

ALPHA RIDGE LANDFILL PANELS
COORDINATES IN NAD'83 FEET
ELEVATIONS IN FEET

PANEL NUMBER	NORTH	EAST	ELEVATION
HV00	596654.78	1336886.02	526.35
PC01	595733.66	1337856.74	510.81
PC04	507298.09	1338453.33	495.55
PC05	598870.35	1339271.78	548.00
PC06	600370.18	1339244.20	513.06
PC07	598191.26	1336887.65	566.36
PC08	599855.00	1336682.66	561.11
PC09	602346.70	1336578.63	526.17
PC10	597186.12	1334540.67	574.07
PC11	598429.53	1334744.49	576.44
PC12	599799.43	1334659.45	585.44
PC13	601881.34	1335027.83	552.64

HOWARD COUNTY

Department of Public Works

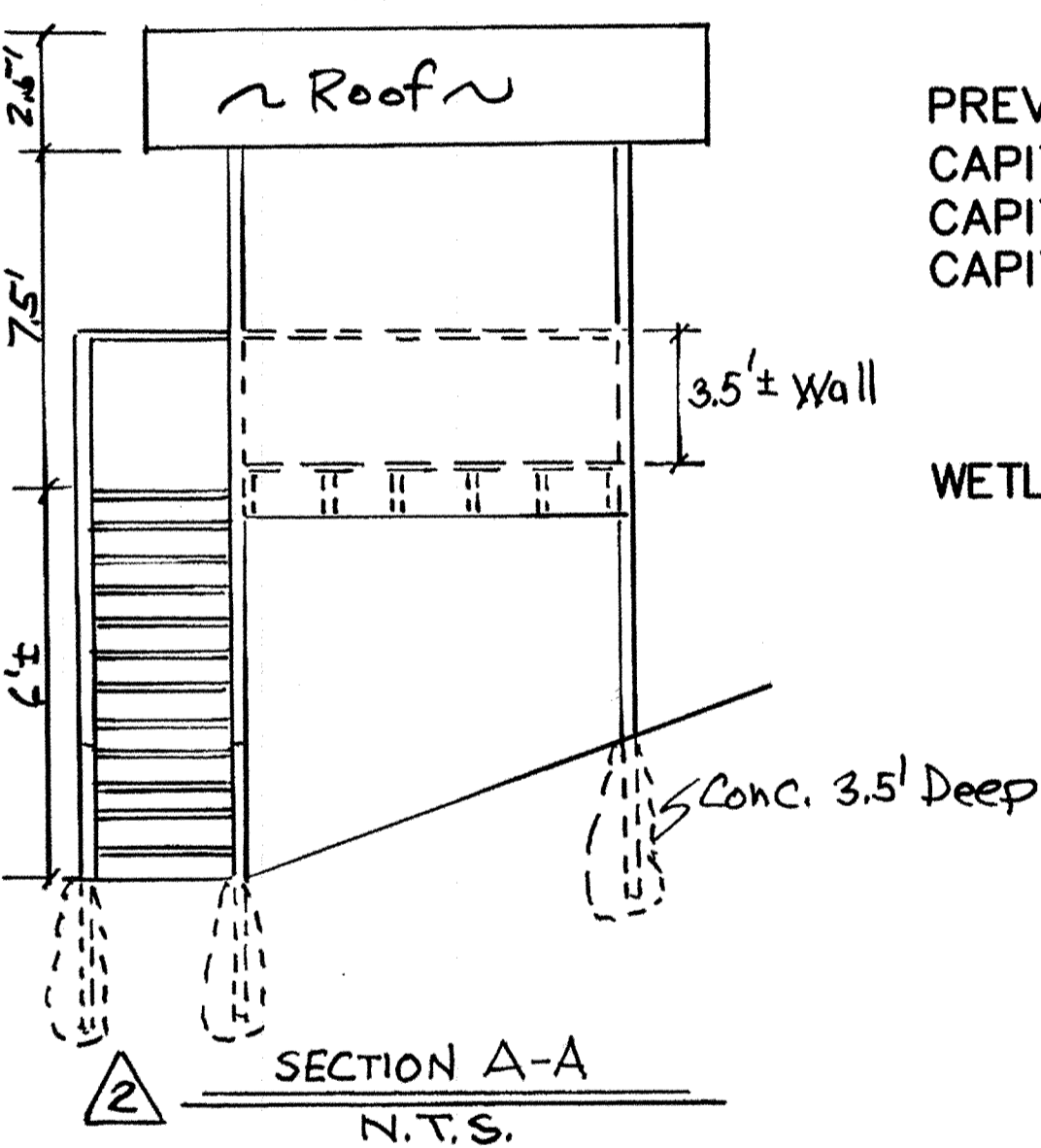
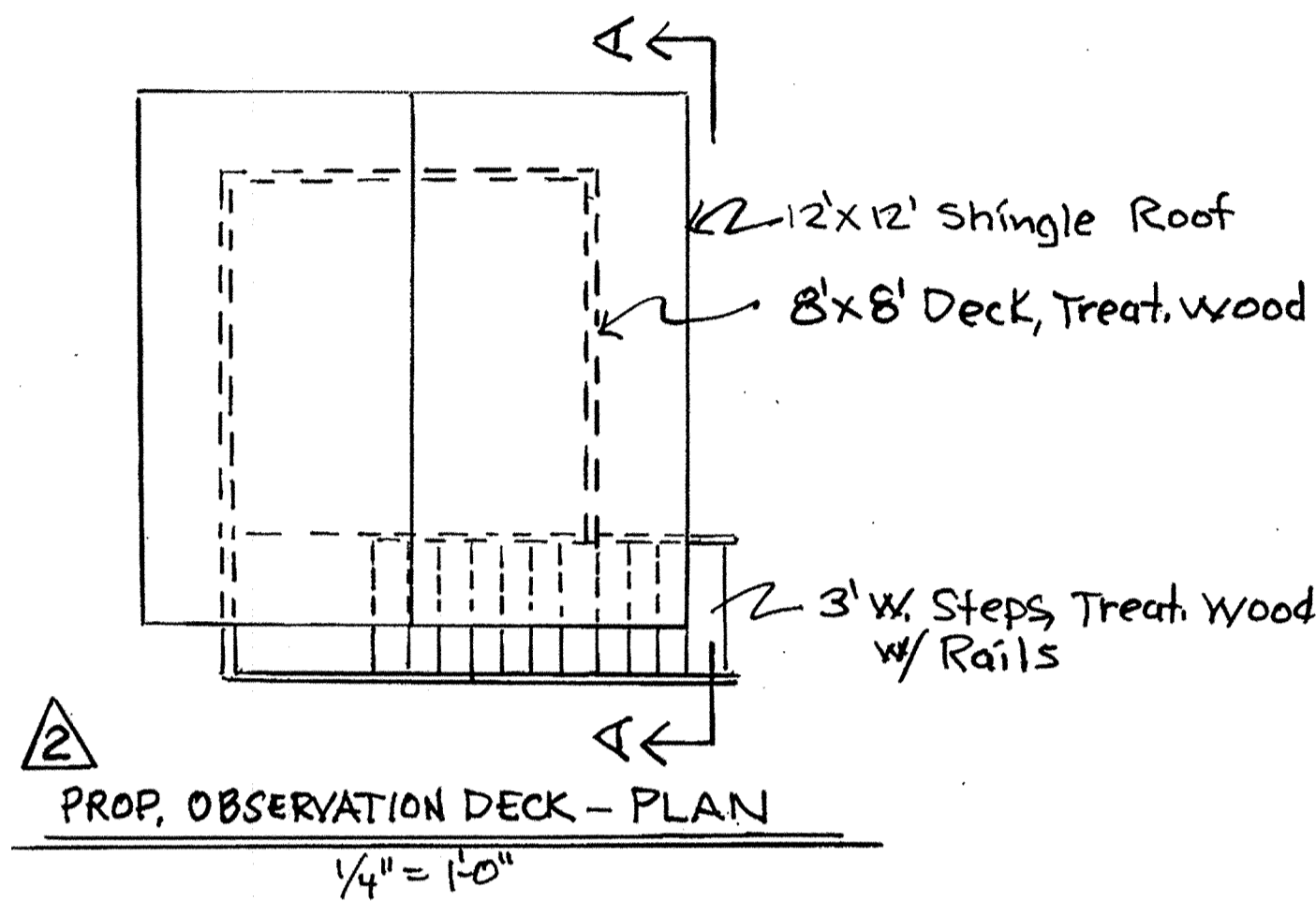
6751 Gateway Drive, Suite 514
Columbia, Maryland 21046

ALPHA RIDGE LANDFILL UNLINED CELL CLOSURE

CAPITAL PROJECT NO. C-0190-N SITE DEVELOPMENT PLAN

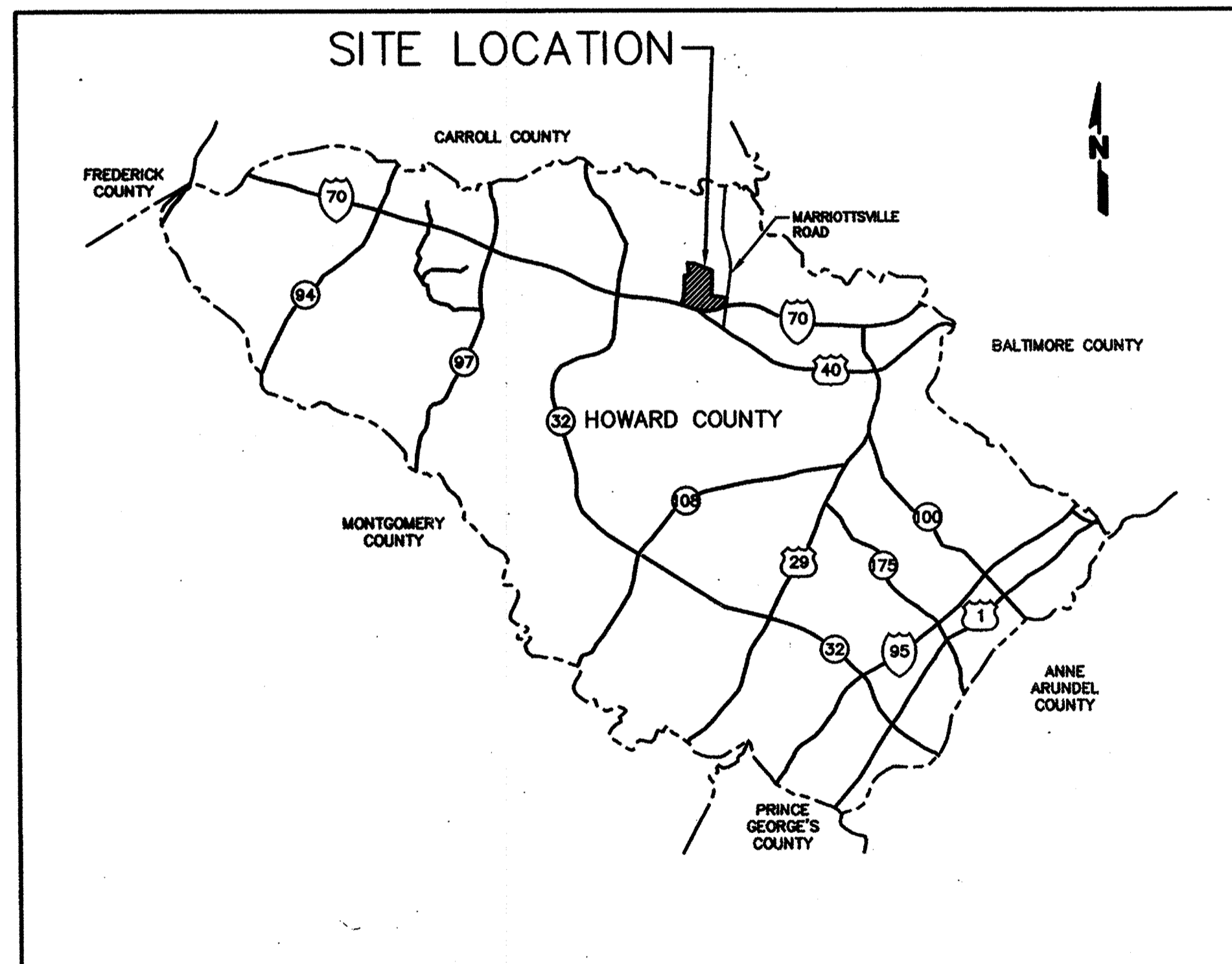
DRAWING INDEX

- 1. COVER SHEET
- 2. GENERAL NOTES
- 3. OVERALL SITE PLAN
- 4. EXISTING CONDITIONS PLAN
- 5. BASE GRADING PLAN
- 6. BASE GRADING PLAN - SE QUADRANT
- 7. BASE GRADING PLAN - SW QUADRANT
- 8. BASE GRADING PLAN - NW QUADRANT
- 9. BASE GRADING PLAN - NE QUADRANT
- 10. FINAL SURFACE GRADING PLAN
- 11. LANDFILL CROSS-SECTIONS
- 12. LANDFILL CROSS-SECTIONS
- 13. EAST LEACHATE COLLECTION TRENCH PROFILE
- 14. EAST LEACHATE COLLECTION TRENCH CROSS-SECTIONS
- 15. EAST LEACHATE COLLECTION TRENCH CROSS-SECTIONS
- 16. WEST LEACHATE COLLECTION TRENCH PROFILE
- 17. WEST LEACHATE COLLECTION TRENCH CROSS-SECTIONS
- 18. LEACHATE FACILITY LAYOUT AND DETAILS
- 19. LEACHATE PUMP STATION DETAILS
- 20. LEACHATE FORCE MAIN PLAN & PROFILE
- 21. LEACHATE PUMP STATION - ELECTRICAL SITE PLAN
- 22. LEACHATE PUMP STATION ELECTRICAL DETAILS
- 23. POND CONSTRUCTION SPECIFICATIONS AND CERTIFICATIONS
- 24. EAST SEDIMENT BASIN ENLARGED PLAN AND PROFILES
- 25. EAST SEDIMENT BASIN DETAILS
- 26. NORTH BASIN ENLARGED PLAN AND PROFILES
- 27. NORTH BASIN DETAILS
- 28. WEST DETENTION BASIN ENLARGED PLAN AND PROFILES
- 29. WEST DETENTION BASIN DETAILS
- 30. SOUTH SEDIMENT BASIN ENLARGED PLAN AND PROFILES
- 31. SOUTH SEDIMENT BASIN DETAILS
- 32. NORTH PERIMETER ACCESS ROAD PLAN & PROFILE
- 33. NORTH BASIN ACCESS ROAD PROFILE
- 34. NORTHEAST LANDFILL ACCESS ROAD PLAN & PROFILE
- 35. CENTRAL ACCESS ROAD & EAST SIDE CHANNEL PLAN & PROFILE
- 36. WEST SIDE CHANNEL PLAN AND PROFILE
- 37. DOWNCHUTES & SWALE PROFILES
- 38. DOWNCHUTES & SWALE PROFILES
- 39. DOWNCHUTES & SWALE PROFILES
- 40. SWALE CROSS-SECTIONS
- 41. SWALE CROSS-SECTIONS
- 42. VEGETATIVE COVER PLAN
- 43. VEGETATIVE COVER DETAILS
- 44. LANDFILL MAINTENANCE ACCESS ROAD PLAN
- 45. MISCELLANEOUS DETAILS
- 46. MISCELLANEOUS DETAILS
- 47. MISCELLANEOUS DETAILS
- 48. UNLINED CELL DRAINAGE DIVIDES
- 49. UNLINED CELL EROSION & SEDIMENT CONTROL PLAN
- 50. EROSION & SEDIMENT CONTROL NOTES-CONSTRUCTION SEQUENCE
- 51. EROSION & SEDIMENT CONTROL DETAILS
- 52. EROSION & SEDIMENT CONTROL AND MISCELLANEOUS DETAILS
- 53. LEACHATE FACILITY LAYOUT AND DETAILS
- 54. BORROW AREA EXISTING CONDITIONS PLAN
- 55. BORROW AREA TEST PIT LOGS
- 56. BORROW AREA TEST PIT LOGS
- 57. BORROW AREA BORING LOGS
- 58. BORROW AREA BORING LOGS
- 59. SOIL BARRIER LAYER BORROW AREAS A1, A2, & A3
- 60. SOIL BARRIER BORROW AREA CROSS-SECTIONS AND DETAILS
- 61. BASE GRADING SOIL BORROW AREA B AND CROSS-SECTIONS
- 62. VEGETATIVE COVER SOIL BORROW AREA C AND CROSS SECTIONS
- 63. RECREATIONAL PLAN
- 64. PROFILES AND CROSS SECTIONS
- 65. RECREATIONAL PLAN DETAILS
- 66. RECREATIONAL PLAN-DRAINAGE DIVIDES AND EROSION & SEDIMENT CONTROLS
- 67. LANDFILL CONSTRUCTION SEQUENCE PLAN
- 68. BORROW AREA SEQUENCE PLAN
- 69. MISCELLANEOUS E&S DETAILS
- 70. CLEARWATER 1 BASIN ENLARGED PLAN AND PROFILES
- 71. CLEARWATER 1 BASIN DETAILS
- 72. CLEARWATER 2 BASIN ENLARGED PLAN AND PROFILES
- 73. CLEARWATER 2 BASIN DETAILS
- 74. BORROW AREA DRAINAGE DIVIDES / EROSION & SEDIMENT CONTROL
- 75. RISER MODIFICATIONS DURING CONSTRUCTION ACTIVITIES
- 76. OVERALL LIMIT OF DISTURBANCE
- 77. MISCELLANEOUS BUILDING ALARM SYSTEMS
- 78. MISCELLANEOUS BUILDING ALARM SYSTEMS DETAILS
- G-1 LINED CELL LFG SYSTEM LAYOUT
- G-2 UNLINED CELL LFG COLLECTION SYSTEM LAYOUT
- G-3 LFG COLLECTION SYSTEM EXTRACTION WELL DETAILS
- G-4 LFG COLLECTION SYSTEM DETAILS
- G-5 LFG COLLECTION SYSTEM DETAILS
- G-6 LFG HEADER PROFILE
- G-7 BLOWER/FLARE STATION DETAILS
- G-8 BLOWER STATION/MISCELLANEOUS DETAILS
- G-9 BLOWER STATION SHELTER DETAILS
- G-10 ELECTRICAL DETAILS
- G-11 ELECTRICAL DETAILS



PREVIOUS SITE DEVELOPMENT PLAN NUMBER
CAPITAL PROJECT C-4-0108
CAPITAL PROJECT C-4-0109
CAPITAL PROJECT C-0190-B OR SDP-90-90

WETLANDS PERMIT TRACKING NO.: 1997-63409



ALPHA RIDGE LANDFILL
LEACHATE DISPOSAL SYSTEM
CAP. PROJ. S-6215

S-1 PLAN & PROFILE
S-2 PLAN & PROFILE
S-3 PLAN & PROFILE
S-4 NOTES & DETAILS

LOCATION MAP



Redline SDP 97-12B (Aug '00)
Comprised of Sheets 1A & S-1 thru S-4

NOTE: This Site Development Plan is comprised of Plan Sheets 1-78 ~~excepting sheets 57 and 58 (Borrow Area Boring Logs). Sheets 79-89 are architectural detail sheets NOT part of the SDP.~~

SUBDIVISION NAME	LOT/PARCEL	
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	54,253,220,11	
LIBER/FOLIO	ZONE	TAX/ZONE MAP
10-847/606 18-876/215 10-891/314	PEC	10 & 16
WATER CODE	SEWER CODE	CENSUS TR.
PRIVATE, EXISTING	PRIVATE, EXISTING	60-30

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

[Signature] 11/3/97
DIRECTOR DATE

[Signature] 10/30/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

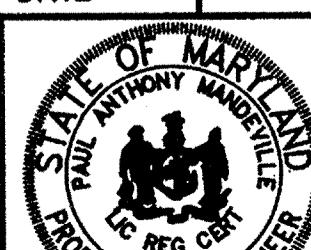
[Signature] 11/3/97
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 10/30/97
HOWARD COUNTY MARYLAND HEALTH OFFICER DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 10/30/97
DIRECTOR DATE

SCS ENGINEERS
CONSULTING ENGINEERS
11260 ROGER BACON DRIVE
SUITE 300



DES. RTT, AST
DRN. EGC, JCB

NO.	DESCRIPTION
1	ADD LEACHATE DISPOSAL SYS. 3800L# MAIN

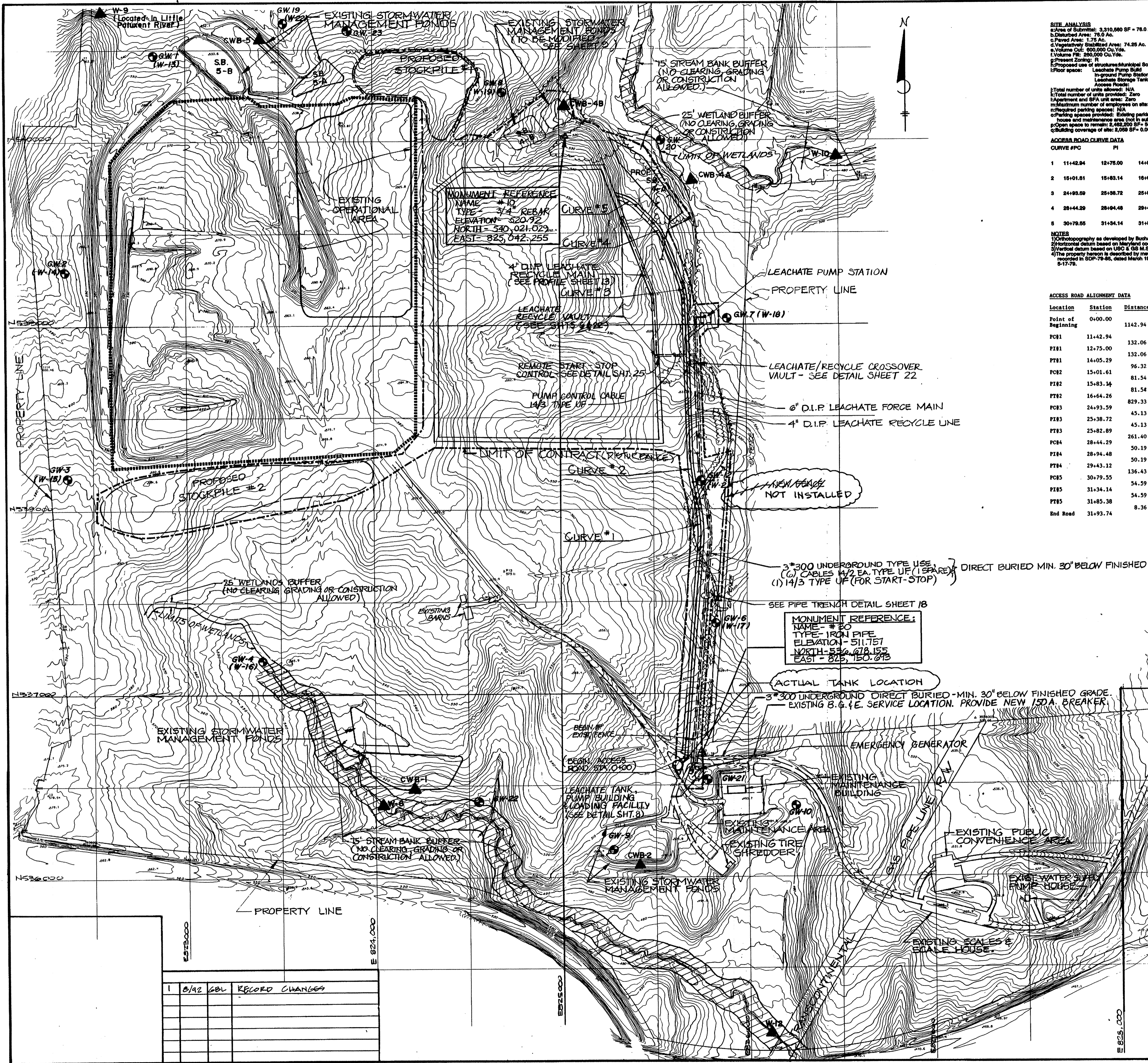
Redline SDP 97-12B (Jun '99)
Comprised of Shts. 1A & 3A only

COVER SHEET

ALPHA RIDGE LANDFILL
UNLINED CELL CLOSURE
CAPITAL PROJECT NO. C-0190-N

SCALE:
AS NOTED

M: 1285077.01 FINAL SHEET



SITE ANALYSIS
 a. Area of Submittal: 3,310,880 SF = 76.0 Ac.
 b. Disturbed Area: 76.0 Ac.
 c. Paved Area: 1.78 Ac.
 d. Vegetatively Stabilized Area: 74.25 Ac.
 e. Volume Cut: 800,000 Cu. Yds.
 f. Volume Fill: 200,000 Cu. Yds.
 g. Present Zoning: R
 h. Proposed Use of Structures: Municipal Solid Waste Landfill
 i. Proposed Leachate Pump Building: 300 SF = 0.008 Ac.
 j. Proposed In-pound Pump Station: 50 SF = 0.001 Ac.
 k. Proposed Leachate Storage Tank: 1,000 SF = 0.04 Ac.
 l. Access Roads: 76,000 SF = 1.74 Ac.

Total number of units allowed: N/A
 Total number of employees on site: Zero
 Apartment and SFA unit area: Zero
 Minimum number of employees on site: 17
 Required parking spaces: N/A
 Parking spaces provided: Existing parking provided at scale house and maintenance area (not in submittal)
 Open space to remain: 2,492,200 SF = 56.8 Ac. = 87% of Submittal
 Building coverage of site: 2,059 SF = 0.05 Ac. = 0.00% of Submittal

ACCESS ROAD ALIGNMENT DATA

CURVE #/PC	PI	PT	R	L
1 11+42.94	12+75.00	14+05.29	16°10'00.2"	282.30'
2 15+01.81	15+83.14	16+64.28	10°04'28.2"	162.66'
3 24+93.09	25+98.72	25+82.89	20°27'57.3"	89.30'
4 28+44.29	28+94.48	29+43.12	24°37'10.8"	98.83'
5 30+78.05	31+34.14	31+86.38	34°38'56.4"	106.83'

NOTES
 1) Orthophotography as developed by Buchart-Horn, Inc. York, PA from aerial flight of 2/18/82.
 2) Horizontal datum based on Maryland coordinate grid system.
 3) Vertical datum based on LIGC & GB M.S.L. of 1989.
 4) The property herein is described by names & bounds on property plat. See Election District record in SDP-79-95, dated March 1978, a approved Division of Land Development 5-17-78.

ACCESS ROAD ALIGNMENT DATA

Location	Station	Distance	Bearing	North	East
Point of Beginning	0+00.00	1142.94	N4°44'59.5"	536,653.00	825,655.00
PC#1	11+42.94	132.06	N4°44'59.5"	537,792.01	825,749.64
PT#1	12+75.00	132.06	N11°30'00.6"	537,923.62	825,760.58
PC#2	14+05.29	96.32	N11°30'00.6"	538,053.03	825,734.25
PT#2	15+01.61	81.54	N11°30'00.6"	538,147.42	825,715.04
PC#3	15+83.14	81.54	N1°25'32.9"	538,227.32	825,698.79
PT#3	16+64.26	829.33	N1°25'32.9"	538,308.83	825,696.76
PC#4	24+93.09	45.13	N1°25'32.9"	539,137.90	825,676.12
PT#4	25+38.72	45.13	N21°53'27.2"	539,183.02	825,675.00
PC#5	25+82.89	261.40	N21°53'27.2"	539,224.89	825,658.17
PT#5	28+44.29	50.19	N46°30'42.7"	539,467.44	825,560.71
PC#6	28+94.48	50.19	N21°53'27.2"	539,514.02	825,542.00
PT#6	29+43.12	136.43	N46°30'42.7"	539,548.55	825,505.58
PC#7	30+79.55	54.59	N46°30'42.7"	539,642.44	825,406.59
PT#7	31+34.14	54.59	N81°09'38.0"	539,680.01	825,366.99
PC#8	31+85.38	8.36	N81°09'38.0"	539,688.39	825,313.04
End Road	31+93.74			539,689.68	825,304.78

SUBDIVISION NAME
Alpha Ridge Solid Waste Management Center
 64,253,220.11

BLOCK 10 & 16
ZONE R
TAX/ZONE MAP/ELEC. DIST. CENSUS TR. 3 60-30

WATER CODE Private, Existing
SEWER CODE Private, Existing

OWNER/DEVELOPER
Howard County Government

ADDRESS
3430 Court House Drive, Elkport City, MD 21043

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

Joyce M. Boyd 8-23-90
 COUNTY HEALTH OFFICER DATE

APPROVED FOR STORM DRAINAGE SYSTEMS AND ROADS
HOWARD COUNTY DEPT. OF PUBLIC WORKS

James H. ... 8/23/90
 DIRECTOR DATE

William D. ... 8-23-90
 CHIEF, BUREAU OF ENGINEERING DATE

- LEGEND**
- LIMIT OF CONTRACT (DISTURBANCE)
 - EXISTING LANDFILL PERIMETER
 - GW-1 EXISTING MONITORING WELLS
 - ▲ W-1 MAINSTREAM SURFACE SAMPLING LOCATION
 - ▲ CWB-1 CLEARWATER BASIN SURFACE SAMPLING LOCATION

RECORD DRAWING

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

AUGUST 1992

ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

SITE PLAN

DESIGN	D.S.P.	DATE	JUNE 1990
DRAWN	D.T.M.	SCALE	1" = 250'
CHECKED	D.S.P.	PROJECT NO.	10293.01
PROJECT ENGINEER	D.S.S.	SHEET NO.	2 OF 25

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 BALTIMORE, CHICAGO, LINCOLN, NEW YORK, NEW JERSEY, ATLANTA, DALLAS, LOS ANGELES, SAN FRANCISCO

Lowton Center
 15 Lowton Circle
 Sparks, Maryland 21152
 (301) 771-4850

NO.	DATE	BY	RECORD CHANGES
1	8/92	GBL	RECORD CHANGES



SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 54,253,220.11	
10-24/700 10-24/700 10-24/700	BLOCK R	ZONE 10 & 18	ELEC. DIST. 3
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043			
APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT			
James H. Boyd, M.P.E. COUNTY HEALTH OFFICER			9-23-90 DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING			
DIRECTOR: James H. Boyd PLANNING AND LAND DEVELOPMENT			6/28/90 DATE
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS, HOWARD COUNTY DEPT. OF PUBLIC WORKS			
James P. Sun DIRECTOR			8/23/90 DATE
D. S. S. CHIEF, BUREAU OF ENGINEERING			9-23-90 DATE

NOTES:

- 1.) ORTHOTOPOGRAPHY AS DEVELOPED BY BUCHART-HORN, INC. YORK PA. FROM AERIAL FLIGHT OF 2 / 12 / 82.
- 2.) HORIZONTAL DATUM BASED ON MARYLAND COORDINATE GRID SYSTEM.
- 3.) VERTICAL DATUM BASED ON USC & GS M.S.L. OF 1929.
- 4.) LOCATION OF PONDS AND EXISTING FILL FROM IMPLEMENTATION PLANS DATED 12 / 79. LOCATIONS AND ELEVATIONS WERE NOT FIELD VERIFIED.
- 5.) SUBSURFACE AND GROUNDWATER DATA BASED ON RECORDS FROM 1983 TO 1988 AS REFERENCED IN THE SPEC.

LEGEND

- EXISTING CONTOURS 540
- ISOPACH CONTOURS OF BASE OF FILL TO WATER TABLE ELEVATIONS 10
- MONITORING WELLS (GW-I, D-I, P-II) (Symbol)
- SUBCELL DIVISION LINE (Symbol)
- TEST PITS (Symbol)

RECORD DRAWING

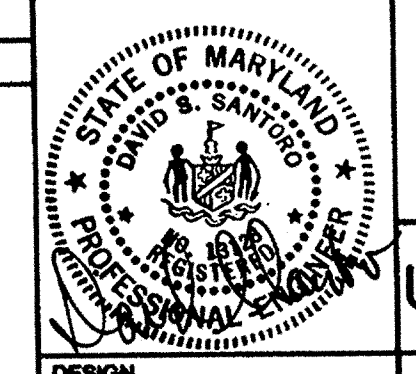
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

AUGUST 1992

NOT IN CONTRACT

**ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND**

UNSATURATED SAPROLITE BELOW LINER



DESIGN	F.T.B.
DRAWN	D.T.M.
CHECKED	T.J.P.
PROJECT ENGINEER	D.S.S.

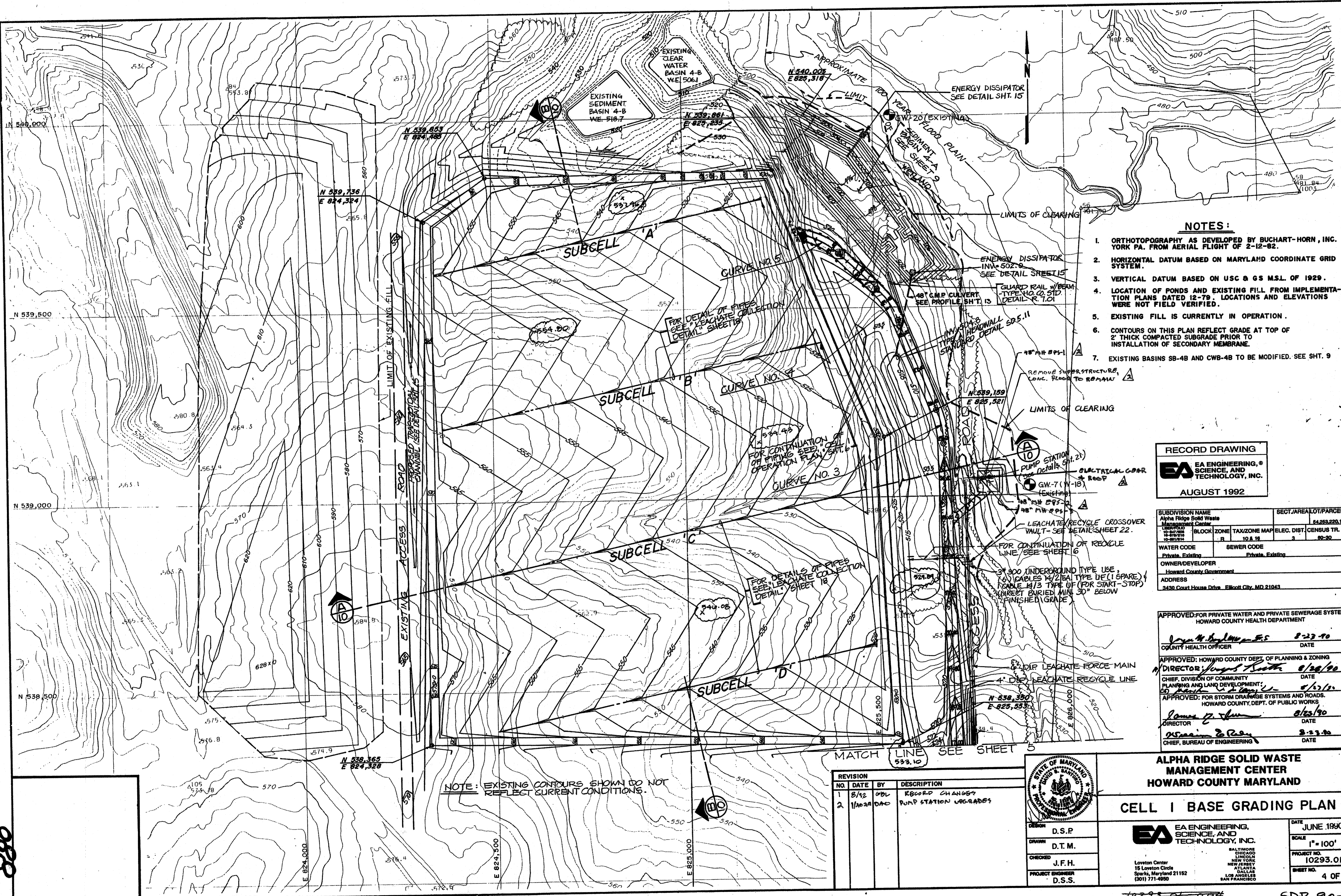
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

15 Loveton Circle
Sparks, Maryland 21152
(301) 771-4950

BALTIMORE
CHICAGO
NEW YORK
NEW JERSEY
ATLANTA
DALLAS
LOS ANGELES
SAN FRANCISCO

DATE	JUNE 1990
SCALE	1" = 100'
PROJECT NO.	10293.01
SHEET NO.	3 OF 25

REVISIONS			
NO.	DATE	BY	DESCRIPTION



NOTES:

1. ORTHOTOPOGRAPHY AS DEVELOPED BY BUCHART-HORN, INC. YORK PA. FROM AERIAL FLIGHT OF 2-12-82.
2. HORIZONTAL DATUM BASED ON MARYLAND COORDINATE GRID SYSTEM.
3. VERTICAL DATUM BASED ON USC & GS M.S.L. OF 1929.
4. LOCATION OF PONDS AND EXISTING FILL FROM IMPLEMENTATION PLANS DATED 12-79. LOCATIONS AND ELEVATIONS WERE NOT FIELD VERIFIED.
5. EXISTING FILL IS CURRENTLY IN OPERATION.
6. CONTOURS ON THIS PLAN REFLECT GRADE AT TOP OF 2' THICK COMPACTED SUBGRADE PRIOR TO INSTALLATION OF SECONDARY MEMBRANE.
7. EXISTING BASINS SB-4B AND CWB-4B TO BE MODIFIED. SEE SHT. 9

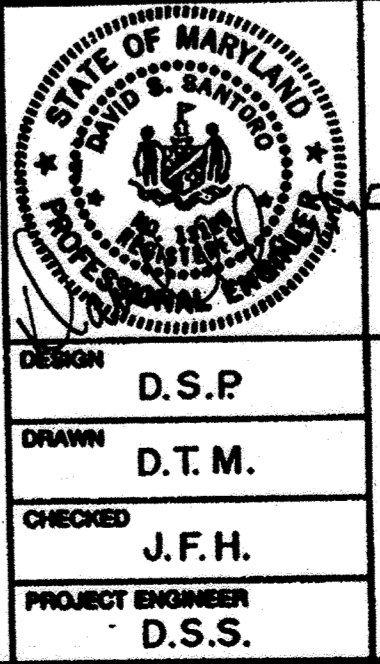
RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 AUGUST 1992

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 54263.220.11	
10-827008 10-827010 10-827014	BLOCK	ZONE R	TAXZONE MAP ELEC. DIST CENSUS TR. 10 & 19 3 90-90
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive Elkport City, MD 21043			

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS,
 HOWARD COUNTY HEALTH DEPARTMENT
John M. Boyle 8-23-90
 COUNTY HEALTH OFFICER DATE
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
James Smith 8/28/90
 DIRECTOR, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE
 APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS,
 HOWARD COUNTY, DEPT. OF PUBLIC WORKS
James P. [unclear] 8/23/90
 DIRECTOR DATE
William E. [unclear] 8-23-90
 CHIEF, BUREAU OF ENGINEERING DATE

NOTE: EXISTING CONTOURS SHOWN DO NOT REFLECT CURRENT CONDITIONS.

REVISION			
NO.	DATE	BY	DESCRIPTION
1	8/92	DBL	RECORD CHANGES
2	1/20/94	DAC	PUMP STATION UPGRADES



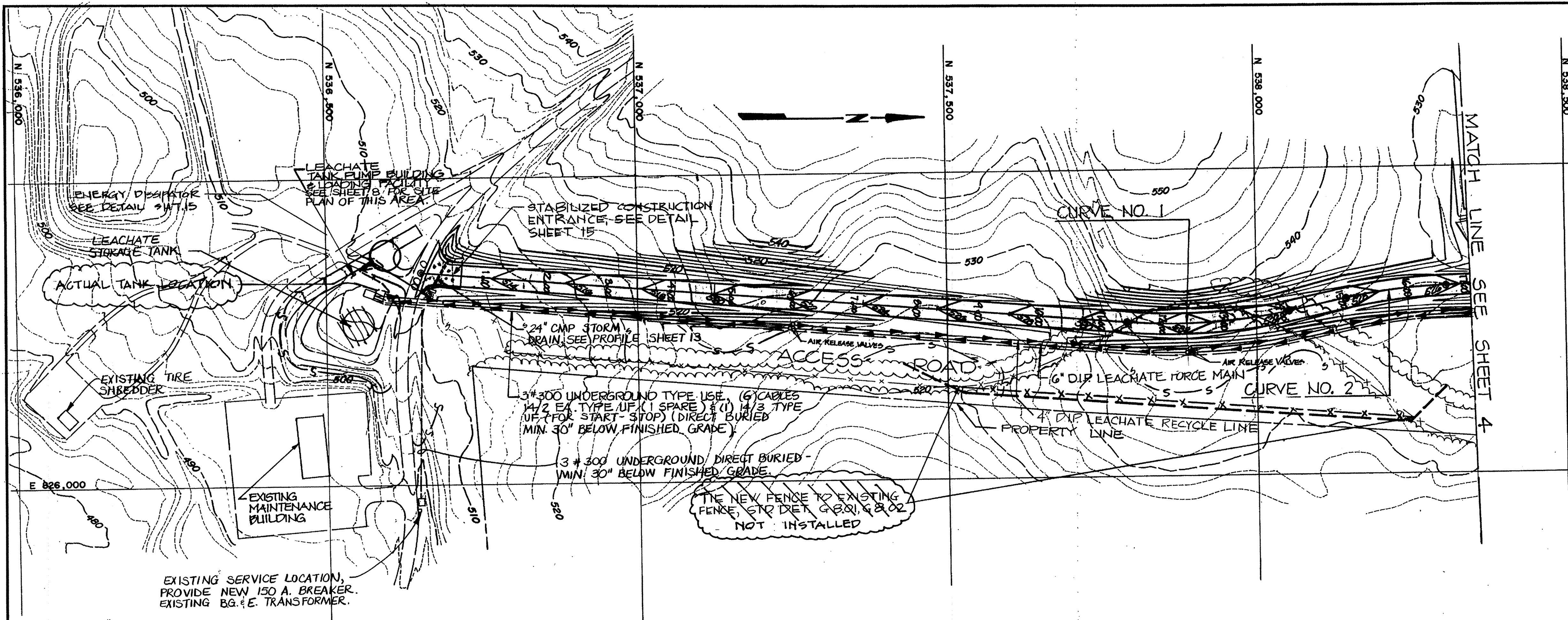
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

CELL I BASE GRADING PLAN

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 16 Loveton Circle
 Sparks, Maryland 21152
 (301) 771-4950

DATE: JUNE 1990
 SCALE: 1" = 100'
 PROJECT NO.: 10293.01
 SHEET NO.: 4 OF 25

10293.01-004
 XXAL-90-004 SDP 90-9C



SEE SHEET 2 FOR ALIGNMENT DATA.
ROAD AND FORCE MAIN PROFILE SHOWN ON SHEET 13.
SEE SHEET 14 FOR CONTINUATION OF EROSION & SEDIMENT CONTROL FEATURES

ROADWAY GRADING PLAN
SCALE: 1" = 100'

SEDIMENT CONTROL & POND CONSTRUCTION

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Stefan Hudis 8-23-90
SIGNATURE OF DEVELOPER DATE

BY THE ENGINEER:
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION.

David Lewis 21 August 1990
SIGNATURE OF ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL. *Terriann Engle/6.S. 8/19/90*

John M. D. ... 8/23/90
U.S. SOIL CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. *Robert W. ...* 8/19/90
HOWARD SOIL CONSERVATION DISTRICT DATE

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 54,253,220.11	
BLOCK 10-27-002	ZONE R	TAX/ZONE MAP 10 & 16	ELEC. DIST. CENSUS TR. 3 80-30
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043			
APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT <i>Joyce M. Boyd</i> 8-23-90 COUNTY HEALTH OFFICER DATE			
APPROVED FOR HOWARD COUNTY DEPT. OF PLANNING & ZONING CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT <i>David Lewis</i> 8/23/90 DATE			
APPROVED FOR STORM DRAINAGE SYSTEMS AND ROADS, HOWARD COUNTY DEPT. OF PUBLIC WORKS <i>James G. ...</i> 8/23/90 DIRECTOR DATE			
<i>William B. ...</i> 8-23-90 CHIEF, BUREAU OF ENGINEERING DATE			

- LEGEND**
- x-x- EXISTING FENCE
 - x-x-x-x- EXISTING FENCE
 - - - - - LIMIT OF CLEARING
 - s-s- SILT FENCE

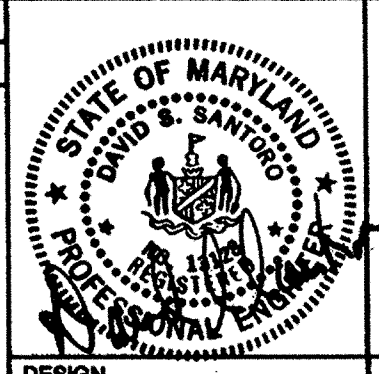
RECORD DRAWING

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

AUGUST 1992

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	8/92	UPL	RECORD CHANGES



ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

ROADWAY GRADING PLAN (STA. 0+00-17+00)

DATE: JUNE 1990
SCALE: AS SHOWN
PROJECT NO.: 10293.01
SHEET NO.: 5 OF 25

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
BALTIMORE, CHICAGO, LINCOLN, NEW YORK, NEW JERSEY, ATLANTA, DALLAS, LOS ANGELES, SAN FRANCISCO

10293.01-005
XXA1-90-005

080

SEDIMENT CONTROL & POND CONSTRUCTION

BY THE DEVELOPER:
 I HAVE CERTIFIED THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 3-15-91
 SIGNATURE OF DEVELOPER DATE

BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION.

[Signature] 11 MARCH 91
 SIGNATURE OF ENGINEER DATE

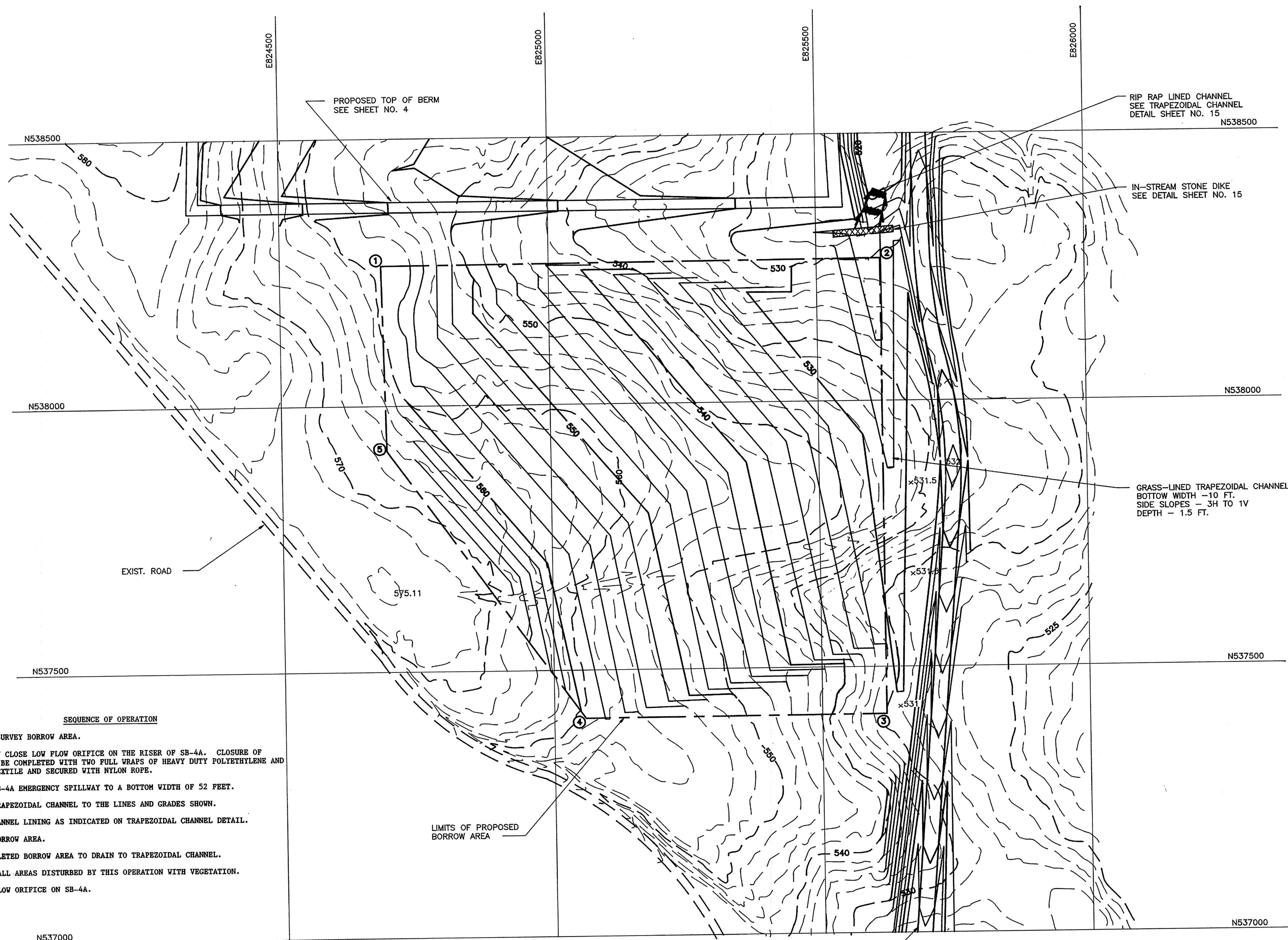
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION, AND SEDIMENT CONTROL.

[Signature] 3/6/91
 HOWARD SOIL CONSERVATION DISTRICT DATE

[Signature] 5/19/92
 HOWARD SOIL CONSERVATION DISTRICT DATE

[Signature] 3/15/91
 HOWARD SOIL CONSERVATION DISTRICT DATE

[Signature] 8/19/92
 HOWARD SOIL CONSERVATION DISTRICT DATE



- SEQUENCE OF OPERATION**
1. STAKE AND SURVEY BORROW AREA.
 2. TEMPORARILY CLOSE LOW FLOW ORIFICE ON THE RISER OF SB-4A. CLOSURE OF ORIFICE TO BE COMPLETED WITH TWO FULL WRAPS OF HEAVY DUTY POLYETHYLENE AND WOVEN GEOTEXTILE AND SECURED WITH NYLON ROPE.
 3. EXCAVATE SB-4A EMERGENCY SPILLWAY TO A BOTTOM WIDTH OF 52 FEET.
 4. EXCAVATE TRAPEZOIDAL CHANNEL TO THE LINES AND GRADES SHOWN.
 5. INSTALL CHANNEL LINING AS INDICATED ON TRAPEZOIDAL CHANNEL DETAIL.
 6. EXCAVATE BORROW AREA.
 7. GRADE COMPLETED BORROW AREA TO DRAIN TO TRAPEZOIDAL CHANNEL.
 8. STABILIZE ALL AREAS DISTURBED BY THIS OPERATION WITH VEGETATION.
 9. OPEN LOW FLOW ORIFICE ON SB-4A.

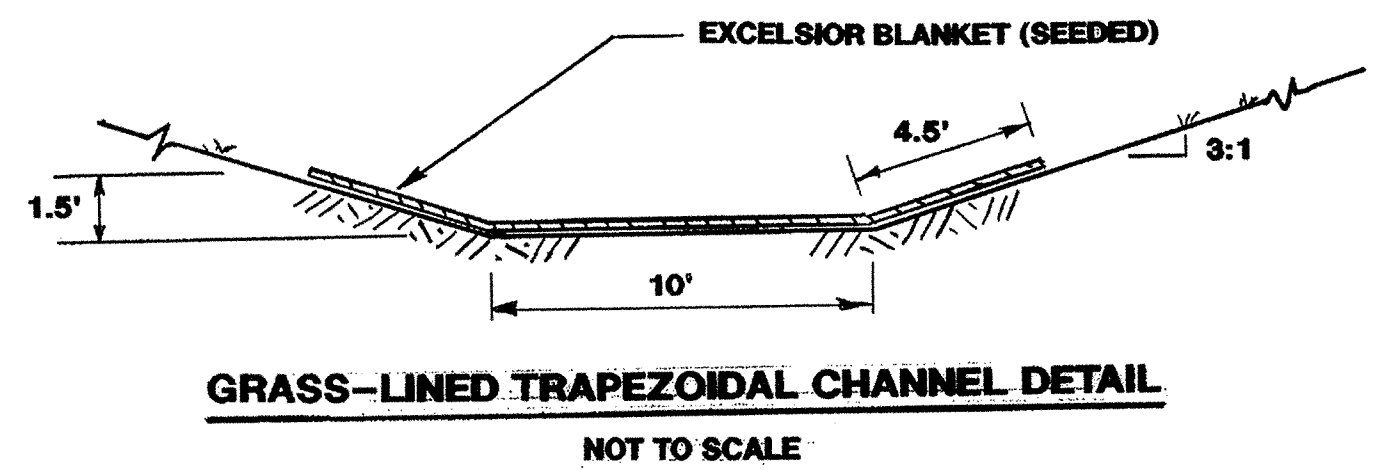
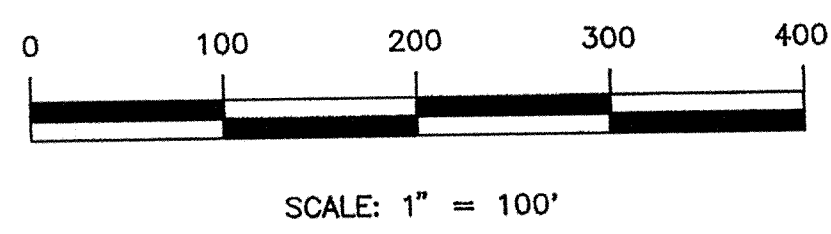
LEGEND

---	EXIST. CONTOURS
--- 530 ---	PROPOSED GRADING
---	LIMIT OF DISTURBANCE
①	N538262 E824688
②	N538267 E825619
③	N537411 E825620
④	N537409 E825058
⑤	N537912 E824695

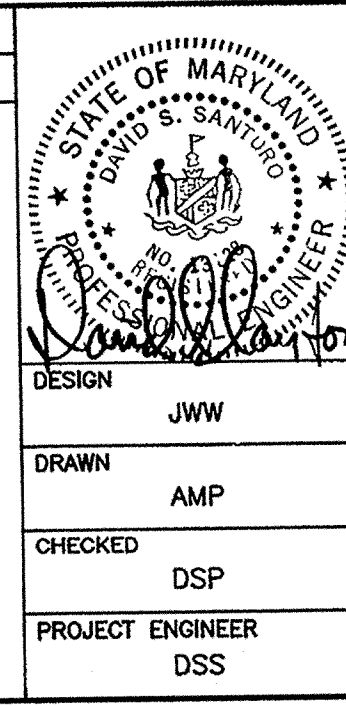
RECORD DRAWING

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

AUGUST 1992



REVISIONS			
NO.	DATE	BY	DESCRIPTION



**ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
 HOWARD COUNTY, MARYLAND**

BORROW SITE GRADING PLAN

DESIGN JWW	DATE FEBRUARY 22, 1991
DRAWN AMP	SCALE AS SHOWN
CHECKED DSP	PROJECT NO. 11766.01
PROJECT ENGINEER DSS	SHEET NO. 5A OF 25

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 BALTIMORE, CHICAGO, LINCOLN, NEW YORK, NEW JERSEY, ATLANTA, DALLAS, LOS ANGELES, SAN FRANCISCO
 Lovelton Center
 15 Lovelton Circle
 Sparks, Maryland 21152
 (301) 771-4950

880

10795-01-005A SDP 90-90
 XXAL-90-005A

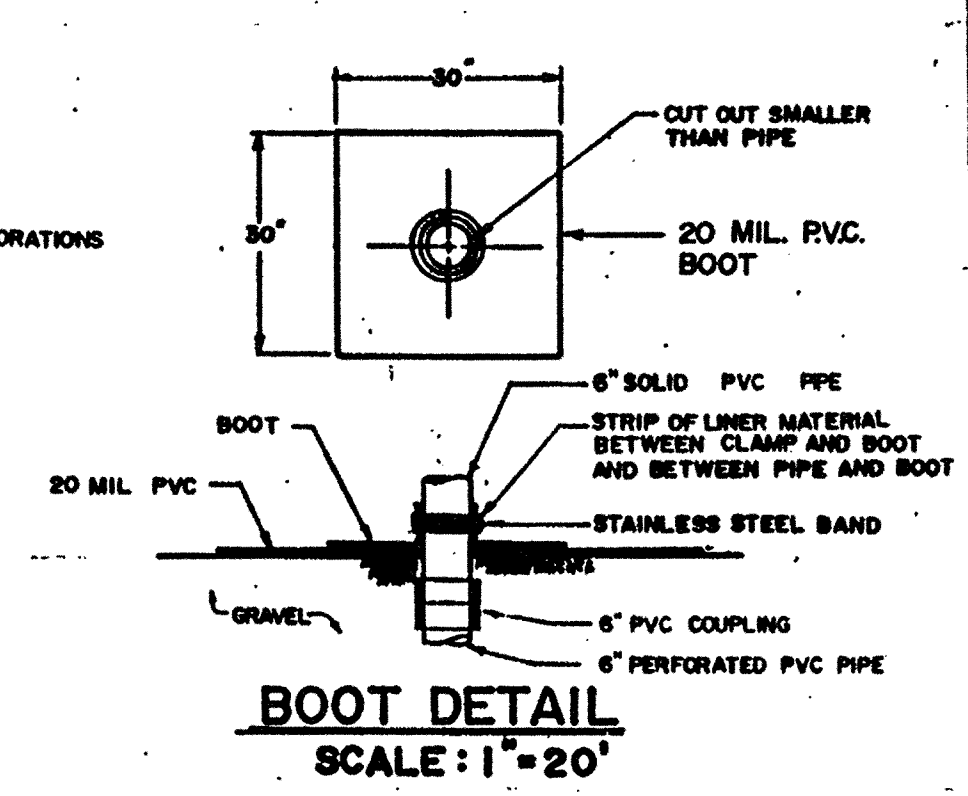
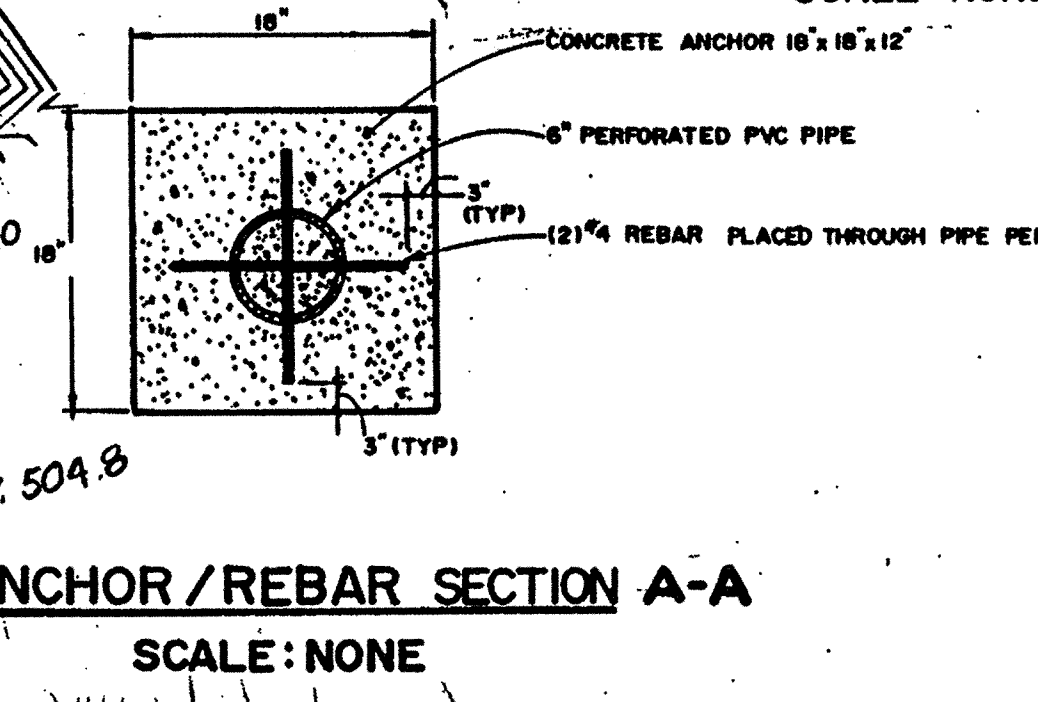
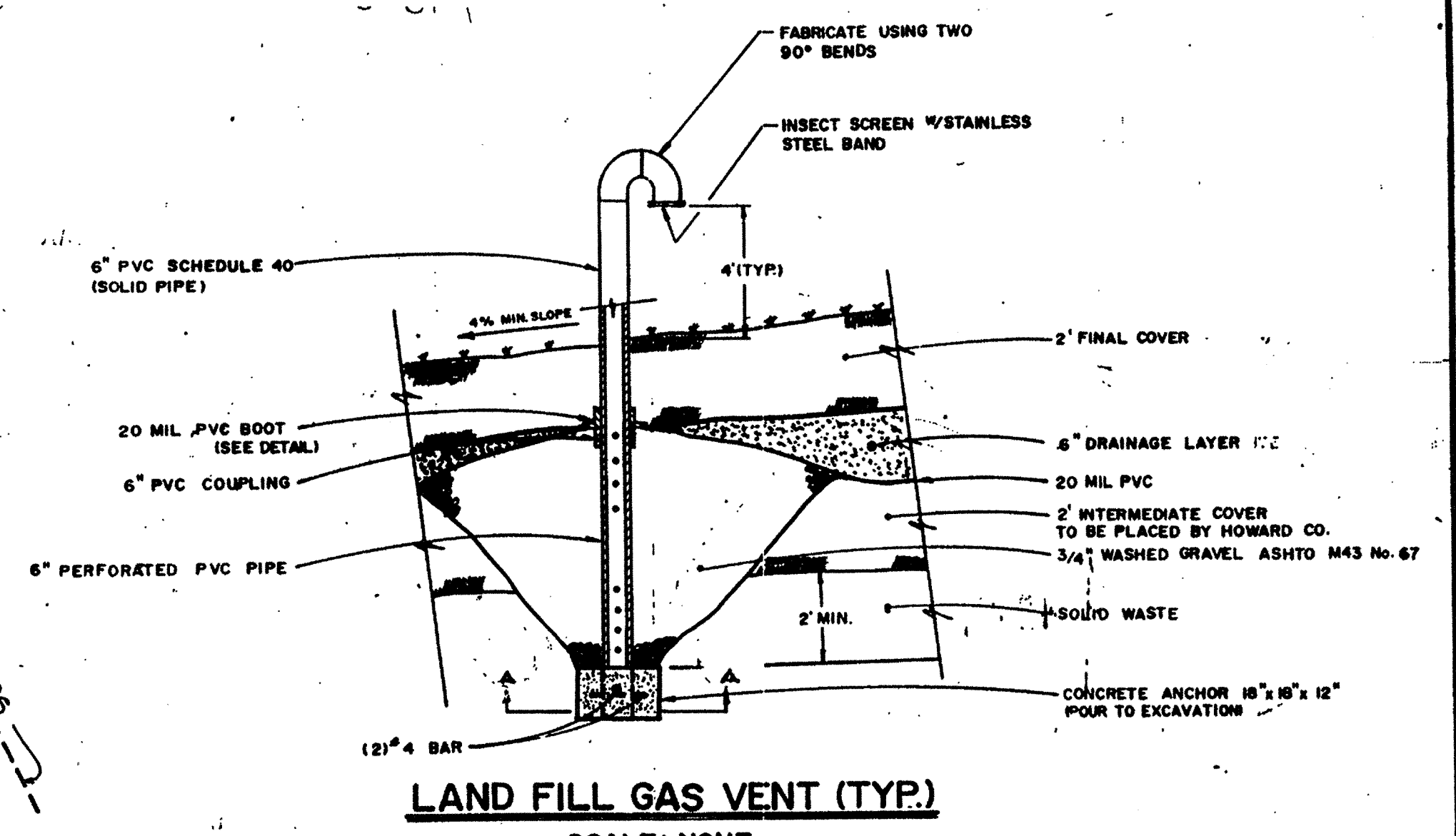
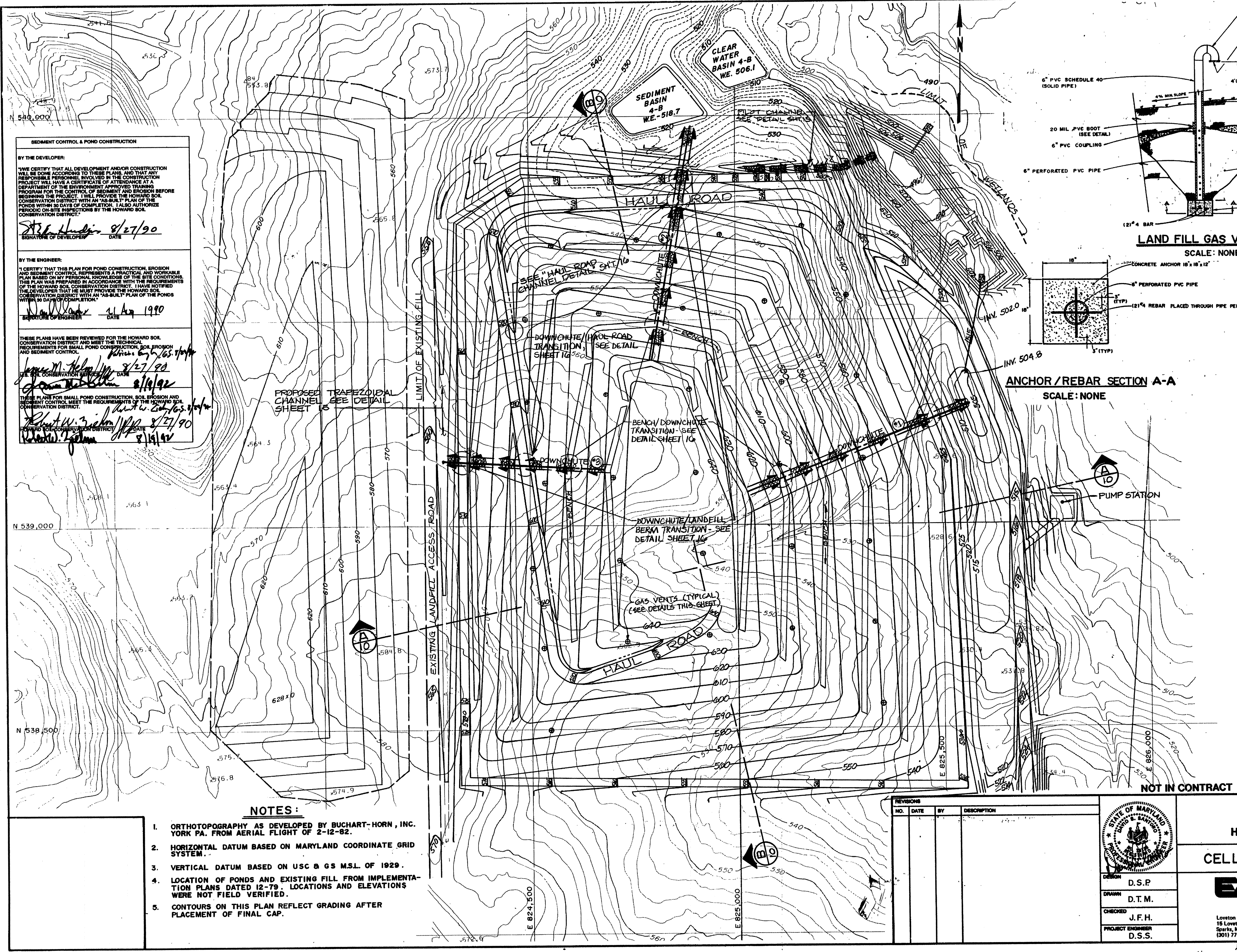
SEDIMENT CONTROL & POND CONSTRUCTION

BY THE DEVELOPER:
 "I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."
James M. Kelly 8/27/90
 SIGNATURE OF DEVELOPER DATE

BY THE ENGINEER:
 "I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION."
James M. Kelly 8/27/90
 SIGNATURE OF ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
James M. Kelly 8/27/90
 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
James M. Kelly 8/27/90
 DATE



PROPOSED TRAPEZOIDAL CHANNEL SEE DETAIL SHEET 10

DOWNCHUTE/HAUL ROAD TRANSITION SEE DETAIL SHEET 10

BENCH/DOWNCHUTE TRANSITION - SEE DETAIL SHEET 10

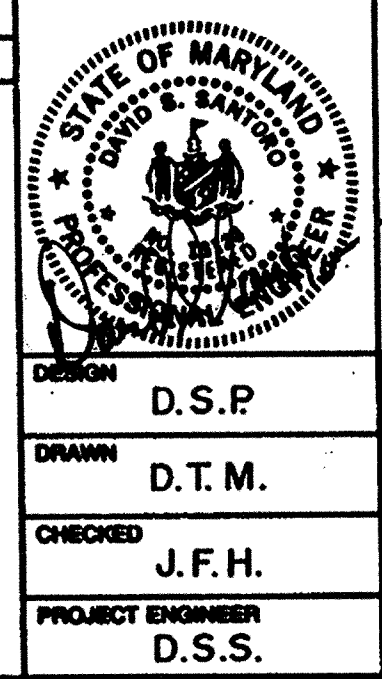
BENCH/DOWNCHUTE BERM TRANSITION - SEE DETAIL SHEET 10

GAS VENTS (TYPICAL) (SEE DETAILS THIS SHEET)

NOTES:

1. ORTHOTOPOGRAPHY AS DEVELOPED BY BUCHART-HORN, INC. YORK PA. FROM AERIAL FLIGHT OF 2-12-82.
2. HORIZONTAL DATUM BASED ON MARYLAND COORDINATE GRID SYSTEM.
3. VERTICAL DATUM BASED ON USC & GS M.S.L. OF 1929.
4. LOCATION OF PONDS AND EXISTING FILL FROM IMPLEMENTATION PLANS DATED 12-79. LOCATIONS AND ELEVATIONS WERE NOT FIELD VERIFIED.
5. CONTOURS ON THIS PLAN REFLECT GRADING AFTER PLACEMENT OF FINAL CAP.

NO.	DATE	BY	DESCRIPTION



ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
 HOWARD COUNTY MARYLAND

CELL I FINAL GRADING PLAN

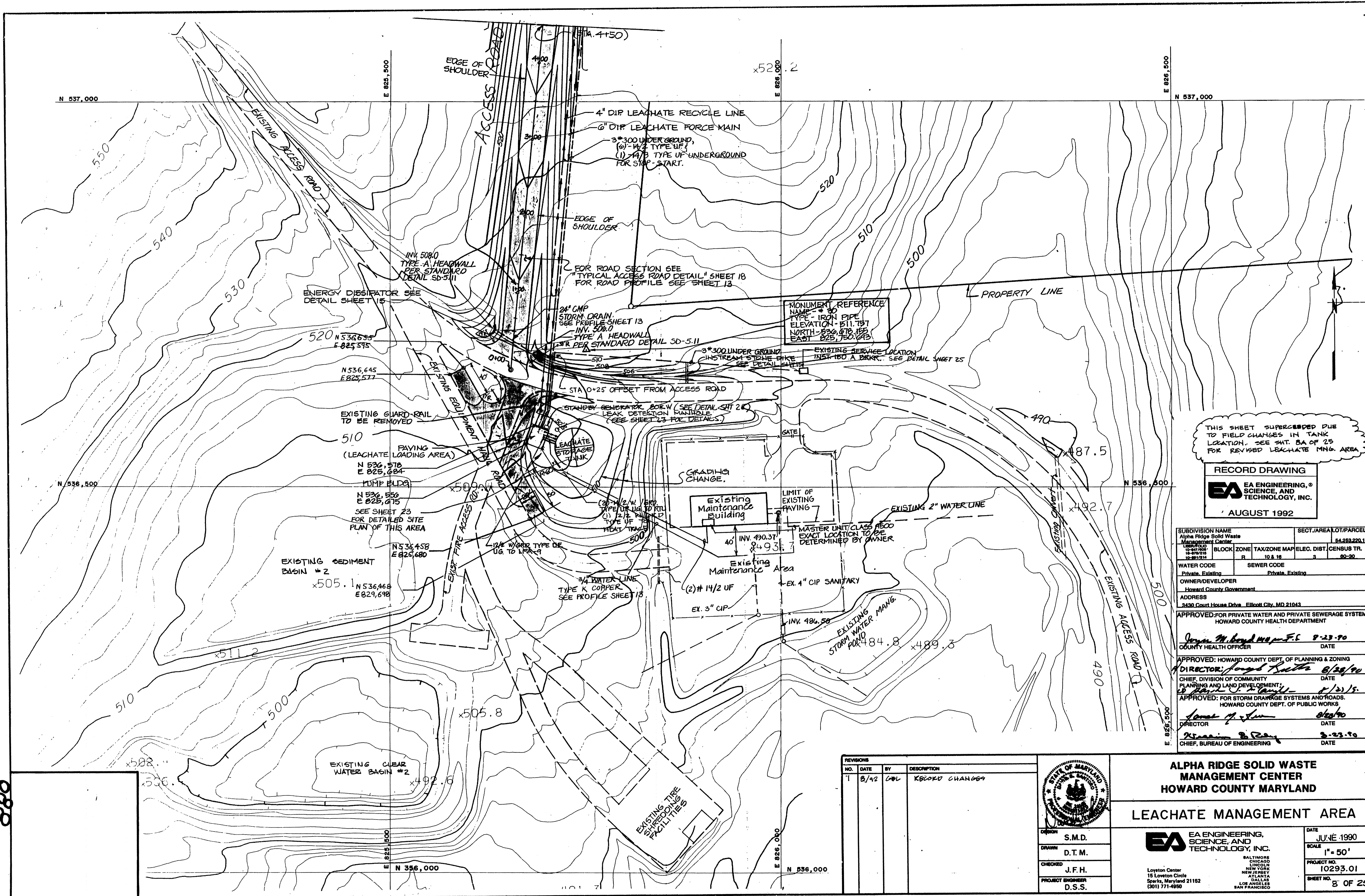
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 15 Loveton Circle
 Sparks, Maryland 21152
 (301) 771-4850

DATE: JUNE 1990
 SCALE: 1"=100'
 PROJECT NO.: 10293.01
 SHEET NO.: 7 OF 25

RECORD DRAWING
 EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 AUGUST 1992

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 54,283,220.11	
BLOCK R	ZONE 10.A.18	TAX/ZONE MAP/ELEC. DIST. 3	CENSUS TR. 60-30
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043			
APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT			
<i>James M. Kelly</i> 8-23-90		DATE	
COUNTY HEALTH OFFICER			
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING			
<i>James M. Kelly</i> 8/29/90		DATE	
DIRECTOR, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT			
<i>James M. Kelly</i> 8/23/90		DATE	
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS HOWARD COUNTY DEPT. OF PUBLIC WORKS			
<i>James M. Kelly</i> 8/23/90		DATE	
DIRECTOR			
<i>James M. Kelly</i> 8-23-90		DATE	
CHIEF, BUREAU OF ENGINEERING			

XXAL-90-007
 10293.01-007 SDP 90-90



THIS SHEET SUPERSEDED DUE TO FIELD CHANGES IN TANK LOCATION. SEE SHT. 8A OF 25 FOR REVISED LEACHATE MNG. AREA.

RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 AUGUST 1992

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 54-253-220-11	
MAN/BLK/LOT 10-479/216 10-481/214	BLOCK R	TAX/ZONE MAP 10.8.16	ELEC. DIST. CENSUS TR. 3 60-30
WATER CODE Private, Existing	SEWER CODE Private, Existing		
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043			

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.
 HOWARD COUNTY HEALTH DEPARTMENT

Joyce M. Boyd M.P., F.E. 8-23-90
 COUNTY HEALTH OFFICER DATE

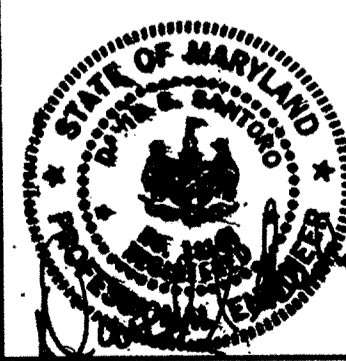
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Director: Ronald Rutter 8/29/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

John C. Ruffin 8/23/90
 APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS.
 HOWARD COUNTY DEPT. OF PUBLIC WORKS

James M. ... 8/23/90
 DIRECTOR DATE

William B. ... 8-23-90
 CHIEF, BUREAU OF ENGINEERING DATE

NO.	DATE	BY	DESCRIPTION
1	8/92	GDH	RECORD CHANGES



ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

LEACHATE MANAGEMENT AREA

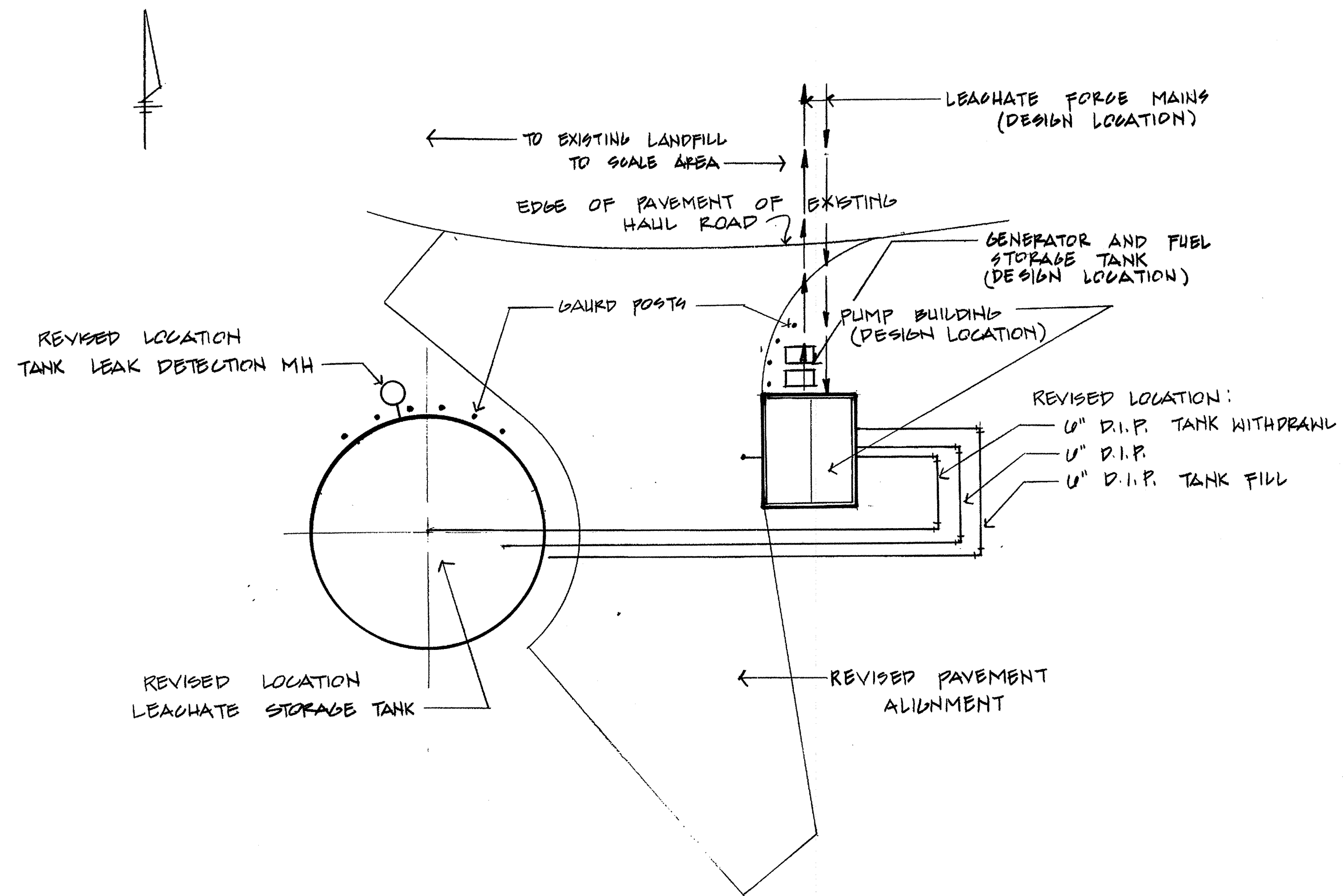
DRAWN	S.M.D.
CHECKED	D.T.M.
PROJECT ENGINEER	J.F.H.
	D.S.S.

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 15 Lovett Circle
 Sparks, Maryland 21152
 (301) 771-4950

BALTIMORE
 CHICAGO
 LINCOLN
 NEW YORK
 NEW JERSEY
 LOS ANGELES
 SAN FRANCISCO

DATE: JUNE 1990
 SCALE: 1" = 50'
 PROJECT NO.: 10293.01
 SHEET NO.: 8 OF 25

10293.01-808
 XXAL-90-008 SDP 90-90



PLAN
SCALE: 1" = 20'

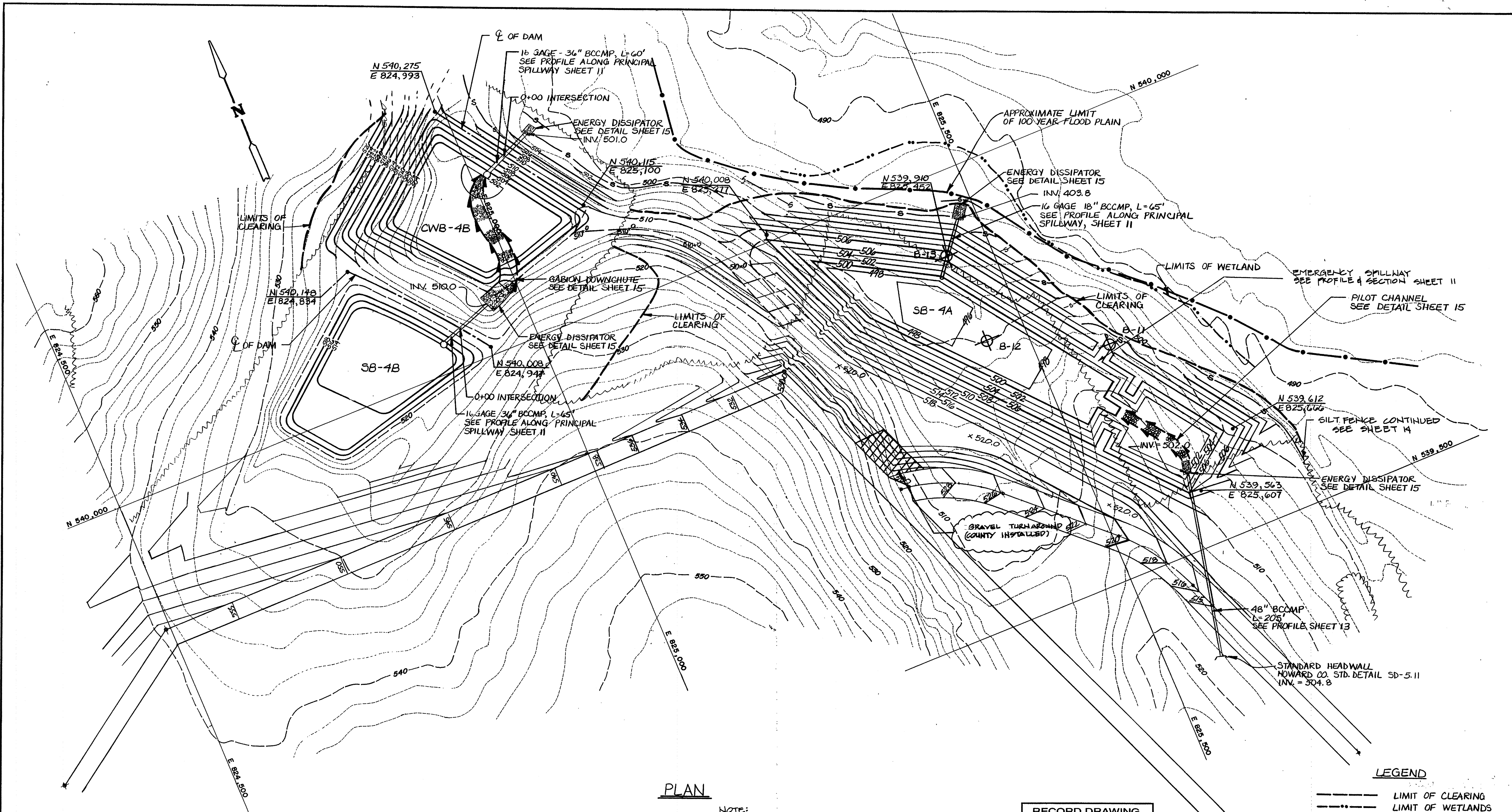
THIS DRAWING REFLECTS RECORD CONDITIONS AND SUPERSEDES PORTIONS OF SHEET B (INCLUDING TANK LOCATION AND PIPING LAYOUT) OF THE CONTRACT DRAWINGS

RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
AUGUST 1992



REVISIONS			
NO.	DATE	BY	DESCRIPTION

ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER HOWARD COUNTY MARYLAND	
REVISED LEACHATE MNG. AREA	
EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC. 15 Loveton Circle Sparks, Maryland 21152 (301) 771-4950	DATE 10/92 SCALE 1" = 20' PROJECT NO. 10293.01 SHEET NO. 02 OF 25



PLAN

NOTE:
FOR CONSTRUCTION SPECIFICATIONS
OF BASINS - SEE SHEET 17

RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 AUGUST 1992

LEGEND

- LIMIT OF CLEARING
- .-.- LIMIT OF WETLANDS
- .-.- LIMIT OF 100 YR. FLOOD PLAIN
- .-.- SILT FENCE
- ⊕ BORING

SEDIMENT CONTROL & POND CONSTRUCTION

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THIS PROJECT. I/WE WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

J.R. Hudley 8-23-90
SIGNATURE OF DEVELOPER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

J. Malin 8-23-90
DATE

James W. Zick 8/19/92
DATE

Robert W. Zick 8-23-90
DATE

Robert W. Zick 8/19/92
DATE

SUBDIVISION NAME: Alpha Ridge Solid Waste Management Center
 BLOCK: 10-02/008
 ZONE: 10-02/008
 TAX ZONE: 10-A-18
 ELEC. DIST: 3
 CENSUS TR.: 80-30

WATER CODE: Private, Existing
 SEWER CODE: Private, Existing

OWNER/DEVELOPER: Howard County Government
 ADDRESS: 3430 Court House Drive, Ellicott City, MD 21043

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS:
 HOWARD COUNTY HEALTH DEPARTMENT

Joseph M. Wood 8-23-90
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 DIRECTOR: *James W. Zick* 8/28/90

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
 DATE: 8/23/90

APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS.
 HOWARD COUNTY DEPT. OF PUBLIC WORKS

James W. Zick 8/23/90
DIRECTOR DATE

William B. Reid 8-23-90
CHIEF, BUREAU OF ENGINEERING DATE

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1	8/92	6BL	RECORD CHANGES



**ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
 HOWARD COUNTY MARYLAND**

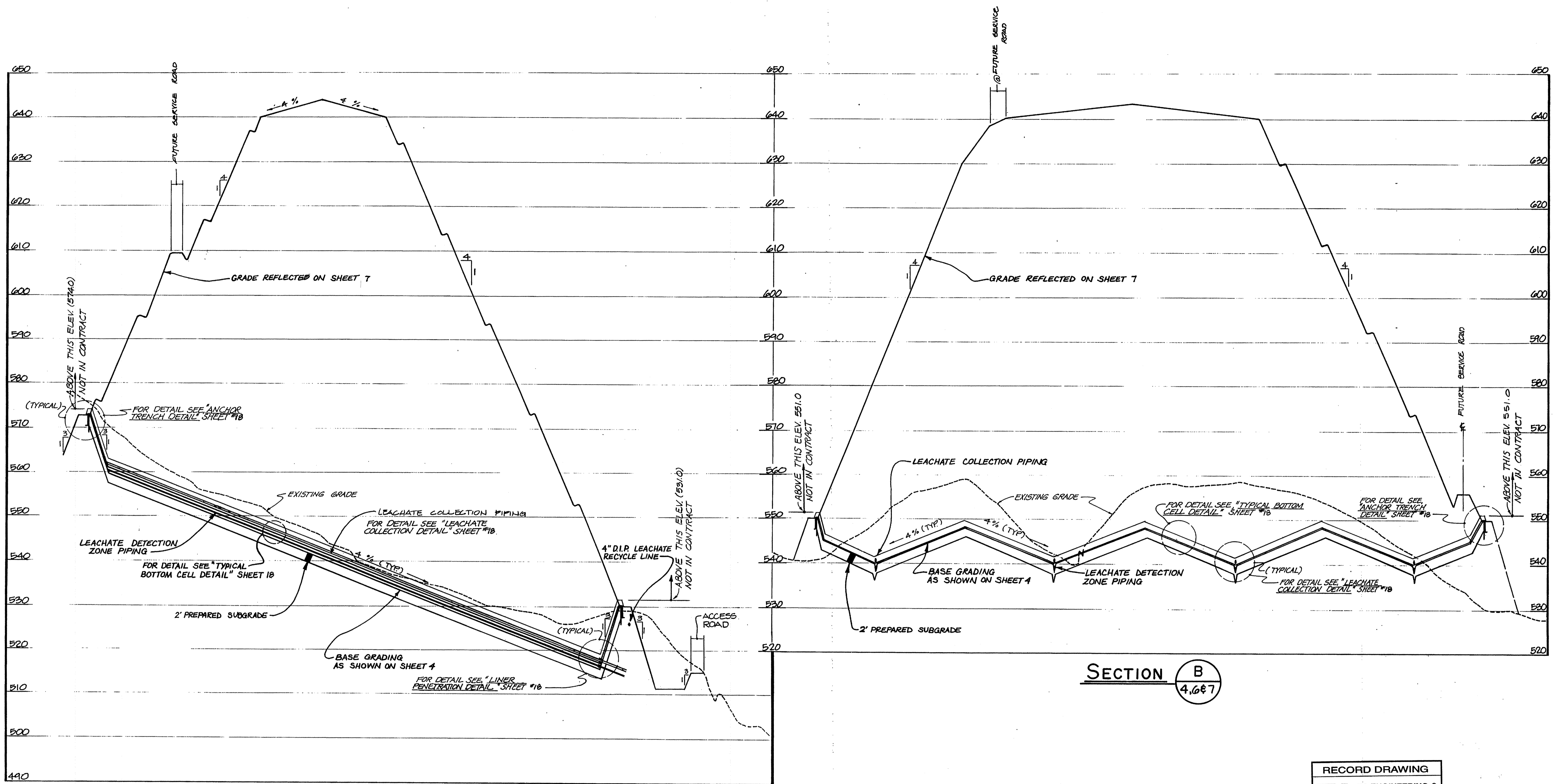
BASIN GRADING PLAN

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

Hunt Valley/Loveton Center
 15 Loveton Circle
 Sparks, Maryland 21152
 (301) 771-4950

DATE: JUNE 1990
 SCALE: 1" = 50'
 PROJECT NO.: 10293.01
 SHEET NO.: 9 OF 25

880



SECTION A
4.667

SECTION B
4.667

RECORD DRAWING
EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 AUGUST 1992

**ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
 HOWARD COUNTY MARYLAND**

CELL 1 SECTIONS



DESIGN: D.S.P.
 DRAWN: D.T.M.
 CHECKED: J.F.H.
 PROJECT ENGINEER: D.S.S.

EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 Loveton Center
 15 Loveton Circle
 Sparks, Maryland 21152
 (301) 771-4950

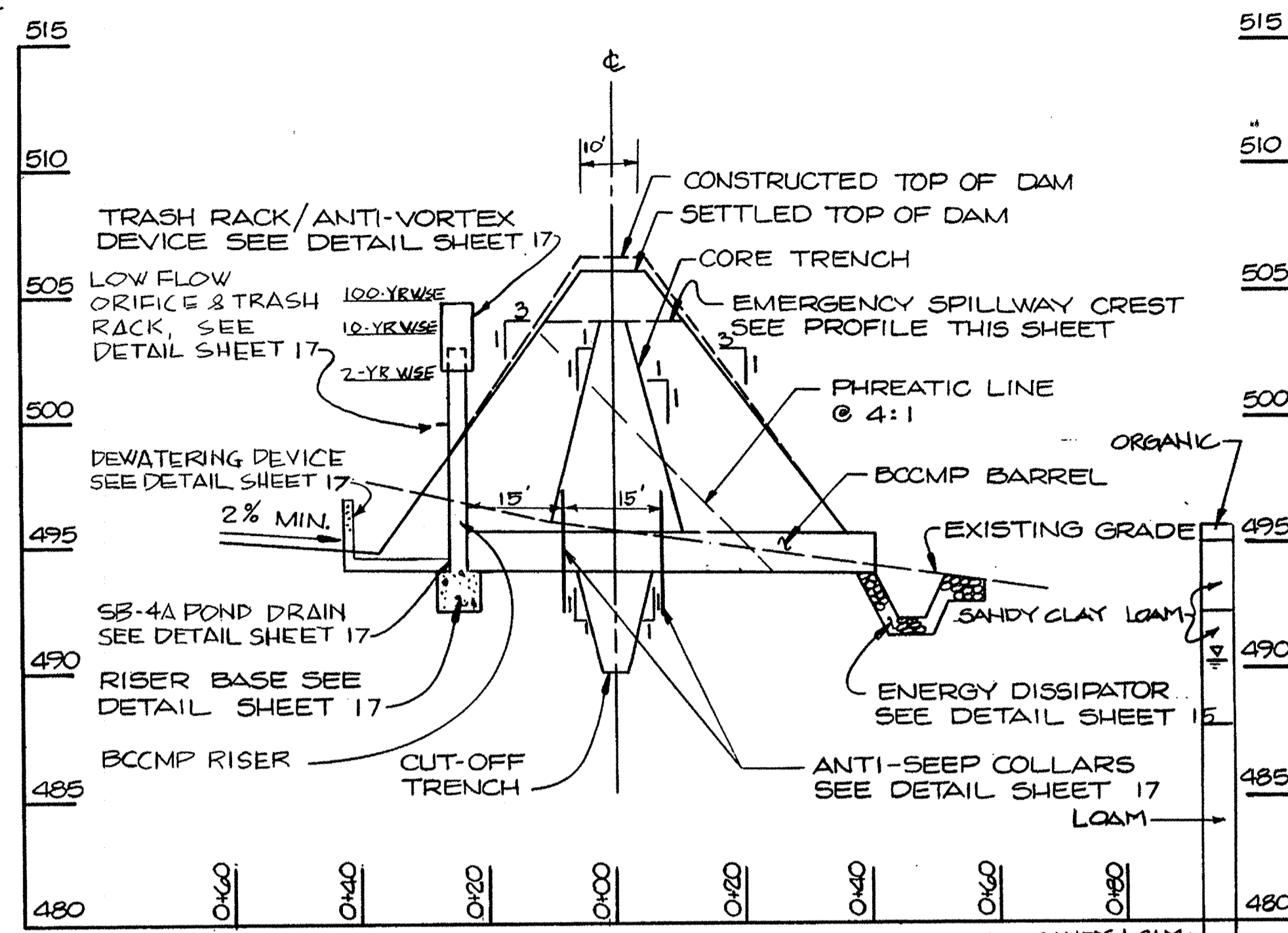
DATE: JUNE 1990
 SCALE: HOR. 1"=100'-VERT. 1/4"=10'
 PROJECT NO.: 10293.01
 SHEET NO.: 10 OF 25

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT
 COUNTY HEALTH OFFICER: *Joyce M. Boyd* 8-23-90
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 DIRECTOR: *James R. Little* 8/28/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT:
John S. P. Little 4/27/90
 APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS
 HOWARD COUNTY DEPT. OF PUBLIC WORKS
 DIRECTOR: *James P. L...* 8/23/90
 CHIEF, BUREAU OF ENGINEERING: *...* 8-23-90

REVISIONS			
NO.	DATE	BY	DESCRIPTION

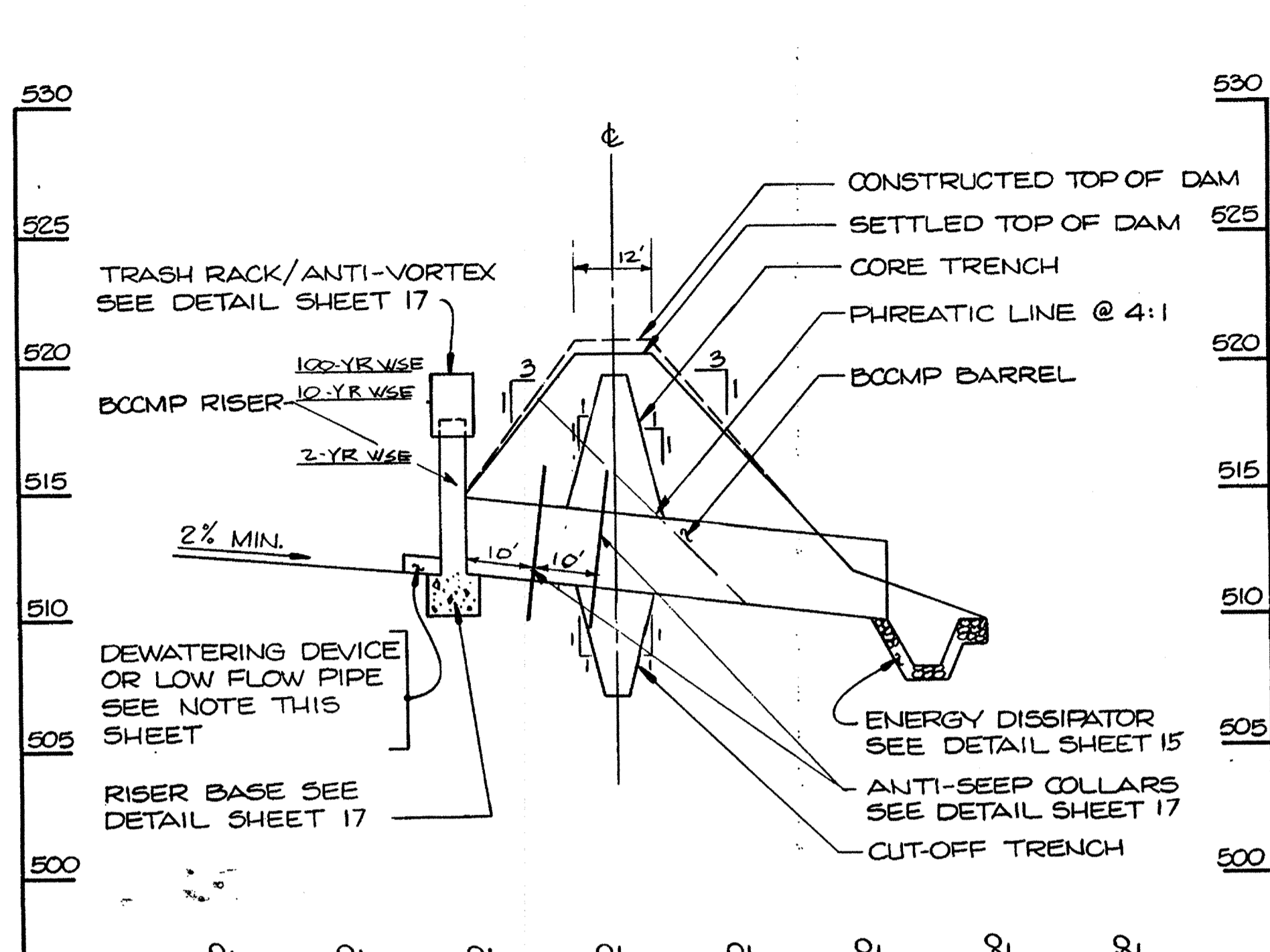
SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA LOT/PARCEL 54.283.220.11	
BLOCK 10-2114	ZONE R	TAX/ZONE MAP 10 & 16	ELEC. DIST. CENSUS TR. 3 60-30
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Elkport City, MD 21043			

880



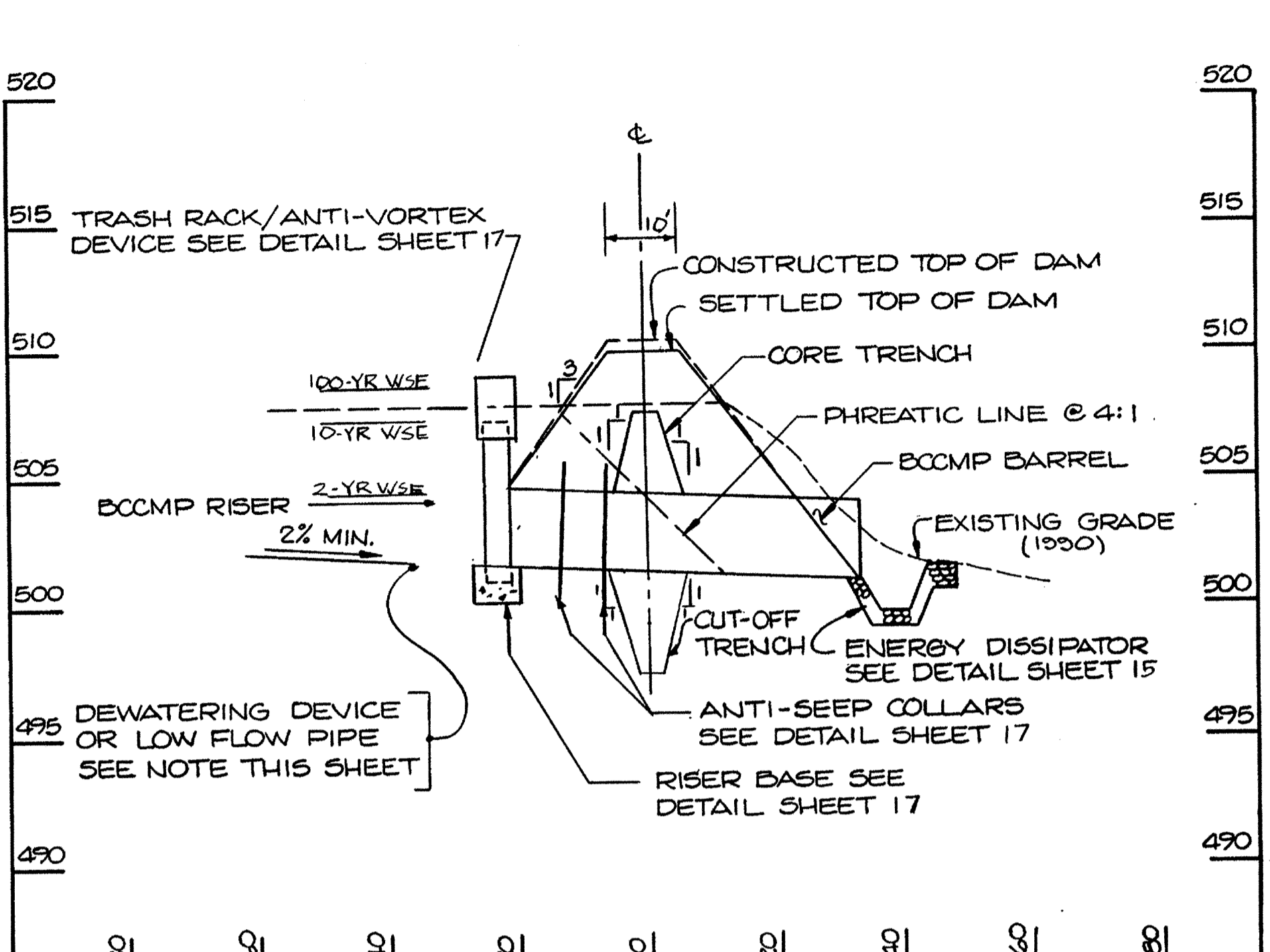
PROFILE ALONG PRINCIPAL SPILLWAY
@ SB-4A

SCALE: 1" = 20' HORIZ.
1" = 5' VERT.



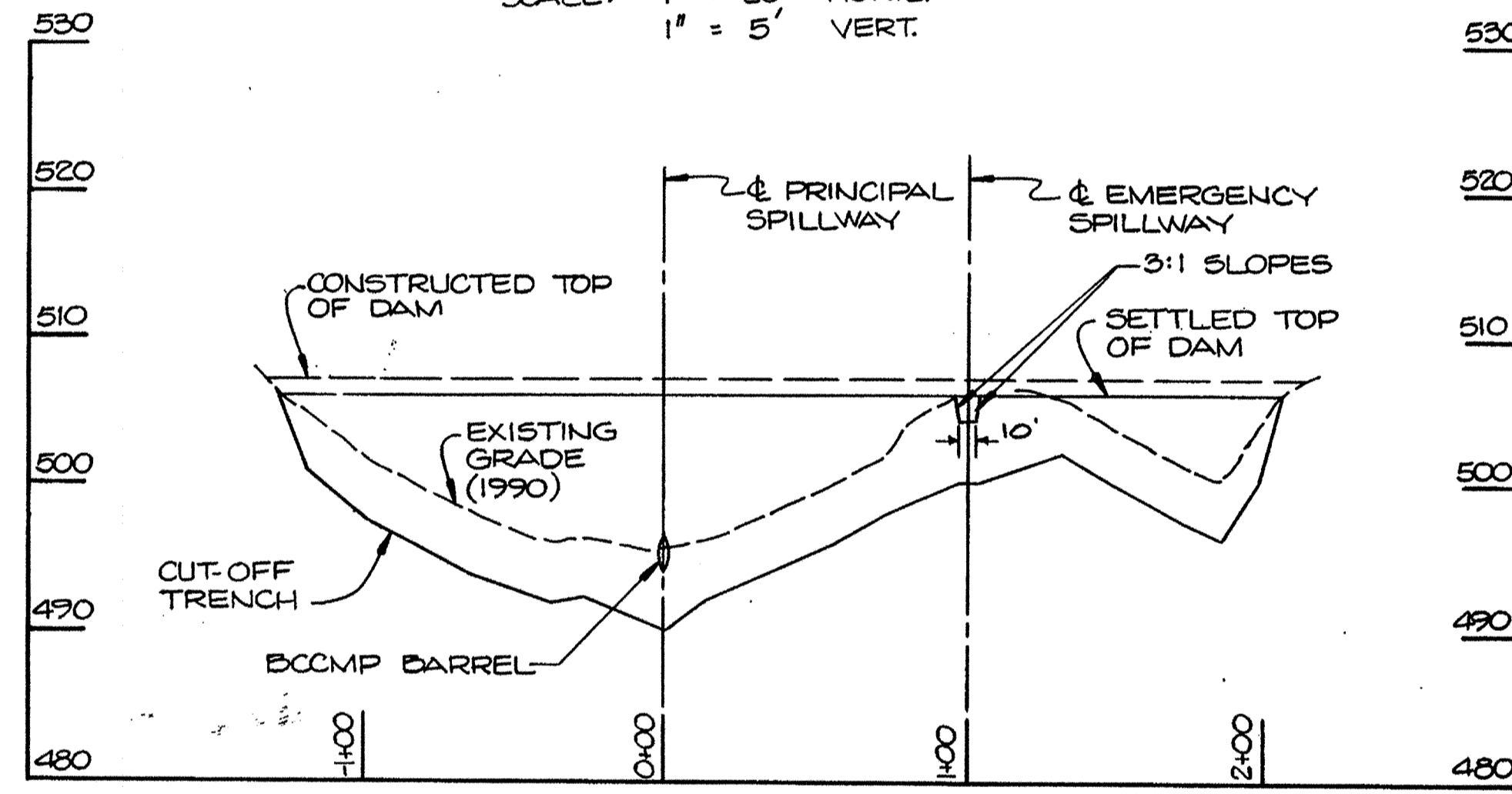
PROFILE ALONG PRINCIPAL SPILLWAY
@ SB-4B

SCALE: 1" = 20' HORIZ.
1" = 5' VERT.



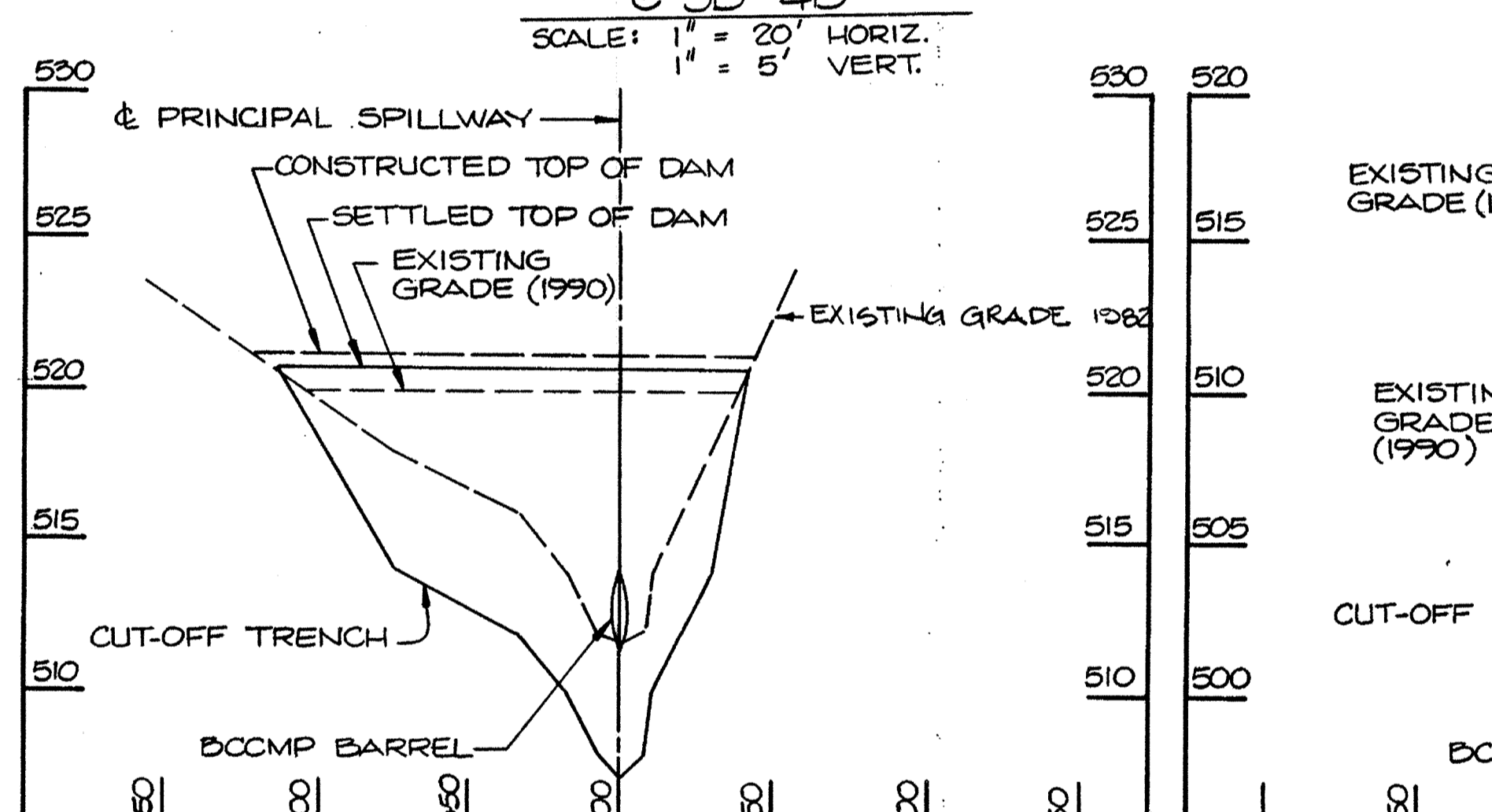
PROFILE ALONG PRINCIPAL SPILLWAY
@ CWB-4B

SCALE: 1" = 20' HORIZ.
1" = 5' VERT.



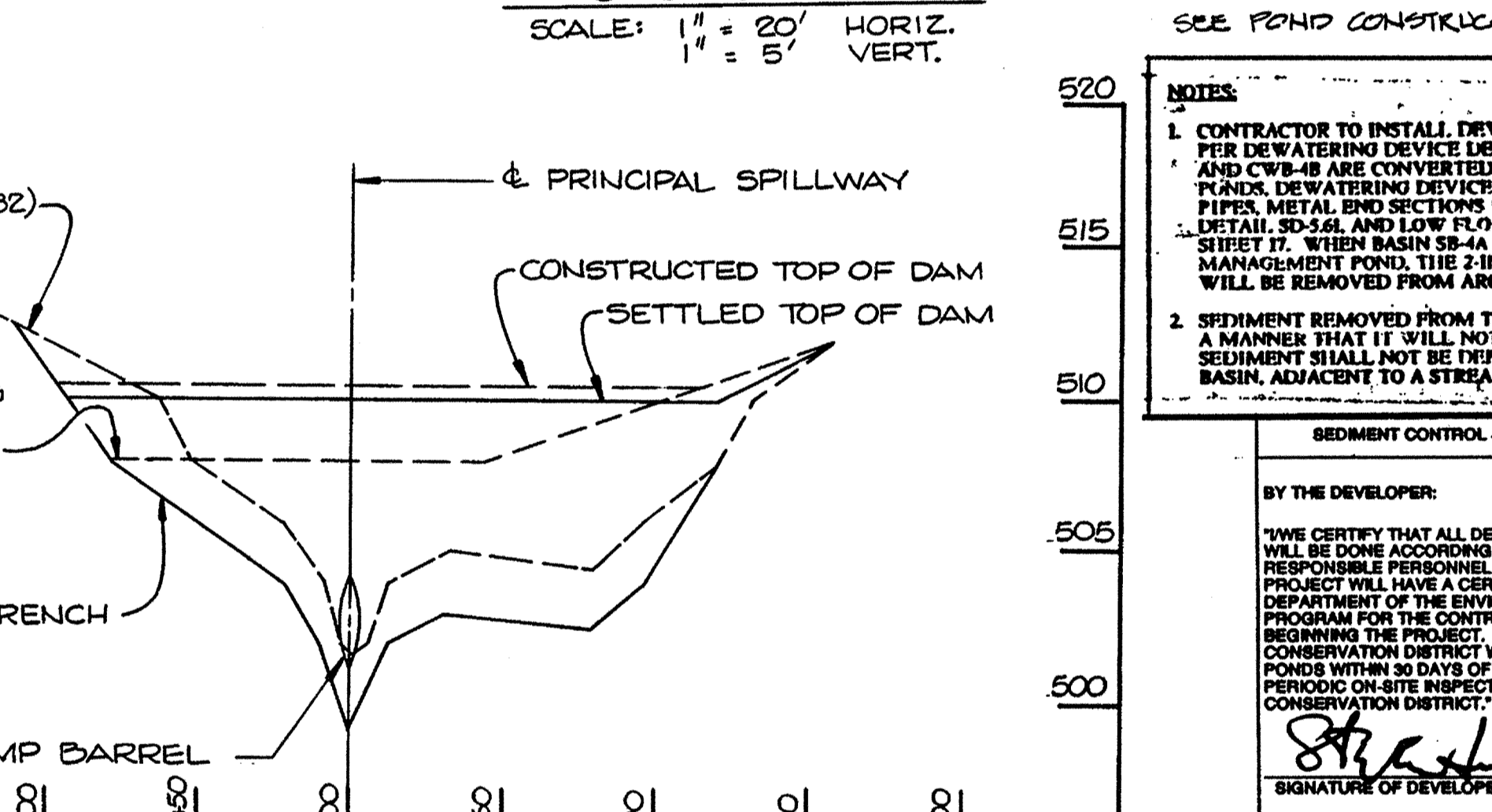
PROFILE ALONG ϕ OF DAM
@ SB-4A

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



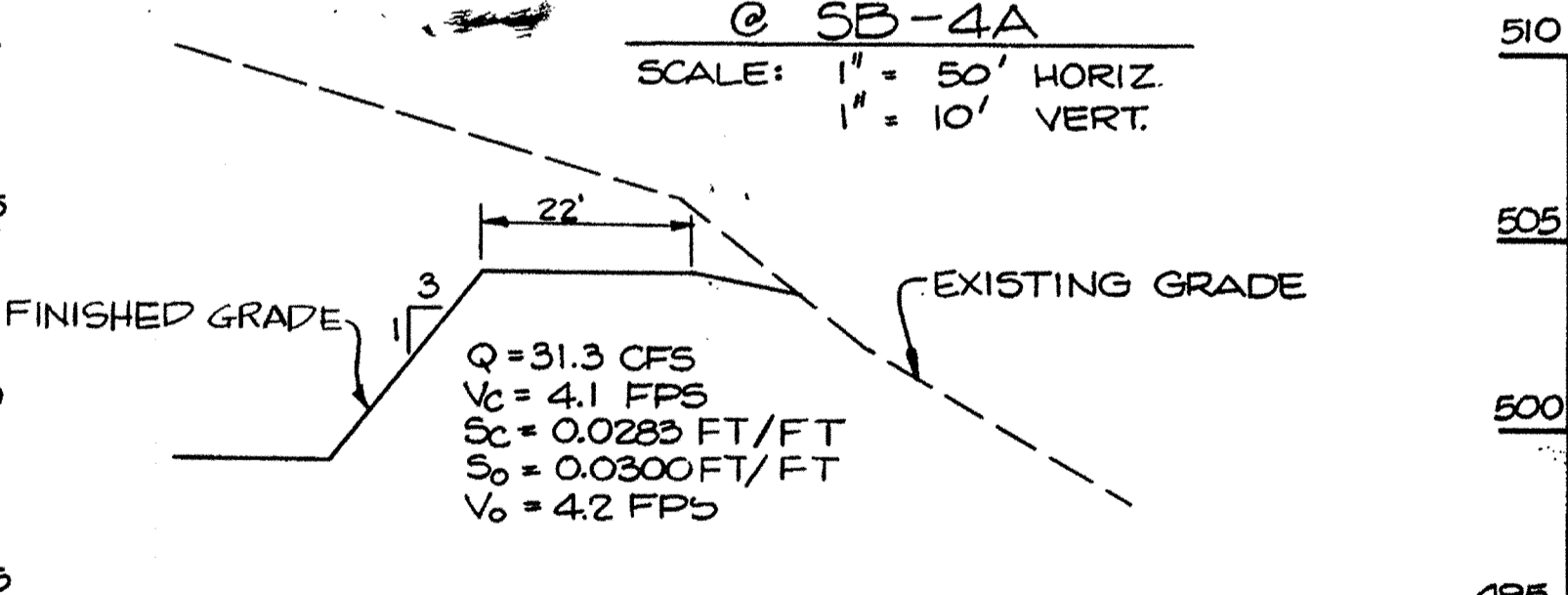
PROFILE ALONG ϕ OF DAM
@ SB-4B

SCALE: 1" = 50' HORIZ.
1" = 5' VERT.



PROFILE ALONG ϕ OF DAM
@ CWB-4B

SCALE: 1" = 50' HORIZ.
1" = 5' VERT.



PROFILE ALONG EMERGENCY SPILLWAY
@ SB-4A

SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

POND	LOW FLOW PIPE				RISER			TRASH RACK ANTI-VORTEX DEVICE			BARREL			ANTI-SEEP COLLAR		DAM		EMERG. SPILLWAY		CORE TRENCH		CUT-OFF TRENCH		WATER SURFACE ELEV.								
	DIAM. IN.	ORIFICE IN.	L. FT.	U/S INV.	D/S INV.	DIAM. IN.	CREST ELEV.	GAGE	BASE WIDTH FT.	DIAM. IN.	TOP CYL. GAGE	H. IN.	DIAM. IN.	L. FT.	GAGE	U/S INV.	D/S INV.	QTY.	SIZE	TOP WIDTH FT.	CONSTR. HEIGHT	SETTLED HEIGHT	ELEV.	BOTTOM WIDTH FT.	TOP WIDTH FT.	SIDE SLOPES	BOTTOM WIDTH FT.	SIDE SLOPES	2 YR.	10 YR.	100 YR.	
SB-4A	12	10	1	499.3	499.3	30	503.0	16	5.0	48	12	14	24	18	65	16	494.0	499.8	2	4'-8"	10	506.6	506.0	504.0	22	4	1:1	4	1:1	501.78	503.67	504.97
SB-4B	15	10	6	512.0	511.8	48	518.0	14	8.0	72	10	12	21	36	65	16	511.8	510.0	2	6'-4"	12	521.2	520.7	-	-	4	1:1	4	1:1	516.19	518.57	519.68
CWB-4B	15	9.5	6	501.7	501.6	48	507.5	14	8.0	72	10	12	21	36	54	16	501.5	501.0	2	6'-0"	10	510.5	510.0	-	-	4	1:1	4	1:1	504.63	507.53	508.58

SEE POND CONSTRUCTION NOTES - SHEET 17

NOTES:
1. CONTRACTOR TO INSTALL DEWATERING DEVICES IN ALL BASINS AS PER DEWATERING DEVICE DETAIL SHEET 17. WHEN BASINS SB-4B AND CWB-4B ARE CONVERTED TO STORMWATER MANAGEMENT PANS, DEWATERING DEVICES WILL BE REPLACED WITH LOW FLOW PIPES, METAL END SECTIONS PER HOWARD COUNTY STANDARD DETAIL SB-36L AND LOW FLOW TRASH RACKS PER DETAILS ON SHEET 17. WHEN BASIN SB-4A IS CONVERTED TO A STORMWATER MANAGEMENT POND, THE ZINC/STEEL CORE AND FILTER CLOTH WILL BE REMOVED FROM AROUND THE DEWATERING DEVICE.
2. SEDIMENT REMOVED FROM THE BASINS SHALL BE PLACED IN SUCH A MANNER THAT IT WILL NOT ERODE FROM THE SITE - THE SEDIMENT SHALL NOT BE DEPOSITED DOWNSTREAM FROM THE BASIN, ADJACENT TO A STREAM OR FLOODPLAIN.

SEDIMENT CONTROL & POND CONSTRUCTION
BY THE DEVELOPER:
"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/WE PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."
Signature 8-23-90
SIGNATURE OF DEVELOPER DATE

BY THE ENGINEER:
"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION."
Signature 2/1/90
SIGNATURE OF ENGINEER DATE

RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
AUGUST 1992

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
Signature 8-23-90
Signature 8/10/92
DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL, MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Signature 8-23-90
DATE

ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND
BASIN PROFILES
DATE: JUNE 1990
SCALE: AS SHOWN
PROJECT NO.: 10293.01
SHEET NO.: 11 OF 25

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
Signature 8-23-90
DATE

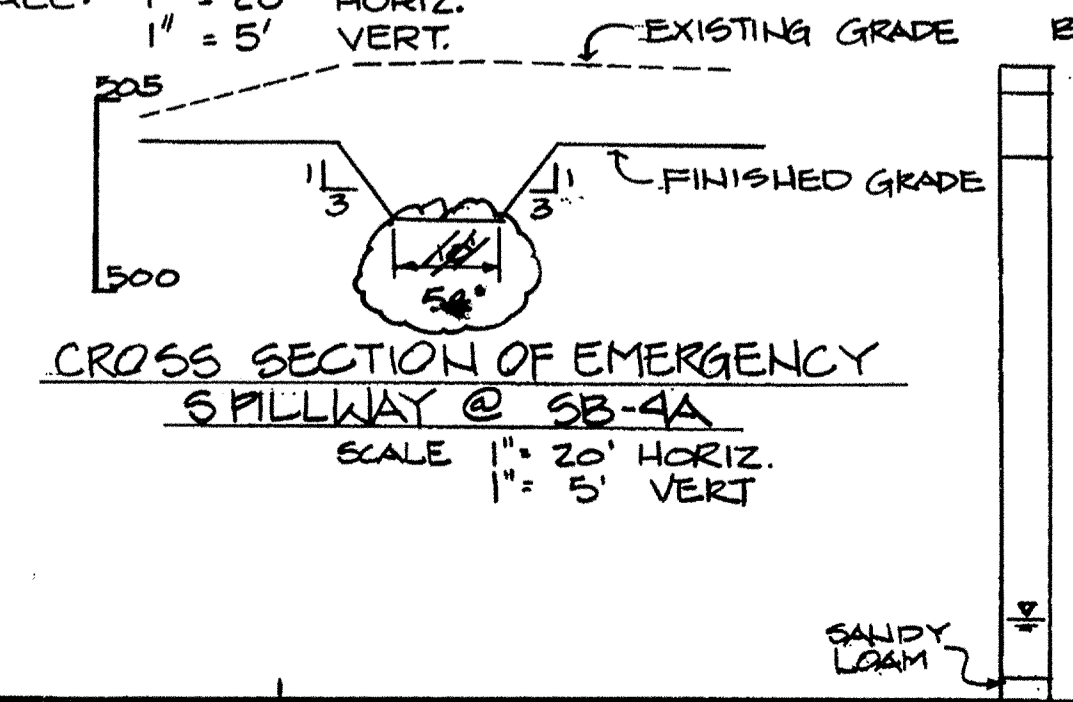
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
DIRECTOR: *Signature* 8/22/90
DATE

APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS,
HOWARD COUNTY DEPT. OF PUBLIC WORKS.
Signature 8/23/90
DATE

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1	8/92	GBL	RECORD CHANGES

BORING NO. B-11
ORGANIC
SANDY CLAY LOAM
LOAMY SAND

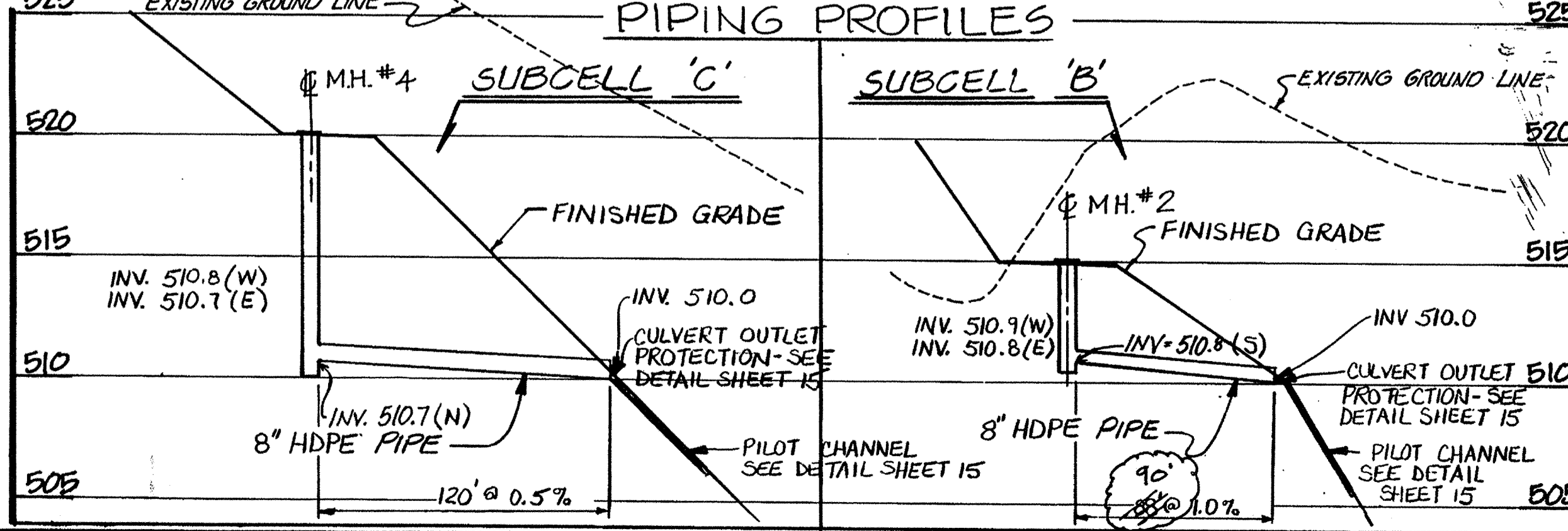
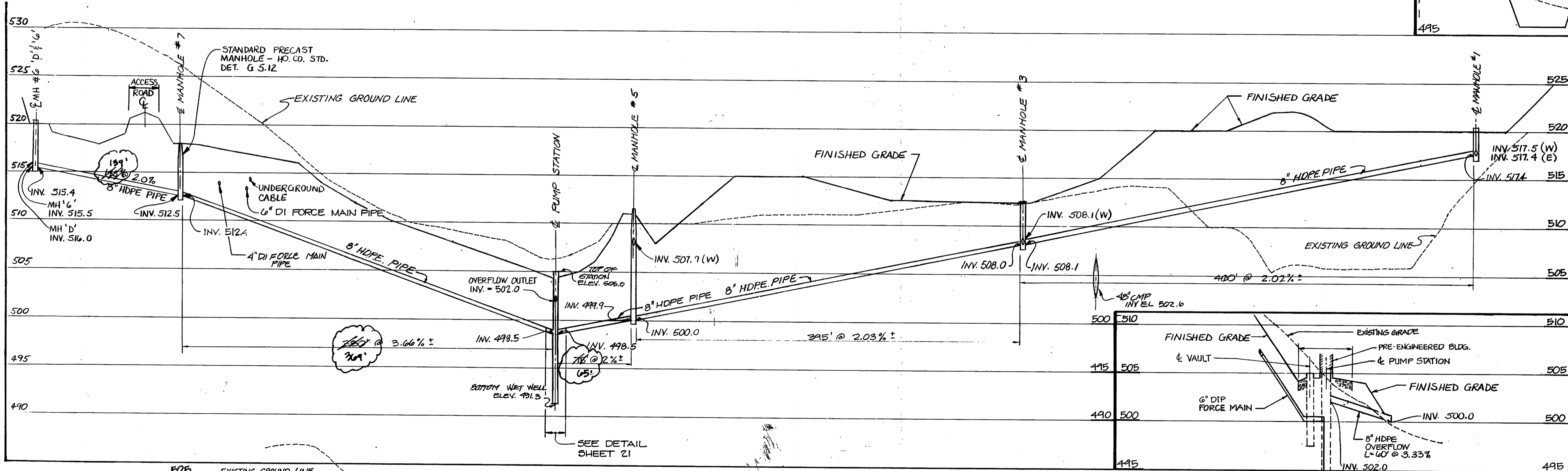
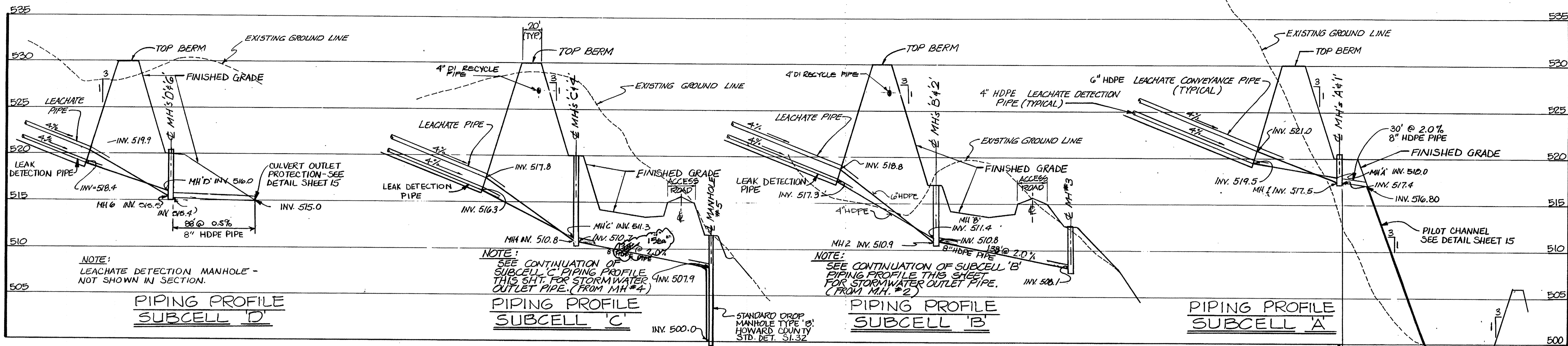
SUBDIVISION NAME Alpha Ridge Solid Waste Management Center	SECT./AREA/LOT/PARCEL 54,253,220,11
TAX/ZONE MAP 10.8.18	ELEC. DIST. CENSUS TR. 3 90-90
WATER CODE Private, Existing	SEWER CODE Private, Existing
OWNER/DEVELOPER Howard County Government	ADDRESS 3430 Court House Drive, Elkridge City, MD 21043



CROSS SECTION OF EMERGENCY SPILLWAY @ SB-4A

SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

880



PIPING PROFILE MAIN LINE

NOTE:
 1. MANHOLE DETAILS SHOWN ON SHEET 18.
 2. HDPE PIPE UPSTREAM OF MANHOLES A, B, C, D, 1, 2, 3, & 4 SHALL BE SDR 9; ALL OTHER HDPE PIPE SHALL BE SDR 21.

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 84-263-220.11	
DATE 10-8-19	BLOCK R	TAX/ZONE MAP 10.8.19	ELEC. DIST. CENSUS TR. 3 60-30
WATER CODE Private, Existing		SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043			

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.
 HOWARD COUNTY HEALTH DEPARTMENT

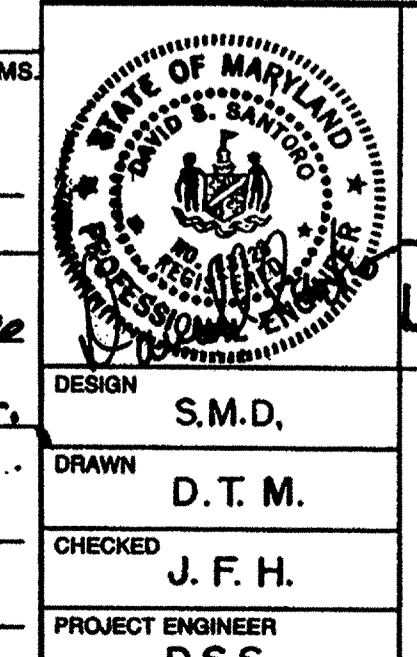
James M. Boyd 8-23-90
 COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 DIRECTOR: *James Keith* 8/23/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS.
 HOWARD COUNTY DEPT. OF PUBLIC WORKS

James P. King 8/23/90
 DIRECTOR DATE

Gregory B. Ray 8-23-90
 CHIEF, BUREAU OF ENGINEERING DATE



**ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
 HOWARD COUNTY MARYLAND**

LEACHATE COLLECTION PIPING PROFILES

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

DESIGN: S.M.D.
 DRAWN: D.T.M.
 CHECKED: J.F.H.
 PROJECT ENGINEER: D.S.S.

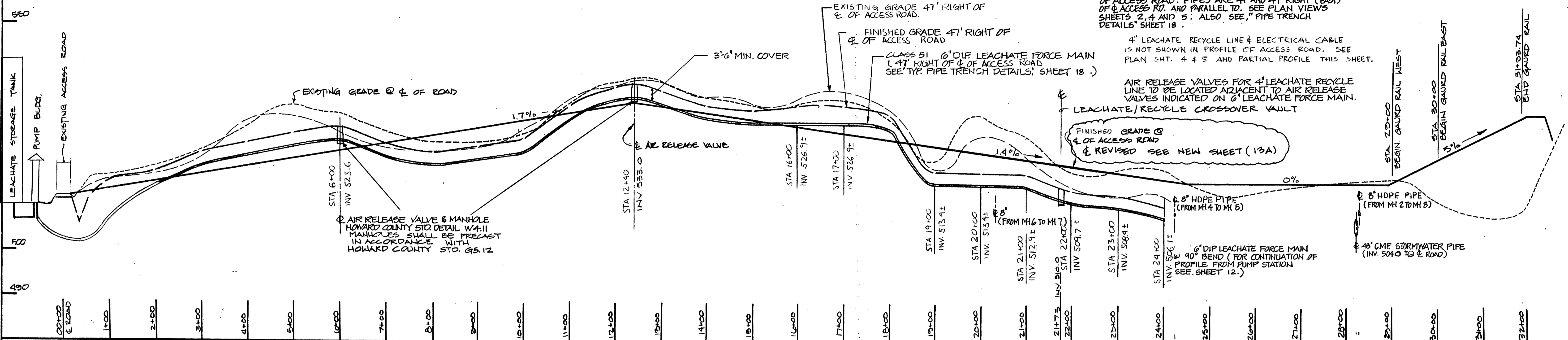
DATE: JUNE 1990
 SCALE: Hor: 1"=50' Vert: 1"=5'
 PROJECT NO.: 10293.01
 SHEET NO.: 12 OF 25

RECORD DRAWING
 EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 AUGUST 1992

#0293.01-012 XXAL-90-012 SDP 90-90

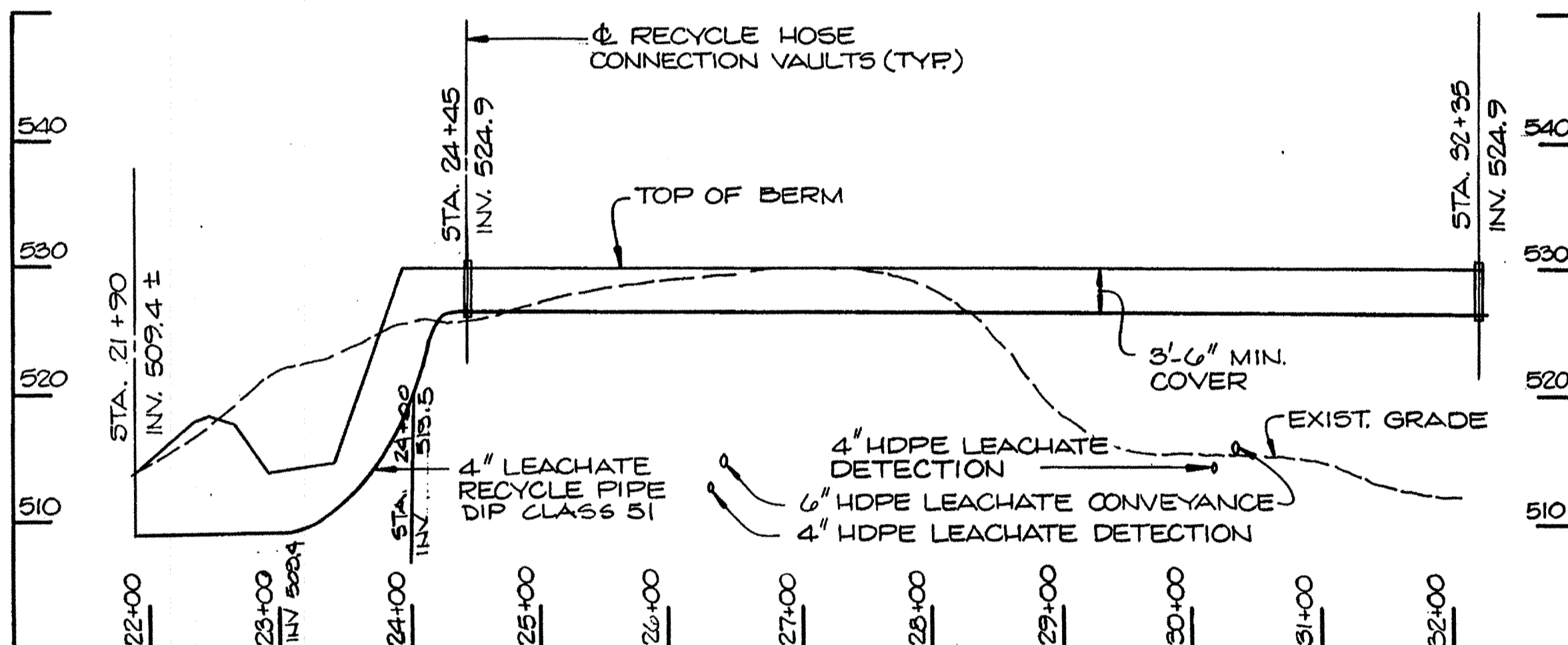
NOTE:
FORCE MAIN TO BE INSTALLED WITH 3'-6" COVER UNLESS OTHERWISE NOTED.

NOTE:
PIPING PROFILE IS SHOWN OFFSET TO ϕ OF ACCESS ROAD. PIPES ARE 4" AND 4" RIGHT (EAST) OF ϕ OF ACCESS RD. AND PARALLEL TO. SEE PLAN VIEWS SHEETS 2, 4 AND 5. ALSO SEE "PIPE TRENCH DETAILS" SHEET 18.



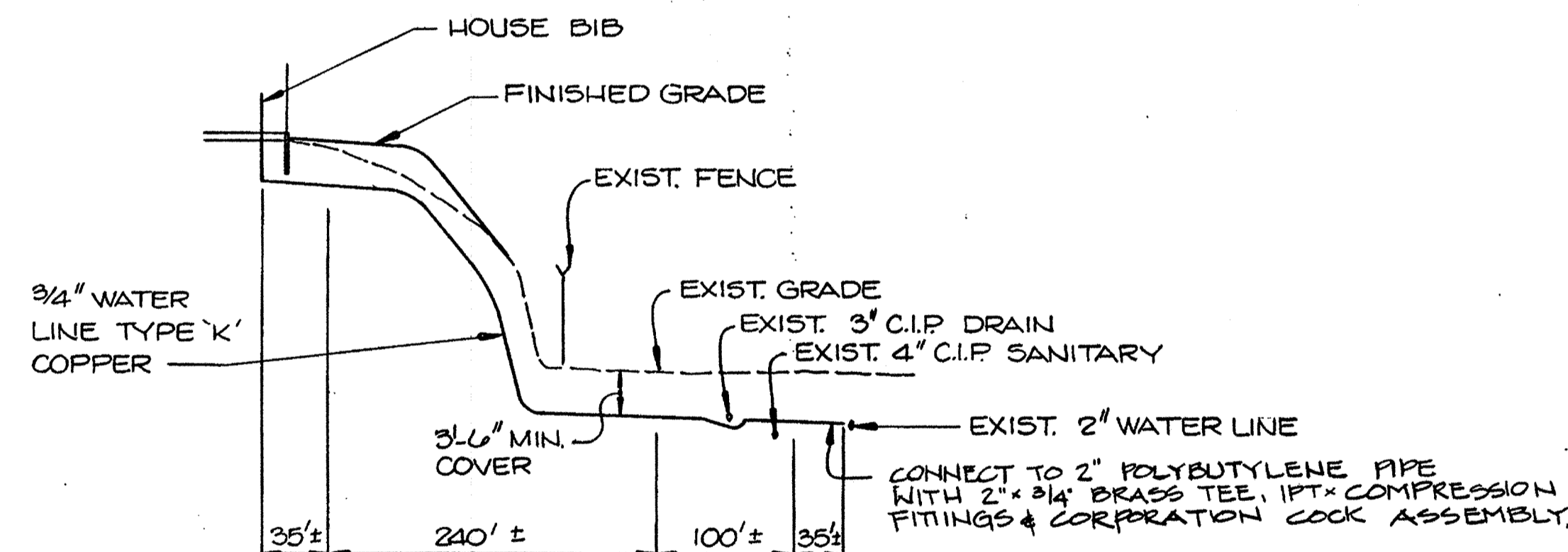
ACCESS ROAD & PIPE PROFILE

SCALE: HOR. 1"=100' VER. 1"=10'



PARTIAL PIPING PROFILE RECYCLE LINE

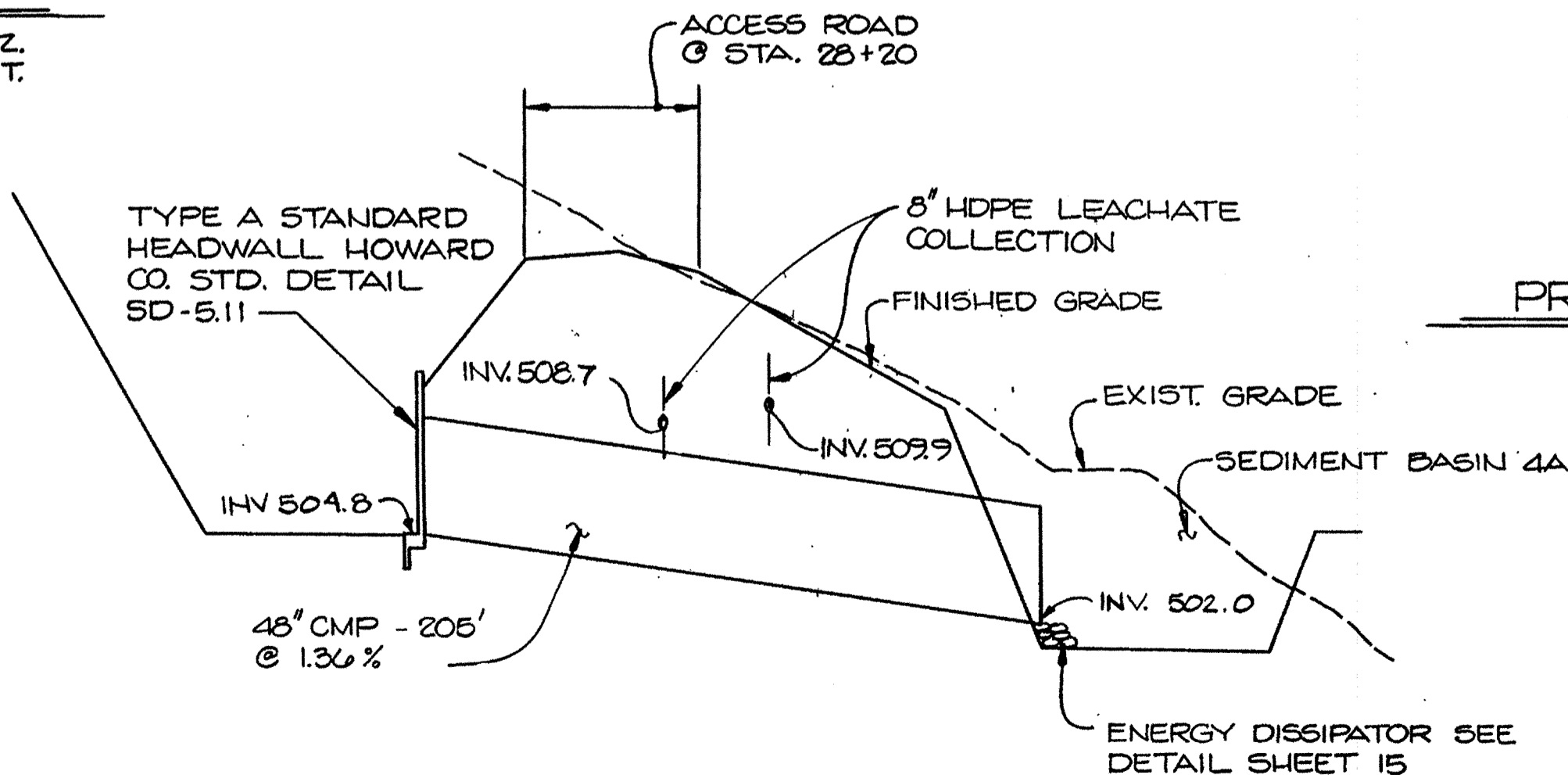
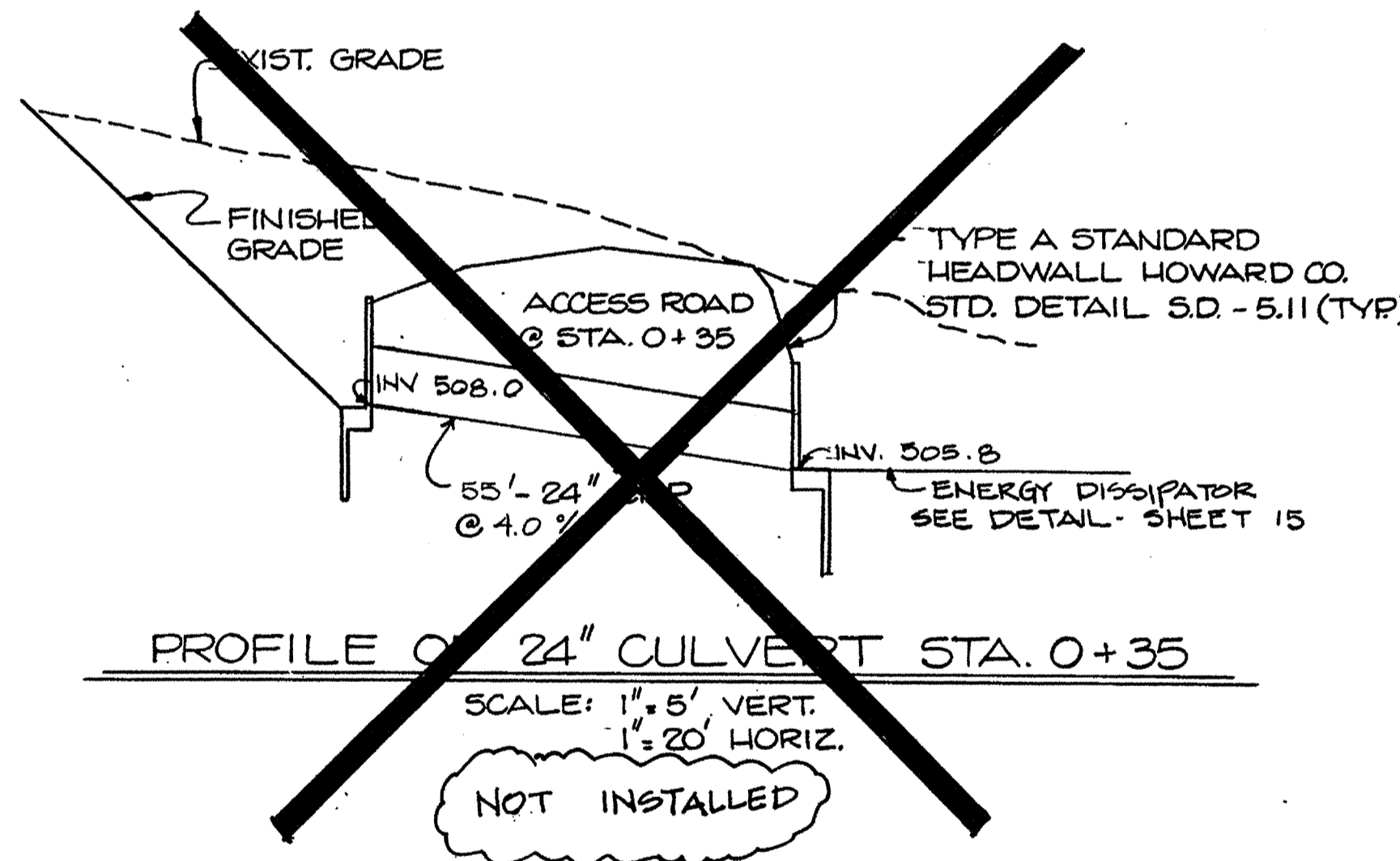
SCALE: 1"=100' HORIZ. 1"=10' VERT.



NOTE:
1) PROVIDE MIN. 6" CLEARANCE BETWEEN PIPE AND ADJACENT STRUCTURES AND UTILITIES.
2) LOCATIONS OF EXIST. UTILITIES AND STRUCTURES HAVE NOT BEEN FIELD VERIFIED. CONTRACTOR TO LOCATE PRIOR TO EXCAVATION FOR PROPOSED UTILITIES.

PROFILE OF WATERLINE

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



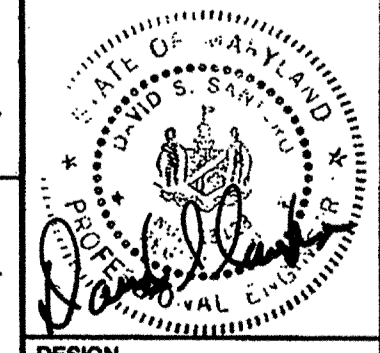
PROFILE OF 48" CULVERT STA. 28+20

SCALE: 1"=50' HORIZ. 1"=5' VERT.

RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
AUGUST 1992

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 54,258,220,11
BLOCK R	ZONE 10 & 18	TAX/ZONE MAP/ELEC. DIST./CENSUS TR. 2 60-30
WATER CODE Private, Existing	SEWER CODE Private, Existing	
OWNER/DEVELOPER Howard County Government		
ADDRESS 3430 Court House Drive, Elkport City, MD 21043		

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
James M. [Signature] 8-23-90
COUNTY HEALTH OFFICER DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
DIRECTOR: *James M. [Signature]* 8/29/90
DATE
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS.
HOWARD COUNTY DEPT. OF PUBLIC WORKS
James M. [Signature] 8-23-90
DATE
CHIEF, BUREAU OF ENGINEERING



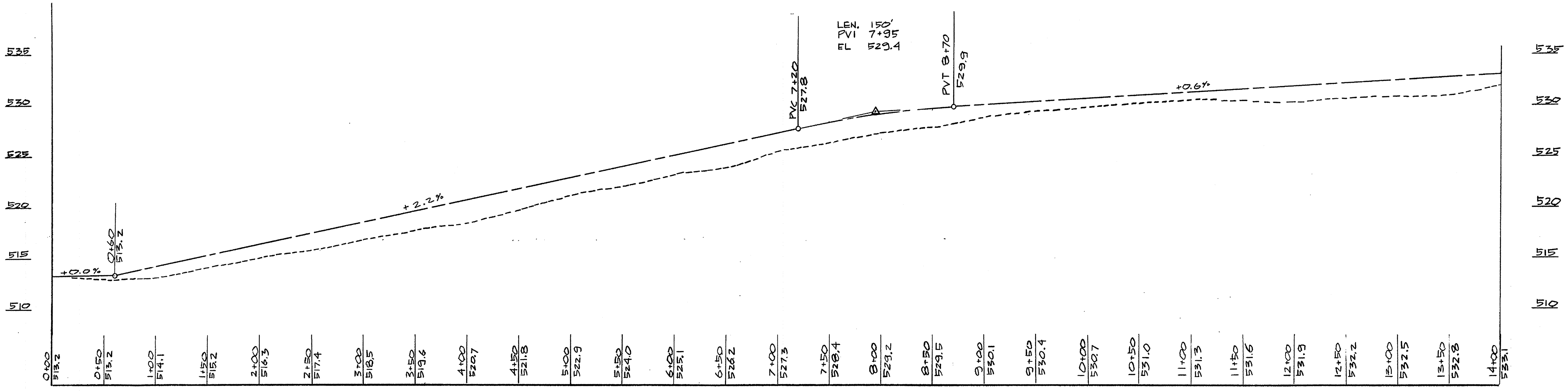
ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

MISCELLANEOUS PROFILES

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

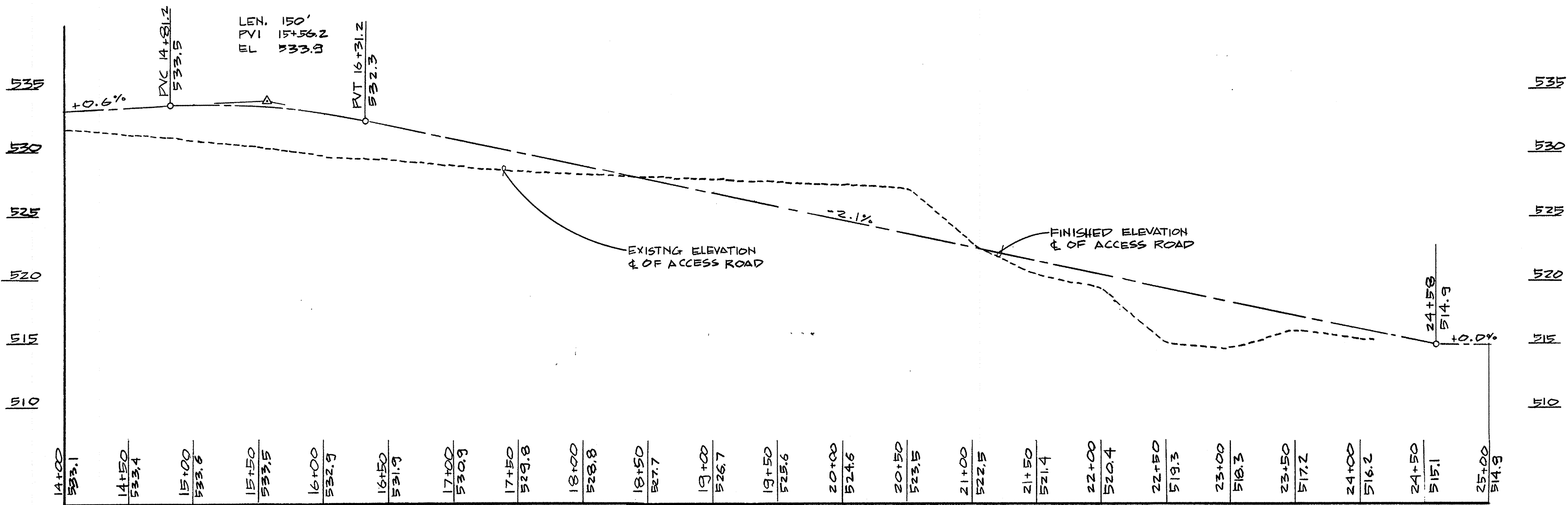
BALTIMORE
CHICAGO
LINCOLN
NEW YORK
NEW JERSEY
ATLANTA
DALLAS
LOS ANGELES
SAN FRANCISCO
CHARLOTTE

DATE
JULY 18, 1989
SCALE
AS SHOWN
PROJECT NO.
10293.01
SHEET NO.
13 OF 25



ACCESS ROAD PROFILE - STATION 0+00 - 14+00

SCALE: 1"=50' HOR.
1"=5' VER.



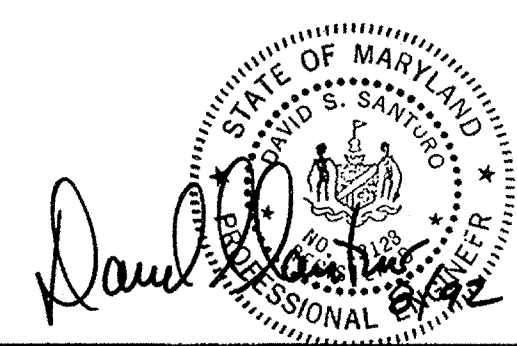
ACCESS ROAD PROFILE - STATION 14+00 - 25+00

SCALE: 1"=50' HOR.
1"=5' VER.

THIS DRAWING REFLECTS RECORD CONDITIONS AND SUPERSEDES SHEET 13 OF THE CONTRACT DRAWINGS

- NOTES: 1. EXISTING ELEVATIONS ARE BASED UPON TOPOGRAPHIC WORKSHEETS PREPARED BY KIDDE CONSULTANTS, INC., RECEIVED BY EA ENGINEERING, SCIENCE AND TECHNOLOGY, INC. 20 DEC. '90
2. ROAD ALIGNMENT SHALL BE ADJUSTED AS INDICATED ON THIS DRAWING FROM STATION 0+00 TO STATION 24+58

RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
AUGUST 1992

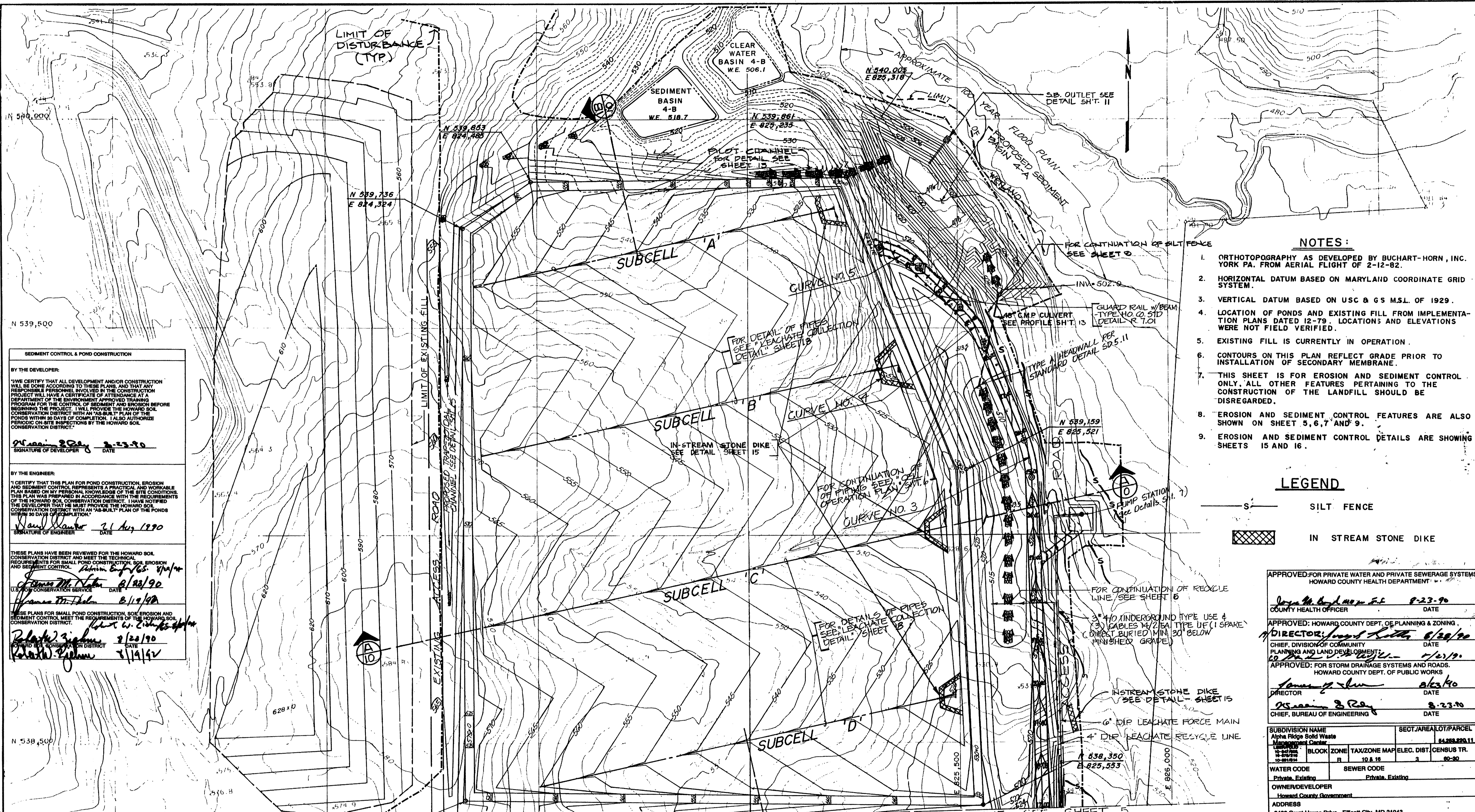


REVISIONS			
NO.	DATE	BY	DESCRIPTION

ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

REVISED ACCESS ROAD PROFILE - STA 0 TO STA 25

DESIGN	JVW	DATE	22 JAN. '91
DRAWN	PSP	SCALE	NOTED
CHECKED	DSP	PROJECT NO.	10293.01
PROJECT ENGINEER	DSS	SHEET NO.	13A



SEDIMENT CONTROL & POND CONSTRUCTION

BY THE DEVELOPER:
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/WE PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature 8/23/90
 SIGNATURE OF DEVELOPER DATE

BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION.

Signature 21 Aug 1990
 SIGNATURE OF ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

Signature 8/23/90
 U.S. SOIL CONSERVATION SERVICE DATE

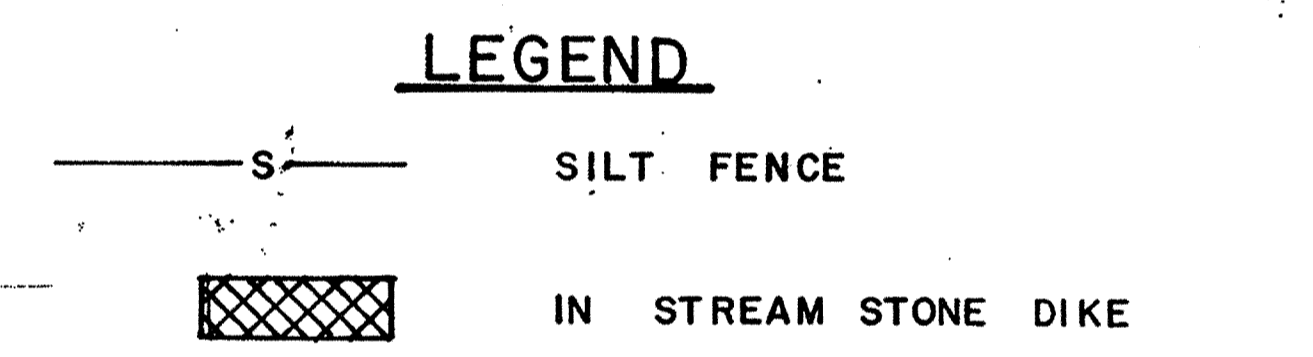
Signature 8/19/90
 U.S. SOIL CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Signature 8/23/90
 HOWARD SOIL CONSERVATION DISTRICT DATE

Signature 7/19/90
 HOWARD SOIL CONSERVATION DISTRICT DATE

- NOTES:**
1. ORTHOTOPOGRAPHY AS DEVELOPED BY BUCHART-HORN, INC. YORK PA. FROM AERIAL FLIGHT OF 2-12-82.
 2. HORIZONTAL DATUM BASED ON MARYLAND COORDINATE GRID SYSTEM.
 3. VERTICAL DATUM BASED ON USC & GS M.S.L. OF 1929.
 4. LOCATION OF PONDS AND EXISTING FILL FROM IMPLEMENTATION PLANS DATED 12-79. LOCATIONS AND ELEVATIONS WERE NOT FIELD VERIFIED.
 5. EXISTING FILL IS CURRENTLY IN OPERATION.
 6. CONTOURS ON THIS PLAN REFLECT GRADE PRIOR TO INSTALLATION OF SECONDARY MEMBRANE.
 7. THIS SHEET IS FOR EROSION AND SEDIMENT CONTROL ONLY. ALL OTHER FEATURES PERTAINING TO THE CONSTRUCTION OF THE LANDFILL SHOULD BE DISREGARDED.
 8. EROSION AND SEDIMENT CONTROL FEATURES ARE ALSO SHOWN ON SHEET 5, 6, 7 AND 9.
 9. EROSION AND SEDIMENT CONTROL DETAILS ARE SHOWING SHEETS 15 AND 16.



APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT

Signature 8-23-90
 COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 DIRECTOR *Signature* 8/23/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS.
 HOWARD COUNTY DEPT. OF PUBLIC WORKS

Signature 8/23/90
 DIRECTOR DATE

Signature 8-23-90
 CHIEF, BUREAU OF ENGINEERING DATE

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center	SECT./AREA/LOT/PARCEL E 825,000
BLOCK ZONE R 10 & 18	TAX ZONE MAP ELEC. DIST. CENSUS TR. 3 80-30
WATER CODE Private, Existing	SEWER CODE Private, Existing
OWNER/DEVELOPER Howard County Government	ADDRESS 3430 Court House Drive, Ellicott City, MD 21043

NOTE: EXISTING CONTOURS SHOWN DO NOT REFLECT CURRENT CONDITIONS. GRADING WILL BE ADJUSTED DURING CONSTRUCTION.

REVISION NO.	DATE	BY	DESCRIPTION
1	10-11-87	D.T.M.	SDP REQUIREMENTS, COORDINATES

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 AUGUST 1992



**ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
 HOWARD COUNTY MARYLAND**

EROSION AND SEDIMENT CONTROL PLAN

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

DATE: JUNE 1990
 SCALE: 1" = 100'
 PROJECT NO.: 10293.01
 SHEET NO.: 1 OF 25

15 Loveton Circle
 Sparks, Maryland 21152
 (301) 771-4950

BALTIMORE
 CHICAGO
 LINCOLN
 NEW YORK
 NEW JERSEY
 ATLANTA
 DALLAS
 LOS ANGELES
 SAN FRANCISCO

080

SDP 90-90

CONSTRUCTION SPECIFICATIONS FOR BASINS

I. SITE PREPARATION

AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL. ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED. THE FOUNDATION AND ANY EXISTING EMBANKMENT SHALL BE SHAPED IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

AREAS TO BE COVERED BY THE POND OR RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED ON THE PLANS. TREES, BRUSH AND STUMPS SHALL BE CUT APPROXIMATELY LEVEL WITH THE GROUND SURFACE.

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. SOIL SHALL BE STOCKPILED AT LOCATIONS INDICATED ON THE PLANS. TOPSOIL SHALL BE SEGREGATED FROM FILL MATERIAL.

ALL STRUCTURES WITHIN THE WORKS LIMITS OF PONDS TO BE RECONSTRUCTED SHALL BE REMOVED. THE DISPOSAL SHALL BE COMPLETELY OPPOSITE AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

II. EARTH FILL

MATERIAL

THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREA OR AREAS. ACCEPTABLE MATERIAL SHALL BE MATERIALS CLASSIFIED IN ASTM D2487 AS GC, SM, SC, ML, MH, CH, OR CL. ACCEPTABLE MATERIAL SHALL NOT CONTAIN STONE WITH A MAXIMUM DIMENSION LARGER THAN 4" IN THE UPPER 6" OF FILL OR 6" FOR THE REMAINDER OF THE FILL. STONES SHALL NOT BE MORE THAN 25% BY VOLUME OF THE FILL MATERIAL. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, OVERSIZE STONES, FROZEN OR OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE CONSTRUCTED TO AN ELEVATION WHICH PROVIDES FOR ANTICIPATED SETTLEMENT TO THE DESIGN ELEVATION. THE FILL HEIGHT ALL ALONG THE LENGTH OF THE EMBANKMENT SHALL BE INCREASED ABOVE THE DESIGN ELEVATION (INCLUDING FREEBOARD) AS SHOWN ON THE PLANS. THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE AT OR WITHIN TWO PERCENTAGE POINTS OF THE "OPTIMUM MOISTURE CONTENT" AS DETERMINED IN ACCORDANCE WITH AASHTO T-180.

III. STRUCTURAL BACKFILL

STRUCTURAL BACKFILL MATERIAL SHALL OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED FOUR INCHES IN THICKNESS AND COMPACTED BY HAND TAMPERS OR OTHER COMPACTION EQUIPMENT. THE MATERIAL NEEDS TO FILL COMPLETELY ALL SPACES UNDER AND ADJACENT TO THE PIPE. THE PIPES SHALL BE LOADED SUFFICIENTLY DURING BACKFILLING AROUND THE SIDES TO PREVENT ITS BEING LIFTED FROM THE BEDDING RESULTING IN A LOSS OF CONTACT AND HIGH PIPING POTENTIAL. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN THREE FEET, MEASURED HORIZONTALLY, TO ANY PART OF A STRUCTURE. UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A CONCRETE STRUCTURE UNLESS THERE IS A COMPACTED FILL OF TWENTY-FOUR INCHES OR GREATER OVER THE STRUCTURE OR PIPE.

IV. PIPE CONDUITS

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

A. CORRUGATED METAL PIPE

- MATERIALS - (STEEL PIPE)** - THIS PIPE AND ITS APPURTENANCES SHALL BE GALVANIZED AND FULLY BITUMINOUS COATED AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M19 TYPE A WITH WATERTIGHT COUPLING BANDS. ANY BITUMINOUS COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COMPOUND.
- CONNECTIONS** - ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATERTIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL. WATERTIGHT COUPLING BANDS OR FLANGES SHALL BE USED AT ALL JOINTS. CRIMPED ENDS THAT ARE OUT OF LINE SHALL BE STRAIGHTENED AND ADDITIONAL MASTIC APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DIMPLE BANDS ARE NOT CONSIDERED TO BE WATERTIGHT.

PLACEMENT

AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN 8 INCH MAXIMUM THICKNESS BEFORE COMPACTION LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST POROUS BORROW MATERIALS SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT.

COMPACTION

CONTROL THE MOVEMENT OF THE HAULING EQUIPMENT OVER THE FILL SO THAT THE ENTIRE SURFACE OF EACH LIFT IS COMPACTED TO 90% OF THE "MAXIMUM DRY DENSITY" AS DETERMINED IN ACCORDANCE WITH AASHTO T-180.

THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF THE EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIRED OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION CAN BE OBTAINED WITH THE EQUIPMENT USED.

EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THE REQUIRED MINIMUM DENSITY AND IS TO BE CERTIFIED BY THE ENGINEER.

CUTOFF TRENCH

A CUTOFF TRENCH SHALL BE EXCAVATED ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM OF THE TRENCH SHALL BE AS SHOWN ON THE DRAWINGS, WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET OR AS SHOWN ON THE PLANS. THE SIDES OF THE TRENCH SHALL BE AS SHOWN ON THE DRAWINGS WITH THE MAXIMUM SLOPE BEING 1 TO 1. THE BACKFILL MATERIAL FOR THE CUTOFF TRENCH SHALL BE CLASSIFIED AS CL, CL-SC, OR ML-CL IN ACCORDANCE WITH ASTM D2487, AND SHALL BE COMPACTED WITH EQUIPMENT OR ROLLERS TO ASSURE COMPACTION TO 90% MAXIMUM DENSITY IN ACCORDANCE WITH AASHTO T-180.

- BEDDING** - THE PIPES SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT THEIR ENTIRE LENGTH IN ACCORDANCE WITH THE PIPE BEDDING DETAIL AS SHOWN. WHERE ROCK OR SOFT, SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED, ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT. IT SHALL BE UNDERCUT TO THE SHAPE OF THE PIPE DIAMETER AND FILLED IN WITH FRIABLE MATERIAL TO A MINIMUM DEPTH OF THE CORRUCTIONS. EXTRA CARE SHALL BE TAKEN TO ACHIEVE MAXIMUM CONTACT AND A MINIMUM OF VOIDS.
- LAYING PIPE** - THE PIPE SHALL BE PLACED WITH INSIDE CIRCUMFERENTIAL LAPS POINTING DOWNSTREAM AND WITH THE LONGITUDINAL LAPS AT THE SIDES.
- BACKFILLING** SHALL CONFORM TO STRUCTURAL BACKFILL AS SHOWN ABOVE.
- OTHER DETAILS** (ANTI-SLEEP, COLLARS, VALVES, ETC.) SHALL BE AS SHOWN.

STABILIZATION

ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONCAVE. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOIL, AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING (IF REQUIRED) IN ACCORDANCE WITH THE VEGETATIVE TREATMENT SPECIFICATIONS AS SHOWN.

EROSION AND SEDIMENT CONTROL

CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES TO BE EMPLOYED DURING THE CONSTRUCTION PROCESS.

VII. FILTER CLOTH

FILTER CLOTH SHALL BE TERRATEX NO. 8 OR EQUAL NONWOVEN GEOTEXTILE MATERIAL SHALL BE USED FOR THIS PROJECT. THE MAXIMUM DROP OF THE RIPRAP ONTO THE GEOTEXTILE MATERIAL IS 3 FEET. THE MINIMUM LAP OF THE MATERIAL SHALL BE 18 INCHES.

VIII. GABIONS

ALL GABIONS SHALL BE CLASS IV (PVC COATED).

DETAILS AND SPECIFICATIONS FOR VEGETATIVE ESTABLISHMENT

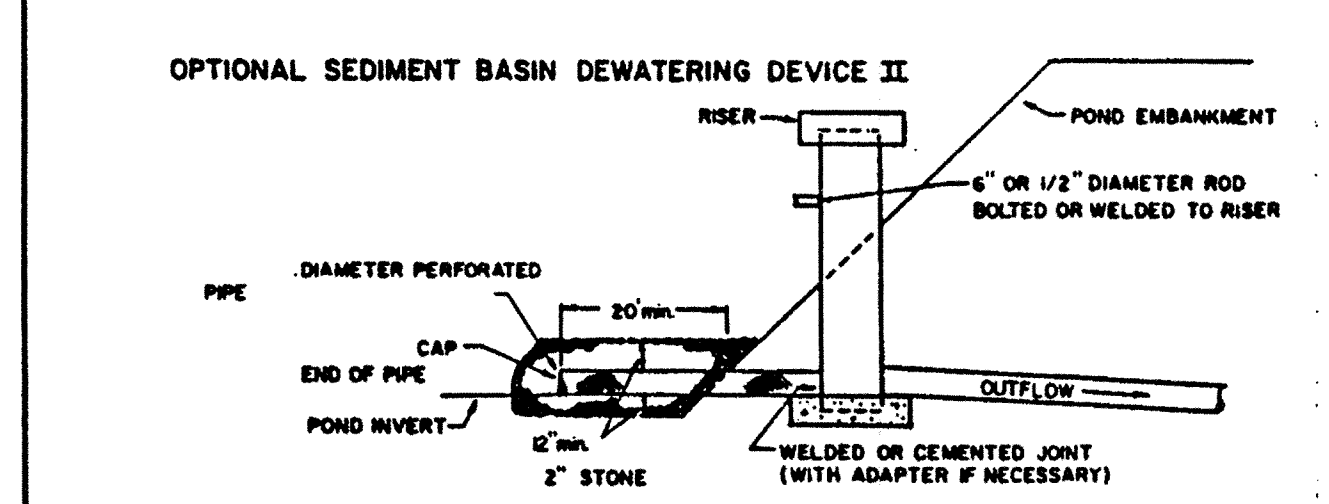
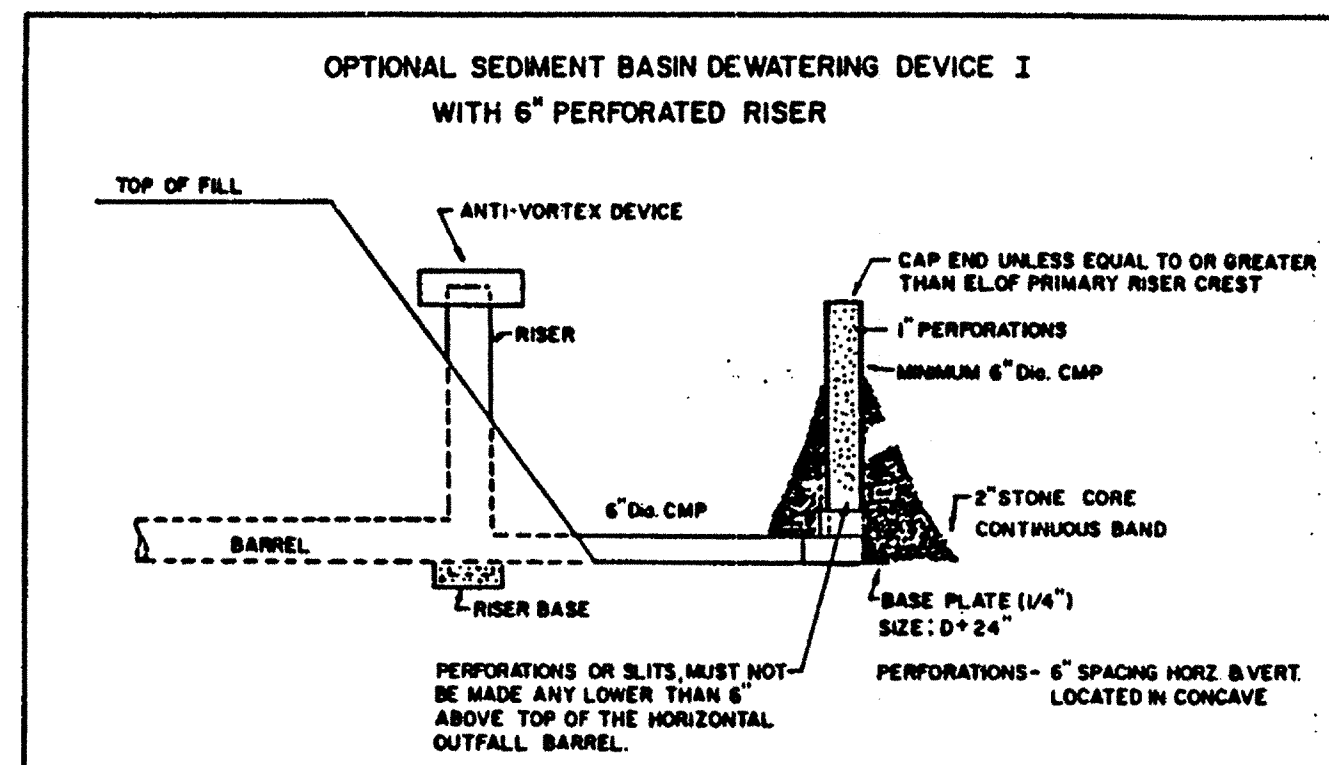
SITE PREPARATION:

- TEMPORARY PERIMETER DIKES AND SILT TRAPS, ETC.** ARE TO BE PROVIDED AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN PRIOR TO GRADING OPERATIONS WITH LOCATION ADJUSTMENTS TO BE MADE IN THE FIELD AS NECESSARY AND TO BE MAINTAINED AT THE END OF THE WORKING DAY. THE MINIMUM AREA PRACTICAL SHALL BE DISTURBED FOR THE MINIMUM AMOUNT OF TIME POSSIBLE.
- PERMANENT SEEDING:**

A. SEEDBED PREPARATION: AREA TO BE SEEDBED SHALL BE LOOSE AND FRIABLE TO A DEPTH OF AT LEAST 3". THE TOP LAYER SHALL BE LOOSENEED BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING OCCURS. IN LIEU OF SOIL TEST RESULTS, APPLY 100 POUNDS OF DOLOMITIC LIMESTONE AND 25 POUNDS OF 10-10-10 FERTILIZER PER 1,000 SQUARE FEET. HARROW OR DISK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF AT LEAST 3" OR SLOPE FLATTER THAN 3:1. NO ATTEMPT SHOULD BE MADE TO DRAG ANY DISKED AREA TO MAKE THE SOIL SURFACE SMOOTH AFTER DISKING.

B. SEEDING: APPLY 5-6 POUNDS PER 1,000 SQUARE FEET OF KENTUCKY 31 TALL FESCUE BETWEEN MARCH 1 AND APRIL 30 OR BETWEEN AUGUST 15 AND OCTOBER 15. APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER DRILL, CULTIPACKER SEEDER OR HYDROSEEDER (SLURRY INCLUDES SEEDS AND FERTILIZER, RECOMMENDED ON STEEP SLOPES ONLY) ON A MAT. FIRM SEEDBED. MAXIMUM SEED DEPTH SHOULD BE 1/4" IN CLAYEY SOILS AND 1/2" IN SANDY SOILS WHEN USING OTHER THAN THE HYDROSEEDER METHOD. IRRIGATE IF SOIL MOISTURE IS DEFICIENT TO SUPPORT ADEQUATE GROWTH. UNTIL VEGETATION IS FIRMLY ESTABLISHED.

C. MULCHING: MULCH SHALL BE UNCHOPPED, UNROTTED, SMALL GRAIN STRAW APPLIED AT A RATE OF 70 TO 90 POUNDS PER 1,000 SQUARE FEET. MULCH MATERIALS SHALL BE RELATIVELY FREE OF ALL KINDS OF WEEDS AND SHALL BE FREE OF PROHIBITED NOXIOUS WEEDS WHICH ARE: CANADA THISTLE, JOHNSONGRASS, AND QUACKGRASS. SPREAD MULCH MECHANICALLY OR UNIFORMLY BY HAND. MULCH ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER MULCH PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY PEG AND TWINE METHOD, MULCH ANCHORING TOOL, NETTING OR LIQUID MULCH BINDERS.

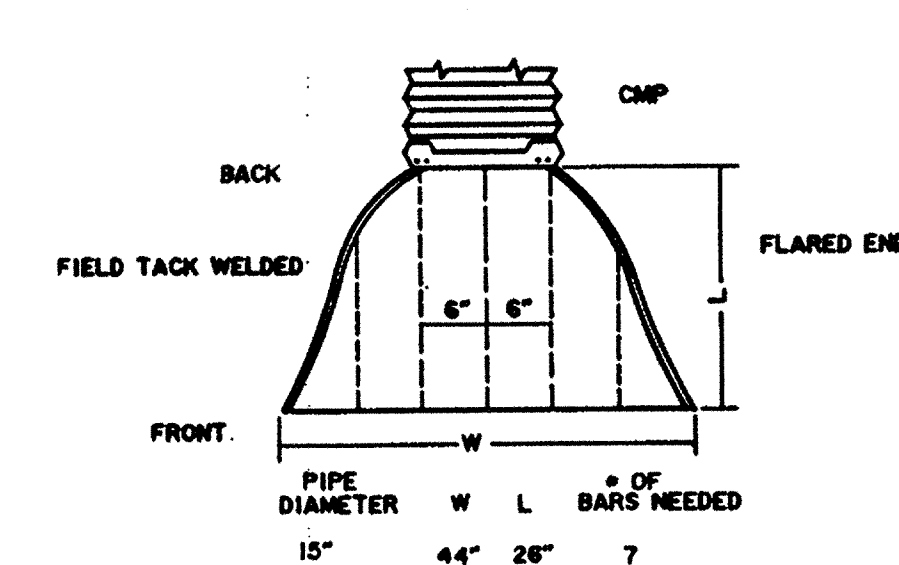


U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	OPTIONAL SEDIMENT BASIN DEWATERING DEVICES	STANDARD DRAWING SB
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- TEMPORARY SEEDING:**
- LIME:** 100 POUNDS OF DOLOMITIC LIMESTONE PER 1,000 SQUARE FEET
- FERTILIZER:** 15 POUNDS OF 10-10-10 PER 1,000 SQUARE FEET
- SEED:** PERENNIAL RYE, ITALIAN RYE - 0.92 POUNDS PER 1,000 SQUARE FEET (MARCH 1 THROUGH APRIL 30 OR AUGUST 15 THROUGH NOVEMBER 1); MILLET - 0.92 POUNDS PER 1,000 SQUARE FEET (MAY 1 THROUGH AUGUST 15)
- MULCH:** SAME AS ABOVE (C)

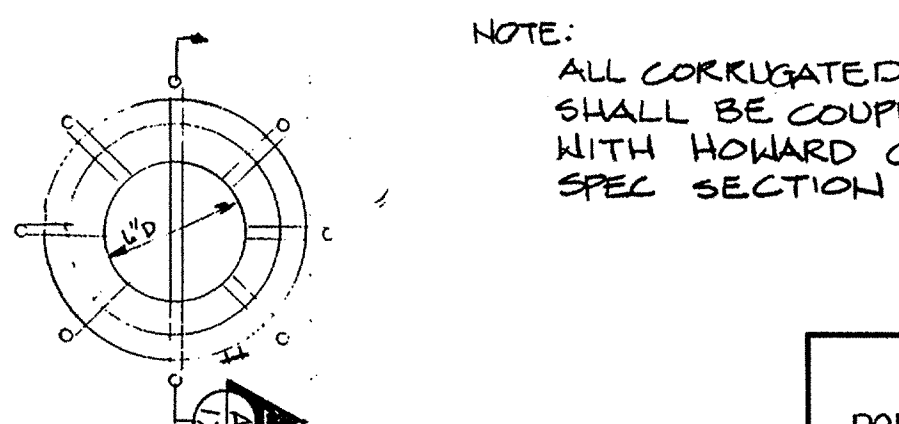
- PERMANENT SOD:**
- PERMANENT SOD IS TO BE KENTUCKY 31 TALL FESCUE STATE APPROVED SOD. LIME AND FERTILIZER PER PERMANENT SEEDING SPECIFICATIONS AND LIGHTLY IRRIGATE SOIL PRIOR TO LAYING SOD. SOD IS TO BE LAID ON THE CONTOUR WITH ALL ENDS TIGHTLY BUTTING JOINTS ARE TO BE STAGGERED BETWEEN ROWS. WATER AND ROLL OR DAMP SOD TO INSURE POSITIVE ROOT CONTACT WITH THE SOIL. ALL SLOPES GREATER THAN 3 TO 1, AS SHOWN, ARE TO BE PERMANENTLY SODDED OR PROTECTED WITH AN APPROVED EROSION CONTROL NETTING. ADDITIONAL WATERING FOR ESTABLISHMENT MAY BE REQUIRED. SOD IS NOT TO BE APPLIED ON FROZEN GROUND.

NOTE: USE OF THIS INFORMATION DOES NOT PRECLUDE MEETING ALL OF THE REQUIREMENTS OF THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROLS.

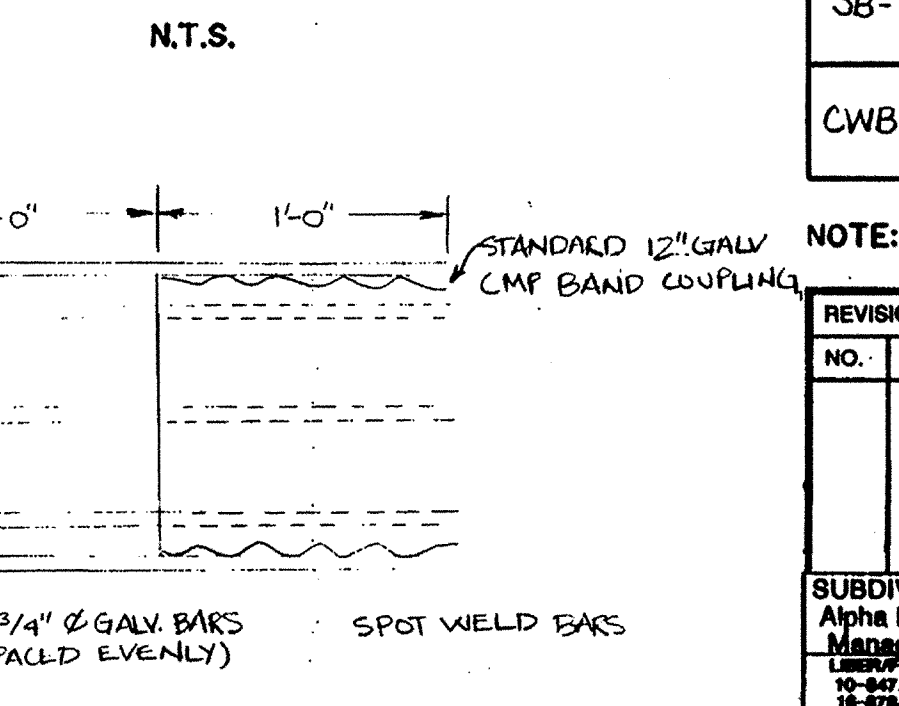


LOW FLOW TRASH RACK AT SB-4B & CWB-4B
N.T.S.

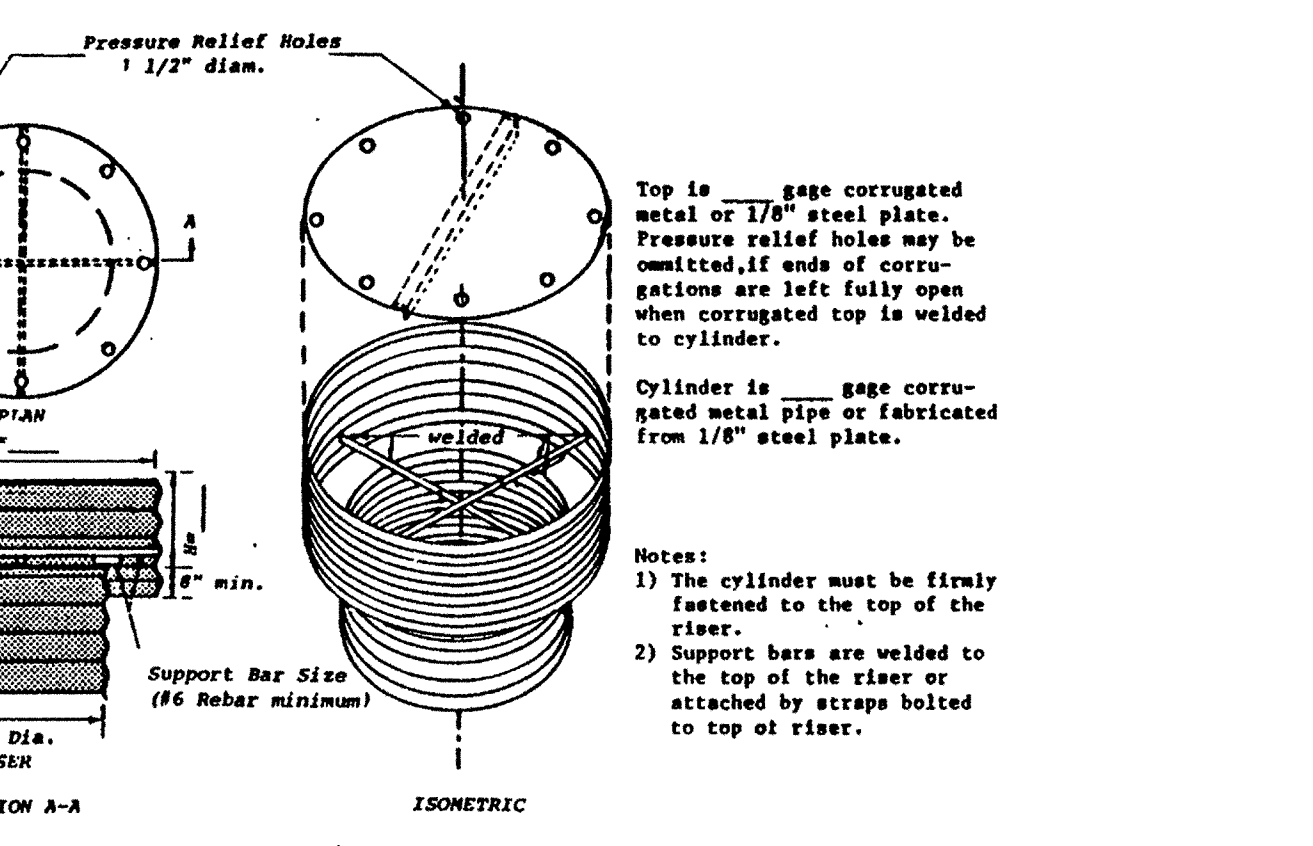
NOTE: FIELD WELD BARS STARTING WITH ONE IN CENTER OF FLARED END. WELD BARS AT 6" INTERVALS UNTIL LESS THAN 6" IS LEFT BETWEEN LAST BAR AND EDGE OF FLARED END. WELD BARS FROM BOTTOM OF FRONT END TO TOP OF BACK END. USE #6 REBAR.



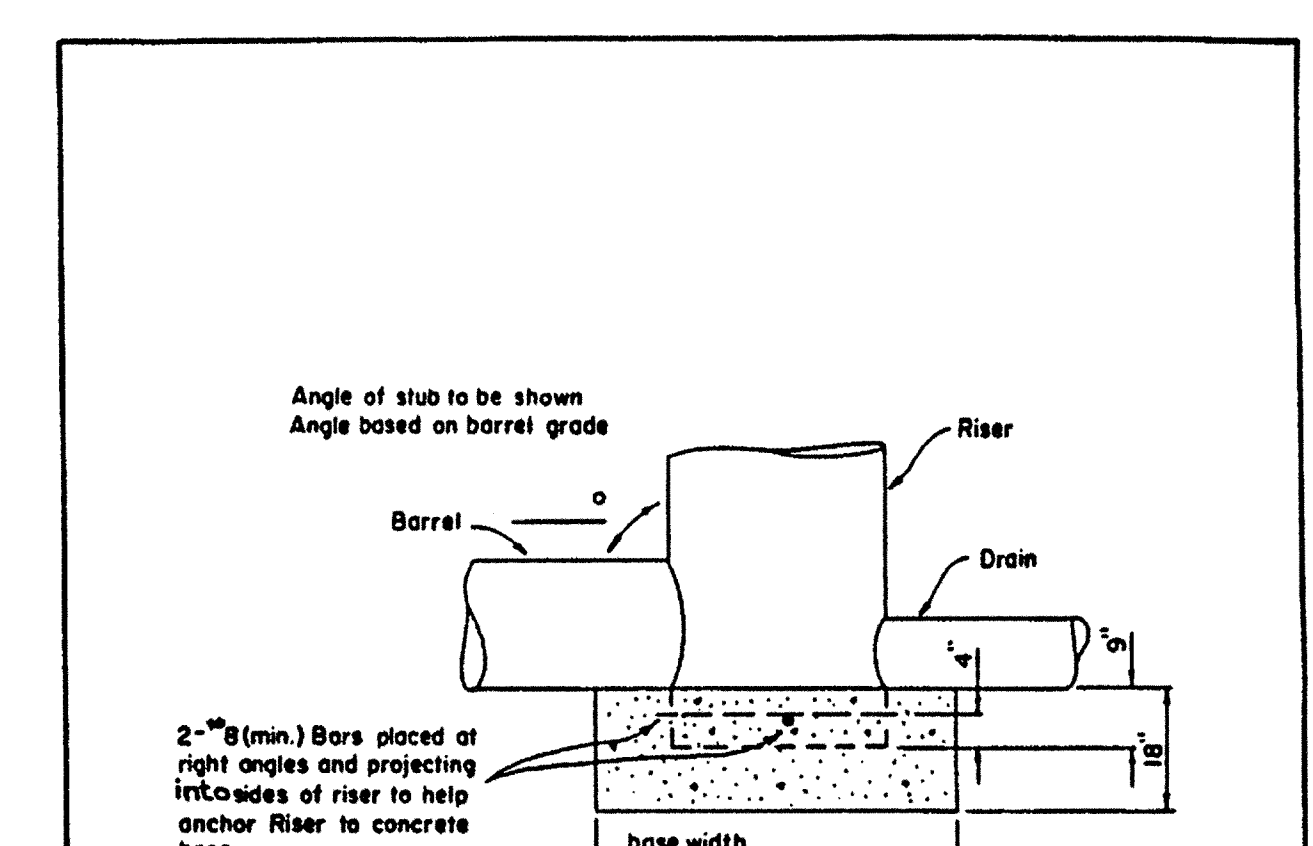
LOW FLOW TRASH RACK AT SB-4A
N.T.S.



POND SB-4A DRAIN DETAIL
SCALE: 1" = 1'-0"



CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE
(not to scale)



RISIER BASE DETAIL
SEDIMENT BASIN

- NOTES:**
- The concrete base shall be poured in such a manner to insure that the concrete fits the bottom of the riser to the invert of the outlet pipe to prevent the riser from breaking away from the base.
 - With aluminum or galvanized pipe, the embedded section must be painted with zinc chromate or equivalent.
 - Riser base may be sized as computed using floatation with a factor of safety of 1.2.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	RISIER BASE DETAIL SEDIMENT BASIN
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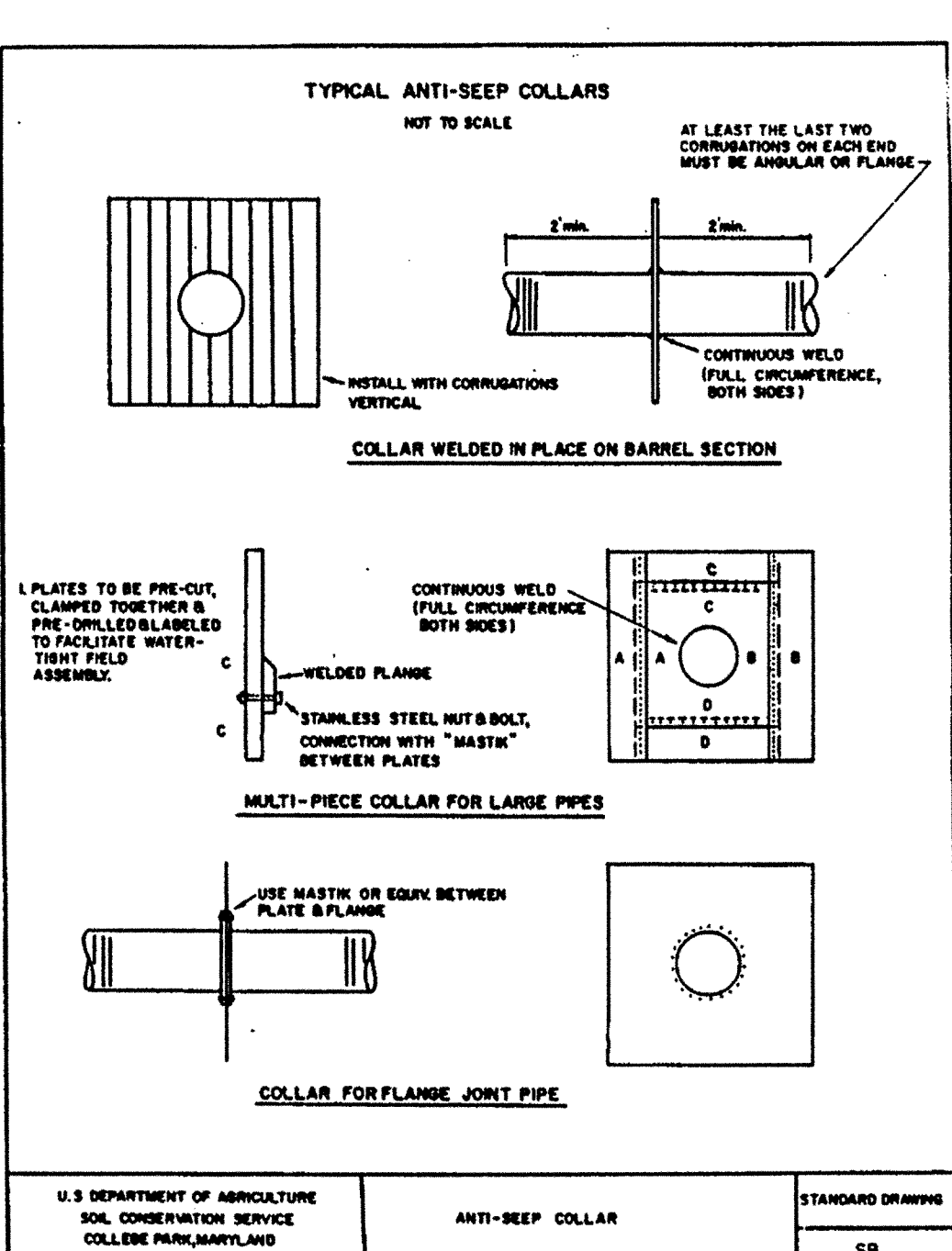
RECORD DRAWING	
EA	EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
POND DETAIL SCHEDULE	
AUGUST 1992	

POND	D (in.)	H (in.)	RISER DIAM. (in.)	TOP GAGE	CYLINDER GAGE	BOTTOM WIDTH (ft.)	ANGLE (degrees)	QUANTITY	SIZE
SB-4A	48	17	30	12	14	5.0	90.18	2	4'-8"
SB-4B	72	21	48	10	12	8.0	91.59	2	6'-4"
CWB-4B	72	21	48	10	12	8.0	90.57	2	6'-0"

NOTE: FOR ADDITIONAL INFORMATION ON PONDS, SEE SHEET II

NO.	DATE	BY	DESCRIPTION

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center	SECT./AREA/LOT/PARCEL 54263.220.11
DESIGN MMD	DRAWN PMS
WATER CODE Private, Existing	SEWER CODE Private, Existing
OWNER/DEVELOPER Howard County Government	CHECKED DSP
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043	PROJECT ENGINEER DSS



TYPICAL ANTI-SLEEP COLLARS
STANDARD DRAWING SB

SEDIMENT CONTROL & POND CONSTRUCTION

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: [Signature] DATE: 8-23-90

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DISTRICT THAT I MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION.

Signature: [Signature] DATE: 21 Aug 1990

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

Signature: [Signature] DATE: 8/22/92

Signature: [Signature] DATE: 8/19/92

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT

Signature: [Signature] DATE: 8-23-90

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Signature: [Signature] DATE: 8/28/90

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

Signature: [Signature] DATE: 8/23/90

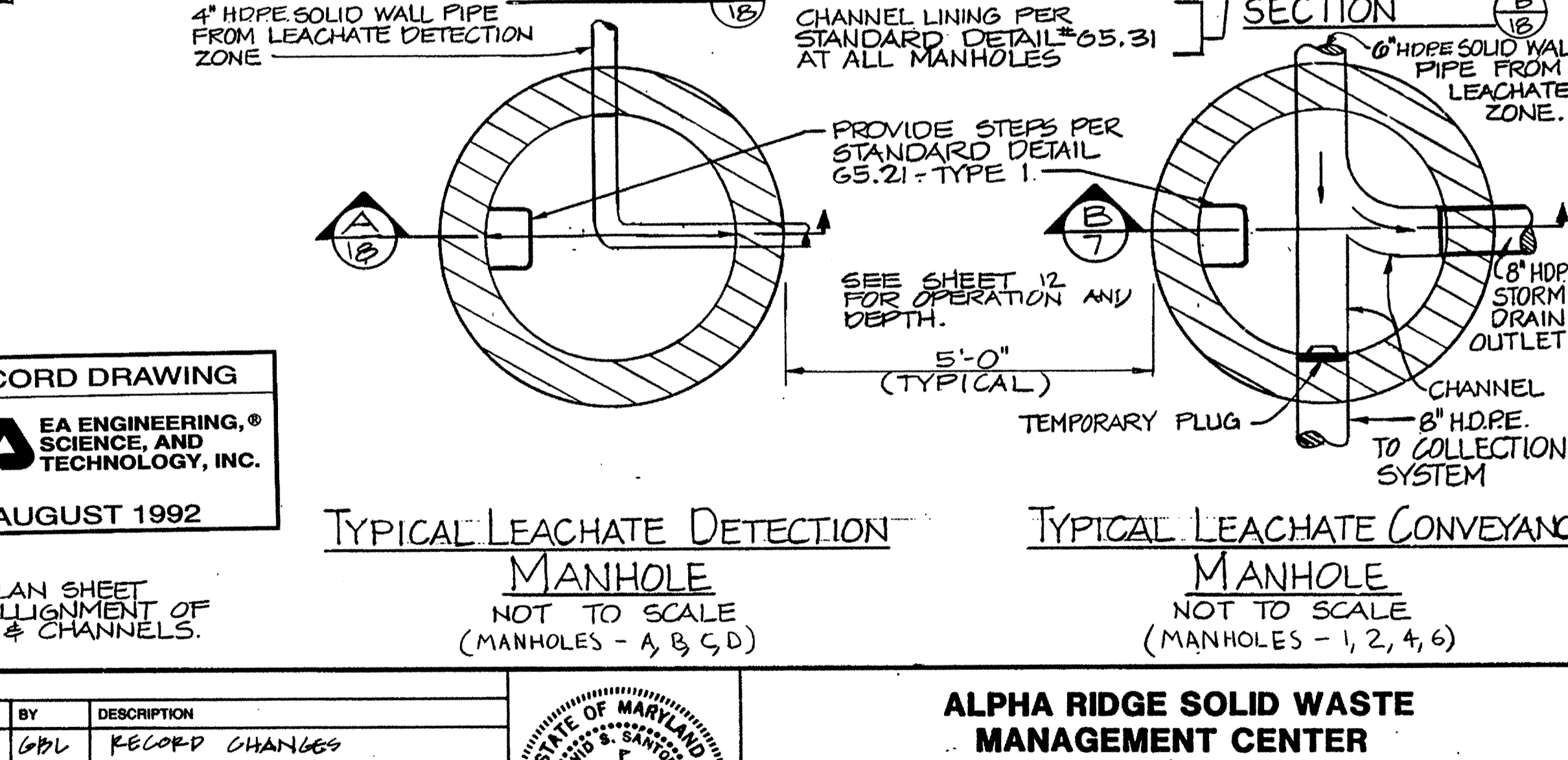
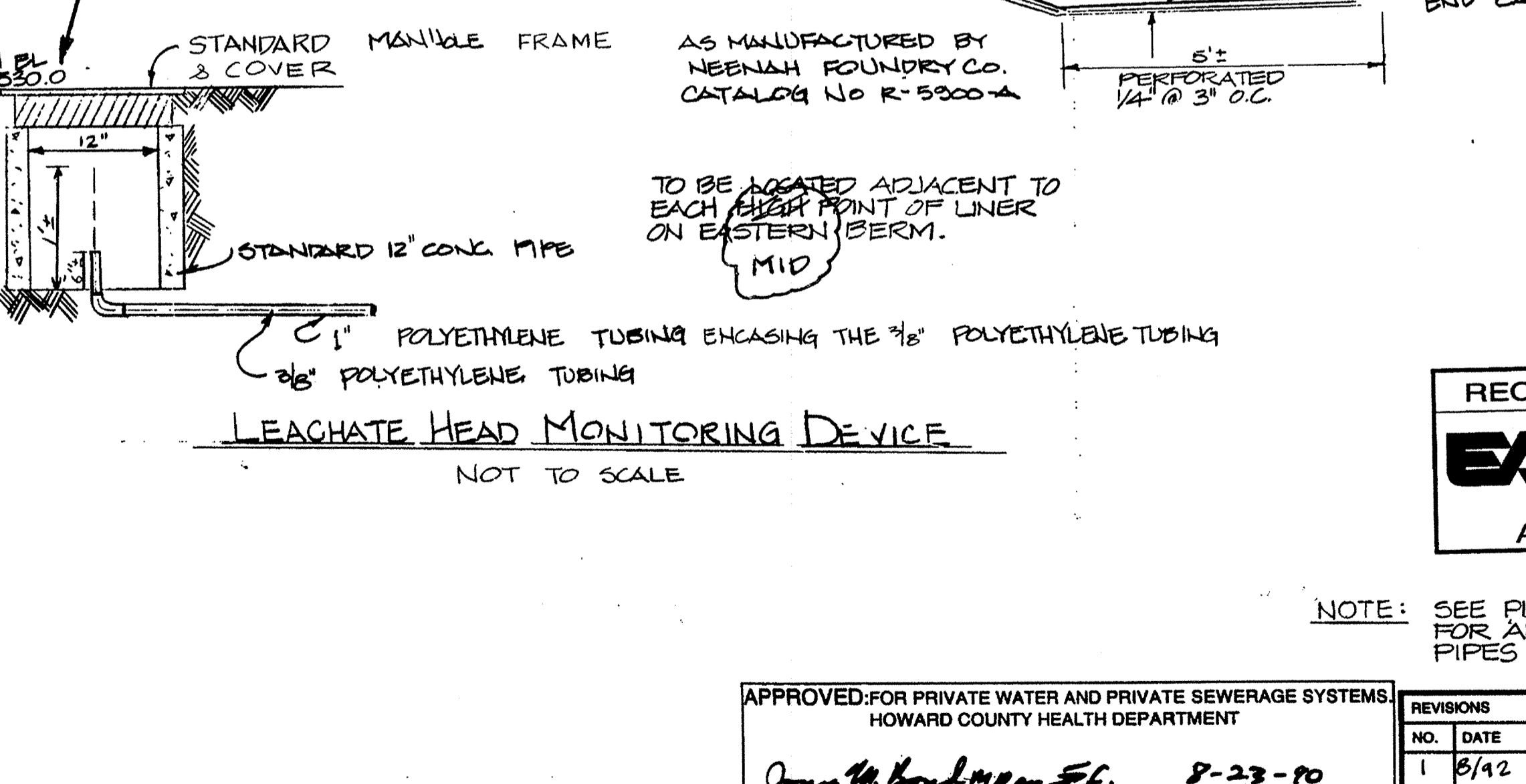
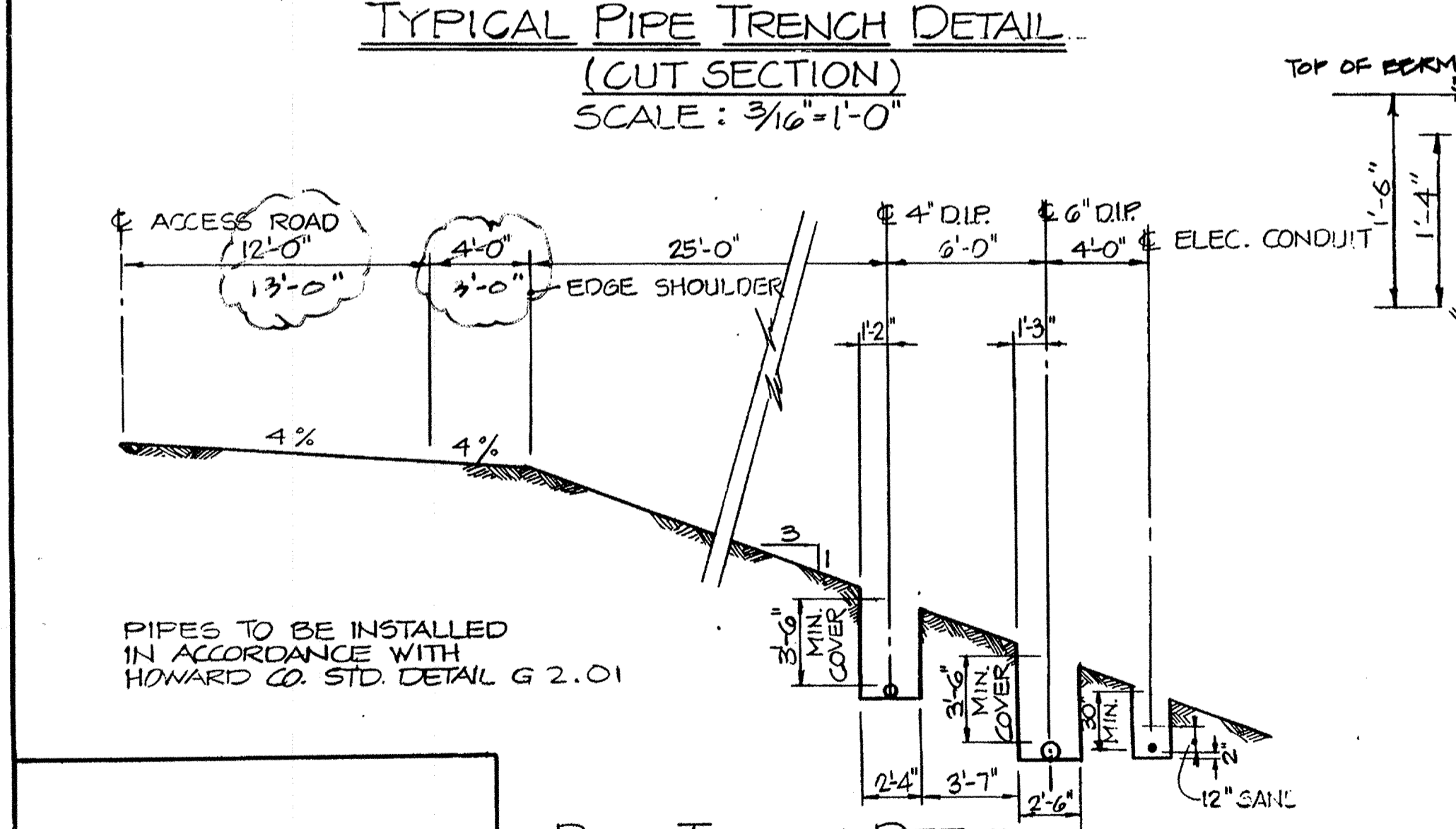
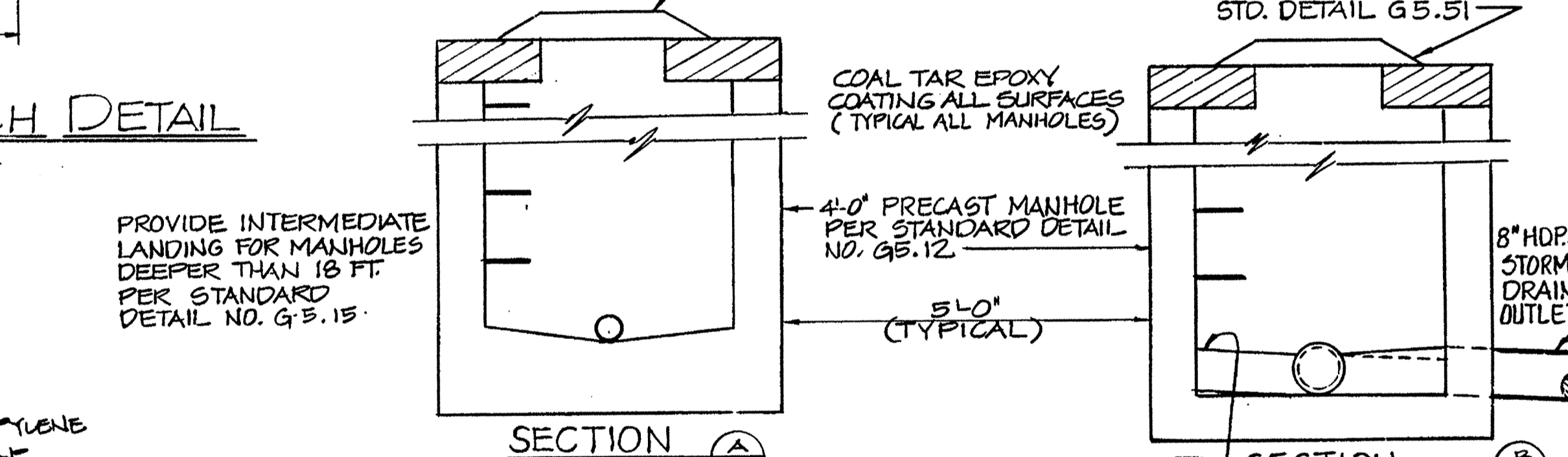
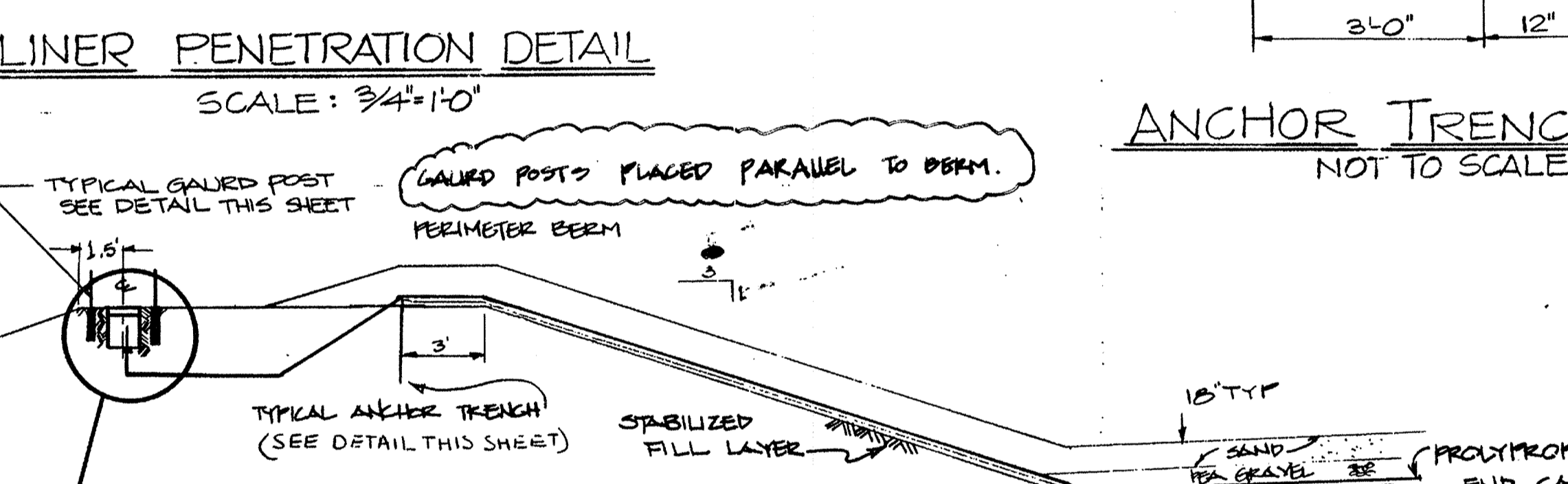
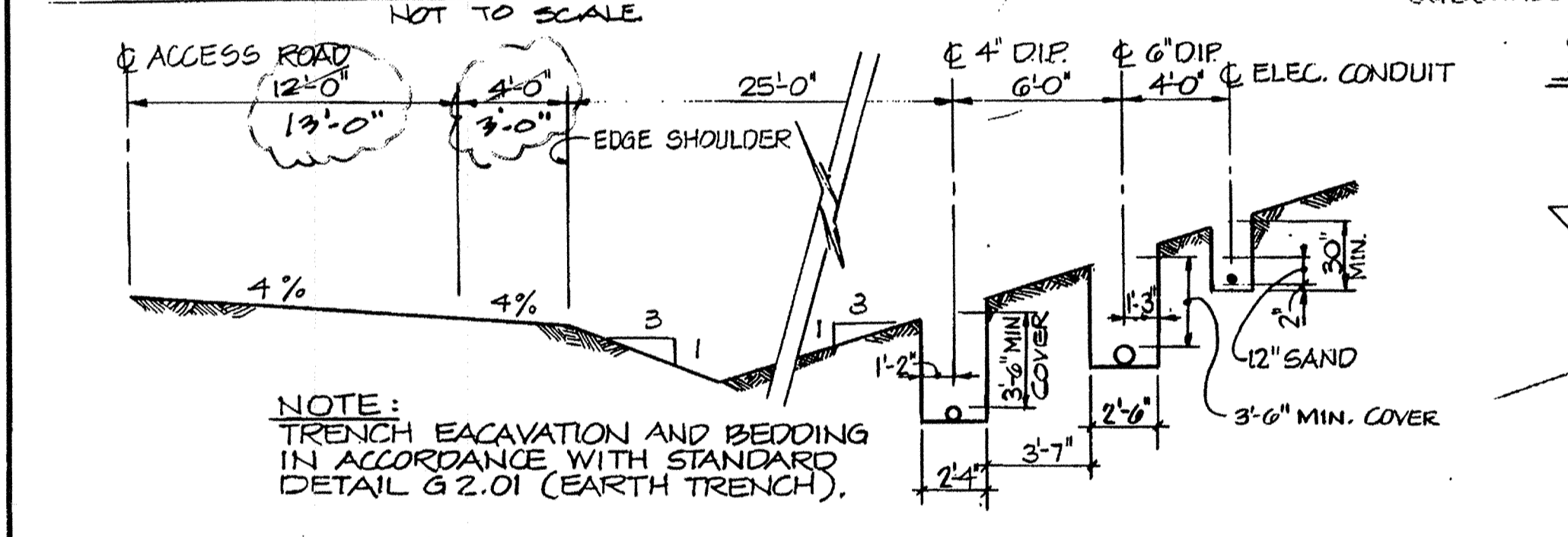
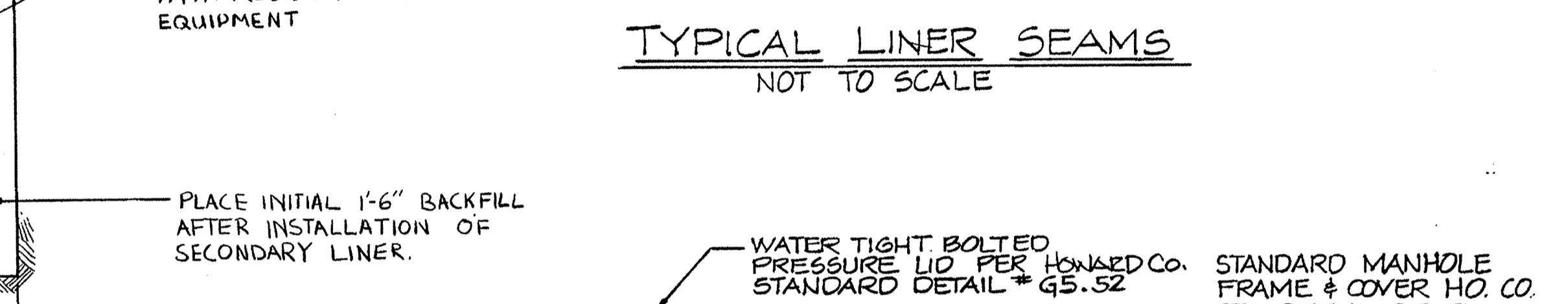
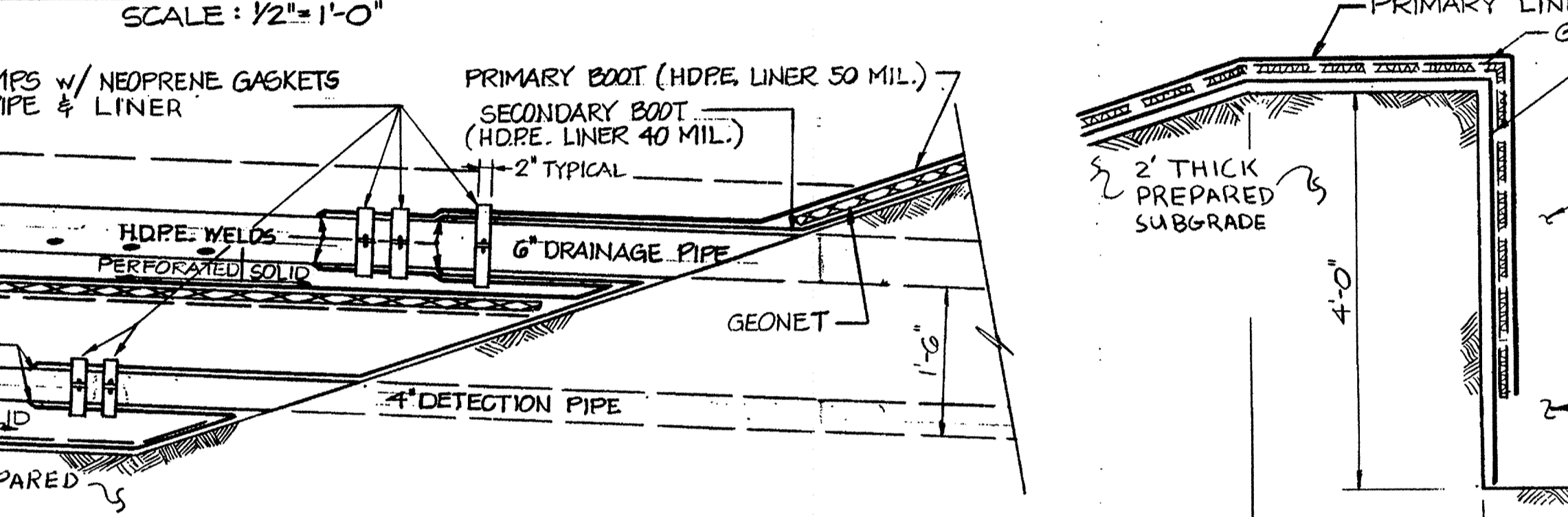
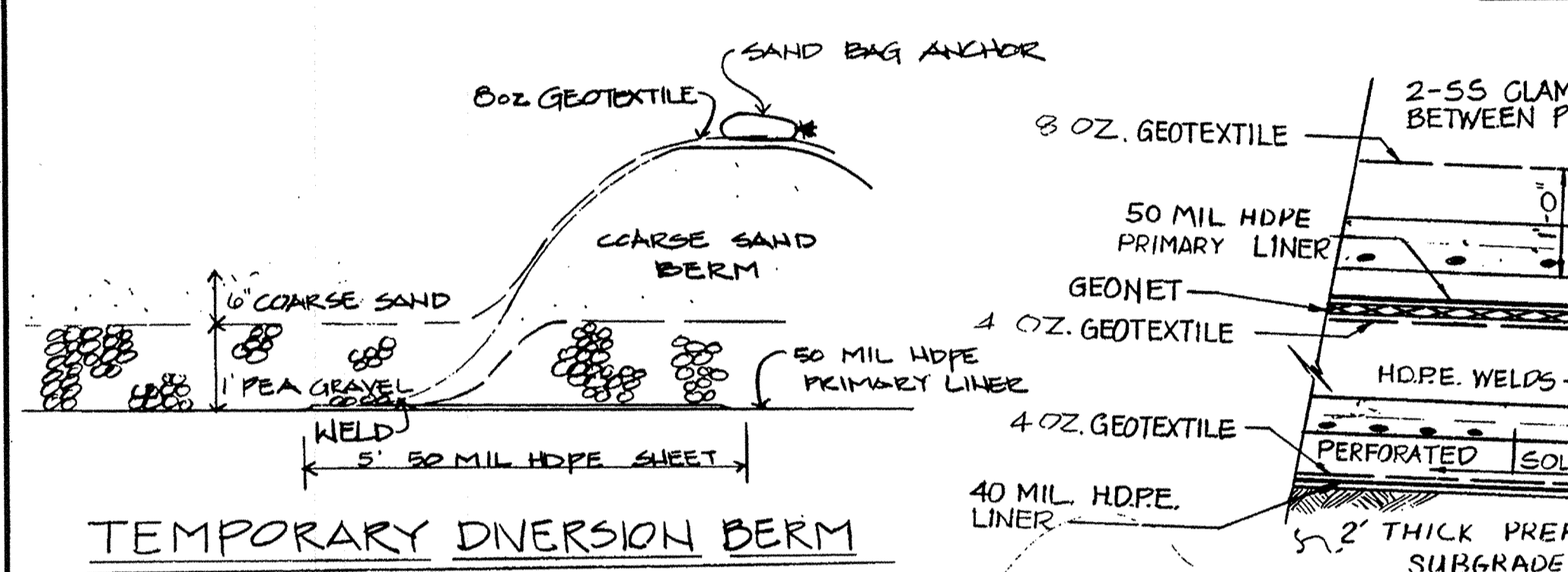
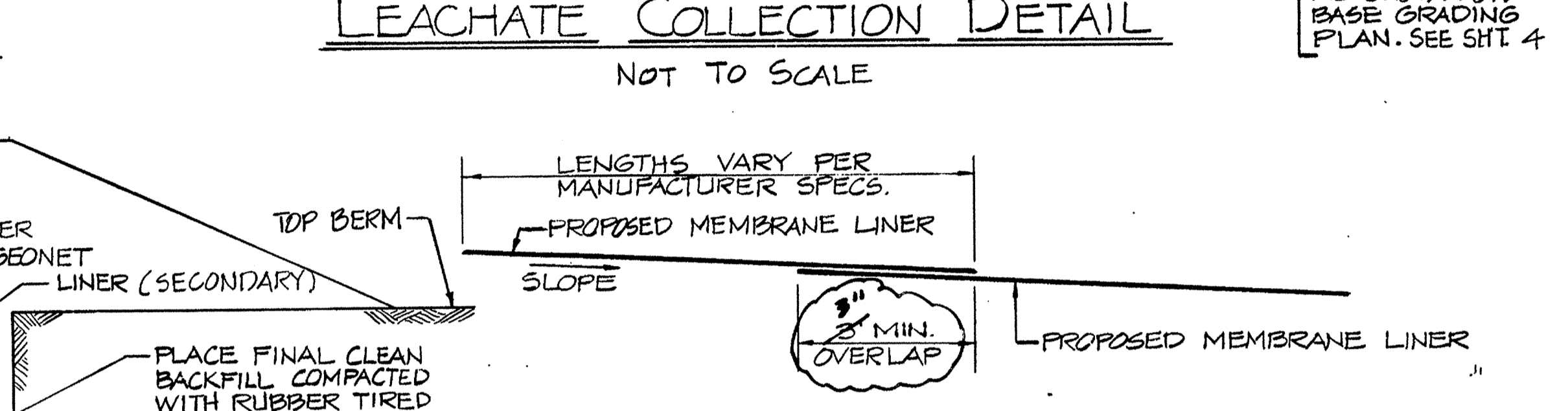
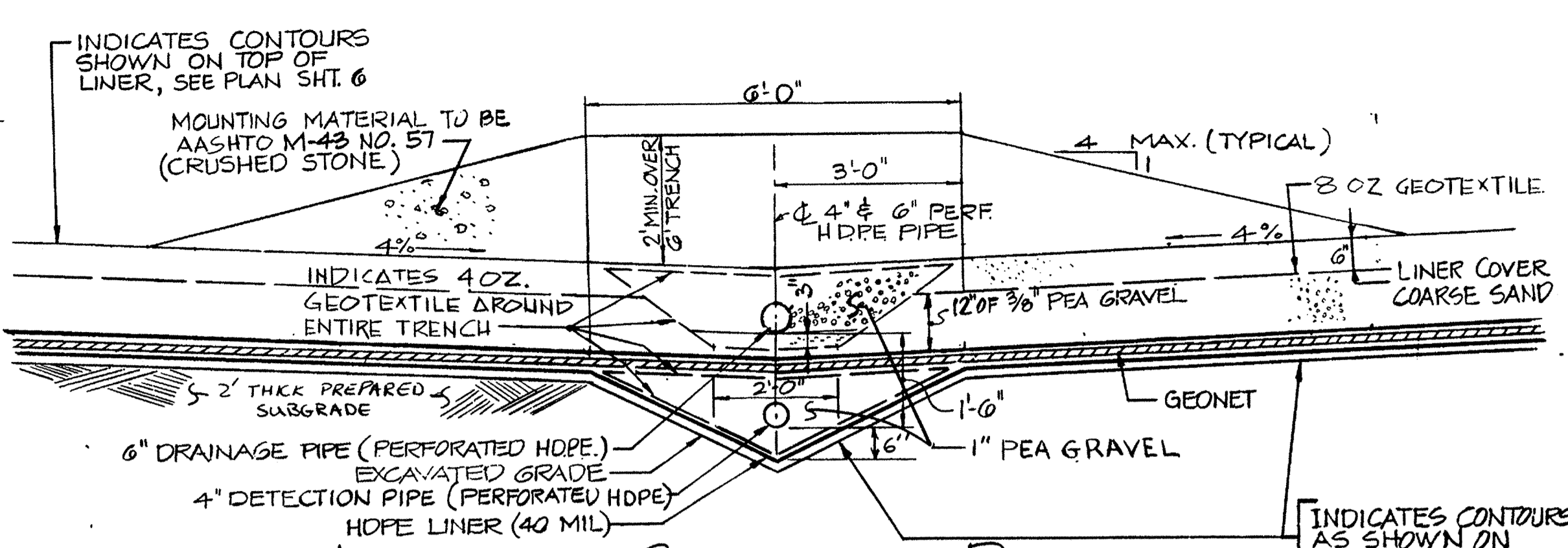
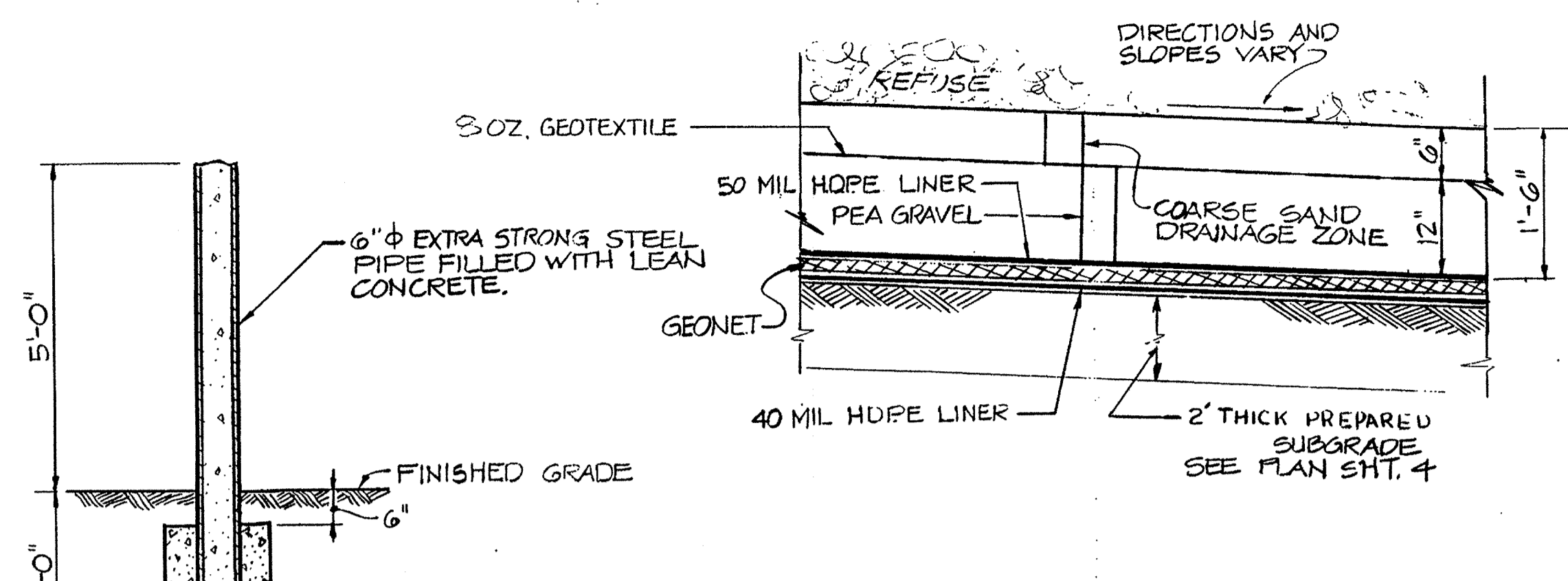
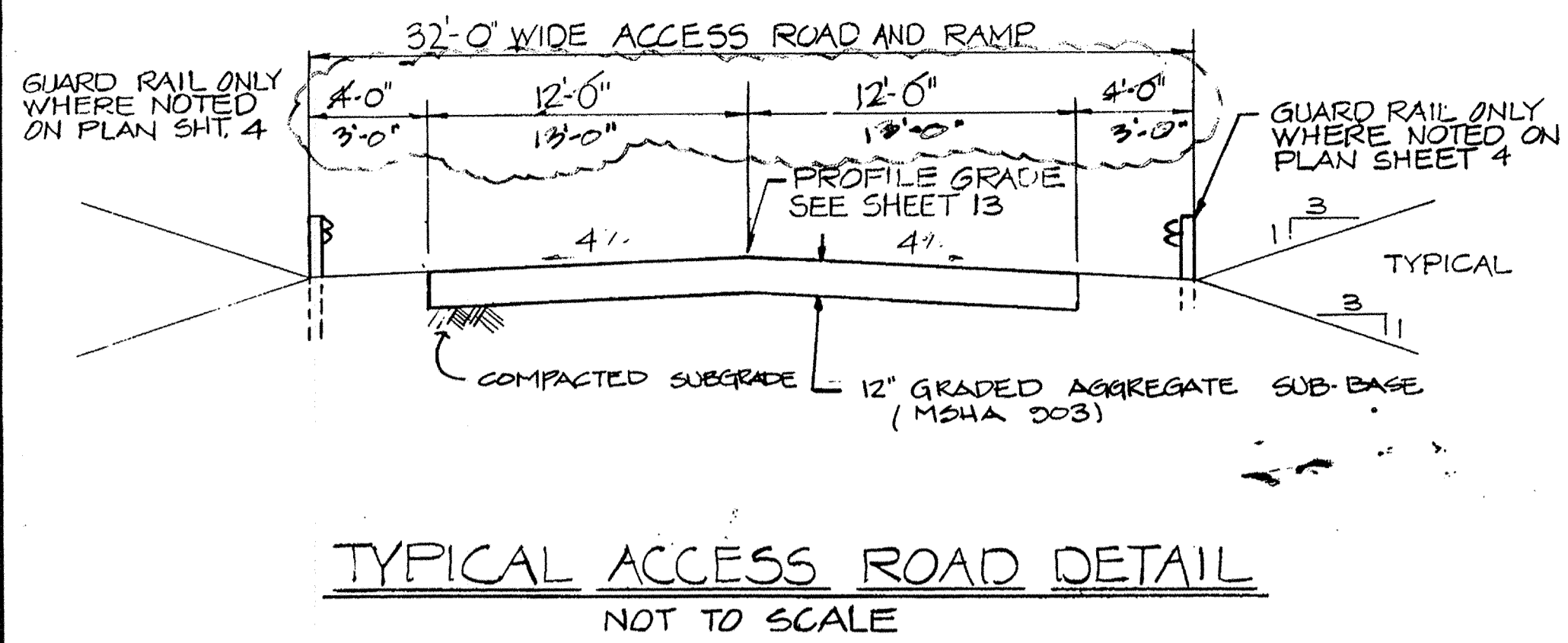
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS, HOWARD COUNTY DEPT. OF PUBLIC WORKS

Signature: [Signature] DATE: 8/23/90

CHIEF, BUREAU OF ENGINEERING

ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER	
HOWARD COUNTY MARYLAND	
BASIN DETAILS	
EA	EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
DATE	JUNE 1990
SCALE	AS SHOWN
PROJECT NO.	10293.01
SHEET NO.	17 OF 25

880



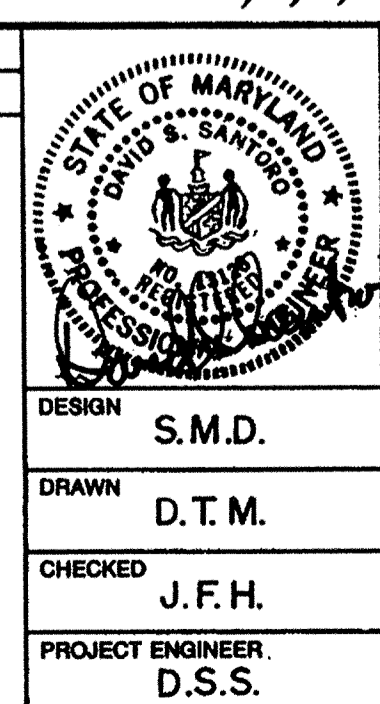
RECORD DRAWING
EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 AUGUST 1992

NOTE: SEE PLAN SHEET FOR ALIGNMENT OF PIPES & CHANNELS.

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT
 COUNTY HEALTH OFFICER: *[Signature]* 8-23-90
 DATE: 8/23/90
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 DIRECTOR: *[Signature]* 8/26/90
 DATE: 8/26/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
 APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS
 HOWARD COUNTY DEPT. OF PUBLIC WORKS
 DIRECTOR: *[Signature]* 8/23/90
 DATE: 8/23/90
 CHIEF, BUREAU OF ENGINEERING

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 54-263-220.11	
Map No. 15-17-18	BLOCK 10 & 18	TAX ZONE 3	ELEC. DIST. 60-30
WATER CODE Private, Existing	SEWER CODE Private, Existing		
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043			

NO.	DATE	BY	DESCRIPTION
1	8/92	GBL	RECORD CHANGES

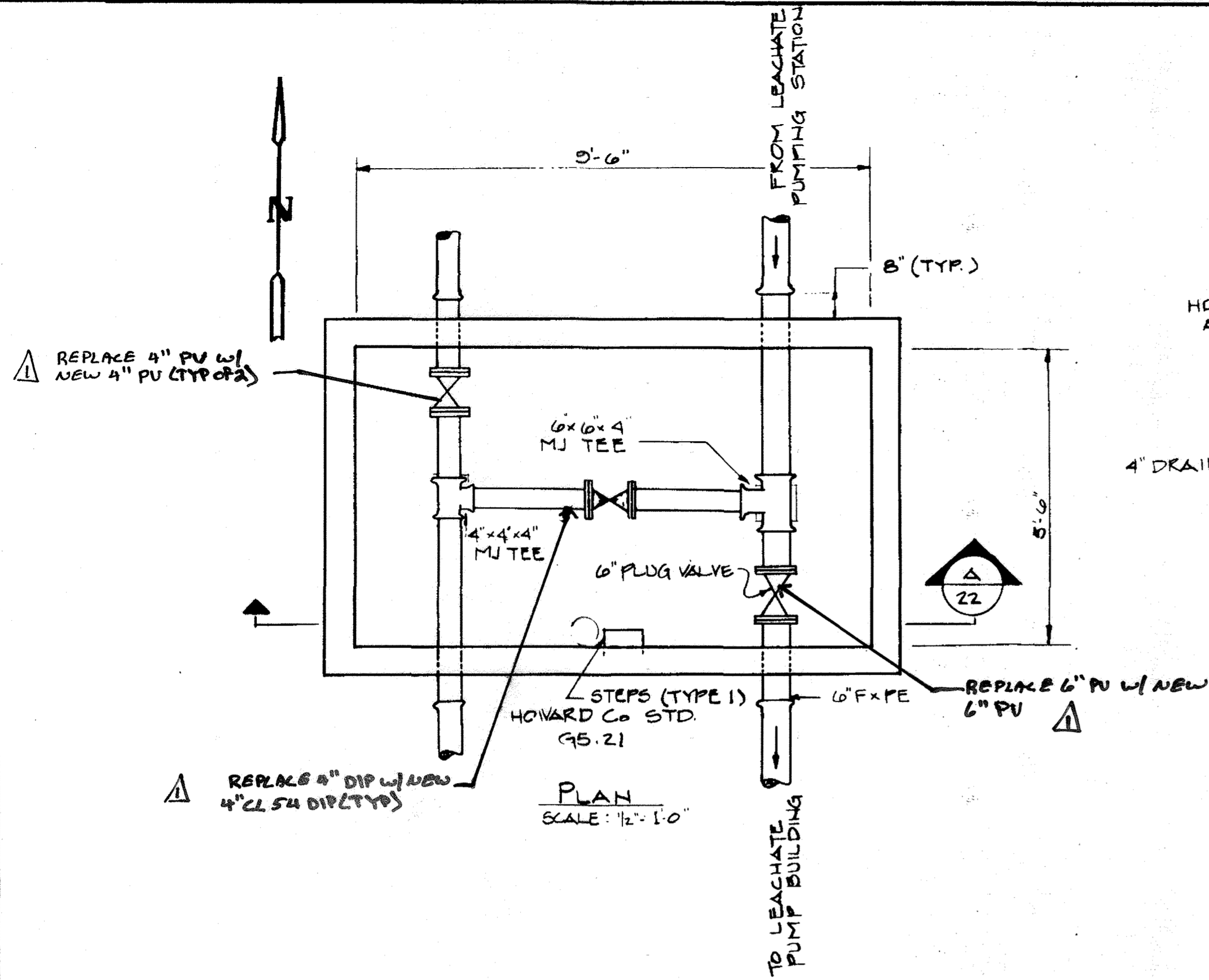


ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

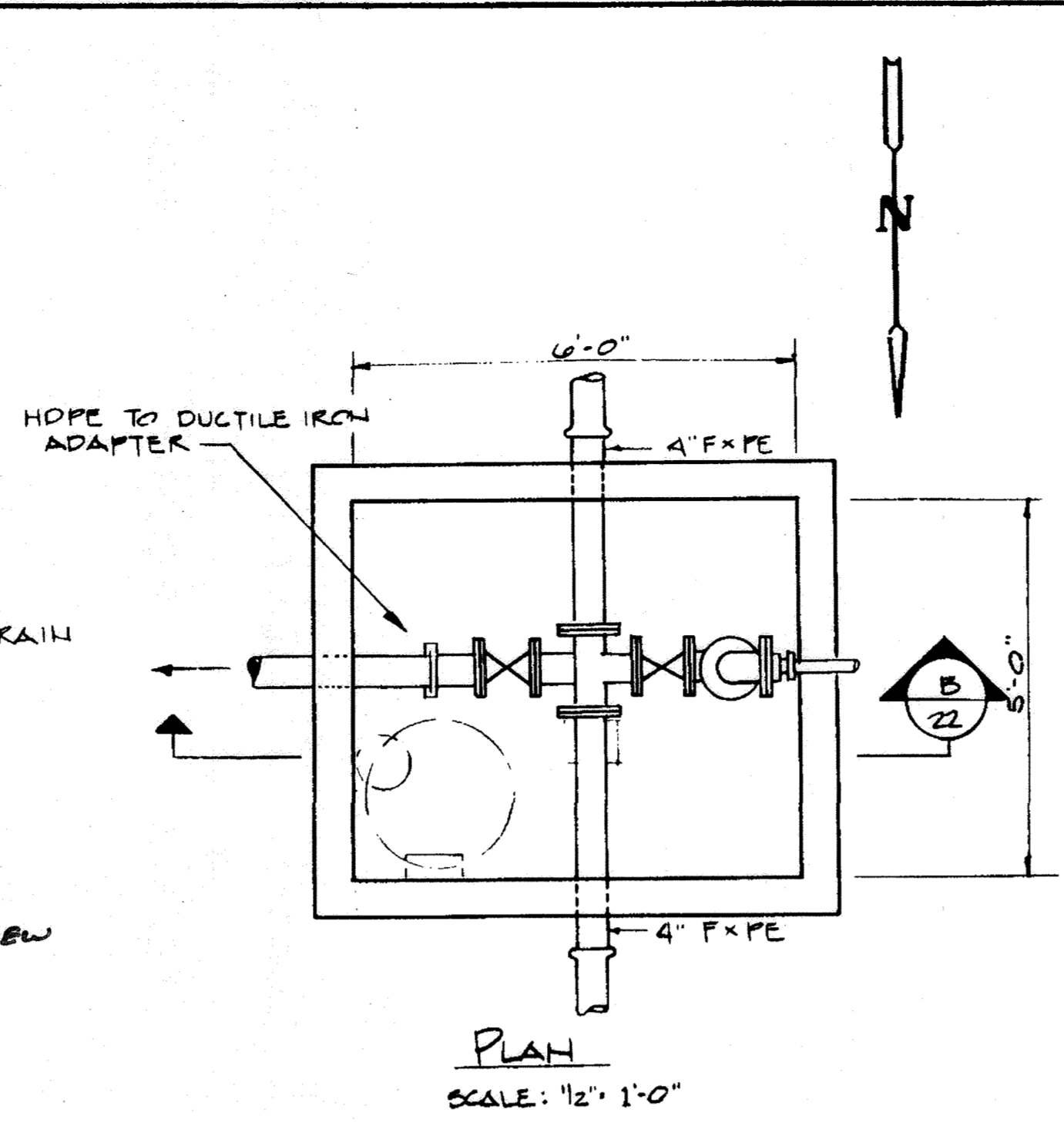
CELL I DETAILS

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 15 Loveton Circle
 Sparks, Maryland 21162
 (301) 771-4850

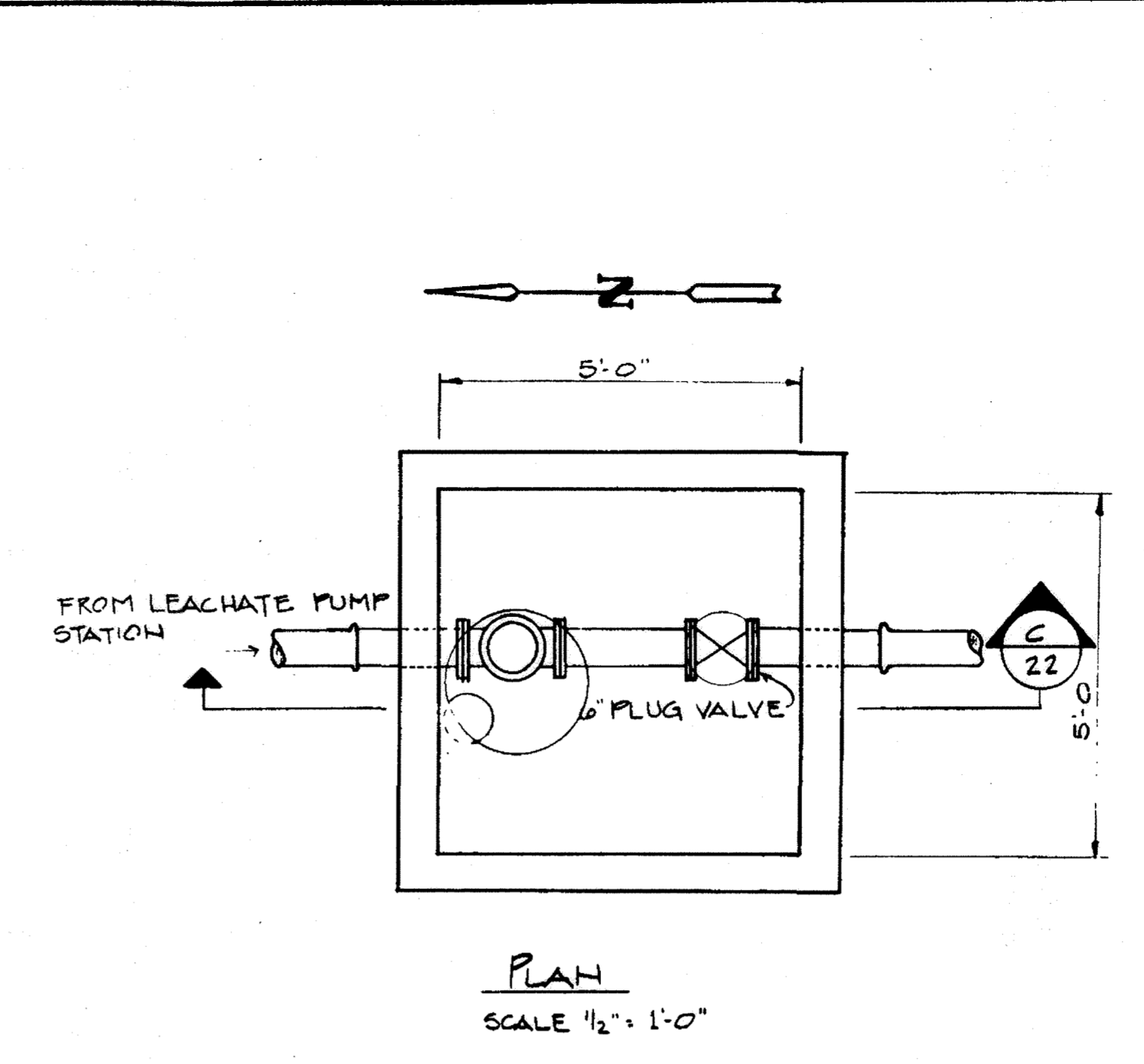
DATE: JUNE 1990
 SCALE: AS SHOWN
 PROJECT NO.: 10293.01
 SHEET NO.: 18 OF 25



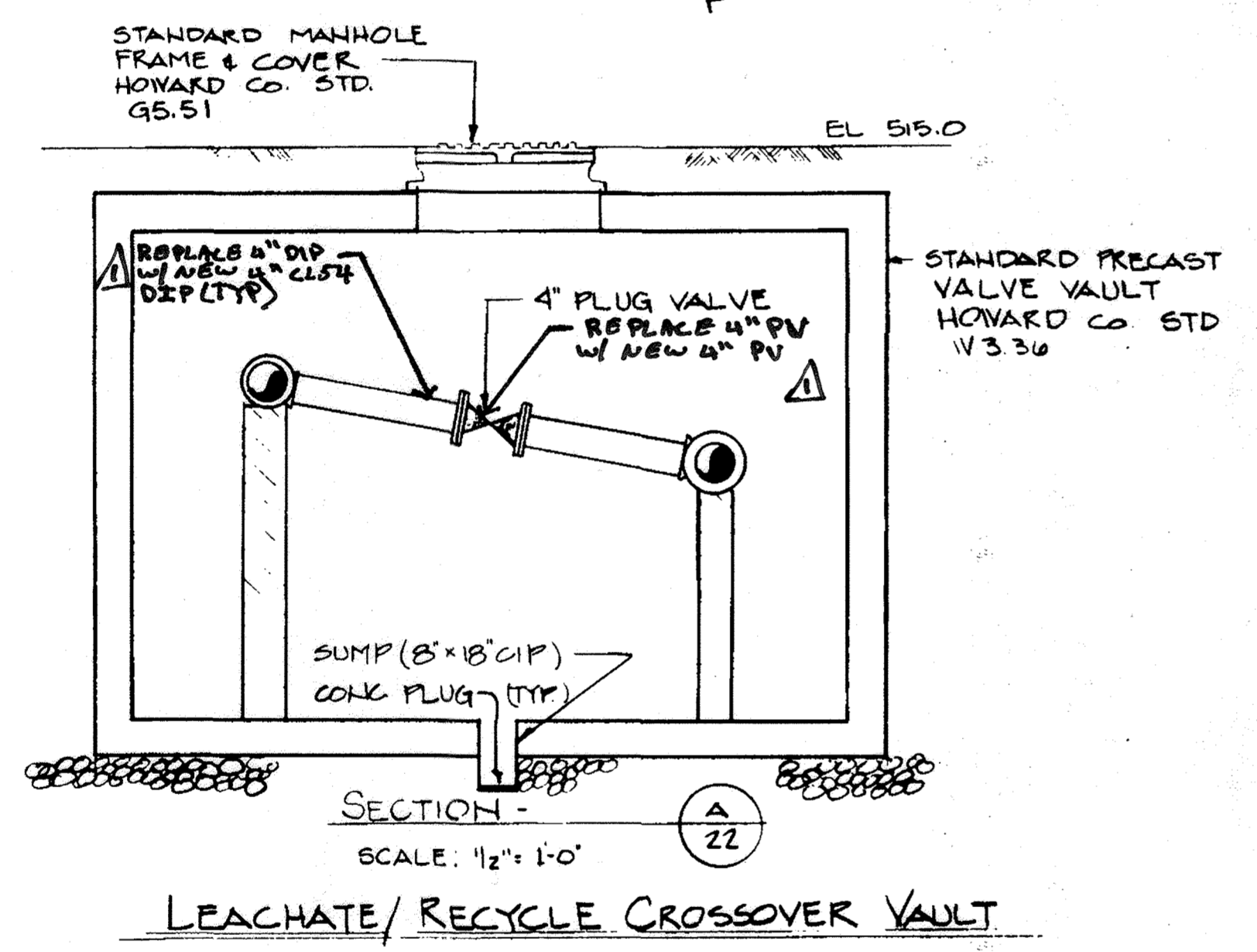
PLAN SCALE: 1/2" = 1'-0"



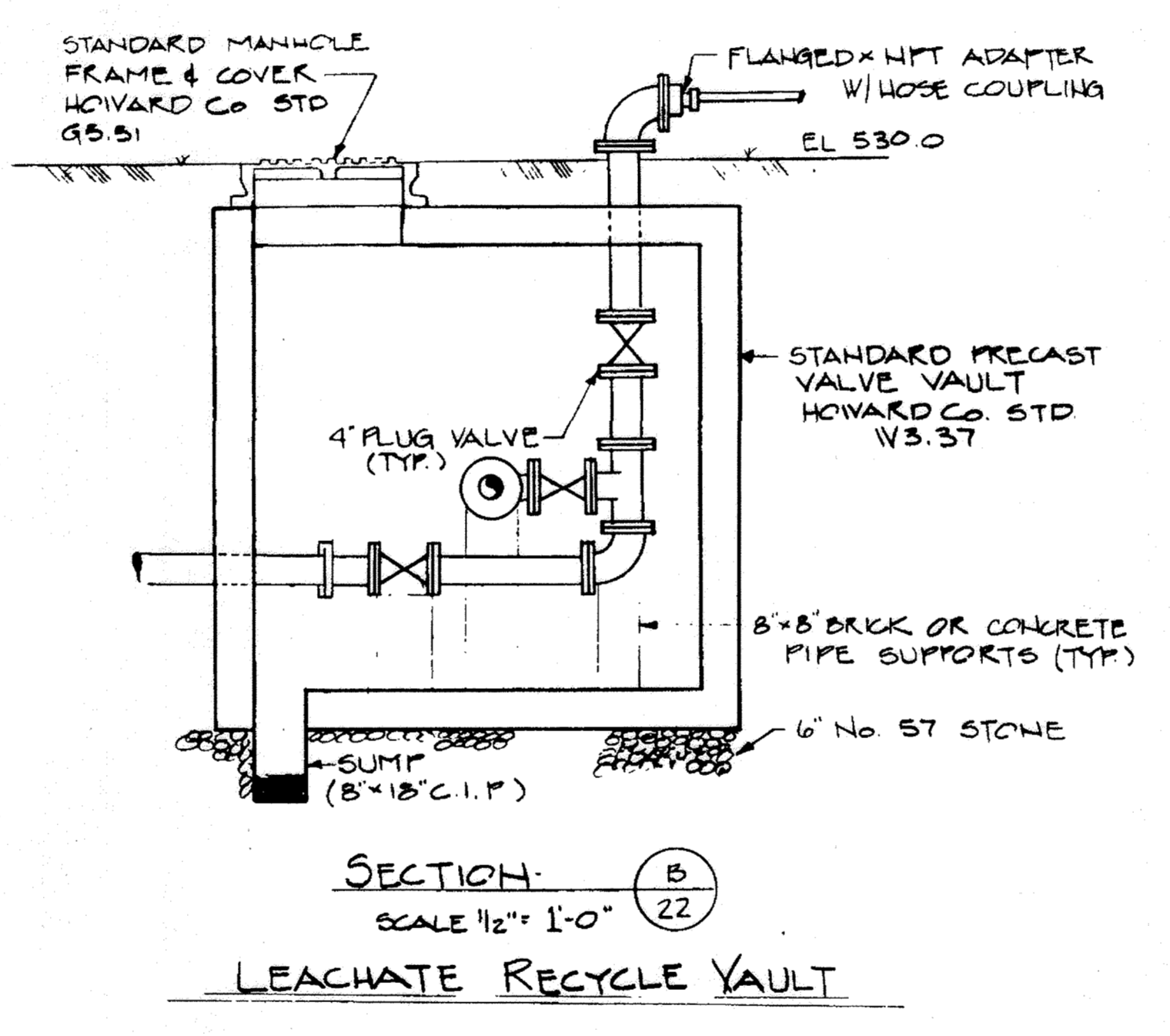
PLAN SCALE: 1/2" = 1'-0"



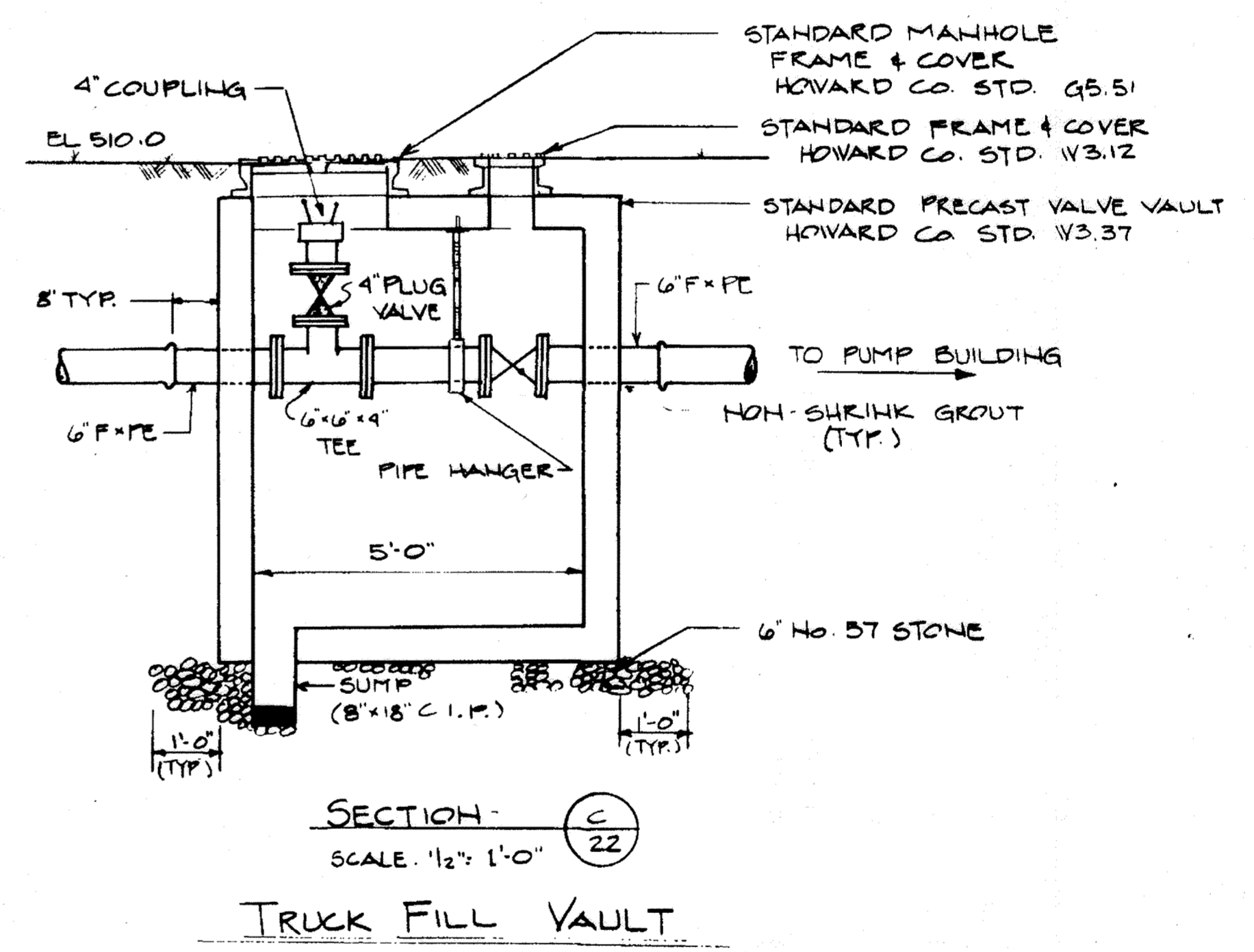
PLAN SCALE: 1/2" = 1'-0"



SECTION A-A SCALE: 1/2" = 1'-0"



SECTION B-B SCALE: 1/2" = 1'-0"

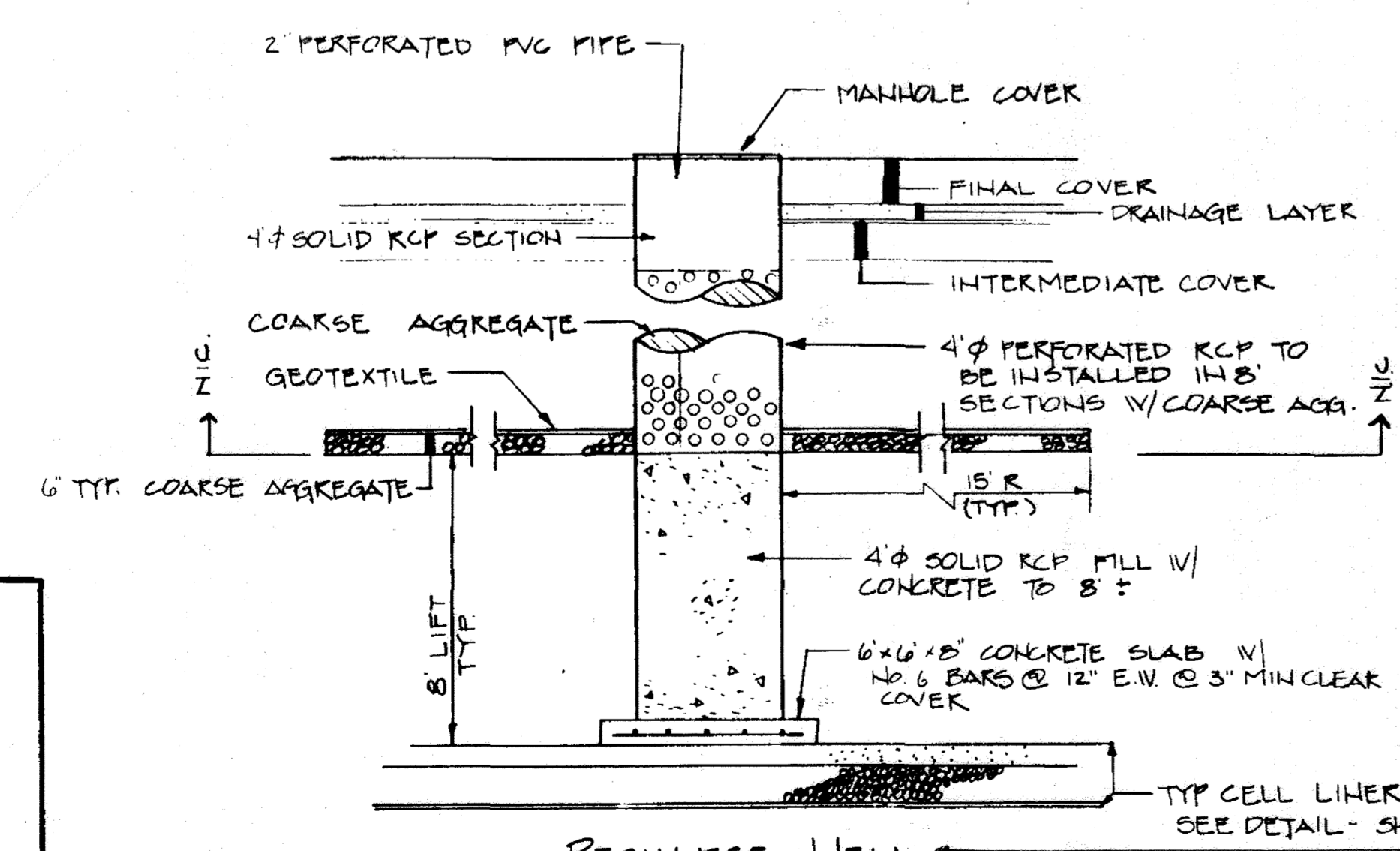


SECTION C-C SCALE: 1/2" = 1'-0"

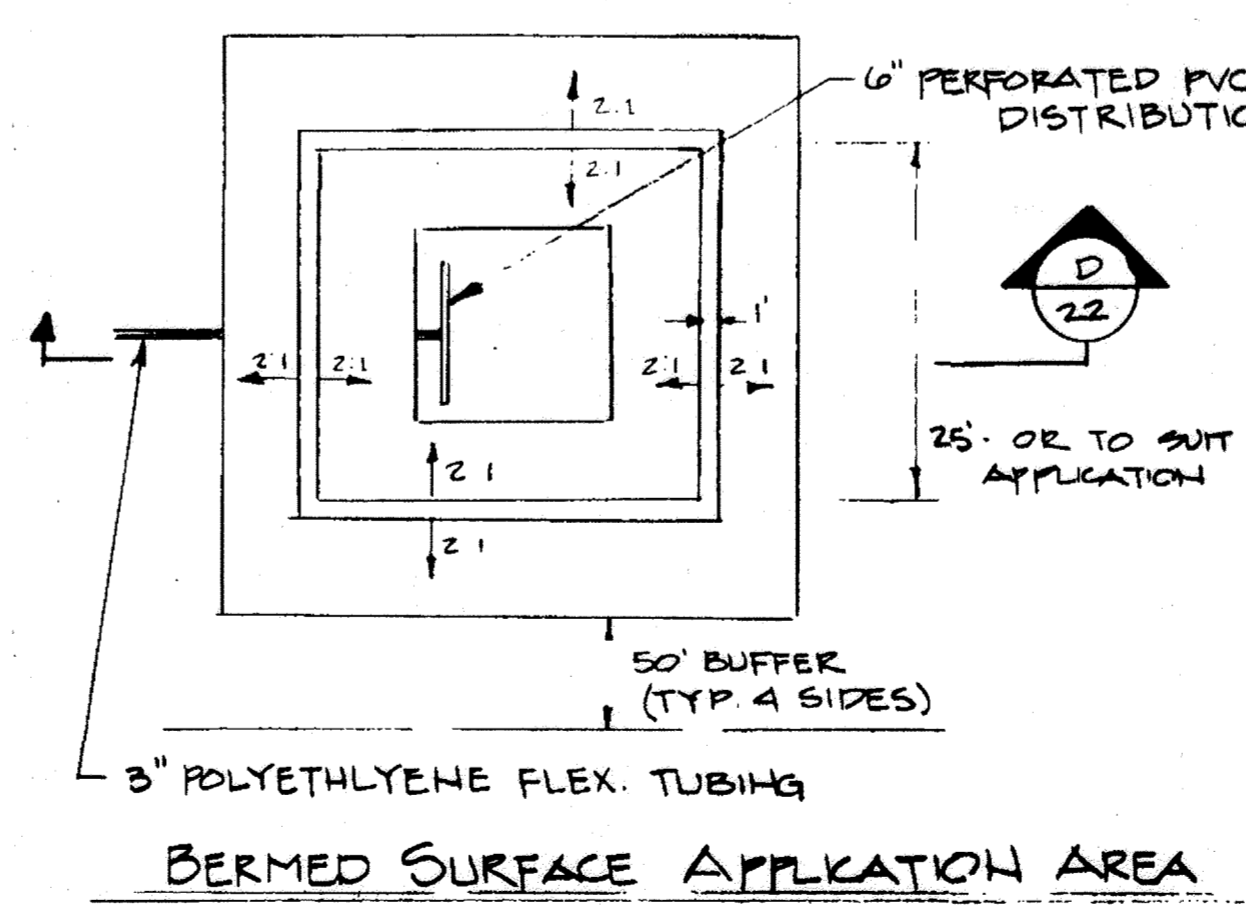
LEACHATE/RECYCLE CROSSOVER VAULT

LEACHATE RECYCLE VAULT

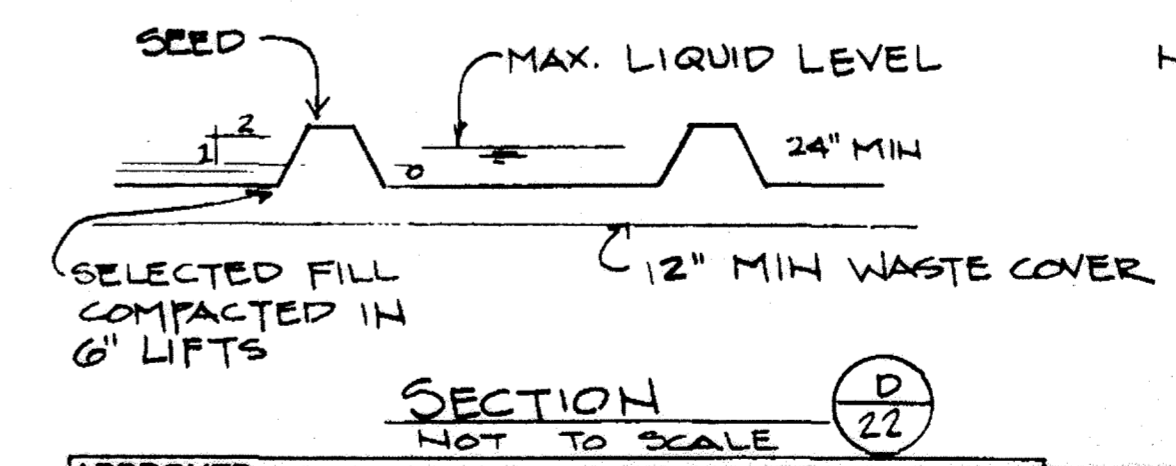
TRUCK FILL VAULT



RECHARGE WELL NOT TO SCALE



BERMED SURFACE APPLICATION AREA NOT TO SCALE



SECTION D-D NOT TO SCALE

NOTE: ALL UNDERGROUND AND VAULT MECHANICAL JOINT PIPING SHALL HAVE RESTRAINED JOINTS.
NIC = NOT IN CONTRACT

RECORD DRAWING
EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 AUGUST 1992

880

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1	1/26/90	DAO	B PUMP STATION UPGRADES

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 54-283-229-11	
10-27-75	BLOCK	ZONE	TAX/ZONE MAP
10-27-75	R	R	10.8.18
WATER CODE Private - Existing		SEWER CODE Private - Existing	
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive - Ellicott City, MD 21043			

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT

James M. ... 8-23-90
 COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 DIRECTOR: *James ...* 8/23/90
 CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS.
 HOWARD COUNTY DEPT. OF PUBLIC WORKS

James ... 8/23/90
 DIRECTOR DATE

James ... 8-23-90
 CHIEF, BUREAU OF ENGINEERING DATE

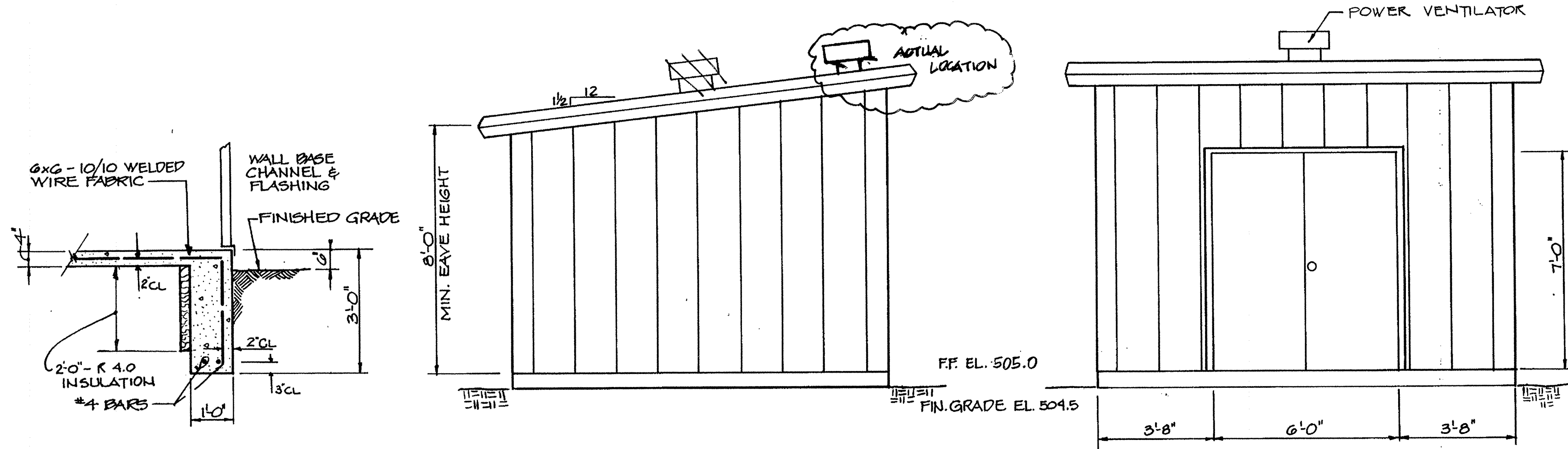
DESIGN
 DEP
 DRAWN
 GBL
 CHECKED
 DEK
 PROJECT ENGINEER
 DSS

ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
 HOWARD COUNTY MARYLAND

LEACHATE MNG. SYSTEM DETAILS

EA EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
 15 Loveston Circle
 Sparks, Maryland 21152
 (301) 771-4950

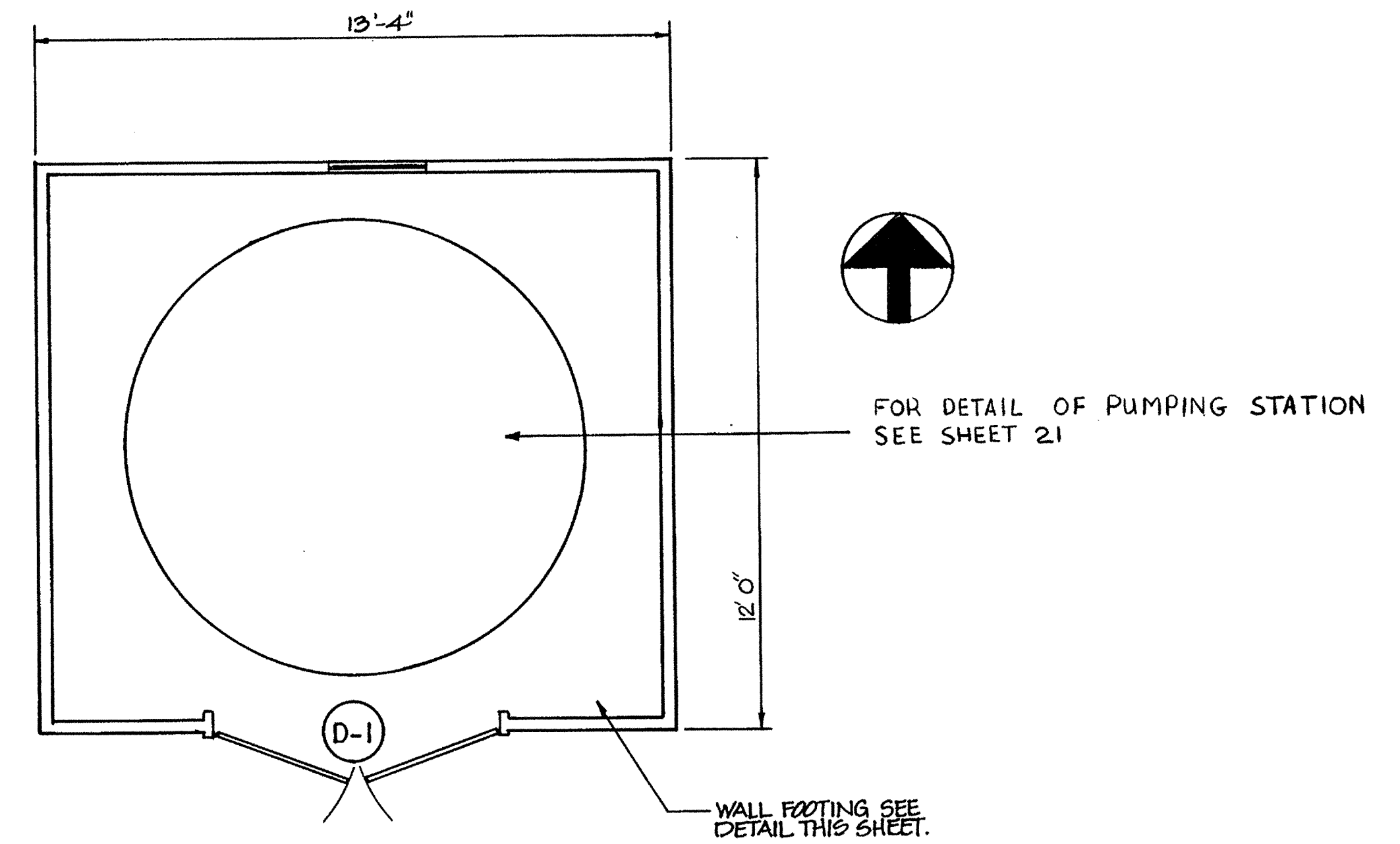
DATE
 JUNE 1990
 SCALE
 AS SHOWN
 PROJECT NO.
 10293.01
 SHEET NO.
 22 OF 25



WALL FOOTING DETAILS - (TYPICAL)
SCALE: 1/2" = 1'-0"

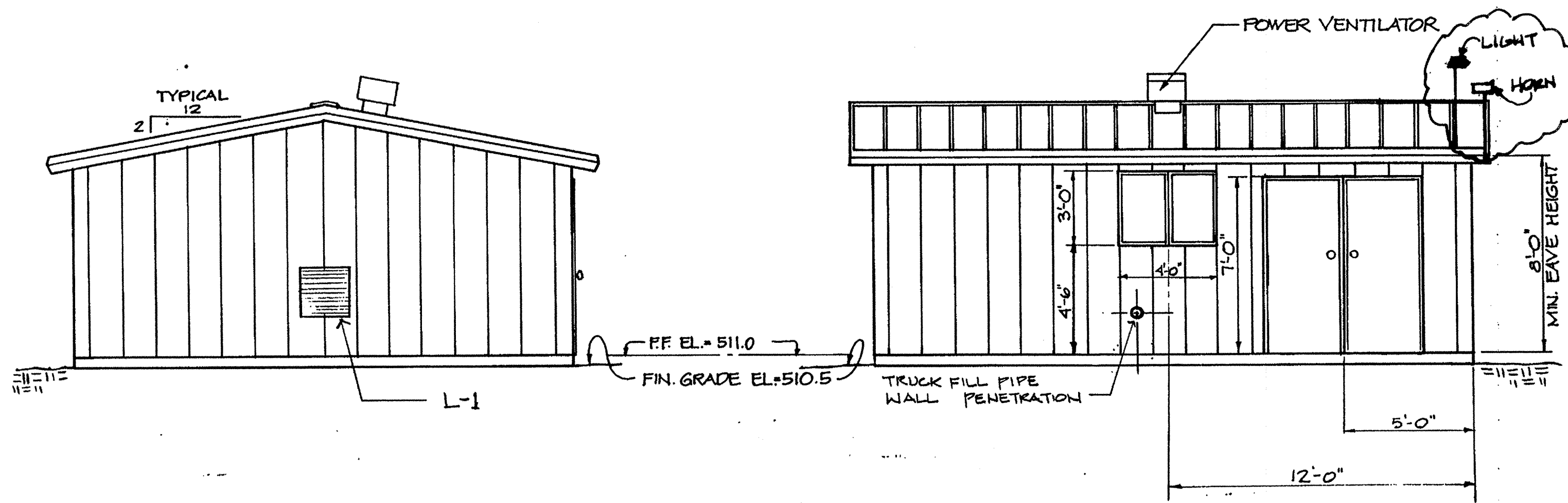
SIDE ELEVATION (WEST)
EAST ELEVATION SIMILAR
SCALE: 3/8" = 1'-0"

FRONT ELEVATION (SOUTH)
SCALE: 3/8" = 1'-0"



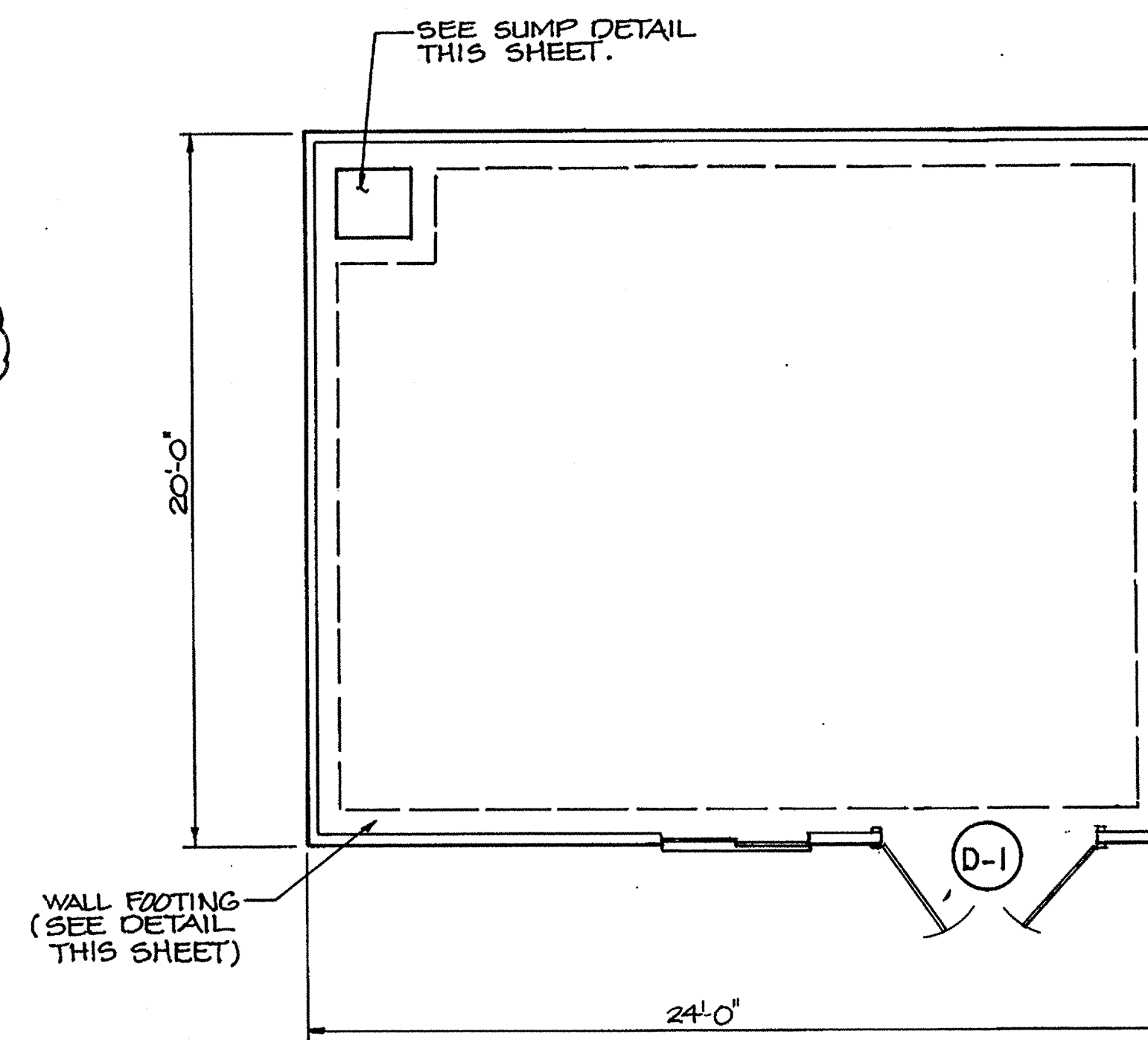
FLOOR PLAN
SCALE: 3/8" = 1'-0"

LEACHATE PUMPING STATION



SIDE ELEVATION (NORTH)
SOUTH SIDE SIMILAR
SCALE: 1/4" = 1'-0"

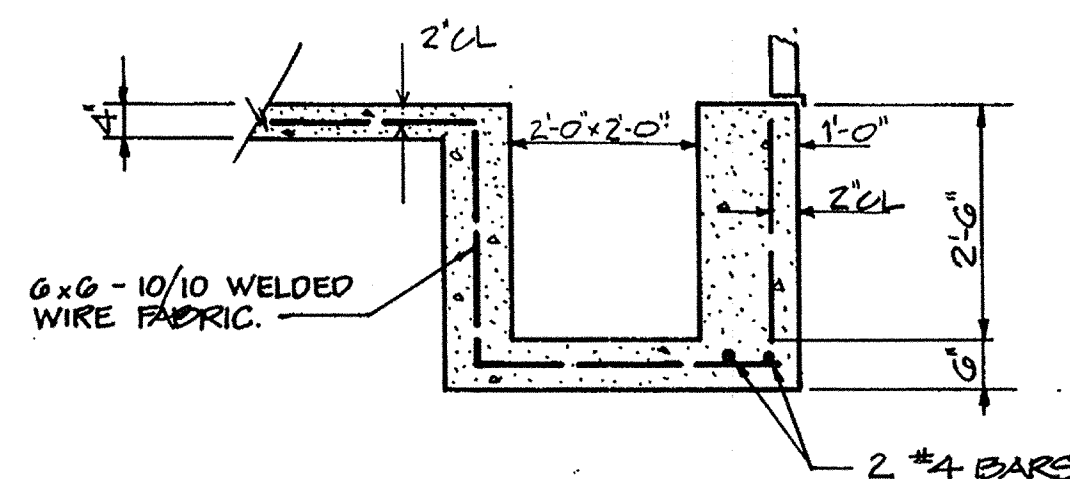
FRONT ELEVATION (WEST)
SCALE: 1/4" = 1'-0"



FLOOR PLAN
SCALE: 1/4" = 1'-0"

LEACHATE PUMP BUILDING

- NOTES:
1. ANCHOR BUILDING TO FOOTING IN ACCORDANCE WITH SPEC.
 2. PROVIDE FLASHING & CAULK FOR PIPE PENETRATION THROUGH WALL.
 3. D-1 = TWO 3' DOORS
 4. L-1 = OUTSIDE AIR INTAKE LOUVER



SUMP DETAIL
SCALE: 1/2" = 1'-0"

RECORD DRAWING

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

AUGUST 1992

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPARTMENT

John M. Boyle 8-23-90
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Joseph S. Smith 8/23/90
DIRECTOR, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

Mark J. Smith 8/23/90
APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS.
HOWARD COUNTY DEPT. OF PUBLIC WORKS

James P. Shaw 8/23/90
DIRECTOR DATE

William S. Ray 8-23-90
CHIEF, BUREAU OF ENGINEERING DATE

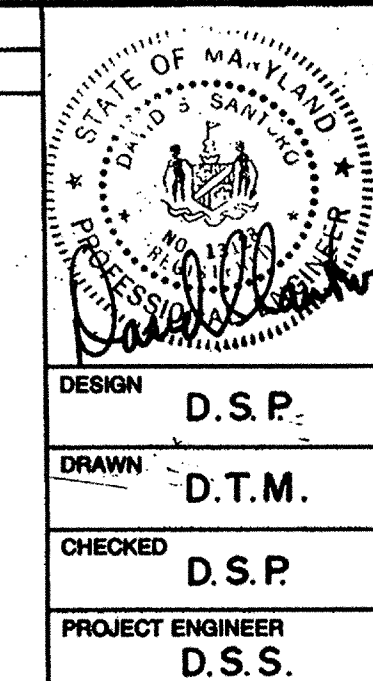
SUBDIVISION NAME: Alpha Ridge Solid Waste Management Center SECT./AREA/LOT/PARCEL: 64.253.220.11

WATER CODE: Private, Existing SEWER CODE: Private, Existing

OWNER/DEVELOPER: Howard County Government

ADDRESS: 3430 Court House Drive, Ellicott City, MD 21043

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1	8/92	EBL	RECORD DRAWINGS



ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND

ARCHITECTURAL PLANS

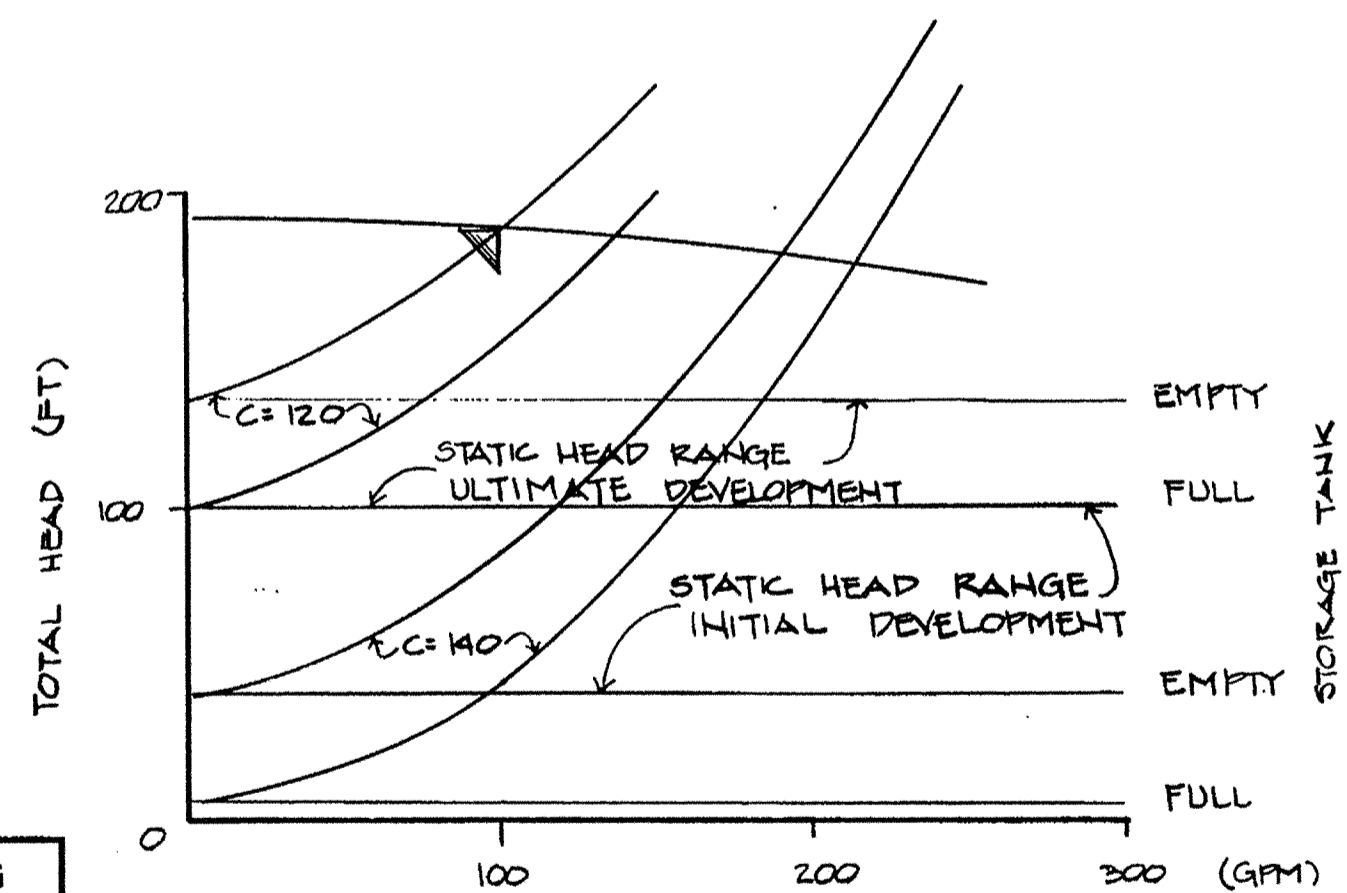
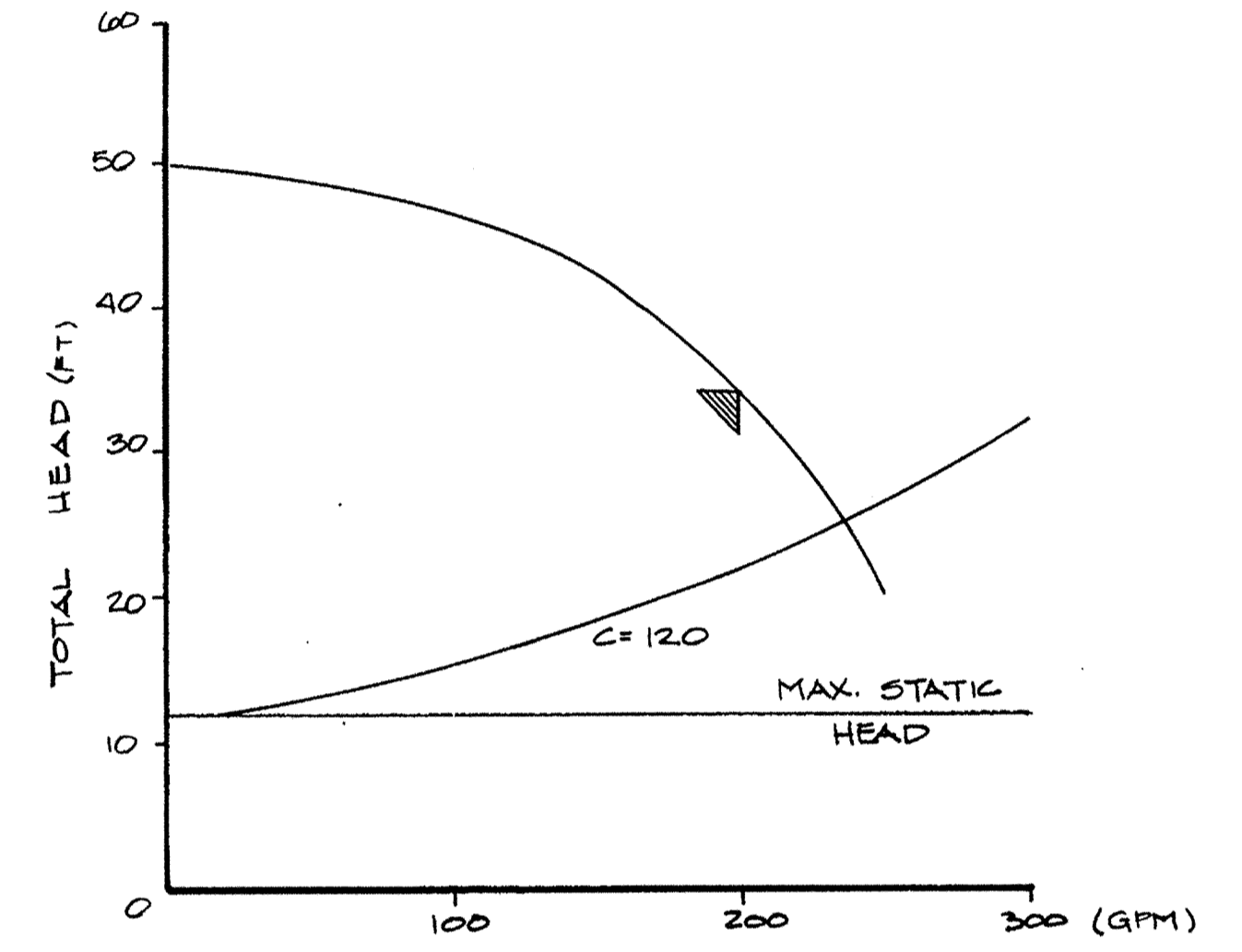
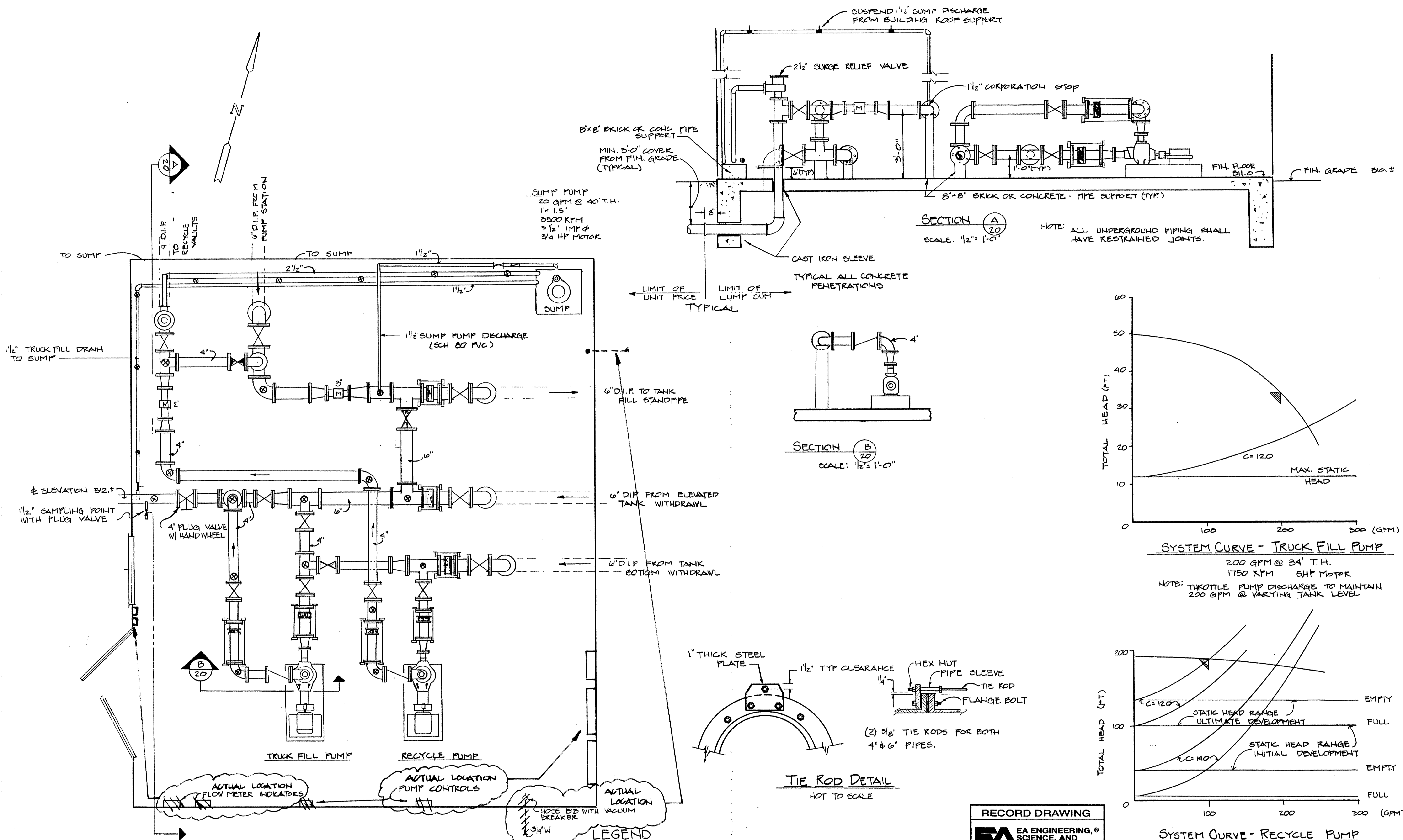
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

Hunt Valley/Loveton Center
15 Loveton Circle
Sparks, Maryland 21152
(301) 771-4950

DATE: JUNE 1990
SCALE: AS SHOWN
PROJECT NO.: 10293.01
SHEET NO.: 19 OF 25

088

880



RECORD DRAWING
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
AUGUST 1992

SUBDIVISION NAME Alpha Ridge Solid Waste Management Center		SECT./AREA/LOT/PARCEL 54,263,220,11	
10-447-000 10-447-010 10-447-011	BLOCK ZONE R	TAX/ZONE MAP 10 & 16	ELEC. DIST. CENSUS TR. 3 80-30
WATER CODE Private, Existing	SEWER CODE Private, Existing		
OWNER/DEVELOPER Howard County Government			
ADDRESS 3430 Court House Drive, Ellicott City, MD 21043			

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

James M. Taylor 8-27-90
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
James M. Taylor 8/28/90
DIRECTOR DATE

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
James M. Taylor 8/27/90
DATE

APPROVED: FOR STORM DRAINAGE SYSTEMS AND ROADS.
HOWARD COUNTY DEPT. OF PUBLIC WORKS

James M. Taylor 8/23/90
DIRECTOR DATE

James M. Taylor 8/23/90
CHIEF, BUREAU OF ENGINEERING DATE

DESIGN
DEP

DRAWN
GBL

CHECKED
DEK

PROJECT ENGINEER
DSS

**ALPHA RIDGE SOLID WASTE MANAGEMENT CENTER
HOWARD COUNTY MARYLAND**

PUMP BUILDING

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
BALTIMORE CHICAGO LINCOLN NEW YORK NEW JERSEY ATLANTA DALLAS LOS ANGELES SAN FRANCISCO

DATE
JUNE 1990

SCALE
AS SHOWN

PROJECT NO.
10293.01

SHEET NO.
20 OF 25