

Department of the Army
New England Division
Corps of Engineers
Waltham, Massachusetts

PLANS FOR
SUPERFUND SITE CLEAN-UP

NYANZA CHEMICAL SITE
ASHLAND, MASSACHUSETTS

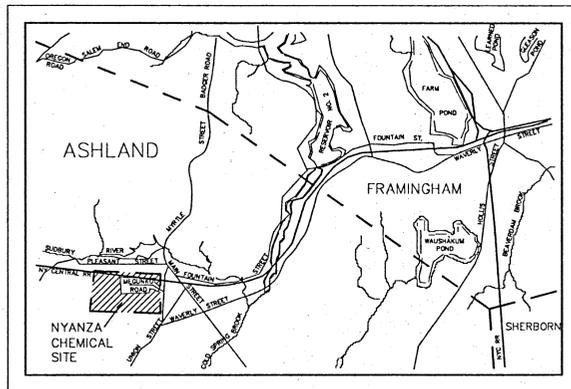
DECEMBER 1991

17.42

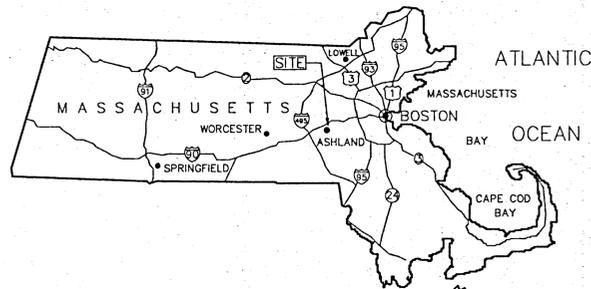
SUPERFUND SITE CLEANUP NYANZA CHEMICAL SITE ASHLAND MASSACHUSETTS

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020503 - AB	18	AS-BUILT OF HDPE LINER (PROVIDED BY GUNDLE)



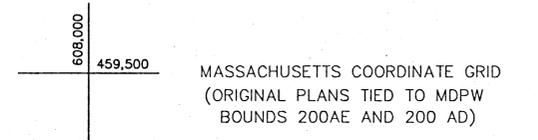
VICINITY PLAN
(NOT TO SCALE)



MASSACHUSETTS LOCATION PLAN
(NOT TO SCALE)

LEGEND

	CHAIN LINK FENCE
	GUARD RAIL
	DRAIN MANHOLE (IN CELL)
	LIMIT OF REMEDIATION
	RAILROAD TRACKS
	VENT
	GATE
	MONITOR WELL



ELEVATIONS REFER TO USGS DATUM OF 1929
(AS ESTABLISHED BY RYAN ENGINEERING)

Site: *Nyanza*
Drawn: *J.A.B.*
Other:

LAND PLANNING ENGINEERING & SURVEY 22 WEST MAIN STREET HOPKINTON, MASSACHUSETTS 01748 (508) 435-9028			
REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED
TRICIL ENVIRONMENTAL RESPONSE, INC. 1123 LUMPKIN ROAD HOUSTON, TX 77043 (800) 283-3433		DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS WALTHAM, MA	
DESIGNED BY: NA	NYANZA CHEMICAL SITE ASHLAND, MASSACHUSETTS		
DRAWN BY: J.A.B.	SUPERFUND SITE CLEANUP		
CHECKED BY: S.A.B.	COVER AND INDEX PLAN		
REVIEWED BY: N.G.H.	SCALE: AS NOTED	SHEET REFERENCE NUMBER	DATE:
SUBMITTED BY: TRICIL	SPEC. NO.: DACW 45-88-B-0025 CONTRACT NO.: DACW45-89-C-0001	1	DRAWING CODE: 9165 - AB 1



605,500
459,500

605,500
459,500

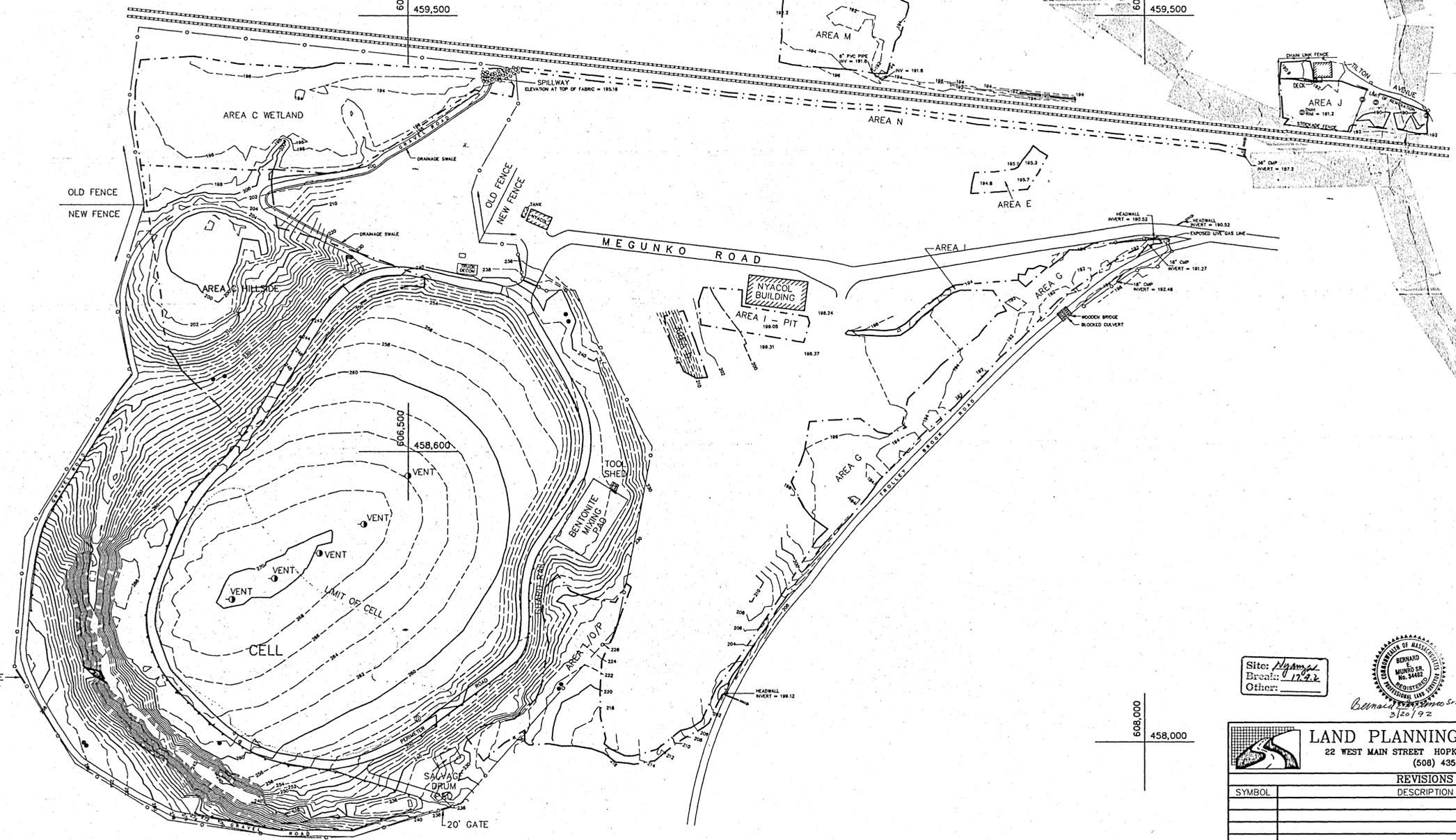
608,000
459,500

605,500
458,000

608,000
458,000

LEGEND

- o-o- CHAIN LINK FENCE
- - - GUARD RAIL
- ⊙ DRAIN MANHOLE
- · - · - · LIMIT OF REMEDIATION
- ▬ RAILROAD TRACKS
- - - EXPOSED LIVE GAS LINE
- FENCE GATE
- VENT



Site: *Nyanza*
 Break: *0 17 92*
 Other:



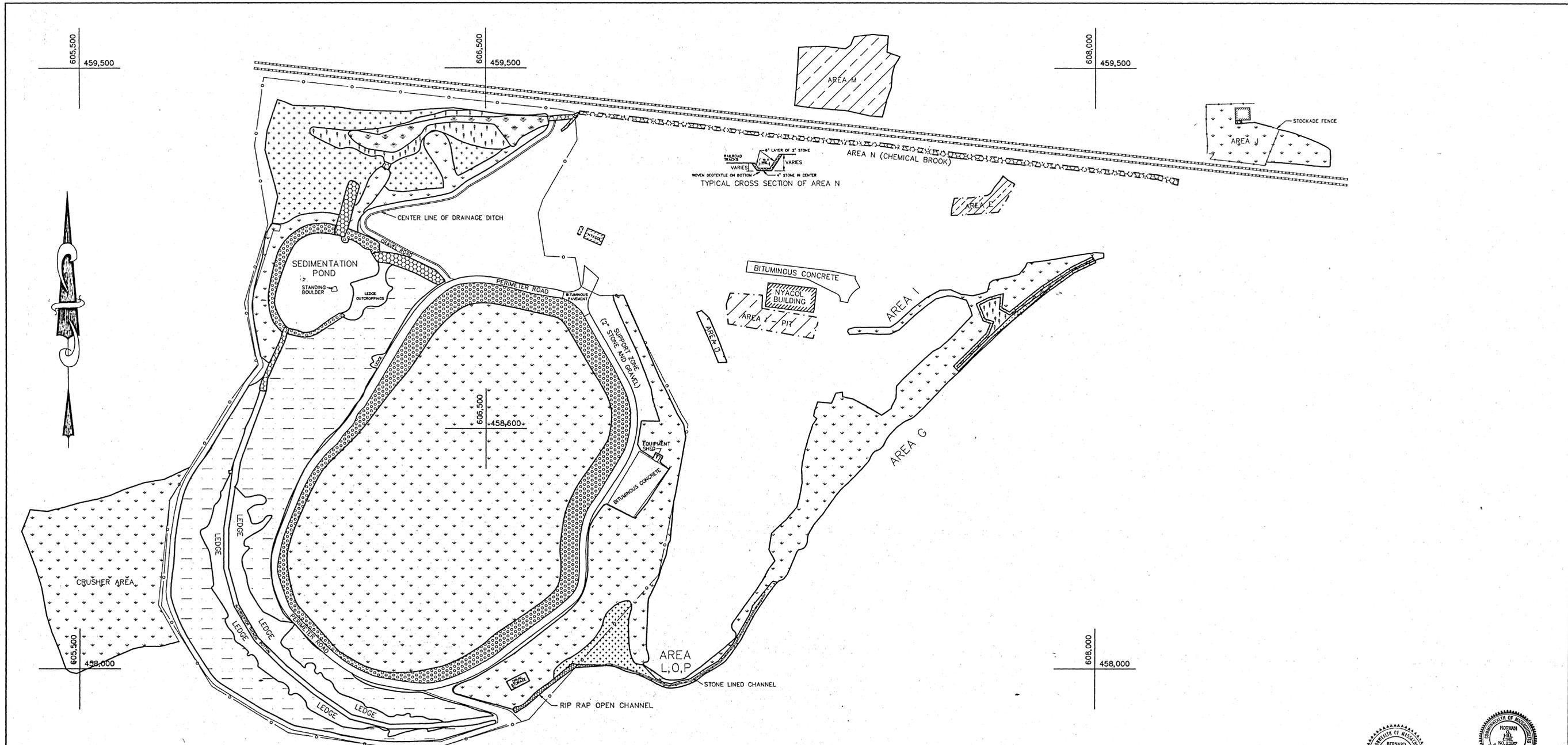
LAND PLANNING ENGINEERING & SURVEY
 22 WEST MAIN STREET HOPKINTON, MASSACHUSETTS 01748
 (508) 435-9028

REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED

TRICIL ENVIRONMENTAL RESPONSE, INC.
 1123 LUMPKIN ROAD
 HOUSTON, TX 77043
 (800) 283-3433

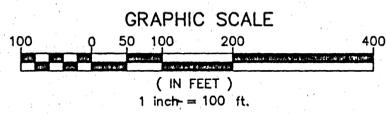
DEPARTMENT OF THE ARMY
 NEW ENGLAND DIVISION
 CORPS OF ENGINEERS
 WALTHAM, MA

DESIGNED BY: NA	NYANZA CHEMICAL SITE SUPERFUND SITE CLEANUP	ASHLAND, MASSACHUSETTS	
DRAWN BY: J.A.B.			
CHECKED BY: S.A.B.			
REVIEWED BY: N.G.H.	SCALE: 1" = 100'	SHEET REFERENCE NUMBER 2	DATE: DRAWING CODE: 9165 - AB 2
SUBMITTED BY: TRICIL	SPEC. NO.: DACW 45-88-B-0025	CONTRACT NO.: DACW45-89-C-0001	



LEGEND

- BULRUSH
- GRASS
- CATTAIL
- CANARY GRASS
- 2 INCH CRUSHED STONE
- 4 INCH CRUSHED STONE
- RIP RAP (VARIOUS SIZES)
- RAILROAD TRACKS
- CHAIN LINK FENCE
- STOCKADE FENCE
- COMMON FILL



Site: *Algonk*
Event: *12.9.92*
Other: _____

Bernard E. Munro 3/20/92

LAND PLANNING ENGINEERING & SURVEY
22 WEST MAIN STREET HOPKINTON, MASSACHUSETTS 01748
(508) 435-9028

REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED

TRICIL ENVIRONMENTAL RESPONSE, INC. 1123 LUMPKIN ROAD HOUSTON, TEXAS 77043 (800) 283-3433	DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS WALTHAM, MA
DESIGNED BY: NA	NYANZA CHEMICAL SITE ASHLAND, MASSACHUSETTS
DRAWN BY: J.A.B.	SUPERFUND SITE CLEANUP
CHECKED BY: S.A.B.	RESTORATION PLAN
REVIEWED BY: N.G.H.	SCALE: 1" = 100'
SUBMITTED BY: TRICIL	SPEC. NO.: DACW 45-88-B-0025 CONTRACT NO.: DACW45-89-C-0001
	SHEET REFERENCE NUMBER: 3
	DATE: DECEMBER 1991 DRAWING CODE: 9165 - AB 3

CONTROL POINTS

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
4	459009.4602	606809.0845	233.75	DRILL HOLE IN BOULDER
14	459527.9954	606040.8957	202.30	NAIL IN CUT POWER POLE
59	457885.2071	606074.4209	273.38	SCREW IN CONCRETE PLUG
4007	458376.5056	606869.9201	243.26	REBAR IN PAVEMENT
4031	458443.7516	606002.0895	267.59	SCREW IN CONCRETE PLUG
4034	459011.0297	606473.0288	N/A	BRASS ROD

* NOTE: POINTS 4007, 59, 4034, 4031 ARE TO BE CONSIDERED PERMANENT POINTS

MONITOR WELLS

WELL #	NORTHING	EASTING	ELEV 1	ELEV 2
MW 501A	458000	605842	285.31	287.59
MW 501B	457994	605847	285.37	287.61
MW 502B	457999	606118	261.81	265.25
MW 503A	458884	606820	239.89	242.28
MW 503B	458869	606826	239.37	241.57
MW 504A	458120	606813	221.42	223.39
MW 504B	458111	606808	221.03	223.78
MW 505A	459001	606384	230.26	233.58
MW 505B	459002	606376	230.15	233.18
MW 506A	458756	606127	231.69	234.94
MW 506B	458750	606103	230.04	232.23

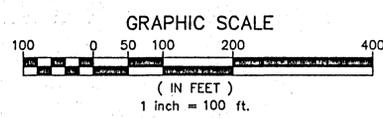
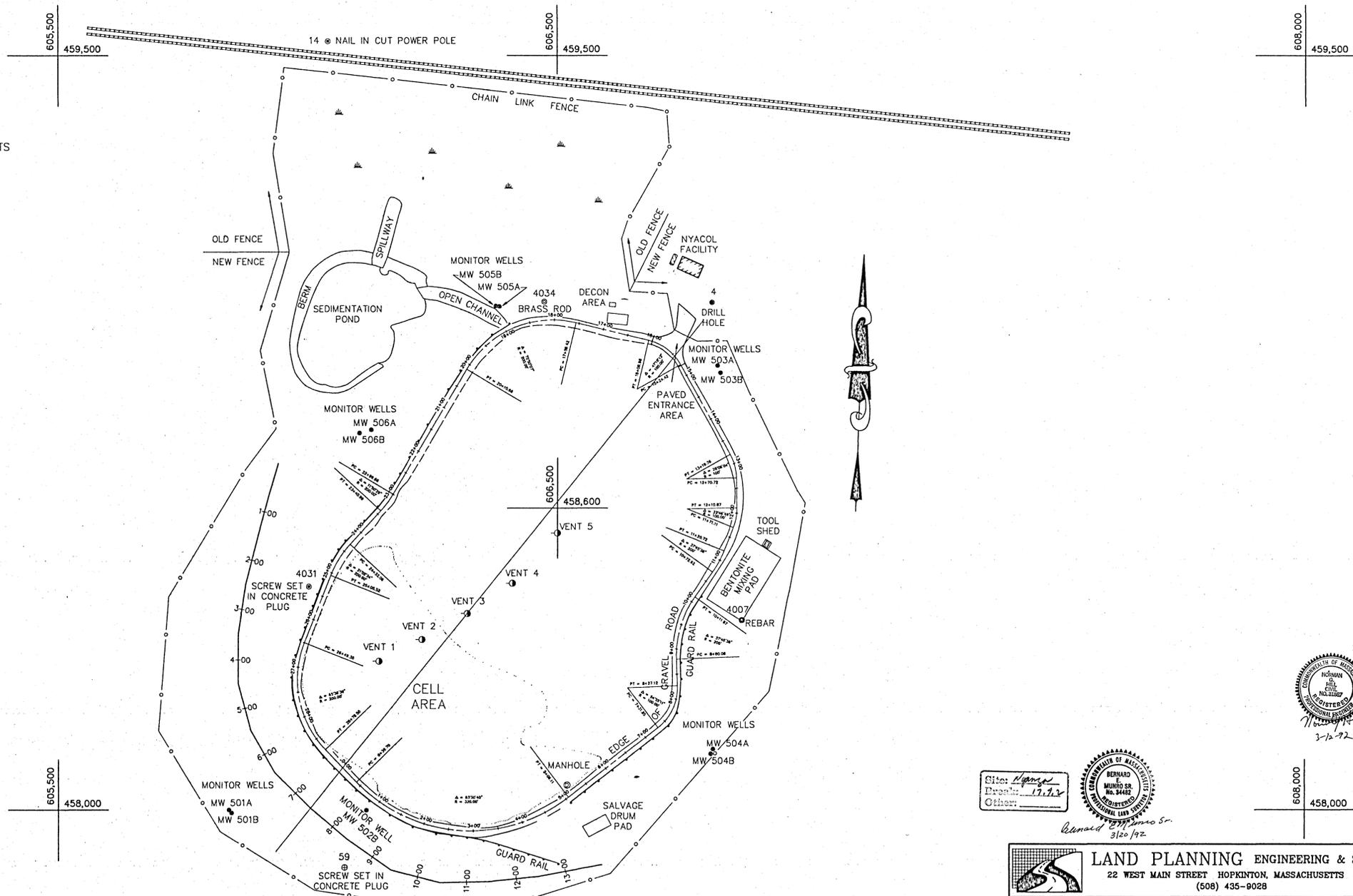
* NOTE: ELEV 1 TAKEN ON THE CONCRETE BASE AT THE BOTTOM OF THE EXTERIOR PIPE
ELEV 2 TAKEN AT TOP OF INTERIOR STAINLESS STEEL PIPE ON THE NORTHERLY SIDE

VENTS

VENT #	NORTHING	EASTING
VENT 1	458295	606143
VENT 2	458338	606229
VENT 3	458390	606320
VENT 4	458450	606410
VENT 5	458550	606500

LEGEND

- CHAIN LINK FENCE
- GUARD RAIL
- LIMIT OF CELL
- RAILROAD TRACKS
- MONITOR WELL
- ⊙ SCREW SET IN CONCRETE
- ⊙ REBAR SET IN PAVEMENT
- ⊙ BRASS ROD
- ⊙ NAIL IN POWER POLE
- DRILL HOLE IN BOULDER
- VENT
- DRAIN MANHOLE (IN CELL)
- ▲ WETLANDS IN LOWER AREA C



Professional Engineer Seal: BERNARD E. MURPHY, No. 9448, State of Massachusetts, License No. 1122972.

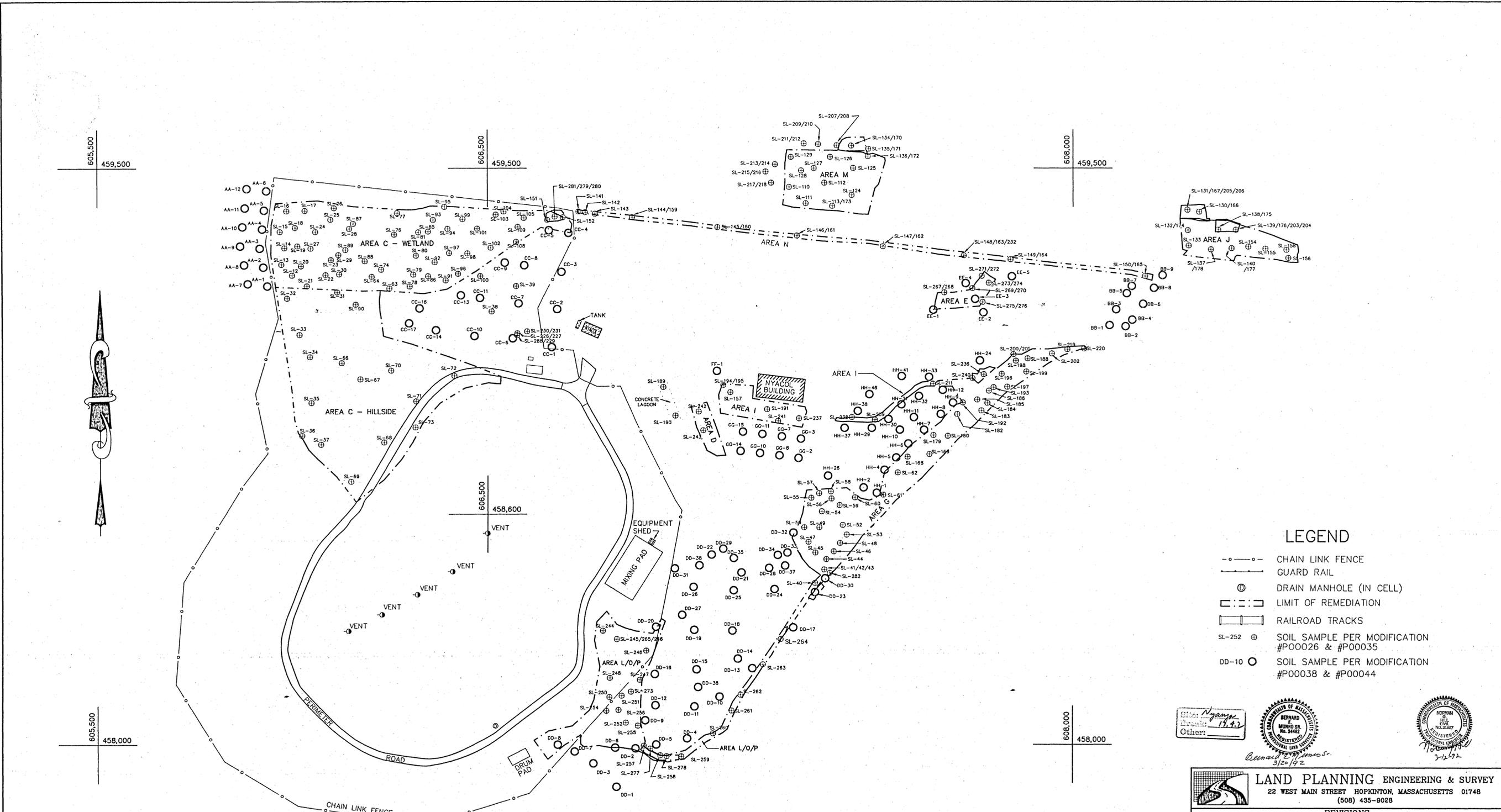
Site: *Alameda*
 Drawn: *11/12*
 Other: _____

3/20/92

LAND PLANNING ENGINEERING & SURVEY
 22 WEST MAIN STREET HOPKINTON, MASSACHUSETTS 01748
 (508) 435-9028

REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED

TRICIL ENVIRONMENTAL RESPONSE, INC. 1123 LUMPKIN ROAD HOUSTON, TX 77043 (800) 283-3433	DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS WALTHAM, MA
DESIGNED BY: NA	NYANZA CHEMICAL SITE ASHLAND, MASSACHUSETTS
DRAWN BY: J.A.B.	SUPERFUND SITE CLEANUP
CHECKED BY: S.A.B.	CONTROL PLAN
REVIEWED BY: N.G.H.	SCALE: 1" = 100'
SUBMITTED BY: TRICIL	SHEET REFERENCE NUMBER: 4
	DATE: DECEMBER 1991
	DRAWING CODE: 9165 - AB 4



- LEGEND**
- - - CHAIN LINK FENCE
 - — — GUARD RAIL
 - ⊙ DRAIN MANHOLE (IN CELL)
 - - - - - LIMIT OF REMEDIATION
 - — — RAILROAD TRACKS
 - SL-252 ⊕ SOIL SAMPLE PER MODIFICATION #P00026 & #P00035
 - DD-10 ⊙ SOIL SAMPLE PER MODIFICATION #P00038 & #P00044

Scale: 1" = 100'
 Date: 12/12/92
 Other:



LAND PLANNING ENGINEERING & SURVEY
 22 WEST MAIN STREET HOPKINTON, MASSACHUSETTS 01748
 (508) 435-9028

REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED

TRICIL ENVIRONMENTAL RESPONSE, INC.
 1123 LUMPKIN ROAD
 HOUSTON, TX 77043
 (800) 283-3433

DEPARTMENT OF THE ARMY
 NEW ENGLAND DIVISION
 CORPS OF ENGINEERS
 WALTHAM, MA

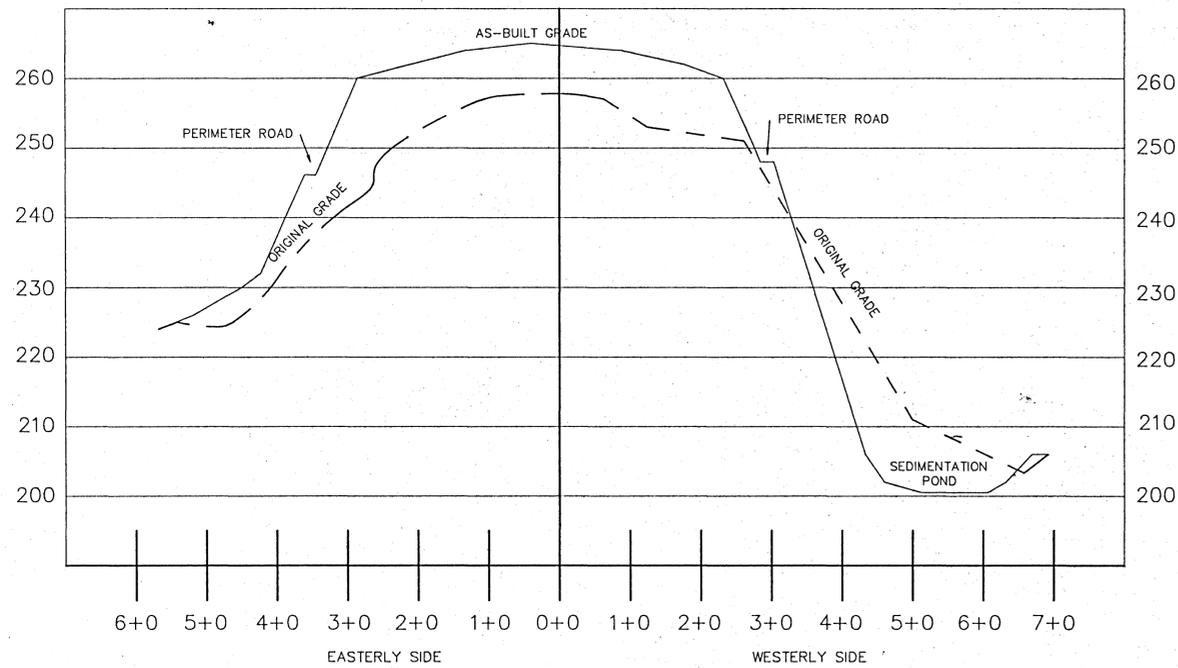
DESIGNED BY: NA
 DRAWN BY: J.A.B.
 CHECKED BY: S.A.B.

NYANZA CHEMICAL SITE ASHLAND, MASSACHUSETTS
 SUPERFUND SITE CLEANUP
 SAMPLE LOCATION PLAN

REVIEWED BY: N.G.H.
 SUBMITTED BY: TRICIL

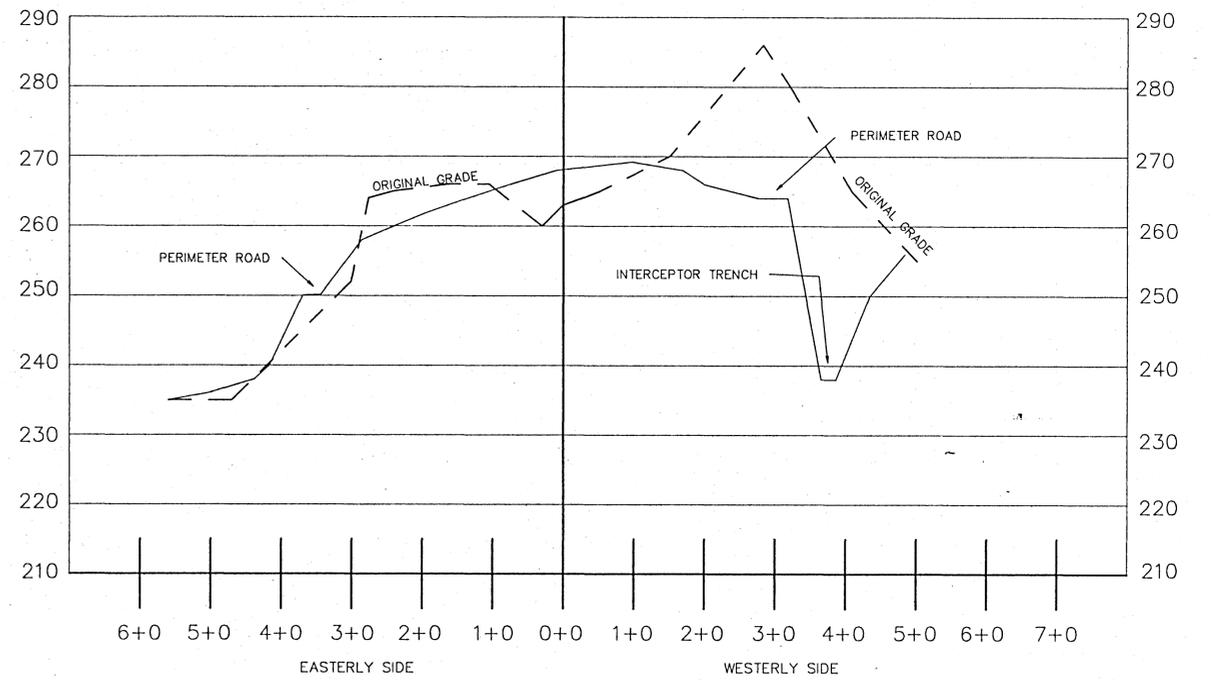
SCALE: 1" = 100'
 SPEC. NO.: DACW 45-88-B-0025
 CONTRACT NO.: DACW45-89-C-0001

SHEET REFERENCE NUMBER: 5
 DATE: DECEMBER 1991
 DRAWING CODE: 9165 - AB 5



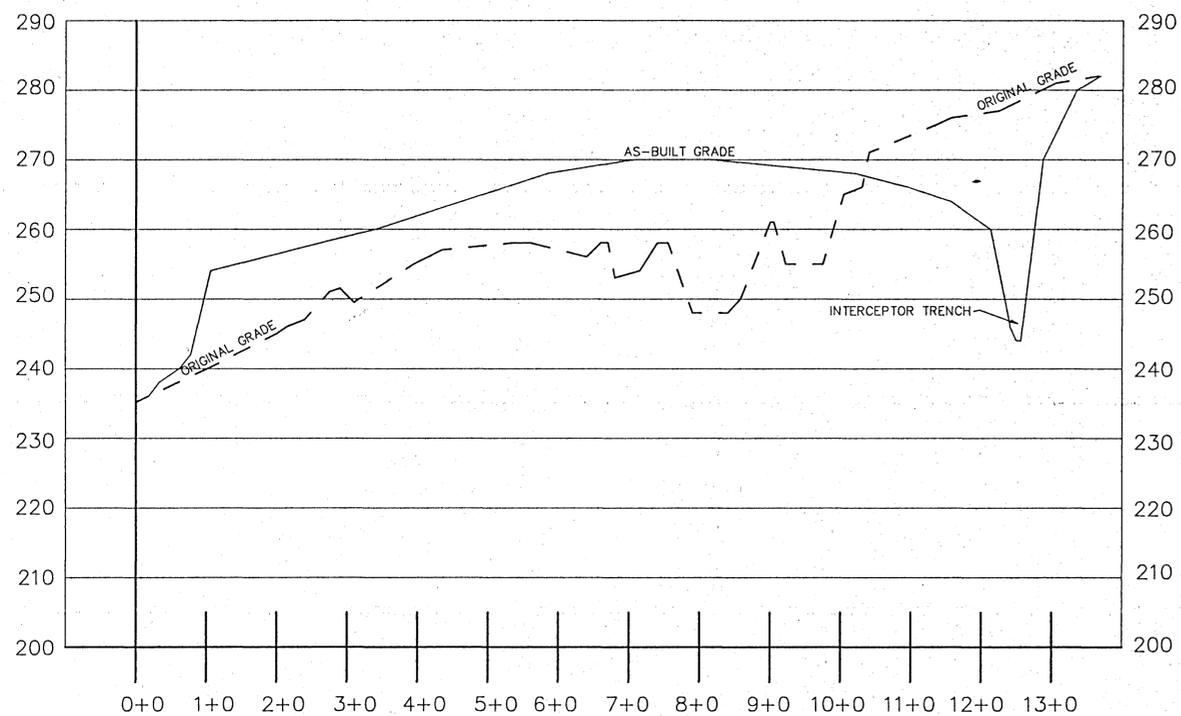
CROSS SECTION A - A

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



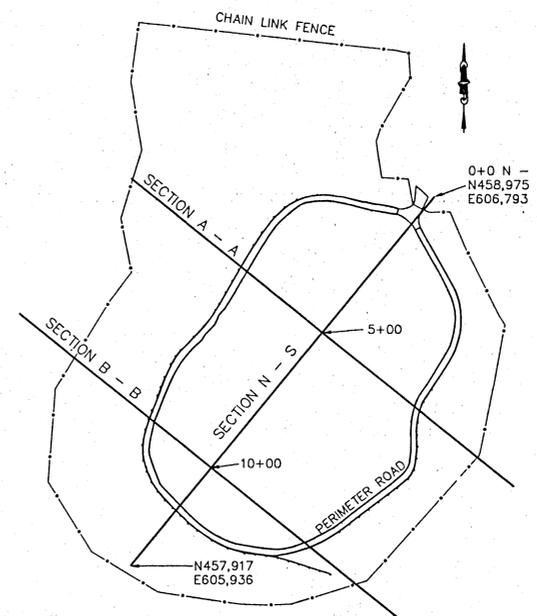
CROSS SECTION B - B

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



CROSS SECTION N - S

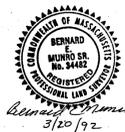
HORZ. SCALE: 1" = 100' VERT. SCALE: 1" = 10'



CROSS SECTION KEY

SCALE: 1" = 200'

Site: *Lynx*
Block: *1272*
Other:



LAND PLANNING ENGINEERING & SURVEY
22 WEST MAIN STREET HOPKINTON, MASSACHUSETTS 01748
(508) 435-9028

REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED

TRICIL ENVIRONMENTAL RESPONSE, INC.
1123 LUMPKIN ROAD
HOUSTON, TX 77043
(800) 283-3433

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION
CORPS OF ENGINEERS
WALTHAM, MA

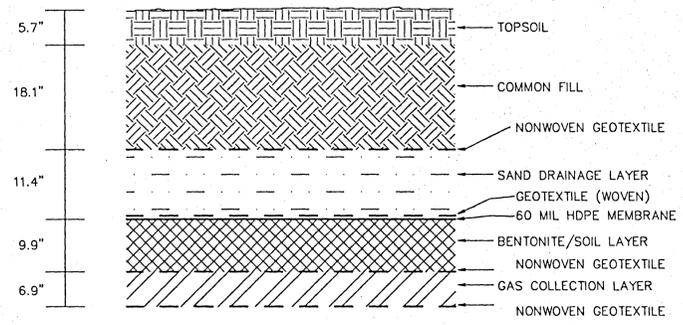
DESIGNED BY: NA
DRAWN BY: J.A.B.
CHECKED BY: S.A.B.

NYANZA CHEMICAL SITE ASHLAND, MASSACHUSETTS
SUPERFUND SITE CLEANUP
CROSS SECTION PLAN

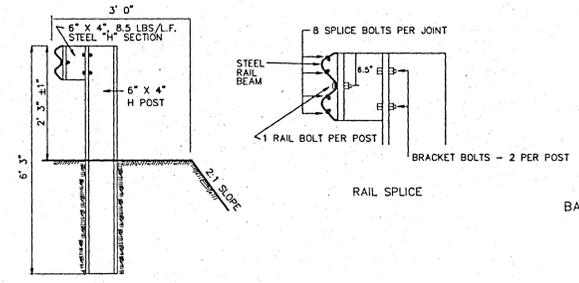
REVIEWED BY: N.G.H.
SUBMITTED BY: TRICIL

SCALE: AS NOTED
SPEC. NO.: DACW 45-88-B-0025
CONTRACT NO.: DACW45-89-C-0001

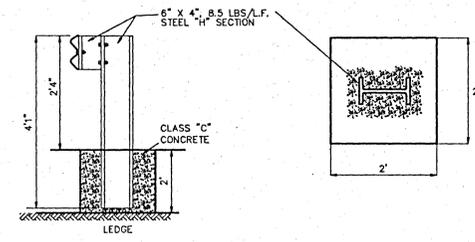
SHEET REFERENCE NUMBER: 7
DATE: DECEMBER 1991
DRAWING CODE: 9165 - AB 7



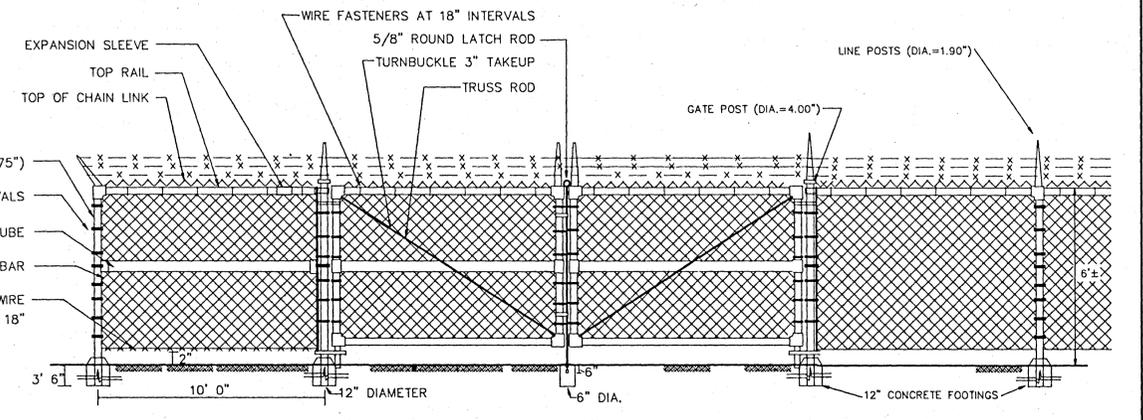
COMBINATION BENTONITE/SOIL/HDPE MEMBRANE CAP DESIGN
(CALCULATED AVERAGE DEPTHS SHOWN)



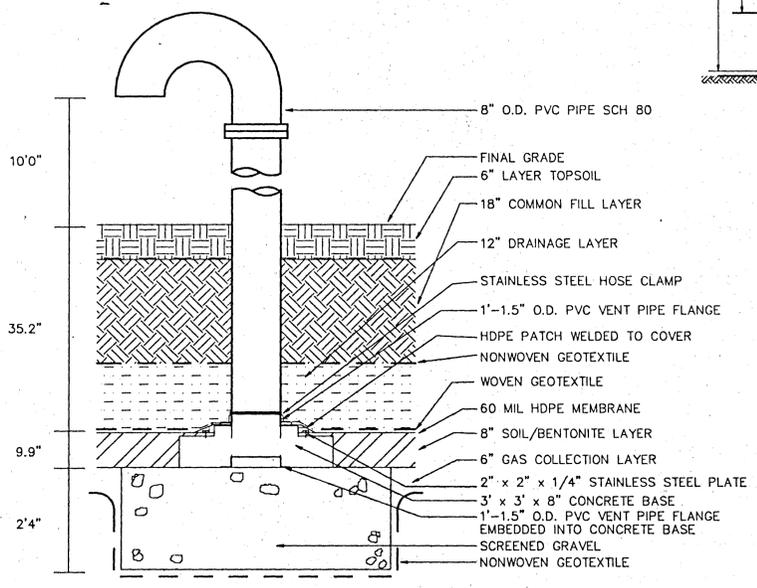
STANDARD INSTALLATION



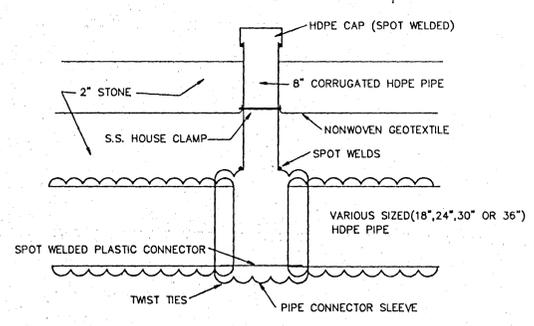
MODIFIED POST INSTALLATION
GUARD RAIL DETAIL
(GUARD RAIL DETAIL BASED ON MASS D.P.W. 1977
STANDARD DETAIL REF. 401.1, 401.7, 401.12)



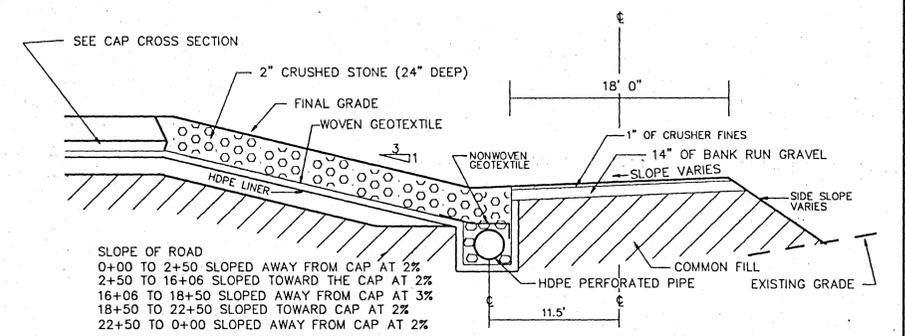
CHAIN LINK FENCE & GATE DETAIL



SECTION VIEW



DRAINAGE CLEANOUT DETAIL



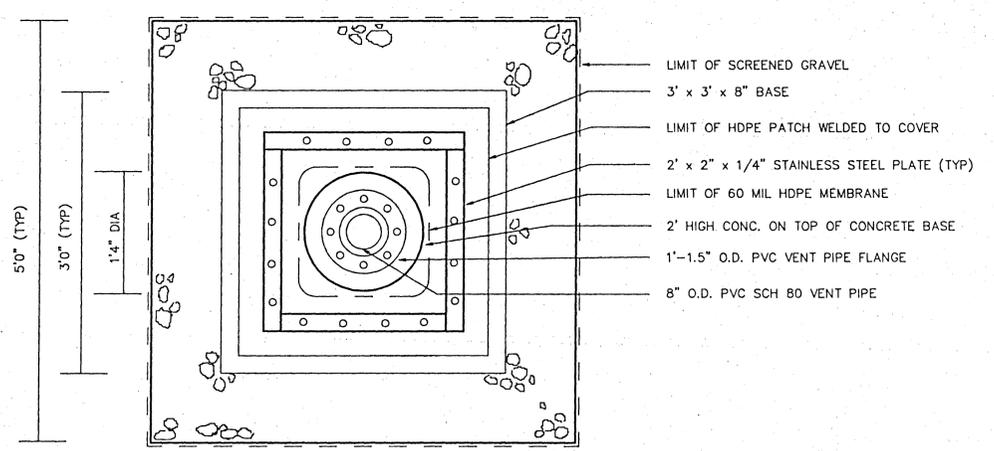
DRAINAGE DATA

PIPE SIZE	PER. RD. CL. BEGINNING STATION	PER. RD. CL. ENDING STATION	LINEAR FEET
18"	1+75	3+76	180'
24"	3+76	5+00	120'
30"	5+00	9+20	420'
36"	9+20	18+90	880'
18"	18+90	22+75	320'
15"	22+75	24+25	150'

CLEANOUT STATIONS
 BEGINNING OF PIPE @ 1+75 INV = 256.95
 CLEANOUT @ 3+30 INV = 249.44
 CLEANOUT @ 8+00 INV = 242.97
 CLEANOUT @ 13+67 INV = 238.27
 CLEANOUT @ 18+78 INV = 235.23
 BEGINNING OF PIPE @ 24+25 INV = 259.78
 36" OUTLET PIPE INV = 233.66

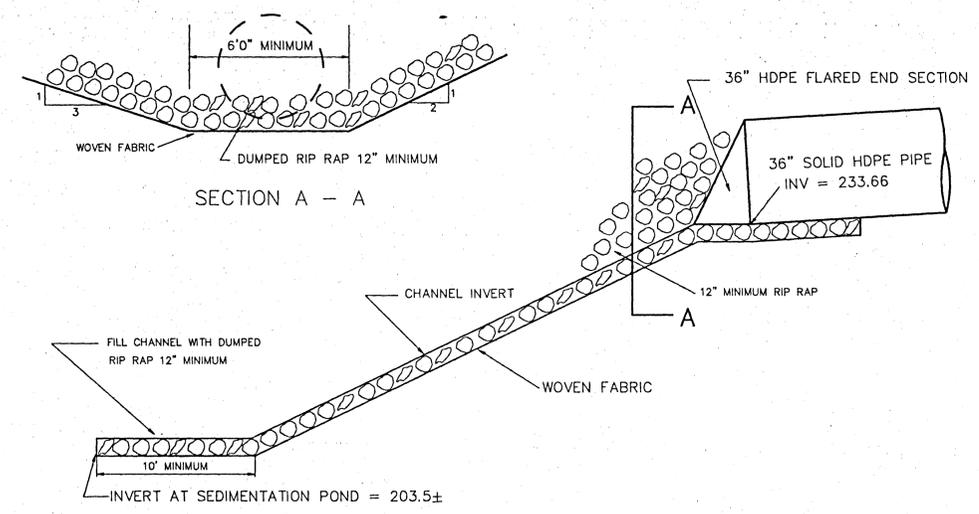
(LENGTHS OF PIPES PROVIDED BY TRICIL; BASED ON LENGTHS OF PIPE INSTALLED.
 CLEANOUTS LOCATED BY LAND PLANNING; NO AS-BUILT ON PIPE)

ROAD/EDGE OF CAP DETAIL



PLAN VIEW

VENT DETAIL



OPEN CHANNEL (HILLSIDE OF AREA "C")

Site: *Handwritten*
 Drawn: *Handwritten*
 Checked: *Handwritten*

BERNARD MUNDY SR. No. 94462
 REGISTERED PROFESSIONAL ENGINEER
 MASSACHUSETTS

3/20/92

LAND PLANNING ENGINEERING & SURVEY
 22 WEST MAIN STREET HOPKINTON, MASSACHUSETTS 01748
 (508) 435-9028

REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED

TRICIL ENVIRONMENTAL RESPONSE, INC.
 1123 LUMPKIN ROAD
 HOUSTON, TX 77043
 (800) 283 - 3433

DEPARTMENT OF THE ARMY
 NEW ENGLAND DIVISION
 CORPS OF ENGINEERS
 WALTHAM, MA

DESIGNED BY: NA
 DRAWN BY: J.A.B.
 CHECKED BY: S.A.B.

NYANZA CHEMICAL SITE ASHLAND, MASSACHUSETTS
 SUPERFUND SITE CLEANUP

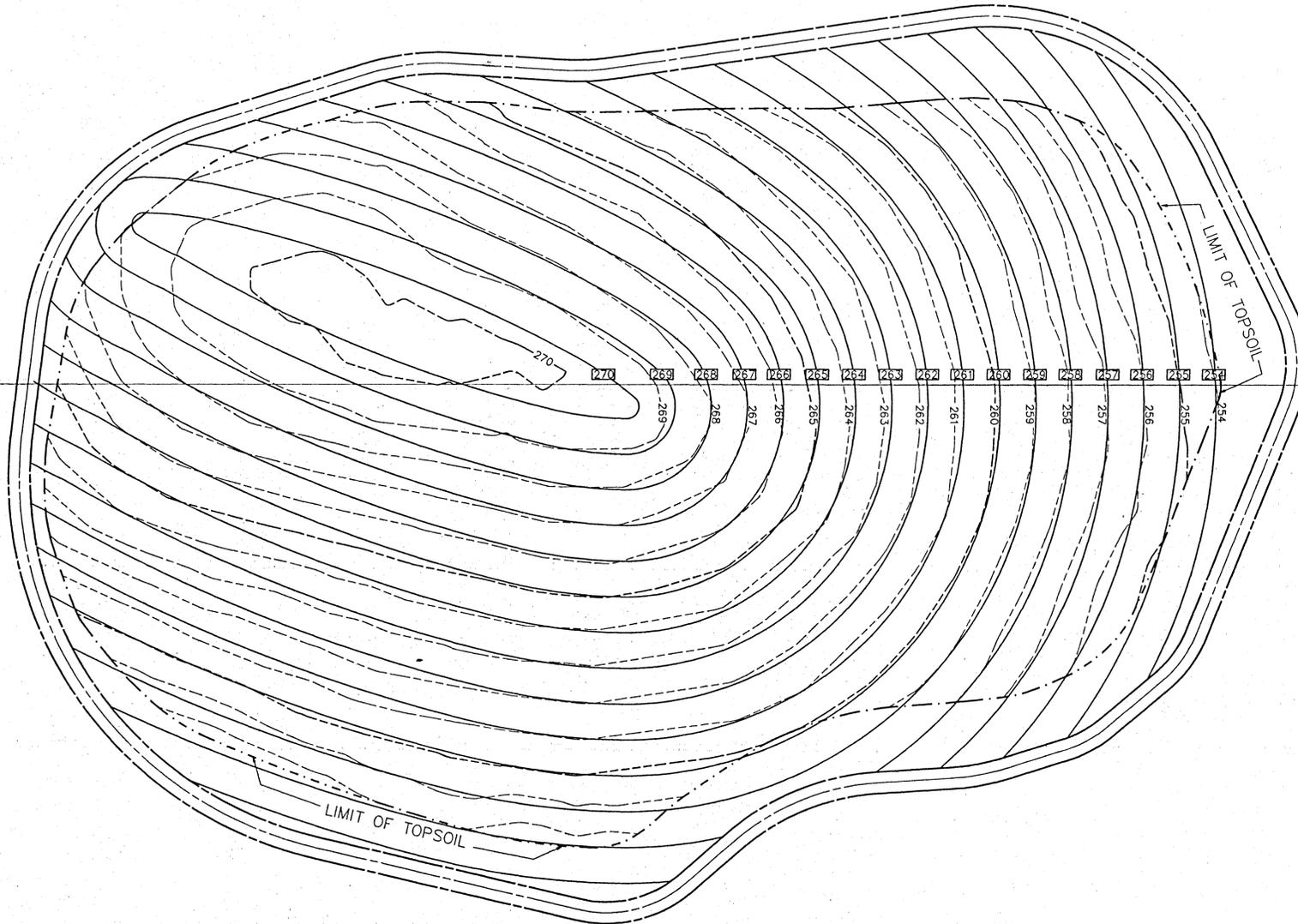
DETAIL SHEET 2

REVIEWED BY: N.G.H.
 SPEC. NO.: DACW 45-88-B-0025
 SUBMITTED BY: TRICIL

SCALE: NOT TO SCALE
 SHEET REFERENCE NUMBER: 9
 DATE: DECEMBER 1991
 DRAWING CODE: 9165F - AB 9

N 457917
E 605936

N 458975
E 606793

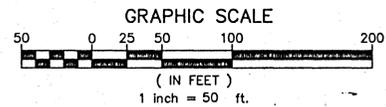


LEGEND

- 263- PROPOSED CONTOUR
- 263-- AS-BUILT CONTOUR

AREA OF TOPSOIL

487,149 SF 11.1 ACRES



Site: *Nyanza*
Through: *12/92*
Other:



LAND PLANNING ENGINEERING & SURVEY
22 WEST MAIN STREET HOPKINTON, MASSACHUSETTS 01748
(508) 435-9028

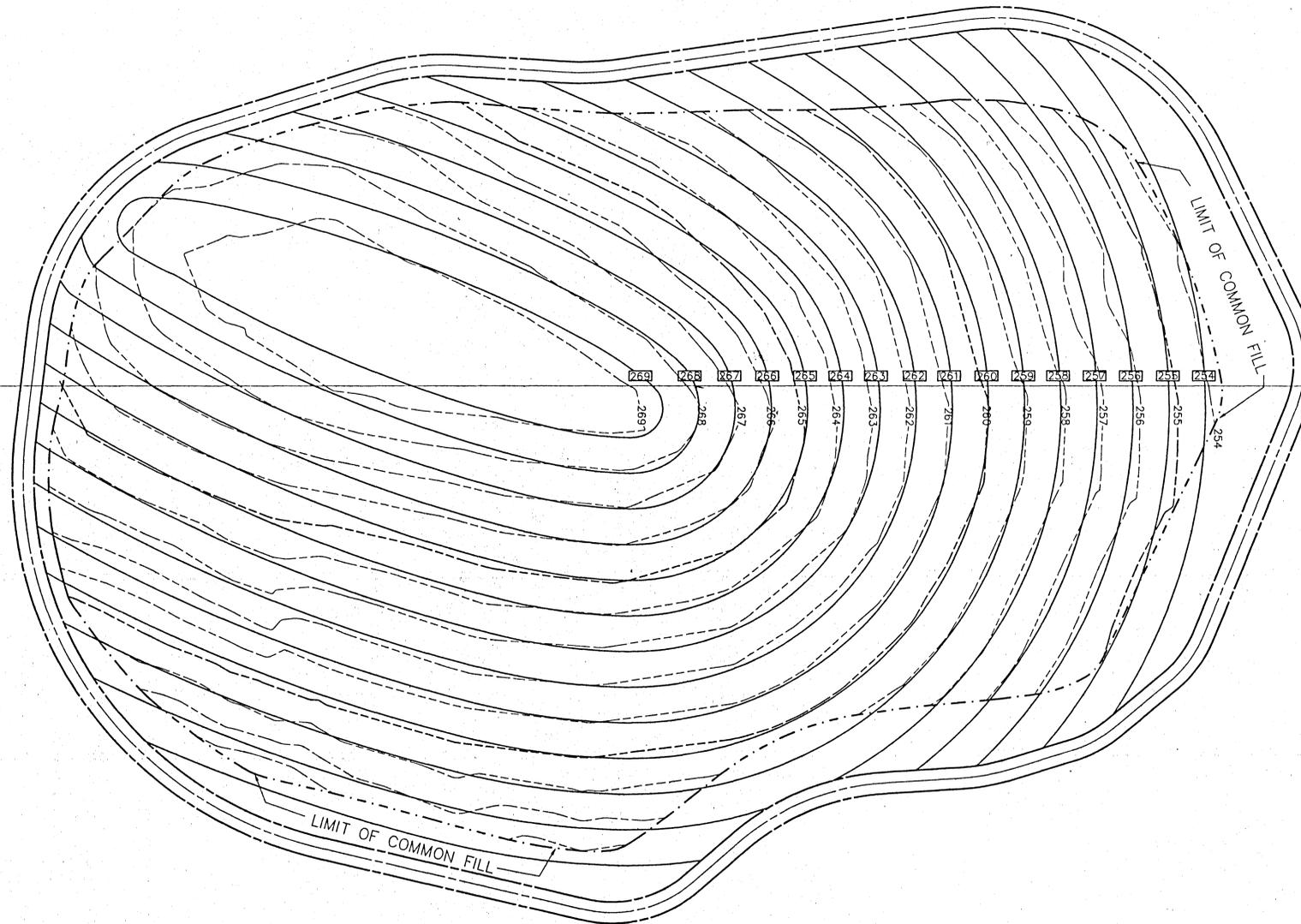
REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED

TRICIL ENVIRONMENTAL RESPONSE, INC. 1123 LUMPKIN ROAD HOUSTON, TX 77043 (800) 283-3433	DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS WALTHAM, MA
---	---

DESIGNED BY: NA	NYANZA CHEMICAL SITE ASHLAND, MASSACHUSETTS
DRAWN BY: J.A.B.	SUPERFUND SITE CLEANUP
CHECKED BY: S.A.B.	PROPOSED AND EXISTING CONTOURS OF TOPSOIL LAYER IN CAP
REVIEWED BY: N.G.H.	SCALE: 1" = 50'
SUBMITTED BY: TRICIL	SPEC. NO.: DACW 45-88-B-0025
	CONTRACT NO.: DACW45-89-C-0001
	SHEET REFERENCE NUMBER: 10
	DATE: DECEMBER 1991
	DRAWING CODE: 9165 - AB 10

N 457917
E 605936

N 458975
E 606793

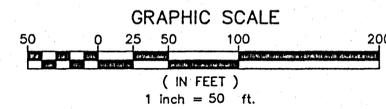


LEGEND

- 263- PROPOSED CONTOUR
- 263-- AS-BUILT CONTOUR

AREA OF COMMON FILL

458,410 SF 11.1 ACRES



Drawn by: *J.A.B.*
 Checked by: *S.A.B.*
 Other: _____



LAND PLANNING ENGINEERING & SURVEY
 22 WEST MAIN STREET HOPKINTON, MASSACHUSETTS 01748
 (508) 435-9028

REVISIONS			
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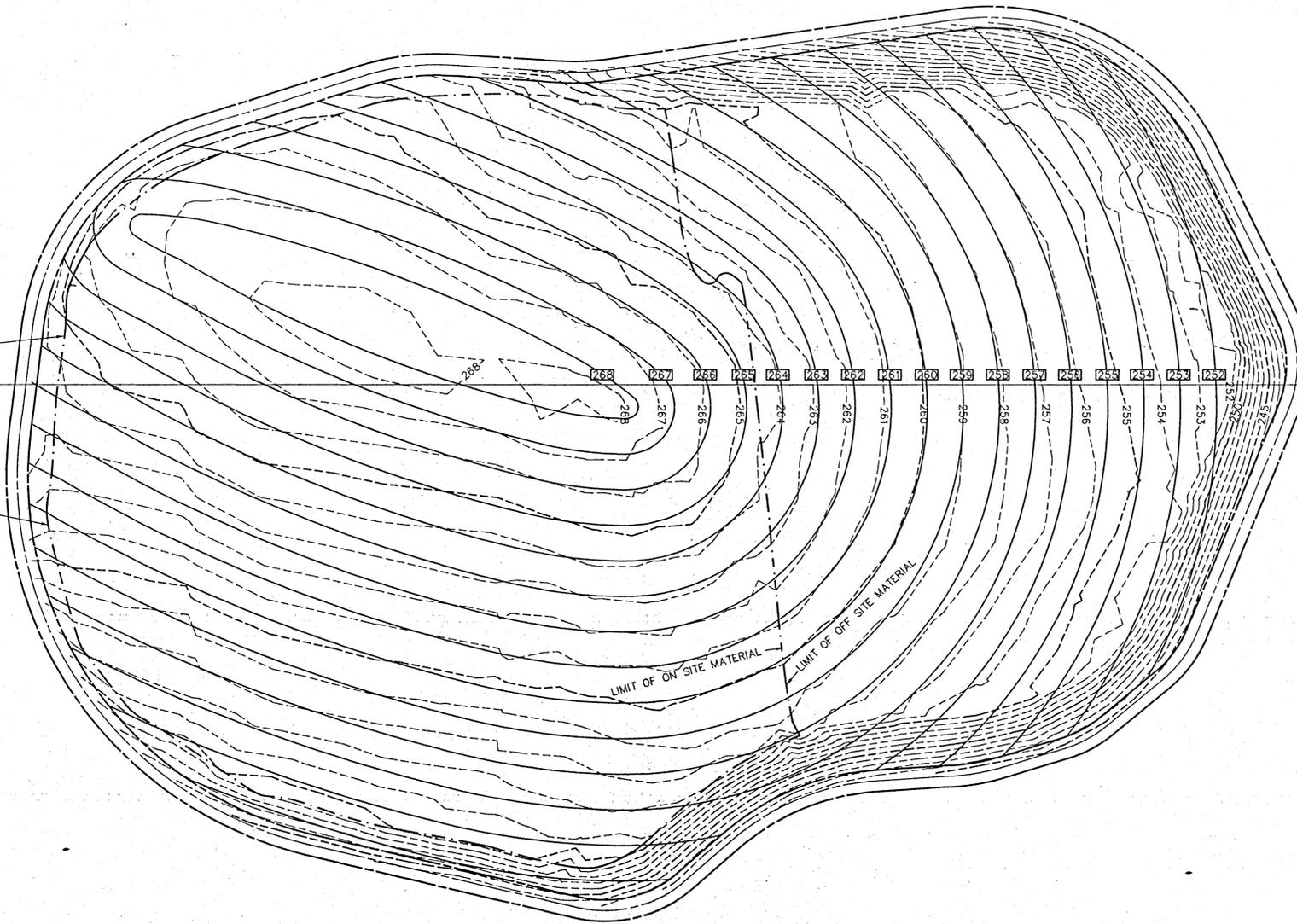
TRICIL ENVIRONMENTAL RESPONSE, INC. 1123 LUMPKIN ROAD HOUSTON, TX 77043 (800) 283-3433	DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS WALTHAM, MA
---	---

DESIGNED BY: NA	NYANZA CHEMICAL SITE ASHLAND, MASSACHUSETTS SUPERFUND SITE CLEANUP		
DRAWN BY: J.A.B.	PROPOSED AND EXISTING CONTOURS OF COMMON FILL LAYER IN CAP		
CHECKED BY: S.A.B.			
REVIEWED BY: N.G.H.	SCALE: 1" = 50'	SHEET REFERENCE NUMBER 11	DATE: DECEMBER 1991
SUBMITTED BY: TRICIL	SPEC. NO.: DACW 45-88-B-0025 CONTRACT NO.: DACW45-89-C-0001	DRAWING CODE: 9165-AB 11	

N 457917
E 605936

N 458975
E 606793

LIMIT OF
ON SITE
MATERIAL



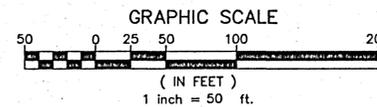
LIMIT OF ON SITE MATERIAL
LIMIT OF OFF SITE MATERIAL

LEGEND

- PROPOSED CONTOUR
- AS-BUILT CONTOUR

AREA OF SAND DRAINAGE LAYER

AREA OF ON SITE MATERIAL = 319,425 SF
 AREA OF OFF SITE MATERIAL = 184,953 SF
 TOTAL AREA = 504,378 SF 11.6 ACRES



Site: *Nyanza*
 Break: *174.2*
 Other:



Almond E. Pappas Sr.
3/12/92

LAND PLANNING ENGINEERING & SURVEY
 22 WEST MAIN STREET HOPKINTON, MASSACHUSETTS 01748
 (508) 435-9028

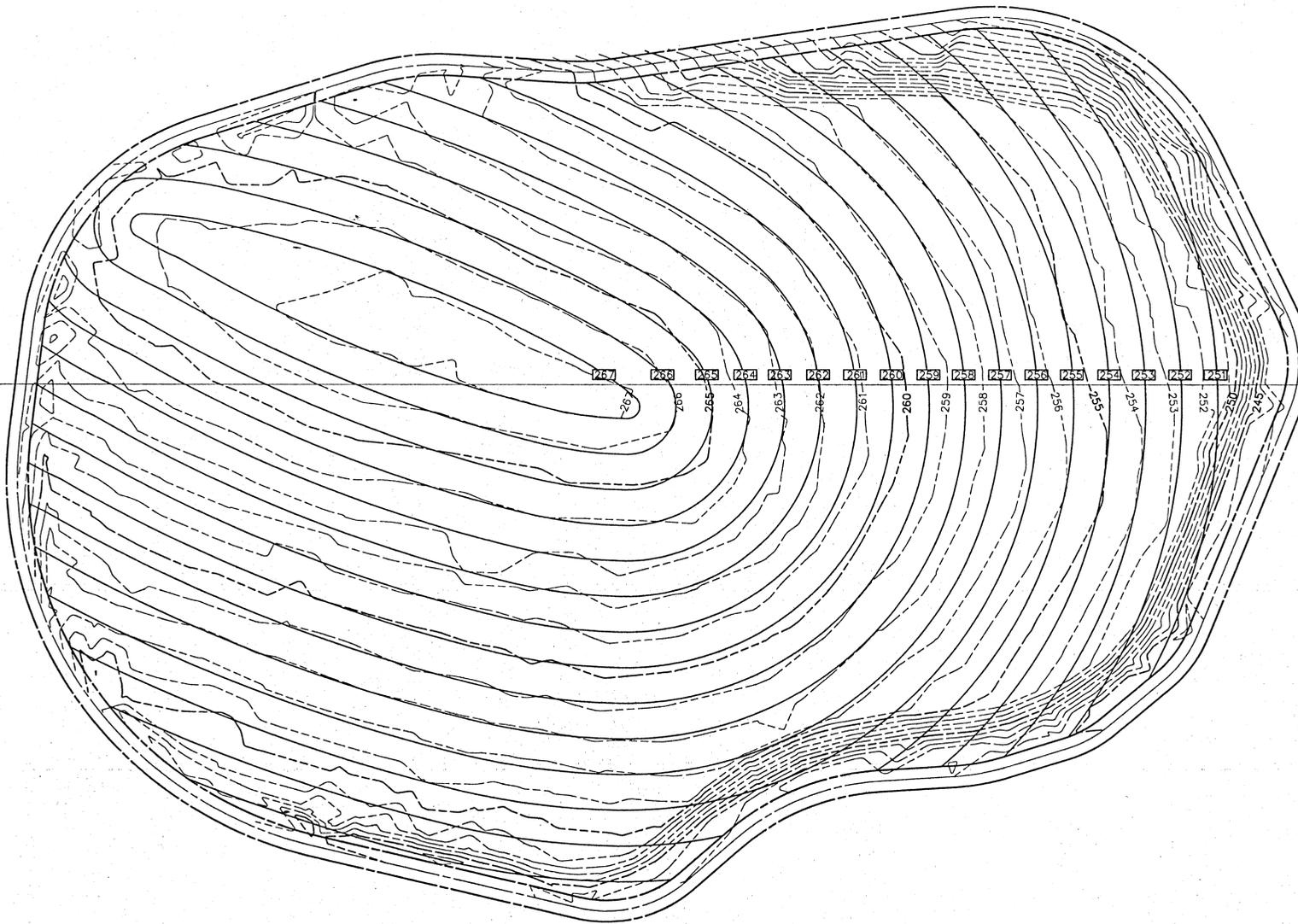
REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED

TRICIL ENVIRONMENTAL RESPONSE, INC. 1123 LUMPKIN ROAD HOUSTON, TX 77043 (800) 283-3433	DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS WALTHAM, MA
---	---

DESIGNED BY: NA	NYANZA CHEMICAL SITE	ASHLAND, MASSACHUSETTS
DRAWN BY: J.A.B.	SUPERFUND SITE CLEANUP	
CHECKED BY: S.A.B.	PROPOSED AND EXISTING CONTOURS OF SAND DRAINAGE LAYER IN CAP	
REVIEWED BY: N.G.H.	SCALE: 1" = 50'	SHEET REFERENCE NUMBER
SUBMITTED BY: TRICIL	SPEC. NO.: DACW 45-88-B-0025 CONTRACT NO.: DACW45-89-C-0001	DATE: DECEMBER 1991 DRAWING CODE: 9165 - AB 12

N 457917
E 605936

N 458975
E 606793

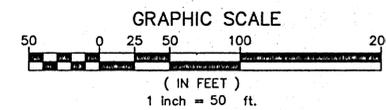


LEGEND

- 263- PROPOSED CONTOUR
- 263-- AS-BUILT CONTOUR

AREA OF SOIL/BENTONITE

CAP: 505,860 SF
SIDESLOPES: 50,140 SF
TOTAL: 556,000 SF



Professional Engineer Seal: Nyanza Chemical Site, No. 4442, State of Massachusetts, License No. 17602.

Professional Engineer Seal: Bernard E. Munro Sr., No. 4442, State of Massachusetts, License No. 17602.

Professional Engineer Seal: Norman H. Holbrook, No. 4442, State of Massachusetts, License No. 17602.

LAND PLANNING ENGINEERING & SURVEY
22 WEST MAIN STREET HOPKINTON, MASSACHUSETTS 01748
(508) 435-9028

REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED

TRICIL ENVIRONMENTAL RESPONSE, INC.
1123 LUMPKIN ROAD
HOUSTON, TX 77043
(800) 283-3433

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION
CORPS OF ENGINEERS
WALTHAM, MA

DESIGNED BY: NA
DRAWN BY: J.A.B.
CHECKED BY: S.A.B.

NYANZA CHEMICAL SITE
ASHLAND, MASSACHUSETTS
SUPERFUND SITE CLEANUP
PROPOSED AND EXISTING CONTOURS
OF SOIL/BENTONITE LAYER IN CAP

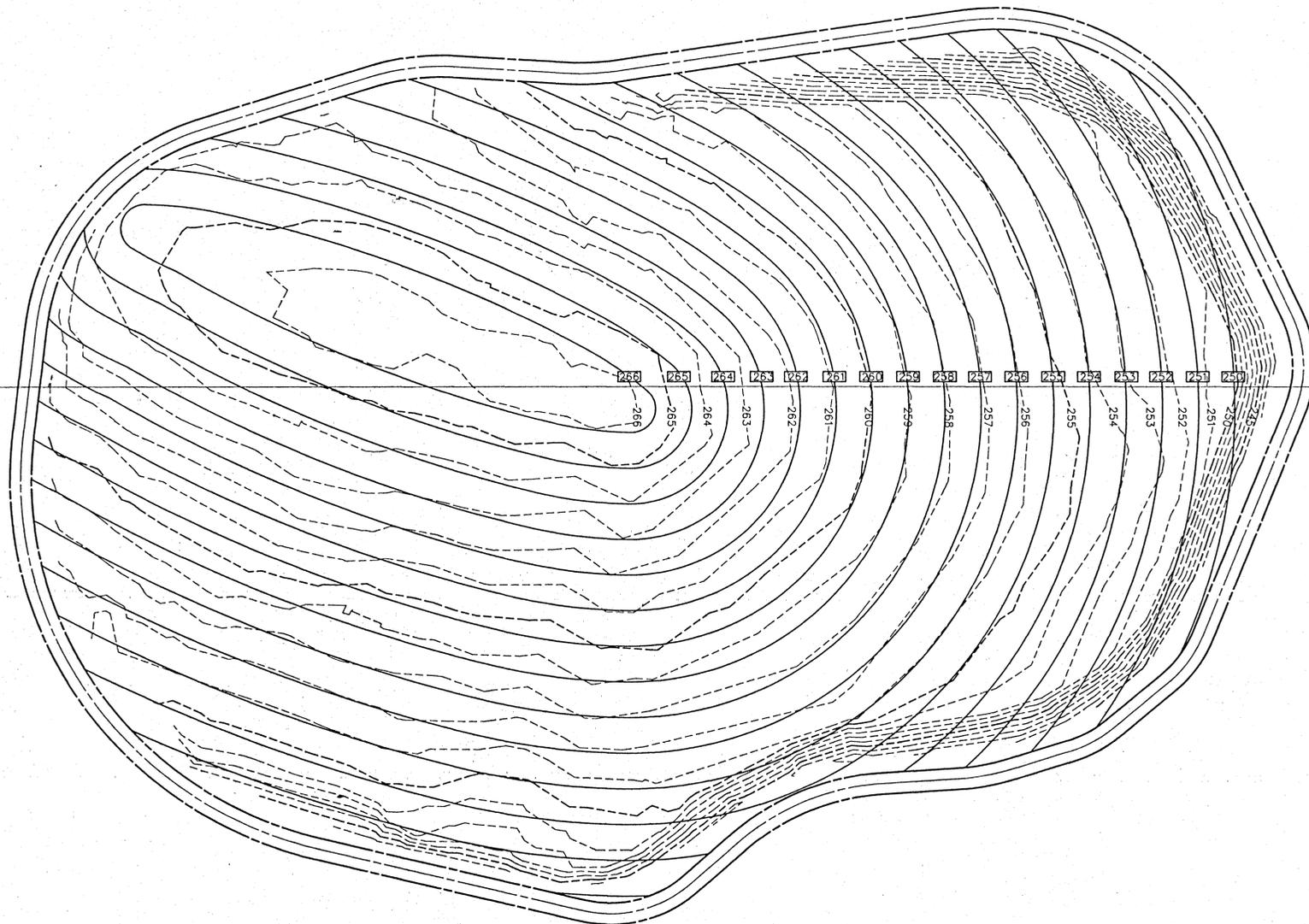
REVIEWED BY: N.G.H.
SUBMITTED BY: TRICIL

SCALE: 1" = 50'
SPEC. NO.: DACW 45-88-B-0025
CONTRACT NO.: DACW45-89-C-0001

SHEET REFERENCE NUMBER: 13
DATE: DECEMBER 1991
DRAWING CODE: 9165 - AB 13

N 457917
E 605936

N 458975
E 606793

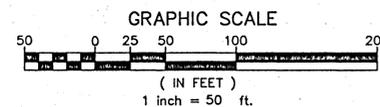


LEGEND

—263— PROPOSED CONTOUR

- -263- - AS-BUILT CONTOUR

TOTAL AREA OF GAS LAYER = 553,600 SF
12.71 ACRES COVERED WITH GAS LAYER



Site: *Wagon*
Drawn: *J.A.B.*
Other:

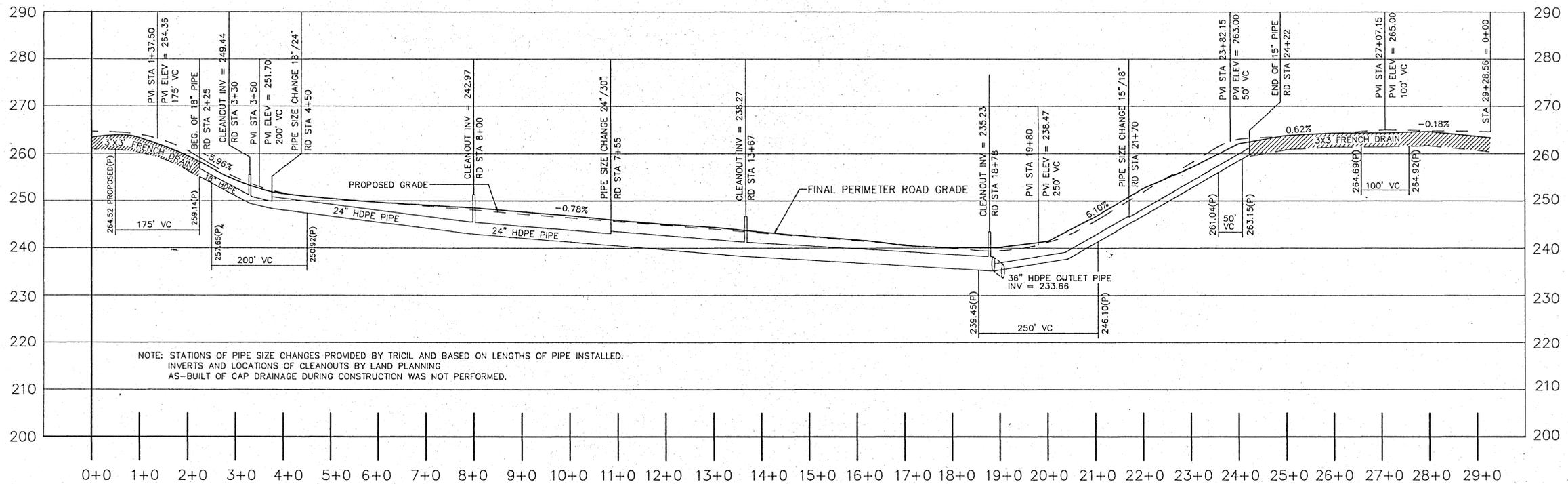


LAND PLANNING ENGINEERING & SURVEY
22 WEST MAIN STREET HOPKINTON, MASSACHUSETTS 01748
(508) 435-9028

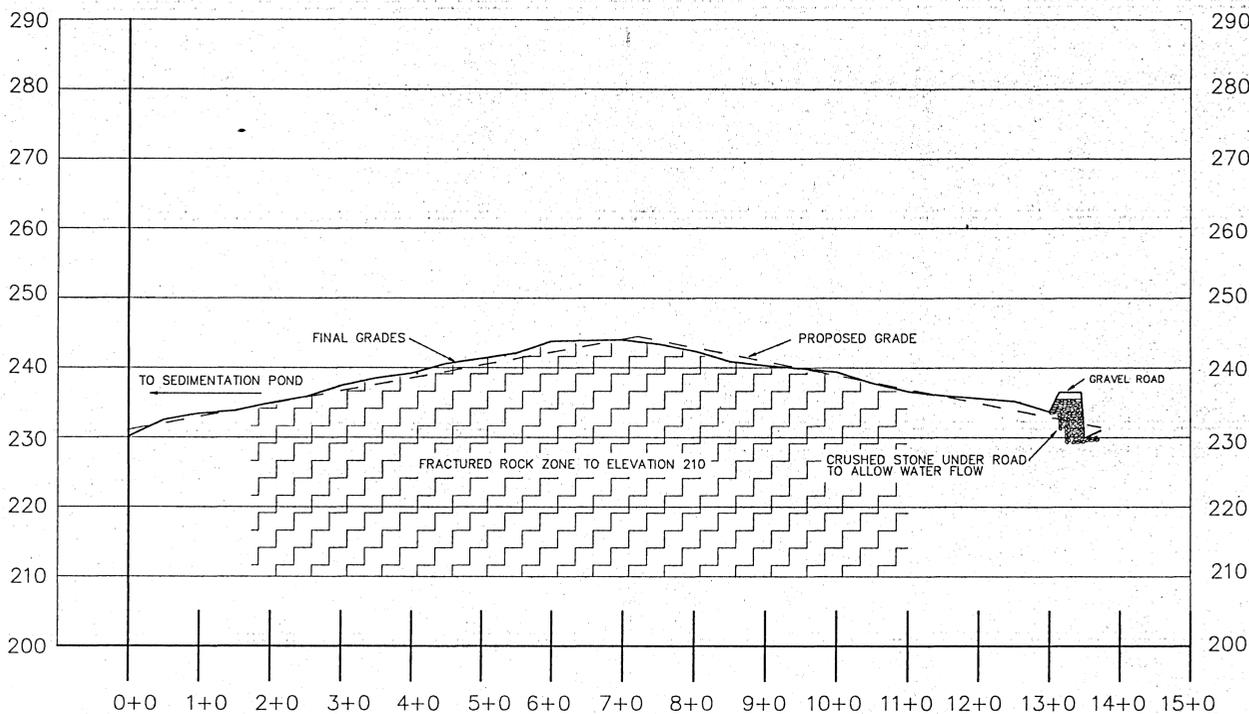
REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED

TRICIL ENVIRONMENTAL RESPONSE, INC. 1123 LUMPKIN ROAD HOUSTON, TX 77043 (800) 283-3433	DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS WALTHAM, MA
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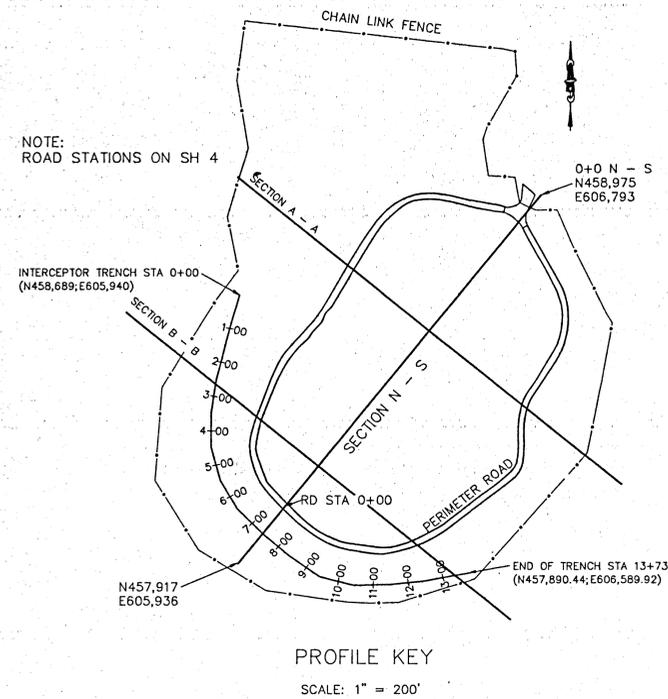
DESIGNED BY: NA	NYANZA CHEMICAL SITE ASHLAND, MASSACHUSETTS		
DRAWN BY: J.A.B.	SUPERFUND SITE CLEANUP		
CHECKED BY: S.A.B.	PROPOSED AND EXISTING CONTOURS OF GAS LAYER IN CAP		
REVIEWED BY: N.G.H.	SCALE: 1" = 50'	SHEET REFERENCE NUMBER 14	DATE: DECEMBER 1991
SUBMITTED BY: TRICIL	SPEC. NO.: DACV 45-88-B-0025	DRAWING CODE: 9165 - AB 14	
	CONTRACT NO.: DACW45-89-C-0001		



PERIMETER ROAD PROFILE
(HORZ SCALE: 1" = 100' VERT SCALE: 1" = 10')



INTERCEPTOR TRENCH PROFILE
(HORZ SCALE: 1" = 100' VERT SCALE: 1" = 10')



Site: *Nyanza*
 Drawn: *J.A.B.*
 Other: *S.A.B.*

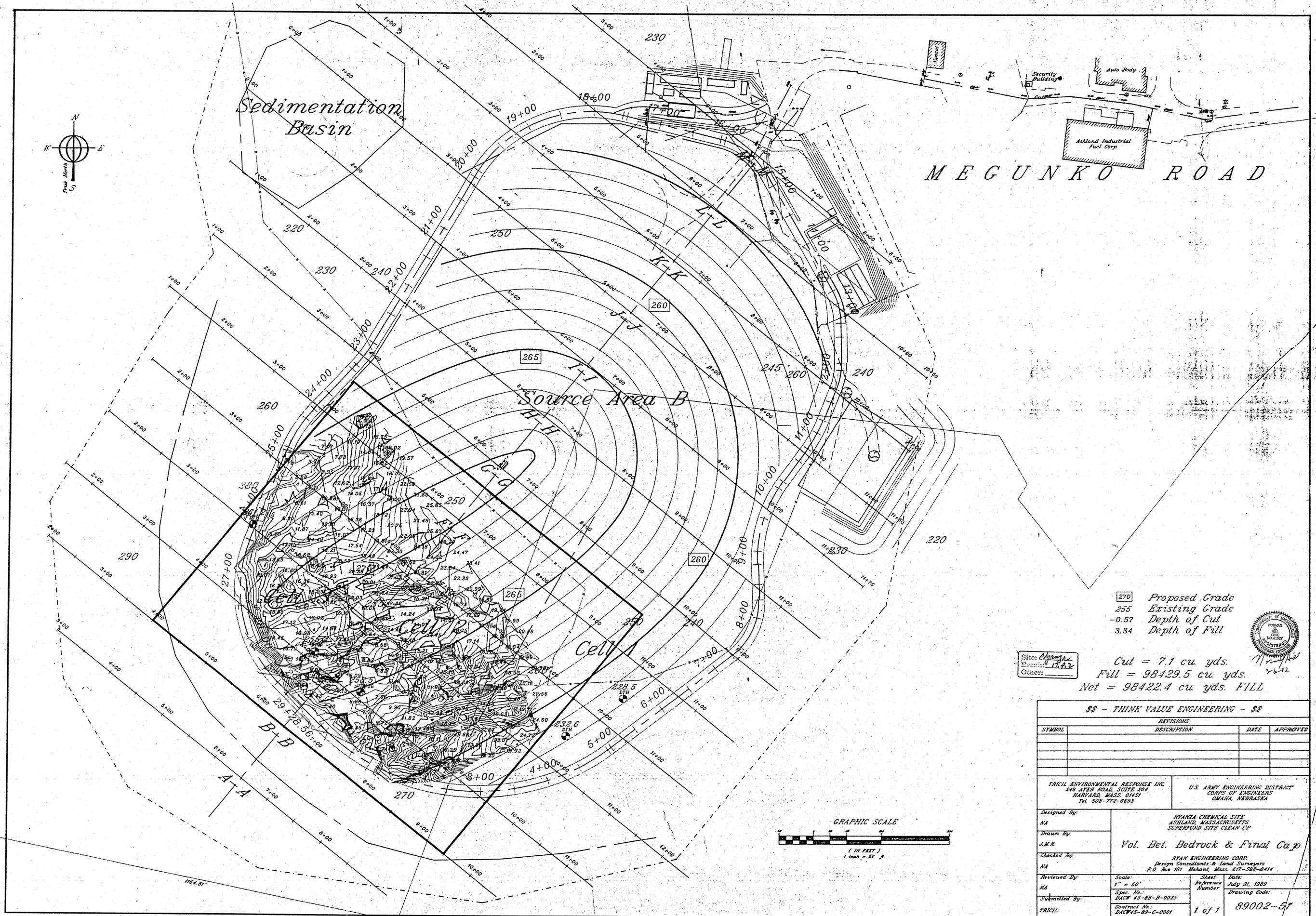
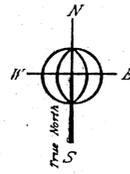
Bernard 3/20/92

3/12/92

LAND PLANNING ENGINEERING & SURVEY
 22 WEST MAIN STREET HOPKINTON, MASSACHUSETTS 01748
 (508) 435-9028

REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED

TRICIL ENVIRONMENTAL RESPONSE, INC. 1123 LUMPKIN ROAD HOUSTON, TX 77043 (800) 283-3433	DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS WALTHAM, MA
DESIGNED BY: NA	NYANZA CHEMICAL SITE ASHLAND, MASSACHUSETTS
DRAWN BY: J.A.B.	SUPERFUND SITE CLEANUP
CHECKED BY: S.A.B.	PROFILE OF INTERCEPTOR TRENCH AND PERIMETER ROAD
REVIEWED BY: N.G.H.	SCALE: AS NOTED
SUBMITTED BY: TRICIL	SPEC. NO.: DACW 45-88-B-0025 CONTRACT NO.: DACW45-89-C-0001
SHEET REFERENCE NUMBER: 15	DATE: DECEMBER 1991
	DRAWING CODE: 9165 - AB 15



MEGUNKO ROAD

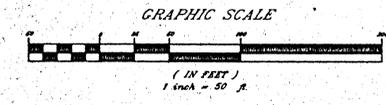
270 Proposed Grade
 255 Existing Grade
 -0.57 Depth of Cut
 3.34 Depth of Fill

Site: *Ashtand*
 Elevation: *1742*
 Other:
 Cut = 7.1 cu. yds.
 Fill = 98429.5 cu. yds.
 Net = 98422.4 cu. yds. FILL



SS - THINK VALUE ENGINEERING - SS			
REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPROVED

TRICIL ENVIRONMENTAL RESPONSE INC. 249 AYER ROAD, SUITE 204 HARVARD, MASS. 01451 Tel. 508-772-6893	U.S. ARMY ENGINEERING DISTRICT CORPS OF ENGINEERS OMAHA, NEBRASKA
Designed By: NA	NYANZA CHEMICAL SITE ASHTAND, MASSACHUSETTS SUPERFUND SITE CLEAN UP Vol. Bet. Bedrock & Final Cap
Drawn By: J.M.R.	
Checked By: NA	RYAN ENGINEERING CORP. Design Consultants & Land Surveyors P.O. Box 181 Nahant, Mass. 01755-0181
Reviewed By: NA	Scale: 1" = 50' Spec. No.: DACW 45-88-B-0025
Submitted By: TRICIL	Contract No.: DACW45-89-C-0001
Sheet: Reference Number 1 of 1	Date: July 31, 1989 Drawing Code: 89002-57



GENERAL NOTES

1. EXIST. TOPOGRAPHY SHOWN IS BASED ON INFORMATION FROM SEVERAL SURVEYS AND IS NOT WARRANTED THAT ALL FEATURES ARE SHOWN, NOR IS IT WARRANTED TO BE EXACT.
2. THE CONTRACTOR SHALL VIEW THE SITE UNDER EXISTING CONDITIONS.
3. ALL MONITORING WELLS OUTSIDE LIMITS OF CAP SHALL BE PROTECTED AND MAINTAINED BY THE CONTRACTOR.
4. BASIS PLAN PREPARED FROM TOPOGRAPHIC SURVEY CONDUCTIONS INC. DATED 10/14/81 AND CIVIL ENGINEERING DATED 7/2/82. SURVEY DATA LOCATIONS OBTAINED FROM SURVEY DATA OBTAINED FROM ZULLINAN ENGINEERING DATED 7/82 AND ALLEN & DEMERIAN DATED 1/87.
5. THE CONTRACTOR SHALL CONFINE ALL WORK AND SUPPORT AREA FACILITIES WITHIN THE WORK LIMITS OF SHT4.
6. BORINGS LOGS FURNISHED AS ATTACHMENT TO THE SPECS.
7. ELEVATIONS SHOWN ARE REFERENCED TO MEAN SEA LEVEL (MSL).
8. THE AREA ENCLOSED BY THE EXISTING FENCE IS TO BE CONSIDERED THE EXCLUSION ZONE. ALL SURVEY AREAS HAVE BEEN ESTABLISHED.



EXISTING FENCE. SEE NOTE 8.

- LEGEND**
- TOPOGRAPHY
 - == ROADS
 - EXIST. MONITORING WELLS
 - EXIST. BUILDING
 - RAILROAD
 - - - EXIST. FENCE
 - TREE LINE
 - TREES
 - SPRING BED
 - BROOK (CHEMICAL BROOK, TROLLEY BROOK)
 - ▲ 247.0 TP #3 TEST BORING W/SURFACE ELEVATION
 - ▲ 225.1 RCK CORING
 - #804 SAMPLE LOCATION
 - 192.0 TP #19 TEST PIT W/SURFACE ELEVATION

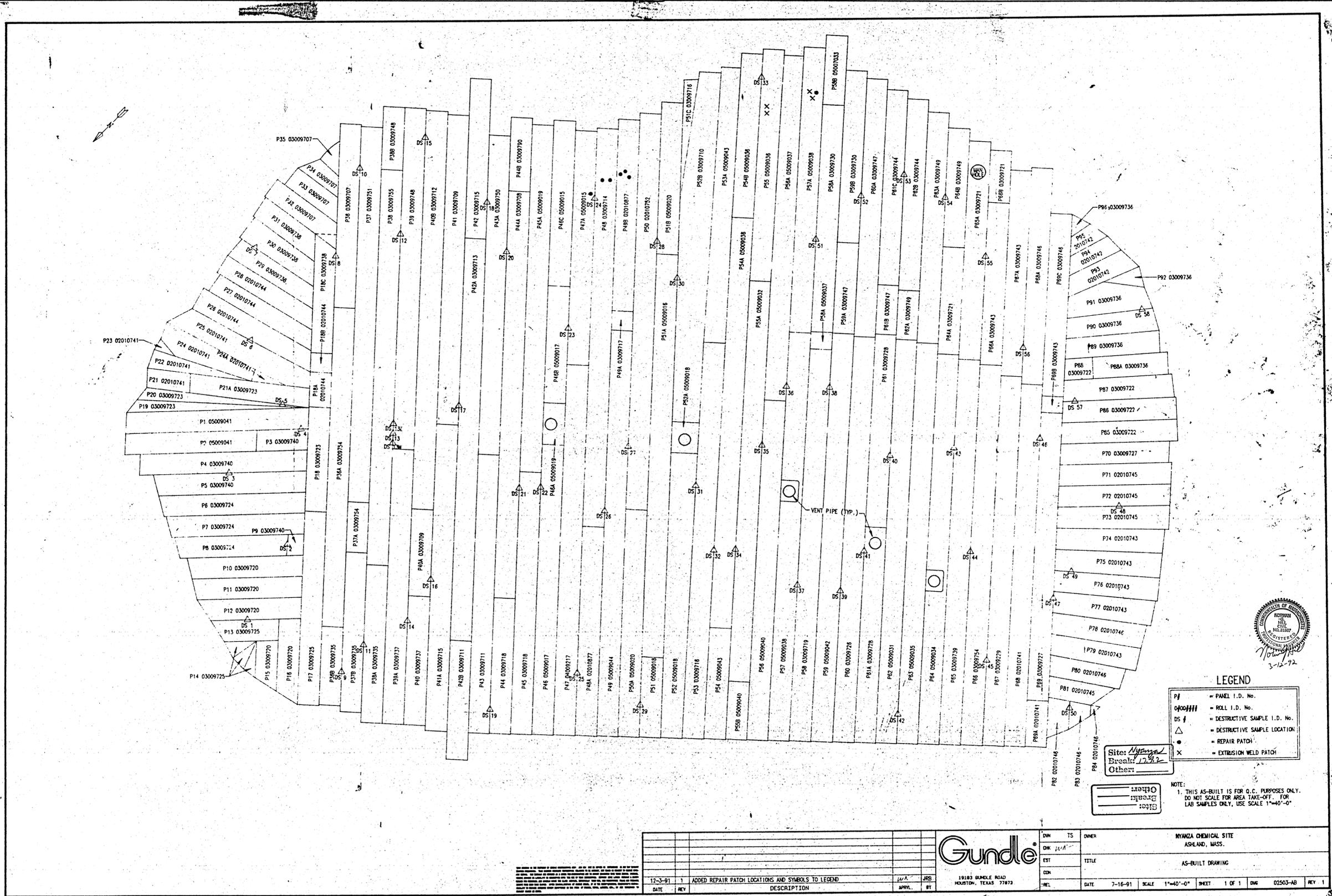
Site: NYACOL
 Erected: 1/72
 Other: _____



SCALE: 1 INCH = 100 FEET

Justin St. Charles

\$\$ - THINK VALUE ENGINEERING - \$\$			
Revisions:			
Symbol	Description	Date	Approved
▲ REVISED IN ACCORDANCE WITH AM. NO. 0002			11-28-88 CDM
CDM ONE CENTER PLAZA BOSTON, MASSACHUSETTS 02108		U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS OMAHA, NEBRASKA	
Designed by:	NYANZA CHEMICAL SITE ASHLAND, MASSACHUSETTS SUPERFUND SITE CLEAN-UP		
Drawn by:	EXISTING CONDITIONS PLAN		
Checked by:			
Reviewed by:	Scale: 1"=100'	Sheet Reference Number: 2	Date: DEC. 1987
Submitted by:	Spec. No.: DACW45-89-B-0025	Drawing Code: CER 25-400 E2	
Architect-Engineer	Contract No.: DACW45-89-C-0001		



LEGEND

P# = PANEL I.D. No.
 R# = ROLL I.D. No.
 DS # = DESTRUCTIVE SAMPLE I.D. No.
 Δ = DESTRUCTIVE SAMPLE LOCATION
 ● = REPAIR PATCH
 X = EXTRUSION WELD PATCH

NOTE:
 1. THIS AS-BUILT IS FOR Q.C. PURPOSES ONLY.
 DO NOT SCALE FOR AREA TAKE-OFF. FOR
 LAB SAMPLES ONLY, USE SCALE 1"=40'-0"

Gundle		DNM	TS	DWR	NYNZA CHEMICAL SITE ASHLAND, MASS.	
12-3-91	1	ADDED REPAIR PATCH LOCATIONS AND SYMBOLS TO LEGEND	J.A.B.	JRS		
DATE	REV	DESCRIPTION	APPR.	BY		
					EST	TITLE
					CON	AS-BUILT DRAWING
					REL	DATE
					SCALE	1"=40'-0"
					SHEET	1 OF 1
					DWG	02503-AB
					REV	1

TRICIL ENVIRONMENTAL RESPONSE, INC. 1123 LIMPKIN ROAD HOUSTON, TX 77043 (800) 283-3433	DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS WALTHAM, MA	DESIGNED BY: NA	NYNZA CHEMICAL SITE ASHLAND, MASSACHUSETTS SUPERFUND SITE CLEANUP
		DRAWN BY: J.A.B.	
LAND PLANNING ENGINEERING & SURVEY 22 WEST MAIN STREET HOPKINTON, MASSACHUSETTS 01748 (508) 435-0028	REVISIONS SYMBOL DESCRIPTION DATE APPROVED	CHECKED BY: S.A.B.	AS-BUILT OF 60 ML HDPE CAP LINER
		REVIEWED BY: N.G.H.	
		SUBMITTED BY: TRICIL	SCALE: AS NOTED SHEET REFERENCE NUMBER: 18 DATE: 7-16-91 DRAWING CODE: 02503-AB