AR TARGET SHEET

The following document was too large to scan as one unit, therefore, it has been broken down into sections.

EDMC#:	0027913
SECTION:	2 of 4
DOCUMENT #:	DOE/RL-92-67, DRAFT B
TITLE:	Draft LFI/FFS for 1100-EM-2, 1100-EM-3, and 1100-IU-1

SELECTED DRAWINGS OF 1100-EM-3 AND 1100-IU-1

9312941148

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9413293.1473

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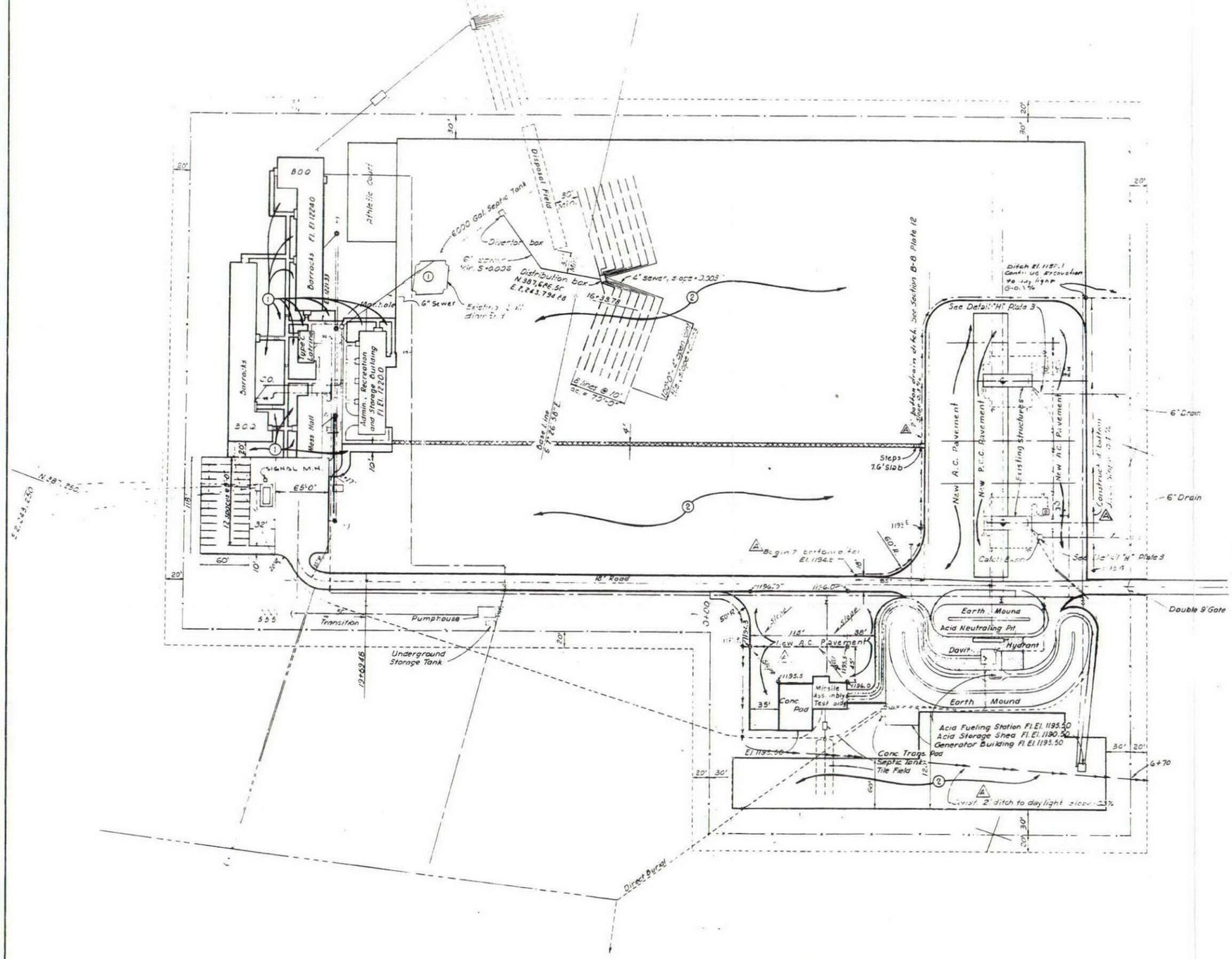


LEGEND

Existing

- —W— Water line
- —E— Overhead Power line
- ···E··· Underground Power line
- ···C··· Underground Communication line
- —K— Fence
- Conduit and size
- Fire Hydrant
- Pavement or Sidewalk
- Type "A" Asphalt paving
- Type "B" Asphalt paving
- P.C.C. Pavement
- P.C.C. Sidewalk

Area ① Lawn Grass = 1,953.3 SY

Area ② Field Grass = 46,670.0 SY

Direction of drainage

1194.5 Finished grade elevations

Note:

REVISION	DATE	DESCRIPTION	BY
3	8 Feb 60	AS CONSTRUCTED	
2	16 May 58	Revised elev.	RCS
1	22 May 58	Drainage features added to Spraying Area	

CORPS OF ENGINEERS, U.S. ARMY
OFFICE OF THE DISTRICT ENGINEER, WALLA WALLA, WASHINGTON

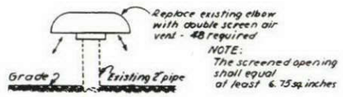
DRAWN BY W.M.
TRACED BY S.A.D.
CHECKED BY B.E.D.
SUBMITTED
CHIEF, PLANS & SPECS BRANCH
APPROVED
CHIEF, DESIGN BRANCH
APPROVED
COL. C.E. DISTRICT ENGINEER
DATE 2 May 58

CAMP HANFORD
CAMP HANFORD, WASHINGTON
SPECIAL AAA FACILITIES
SITE H-52-L
PAVING

APPROVED
CHIEF ENGINEERING DIVISION
DATE 1 May 58

SCALE AS SHOWN | SPEC NO M-58-55
DRAWING NUMBER
SHEET OF 16-10-01

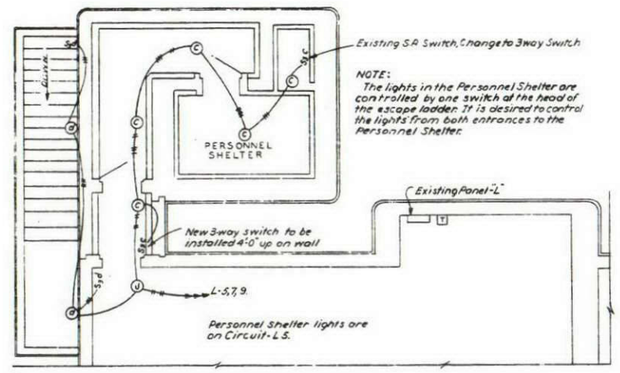
CORPS OF ENGINEERS — U. S. ARMY



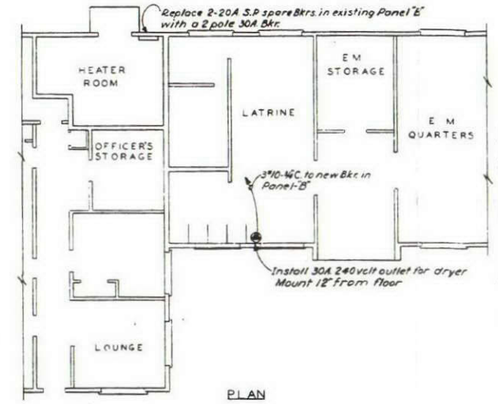
DEHUMIDIFIER REACTIVATION AIR INLET AND AIR OUTLET

UNDER GROUND MISSILE STORAGE STRUCTURE

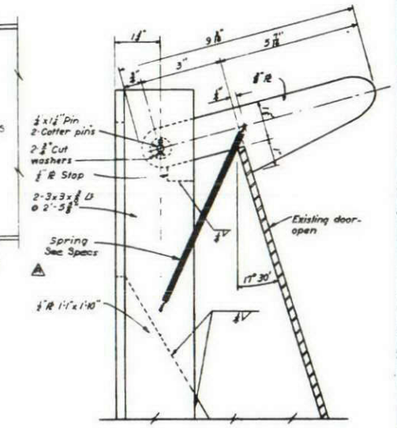
NOT TO SCALE



PLAN
PERSONNEL SHELTER
UNDER GROUND MISSILE STORAGE STRUCTURE
TYPE "B"
NOT TO SCALE

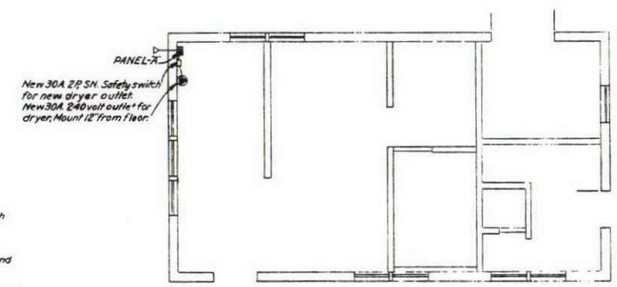


PLAN
EXISTING QUARTERS FOR 4 OFFICERS, AND 42 ENLISTED MEN
TYPICAL H-12-C H-52

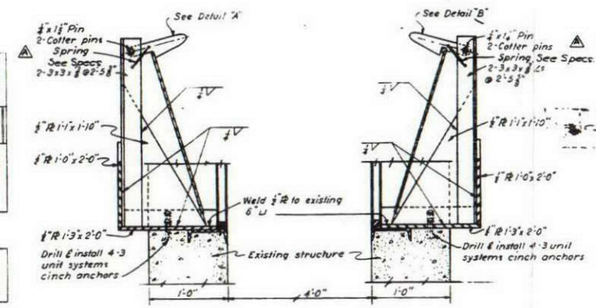


DETAIL "A"
SCALE: HALF SIZE

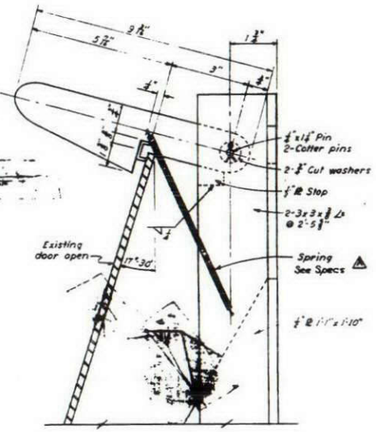
NOTE: TYPICAL H-06-L, H-12-L, H-52-L AND H-83-L, 2 STORAGE STRUCTURES AT EACH SITE. TOTAL OF 8 STRUCTURES.



PLAN
EXISTING LATRINE
TYPICAL H-06-C H-52-L H-83-C



SECTION A/10
SCALE 1 1/2"=1'-0"

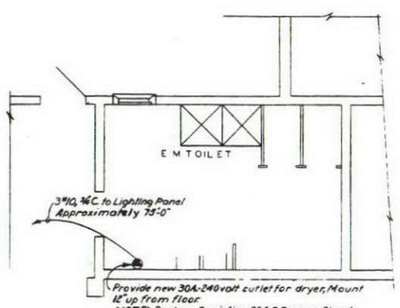


DETAIL "B"
SCALE: HALF SIZE

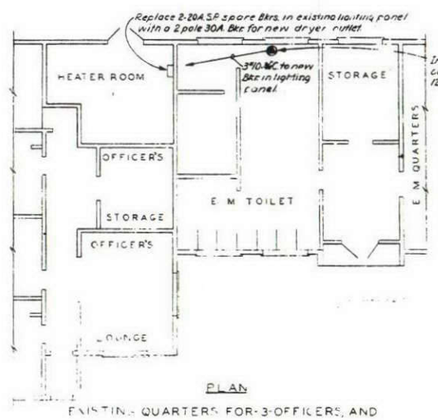
GENERAL NOTES:

1. Replace the elevator warning bell on 2 underground structures at each of the following Launcher Sites with a Benjamin Type SWP weatherproof Howler Catalog No. 8590-110 volt, or approved equal; H-06-L, H-12-L, H-52-L and H-83-L. The bell is 24 volts A.C., however the bell transformer and 110 volt source are within 4 feet of each other. Stock pile the replaced bells and transformers with the Post Engineer as directed by Contracting Officer.

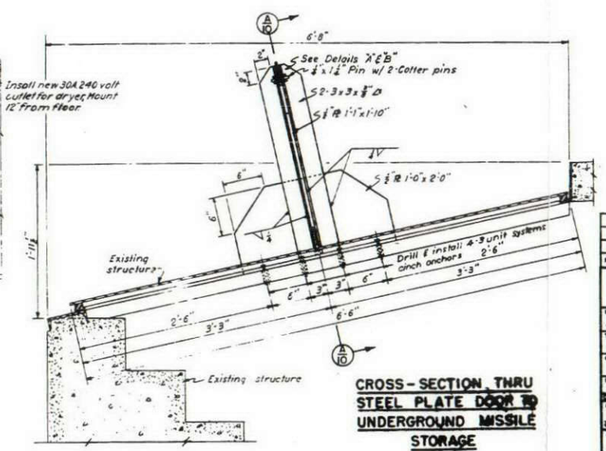
2. Place an insulating mat: "Salisbury Protector Blanket" 27" x 36" or approved equal in the conduit manhole for the Generator Building at Launcher Sites H-06-L, H-12-L, H-52-L and H-83-L. The cover for these manholes is formed by ten-2" x 12" x 2'-6" creosoted planks. Bolt these planks to a 3'-2" x 10'-0" x 16 Ga. galvanized steel sheet with 4-1/2" stove bolts per plank thus forming a sandtight cover for the manhole. Provide one of these metal sheets for H-06-L, H-12-L, H-52-L and H-83-L.



PLAN
E M TOILET H-52-C



PLAN
EXISTING QUARTERS FOR 3 OFFICERS, AND 54 ENLISTED MEN
TYPICAL H-12-L



CROSS-SECTION THRU STEEL PLATE DOOR TO UNDERGROUND MISSILE STORAGE

REVISION	DATE	DESCRIPTION	BY
3	23 DEC 57	AS CONSTRUCTED	
2	25 Apr 57	Deleted size of spring for doors of US Structures	

CORPS OF ENGINEERS, U.S. ARMY
OFFICE OF THE DISTRICT ENGINEER, WALLA WALLA, WASHINGTON

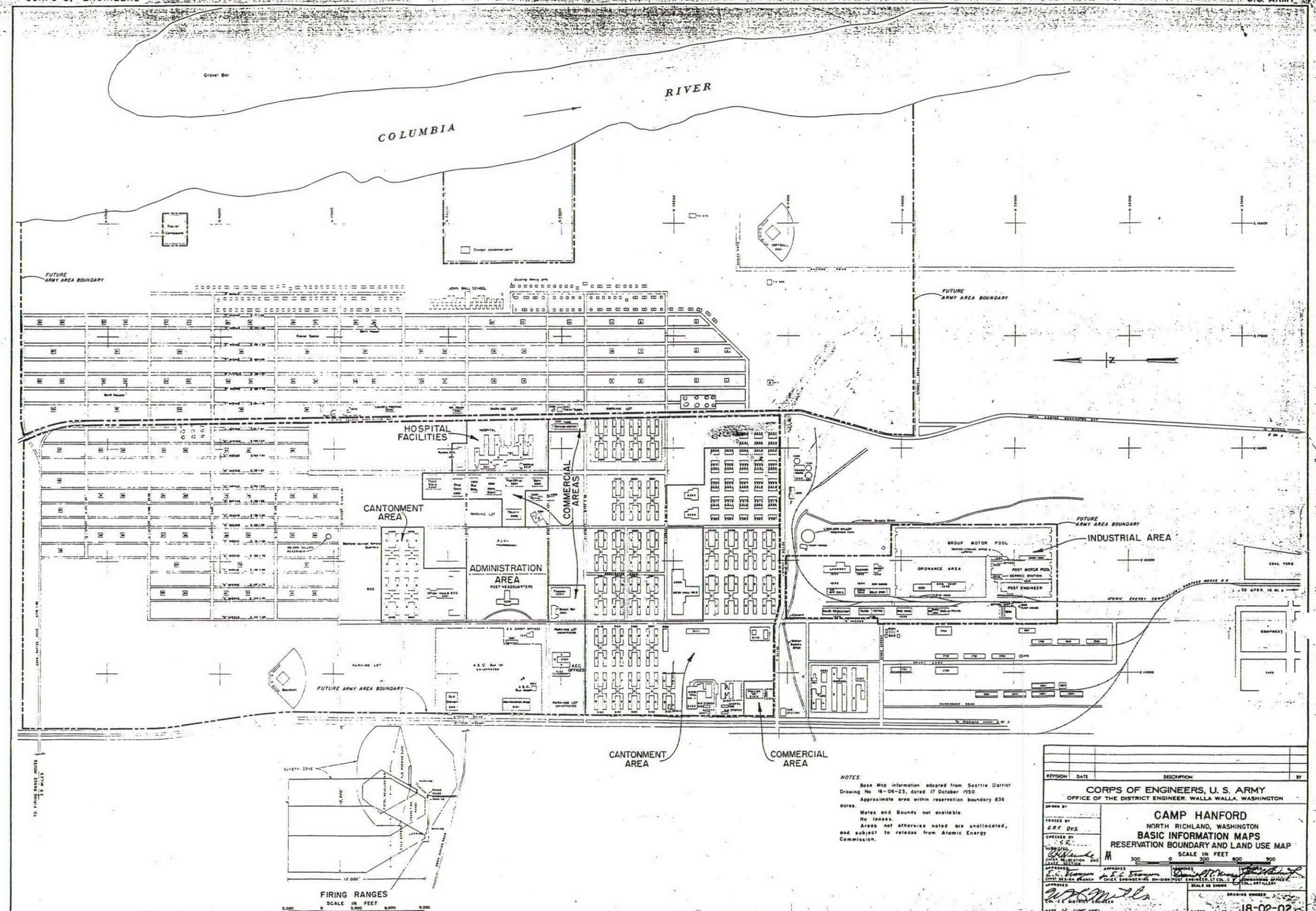
DRAWN BY: B.H.F.
TRACED BY: B.H.F.
CHECKED BY: F.E.B.
SUBMITTED: [illegible]
CHIEF, DESIGN SECTION
APPROVED: [illegible]
CHIEF, ENGINEERING DIVISION
APPROVED: [illegible]
LT. COL., CE, ACTING DISTRICT ENGINEER
DATE: 5 APR 57

CAMP HANFORD
CAMP HANFORD, WASHINGTON
NIKE I - SAM PROJECT
IMPROVEMENTS TO NIKE FACILITIES
MISCELLANEOUS DETAILS

DATE: 5 APR 57
SCALE AS SHOWN
SPEC. NO. M-57-59
DRAWING NUMBER
SHEET 10 OF
26-03-03

LINE ITEM 730

9 3 1 2 9 3 4 1 3 5 1



NOTES:

Base Map information adapted from Seattle District Drawing No 16-06-23, dated 17 October 1950.

Approximate area within reservation boundary 836 acres.

Metes and Bounds not available.

No leases.

Areas not otherwise noted are unallocated, and subject to release from Atomic Energy Commission.

REVISION	DATE	DESCRIPTION	BY

CORPS OF ENGINEERS, U. S. ARMY
OFFICE OF THE DISTRICT ENGINEER, WALLA WALLA, WASHINGTON

DRAWN BY
TRACED BY CPF DKS
CHECKED BY C.R.
SUBMITTED: CHIEF RELOCATION AND LEASE SECTION

CAMP HANFORD

NORTH RICHLAND, WASHINGTON

BASIC INFORMATION MAPS

RESERVATION BOUNDARY AND LAND USE MAP

SCALE IN FEET
300 0 300 600 900

APPROVED: CHIEF DESIGN BRANCH
APPROVED: CHIEF ENGINEERING DIVISION
APPROVED: POST ENGINEER, LT COL, C E
APPROVED: COMMANDING OFFICER, COL. ARTILLERY
APPROVED: COL. C E DISTRICT ENGINEER
DATE 12 JUNE 1951

SCALE AS SHOWN
DRAWING NUMBER
SHEET 1 OF 1 18-02-02

9 3 1 2 6 9
3 4 1 3 5 2

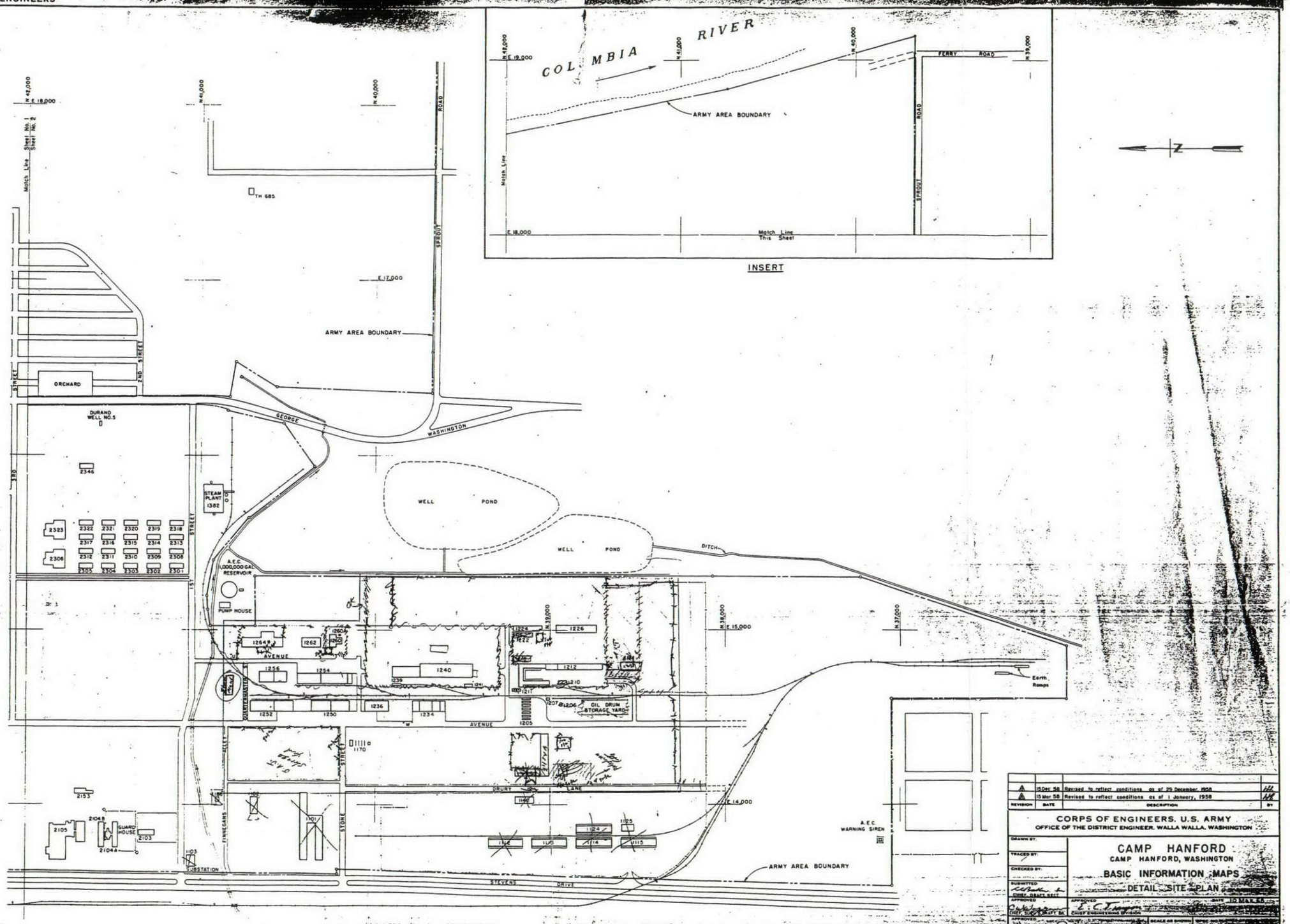
INDEX SHEET TO GENERAL AND DETAIL SITE PLAN AND BUILDING USE MAP

BLDG. NO.	DESIGNATION	DRAWING NO.	TYPE OF CONSTRUCTION	YEAR CONST.	MATERIAL OF CONSTRUCTION	CAPACITY	COND. OF BLDG.	UTILITIES, CONDITION			ECON. OF MAINT.	RECM. FOR RETENTION
								WIRING	PLUMBING	HEATING		
1205	Gasoline Storage and Dispensing System	700-420	Temporary	1951		60,000 Gal. Stor.	Good	Good	Good	Good	Good	Yes
1206	Gasoline Pump House	76-09-22	"	"	Wood Frame		"	"	"	"	"	"
1207	Oil Storage and Office, Gasoline Dispensing System	76-09-22	"	"	" "	294 Sq.Ft.	"	"	"	"	"	"
1212	Post Engineer Shops, Office and Storehouse	35-32-41	"	"	" "	21,075 Sq.Ft.	"	"	"	"	"	"
1218	Service Station	36-21-21	"	"	" "		"	"	"	"	"	"
1222	Office, Vehicle Storage and Latrine	36-31-21	"	"	" "	2,400 Sq.Ft.	"	"	"	"	"	"
1224	Dispatch and Records Office and Vehicle Storage	36-31-31	"	"	" "	4,844 Sq.Ft.	"	"	"	"	"	"
1226	Production Line Maintenance Shop	35-32-31	"	"	" "	9,430 Sq.Ft.	"	"	"	"	"	"
1234	Warehouse-Chem., Med., Engrg., Signal and Transportation.	36-07-21	"	"	" "	8,620 Sq.Ft.	"	"	"	"	"	"
1236	Warehouse, Ordnance	33-24-21	"	"	" "	8,100 Sq.Ft.	"	"	"	"	"	"
1239	Artillery Repair and Maintenance Shop	35-32-21	"	"	" "	10,800 Sq.Ft.	"	"	"	"	"	"
1240	Automotive Repair and Maintenance Shop	35-32-21	"	"	" "	24,000 Sq.Ft.	"	"	"	"	"	"
1250	Whse.-T/A-20 Goods & Cl. III Drum & pkg. Petroleum Products	33-02-21	"	"	" "	660 Sq.Ft.	"	"	"	"	"	"
1252	Warehouse-Class II and IV Supply, Sales and Issue	33-02-31	"	"	" "	660 Sq.Ft.	"	"	"	"	"	"
*1254	Whse.-Dry Goods Stor., Cold Stor., Comm. Sales & Storehouse	33-02-41	"	"	" "	16,720 Sq.Ft.	"	"	"	"	"	"
1260	Bakery	36-01-22	"	"	" "	4,100 Sq.Ft.	"	"	"	"	"	"
1262	Dry Cleaning Plant	36-04-31	"	"	" "	9,900 Sq.Ft.	"	"	"	"	"	"
1264	Laundry	36-04-21	"	"	" "	5,800 Sq.Ft.	"	"	"	"	"	"
2104	Guardhouse	None	Old Dormitory	1947	" "	10,000 Sq.Ft.	Fair	"	"	"	Fair	"
2105	Consolidated Mess	"	Old Civilian Mess	1947	" "	1,500 Men	"	"	"	"	"	"
2110	Engineer Shops (2 Bldgs.)	"	Temporary	1941	" "	980 Sq.Ft.	"	"	"	"	"	"
2201	Troop Housing	"	Hanford	1942	" "	184 Men	"	"	"	"	Fair	"
2202	Troop Housing A-B-D Orderly Room, Office etc. C	" "	" "	" "	" " " "	138 Men 3,334 Sq.Ft.	" "	" "	" "	" "	" "	" "
2203	Troop Housing C-D Orderly room supply, Storage etc. A Prov. Marshal - Library B	" " "	" " "	" " "	" " " " " "	92 Men 3,334 Sq.Ft. 3,334 Sq.Ft.	" " "	" " "	" " "	" " "	" " "	" " "
2204	P. B. X. D Court Martial Rooms, T. I. & E. Etc. C. Offices B Headquarters 5th Group A	" " " "	" " " "	" " " "	" " " " " " " "	3,334 Sq.Ft. 3,334 Sq.Ft. 3,334 Sq.Ft. 3,334 Sq.Ft.	" " " "	" " " "	" " " "	" " " "	" " " "	" " " "
2206	Troop Housing A-C-D Administration and Supply B	" "	" "	" "	" " " "	138 Men 3,334 Sq.Ft.	" "	" "	" "	" "	" "	" "
2207	Office, Storerooms, etc. B Troop Housing A-C-D	" "	" "	" "	" " " "	3,334 Sq.Ft. 138 Men	" "	" "	" "	" "	" "	" "
2208	Troop Housing A-D Office, Storerooms, Guard House B-C	" "	" "	" "	" " " "	92 Men 6,668 Sq.Ft.	" "	" "	" "	" "	" "	" "
2209	Office, Orderly room, etc. A Troop Housing B-C-D	" "	" "	" "	" " " "	3,334 Sq.Ft. 138 Men	" "	" "	" "	" "	" "	" "
2301	Offices and Supply Room	"	Pasco	1941	" "	3,240 Sq.Ft.	"	"	"	"	"	"
2302	Office and Supply	"	"	"	" "	3,240 Sq.Ft.	"	"	"	"	"	"
2303	Offices and Supply	"	"	"	" "	3,240 Sq.Ft.	"	"	"	"	"	"
2304	Infirmary	"	"	"	" "	3,240 Sq.Ft.	"	"	"	"	"	"
*2306	Mess Hall	36-05-22	Temporary	"	" "	10,990 Sq.Ft.	"	"	"	"	"	"
2308	Troop Housing	None	Pasco	"	" "	48 Men	"	"	"	"	"	"
2309	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2310	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2311	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2312	Office and Supply	"	"	"	" "	3,240 Sq.Ft.	"	"	"	"	"	"
2313	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2314	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2315	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2316	Service Club	"	"	"	" "	3,240 Sq.Ft.	"	"	"	"	"	"
2317	N. C. O. Mess	"	"	"	" "	3,240 Sq.Ft.	"	"	"	"	"	"
2318	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2319	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2320	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2321	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2322	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2323	Mess Hall	36-05-22	Temporary	"	" "	10,990 Sq.Ft.	"	"	"	"	"	"
2325	Battalion Headquarters	None	Pasco	"	" "	3,240 Sq.Ft.	"	"	"	"	"	"
2326	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2327	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2328	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2329	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2330	Storage, Supply	"	"	"	" "	3,240 Sq.Ft.	"	"	"	"	"	"
2331	Guard House, 519th Gun Battalion	"	"	"	" "	3,240 Sq.Ft.	"	"	"	"	"	"
2332	Wards for Infirmary	"	"	"	" "	3,240 Sq.Ft.	"	"	"	"	"	"
2333	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2334	Office and Supply	"	"	"	" "	3,240 Sq.Ft.	"	"	"	"	"	"
2337	Hobby Shop, 5th A.A.A.	"	"	"	" "	3,240 Sq.Ft.	"	"	"	"	"	"
2338	Class Rooms, Gun Battalion	"	"	"	" "	3,240 Sq.Ft.	"	"	"	"	"	"
2339	Class Rooms, Gun Battalion	"	"	"	" "	3,240 Sq.Ft.	"	"	"	"	"	"
2340	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2341	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2342	Storage, Battalion Supply	"	"	"	" "	3,240 Sq.Ft.	"	"	"	"	"	"
2343	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2344	Troop Housing	"	"	"	" "	48 Men	"	"	"	"	"	"
2345	Storage, Battalion Supply	"	"	"	" "	3,240 Sq.Ft.	"	"	"	"	"	"
2346	Signal Office and Warehouse	"	"	"	" "	3,240 Sq.Ft.	"	"	"	"	"	"

BLDG. NO.	DESIGNATION	DRAWING NO.	TYPE OF CONSTRUCTION	YEAR CONST.	MATERIAL OF CONSTRUCTION	CAPACITY	COND. OF BLDG.	UTILITIES, CONDITION			ECON. OF MAINT.	RECM. FOR RETENTION
								WIRING	PLUMBING	HEATING		
3101	Battery Headquarters A Battalion Headquarters B Troop Housing C-D	None " "	Hanford " "	1942 " "	Wood Frame " " " "	3,334 Sq.Ft. 3,334 Sq.Ft. 92 Men	Fair " "	Good " "	Good " "	Good " "	Fair " "	Yes " "
3102	Troop Housing A-C-D Battery Headquarters B	" "	" "	" "	" " " "	138 Men 3,334 Sq.Ft.	" "	" "	" "	" "	" "	" "
3103	Battery Headquarters B Troop Housing A-C-D	" "	" "	" "	" " " "	3,334 Sq.Ft. 138 Men	" "	" "	" "	" "	" "	" "
3104	Troop Housing A-C-D Battery Headquarters B	" "	" "	" "	" " " "	138 Men 3,334 Sq.Ft.	" "	" "	" "	" "	" "	" "
3105	Battery Headquarters A Troop Housing B-C-D	" "	" "	" "	" " " "	3,334 Sq.Ft. 138 Men	" "	" "	" "	" "	" "	" "
3107	Officers Mess, Bachelor Officer Quarters A-B-C-D	"	"	"	" "	13,336 Sq.Ft.	"	"	"	"	"	"
3108	Equipment Rooms, Radar, etc. A Troop Housing B Civilian Dormitory C C. I. D. Offices D	" " " "	" " " "	" " " "	" " " " " " " "	3,334 Sq.Ft. 46 Men 46 Men 3,334 Sq.Ft.	" " " "	" " " "	" " " "	" " " "	" " " "	" " " "
3109	Post Engineer, Ordnance, Publications C Special Services D Troop Housing A-B	" " "	" " "	" " "	" " " " " "	3,334 Sq.Ft. 3,334 Sq.Ft. 92 Men	" " "	" " "	" " "	" " "	" " "	" " "
3110	Troop Housing A Ordnance and Supply Rooms B Post Headquarters C Office, Staff Sections D	" " " "	" " " "	" " " "	" " " " " " " "	46 Men 3,334 Sq.Ft. 3,334 Sq.Ft. 3,334 Sq.Ft.	" " " "	" " " "	" " " "	" " " "	" " " "	" " " "
5281	Post Headquarters	30-05-21	Temporary	1951	" "	27,280 Sq.Ft.	Good	"	"	"	"	"
*5311	Hospital	32-03-31	"	"	" "	62,750 Sq.Ft.	"	"	"	"	"	"
6311	Nurses Quarters	25-07-21	"	"	" "	[illegible],300 Sq.Ft.	"	"	"	"	"	"
(39)	Chapel	None	Quonset Hut	1947	Metal & Wood	1,200 Sq.Ft.	Fair	"	None	"	"	"
(43)	Q. M. Stores	"	"	"	" "	1,200 Sq.Ft.	"	"	Good	"	"	"
(44)	Safety	"	"	"	" "	800 Sq.Ft.	"	"	"	"	"	"
(72)	Battalion Supply Office	"	Temporary	"	Wood Frame		Fair	"	"	"	"	"
(74)	Automotive Maintenance	"	"	"	" "		"	"	"	"	"	"
(78)	Office and Shops	"	"	"	" "		"	"	"	"	"	"
None	Q. M. Stores	"	Quonset Hut	"	Metal & Wood	1,200 Sq.Ft.	"	"	"	"	"	"
None	Battalion S-4	"	"	"	" "	800 Sq.Ft.	"	"	"	"	"	"
*2349	Troop Housing	"	Pasco	1941	Wood Frame	48 Men	"	"	"	"	"	"
*2354	" "	"	"	"	" "	48 Men	"	"	"	"	"	"
*2355	" "	"	"	"	" "	48 Men	"	"	"	"	"	"
*1256	C & E Repair; Post Quartermaster Office	33-02-51	Temporary	1951	" "	9,300 Sq.Ft.	Good	"	"	"	Good	"
*2305	Post Exchange	None	Pasco	1941	" "	3,240 Sq.Ft.	Fair	"	"	"	Fair	"
*5310	Morgue and Garage	36-31-23	Temporary	1951	" "	1,276 Sq.Ft.	Good	"	"	"	Good	"

9 3 1 2 9 3 4 1 3 5 3

CORPS OF ENGINEERS



REVISION	DATE	DESCRIPTION	BY
2	15 Dec 58	Revised to reflect conditions as of 29 December 1958	HK
1	15 Mar 58	Revised to reflect conditions as of 1 January, 1958	HK

CORPS OF ENGINEERS, U.S. ARMY
OFFICE OF THE DISTRICT ENGINEER, WALLA WALLA, WASHINGTON

DRAWN BY:
TRACED BY:
CHECKED BY:
SUBMITTED: CHIEF, DRAFT. SECT.
APPROVED: CHIEF, SURV. & PLAT. BR.
APPROVED: CHIEF, ENGINEERING DIVISION
DATE: 10 MAR 58

CAMP HANFORD
CAMP HANFORD, WASHINGTON

BASIC INFORMATION MAPS
DETAIL SITE PLAN

SCALE OF DRAWING:
DATE: 18-02-56
PLATE 2

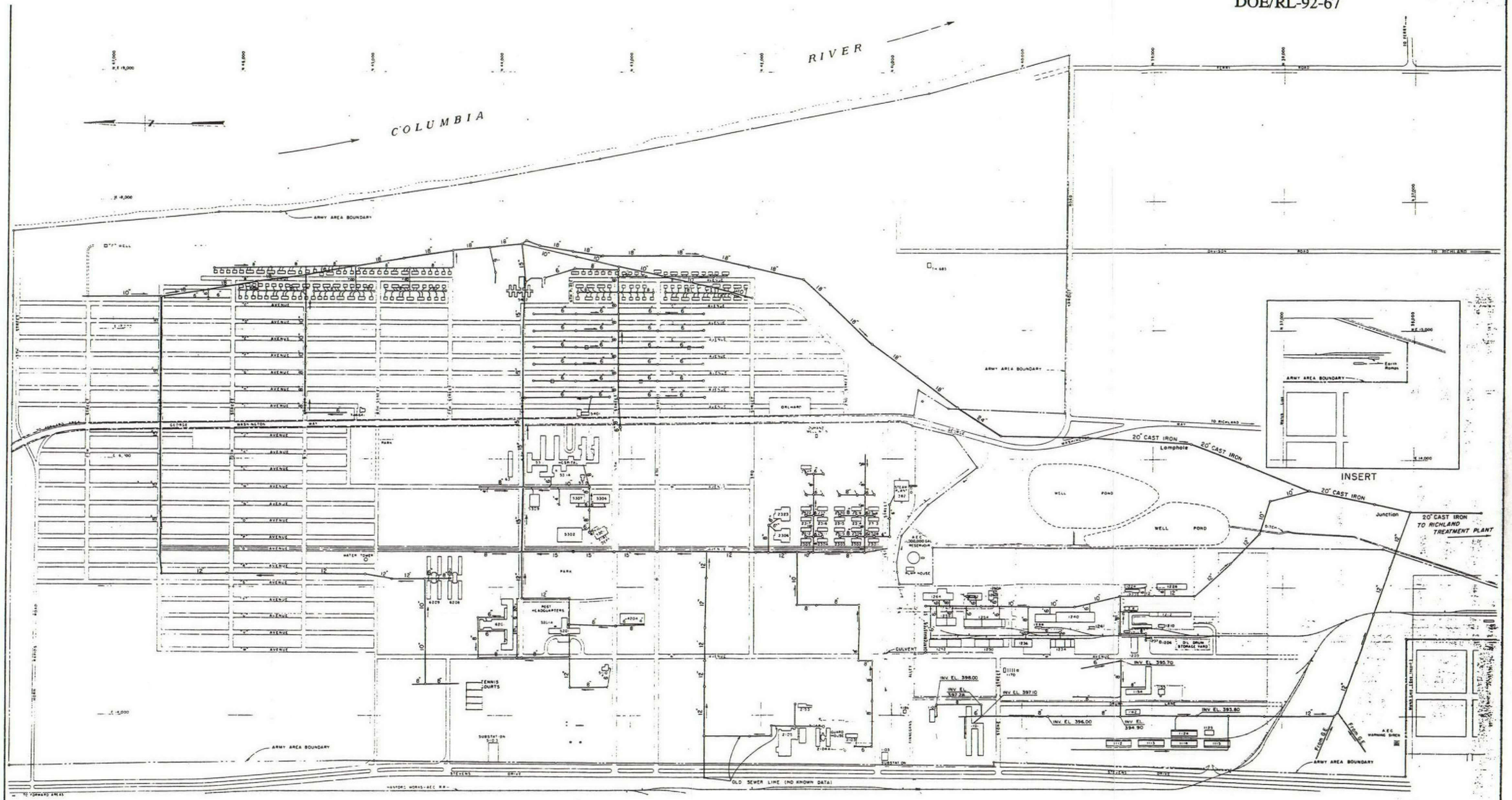
9321294 1354

INDEX SHEET TO GENERAL SITE PLAN AND BUILDING USE MAP

BUILDING NUMBER	DESIGNATION	DRAWING NUMBER	TYPE OF CONST.	MATERIAL OF CONSTRUCTION	YEAR OF CONST.	OUTSIDE DIMENSIONS	CAPACITY SQUARE FEET	CAPACITY CUBIC FEET	CONDITION OF BUILDING	CONDITION OF UTILITIES WIRING	CONDITION OF UTILITIES PLUMBING	CONDITION OF UTILITIES HEATING	ECONOMY OF MAINT.	RECOMM. FOR RETENT.
1101	Administrative Offices Engineer, Quartermaster Ordnance	HWH-11-3557	Temp	Wood Frame	1948		21240		Good	Good	Good	Good	Good	Yes
1102	Misc. Storage	HWH-11-4016	Perm	Conc. Block	1948	100 x 40	4000		Good	Good	Poor	None	Good	Yes
1103	Sub-Station	17-03-21	Perm	Conc. Pad	1951	16 x 20	320	Trans 69KVA-7.2 KVA, 5000 KVA	Good	Good	None	None	Good	Yes
1112	Warehouse - A.E.C.	HWH-12-115	Temp	Wood Frame	1948	Bldg. 40x200 Docks 2-10x200	8000 4000		V. Poor	V. Poor	V. Poor	V. Poor	V. Poor	No
1113	Warehouse - A.E.C.	HWH-12-115	Temp	Wood Frame	1948	Bldg. 40x200 Docks 2-10x200	8000 4000		V. Poor	V. Poor	V. Poor	V. Poor	V. Poor	No
1114	Warehouse - A.E.C.	HWH-12-115	Temp	Wood Frame	1948	Bldg. 40x200 Docks 2-10x200	8000 4000		V. Poor	V. Poor	V. Poor	V. Poor	V. Poor	No
1115	Warehouse - A.E.C.	HWH-12-115	Temp	Wood Frame	1948	Bldg. 40x200 Docks 2-10x200	8000 4000		V. Poor	V. Poor	V. Poor	V. Poor	V. Poor	No
1124	Warehouse - A.E.C.	HWH-12-115	Temp	Wood Frame	1948	Bldg. 40x200 Docks 2-10x200	8000 4000		V. Poor	V. Poor	V. Poor	V. Poor	V. Poor	No
1125	Pipe Shop - A.E.C.	None	Temp	Steel Frame	1948	40 x 75	3000		V. Poor	V. Poor	V. Poor	V. Poor	V. Poor	No
1142	Warehouse - A.E.C.	HWH-12-115	Temp	Wood Frame	1948	40 x 104	4160		V. Poor	V. Poor	V. Poor	V. Poor	V. Poor	No
1154	Warehouse - Signal Maintenance Shop	35-34-01 HWH-11-3050	Semi Temp	Concrete Block Wood Frame	1957 1948	200 x 40 100 x 40	8000 7920		V. Good V. Poor	V. Good V. Poor	V. Good V. Poor	V. Good V. Poor	V. Good V. Poor	Yes No
1155	Welding Shop - A.E.C.	None	Temp	Wood Frame	1948	40 x 40	1600		V. Poor	V. Poor	V. Poor	V. Poor	V. Poor	No
1186	Telephone Bldg. - A.E.C.	HWH-11-4026	Perm	Conc. Block	1948	30 x 23	690		Good	Poor	Poor	Poor	Good	Yes
1205	O.M. Motor Fuel Storage	78-09-25 CH-PE-175	Perm	Conc. Drive	1951	50 x 120	60,000 gal St 6000		Good	Good	Good	Good	Good	Yes
1206	Motor Fuel Pump House	78-09-22	Temp	Wood Frame	1951	18 x 13	234		Good	Good	Good	Good	Good	Yes
1207	Office & Oil Storage	36-31-32	Temp	Wood Frame	1951	Bldg. 14 x 21 20x50 Conc. Dr.	294 1000		Good	Good	Good	Good	Good	Yes
1210	Paint & Sign Lettering Shop	CH-PE-50	Temp	Wood Frame	1948	20 x 50	1000		Good	Good	Good	Good	Good	Yes
1211	Refrigeration & Air Cond. Repair	CH-PE-96	Temp	Wood Frame	1948	12 x 20	240		Good	Good	Good	Good	Good	Yes
1212	Post Engineer Warehouses & Shops	35-32-41	Temp	Wood Frame	1951	25 x 173&43 x 25 475 x 35	22025		Good	Good	Good	Good	Good	Yes
1218	5th Group Motor Pool	36-21-21	Temp	Wood Frame	1951	32 x 100	3200		Good	Good	Good	Good	Good	Yes
1222	Offices & Latrine, Motor Pool	36-31-21	Temp	Wood Frame	1951	24 x 110	2640		Good	Good	Good	Good	Good	Yes
1224	Dispatch, Records, Vehicle Storage	36-31-31	Temp	Wood Frame	1951	30 x 167	5010		Good	Good	Good	Good	Good	Yes
1226	Ordnance Nike Maintenance Shop	35-32-31	Temp	Wood Frame	1951	41 x 230	9430		Good	Good	Good	Good	Good	Yes
1234	Warehouse - Transportation & Ordnance	36-07-21	Temp	Wood Frame	1951	60 x 250	15000		Good	Good	Good	Good	Good	Yes
1236	Warehouse - Ordnance	33-24-21	Temp	Wood Frame	1951	60 x 135	8100		Good	Good	Good	Good	Good	Yes
1239	End Loading Ramp	None	Perm	Earth-W. Conc. HDWE	1951				Poor	None	None	None	Poor	Yes
1240	Ordnance - Automotive Repair & Maintenance	35-32-21	Temp	Wood Frame	1951	168 x 60 & 80 x 300	34080		Good	Good	Good	Good	Good	Yes
1250	Warehouse - O.M. Class III Supplies	33-02-31	Temp	Wood Frame	1951	60 x 220	13200		Good	Good	Good	Good	Good	Yes
1252	Warehouse - O.M. Class II & IV Supplies	33-02-31	Temp	Wood Frame	1951	60 x 220	13200		Good	Good	Good	Good	Good	Yes
1254	Commissary Sales, Cold Storage	33-02-41	Temp	Wood Frame	1951	60 x 313	18780		Good	Good	Good	Good	Good	Yes
1256	Clothing Sales, C & E Repair, Typewriter	33-02-51	Temp	Wood Frame	1951	60 x 155	9300		Good	Good	Good	Good	Good	Yes
1260	Signal Maintenance Shop	36-01-22 CH-PE-17	Temp	Wood Frame	1951	36 x 37 32 x 75	4107		Good	Good	Good	Good	Good	Yes
1260A	Emergency Power Plant, Signal Shop	CH-PE-54	Perm	Conc. Block	1954	11 x 15	165		Good	Good	Good	Good	Good	Yes
1262	Signal Photo Lab	36-04-31	Temp	Wood Frame	1951	54 x 108	5832		Good	Good	Good	Good	Good	Yes
1264	Property Disposal	36-04-21	Temp	Wood Frame	1951	34 x 234 36 x 72	15228		Good	Good	Good	Good	Good	Yes
1241	Car Washing Facilities	CH-PE-338	Temp	Metal & Conc. Block	1957	20 x 48	960		Good	Good	Good	None	Good	Yes
1382	Central Steam Plant	HW-12-401 to 12-476	Perm	Steel Frame	1949	169 x 144	24336	200000LB. HR	Fair	Fair	Fair	Fair	Fair	Yes
2103	Post Exchange Gas Station	HWH-12-792	Perm	[illegible]	1948	93 x 31	2883	1600 gal St.	Good	Good	Good	Good	Good	Yes
2104A	Guard House	27-02-22	Temp	Wood Frame	1948	146 x 30	4380		Good	Fair	Poor	Poor	Fair	Yes
2104B	Provost Marshal	27-02-22	Temp	Wood Frame	1948	146 x 30	4380		Good	Fair	Poor	Poor	Fair	Yes
2105	Special Service Club, Library	HW CH-PE-16	Temp	Wood Frame	1948	117 x 64	7488		Poor	Poor	Poor	Poor	Poor	No
2105A	Bowling Alley	CH-PE-395	Temp	Wood Frame	1948	120 x 50	6000		Good	Good	Good	Good	Good	Yes
2153	Craft Auto Shop	None	Temp	Wood Frame	1942	29 x 40 67 x 32	2944		Poor	Poor	Poor	Poor	Poor	No
2301	H.Q. Btry. 5th Group	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2302	Barracks 5th Group	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2303	Barracks 5th Group	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2304	Barracks 5th Group	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2305	Barracks 5th Group	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2306	Consolidated Mess Hall	36-05-22	Temp	Wood Frame	1951	44 x 110 46 x 74	10884		Poor	Fair	Poor	Poor	Poor	Yes
2308	Barracks 5th Group	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2309	Barracks Transient Quarters 5th Group	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2310	Barracks Transient Quarters 5th Group	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2311	Barracks H.Q. Co. 6017	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2312	Barracks 72nd Army Band	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2313	Barracks H.Q. 5th Group	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2314	Barracks 518 Pass & Casual	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2315	Barracks 519 Pass & Casual	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2316	Barracks H.Q. Co.	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2317	Barracks H.Q. Co. Office	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2318	Barracks H.Q. Co. 5th Group	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2319	Barracks Casual Det., 6017	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2320	Barracks Casual Det., 6017	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2321	Barracks H.Q. Co., 6017	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2322	Barracks H.Q. Co., 6017	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
2323	P.X. Store	36-05-22	Temp	Wood Frame	1951	46 x 74 68 x 170	10664		Poor	Fair	Poor	Poor	Poor	Yes
2346	Barracks, Company Supply & Storage	21-01-02	Temp	Wood Frame	1942	30 x 80 30 x 80	4800		Poor	Poor	Poor	Poor	Poor	Yes
	Durand Well No. 5, A.E.C.	None	Temp	Wood Frame	1948	10 x 24	240		-	-	-	-	-	-
4204	Theater	HWC-137	Temp	Wood Frame	1948	78 x 188	14664		Poor	Poor	Poor	Poor	Poor	No
5103	Sub-Station	HWH-11-2308	Temp	Wood Poles	1948	150 x 100	15000		Poor	Poor	None	None	Poor	Yes
5110	[illegible]	HWH-12-319	Temp	Wood Frame	1948	50 x 54	2700		Good	Good	Good	Good	Good	Yes
5201	Post & 5th AAA Group Headquarters	30-05-21	Semi Perm	Wood Frame	1951	42 x 242 42 x 80	13524		Good	Good	Good	Good	Good	Yes
5201A	Emergency Power Plant for Communications	CH-PE-53	Perm	Conc. Block	1954	11 x 15	165		Good	Good	None	Good	Good	Yes
5301	Fire Station	CH-PE-177	Semi Perm	Wood Frame	1948	62 x 103	6386		Good	Good	Good	Good	Good	Yes
5302	Self Service Supply Center	CH-PE-240	Semi Perm	Wood Frame	1948	112 x 192	21504		Good	Good	Good	Good	Good	Yes
5306	Bank & Finance	CH-PE-257	Semi Perm	Wood Frame	1948	72 x 112	8064		Good	Good	Good	Good	Good	Yes
5307	Post Office & S.M.	CH-PE-252	Semi Perm	Wood Frame	1948	72 x 112	8064		Good	Good	Good	Good	Good	Yes
5309	Medical Supply	CH-PE-153	Temp	Wood Frame	1948	72 x 96	6912		Good	Good	Good	Good	Good	Yes
5310	Ambulance Garage & Morgue	38-03-21	Temp	Wood Frame	1948	19 x 80 24 x 50	2000		Good	Good	Good	Good	Good	Yes
5311	Post Hospital	32-03-21	Temp	Wood Frame	1948	10 Wings	63004		Good	Good	Good	Good	Good	Yes
5311A	Emergency Power Plant - Post Hospital	32-01-01	Perm	Conc Block	1954	10 x 14	140		Good	Good	None	Good	Good	Yes
5401	Chapel	None	Temp	Hut	1953	37 x 82	3034		Poor	Poor	Poor	Poor	Poor	No
5402	N.C.O. Club	HW-12-217	Temp	Hut	1948	Combined Bldgs	32510		Poor	Poor	Poor	Poor	Poor	No
6201	B.O.Q., Club, Open Mess	25-02-22	Semi Perm	Wood Frame	1951	T-Type	68352		Good	Good	Good	Good	Good	Yes
6208	Bachelor Civilian Quarters, Female	25-06-32	Temp	Wood Frame	1942	H-Type	18880		Good	Good	Good	Good	Good	Yes
6209	Bachelor Civilian Quarters, Female	25-06-32	Temp	Wood Frame	1942	H-Type	18880		Good	Good	Good	Good	Good	Yes
6311	Medical Det. Quarters	25-07-21	Semi Perm	Wood Frame	1951	36 x 200 36 x 200	14400		Good	Good	Good	Good	Good	Yes
	Elevated Water Tank - A.E.C. (Not used)	None	Perm	Steel	1948	136 Ft. high	100,000gal		-	None	Poor	None	-	-
	3000 F° Well A.E.C.	None	Semi Perm	Wood Frame	1942	10 x 17	170			Poor	Poor	None	Poor	
	Bath House (4-)	HWH-12-341	Temp	Wood Frame	1948	30 x 34	1020		Fair	Fair	Fair	Fair	Fair	Yes
T-H-641	Tract House	HWSK-12-844	Temp	Wood Frame	1900	42 x 43	1806		Good	Good	Good	Good	Good	Yes
T-H-685	Tract House	None	Temp	Wood Frame	1900	36 x 38	1368		Good	Good	Good	Good	Good	[illegible]
	Bremerton Type Houses (63) 2 - Bedroom	HW 12-381	Temp	Wood Frame	1942	28 x 24	672		V. Poor	V. Poor	V. Poor	V. Poor	V. P	
	Bremerton Type Houses (31) 3 - Bedroom	H-11-3658	Temp	Wood Frame	1942	32 x 24	768		V. Poor	V. Poor	V. Poor	V. Poor		
	Bremerton Type Houses (45) 2 Family	HW-12-381	Temp	Wood Frame	1942	56 x 24	1344		V. Poor	V. Poor	V. Poor	V. Poor		
	Bremerton Type Houses (2) 1 - Bedroom	SK-12-843	Temp	Wood Frame	1942	24 x 23	552		V. Poor	V. Poor	V. Poor	V. [illegible]		

COMPANION SHEET TO 18-02-36 PLATE 6

9312934156



LEGEND
- MAN HOLE
- CLEAN OUT
- MAINS ALL CONCRETE EXCEPT AS NOTED

NOTES:
SERVICE CONNECTION TO HOUSES ARE 6" DIAMETER

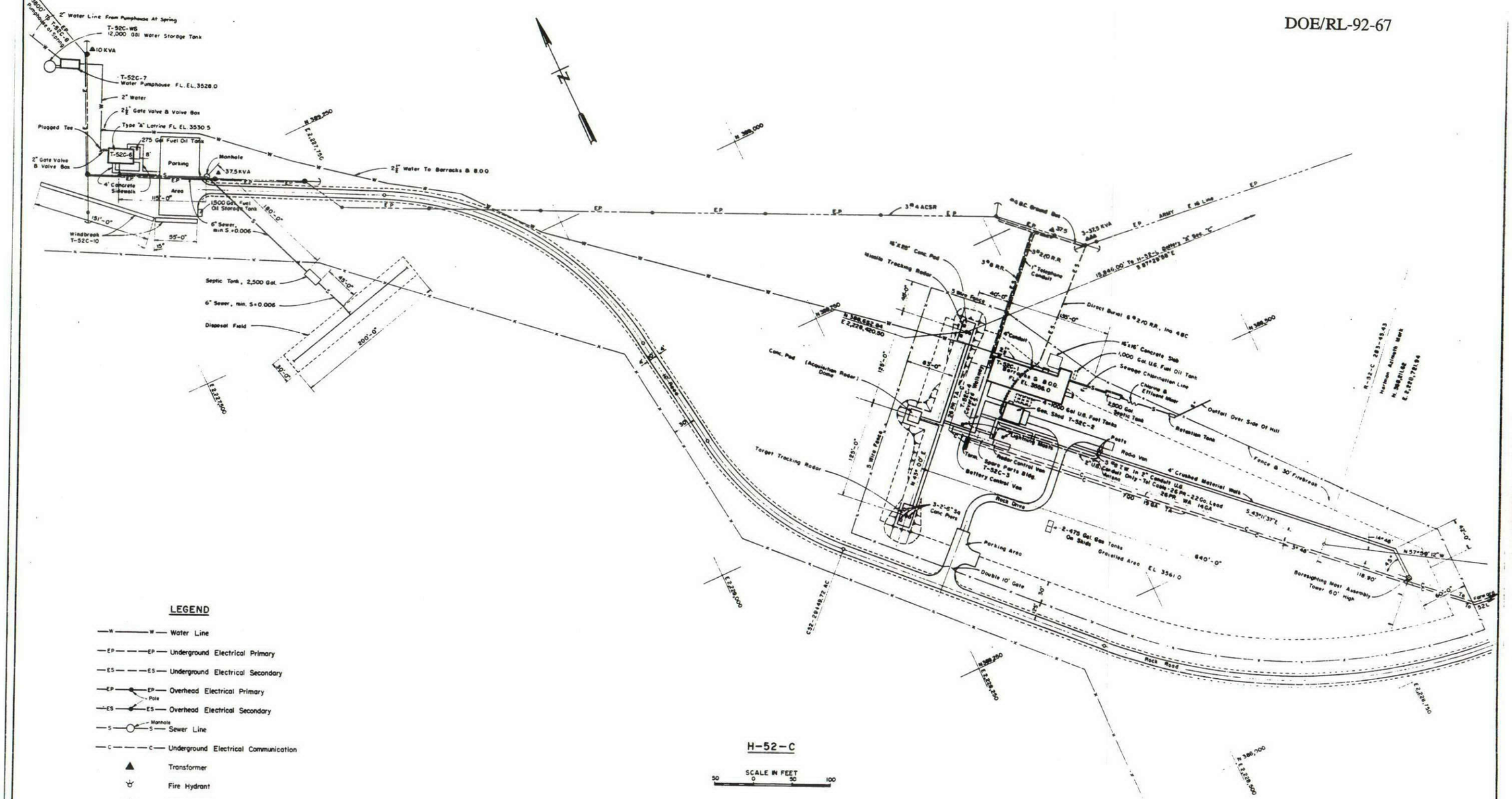
REVISION	DATE	DESCRIPTION	BY
4	15 Dec 58	Revised to reflect conditions as of 29 December, 1958	HE
3	15 Mar 58	Revised to reflect conditions as of 1 January, 1958	HE

CORPS OF ENGINEERS, U.S. ARMY
OFFICE OF THE DISTRICT ENGINEER, WALLA WALLA, WASHINGTON

DRAWN BY:
TRACED BY: R CHAPMAN
CHECKED BY:
SUBMITTED: CHIEF, DRAFT SECT
APPROVED: CHIEF, SURV & DRAFT BR
APPROVED: CHIEF ENGINEERING DIVISION
DATE: 10 MAR 58

CAMP HANFORD
CAMP HANFORD, WASHINGTON
BASIC INFORMATION MAPS
SANITARY SEWER SYSTEM

SCALE AS SHOWN | SPEC. NO. | DRAWING NUMBER



LEGEND

- Water Line
- Underground Electrical Primary
- Underground Electrical Secondary
- Overhead Electrical Primary (Pole)
- Overhead Electrical Secondary (Pole)
- Sewer Line (Manhole)
- Underground Electrical Communication
- Transformer
- Fire Hydrant
- Street Light
- Overhead Lighting
- Floodlight
- Hose Bibb
- Heliport or Helicopter Landing

H-52-C

SCALE IN FEET 50 0 50 100

REVISION	DATE	DESCRIPTION	BY

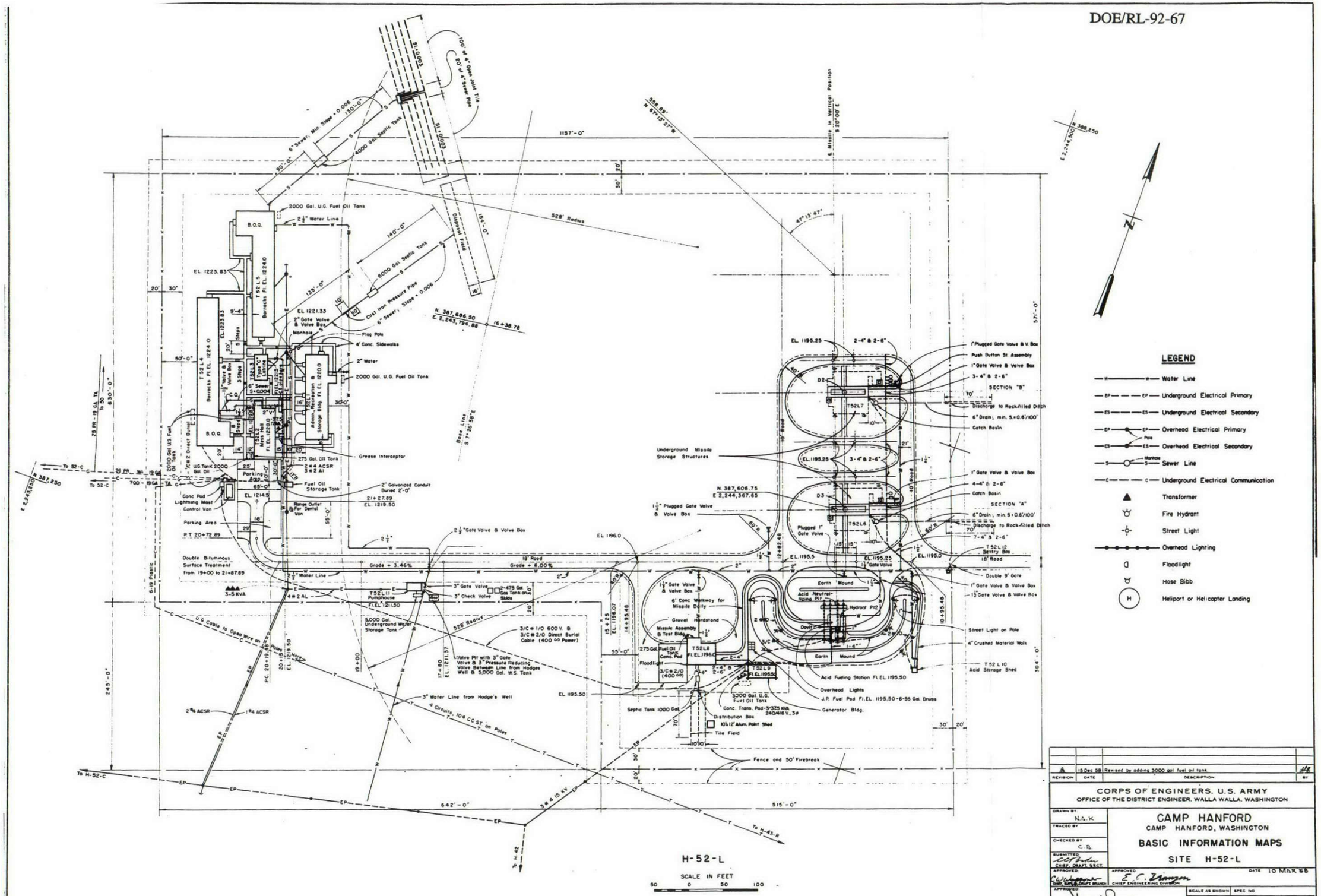
CORPS OF ENGINEERS, U.S. ARMY
OFFICE OF THE DISTRICT ENGINEER, WALLA WALLA, WASHINGTON

DRAWN BY H.K.
TRACED BY
CHECKED BY C.B.
SUBMITTED CHIEF, DRAFT SECT.
APPROVED CHIEF, DATA & DRAFT BRANCH
APPROVED CHIEF ENGINEERING DIVISION
APPROVED COL. C.E. DISTRICT ENGINEER

CAMP HANFORD
CAMP HANFORD, WASHINGTON
BASIC INFORMATION MAPS
SITE H-52-C

DATE 10 MAR 58
SCALE AS SHOWN
SPEC NO
DRAWING NUMBER

9312934135 7



REVISION	DATE	DESCRIPTION	BY
A	15 Dec 58	Revised by adding 3000 gal fuel oil tank	

CORPS OF ENGINEERS, U.S. ARMY
OFFICE OF THE DISTRICT ENGINEER, WALLA WALLA, WASHINGTON

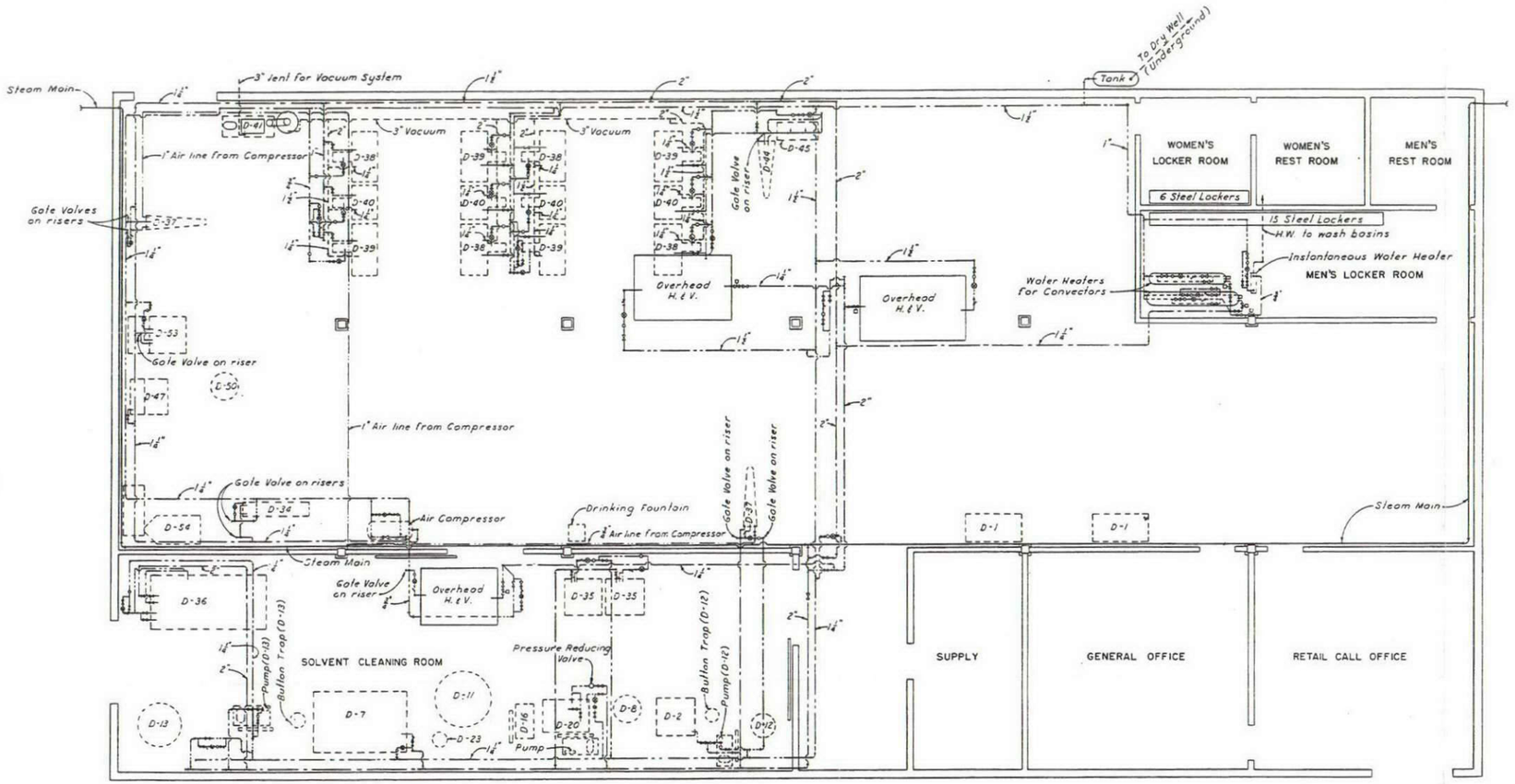
DRAWN BY: N.A.K.
TRACED BY:
CHECKED BY: C.B.
SUBMITTED: CHIEF, DRAFT. SECT.
APPROVED: CHIEF, SURV. & DRAFT. BRANCH
APPROVED: E. C. Thanson, CHIEF ENGINEERING DIVISION
APPROVED: COL. C. E. DISTRICT ENGINEER
DATE 10 MAR 58
SCALE AS SHOWN
SPEC. NO.
DRAWING NUMBER

CAMP HANFORD
CAMP HANFORD, WASHINGTON

BASIC INFORMATION MAPS

SITE H-52-L

9312963413358



LEGEND

- Steam Main from Central Heating Plant
- Steam Supply
- Steam Return
- Vacuum System Lines
- Air Lines from Compressor
- Bucket Trap
- Check Valve
- Gate Valve
- Regulating Valve
- Strainer
- Vertical run of piping
- Equipment

EQUIPMENT AND STEAM PIPING LAYOUT

FLOOR PLAN - DRY CLEANING PLANT

SCALE IN FEET 4 0 4 8 12

BUILDING NO. 1262

REVISION	DATE	DESCRIPTION	BY
A	5 Mar 59	As constructed	

CORPS OF ENGINEERS U. S. ARMY
OFFICE OF THE DISTRICT ENGINEER, WALLA WALLA, WASHINGTON

DRAWN BY:
TRACED BY:
CHECKED BY:
SUBMITTED:
APPROVED: APPROVED: DATE
CHIEF DESIGN BRANCH CHIEF ENGINEERING DIVISION
APPROVED:
COLONEL, C. E. DISTRICT ENGINEER
DATE

ARMY INSTALLATION
NORTH RICHLAND, WASHINGTON

DRY CLEANING PLANT

STEAM PIPING LAYOUT

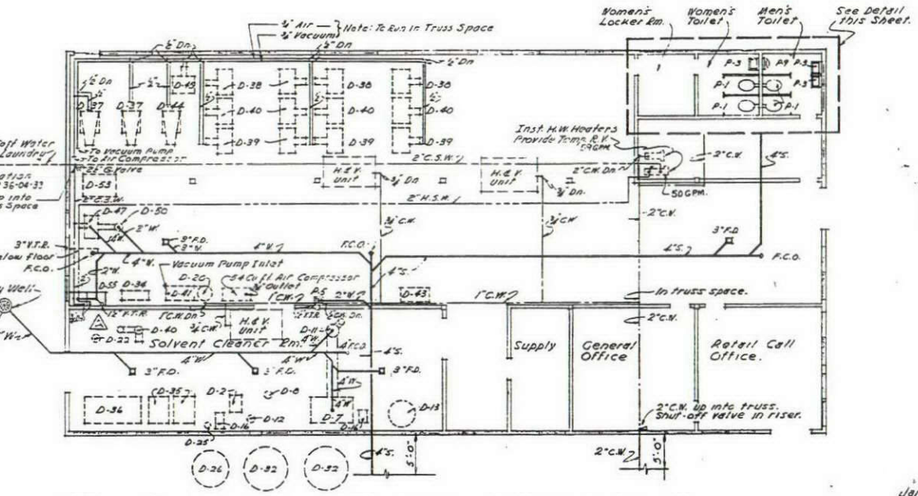
SCALE AS SHOWN SPEC. No.

DRAWING NUMBER

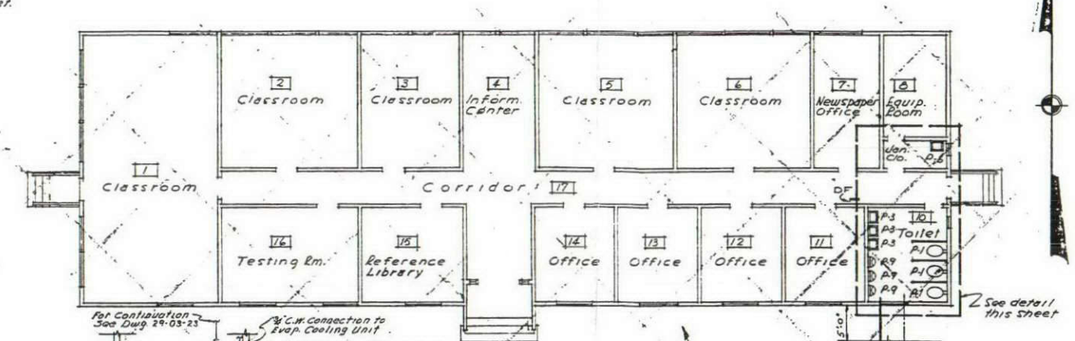
SHEET 2.1 OF 2 36-04-31

DISTRICT FILE NO. 50S-36-04-31

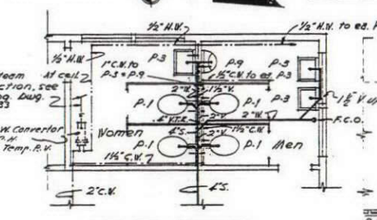
9312934159



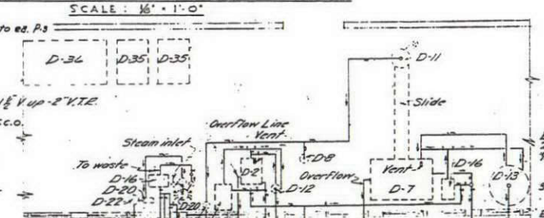
FLOOR PLAN - CLEANING PLANT
SCALE : 1/8" = 1'-0"



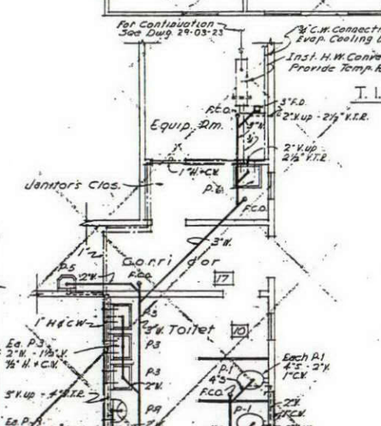
T. I. & E. BUILDING FLOOR PLAN
SCALE : 1/8" = 1'-0"



TOILET ROOMS
CLEANING PLANT
SCALE : 1/4" = 1'-0"



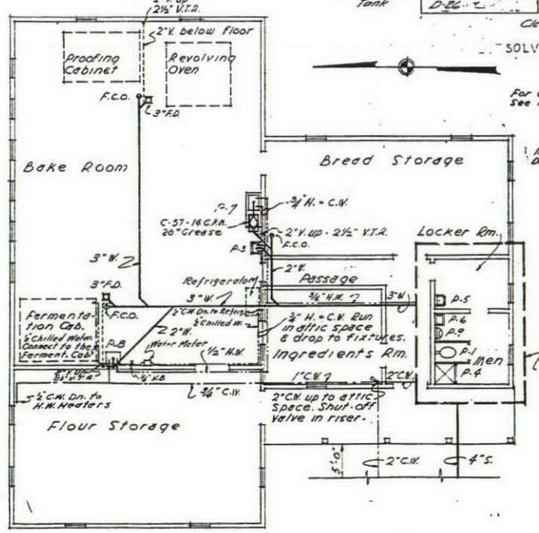
SOLVENT FLOW PLAN
SCALE 3/16" = 1'-0"



TOILET ROOMS
T. I. & E. BUILDING.
SCALE : 1/4" = 1'-0"

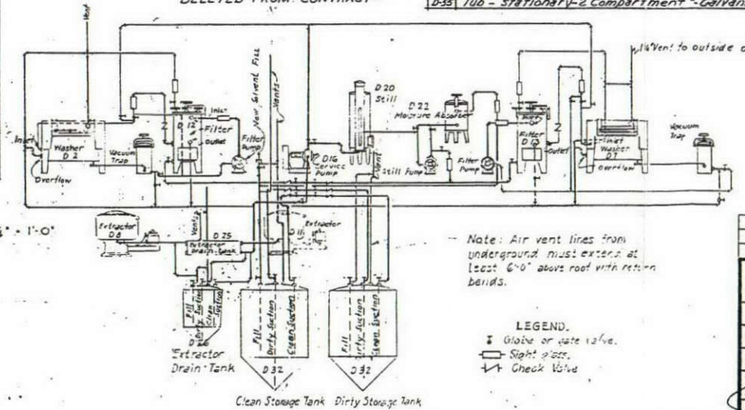
DELETED FROM CONTRACT

No	Dry Cleaning Equipment Schedule	Size & Cap.	Connections
D-2	Washer - Dry Clean - Ref. w/exp. proof motor	30"x30"	2" Drain - 2½" overflow - 2" Inlet - 1" St.
D-7	Washer - " " " " "	54"x70"	4" Drain - 3" overflow - 3" Inlet - 1" St.
D-8	Extractor - " " " " "	20"	2" Drain
D-11	" " " " " "	48"	4" Drain
D-12	Filter - Press - screen scrap w/motor & pump	600 G.P.H.	——
D-13	" " " " "	8000 G.P.H.	——
D-16	Pump - Service - Dry Clean, with motor △	90 G.P.H.	——
D-20	Still Vacuum w/motor & pump	250 G.P.H.	1¼" St. - Ret. - 1" C.W.
D-22	Absorber - moisture - Dry Clean		
D-25	Tank - Extractor drain	20 gal.	
D-26	" " "	100 gal.	
D-32	Tank - Solvent.	1125 gal.	
D-34	Former - Trouser - Dry Clean		½" St. & Ret.
D-35	Tumbler - Dry Clean - Non revers.	36"x30"	1" St. - ¾" Ret.
D-36	" " " " " "	42"x90"	1½" St. - 1¼" Ret.
D-37	Unit Spot Steam (Spot gun & Vacuum)		½" St. + Ret. - ½" Air.
D-38	Press - Dry Clean. - Utility - hand oper. w/air. & vacuum		½" St. + Ret. - 1¼" Vac. - ½" Air
D-39	" " " - Trouser - man. oper. w/air. & vacuum		½" St. + Ret. - 1¼" Vac. - ½" Air
D-40	" " " - Mushroom - " " "		½" St. + Ret. - 1¼" Vac. - ½" Air
D-41	Vacuum System complete		——
D-43			
D-44	Board - steam - Finishing w/steam iron		½" St. + Ret.
D-45	Iron - steam - Puff shoulder & mushroom w/stand		½" St. - ¾" Ret. - ¼" Air.
D-47	Washer - Laundry - Metal - open end △	19"x30"	4" Drain - 2" N.= C.W. - ¾" St. - ½" Ret
D-50	Extractor - Laundry	20"	1½" Drain
D-53	Tumbler - Laundry - Non - Revers.	36"x30"	¾" St. + Ret.
D-55	Tub - stationary - 2 Compartment - Galvanized	42"x27"	2" Waste - 1¼" Vent - ¾" H & C.W.



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

TOILET ROOM
BAKERY SCALE : 1/4" = 1'-0"



PIPING DIAGRAM FOR SOLVENT
NO SCALE

Note: Air vent lines from underground must extend at least 6'-0" above roof with return bends.

LEGEND.
Globe or gate valve.
Sight glass.
Check Valve

GENERAL NOTES:
1. For symbols & abbreviations, fixtures (other than special equipment) & connections see standard detail drawing No 21-01-25 sheet 1 of 1.
2. If ℄ C.W. Lines run in attic or Truss Space & drop to fixtures
3. Air and Vacuum Lines run above Truss Line ℄ drop to equipment as indicated on plan.

Division	Date	Description	By	Appd
△	11 Mar 51	As Constructed		
△	3/28/51	Rev./basic memo 10 Aug 51 from P.E. N. Richland to NPWH		

PARKER & HILL
KNAPPEN TIPPETTS ABBETT ENGR. CO.
ARCHITECTS AND ENGINEERS
SEATTLE NEW YORK SAN FRANCISCO

CORPS OF ENGINEERS, U. S. ARMY
OFFICE OF DISTRICT ENGINEER
SEATTLE WASHINGTON

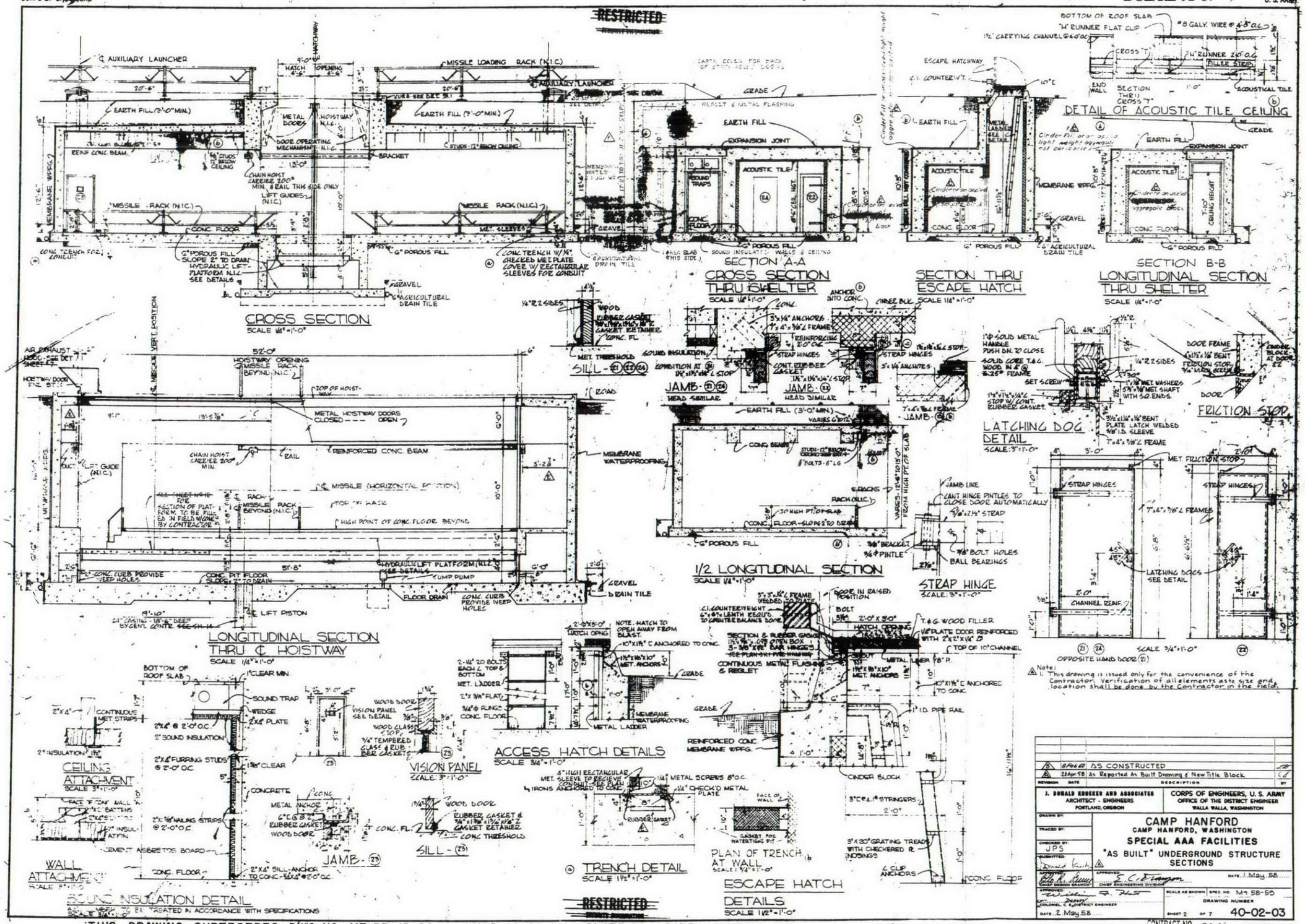
DRAWN BY D.S.
TRACED BY
CHECKED BY
PREPARED
ARCHITECTS AND ENGINEERS
REVIEWED
CHIEF ENGINEER
DIRECTOR
CHIEF ENGINEER
DIRECTOR
CHIEF ENGINEER

ARMY INSTALLATION
NORTH RICHLAND, WASHINGTON
T. I. & E. BUILDING,
CLEANING PLANT
& BAKERY
PLUMBING
APPROVED
DATE 20 Mar. 1951
SCALE As Noted
DRAWING NUMBER 36-04-35
SHEET 1 of 1

DISTRICT FILE NO. 50S-36-04-35

9 3 1 2 9 3 4 1 3 6 0

RESTRICTED



RESTRICTED

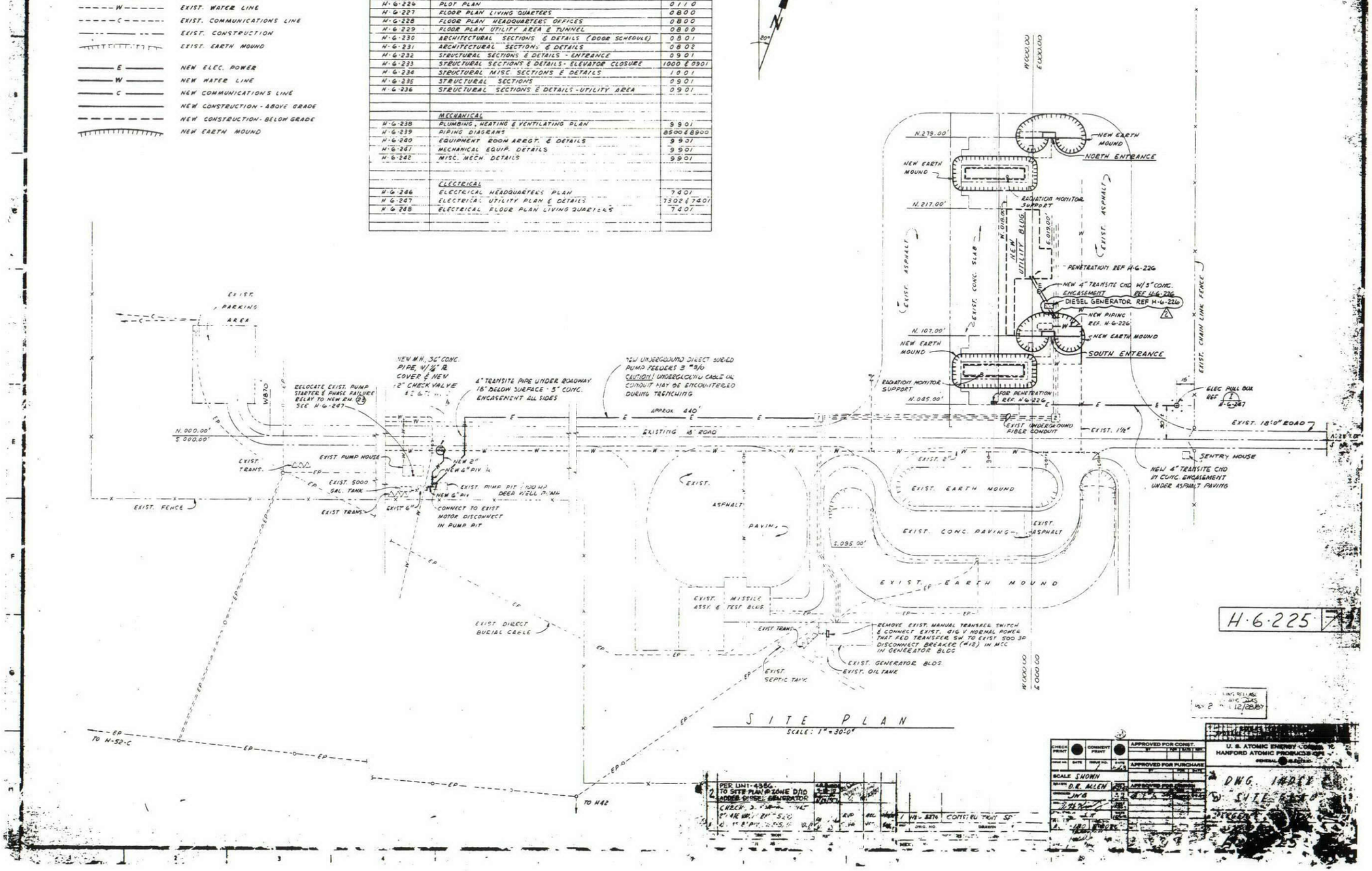
9312934341362

LEGEND

- EXIST. ELEC. POWER
- EXIST. WATER LINE
- EXIST. COMMUNICATIONS LINE
- EXIST. CONSTRUCTION
- EXIST. EARTH MOUND
- NEW ELEC. POWER
- NEW WATER LINE
- NEW COMMUNICATIONS LINE
- NEW CONSTRUCTION - ABOVE GRADE
- NEW CONSTRUCTION - BELOW GRADE
- NEW EARTH MOUND

DRAWING INDEX

DRAWING NO.	TITLE	INDEX NO.
	ARCHITECTURAL	
H-6-225	SITE PLAN & DRAWING INDEX	0110
H-6-226	PLOT PLAN	0110
H-6-227	FLOOR PLAN LIVING QUARTERS	0800
H-6-228	FLOOR PLAN HEADQUARTERS OFFICES	0800
H-6-229	FLOOR PLAN UTILITY AREA & TUNNEL	0800
H-6-230	ARCHITECTURAL SECTIONS & DETAILS (DOOR SCHEDULE)	0801
H-6-231	ARCHITECTURAL SECTIONS & DETAILS	0802
H-6-232	STRUCTURAL SECTIONS & DETAILS - ENTRANCE	0901
H-6-233	STRUCTURAL SECTIONS & DETAILS - ELEVATOR CLOSURE	1000 & 0901
H-6-234	STRUCTURAL MISC. SECTIONS & DETAILS	1001
H-6-235	STRUCTURAL SECTIONS	0901
H-6-236	STRUCTURAL SECTIONS & DETAILS - UTILITY AREA	0901
	MECHANICAL	
H-6-238	PLUMBING, HEATING & VENTILATING PLAN	9901
H-6-239	PIPING DIAGRAMS	8500 & 8900
H-6-240	EQUIPMENT ROOM ARRGT. & DETAILS	9901
H-6-241	MECHANICAL EQUIP. DETAILS	9901
H-6-242	MISC. MECH. DETAILS	9901
	ELECTRICAL	
H-6-246	ELECTRICAL HEADQUARTERS PLAN	7401
H-6-247	ELECTRICAL UTILITY PLAN & DETAILS	7302 & 7401
H-6-248	ELECTRICAL FLOOR PLAN LIVING QUARTERS	7401



SITE PLAN
SCALE: 1" = 30'-0"

QTY.	ITEM NO.	DESCRIPTION

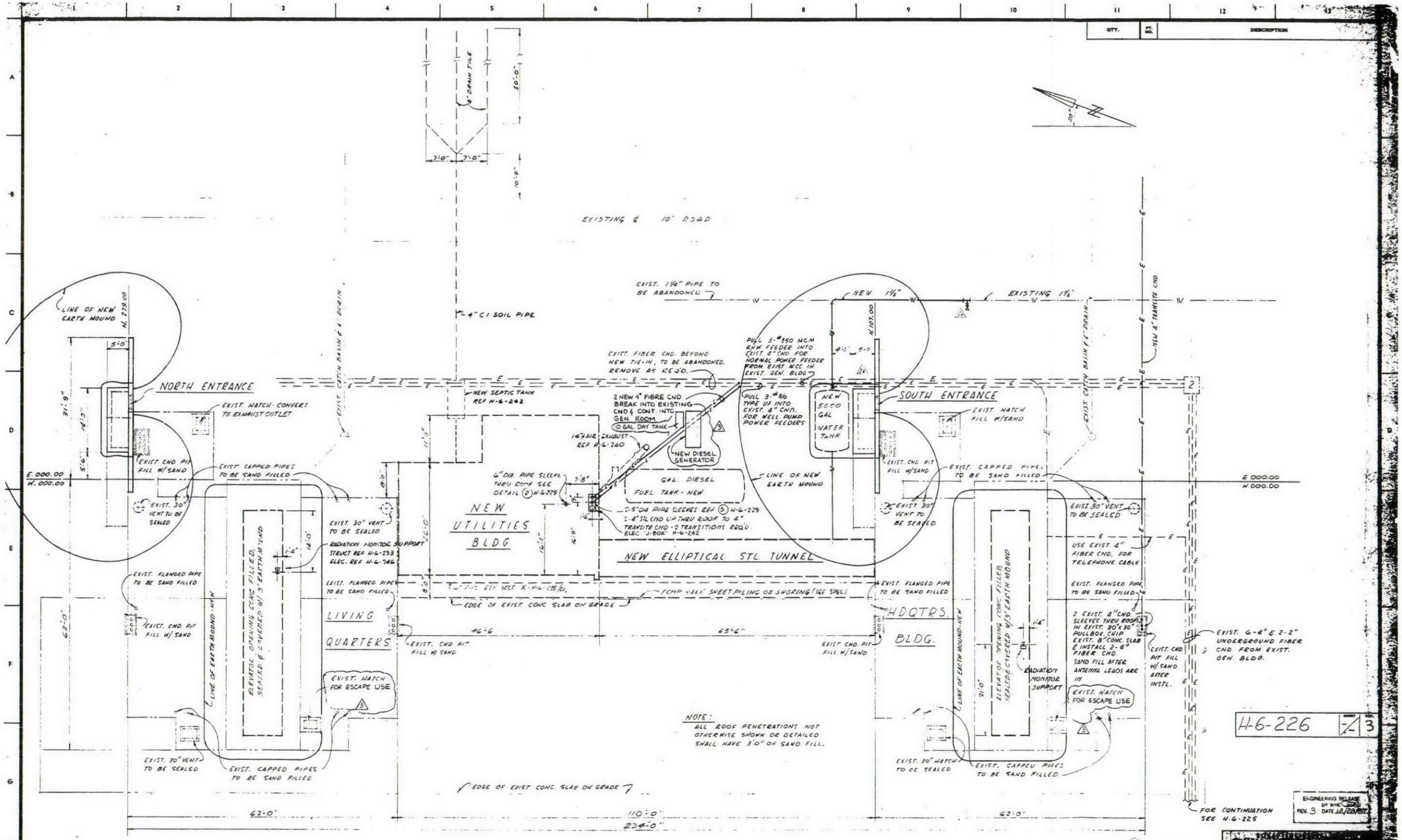
PER UNI-4386 TO SITE PLAN & ZONE D/O ADDED DIESEL GENERATOR

U. S. ATOMIC ENERGY COMMISSION
HANFORD ATOMIC PRODUCTS OPERATION

DWG. INDEX & SITE PLAN

SCALE SHOWN

9312941363



PLOT PLAN

NO.	DESCRIPTION	REV. BY DATE	APPD BY	FOR	DATE
3	FIELD VERIFICATION. ATOR @ EN DT PER UNI-4356 ADDED NEW DIESEL GENER-	H.E. BUSCH 4-23-87 11/9/87			
2	CHECKED FOR AS BUILT (1) ADDED 6" PIPE EN E-5 BUC-10, (2) ADDED VALVE EN D-8 (3) VEN VALVE WAS EXISTING		RLD	ARC	
1	MODIFIED DRAINAGE SYS.	5/28/83			

REVISIONS

NEXT USED ON	DWG. NO.	DRAWING TITLE
3	H-6-229	ARCH. PLAN & SECTS. UTILITY AREA & TUNNEL
2	H-6-225	DWG. INDEX & SITE PLAN
1	WHS-E-74	CONST. SPECS.

REFERENCE DRAWINGS

QTY.	PT. NO.	DESCRIPTION

SCALE 1/8" = 1'-0"

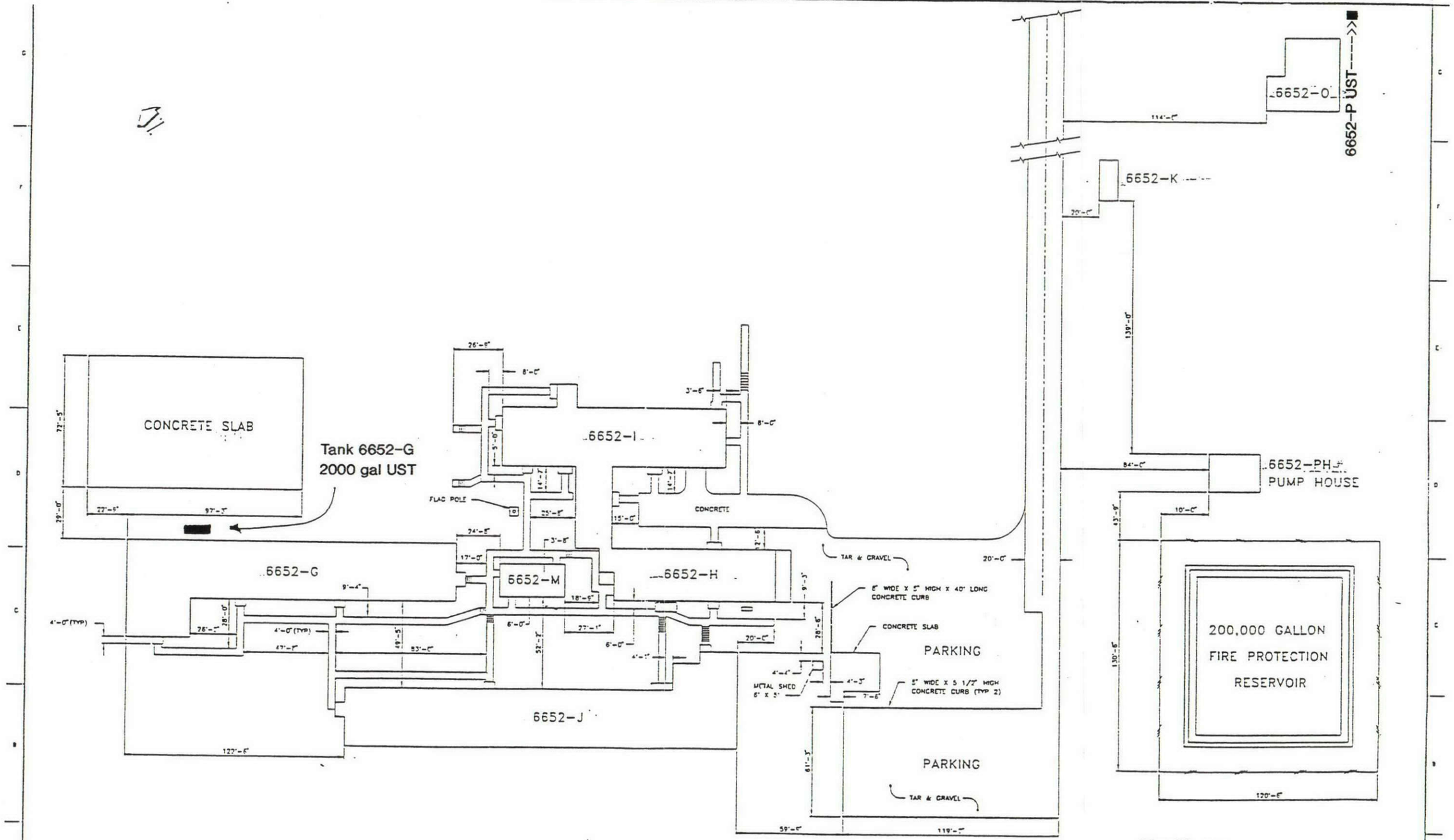
APPROVED FOR CONST. / APPROVED FOR PURCHASE / APPROVED FOR DESIGN

U. S. ATOMIC ENERGY COMMISSION
HANFORD ATOMIC PRODUCTS OPERATION
GENERAL ELECTRIC

PLOT PLAN

EMERGENCY RELOCATION

9312934113364



SITE PLAN

DRAWER #14

REFERENCE DRAWINGS	REVISIONS	U. S. DEPARTMENT OF ENERGY
	11/10/89 REMOVED TRAILER 1 AND 2 OF ORIGINAL ADDED 6652-PH REDRAWN DUE TO CONDITION	PACIFIC NORTHWEST LABORATORY
		SITE PLAN
		F 1 600 10110 H-6-635

ENDANGERED, THREATENED, AND CANDIDATES -- WILDLIFE													
SPECIES	FEDERAL					STATE							
COMMON NAME / SCIENTIFIC	E	T	C_1	C_2	C_3	E	T	S	C	M	M_1	M_2	M_3
Peregrine falcon* (Falco peregrinus)	X					X							
Bald eagle (Haliaeetus leucocephalus)		X					X						
Aleutian Canada goose* (Branta canadensis leucopareia)		X				X							
American white pelican (Pelecanus erythrorhynchos)						x							
Sandhill crane (Grus canadensis)						x							
Pygmy rabbit* (Brachylagus idahoensis)				X			X						
Ferruginous hawk (Buteo regalis)				X			X						
Western Sage grouse (Centrocercus urophasianus)				X					X				
Pacific western big-eared bat (Plecotus townsendii)				X					X				
Columbia pebble snail (Fluminicola columbianus)				X					X				
Loggerhead shrike (Lanius ludovicianus)				X					X				
Black tern (Chlidonias niger)				X						X			
Swainson's hawk (Buteo swainsoni)					X				X				
Northern goshawk* (Accipiter gentilis)				X					X				
Common loon (Gavia immer)									X				
Golden eagle (Aquila chrysaetos)									X				
Flammulated owl* (Otus flammeolus)									X				
Burrowing Owl (Athene cunicularia)									X				

ENDANGERED, THREATENED, AND CANDIDATES -- WILDLIFE													
SPECIES	FEDERAL					STATE							
COMMON NAME / SCIENTIFIC	E	T	C_1	C_2	C_3	E	T	S	C	M	M_1	M_2	M_3
Sage thrasher (Oreoscoptes montanus)									X				
Sage sparrow (Amphispiza belli)									X				
Shortfaced lanx (Fisherola nuttalli)									X				
Merriam's shrew (Sorex merriami)									X				
Striped whipsnake (Masticophis taeniatus)									X				
Trumpeter swan* (Cygnus columbianus)				X									
Lewis' woodpecker* (Melanerpes lewis)									X				
Western bluebird* (Sialia mexicana)									X				
Mountain sucker (Catostomus platyrhynchus)										X			
Sand roller (Percopsis transmontana)										X			
Piute sculpin (Cottus beldingi)										X			
Reticulate sculpin (Cottus perplexus)										X			
Woodhouse's toad (Bufo woodhousei)										X			
Night snake (Hypsiglena torquata)										X			
Horned grebe (Podiceps auritus)										X			
Red-necked grebe* (Podiceps grisegena)										X			
Western grebe (Aechmophorus occidentalis)										X			

ENDANGERED, THREATENED, AND CANDIDATES -- WILDLIFE													
SPECIES	FEDERAL					STATE							
COMMON NAME / SCIENTIFIC	E	T	C_1	C_2	C_3	E	T	S	C	M	M_1	M_2	M_3
Clark's grebe (Aechmophorus clarkii)										X			
Great blue heron (Ardea herodias)										X			
Great egret (Casmerodius albus)										X			
Black-crowned night heron (Nycticorax nycticorax)										X			
Turkey vulture* (Cathartes aura)										X			
Osprey (Pandion haliaetus)										X			
Merlin (Falco columbarius)										X			
Gyrfalcon* (Falco rusticolus)										X			
Prairie falcon (Falco mexicanus)										X			
Black-necked stilt* (Himantopus mexicanus)										X			
Long-billed curlew (Numenius americanus)					X					X			
Caspian tern (Sterna caspia)										X			
Arctic tern* (Sterna paradisaea)										X			
Forster's tern (Sterna forsteri)										X			
Snowy owl (Nyctea scandiaca)										X			
Barred owl* (Strix varia)										X			
Ash-throated flycatcher (Myiarchus cinerascens)										X			

ENDANGERED, THREATENED, AND CANDIDATES -- WILDLIFE													
SPECIES	FEDERAL					STATE							
COMMON NAME / SCIENTIFIC	E	T	C_1	C_2	C_3	E	T	S	C	M	M_1	M_2	M_3
Grasshopper sparrow (Ammodramus savannarum)										X			
Lesser goldfinch* (Carduelis psaltria)										X			
Pallid bat (Antrozus pallidus)										X			
Northern grasshopper mouse (Onychomys leucogaster)										X			
Sagebrush vole (Lagurus curtatus)										X			

ENDANGERED, THREATENED, AND CANDIDATES -- PLANTS														
SPECIES	FEDERAL						STATE							
COMMON NAME / SCIENTIFIC	E	T	C_1	C_2	C_3	C_{3b}	E	T	S	C	M	M_1	M_2	M_3
Northern wormwood (Artemisia campestris ssp. borealis var. wormskioldii)			X				X							
Columbia yellowcress (Rorippa columbiae)				X			X							
Columbia milk-vetch (Astragalus Columbianus)				X				X						
Hoover's desert-parsley (Lomatium tuberosum)				X				X						
Thompson's sandwort (Arenaria franklinii var. thompsonii						X							X	
Dense sedge (Carex densa)									X					
Bristly cryptantha (Cryptantha interrupta)									X					
Gray cryptantha (Cryptantha leucophaea)									X					
Shining flatsedge (Cyperus rivularis)									X					
Piper's daisy (Erigeron piperianus)									X					
Southern mudwort (Limosella acaulis)									X					
False pimpernel (Lindernia anagallidea)									X					
Dwarf desert-primrose (Oenothera Pygmaea)									X					
Desert dodder (Cuscuta denticulata)												X		
Robinson's onion (Allium robinsonii)														X
Squill onion (Allium scillioides)														X
Columbia River mugwort (Artemisia lindleyana)														X

ENDANGERED, THREATENED, AND CANDIDATES -- PLANTS														
SPECIES	FEDERAL						STATE							
COMMON NAME / SCIENTIFIC	E	T	C_1	C_2	C_3	C_{3b}	E	T	S	C	M	M_1	M_2	M_3
Stalked-pod milk-vetch (Astragalus sclerocarpus)														X
Medick milk-vetch (Astragalus speirocarpus)														X
Crouching milk-vetch (Astragalus succumbens)														X
Rosy balsamroot (Balsamorhiza rosea)														X
Palouse thistle (Cirsium brevifolium)														X
Smooth cliffbrake (Pellaea glabella)														X
Fuzzy beardtongue (Penstemon eriantherus)														X

Federal listings as of 2/21/90 - 55 FR 6184.
State listings as of 6/90 - Washington Natural Heritage Program.

General

* Species that are considered very rare or observed only once or twice.

Federal

E Federal Endangered. A species in danger of extinction throughout all or a significant portion of its range.

T Federal Threatened. A species which is likely to become endangered within the foreseeable future.

C_1 Candidate taxa for which enough substantive information is available to support listing as threatened or endangered by the federal government.

C_2 Candidate taxa for which there is evidence of vulnerability, but not enough data to support listing proposals at this time.

C_3 Taxa that were once considered for listing as threatened or endangered, but are no longer candidates for listing.

C_{3b} Sub-category. Includes names that. on the basis of current taxonomic understanding, do not represent distinct taxa meeting the Endangered Species Act of 1973 definition of "species."

State

E Endangered. Species that are in danger of becoming extinct within the near future if factors contributing to their decline continue.

T Threatened. Species that are likely to become endangered within the near future if factors contributing to their population decline or habitat degradation continue.

S Sensitive. Species that are vulnerable or declining, and could become endangered or threatened without active management or removal of threats.

C Candidate. Wildlife species native to the state of Washington that the Department of Wildlife will review for possible listing as endangered, threatened or sensitive.

M Monitored. Wildlife species native to Washington that are of special interest because: 1) they were at one time classified as endangered, threatened, or sensitive; 2) they require habitat that has limited availability during some portion of their life cycle; 3) they are indicators of environmental quality; 4) further field investigations are required to determine their population status; 5) there are unresolved taxonomic problems which may bear upon their status classification; 6) they may be competing with and impacting other species of concern; or 7) they have significant popular appeal.

M_1 Monitor Group 1. Taxa for which there is insufficient data to support listing as threatened, endangered, or sensitive.

M_2 Monitor Group 2. Taxa with unresolved taxonomic questions.

M_3 Monitor Group 3. Taxa that are more abundant and/or less threatened than previously assumed.

9 3 1 2 9 3 4 1 3 7 4

COST ESTIMATES

9 5 1 2 9 2 4 1 3 7 5

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1100-EM-2 OPERABLE UNIT OFFSITE DISPOSAL ALTERNATIVE COST ESTIMATE

9513251.1417

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9 3 1 2 9 2 4 1 3 7 8

HANFORD: REMEDIATION
1.4.10.1.1.23.02.2.2
1100-EM-2 OPERABLE UNIT
WASTE SITE COST ESTIMATES
Revised Quantities/Sites

Designed By:
Estimated By:

Prepared By:
USACE/CENPW COST ENGR BRANCH

Date: 03/09/93
Est Construction Time: 15 Days

M C A C E S G O L D E D I T I O N
Composer GOLD Copyright (C) 1985, 1988, 1990, 1992
by Building Systems Design, Inc.
Release 5.20J

HANFORD: 1.4.10.1.1.23.02.2.2 1100-EM-2 Cost Estimate Considerations

This is the structure for the Subproject and Operable Unit remediation cost estimates. The Work Breakdown Structure (WBS) is based on the DOE-HQ WBS and a site specific remediation WBS being developed for Hanford.

"1.4.10.1.1" is DOE, Richland Operations, Hanford Environmental Restoration, Remedial Action.
".23" is the Subproject (ie. 1100-EM)
".02" is the Operable Unit
".2" is Remediation
".2" is Remedial Action

In this MCACES estimate project breakdown, the first level is the individual Waste Site. The numbers for the next two to three levels (2nd thru 4th) are from the Hanford Remedial Action WBS. The fourth thru sixth levels are user defined, being either a Title or cost detail.

The Price Level for the estimate dollars is FY 93. S & A is estimated at 20%, and consists of NPW's Project Management @ 5%, Construction Management @ 10%, and Engineering During Construction @ 5%. See Contingency Notes (Title Page 3) for explanation of Contingency percentages. Contingency was applied at Level 1 & Level 4/5 in the estimate, to allow use of different percentages for the various types of work (see Settings for which percentage was applied). See Detail Page 1 for explanation of Contractor Indirect percentages used. E&D and Escalation will be added by the NPW-Hanford Project Manager.

List of Waste Sites: 1100-EM-2

Steam Pad Tank #2, 4,000 Gal f.g. tank
Steam Pad Tank #3 "
700 Area Waste Sovent Tank (Unit 703-1) (No Remedial Cost Estimated)
Tar Flow
Stained Sands
Neptunes Potato & Separator Tank (Trident)
Bus Lot Dry Wells (5)

THIS estimate is a revision of the January estimate, based on new quantities supplied by NPW-EN-EE, 3/9/93.

1. Contingency of 15%-25% is normal for this level of detail, percentage used based on a high to low confiedence in numbers. Use as overall contingency, applied at Level 1, or at lower levels as needed to better define variable risks/difficulties.

2. Contingency is based on uncertainty of the amount of time required to do the work represented in the estimate, etc.

3. Contingency is based on the uncertainty of the quantities presented.

4. Contingency based on the unit costs obtained by Vendor and therefore may be different by the time work will actually be accomplished.

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SUMMARY REPORTS — SUMMARY PAGE

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PROJECT OWNER SUMMARY - LEVEL 2....2
PROJECT OWNER SUMMARY - LEVEL 4....4
PROJECT INDIRECT SUMMARY - LEVEL 1....9
PROJECT INDIRECT SUMMARY - LEVEL 2....10
PROJECT INDIRECT SUMMARY - LEVEL 4....12
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CONTRACTOR INDIRECT SUMMARY - LEVEL 1....18

DETAILED ESTIMATE — DETAIL PAGE

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02. MONITOR, SAMPLE, TEST, ANALYSIS
06. SAMPLING SOIL, SED & SOLID WASTE....1
10. TANKS/MISC DEMOLITION & REMOVAL
02. TANK REMOVAL....2
B. Steam Pad Tank #3
02. MONITOR, SAMPLE, TEST, ANALYSIS
06. SAMPLING SOIL, SED & SOLID WASTE....5
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02. TANK REMOVAL....6
C. 700 Area Waste Solvent Tank....9
D. Tar Flow
02. MONITOR, SAMPLE, TEST, ANALYSIS
06. SAMPLING SOIL, SED & SOLID WASTE....9
08. SOLIDS COLLECTION & CONTAINMENT
01. EXCAVATION....11
E. Stained Sands
02. MONITOR, SAMPLE, TEST, ANALYSIS
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08. SOLIDS COLLECTION & CONTAINMENT
01. EXCAVATION....14
F. Neptunes Potato & Separator Tank
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G. Bus Lot Dry Wells (5)
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06. SAMPLING SOIL, SED & SOLID WASTE....17
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01. QA/Safety Monitoring....23

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LABOR BACKUP.....2
EQUIPMENT BACKUP.....3

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Tue 09 Mar 1993

U.S. Army Corps of Engineers
PROJECT 11EM2R: HANFORD: REMEDIATION - 1.4.10.1.1.23.02.2.2
1100-EM-2, Waste Site Cost Estimates, REVISED
** PROJECT OWNER SUMMARY - LEVEL 1 (Rounded to 1000's) **

TIME 17:07:20
SUMMARY PAGE 1

		QUANTITY UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
A	Steam Pad Tank #2		12,000	2,000	3,000	18,000		
B	Steam Pad Tank #3		12,000	2,000	3,000	18,000		
C	700 Area Waste Solvent Tank		0	0	0	0		
D	Tar Flow		52,000	10,000	15,000	78,000		
E	Stained Sands		25,000	5,000	7,000	38,000		
F	Neptunes Potato & Separator Tank		8,000	2,000	2,000	11,000		
G	Bus Lot Dry Wells (5)		30,000	6,000	9,000	45,000		
OA	MOBILIZATION/DEMOB & PREPWORK		18,000	4,000	5,000	26,000		
OB	COE QA/SAFETY MONITORING		9,000	2,000	2,000	12,000		2
	HANFORD: REMEDIATION		166,000	33,000	47,000	246,000		

	QUANTITY UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
A Steam Pad Tank #2							
A-02 MONITOR, SAMPLE, TEST, ANALYSIS		280	60	80	420		
A-10 TANKS/MISC DEMOLITION & REMOVAL		11,490	2,300	3,400	17,180		
Steam Pad Tank #2		11,770	2,350	3,480	17,600		
B Steam Pad Tank #3							
B-02 MONITOR, SAMPLE, TEST, ANALYSIS		280	60	80	420		
B-10 TANKS/MISC DEMOLITION & REMOVAL		11,490	2,300	3,400	17,180		
Steam Pad Tank #3		11,770	2,350	3,480	17,600		
C 700 Area Waste Solvent Tank							
700 Area Waste Solvent Tank		0	0	0	0		
D Tar Flow							
D-02 MONITOR, SAMPLE, TEST, ANALYSIS		4,350	870	1,040	6,270		
D-08 SOLIDS COLLECTION & CONTAINMENT		47,660	9,530	14,290	71,490		
Tar Flow		52,010	10,400	15,340	77,760		
E Stained Sands							
E-02 MONITOR, SAMPLE, TEST, ANALYSIS		5,140	1,030	1,230	7,410		
E-08 SOLIDS COLLECTION & CONTAINMENT		20,290	4,060	6,050	30,400		
Stained Sands		25,430	5,090	7,280	37,800		
F Neptunes Potato & Separator Tank							
F-02 MONITOR, SAMPLE, TEST, ANALYSIS		7,720	1,540	2,070	11,340		
Neptunes Potato & Separator Tank		7,720	1,540	2,070	11,340		
G Bus Lot Dry Wells (5)							
G-02 MONITOR, SAMPLE, TEST, ANALYSIS		3,950	790	950	5,680		
G-08 SOLIDS COLLECTION & CONTAINMENT		26,520	5,300	7,930	39,760		
Bus Lot Dry Wells (5)		30,470	6,090	8,870	45,440		

	QUANTITY UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
0A MOBILIZATION/DEMOB & PREPWORK							
0A-01 MOBILIZATION AND PREPATORY WORK		10,320	2,060	2,890	15,270		
0A-21 DEMOBILIZATION		7,780	1,560	1,870	11,200		
MOBILIZATION/DEMOB & PREPWORK		18,100	3,620	4,750	26,470		
0B COE QA/SAFETY MONITORING							
0B-91 QA/Safety Monitoring		8,510	1,700	2,040	12,250		
COE QA/SAFETY MONITORING		8,510	1,700	2,040	12,250		2
HANFORD: REMEDIATION		165,790	33,160	47,320	246,260		

	QUANTITY UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
A Steam Pad Tank #2							
A-02 MONITOR, SAMPLE, TEST, ANALYSIS							
A-02 06 SAMPLING SOIL, SED & SOLID WASTE							
A-02 06 01 SURFACE SOIL		280	60	80	420		
SAMPLING SOIL, SED & SOLID WASTE		280	60	80	420		
MONITOR, SAMPLE, TEST, ANALYSIS		280	60	80	420		
A-10 TANKS/MISC DEMOLITION & REMOVAL							
A-10 02 TANK REMOVAL							
A-10 02 01 FG UST Tank Excavation & Removal	1.00 EA	1,070	210	320	1,600	1602.81	2,3
A-10 02 02 Excav/Load Contaminated Soils	20.00 CY	170	30	60	270	13.53	2,3
A-10 02 03 Transport Cont. Soils, Arlington	20.00 CY	8,900	1,780	2,670	13,340	667.20	3,4
A-10 02 04 PPEquip, Modified Class D	1.00 DAY	1,020	200	250	1,470	1473.23	1,2
A-10 02 05 Site Re-grading		330	70	100	490		1,2
TANK REMOVAL		11,490	2,300	3,400	17,180		
TANKS/MISC DEMOLITION & REMOVAL		11,490	2,300	3,400	17,180		
Steam Pad Tank #2		11,770	2,350	3,480	17,600		
B Steam Pad Tank #3							
B-02 MONITOR, SAMPLE, TEST, ANALYSIS							
B-02 06 SAMPLING SOIL, SED & SOLID WASTE							
B-02 06 01 SURFACE SOIL		280	60	80	420		
SAMPLING SOIL, SED & SOLID WASTE		280	60	80	420		
MONITOR, SAMPLE, TEST, ANALYSIS		280	60	80	420		
B-10 TANKS/MISC DEMOLITION & REMOVAL							
B-10 02 TANK REMOVAL							
B-10 02 01 FG UST Tank Excavation & Removal	1.00 EA	1,070	210	320	1,600	1602.81	2,3
B-10 02 02 Excav/Load Contaminated Soils	20.00 CY	170	30	60	270	13.53	2,3
B-10 02 03 Transport Cont. Soils, Arlington	20.00 CY	8,900	1,780	2,670	13,340	667.20	3,4

	QUANTITY UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
B-10 02 04 PPEquip, Modified Class D	1.00 DAY	1,020	200	250	1,470	1473.23	1,2
B-10 02 05 Site Re-grading		330	70	100	490		1,2
TANK REMOVAL		11,490	2,300	3,400	17,180		
TANKS/MISC DEMOLITION & REMOVAL		11,490	2,300	3,400	17,180		
Steam Pad Tank #3		11,770	2,350	3,480	17,600		
C 700 Area Waste Solvent Tank							
700 Area Waste Solvent Tank		0	0	0	0		
D Tar Flow							
D-02 MONITOR, SAMPLE, TEST, ANALYSIS							
D-02 06 SAMPLING SOIL, SED & SOLID WASTE							
D-02 06 01 SURFACE SOIL		4,350	870	1,040	6,270		
SAMPLING SOIL, SED & SOLID WASTE		4,350	870	1,040	6,270		
MONITOR, SAMPLE, TEST, ANALYSIS		4,350	870	1,040	6,270		
D-08 SOLIDS COLLECTION & CONTAINMENT							
D-08 01 EXCAVATION							
D-08 01 01 Excav/Load Contaminated Soils	110.00 CY	940	190	340	1,460	13.29	2,3
D-08 01 02 Transport Cont. Soils, Arlington	110.00 CY	45,540	9,110	13,660	68,310	620.97	2,4
D-08 01 03 PPEquip, Modified Class D	1.00 DAY	1,020	200	250	1,470	1473.23	1,2
D-08 01 04 Site Re-grading		160	30	50	250		2,3
EXCAVATION		47,660	9,530	14,290	71,490		
SOLIDS COLLECTION & CONTAINMENT		47,660	9,530	14,290	71,490		
Tar Flow		52,010	10,400	15,340	77,760		
E Stained Sands							
E-02 MONITOR, SAMPLE, TEST, ANALYSIS							
E-02 06 SAMPLING SOIL, SED & SOLID WASTE							
E-02 06 01 SURFACE SOIL		5,140	1,030	1,230	7,410		

		QUANTITY	UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
	SAMPLING SOIL, SED & SOLID WASTE			5,140	1,030	1,230	7,410		
	MONITOR, SAMPLE, TEST, ANALYSIS			5,140	1,030	1,230	7,410		
E-08	SOLIDS COLLECTION & CONTAINMENT								
E-08 01	EXCAVATION								
E-08 01 01	Excav/Load Contaminated Soils	45.00	CY	380	80	140	600	13.29	2,3
E-08 01 02	Transport Cont. Soils, Arlington	45.00	CY	18,720	3,740	5,620	28,080	623.99	2,4
E-08 01 03	PPEquip, Modified Class D	1.00	DAY	1,020	200	250	1,470	1473.23	1,2
E-08 01 04	Site Re-grading			160	30	50	250		2,3
	EXCAVATION			20,290	4,060	6,050	30,400		
	SOLIDS COLLECTION & CONTAINMENT			20,290	4,060	6,050	30,400		
	Stained Sands			25,430	5,090	7,280	37,800		
F	Neptunes Potato & Separator Tank								
F-02	MONITOR, SAMPLE, TEST, ANALYSIS								
F-02 06	SAMPLING SOIL, SED & SOLID WASTE								
F-02 06 01	SURFACE SOIL			7,720	1,540	2,070	11,340		
	SAMPLING SOIL, SED & SOLID WASTE			7,720	1,540	2,070	11,340		
	MONITOR, SAMPLE, TEST, ANALYSIS			7,720	1,540	2,070	11,340		
	Neptunes Potato & Separator Tank			7,720	1,540	2,070	11,340		
G	Bus Lot Dry Wells (5)								
G-02	MONITOR, SAMPLE, TEST, ANALYSIS								
G-02 06	SAMPLING SOIL, SED & SOLID WASTE								
G-02 06 01	SURFACE SOIL			3,950	790	950	5,680		
	SAMPLING SOIL, SED & SOLID WASTE			3,950	790	950	5,680		
	MONITOR, SAMPLE, TEST, ANALYSIS			3,950	790	950	5,680		
G-08	SOLIDS COLLECTION & CONTAINMENT								

	QUANTITY UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
G-08 01 EXCAVATION							
G-08 01 01 Excav/Load Contaminated Soils	60.00 CY	510	100	180	800	13.29	2,3
G-08 01 02 Transport Cont. Soils, Arlington	60.00 CY	24,830	4,970	7,450	37,240	620.67	2,4
G-08 01 03 PPEquip, Modified Class D	1.00 DAY	1,020	200	250	1,470	1473.23	1,2
G-08 01 04 Site Re-grading		160	30	50	250		2,3
EXCAVATION		26,520	5,300	7,930	39,760		
SOLIDS COLLECTION & CONTAINMENT		26,520	5,300	7,930	39,760		
Bus Lot Dry Wells (5)		30,470	6,090	8,870	45,440		
0A MOBILIZATION/DEMOB & PREPWORK							
0A-01 MOBILIZATION AND PREPATORY WORK							
0A-01 01 MOB OF EQUIPMENT & PERSONNEL							
0A-01 01 01 Mob of Equipment & Facilities		3,500	700	840	5,040		1,3
MOB OF EQUIPMENT & PERSONNEL		3,500	700	840	5,040		
0A-01 03 SETUP/CONSTRUCT TEMP FACILITIES							
0A-01 03 01 TRAILERS AND BUILDINGS	100.00 HR	3,790	760	1,140	5,680	56.83	2,3
0A-01 03 02 DECONTAMINATION FACILITIES		3,030	610	910	4,550		
SETUP/CONSTRUCT TEMP FACILITIES		6,820	1,360	2,050	10,230		
MOBILIZATION AND PREPATORY WORK		10,320	2,060	2,890	15,270		
0A-21 DEMOBILIZATION							
0A-21 04 DEMOB OF EQUIPMENT & PERSONNEL							
0A-21 04 01 Demob Equipment/Facilities		7,780	1,560	1,870	11,200		1,2
DEMOB OF EQUIPMENT & PERSONNEL		7,780	1,560	1,870	11,200		
DEMOBILIZATION		7,780	1,560	1,870	11,200		
MOBILIZATION/DEMOB & PREPWORK		18,100	3,620	4,750	26,470		
0B COE QA/SAFETY MONITORING							
0B-91 QA/Safety Monitoring							

Tue 09 Mar 1993

U.S. Army Corps of Engineers
PROJECT 11EM2R: HANFORD: REMEDIATION - 1.4.10.1.1.23.02.2.2
1100-EM-2, Waste Site Cost Estimates, REVISED
** PROJECT OWNER SUMMARY - LEVEL 4 (Rounded to 10's) **

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SUMMARY PAGE 8

	QUANTITY UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
0B-91 01 QA/Safety Monitoring							
QA/Safety Monitoring	2.00 WK	8,510	1,700	2,040	12,250	6125.23	
QA/Safety Monitoring		8,510	1,700	2,040	12,250		
COE QA/SAFETY MONITORING		8,510	1,700	2,040	12,250		2
HANFORD: REMEDIATION		165,790	33,160	47,320	246,260		

U.S. Army Corps of Engineers
PROJECT 11EM2R: HANFORD: REMEDIATION - 1.4.10.1.1.23.02.2.2
1100-EM-2, Waste Site Cost Estimates, REVISED
** PROJECT INDIRECT SUMMARY - LEVEL 1 (Rounded to 10's) **

		QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
A	Steam Pad Tank #2		8,850	1,330	510	860	110	120	11,770	
B	Steam Pad Tank #3		8,850	1,330	510	860	110	120	11,770	
C	700 Area Waste Solvent Tank		0	0	0	0	0	0	0	
D	Tar Flow		39,130	5,870	2,250	3,780	470	510	52,010	
E	Stained Sands		19,130	2,870	1,100	1,850	230	250	25,430	
F	Neptunes Potato & Separator Tank		5,810	870	330	560	70	80	7,720	
G	Bus Lot Dry Wells (5)		22,920	3,440	1,320	2,210	280	300	30,470	
OA	MOBILIZATION/DEMOB & PREPWORK		13,620	2,040	780	1,320	160	180	18,100	
OB	COE QA/SAFETY MONITORING		6,400	960	370	620	80	80	8,510	
	HANFORD: REMEDIATION		124,720	18,710	7,170	12,050	1,500	1,640	165,790	
	S & A								33,160	
	SUBTOTAL								198,940	
	CONTINGENCY								47,320	
	TOTAL INCL OWNER COSTS								246,260	

U.S. Army Corps of Engineers
PROJECT 11EM2R: HANFORD: REMEDIATION - 1.4.10.1.1.23.02.2.2
1100-EM-2, Waste Site Cost Estimates, REVISED
** PROJECT INDIRECT SUMMARY - LEVEL 2 (Rounded to 10's) **

	QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
A Steam Pad Tank #2									
A-02 MONITOR, SAMPLE, TEST, ANALYSIS		210	30	10	20	0	0	280	
A-10 TANKS/MISC DEMOLITION & REMOVAL		8,640	1,300	500	830	100	110	11,490	
Steam Pad Tank #2		8,850	1,330	510	860	110	120	11,770	
B Steam Pad Tank #3									
B-02 MONITOR, SAMPLE, TEST, ANALYSIS		210	30	10	20	0	0	280	
B-10 TANKS/MISC DEMOLITION & REMOVAL		8,640	1,300	500	830	100	110	11,490	
Steam Pad Tank #3		8,850	1,330	510	860	110	120	11,770	
C 700 Area Waste Solvent Tank									
700 Area Waste Solvent Tank		0	0	0	0	0	0	0	
D Tar Flow									
D-02 MONITOR, SAMPLE, TEST, ANALYSIS		3,270	490	190	320	40	40	4,350	
D-08 SOLIDS COLLECTION & CONTAINMENT		35,860	5,380	2,060	3,460	430	470	47,660	
Tar Flow		39,130	5,870	2,250	3,780	470	510	52,010	
E Stained Sands									
E-02 MONITOR, SAMPLE, TEST, ANALYSIS		3,870	580	220	370	50	50	5,140	
E-08 SOLIDS COLLECTION & CONTAINMENT		15,260	2,290	880	1,470	180	200	20,290	
Stained Sands		19,130	2,870	1,100	1,850	230	250	25,430	
F Neptunes Potato & Separator Tank									
F-02 MONITOR, SAMPLE, TEST, ANALYSIS		5,810	870	330	560	70	80	7,720	
Neptunes Potato & Separator Tank		5,810	870	330	560	70	80	7,720	
G Bus Lot Dry Wells (5)									
G-02 MONITOR, SAMPLE, TEST, ANALYSIS		2,970	450	170	290	40	40	3,950	
G-08 SOLIDS COLLECTION & CONTAINMENT		19,950	2,990	1,150	1,930	240	260	26,520	
Bus Lot Dry Wells (5)		22,920	3,440	1,320	2,210	280	300	30,470	

U.S. Army Corps of Engineers
PROJECT 11EM2R: HANFORD: REMEDIATION - 1.4.10.1.1.23.02.2.2
1100-EM-2, Waste Site Cost Estimates, REVISED
** PROJECT INDIRECT SUMMARY - LEVEL 2 (Rounded to 10's) **

	QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
0A MOBILIZATION/DEMOB & PREPWORK									
0A-01 MOBILIZATION AND PREPATORY WORK		7,770	1,160	450	750	90	100	10,320	
0A-21 DEMOBILIZATION		5,850	880	340	570	70	80	7,780	
MOBILIZATION/DEMOB & PREPWORK		13,620	2,040	780	1,320	160	180	18,100	
0B COE QA/SAFETY MONITORING									
0B-91 QA/Safety Monitoring		6,400	960	370	620	80	80	8,510	
COE QA/SAFETY MONITORING		6,400	960	370	620	80	80	8,510	
HANFORD: REMEDIATION		124,720	18,710	7,170	12,050	1,500	1,640	165,790	
S & A								33,160	
SUBTOTAL								198,940	
CONTINGENCY								47,320	
TOTAL INCL OWNER COSTS								246,260	

	QUANTITY	UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
A Steam Pad Tank #2										
A-02 MONITOR, SAMPLE, TEST, ANALYSIS										
A-02 06 SAMPLING SOIL, SED & SOLID WASTE										
A-02 06 01 SURFACE SOIL			210	30	10	20	0	0	280	
SAMPLING SOIL, SED & SOLID WASTE			210	30	10	20	0	0	280	
MONITOR, SAMPLE, TEST, ANALYSIS			210	30	10	20	0	0	280	
A-10 TANKS/MISC DEMOLITION & REMOVAL										
A-10 02 TANK REMOVAL										
A-10 02 01 FG UST Tank Excavation & Removal	1.00	EA	800	120	50	80	10	10	1,070	1068.54
A-10 02 02 Excav/Load Contaminated Soils	20.00	CY	130	20	10	10	0	0	170	8.67
A-10 02 03 Transport Cont. Soils, Arlington	20.00	CY	6,690	1,000	380	650	80	90	8,900	444.80
A-10 02 04 PPEquip, Modified Class D	1.00	DAY	770	120	40	70	10	10	1,020	1023.08
A-10 02 05 Site Re-grading			250	40	10	20	0	0	330	
TANK REMOVAL			8,640	1,300	500	830	100	110	11,490	
TANKS/MISC DEMOLITION & REMOVAL			8,640	1,300	500	830	100	110	11,490	
Steam Pad Tank #2			8,850	1,330	510	860	110	120	11,770	
B Steam Pad Tank #3										
B-02 MONITOR, SAMPLE, TEST, ANALYSIS										
B-02 06 SAMPLING SOIL, SED & SOLID WASTE										
B-02 06 01 SURFACE SOIL			210	30	10	20	0	0	280	
SAMPLING SOIL, SED & SOLID WASTE			210	30	10	20	0	0	280	
MONITOR, SAMPLE, TEST, ANALYSIS			210	30	10	20	0	0	280	
B-10 TANKS/MISC DEMOLITION & REMOVAL										
B-10 02 TANK REMOVAL										
B-10 02 01 FG UST Tank Excavation & Removal	1.00	EA	800	120	50	80	10	10	1,070	1068.54
B-10 02 02 Excav/Load Contaminated Soils	20.00	CY	130	20	10	10	0	0	170	8.67
B-10 02 03 Transport Cont. Soils, Arlington	20.00	CY	6,690	1,000	380	650	80	90	8,900	444.80

	QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
B-10 02 04 PPEquip, Modified Class D	1.00 DAY	770	120	40	70	10	10	1,020	1023.08
B-10 02 05 Site Re-grading		250	40	10	20	0	0	330	
TANK REMOVAL		8,640	1,300	500	830	100	110	11,490	
TANKS/MISC DEMOLITION & REMOVAL		8,640	1,300	500	830	100	110	11,490	
Steam Pad Tank #3		8,850	1,330	510	860	110	120	11,770	
C 700 Area Waste Solvent Tank									
700 Area Waste Solvent Tank		0	0	0	0	0	0	0	
D Tar Flow									
D-02 MONITOR, SAMPLE, TEST, ANALYSIS									
D-02 06 SAMPLING SOIL, SED & SOLID WASTE									
D-02 06 01 SURFACE SOIL		3,270	490	190	320	40	40	4,350	
SAMPLING SOIL, SED & SOLID WASTE		3,270	490	190	320	40	40	4,350	
MONITOR, SAMPLE, TEST, ANALYSIS		3,270	490	190	320	40	40	4,350	
D-08 SOLIDS COLLECTION & CONTAINMENT									
D-08 01 EXCAVATION									
D-08 01 01 Excav/Load Contaminated Soils	110.00 CY	700	110	40	70	10	10	940	8.52
D-08 01 02 Transport Cont. Soils, Arlington	110.00 CY	34,260	5,140	1,970	3,310	410	450	45,540	413.98
D-08 01 03 PPEquip, Modified Class D	1.00 DAY	770	120	40	70	10	10	1,020	1023.08
D-08 01 04 Site Re-grading		120	20	10	10	0	0	160	
EXCAVATION		35,860	5,380	2,060	3,460	430	470	47,660	
SOLIDS COLLECTION & CONTAINMENT		35,860	5,380	2,060	3,460	430	470	47,660	
Tar Flow		39,130	5,870	2,250	3,780	470	510	52,010	
E Stained Sands									
E-02 MONITOR, SAMPLE, TEST, ANALYSIS									
E-02 06 SAMPLING SOIL, SED & SOLID WASTE									
E-02 06 01 SURFACE SOIL		3,870	580	220	370	50	50	5,140	

	QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
SAMPLING SOIL, SED & SOLID WASTE		3,870	580	220	370	50	50	5,140	
MONITOR, SAMPLE, TEST, ANALYSIS		3,870	580	220	370	50	50	5,140	
E-08 SOLIDS COLLECTION & CONTAINMENT									
E-08 01 EXCAVATION									
E-08 01 01 Excav/Load Contaminated Soils	45.00 CY	290	40	20	30	0	0	380	8.52
E-08 01 02 Transport Cont. Soils, Arlington	45.00 CY	14,080	2,110	810	1,360	170	190	18,720	416.00
E-08 01 03 PPEquip, Modified Class D	1.00 DAY	770	120	40	70	10	10	1,020	1023.08
E-08 01 04 Site Re-grading		120	20	10	10	0	0	160	
EXCAVATION		15,260	2,290	880	1,470	180	200	20,290	
SOLIDS COLLECTION & CONTAINMENT		15,260	2,290	880	1,470	180	200	20,290	
Stained Sands		19,130	2,870	1,100	1,850	230	250	25,430	
F Neptunes Potato & Separator Tank									
F-02 MONITOR, SAMPLE, TEST, ANALYSIS									
F-02 06 SAMPLING SOIL, SED & SOLID WASTE									
F-02 06 01 SURFACE SOIL		5,810	870	330	560	70	80	7,720	
SAMPLING SOIL, SED & SOLID WASTE		5,810	870	330	560	70	80	7,720	
MONITOR, SAMPLE, TEST, ANALYSIS		5,810	870	330	560	70	80	7,720	
Neptunes Potato & Separator Tank		5,810	870	330	560	70	80	7,720	
G Bus Lot Dry Wells (5)									
G-02 MONITOR, SAMPLE, TEST, ANALYSIS									
G-02 06 SAMPLING SOIL, SED & SOLID WASTE									
G-02 06 01 SURFACE SOIL		2,970	450	170	290	40	40	3,950	
SAMPLING SOIL, SED & SOLID WASTE		2,970	450	170	290	40	40	3,950	
MONITOR, SAMPLE, TEST, ANALYSIS		2,970	450	170	290	40	40	3,950	
G-08 SOLIDS COLLECTION & CONTAINMENT									

	QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
G-08 01 EXCAVATION									
G-08 01 01 Excav/Load Contaminated Soils	60.00 CY	380	60	20	40	0	10	510	8.52
G-08 01 02 Transport Cont. Soils, Arlington	60.00 CY	18,680	2,800	1,070	1,800	220	250	24,830	413.78
G-08 01 03 PPEquip, Modified Class D	1.00 DAY	770	120	40	70	10	10	1,020	1023.08
G-08 01 04 Site Re-grading		120	20	10	10	0	0	160	
EXCAVATION		19,950	2,990	1,150	1,930	240	260	26,520	
SOLIDS COLLECTION & CONTAINMENT		19,950	2,990	1,150	1,930	240	260	26,520	
Bus Lot Dry Wells (5)		22,920	3,440	1,320	2,210	280	300	30,470	
0A MOBILIZATION/DEMOB & PREPWORK									
0A-01 MOBILIZATION AND PREPATORY WORK									
0A-01 01 MOB OF EQUIPMENT & PERSONNEL									
0A-01 01 01 Mob of Equipment & Facilities		2,640	400	150	250	30	30	3,500	
MOB OF EQUIPMENT & PERSONNEL		2,640	400	150	250	30	30	3,500	
0A-01 03 SETUP/CONSTRUCT TEMP FACILITIES									
0A-01 03 01 TRAILERS AND BUILDINGS	100.00 HR	2,850	430	160	280	30	40	3,790	37.88
0A-01 03 02 DECONTAMINATION FACILITIES		2,280	340	130	220	30	30	3,030	
SETUP/CONSTRUCT TEMP FACILITIES		5,130	770	290	500	60	70	6,820	
MOBILIZATION AND PREPATORY WORK		7,770	1,160	450	750	90	100	10,320	
0A-21 DEMOBILIZATION									
0A-21 04 DEMOB OF EQUIPMENT & PERSONNEL									
0A-21 04 01 Demob Equipment/Facilities		5,850	880	340	570	70	80	7,780	
DEMOB OF EQUIPMENT & PERSONNEL		5,850	880	340	570	70	80	7,780	
DEMOBILIZATION		5,850	880	340	570	70	80	7,780	
MOBILIZATION/DEMOB & PREPWORK		13,620	2,040	780	1,320	160	180	18,100	
0B COE QA/SAFETY MONITORING									
0B-91 QA/Safety Monitoring									

	QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
0B-91 01 QA/Safety Monitoring									
QA/Safety Monitoring	2.00 WK	6,400	960	370	620	80	80	8,510	4253.64
QA/Safety Monitoring		6,400	960	370	620	80	80	8,510	
COE QA/SAFETY MONITORING		6,400	960	370	620	80	80	8,510	
HANFORD: REMEDIATION		124,720	18,710	7,170	12,050	1,500	1,640	165,790	
S & A								33,160	
SUBTOTAL								198,940	
CONTINGENCY								47,320	
TOTAL INCL OWNER COSTS								246,260	

	QUANTITY UOM	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST
A. Steam Pad Tank #2 AA REMEDIAL GENERAL CONTRACTOR		30	840	440	380	7,190	8,850
B. Steam Pad Tank #3 AA REMEDIAL GENERAL CONTRACTOR		30	840	440	380	7,190	8,850
C. 700 Area Waste Solvent Tank <<< Non-Contracted Work >>>		0	0	0	0	0	0
D. Tar Flow AA REMEDIAL GENERAL CONTRACTOR		30	1,130	1,720	720	35,560	39,130
E. Stained Sands AA REMEDIAL GENERAL CONTRACTOR		20	940	240	380	17,570	19,130
F. Neptunes Potato & Separator Tank AA REMEDIAL GENERAL CONTRACTOR		0	480	0	0	5,330	5,810
G. Bus Lot Dry Wells (5) AA REMEDIAL GENERAL CONTRACTOR		20	980	300	1,070	20,580	22,920
OA. MOBILIZATION/DEMOB & PREPWORK AA REMEDIAL GENERAL CONTRACTOR		0	4,500	8,940	180	0	13,620
OB. COE QA/SAFETY MONITORING AA REMEDIAL GENERAL CONTRACTOR		0	6,400	0	0	0	6,400

Tue 09 Mar 1993

U.S. Army Corps of Engineers
PROJECT 11EM2R: HANFORD: REMEDIATION - 1.4.10.1.1.23.02.2.2
1100-EM-2, Waste Site Cost Estimates, REVISED
** CONTRACTOR INDIRECT SUMMARY - LEVEL 1 (Rounded to 10's) **

TIME 16:59:40

	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
A. Steam Pad Tank #2								
AA REMEDIAL GENERAL CONTRACTOR	8,850	1,330	510	860	110	120	11,770	
B. Steam Pad Tank #3								
AA REMEDIAL GENERAL CONTRACTOR	8,850	1,330	510	860	110	120	11,770	
C. 700 Area Waste Solvent Tank								
<<< Non-Contracted Work >>>	0	0	0	0	0	0	0	
D. Tar Flow								
AA REMEDIAL GENERAL CONTRACTOR	39,130	5,870	2,250	3,780	470	510	52,010	
E. Stained Sands								
AA REMEDIAL GENERAL CONTRACTOR	19,130	2,870	1,100	1,850	230	250	25,430	
F. Neptunes Potato & Separator Tank								
AA REMEDIAL GENERAL CONTRACTOR	5,810	870	330	560	70	80	7,720	
G. Bus Lot Dry Wells (5)								
AA REMEDIAL GENERAL CONTRACTOR	22,920	3,440	1,320	2,210	280	300	30,470	
OA. MOBILIZATION/DEMOB & PREPWORK								
AA REMEDIAL GENERAL CONTRACTOR	13,620	2,040	780	1,320	160	180	18,100	
OB. COE QA/SAFETY MONITORING								
AA REMEDIAL GENERAL CONTRACTOR	6,400	960	370	620	80	80	8,510	

0-AA. REMEDIAL GENERAL CONTRACTOR	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST

0-AA. REMEDIAL GENERAL CONTRACTOR

Overhead Percentage Explanation:

Field office Overhead (FOOH): Normal is 10%, using 15% to allow for extra safety and Hanford related items.

Home office Overhead (HOOH): 4-5% is normal for this size of job.

PROFIT: 7-8% is normal for this size of job. However, PROFIT may be calculated separately for each job using the Weighted-Guide Line Method.

BOND: Calculated per dollar amount of job using B Bond rates by GOLD.

B&O TAX: 1% covers the 0.5% WA State B&O tax, and the 0.5% TARO tax.

0-AA AB. Geophysical Survey SubContractor
Assume using Sub Quotes, so no further Sub markup needed.

0-AA AC. Soil Gas Sampling SubContractor
Assume using Sub Quotes, so no further Sub markup needed.

A. Steam Pad Tank #2
Waste Site: Steam Pad Tank #2, 4,000 gal fiberglass tank, last contained waste water.

Site Considerations:
None given.

Potential Remedial Activity:
Remove UST, ship contaminated soil to TSDF.

A-02. MONITOR, SAMPLE, TEST, ANALYSIS

A-02 06. SAMPLING SOIL, SED & SOLID WASTE

A-02 06 01. SURFACE SOIL

A-02 06 01	01. Soil Samples & Analyses Sample & analyze soil. TPH analyses cost given at $150. Soil Samples & Analyses				0	60	0	0	150	210	
	SURFACE SOIL				0	60	0	0	150	210	
	SAMPLING SOIL, SED & SOLID WASTE				0	60	0	0	150	210	
	MONITOR, SAMPLE, TEST, ANALYSIS				0	60	0	0	150	210	

A-10. TANKS/MISC DEMOLITION & REMOVAL	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
A-10. TANKS/MISC DEMOLITION & REMOVAL											
A-10 02. TANK REMOVAL											
A-10 02 01. FG UST Tank Excavation & Removal Steam Pad Tank #2 is a 4,000 gal fiberglass tank, that last contained wastewater.											
L USR AA <02220 0000 > Excavate soil around UST					0.08	2.02	1.68	0.00	0.00	3.69	
Assumes 8' D x 10' L tank, with tank taking up 25 CY.	100.00	CY	XXQMV	25.00	8	202	168	0	0	369	3.69
L USR AA <02220 0000 > Remove & Load UST to Flatbed Trk					2.00	50.42	41.89	0.00	125.00	217.31	
for disposal by Contractor. Allow $250 for disposal.	2.00	HR	XXQMV	1.00	4	101	84	0	250	435	217.31
FG UST Tank Excavation & Removal	1.00	EA			12	303	251	0	250	804	803.86
A-10 02 02. Excav/Load Contaminated Soils Quantity of 20 CY Contaminated Soils given by Env Engr.											
L USR AA <02220 0000 > Excavate contaminated soil					0.08	2.02	1.68	0.00	0.00	3.69	
Quantity of con. soil given by Env Engr (assumed under tank)	22.40	LCY	XXQMV	25.00	2	45	38	0	0	83	3.69
USR AA <02220 0000 > Load excavated/stockpiled soil					0.03	0.68	1.46	0.00	0.00	2.13	
Load in 28-ton dump trucks - DOT approved hazardeous waste hauler. Assume 3,100 lb/bcy.	22.40	LCY	XXQMG	40.00	1	15	33	0	0	48	2.13
Excav/Load Contaminated Soils	20.00	CY			2	60	70	0	0	130	6.52
A-10 02 03. Transport Cont. Soils, Arlington Transport contaminated soils to Arlington for disposal there. Unit cost for transport and disposal from Chem. Waste Management, Inc., Arlington.											
USR AA <02220 0000 > Transport soil to Arlington, OR					0.00	0.00	0.00	0.00	400.00	400.00	
1 cy x 3,100 lb/cy 28 tons/truck == 17.5 CY/Trk	2.00	TRK		0.00	0	0	0	0	800	800	400.00
USR AA <02220 0000 > Disposal of soil in landfill					0.00	0.00	0.00	0.00	134.00	134.00	
Disposal fee	34.10	TON		0.00	0	0	0	0	4,569	4,569	134.00
USR AA <02220 0000 > Oregon state environmental tax					0.00	0.00	0.00	0.00	30.00	30.00	
Estimated '93 tax.	34.10	TON		0.00	0	0	0	0	1,023	1,023	30.00
USR AA <02220 0000 > Soil profile fee					0.00	0.00	0.00	0.00	300.00	300.00	
Required by Arlington	1.00	EA		0.00	0	0	0	0	300	300	300.00

A-10. TANKS/MISC DEMOLITION & REMOVAL	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
Transport Cont. Soils, Arlington	20.00 CY		0	0	0	0	6,692	6,692	334.62
A-10 02 04. PPEquip, Modified Class D This item covers cost for Personal Protection Equipment, which is assumed a Modified Class D. Also included is an allowance for daily operation of the Decon shower, equipment decon, and disposal.									
M HTW AA <01951 5202 > Boot Covers, Tyvek (Bag Of 10Pr)	4.00 EA N/A	0.00	0.00 0	0.00 0	11.50 46	0.00 0	0.00 0	11.50 46	11.50
M HTW AA <01951 5204 > Coveralls, Tyvek	4.00 EA N/A	0.00	0.00 0	0.00 0	0.00 0	7.55 30	0.00 0	7.55 30	7.55
M HTW AA <01951 5501 > Butyl, Medium Weight, Gloves	4.00 PR N/A	0.00	0.00 0	0.00 0	2.30 9	0.00 0	0.00 0	2.30 9	2.30
HTW AA <01951 5726 > Half-Mask Air Purifying Respirators	4.00 EA N/A	0.00	0.00 0	0.00 0	0.00 0	19.94 80	0.00 0	19.94 80	19.94
USR AA <01957 3105 > Cold Water, Gasoline, 3200 psi, 4.2 gpm, 11 HP (Daily cost) For equipment decon.	1.00 DAY ULABA	0.13	10.00 10	234.30 234	1.45 1	34.83 35	0.00 0	270.58 271	270.58
M HTW AA <01957 4301 > 8 Ft x 36 Ft, 2 Showers, 2 Wall Fans (Monthly Rental)	1.00 DAY N/A	0.00	0.00 0	0.00 0	0.00 0	26.95 27	0.00 0	26.95 27	26.95
HTW AA <01951 5723 > Cartridges, Respirator	8.00 EA N/A	0.00	0.00 0	0.00 0	0.00 0	25.87 207	0.00 0	25.87 207	25.87
USR AA <01951 5805 > Disposal Allowance. Allow $100/day for disposal of personnel protection items and equipment/vehicle decon water.	1.00 DAY N/A	0.00	0.00 0	0.00 0	0.00 0	0.00 0	100.00 100	100.00 100	100.00
PPEquip, Modified Class D	1.00 DAY		10	234	57	379	100	770	769.66
A-10 02 05. Site Re-grading Allow for refill of tank hole and site re-grading after site is certified clean.									
L USR AA <02220 0000 > Use D3 Dozer Excavation crew	0.50 DAY XXQNA	0.13	14.00 7	365.22 183	126.91 63	0.00 0	0.00 0	492.13 246	492.13
Site Re-grading			7	183	63	0	0	246	
TANK REMOVAL			31	780	442	379	7,042	8,642	

U.S. Army Corps of Engineers
PROJECT 11EM2R: HANFORD: REMEDIATION - 1.4.10.1.1.23.02.2.2
1100-EM-2, Waste Site Cost Estimates, REVISED
A. Steam Pad Tank #2

A-10. TANKS/MISC DEMOLITION & REMOVAL	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
TANKS/MISC DEMOLITION & REMOVAL					31	780	442	379	7,042	8,642	
Steam Pad Tank #2					31	840	442	379	7,192	8,852	

B-02. MONITOR, SAMPLE, TEST, ANALYSIS	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST

B. Steam Pad Tank #3
Waste Site: Steam Pad Tank #3, 4,000 gal fiberglass tank, last contained wastewater.

Site Considerations:
None given.

Potential Remedial Activity:
Remove UST, ship contaminated soil to TSDF.
B-02. MONITOR, SAMPLE, TEST, ANALYSIS

B-02 06. SAMPLING SOIL, SED & SOLID WASTE

B-02 06 01. SURFACE SOIL

B-02 06 01	01. Soil Samples & Analyses Sample & analyze soil. TPH analyses cost given at $150. Soil Samples & Analyses		0	60	0	0	150	210
	SURFACE SOIL		0	60	0	0	150	210
	SAMPLING SOIL, SED & SOLID WASTE		0	60	0	0	150	210
	MONITOR, SAMPLE, TEST, ANALYSIS		0	60	0	0	150	210

B-10. TANKS/MISC DEMOLITION & REMOVAL	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
B-10. TANKS/MISC DEMOLITION & REMOVAL											
B-10 02. TANK REMOVAL											
B-10 02 01. FG UST Tank Excavation & Removal Steam Pad Tank #2 is a 4,000 gal fiberglass tank, that last contained wastewater.											
L USR AA <02220 0000 > Excavate soil around UST					0.08	2.02	1.68	0.00	0.00	3.69	
Assumes 8' D x 10' L tank, with tank taking up 25 CY.	100.00	CY	XXQMV	25.00	8	202	168	0	0	369	3.69
L USR AA <02220 0000 > Remove & Load UST to Flatbed Trk					2.00	50.42	41.89	0.00	125.00	217.31	
for disposal by Contractor. Allow $250 for disposal.	2.00	HR	XXQMV	1.00	4	101	84	0	250	435	217.31
FG UST Tank Excavation & Removal	1.00	EA			12	303	251	0	250	804	803.86
B-10 02 02. Excav/Load Contaminated Soils Quantity of 20 CY Contaminated Soils given by Env Engr.											
L USR AA <02220 0000 > Excavate contaminated soil					0.08	2.02	1.68	0.00	0.00	3.69	
Quantity of con. soil given by Env Engr (assumed under tank)	22.40	LCY	XXQMV	25.00	2	45	38	0	0	83	3.69
USR AA <02220 0000 > Load excavated/stockpiled soil					0.03	0.68	1.46	0.00	0.00	2.13	
Load in 28-ton dump trucks - DOT approved hazardeous waste hauler. Assume 3,100 lb/bcy.	22.40	LCY	XXQMG	40.00	1	15	33	0	0	48	2.13
Excav/Load Contaminated Soils	20.00	CY			2	60	70	0	0	130	6.52
B-10 02 03. Transport Cont. Soils, Arlington Transport contaminated soils to Arlington for disposal there. Unit cost for transport and disposal from Chem. Waste Management, Inc., Arlington.											
USR AA <02220 0000 > Transport soil to Arlington, OR					0.00	0.00	0.00	0.00	400.00	400.00	
1 cy x 3,100 lb/cy 28 tons/truck == 17.5 CY/Trk	2.00	TRK		0.00	0	0	0	0	800	800	400.00
USR AA <02220 0000 > Disposal of soil in landfill					0.00	0.00	0.00	0.00	134.00	134.00	
Disposal fee	34.10	TON		0.00	0	0	0	0	4,569	4,569	134.00
USR AA <02220 0000 > Oregon state environmental tax					0.00	0.00	0.00	0.00	30.00	30.00	
Estimated '93 tax.	34.10	TON		0.00	0	0	0	0	1,023	1,023	30.00
USR AA <02220 0000 > Soil profile fee					0.00	0.00	0.00	0.00	300.00	300.00	
Required by Arlington	1.00	EA		0.00	0	0	0	0	300	300	300.00

B-10. TANKS/MISC DEMOLITION & REMOVAL	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
Transport Cont. Soils, Arlington	20.00	CY			0	0	0	0	6,692	6,692	334.62

B-10 02 04. PPEquip, Modified Class D
This item covers cost for Personal Protection Equipment, which is assumed a Modified Class D. Also included is an allowance for daily operation of the Decon shower, equipment decon, and disposal.

M HTW AA <01951 5202 > Boot Covers, Tyvek (Bag Of 10Pr)	4.00	EA	N/A	0.00	0.00 0	0.00 0	11.50 46	0.00 0	0.00 0	11.50 46	11.50
M HTW AA <01951 5204 > Coveralls, Tyvek	4.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	7.55 30	0.00 0	7.55 30	7.55
M HTW AA <01951 5501 > Butyl, Medium Weight, Gloves	4.00	PR	N/A	0.00	0.00 0	0.00 0	2.30 9	0.00 0	0.00 0	2.30 9	2.30
HTW AA <01951 5726 > Half-Mask Air Purifying Respirators	4.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	19.94 80	0.00 0	19.94 80	19.94
USR AA <01957 3105 > Cold Water, Gasoline, 3200 psi, 4.2 gpm, 11 HP (Daily cost) For equipment decon.	1.00	DAY	ULABA	0.13	10.00 10	234.30 234	1.45 1	34.83 35	0.00 0	270.58 271	270.58
M HTW AA <01957 4301 > 8 Ft x 36 Ft, 2 Showers, 2 Wall Fans (Monthly Rental)	1.00	DAY	N/A	0.00	0.00 0	0.00 0	0.00 0	26.95 27	0.00 0	26.95 27	26.95
HTW AA <01951 5723 > Cartridges, Respirator	8.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	25.87 207	0.00 0	25.87 207	25.87
USR AA <01951 5805 > Disposal Allowance. Allow $100/day for disposal of personnel protection items and equipment/vehicle decon water.	1.00	DAY	N/A	0.00	0.00 0	0.00 0	0.00 0	0.00 0	100.00 100	100.00 100	100.00
PPEquip, Modified Class D	1.00	DAY			10	234	57	379	100	770	769.66

B-10 02 05. Site Re-grading
Allow for refill of tank hole and site re-grading after site is certified clean.

L USR AA <02220 0000 > Use D3 Dozer Excavation crew	0.50	DAY	XXQNA	0.13	14.00 7	365.22 183	126.91 63	0.00 0	0.00 0	492.13 246	492.13
Site Re-grading					7	183	63	0	0	246	
TANK REMOVAL					31	780	442	379	7,042	8,642	

B-10. TANKS/MISC DEMOLITION & REMOVAL	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
TANKS/MISC DEMOLITION & REMOVAL					31	780	442	379	7,042	8,642	
Steam Pad Tank #3					31	840	442	379	7,192	8,852	

	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
C. 700 Area Waste Solvent Tank											
Waste Site: 700 Area Waste Solvent Tank (Unit 703-1)											
Site Considerations:											
Review Analyses.											
Potential Remedial Activity:											
NONE given.											
700 Area Waste Solvent Tank					0	0	0	0	1	1	
D. Tar Flow											
Waste Site: Tar Flow (no other info given)											
Site Considerations:											
100 x 30 x 1											
Potential Remedial Activity:											
Take soil sample, Remove waste to TSDF (110 CY given)											
D-02. MONITOR, SAMPLE, TEST, ANALYSIS											
D-02 06. SAMPLING SOIL, SED & SOLID WASTE											
D-02 06 01. SURFACE SOIL											
D-02 06 01 01. Soil/Waste Samples & Analyses											
Sampling Equipment cost only.											
Soil/Waste Samples & Analyses					0	0	1,250	0	0	1,250	
D-02 06 01 02. Confirmatory Samples & Analyses											
Confirmatory sample & analyses.	See detail items.										
M HTW AA <01954 7625 > TPH, In-field test	1.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	161.70 162	0.00 0	161.70 162	161.70
USR AA <01954 76 > PCB, In-field test	1.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	183.26 183	0.00 0	183.26 183	183.26
USR AA <01954 76 > 8080, PCB/Pesticides - soil	4.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	0.00 0	165.00 660	165.00 660	165.00
USR AA <01954 76 > 8015, TRPH - total recoverable petroleum hydrocarbons - mod.	4.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	0.00 0	135.00 540	135.00 540	135.00
USR AA <01954 76 > Labor to take Samples - 2 men	16.00	HR	N/A	0.00	0.00 0	30.00 480	0.00 0	0.00 0	0.00 0	30.00 480	30.00
Confirmatory Samples & Analyses					0	480	0	345	1,200	2,025	

D-02. MONITOR, SAMPLE, TEST, ANALYSIS	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
SURFACE SOIL					0	480	1,250	345	1,200	3,275	
SAMPLING SOIL, SED & SOLID WASTE					0	480	1,250	345	1,200	3,275	
MONITOR, SAMPLE, TEST, ANALYSIS					0	480	1,250	345	1,200	3,275	

D-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
D-08. SOLIDS COLLECTION & CONTAINMENT									
D-08 01. EXCAVATION									
D-08 01 01. Excav/Load Contaminated Soils Quantity of 110 CY Contaminated Soils given by Env Engr.									
L USR AA <02220 0000 > Excavate contaminated soil			0.08	2.02	1.68	0.00	0.00	3.69	
Quantity of con. soil given by Env Engr. Use 1.1 swell fact.	121.00 LCY XXQMV	25.00	10	244	203	0	0	447	3.69
USR AA <02220 0000 > Load excavated/stockpiled soil			0.03	0.68	1.46	0.00	0.00	2.13	
Load in 28-ton dump trucks - DOT approved hazardeous waste hauler. Assume 3,100 lb/bcy.	121.00 LCY XXQMG	40.00	3	82	176	0	0	258	2.13
Excav/Load Contaminated Soils	110.00 CY		13	326	379	0	0	705	6.41
D-08 01 02. Transport Cont. Soils, Arlington Transport contaminated soils to Arlington for disposal there. Unit cost for transport and disposal from Chem. Waste Management, Inc., Arlington.									
USR AA <02220 0000 > Transport soil to Arlington, OR			0.00	0.00	0.00	0.00	400.00	400.00	
1 cy x 3,100 lb/cy 28 tons/truck == 17.5 CY/Trk	8.00 TRK	0.00	0	0	0	0	3,200	3,200	400.00
USR AA <02220 0000 > Disposal of soil in landfill			0.00	0.00	0.00	0.00	134.00	134.00	
Disposal fee	187.55 TON	0.00	0	0	0	0	25,132	25,132	134.00
USR AA <02220 0000 > Oregon state environmental tax			0.00	0.00	0.00	0.00	30.00	30.00	
Estimated '93 tax.	187.55 TON	0.00	0	0	0	0	5,627	5,627	30.00
USR AA <02220 0000 > Soil profile fee			0.00	0.00	0.00	0.00	300.00	300.00	
Required by Arlington	1.00 EA	0.00	0	0	0	0	300	300	300.00
Transport Cont. Soils, Arlington	110.00 CY		0	0	0	0	34,258	34,258	311.44
D-08 01 03. PPEquip, Modified Class D This item covers cost for Personal Protection Equipment, which is assumed a Modified Class D. Also included is an allowance for daily operation of the Decon shower, equipment decon, and disposal.									
M HTW AA <01951 5202 > Boot Covers, Tyvek (Bag Of 10Pr)			0.00	0.00	11.50	0.00	0.00	11.50	
	4.00 EA N/A	0.00	0	0	46	0	0	46	11.50
M HTW AA <01951 5204 > Coveralls, Tyvek			0.00	0.00	0.00	7.55	0.00	7.55	
	4.00 EA N/A	0.00	0	0	0	30	0	30	7.55

D-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
M HTW AA <01951 5501 > Butyl, Medium Weight, Gloves					0.00	0.00	2.30	0.00	0.00	2.30	
	4.00	PR	N/A	0.00	0	0	9	0	0	9	2.30
HTW AA <01951 5726 > Half-Mask Air Purifying Respirators					0.00	0.00	0.00	19.94	0.00	19.94	
	4.00	EA	N/A	0.00	0	0	0	80	0	80	19.94
USR AA <01957 3105 > Cold Water, Gasoline, 3200 psi, 4.2 gpm, 11 HP (Daily cost) For equipment decon.					10.00	234.30	1.45	34.83	0.00	270.58	
	1.00	DAY	ULABA	0.13	10	234	1	35	0	271	270.58
M HTW AA <01957 4301 > 8 Ft x 36 Ft, 2 Showers, 2 Wall Fans (Monthly Rental)					0.00	0.00	0.00	26.95	0.00	26.95	
	1.00	DAY	N/A	0.00	0	0	0	27	0	27	26.95
HTW AA <01951 5723 > Cartridges, Respirator					0.00	0.00	0.00	25.87	0.00	25.87	
	8.00	EA	N/A	0.00	0	0	0	207	0	207	25.87
USR AA <01951 5805 > Disposal Allowance. Allow $100/day for disposal of personnel protection items and equipment/vehicle decon water.					0.00	0.00	0.00	0.00	100.00	100.00	
	1.00	DAY	N/A	0.00	0	0	0	0	100	100	100.00
PPEquip, Modified Class D	1.00	DAY			10	234	57	379	100	770	769.66
D-08 01 04. Site Re-grading Allow for site re-grading after site is certified clean.											
L USR AA <02220 0000 > Use D3 Dozer Excavation crew					14.00	365.22	126.91	0.00	0.00	492.13	
	0.25	DAY	XXQNA	0.13	4	91	32	0	0	123	492.13
Site Re-grading					4	91	32	0	0	123	
EXCAVATION					26	652	467	379	34,358	35,856	
SOLIDS COLLECTION & CONTAINMENT					26	652	467	379	34,358	35,856	
Tar Flow					26	1,132	1,717	724	35,558	39,131	

E-02. MONITOR, SAMPLE, TEST, ANALYSIS	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST

E. Stained Sands
Waste Site: Stained Sands (no other info given)

Site Considerations:
20 x 20 x 3

Potential Remedial Activity:
Remove Waste (to TSDF, 45 CY given)
E-02. MONITOR, SAMPLE, TEST, ANALYSIS

E-02 06. SAMPLING SOIL, SED & SOLID WASTE

E-02 06 01. SURFACE SOIL

E-02 06 01 02. Confirmatory Samples & Analyses
Confirmatory sample & analyses. See detail below.

USR AA <01954 76 > 8270, BNA - soil Base neutral acid	6.00 EA N/A	0.00	0.00 0	0.00 0	0.00 0	0.00 0	360.00 2,160	360.00 2,160	360.00
USR AA <01954 76 > 8240, VOA - soil (volatile org)	6.00 EA N/A	0.00	0.00 0	0.00 0	0.00 0	0.00 0	205.00 1,230	205.00 1,230	205.00
USR AA <01954 76 > Labor to take Samples - 2 men	16.00 HR N/A	0.00	0.00 0	30.00 480	0.00 0	0.00 0	0.00 0	30.00 480	30.00
Confirmatory Samples & Analyses			0	480	0	0	3,390	3,870	
SURFACE SOIL			0	480	0	0	3,390	3,870	
SAMPLING SOIL, SED & SOLID WASTE			0	480	0	0	3,390	3,870	
MONITOR, SAMPLE, TEST, ANALYSIS			0	480	0	0	3,390	3,870	

E-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
E-08. SOLIDS COLLECTION & CONTAINMENT											
E-08 01. EXCAVATION											
E-08 01 01. Excav/Load Contaminated Soils Quantity of 45 CY Contaminated Soils given by Env Engr.											
L USR AA <02220 0000 > Excavate contaminated soil Quantity of con. soil given by Env Engr. Use 1.1 swell factor	49.50	CY	XXQMV	25.00	0.08 4	2.02 100	1.68 83	0.00 0	0.00 0	3.69 183	3.69
USR AA <02220 0000 > Load excavated/stockpiled soil Load in 28-ton dump trucks - DOT approved hazardeous waste hauler. Assume 3,100 lb/bcy.	49.50	CY	XXQMG	40.00	0.03 1	0.68 34	1.46 72	0.00 0	0.00 0	2.13 106	2.13
Excav/Load Contaminated Soils	45.00	CY			5	133	155	0	0	288	6.41
E-08 01 02. Transport Cont. Soils, Arlington Transport contaminated soils to Arlington for disposal there. Unit cost for transport and disposal from Chem. Waste Management, Inc., Arlington.											
USR AA <02220 0000 > Transport soil to Arlington, OR 1 cy x 3,100 lb/cy 28 tons/truck == 17.5 CY/Trk	3.00	TRK		0.00	0.00 0	0.00 0	0.00 0	0.00 0	400.00 1,200	400.00 1,200	400.00
USR AA <02220 0000 > Disposal of soil in landfill Disposal fee	76.72	TON		0.00	0.00 0	0.00 0	0.00 0	0.00 0	134.00 10,281	134.00 10,281	134.00
USR AA <02220 0000 > Oregon state environmental tax Estimated '93 tax.	76.72	TON		0.00	0.00 0	0.00 0	0.00 0	0.00 0	30.00 2,302	30.00 2,302	30.00
USR AA <02220 0000 > Soil profile fee Required by Arlington	1.00	EA		0.00	0.00 0	0.00 0	0.00 0	0.00 0	300.00 300	300.00 300	300.00
Transport Cont. Soils, Arlington	45.00	CY			0	0	0	0	14,083	14,083	312.95
E-08 01 03. PPEquip, Modified Class D This item covers cost for Personal Protection Equipment, which is assumed a Modified Class D. Also included is an allowance for daily operation of the Decon shower, equipment decon, and disposal.											
M HTW AA <01951 5202 > Boot Covers, Tyvek (Bag Of 10Pr)	4.00	EA	N/A	0.00	0.00 0	0.00 0	11.50 46	0.00 0	0.00 0	11.50 46	11.50
M HTW AA <01951 5204 > Coveralls, Tyvek	4.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	7.55 30	0.00 0	7.55 30	7.55

E-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
M HTW AA <01951 5501 > Butyl, Medium Weight, Gloves	4.00	PR	N/A	0.00	0.00 0	0.00 0	2.30 9	0.00 0	0.00 0	2.30 9	2.30
HTW AA <01951 5726 > Half-Mask Air Purifying Respirators	4.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	19.94 80	0.00 0	19.94 80	19.94
USR AA <01957 3105 > Cold Water, Gasoline, 3200 psi, 4.2 gpm, 11 HP (Daily cost) For equipment decon.	1.00	DAY	ULABA	0.13	10.00 10	234.30 234	1.45 1	34.83 35	0.00 0	270.58 271	270.58
M HTW AA <01957 4301 > 8 Ft x 36 Ft, 2 Showers, 2 Wall Fans (Monthly Rental)	1.00	DAY	N/A	0.00	0.00 0	0.00 0	0.00 0	26.95 27	0.00 0	26.95 27	26.95
HTW AA <01951 5723 > Cartridges, Respirator	8.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	25.87 207	0.00 0	25.87 207	25.87
USR AA <01951 5805 > Disposal Allowance. Allow $100/day for disposal of personnel protection items and equipment/vehicle decon water.	1.00	DAY	N/A	0.00	0.00 0	0.00 0	0.00 0	0.00 0	100.00 100	100.00 100	100.00
PPEquip, Modified Class D	1.00	DAY			10	234	57	379	100	770	769.66
E-08 01 04. Site Re-grading Allow for site re-grading after site is certified clean.											
L USR AA <02220 0000 > Use D3 Dozer Excavation crew	0.25	DAY	XXQNA	0.13	14.00 4	365.22 91	126.91 32	0.00 0	0.00 0	492.13 123	492.13
Site Re-grading					4	91	32	0	0	123	
EXCAVATION					19	459	243	379	14,183	15,264	
SOLIDS COLLECTION & CONTAINMENT					19	459	243	379	14,183	15,264	
Stained Sands					19	939	243	379	17,573	19,134	

F-02. MONITOR, SAMPLE, TEST, ANALYSIS	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
F. Neptunes Potato & Separator Tank									
Waste Site: Neptunes Potato & Separator Tank (TRIDENT)									
Site Considerations:									
1 cement tank. Trench is appx. 4'W & 2,600' L. Original L = 3,600'.									
Potential Remedial Activity:									
Soil Samples (20 soil samples + 10 point soil gas survey if needed)									
F-02. MONITOR, SAMPLE, TEST, ANALYSIS									
F-02 06. SAMPLING SOIL, SED & SOLID WASTE									
F-02 06 01. SURFACE SOIL									
F-02 06 01 01. Soil/Waste Samples & Analyses									
Sample & analyze soil/waste, 20 samples, for TOC, TOX & pH.									
Analyses cost in detail.									
USR AA <01954 76 > 415.1, TOC - total organic C			0.00	0.00	0.00	0.00	37.00	37.00	
	20.00 EA N/A	0.00	0	0	0	0	740	740	37.00
USR AA <01954 76 > 9020, TOX -			0.00	0.00	0.00	0.00	77.00	77.00	
	20.00 EA N/A	0.00	0	0	0	0	1,540	1,540	77.00
USR AA <01954 76 > pH			0.00	0.00	0.00	0.00	15.00	15.00	
	20.00 EA N/A	0.00	0	0	0	0	300	300	15.00
USR AA <01954 76 > Labor to take Samples - 2 men			0.00	30.00	0.00	0.00	0.00	30.00	
	16.00 HR N/A	0.00	0	480	0	0	0	480	30.00
Soil/Waste Samples & Analyses			0	480	0	0	2,580	3,060	
F-02 06 01 02. Soil Gas Survey (Contingent)									
Soil Gas Survey, Contingent on Soil sample analyses. Use: 10 sample points for soil gas survey. Cost from Tracer Research Corp., based on taking many samples over a couple day period.									
Soil Gas Survey (Contingent)	10.00 EA		0	0	0	0	2,750	2,750	275.00
SURFACE SOIL			0	480	0	0	5,330	5,810	
SAMPLING SOIL, SED & SOLID WASTE			0	480	0	0	5,330	5,810	
MONITOR, SAMPLE, TEST, ANALYSIS			0	480	0	0	5,330	5,810	
Neptunes Potato & Separator Tank			0	480	0	0	5,330	5,810	

G-02. MONITOR, SAMPLE, TEST, ANALYSIS

G. Bus Lot Dry Wells (5)
Waste Site: Bus Lot Dry Wells (6)

Site Considerations:
Prepare storm water drainage plan.

Potential Remedial Activity:
Take soil samples, remove waste (to TSDF, 60 CY given)
G-02. MONITOR, SAMPLE, TEST, ANALYSIS

G-02 06. SAMPLING SOIL, SED & SOLID WASTE

G-02 06 01. SURFACE SOIL

G-02 06 01 02. Confirmatory Samples & Analyses
Confirmatory sample & analyses. See detail items.

	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
M HTW AA <01954 7625 > TPH, In-field test	2.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	161.70 323	0.00 0	161.70 323	161.70
USR AA <01954 76 > PCB, In-field test	2.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	183.26 367	0.00 0	183.26 367	183.26
USR AA <01954 76 > 8080, PCB/Pesticides - soil	6.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	0.00 0	165.00 990	165.00 990	165.00
USR AA <01954 76 > 8015, TRPH - total recoverable petroleum hydrocarbons - mod.	6.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	0.00 0	135.00 810	135.00 810	135.00
USR AA <01954 76 > Labor to take Samples - 2 men	16.00	HR	N/A	0.00	0.00 0	30.00 480	0.00 0	0.00 0	0.00 0	30.00 480	30.00
Confirmatory Samples & Analyses					0	480	0	690	1,800	2,970	
SURFACE SOIL					0	480	0	690	1,800	2,970	
SAMPLING SOIL, SED & SOLID WASTE					0	480	0	690	1,800	2,970	
MONITOR, SAMPLE, TEST, ANALYSIS					0	480	0	690	1,800	2,970	

G-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
G-08. SOLIDS COLLECTION & CONTAINMENT									
G-08 01. EXCAVATION									
G-08 01 01. Excav/Load Contaminated Soils Quantity of 60 CY Contaminated Soils given by Env Engr.									
L USR AA <02220 0000 > Excavate contaminated soil			0.08	2.02	1.68	0.00	0.00	3.69	
Quantity of con. soil given by Env Engr.	66.00 CY XXQMV	25.00	5	133	111	0	0	244	3.69
USR AA <02220 0000 > Load excavated/stockpiled soil			0.03	0.68	1.46	0.00	0.00	2.13	
Load in 28-ton dump trucks - DOT approved hazardeous waste hauler. Assume 3,100 lb/bcy.	66.00 CY XXQMG	40.00	2	45	96	0	0	141	2.13
Excav/Load Contaminated Soils	60.00 CY		7	178	207	0	0	384	6.41
G-08 01 02. Transport Cont. Soils, Arlington Transport contaminated soils to Arlington for disposal there. Unit cost for transport and disposal from Chem. Waste Management, Inc., Arlington.									
USR AA <02220 0000 > Transport soil to Arlington, OR			0.00	0.00	0.00	0.00	400.00	400.00	
1 cy x 3,100 lb/cy 28 tons/truck == 17.5 CY/Trk	4.00 TRK	0.00	0	0	0	0	1,600	1,600	400.00
USR AA <02220 0000 > Disposal of soil in landfill			0.00	0.00	0.00	0.00	134.00	134.00	
Disposal fee	102.30 TON	0.00	0	0	0	0	13,708	13,708	134.00
USR AA <02220 0000 > Oregon state environmental tax			0.00	0.00	0.00	0.00	30.00	30.00	
Estimated '93 tax.	102.30 TON	0.00	0	0	0	0	3,069	3,069	30.00
USR AA <02220 0000 > Soil profile fee			0.00	0.00	0.00	0.00	300.00	300.00	
Required by Arlington	1.00 EA	0.00	0	0	0	0	300	300	300.00
Transport Cont. Soils, Arlington	60.00 CY		0	0	0	0	18,677	18,677	311.29
G-08 01 03. PPEquip, Modified Class D This item covers cost for Personal Protection Equipment, which is assumed a Modified Class D. Also included is an allowance for daily operation of the Decon shower, equipment decon, and disposal.									
M HTW AA <01951 5202 > Boot Covers, Tyvek (Bag Of 10Pr)			0.00	0.00	11.50	0.00	0.00	11.50	
	4.00 EA N/A	0.00	0	0	46	0	0	46	11.50
M HTW AA <01951 5204 > Coveralls, Tyvek			0.00	0.00	0.00	7.55	0.00	7.55	
	4.00 EA N/A	0.00	0	0	0	30	0	30	7.55

G-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
M HTW AA <01951 5501 > Butyl, Medium Weight, Gloves	4.00 PR N/A	0.00	0.00 0	0.00 0	2.30 9	0.00 0	0.00 0	2.30 9	2.30
HTW AA <01951 5726 > Half-Mask Air Purifying Respirators	4.00 EA N/A	0.00	0.00 0	0.00 0	0.00 0	19.94 80	0.00 0	19.94 80	19.94
USR AA <01957 3105 > Cold Water, Gasoline, 3200 psi, 4.2 gpm, 11 HP (Daily cost) For equipment decon.	1.00 DAY ULABA	0.13	10.00 10	234.30 234	1.45 1	34.83 35	0.00 0	270.58 271	270.58
M HTW AA <01957 4301 > 8 Ft x 36 Ft, 2 Showers, 2 Wall Fans (Monthly Rental)	1.00 DAY N/A	0.00	0.00 0	0.00 0	0.00 0	26.95 27	0.00 0	26.95 27	26.95
HTW AA <01951 5723 > Cartridges, Respirator	8.00 EA N/A	0.00	0.00 0	0.00 0	0.00 0	25.87 207	0.00 0	25.87 207	25.87
USR AA <01951 5805 > Disposal Allowance. Allow $100/day for disposal of personnel protection items and equipment/vehicle decon water.	1.00 DAY N/A	0.00	0.00 0	0.00 0	0.00 0	0.00 0	100.00 100	100.00 100	100.00
PPEquip, Modified Class D	1.00 DAY		10	234	57	379	100	770	769.66
G-08 01 04. Site Re-grading Allow for site re-grading after site is certified clean.									
L USR AA <02220 0000 > Use D3 Dozer Excavation crew	0.25 DAY XXQNA	0.13	14.00 4	365.22 91	126.91 32	0.00 0	0.00 0	492.13 123	492.13
Site Re-grading			4	91	32	0	0	123	
EXCAVATION			20	503	295	379	18,777	19,954	
SOLIDS COLLECTION & CONTAINMENT			20	503	295	379	18,777	19,954	
Bus Lot Dry Wells (5)			20	983	295	1,069	20,577	22,924	

0A-01. MOBILIZATION AND PREPATORY WORK	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
0A. MOBILIZATION/DEMOB & PREPWORK This item will cover all costs for Mob/Demob & Prepwork associated with the 1100-EM-2 Area waste sites, as it is assumed one Contractor will do all sites at one time. 0A-01. MOBILIZATION AND PREPATORY WORK									
0A-01 01. MOB OF EQUIPMENT & PERSONNEL									
0A-01 01 01. Mob of Equipment & Facilities Mob of equipment, equipment list from Summary. A 100-mi Radius assumed.									
USR AA <01505 1101 > Mob, Field Office Trailer			0.00	0.00	250.00	0.00	0.00	250.00	
100-mi Radius	1.00 EA	0.00	0	0	250	0	0	250	250.00
CIV AA <01505 2103 > Mob, Hyd Excav, 1.1-1.5 CY, Cwlr			0.00	0.00	525.00	0.00	0.00	525.00	
Mtd, 100-mi Rad	1.00 EA N/A	0.00	0	0	525	0	0	525	525.00
USR AA <01505 3235 > Mob, FEnd Ldr, wheel 1.5-3 CY			0.00	0.00	750.00	0.00	0.00	750.00	
Atriculated Fr, 100-mi Radius	1.00 EA	0.00	0	0	750	0	0	750	750.00
USR AA <01505 6115 > Mob, Dozer, Crawler, 50-100 hp			0.00	0.00	750.00	0.00	0.00	750.00	
w/blade, incl set up 100 mi radius	1.00 EA	0.00	0	0	750	0	0	750	750.00
USR AA <01505 7131 > Mob, Water Tank, 3,000 Gal,			0.00	0.00	150.00	0.00	0.00	150.00	
Mtd/FT800 Trk, 100-mi Radius	1.00 EA	0.00	0	0	150	0	0	150	150.00
USR AA <01505 8921 > Mob, Decontamination Trailer			0.00	0.00	135.00	0.00	0.00	135.00	
w/25,000 GVW Trk, 100-mi Radius	1.00 EA	0.00	0	0	135	0	0	135	135.00
USR AA <01505 8952 > Mob, Hot Water Blstr, 3,200 psi			0.00	0.00	75.00	0.00	0.00	75.00	
100-mi Radius	1.00 EA	0.00	0	0	75	0	0	75	75.00
Mob of Equipment & Facilities			0	0	2,635	0	0	2,635	
MOB OF EQUIPMENT & PERSONNEL			0	0	2,635	0	0	2,635	
0A-01 03. SETUP/CONSTRUCT TEMP FACILITIES									
0A-01 03 01. TRAILERS AND BUILDINGS Allow 100 mhrs for setup of Contractor's trailer, equipment, and site layout. An allowance for some equipment and materials has been added.									
TRAILERS AND BUILDINGS	100.00 HR		0	2,500	250	100	0	2,850	28.50
0A-01 03 02. DECONTAMINATION FACILITIES									

OA-01. MOBILIZATION AND PREPATORY WORK		QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
OA-01 03 02	01. Personnel Decon Facilities Allow 80 mhrs for setup of the Personnel Decon trailer. Self contained unit includes changing rooms and showers. An allowance for some material and equipment has been included.									
	Personnel Decon Facilities	80.00 HR		0	2,000	200	80	0	2,280	28.50
OA-01 03 02	02. Equip/Vehicle Decon Facilities A equipment/vehicle washdown facility exists in the 1100-EM-2 area, so assume it will be used for all waste site equipment decontamination. Decon water will be transported by a WHC truck to an on-site (Hanford) disposal area.									
	Equip/Vehicle Decon Facilities			0	0	0	0	0	0	
	DECONTAMINATION FACILITIES			0	2,000	200	80	0	2,280	
	SETUP/CONSTRUCT TEMP FACILITIES			0	4,500	450	180	0	5,130	
	MOBILIZATION AND PREPATORY WORK			0	4,500	3,085	180	0	7,765	

OA-21. DEMOBILIZATION	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
OA-21. DEMOBILIZATION											
OA-21 04. DEMOB OF EQUIPMENT & PERSONNEL											
OA-21 04 01. Demob Equipment/Facilities Allow 75% of Mob & Setup for Demob. Demob Equipment/Facilities					0	0	5,850	0	0	5,850	
DEMOB OF EQUIPMENT & PERSONNEL					0	0	5,850	0	0	5,850	
DEMOBILIZATION					0	0	5,850	0	0	5,850	
MOBILIZATION/DEMOB & PREPWORK					0	4,500	8,935	180	0	13,615	

OB-91. QA/Safety Monitoring	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST

OB. COE QA/SAFETY MONITORING
This item will cover all costs associated with COE QA/Safety Monitoring for the 1100-EM-2 Area waste sites.
OB-91. QA/Safety Monitoring

OB-91 01. QA/Safety Monitoring
Safety/QA Crew:

WHC HPT:	$50/hr x 0 hrs =	$ 0	(HPT not need for the 1100-EM area, non rad)
COE Safety:	$70/hr x 40 hrs =	$2,800	
COE Special Assist. QA:	$50/hr x 8 hrs =	$ 400	
Total cost/week		$3,200	

The duration of remediation actions for the 1100-EM-2 area is estimated at 2 weeks.

QA/Safety Monitoring	2.00	WK			0	6,400	0	0	0	6,400	3200.00
QA/Safety Monitoring					0	6,400	0	0	0	6,400	
COE QA/SAFETY MONITORING					0	6,400	0	0	0	6,400	
HANFORD: REMEDIATION					128	16,114	12,074	3,108	93,424	124,720	

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Tue 09 Mar 1993

U.S. Army Corps of Engineers
PROJECT 11EM2R: HANFORD: REMEDIATION - 1.4.10.1.1.23.02.2.2
1100-EM-2, Waste Site Cost Estimates, REVISED
** CREW BACKUP **

SRC	ITEM ID	DESCRIPTION	NO.	UOM	RATE	**** LABOR **** HOURS	COST	**** EQUIP **** HOURS	COST	TOTAL COST
	ULABA	1 B-laborer + Small Tools			PROD = 100%				CREW HOURS =	40
MIL	B-LABORER F	Laborer (Semi-Skilled)	0.25	HR	23.83	0.25	5.96			5.96
MIL	B-LABORER L	Laborer (Semi-Skilled)	1.00	HR	23.33	1.00	23.33			23.33
MIL	XMIXX020 E	Small Tools	0.13	HR	1.39			0.13	0.18	0.18
	TOTAL					1.25	29.29	0.13	0.18	29.47
	XXQMG	1 X-eqoprmed + 1 Front End Ldr, 5-1/4 Cy, Wheel			PROD = 100%				CREW HOURS =	7
MIL	L40CA007 E	LDR,FE,WH, 5-1/4 CY ARTIC,980-C	1.00	HR	58.23			1.00	58.23	58.23
MIL	X-EQOPRMEDL	Outside Equip. Op. Medium	1.00	HR	27.09	1.00	27.09			27.09
	TOTAL					1.00	27.09	1.00	58.23	85.32
	XXQMV	1 X-eqoprmed + 1 Hydr. Excavator, 1-1/2 Cy, Cwlr			PROD = 100%				CREW HOURS =	23
MIL	H25JD009 E	HYD EXCAV,CRWLR,1.5 CY BKT	1.00	HR	41.74			1.00	41.74	41.74
MIL	XMIXX020 E	Small Tools	0.11	HR	1.39			0.11	0.15	0.15
MIL	X-LABORER L	Outside Laborer	1.00	HR	23.33	1.00	23.33			23.33
MIL	X-EQOPRMEDL	Outside Equip. Op. Medium	1.00	HR	27.09	1.00	27.09			27.09
	TOTAL					2.00	50.42	1.11	41.89	92.31
	XXQNA	1 X-eqoprmed + 1 Dozer, Cat D-3C, 65 Hp			PROD = 100%				CREW HOURS =	14
MIL	T10CA001 E	BLADE,POWER ANGLE TILT,FOR D3	1.00	HR	1.92			1.00	1.92	1.92
MIL	T15CA003 E	DOZER,CWLR,D-3C,PS,(ADD BLADE)	1.00	HR	13.94			1.00	13.94	13.94
MIL	X-LABORER L	Outside Laborer	0.50	HR	23.33	0.50	11.67			11.67
MIL	X-EQOPRMEDL	Outside Equip. Op. Medium	1.00	HR	27.09	1.00	27.09			27.09
MIL	X-EQOPRMEDF	Outside Equip. Op. Medium	0.25	HR	27.59	0.25	6.90			6.90
	TOTAL					1.75	45.65	2.00	15.86	61.52

Tue 09 Mar 1993

U.S. Army Corps of Engineers
PROJECT 11EM2R: HANFORD: REMEDIATION - 1.4.10.1.1.23.02.2.2
1100-EM-2, Waste Site Cost Estimates, REVISED
** LABOR BACKUP **

TIME 17:07:20

BACKUP PAGE 2

SRC	LABOR ID	DESCRIPTION	BASE	OVERTM	TXS/INS	FRNG	TRVL	RATE	UOM	UPDATE	**** TOTAL **** DEFAULT	HOURS
MIL	B-LABORER	Laborer/Helper	23.33	0.0%	0.0%	0.00	0.00	23.33	HR	10/15/92	22.36	50
MIL	X-EQOPRMED	Outside Equipment Oper. Medium	27.09	0.0%	0.0%	0.00	0.00	27.09	HR	10/15/92	25.84	48
MIL	X-LABORER	Outside Laborer	23.33	0.0%	0.0%	0.00	0.00	23.33	HR	10/15/92	22.36	30

Tue 09 Mar 1993

U.S. Army Corps of Engineers
PROJECT 11EM2R: HANFORD: REMEDIATION - 1.4.10.1.1.23.02.2.2
1100-EM-2, Waste Site Cost Estimates, REVISED
** EQUIPMENT BACKUP **

TIME 17:07:20

SRC	EQUIP ID	DESCRIPTION	DEPR	CAPT	FUEL	FOG	EQ REP	TR WR	TR REP	TOTAL	UOM	** TOTAL HOURS **
MIL	H25JD009	HYD EXCAV,CRWLR,1.5 CY BKT	14.34	5.11	4.87	1.8	15.56			41.74	HR	23
MIL	L40CA007	LDR,FE,WH, 5-1/4 CY ARTIC,980-C	17.46	7.15	7.97	2.3	15.74	6.54	0.98	58.23	HR	7
MIL	T10CA001	BLADE,POWER ANGLE TILT,FOR D3	0.75	0.27		0.0	0.82			1.92	HR	14
MIL	T15CA003	DOZER,CWLR,D-3C,PS,(ADD BLADE)	3.51	1.39	2.14	0.7	6.14			13.94	HR	14
MIL	XMIXX020	Small Tools	0.46	0.17	0.13	0.0	0.57			1.39	HR	8

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9312141530

** PROJECT SETTINGS **

ESTIMATE TYPE : A-Crews with Auto Reprice

SALES TAX : 7.80%

DATE OF ESCALATION SCHEDULE : 10/01/93

PROJECT DIRECT COST COLUMNS

Col Type	H	L	E	M	U
Rep Width	8	10	10	12	10
Title	MHRS	LABR	EQUIP	MAT	OTHER

PROJECT INDIRECT COST COLUMNS

Col Type	O	U	P	B	U
Rep Width	9	9	9	9	9
Title	FOOH	HOOH	PROF	BOND	B&O TAX

PROJECT OWNER COST COLUMNS

Col Type	U	U	X	X	X
Rep Width	12	12	0	0	0
Title	S & A	CONTG	(Unused)	(Unused)	(Unused)

PROJECT BREAKDOWN

PROJECT ID	Length	Trail Sep	Level Title	2nd View Order
Level 1 ID :	2	-	WastSite	0
Level 2 ID :	2		Feature	0
Level 3 ID :	2		SubFeat	0
Level 4 ID :	2		CostL1	0
Level 5 ID :	4		CostL2	0
Level 6 ID :	4		CostL3	0

Owner Cost Level : 1

** PROJECT SETTINGS **

2ND VIEW COLUMNS
Quantity Column Width : 10

Col Type	X	X	X	X	X
Rep Width	0	0	0	0	0
Title	(Unused)	(Unused)	(Unused)	(Unused)	(Unused)
Shadow	X	X	X	X	X

DETAIL REPORT FORMATTING

PAGE OPTIONS
Page Break Levels : 2
Table of Contents Levels : 3

		0	1	2	3	4	5	6	7
ROW OPTIONS	Print Titles at Levels :		Y	Y	Y	Y	Y	N	
	Print Totals at Levels :		Y	Y	Y	Y	Y	N	
	Print Notes at Levels :	Y	Y	Y	Y	Y	Y	Y	Y

Print Unit Cost Row : Y
Print Page Footer : N
Show Cost Codes : Y

COLUMNS OPTIONS
Print Crew Id : Y
Crew Output : Y
Unit Cost : Y

UPB TITLES
No. of Levels to Print : 0
Bracket Titles With : - :
Include titles Notes : Y

** PROJECT SETTINGS **

OTHER REPORT FORMATTING

COLUMN TITLES FOR SUMMARY REPORTS

Column 1 FOOH : JOB OFFICE OVERHEAD
Column 2 HOOH : HOME OFFICE OVERHEAD
Column 3 PROF : PROFIT
Column 4 BOND : PERFORMANCE BOND
Column 5 B&O TAX : B & O AND OTHER TAXES

Column 1 S & A : S & A
Column 2 CONTG : CONTINGENCY
Column 3 (Unused) :
Column 4 (Unused) :
Column 5 (Unused) :

STANDARD COLUMN WIDTHS		SUMMARY FEATURES	
Quantity Columns :	10	Round Totals Column :	T-Tens
Total cost Columns :	12	Contingency Notes :	Yes
Unit Cost Columns :	12	Show Project Totals :	Yes

REPORT SELECTION

Project Settings : Y
Contractor Settings : Y Measurement Units : Original
Link Listing : N

	REPORT FORMAT TYPE			FOR LEVEL (S)						
	Direct	Indirect	Owner	0	1	2	3	4	5	6
Detail :	Y									
Project :	N	Y	Y		Y	Y	N	Y	N	N
Contractor :	Y	Y		N	Y	N	N	N	N	N
Division :	N	N	N	Y	N	N	N	N	N	N
System :	N	N	N	Y	N	N	N	N	N	N
2nd View :	N									
Crew :	Y			Y	N	N	N	N	N	N
Labor :	Y									
Equipment :	Y									

** OWNER SETTINGS **

		AMOUNT	PERCENT	*ESCALATN DATE* BEGIN	END	*ESCALATN INDEX* BEGIN	END
Project Information Record							
A Steam Pad Tank #2							
S & A	P		20.00				
CONTINGENCY	P		0.00				
A-02 MONITOR, SAMPLE, TEST, ANALYSIS							
A-02 06 SAMPLING SOIL, SED & SOLID WASTE							
A-02 06 01 SURFACE SOIL							
A-02 06 01 01 Soil Samples & Analyses							
S & A	O						
CONTINGENCY	P		25.00				
A-10 TANKS/MISC DEMOLITION & REMOVAL							
A-10 02 TANK REMOVAL							
A-10 02 01 FG UST Tank Excavation & Removal							
S & A	O						
CONTINGENCY	P		25.00				
A-10 02 02 Excav/Load Contaminated Soils							
S & A	O						
CONTINGENCY	P		30.00				
A-10 02 03 Transport Cont. Soils, Arlington							
S & A	O						
CONTINGENCY	P		25.00				
A-10 02 04 PPEquip, Modified Class D							
S & A	O						
CONTINGENCY	P		20.00				
A-10 02 05 Site Re-grading							
S & A	O						
CONTINGENCY	P		25.00				
B Steam Pad Tank #3							
S & A	P		20.00				
CONTINGENCY	P		0.00				
B-02 MONITOR, SAMPLE, TEST, ANALYSIS							
B-02 06 SAMPLING SOIL, SED & SOLID WASTE							
B-02 06 01 SURFACE SOIL							
B-02 06 01 01 Soil Samples & Analyses							
S & A	O						
CONTINGENCY	P		25.00				
B-10 TANKS/MISC DEMOLITION & REMOVAL							
B-10 02 TANK REMOVAL							
B-10 02 01 FG UST Tank Excavation & Removal							
S & A	O						
CONTINGENCY	P		25.00				

** OWNER SETTINGS **

		AMOUNT	PERCENT	*ESCALATN DATE* BEGIN	END	*ESCALATN INDEX* BEGIN	END
B-10 02 02 Excav/Load Contaminated Soils							
S & A	O						
CONTINGENCY	P		30.00				
B-10 02 03 Transport Cont. Soils, Arlington							
S & A	O						
CONTINGENCY	P		25.00				
B-10 02 04 PPEquip, Modified Class D							
S & A	O						
CONTINGENCY	P		20.00				
B-10 02 05 Site Re-grading							
S & A	O						
CONTINGENCY	P		25.00				
C 700 Area Waste Solvent Tank							
S & A	P		0.00				
CONTINGENCY	P		0.00				
D Tar Flow							
S & A	P		20.00				
CONTINGENCY	P		0.00				
D-02 MONITOR, SAMPLE, TEST, ANALYSIS							
D-02 06 SAMPLING SOIL, SED & SOLID WASTE							
D-02 06 01 SURFACE SOIL							
D-02 06 01 01 Soil/Waste Samples & Analyses							
S & A	O						
CONTINGENCY	P		20.00				
D-02 06 01 02 Confirmatory Samples & Analyses							
S & A	O						
CONTINGENCY	P		20.00				
D-08 SOLIDS COLLECTION & CONTAINMENT							
D-08 01 EXCAVATION							
D-08 01 01 Excav/Load Contaminated Soils							
S & A	O						
CONTINGENCY	P		30.00				
D-08 01 02 Transport Cont. Soils, Arlington							
S & A	O						
CONTINGENCY	P		25.00				
D-08 01 03 PPEquip, Modified Class D							
S & A	O						
CONTINGENCY	P		20.00				

** OWNER SETTINGS **

		AMOUNT	PERCENT	*ESCALATN DATE* BEGIN	END	*ESCALATN INDEX* BEGIN	END
D-08 01 04 Site Re-grading							
	S & A	O					
	CONTINGENCY	P	25.00				
E Stained Sands							
	S & A	P	20.00				
	CONTINGENCY	P	0.00				
E-02 MONITOR, SAMPLE, TEST, ANALYSIS							
E-02 06 SAMPLING SOIL, SED & SOLID WASTE							
E-02 06 01 SURFACE SOIL							
E-02 06 01 02 Confirmatory Samples & Analyses							
	S & A	O					
	CONTINGENCY	P	20.00				
E-08 SOLIDS COLLECTION & CONTAINMENT							
E-08 01 EXCAVATION							
E-08 01 01 Excav/Load Contaminated Soils							
	S & A	O					
	CONTINGENCY	P	30.00				
E-08 01 02 Transport Cont. Soils, Arlington							
	S & A	O					
	CONTINGENCY	P	25.00				
E-08 01 03 PPEquip, Modified Class D							
	S & A	O					
	CONTINGENCY	P	20.00				
E-08 01 04 Site Re-grading							
	S & A	O					
	CONTINGENCY	P	25.00				
F Neptunes Potato & Separator Tank							
	S & A	P	20.00				
	CONTINGENCY	P	0.00				
F-02 MONITOR, SAMPLE, TEST, ANALYSIS							
F-02 06 SAMPLING SOIL, SED & SOLID WASTE							
F-02 06 01 SURFACE SOIL							
F-02 06 01 01 Soil/Waste Samples & Analyses							
	S & A	O					
	CONTINGENCY	P	20.00				
F-02 06 01 02 Soil Gas Survey (Contingent)							
	S & A	O					
	CONTINGENCY	P	25.00				
G Bus Lot Dry Wells (5)							
	S & A	P	20.00				
	CONTINGENCY	P	0.00				

** OWNER SETTINGS **

		AMOUNT	PERCENT	*ESCALATN DATE* BEGIN	END	*ESCALATN INDEX* BEGIN	END
G-02 MONITOR, SAMPLE, TEST, ANALYSIS							
G-02 06 SAMPLING SOIL, SED & SOLID WASTE							
G-02 06 01 SURFACE SOIL							
G-02 06 01 02 Confirmatory Samples & Analyses							
S & A	O						
CONTINGENCY	P		20.00				
G-08 SOLIDS COLLECTION & CONTAINMENT							
G-08 01 EXCAVATION							
G-08 01 01 Excav/Load Contaminated Soils							
S & A	O						
CONTINGENCY	P		30.00				
G-08 01 02 Transport Cont. Soils, Arlington							
S & A	O						
CONTINGENCY	P		25.00				
G-08 01 03 PPEquip, Modified Class D							
S & A	O						
CONTINGENCY	P		20.00				
G-08 01 04 Site Re-grading							
S & A	O						
CONTINGENCY	P		25.00				
0A MOBILIZATION/DEMOB & PREPWORK							
S & A	P		20.00				
CONTINGENCY	P		0.00				
0A-01 MOBILIZATION AND PREPATORY WORK							
0A-01 01 MOB OF EQUIPMENT & PERSONNEL							
0A-01 01 01 Mob of Equipment & Facilities							
S & A	O						
CONTINGENCY	P		20.00				
0A-01 03 SETUP/CONSTRUCT TEMP FACILITIES							
0A-01 03 01 TRAILERS AND BUILDINGS							
S & A	O						
CONTINGENCY	P		25.00				
0A-01 03 02 DECONTAMINATION FACILITIES							
0A-01 03 02 01 Personnel Decon Facilities							
S & A	O						
CONTINGENCY	P		25.00				
0A-01 03 02 02 Equip/Vehicle Decon Facilities							
S & A	O						
CONTINGENCY	P		20.00				

** OWNER SETTINGS **

		AMOUNT	PERCENT	*ESCALATN DATE* BEGIN	END	*ESCALATN INDEX* BEGIN	END
0A-21 DEMOBILIZATION							
0A-21 04 DEMOB OF EQUIPMENT & PERSONNEL							
0A-21 04 01 Demob Equipment/Facilities							
	S & A	O					
	CONTINGENCY	P	20.00				
0B COE QA/SAFETY MONITORING							
	S & A	P	20.00				
	CONTINGENCY	P	20.00				
0B-91 QA/Safety Monitoring							
0B-91 01 QA/Safety Monitoring							
	S & A	O					
	CONTINGENCY	O					

** CONTRACTOR SETTINGS **

		AMOUNT	PCT	PCT S	RISK	DIFF	SIZE	PERIOD	INVEST	ASSIST	SUBCON
AA REMEDIAL GENERAL CONTRACTOR											
JOB OFFICE OVERHEAD	P		15.00								
HOME OFFICE OVERHEAD	P		5.00								
PROFIT	P		8.00								
PERFORMANCE BOND	C			(Class: B)							
B & O AND OTHER TAXES	P		1.00								
GS Geophysical Survey SubContractor											
JOB OFFICE OVERHEAD	P		0.00								
HOME OFFICE OVERHEAD	P		0.00								
PROFIT	P		0.00								
PERFORMANCE BOND	P		0.00								
B & O AND OTHER TAXES	P		0.00								
SG Soil Gas Sampling SubContractor											
JOB OFFICE OVERHEAD	P		0.00								
HOME OFFICE OVERHEAD	P		0.00								
PROFIT	P		0.00								
PERFORMANCE BOND	P		0.00								
B & O AND OTHER TAXES	P		0.00								

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9 3 1 2 5 3 4 1 4 1 0

1100-EM-3 OPERABLE UNIT OFFSITE DISPOSAL ALTERNATIVE COST ESTIMATE

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9513293141472

HANFORD: REMEDIATION
1.4.10.1.1.23.03.2.2
1100-EM-3 OPERABLE UNIT
WASTE SITE COST ESTIMATES
Revised Quantities/Sites

Designed By:
Estimated By:

Prepared By:
USACE/CENPW COST ENGR BRANCH

Date: 03/10/93
Est Construction Time: 40 Days

M C A C E S G O L D E D I T I O N
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Release 5.20J

HANFORD: 1.4.10.1.1.23.02.2.2 1100-EM-3 Cost Estimate Considerations

This is the structure for the Subproject and Operable Unit remediation cost estimates. The Work Breakdown Structure (WBS) is based on the DOE-HQ WBS and a site specific remediation WBS being developed for Hanford.

"1.4.10.1.1" is DOE, Richland Operations, Hanford Environmental Restoration, Remedial Action.
".23" is the Subproject (ie. 1100-EM)
".02" is the Operable Unit
".2" is Remediation
".2" is Remedial Action

In this MCACES estimate project breakdown, the first level is the individual Waste Site. The numbers for the next two to three levels (2nd thru 4th) are from the Hanford Remedial Action WBS. The fourth thru sixth levels are user defined, being either a Title or cost detail.

The Price Level for the estimate dollars is FY 93. S & A is estimated at 20%, and consists of NPW's Project Management @ 5%, Construction Management @ 10%, and Engineering During Construction @ 5%. See Contingency Notes (Title Page 3) for explanation of Contingency percentages. Contingency was applied at Level 1 & Level 3/4 in the estimate, to allow use of different percentages for the various types of work (see Settings for which percentage was applied). See Detail Page 1 for explanation of Contractor Indirect percentages used. E&D and Escalation will be added by the NPW-Hanford Project Manager.

List of Waste Sites: 1100-EM-3

1234 Storage Yard (No Remedial Action Planned)
1240 Suspect Spill Area
JA Jones Yard, Hazardous Waste Staging Area (No Remedial Action Planned)
Unplanned Release (of mixed waste) (No Remedial Action Planned)
1208 Sandblast Area
JA Jones Oil Storage Tanks (2), Unknown volume
1262 Transformer Pad
1262 Solvent Tanks (4), Last contained Carbon Tetrachloride, 20 - 1,125 Gal
1240 Hazardous Waste Staging Area (No Remedial Action Planned)
1240 French Drain
1218 Service Station
1212/1227 Suspect Battery Acid Disposal Area
1226 Suspect Waste Oil Disposal Area
JA Jones Steam Plant Drain Pad

EM-3 Monitoring Wells (5 @ 70 LF)

THIS estimate is a revision of the January estimate, based on new quantities supplied by NPW-EN-EE, 3/9/93.

1. Contingency of 15%-25% is normal for this level of detail, percentage used based on a high to low confidence in numbers. Use as overall contingency, applied at Level 1, or at lower levels as needed to better define variable risks/difficulties.

2. Contingency is based on uncertainty of the amount of time required to do the work represented in the estimate, etc.

3. Contingency is based on the uncertainty of the quantities presented.

4. Contingency based on the unit costs obtained by Vendor and therefore may be different by the time work will actually be accomplished.

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9 7 4 1 4 3 6 2 1 5 6

SUMMARY REPORTS — SUMMARY PAGE

PROJECT OWNER SUMMARY - LEVEL 1.....1
PROJECT OWNER SUMMARY - LEVEL 2.....2
PROJECT OWNER SUMMARY - LEVEL 4.....4
PROJECT INDIRECT SUMMARY - LEVEL 1.....12
PROJECT INDIRECT SUMMARY - LEVEL 2.....13
PROJECT INDIRECT SUMMARY - LEVEL 4.....16
CONTRACTOR DIRECT SUMMARY.....24
CONTRACTOR INDIRECT SUMMARY.....25

DETAILED ESTIMATE — DETAIL PAGE

0A. MOBILIZATION/DEMOB & PREPWORK
01. MOBILIZATION AND PREPATORY WORK
01. MOB OF EQUIPMENT & PERSONNEL.....1
03. SETUP/CONSTRUCT TEMP FACILITIES.....2
21. DEMOBILIZATION
04. DEMOB OF EQUIPMENT & PERSONNEL.....3
0B. COE QA/SAFETY MONITORING
91. QA/Safety Monitoring
01. QA/Safety Monitoring.....4
0C. EM-03 Monitoring Wells
02. MONITOR, SAMPLE, TEST, ANALYSIS
04. MONITORING WELLS.....5
05. SAMPLING S.W./GROUND WATER/L.W.....5
AA. 1240 Suspect Spill Area
02. MONITOR, SAMPLE, TEST, ANALYSIS
06. SAMPLING SOIL, SED & SOLID WASTE.....6
08. SOLIDS COLLECTION & CONTAINMENT
01. EXCAVATION.....7
BB. 1240 French Drain
02. MONITOR, SAMPLE, TEST, ANALYSIS
06. SAMPLING SOIL, SED & SOLID WASTE.....9
08. SOLIDS COLLECTION & CONTAINMENT
01. EXCAVATION.....10
CC. 1212/1227 Suspect Battery Acid
02. MONITOR, SAMPLE, TEST, ANALYSIS
06. SAMPLING SOIL, SED & SOLID WASTE.....12
08. SOLIDS COLLECTION & CONTAINMENT
01. EXCAVATION.....13
DD. 1218 Service Station
02. MONITOR, SAMPLE, TEST, ANALYSIS
06. SAMPLING SOIL, SED & SOLID WASTE.....15
11. GEOTECHNICAL TESTING.....15
10. TANKS/MISC DEMOLITION & REMOVAL
02. TANK REMOVAL.....16
EE. 1208 Sandblast Area
02. MONITOR, SAMPLE, TEST, ANALYSIS
06. SAMPLING SOIL, SED & SOLID WASTE.....19
08. SOLIDS COLLECTION & CONTAINMENT
01. EXCAVATION.....20

DETAILED ESTIMATE — DETAIL PAGE

FF. JA Jones Oil Storage Tanks (2)
02. MONITOR, SAMPLE, TEST, ANALYSIS
06. SAMPLING SOIL, SED & SOLID WASTE....22
11. GEOTECHNICAL TESTING....22
10. TANKS/MISC DEMOLITION & REMOVAL
02. TANK REMOVAL....23
GG. 1262 Transformer Pad
02. MONITOR, SAMPLE, TEST, ANALYSIS
06. SAMPLING SOIL, SED & SOLID WASTE....26
08. SOLIDS COLLECTION & CONTAINMENT
01. EXCAVATION....27
HH. 1262 Solvents Tanks (4)
02. MONITOR, SAMPLE, TEST, ANALYSIS
06. SAMPLING SOIL, SED & SOLID WASTE....29
10. TANKS/MISC DEMOLITION & REMOVAL
02. TANK REMOVAL....30
II. 1226 Suspect Waste Oil Disposal
02. MONITOR, SAMPLE, TEST, ANALYSIS
06. SAMPLING SOIL, SED & SOLID WASTE....33
08. SOLIDS COLLECTION & CONTAINMENT
01. EXCAVATION....34
JJ. JA Jones Steam Plant Drain Pad
02. MONITOR, SAMPLE, TEST, ANALYSIS
06. SAMPLING SOIL, SED & SOLID WASTE....36
11. GEOTECHNICAL TESTING....36

BACKUP REPORTS — BACKUP PAGE

CREW BACKUP....1
LABOR BACKUP....2
EQUIPMENT BACKUP....3

* * * END TABLE OF CONTENTS * * *

Wed 24 Mar 1993

U.S. Army Corps of Engineers
PROJECT 11EM3R: HANFORD: REMEDIATION - 1.4.10.1.1.23.03.2.2
1100-EM-3, Waste Site Cost Estimates, REVISED
** PROJECT OWNER SUMMARY - LEVEL 1 (Rounded to 1000's) **

TIME 12:32:47
SUMMARY PAGE 1

		QUANTITY UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
OA	MOBILIZATION/DEMOB & PREPWORK		18,000	4,000	5,000	26,000		
OB	COE QA/SAFETY MONITORING		25,000	5,000	6,000	37,000		2
OC	EM-03 Monitoring Wells		434,000	87,000	104,000	626,000		2
AA	1240 Suspect Spill Area		5,000	1,000	2,000	8,000		
BB	1240 French Drain		11,000	2,000	3,000	16,000		
CC	1212/1227 Suspect Battery Acid		106,000	21,000	32,000	159,000		
DD	1218 Service Station		14,000	3,000	4,000	20,000		
EE	1208 Sandblast Area		92,000	18,000	28,000	138,000		
FF	JA Jones Oil Storage Tanks (2)		25,000	5,000	7,000	38,000		
GG	1262 Transformer Pad		7,000	1,000	2,000	11,000		
HH	1262 Solvents Tanks (4)		28,000	6,000	8,000	42,000		
II	1226 Suspect Waste Oil Disposal		116,000	23,000	35,000	175,000		
JJ	JA Jones Steam Plant Drain Pad		5,000	1,000	2,000	8,000		
	HANFORD: REMEDIATION		889,000	178,000	237,000	1,304,000		

Wed 24 Mar 1993

U.S. Army Corps of Engineers
PROJECT 11EM3R: HANFORD: REMEDIATION - 1.4.10.1.1.23.03.2.2
1100-EM-3, Waste Site Cost Estimates, REVISED
** PROJECT OWNER SUMMARY - LEVEL 2 (Rounded to 10's) **

TIME 12:20:10
SUMMARY PAGE 2

	QUANTITY UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
OA MOBILIZATION/DEMOB & PREPWORK							
OA-01 MOBILIZATION AND PREPATORY WORK		10,310	2,060	2,880	15,260		
OA-21 DEMOBILIZATION		7,770	1,550	1,860	11,190		
MOBILIZATION/DEMOB & PREPWORK		18,080	3,620	4,750	26,450		
OB COE QA/SAFETY MONITORING							
OB-91 QA/Safety Monitoring		25,500	5,100	6,120	36,720		
COE QA/SAFETY MONITORING		25,500	5,100	6,120	36,720		2
OC EM-03 Monitoring Wells							
OC-02 MONITOR, SAMPLE, TEST, ANALYSIS		434,400	86,880	104,260	625,540		
EM-03 Monitoring Wells		434,400	86,880	104,260	625,540		2
AA 1240 Suspect Spill Area							
AA-02 MONITOR, SAMPLE, TEST, ANALYSIS		2,330	470	560	3,360		
AA-08 SOLIDS COLLECTION & CONTAINMENT		3,140	630	950	4,720		
1240 Suspect Spill Area		5,470	1,090	1,510	8,080		
BB 1240 French Drain							
BB-02 MONITOR, SAMPLE, TEST, ANALYSIS		710	140	170	1,030		
BB-08 SOLIDS COLLECTION & CONTAINMENT		10,240	2,050	3,020	15,310		
1240 French Drain		10,960	2,190	3,190	16,340		
CC 1212/1227 Suspect Battery Acid							
CC-02 MONITOR, SAMPLE, TEST, ANALYSIS		2,830	570	680	4,080		
CC-08 SOLIDS COLLECTION & CONTAINMENT		103,250	20,650	31,100	155,000		
1212/1227 Suspect Battery Acid		106,080	21,220	31,780	159,070		
DD 1218 Service Station							
DD-02 MONITOR, SAMPLE, TEST, ANALYSIS		1,940	390	490	2,820		
DD-10 TANKS/MISC DEMOLITION & REMOVAL		11,810	2,360	3,490	17,660		

	QUANTITY UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
1218 Service Station		13,750	2,750	3,980	20,480		
EE 1208 Sandblast Area							
EE-02 MONITOR, SAMPLE, TEST, ANALYSIS		2,420	480	580	3,490		
EE-08 SOLIDS COLLECTION & CONTAINMENT		89,790	17,960	26,950	134,700		
1208 Sandblast Area		92,210	18,440	27,530	138,190		
FF JA Jones Oil Storage Tanks (2)							
FF-02 MONITOR, SAMPLE, TEST, ANALYSIS		2,130	430	560	3,120		
FF-10 TANKS/MISC DEMOLITION & REMOVAL		23,350	4,670	6,900	34,920		
JA Jones Oil Storage Tanks (2)		25,480	5,100	7,460	38,040		
GG 1262 Transformer Pad							
GG-02 MONITOR, SAMPLE, TEST, ANALYSIS		780	160	190	1,130		
GG-08 SOLIDS COLLECTION & CONTAINMENT		6,420	1,280	1,870	9,580		
1262 Transformer Pad		7,210	1,440	2,060	10,710		
HH 1262 Solvents Tanks (4)							
HH-02 MONITOR, SAMPLE, TEST, ANALYSIS		2,820	560	680	4,050		
HH-10 TANKS/MISC DEMOLITION & REMOVAL		25,520	5,100	7,490	38,120		
1262 Solvents Tanks (4)		28,340	5,670	8,170	42,180		
II 1226 Suspect Waste Oil Disposal							
II-02 MONITOR, SAMPLE, TEST, ANALYSIS		2,160	430	520	3,120		
II-08 SOLIDS COLLECTION & CONTAINMENT		114,190	22,840	34,360	171,400		
1226 Suspect Waste Oil Disposal		116,360	23,270	34,880	174,510		
JJ JA Jones Steam Plant Drain Pad							
JJ-02 MONITOR, SAMPLE, TEST, ANALYSIS		5,260	1,050	1,540	7,860		
JA Jones Steam Plant Drain Pad		5,260	1,050	1,540	7,860		
HANFORD: REMEDIATION		889,110	177,820	237,230	1,304,160		

	QUANTITY UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
0A MOBILIZATION/DEMOB & PREPWORK							
0A-01 MOBILIZATION AND PREPATORY WORK							
0A-01 01 MOB OF EQUIPMENT & PERSONNEL							
0A-01 01 01 Mob of Equipment & Facilities		3,500	700	840	5,040		1,3
MOB OF EQUIPMENT & PERSONNEL		3,500	700	840	5,040		
0A-01 03 SETUP/CONSTRUCT TEMP FACILITIES							
0A-01 03 01 TRAILERS AND BUILDINGS	100.00 HR	3,780	760	1,140	5,680	56.77	2,3
0A-01 03 02 DECONTAMINATION FACILITIES		3,030	610	910	4,540		
SETUP/CONSTRUCT TEMP FACILITIES		6,810	1,360	2,040	10,220		
MOBILIZATION AND PREPATORY WORK		10,310	2,060	2,880	15,260		
0A-21 DEMOBILIZATION							
0A-21 04 DEMOB OF EQUIPMENT & PERSONNEL							
0A-21 04 01 Demob Equipment/Facilities		7,770	1,550	1,860	11,190		1,2
DEMOB OF EQUIPMENT & PERSONNEL		7,770	1,550	1,860	11,190		
DEMOBILIZATION		7,770	1,550	1,860	11,190		
MOBILIZATION/DEMOB & PREPWORK		18,080	3,620	4,750	26,450		
0B COE QA/SAFETY MONITORING							
0B-91 QA/Safety Monitoring							
0B-91 01 QA/Safety Monitoring							
QA/Safety Monitoring	6.00 WK	25,500	5,100	6,120	36,720	6119.64	
QA/Safety Monitoring		25,500	5,100	6,120	36,720		
COE QA/SAFETY MONITORING		25,500	5,100	6,120	36,720		2
0C EM-03 Monitoring Wells							
0C-02 MONITOR, SAMPLE, TEST, ANALYSIS							

	QUANTITY UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
0C-02 04 MONITORING WELLS							
0C-02 04 01 WELL DRILLING & CONSTRUCTION	5.00 EA	395,090	79,020	94,820	568,940	113787.02	
MONITORING WELLS		395,090	79,020	94,820	568,940		
0C-02 05 SAMPLING S.W./GROUND WATER/L.W.							
0C-02 05 02 GROUND WATER Sampling	20.00 EA	39,310	7,860	9,430	56,610	2830.33	1,4
SAMPLING S.W./GROUND WATER/L.W.		39,310	7,860	9,430	56,610		
MONITOR, SAMPLE, TEST, ANALYSIS		434,400	86,880	104,260	625,540		
EM-03 Monitoring Wells		434,400	86,880	104,260	625,540		2
AA 1240 Suspect Spill Area							
AA-02 MONITOR, SAMPLE, TEST, ANALYSIS							
AA-02 06 SAMPLING SOIL, SED & SOLID WASTE							
AA-02 06 01 SURFACE SOIL		2,330	470	560	3,360		
SAMPLING SOIL, SED & SOLID WASTE		2,330	470	560	3,360		
MONITOR, SAMPLE, TEST, ANALYSIS		2,330	470	560	3,360		
AA-08 SOLIDS COLLECTION & CONTAINMENT							
AA-08 01 EXCAVATION							
AA-08 01 01 Excav/Load Contaminated Soils	5.00 CY	210	40	100	350	70.61	2,3
AA-08 01 02 Transport Cont. Soils, Arlington	5.00 CY	2,260	450	680	3,380	676.55	3,4
AA-08 01 03 PPEquip, Modified Class D	0.50 DAY	510	100	120	740	1471.88	1,2
AA-08 01 04 Site Re-grading		160	30	50	250		2,3
EXCAVATION		3,140	630	950	4,720		
SOLIDS COLLECTION & CONTAINMENT		3,140	630	950	4,720		
1240 Suspect Spill Area		5,470	1,090	1,510	8,080		
BB 1240 French Drain							
BB-02 MONITOR, SAMPLE, TEST, ANALYSIS							

	QUANTITY UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
BB-02 06 SAMPLING SOIL, SED & SOLID WASTE							
BB-02 06 01 SURFACE SOIL		710	140	170	1,030		
SAMPLING SOIL, SED & SOLID WASTE		710	140	170	1,030		
MONITOR, SAMPLE, TEST, ANALYSIS		710	140	170	1,030		
BB-08 SOLIDS COLLECTION & CONTAINMENT							
BB-08 01 EXCAVATION							
BB-08 01 01 Excav/Load Contaminated Soils	20.00 CY	170	30	60	270	13.28	2,3
BB-08 01 02 Transport Cont. Soils, Arlington	20.00 CY	8,890	1,780	2,670	13,330	666.59	3,4
BB-08 01 03 PPEquip, Modified Class D	1.00 DAY	1,020	200	250	1,470	1471.88	1,2
BB-08 01 04 Site Re-grading		160	30	50	250		2,3
EXCAVATION		10,240	2,050	3,020	15,310		
SOLIDS COLLECTION & CONTAINMENT		10,240	2,050	3,020	15,310		
1240 French Drain		10,960	2,190	3,190	16,340		
CC 1212/1227 Suspect Battery Acid							
CC-02 MONITOR, SAMPLE, TEST, ANALYSIS							
CC-02 06 SAMPLING SOIL, SED & SOLID WASTE							
CC-02 06 01 SURFACE SOIL		2,830	570	680	4,080		
SAMPLING SOIL, SED & SOLID WASTE		2,830	570	680	4,080		
MONITOR, SAMPLE, TEST, ANALYSIS		2,830	570	680	4,080		
CC-08 SOLIDS COLLECTION & CONTAINMENT							
CC-08 01 EXCAVATION							
CC-08 01 01 Excav/Load Contaminated Soils	250.00 CY	840	170	400	1,420	5.66	2,3
CC-08 01 02 Transport Cont. Soils, Arlington	250.00 CY	101,740	20,350	30,520	152,600	610.41	3,4
CC-08 01 03 PPEquip, Modified Class D	0.50 DAY	510	100	120	740	1471.88	1,2
CC-08 01 04 Site Re-grading		160	30	50	250		2,3
EXCAVATION		103,250	20,650	31,100	155,000		

	QUANTITY UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
SOLIDS COLLECTION & CONTAINMENT		103,250	20,650	31,100	155,000		
1212/1227 Suspect Battery Acid		106,080	21,220	31,780	159,070		
DD 1218 Service Station							
DD-02 MONITOR, SAMPLE, TEST, ANALYSIS							
DD-02 06 SAMPLING SOIL, SED & SOLID WASTE							
DD-02 06 01 SURFACE SOIL		1,570	310	380	2,260		
SAMPLING SOIL, SED & SOLID WASTE		1,570	310	380	2,260		
DD-02 11 GEOTECHNICAL TESTING							
DD-02 11 01 Geophysical Survey	1.00 EA	370	70	110	560	557.78	2,4
GEOTECHNICAL TESTING		370	70	110	560		
MONITOR, SAMPLE, TEST, ANALYSIS		1,940	390	490	2,820		
DD-10 TANKS/MISC DEMOLITION & REMOVAL							
DD-10 02 TANK REMOVAL							
DD-10 02 01 UST Tank Excavation & Removal	1.00 EA	1,400	280	420	2,100	2099.36	2,3
DD-10 02 02 Excav/Load Contaminated Soils	20.00 CY	170	30	60	270	13.28	2,3
DD-10 02 03 Transport Cont. Soils, Arlington	20.00 CY	8,890	1,780	2,670	13,330	666.59	3,4
DD-10 02 04 PPEquip, Modified Class D	1.00 DAY	1,020	200	250	1,470	1471.88	1,2
DD-10 02 05 Site Re-grading	0.50 DAY	330	70	100	490	980.37	2,3
TANK REMOVAL		11,810	2,360	3,490	17,660		
TANKS/MISC DEMOLITION & REMOVAL		11,810	2,360	3,490	17,660		
1218 Service Station		13,750	2,750	3,980	20,480		
EE 1208 Sandblast Area							
EE-02 MONITOR, SAMPLE, TEST, ANALYSIS							
EE-02 06 SAMPLING SOIL, SED & SOLID WASTE							
EE-02 06 01 SURFACE SOIL		2,420	480	580	3,490		

		QUANTITY UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
	SAMPLING SOIL, SED & SOLID WASTE		2,420	480	580	3,490		
	MONITOR, SAMPLE, TEST, ANALYSIS		2,420	480	580	3,490		
EE-08	SOLIDS COLLECTION & CONTAINMENT							
EE-08 01	EXCAVATION							
EE-08 01 01	Excav/Load Contaminated Soils	210.00 CY	1,790	360	640	2,790	13.28	2,3
EE-08 01 02	Transport Cont. Soils, Arlington	210.00 CY	85,820	17,160	25,750	128,730	612.99	3,4
EE-08 01 03	PPEquip, Modified Class D	1.50 DAY	1,530	310	370	2,210	1471.88	1,2
EE-08 01 04	Site Re-grading		650	130	200	980		2,3
	EXCAVATION		89,790	17,960	26,950	134,700		
	SOLIDS COLLECTION & CONTAINMENT		89,790	17,960	26,950	134,700		
	1208 Sandblast Area		92,210	18,440	27,530	138,190		
FF	JA Jones Oil Storage Tanks (2)							
FF-02	MONITOR, SAMPLE, TEST, ANALYSIS							
FF-02 06	SAMPLING SOIL, SED & SOLID WASTE							
FF-02 06 01	SURFACE SOIL		1,390	280	330	2,000		
	SAMPLING SOIL, SED & SOLID WASTE		1,390	280	330	2,000		
FF-02 11	GEOTECHNICAL TESTING							
FF-02 11 01	Geophysical Survey	2.00 EA	740	150	220	1,120	557.78	2,4
	GEOTECHNICAL TESTING		740	150	220	1,120		
	MONITOR, SAMPLE, TEST, ANALYSIS		2,130	430	560	3,120		
FF-10	TANKS/MISC DEMOLITION & REMOVAL							
FF-10 02	TANK REMOVAL							
FF-10 02 01	UST Tank Excavation & Removal	2.00 EA	3,460	690	1,040	5,190	2597.38	2,3
FF-10 02 02	Excav/Load Contaminated Soils	40.00 CY	340	70	120	530	13.28	2,3
FF-10 02 03	Transport Cont. Soils, Arlington	40.00 CY	16,850	3,370	5,050	25,270	631.73	3,4
FF-10 02 04	PPEquip, Modified Class D	2.00 DAY	2,040	410	490	2,940	1471.88	1,2
FF-10 02 05	Site Re-grading	1.00 DAY	650	130	200	980	980.37	2,3

		QUANTITY UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
	TANK REMOVAL		23,350	4,670	6,900	34,920		
	TANKS/MISC DEMOLITION & REMOVAL		23,350	4,670	6,900	34,920		
	JA Jones Oil Storage Tanks (2)		25,480	5,100	7,460	38,040		
GG	1262 Transformer Pad							
GG-02	MONITOR, SAMPLE, TEST, ANALYSIS							
GG-02 06	SAMPLING SOIL, SED & SOLID WASTE							
GG-02 06 01	SURFACE SOIL		780	160	190	1,130		
	SAMPLING SOIL, SED & SOLID WASTE		780	160	190	1,130		
	MONITOR, SAMPLE, TEST, ANALYSIS		780	160	190	1,130		
GG-08	SOLIDS COLLECTION & CONTAINMENT							
GG-08 01	EXCAVATION							
GG-08 01 01	Excav/Load Cont. Soil & Conc Pad	10.00 CY	90	20	30	140	14.48	2,3
GG-08 01 02	Transport Cont. Soils, Arlington	10.00 CY	4,980	1,000	1,490	7,470	747.11	3,4
GG-08 01 03	PPEquip, Modified Class D	1.00 DAY	1,020	200	250	1,470	1471.88	1,2
GG-08 01 04	Site Re-grading		330	70	100	490		2,3
	EXCAVATION		6,420	1,280	1,870	9,580		
	SOLIDS COLLECTION & CONTAINMENT		6,420	1,280	1,870	9,580		
	1262 Transformer Pad		7,210	1,440	2,060	10,710		
HH	1262 Solvents Tanks (4)							
HH-02	MONITOR, SAMPLE, TEST, ANALYSIS							
HH-02 06	SAMPLING SOIL, SED & SOLID WASTE							
HH-02 06 01	SURFACE SOIL		2,820	560	680	4,050		
	SAMPLING SOIL, SED & SOLID WASTE		2,820	560	680	4,050		
	MONITOR, SAMPLE, TEST, ANALYSIS		2,820	560	680	4,050		
HH-10	TANKS/MISC DEMOLITION & REMOVAL							

	QUANTITY UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
HH-10 02 TANK REMOVAL							
HH-10 02 01 UST Tank Excavation & Removal	4.00 EA	4,620	920	1,390	6,930	1731.59	2,3
HH-10 02 02 Excav/Load Contaminated Soils	40.00 CY	340	70	120	530	13.28	2,3
HH-10 02 03 Transport Cont. Soils, Arlington	40.00 CY	16,850	3,370	5,050	25,270	631.73	3,4
HH-10 02 04 PPEquip, Modified Class D	3.00 DAY	3,070	610	740	4,420	1471.88	1,2
HH-10 02 05 Site Re-grading	1.00 DAY	650	130	200	980	980.37	2,3
TANK REMOVAL		25,520	5,100	7,490	38,120		
TANKS/MISC DEMOLITION & REMOVAL		25,520	5,100	7,490	38,120		
1262 Solvents Tanks (4)		28,340	5,670	8,170	42,180		
II 1226 Suspect Waste Oil Disposal							
II-02 MONITOR, SAMPLE, TEST, ANALYSIS							
II-02 06 SAMPLING SOIL, SED & SOLID WASTE							
II-02 06 01 SURFACE SOIL		2,160	430	520	3,120		
SAMPLING SOIL, SED & SOLID WASTE		2,160	430	520	3,120		
MONITOR, SAMPLE, TEST, ANALYSIS		2,160	430	520	3,120		
II-08 SOLIDS COLLECTION & CONTAINMENT							
II-08 01 EXCAVATION							
II-08 01 01 Excav/Load Contaminated Soils	275.00 CY	930	190	450	1,560	5.66	2,3
II-08 01 02 Transport Cont. Soils, Arlington	275.00 CY	112,080	22,420	33,620	168,120	611.35	3,4
II-08 01 03 PPEquip, Modified Class D	1.00 DAY	1,020	200	250	1,470	1471.88	1,2
II-08 01 04 Site Re-grading		160	30	50	250		2,3
EXCAVATION		114,190	22,840	34,360	171,400		
SOLIDS COLLECTION & CONTAINMENT		114,190	22,840	34,360	171,400		
1226 Suspect Waste Oil Disposal		116,360	23,270	34,880	174,510		
JJ JA Jones Steam Plant Drain Pad							
JJ-02 MONITOR, SAMPLE, TEST, ANALYSIS							
JJ-02 06 SAMPLING SOIL, SED & SOLID WASTE							
JJ-02 06 01 SURFACE SOIL		610	120	150	880		

		QUANTITY	UOM	CONTRACT	S & A	CONTG	TOTAL COST	UNIT COST	NOTES
	SAMPLING SOIL, SED & SOLID WASTE			610	120	150	880		
JJ-02 11	GEOTECHNICAL TESTING								
JJ-02 11 01	Geophysical Survey	1.00	EA	4,650	930	1,390	6,970	6972.24	2,4
	GEOTECHNICAL TESTING			4,650	930	1,390	6,970		
	MONITOR, SAMPLE, TEST, ANALYSIS			5,260	1,050	1,540	7,860		
	JA Jones Steam Plant Drain Pad			5,260	1,050	1,540	7,860		
	HANFORD: REMEDIATION			889,110	177,820	237,230	1,304,160		

Wed 24 Mar 1993

U.S. Army Corps of Engineers
PROJECT 11EM3R: HANFORD: REMEDIATION - 1.4.10.1.1.23.03.2.2
1100-EM-3, Waste Site Cost Estimates, REVISED
** PROJECT INDIRECT SUMMARY - LEVEL 1 (Rounded to 10's) **

		QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
OA	MOBILIZATION/DEMOB & PREPWORK		13,620	2,040	780	1,320	150	180	18,080	
OB	COE QA/SAFETY MONITORING		19,200	2,880	1,100	1,850	210	250	25,500	
OC	EM-03 Monitoring Wells		327,100	49,070	18,810	31,600	3,530	4,300	434,400	
AA	1240 Suspect Spill Area		4,120	620	240	400	40	50	5,470	
BB	1240 French Drain		8,250	1,240	470	800	90	110	10,960	
CC	1212/1227 Suspect Battery Acid		79,880	11,980	4,590	7,720	860	1,050	106,080	
DD	1218 Service Station		10,350	1,550	600	1,000	110	140	13,750	
EE	1208 Sandblast Area		69,440	10,420	3,990	6,710	750	910	92,210	
FF	JA Jones Oil Storage Tanks (2)		19,190	2,880	1,100	1,850	210	250	25,480	
GG	1262 Transformer Pad		5,430	810	310	520	60	70	7,210	
HH	1262 Solvents Tanks (4)		21,340	3,200	1,230	2,060	230	280	28,340	
II	1226 Suspect Waste Oil Disposal		87,620	13,140	5,040	8,460	950	1,150	116,360	
JJ	JA Jones Steam Plant Drain Pad		3,960	590	230	380	40	50	5,260	
	HANFORD: REMEDIATION		669,480	100,420	38,500	64,670	7,230	8,800	889,110	
	S & A								177,820	
	SUBTOTAL								1,066,930	
	CONTINGENCY								237,230	
	TOTAL INCL OWNER COSTS								1,304,160	

	QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
0A MOBILIZATION/DEMOB & PREPWORK									
0A-01 MOBILIZATION AND PREPATORY WORK		7,770	1,160	450	750	80	100	10,310	
0A-21 DEMOBILIZATION		5,850	880	340	570	60	80	7,770	
MOBILIZATION/DEMOB & PREPWORK		13,620	2,040	780	1,320	150	180	18,080	
0B COE QA/SAFETY MONITORING									
0B-91 QA/Safety Monitoring		19,200	2,880	1,100	1,850	210	250	25,500	
COE QA/SAFETY MONITORING		19,200	2,880	1,100	1,850	210	250	25,500	
0C EM-03 Monitoring Wells									
0C-02 MONITOR, SAMPLE, TEST, ANALYSIS		327,100	49,070	18,810	31,600	3,530	4,300	434,400	
EM-03 Monitoring Wells		327,100	49,070	18,810	31,600	3,530	4,300	434,400	
AA 1240 Suspect Spill Area									
AA-02 MONITOR, SAMPLE, TEST, ANALYSIS		1,760	260	100	170	20	20	2,330	
AA-08 SOLIDS COLLECTION & CONTAINMENT		2,360	350	140	230	30	30	3,140	
1240 Suspect Spill Area		4,120	620	240	400	40	50	5,470	
BB 1240 French Drain									
BB-02 MONITOR, SAMPLE, TEST, ANALYSIS		540	80	30	50	10	10	710	
BB-08 SOLIDS COLLECTION & CONTAINMENT		7,710	1,160	440	750	80	100	10,240	
1240 French Drain		8,250	1,240	470	800	90	110	10,960	
CC 1212/1227 Suspect Battery Acid									
CC-02 MONITOR, SAMPLE, TEST, ANALYSIS		2,130	320	120	210	20	30	2,830	
CC-08 SOLIDS COLLECTION & CONTAINMENT		77,750	11,660	4,470	7,510	840	1,020	103,250	
1212/1227 Suspect Battery Acid		79,880	11,980	4,590	7,720	860	1,050	106,080	
DD 1218 Service Station									
DD-02 MONITOR, SAMPLE, TEST, ANALYSIS		1,460	220	80	140	20	20	1,940	
DD-10 TANKS/MISC DEMOLITION & REMOVAL		8,890	1,330	510	860	100	120	11,810	

	QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
1218 Service Station		10,350	1,550	600	1,000	110	140	13,750	
EE 1208 Sandblast Area									
EE-02 MONITOR, SAMPLE, TEST, ANALYSIS		1,820	270	100	180	20	20	2,420	
EE-08 SOLIDS COLLECTION & CONTAINMENT		67,610	10,140	3,890	6,530	730	890	89,790	
1208 Sandblast Area		69,440	10,420	3,990	6,710	750	910	92,210	
FF JA Jones Oil Storage Tanks (2)									
FF-02 MONITOR, SAMPLE, TEST, ANALYSIS		1,610	240	90	160	20	20	2,130	
FF-10 TANKS/MISC DEMOLITION & REMOVAL		17,580	2,640	1,010	1,700	190	230	23,350	
JA Jones Oil Storage Tanks (2)		19,190	2,880	1,100	1,850	210	250	25,480	
GG 1262 Transformer Pad									
GG-02 MONITOR, SAMPLE, TEST, ANALYSIS		590	90	30	60	10	10	780	
GG-08 SOLIDS COLLECTION & CONTAINMENT		4,840	730	280	470	50	60	6,420	
1262 Transformer Pad		5,430	810	310	520	60	70	7,210	
HH 1262 Solvents Tanks (4)									
HH-02 MONITOR, SAMPLE, TEST, ANALYSIS		2,120	320	120	200	20	30	2,820	
HH-10 TANKS/MISC DEMOLITION & REMOVAL		19,220	2,880	1,110	1,860	210	250	25,520	
1262 Solvents Tanks (4)		21,340	3,200	1,230	2,060	230	280	28,340	
II 1226 Suspect Waste Oil Disposal									
II-02 MONITOR, SAMPLE, TEST, ANALYSIS		1,630	240	90	160	20	20	2,160	
II-08 SOLIDS COLLECTION & CONTAINMENT		85,990	12,900	4,940	8,310	930	1,130	114,190	
1226 Suspect Waste Oil Disposal		87,620	13,140	5,040	8,460	950	1,150	116,360	
JJ JA Jones Steam Plant Drain Pad									
JJ-02 MONITOR, SAMPLE, TEST, ANALYSIS		3,960	590	230	380	40	50	5,260	
JA Jones Steam Plant Drain Pad		3,960	590	230	380	40	50	5,260	
HANFORD: REMEDIATION		669,480	100,420	38,500	64,670	7,230	8,800	889,110	

	QUANTITY	UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
S & A									177,820	
SUBTOTAL									1,066,930	
CONTINGENCY									237,230	
TOTAL INCL OWNER COSTS									1,304,160	

	QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
0A MOBILIZATION/DEMOB & PREPWORK									
0A-01 MOBILIZATION AND PREPATORY WORK									
0A-01 01 MOB OF EQUIPMENT & PERSONNEL									
0A-01 01 01 Mob of Equipment & Facilities		2,640	400	150	250	30	30	3,500	
MOB OF EQUIPMENT & PERSONNEL		2,640	400	150	250	30	30	3,500	
0A-01 03 SETUP/CONSTRUCT TEMP FACILITIES									
0A-01 03 01 TRAILERS AND BUILDINGS	100.00 HR	2,850	430	160	280	30	40	3,780	37.85
0A-01 03 02 DECONTAMINATION FACILITIES		2,280	340	130	220	20	30	3,030	
SETUP/CONSTRUCT TEMP FACILITIES		5,130	770	290	500	60	70	6,810	
MOBILIZATION AND PREPATORY WORK		7,770	1,160	450	750	80	100	10,310	
0A-21 DEMOBILIZATION									
0A-21 04 DEMOB OF EQUIPMENT & PERSONNEL									
0A-21 04 01 Demob Equipment/Facilities		5,850	880	340	570	60	80	7,770	
DEMOB OF EQUIPMENT & PERSONNEL		5,850	880	340	570	60	80	7,770	
DEMOBILIZATION		5,850	880	340	570	60	80	7,770	
MOBILIZATION/DEMOB & PREPWORK		13,620	2,040	780	1,320	150	180	18,080	
0B COE QA/SAFETY MONITORING									
0B-91 QA/Safety Monitoring									
0B-91 01 QA/Safety Monitoring									
QA/Safety Monitoring	6.00 WK	19,200	2,880	1,100	1,850	210	250	25,500	4249.75
QA/Safety Monitoring		19,200	2,880	1,100	1,850	210	250	25,500	
COE QA/SAFETY MONITORING		19,200	2,880	1,100	1,850	210	250	25,500	
0C EM-03 Monitoring Wells									
0C-02 MONITOR, SAMPLE, TEST, ANALYSIS									

	QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
OC-02 04 MONITORING WELLS									
OC-02 04 01 WELL DRILLING & CONSTRUCTION	5.00 EA	297,500	44,630	17,110	28,740	3,210	3,910	395,090	79018.77
MONITORING WELLS		297,500	44,630	17,110	28,740	3,210	3,910	395,090	
OC-02 05 SAMPLING S.W./GROUND WATER/L.W.									
OC-02 05 02 GROUND WATER Sampling	20.00 EA	29,600	4,440	1,700	2,860	320	390	39,310	1965.51
SAMPLING S.W./GROUND WATER/L.W.		29,600	4,440	1,700	2,860	320	390	39,310	
MONITOR, SAMPLE, TEST, ANALYSIS		327,100	49,070	18,810	31,600	3,530	4,300	434,400	
EM-03 Monitoring Wells		327,100	49,070	18,810	31,600	3,530	4,300	434,400	
AA 1240 Suspect Spill Area									
AA-02 MONITOR, SAMPLE, TEST, ANALYSIS									
AA-02 06 SAMPLING SOIL, SED & SOLID WASTE									
AA-02 06 01 SURFACE SOIL		1,760	260	100	170	20	20	2,330	
SAMPLING SOIL, SED & SOLID WASTE		1,760	260	100	170	20	20	2,330	
MONITOR, SAMPLE, TEST, ANALYSIS		1,760	260	100	170	20	20	2,330	
AA-08 SOLIDS COLLECTION & CONTAINMENT									
AA-08 01 EXCAVATION									
AA-08 01 01 Excav/Load Contaminated Soils	5.00 CY	160	20	10	20	0	0	210	42.03
AA-08 01 02 Transport Cont. Soils, Arlington	5.00 CY	1,700	250	100	160	20	20	2,260	451.03
AA-08 01 03 PPEquip, Modified Class D	0.50 DAY	380	60	20	40	0	10	510	1022.14
AA-08 01 04 Site Re-grading		120	20	10	10	0	0	160	
EXCAVATION		2,360	350	140	230	30	30	3,140	
SOLIDS COLLECTION & CONTAINMENT		2,360	350	140	230	30	30	3,140	
1240 Suspect Spill Area		4,120	620	240	400	40	50	5,470	
BB 1240 French Drain									
BB-02 MONITOR, SAMPLE, TEST, ANALYSIS									

	QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
BB-02 06 SAMPLING SOIL, SED & SOLID WASTE									
BB-02 06 01 SURFACE SOIL		540	80	30	50	10	10	710	
SAMPLING SOIL, SED & SOLID WASTE		540	80	30	50	10	10	710	
MONITOR, SAMPLE, TEST, ANALYSIS		540	80	30	50	10	10	710	
BB-08 SOLIDS COLLECTION & CONTAINMENT									
BB-08 01 EXCAVATION									
BB-08 01 01 Excav/Load Contaminated Soils	20.00 CY	130	20	10	10	0	0	170	8.51
BB-08 01 02 Transport Cont. Soils, Arlington	20.00 CY	6,690	1,000	380	650	70	90	8,890	444.39
BB-08 01 03 PPEquip, Modified Class D	1.00 DAY	770	120	40	70	10	10	1,020	1022.14
BB-08 01 04 Site Re-grading		120	20	10	10	0	0	160	
EXCAVATION		7,710	1,160	440	750	80	100	10,240	
SOLIDS COLLECTION & CONTAINMENT		7,710	1,160	440	750	80	100	10,240	
1240 French Drain		8,250	1,240	470	800	90	110	10,960	
CC 1212/1227 Suspect Battery Acid									
CC-02 MONITOR, SAMPLE, TEST, ANALYSIS									
CC-02 06 SAMPLING SOIL, SED & SOLID WASTE									
CC-02 06 01 SURFACE SOIL		2,130	320	120	210	20	30	2,830	
SAMPLING SOIL, SED & SOLID WASTE		2,130	320	120	210	20	30	2,830	
MONITOR, SAMPLE, TEST, ANALYSIS		2,130	320	120	210	20	30	2,830	
CC-08 SOLIDS COLLECTION & CONTAINMENT									
CC-08 01 EXCAVATION									
CC-08 01 01 Excav/Load Contaminated Soils	250.00 CY	630	100	40	60	10	10	840	3.37
CC-08 01 02 Transport Cont. Soils, Arlington	250.00 CY	76,610	11,490	4,400	7,400	830	1,010	101,740	406.94
CC-08 01 03 PPEquip, Modified Class D	0.50 DAY	380	60	20	40	0	10	510	1022.14
CC-08 01 04 Site Re-grading		120	20	10	10	0	0	160	
EXCAVATION		77,750	11,660	4,470	7,510	840	1,020	103,250	

	QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
SOLIDS COLLECTION & CONTAINMENT		77,750	11,660	4,470	7,510	840	1,020	103,250	
1212/1227 Suspect Battery Acid		79,880	11,980	4,590	7,720	860	1,050	106,080	
DD 1218 Service Station									
DD-02 MONITOR, SAMPLE, TEST, ANALYSIS									
DD-02 06 SAMPLING SOIL, SED & SOLID WASTE									
DD-02 06 01 SURFACE SOIL		1,180	180	70	110	10	20	1,570	
SAMPLING SOIL, SED & SOLID WASTE		1,180	180	70	110	10	20	1,570	
DD-02 11 GEOTECHNICAL TESTING									
DD-02 11 01 Geophysical Survey	1.00 EA	280	40	20	30	0	0	370	371.85
GEOTECHNICAL TESTING		280	40	20	30	0	0	370	
MONITOR, SAMPLE, TEST, ANALYSIS		1,460	220	80	140	20	20	1,940	
DD-10 TANKS/MISC DEMOLITION & REMOVAL									
DD-10 02 TANK REMOVAL									
DD-10 02 01 UST Tank Excavation & Removal	1.00 EA	1,050	160	60	100	10	10	1,400	1399.58
DD-10 02 02 Excav/Load Contaminated Soils	20.00 CY	130	20	10	10	0	0	170	8.51
DD-10 02 03 Transport Cont. Soils, Arlington	20.00 CY	6,690	1,000	380	650	70	90	8,890	444.39
DD-10 02 04 PPEquip, Modified Class D	1.00 DAY	770	120	40	70	10	10	1,020	1022.14
DD-10 02 05 Site Re-grading	0.50 DAY	250	40	10	20	0	0	330	653.58
TANK REMOVAL		8,890	1,330	510	860	100	120	11,810	
TANKS/MISC DEMOLITION & REMOVAL		8,890	1,330	510	860	100	120	11,810	
1218 Service Station		10,350	1,550	600	1,000	110	140	13,750	
EE 1208 Sandblast Area									
EE-02 MONITOR, SAMPLE, TEST, ANALYSIS									
EE-02 06 SAMPLING SOIL, SED & SOLID WASTE									
EE-02 06 01 SURFACE SOIL		1,820	270	100	180	20	20	2,420	

	QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
SAMPLING SOIL, SED & SOLID WASTE		1,820	270	100	180	20	20	2,420	
MONITOR, SAMPLE, TEST, ANALYSIS		1,820	270	100	180	20	20	2,420	
EE-08 SOLIDS COLLECTION & CONTAINMENT									
EE-08 01 EXCAVATION									
EE-08 01 01 Excav/Load Contaminated Soils	210.00 CY	1,350	200	80	130	10	20	1,790	8.51
EE-08 01 02 Transport Cont. Soils, Arlington	210.00 CY	64,620	9,690	3,720	6,240	700	850	85,820	408.66
EE-08 01 03 PPEquip, Modified Class D	1.50 DAY	1,150	170	70	110	10	20	1,530	1022.14
EE-08 01 04 Site Re-grading		490	70	30	50	10	10	650	
EXCAVATION		67,610	10,140	3,890	6,530	730	890	89,790	
SOLIDS COLLECTION & CONTAINMENT		67,610	10,140	3,890	6,530	730	890	89,790	
1208 Sandblast Area		69,440	10,420	3,990	6,710	750	910	92,210	
FF JA Jones Oil Storage Tanks (2)									
FF-02 MONITOR, SAMPLE, TEST, ANALYSIS									
FF-02 06 SAMPLING SOIL, SED & SOLID WASTE									
FF-02 06 01 SURFACE SOIL		1,050	160	60	100	10	10	1,390	
SAMPLING SOIL, SED & SOLID WASTE		1,050	160	60	100	10	10	1,390	
FF-02 11 GEOTECHNICAL TESTING									
FF-02 11 01 Geophysical Survey	2.00 EA	560	80	30	50	10	10	740	371.85
GEOTECHNICAL TESTING		560	80	30	50	10	10	740	
MONITOR, SAMPLE, TEST, ANALYSIS		1,610	240	90	160	20	20	2,130	
FF-10 TANKS/MISC DEMOLITION & REMOVAL									
FF-10 02 TANK REMOVAL									
FF-10 02 01 UST Tank Excavation & Removal	2.00 EA	2,610	390	150	250	30	30	3,460	1731.59
FF-10 02 02 Excav/Load Contaminated Soils	40.00 CY	260	40	10	20	0	0	340	8.51
FF-10 02 03 Transport Cont. Soils, Arlington	40.00 CY	12,680	1,900	730	1,230	140	170	16,850	421.15
FF-10 02 04 PPEquip, Modified Class D	2.00 DAY	1,540	230	90	150	20	20	2,040	1022.14
FF-10 02 05 Site Re-grading	1.00 DAY	490	70	30	50	10	10	650	653.58

	QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
TANK REMOVAL		17,580	2,640	1,010	1,700	190	230	23,350	
TANKS/MISC DEMOLITION & REMOVAL		17,580	2,640	1,010	1,700	190	230	23,350	
JA Jones Oil Storage Tanks (2)		19,190	2,880	1,100	1,850	210	250	25,480	
GG 1262 Transformer Pad									
GG-02 MONITOR, SAMPLE, TEST, ANALYSIS									
GG-02 06 SAMPLING SOIL, SED & SOLID WASTE									
GG-02 06 01 SURFACE SOIL		590	90	30	60	10	10	780	
SAMPLING SOIL, SED & SOLID WASTE		590	90	30	60	10	10	780	
MONITOR, SAMPLE, TEST, ANALYSIS		590	90	30	60	10	10	780	
GG-08 SOLIDS COLLECTION & CONTAINMENT									
GG-08 01 EXCAVATION									
GG-08 01 01 Excav/Load Cont. Soil & Conc Pad	10.00 CY	70	10	0	10	0	0	90	9.28
GG-08 01 02 Transport Cont. Soils, Arlington	10.00 CY	3,750	560	220	360	40	50	4,980	498.07
GG-08 01 03 PPEquip, Modified Class D	1.00 DAY	770	120	40	70	10	10	1,020	1022.14
GG-08 01 04 Site Re-grading		250	40	10	20	0	0	330	
EXCAVATION		4,840	730	280	470	50	60	6,420	
SOLIDS COLLECTION & CONTAINMENT		4,840	730	280	470	50	60	6,420	
1262 Transformer Pad		5,430	810	310	520	60	70	7,210	
HH 1262 Solvents Tanks (4)									
HH-02 MONITOR, SAMPLE, TEST, ANALYSIS									
HH-02 06 SAMPLING SOIL, SED & SOLID WASTE									
HH-02 06 01 SURFACE SOIL		2,120	320	120	200	20	30	2,820	
SAMPLING SOIL, SED & SOLID WASTE		2,120	320	120	200	20	30	2,820	
MONITOR, SAMPLE, TEST, ANALYSIS		2,120	320	120	200	20	30	2,820	
HH-10 TANKS/MISC DEMOLITION & REMOVAL									

		QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
HH-10 02	TANK REMOVAL									
HH-10 02 01	UST Tank Excavation & Removal	4.00 EA	3,480	520	200	340	40	50	4,620	1154.39
HH-10 02 02	Excav/Load Contaminated Soils	40.00 CY	260	40	10	20	0	0	340	8.51
HH-10 02 03	Transport Cont. Soils, Arlington	40.00 CY	12,680	1,900	730	1,230	140	170	16,850	421.15
HH-10 02 04	PPEquip, Modified Class D	3.00 DAY	2,310	350	130	220	20	30	3,070	1022.14
HH-10 02 05	Site Re-grading	1.00 DAY	490	70	30	50	10	10	650	653.58
	TANK REMOVAL		19,220	2,880	1,110	1,860	210	250	25,520	
	TANKS/MISC DEMOLITION & REMOVAL		19,220	2,880	1,110	1,860	210	250	25,520	
	1262 Solvents Tanks (4)		21,340	3,200	1,230	2,060	230	280	28,340	
II	1226 Suspect Waste Oil Disposal									
II-02	MONITOR, SAMPLE, TEST, ANALYSIS									
II-02 06	SAMPLING SOIL, SED & SOLID WASTE									
II-02 06 01	SURFACE SOIL		1,630	240	90	160	20	20	2,160	
	SAMPLING SOIL, SED & SOLID WASTE		1,630	240	90	160	20	20	2,160	
	MONITOR, SAMPLE, TEST, ANALYSIS		1,630	240	90	160	20	20	2,160	
II-08	SOLIDS COLLECTION & CONTAINMENT									
II-08 01	EXCAVATION									
II-08 01 01	Excav/Load Contaminated Soils	275.00 CY	700	100	40	70	10	10	930	3.37
II-08 01 02	Transport Cont. Soils, Arlington	275.00 CY	84,400	12,660	4,850	8,150	910	1,110	112,080	407.57
II-08 01 03	PPEquip, Modified Class D	1.00 DAY	770	120	40	70	10	10	1,020	1022.14
II-08 01 04	Site Re-grading		120	20	10	10	0	0	160	
	EXCAVATION		85,990	12,900	4,940	8,310	930	1,130	114,190	
	SOLIDS COLLECTION & CONTAINMENT		85,990	12,900	4,940	8,310	930	1,130	114,190	
	1226 Suspect Waste Oil Disposal		87,620	13,140	5,040	8,460	950	1,150	116,360	
JJ	JA Jones Steam Plant Drain Pad									
JJ-02	MONITOR, SAMPLE, TEST, ANALYSIS									
JJ-02 06	SAMPLING SOIL, SED & SOLID WASTE									
JJ-02 06 01	SURFACE SOIL		460	70	30	40	0	10	610	

		QUANTITY UOM	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
	SAMPLING SOIL, SED & SOLID WASTE		460	70	30	40	0	10	610	
JJ-02 11	GEOTECHNICAL TESTING									
JJ-02 11 01	Geophysical Survey	1.00 EA	3,500	530	200	340	40	50	4,650	4648.16
	GEOTECHNICAL TESTING		3,500	530	200	340	40	50	4,650	
	MONITOR, SAMPLE, TEST, ANALYSIS		3,960	590	230	380	40	50	5,260	
	JA Jones Steam Plant Drain Pad		3,960	590	230	380	40	50	5,260	
	HANFORD: REMEDIATION		669,480	100,420	38,500	64,670	7,230	8,800	889,110	
	S & A								177,820	
	SUBTOTAL								1,066,930	
	CONTINGENCY								237,230	
	TOTAL INCL OWNER COSTS								1,304,160	

Wed 24 Mar 1993

U.S. Army Corps of Engineers
PROJECT 11EM3R: HANFORD: REMEDIATION - 1.4.10.1.1.23.03.2.2
1100-EM-3, Waste Site Cost Estimates, REVISED
** CONTRACTOR DIRECT SUMMARY (Rounded to 10's) **

TIME 12:20:10
SUMMARY PAGE 24

	QUANTITY UOM	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST
AA REMEDIAL GENERAL CONTRACTOR		320	45,440	13,510	6,230	604,310	669,480

Wed 24 Mar 1993

U.S. Army Corps of Engineers
PROJECT 11EM3R: HANFORD: REMEDIATION - 1.4.10.1.1.23.03.2.2
1100-EM-3, Waste Site Cost Estimates, REVISED
** CONTRACTOR INDIRECT SUMMARY (Rounded to 10's) **

	DIRECT	FOOH	HOOH	PROF	BOND	B&O TAX	TOTAL COST	UNIT COST
AA REMEDIAL GENERAL CONTRACTOR	669,480	100,420	38,500	64,670	7,230	8,800	889,110	

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0-AA. REMEDIAL GENERAL CONTRACTOR	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST

0-AA. REMEDIAL GENERAL CONTRACTOR

Overhead Percentage Explanation:

Field office Overhead (FOOH): Normal is 10%, using 15% to allow for extra safety and Hanford related items.

Home office Overhead (HOOH): 4-5% is normal for this size of job.

PROFIT: 7-8% is normal for this size of job. However, PROFIT may be calculated separately for each job using the Weighted-Guide Line Method.

BOND: Calculated per dollar amount of job using B Bond rates by GOLD.

B&O TAX: 1% covers the 0.5% WA State B&O tax, and the 0.5% TARO tax.

0-AA. REMEDIAL GENERAL CONTRACTOR	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
0-AA AB. Geophysical Survey Subcontractor Assume using Sub Quote, so no further markup needed.											
0-AA AC. Soil Gas Sampling Subcontractor Assume using Sub Quote, so no further markup needed.											
0A. MOBILIZATION/DEMOB & PREPWORK This item will cover all costs for Mob/Demob & Prepwork associated with the 1100-EM-2 Area waste sites, as it is assumed one Contractor will do all sites at one time.											
0A-01. MOBILIZATION AND PREPATORY WORK											
0A-01 01. MOB OF EQUIPMENT & PERSONNEL											
0A-01 01 01. Mob of Equipment & Facilities Mob of equipment, equipment list from Summary. A 100-mi Radius assumed.											
USR AA <01505 1101 > Mob, Field Office Trailer 100-mi Radius	1.00	EA		0.00	0.00 0	0.00 0	250.00 250	0.00 0	0.00 0	250.00 250	250.00
CIV AA <01505 2103 > Mob, Hyd Excav, 1.1-1.5 CY, Cwlr Mtd, 100-mi Rad	1.00	EA	N/A	0.00	0.00 0	0.00 0	525.00 525	0.00 0	0.00 0	525.00 525	525.00
USR AA <01505 3235 > Mob, FEnd Ldr, wheel 1.5-3 CY Atriculated Fr, 100-mi Radius	1.00	EA		0.00	0.00 0	0.00 0	750.00 750	0.00 0	0.00 0	750.00 750	750.00
USR AA <01505 6115 > Mob, Dozer, Crawler, 50-100 hp w/blade, incl set up 100 mi radius	1.00	EA		0.00	0.00 0	0.00 0	750.00 750	0.00 0	0.00 0	750.00 750	750.00
USR AA <01505 7131 > Mob, Water Tank, 3,000 Gal, Mtd/FT800 Trk, 100-mi Radius	1.00	EA		0.00	0.00 0	0.00 0	150.00 150	0.00 0	0.00 0	150.00 150	150.00
USR AA <01505 8921 > Mob, Decontamination Trailer w/25,000 GVW Trk, 100-mi Radius	1.00	EA		0.00	0.00 0	0.00 0	135.00 135	0.00 0	0.00 0	135.00 135	135.00
USR AA <01505 8952 > Mob, Hot Water Blstr, 3,200 psi 100-mi Radius	1.00	EA		0.00	0.00 0	0.00 0	75.00 75	0.00 0	0.00 0	75.00 75	75.00
Mob of Equipment & Facilities					0	0	2,635	0	0	2,635	
MOB OF EQUIPMENT & PERSONNEL					0	0	2,635	0	0	2,635	

OA-01. MOBILIZATION AND PREPATORY WORK	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
OA-01 03. SETUP/CONSTRUCT TEMP FACILITIES									
OA-01 03 01. TRAILERS AND BUILDINGS Allow 100 mhrs for setup of Contractor's trailer, equipment, and site layout. An allowance for some equipment and materials has been added.									
TRAILERS AND BUILDINGS	100.00 HR		0	2,500	250	100	0	2,850	28.50
OA-01 03 02. DECONTAMINATION FACILITIES									
OA-01 03 02 01. Personnel Decon Facilities Allow 80 mhrs for setup of the Personnel Decon trailer. Self contained unit includes changing rooms and showers. An allowance for some material and equipment has been included.									
Personnel Decon Facilities	80.00 HR		0	2,000	200	80	0	2,280	28.50
OA-01 03 02 02. Equip/Vehicle Decon Facilities A equipment/vehicle washdown facility exists in the 1100-EM-2 area, so assume it will be used for all waste site equipment decontamination. Decon water will be transported by a WHC truck to an on-site (Hanford) disposal area.									
Equip/Vehicle Decon Facilities			0	0	0	0	0	0	
DECONTAMINATION FACILITIES			0	2,000	200	80	0	2,280	
SETUP/CONSTRUCT TEMP FACILITIES			0	4,500	450	180	0	5,130	
MOBILIZATION AND PREPATORY WORK			0	4,500	3,085	180	0	7,765	

OA-21. DEMOBILIZATION	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
OA-21. DEMOBILIZATION											
OA-21 04. DEMOB OF EQUIPMENT & PERSONNEL											
OA-21 04 01. Demob Equipment/Facilities											
Allow 75% of Mob & Setup for Demob.											
Demob Equipment/Facilities					0	0	5,850	0	0	5,850	
DEMOB OF EQUIPMENT & PERSONNEL					0	0	5,850	0	0	5,850	
DEMOBILIZATION					0	0	5,850	0	0	5,850	
MOBILIZATION/DEMOB & PREPWORK					0	4,500	8,935	180	0	13,615	

OB-91. QA/Safety Monitoring	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST

OB. COE QA/SAFETY MONITORING
This item will cover all costs associated with COE QA/Safety Monitoring for the 1100-EM-3 Area waste sites.
OB-91. QA/Safety Monitoring

OB-91 01. QA/Safety Monitoring
Safety/QA Crew:

WHC HPT:	$50/hr x 0 hrs =	$ 0	(HPT not need for the
COE Safety:	$70/hr x 40 hrs =	$2,800	1100-EM area, non rad)
COE Special Assist. QA:	$50/hr x 8 hrs =	$ 400	
Total cost/week		$3,200	

The duration of remediation actions for the 1100-EM-3 area is estimated at 6 weeks.

QA/Safety Monitoring	6.00	WK			0	19,200	0	0	0	19,200	3200.00
QA/Safety Monitoring					0	19,200	0	0	0	19,200	
COE QA/SAFETY MONITORING					0	19,200	0	0	0	19,200	

OC-02. MONITOR, SAMPLE, TEST, ANALYSIS	QUANTY UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
OC. EM-03 Monitoring Wells										
EM-03 Monitoring Wells										
Install five (5) monitoring wells to 70 Ft, and perform four (4) quarter monitoring events.										
OC-02. MONITOR, SAMPLE, TEST, ANALYSIS										
OC-02 04. MONITORING WELLS										
OC-02 04 01. WELL DRILLING & CONSTRUCTION										
Install five (5), 4" D GW Monitoring Wells to 70 LF.										
OC-02 04 01 01. 4" Dia, Monitoring Well (70 LF)										
From a recent quote (WHC/Kaiser) to drill monitoring wells in the 1100 Area, use $850/VLF. This cost includes: drilling, installation and development. All SubContr overhead markups, and all safety items are also covered by the unit cost.										
4" Dia, Monitoring Well (70 LF)	350.00	LF		0	0	0	0	297,500	297,500	850.00
WELL DRILLING & CONSTRUCTION	5.00	EA		0	0	0	0	297,500	297,500	59500.00
MONITORING WELLS				0	0	0	0	297,500	297,500	
OC-02 05. SAMPLING S.W./GROUND WATER/L.W.										
OC-02 05 02. GROUND WATER Sampling										
Given: 4 quarterly GW sampling & analysis events - $1,000 per event, per well, with 2 men @ 8 Hr each (use $30/Hr).										
GROUND WATER Sampling	20.00	EA		0	9,600	0	0	20,000	29,600	1480.00
SAMPLING S.W./GROUND WATER/L.W.				0	9,600	0	0	20,000	29,600	
MONITOR, SAMPLE, TEST, ANALYSIS				0	9,600	0	0	317,500	327,100	
EM-03 Monitoring Wells				0	9,600	0	0	317,500	327,100	

AA-02. MONITOR, SAMPLE, TEST, ANALYSIS

AA. 1240 Suspect Spill Area
Waste Site: 1240 Suspect Spill Area

Site Considerations:
Soil & Waste Sampling
10 x 10 x 1

Potential Remedial Activity:
Take soil samples, Remove waste (to TSDF, 5 CY given)
AA-02. MONITOR, SAMPLE, TEST, ANALYSIS

AA-02 06. SAMPLING SOIL, SED & SOLID WASTE

AA-02 06 01. SURFACE SOIL

AA-02 06 01 02. Confirmatory Samples & Analyses
Confirmatory sample & analyses. See detail for analysis cost.

	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
USR AA <01954 76 > pH					0.00	0.00	0.00	0.00	15.00	15.00	
	3.00	EA	N/A	0.00	0	0	0	0	45	45	15.00
USR AA <01954 76 > 3050, Metals analysis					0.00	0.00	0.00	0.00	27.00	27.00	
	6.00	EA	N/A	0.00	0	0	0	0	162	162	27.00
USR AA <01954 76 > 8270, BNA - Base neutral acid					0.00	0.00	0.00	0.00	357.00	357.00	
	3.00	EA	N/A	0.00	0	0	0	0	1,071	1,071	357.00
USR AA <01954 76 > ?					0.00	0.00	0.00	0.00	0.00	0.00	
	5.00	EA	N/A	0.00	0	0	0	0	0	0	0.00
USR AA <01954 76 > Sample Labor - 2 men					0.00	30.00	0.00	0.00	0.00	30.00	
	16.00	HR	N/A	0.00	0	480	0	0	0	480	30.00
Confirmatory Samples & Analyses					0	480	0	0	1,278	1,758	
SURFACE SOIL					0	480	0	0	1,278	1,758	
SAMPLING SOIL, SED & SOLID WASTE					0	480	0	0	1,278	1,758	
MONITOR, SAMPLE, TEST, ANALYSIS					0	480	0	0	1,278	1,758	

AA-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
AA-08. SOLIDS COLLECTION & CONTAINMENT									
AA-08 01. EXCAVATION									
AA-08 01 01. Excav/Load Contaminated Soils Quantity of 5 CY of solid wastes given by Env Engr.									
L USR AA <02220 0000 > Excavate/load solid waste			0.57	14.41	11.97	0.00	0.00	26.37	
Quantity of 5 CY given by Env Engr. Use 1.2 swell factor	6.00 CY XXQMV	3.50	3	86	72	0	0	158	26.37
Excav/Load Contaminated Soils	5.00 CY		3	86	72	0	0	158	31.65
AA-08 01 02. Transport Cont. Soils, Arlington Transport solid waste to Arlington for disposal there. Unit cost for transport and disposal from Chem. Waste Management, Inc., Arlington.									
USR AA <02220 0000 > Transport soil to Arlington, OR			0.00	0.00	0.00	0.00	0.00	0.00	
Assume this 5 CY will be combined with another truck load.	1.00 TRK	0.00	0	0	0	0	0	0	0.00
USR AA <02220 0000 > Disposal of waste to landfill			0.00	0.00	0.00	0.00	134.00	134.00	
Disposal fee.	8.53 TON	0.00	0	0	0	0	1,142	1,142	134.00
USR AA <02220 0000 > Oregon state environmental tax			0.00	0.00	0.00	0.00	30.00	30.00	
Estimated '93 tax. 55 gal = 8.5 CF x 10 ea/27 CY/CF x 1.55 Ton/CY == 5 Ton.	8.53 TON	0.00	0	0	0	0	256	256	30.00
USR AA <02220 0000 > Soil profile fee			0.00	0.00	0.00	0.00	300.00	300.00	
Required by Arlington	1.00 EA	0.00	0	0	0	0	300	300	300.00
Transport Cont. Soils, Arlington	5.00 CY		0	0	0	0	1,698	1,698	339.62
AA-08 01 03. PPEquip, Modified Class D This item covers cost for Personal Protection Equipment, which is assumed a Modified Class D. Also included is an allowance for daily operation of the Decon shower, equipment decon, and disposal.									
M HTW AA <01951 5202 > Boot Covers, Tyvek (Bag Of 10Pr)			0.00	0.00	11.50	0.00	0.00	11.50	
	2.00 EA N/A	0.00	0	0	23	0	0	23	11.50
M HTW AA <01951 5204 > Coveralls, Tyvek			0.00	0.00	0.00	7.55	0.00	7.55	
	2.00 EA N/A	0.00	0	0	0	15	0	15	7.55
M HTW AA <01951 5501 > Butyl, Medium Weight, Gloves			0.00	0.00	2.30	0.00	0.00	2.30	
	2.00 PR N/A	0.00	0	0	5	0	0	5	2.30

AA-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY UOM CREW ID	OUTPUT	MNRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
HTW AA <01951 5726 > Half-Mask Air Purifying Respirators	2.00 EA N/A	0.00	0.00 0	0.00 0	0.00 0	19.94 40	0.00 0	19.94 40	19.94
USR AA <01957 3105 > Cold Water, Gasoline, 3200 psi, 4.2 gpm, 11 HP (Daily cost) For equipment decon.	0.50 DAY ULABA	0.13	10.00 5	234.30 117	1.45 1	34.83 17	0.00 0	270.58 135	270.58
M HTW AA <01957 4301 > 8 Ft x 36 Ft, 2 Showers, 2 Wall Fans (Monthly Rental)	0.50 DAY N/A	0.00	0.00 0	0.00 0	0.00 0	26.95 13	0.00 0	26.95 13	26.95
HTW AA <01951 5723 > Cartridges, Respirator	4.00 EA N/A	0.00	0.00 0	0.00 0	0.00 0	25.87 103	0.00 0	25.87 103	25.87
USR AA <01951 5805 > Disposal Allowance. Allow $100/day for disposal of personnel protection items and equipment/vehicle decon water.	0.50 DAY N/A	0.00	0.00 0	0.00 0	0.00 0	0.00 0	100.00 50	100.00 50	100.00
PPEquip, Modified Class D	0.50 DAY		5	117	28	189	50	385	769.66
AA-08 01 04. Site Re-grading Allow for site re-grading after site is certified clean.									
L USR AA <02220 0000 > Use D3 Dozer Excavation crew	0.25 DAY XXQNA	0.13	14.00 4	365.22 91	126.91 32	0.00 0	0.00 0	492.13 123	492.13
Site Re-grading			4	91	32	0	0	123	
EXCAVATION			12	295	132	189	1,748	2,364	
SOLIDS COLLECTION & CONTAINMENT			12	295	132	189	1,748	2,364	
1240 Suspect Spill Area			12	775	132	189	3,026	4,122	

BB. 1240 French Drain
Waste Site: 1240 French Drain

Site Considerations:
Soil Sampling

Potential Remedial Activity:
Take Soil Samples, Remove waste (to TSDF, 20 CY)
BB-02. MONITOR, SAMPLE, TEST, ANALYSIS

BB-02 06. SAMPLING SOIL, SED & SOLID WASTE

BB-02 06 01. SURFACE SOIL

BB-02 06 01 02. Confirmatory Samples & Analyses
Confirmatory sample & analyses. See detail for costs and tests.

BB-02. MONITOR, SAMPLE, TEST, ANALYSIS	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
USR AA <01954 76 > PCB - In-field test					0.00	0.00	0.00	183.26	0.00	183.26	
	1.00	EA	N/A	0.00	0	0	0	183	0	183	183.26
USR AA <01954 76 > 415.1, TOC - total organic C					0.00	0.00	0.00	0.00	37.00	37.00	
	1.00	EA	N/A	0.00	0	0	0	0	37	37	37.00
USR AA <01954 76 > 9020, TOX					0.00	0.00	0.00	0.00	77.00	77.00	
	1.00	EA	N/A	0.00	0	0	0	0	77	77	77.00
USR AA <01954 76 > Sample Labor - 1 man					0.00	30.00	0.00	0.00	0.00	30.00	
	8.00	HR	N/A	0.00	0	240	0	0	0	240	30.00
Confirmatory Samples & Analyses					0	240	0	183	114	537	
SURFACE SOIL					0	240	0	183	114	537	
SAMPLING SOIL, SED & SOLID WASTE					0	240	0	183	114	537	
MONITOR, SAMPLE, TEST, ANALYSIS					0	240	0	183	114	537	

BB-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
BB-08. SOLIDS COLLECTION & CONTAINMENT											
BB-08 01. EXCAVATION											
BB-08 01 01. Excav/Load Contaminated Soils Quantity of 20 CY Contaminated Soils given by Env Engr.											
L USR AA <02220 0000 > Excavate contaminated soil Quantity of con. soil given by Env Engr. 1.1 swell factor.	22.00	LCY	XXQMV	25.00	0.08 2	2.02 44	1.68 37	0.00 0	0.00 0	3.69 81	3.69
USR AA <02220 0000 > Load excavated/stockpiled soil Load in 28-ton dump trucks - DOT approved hazardous waste hauler. Assume 3,100 lb/bcy.	22.00	CY	XXQMG	40.00	0.03 1	0.68 15	1.46 32	0.00 0	0.00 0	2.13 47	2.13
Excav/Load Contaminated Soils	20.00	CY			2	59	69	0	0	128	6.41
BB-08 01 02. Transport Cont. Soils, Arlington Transport contaminated soils to Arlington for disposal there. Unit cost for transport and disposal from Chem. Waste Management, Inc., Arlington.											
USR AA <02220 0000 > Transport soil to Arlington, OR 1 cy x 3,100 lb/cy 28 tons/truck == 17.5 CY/Trk	2.00	TRK		0.00	0.00 0	0.00 0	0.00 0	0.00 0	400.00 800	400.00 800	400.00
USR AA <02220 0000 > Disposal of soil in landfill Disposal fee	34.10	TON		0.00	0.00 0	0.00 0	0.00 0	0.00 0	134.00 4,569	134.00 4,569	134.00
USR AA <02220 0000 > Oregon state environmental tax Estimated '93 tax.	34.10	TON		0.00	0.00 0	0.00 0	0.00 0	0.00 0	30.00 1,023	30.00 1,023	30.00
USR AA <02220 0000 > Soil profile fee Required by Arlington	1.00	EA		0.00	0.00 0	0.00 0	0.00 0	0.00 0	300.00 300	300.00 300	300.00
Transport Cont. Soils, Arlington	20.00	CY			0	0	0	0	6,692	6,692	334.62
BB-08 01 03. PPEquip, Modified Class D This item covers cost for Personal Protection Equipment, which is assumed a Modified Class D. Also included is an allowance for daily operation of the Decon shower, equipment decon, and disposal.											
M HTW AA <01951 5202 > Boot Covers, Tyvek (Bag Of 10Pr)	4.00	EA	N/A	0.00	0.00 0	0.00 0	11.50 46	0.00 0	0.00 0	11.50 46	11.50
M HTW AA <01951 5204 > Coveralls, Tyvek	4.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	7.55 30	0.00 0	7.55 30	7.55

BB-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
M HTW AA <01951 5501 > Butyl, Medium Weight, Gloves					0.00	0.00	2.30	0.00	0.00	2.30	
	4.00	PR	N/A	0.00	0	0	9	0	0	9	2.30
HTW AA <01951 5726 > Half-Mask Air Purifying Respirators					0.00	0.00	0.00	19.94	0.00	19.94	
	4.00	EA	N/A	0.00	0	0	0	80	0	80	19.94
USR AA <01957 3105 > Cold Water, Gasoline, 3200 psi, 4.2 gpm, 11 HP (Daily cost) For equipment decon.					10.00	234.30	1.45	34.83	0.00	270.58	
	1.00	DAY	ULABA	0.13	10	234	1	35	0	271	270.58
M HTW AA <01957 4301 > 8 Ft x 36 Ft, 2 Showers, 2 Wall Fans (Monthly Rental)					0.00	0.00	0.00	26.95	0.00	26.95	
	1.00	DAY	N/A	0.00	0	0	0	27	0	27	26.95
HTW AA <01951 5723 > Cartridges, Respirator					0.00	0.00	0.00	25.87	0.00	25.87	
	8.00	EA	N/A	0.00	0	0	0	207	0	207	25.87
USR AA <01951 5805 > Disposal Allowance. Allow $100/day for disposal of personnel protection items and equipment/vehicle decon water.					0.00	0.00	0.00	0.00	100.00	100.00	
	1.00	DAY	N/A	0.00	0	0	0	0	100	100	100.00
PPEquip, Modified Class D	1.00	DAY			10	234	57	379	100	770	769.66
BB-08 01 04. Site Re-grading Allow for site re-grading after site is certified clean.											
L USR AA <02220 0000 > Use D3 Dozer Excavation crew					14.00	365.22	126.91	0.00	0.00	492.13	
	0.25	DAY	XXQNA	0.13	4	91	32	0	0	123	492.13
Site Re-grading					4	91	32	0	0	123	
EXCAVATION					16	385	157	379	6,792	7,713	
SOLIDS COLLECTION & CONTAINMENT					16	385	157	379	6,792	7,713	
1240 French Drain					16	625	157	562	6,906	8,251	

CC-02. MONITOR, SAMPLE, TEST, ANALYSIS

CC. 1212/1227 Suspect Battery Acid
Waste Site: 1212/1227 Suspect Battery Acid Disposal Area

Site Considerations:
450 x 5 x 3

Potential Remedial Activity:
Take soil samples, Remove waste (250 CY to TSDF)
CC-02. MONITOR, SAMPLE, TEST, ANALYSIS

CC-02 06. SAMPLING SOIL, SED & SOLID WASTE

CC-02 06 01. SURFACE SOIL

CC-02 06 01 02. Confirmatory Samples & Analyses
Confirmatory sample & analyses. See detail for analysis cost.

		QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
USR AA <01954 76	> pH					0.00	0.00	0.00	0.00	15.00	15.00	
		13.00	EA	N/A	0.00	0	0	0	0	195	195	15.00
USR AA <01954 76	> 1311, TCLP - toxic compound leaching procedure					0.00	0.00	0.00	0.00	112.00	112.00	
		13.00	EA	N/A	0.00	0	0	0	0	1,456	1,456	112.00
USR AA <01954 76	> Sample Labor - 2 men					0.00	30.00	0.00	0.00	0.00	30.00	
		16.00	HR	N/A	0.00	0	480	0	0	0	480	30.00
	Confirmatory Samples & Analyses					0	480	0	0	1,651	2,131	
	SURFACE SOIL					0	480	0	0	1,651	2,131	
	SAMPLING SOIL, SED & SOLID WASTE					0	480	0	0	1,651	2,131	
	MONITOR, SAMPLE, TEST, ANALYSIS					0	480	0	0	1,651	2,131	

CC-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
CC-08. SOLIDS COLLECTION & CONTAINMENT									
CC-08 01. EXCAVATION									
CC-08 01 01. Excav/Load Contaminated Soils Quantity of 250 CY of solid wastes given by Env Engr.									
L USR AA <02220 0000 > Excavate/load solid waste			0.05	1.26	1.05	0.00	0.00	2.31	
Quantity of 250 CY given by Env Engr. Use 1.1 swell factor.	275.00 CY XXQMV	40.00	14	347	288	0	0	635	2.31
Excav/Load Contaminated Soils	250.00 CY		14	347	288	0	0	635	2.54
CC-08 01 02. Transport Cont. Soils, Arlington Transport solid waste to Arlington for disposal there. Unit cost for transport and disposal from Chem. Waste Management, Inc., Arlington.									
USR AA <02220 0000 > Transport soil to Arlington, OR			0.00	0.00	0.00	0.00	400.00	400.00	
Assume this 5 CY will be combined with another truck load.	16.00 TRK	0.00	0	0	0	0	6,400	6,400	400.00
USR AA <02220 0000 > Disposal of waste to landfill			0.00	0.00	0.00	0.00	134.00	134.00	
Disposal fee.	426.25 TON	0.00	0	0	0	0	57,118	57,118	134.00
USR AA <02220 0000 > Oregon state environmental tax			0.00	0.00	0.00	0.00	30.00	30.00	
Estimated '93 tax. 55 gal = 8.5 CF x 10 ea/27 CY/CF x 1.55 Ton/CY == 5 Ton.	426.25 TON	0.00	0	0	0	0	12,788	12,788	30.00
USR AA <02220 0000 > Soil profile fee			0.00	0.00	0.00	0.00	300.00	300.00	
Required by Arlington	1.00 EA	0.00	0	0	0	0	300	300	300.00
Transport Cont. Soils, Arlington	250.00 CY		0	0	0	0	76,605	76,605	306.42
CC-08 01 03. PPEquip, Modified Class D This item covers cost for Personal Protection Equipment, which is assumed a Modified Class D. Also included is an allowance for daily operation of the Decon shower, equipment decon, and disposal.									
M HTW AA <01951 5202 > Boot Covers, Tyvek (Bag Of 10Pr)			0.00	0.00	11.50	0.00	0.00	11.50	
	2.00 EA N/A	0.00	0	0	23	0	0	23	11.50
M HTW AA <01951 5204 > Coveralls, Tyvek			0.00	0.00	0.00	7.55	0.00	7.55	
	2.00 EA N/A	0.00	0	0	0	15	0	15	7.55
M HTW AA <01951 5501 > Butyl, Medium Weight, Gloves			0.00	0.00	2.30	0.00	0.00	2.30	
	2.00 PR N/A	0.00	0	0	5	0	0	5	2.30

CC-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
HTW AA <01951 5726 > Half-Mask Air Purifying Respirators	2.00 EA N/A	0.00	0.00 0	0.00 0	0.00 0	19.94 40	0.00 0	19.94 40	19.94
USR AA <01957 3105 > Cold Water, Gasoline, 3200 psi, 4.2 gpm, 11 HP (Daily cost) For equipment decon.	0.50 DAY ULABA	0.13	10.00 5	234.30 117	1.45 1	34.83 17	0.00 0	270.58 135	270.58
M HTW AA <01957 4301 > 8 Ft x 36 Ft, 2 Showers, 2 Wall Fans (Monthly Rental)	0.50 DAY N/A	0.00	0.00 0	0.00 0	0.00 0	26.95 13	0.00 0	26.95 13	26.95
HTW AA <01951 5723 > Cartridges, Respirator	4.00 EA N/A	0.00	0.00 0	0.00 0	0.00 0	25.87 103	0.00 0	25.87 103	25.87
USR AA <01951 5805 > Disposal Allowance. Allow $100/day for disposal of personnel protection items and equipment/vehicle decon water.	0.50 DAY N/A	0.00	0.00 0	0.00 0	0.00 0	0.00 0	100.00 50	100.00 50	100.00
PPEquip, Modified Class D	0.50 DAY		5	117	28	189	50	385	769.66
CC-08 01 04. Site Re-grading Allow for site re-grading after site is certified clean.									
L USR AA <02220 0000 > Use D3 Dozer Excavation crew	0.25 DAY XXQNA	0.13	14.00 4	365.22 91	126.91 32	0.00 0	0.00 0	492.13 123	492.13
Site Re-grading			4	91	32	0	0	123	
EXCAVATION			22	555	348	189	76,655	77,748	
SOLIDS COLLECTION & CONTAINMENT			22	555	348	189	76,655	77,748	
1212/1227 Suspect Battery Acid			22	1,035	348	189	78,306	79,879	

DD-02. MONITOR, SAMPLE, TEST, ANALYSIS	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
DD. 1218 Service Station											
Waste Site: 1218 Service Station											
Site Considerations:											
Assume 2,000 Gal tank											
Potential Remedial Activity:											
Remove UST, Ship soil to TSDF (20 CY given)											
DD-02. MONITOR, SAMPLE, TEST, ANALYSIS											
DD-02 06. SAMPLING SOIL, SED & SOLID WASTE											
DD-02 06 01. SURFACE SOIL											
DD-02 06 01 01. Confirmatory Samples & Analyses											
Sample & analyze soil, Confirmatory Sampling. Analyses cost in detail.											
USR AA <01954 76 > TPH, In-field Test					0.00	0.00	0.00	161.70	0.00	161.70	
	1.00	EA	N/A	0.00	0	0	0	162	0	162	161.70
USR AA <01954 76 > 8015, TRPH - total recoverable petroleum hydrocarbons - mod					0.00	0.00	0.00	0.00	135.00	135.00	
	4.00	EA	N/A	0.00	0	0	0	0	540	540	135.00
USR AA <01954 76 > Sample Labor - 2 men					0.00	30.00	0.00	0.00	0.00	30.00	
	16.00	HR	N/A	0.00	0	480	0	0	0	480	30.00
Confirmatory Samples & Analyses					0	480	0	162	540	1,182	
SURFACE SOIL					0	480	0	162	540	1,182	
SAMPLING SOIL, SED & SOLID WASTE					0	480	0	162	540	1,182	
DD-02 11. GEOTECHNICAL TESTING											
DD-02 11 01. Geophysical Survey											
Use Geophysical Survey (Ground penetrating radar) to define tank size and location, as well as in adjacent piping. Cost based on quote from GeoRecon, Seattle, for doing several tanks at once.											
Geophysical Survey	1.00	EA			0	0	0	0	280	280	280.00
GEOTECHNICAL TESTING					0	0	0	0	280	280	
MONITOR, SAMPLE, TEST, ANALYSIS					0	480	0	162	820	1,462	

DD-10. TANKS/MISC DEMOLITION & REMOVAL	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
DD-10. TANKS/MISC DEMOLITION & REMOVAL											
DD-10 02. TANK REMOVAL											
DD-10 02 01. UST Tank Excavation & Removal There is one storage tank of unknown volume. Assume the tank has 2,000 gal volume, made from steel.											
L USR AA <02220 0000 > Excavate soil around UST Assumes 8' D x 10' L tank, with tank taking up 25 CY.	100.00	CY	XXQMV	25.00	0.08 8	2.02 202	1.68 168	0.00 0	0.00 0	3.69 369	3.69
L USR AA <02220 0000 > Remove & Load UST to Flatbed Trk for disposal by Contractor. Allow 2 Hrs each tank. Allow $500 for tank disposal.	2.00	HR	XXQMV	1.00	2.00 4	50.42 101	41.89 84	0.00 0	250.00 500	342.31 685	342.31
UST Tank Excavation & Removal	1.00	EA			12	303	251	0	500	1,054	1053.86
DD-10 02 02. Excav/Load Contaminated Soils Quantity of 20 CY Contaminated Soils given by Env Engr.											
L USR AA <02220 0000 > Excavate contaminated soil Quantity of con. soil given by Env Engr. Use 1.1 swell factor	22.00	CY	XXQMV	25.00	0.08 2	2.02 44	1.68 37	0.00 0	0.00 0	3.69 81	3.69
USR AA <02220 0000 > Load excavated/stockpiled soil Load in 28-ton dump trucks - DOT approved hazardous waste hauler. Assume 3,100 lb/bcy.	22.00	CY	XXQMG	40.00	0.03 1	0.68 15	1.46 32	0.00 0	0.00 0	2.13 47	2.13
Excav/Load Contaminated Soils	20.00	CY			2	59	69	0	0	128	6.41
DD-10 02 03. Transport Cont. Soils, Arlington Transport contaminated soils to Arlington for disposal there. Unit cost for transport and disposal from Chem. Waste Management, Inc., Arlington.											
USR AA <02220 0000 > Transport soil to Arlington, OR 1 cy x 3,100 lb/cy 28 tons/truck == 17.5 CY/Trk	2.00	TRK		0.00	0.00 0	0.00 0	0.00 0	0.00 0	400.00 800	400.00 800	400.00
USR AA <02220 0000 > Disposal of soil in landfill Disposal fee	34.10	TON		0.00	0.00 0	0.00 0	0.00 0	0.00 0	134.00 4,569	134.00 4,569	134.00
USR AA <02220 0000 > Oregon state environmental tax Estimated '93 tax.	34.10	TON		0.00	0.00 0	0.00 0	0.00 0	0.00 0	30.00 1,023	30.00 1,023	30.00
USR AA <02220 0000 > Soil profile fee Required by Arlington	1.00	EA		0.00	0.00 0	0.00 0	0.00 0	0.00 0	300.00 300	300.00 300	300.00

DD-10. TANKS/MISC DEMOLITION & REMOVAL	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
Transport Cont. Soils, Arlington	20.00	CY			0	0	0	0	6,692	6,692	334.62
DD-10 02 04. PPEquip, Modified Class D This item covers cost for Personal Protection Equipment, which is assumed a Modified Class D. Also included is an allowance for daily operation of the Decon shower, equipment decon, and disposal. Allow two (2) days for removal of both tanks.											
M HTW AA <01951 5202 > Boot Covers, Tyvek (Bag Of 10Pr)					0.00	0.00	11.50	0.00	0.00	11.50	
	4.00	EA	N/A	0.00	0	0	46	0	0	46	11.50
M HTW AA <01951 5204 > Coveralls, Tyvek					0.00	0.00	0.00	7.55	0.00	7.55	
	4.00	EA	N/A	0.00	0	0	0	30	0	30	7.55
M HTW AA <01951 5501 > Butyl, Medium Weight, Gloves					0.00	0.00	2.30	0.00	0.00	2.30	
	4.00	PR	N/A	0.00	0	0	9	0	0	9	2.30
HTW AA <01951 5726 > Half-Mask Air Purifying Respirators					0.00	0.00	0.00	19.94	0.00	19.94	
	4.00	EA	N/A	0.00	0	0	0	80	0	80	19.94
USR AA <01957 3105 > Cold Water, Gasoline, 3200 psi, 4.2 gpm, 11 HP (Daily cost) For equipment decon.					10.00	234.30	1.45	34.83	0.00	270.58	
	1.00	DAY	ULABA	0.13	10	234	1	35	0	271	270.58
M HTW AA <01957 4301 > 8 Ft x 36 Ft, 2 Showers, 2 Wall Fans (Monthly Rental)					0.00	0.00	0.00	26.95	0.00	26.95	
	1.00	DAY	N/A	0.00	0	0	0	27	0	27	26.95
HTW AA <01951 5723 > Cartridges, Respirator					0.00	0.00	0.00	25.87	0.00	25.87	
	8.00	EA	N/A	0.00	0	0	0	207	0	207	25.87
USR AA <01951 5805 > Disposal Allowance. Allow $100/day for disposal of personnel protection items and equipment/vehicle decon water.					0.00	0.00	0.00	0.00	100.00	100.00	
	1.00	DAY	N/A	0.00	0	0	0	0	100	100	100.00
PPEquip, Modified Class D	1.00	DAY			10	234	57	379	100	770	769.66
DD-10 02 05. Site Re-grading Allow for refill of tank hole and site re-grading after site is certified clean.											
L USR AA <02220 0000 > Use D3 Dozer Excavation crew					14.00	365.22	126.91	0.00	0.00	492.13	
	0.50	DAY	XXQNA	0.13	7	183	63	0	0	246	492.13
Site Re-grading	0.50	DAY			7	183	63	0	0	246	492.13

DD-10. TANKS/MISC DEMOLITION & REMOVAL	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
TANK REMOVAL					31	779	440	379	7,292	8,890	
TANKS/MISC DEMOLITION & REMOVAL					31	779	440	379	7,292	8,890	
1218 Service Station					31	1,259	440	540	8,112	10,352	

EE-02. MONITOR, SAMPLE, TEST, ANALYSIS

EE. 1208 Sandblast Area
Waste Site: 1208 Sandblast Area

Site Considerations:
Random Sampling Plan, Plume Analysis
75 x 75 x 1

Potential Remedial Activity:
Sample spent sand & soil beneath sand, remove waste.
EE-02. MONITOR, SAMPLE, TEST, ANALYSIS

EE-02 06. SAMPLING SOIL, SED & SOLID WASTE

EE-02 06 01. SURFACE SOIL

EE-02 06 01 02. Confirmatory Samples & Analyses
Confirmatory sample & analyses. Analyses cost given in detail.

		QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
USR AA <01954 76	> 1311, TCLP - toxic compound leaching procedure					0.00	0.00	0.00	0.00	112.00	112.00	
		12.00	EA	N/A	0.00	0	0	0	0	1,344	1,344	112.00
USR AA <01954 76	> Sample Labor - 2 men					0.00	30.00	0.00	0.00	0.00	30.00	
		16.00	HR	N/A	0.00	0	480	0	0	0	480	30.00
	Confirmatory Samples & Analyses					0	480	0	0	1,344	1,824	
	SURFACE SOIL					0	480	0	0	1,344	1,824	
	SAMPLING SOIL, SED & SOLID WASTE					0	480	0	0	1,344	1,824	
	MONITOR, SAMPLE, TEST, ANALYSIS					0	480	0	0	1,344	1,824	

EE-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
EE-08. SOLIDS COLLECTION & CONTAINMENT											
EE-08 01. EXCAVATION											
EE-08 01 01. Excav/Load Contaminated Soils Quantity of 210 CY Contaminated Soils given by Env Engr.											
L USR AA <02220 0000 > Excavate contaminated soil					0.08	2.02	1.68	0.00	0.00	3.69	
Quantity of con. soil given by Env Engr. Use 1.1 swell factor	231.00	CY	XXQMV	25.00	18	466	387	0	0	853	3.69
USR AA <02220 0000 > Load excavated/stockpiled soil					0.03	0.68	1.46	0.00	0.00	2.13	
Load in 28-ton dump trucks - DOT approved hazardous waste hauler. Assume 3,100 lb/bcy.	231.00	CY	XXQMG	40.00	6	156	336	0	0	493	2.13
Excav/Load Contaminated Soils	210.00	CY			24	622	723	0	0	1,346	6.41
EE-08 01 02. Transport Cont. Soils, Arlington Transport contaminated soils to Arlington for disposal there. Unit cost for transport and disposal from Chem. Waste Management, Inc., Arlington.											
USR AA <02220 0000 > Transport soil to Arlington, OR					0.00	0.00	0.00	0.00	400.00	400.00	
1 cy x 3,100 lb/cy 28 tons/truck == 17.5 CY/Trk	14.00	TRK		0.00	0	0	0	0	5,600	5,600	400.00
USR AA <02220 0000 > Disposal of soil in landfill					0.00	0.00	0.00	0.00	134.00	134.00	
Disposal fee	358.05	TON		0.00	0	0	0	0	47,979	47,979	134.00
USR AA <02220 0000 > Oregon state environmental tax					0.00	0.00	0.00	0.00	30.00	30.00	
Estimated '93 tax.	358.05	TON		0.00	0	0	0	0	10,742	10,742	30.00
USR AA <02220 0000 > Soil profile fee					0.00	0.00	0.00	0.00	300.00	300.00	
Required by Arlington	1.00	EA		0.00	0	0	0	0	300	300	300.00
Transport Cont. Soils, Arlington	210.00	CY			0	0	0	0	64,620	64,620	307.72
EE-08 01 03. PPEquip, Modified Class D This item covers cost for Personal Protection Equipment, which is assumed a Modified Class D. Also included is an allowance for daily operation of the Decon shower, equipment decon, and disposal.											
M HTW AA <01951 5202 > Boot Covers, Tyvek (Bag Of 10Pr)					0.00	0.00	11.50	0.00	0.00	11.50	
	6.00	EA	N/A	0.00	0	0	69	0	0	69	11.50
M HTW AA <01951 5204 > Coveralls, Tyvek					0.00	0.00	0.00	7.55	0.00	7.55	
	6.00	EA	N/A	0.00	0	0	0	45	0	45	7.55

EE-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
M HTW AA <01951 5501 > Butyl, Medium Weight, Gloves					0.00	0.00	2.30	0.00	0.00	2.30	
	6.00	PR	N/A	0.00	0	0	14	0	0	14	2.30
HTW AA <01951 5726 > Half-Mask Air Purifying Respirators					0.00	0.00	0.00	19.94	0.00	19.94	
	6.00	EA	N/A	0.00	0	0	0	120	0	120	19.94
USR AA <01957 3105 > Cold Water, Gasoline, 3200 psi, 4.2 gpm, 11 HP (Daily cost) For equipment decon.					10.00	234.30	1.45	34.83	0.00	270.58	
	1.50	DAY	ULABA	0.13	15	351	2	52	0	406	270.58
M HTW AA <01957 4301 > 8 Ft x 36 Ft, 2 Showers, 2 Wall Fans (Monthly Rental)					0.00	0.00	0.00	26.95	0.00	26.95	
	1.50	DAY	N/A	0.00	0	0	0	40	0	40	26.95
HTW AA <01951 5723 > Cartridges, Respirator					0.00	0.00	0.00	25.87	0.00	25.87	
	12.00	EA	N/A	0.00	0	0	0	310	0	310	25.87
USR AA <01951 5805 > Disposal Allowance. Allow $100/day for disposal of personnel protection items and equipment/vehicle decon water.					0.00	0.00	0.00	0.00	100.00	100.00	
	1.50	DAY	N/A	0.00	0	0	0	0	150	150	100.00
PPEquip, Modified Class D	1.50	DAY			15	351	85	568	150	1,154	769.66
EE-08 01 04. Site Re-grading Allow for site re-grading after site is certified clean.											
L USR AA <02220 0000 > Use D3 Dozer Excavation crew					14.00	365.22	126.91	0.00	0.00	492.13	
	1.00	DAY	XXQNA	0.13	14	365	127	0	0	492	492.13
Site Re-grading					14	365	127	0	0	492	
EXCAVATION					53	1,339	935	568	64,770	67,613	
SOLIDS COLLECTION & CONTAINMENT					53	1,339	935	568	64,770	67,613	
1208 Sandblast Area					53	1,819	935	568	66,114	69,437	

FF-02. MONITOR, SAMPLE, TEST, ANALYSIS	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST

FF. JA Jones Oil Storage Tanks (2)
Waste Site: JA Jones Oil Storage Tanks (2), Unknown Volume

Site Considerations:
Soil sampling, Evaluate existing Groundwater Data.

Potential Remedial Activity:
Remove UST, Ship soil to TSDF (40 CY given)
FF-02. MONITOR, SAMPLE, TEST, ANALYSIS

FF-02 06. SAMPLING SOIL, SED & SOLID WASTE

FF-02 06 01. SURFACE SOIL

FF-02 06 01 01. Confirmatory Samples & Analyses
Sample & analyze soil, Confirmatory Sampling. Analyses cost in detail.

USR AA <01954 76	> TPH, In-field Test				0.00	0.00	0.00	161.70	0.00	161.70	
		1.00	EA	N/A	0.00	0	0	0	162	0	162	161.70
USR AA <01954 76	> 8015, TRPH - total recoverable petroleum hydrocarbons - mod				0.00	0.00	0.00	0.00	135.00	135.00	
		3.00	EA	N/A	0.00	0	0	0	0	405	405	135.00
USR AA <01954 76	> Sample Labor - 2 men				0.00	30.00	0.00	0.00	0.00	30.00	
		16.00	HR	N/A	0.00	0	480	0	0	0	480	30.00
	Confirmatory Samples & Analyses					0	480	0	162	405	1,047	
	SURFACE SOIL					0	480	0	162	405	1,047	
	SAMPLING SOIL, SED & SOLID WASTE					0	480	0	162	405	1,047	

FF-02 11. GEOTECHNICAL TESTING

FF-02 11 01. Geophysical Survey
Use Geophysical Survey (Ground penetrating radar) to define tank size and location, as well as in adjacent piping. Cost based on quote from GeoRecon, Seattle, for doing several tanks at once.

	Geophysical Survey	2.00	EA			0	0	0	0	560	560	280.00
	GEOTECHNICAL TESTING					0	0	0	0	560	560	
	MONITOR, SAMPLE, TEST, ANALYSIS					0	480	0	162	965	1,607	

FF-10. TANKS/MISC DEMOLITION & REMOVAL	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
FF-10. TANKS/MISC DEMOLITION & REMOVAL											
FF-10 02. TANK REMOVAL											
FF-10 02 01. UST Tank Excavation & Removal There are two Oil storage tanks of unknown volume. Assume each tank of 4,000 gal volume, made from steel.											
L USR AA <02220 0000 > Excavate soil around UST Assumes 8' D x 10' L tank, with tank taking up 25 CY.	200.00	CY	XXQMV	25.00	0.08 16	2.02 403	1.68 335	0.00 0	0.00 0	3.69 738	3.69
L USR AA <02220 0000 > Remove & Load UST to Flatbed Trk for disposal by Contractor. Allow 2 Hrs each tank. Allow $500 for tank disposal.	4.00	HR	XXQMV	1.00	2.00 8	50.42 202	41.89 168	0.00 0	250.00 1,000	342.31 1,369	342.31
USR AA <02220 0000 > Remove/dispose of 1,000 gal oil Allow $500 for disposal.	1.00	LS		0.00	0.00 0	0.00 0	0.00 0	0.00 0	500.00 500	500.00 500	500.00
UST Tank Excavation & Removal	2.00	EA			24	605	503	0	1,500	2,608	1303.86
FF-10 02 02. Excav/Load Contaminated Soils Quantity of 40 CY Contaminated Soils given by Env Engr. Assume quantity for both tanks.											
L USR AA <02220 0000 > Excavate contaminated soil Quantity of con. soil given by Env Engr. Use 1.1 swell factor	44.00	CY	XXQMV	25.00	0.08 4	2.02 89	1.68 74	0.00 0	0.00 0	3.69 162	3.69
USR AA <02220 0000 > Load excavated/stockpiled soil Load in 28-ton dump trucks - DOT approved hazardous waste hauler. Assume 3,100 lb/bcy.	44.00	CY	XXQMG	40.00	0.03 1	0.68 30	1.46 64	0.00 0	0.00 0	2.13 94	2.13
Excav/Load Contaminated Soils	40.00	CY			5	119	138	0	0	256	6.41
FF-10 02 03. Transport Cont. Soils, Arlington Transport contaminated soils to Arlington for disposal there. Unit cost for transport and disposal from Chem. Waste Management, Inc., Arlington.											
USR AA <02220 0000 > Transport soil to Arlington, OR 1 cy x 3,100 lb/cy 28 tons/truck == 17.5 CY/Trk	3.00	TRK		0.00	0.00 0	0.00 0	0.00 0	0.00 0	400.00 1,200	400.00 1,200	400.00
USR AA <02220 0000 > Disposal of soil in landfill Disposal fee	68.20	TON		0.00	0.00 0	0.00 0	0.00 0	0.00 0	134.00 9,139	134.00 9,139	134.00

FF-10. TANKS/MISC DEMOLITION & REMOVAL	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
USR AA <02220 0000 > Oregon state environmental tax					0.00	0.00	0.00	0.00	30.00	30.00	
Estimated '93 tax.	68.20	TON		0.00	0	0	0	0	2,046	2,046	30.00
USR AA <02220 0000 > Soil profile fee					0.00	0.00	0.00	0.00	300.00	300.00	
Required by Arlington	1.00	EA		0.00	0	0	0	0	300	300	300.00
Transport Cont. Soils, Arlington	40.00	CY			0	0	0	0	12,685	12,685	317.12

FF-10 02 04. PPEquip, Modified Class D
This item covers cost for Personal Protection Equipment, which is assumed a Modified Class D. Also included is an allowance for daily operation of the Decon shower, equipment decon, and disposal. Allow two (2) days for removal of both tanks.

M HTW AA <01951 5202 > Boot Covers, Tyvek (Bag Of 10Pr)					0.00	0.00	11.50	0.00	0.00	11.50	
	8.00	EA	N/A	0.00	0	0	92	0	0	92	11.50
M HTW AA <01951 5204 > Coveralls, Tyvek					0.00	0.00	0.00	7.55	0.00	7.55	
	8.00	EA	N/A	0.00	0	0	0	60	0	60	7.55
M HTW AA <01951 5501 > Butyl, Medium Weight, Gloves					0.00	0.00	2.30	0.00	0.00	2.30	
	8.00	PR	N/A	0.00	0	0	18	0	0	18	2.30
HTW AA <01951 5726 > Half-Mask Air Purifying					0.00	0.00	0.00	19.94	0.00	19.94	
Respirators	8.00	EA	N/A	0.00	0	0	0	160	0	160	19.94
USR AA <01957 3105 > Cold Water, Gasoline, 3200 psi,					10.00	234.30	1.45	34.83	0.00	270.58	
4.2 gpm, 11 HP (Daily cost)	2.00	DAY	ULABA	0.13	20	469	3	70	0	541	270.58
For equipment decon.											
M HTW AA <01957 4301 > 8 Ft x 36 Ft, 2 Showers, 2 Wall					0.00	0.00	0.00	26.95	0.00	26.95	
Fans (Monthly Rental)	2.00	DAY	N/A	0.00	0	0	0	54	0	54	26.95
HTW AA <01951 5723 > Cartridges, Respirator					0.00	0.00	0.00	25.87	0.00	25.87	
	16.00	EA	N/A	0.00	0	0	0	414	0	414	25.87
USR AA <01951 5805 > Disposal Allowance.					0.00	0.00	0.00	0.00	100.00	100.00	
Allow $100/day for disposal of personnel protection items and equipment/vehicle decon water.	2.00	DAY	N/A	0.00	0	0	0	0	200	200	100.00
PPEquip, Modified Class D	2.00	DAY			20	469	113	757	200	1,539	769.66

FF-10. TANKS/MISC DEMOLITION & REMOVAL	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
FF-10 02 05. Site Re-grading Allow for refill of tank hole and site re-grading after site is certified clean.									
L USR AA <02220 0000 > Use D3 Dozer Excavation crew			14.00	365.22	126.91	0.00	0.00	492.13	
	1.00 DAY XXQNA	0.13	14	365	127	0	0	492	492.13
Site Re-grading	1.00 DAY		14	365	127	0	0	492	492.13
TANK REMOVAL			63	1,557	881	757	14,385	17,580	
TANKS/MISC DEMOLITION & REMOVAL			63	1,557	881	757	14,385	17,580	
JA Jones Oil Storage Tanks (2)			63	2,037	881	919	15,350	19,187	

GG-02. MONITOR, SAMPLE, TEST, ANALYSIS	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST

GG. 1262 Transformer Pad
Waste Site: 1262 Transformer Pad

Site Considerations:
Soil Sampling

Potential Remedial Activity:
Sample Soil (PCB's), Remove Pad & Soil (6x6 conc pad & soil, 10 CY)
GG-02. MONITOR, SAMPLE, TEST, ANALYSIS

GG-02 06. SAMPLING SOIL, SED & SOLID WASTE

GG-02 06 01. SURFACE SOIL

GG-02 06 01	01. PCB Soil Samples & Analyses Sample & analyze soil for PCBs. Two in-field tests at $340. Allow 2 men for 1/2 day for sampling (8 Hrs @ $30/Hr). PCB Soil Samples & Analyses		0	240	10	340	0	590	
	SURFACE SOIL		0	240	10	340	0	590	
	SAMPLING SOIL, SED & SOLID WASTE		0	240	10	340	0	590	
	MONITOR, SAMPLE, TEST, ANALYSIS		0	240	10	340	0	590	

GG-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
GG-08. SOLIDS COLLECTION & CONTAINMENT											
GG-08 01. EXCAVATION											
GG-08 01 01. Excav/Load Cont. Soil & Conc Pad Quantity of 10 CY Contaminated Soil & concrete pad given by Env Engr.											
L USR AA <02220 0000 > Excavate con. soil & demo pad Quantity of con. soil and conc pad given by Env Engr. Use a 1.2 swell factor.	12.00	CY	XXQMV	25.00	0.08 1	2.02 24	1.68 20	0.00 0	0.00 0	3.69 44	3.69
USR AA <02220 0000 > Load excavated soil & conc pad Load in 28-ton dump trucks - DOT approved hazardous waste hauler. Assume 3,100 lb/bcy.	12.00	CY	XXQMG	40.00	0.03 0	0.68 8	1.46 17	0.00 0	0.00 0	2.13 26	2.13
Excav/Load Cont. Soil & Conc Pad	10.00	CY			1	32	38	0	0	70	6.99
GG-08 01 02. Transport Cont. Soils, Arlington Transport contaminated soils to Arlington for disposal there. Unit cost for transport and disposal from Chem. Waste Management, Inc., Arlington.											
USR AA <02220 0000 > Transport soil to Arlington, OR 1 cy x 3,100 lb/cy 28 tons/truck == 17.5 CY/Trk	1.00	TRK		0.00	0.00 0	0.00 0	0.00 0	0.00 0	400.00 400	400.00 400	400.00
USR AA <02220 0000 > Disposal of soil in landfill Disposal fee	18.60	TON		0.00	0.00 0	0.00 0	0.00 0	0.00 0	134.00 2,492	134.00 2,492	134.00
USR AA <02220 0000 > Oregon state environmental tax Estimated '93 tax.	18.60	TON		0.00	0.00 0	0.00 0	0.00 0	0.00 0	30.00 558	30.00 558	30.00
USR AA <02220 0000 > Soil profile fee Required by Arlington	1.00	EA		0.00	0.00 0	0.00 0	0.00 0	0.00 0	300.00 300	300.00 300	300.00
Transport Cont. Soils, Arlington	10.00	CY			0	0	0	0	3,750	3,750	375.04
GG-08 01 03. PPEquip, Modified Class D This item covers cost for Personal Protection Equipment, which is assumed a Modified Class D. Also included is an allowance for daily operation of the Decon shower, equipment decon, and disposal.											
M HTW AA <01951 5202 > Boot Covers, Tyvek (Bag Of 10Pr)	4.00	EA	N/A	0.00	0.00 0	0.00 0	11.50 46	0.00 0	0.00 0	11.50 46	11.50
M HTW AA <01951 5204 > Coveralls, Tyvek	4.00	EA	N/A	0.00	0.00 0	0.00 0	0.00 0	7.55 30	0.00 0	7.55 30	7.55

GG-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
M HTW AA <01951 5501 > Butyl, Medium Weight, Gloves					0.00	0.00	2.30	0.00	0.00	2.30	
	4.00	PR	N/A	0.00	0	0	9	0	0	9	2.30
HTW AA <01951 5726 > Half-Mask Air Purifying Respirators					0.00	0.00	0.00	19.94	0.00	19.94	
	4.00	EA	N/A	0.00	0	0	0	80	0	80	19.94
USR AA <01957 3105 > Cold Water, Gasoline, 3200 psi, 4.2 gpm, 11 HP (Daily cost) For equipment decon.					10.00	234.30	1.45	34.83	0.00	270.58	
	1.00	DAY	ULABA	0.13	10	234	1	35	0	271	270.58
M HTW AA <01957 4301 > 8 Ft x 36 Ft, 2 Showers, 2 Wall Fans (Monthly Rental)					0.00	0.00	0.00	26.95	0.00	26.95	
	1.00	DAY	N/A	0.00	0	0	0	27	0	27	26.95
HTW AA <01951 5723 > Cartridges, Respirator					0.00	0.00	0.00	25.87	0.00	25.87	
	8.00	EA	N/A	0.00	0	0	0	207	0	207	25.87
USR AA <01951 5805 > Disposal Allowance. Allow $100/day for disposal of personnel protection items and equipment/vehicle decon water.					0.00	0.00	0.00	0.00	100.00	100.00	
	1.00	DAY	N/A	0.00	0	0	0	0	100	100	100.00
PPEquip, Modified Class D	1.00	DAY			10	234	57	379	100	770	769.66
GG-08 01 04. Site Re-grading Allow for site re-grading after site is certified clean.											
L USR AA <02220 0000 > Use D3 Dozer Excavation crew					14.00	365.22	126.91	0.00	0.00	492.13	
	0.50	DAY	XXQNA	0.13	7	183	63	0	0	246	492.13
Site Re-grading					7	183	63	0	0	246	
EXCAVATION					18	449	158	379	3,850	4,836	
SOLIDS COLLECTION & CONTAINMENT					18	449	158	379	3,850	4,836	
1262 Transformer Pad					18	689	168	719	3,850	5,426	

HH-02. MONITOR, SAMPLE, TEST, ANALYSIS

HH. 1262 Solvents Tanks (4)
Waste Site: 1262 Solvent Tanks (4), Last contained Carbon Tetrachloride,

Site Considerations:
Soil Sampling, Evaluate Existing Groundwater Data.
Tank D-25, 20 gal
Tank D-26, 100 gal
Tanks D-32, 2 @ 1,125 gal

Potential Remedial Activity:
Remove USTs, Ship Soil to TSDF (40 CY given)
HH-02. MONITOR, SAMPLE, TEST, ANALYSIS

HH-02 06. SAMPLING SOIL, SED & SOLID WASTE

HH-02 06 01. SURFACE SOIL

HH-02 06 01 02. Confirmatory Sampling & Analyses
Confirmatory Sampling & Analyze soil. Analyses cost below.

	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
USR AA <01954 76 > 8240, VOA - volatile organics, S					0.00	0.00	0.00	0.00	205.00	205.00	
	8.00	EA	N/A	0.00	0	0	0	0	1,640	1,640	205.00
USR AA <01954 76 > Sample Labor - 2 men					0.00	30.00	0.00	0.00	0.00	30.00	
	16.00	HR	N/A	0.00	0	480	0	0	0	480	30.00
Confirmatory Sampling & Analyses					0	480	0	0	1,640	2,120	
SURFACE SOIL					0	480	0	0	1,640	2,120	
SAMPLING SOIL, SED & SOLID WASTE					0	480	0	0	1,640	2,120	
MONITOR, SAMPLE, TEST, ANALYSIS					0	480	0	0	1,640	2,120	

HH-10. TANKS/MISC DEMOLITION & REMOVAL	QUANTY UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
HH-10. TANKS/MISC DEMOLITION & REMOVAL										
HH-10 02. TANK REMOVAL										
HH-10 02 01. UST Tank Excavation & Removal There are four (4) solvent tanks of various volume (20 gal - 1,125 gal). Use a tank excavation volume of 1,500 gal, assume made from steel.										
L USR AA <02220 0000 > Excavate soil around UST Estimate average excavation of 50 CY, the tank taking up 10 CY	200.00 CY	XXQMV	25.00	0.08 16	2.02 403	1.68 335	0.00 0	0.00 0	3.69 738	3.69
L USR AA <02220 0000 > Remove & Load UST to Flatbed Trk for disposal by Contractor. Allow 2 Hrs average each tank. Allow $500/ea tank for disposal	8.00 HR	XXQMV	1.00	2.00 16	50.42 403	41.89 335	0.00 0	250.00 2,000	342.31 2,738	342.31
UST Tank Excavation & Removal	4.00 EA			32	807	670	0	2,000	3,477	869.24
HH-10 02 02. Excav/Load Contaminated Soils Quantity of 40 CY Contaminated Soils given by Env Engr. Assume quantity for all four tanks.										
L USR AA <02220 0000 > Excavate contaminated soil Quantity of con. soil given by Env Engr. Use 1.1 swell factor.	44.00 CY	XXQMV	25.00	0.08 4	2.02 89	1.68 74	0.00 0	0.00 0	3.69 162	3.69
USR AA <02220 0000 > Load excavated/stockpiled soil Load in 28-ton dump trucks - DOT approved hazardous waste hauler. Assume 3,100 lb/bcy.	44.00 CY	XXQMG	40.00	0.03 1	0.68 30	1.46 64	0.00 0	0.00 0	2.13 94	2.13
Excav/Load Contaminated Soils	40.00 CY			5	119	138	0	0	256	6.41
HH-10 02 03. Transport Cont. Soils, Arlington Transport contaminated soils to Arlington for disposal there. Unit cost for transport and disposal from Chem. Waste Management, Inc., Arlington.										
USR AA <02220 0000 > Transport soil to Arlington, OR 1 cy x 3,100 lb/cy 28 tons/truck == 17.5 CY/Trk	3.00 TRK		0.00	0.00 0	0.00 0	0.00 0	0.00 0	400.00 1,200	400.00 1,200	400.00
USR AA <02220 0000 > Disposal of soil in landfill Disposal fee	68.20 TON		0.00	0.00 0	0.00 0	0.00 0	0.00 0	134.00 9,139	134.00 9,139	134.00
USR AA <02220 0000 > Oregon state environmental tax Estimated '93 tax.	68.20 TON		0.00	0.00 0	0.00 0	0.00 0	0.00 0	30.00 2,046	30.00 2,046	30.00

HH-10. TANKS/MISC DEMOLITION & REMOVAL	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
USR AA <02220 0000 > Soil profile fee					0.00	0.00	0.00	0.00	300.00	300.00	
Required by Arlington	1.00	EA		0.00	0	0	0	0	300	300	300.00
Transport Cont. Soils, Arlington	40.00	CY			0	0	0	0	12,685	12,685	317.12
HH-10 02 04. PPEquip, Modified Class D											
This item covers cost for Personal Protection Equipment, which is assumed a Modified Class D. Also included is an allowance for daily operation of the Decon shower, equipment decon, and disposal. Allow two (3) days for removal of four tanks.											
M HTW AA <01951 5202 > Boot Covers, Tyvek (Bag Of 10Pr)					0.00	0.00	11.50	0.00	0.00	11.50	
	12.00	EA	N/A	0.00	0	0	138	0	0	138	11.50
M HTW AA <01951 5204 > Coveralls, Tyvek					0.00	0.00	0.00	7.55	0.00	7.55	
	12.00	EA	N/A	0.00	0	0	0	91	0	91	7.55
M HTW AA <01951 5501 > Butyl, Medium Weight, Gloves					0.00	0.00	2.30	0.00	0.00	2.30	
	12.00	PR	N/A	0.00	0	0	28	0	0	28	2.30
HTW AA <01951 5726 > Half-Mask Air Purifying Respirators					0.00	0.00	0.00	19.94	0.00	19.94	
	12.00	EA	N/A	0.00	0	0	0	239	0	239	19.94
USR AA <01957 3105 > Cold Water, Gasoline, 3200 psi, 4.2 gpm, 11 HP (Daily cost) For equipment decon.					10.00	234.30	1.45	34.83	0.00	270.58	
	3.00	DAY	ULABA	0.13	30	703	4	104	0	812	270.58
M HTW AA <01957 4301 > 8 Ft x 36 Ft, 2 Showers, 2 Wall Fans (Monthly Rental)					0.00	0.00	0.00	26.95	0.00	26.95	
	3.00	DAY	N/A	0.00	0	0	0	81	0	81	26.95
HTW AA <01951 5723 > Cartridges, Respirator					0.00	0.00	0.00	25.87	0.00	25.87	
	24.00	EA	N/A	0.00	0	0	0	621	0	621	25.87
USR AA <01951 5805 > Disposal Allowance. Allow $100/day for disposal of personnel protection items and equipment/vehicle decon water.					0.00	0.00	0.00	0.00	100.00	100.00	
	3.00	DAY	N/A	0.00	0	0	0	0	300	300	100.00
PPEquip, Modified Class D	3.00	DAY			30	703	170	1,136	300	2,309	769.66
HH-10 02 05. Site Re-grading											
Allow for refill of tank hole and site re-grading after site is certified clean.											
L USR AA <02220 0000 > Use D3 Dozer Excavation crew					14.00	365.22	126.91	0.00	0.00	492.13	
	1.00	DAY	XXQNA	0.13	14	365	127	0	0	492	492.13

HH-10. TANKS/MISC DEMOLITION & REMOVAL	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
Site Re-grading	1.00 DAY		14	365	127	0	0	492	492.13
TANK REMOVAL			81	1,993	1,105	1,136	14,985	19,219	
TANKS/MISC DEMOLITION & REMOVAL			81	1,993	1,105	1,136	14,985	19,219	
1262 Solvents Tanks (4)			81	2,473	1,105	1,136	16,625	21,339	

II-02. MONITOR, SAMPLE, TEST, ANALYSIS	QUANTY	UOM	CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
II. 1226 Suspect Waste Oil Disposal											
Waste Site: 1226 Suspect Waste Oil Disposal Area											
Site Considerations:											
50 x 50 x 3											
Potential Remedial Activity:											
Take soil samples, Remove waste (275 CY to TSDF)											
II-02. MONITOR, SAMPLE, TEST, ANALYSIS											
II-02 06. SAMPLING SOIL, SED & SOLID WASTE											
II-02 06 01. SURFACE SOIL											
II-02 06 01 02. Confirmatory Samples & Analyses											
Confirmatory sample & analyses. See detail for analysis cost.											
USR AA <01954 76 > TPH, In-field test					0.00	0.00	0.00	161.70	0.00	161.70	
	2.00	EA	N/A	0.00	0	0	0	323	0	323	161.70
USR AA <01954 76 > PCB, In-field test					0.00	0.00	0.00	183.26	0.00	183.26	
	2.00	EA	N/A	0.00	0	0	0	367	0	367	183.26
USR AA <01954 76 > 8080, PCB - soil					0.00	0.00	0.00	0.00	95.00	95.00	
	2.00	EA	N/A	0.00	0	0	0	0	190	190	95.00
USR AA <01954 76 > 8015, TRPH - total recoverable petroleum hydrocarbons - mods					0.00	0.00	0.00	0.00	135.00	135.00	
	2.00	EA	N/A	0.00	0	0	0	0	270	270	135.00
USR AA <01954 76 > Sample Labor - 2 men					0.00	30.00	0.00	0.00	0.00	30.00	
	16.00	HR	N/A	0.00	0	480	0	0	0	480	30.00
Confirmatory Samples & Analyses					0	480	0	690	460	1,630	
SURFACE SOIL					0	480	0	690	460	1,630	
SAMPLING SOIL, SED & SOLID WASTE					0	480	0	690	460	1,630	
MONITOR, SAMPLE, TEST, ANALYSIS					0	480	0	690	460	1,630	

II-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
II-08. SOLIDS COLLECTION & CONTAINMENT									
II-08 01. EXCAVATION									
II-08 01 01. Excav/Load Contaminated Soils Quantity of 250 CY of solid wastes given by Env Engr.									
L USR AA <02220 0000 > Excavate/load solid waste Quantity of 250 CY given by Env Engr. Use 1.1 swell factor.	302.50 CY XXQMV	40.00	0.05 15	1.26 381	1.05 317	0.00 0	0.00 0	2.31 698	2.31
Excav/Load Contaminated Soils	275.00 CY		15	381	317	0	0	698	2.54
II-08 01 02. Transport Cont. Soils, Arlington Transport solid waste to Arlington for disposal there. Unit cost for transport and disposal from Chem. Waste Management, Inc., Arlington.									
USR AA <02220 0000 > Transport soil to Arlington, OR Assume this 5 CY will be combined with another truck load.	18.00 TRK	0.00	0.00 0	0.00 0	0.00 0	0.00 0	400.00 7,200	400.00 7,200	400.00
USR AA <02220 0000 > Disposal of waste to landfill Disposal fee.	468.88 TON	0.00	0.00 0	0.00 0	0.00 0	0.00 0	134.00 62,829	134.00 62,829	134.00
USR AA <02220 0000 > Oregon state environmental tax Estimated '93 tax. 55 gal = 8.5 CF x 10 ea/27 CY/CF x 1.55 Ton/CY == 5 Ton.	468.88 TON	0.00	0.00 0	0.00 0	0.00 0	0.00 0	30.00 14,066	30.00 14,066	30.00
USR AA <02220 0000 > Soil profile fee Required by Arlington	1.00 EA	0.00	0.00 0	0.00 0	0.00 0	0.00 0	300.00 300	300.00 300	300.00
Transport Cont. Soils, Arlington	275.00 CY		0	0	0	0	84,396	84,396	306.89
II-08 01 03. PPEquip, Modified Class D This item covers cost for Personal Protection Equipment, which is assumed a Modified Class D. Also included is an allowance for daily operation of the Decon shower, equipment decon, and disposal.									
M HTW AA <01951 5202 > Boot Covers, Tyvek (Bag Of 10Pr)	4.00 EA N/A	0.00	0.00 0	0.00 0	11.50 46	0.00 0	0.00 0	11.50 46	11.50
M HTW AA <01951 5204 > Coveralls, Tyvek	4.00 EA N/A	0.00	0.00 0	0.00 0	0.00 0	7.55 30	0.00 0	7.55 30	7.55
M HTW AA <01951 5501 > Butyl, Medium Weight, Gloves	4.00 PR N/A	0.00	0.00 0	0.00 0	2.30 9	0.00 0	0.00 0	2.30 9	2.30

II-08. SOLIDS COLLECTION & CONTAINMENT	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
HTW AA <01951 5726 > Half-Mask Air Purifying Respirators	4.00 EA N/A	0.00	0.00 0	0.00 0	0.00 0	19.94 80	0.00 0	19.94 80	19.94
USR AA <01957 3105 > Cold Water, Gasoline, 3200 psi, 4.2 gpm, 11 HP (Daily cost) For equipment decon.	1.00 DAY ULABA	0.13	10.00 10	234.30 234	1.45 1	34.83 35	0.00 0	270.58 271	270.58
M HTW AA <01957 4301 > 8 Ft x 36 Ft, 2 Showers, 2 Wall Fans (Monthly Rental)	1.00 DAY N/A	0.00	0.00 0	0.00 0	0.00 0	26.95 27	0.00 0	26.95 27	26.95
HTW AA <01951 5723 > Cartridges, Respirator	8.00 EA N/A	0.00	0.00 0	0.00 0	0.00 0	25.87 207	0.00 0	25.87 207	25.87
USR AA <01951 5805 > Disposal Allowance. Allow $100/day for disposal of personnel protection items and equipment/vehicle decon water.	1.00 DAY N/A	0.00	0.00 0	0.00 0	0.00 0	0.00 0	100.00 100	100.00 100	100.00
PPEquip, Modified Class D	1.00 DAY		10	234	57	379	100	770	769.66
II-08 01 04. Site Re-grading Allow for site re-grading after site is certified clean.									
L USR AA <02220 0000 > Use D3 Dozer Excavation crew	0.25 DAY XXQNA	0.13	14.00 4	365.22 91	126.91 32	0.00 0	0.00 0	492.13 123	492.13
Site Re-grading			4	91	32	0	0	123	
EXCAVATION			29	707	405	379	84,496	85,986	
SOLIDS COLLECTION & CONTAINMENT			29	707	405	379	84,496	85,986	
1226 Suspect Waste Oil Disposal			29	1,187	405	1,069	84,956	87,616	

JJ-02. MONITOR, SAMPLE, TEST, ANALYSIS	QUANTY UOM CREW ID	OUTPUT	MHRS	LABR	EQUIP	MAT	OTHER	TOTAL COST	UNIT COST
JJ. JA Jones Steam Plant Drain Pad									
Waste Site: JA Jones steam plant drain pad									
Site Considerations:									
45 x 80 concrete pad									
Potential Remedial Activity:									
Take soil samples, Remove waste									
JJ-02. MONITOR, SAMPLE, TEST, ANALYSIS									
JJ-02 06. SAMPLING SOIL, SED & SOLID WASTE									
JJ-02 06 01. SURFACE SOIL									
JJ-02 06 01 02. Confirmatory Samples & Analyses									
Confirmatory sample & analyses. See detail for analysis cost.									
USR AA <01954 76 > pH			0.00	0.00	0.00	0.00	15.00	15.00	
	4.00 EA N/A	0.00	0	0	0	0	60	60	15.00
USR AA <01954 76 > TPH, In-field test			0.00	0.00	0.00	161.70	0.00	161.70	
	1.00 EA N/A	0.00	0	0	0	162	0	162	161.70
USR AA <01954 76 > Sample Labor - 2 men			0.00	30.00	0.00	0.00	0.00	30.00	
	8.00 HR N/A	0.00	0	240	0	0	0	240	30.00
Confirmatory Samples & Analyses			0	240	0	162	60	462	
SURFACE SOIL			0	240	0	162	60	462	
SAMPLING SOIL, SED & SOLID WASTE			0	240	0	162	60	462	
JJ-02 11. GEOTECHNICAL TESTING									
JJ-02 11 01. Geophysical Survey									
Use Geophysical Survey (Ground penetrating radar) to try to determine what is under pad, as it has some questionable areas. Cost based on quote from Geo Recon, Seattle, for doing several sites at once.									
Geophysical Survey	1.00 EA		0	0	0	0	3,500	3,500	3500.00
GEOTECHNICAL TESTING			0	0	0	0	3,500	3,500	
MONITOR, SAMPLE, TEST, ANALYSIS			0	240	0	162	3,560	3,962	
JA Jones Steam Plant Drain Pad			0	240	0	162	3,560	3,962	
HANFORD: REMEDIATION			325	45,439	13,506	6,233	604,306	669,485	

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Mon 15 Mar 1993

U.S. Army Corps of Engineers
PROJECT 11EM3R: HANFORD: REMEDIATION - 1.4.10.1.1.23.03.2.2
1100-EM-3, Waste Site Cost Estimates, REVISED
** CREW BACKUP **

TIME 12:15:13

SRC	ITEM ID	DESCRIPTION	NO. UOM	RATE	**** LABOR **** HOURS	COST	**** EQUIP **** HOURS	COST	TOTAL COST
	ULABA	1 B-laborer + Small Tools		PROD =	100%			CREW HOURS =	92
MIL	B-LABORER F	Laborer (Semi-Skilled)	0.25 HR	23.83	0.25	5.96			5.96
MIL	B-LABORER L	Laborer (Semi-Skilled)	1.00 HR	23.33	1.00	23.33			23.33
MIL	XMIXX020 E	Small Tools	0.13 HR	1.39			0.13	0.18	0.18
	TOTAL				1.25	29.29	0.13	0.18	29.47
	XXQMG	1 X-eqoprmed + 1 Front End Ldr, 5-1/4 Cy, Wheel		PROD =	100%			CREW HOURS =	9
MIL	L40CA007 E	LDR,FE,WH, 5-1/4 CY ARTIC,980-C	1.00 HR	58.23			1.00	58.23	58.23
MIL	X-EQOPRMEDL	Outside Equip. Op. Medium	1.00 HR	27.09	1.00	27.09			27.09
	TOTAL				1.00	27.09	1.00	58.23	85.32
	XXQMV	1 X-eqoprmed + 1 Hydr. Excavator, 1-1/2 Cy, Cwlr		PROD =	100%			CREW HOURS =	65
MIL	H25JD009 E	HYD EXCAV,CRWLR,1.5 CY BKT	1.00 HR	41.74			1.00	41.74	41.74
MIL	XMIXX020 E	Small Tools	0.11 HR	1.39			0.11	0.15	0.15
MIL	X-LABORER L	Outside Laborer	1.00 HR	23.33	1.00	23.33			23.33
MIL	X-EQOPRMEDL	Outside Equip. Op. Medium	1.00 HR	27.09	1.00	27.09			27.09
	TOTAL				2.00	50.42	1.11	41.89	92.31
	XXQNA	1 X-eqoprmed + 1 Dozer, Cat D-3C, 65 Hp		PROD =	100%			CREW HOURS =	40
MIL	T10CA001 E	BLADE,POWER ANGLE TILT,FOR D3	1.00 HR	1.92			1.00	1.92	1.92
MIL	T15CA003 E	DOZER,CWLR,D-3C,PS,(ADD BLADE)	1.00 HR	13.94			1.00	13.94	13.94
MIL	X-LABORER L	Outside Laborer	0.50 HR	23.33	0.50	11.67			11.67
MIL	X-EQOPRMEDL	Outside Equip. Op. Medium	1.00 HR	27.09	1.00	27.09			27.09
MIL	X-EQOPRMEDF	Outside Equip. Op. Medium	0.25 HR	27.59	0.25	6.90			6.90
	TOTAL				1.75	45.65	2.00	15.86	61.52

Mon 15 Mar 1993

U.S. Army Corps of Engineers
PROJECT 11EM3R: HANFORD: REMEDIATION - 1.4.10.1.1.23.03.2.2
1100-EM-3, Waste Site Cost Estimates, REVISED
** LABOR BACKUP **

TIME 12:15:13

BACKUP PAGE 2

SRC LABOR ID	DESCRIPTION	BASE	OVERTM	TXS/INS	FRNG	TRVL	RATE	UOM	UPDATE	**** TOTAL **** DEFAULT	HOURS
MIL B-LABORER	Laborer/Helper	23.33	0.0%	0.0%	0.00	0.00	23.33	HR	10/15/92	22.36	115
MIL X-EQOPRMED	Outside Equipment Oper. Medium	27.09	0.0%	0.0%	0.00	0.00	27.09	HR	10/15/92	25.84	125
MIL X-LABORER	Outside Laborer	23.33	0.0%	0.0%	0.00	0.00	23.33	HR	10/15/92	22.36	85

U.S. Army Corps of Engineers
PROJECT 11EM3R: HANFORD: REMEDIATION - 1.4.10.1.1.23.03.2.2
1100-EM-3, Waste Site Cost Estimates, REVISED
** EQUIPMENT BACKUP **

SRC	EQUIP ID	DESCRIPTION	DEPR	CAPT	FUEL	FOG	EQ REP	TR WR	TR REP	TOTAL	UOM	** TOTAL ** HOURS
MIL	H25JD009	HYD EXCAV,CRWLR,1.5 CY BKT	14.34	5.11	4.87	1.8	15.56			41.74	HR	65
MIL	L40CA007	LDR,FE,WH, 5-1/4 CY ARTIC,980-C	17.46	7.15	7.97	2.3	15.74	6.54	0.98	58.23	HR	9
MIL	T10CA001	BLADE,POWER ANGLE TILT,FOR D3	0.75	0.27		0.0	0.82			1.92	HR	40
MIL	T15CA003	DOZER,CWLR,D-3C,PS,(ADD BLADE)	3.51	1.39	2.14	0.7	6.14			13.94	HR	40
MIL	XMIXX020	Small Tools	0.46	0.17	0.13	0.0	0.57			1.39	HR	19

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9 3 1 2 9 3 4 1 5 1 6

** PROJECT SETTINGS **

ESTIMATE TYPE : A-Crews with Auto Reprice

SALES TAX : 7.80%

DATE OF ESCALATION SCHEDULE : 10/01/93

PROJECT DIRECT COST COLUMNS

Col Type	H	L	E	M	U
Rep Width	8	10	10	12	10
Title	MHRS	LABR	EQUIP	MAT	OTHER

PROJECT INDIRECT COST COLUMNS

Col Type	O	U	P	B	U
Rep Width	9	9	9	9	9
Title	FOOH	HOOH	PROF	BOND	B&O TAX

PROJECT OWNER COST COLUMNS

Col Type	U	U	X	X	X
Rep Width	12	12	0	0	0
Title	S & A	CONTG	(Unused)	(Unused)	(Unused)

PROJECT BREAKDOWN

PROJECT ID	Length	Trail Sep	Level Title	2nd View Order
Level 1 ID :	2	-	WastSite	0
Level 2 ID :	2		Feature	0
Level 3 ID :	2		SubFeat	0
Level 4 ID :	2		CostL1	0
Level 5 ID :	4		CostL2	0
Level 6 ID :	4		CostL3	0

Owner Cost Level : 1

** PROJECT SETTINGS **

2ND VIEW COLUMNS
Quantity Column Width : 10

Col Type	X	X	X	X	X
Rep Width	0	0	0	0	0
Title	(Unused)	(Unused)	(Unused)	(Unused)	(Unused)
Shadow	X	X	X	X	X

DETAIL REPORT FORMATTING

PAGE OPTIONS
Page Break Levels : 2
Table of Contents Levels : 3

		0	1	2	3	4	5	6	7
ROW OPTIONS	Print Titles at Levels :		Y	Y	Y	Y	Y	Y	
	Print Totals at Levels :		Y	Y	Y	Y	Y	N	
	Print Notes at Levels :	Y	Y	Y	Y	Y	Y	Y	Y
	Print Unit Cost Row :	Y							
	Print Page Footer :	N							
	Show Cost Codes :	Y							
COLUMNS OPTIONS	Print Crew Id :	Y							
	Crew Output :	Y							
	Unit Cost :	Y							
UPB TITLES	No. of Levels to Print :	0							
	Bracket Titles With :	- :							
	Include titles Notes :	Y							

** PROJECT SETTINGS **

OTHER REPORT FORMATTING

COLUMN TITLES FOR SUMMARY REPORTS

Column 1 FOOH : JOB OFFICE OVERHEAD
Column 2 HOOH : HOME OFFICE OVERHEAD
Column 3 PROF : PROFIT
Column 4 BOND : PERFORMANCE BOND
Column 5 B&O TAX : B & O AND OTHER TAXES

Column 1 S & A : S & A
Column 2 CONTG : CONTINGENCY
Column 3 (Unused) :
Column 4 (Unused) :
Column 5 (Unused) :

STANDARD COLUMN WIDTHS

Quantity Columns : 10
Total cost Columns : 12
Unit Cost Columns : 12

SUMMARY FEATURES

Round Totals Column : T-Tens
Contingency Notes : Yes
Show Project Totals : Yes

REPORT SELECTION

Project Settings : Y
Contractor Settings : Y
Link Listing : N

Measurement Units : Original

	REPORT FORMAT TYPE			FOR LEVEL (S)					
	Direct	Indirect	Owner	0	1	2	3	4	5	6
Detail :	Y									
Project :	N	Y	Y		Y	Y	N	Y	N	N
Contractor :	Y	Y		Y	N	N	N	N	N	N
Division :	N	N	N	Y	N	N	N	N	N	N
System :	N	N	N	Y	N	N	N	N	N	N
2nd View :	N									
Crew :	Y			Y	N	N	N	N	N	N
Labor :	Y									
Equipment :	Y									

** OWNER SETTINGS **

		AMOUNT	PERCENT	*ESCALATN DATE* BEGIN	END	*ESCALATN INDEX* BEGIN	END
Project Information Record							
0A MOBILIZATION/DEMOB & PREPWORK							
	S & A	P	20.00				
	CONTINGENCY	P	0.00				
0A-01 MOBILIZATION AND PREPATORY WORK							
0A-01 01 MOB OF EQUIPMENT & PERSONNEL							
0A-01 01 01 Mob of Equipment & Facilities							
	S & A	O					
	CONTINGENCY	P	20.00				
0A-01 03 SETUP/CONSTRUCT TEMP FACILITIES							
0A-01 03 01 TRAILERS AND BUILDINGS							
	S & A	O					
	CONTINGENCY	P	25.00				
0A-01 03 02 DECONTAMINATION FACILITIES							
0A-01 03 02 01 Personnel Decon Facilities							
	S & A	O					
	CONTINGENCY	P	25.00				
0A-01 03 02 02 Equip/Vehicle Decon Facilities							
	S & A	O					
	CONTINGENCY	P	25.00				
0A-21 DEMOBILIZATION							
0A-21 04 DEMOB OF EQUIPMENT & PERSONNEL							
0A-21 04 01 Demob Equipment/Facilities							
	S & A	O					
	CONTINGENCY	P	20.00				
0B COE QA/SAFETY MONITORING							
	S & A	P	20.00				
	CONTINGENCY	P	20.00				
0B-91 QA/Safety Monitoring							
0B-91 01 QA/Safety Monitoring							
	S & A	O					
	CONTINGENCY	O					
0C EM-03 Monitoring Wells							
	S & A	P	20.00				
	CONTINGENCY	P	0.00				
0C-02 MONITOR, SAMPLE, TEST, ANALYSIS							
0C-02 04 MONITORING WELLS							
0C-02 04 01 WELL DRILLING & CONSTRUCTION							
0C-02 04 01 01 4" Dia, Monitoring Well (70 LF)							
	S & A	O					
	CONTINGENCY	P	20.00				

** OWNER SETTINGS **

	AMOUNT	PERCENT	*ESCALATN DATE* BEGIN	END	*ESCALATN INDEX* BEGIN	END
OC-02 05 SAMPLING S.W./GROUND WATER/L.W.						
OC-02 05 02 GROUND WATER Sampling						
S & A	O					
CONTINGENCY	P	20.00				
AA 1240 Suspect Spill Area						
S & A	P	20.00				
CONTINGENCY	P	0.00				
AA-02 MONITOR, SAMPLE, TEST, ANALYSIS						
AA-02 06 SAMPLING SOIL, SED & SOLID WASTE						
AA-02 06 01 SURFACE SOIL						
AA-02 06 01 02 Confirmatory Samples & Analyses						
S & A	O					
CONTINGENCY	P	20.00				
AA-08 SOLIDS COLLECTION & CONTAINMENT						
AA-08 01 EXCAVATION						
AA-08 01 01 Excav/Load Contaminated Soils						
S & A	O					
CONTINGENCY	P	40.00				
AA-08 01 02 Transport Cont. Soils, Arlington						
S & A	O					
CONTINGENCY	P	25.00				
AA-08 01 03 PPEquip, Modified Class D						
S & A	O					
CONTINGENCY	P	20.00				
AA-08 01 04 Site Re-grading						
S & A	O					
CONTINGENCY	P	25.00				
BB 1240 French Drain						
S & A	P	20.00				
CONTINGENCY	P	0.00				
BB-02 MONITOR, SAMPLE, TEST, ANALYSIS						
BB-02 06 SAMPLING SOIL, SED & SOLID WASTE						
BB-02 06 01 SURFACE SOIL						
BB-02 06 01 02 Confirmatory Samples & Analyses						
S & A	O					
CONTINGENCY	P	20.00				
BB-08 SOLIDS COLLECTION & CONTAINMENT						
BB-08 01 EXCAVATION						
BB-08 01 01 Excav/Load Contaminated Soils						
S & A	O					
CONTINGENCY	P	30.00				

** OWNER SETTINGS **

		AMOUNT	PERCENT	*ESCALATN DATE* BEGIN	END	*ESCALATN INDEX* BEGIN	END
BB-08 01 02 Transport Cont. Soils, Arlington							
S & A	O						
CONTINGENCY	P		25.00				
BB-08 01 03 PPEquip, Modified Class D							
S & A	O						
CONTINGENCY	P		20.00				
BB-08 01 04 Site Re-grading							
S & A	O						
CONTINGENCY	P		25.00				
CC 1212/1227 Suspect Battery Acid							
S & A	P		20.00				
CONTINGENCY	P		0.00				
CC-02 MONITOR, SAMPLE, TEST, ANALYSIS							
CC-02 06 SAMPLING SOIL, SED & SOLID WASTE							
CC-02 06 01 SURFACE SOIL							
CC-02 06 01 02 Confirmatory Samples & Analyses							
S & A	O						
CONTINGENCY	P		20.00				
CC-08 SOLIDS COLLECTION & CONTAINMENT							
CC-08 01 EXCAVATION							
CC-08 01 01 Excav/Load Contaminated Soils							
S & A	O						
CONTINGENCY	P		40.00				
CC-08 01 02 Transport Cont. Soils, Arlington							
S & A	O						
CONTINGENCY	P		25.00				
CC-08 01 03 PPEquip, Modified Class D							
S & A	O						
CONTINGENCY	P		20.00				
CC-08 01 04 Site Re-grading							
S & A	O						
CONTINGENCY	P		25.00				
DD 1218 Service Station							
S & A	P		20.00				
CONTINGENCY	P		0.00				
DD-02 MONITOR, SAMPLE, TEST, ANALYSIS							
DD-02 06 SAMPLING SOIL, SED & SOLID WASTE							
DD-02 06 01 SURFACE SOIL							
DD-02 06 01 01 Confirmatory Samples & Analyses							
S & A	O						
CONTINGENCY	P		20.00				

** OWNER SETTINGS **

		AMOUNT	PERCENT	*ESCALATN DATE* BEGIN	END	*ESCALATN INDEX* BEGIN	END
DD-02 11 GEOTECHNICAL TESTING							
DD-02 11 01 Geophysical Survey							
	S & A	O					
	CONTINGENCY	P	25.00				
DD-10 TANKS/MISC DEMOLITION & REMOVAL							
DD-10 02 TANK REMOVAL							
DD-10 02 01 UST Tank Excavation & Removal							
	S & A	O					
	CONTINGENCY	P	25.00				
DD-10 02 02 Excav/Load Contaminated Soils							
	S & A	O					
	CONTINGENCY	P	30.00				
DD-10 02 03 Transport Cont. Soils, Arlington							
	S & A	O					
	CONTINGENCY	P	25.00				
DD-10 02 04 PPEquip, Modified Class D							
	S & A	O					
	CONTINGENCY	P	20.00				
DD-10 02 05 Site Re-grading							
	S & A	O					
	CONTINGENCY	P	25.00				
EE 1208 Sandblast Area							
	S & A	P	20.00				
	CONTINGENCY	P	0.00				
EE-02 MONITOR, SAMPLE, TEST, ANALYSIS							
EE-02 06 SAMPLING SOIL, SED & SOLID WASTE							
EE-02 06 01 SURFACE SOIL							
EE-02 06 01 02 Confirmatory Samples & Analyses							
	S & A	O					
	CONTINGENCY	P	20.00				
EE-08 SOLIDS COLLECTION & CONTAINMENT							
EE-08 01 EXCAVATION							
EE-08 01 01 Excav/Load Contaminated Soils							
	S & A	O					
	CONTINGENCY	P	30.00				
EE-08 01 02 Transport Cont. Soils, Arlington							
	S & A	O					
	CONTINGENCY	P	25.00				
EE-08 01 03 PPEquip, Modified Class D							
	S & A	O					
	CONTINGENCY	P	20.00				

** OWNER SETTINGS **

		AMOUNT	PERCENT	*ESCALATN DATE* BEGIN	END	*ESCALATN INDEX* BEGIN	END
EE-08 01 04 Site Re-grading							
	S & A	O					
	CONTINGENCY	P	25.00				
FF JA Jones Oil Storage Tanks (2)							
	S & A	P	20.00				
	CONTINGENCY	P	0.00				
FF-02 MONITOR, SAMPLE, TEST, ANALYSIS							
FF-02 06 SAMPLING SOIL, SED & SOLID WASTE							
FF-02 06 01 SURFACE SOIL							
FF-02 06 01 01 Confirmatory Samples & Analyses							
	S & A	O					
	CONTINGENCY	P	20.00				
FF-02 11 GEOTECHNICAL TESTING							
FF-02 11 01 Geophysical Survey							
	S & A	O					
	CONTINGENCY	P	25.00				
FF-10 TANKS/MISC DEMOLITION & REMOVAL							
FF-10 02 TANK REMOVAL							
FF-10 02 01 UST Tank Excavation & Removal							
	S & A	O					
	CONTINGENCY	P	25.00				
FF-10 02 02 Excav/Load Contaminated Soils							
	S & A	O					
	CONTINGENCY	P	30.00				
FF-10 02 03 Transport Cont. Soils, Arlington							
	S & A	O					
	CONTINGENCY	P	25.00				
FF-10 02 04 PPEquip, Modified Class D							
	S & A	O					
	CONTINGENCY	P	20.00				
FF-10 02 05 Site Re-grading							
	S & A	O					
	CONTINGENCY	P	25.00				
GG 1262 Transformer Pad							
	S & A	P	20.00				
	CONTINGENCY	P	0.00				
GG-02 MONITOR, SAMPLE, TEST, ANALYSIS							
GG-02 06 SAMPLING SOIL, SED & SOLID WASTE							
GG-02 06 01 SURFACE SOIL							

ENDANGERED, THREATENED, AND CANDIDATE WILDLIFE AND PLANTS AT THE HANFORD SITE

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9 3 1 2 9 3 4 1 3 6 6