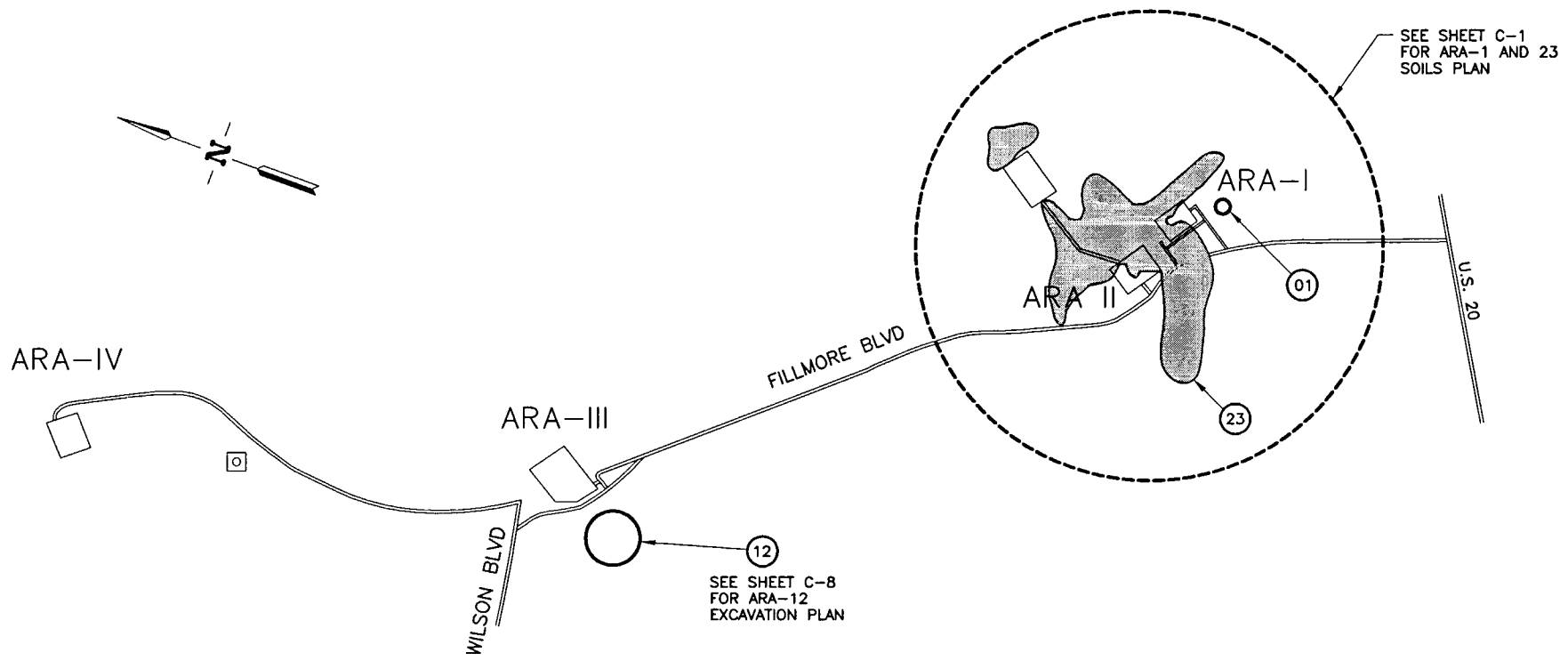
Appendix A

Design Drawings for Waste Area Group 5, Remedial Design/Remedial Action, Operable Unit 5-12, Phase II Sites

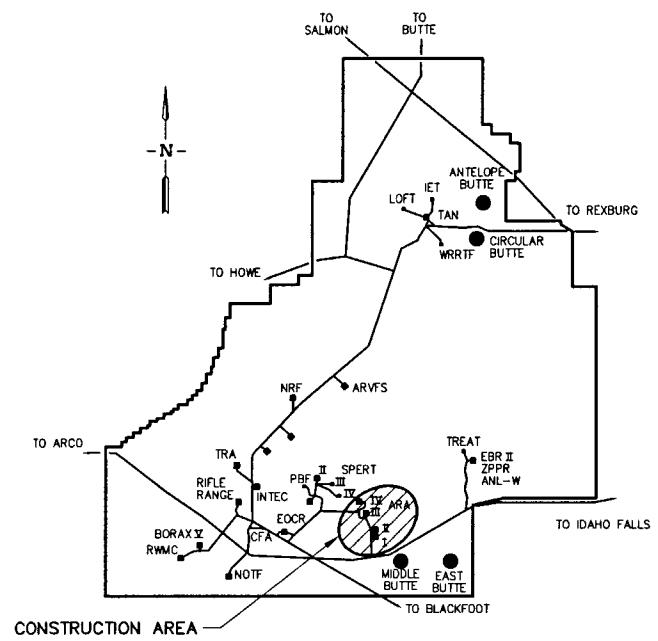
FMT-D1-REV 3.2

REVISIONS		
REV	DESCRIPTION	EFFECTIVE DATE:



AUXILIARY REACTOR AREA MAP

SCALE: NONE



SITE MAP

SCALE: NONE

AUXILIARY REACTOR AREA LAND DISPOSAL UNITS

NO.	TITLE
01	ARA-01: ARA-I CHEMICAL EVAPORATION POND
12	ARA-12: ARA-III RADIOACTIVE WASTE LEACH POND ARA-III CS-137 CONTAMINATED SOIL SOUTHWEST OF ARA-12
23	ARA-23: ARA-I AND ARA-II RADIOLOGICALLY CONTAMINATED SOILS

DRAWING INDEX

PAGE NO.	DWG NO.	A-E DWG NO.	REV	DRAWING TITLE
1	516004	T-1	–	SITE MAP, AREA MAP AND DRAWING INDEX
2	516005	T-2	–	LEGEND, ABBREVIATIONS AND GENERAL NOTES
3	516006	C-1	–	ARA-01 AND 23 SOILS PLAN
4	516007	C-2	–	ARA-23 AREA EXCAVATION PLAN
5	516008	C-3	–	ARA-23 AREA EXCAVATION PLAN (SL-1 BURIAL GROUNDS)
6	516009	C-4	–	ARA-23 AREA EXCAVATION PLAN (SL-1 HAUL ROAD)
7	516010	C-5	–	ARA-23 AREA EXCAVATION PLAN (ARA I AND II FACILITIES)
8	516011	C-6	–	ARA-23 AREA EXCAVATION PLAN
9	516012	C-7	–	ARA-01 AREA EXCAVATION PLAN
10	516013	C-8	–	ARA-12 AREA EXCAVATION PLAN
11	516014	C-9	–	ARA-23 ABOVE/BELOW GRADE LOCATION PLAN
12	516015	C-10	–	MISCELLANEOUS DETAILS

INDEX CODE NUMBER: AREA 070 | TYPE D100 | CL 01 | ORG 090 | SERIAL

FOR DRAWING INDEX SEE DRAWING NO. 516004	SUBCONTRACT NO. TBD	INEEL (Idaho National Engineering & Environmental Laboratory) BECHTEL BWXT IDAHO, LLC
NO SCALE	REQUESTER: F. WEBBER DESIGN: W. LIU DRAWN: ROB HERGESHEIMER PROJECT NO. 020991 SPEC CODE	WASTE AREA GROUP 5 REMEDIAL DESIGN/REMEDIAL ACTION PHASE II SITE MAP, AREA MAP AND DRAWING INDEX
DESIGN PHASE: AFC QUALITY LEVEL: 3	FOR REVIEW/APPROVAL SIGNATURES SEE DAR NO. 71018 EFFECTIVE DATE: 12/7/2000	SIZE D | CAGE CODE | INDEX CODE NUMBER AREA 068 TYPE 0100 CL 01 ORG 090 | DWG-516004 | REV SCALE: NONE | SHEET T-1

INDEX CODE NUMBER: AREA 066 | TYPE D100 | CL 01 | ORG 090 | SERIAL

Layout Name: D Size
Date: 12/05/00 - 1:16 P.M.
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File: 516004.DWG
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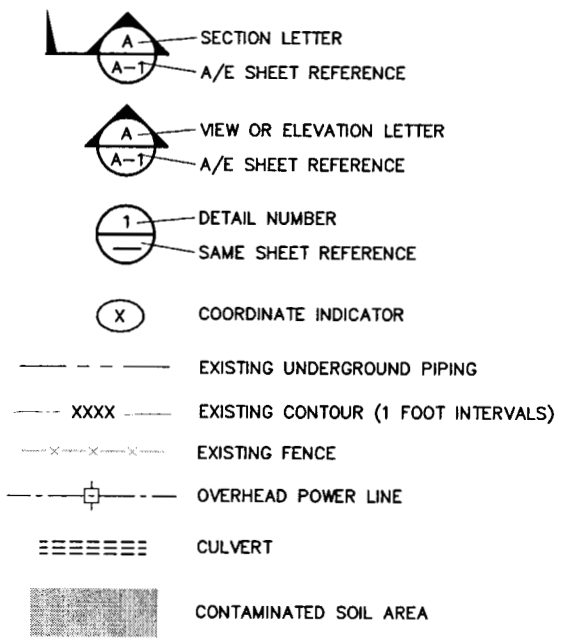
FMT-01-REV 3.2

REVISIONS		
REV	DESCRIPTION	EFFECTIVE DATE:

SYMBOL KEY



SUMMARY OF WORK

SITES	SELECTED REMEDY
ARA-01 CHEMICAL EVAPORATION POND	EXCAVATE 3 INCHES OF CONTAMINATED SOIL FROM THE AREA SHOWN ON SHEET C-7 AND DISPOSE AT AN APPROVED ONSITE FACILITY. AFTER THE CONTRACTOR SCREENS AND IDENTIFIES THE NEW EXCAVATION BOUNDARIES, FURTHER EXCAVATE AT 3 INCH INTERVALS. SEQUENCE WILL CONTINUE UNTIL ALL CONTAMINATION ABOVE THE REMEDIAL ACTION GOAL IS REMOVED.
ARA-12 RADIOACTIVE WASTE LEACH POND	EXCAVATE 3 INCHES OF CONTAMINATED SOIL FROM THE AREA SHOWN ON SHEET C-8 AND DISPOSE AT AN APPROVED ONSITE FACILITY. AFTER THE CONTRACTOR SCREENS AND IDENTIFIES THE NEW EXCAVATION BOUNDARIES, FURTHER EXCAVATE AT 3 INCH INTERVALS. SEQUENCE WILL CONTINUE UNTIL ALL CONTAMINATION ABOVE THE REMEDIAL ACTION GOAL IS REMOVED.
ARA-23 RADIOLOGICAL CONTAMINATED SURFACE SOIL	THERE ARE FOUR SUB-AREAS IN ARA-23 THAT HAVE DIFFERENT EXCAVATION SPECIFICATIONS. SL-1 BURIAL GROUND, ARA-II FACILITY, AND SL-1 HAUL ROAD. EXCAVATE 6 INCHES OF CONTAMINATED SOIL FROM THE AREAS SHOWN ON SHEETS C-3, C-4, AND C-5 AND DISPOSE AT AN APPROVED ONSITE FACILITY. AFTER THE CONTRACTOR SCREENS AND IDENTIFIES THE NEW EXCAVATION BOUNDARIES, FURTHER EXCAVATE AT 3 INCH INTERVALS. SEQUENCE WILL CONTINUE UNTIL ALL CONTAMINATION ABOVE THE REMEDIAL ACTION GOAL IS REMOVED. ARA-I FACILITY EXCAVATE AND STOCKPILE 6 INCHES OF CONTAMINATED SOIL FROM THE AREA IDENTIFIED AS ARA-I SHOWN ON DRAWING C-5. AFTER THE CONTRACTOR SCREENS THE AREA FOR CONTAMINANTS AND IDENTIFIES THE NEW BOUNDARIES, FURTHER EXCAVATE AT 3 INCH INTERVALS UNTIL ALL CONTAMINATION ABOVE THE REMEDIAL ACTION GOALS IS REMOVED. SOIL AREA A AND AREA C A TREATABILITY STUDY CONDUCTED IN THE SUMMER OF 1999 GENERATED SEVERAL STOCK-PILES OF SOIL. THESE STOCKPILES ARE FROM A 3-INCH EXCAVATION OVER THE AREA AS SHOWN ON SHEETS C-4 AND C-6. THESE STOCKPILES SHALL BE REMOVED AND DISPOSED WITH THE REMAINING SOILS. NO INITIAL EXCAVATION IS REQUIRED IN AREA A. ALL OTHER AREAS INSIDE ARA-23. EXCAVATE 3 INCHES OF CONTAMINATED SOIL FROM THE AREA SHOWN ON SHEETS C-2, C-3, C-4, C-5 AND C-6 AND DISPOSE AT AN APPROVED ONSITE FACILITY. AFTER THE CONTRACTOR SCREENS AND IDENTIFIES THE NEW EXCAVATION BOUNDARIES, FURTHER EXCAVATE AT 3 INCH INTERVALS. SEQUENCE WILL CONTINUE UNTIL ALL CONTAMINATION ABOVE THE REMEDIAL ACTION GOAL IS REMOVED.
ALL SITES	AREAS THAT HAVE BEEN EXCAVATED TO DEPTHS GREATER THAN 1 FOOT SHALL BE BACK-FILLED WITH UNCONTAMINATED SOIL IN ACCORDANCE WITH SPECIFICATION 02200 OR SLOPED AND GRADED TO PROMOTE DRAINAGE AND MATCH THE SURROUNDING TERRAIN. REVEGETATION SHALL BE DONE IN ALL DISTURBED AREAS IN ACCORDANCE WITH SPECIFICATION 02486. CONTAMINATED SOIL SHALL BE REMOVED AND TRANSPORTED TO AN APPROVED ON SITE FACILITY FOR PERMANENT DISPOSAL.

GENERAL NOTES

1. RETAIN AND PROTECT ALL EXISTING FACILITIES UNLESS OTHERWISE NOTED.
2. ALL EXCAVATED AREAS, 1-FOOT OR MORE IN DEPTH, SHALL BE MADE SAFE DURING CONSTRUCTION ACTIVITIES BY TRANSITIONING WITH A MAXIMUM 1:1 SLOPE TO EXISTING GRADE.
3. ALL AREAS INITIALLY INDICATED FOR EXCAVATION SHALL BE 3 INCHES IN DEPTH UNLESS OTHERWISE SPECIFIED.
4. EXISTING RAD FENCING SHALL BE REMOVED AND RELOCATED DURING CONSTRUCTION AS NEEDED UNDER THE DIRECTION OF RAD CON PERSONNEL.
5. ARA-II FACILITY FENCE SHALL BE REMOVED AT THE COMPLETION OF CONSTRUCTION ACTIVITIES AS DIRECTED BY RAD CON PERSONNEL.

PROFESSIONAL ENGINEER REGISTERED 9404 STATE OF IDAHO KURT D. FRITZ

INDEX CODE NUMBER				
AREA	TYPE	CI	ORG	SERIAL
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FOR DRAWING INDEX SEE DRAWING NO.	516004
	NO SCALE
DESIGN PHASE:	AFC
QUALITY LEVEL:	3

SUBCONTRACT NO.	TBD
REQUESTER:	F. WEBBER
DESIGN:	W. LIU
DRAWN:	ROB HERGESHEIMER
PROJECT NO.	020991
SPEC CODE	
FOR REVIEW/APPROVAL SIGNATURES SEE DAR NO.	71018
EFFECTIVE DATE:	12/7/2000

INEEL — Idaho National Engineering & Environmental Laboratory — BECHTEL BWXT IDAHO, LLC

WASTE AREA GROUP 5
REMEDIAL DESIGN/REMEDIAL ACTION
PHASE II

LEGEND, ABBREVIATIONS AND GENERAL NOTES

INDEX CODE NUMBER				
AREA	TYPE	CI	ORG	SERIAL
070	9999	38	090	

SIZE	CAGE CODE	INDEX CODE NUMBER					DWG	REV
		AREA	TYPE	CI	ORG	SERIAL		
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SCALE: NONE — SHEET T-2

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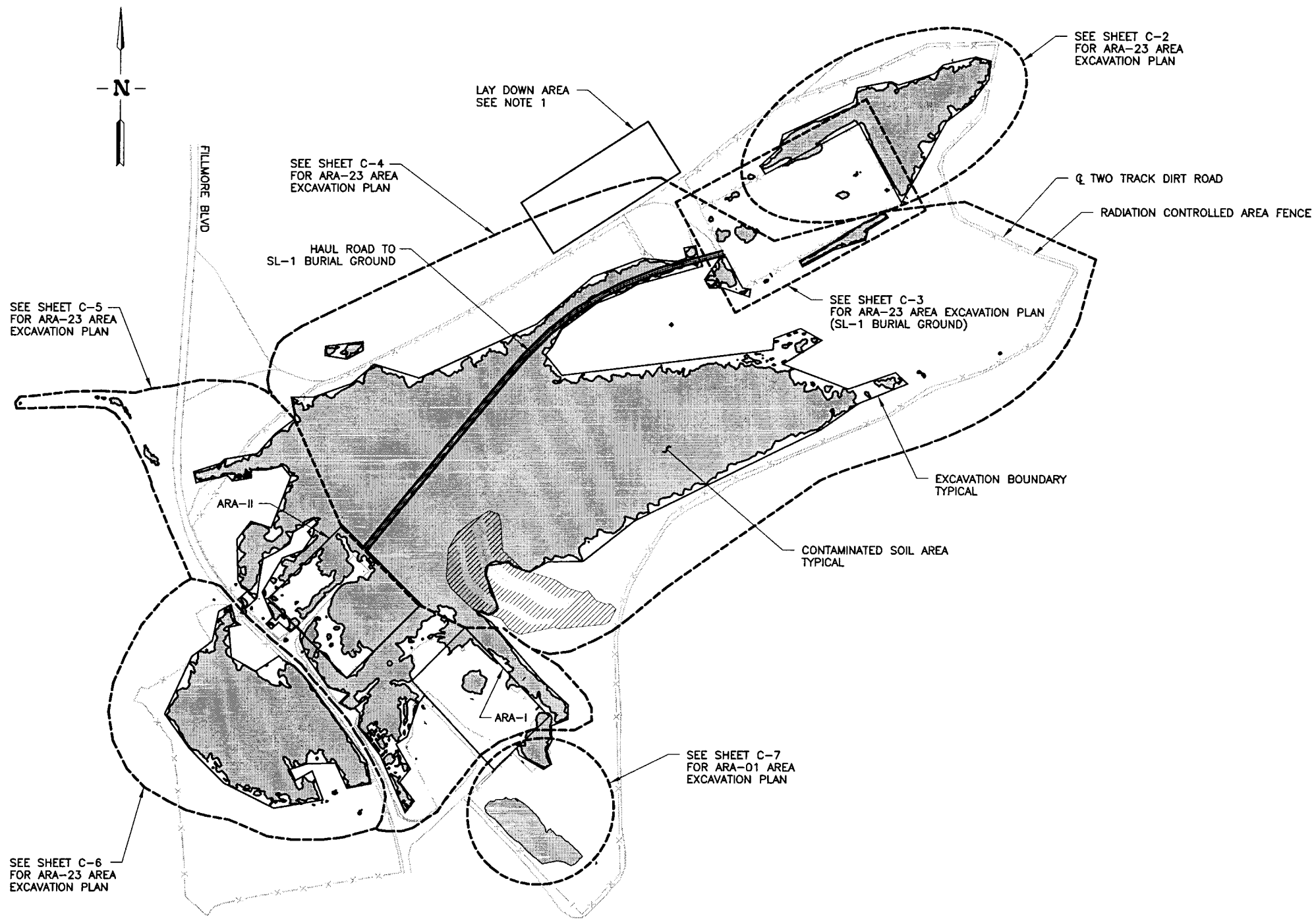
FMT-01-REV 3.2

REVISIONS		
REV	DESCRIPTION	EFFECTIVE DATE:



ARA 1 AND 23 SOILS PLAN

SCALE: 1"=200.0'

NOTES

1. SUBCONTRACTOR SHALL USE THIS AREA AS A LAY DOWN AREA DURING CONSTRUCTION. GRADE PROPERLY FOR CONSTRUCTION ACCESS, RE-GRADE AND RE-VEGETATE TO MATCH EXISTING CONDITION AT THE COMPLETION OF CONSTRUCTION.

PROFESSIONAL ENGINEER REGISTERED 9404 STATE OF IDAHO KURT D. FRITZ

INDEX CODE NUMBER				
AREA	TYPE	CL	ORG	SERIAL
070	D100	02	090	

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SCALE: 1" = 200.0'	200' 100' 50' 0 200'
DESIGN PHASE:	AFC
QUALITY LEVEL:	3
SUBCONTRACT NO.	TBD
REQUESTER:	F. WEBBER
DESIGN:	W. LIU
DRAWN:	ROB HERGESHEIMER
PROJECT NO.	020991
SPEC CODE	
FOR REVIEW/APPROVAL SIGNATURES SEE DAR NO.	71018
EFFECTIVE DATE:	12/7/2000

INEEL — Idaho National Engineering & Environmental Laboratory — BECHTEL BWXT IDAHO, LLC

WASTE AREA GROUP 5
REMEDIAL DESIGN/REMEDIAL ACTION
PHASE II

ARA-01 AND 23 SOILS PLAN

SIZE	CAGE CODE	INDEX CODE NUMBER AREA	TYPE	CL	ORG	DWG	REV
D		068	0100	02	090	516006	

SCALE: 1"=200.0' SHEET C-1

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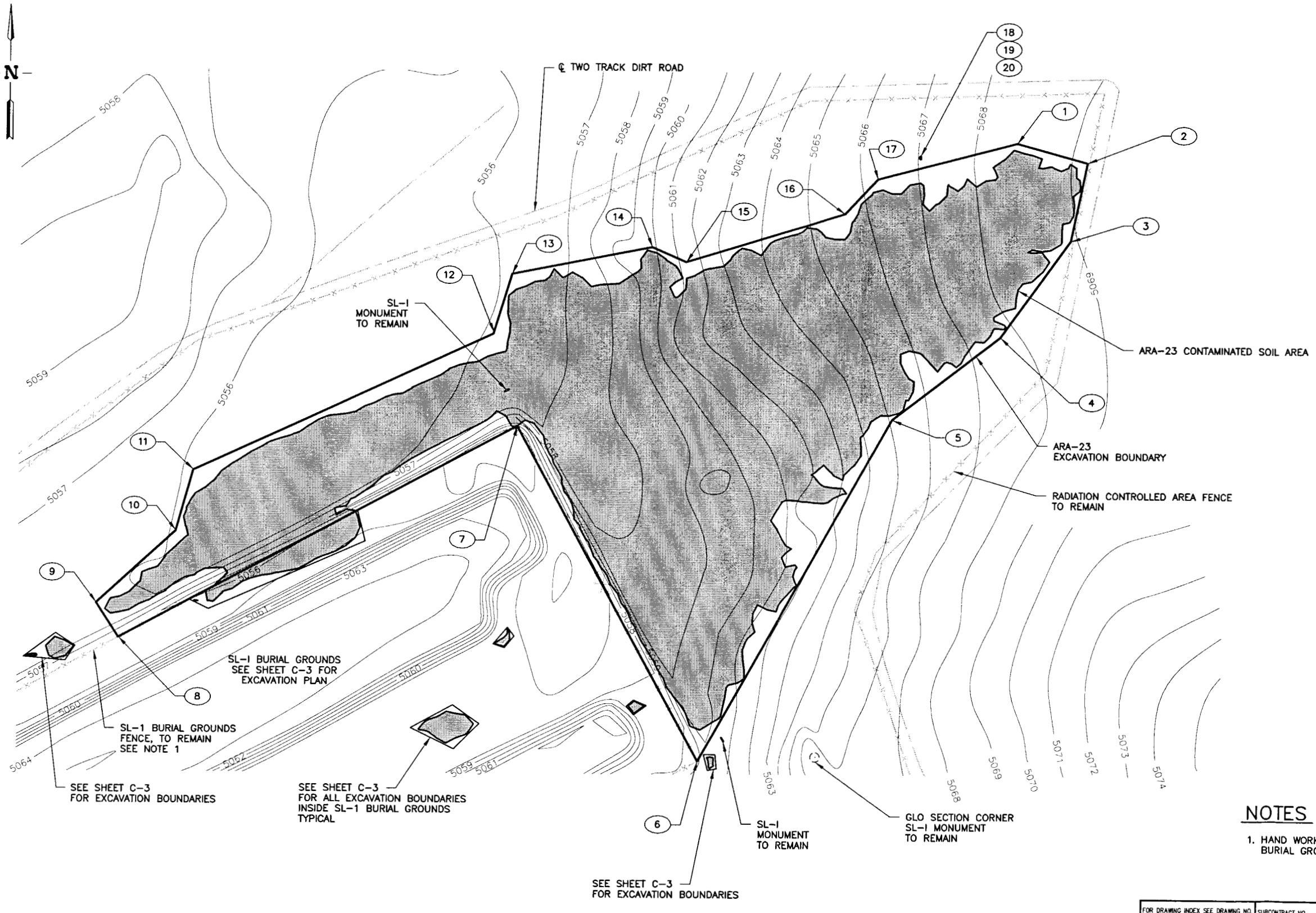
FWT-01-REV 3.2

REVISIONS		
REV	DESCRIPTION	EFFECTIVE DATE:



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2	677189.88	328103.78
3	677128.65	328091.14
4	677052.82	328036.72
5	676987.41	327952.85
6	676718.11	327802.96
7	676980.83	327659.43
8	676812.64	327348.82
9	676839.61	327331.08
10	676896.68	327393.40
11	676944.76	327406.71
12	677053.23	327640.16
13	677100.30	327654.49
14	677122.07	327764.28
15	677110.53	327790.67
16	677148.87	327914.54
17	677176.02	327940.15
18	677192.04	327973.35
19	677193.23	327972.16
20	677194.45	327973.34

NOTES

1. HAND WORK MAY BE REQUIRED FOR EXCAVATIONS NEAR THE SL-1 BURIAL GROUND FENCE.

ARA-23 AREA EXCAVATION PLAN

SCALE: 1"=30.0'

PROFESSIONAL ENGINEER REGISTERED 9404 STATE OF IDAHO KURT D. FRITZ

INDEX CODE NUMBER				
AREA	TYPE	CI	ORG	SERIAL
070	D100	02	090	

FOR DRAWING INDEX SEE DRAWING NO.	516004
SCALE: 1" = 30.0'	30' 20' 10' 0 30'
DESIGN PHASE:	AFC
QUALITY LEVEL:	3
SUBCONTRACT NO.	TBD
REQUESTER: F. WEBBER	
DESIGN: W. LIU	
DRAWN: ROB HERGESHEIMER	
PROJECT NO.	020991
SPEC CODE	
FOR REVIEW/APPROVAL SIGNATURES SEE DAR NO. 71018	
EFFECTIVE DATE:	12/7/2000

INEEL — BECHTEL BWXT IDAHO, LLC

WASTE AREA GROUP 5
REMEDIAL DESIGN/REMEDIAL ACTION
PHASE II

ARA-23 AREA EXCAVATION PLAN

SIZE	CAGE CODE	INDEX CODE NUMBER				DWG	REV
		AREA	TYPE	CI	ORG		
D		068	0100	02	090	516007	

SCALE: 1"=30.0' SHEET C-2

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FMT-D1-REV 3.2

REVISIONS		
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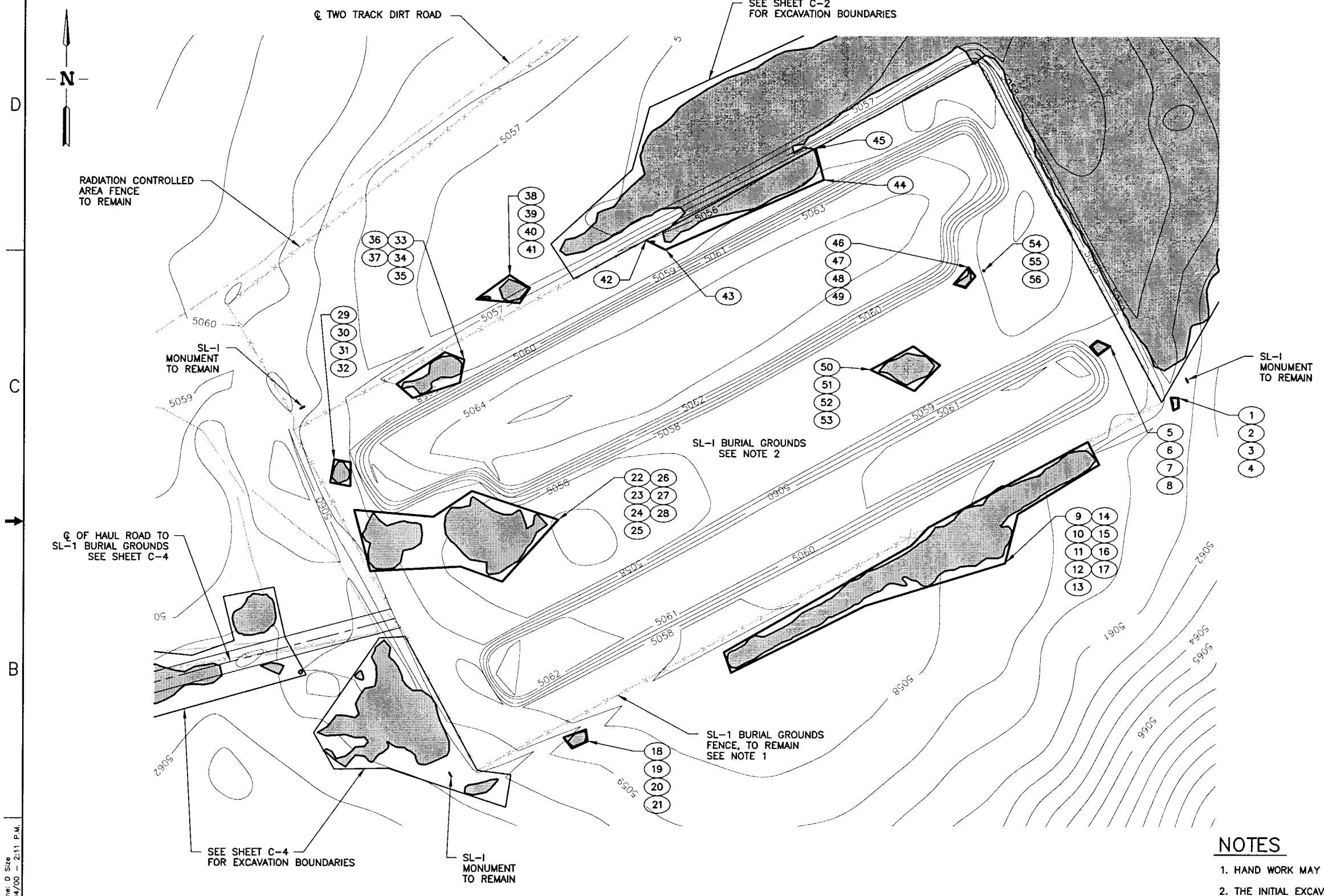

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5	676761.50	327762.93
6	676754.11	327753.19
7	676760.92	327747.32
8	676765.84	327752.95
9	676687.16	327746.08
10	676669.56	327754.78
11	676630.99	327692.47
12	676592.76	327682.81
13	676559.36	327574.47
14	676507.43	327471.24
15	676523.24	327465.55
16	676606.36	327610.45
17	676620.39	327623.33
18	676463.28	327359.67
19	676454.16	327360.87
20	676448.51	327349.10
21	676457.04	327342.49
22	676625.93	327337.52
23	676577.72	327294.56
24	676589.33	327294.56
25	676585.81	327192.43
26	676633.32	327180.11
27	676628.04	327241.03
28	676648.10	327270.96
29	676672.43	327164.32
30	676670.28	327177.04
31	676651.79	327176.87
32	676854.60	327161.34
33	676755.89	327249.51
34	676750.09	327264.74
35	676732.13	327261.18
36	676720.44	327224.89
37	676731.13	327212.34
38	676796.77	327273.89
39	676815.55	327299.52
40	676805.64	327315.11
41	676793.82	327307.28
42	676842.68	327404.31
43	676835.26	327419.43
44	676889.37	327541.44
45	676913.60	327535.28
46	676822.33	327653.45
47	676815.43	327658.76
48	676806.17	327651.07
49	676809.22	327642.25
50	676761.16	327611.23
51	676746.44	327631.89
52	676726.56	327612.19
53	676743.00	327578.52
54	676819.96	327665.57
55	676819.22	327665.56
56	676819.93	327664.81

NOTES

1. HAND WORK MAY BE REQUIRED FOR EXCAVATIONS NEAR THE SL-1 BURIAL GROUND FENCE.
2. THE INITIAL EXCAVATION INSIDE THE SL-1 BURIAL GROUNDS FENCE SHALL BE THE TOP 6 INCHES. ALL OTHER EXCAVATIONS IDENTIFIED ON THIS SHEET SHALL BE 3 INCHES.

ARA-23 AREA EXCAVATION PLAN

(SL-1 BURIAL GROUNDS)
SCALE: 1"=30.0'

PROFESSIONAL ENGINEER REGISTERED 9404 STATE OF IDAHO KURT D. FRITZ

INDEX CODE NUMBER				
AREA	TYPE	CI.	ORIG.	SERIAL
070	D100	02	090	

FOR DRAWING INDEX SEE DRAWING NO.	516004
SUBCONTRACT NO.	TBD
REQUESTER: F. WEBBER	
DESIGN: W. LIU	
DRAWN: ROB HERGESHEIMER	
PROJECT NO.	020991
SPEC CODE	
FOR REVIEW/APPROVAL SIGNATURES SEE DAR NO. 71018	
DESIGN PHASE:	AFC
QUALITY LEVEL:	3
EFFECTIVE DATE:	12/7/2000

30' 20' 10' 0 30'
SCALE: 1" = 30.0'

INEEL — Idaho National Engineering & Environmental Laboratory — BECHTEL BWXT IDAHO, LLC

WASTE AREA GROUP 5
REMEDIAL DESIGN/REMEDIAL ACTION
PHASE II
ARA-23 AREA EXCAVATION PLAN
(SL-1 BURIAL GROUNDS)

SIZE	CAGE CODE	INDEX CODE NUMBER				DWG-516008	REV
		AREA	TYPE	CI.	ORIG.		
D		068	D100	02	090		

SCALE: 1"=30.0' SHEET C-3

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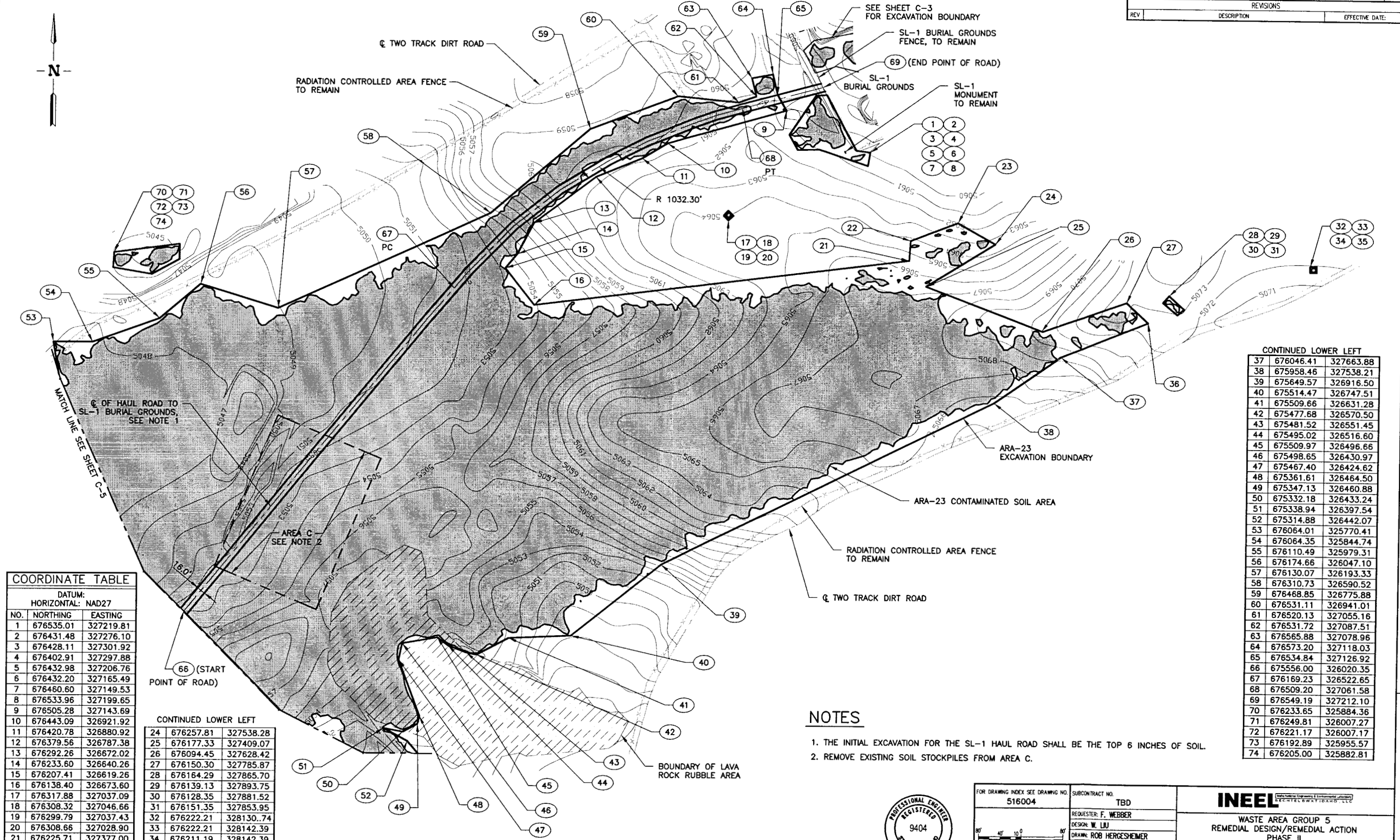
A-5

FMT-01-REV 3.2

REVISIONS		
REV	DESCRIPTION	EFFECTIVE DATE:



ARA-23 AREA EXCAVATION PLAN

SCALE: 1"=80.0'

COORDINATE TABLE		
DATUM: HORIZONTAL: NAD27		
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3	676428.11	327301.92
4	676402.91	327297.88
5	676432.98	327206.76
6	676432.20	327165.49
7	676460.60	327149.53
8	676533.96	327199.65
9	676505.28	327143.69
10	676443.09	326921.92
11	676420.78	326880.92
12	676379.56	326787.38
13	676292.26	326672.02
14	676233.60	326640.26
15	676207.41	326619.26
16	676138.40	326673.60
17	676317.88	327037.09
18	676308.32	327046.66
19	676299.79	327037.43
20	676308.66	327028.90
21	676225.71	327377.00
22	676263.24	327379.50
23	676297.13	327467.77

CONTINUED UPPER RIGHT

CONTINUED LOWER LEFT

24	676257.81	327538.28
25	676177.33	327409.07
26	676094.45	327628.42
27	676150.30	327785.87
28	676164.29	327865.70
29	676139.13	327893.75
30	676128.35	327881.52
31	676151.35	327853.95
32	676222.21	328130..74
33	676222.21	328142.39
34	676211.19	328142.39
35	676211.19	328130.74
36	676112.47	327826.13

CONTINUED UPPER RIGHT

CONTINUED LOWER LEFT

37	676046.41	327663.88
38	675958.46	327538.21
39	675649.57	326916.50
40	675514.47	326747.51
41	675509.66	326631.28
42	675477.68	326570.50
43	675481.52	326551.45
44	675495.02	326516.60
45	675509.97	326496.66
46	675498.65	326430.97
47	675467.40	326424.62
48	675361.61	326464.50
49	675347.13	326460.88
50	675332.18	326433.24
51	675338.94	326397.54
52	675314.88	326442.07
53	676064.01	325770.41
54	676064.35	325844.74
55	676110.49	325979.31
56	676174.66	326047.10
57	676130.07	326193.33
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61	676520.13	327055.16
62	676531.72	327087.51
63	676565.88	327078.96
64	676573.20	327118.03
65	676534.84	327126.92
66	675556.00	326020.35
67	676169.23	326522.65
68	676509.20	327061.58
69	676549.19	327212.10
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71	676249.81	326007.27
72	676221.17	326007.17
73	676192.89	325955.57
74	676205.00	325882.81

NOTES

1. THE INITIAL EXCAVATION FOR THE SL-1 HAUL ROAD SHALL BE THE TOP 6 INCHES OF SOIL.
2. REMOVE EXISTING SOIL STOCKPILES FROM AREA C.

PROFESSIONAL ENGINEER REGISTERED 9404 STATE OF IDAHO KURT D. FRITZ

FOR DRAWING INDEX SEE DRAWING NO. 516004	SUBCONTRACT NO. TBD	INEEL (Idaho National Engineering & Environmental Laboratory) BECHTEL BWXT IDAHO, LLC	
80' 40' 10 0 80' SCALE: 1" = 80.0'	REQUESTER: F. WEBBER	WASTE AREA GROUP 5 REMEDIAL DESIGN/REMEDIAL ACTION PHASE II ARA-23 AREA EXCAVATION PLAN (SL-1 HAUL ROAD)	
	DESIGN: W. LIU		
	DRAWN: ROB HERGESHEIMER		
	PROJECT NO. 020991		
	SPEC CODE		
INDEX CODE NUMBER: AREA 070, TYPE D100, CL 02, ORG 090, SERIAL	DESIGN PHASE: AFC	FOR REVIEW/APPROVAL SIGNATURES SEE DAR NO. 71018	SIZE D, CAGE CODE, INDEX CODE NUMBER: AREA 068, TYPE 0100, CL 02, ORG 090, DWG-516009, REV
	QUALITY LEVEL: 3	EFFECTIVE DATE: 12/7/2000	SCALE: 1"=80.0', SHEET C-4

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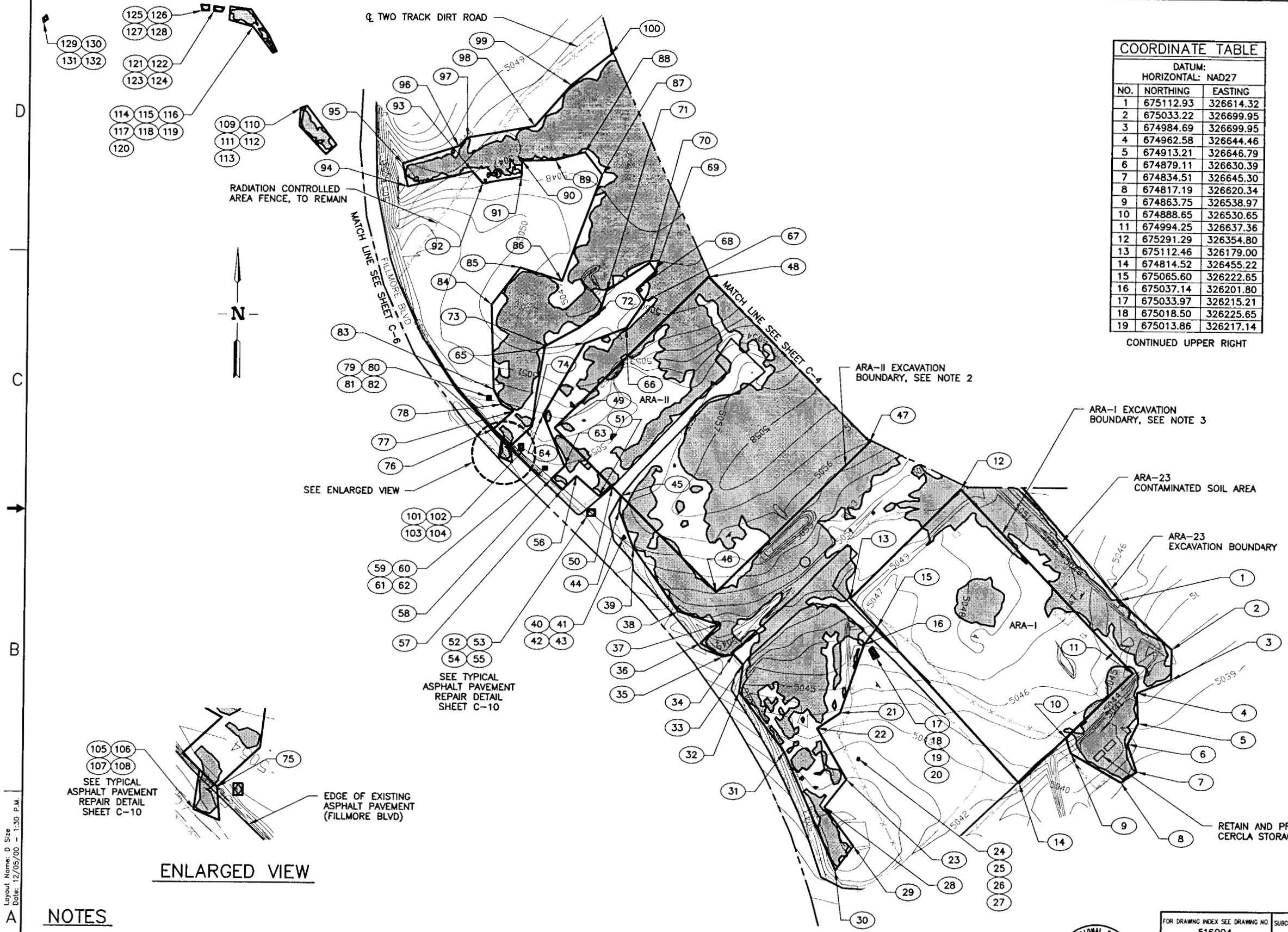
Dates: 12/05/00 - 1:21 P.M.

A-6



ENLARGED VIEW

NOTES

1. SEE SHEET C-9 FOR IDENTIFICATION OF STRUCTURES AND INTERFERENCES.
2. THE INITIAL EXCAVATION FOR ARA-II SHALL BE THE TOP 6 INCHES OF SOIL.
3. AT ARA-I EXCAVATE AND STOCKPILE THE TOP 6 INCHES OF SOIL FOR CONTRACTOR SURVEYING.

ARA-23 AREA EXCAVATION PLAN

(ARA I AND II FACILITIES)
SCALE: 1"=80.0'

REVISIONS		
REV	DESCRIPTION	EFFECTIVE DATE:

COORDINATE TABLE

DATUM: HORIZONTAL: NAD27

NO.	NORTHING	EASTING
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3	674984.69	326699.95
4	674962.58	326644.46
5	674913.21	326646.79
6	674879.11	326630.39
7	674834.51	326645.30
8	674817.19	326620.34
9	674863.75	326538.97
10	674888.65	326530.65
11	674994.25	326637.36
12	675291.29	326354.80
13	675112.46	326179.00
14	674814.52	326455.22
15	675065.60	326222.65
16	675037.14	326201.80
17	675033.97	326215.21
18	675018.50	326225.65
19	675013.86	326217.14

CONTINUED UPPER RIGHT

CONTINUED LOWER LEFT

20	675028.56	326210.18
21	674925.82	326164.16
22	674900.68	326127.41
23	674817.83	326175.73
24	674853.17	326196.36
25	674849.09	326195.82
26	674849.90	326192.82
27	674853.99	326194.46
28	674773.10	326140.63
29	674710.07	326188.44
30	674670.68	326159.44
31	674862.14	326073.98
32	674958.71	325999.72
33	675003.15	326005.79
34	675019.92	325990.02
35	675016.25	325972.63
36	675037.71	325936.62
37	675068.21	325965.61
38	675098.05	325899.49
39	675193.04	325825.96
40	675212.07	325810.79
41	675207.76	326813.72
42	675206.51	325810.79
43	675207.73	325808.87
44	675252.51	325802.56
45	675275.74	325804.71
46	675121.13	325960.87
47	675367.73	326207.49
48	675633.35	325943.46
49	675386.21	325696.12
50	675291.22	325791.80
51	675276.23	325769.35
52	675254.34	325763.76
53	675243.09	325763.76
54	675243.09	326750.62
55	675254.34	325750.62
56	675308.04	325732.76
57	675285.46	325709.21
58	675302.52	325690.63
59	675232.24	325677.78
60	675323.24	325684.50
61	675317.80	325684.50
62	675317.80	325677.78
63	675324.00	325712.95
64	675407.99	325677.02
65	675524.07	325743.99
66	675549.42	325811.07
67	675592.38	325840.42
68	675612.21	325827.19
69	675641.64	325857.81
70	675655.28	325848.30
71	675609.42	325788.44
72	675572.24	325766.86
73	675519.21	325679.01
74	675388.79	325659.56
75	675356.57	325625.25
76	675383.84	325597.14

CONTINUED UPPER RIGHT

CONTINUED LOWER LEFT

76	675383.84	325597.14
77	675413.01	325628.59
78	675423.80	325609.76
79	675437.29	325586.39
80	675437.29	325592.56
81	675430.37	325594.00
82	675430.37	325586.39
83	675448.12	325596.76
84	675585.85	325592.21
85	675646.17	325638.10
86	675625.63	325715.94
87	675796.80	325769.67
88	675833.15	325741.15
89	675822.11	325689.99
90	675818.75	325639.21
91	675792.72	325638.39
92	675781.98	325575.97
93	675800.98	325559.43
94	675775.78	325455.67
95	675818.37	325455.21
96	675841.47	325536.70
97	675855.18	325550.89
98	675874.44	325659.23
99	675941.14	325717.93
100	675991.62	325783.06
101	675359.50	325638.43
102	675359.50	325645.81
103	675349.90	325645.81
104	675349.90	325638.45
105	675356.57	325625.25
106	675370.52	325611.02
107	675338.63	325606.52
108	675329.64	325627.38
109	675904.40	325290.72
110	675842.10	325338.81
111	675827.00	325321.58
112	675872.31	325278.40
113	675901.04	325279.90
114	676064.05	325164.88
115	676059.42	325198.63
116	676019.28	325227.06
117	675992.14	325240.38
118	675989.32	325234.03
119	676031.64	325201.60
120	676042.23	325163.55
121	676064.51	325139.14
122	676062.21	325155.04
123	676055.25	325151.44
124	676056.69	325138.58
125	676067.02	325117.67
126	676066.29	325130.93
127	676057.31	325131.18
128	676057.36	325119.40
129	676047.22	324865.03
130	676040.77	324867.07
131	676036.03	324860.34
132	676042.64	324859.70

PROFESSIONAL ENGINEER REGISTERED 9404 STATE OF IDAHO KURT D. FRITZ

INDEX CODE NUMBER				
AREA	TYPE	CL	ORG	SERIAL
070	D100	02	090	

DESIGN PHASE:	AFC
QUALITY LEVEL:	3

FOR DRAWING INDEX SEE DRAWING NO.	516004
SUBCONTRACT NO.	TBD
REQUESTER: F. WEBBER	
DESIGN: W. LIU	
DRAWN: ROB HERGESHEIMER	
PROJECT NO.	020991
SPEC CODE	
FOR REVIEW/APPROVAL SIGNATURES SEE DAR NO. 71018	
EFFECTIVE DATE:	12/7/2000

80' 40' 10' 0 80' SCALE: 1" = 80.0'

INEEL (Idaho National Engineering & Environmental Laboratory) BECHTEL BWXT IDAHO, LLC

WASTE AREA GROUP 5
REMEDIAL DESIGN/REMEDIAL ACTION
PHASE II
ARA-23 AREA EXCAVATION PLAN
(ARA I AND II FACILITIES)

SIZE	CAGE CODE	INDEX CODE NUMBER				DWG-	REV
		AREA	TYPE	CL	ORG		
D		068	0100	02	090	516010	

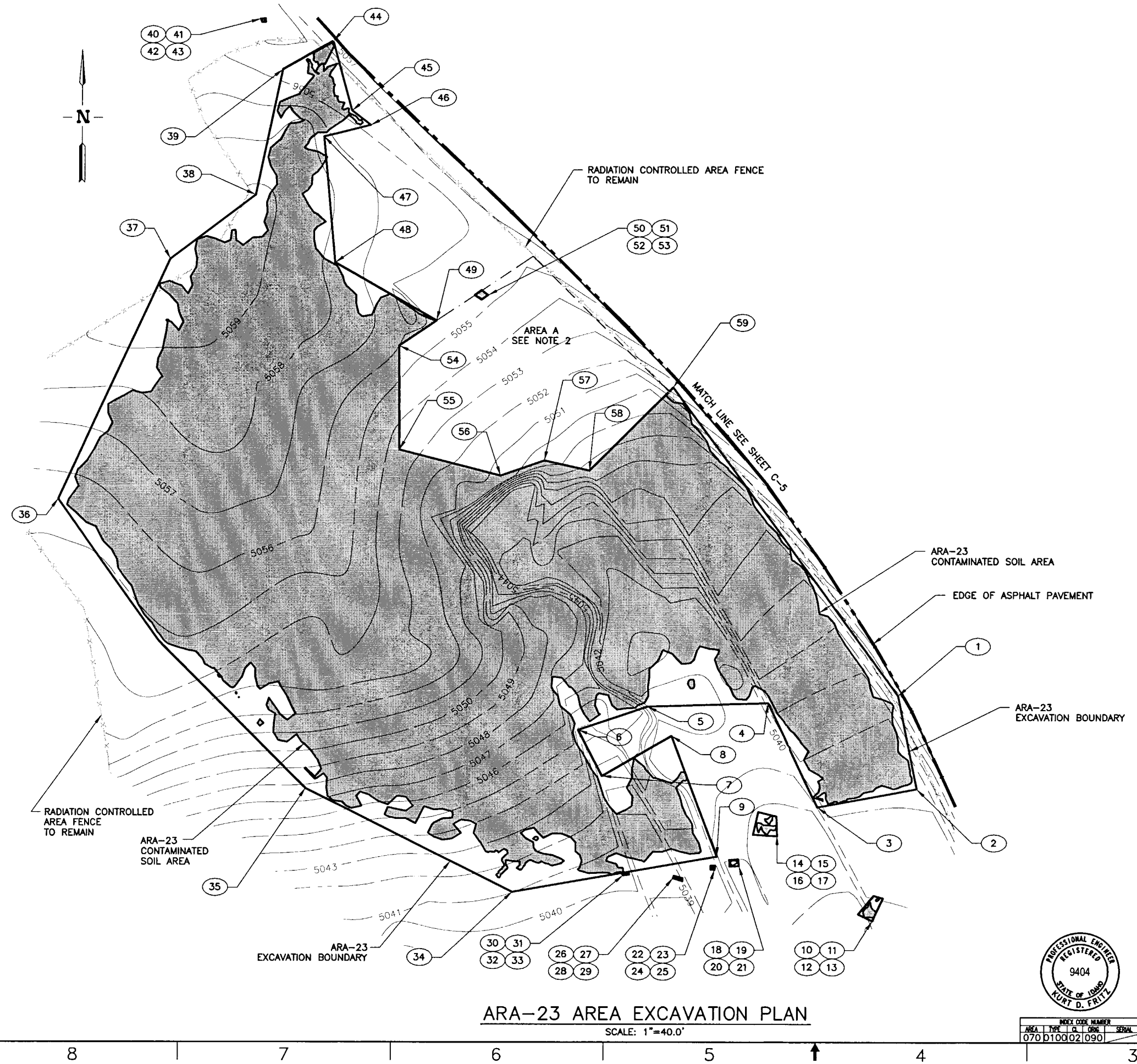
SCALE: 1"=80.0' SHEET C-5

File: 516010.DWG ID: RDH5
Path: G:\wag-5\SOILS\AFC
Layout Name: D Size
Date: 12/05/00 - 1:30 P.M.

A-7

FMT-01-REV 3.2

REVISIONS		
REV	DESCRIPTION	EFFECTIVE DATE:



ARA-23 AREA EXCAVATION PLAN

SCALE: 1"=40.0'

COORDINATE TABLE		
DATUM: HORIZONTAL: NAD27		
NO.	NORTHING	EASTING
1	674842.17	326028.42
2	674767.45	326043.77
3	674752.58	325963.82
4	674863.31	325923.77
5	674833.48	325827.54
6	674814.75	325772.17
7	674777.73	325791.29
8	674809.97	325846.85
9	674713.17	325883.37
10	674682.18	326009.70
11	674680.06	326017.06
12	674661.85	326008.57
13	674667.21	325997.34
14	674748.92	325916.31
15	674745.38	325930.87
16	674729.57	325931.36
17	674730.84	325912.22
18	674710.57	325893.38
19	674711.00	325900.37
20	674705.73	325900.94
21	674705.44	325893.66
22	674706.01	325878.68
23	674706.01	325882.10
24	674702.73	325881.68
25	674702.73	325878.68
26	674697.85	325849.29
27	674696.00	325856.25
28	674693.61	325856.28
29	674695.89	325848.58
30	674700.99	325812.82
31	674698.91	325813.63
32	674698.27	325808.68
33	674700.08	325807.56
34	674684.91	325719.75
35	674767.68	325554.11
36	675000.10	325354.67
37	675192.88	325444.56
38	675244.04	325572.39
39	675343.97	325533.60
40	675384.40	325515.86

CONTINUED UPPER RIGHT

CONTINUED LOWER LEFT

41	675384.63	325519.62
42	675381.77	325519.72
43	675381.72	325516.85
44	675366.72	325573.73
45	675311.20	325588.88
46	675299.60	325604.03
47	675290.51	325566.66
48	675190.08	325575.75
49	675743.61	325657.53
50	675168.13	325693.17
51	675163.99	325698.40
52	675160.34	325693.30
53	675164.06	325687.52
54	675123.54	325627.55
55	675039.92	325627.95
56	675019.06	325708.81
57	675031.26	325743.97
58	675023.18	325780.18
59	675090.16	325846.94

NOTES

1. SEE SHEET C-9 FOR IDENTIFICATION OF STRUCTURES AND INTERFERENCES.
2. REMOVE EXISTING SOIL STOCKPILES FROM AREA A.

PROFESSIONAL ENGINEER REGISTERED 9404 STATE OF IDAHO KURT D. FRITZ

INDEX CODE NUMBER				
AREA	TYPE	CL	ORG	SERIAL
070	D1	00	2	090

FOR DRAWING INDEX SEE DRAWING NO.	516004
SCALE: 1" = 40.0'	
DESIGN PHASE:	AFC
QUALITY LEVEL:	3
SUBCONTRACT NO.	TBD
REQUESTER: F. WEBBER	
DESIGN: W. LIU	
DRAWN: ROB HERGESHEIMER	
PROJECT NO.	020991
SPEC CODE	
FOR REVIEW/APPROVAL SIGNATURES SEE DAR NO. 71018	
EFFECTIVE DATE:	12/7/2000

INEEL — Idaho National Engineering & Environmental Laboratory — BECHTEL BWXT IDAHO, LLC

WASTE AREA GROUP 5
REMEDIAL DESIGN/REMEDIAL ACTION
PHASE II

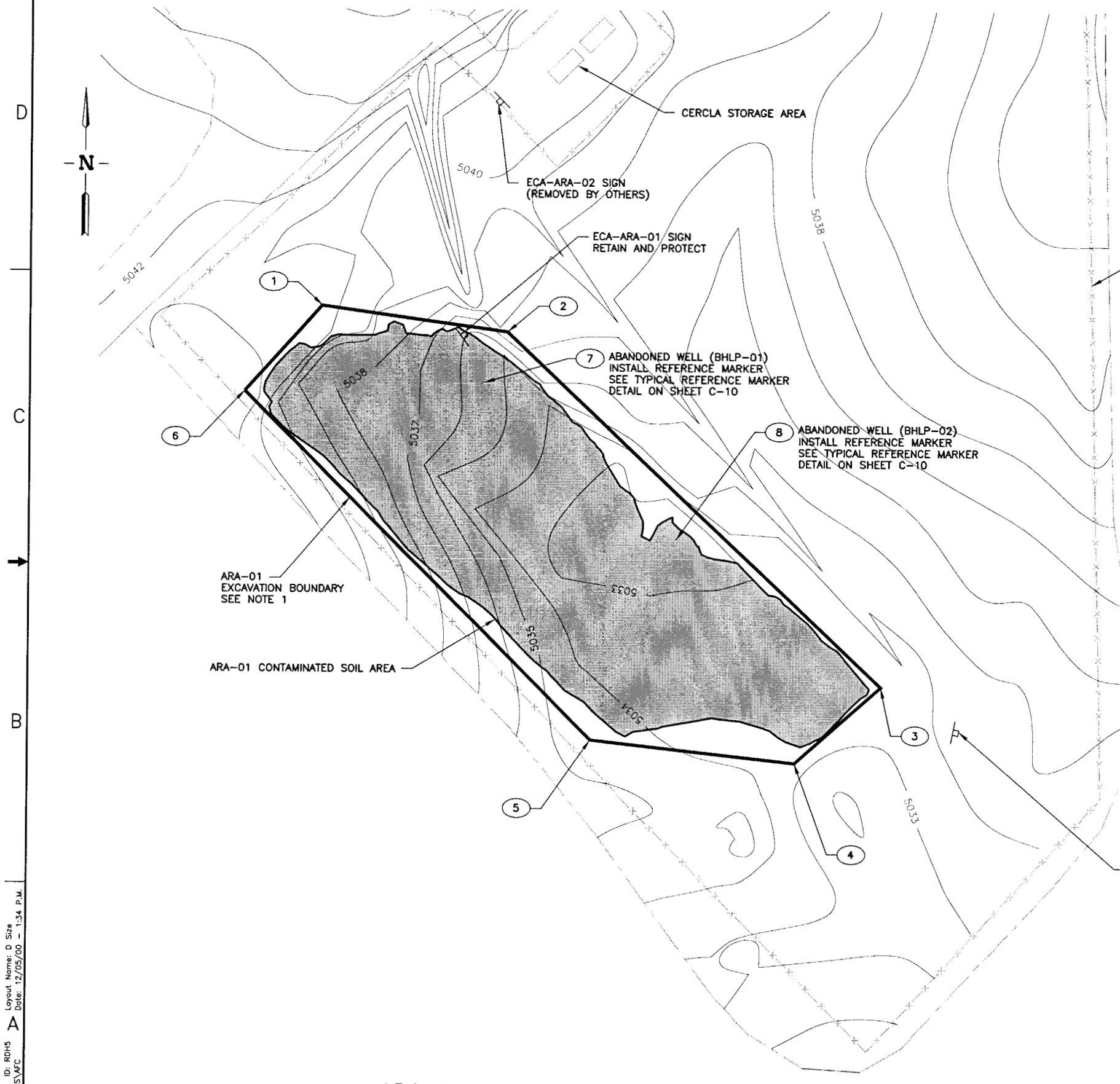
ARA-23 AREA EXCAVATION PLAN

SIZE	CAGE CODE	INDEX CODE NUMBER				DWG-516011	REV
		AREA	TYPE	CL	ORG		
D		068	0100	02	090		
SCALE: 1"=40.0'						SHEET C-6	

File: 516011.DWG ID: RDH5
Path: G:\wag-5\SOILS\AFC
Layout Name: D Size
Date: 12/05/00 - 1:30 P.M.

FMT-01-REV 3.2

REVISIONS		
REV	DESCRIPTION	EFFECTIVE DATE:



COORDINATE TABLE		
DATUM: HORIZONTAL: NAD27		
NO.	NORTHING	EASTING
1	674731.80	326455.60
2	674718.06	326555.07
3	674527.30	326757.27
4	674486.08	326711.17
5	674498.20	326601.18
6	674685.73	326414.35
7	674690.97	326542.33
8	674606.88	326646.95

ARA-01 AREA EXCAVATION PLAN

SCALE: 1"=30.0'

NOTES

1. THIS SITE CONTAINS SEVERAL BASALT OUTCROPPINGS.

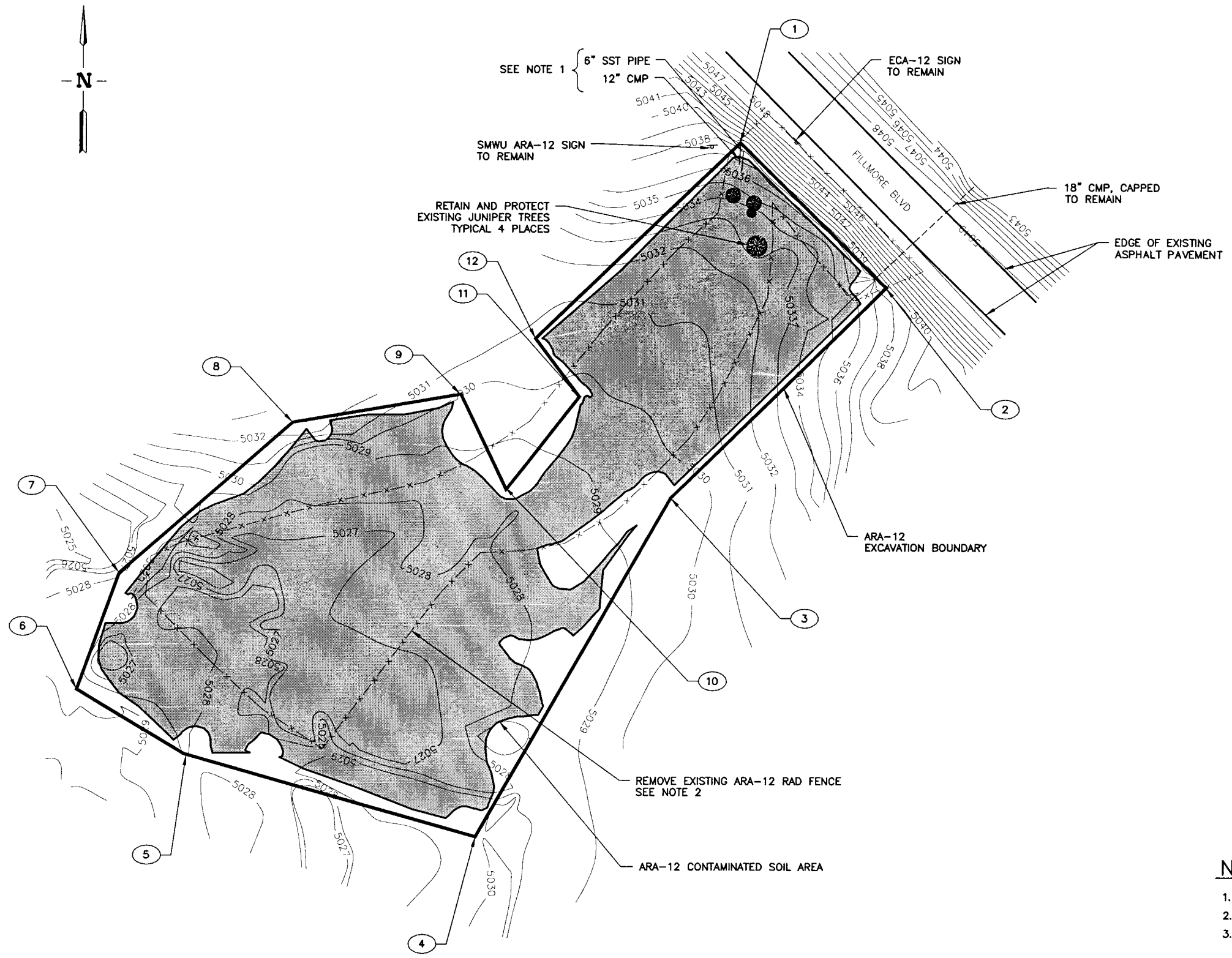
PROFESSIONAL ENGINEER REGISTERED 9404 STATE OF IDAHO KURT D. FRITZ

FOR DRAWING INDEX SEE DRAWING NO. 516004	SUBCONTRACT NO. TBD	INEEL — Idaho National Engineering & Environmental Laboratory — BECHTEL BWXT IDAHO, LLC
30' 20' 10' 0 30' SCALE: 1" = 30.0'	REQUESTER: F. WEBBER	WASTE AREA GROUP 5 REMEDIAL DESIGN/REMEDIAL ACTION PHASE II
	DESIGN: W. LIU	
	DRAWN: ROB HERGESHEIMER	ARA-01 AREA EXCAVATION PLAN
	PROJECT NO. 020991	
	SPEC CODE	
DESIGN PHASE: AFC	FOR REVIEW/APPROVAL SIGNATURES SEE DAR NO. 71018	SIZE D; CAGE CODE; INDEX CODE NUMBER AREA 068 TYPE 0100 CL 02 OBJ 090; DWG-516012; REV
QUALITY LEVEL: 3	EFFECTIVE DATE: 12/7/2000	SCALE: 1"=30.0'; SHEET C-7

File: 516012.DWG ID: RDH5 Layout Name: D Size
Path: G:\wag-5\SOILS\AFC Date: 12/05/00 - 1:34 P.M.

FMT-D1-REV 3.2

REVISIONS		
REV	DESCRIPTION	EFFECTIVE DATE:



ARA-12 AREA EXCAVATION PLAN

SCALE: 1"=30.0'

COORDINATE TABLE		
DATUM: HORIZONTAL: NAD27		
NO.	NORTHING	EASTING
1	680294.86	323982.17
2	680216.88	324061.52
3	680102.86	323945.50
4	679919.16	323841.00
5	679963.61	323683.08
6	679998.40	323625.07
7	680061.63	323647.71
8	680143.47	323741.10
9	680158.93	323831.99
10	680107.40	323856.48
11	680157.65	323895.80
12	680189.21	323871.95

NOTES

1. SAW CUT AND REMOVE EXISTING PIPES 3 FEET BEYOND GROUND SURFACE.
2. FENCE CONSTRUCTED OF T-BAR POSTS AND 2 WIRE STANDS.
3. REMOVE AND DISPOSE OF EXISTING BRUSH STOCKPILES.

PROFESSIONAL ENGINEER REGISTERED 9404 STATE OF IDAHO KURT D. FRITZ

FOR DRAWING INDEX SEE DRAWING NO. 516004	SUBCONTRACT NO. TBD
30' 20' 10' 0 30' SCALE: 1" = 30.0'	REQUESTER: F. WEBBER
	DESIGN: W. LIU
	DRAWN: ROB HERGESHEIMER
	PROJECT NO. 020991
	SPEC CODE
DESIGN PHASE: AFC	FOR REVIEW/APPROVAL SIGNATURES SEE DAR NO. 71018
QUALITY LEVEL: 3	EFFECTIVE DATE: 12/7/2000

INEEL Idaho National Engineering & Environmental Laboratory — LOCKHEED MARTIN IDAHO TECHNOLOGIES COMPANY

WASTE AREA GROUP 5
REMEDIAL DESIGN/REMEDIAL ACTION
PHASE II

ARA-12 AREA EXCAVATION PLAN

SIZE	CAGE CODE	INDEX CODE NUMBER AREA	TYPE	CL	ORIG	DWG-516013	REV
D		063	0100	02	090		

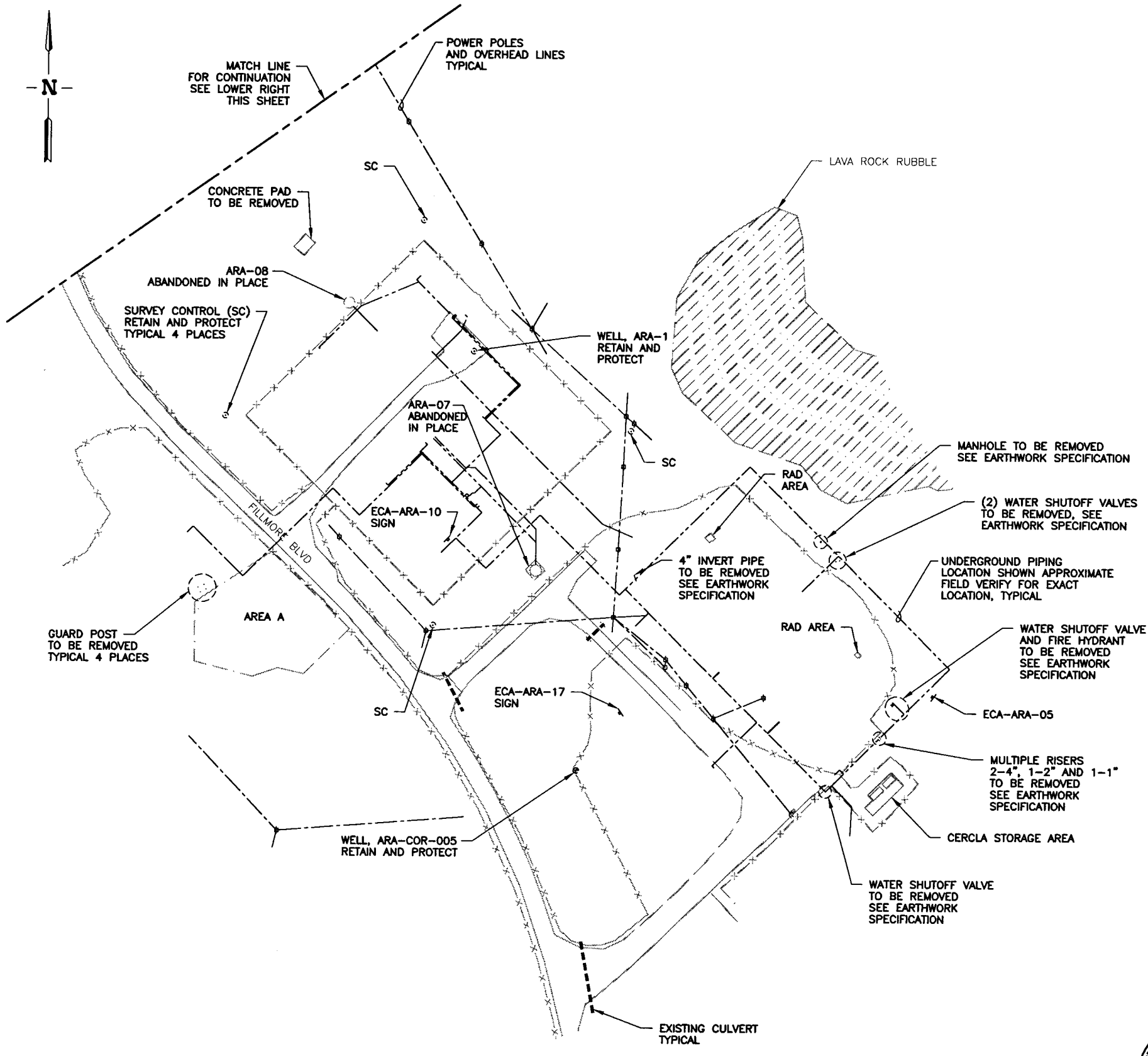
SCALE: 1"=30.0' SHEET C-8

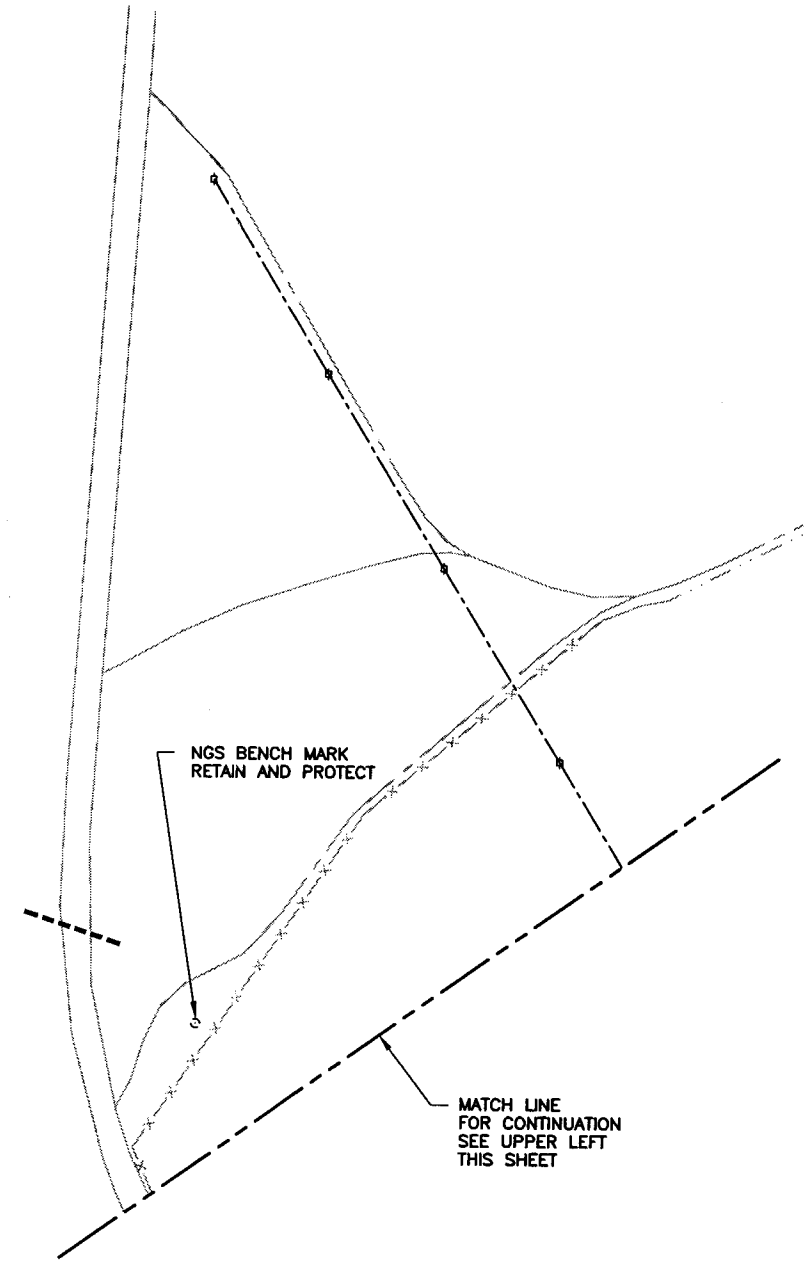
File: 516013.DWG ID: RDH5
Path: G:\eng-S\SOILS\AFC Layout Name: D Size
Date: 12/05/00 - 1:34 P.M.

FMT-01-REV 3.2

REVISIONS		
REV	DESCRIPTION	EFFECTIVE DATE:

11





ARA-23 ABOVE/BELOW GRADE LOCATION PLAN

SCALE: 1"=80.0'

NOTES

1. RETAIN AND PROTECT ALL EXISTING FACILITIES UNLESS OTHERWISE SPECIFIED.

INDEX CODE NUMBER				
AREA	TYPE	CL	DWG	SERIAL
070	D400	65	090	

INDEX CODE NUMBER				
AREA	TYPE	CL	DWG	SERIAL
070	D300	65	090	

PROFESSIONAL ENGINEER REGISTERED 9404 STATE OF IDAHO KUNT D. FRITZ

INDEX CODE NUMBER				
AREA	TYPE	CL	DWG	SERIAL
068	D400	65	090	

FOR DRAWING INDEX SEE DRAWING NO. 516004

80' 40' 10 0 80'
SCALE: 1" = 80.0'

DESIGN PHASE: AFC
QUALITY LEVEL: 3

SUBCONTRACT NO. TBD
REQUESTER: F. WEBBER
DESIGN: W. LIU
DRAWN: ROB HERGESHEIMER
PROJECT NO. 020991
SPEC CODE
FOR REVIEW/APPROVAL SIGNATURES SEE DAR NO. 71018
EFFECTIVE DATE: 12/7/2000

INEEL — Idaho National Engineering & Environmental Laboratory — BECHTEL BWXT IDAHO, LLC

WASTE AREA GROUP 5
REMEDIAL DESIGN/REMEDIAL ACTION
PHASE II

ARA-23 ABOVE/BELOW GRADE LOCATION PLAN

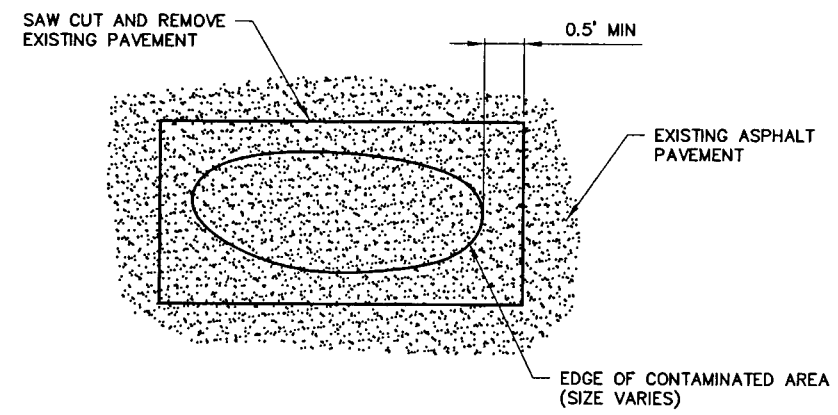
SIZE	CAGE CODE	INDEX CODE NUMBER				DWG-516014	REV
		AREA	TYPE	CL	DWG		
D		068	D300	65	090		

SCALE: 1"=80.0' SHEET C-9

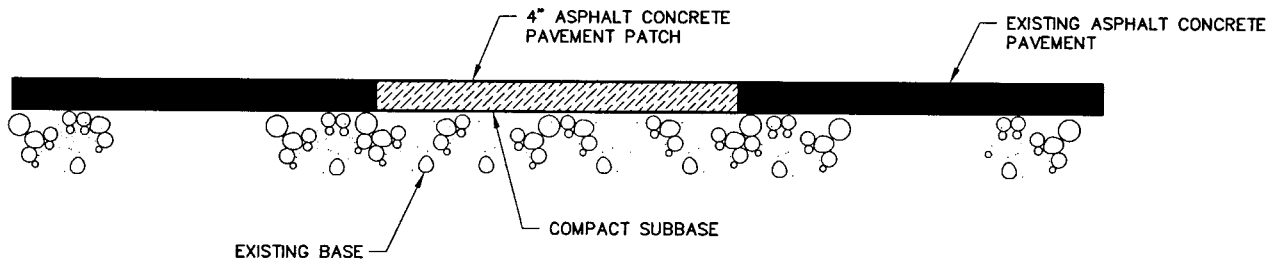
File: 516014.DWG Path: G:\wag-5\SOILS\AFC
ID: RDH5 Layout Name: D Size Date: 12/05/00 - 1:37 P.M.

FMT-01-REV 3.1

REVISIONS		
REV	DESCRIPTION	EFFECTIVE DATE:

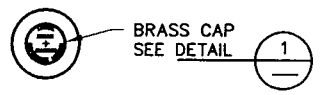


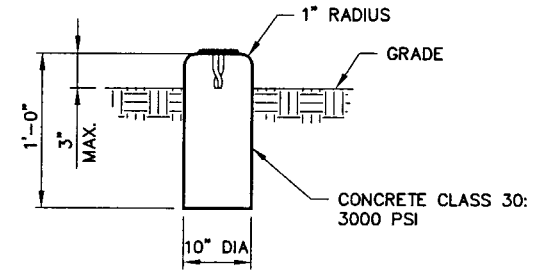
PLAN



TYPICAL ASPHALT PAVEMENT REPAIR DETAIL

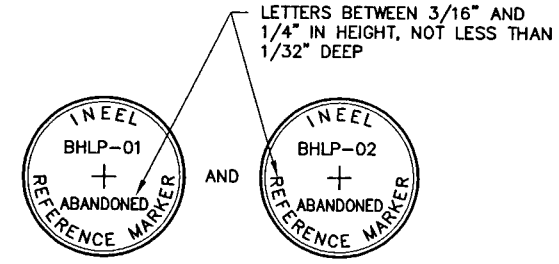
SEE NOTES 1 AND 2
NTS

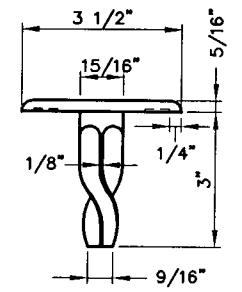




TYPICAL REFERENCE MARKER DETAIL

SEE NOTE 3
NTS





DETAIL 1
NTS

NOTES

1. ALL AREAS TO BE PATCHED SHALL HAVE THE EXISTING PAVEMENT SAW CUT TO CLEAN STRAIGHT LINES.
2. EDGES OF EXISTING PAVEMENT SHALL HAVE A TACK COAT APPLIED PRIOR TO THE PLACEMENT OF NEW ASPHALT CONCRETE.
3. MARKER SHALL BE CAST IN ONE PIECE WITH BRASS CAP IN PLACE. MARKER SHALL BE INSTALLED SO THAT THE CENTER OF THE CAP IS NO MORE THAN 1 INCH FROM THE POINT ESTABLISHED ON SHEET C-7.

PROFESSIONAL ENGINEER REGISTERED 9404 STATE OF IDAHO KURT D. FRITZ

FOR DRAWING INDEX SEE DRAWING NO. 516004	SUBCONTRACT NO. TBD	INEEL (Idaho National Engineering & Environmental Laboratory) BECHTEL BWXT IDAHO, LLC
NO SCALE	REQUESTER: F. WEBBER DESIGN: KURT FRITZ DRAWN: ROB HERGESHEIMER PROJECT NO. 020991 SPEC CODE	WASTE AREA GROUP 5 REMEDIAL DESIGN/REMEDIAL ACTION PHASE II MISCELLANEOUS DETAILS
DESIGN PHASE: AFC QUALITY LEVEL: 3	FOR REVIEW/APPROVAL SIGNATURES SEE DAR NO. 71018 EFFECTIVE DATE: 12/7/2000	SIZE D; CAGE CODE; INDEX CODE NUMBER AREA 068 TYPE 0100 SI 02 DISC 090; DWG-516015; REV; SCALE: NONE; SHEET C-10

File: 516015.DWG ID: RDH5
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Date: 12/05/00 - 1:38 P.M.