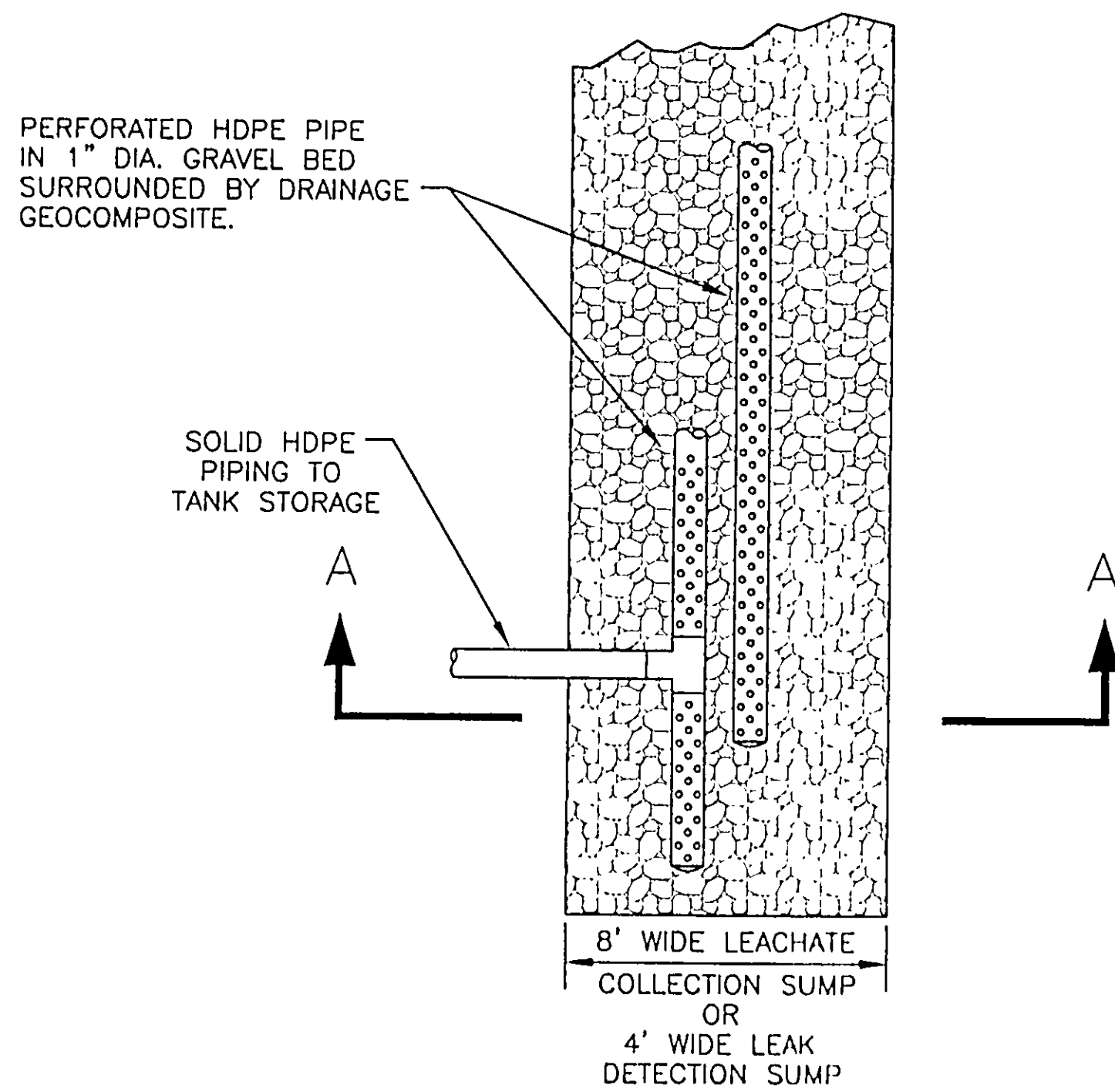
DETAIL $\frac{4}{15}$ TYPICAL PERFORATIONS FOR LEACHATE COLLECTION PIPING



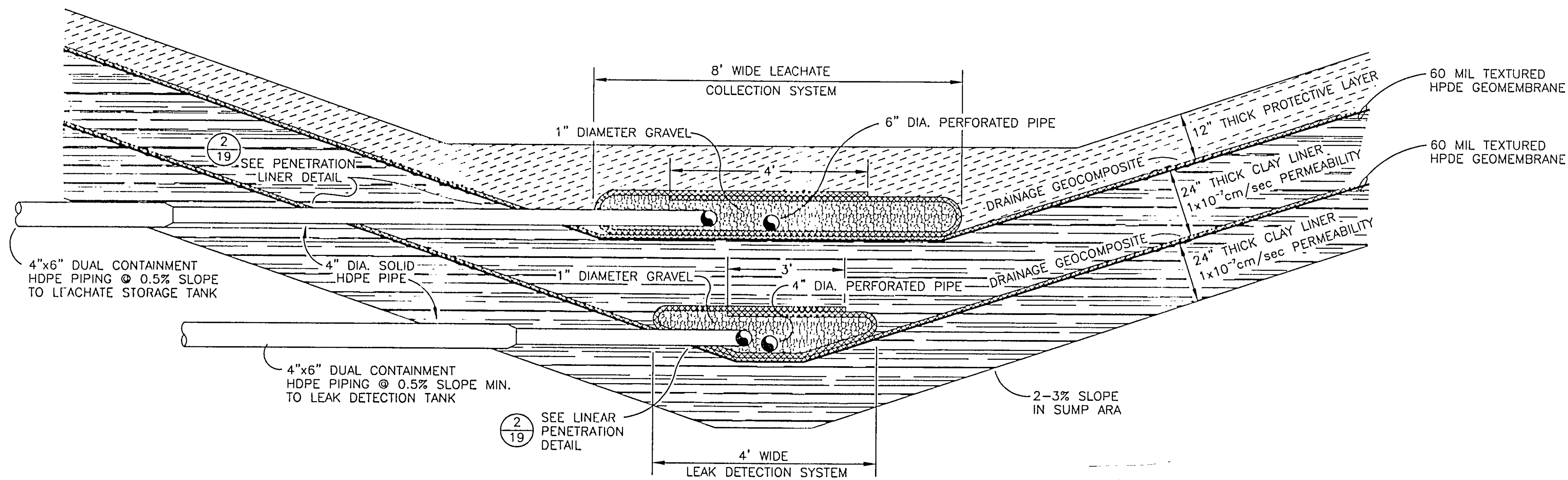
DETAIL $\frac{2}{15}$ SINGLE COMPOSITE/DOUBLE COMPOSITE INTERFACE

DRAWING 15 of 20			
MISCELLANEOUS CROSS-SECTIONS AND DETAILS			
TONTITOWN, ARKANSAS			
SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.			
Design by: KEB		GENESIS ENVIRONMENTAL CONSULTING, INC.	Project No.: 9541
Checked by: PWC		11400 West Bosque Road	Date: DEC 1996
Drawn by: JFH		11111a Rock, AR 72209	Scale: N.T.S.

C:\WORK\GEC\95-1\T5K125\XSEC

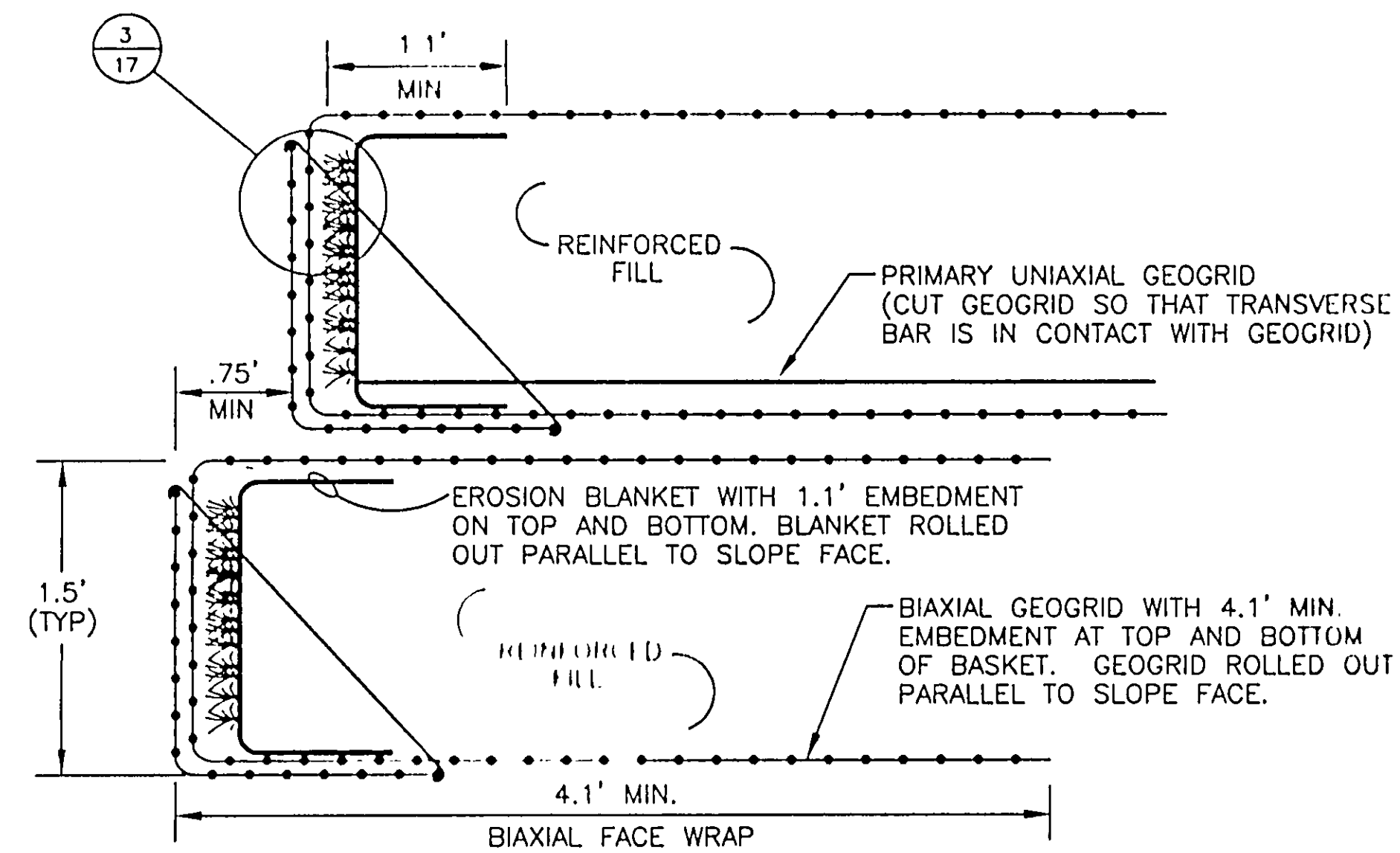


1
16 TYPICAL PLAN VIEW OF LEACHATE COLLECTION OR LEAK DETECTION SUMP
N.T.S.



LEACHATE COLLECTION / LEAK DETECTION SUMP
SECTION A-A
N.T.S.

DRAWING 16 of 20		
LEACHATE COLLECTION AND LEAK DETECTION SUMP		
CLASS I LANDFILL PERMIT MODIFICATION		
TONTITOWN, ARKANSAS		
SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.		
Design by: KEB	GEC ENVIRONMENTAL CONSULTING, INC. 11400 West Baseline Road Little Rock, AR 72209	Project No.: 9541
Checked by: PWC		Date: DEC 1996
Drawn by: JFH		Scale: N.T.S.

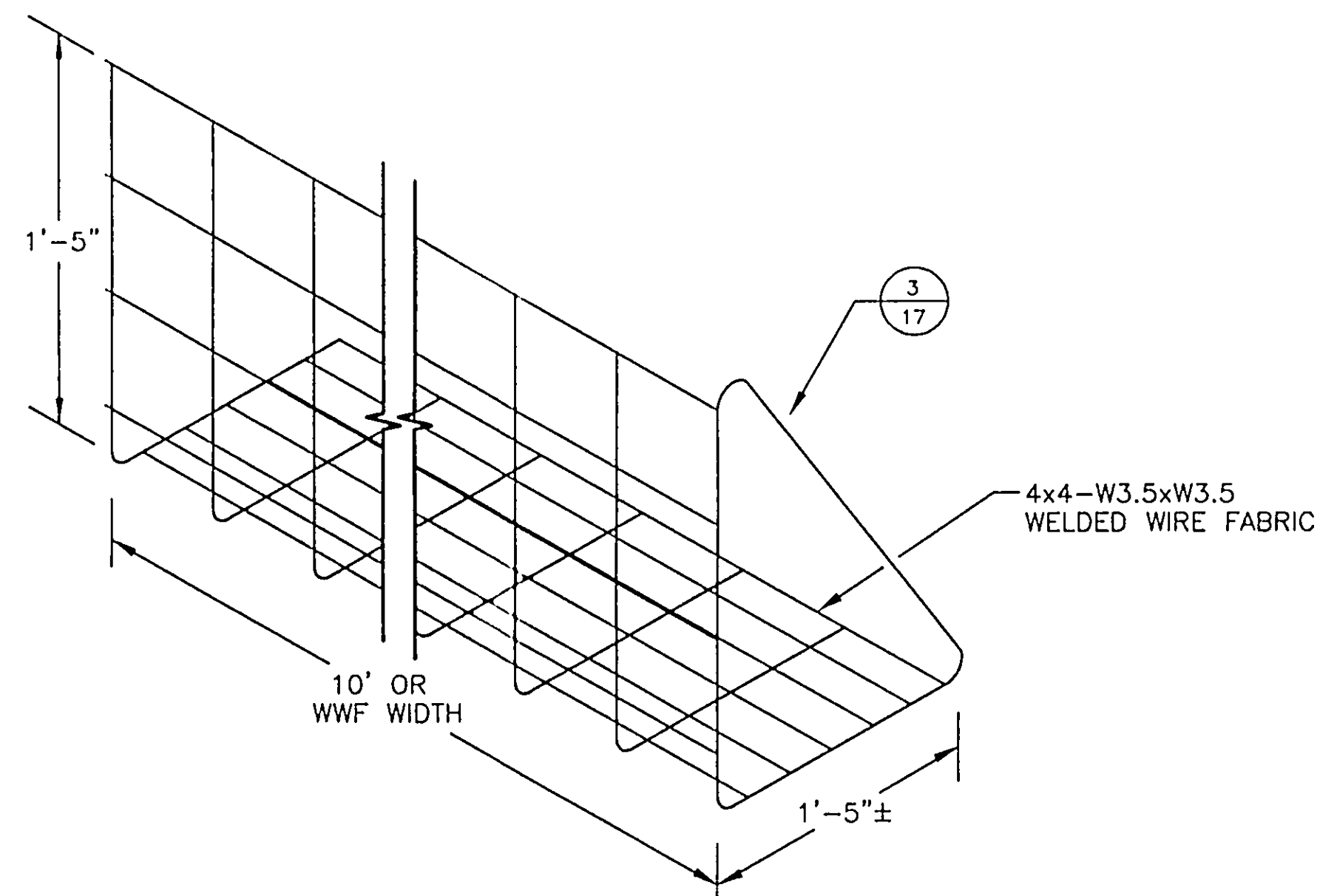


WALL FACE DETAIL

DETAIL

SCALE: N.T.S.

2
17

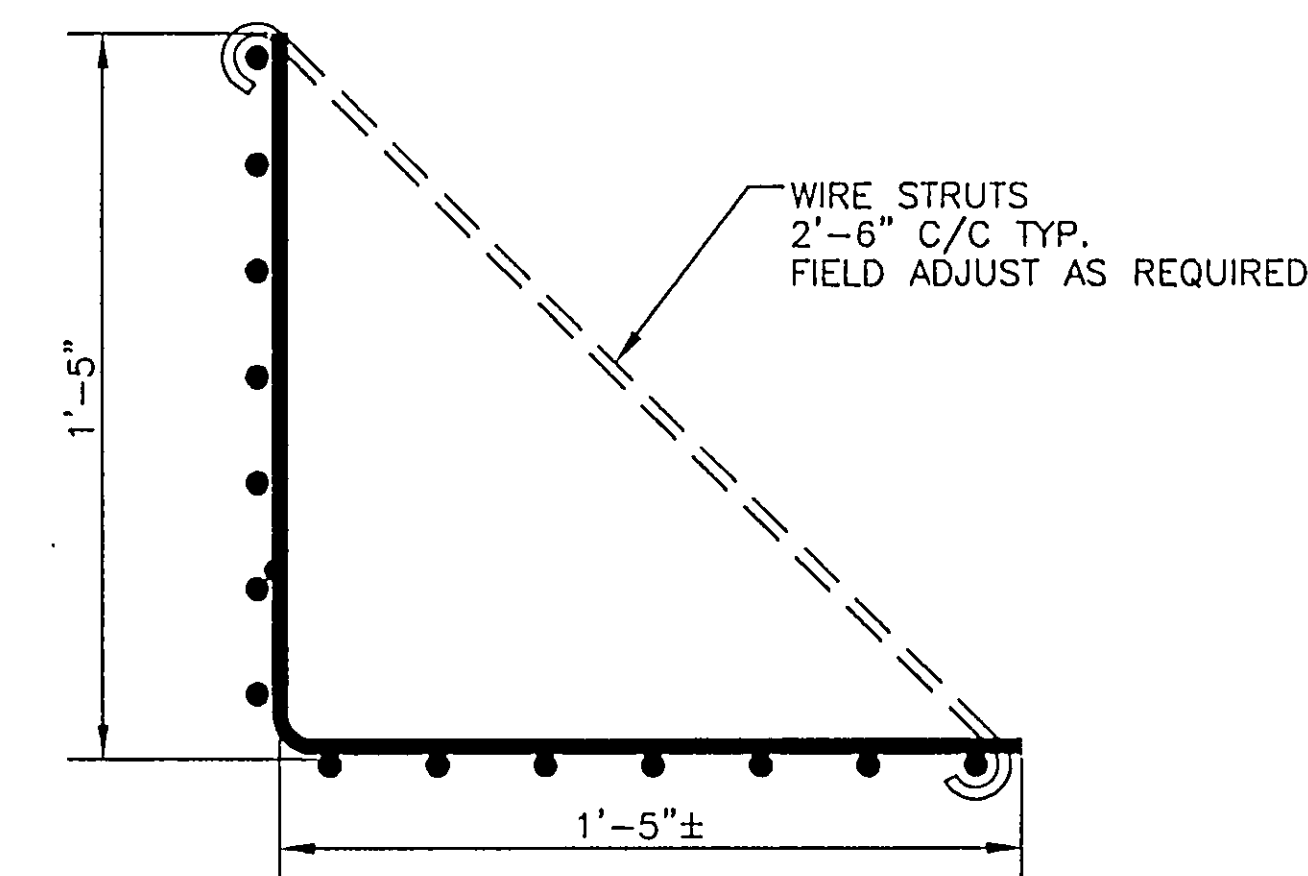


WELDED WIRE BASKET FORM

DETAIL

SCALE: N.T.S.

3
17

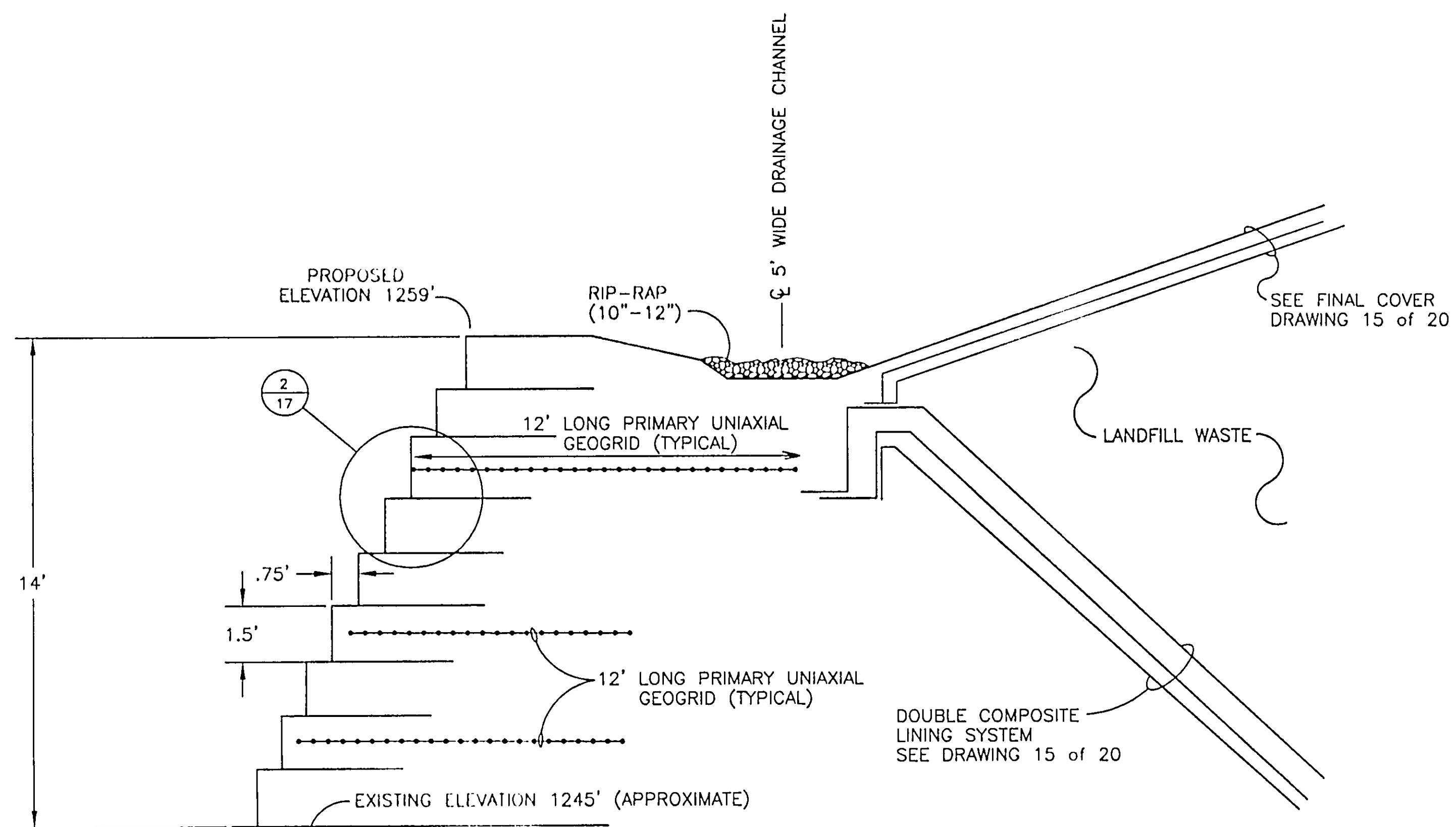


END VIEW

DETAIL

SCALE: N.T.S.

4
17



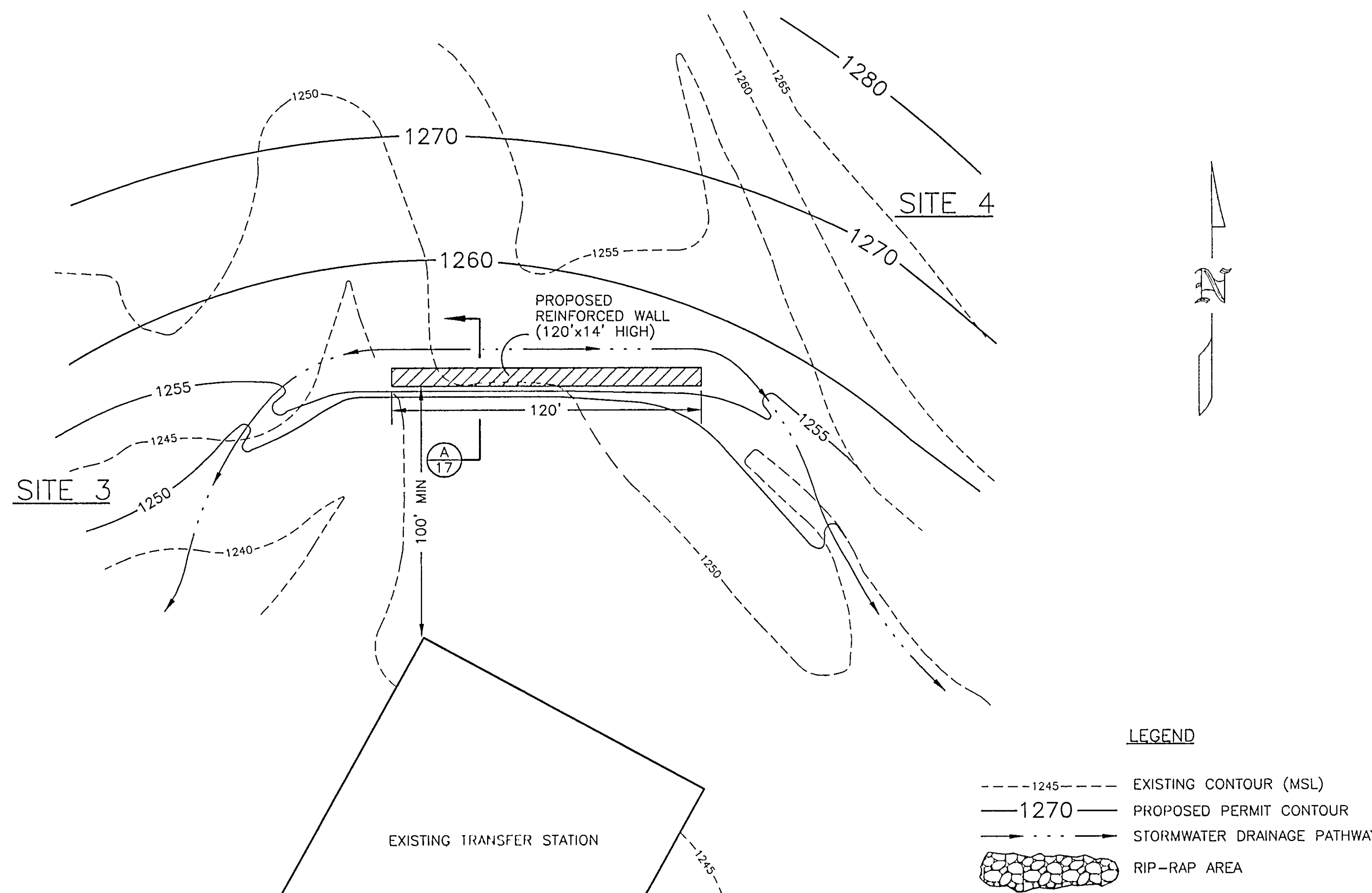
REINFORCED WALL CROSS-SECTION

SECTION

SCALE: N.T.S.

A

17



RETAINING WALL PLAN VIEW

DETAIL

SCALE: 1"=30'

1

17

LEGEND

- 1245--- EXISTING CONTOUR (MSL)
- 1270— PROPOSED PERMIT CONTOUR
- >--- STORMWATER DRAINAGE PATHWAY
- RIP-RAP AREA

DRAWING 17 of 20

RETAINING WALL PLAN AND CROSS-SECTION
CLASS I PERMIT MODIFICATION

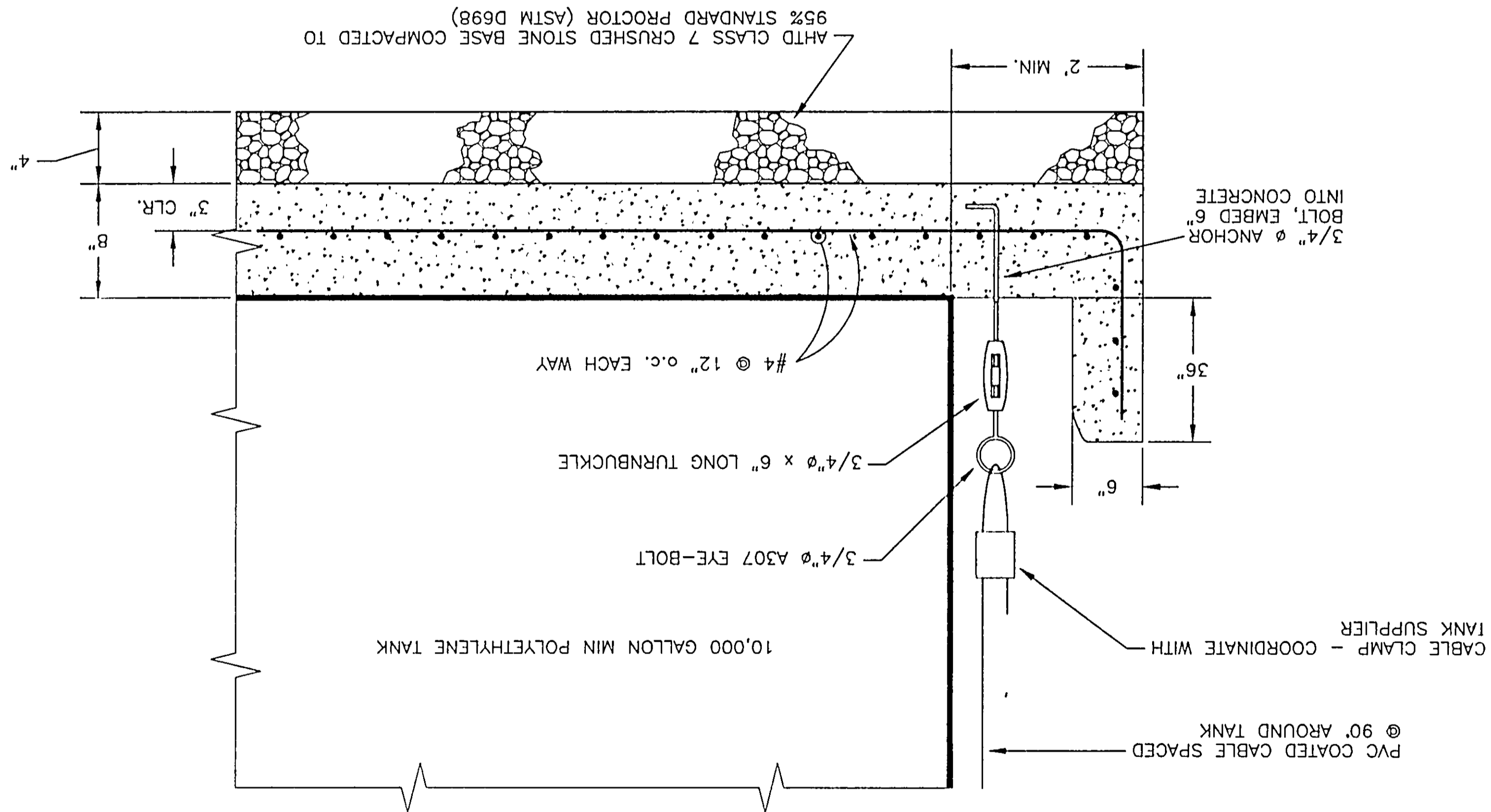
TONTOWN, ARKANSAS
SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.

Design by: KEB	GEC ENVIRONMENTAL CONSULTING, INC. 11400 West Baseline Road Little Rock, AR 72209	Project #: 9541-128
Checked by: JHC		Date: DEC 1996
Drawn by: JFH		Scale: AS SHOWN

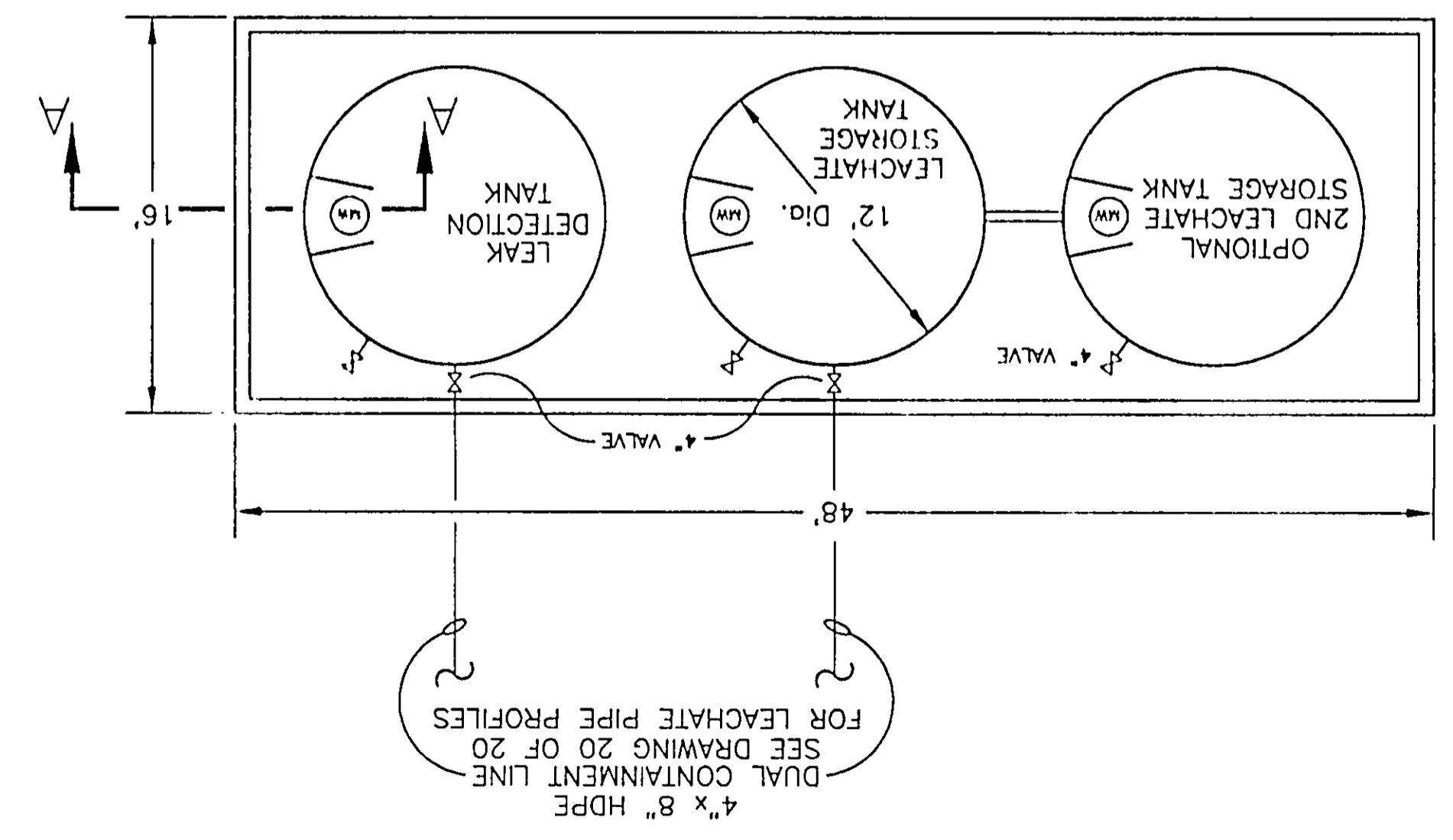
DRAWING 18 OF 20	
LEACHATE STORAGE TANK AND LEAK DETECTION TANK CLASS I LANDFILL PERMIT MODIFICATION	
SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC. TONTON, ARKANSAS	
Design by: KEB	GENESIS ENVIRONMENTAL CONSULTING, INC.
Checked by: PWC	1100 West Barkers Road LITTLE ROCK, AR 72209
Drawn by: JFH	Scale: N.T.S.
Project No.: 9541	Date: DEC 1996

- NOTE: TANKS SHOULD BE PROVIDED AS FOLLOWS:
- UPRIGHT TANK 11'-11" Dia. x 16'-8" HIGH 10,000 GAL CAP, 24" MANWAY, STANDARD WALL THICKNESS, AS MANUFACTURED BY POLYCORR (1-800-737-8265).
 - PROVIDE STEEL LADDER ASSEMBLY, 2 STAINLESS STEEL BANDS.
 - PROVIDE TWO 4" PVC TWO FLANGE FITTINGS WITH EPDM GASKETS, FEMALE END
 - LOCATE 1 FITTING NEAR TOP OF TANK
 - LOCATE 1 FITTING NEAR BOTTOM OF TANK
 - PROVIDE 2-4" PVC BALL VALVES ON TOP & BOTTOM, TWO FLANGE FITTINGS.
 - PROVIDE GOOSE NECK TANK VENT ASSEMBLY.
 - IF TWO LEACHATE TANKS ARE PROVIDED, INSTALL 4" OVERFLOW PIPE AND FITTINGS BETWEEN TANKS.

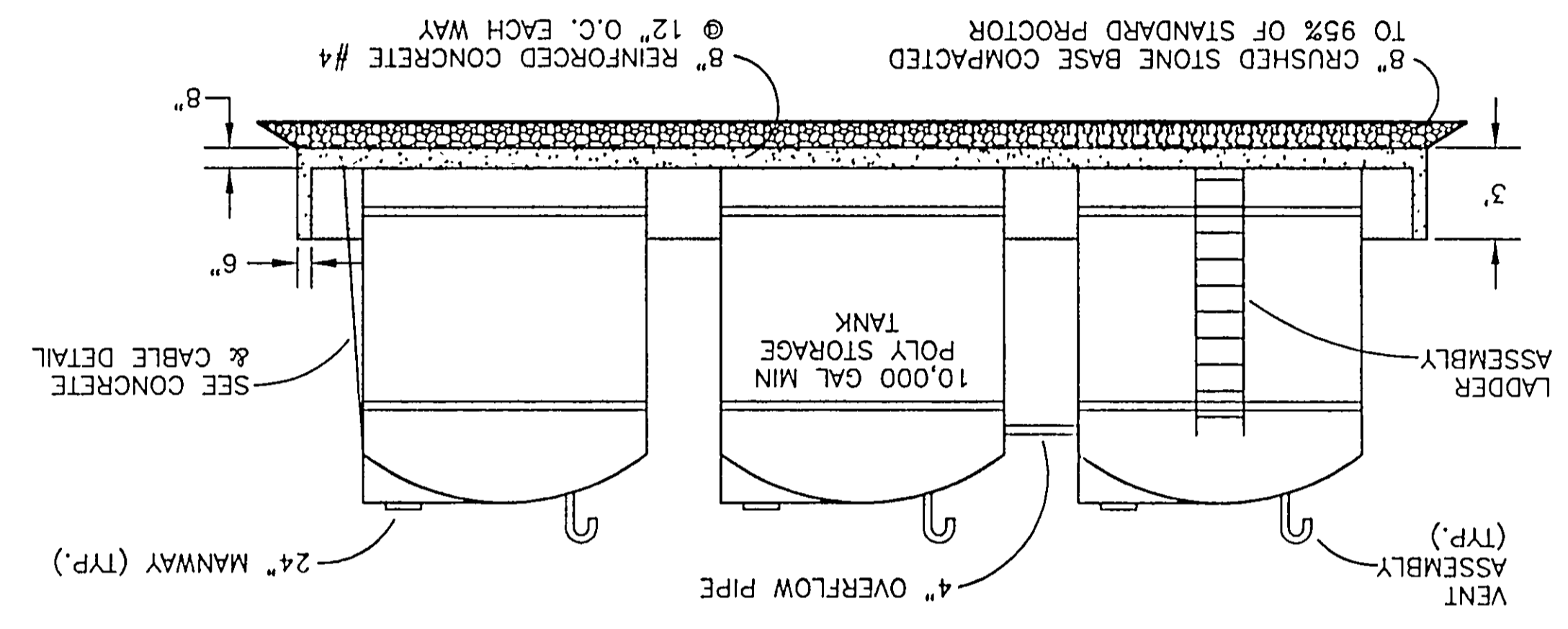
DETAIL A-A
SCALE: N.T.S.

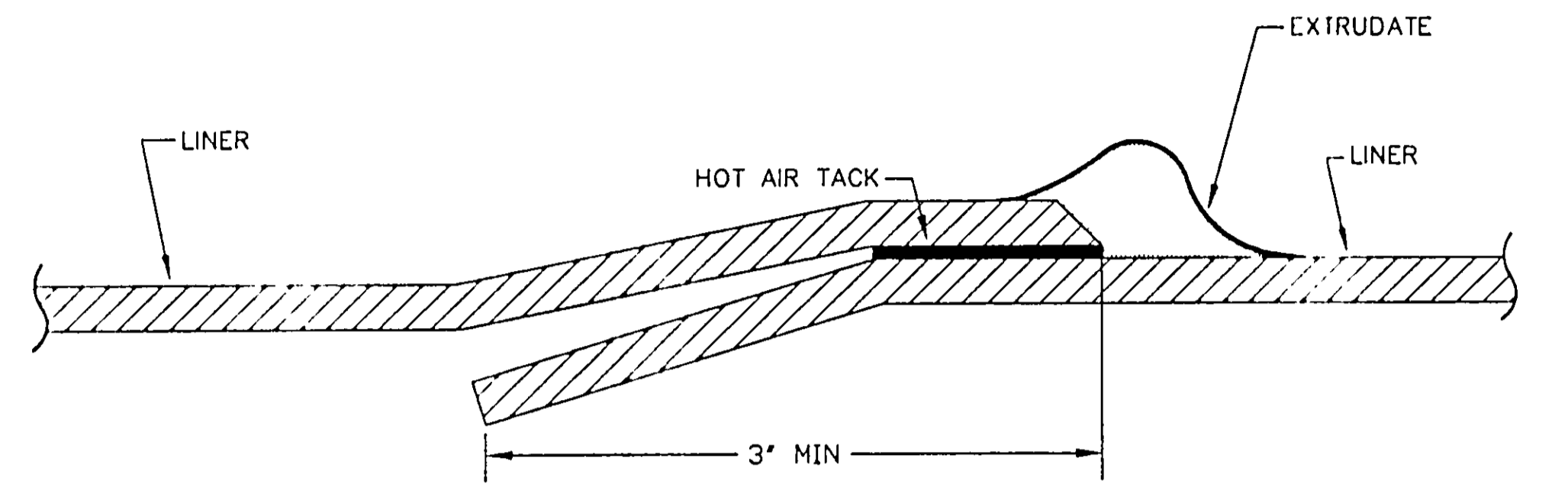


PLAN VIEW
SCALE: N.T.S.



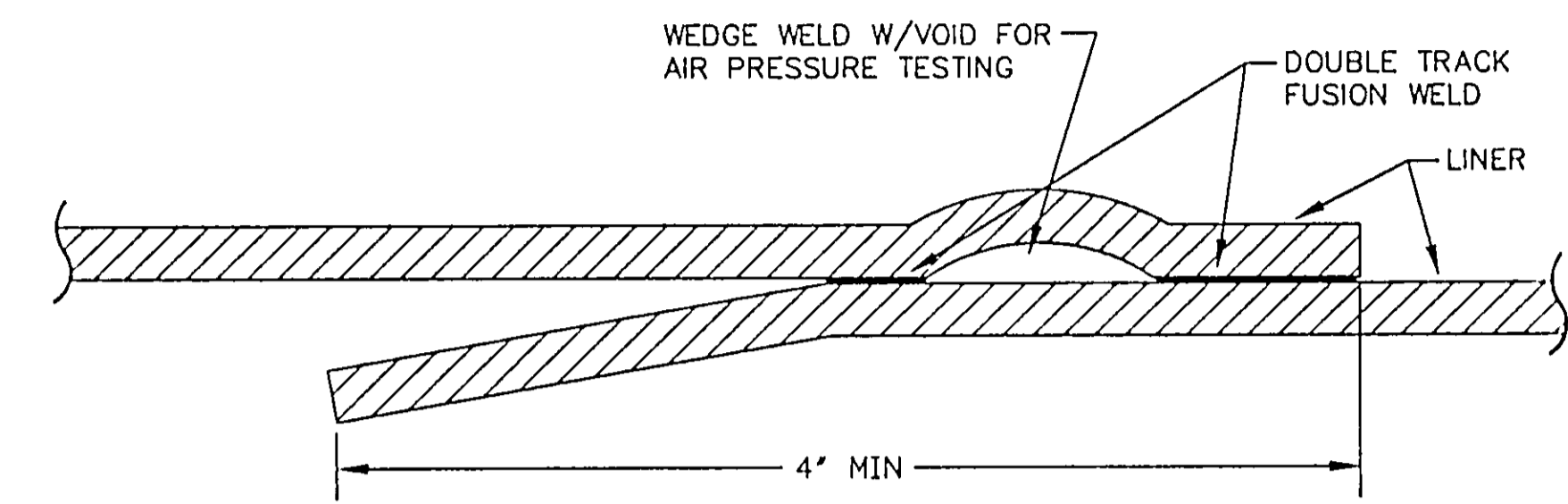
ELEVATION
SCALE: N.T.S.



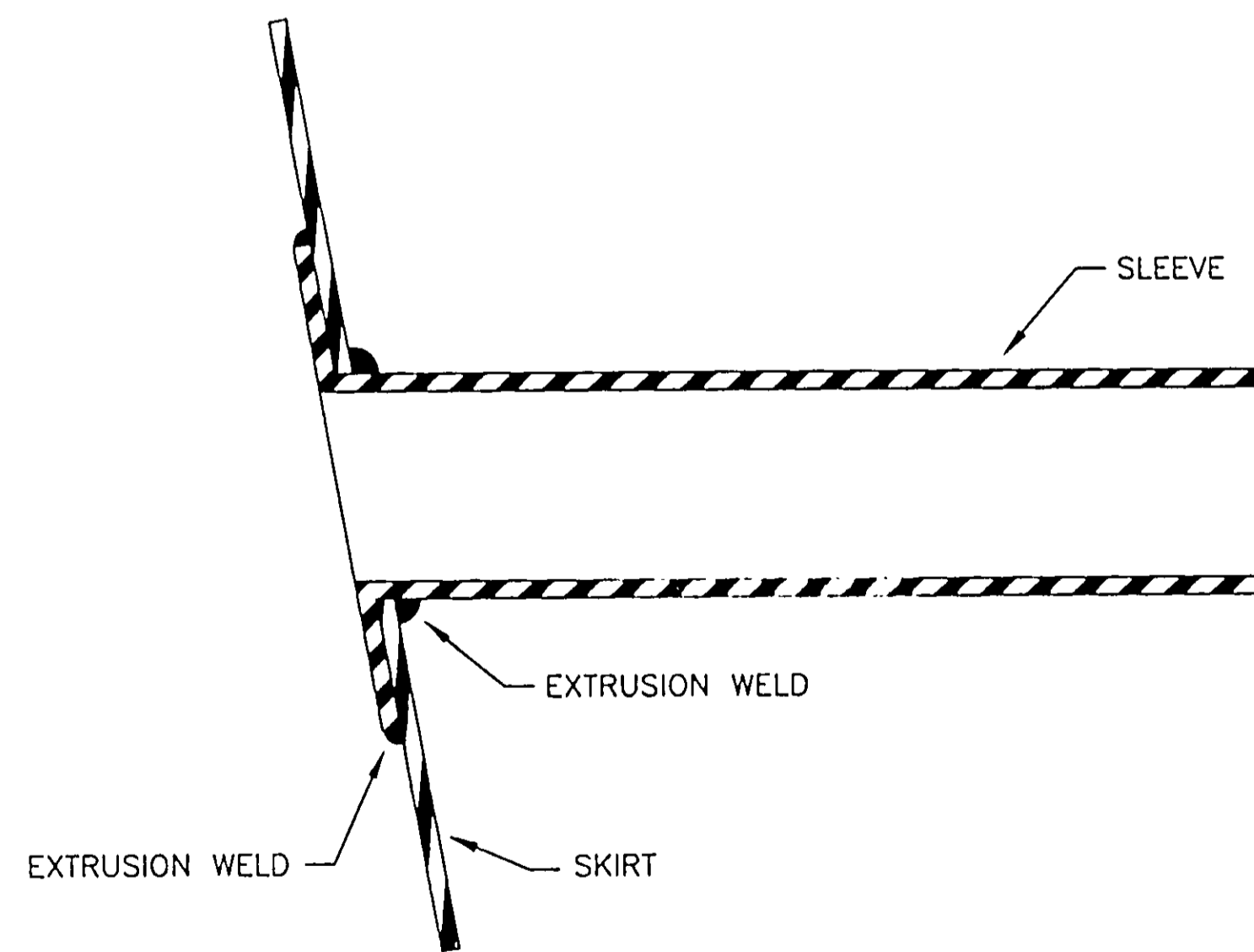


NOTE: GRIND LINER PRIOR TO WELDING

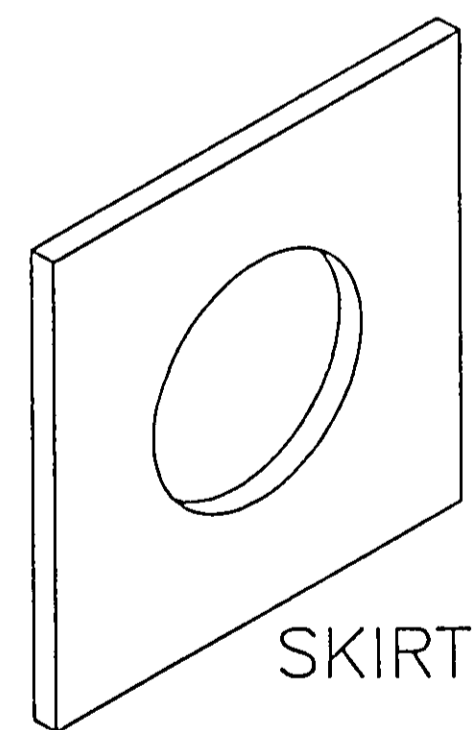
EXTRUSION WELD
(NOT TO SCALE)



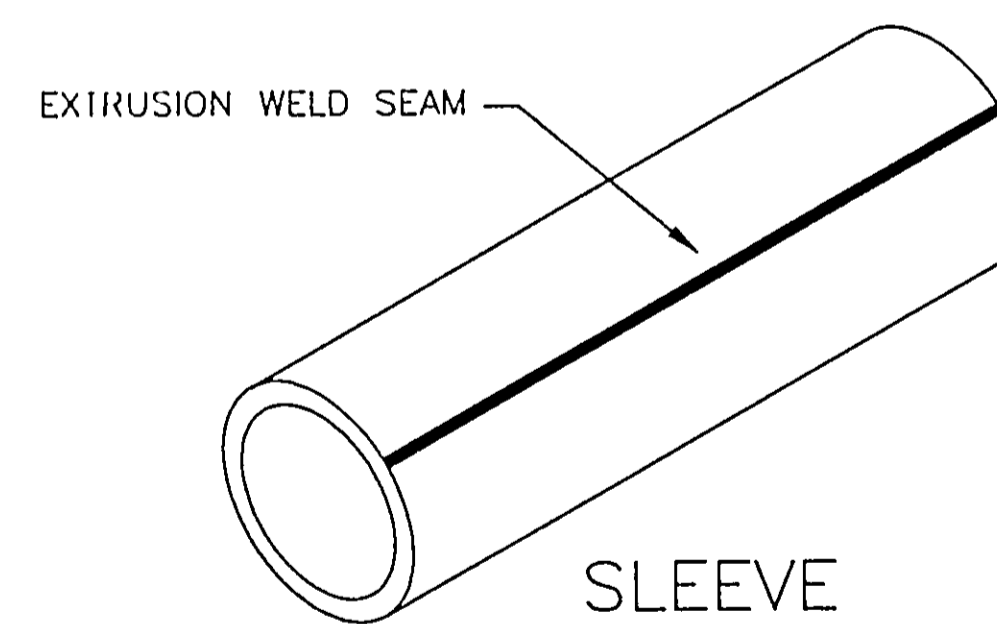
WEDGE WELD
(NOT TO SCALE)



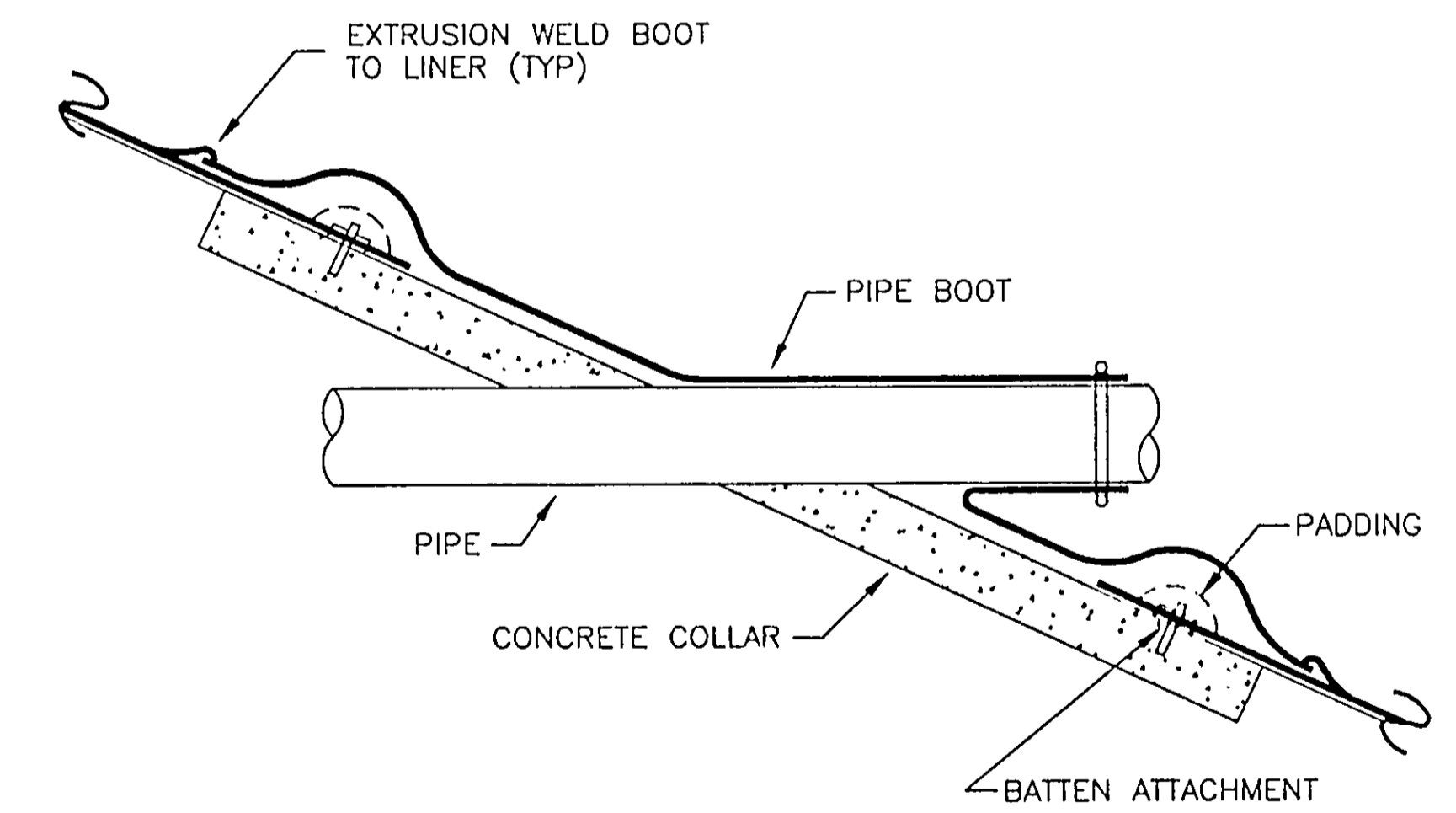
HDPE PIPE BOOT
DETAIL (1/19)



SKIRT



SLEEVE



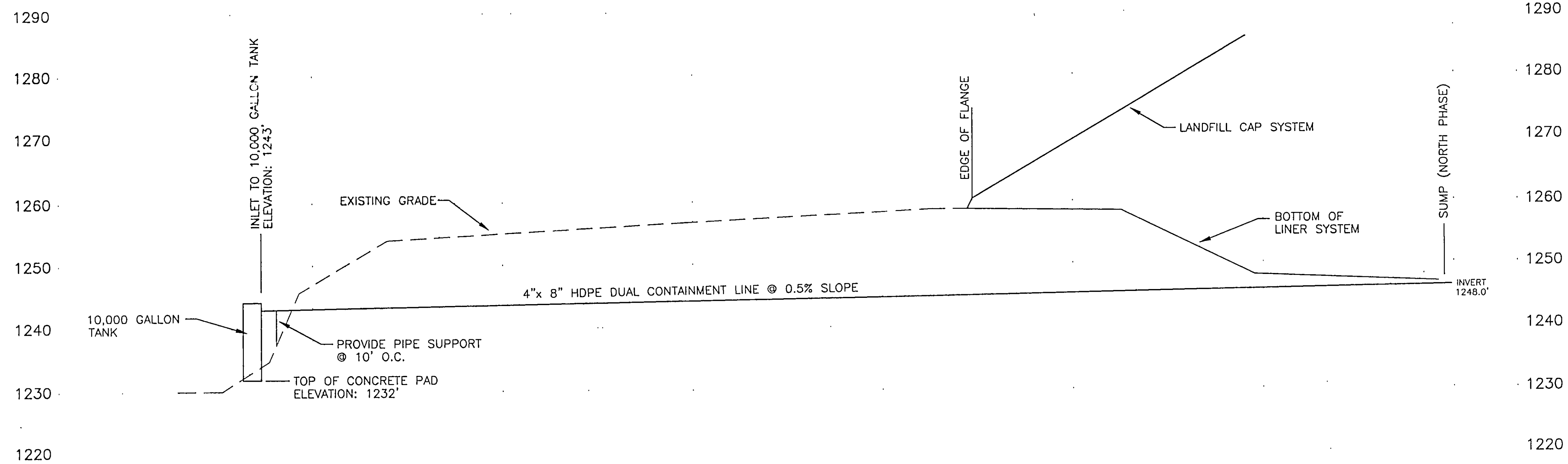
PIPE PENETRATION W/ COLLAR

DETAIL (1/19)

DRAWING 19 of 20

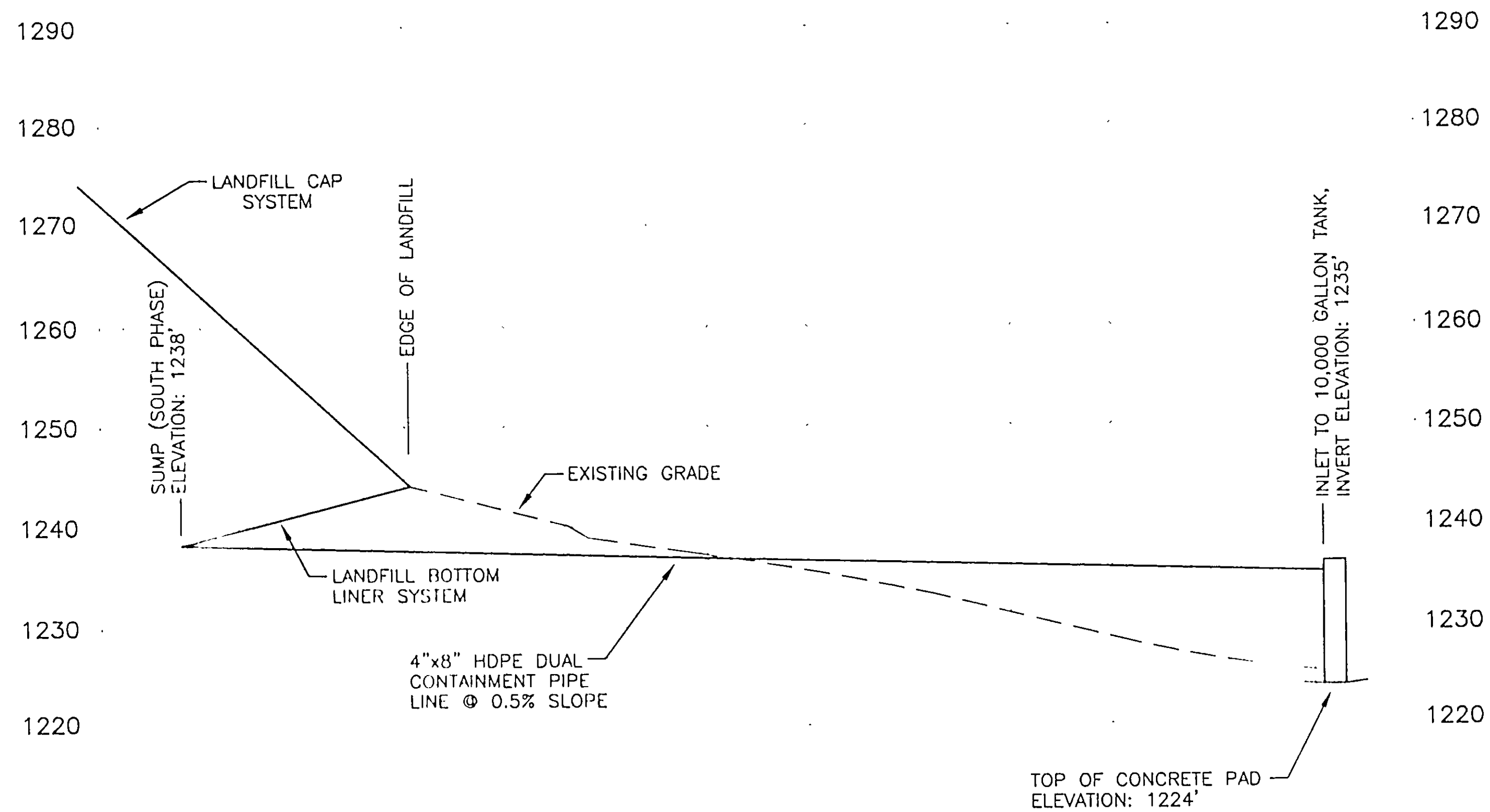
HDPE LINER DETAILS
CLASS I LANDFILL PERMIT MODIFICATION
TONTITOWN, ARKANSAS
SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.

Design by: KEB	 GENESIS ENVIRONMENTAL CONSULTING, INC. 11400 West Boswell Road Little Rock, AR 72209	Project No.: 9541
Checked by: PWC		Date: DEC 1996
Drawn by: JFH		Scale: N.T.S.



LEACHATE PIPE PROFILE
NORTH PHASE

HOR 1"=50'
VER 1"=10'



LEACHATE PIPE PROFILE
SOUTH PHASE

HOR 1"=50'
VER 1"=10'

DRAWING 20 of 20

MISCELLANEOUS DETAILS & CROSS-SECTIONS
PHASE I LANDFILL PERMIT MODIFICATION

TONTITOWN, ARKANSAS
SUNRAY SERVICES, INC. / USA WASTE SERVICES, INC.

Design by: KEB		GENESIS ENVIRONMENTAL CONSULTING, INC.	Project No.: 9541
Checked by: PWC		11400 West Baseline Road Little Rock, AR 72209	Date: DEC 1996
Drawn by: JFH			Scale: AS SHOWN