

SECTION B

PRICE SCHEDULE

B



SECTION B
PRICE SCHEDULE FOR PART "A"

DEFENSE ENVIRONMENTAL RESTORATION PROGRAM FOR
FORMERLY USED DEFENSE SITES

CAMP HERO
MONTAUK POINT, NEW YORK

| ITEM No. | DESCRIPTION | ESTIMATED QUANTITIES | UNIT | UNIT PRICE | ESTIMATED AMOUNT |
|-------------|-------------|-------------------------|------|---------------|---------------------|
|-------------|-------------|-------------------------|------|---------------|---------------------|

BASE BID:

A) TANKS

- | | | | | | |
|-----|---|---------|---------|----------|----------|
| 1. | Tank content sampling and analysis for storage tanks (Aboveground or Underground), complete. | 20 | Each | \$ _____ | \$ _____ |
| 2. | Tank content removal & disposal for tanks that do have content, complete. | 3,000 | Gallons | \$ _____ | \$ _____ |
| 3. | All work for 27 Aboveground Storage Tank (AST) and any associated piping/fittings that may be present to be removed, cleaned, and disposed as described in plans and specifications, complete. (this does not include tank content removal, base bid #2 listed above) | | | | |
| 3.1 | One (1) AST | 200,000 | Gal. | \$ _____ | \$ _____ |
| 3.2 | Two (2) AST | 10,000 | Gal. | \$ _____ | \$ _____ |
| 3.3 | One (1) AST | 2,000 | Gal. | \$ _____ | \$ _____ |
| 3.4 | One (1) AST | 1,000 | Gal. | \$ _____ | \$ _____ |
| 3.5 | Two (2) AST | 550 | Gal. | \$ _____ | \$ _____ |
| 3.6 | Twelve (12) AST | 275 | Gal. | \$ _____ | \$ _____ |
| 4.0 | All work for 19 Underground Storage Tanks (UST) and associated piping/fittings that may be present to be removed, cleaned, and disposed as described in the plans and specifications, complete. (this does not include tank content removal, base bid #2 listed above) | | | | |

| ITEM No. | DESCRIPTION | ESTIMATED QUANTITIES | UNIT | UNIT PRICE | ESTIMATED AMOUNT |
|----------|---|----------------------|--------|------------|------------------|
| 4.1 | Two (2) UST | 25,000 | Gal. | \$ _____ | \$ _____ |
| 4.2 | Four (4) UST | 3,500 | Gal. | \$ _____ | \$ _____ |
| 4.3 | One (1) UST | 1,500 | Gal. | \$ _____ | \$ _____ |
| 4.4 | Six (6) UST | 1,000 | Gal. | \$ _____ | \$ _____ |
| 4.5 | Four (4) UST | 550 | Gal. | \$ _____ | \$ _____ |
| 4.6 | Ten (10) UST | 275 | Gal. | \$ _____ | \$ _____ |
| 5. | Locate underground storage tank with the use of a pipe/cable locator, complete (UST-41,42,43,45 & 46) | 5 | Each | \$ _____ | \$ _____ |
| 6. | Temporarily relocate soil berm to gain access to UST-45 & UST-46 prior to any tank removal activities - includes putting soil back when UST work is finished, complete. | 500 | C.Y. | \$ _____ | \$ _____ |
| 7. | TPH contaminated soil sampling/analysis for TPH & RCRA characteristics (flash point & toxicity by TCLP) in excavation of tank pit, complete. | 162 | Each | \$ _____ | \$ _____ |
| 8. | TPH contaminated soil removal & disposal, complete. | | | | |
| 8.1 | Non-hazardous. | 200 | C.Y. | \$ _____ | \$ _____ |
| 8.2 | Hazardous | 100 | C.Y. | \$ _____ | \$ _____ |
| 9. | Clean fill | 270 | C.Y. | \$ _____ | \$ _____ |
| 10. | Soil covering and seed (soil covering 3 inches min.) | 4,900 | sq-ft. | \$ _____ | \$ _____ |
| 11. | For tanks that are located below paved asphalt bitumous surface (UST-24, 25, & 26) | | | | |
| 11.1 | Break/remove/disposal of paved surface. | 450 | sq-ft. | \$ _____ | \$ _____ |
| 11.2 | Repave surface after UST-26 (only for UST-26) has been removed to match surrounding surface, complete. | 150 | sq-ft. | \$ _____ | \$ _____ |

| ITEM No. | DESCRIPTION | ESTIMATED QUANTITIES | UNIT | UNIT PRICE | ESTIMATED AMOUNT |
|------------------------|---|----------------------|-------------|------------|------------------|
| B) TRANSFORMERS | | | | | |
| 1. | Sampling/Analysis of oil filled transformers and switches for PCB's, complete. | 25 | Each | \$ _____ | \$ _____ |
| 2. | Removal/disposal of transformers (TR's): for pad mounted TR's it shall include the removal and disposal of the entire TR's carcass, flushing, and the disposal of any flushing liquid. For pole mounted TR's, contractor is to provide his own means of reaching the TR's (ladder, scaffle, mechanical platform, etc.). | | | | |
| 2.1 | Removal/disposal of Non-PCB floor/wall mounted type TR carcass, complete. | 15 | Tons | \$ _____ | \$ _____ |
| 2.2 | Removal/disposal/flushing of PCB contaminated floor/wall mounted type TR carcass, complete. | 4 | Tons | \$ _____ | \$ _____ |
| 2.3 | Removal/disposal/flushing of PCB floor/wall mounted type TR carcass, complete. | 1 | Tons | \$ _____ | \$ _____ |
| 2.4 | Additional charge (surcharge) for removal of pole mounted TR, complete. | 3 | Each | \$ _____ | \$ _____ |
| 3. | Disposal of Transformer's fluid (oil) as per plans and specifications. | | | | |
| 3.1 | Non-PCB type TR's (not greater than 50 PPM), complete. | 1,075 | Gal. | \$ _____ | \$ _____ |
| 3.2 | PCB contaminated TR's (greater than 50 PPM but less than 500 PPM), complete. | 531 | Gal | \$ _____ | \$ _____ |
| 3.3 | PCB type TR's (greater than 500 PPM), complete. | 5 | Gal | \$ _____ | \$ _____ |
| 4. | Removal/disposal of TR related items. | | | | |
| 4.1 | Removal/disposal of chainlink fence and post (complete footing base is to be removed or up to a max. of 2 feet), complete. | 400 | running ft. | \$ _____ | \$ _____ |
| 4.2 | Removal/disposal of TR base (concrete or steel skid), non-hazardous, complete. | 64 | Tons | \$ _____ | \$ _____ |
| 4.3 | Removal/disposal of TR base (concrete or steel skid), hazardous, complete. | 10 | Tons | \$ _____ | \$ _____ |
| 5. | PCB sampling analysis/testing of soil, complete. | 5 | Each | \$ _____ | \$ _____ |

| ITEM No. | DESCRIPTION | ESTIMATED QUANTITIES | UNIT | UNIT PRICE | ESTIMATED AMOUNT |
|----------|---|----------------------|------|------------|------------------|
| 6. | PCB contaminated soil removal/disposal, complete. | 3 | C.Y. | \$ _____ | \$ _____ |

C) DRUMS & CONTAINERS

| | | | | | |
|-----|---|-----|-----------|----------|----------|
| 1. | Sampling/testing analysis for drums by TCLP and for herbicides/pesticides, complete. | 12 | Each | \$ _____ | \$ _____ |
| 2. | Removal/disposal of ethylene glycol, complete. | 450 | Gal. | \$ _____ | \$ _____ |
| 3. | Sampling/testing analysis for cans of paint of various types. Test for TCLP, complete | 10 | Each | \$ _____ | \$ _____ |
| 4.1 | Removal/disposal non-hazardous paint, complete. | 40 | Gal. | \$ _____ | \$ _____ |
| 4.2 | Removal/disposal of hazardous paint, complete. | 40 | Gal. | \$ _____ | \$ _____ |
| 5. | Removal/disposal of 25 lbs containers of sodium hydroxide, complete. | 5 | container | \$ _____ | \$ _____ |

D) HYDRAULIC SYSTEM IN RADAR BLDG.

| | | | | | |
|-----|---|-----|------|----------|----------|
| 1. | Sampling/testing analysis of hydraulic fluid for PCB level of hydraulic fluid in storage tank (both storage tanks are inter-connected together), complete | 1 | Each | \$ _____ | \$ _____ |
| 2. | Removal and disposal of hydraulic fluid. | | | | |
| 2.1 | Removal/disposal of non-PCB hydraulic fluid, complete. | 400 | Gal. | \$ _____ | \$ _____ |
| 2.2 | Removal/disposal of PCB contaminated hydraulic fluid, complete. | 150 | Gal. | \$ _____ | \$ _____ |
| 2.3 | Removal/disposal of PCB hydraulic fluid, complete. | 25 | Gal | \$ _____ | \$ _____ |
| 3. | Removal/disposal of hydraulic test table (approx. 8'L x 4'W; 350 lbs ea.; stainless steel). | | | | |
| 3.1 | Removal disposal of test table with no PCB in hydraulic fluid, complete. | 2 | Each | \$ _____ | \$ _____ |
| 3.2 | Removal/disposal, and flushing if required of table with PCB contaminated hydraulic fluid, complete. | 2 | Each | \$ _____ | \$ _____ |

| ITEM No. | DESCRIPTION | ESTIMATED QUANTITIES | UNIT | UNIT PRICE | ESTIMATED AMOUNT |
|---|---|----------------------|--------|------------|------------------|
| <u>E) PITS/FLOOR IN GENERATOR BLDG.</u> | | | | | |
| 1. | Water Sampling/Analysis for pits in Generator Bldg. for TCLP,TPH & PCB, complete. | 5 | Each | \$ _____ | \$ _____ |
| 2. | Generator pit content removal & disposal (de-watering) | | | | |
| 2.1 | Non-PCB contaminated water | 2,000 | Gal. | \$ _____ | \$ _____ |
| 2.2 | PCB contaminated water | 200 | Gal. | \$ _____ | \$ _____ |
| 3. | Clean/decontaminate (steam clean) generator pits prior to demolition, complete. (35'L x 5-1/2' W x 8'D) | 5 | Each | \$ _____ | \$ _____ |
| 4. | Clean/decontaminate (steam clean) 1,500 sq.ft. of floor area, complete. | 1,500 | sq.ft. | \$ _____ | \$ _____ |
| 5. | Chip sampling/testing analysis of floor, test for TCLP, TPH & PCB, complete. | 1 | Each | \$ _____ | \$ _____ |

TOTAL BASE BID FOR PART "A" \$ _____

PRICE SCHEDULE (cont.)

NOTES:

1. LOW BIDDER FOR THE PURPOSE OF AWARD SHALL BE THE RESPONSIBLE BIDDER OFFERING THE LOWEST AMOUNT FOR THE TOTAL PRICE SCHEDULE.
2. AWARD OF OPTIONS: NOT APPLICABLE, THERE ARE NO OPTIONAL BIDS FOR THIS CONTRACT.
3. BIDDERS ARE REQUIRED TO BID ON ALL ITEMS OR THEIR BIDS WILL BE REJECTED.
4. ANY BID WHICH IS MATERIALLY UNBALANCED AS TO PRICES FOR THE BASE BID MAY BE REJECTED. AN UNBALANCED BID IS ONE WHICH IS BASED ON PRICES SIGNIFICANTLY LESS THAN THE COST OF SOME WORK AND PRICES WHICH ARE SIGNIFICANTLY OVERSTATED FOR OTHER WORK.

** END OF SECTION **

SECTION C
DESCRIPTIONS/SPECIFICATIONS
(TECHNICAL PROVISIONS)

SECTION C
SPECIFICATIONS
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SECTION 01000
GENERAL SCOPE OF WORK

I. STATEMENT OF WORK:

The general description below is given to indicate the approximate scope of this project only. It shall in no way preclude, limit, or absolve the contractor from work required to be performed that appears elsewhere in the contract plans and specifications. The term "**approximate**" is used because the exact number of units and their sizes are based on available information which may differ from actual field conditions. Adjustments to the contract will be made based on a unit price basis, as listed in the price schedule to reflect any discrepancies between estimated and actual. In brief, the contract consists of:

I.1 PART "A" (CONTAINERIZED HAZARDOUS TOXIC WASTE)

- 1) The complete removal, disposal, and site restoration of **approximately (27)** underground storage tanks, and **(19)** aboveground storage tanks. For a total of approximately **(46)** tanks.
- 2) Locate three **(3)** underground tanks with the use of a pipe and cable locator.
- 3) Complete removal, disposal, and post-site restoration for **(96)** transformers (oil and dry types). The transformers are all located in twelve **(12)** different locations within the confines of the camp. The work will include but not be limited to: removal and disposal of concrete pads, chainlink fencing, and contaminated soil, which may be present. Of the total transformers, **(18)** will require sampling analysis for PCB concentration identification; the remaining seventy-eight **(78)** have already been identified for levels of PCB contamination; these units will not require sampling analysis.
- 4) Testing, sampling, removal, and disposal of seven **(7)** oil filled type switches (at site #7). The switches are to be treated similarly to the transformers.
- 5) Removal and disposal of two **(2)** hydraulic fluid storage tanks, their content (content shall be sampled/analyzed prior to disposal), associated piping (approximately 250 ft. of 1" Dia. steel pipe), fittings, and appurtenances. These items are located in the radar bldg. One tank is 500 gallons and the other is 100 gallons in size. Removal and disposal of two **(2)** drained hydraulic pressure test tables (each is approximately 8'L X 4'W; 350 lbs; stainless steel construction).

- 6) Removal and disposal of twelve (12) 55 gallon drums suspected to contain ethylene glycol (each estimated to be 2/3 full). Removal and disposal of eight (8) empty 55 gallon drums, suspected to have been used to store ethylene glycol.
- 7) Testing, sampling, removal, and disposal of approximately forty (40) various cans of paint. The testing/sampling analysis of similar paints - oil base, water base or solidified paint, etc. - may be combine for composite sampling and disposal to achieve cost savings.
- 8) Removal and disposal of five (5) 25 lbs. containers of sodium hydroxide.
- 9) Testing, sampling, removal, and disposal of oil/hydraulic fluid contaminated water in five (5) generator pits (each pit is approximately 35'H X 5-1/2'W x 8'D) inside the Power Plant Bldg (Bldg #203). Also, clean/decontaminate (steam clean) the five (5) generator pits, and steam clean 1,500 sq.ft. of oil contaminated floor space in preparation for building demolition. Sample/test by chip sample the 1,500 sq.ft. of floor space. Chip sample test shall be conducted for TCLP, PCB, and TPH.

(A) UNDERGROUND & ABOVEGROUND STORAGE TANKS (USTs & ASTs) REMOVAL & DISPOSAL:

The project involves the removal and disposal of underground and aboveground storage tanks as listed below: [ALSO, SEE TANK INVENTORY SHEET FOR MORE DETAILS]

| <u>Aboveground Storage Tanks</u> | | <u>Underground Storage Tanks</u> | |
|---|------------------|----------------------------------|-----------------|
| (12) | 275 gal. AST | (10) | 275 gal. UST |
| (2) | 550 gal. AST | (4) | 550 gal. UST |
| (1) | 1,000 gal. AST | (6) | 1,000 gal. UST |
| (1) | 2,000 gal. AST | (1) | 1,500 gal. UST |
| (2) | 10,000 gal. AST | (4) | 3,500 gal. UST |
| (1) | 200,000 gal. AST | (2) | 25,000 gal. UST |
| Total AST = 19 | | Total UST = 27 | |
| Total #'s of ASTs & USTs = 19 + 27 = 46 | | | |

[SEE OIL TANK INVENTORY SHEET FOR ADDITIONAL INFORMATION]

The underground/aboveground storage tank removal activities involves excavation, cleaning of tank interior,

disposal of the contents, removal and disposal of storage tank, collecting and analyzing post-excavation soil samples, excavation and disposal of contaminated soil and restoration of the former tank locations. The USTs and ASTs removal shall be performed in accordance with all applicable Federal, State, and local regulations.

The New York Code of Rules and Regulations (NYCRR) requires that applicable tanks be registered with New York State Department of Environmental Conservation (NYSDEC). The regulations also requires that applicable tanks be closed when permanently out of service. Removing the tanks will satisfy the NYSDEC closure requirements. Waste product removed must be disposed in accordance with all applicable State and Federal requirements. All connecting lines must be disconnected and removed. However, as indicated on the Tank Inventory sheet not all tanks have pipes connected to them; Some have already been disconnected. All tanks have previously been pumped-out; therefore, they are all believed to be empty. However, for estimating purposes, a five (5%) allowance figure have been used in the Pricing Schedule to allow for the possibility of rainwater that may have seeped in.

In addition, the NYSDEC must be notified 30 days prior to the planned tank closure. The local requirements to the USTs include notifying the local Fire Marshall prior to initiating removal activities and obtaining a demolition permit from local agency.

All disturbed areas shall be restored to match the surroundings by backfilling, grading, and seeding.

(B) TRANSFORMERS, AND OIL FILLED SWITCHES REMOVAL - AND DISPOSAL:

The work consists of sampling/testing of dielectric fluids for PCB concentration levels, removal, and disposal of dielectric fluids, carcasses, wipe tests, soil sampling/testing associated with PCB spills, and disposal of PCB contaminated soil and all PCB wastes generated. Although, all transformers have been deactivated, contractor shall ascertain that all transformers have indeed been deactivated prior to initiating any work. Contractor shall remove all chainlink fencing enclosures, concrete pads, and skids that is used to mount transformers. All disturbed areas shall be restored to match the surroundings by backfilling, grading, and seeding.

[SEE TRANSFORMER INVENTORY SHEET FOR ADDITIONAL INFORMATION]

(C) DRUMS, AND PAINT CONTAINERS - REMOVAL AND DISPOSAL:

The work will consist of sampling/testing of drum and container contents for characterization prior to disposal. Paint containers of similar type paints (oil based, water based, solidified paint solids of same base, etc.) may be combined for composite sampling and disposal if it is not

contaminated with anything other than paint. Testing for drums and paints shall be by Toxic Characteristic Leachate Procedure (TCLP)

(D) HYDRAULIC FLUID STORAGE TANKS, PIPING, FITTINGS APPURTENANCES; AND HYDRAULIC FLUID TEST TABLES:

Hydraulic fluid storage tanks are to be drained, cleaned - inside and outside, properly removed, and disposed. The hydraulic fluid is to be sampled, tested for PCB levels prior to disposal. Testing shall characterize the level of PCB for disposal purposes. Pipes, fittings, appurtenances, and the two (2) hydraulic fluid test tables are to be cleaned/flushed (if required) prior to disposal.

(E) GENERATOR PITS/FLOOR IN POWER PLANT BUILDING -BLDG #203:

The five (5) generator drainage pits in the Power Plant Building are to have their content sampled and analyzed individually for total petroleum hydrocarbon (TPH) levels, PCB levels, and toxicity characteristic leachate procedure (TCLP). The pits are each approximately 35'L x 5-1/2'W x 8'D with steel grating on top. Based on sampled results, each of the generator pits shall be properly drained and its content disposed. Also, sample results will dictate the need for cleaning or decontaminating the pits' interior prior to demolition and disposal.

The floor area nearby the oil storage tanks (AST-12, 13, 14, 15 & 23) is contaminated by fuel oil and lubrication oil. The floor of the affected area shall be sampled by chip sampling for TCLP, PCB, and TPH. This area is to be properly cleaned and decontaminated in preparation for building demolition. All debris and waste produced as a result of cleaning the Generator Building is to be properly disposed.

FUEL STORAGE TANK INVENTORY

CAMP HERO, MONTAUK POINT, NEW YORK

| <u>TANK NO.</u> | <u>BLDG NO.</u> | <u>LOCATION</u> | <u>CAPACITY</u> <u>(GALS)</u> | <u>PRODUCT</u> | <u>TYPE OF PRODUCT</u> | <u>REMARKS (GALS)</u> |
|-----------------|-----------------|------------------|----------------------------------|----------------|------------------------|-----------------------|
| 1 | F-100 | BUNKER # 1 | 3,500 UST | | #2 FUEL OIL | |
| 2 | F-100 | BUNKER # 1 | 3,500 UST | | #2 FUEL OIL | |
| 3 | F-100 | BUNKER # 1 | 275 AST | | #2 FUEL OIL | |
| 4 | F-100 | BUNKER # 1 | 275 AST | | #2 FUEL OIL | |
| 5 | F-100 | BUNKER # 1 | 275 AST | | #2 FUEL OIL | |
| 6 | F-100 | BUNKER # 1 | 275 AST | | #2 FUEL OIL | |
| 7 | F-100 | BUNKER # 1 | 275 AST | | #2 FUEL OIL | |
| 8 | F-100 | BUNKER # 1 | 275 UST | | #2 FUEL OIL | |
| 9 | F-100B | BUNKER # 1 | 275 UST | | #2 FUEL OIL | |
| 10 | 103 | MARS RADIO | 1,000 UST | | #2 FUEL OIL | |
| 11 | 103 | MARS RADIO | 275 AST | | #2 FUEL OIL | |
| 12 | 203 | ELEC POWER BLDG | 275 AST | | #2 FUEL OIL | |
| 13 | 203 | ELEC POWER BLDG | 275 AST | | #2 FUEL OIL | |
| 14 | 203 | ELEC POWER BLDG | 550 AST | | LUBE OIL | |
| 15 | 203 | ELEC POWER BLDG | 550 AST | | USED LUBE OIL | |
| 16 | 203 | ELEC POWER BLDG | 1,000 UST | | MOTOR OIL | |
| 17 | 203 | ELEC POWER BLDG | 25,000 UST | | #2 FUEL OIL | |
| 18 | 203 | ELEC POWER BLDG | 550 UST | | #2 FUEL OIL | |
| 19 | 203 | ELEC POWER BLDG | 25,000 UST | | #2 FUEL OIL | |
| 20 | | RADAR TOWER BLDG | 550 UST | | #2 FUEL OIL | |
| 21 | 20 | FIRE PUMP STA. | 550 UST | | GASOLINE | |
| 22 | 20 | FIRE PUMP STA. | 275 AST | | #2 FUEL OIL | |

| TANK NO. | BLDG NO. | LOCATION | CAPACITY (GALS) | PRODUCT (GALS) | TYPE OF PRODUCT | REMARKS |
|----------|----------|-----------------------|--------------------|-------------------|-----------------|----------------------------|
| 23 | 203 | ELEC POWER BLDG | 275 AST | | #2 FUEL OIL | |
| 24 | 36 | (DEMOLISHED) | 1,000 UST | | GASOLINE | UNDER CONCRETE PAVEMENT |
| 25 | 36 | (DEMOLISHED) | 1,000 UST | | GASOLINE | UNDER CONCRETE PAVEMENT |
| 26 | | AT&T BLDG | 1,500 UST | | DIESEL | UNDER CONCRETE PAVEMENT |
| 27 | 9 | POST EXCHANGE | 275 AST | | #2 FUEL OIL | |
| 28 | 105 | HEATING PLANT | 275 AST | | #2 FUEL OIL | |
| 29 | 105 | HEATING PLANT | 1,000 AST | | #2 FUEL OIL | |
| 30 | 2010 | WATER PUMP STA. | 550 UST | | GASOLINE | |
| 31 | 33 | AUTO HOBBY SHOP | 2,000 AST | | #2 FUEL OIL | |
| 32 | | HILL #72 | 275 UST | | #2 FUEL OIL | TANK NOT LOCATED |
| 33 | | HILL #72 | 275 UST | | #2 FUEL OIL | TANK NOT LOCATED |
| 34 | F-100C | WATER PUMP STA | 275 UST | | GASOLINE | |
| 35 | | POWER PLANT | 200,000 AST | | #2 FUEL OIL | |
| 36 | A-100 | BUNKER # 3 | 10,000 AST | | #2 FUEL OIL | |
| 37 | A-100 | BUNKER # 3 | 10,000 AST | | #2 FUEL OIL | |
| 38 | P-115 | BUNKER # 4 | 1,000 UST | | #2 FUEL OIL | |
| 39 | | OUTSIDE CAMP PROPERTY | 275 UST | | #2 FUEL OIL | OWNED BY E. HAMPTON TWSHP. |
| 40 | 59 | TRAILER PARK BLDG | 275 UST | | #2 FUEL OIL | |
| 41 | 61 | TRAILER PARK BLDG | 275 UST | | GASOLINE | TANK NOT LOCATED |
| 42 | 61 | TRAILER PARK BLDG | 275 UST | | GASOLINE | TANK NOT LOCATED |
| 43 | 61 | TRAILER PARK BLDG | 275 UST | | #2 FUEL OIL | TANK NOT LOCATED |
| 44 | | BUNKER # 5 | 1,000 UST | | #2 FUEL OIL | |
| 45 | M-216 | BUNKER # 2 | 3,500 UST | | #2 FUEL OIL | TANK NOT LOCATED |
| 46 | M-216 | BUNKER # 2 | 3,500 UST | | #2 FUEL OIL | TANK NOT LOCATED |

TRANSFORMER INVENTORY SHEET

CAMP HERO, MONTAUK POINT, NEW YORK

| <u>ITEM NO.</u> | <u>LOCATION</u> | <u>MANUFACTURER</u> | <u>SERIAL NO.</u> | <u>KVA</u> | <u>CLASS</u> (LBS) | <u>TYPE</u> | <u>PCB CONTENT</u> (PPM) | <u>OIL</u> (GALS) |
|-----------------|-----------------|---------------------|-------------------|------------|-----------------------|-------------|-----------------------------|----------------------|
| 1 | SITE #1 | UPTGRAFT | W12545 | 15 | | | <1 | |
| 2 | SITE #1 | WAGNER ELEC | 5Y99773 | 50 | 695 | | <1 | 21 |
| 3 | SITE #1 | WAGNER ELEC | 5Y112941 | 37.5 | 565 | | <1 | 24 |
| 4 | SITE #1 | GENERAL ELEC | D148752-57P | 50 | 780 | | 60 | |
| 5 | SITE #1 | GENERAL ELEC | D362078-59P | 15 | | | 77 | |
| 6 | SITE #1 | GENERAL ELEC | D148755-57P | 50 | 780 | | 76 | |
| 7 | SITE #1 | GENERAL ELEC | J826498 | | | | <1 | 51 |
| * 8 | SITE #1 | WESTINGHOUSE | | | | | | |
| 9 | SITE #1 | GENERAL ELEC | D214111-57P | 50 | 780 | | 76 | |
| 10 | SITE #1 | WESTINGHOUSE | 3178429 | 15 | | | 36 | |
| 11 | SITE #1 | WESTINGHOUSE | ---- | 15 | | | 21 | |
| 12 | SITE #1 | WESTINGHOUSE | ---- | 15 | | | DRY | |
| 13 | SITE #1 | WESTINGHOUSE | ---- | 15 | | | 74 | |
| 14 | SITE #1 | WESTINGHOUSE | ---- | 15 | | | 36 | |
| * 15 | SITE #1 | WESTINGHOUSE | 29425 | | | | | |
| 16 | SITE #1 | GENERAL ELEC | C379676 | 333 | 3,800 | | 25 | 140 |
| 17 | SITE #1 | R.E.UPTGRAFT | W-9447 | 25 | 537 | | DRY | 16 |
| 18 | SITE #1 | NO PLATE | ---- | | | | <1 | |
| 19 | SITE #1 | NO PLATE | ---- | | | | <1 | |
| 20 | SITE #1 | WARD | 6609186 | 333 | 4,900 | | 330 | 128 |
| 21 | SITE #1 | WARD | 6609159 | 333 | 4,900 | | 330 | 128 |
| * 22 | SITE #1 | WESTINGHOUSE | 294250 | | | | | |
| * 23 | SITE #1 | WESTINGHOUSE | | | | | | |

| <u>ITEM NO.</u> | <u>LOCATION</u> | <u>MANUFACTURER</u> | <u>SERIAL NO.</u> | <u>KVA</u> | <u>CLASS</u> (LBS) | <u>TYPE</u> | <u>PCB CONTENT</u> (PPM) | <u>OIL</u> (GALS) |
|-----------------|-----------------|---------------------|-------------------|------------|-----------------------|-------------|-----------------------------|----------------------|
| * 24 | SITE #1 | WESTINGHOUSE | | | | | | |
| 25 | SITE #1 | MARCUS | 85687C | 15 | 450 | | 9 | 13 |
| 26 | SITE #1 | MARCUS | 85689C | 15 | 450 | | <1 | 13 |
| 27 | SITE #1 | MARCUS | 85688 | 15 | 450 | | <1 | 13 |
| 28 | SITE #1 | GENERAL ELEC | D428359-59P | 50 | 775 | | 80 | |
| 29 | SITE #1 | GENERAL ELEC | C677735-56P | 50 | 790 | | 160 | |
| 30 | SITE #1 | GENERAL ELEC | C677729-59P | 50 | 790 | | 180 | |
| 31 | SITE #1 | GENERAL ELEC | D430995-59P | 10 | | | <1 | |
| 32 | SITE #1 | MALONEY HIPERCORE | 1263829 | 37.5 | 755 | | 6 | 30 |
| 33 | SITE #1 | WESTINGHOUSE | 55J933 | 50 | 755 | | 50 | |
| 34 | SITE #1 | WESTINGHOUSE | 55J942 | 50 | 755 | | <1 | |
| 35 | SITE #1 | WESTINGHOUSE | 55J936 | 50 | 755 | | <1 | |
| * 36 | SITE #1 | WESTINGHOUSE | 1847 4 | 15 | | | | |
| * 37 | SITE #1 | WESTINGHOUSE | 184764 | 15 | | | | |
| 38 | SITE #1 | R.E.UPTGRAFT | 57425 | 5 | 194.9 | | <1 | 6 |
| 39 | SITE #1 | R.E.UPTGRAFT | 57424 | 5 | 194.9 | | 6 | 6 |
| 40 | SITE #1 | R.E.UPTGRAFT | 57423 | 5 | 194.9 | | <1 | 6 |
| 41 | SITE #1 | LINE MATERIAL | 1790782 | 37.5 | 665 | | <1 | |
| 42 | SITE #1 | R.E.UPTGRAFT | 62150 | 50 | 852 | | <1 | 48 |
| 43 | SITE #1 | R.E.UPTGRAFT | 62148 | 50 | 852 | | <1 | 48 |
| 44 | SITE #1 | R.E.UPTGRAFT | 62149 | 50 | 852 | | <1 | 48 |
| 45 | SITE #1 | LINE MATERIAL | 1790786 | 37.5 | 665 | | <1 | |
| 46 | SITE #1 | LINE MATERIAL | 1790784 | 37.5 | 665 | | <1 | |
| 47 | SITE #1 | CENTRAL TRS CORP | 5034-9 | 15 | 575 | | 6 | |
| 48 | SITE #1 | CENTRAL TRS CORP | 4995-21 | 15 | 375 | | 6 | |
| 49 | SITE #1 | WESTINGHOUSE | 6516645 | | | | 5 | |

| ITEM NO. | LOCATION | MANUFACTURER | SERIAL NO. | KVA | CLASS (LBS) | TYPE | PCB CONTENT (PPM) | OIL (GALS) |
|----------|----------|----------------|-------------|------|-------------|------|-------------------|------------|
| 50 | SITE #1 | SOUTH BEND | 42708 | 8.66 | | | <1 | |
| * 51 | SITE #1 | GENERALELEC | | | | | | |
| 52 | SITE #1 | WESTINGHOUSE | 119121-58 | | | | <1 | |
| * 53 | SITE #1 | GENERAL ELEC | | | | | | |
| 54 | SITE #1 | 8"X8"X12"H | | | | DRY | | |
| 55 | SITE #1 | 8"X8"X12"H | | | | DRY | | |
| 56 | SITE #1 | 8"X8"X12"H | | | | DRY | | |
| 57 | SITE #4 | KUHLMAN | 03098 | 10 | | | ND | 13 |
| 58 | SITE #6 | GENERAL ELEC | C654225-59P | 333 | 3,550 | | 75 | |
| 59 | SITE #6 | GENERAL ELEC | C379675-56P | 333 | 3,800 | | 140 | |
| 60 | SITE #6 | WARD | 6609158 | 333 | 4,900 | | 350 | 128 |
| 61 | SITE #7 | NIAGARA TRANSF | 16263 | 37.5 | 680 | | 14 | |
| 62 | SITE #7 | NIAGARA TRANSF | 16262 | 37.5 | 680 | | <1 | |
| 63 | SITE #7 | NIAGARA TRANSF | 16264 | 37.5 | 680 | | <1 | |
| 64 | SITE #2 | NIAGARA TRANSF | 24354 | 167 | 1,690 | | <1 | 61 |
| 65 | SITE #2 | NIAGARA TRANSF | 24355 | 167 | 1,690 | | <1 | 61 |
| 66 | SITE #2 | NIAGARA TRANSF | 24353 | 167 | 1,690 | | <1 | 61 |
| 67 | SITE #3 | NIAGARA TRANSF | 30664 | 250 | 2,000 | | 120 | 49 |
| 68 | SITE #3 | NIAGARA TRANSF | 30663 | 250 | 2,000 | | 120 | 49 |
| 69 | SITE #3 | NIAGARA TRANSF | 30662 | 250 | 2,000 | | 110 | 49 |
| 70 | SITE #3 | MARCUS | 86632 | 335 | 3,950 | | <1 | |
| 71 | SITE #3 | MARCUS | 86632 | 335 | 3,950 | | <1 | |
| 72 | SITE #3 | MARCUS | 86631 | 335 | 3,950 | | <1 | |
| 73 | SITE #3 | MARCUS | 86629 | 335 | 3,950 | | <1 | |
| 74 | SITE #3 | MARCUS | 86634 | 335 | 3,950 | | <1 | |

| <u>ITEM NO.</u> | <u>LOCATION</u> | <u>MANUFACTURER</u> | <u>SERIAL NO.</u> | <u>KVA</u> | <u>CLASS</u> (LBS) | <u>TYPE</u> | <u>PCB CONTENT</u> (PPM) | <u>OIL</u> (GALS) |
|-----------------|------------------|---------------------|-------------------|------------|-----------------------|-------------|-----------------------------|----------------------|
| 75 | SITE #3 | MARCUS | 86633 | 335 | 3,950 | | <1 | |
| 76 | SITE #3 | UPTRGRAFT | 58852 | 75 | 1,200 | | <1 | 45 |
| 77 | SITE #3 | UPTGRAFT | 58853 | 75 | 1,200 | | <1 | 45 |
| 78 | SITE #3 | UPTGRAFT | 58854 | 75 | 1,200 | | <1 | 45 |
| 79 | SITE #5 (B#203) | NIAGARA TRANSF | 20912 | 100 | 1,290 | | <1 | 55 |
| 80 | SITE #5 (B#203) | NIAGARA TRANSF | 20913 | 100 | 1,290 | | <1 | 55 |
| 81 | SITE #5 (B#203) | NIAGARA TRANSF | 20911 | 100 | 1,290 | | <1 | 55 |
| * 82 | SITE #8 (B#103) | GENERAL ELEC | C677734 | 50 | 790 | | | |
| * 83 | SITE #9 (FENCED) | NO PLATE | A241BA15XA1 | 15 | | | | |
| 84 | SITE #13 (S#100) | WESTINGHOUSE | 2313489 | 37.5 | | | <1 | 34 |
| 85 | SITE #13 | GENERAL ELEC | 58917 | 37.5 | 774 | | <1 | 27 |
| 86 | SITE #13 | GENERAL ELEC | 743713 | 37.5 | | | <1 | 35 |
| 87 | SITE #13 | GENERAL ELEC | C362670 | 37.5 | 630 | | 110 | |
| 88 | SITE #13 | GENERAL ELEC | C362642 | 37.5 | 630 | | 110 | |
| 89 | SITE #13 | GENERAL ELEC | C362665 | 37.5 | 630 | | 140 | |
| * 90 | SITE #10 (B#104) | GENERAL ELEC | D380718-59P | 10 | | | | |
| * 91 | SITE #10 (B#104) | GENERAL ELEC | D380723-59P) | 10 | | | | |
| * 92 | SITE #10 (B#104) | GENERAL ELEC | D363776-59P | 10 | | | | |
| * 93 | SITE #12 | WESTINGHOUSE | NO PLATE | | | | | |
| * 94 | SITE #12 | WESTINGHOUSE | NO PLATE | | | | | |
| * 95 | SITE #12 | WESTINGHOUSE | NO PLATE | | | | | |
| * 96 | SITE #11 (P-115) | HARRISON | 65784 | 10 | 325 | | | |

NOTES:

- (1) Transformers marked with an asterisk "*" are to be sampled for PCB's (total of 18).
- (2) Approximate quantity of Non-PCB type TR fluid = 1,075 Gal.
 Approximate quantity of PCB contaminated type TR fluid = 531 Gal.
 Approximate quantity of PCB type TR fluid = 0 Gal.

I.2 PART "B" (BUILDING DEMOLITION/ DEBRIS REMOVAL)
-includes the sealing of openings in five (5) Bunkers-

- 1) The demolition, salvage of identified items and materials and removal of resulting rubbish of ten (10) various building structures which include six (6) structures in the Barracks Area; 1-Power Plant; 1- Sewage Ejector Station ; 1-Guard House; and 1-Sewage Treatment Facility.
- 2) Conduct the sampling and testing, of all suspected asbestos containing materials such as piping and tank insulations, roof, siding, floor and ceiling materials, etc.. in the buildings mentioned above (item #1) prior to demolition.
- 3) Remove asbestos incidental to demolition activities.
- 4) Conduct the sampling/analysis of water and soil and possible sludges to assess the contaminant levels for waste classification in the Sewage Treatment Facility and the Sewage Ejector Station.
- 5) Dispose of various water and sludges/soil through a Public Owned Treatment Works (POTW) in accordance with Federal, State, and local regulations.
- 6) Demolish structures and appurtenances and remove the following contents in the Sewage Treatment Facility area:
the wood frame structure housing, the Trickling Filter Tank, the Trickling Filter Tank, a Grit Chamber, the Clarifier and Effluent Chamber, a Sump Pump, a Chlorine Contact Chamber, an electric control panel and a wood shed adjacent to it.
- 7) Remove approximately 750 linear feet of chain link fencing and steel posts and gates enclosure of the Sewage Treatment Facility.
- 8) Remove equipments and appurtenances and demolish concrete pit of the Sewage Ejector Station.
- 9) Backfill, grade and seed those areas disturbed by demolition.
- 10) The sealing-off (with masonry and concrete) of five (5) concrete bunkers.

(A) BUILDING DEMOLITION AND DEBRIS REMOVAL (BD/DR)
AND THE SEALING OF BUNKER OPENINGS -
EXISTING CONDITIONS:

The project involves the demolition and removal of ten (10) structures, including asbestos incidental to the removal and demolition of the structures and debris therein. The project also includes the sealing of openings of five bunkers as noted and

removal of debris therein as maybe required.

Site investigations were conducted, in May 1992, with the following observations made. The term "approximate" is used because the exact dimensions, number of units and their sizes are based on limited available information, and field observations. Adjustments to the contract will be made based on a unit price basis, as listed in the price schedule to reflect any discrepancies between estimated and actual.

BUILDING Nos. P-7 and P-8 :

Two former dormitory buildings in the Barracks Area, Building nos. P-7 & P-8 are to be demolished. The structures are both constructed of wood frame on masonry foundation and with shingles on the pitched roof and shingles for exterior siding. However, Building no. 7 is a one story structure approximately 65 feet x 40 feet long with a centrally located wood entry porch. There are two side exits of concrete platforms with metal handrails. The vandalized interior is deteriorating with a collapsed east vestibule floor. There is approximately 350 LF of insulated 1" diameter of two-pipe steam heating system. Building no.8 is a two story structure approximately 26 feet wide x 54 feet long with a crawl space and approximately 760 LF of insulated two-pipe heating system. The interior is also heavily vandalized and deteriorating. A hot water heater storage tank is in a room by the main entry.

Building P-12 is the former Police Headquarters. It is approximately 32 feet x 32 feet two story wood frame structure on masonry foundation with crawl space. The pitched roof and sidings are with shingles. The completely boarded-up building has a deteriorating wood entrance porch. There may still be in the building approximately 750 LF of insulated two-pipe heating system and a hot water storage tank as noted on previous field investigation.

Building P-16 is formerly an NCO Clubhouse. The T-shaped one-story wood frame structure is on masonry foundation with the front area approximately 96 feet x 24 feet and the tail area approximately 36 feet x 20 feet. There is a concrete service platform (approximately 6 feet x 11 feet x 3 feet high) on the west end of the front area. Parts of masonry enclosure and concrete slab on grade floor are on northeast area. There are concrete steps (3 risers) and walk to the main entrance. On the north side of the service platform is a concrete oil dike (4 feet x 4 feet x 20 inches high) to be removed.

Building P-17 (Dispensary) is a two story wood frame structure with masonry foundation and approximately 25 feet wide x 52 feet long. The gambrel and pitched roof and exterior wall sidings has shingles. The concrete entrance platform is approximately 4 feet x 4 feet x over 2 feet high stair (4R) with metal handrails. The vandalized and deteriorating structure has a detached front door. A one inch diameter pipe with insulation for it's two way pipe system is approximately 700 LF and 180 LF in the

mechanical room with the hot water heater.

Building No.105 (Heating Plant) is a one-story masonry structure approximately 45 feet x 30 feet x 16 feet high with concrete flat roof and concrete floor slab on grade. A brick chimney approximately 8 feet in diameter x 50 feet high is adjacent and connected to the south wall. The deteriorating and vandalized building has three approximately 3 feet x 9 feet broken glass windows with 3 feet x 4 feet of metal louvers below each of the window panels. In the main room past a 3'x 9' metal double doors are several mechanical equipments and appurtenances such as boilers tanks, pipings, etc... West of the main room are two rooms containing an aboveground fuel storage tank, a drum of sodium hydroxide and other items. There is approximately 500 LF of 1-1/2 inch diameter pipes with insulation.

Building No.203 (Power Plant) is a single story steel frame and masonry building (12" CMU wall) with low pitched roof and concrete floor slab on grade. The overall approximate building dimension is 72 feet wide x 84 feet long. The structure is composed of a main central bay which rises to the highest roof elevation of approximately 24 feet and two lower bays (10 feet high-est point roof elevation) projecting approximately 10 feet east and 12 feet west extending the entire length of both sides of the central bay. Clerestory windows are on the east and west walls of the center bay. Access to the building is by two 3'x 7' metal doors on each end of the building and the 12'x 15' vertical lift 3 panel sections metal door. Most of the central bay floor area is used up by five generators set in a pit each of which is approximately 35'long x 5'-6" wide x 8'deep. There are metal handrails for each generator area and approximately 850 SF of metal grating floor access set flushed with the top of the on grade concrete floor. Along the lower bay areas are electrical panels on the east and on the west are several oil tanks and other miscellaneous items. On rooftop of the lower west bay are 4 cooling towers connected to condensate tank towers a few feet away. The cooling tower roof area is enclosed with metal railing and there are metal stair access to all roof levels. Oil is present on the floors with broken glass and debris throughout the area. Towards the east front side of the building are several generators in a chain link fence enclosure.

SEWAGE EJECTOR STATION is located between Bldg. Nos.11 and 105. The underground concrete pit is approximately 16 feet x 12 feet x 18 deep with concrete top cover and metal access panel. It contains a sanitary sewer sump pump, influent pipe and effluent force main pipings, valves and other appurtenances.

Guard House (vicinity of Bunker No.2) is a wood frame structure approximately 15 feet x 12 feet with shingles on the pitched roof and concrete slab on grade floor. There is an open pit approximately 6'x 4'x 5'deep with CMU walls. Next to the pit is a 2'x 2'x 18" masonry block. The wood structure is deteriorated and

half collapsed.

Sewage Treatment Facility is located east of the State Park Service Motor Pool. The site slopes up to the west and is enclosed with chain link fence and the access gate on the northwest end. The facility consists of the following elements: a Grit Chamber, a Clarifier (primary tank) and effluent chamber, a sump pump, a Trickling Filter Tank, and a Chlorine Contact Chamber and an electrical control panel. Close to the access road at the bottom of the slope is the Grit Chamber followed by the Clarifier or primary tank. The Clarifier is a water filled two metal ring enclosure with the inner metal ring approximately 20 feet in diameter and 6 feet deep with a bridge of steel I-beam with metal grating and handrail traversing the open top of the tank. In the tank is a Clarifying equipment connected to the effluent chamber approximately 4'x 5' with metal grating cover. Next is the sump pump mechanism (wood enclosed) that was used to pump up the effluent to the Trickling Filter Tank. The Trickling Filter Tank is approximately 18' in diameter and 10 feet deep and contains the rotary distributor and filters of crushed stone which appear to be dry. The tank is under a wood frame structure approximately 24 feet square x 8 feet high on top of the slope. The filtered effluent water then drains into the Chlorine Contact Chamber which is under a concrete pad with metal grating access to the approximately 6'x 9'x 10' deep chamber. There are also the electric control panel mounted next to the electric pole and the wood shanty filled with debris.

(B) THE FIVE (5) BUNKERS WITH OPENINGS TO BE SEALED - EXISTING CONDITIONS:

BUNKER No.1 is one of two huge bunkers and located Southeast of the Barracks Area. There are three big openings which includes the gun areas one each through the east and west ends and the one in the middle for service support. The North openings (east and west ends) is approximately 16'(w) x 13'(h) with a passageway through to a much bigger South opening, approx.40'(w) x 13'(h) which is the gun area. On both sides of the passageway are concrete walls with metal double door openings (@ 3'-0"x7'-0"). Through one of the doors there is a room with a cluster of rusting paint cans in one corner and in another room a transformer and in another oil tanks on metal platform plus miscellaneous mechanical equipments and pipes. The west end southern opening has been enclosed with masonry wall and 7(@ 3'-0"x 5'-0") metal framed double hung glass windows and 2 (@ 3'-6"x 7'-0") HM doors plus 2 wall mounted exhaust fans. The approximately 12'-0"x 12'-6" entrance opening to the service area is on the north central side of the bunker. Each side of the main entrance is a 6'-0"x 6'-0" window openings with metal bars. Directly in front of one window is a generator with 3 steam vent pipes projecting up along the face of the exterior wall. On one side of the main entry area is a more or less 17 feet long covered mechanical utility trench at least 24" deep x 30" wide.

BUNKER No.2 contains a central fire control station with three entrances and two firing platforms alongside the north and south openings. Of the three openings only the north opening is visible since the other two had been bermed or covered with soil and vegetation. However, part of the berm on both areas had been disturbed and are partly exposed. The north opening approximately 12'-0"x 8'-0"(h) is sealed with 8" CMU which is partly damaged. Top of the raised flat roof of the spotting room with the approximately 8"(H)x 2'-8"(L)x 8'-0"(L) corner spotting hole under the concrete roof slab is very evident on top of the hill. On a corner of the roof slab is a vent shaft and open roof hatch. In the immediate vicinity are an air shaft with metal hood and an open approx. 30"x 30" shaft with masonry wall. The firing platforms are both approximately 20 feet inside diameter and 2 feet deep. However, the north platform opening is filled with debris while the south opening is earth packed and with vegetation.

BUNKER No.3 is very similar in size and configuration to Bunker No.1 while it is situated South of the Barracks Area. A door opening along the passageway of the West gun area has been sealed with CMU extending over most of the masonry wall whereas the door across the passageway is just locked. In the northwest corner of the former gun area is an opening (approx. 32"x 48"x 15'-0"deep) on the conc. slab on grade floor flushed to the top of the slab. The walls has tile finish and with metal step rungs along one side. There was a big pile of burnt up wood crate debris in the cavernous space (gun area). The central north entrance opening (approx.- 12'-0"x 13'-4") has been sealed with CUM but with a 2'-8"x 5'-4" opening. Windows with bars (approx. 6'-0"x 6'-0") is on each side of the opening. The metal double doors along the passageway of the East wing gun area is terribly rusted while the other door has been removed and the 6'-0"X 7'-0" opening sealed with CMU.

BUNKER No.4 is located North of the Commissary Area to the left at the approach to the main gate. This is a small bunker compared to previous three. It has two 5 feet x 7 feet openings closed up by metal tube frame with wiremesh. By the west wing in a front room is a transformer and inside are several tiny rooms with miscellaneous debris. There are 5 air shaft openings with metal hood on top of the hill covering the bunkers.

BUNKER No.5 is similar in size to Bunker No.4 but with double (vertical bars) metal gates at the entrance of the two- 7 feet x 9 feet openings. Up the hill on top of the bunkers are 5 air shaft openings (approx. 24 inches x 24 inches) with metal hoods and further up is an uncovered brick lined opening approximately 32"x 38"x 15'-0" deep.

II. DESCRIPTION OF SITE:

Camp Hero, located in the town of Montauk, New York, is approximately 308 acres, and was part of the Long Island Harbor Defense System for Long Island Sound. This property was owned by the Army and subsequently transferred to the Air Force to be the Montauk Air Force station. Today, the majority of the property is owned by the New York State Parks Department.

The property is accessed by one entrance located on Montauk Highway. Inside the camp, access is mostly by paved roads for vehicular traffic. That is to say, the area that work is to be performed is accessible by men and equipment, and access should not present a problem. However, overhanging shrubs, and dense foliage may present a nuisance. The removal of branches and clearing of shrubs during sampling, removal, and demolition work shall be coordinated with the field contracting officer. Contractor is not to expect any utility services on site; however, potable water is available at a few locations within the property. As a minimum, contractor will be required to provide lighting inside the bunkers as there is no source of electricity or natural sunlight. Also, means of reaching pole mounted transformers shall be the contractor's responsibility.

DEC?

III. GENERAL NOTES:

1. Prior to the submission of the Work Plan, a pre-construction conference will be arranged between the contractor, owner (N.Y.S. Parks Dept.), and the contracting officer. The topics of site utility usage, site access, shrub/vegetation clearing, and the various aspects particular to the site will be discussed and coordinated.
2. Contractor will be allowed to set-up a staging area within the camp proper. The location selected will be coordinated in conjunction with the owner (N.Y.S. Parks Department) and the Contracting Officer. The location(s) will be selected prior to submission of the Work Plan. The location(s) shall be incorporated into the Work Plan.
3. Contractor shall verify all conditions and dimensions relating to the project before commencing with the required work.
4. Contractor shall promptly notify the Contracting Officer of any discrepancies and/or conditions which prevent him from fulfilling the terms of the Contract.
5. During the performance of the removal work specified, the Contractor may discover additional items that need removal. When such areas are discovered, they shall be inspected concurrently by the Contractor and the Contracting Officer. The Contracting Officer will promptly make a determination of the action to be taken. Equitable adjustments to the contract will be made for the additional work directed by the Contracting Officer.

** END OF SECTION **

SECTION 01305

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY: This section covers procedures to be used in making submittals called for in this and other sections of the specifications. In contracts which contain specific "Contractor Quality Control" (CQC) clauses, the Contractor's Quality Control Representative shall carry out duties associated with submittal procedures. In contracts which do not contain specific CQC clauses, references to "CQC representative" shall be interpreted as reference to the Contractor's authorized representative, and references to "CQC Requirements" or "CQC Clauses" shall be interpreted as "requirements or clauses elsewhere in the contract."

1.2 REFERENCE: Not Applicable

1.3 SUBMITTAL CLASSIFICATION: Submittals are classified as follows:

1.3.1 Government Approved: Government approval is required for extensions of design, critical materials, deviation, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction", they are considered to be "shop drawing".

1.3.2 Information Only: All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawing" within the terms of the Contract Clause referred to above.

1.4 APPROVED SUBMITTALS: The approval of submittals by the Contracting Officer shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the CQC requirements of this contract, is responsible for the dimensions and design of adequate connections, details and satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be given consideration unless accompanied by an explanation as to why a substitution is necessary.

1.5 DISAPPROVED SUBMITTALS: The Contractor shall make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies as specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, notice as

required under the Contract Clause entitled "Change" shall be given promptly to the Contracting Officer.

1.6 WITHHOLDING OF PAYMENT: Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 GENERAL: The Contractor shall submit all items listed on the Submittal Register (ENG FORM 4288) or specified in the other sections of these specifications. The Contracting Officer may request submittals in addition to those listed when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same used in the contract drawings. Submittals shall be made in the respective number of copies and to the respective addresses set forth below. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) representative and each respective transmittal form (ENG FORM 4025) shall be stamped, signed, and dated by the CQC representative certifying that the accompanying submittal complies with the contract requirements. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals including parts list; certifications; warranties and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby.

3.2 SUBMITTAL REGISTER (ENG FORM 4288): At the end of this section is one set of ENG FORM 4288 listing each item of equipment and material for which submittals are required by the specifications. Columns "c" thru "o" have been completed by the Government. The Contractor shall complete columns "a", "b" and "p" thru "u" and return (3) complete copies to the Contracting Officer for approval within (15) calendar days after Notice to Proceed. The approved submittal register will become the scheduling document and will be used to control submittals throughout the life of the contract. This register and the progress schedules shall be coordinated.

3.3 SCHEDULING: Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of (14) calendar days

exclusive of mailing time) shall be allowed on the register for review and approval. No delays damages or time extensions will be allowed for time lost in late submittals.

3.4 TRANSMITTAL FORM (ENG FORM 4025): The sample transmittal for (ENG FORM 4025) attached to this section shall be used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care will be exercised to ensure proper listing of the specification paragraph and sheet number of the contract drawings pertinent to the data submitted for each item.

3.5 SUBMITTAL PROCEDURE: Submittals shall be made as follows:

3.5.1 Procedures : At the Quality Control Coordination meeting or preconstruction conference, the Contractor shall ascertain the name and address of each individual, agency, or firm who is designated to normally receive items for approval. The Contractor shall complete ENG FORM 4025, entering each item requiring a separate approval action as a separate item on the form, for each transmittals. A transmittal may consist of one or more 4025 sheets. The transmittal, consisting of the 4025 plus all applicable submittals is then sent to the appropriate individual. On critical items the Contractor is encouraged to confirm receipt via telephone. The Contractor shall submit seven copies of submittals for approval and one for items for information.

3.5.2 Deviations: For submittals which include proposed deviation requested by the Contractor, the column "variation" of ENG FORM 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

3.6 CONTROL OF SUBMITTAL: The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register".

3.7 GOVERNMENT APPROVED SUBMITTALS: Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and date. (4) copies of the submittal will be retained by the Contracting Officer and (3) of the submittal will be returned to the Contractor.

3.8 INFORMATION ONLY SUBMITTALS: Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only

submittals. These submittals will be used for information purposes. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications and will not prevent the Contracting Officer from requiring removal and replacement if nonconforming material is incorporated in the work. This does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or check testing by the Government in those instances where the technical specifications so prescribe.

3.9 STAMPS: Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

| | |
|---------------------------|--|
| CONTRACTOR (Firm Name) | |
| _____ | Approved |
| _____ | Approved with corrections as noted on submittal data and/or attached sheet(s). |
| SIGNATURE: | _____ |
| TITLE: | _____ |
| DATE: | _____ |

| SUBMITTAL REGISTER | | | | | | | | | | | | | | CONTRACT NUMBER | | | | | | | | | | |
|--|----------------|--------------------------------------|---|------------------------|------------------------|---------------------------------------|--------------------------------------|---|---|--------------------------------------|--|---|--|----------------------------|---------------------|--|--|--------------------------------|----------------------|--|----------------------|------------------|---------|---------------|
| TITLE AND LOCATION REMOVAL/DISPOSAL OF TANKS, TRANSFORMERS, AND MISCELLANEOUS; MONTAUK, NEW YORK | | | | | | | | | | | | | | CONTRACTOR: | | | | SPECIFICATION SECTION 01500 | | | | | | |
| HAS ACTIVITY CODE | ITEM NUMBER | SPECIFICATION PARAGRAPH NUMBER | DESCRIPTION OF ITEM SUBMITTED | TYPE OF SUBMITTAL | | | | | | | | | | | CLASSI- FICATION | CONTRACTOR SCHEDULE DATES | | | CONTRACTOR ACTION | | GOVERNMENT ACTION | | REMARKS | |
| | | | | SO P D W G | SA M P L E | GU A R A N T E E | M A S S D A T A | C E R T I F I C A T E | T E C H N I C A L D A T A | S O F T W A R E | O T H E R A S S U M E S | I N F O R M A T I O N | A P P R O V E D G O V E R N M E N T | S U B M I T | | A P P R O V A L N E E D E D B Y | M A T E R I A L N E E D E D B Y | C O D E | D A T E | S U B M I T T O G O V E R N M E N T | C O D E | D A T E | | |
| a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t | u | v | w | x | |
| | | 3.1 | ENVIRONMENTAL MANAGEMENT PLAN | | | | | | | | | X | | X | | | | | | | | | | AREA ENGINEER |
| | | 3.1 (1) | WORK PLAN INCLUDING PLAN (CDAP) | | | | | | | | | X | | X | | | | | | | | | | AREA ENGINEER |
| | | 3.1 (2) | SITE SPECIFIC HEALTH & SAFETY PLAN INCLUDING EMERGENCY RESPONSE PLAN | | | | | | | | | X | | X | | | | | | | | | | AREA ENGINEER |
| | | 3.2 | MANAGEMENT PLAN SCHEDULE | | | | | | | | | X | | X | | | | | | | | | | AREA ENGINEER |

01305

| SUBMITTAL REGISTER | | | | | | | | | | | | | | CONTRACT NUMBER | | | | | | | | | | | | |
|--|-------------|--------------------------------|-----------------------------------|-------------------|---|---|---|---|---|---|---|---|---|-----------------|---------------------------|-----------------------|---|-------------------|---|-------------------|---|---------|---|---|---|---|
| TITLE AND LOCATION | | | | | | | | | | | | | | CONTRACTOR | | SPECIFICATION SECTION | | | | | | | | | | |
| REMOVAL/ DISPOSAL OF TANKS, TRANSFORMERS, AND MISCELLANEOUS; MONTAUK, NEW YORK | | | | | | | | | | | | | | | | 01700 | | | | | | | | | | |
| NAS ACTIVITY CODE | ITEM NUMBER | SPECIFICATION PARAGRAPH NUMBER | DESCRIPTION OF ITEM SUBMITTED | TYPE OF SUBMITTAL | | | | | | | | | | | CONTRACTOR SCHEDULE DATES | | | CONTRACTOR ACTION | | GOVERNMENT ACTION | | REMARKS | | | | |
| | | | | a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | | s | t | u | v |
| | | 3. | Environmental Protection Plan | | | | | | | | | | | | | | | | | | | | | | | |
| | (1) | | Control and Disposal of waste | | | | | | | | | | | X | X | | | | | | | | | | | |
| | (2) | | Erosion and sediment Control | | | | | | | | | | | X | X | | | | | | | | | | | |
| | (3) | | Temporary Construction Facilities | | | | | | | | | | | X | X | | | | | | | | | | | |
| | (4) | | List of Permits and Licenses | | | | | | | | | | | X | X | | | | | | | | | | | |

0/305-1

SUBMITTAL REGISTER

CONTRACT NUMBER

CONTRACTOR

SPECIFICATION SECTION
02300

TITLE AND LOCATION

REMOVAL/DISPOAL OF TANKS, TRANSFORMERS, AND
MISCELLANEOUS, MONTAUK, NEW YORK

| HAS ACTIVITY CODE | ITEM NUMBER | SPECIFICATION PARAGRAPH NUMBER | DESCRIPTION OF ITEM SUBMITTED | TYPE OF SUBMITTAL | | | | | | | | | | | CONTRACTOR SCHEDULE DATES | | | CONTRACTOR ACTION | | | GOVERNMENT ACTION | | REMARKS |
|-------------------------|----------------|--------------------------------------|--|-------------------|--------|-----------|-----------|-------------|-----------------|-------------------|----------|-------------------|---------------------|---------------------------|------------------------------|--------------------------|--------------------------|----------------------|------|----------------------------|----------------------|------|---------------|
| | | | | FOR OWNER | SAMPLE | GUARANTEE | LOGS DATA | CERTIFICATE | TEST RESULTS | TECHNICAL DATA | SOFTWARE | OTHER AS NOTED | INFORMATION ONLY | APPROVED BY GOVERNMENT | SUBMIT | APPROVAL NEEDED BY | MATERIAL NEEDED BY | CODE | DATE | SUBMIT TO GOVERNMENT | CODE | DATE | |
| a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t | u | v | w | x |
| | | 3. | Qualifications | | | | | | | | | X | | X | | | | | | | | | Area Engineer |
| | | 2. | Submittals | | | | | | | | | | | | | | | | | | | | |
| | | 2.1 (1) | Qualifications | | | | | | | | | X | X | X | | | | | | | | | Area Engineer |
| | | (1) | Work Plan | | | | | | | | | X | | X | | | | | | | | | Area Engineer |
| | | 2.2 | Sampling results | | | | | | | | | X | X | | | | | | | | | | Area Engineer |
| | | | Documentation | | | | | | | | | X | X | | | | | | | | | | Area Engineer |
| | | | List of Transporter & Disposal Facility | | | | | | | | | X | X | | | | | | | | | | Area Engineer |
| | | | Manifests | | | | | | | | | X | X | | | | | | | | | | Area Engineer |
| | | | Permits | | | | | | | | | X | X | | | | | | | | | | Area Engineer |
| | | | Licenses | | | | | | | | | X | X | | | | | | | | | | Area Engineer |
| | | | Site Closure Document | | | | | | | | | X | X | | | | | | | | | | Area Engineer |
| | | | Notification to local Fire Marshall | | | | | | | | | X | X | | | | | | | | | | Area Engineer |

01305

SUBMITTAL REGISTER

CONTRACT NUMBER

TITLE AND LOCATION

REMOVAL/DISPOSAL OF TANKS, TRANSFORMERS, AND MISCELLANEOUS; MONTAUK, NEW YORK

CONTRACTOR

SPECIFICATION SECTION
02400

| HAS ACTIVITY CODE | ITEM NUMBER | SPECIFICATION PARAGRAPH NUMBER | DESCRIPTION OF ITEM SUBMITTED | TYPE OF SUBMITTAL | | | | | | | | | | | CONTRACTOR SCHEDULE DATES | | | CONTRACTOR ACTION | | | GOVERNMENT ACTION | | REMARKS |
|-------------------|-------------|--------------------------------|---|-------------------|-------------|------------|--------------|------------------|----------|----------------|------------------|-----------------|----------|--------|---------------------------|--------------------|------|-------------------|----------------------|------|-------------------|---|---------------|
| | | | | SHOWING | PRELIMINARY | FINAL DATA | CONSTRUCTION | OPERATIONAL DATA | SOFTWARE | OTHER AS NOTED | INFORMATION ONLY | GOVERNMENT ONLY | APPROVED | SUBMIT | APPROVAL NEEDED BY | MATERIAL NEEDED BY | CODE | DATE | SUBMIT TO GOVERNMENT | CODE | DATE | | |
| a | b | c | d | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t | u | v | w | x |
| | | 5. | Submittals | | | | | | | | | | | | | | | | | | | | |
| | | 5.1 | Work Plan | | | | | | | | | X | | X | | | | | | | | | Area Engineer |
| | | 5.2 | Manufacturer's Data | | | X | | | | | | | X | | | | | | | | | | Area Engineer |
| | | 5.3 | Information of Transporter & Disposal Facility, and Permits | | | X | | | | | | | X | | | | | | | | | | Area Engineer |

01305

SUBMITTAL REGISTER

CONTRACT NUMBER

TITLE AND LOCATION: **REMOVAL /DISPOSAL OF TANKS, TRANSFORMERS, AND MISCELLANEOUS: MONTAUK, NEW YORK**

CONTRACTOR:

SPECIFICATION SECTION
02500

| HAS ACTIVITY CODE a | ITEM NUMBER b | SPECIFICATION PARAGRAPH NUMBER c | DESCRIPTION OF ITEM SUBMITTED d | TYPE OF SUBMITTAL | | | | | | | | | | | CLASSIFICATION | | | CONTRACTOR SCHEDULE DATES | | | CONTRACTOR ACTION | | | GOVERNMENT ACTION | | REMARKS x | | |
|------------------------|------------------|-------------------------------------|------------------------------------|-------------------|---|---|---|---|---|---|---|---|---|---|----------------|---|---|---------------------------|---|---|-------------------|---|--|-------------------|--|---------------|--|--|
| | | | | e | f | g | h | i | j | k | l | m | n | o | p | q | r | s | t | u | v | w | | | | | | |
| | | 4. | Submittals | | | | | | | | | | | | | X | X | | | | | | | | | Area Engineer | | |
| | | 4.1 | Mix design | | | | | | | | | | | | X | X | | | | | | | | | | | | |
| | | 4.2 | Test Reports | | | | | | | | | | | | X | X | | | | | | | | | | | | |
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01305-

SECTION 01440

CONTRACTOR QUALITY CONTROL

(SHORT FORM)

In order to ensure Quality Control of ongoing construction work, the Contractor shall implement Clause 82, "Inspection of Construction", FAR 52.246-12. Personnel implementing this clause shall be considered part of the Contractor Quality Control System. In addition, the Contractor's inspection activities records indicating highlights of inspection activities shall be forwarded to the Government for each two week period, no later than three work days after the end of each period. Records should reflect that an adequate inspection system is in operation. As a minimum, records shall indicate dates of inspection, item inspected, results of inspection and inspector's signature.

The contract documents may require specially qualified personnel to perform control activities in areas such as data acquisition, testing, safety, etc. Staffing, activities, and reporting documentation shall be as indicated, and all such activities shall be coordinated by CQC personnel.

If the Government finds substantial uncorrected deficiencies in the work, inspection records, and indications that adequate inspections have not been conducted; the Government will require more frequent inspections, prompt corrections to deficiencies, and more frequent and detailed reporting, and may withhold payment as appropriate.

** END OF SECTION **

SECTION 01500

ENVIRONMENTAL MANAGEMENT PLAN

1. GENERAL: The Contractor shall prepare an Environmental Management Plan which addresses sampling and remedial actions pertaining to underground/aboveground storage tanks, transformers, drums/containers, and various hazardous materials in this contract.

2. REGULATORY REQUIREMENTS AND APPLICABLE PUBLICATIONS:

(1) Occupational Safety and Health Administration (OSHA) Standards and Regulations contained in Title 29, Code of Federal Regulations, Parts 1910 and 1926 (29 CFR 1910 and 1926), including Amendments as stated in FED. REG. December 19, 1986: 45654-45657. (Interim Final Rule, 29 CFR 1910.120 "Hazardous Waste Operations and Emergency Response")

(2) Corps of Engineers, Safety and Occupational Health Document Requirements for Hazardous/Toxic Waste (HTW) Activities, ER 385-1-92.

(3) Chemical Data Quality Management for Hazardous Waste Remedial Activities, ER 1110-1-263, August 1990.

(4) NIOSH/OSHA/USCG/EPA Occupational Safety and Health Guidance Manual for Hazardous Site Activities, October 1985, DHHS(NIOSH) Publ. No.85.115.

(5) Data Quality Objectives for Remedial Response Activities, EPA 540/G-87/003.

(6) Test Methods for Evaluating Solids Wastes, EPA SW-846, July 1982.

3. ENVIRONMENTAL MANAGEMENT PLAN:

3.1 The environmental management plan shall contain as a minimum the following:

(1) Work Plan which includes a Chemical Data Acquisition Plan (CDAP) and a qualification of Contractor's laboratory for sampling activities.

(2) Site Specific Health and Safety Plan (SHSP).

The work shall be conducted in an environmentally acceptable manner conforming to Federal, State and local regulations. The Contractor shall recognize that the management plan is intended to provide for proper preparation to deal with the environmental issues (regulations, clean-up standards, health hazards, reporting requirements, etc.) associated with underground storage tanks, transformers, and drums/containers. A plan shall be submitted to the Contracting Officer for approval prior to the commencement of field work.

3.2 Management plan schedule: The Contractor shall submit the draft environmental management plan within 14 calendar days after notice to proceed for review to the Contracting Officer. The Contracting Officer will provide comments on the draft plan to the contractor within 14 calendar days after the plan has been submitted. The Contractor shall incorporate all comments in the final plan, and submit the plan to the Contracting Officer within 7 calendar days of receipt of comments.

4. WORK PLAN: A comprehensive work plan shall be completed and submitted in accordance with the submittal schedule. The work plan shall include a detailed discussion of the technical approach to be used (equipment, methods and procedures). All personnel shall be identified and work schedules formulated. All work shall be performed according to the approved work plan. The project organization for the prime contractor and any subcontractors shall be clearly defined with a discussion of Quality Control (QC) responsibilities. A list of key individuals shall be provided and shall include QC officers for all project components. The work plan shall include as a minimum, the following components:

4.1 Technical approach, work schedule, project organization.

4.2 Contractor's laboratory qualification: The State certificate or the current validation by USACE Missouri River Division (MRD).

4.3 Chemical Data Acquisition Plan (CDAP): The CDAP shall be prepared in accordance with Appendix D, ER 1110-1-263. The CDAP shall be approved by the Contracting Officer prior to performing any field work. In the event corrections or comments are made by the Contracting Officer on the plan, any necessary changes shall be implemented by the Contractor before final approval.

5. CHEMICAL DATA ACQUISITION PLAN (CDAP): The major items and organization of this document include project specific detail and shall include specific sampling points, specific sampling procedures, specific packaging, chain of custody procedures, and field screening procedures. The CDAP shall contractually delineate details for accomplishing the chemical quality control items as directed in this specifications. The CDAP shall assure accurate, legally defensible, and comparable data.

5.1 The Contractor shall submit the following to the designated Quality Assurance (QA) laboratory:

New England Division Water Quality Laboratory,
Barre Falls Dams, RFD #1,
Hubbardston, MA 01452-9743
POC: Mr. Brian Condike, Chemist (508) 928-4238
Hours of operation: 0700-1530 (Monday thru Friday)

(1) Quality Assurance/Quality Control (QA/QC) Samples

(2) Data Report

5.1.1 Quality Assurance/Quality Assurance (QA/QC) Sampling: QA and QC samples are required to be collected and analyzed by the Contractor laboratory and the designated QA laboratory, respectively. These QC and QA samples include splits or replicates of field samples, rinsate blanks, trip blanks and background soil and groundwater samples. QA samples shall be sent to the designated QA laboratory by the overnight delivery for Government monitoring of sampling and contract laboratory performance. When the following procedures performed by the designated QA laboratory demonstrate that contract requirements for chemical quality control were not met, the resampling and analysis by the Contractor may be required by the Contracting Officer.

(1) Inspection of QA samples to insure that sampling procedure correspond to CDAP with regard to sample containers, preservation, labeling, and chain of custody.

(2) Analyses of QA samples.

(3) Evaluation of contractor deliverables specified in CDAP.

(4) Comparison of analytical results obtained by the contractor laboratory and the designated QA laboratory from split or replicate samples.

5.1.2 Data report to the QA laboratory: The Contractor's data must be submitted to the designated QA laboratory for data validation and comparison purpose as soon as it is available. This submittal should include all samples, blank and internal quality control results such as spikes and surrogate recoveries and agreement between replicate analyses. Interim data set should also be submitted to the New York District for evaluation. If the submission of raw data such as chromatogram is required, it should be specified in the approved CDAP.

5.2 Contract Responsibility for Chemical Analysis: It is the responsibility of the Contractor to properly collect, transport, analyze and present the data pertaining to chemical analyses. If the Contractor does not follow the specified criteria and approved plan and thereby jeopardizes the samples, the Contracting Officer will disapprove the samples and direct the Contractor to resample, analyze, and present the data at no additional cost to the Government. If directed to do so by the Contracting Officer, the Contractor shall collect and send representative "split" samples to the designated QA laboratory for the quality assurance analysis. The Contractor is required to defend his results if there is disagreement between the samples analyzed by the Contractor and the samples analyzed by the designated QA laboratory.

5.3 Sampling/Analysis Procedures: The Contractor shall furnish all information relative to the sampling process including equipment, sample volume, and sampling technique in

the CDAP. The Contractor shall also supply all references to the procedure used in the CDAP. All sampling activities shall be performed according to protocols, specific to each parameter of interest, promulgated by the USACE. The CDAP shall fully describe all sampling procedures including those below.

5.3.1 The Contractor shall perform the investigation necessary to locate the underground storage tank prior to the removal by means of a piping-cable locator (Fisher Model TW-6 or approved equal) or approved equal.

5.3.2 Sampling devices for tanks shall be explosion proof including the following: peristaltic pumps, weighted bottles, Kemmerer samplers, and bailers or Coliwasas.

5.3.3 Storage tank contents sampling/analysis:

(1) Wear protective gear as specified in the Site Safety and Health Plan (SSHP).

(2) Remove the fill pipe cap with use of non-sparking tools.

(3) Determine the depth of tank and the volume of tank contents: Lower a wooden stick which had been coated with water indicating paste to the bottom of the tank. A similar tape is used to indicate petroleum and related organic liquids. Measure and record distance from the bottom of the tank to the soil surface, total depth of the sludge layer, total depth of each layer of liquid in the tank. Also, record if each layer is aqueous or non-aqueous.

(4) Sampling with a peristaltic pump: The tubing is fastened to the stick which was used for measuring the depth of the product at the point from which the sample is to be withdrawn. The stick is re-entered into the tank until it reaches the bottom. The pump is then operated to withdraw the sample directly into the sample bottle. The location on the stick where the bottom of the tube is located can then be adjusted to withdraw a sample from another depth. The silicon tubing from the peristaltic pump shall be disposed after each sampling of tanks.

(5) Tank petroleum content shall be fingerprinted.

(6) Samples (aqueous and sludge) shall be analyzed for flash point, total petroleum hydrocarbon (TPH), total organic halides, TCLP metals (As, Cd, Cr & Pb only), and BTEXT (Benzene, Toluene, Ethylbenzene and Xylene).

5.3.4 Soil sampling/analysis associated with underground storage tanks: Immediately after removing each underground storage tank and piping, the Contractor shall take the following samples:

(1) Two soil grab samples, one at each end of the tank at the lowest point of the excavation.

(2) One soil sample from each of the excavation

(3) One soil sample every 15-feet along pipe runs and suspected worst case locations which are defined as any soils having a strong organic or chemical odor, visibly stained, or displaying a high organic vapor reading greater than 100 ppm on the flame ionization detector (FID). Up to 5 pipe trench samples can be composited, but the worst case samples shall not be composited.

(4) Above samples shall be analyzed for total petroleum hydrocarbon (TPH). If found TPH contaminated, the Contractor shall remove the soil to the horizontal and vertical limit of contamination.

(5) These excavated soil piles shall be analyzed for all RCRA characteristics of ignitability (flash point) and toxicity determined by TCLP (Toxicity Characteristics Leaching Procedure) to assess the contamination level for disposal purpose.

(6) One background soil sample for each job site. At each sample location, one inch of soil shall be removed immediately before collecting a sample. Samples shall be analyzed for RCRA toxicity characteristics determined by TCLP procedures.

(7) If groundwater is encountered, two water samples shall be taken, one sample of any sheen on the water and one sample of the water without the sheen. These samples shall be analyzed for RCRA toxicity characteristics determined by TCLP procedures.

5.3.5 Transformer sampling/analysis:

(1) Prior to sampling, transformer area shall be inspected to verify each transformer has been de-energized.

(2) One dielectric fluid sample from each transformer shall be taken and analyzed for PCB in accordance with EPA Method 8080.

(3) Soil contaminated due to spills or leakage shall be sampled and analyzed for PCB. Wipe test shall be analyzed for PCB as well.

(4) Opened tops for sampling shall be resealed completely.

5.3.6 Drum sampling/analysis:

(1) A preliminary investigation with an explosimeter and an organic vapor analyzer shall be made to determine levels of personnel protection and to assist in selecting a sampling method.

(2) Prior to sampling, the drums shall be staged to allow easy access. Also, any standing water or other material shall be removed from the top of drum so that the

representative nature of the sample is not compromised when the drum is opened. There is also the possibility of encountering a water reactive substance.

(3) Remove the top of drum for sampling. The opening of closed drums prior to sampling entails considerable risk if not done with the proper techniques, tools, and safety equipment. The potential for vapor exposure, skin exposure due to splash or spraying, or even explosion resulting from sparks produced by friction of the tools against the drum, necessitate caution when opening any closed drum. Both manual and remote drum opener may be utilized. When drums are opened manually, risks are greater than when opened remotely. For this reason, the remote opening of drums is advised whenever possible.

(4) For sampling for hazardous liquid contents, insert the drum sampler (glass tube or Coliwasa) almost to the bottom of the drum, and allow the contents to reach its natural level in the sampler.

(5) If the specific depth of the sample is important, a discrete sampler such as the Kemmerer type shall be used. In situation where the reactive nature of the contents are known, a small submersible pump shall be used.

(6) Cap the sampled drum tightly with a Teflon-lined cap.

(7) One sample from each drum shall be taken and analyzed for total petroleum hydrocarbon (TPH) and RCRA characteristics of ignitability, reactivity, corrosivity and toxicity determined by TCLP procedures.

5.4 Samples Handling and Custody: Specific handling requirements are described in ER 1110-1-263, Appendix F, Sampling Handling Protocol for Low, Medium, and High Concentration Samples and Hazardous Wastes.

5.4.1 Samples handling: The Contractor shall furnish labor, equipment, facilities to obtain and handle samples at the project site, facilitate inspections and analyses, provide storage, and preservation including refrigeration of the samples as necessary.

5.4.2 Sample containers and cleaning procedure: The types of containers and procedure used for cleaning these containers shall be consistent with USEPA requirements for the specific parameters of interest.

5.4.3 Procedure employed to avoid sample contamination: During sampling activities, appropriate decontamination measures shall be taken to minimize sample contamination from external sources such as sampling equipment or sample containers. These procedures shall be consistent with those outlined in USEPA SW-846.

5.4.4 Sample preservation: All samples collected shall be

preserved according to USEPA protocols established for the parameters of interest. Appropriate measures will be taken to ensure that storage requirements with respect to temperature are maintained during transport to the laboratory, and prior to log-in and storage at the laboratory.

5.4.5 Sample transportation: Samples shall be transported to the Contractor laboratory and the designated QA laboratory via the most rapid means. Samples shall be packaged and transported according to USEPA and DOT regulations.

5.4.6 Chain of custody procedures: Samples shall be collected, transported, and received under strict chain of custody protocols consistent with procedures established by the USEPA for litigation related materials. Upon receipt at the laboratory, the laboratory shall provide a specific mechanism through which the deposition and custody of the samples are accurately documented during each phase of the analytical process.

5.5 Sampling Personnel and Data Logging: Samples shall be taken by qualified personnel only. Personnel shall have documented experience collecting hazardous waste samples and shall meet all health requirements for this type of work. Sampling personnel shall be under direct control of the contractor laboratory. Field sampling data shall be recorded in indelible ink in a bound log book containing the following data, and a copy shall be submitted to the designated QA laboratory along with the Data Report.

- (1) Date and time of sampling
- (2) Weather conditions
- (3) Printed name of sampling personnel
- (4) Sample identification
- (5) Sample location shown on a hand-drawn sketch
- (6) Depth of sample
- (7) Observations including description of material sampled, staining (if any), presence of odors and groundwater

5.6 Equipment Calibration Procedures and Frequency: A list of the field instrumentation to be used by the Contractor specifying manufacturers models, accessories, etc., with procedures used for calibration and frequency of checks is required. The instrumentation and calibration shall be consistent with the analytical method requirements.

5.7 Quality Control Summary Report (QCSR): At the completion of the construction effort, a report summarizing the items discussed above for the construction period shall be prepared by compiling information relative to the project in accordance with the following outline:

- (1) Project scope
- (2) Project description
- (3) Sampling procedure
- (4) Data representation

(5) Quality control activities including field laboratory generated QC samples results and a discussion of the reliability of the data

(6) Conclusions and recommendations including any pertinent observations made during this project that are of use to the future site activities

6. SITE SPECIFIC HEALTH AND SAFETY PLAN (SHSP): A SHSP shall be prepared by the contractor as required by 29 CFR 1910.120 (b)(4), and submitted for review and approval by the Contracting Officer prior to commencement of any work specified herein. The SHSP shall describe the health and safety procedures, practices, and equipment to be implemented and utilized in order to protect affected personnel from the potential hazards associated with the tasks to be performed.

6.1 Certified Industrial Hygienist (CIH): The Contractor shall utilize the services of an Industrial Hygienist certified by the AIHA (American Industrial Hygienist Association) to develop the SHSP, conduct initial site specific training, and provide support for all health and safety activities as needed.

6.2 Site Safety and Health Officer (SSHO): The Contractor shall also utilize the services of SSHO to assist and represent the CIH in the continued on-site implementation and enforcement of the SHSP. The SSHO shall be assigned to the site on a full time basis and shall be either the Contractor's employee or a subcontractor who reports to the Contractor and the CIH as a member of the quality control staff in matters pertaining to site safety and health.

6.3 The SHSP shall include, but not necessarily be limited to, the following components as required by OSHA 29 CFR 1910.120 (i) (2):

- (1) Site description and contamination characterization
- (2) Hazard assessment and risk analysis
- (3) Accident prevention
- (4) Staff organization, qualifications, and responsibilities
- (5) Training
- (6) Personal protective equipment
- (7) Medical surveillance
- (8) Exposure monitoring/Air sampling program
- (9) Standard operating safety procedures, engineering controls, and work practice
- (10) Site control measures
- (11) Personal hygiene and decontamination
- (12) Equipment decontamination
- (13) Emergency equipment and first aid requirements
- (14) Emergency response plan and contingency procedures
- (15) Heat and old stress monitoring
- (16) Logs, reports and record-keeping

6.4 Site Description and Contamination Characterization: The SHSP shall include a complete summary of contaminants known or suspected to be present on-site. Chemical names,

concentration ranges, media in which found, locations on-site, and estimated quantities/volumes to be impacted by site work shall be included if known. Copies of Material Safety Data Sheets (MSDS) for each known suspected contaminant shall be included in the SHSP. Also, the U.S. Army Hygiene Agency (USAEHA) may be contacted to provide information on material identification in cases where military markings are still legible. Telephone No. for USAEHA is (410) 584-3651.

6.5 Hazard Assessment and Risk Analysis: The SHSP shall identify the chemical and physical (including safety) hazards of concern for each task and/or operation to be performed. The routes and sources of exposure, description of health effects, anticipated on and off-site exposure levels and potentials, and regulatory (including Federal, State and local) or recommended protective exposure standards shall be identified in the SHSP chemicals/substances selected as indicators shall be realistically selected and justified. The SHSP shall specify and justify action levels based upon airborne exposure hazards and direct skin contact potentials for upgrades/downgrades and/or work practice controls; for implementing evacuation of on-site personnel; and for prevention and/or minimization of public exposures to hazards created by the work. Air monitoring/sampling shall be performed, and resulting data compared with established action levels, and appropriate corrective actions initiated as necessary.

6.6 Accident Prevention: An accident prevention plan and description of work phase safety plans, as required by USACE EM 385-1-1, shall be addressed for those topics not specifically delineated herein. Appendix Y of USACE EM 385-1-1 contains a format for an Activity Hazard Analysis (AHA). The AHA describes each step in a phase of work, the chemical and physical hazard(s) associated with that action and methods to control the hazard. The following elements shall be addressed as a minimum: (1) Material handling procedures (soils, liquids); (2) Drum/container handling procedures and precautions; (3) Confined space entry procedures; (4) Hot-work, sources of ignition and electrical protection; (5) Excavation safety; (6) Engineering controls and (7) Disposal of hazardous waste. The Contractor shall conduct daily safety and health inspections to determine if operations are being conducted in accordance with the SHSP, USACE and OSHA regulations, and contract requirements. In the event of an accident/incident, the contractor shall immediately notify the Contracting Officer. Within five (5) working days of any reportable accident the contractor shall complete and submit to the Contracting Officer an Accident Report on ENG FORM 3394 in accordance with AR 385-40 and the USACE Supplement 1 to that regulation. The ENG FORM 3394 shall be submitted any time there is: (1) an occupational illness/injury resulting in a lost work day, excluding the day of injury; (2) a fatality, permanent disability, or 5 or more persons hospitalized; (3) \$700.00 or more property damage.

6.7 Staff Organization, Qualifications and Responsibilities: The SHSP shall discuss the organizational structure including

lines of authority, and overall responsibilities of supervisors and employees for site activities, as well as CIH and SHSO. Additionally, at least one person certified in first aid/CPR by the Red Cross, or equivalent agency, shall be present on-site during all on-site operations.

6.8 Training: All personnel working directly (removal, cleaning, soil removal or other hazardous waste activities) on storage tank, transformer, and drum/canister shall receive 40 hours of initial off-site health and safety training (24 hours for non-exposed on-site personnel) which is to be relevant to hazardous waste site activities, plus three days of supervised field experience (one day for non-exposed personnel), in compliance with 29 CFR 1910.120 (e). In addition, site specific supervisory, refresher, and visitor training shall be addressed. The content, duration, and frequency of all training shall be described. Copies of training certificates for all required initial, site-specific, supervisory, and refresher training for affected personnel shall be included in the SHSP.

6.9 Personal Protective Equipment (PPE): A written personal protective equipment (PPE) program shall be established which addressed all the elements listed in 29 CFR 1910 120 (g)(5), and which complies with respiratory protection program requirements of 29 CFR 1910.134. The PPE program shall describe in detail the minimum PPE types (including respirators) and specific materials from which the PPE components are constructed for each task/ operation to be performed based on the hazard assessment and risk analysis performed above. Components of levels of protection (A,B,C,D and modifications) must be relevant to site specific conditions, including thermal stress potential and safety hazards. The PPE program shall include procedures for PPE selection, fit-testing, cleaning, maintenance and storage, inspection and determinations of program effectiveness. For air supplied respirators, specify if the air compressor is oil-lubricated or oil-free. Follow carbon monoxide and thermal alarm requirements as outlined in EM 385-1-1. Provide the Contracting Officer with a copy of certification of analysis indicating that breathing air meets Type I, Grade D as described in the Compressed Gas Association Commodity Specification for Air.

6.10 Medical Surveillance: A medical surveillance program, meeting the requirements of 29 CFR 1910.120 and ANSI Z.88.2, shall be implemented for all on-site personnel involved in the removal of underground/aboveground storage tank, transformer, drum/container, or other hazardous waste activities. The medical surveillance protocols shall be specified, overseen, and results reviewed by a licensed physician who is certified in Occupational Medicine by the American Board of Preventative Medicine or who by necessary training and experience, is Board-eligible. Based on probable site conditions, potential occupational exposures, and required protective equipment, the SHSP shall specify the minimum content and frequencies of required medical examinations. A copy of the written medical opinion from the

attending physician regarding the fitness of any employee to perform removal of tank, transformer, drum/container, or other hazardous waste activities shall be included in the SHSP.

6.11 Exposure Monitoring/Air Sampling Program (Personal and Environmental): Direct-reading (real-time) air monitoring and integrated (time-weighted average (TWA)) air sampling shall be conducted as appropriate in accordance with applicable regulations (OSHA, EPA, State). Both types of air monitoring shall accurately represent concentrations of air contaminants encountered on and leaving the site. Sampling and analytical methods following NIOSH (for on-site personnel) and/or EPA (for site perimeter or off-site locations) criteria shall be appropriately utilized. Personnel samples shall be analyzed only by laboratories participating in and meeting the requirements of the American Industrial Hygiene Association's (AIHA) Proficiency Analytical Testing (PAT) or Laboratory Accreditation programs. Meteorological monitoring shall be performed on-site and used as an adjunct in determining perimeter and any off-site monitoring locations. Where perimeter monitoring is not deemed necessary, the SHSP shall provide a suitable justification for its exclusion. All monitoring results shall be compared to "action levels" established pursuant to paragraph above to determine acceptability and need for corrective action.

6.11.1 Monitoring Equipment: A list of the field instruments to be used by the Contractor specifying manufacturers, models, accessories, frequency of use, etc., with the procedures used for calibration and frequency of checks shall be included in the SHSP. The contractor shall calibrate field monitoring equipment every morning prior to commencement of work, and every evening after work is completed. The SHSP shall justify the use of a PID if it is chosen for detecting organic vapors. The explosimeter requires a minimum of 20% oxygen to function normally. Therefore an oxygen meter shall be used whenever an explosimeter is utilized.

6.11.2 Tank Monitoring Requirements: The oxygen level shall be monitored, and shall not be less than 19.5%. The ignitable or explosive vapors, gases and dusts (explosive atmosphere) shall be monitored and shall not be greater than 20% of the Lower Explosive Atmosphere (LEL). The toxic vapors, gases and aerosols (toxic atmosphere) shall be monitored when applicable. The action level for the toxic atmosphere shall be identified in the SHSP and shall be based on the action level for the contaminant which is most toxic.

6.11.2.1 Monitoring Requirements for Workers in Confined Spaces: In addition to the above monitoring requirements, the %LEL shall be monitored continuously and shall be less than 10% LEL for all confined space work. For cleaning procedures which may render an explosimeter useless, the SHSP shall identify alternative methods for monitoring %LEL.

6.11.2.2 Benzene: In addition to the above requirements for tank monitoring, the following parameters shall be considered. On gasoline or other tanks having contained or suspected of having contained benzene, the contractor shall monitor for benzene: (1) Prior to entering the tank; (2) while working in the tank; (3) whenever cutting on a tank; (4) whenever welding on the tank.

6.11.2.3 Tetraethyl Lead: Tanks having contained leaded gasoline may have traces of tetraethyl lead. The leaded gasoline vapors will coat the detectors on an explosimeter. This shall be taken into consideration before monitoring commences.

6.12 Standard Operating Safety Procedures, Engineering Controls, and Work Practice: The following elements shall be addressed in the SHSP as a minimum: (1) Site rules/prohibitions (buddy system, eat/drink/smoking restrictions, etc); (2) Illumination; (3) Sanitation.

6.13 Site Control Measures: Site control measures which include site map, work zone identification and access points, communications, security (physical and procedural). and general site access shall be described in the SHSP.

6.14 Personal Hygiene and Decontamination: The SHSP shall specify necessary facilities and their locations, and detail standard operating procedures, frequencies, supplies and materials to accomplish decontamination of site personnel. The Contractor shall be responsible for proper disposal of all decontamination water.

6.15 Equipment Decontamination: The SHSP shall specify necessary facilities and their locations, and detail procedures, frequencies supplies and materials and methods to determine adequacy for the decontamination of equipment used on-site. The contractor shall be responsible for proper disposal of all decontamination water.

6.16 Emergency Equipment and First Aid Requirements: The following items as a minimum and appropriate shall be immediately available for on site use: (1) First aid equipment and supplies approved by the consulting physician; (2) Emergency eye washes/ showers which comply with ANSI Z.358.1; (3) Emergency use respirators (worst case appropriate); (4) spill control materials and equipment; and (5) fire extinguishers (specify type, size, and locations in SSHP).

6.17 Emergency Response Plan and Contingency Procedures (On-Site and Off-Site): An Emergency Response Plan (ERP) which complies with 29 CFR 1910.120 shall be developed and implemented in each SHSP. The ERP shall address the following elements, as a minimum: (1) Pre-emergency planning and procedures for reporting incidents to appropriate government agencies for potential chemical exposures, personal injuries, fire/explosions environmental spills and

releases; (2) Personnel roles, lines of authority communications; (3) Posted instructions and list of emergency contacts ambulance service, state/local/federal environmental agencies, Fire, Police, Hospital, Hazardous Waste Response Team, Certified Industrial Hygienist, Contracting Officer; (4) Emergency recognition and preventions; (5) Site layout; (6) Criteria and procedures for site evacuation (emergency alerting procedures/employee alarm systems, emergency PPE and equipment, safe distances, places of refuge, evacuation routes, site security and control; (7) Specific procedures for decontamination and medical treatment of injured personnel; (8) Route maps to nearest pre-notified medical facility; (9) Critique of emergency responses and follow ups.

6.18 Heat/Cold Stress Monitoring: Heat and/or cold stress monitoring protocols, as appropriate, shall be described in detail. Work/rest schedules shall be determined based on: ambient temperatures, humidity, wind speed (wind chill), solar radiation intensity, duration, intensity of work, and protective equipment ensembles. Minimum required physiological monitoring protocols which will affect work schedules shall be developed. In cases where impervious clothing is worn (full-body), the NIOSH/OSHA/ USCG/EPA "Occupational and Health Guidance Manual for Hazardous Waste Site Activities protocol for prevention of heat stress shall be followed. And heat stress monitoring shall commence at temperatures of 70 degrees Fahrenheit and above. Where impervious clothing is not worn, the most current published ACGIH heat stress standard (TLV) shall be used. For cold stress monitoring to help prevent frostbite and hypothermia, the most current published ACGIH cold stress standard shall be referenced and followed.

6.19 Logs, Reports, and Record-keeping: The following logs, reports and records shall be developed, retained and made available to the Contracting Officer and entitled regulatory agencies upon request (unless otherwise noted in previous sections):

(1) Training logs including employees printed name and signature in addition to training subject and date or copy of applicable training certificate.

(2) Daily safety inspection logs.

(3) Employee/visitor register.

(4) Medical opinions/certifications.

(5) Environmental and personal exposure monitoring records.

(6) Phaseout reports (final decontamination verification certificates, summary of air monitoring data, final medical certificates, etc.)

All personnel exposure and medical monitoring records shall be maintained in accordance with applicable OSHA standards 29 CFR 1910 and 1926.

7. Preparation of Field Report: The Contractor shall

prepare and submit a draft and final Field Report to the Contracting Officer. The Contractor shall make an assessment of the site based on the field work and analysis required by this contract. At a minimum, the Contractor shall provide a photographic history and describe the work effort and analytical results emphasizing the significance of detected concentrations relative to appropriate Federal, State, and local criteria. In the conclusions and recommendations section, the contractor shall make a preliminary determination including specific documentation and appropriate references of whether chemical contamination which is present in the soil may have been caused by the tank and/or piping. In addition, the field report shall contain the contractor's recommendations for remediating any contamination found on-site including the extent of any required remediation. A summary of the findings shall be prepared and included in the report. All copies, except one of the final Field Reports shall be bound including all photographs/slides.

** END OF SECTION **

SECTION 01700

ENVIRONMENTAL PROTECTION

1. GENERAL: The work covered by this section consists of furnishing all labor, materials and equipment, and performing all work required for the prevention of environmental pollution during and as a result of construction operations under this contract. For the purpose of this specification, environmental pollution is defined as any discharge of waste materials into the air, water, or soil, which is in violation of current pollution control laws or environmental regulations. In addition, the Contractor shall be responsible for controlling erosion and sediment transport, eliminating noise detrimental to human health, and preserving historic resources.

2. APPLICABLE REGULATIONS: The Contractor in the performance of this contract shall comply with all applicable Federal, State, and local laws and regulations concerning environmental pollution control and abatement in effect on the date of this solicitation, as well as the specific requirements stated elsewhere in the contract specifications.

3. ENVIRONMENTAL PROTECTION PLAN: Within 14 days after contract award, the Contractor shall meet with the Contracting Officer to discuss a plan for implementing the environmental protection required. The meeting shall develop a mutual understanding relative to details of environmental protection, including required permits, licenses, and measures to be taken should the Contractor fail to provide protection in an adequate and timely manner. Not more than 14 days after the meeting, the Contractor shall submit for approval, in three copies, his proposed environmental protection plan. The plan shall include, but not be limited to, the following items:

- (1) Control and Disposal of Wastes.
- (2) Erosion and Sediment Control.
- (3) Temporary Construction Facilities.
- (4) List of Permits and Licenses.

4. NOTIFICATION OF NON-COMPLIANCE: The Contracting Officer will notify the Contractor of any non-compliance with the provisions of this section and the action to be taken. The Contractor shall, after receipt of such notice, immediately take corrective action. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop order shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it is later determined that the Contractor was in compliance.

5. CONTROL AND DISPOSAL OF WASTES:

5.1 General: Handling and disposal of all wastes shall be conducted to prevent contamination of the site and adjacent areas. Wastes shall be placed in containers which shall be emptied on a regular basis. Upon completion of all work, the areas shall be left clean and free of debris. The Contractor shall submit for approval a plan for the control and disposal of all waste materials generated during construction under this contract. The Contractor shall provide the Contracting Officer with a copy of state or local permit or license which reflects such agency's approval of the waste disposal plan and its compliance with their solid waste disposal regulations. The permit or license and the location of the disposal area shall be provided prior to transporting any material off site.

5.2 Garbage Disposal: The Contractor shall provide and maintain suitable garbage containers for scheduled garbage collection. The Contractor shall transport garbage created by his operations to an off-site location.

5.3 Sewage Disposal: Chemical toilets or other approved portable units shall be provided and wastes periodically emptied.

5.4 Chemical Waste: Chemical wastes shall be stored in corrosion resistant containers and removed from the project site, not less frequently than monthly unless directed otherwise. Chemical wastes shall not be dumped onto the ground, into storm sewers or open water sources, or into the sanitary sewer system.

5.4.1 Fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spills and evaporation. Lubricants to be discarded and waste oil shall be stored in corrosion resistant containers, and disposed of as directed. The Contracting Officer shall be notified immediately of spills of oils, lubricants, or chemical wastes which may violate Federal, State, and local regulations.

6. PROTECTION OF WATER RESOURCES: The Contractor shall not pollute streams, rivers, lakes or reservoirs with fuels, oils, bitumens, calcium chloride, acid wastes, sediment, solids or any other waste generated at the site. All work under this contract shall be performed in such a manner that conditions will not be created which violate applicable Federal, State, or local water pollution control regulations.

7. EROSION AND SEDIMENT CONTROL: The Contractor shall submit to the Contracting Officer for approval, an erosion and sediment control plan consisting of both narrative report and drawings. Drawings prepared by the Contractor shall conform to the requirements of the County or State in which the project is to be constructed. If typical erosion and sediment control drawings and details are available from local authorities, they shall be incorporated into the plan

where applicable. The Contractor's erosion and sediment control plan shall include, but not be limited to the following:

7.1 Protection of Exposed Soils: Earthwork brought to final grade shall immediately be finished as indicated and specified. Side slopes and backslopes shall be protected immediately upon completion of rough grading. Earthwork shall be planned and conducted in such a manner as to minimize the exposure of unprotected soils.

7.2 Control of Runoff: Storm water runoff from the construction site shall be mechanically retarded and controlled by diversion ditches, benches, and berms, to retard and divert runoff to protected drainage courses.

7.3 Sedimentation Basins: Where erosion occurs despite preventive efforts, sediment shall be trapped in temporary sedimentation basins. Overflow control shall be by weir or vertical overflow pipe, draining from the surface. The collected sediment shall be disposed of in accordance with the Environmental Protection Plan. The Contractor shall institute effluent quality monitoring programs as required by Federal, State and local environmental agencies.

7.4 Stockpile Areas: Stockpile areas on site shall be managed and controlled to prevent erosion and sediment from entering nearby river, streams or lakes. Restoration of the disturbed areas shall include grading, replacement of topsoil, and establishment of permanent vegetative cover.

8. TEMPORARY CONSTRUCTION FACILITIES:

8.1 Location of Temporary Storage and Service Facilities: The location on-site of the Contractor's storage and service facilities, required temporarily in the performance of the work, shall be on cleared portions of the job site, on areas to be cleared, or on areas designed for such use. The preservation of the landscape shall be an imperative consideration in the selection of sites for construction of temporary buildings. Plans showing storage and service facilities shall be submitted for approval to the Contracting Officer. Where buildings or platforms are constructed on slopes, the Contracting Officer may require cribbing to be used to obtain level foundations.

8.2 Temporary Roads, Utilities, Embankments, and Excavations: If the Contractor proposes to construct temporary roads, utilities, embankments or excavations for work areas, he shall submit a plan for approval prior to start of such temporary work.

8.3 Removal of Temporary Construction: The Contractor shall dismantle, remove and dispose of all temporary construction facilities such as haul roads, storage areas, barricades, utilities, structures, foundations of structures, stockpiles of excess or waste materials, and other temporary construction items. Temporary use areas shall be graded to

conform with surrounding areas.

9. DUST CONTROL: The Contractor shall maintain all work areas free from dust which would contribute to air pollution.

9.1 Dust shall be controlled at all times, including nonworking hours, weekends, and holidays. Soil at the site, on haul roads, and at other areas disturbed by the Contractor's operations, shall be treated with approved dust suppressors as necessary to control dust. Approved methods of suppression will consist of sprinkling, chemical treatment, light bituminous treatment or similar methods. Sprinkling, where used, shall be repeated at such intervals as to keep all parts of the disturbed area damp at all times.

9.2 Vacuuming, wet mopping, wet sweeping, or wet power brooming may be used but no dry power brooming will be permitted. Air blowing will be permitted only for cleaning off nonparticulate debris, such as reinforcing bars. No sandblasting will be permitted unless the dust therefrom is confined. Only wet cutting of concrete and asphalt will be permitted. Dust control shall be performed as the work proceeds and whenever a dust nuisance or hazard occurs.

9.3 Odor Control: Any odors resulting from construction activities which are deemed unacceptable by the Contracting Officer shall be identified as to source, and eliminated as directed.

9.4 Burning: Burning will not be permitted.

10. NOISE POLLUTION: The maximum use of low noise emitting equipment as certified by the Environmental Protection Agency shall be made when available. At the project site, noise levels shall not exceed 80 dba at 10 meters. No blasting or use of explosives will be permitted.

11. HISTORICAL AND ARCHAEOLOGICAL RESOURCES: Objects discovered during excavation or earthmoving activities, which are determined by the Contracting Officer to be of historic or archaeological value, shall be preserved and disposed of as directed.

** END OF SECTION **

SECTION 02100

DEMOLITION

1. GENERAL SCOPE OF WORK: The project involves the demolition of a number of structures throughout Camp Hero. In addition to the physical demolition requirements for structures, measures will be required for an environmentally acceptable project in accordance with applicable regulations.

2. COORDINATION WITH THE PROPERTY OWNER: Demolition work shall be coordinated with the property owner to minimize inconveniences and to provide for an efficient project.

3. SUBMITTALS:

3.1 Work Plan: The procedures proposed for the accomplishment of demolition work shall be submitted for approval. The procedures shall provide for safe conduct of the work, removal and disposal of materials specified, protection of property which is to remain undisturbed, and coordination with other work in progress, and timely disconnection/interruption of utility services. The work plan shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations.

3.2 Permits/Approvals: The Contractor shall secure all permits and approvals necessary for the project and shall pay all associated fees. These permits and approvals include: demolition permit from the Town of Montauk Point, Long Island and approval from the Sewage Treatment Plant Authority for liquid disposal. All permits secured by the Contractor shall be submitted.

SPDES??

4. GENERAL REQUIREMENTS: The work includes demolition or remediation of all construction indicated or specified. All materials resulting from demolition work except as indicated or specified otherwise, shall become the property of the Contractor and shall be removed from the property. Rubbish and debris shall be removed from the property promptly by the Contractor, unless otherwise directed by the Contracting Officer. Materials that cannot be removed promptly shall be stored appropriately in areas specified by the Contracting Officer.

5. DEMOLITION: Structures, vaults, pits and manholes within the scope of work shall be demolished to a minimum of 2-feet below grade, unless otherwise specified. All portions of the structures, including foundation walls, shall be removed to this depth. Structures built into a hillside need only be demolished to two feet below the existing grade at each portion of the structure. Basement slabs, and underground slabs (i.e. of vaults, manholes, treatment plant

tanks, etc.) to remain in place shall be broken into pieces having areas of not more than 4 square feet with well defined cracks through the full depth of the floors or slabs; or holes of not less than 1 square foot shall be made through the floors or slabs on 10 feet centers to provide vertical drainage. Upon approval of the Contracting Officer, breaking or coring requirements may be reduced if breaking or coring through the floor slab at its lowest point will allow water to freely drain through the structure. Demolition requirements will be extended to greater than 2 feet below grade if any part of the structure or items within the structures contain metals, wood, or other materials other than masonry, concrete, and gravel. Active inlets and manholes shall not be disturbed and shall be protected.

6. **REMOVAL OF MATERIALS FROM BUILDINGS/STRUCTURES:** Care shall be taken in removing all materials from buildings/structures with regard to oil spills from machinery, residual chlorine materials at the sewage treatment plant, and other items with the potential for causing environmental pollution or endangering worker health and safety.

7. **DEMOLITION APPROVAL:** Under no circumstances shall demolition of any structures be initiated until the Contracting Officer has given approval. Approval for demolition will only be granted after all items required to be removed from the structure have been removed by the contractor and the condition of the structure is satisfactory to the Contracting officer. Demolition of the structure shall be accomplished in accordance with the work plan submitted by the Contractor. Any deviations from the plan shall be approved by the Contracting Officer.

8. **RESTORATION OF THE BUILDING/DEMOLITION AREA:** The areas disturbed by the demolition shall be restored to existing grade and seeded. The restored area shall provide for positive drainage while meeting existing grades.

9. **STRUCTURE SPECIFIC DEMOLITION REQUIREMENTS AND INFORMATION:**

9.1 Asbestos containing materials, where present shall be removed prior to the start of the actual demolition work. All debris piled adjacent to each building shall be removed.

9.2 All debris and equipment inside structures shall be removed and disposed.

9.3. The Contractor shall eliminate the safety hazard caused by the open pits/vaults by filling each opening with sand, gravel, or satisfactory backfill materials, and providing for proper compaction. The top 4-inch of each vault/pit shall then be covered with neat cement (6 gallon of water per 96 pounds bag of cement as per EPA) to meet the existing grade,

and to provide for positive drainage so that ponding of water does not occur. Before filling of the pits/vaults, any open pipes or openings in the vaults where fill can enter and lead to settlement of the filled area, shall be plugged with concrete. Water/liquids in the vaults/pits shall also be disposed of in accordance with applicable Federal, State and local laws. The Contractor shall also ensure that none of the work conducted in this area shall present a potential fire, explosion of other hazard with regard to the potential presence of petroleum products.

9.4 Sewage Treatment Plant

9.4.1 Piping in tanks pits chambers and sewage Ejector Station to be demolished shall be removed before backfilling operation begin. Pipes shall be plugged. Liquids in manholes and vaults shall be analyzed for potential environmental contaminants.

Removal of this liquid and its disposal shall be coordinated with the Contracting Office.

9.4.2 Liquids and sludge present at the sewage treatment facility sewage Ejector Station tank shall be disposed of at contractor's expense through the publicly owned treatment work (POTW) having jurisdiction in accordance with applicable Federal, State and local regulations.

9.5 Remove existing metal doors of exterior bunker openings prior to sealing it with concrete.

9.6 Remove and demolish existing CMU walls windows, doors and exhaust in Bunker No. 1 at West Wing, South End.

9.7 Remove steel gates and metal frames with wire mesh at exterior entrance of Bunker Nos. 4 & 5 prior to sealing the openings.

9.8 At entrance opening north central of Bunker No. 1 remove trench concrete corners and fill opening with gravel or satisfactory backfill materials, etc. (See para. 9.3).

9.9 Seal exterior Bunker openings with reinforced concrete - See Dwg. No. DERP 3 and Details.

9.10 Remove part of top berm of South entrance opening of Bunker No. 2 prior to sealing damaged portion of existing masonry. Restore reinforced berm material and add more necessary material to completely conceal the top of the exterior opening.

10. PIPE PLUG: Pipes, or other openings in structures to be demolished, where fill material can enter and lead to settlement of a backfilled area shall be plugged with

concrete.

11. CONCRETE AND PAVEMENT REMOVAL: Concrete and pavement required to be removed for work activities shall be sawcut in a manner that will allow for subsequent seeding to be performed in an aesthetically and functionally acceptable manner.

12. SOIL: All soil containing materials rendering it unsuitable for use as either earth fill or topsoil as determined by the Contracting Officer shall be stripped and removed from the work site. Topsoil suitable for reuse shall be stockpiled in areas designated by the Contracting Officer and properly stabilized.

13. UTILITIES: The Contractor shall be responsible for determining if any utilities are active and where they originate and terminate. The site contains active utilities due to its use as a park facility. Utilities serving any structures to be demolished shall be shut off, plugged, capped, diverted, or otherwise controlled. When utility lines are encountered that are not indicated on the drawings and where work progression is delayed, the Contracting Officer shall be notified. It is the Contractor's responsibility to identify all surface and sub-surface utilities within the designated work areas and to plan for the temporary relocation and operation of those utilities if affected by the work prior to starting the demolition work. The Contractor is fully responsible for any damage to any utility encountered during the course of work. The Contractor also has full responsibility for making arrangements and hook-ups for any utilities required to accomplish the work.

14. DISPOSITION OF MATERIAL:

14.1 Title to Materials: Title to all materials and equipment except hazardous materials controlled by regulations to be demolished is vested in the Contractor upon receipt of notice to proceed. The Government will not be responsible for the condition, loss or damage to such property after notice to proceed.

14.2 Unsalvageable Materials: Concrete, piping and other noncombustible materials shall be disposed of off-site directed by the Contracting Officer at no additional cost with all applicable regulations. Manifests for disposal of hazardous materials shall be submitted.

15. CLEAN -UP:

15.1 Debris and Rubbish: Debris shall be removed from the site daily.

15.2 Debris Control: Debris shall be removed and transported in a manner as to prevent spillage on streets or adjacent areas.

15.3 Regulations: Local regulations regarding hauling and disposal apply.

16. INSPECTION: Construction oversight will be performed by the Contracting Officer throughout the project. The Contractor shall make entire work area accessible to the Contracting Officer and shall assist in any way requested by the Contracting Officer.

17. RODENT AND INSPECT CONTROL: Pesticide use must comply with all applicable State Federal laws and regulations.

18. SAFETY:

18.1 Applicable Codes and Regulations: All work shall be carried out in full accordance with OSHA Safety and Health Standards (29 CFR 1926/1910) for the Construction Industry. Special attention shall be directed to Subpart T - Demolition, 1926.850 through 1926.860. Demolition work shall conform with the current BOCA and Uniform Construction Codes, as well as the USACE "Safety and Health Requirements Manual," EM385-1-1. A demolition permit will be required from the Romulus Building Department.

18.2 Protection of the Public: The Contractor will take sufficient steps to ensure that the public, either in the form of authorized visitors, visitors or potential trespasser, be protected from the hazards of work in progress. This includes physical work operations, as well as conditions that may result from the progression of work. Snow fence shall be erected along the perimeter of the working limits and maintained throughout construction activities.

** END OF SECTION **

SECTION 02200

ASBESTOS ABATEMENT AND DISPOSAL

GENERAL INFORMATION, REQUIREMENTS, AND SUBMITTALS

1. SUBMITTALS:

1.1 Licences and Qualifications:

1.1.1 The Contractor shall submit resumes and project job descriptions for all personnel to be involved with asbestos abatement work to be performed as part of this project.

1.1.2 The Contractor shall submit a description of standard operating procedures and employee protection plans which include specific reference to OSHA medical monitoring and respiratory training programs.

1.1.3 The Contractor shall demonstrate prior experience on asbestos abatement projects of similar nature and scopes, through the submission of letters of reference including the names, address and telephone number of contact person (someone specifically familiar with the Contractor's work) for at least three (3) previous users of service. Include descriptions of projects, locations, and records of all air monitoring data that were generated during the project.

1.1.4 The Contractor shall submit a copy of their valid licence to perform asbestos removal services in the State of New York.

1.1.5 The Contractor shall submit a notarized statements signed by an officer of the company, containing the following information:

(1) A record of any citations issued by Federal, State or local regulatory agencies relating to asbestos abatement activity. Include project names, description, dates, and resolutions.

(2) A list of penalties incurred through non-compliance with asbestos abatement project specifications including liquidated damages, overruns in scheduled time limitations and resolutions.

(3) Situations in which an asbestos related contract has been terminated including projects, dates and reasons for terminations.

(4) A listing of any asbestos related legal proceeding/claims in which the Contractor or employees scheduled to participate in this project has participated in or in currently involved in. Include descriptions of role, issue and resolution to date.

1.2 Patent Infringement: It is emphasized that the Negative Air Pressure System Utilizing HEPA Filtration has been patented, which is covered by U.S. Patent No. 4,604,111 issued on August 5, 1986 and reaffirmed by the United States Patent and Trademark Office, before the Board of Patent Appeals and Interferences on March 31,

1989. Submit the licence for the use of the aforementioned patent prior to the commencement of work if such system to be used.

1.3 Additional Submittals: See paragraph 7.

2. DEFINITIONS AND ABBREVIATIONS:

2.1 Abatement: Procedures to control fiber release from asbestos containing materials. Includes removal, encapsulation, enclosure, repair, demolition and renovation activities.

2.2 Action Level: An airborne concentration of asbestos of 0.1 fibers (longer than 5 micrometers) per cubic centimeter (F/CC) as an 8-hour time weighted average.

2.3 Air Monitoring: The process of measuring the fiber content of a known volume of air collected during a specific period of time.

2.4 Air Sampling Professional: An independent professional contracted by the Contractor to review and/or conduct air monitoring and analysis schemes. This individual may also function as the Asbestos Project Manager, if qualified. Air sampling review and evaluation of results should be performed by an individual certified in the Comprehensive Practice of Industrial Hygiene (CIH) and having specialized experience in air sampling for asbestos.

2.5 Amended Water: Water to which a surfactant has been added.

2.6 Asbestos: A class of magnesium-silicate minerals that occur in fibrous form. Minerals that are included in this group are chrysotile, crocidolite, amosite, anthrophyllite, actinolite, tremolite and any of minerals that has been chemically treated and/or altered.

2.7 Asbestos Containing Material (ACM): Material composed of asbestos of any type and in an amount greater than one percent (1%) by weight, either alone or mixed with other fibrous or non-fibrous materials.

2.8 Asbestos Control Area: An area where asbestos removal operations are performed which is isolated by physical boundaries to prevent the spread of asbestos dust, fibers, or debris.

2.9 Asbestos Permissible Exposure Limit: 0.2 fibers (longer than 5 micrometers) per cubic centimeter (F/CC) as an 8-hour-time weighted average.

2.10 Certified Industrial Hygienist (CIH): An industrial hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.

2.11 Clean Room: An uncontaminated area or room which is part of the worker decontamination enclosure system with provisions for storage of worker's street clothes and clean protective equipment.

2.12 Decontamination Enclosure System: A series of connected rooms, separated from the work area, for the decontamination of

workers and equipment.

2.13 Encapsulant: A liquid material which can be applied to ACMS which controls the possible release of asbestos fibers from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant).

2.14 Encapsulation: The application of an encapsulant to ACMS to control the release of asbestos fibers into the air.

2.15 Equipment Decontamination Enclosure System: That portion of a decontamination enclosure system designed for controlled transfer of materials and equipment into or out of the work area, typically consisting of a washroom and holding area.

2.16 Equipment Room: A contaminated area or room which is part of the worker decontamination enclosure system with provisions for storage of contaminated clothing and equipment.

2.17 Fibers: All fibers regardless of composition as counted in the NIOSH P&CAM 239 or 7400 procedure, or asbestos fibers of any size as counted using either scanning or transmission electron microscopy.

2.18 Friable Asbestos: ACMS which can be crumbled to dust, when dry, under hand pressure.

2.19 Glovebag Technique: A method with limited applications for removing small amounts of friable ACMS from HVAC ducts, short piping runs, valves, joints, elbows, and other non-planar surfaces in a non-contained (plasticized) work area.

2.20 HEPA Filter: A high efficiency particulate air filter capable of removing particles 0.3 microns in diameter with 99.7 percent efficiency.

2.21 HEPA Vacuum: A vacuum system equipped with HEPA filtration.

2.22 Holding Area: A chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area.

2.23 Negative Pressure Ventilation System: A portable exhaust system equipped with HEPA filtration and capable of maintaining a constant low velocity air flow into contaminated areas from adjacent uncontaminated areas.

2.24 Nonfriable Asbestos Material: Material that contains asbestos in which the fibers have been locked in by a bonding agent, coating, binder, or other material so that the asbestos is well bound and may not release fibers in excess of the action level during any appropriate use, handling, storage, transportation, or processing. Nonfriable asbestos material is considered hazardous during removal and disposal procedures.

2.25 Phase Contrast Illumination Microscopy (PCM): An analytical method for counting fibers.

- 2.26 Plasticize: To cover floors and walls with plastic sheeting.
- 2.27 Shower Room: A room between the clean room and the equipment room in the worker decontamination enclosure with hot and cold or warm running water controllable at the tap and suitably arranged for complete showering during decontamination.
- 2.28 Staging Area: Either the holding area or some area near the waste transfer airlock where containerized asbestos waste has been placed prior to removal from the work area.
- 2.29 Surfactant: A chemical wetting agent added to water to improve penetration.
- 2.30 Time-Weighted Average (TWA): The TWA is an 8-hour time-weighted average of airborne concentration of fibers (5 micrometers or longer) per cubic centimeter of air.
- 2.31 Transmission Electron Microscope (TEM): A method for detecting and counting asbestos fibers.
- 2.32 Visible Emissions: Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.
- 2.33 Waste Transfer Airlock: A decontamination system utilized for transferring containerized waste from inside to outside of the work area.
- 2.34 Wet Cleaning: The process of eliminating asbestos contamination from building surface and objects by using cloths, mops, or other cleaning utensiles which have been dampened with water and afterwards thoroughly decontaminated or disposed of as asbestos contaminated waste.
- 2.35 Work Area: Designated rooms, spaces, or areas of the project in which asbestos abatement actions are to be undertaken or which may become contaminated as a result of such abatement actions. A contaminated work area is a work area which has been sealed, plasticized, and equipped with a decontamination enclosure system. A non-contained work area is an isolated or controlled-access work area which has not been plasticized nor equipped with a decontamination enclosure system.
- 2.36 Worker Decontamination Enclosure: A decontamination system consisting of a clean room, a shower room, and an equipment room separated from each other and from the work area airlocks and contained doorways. This system is used for all worker entries and exits in the work area and for equipment and waste pass out for small jobs.
3. GENERAL REQUIREMENTS: The work covered by this specification includes the handling of friable and nonfriable materials containing asbestos which are encountered during removal and demolition operations and the incidental procedures and equipment required to protect workers in and around the work area from contact with airborne asbestos fibers. The work also includes the

disposal of the removed asbestos containing materials. Perform work in accordance with 29 CFR 1926.58, 40 CFR 61, Subparts A and the requirements specified herein. The Contractor shall supply all labor, materials, services, insurance, permits and equipments necessary to carry out the work in accordance with all applicable Federal, State and local regulations and this specification.

4. SCOPE OF WORK: Asbestos investigation was performed by the owner. As each sample taken was positive for asbestos, the Contractor shall remove and dispose of all asbestos containing materials at locations as shown on the drawing.

5. ADDITIONAL CONTRACTOR RESPONSIBILITY: The Contractor is responsible for ensuring that any suspect asbestos materials (not previously sampled) in any structures to be demolished is brought to the attention of the Contracting Officer before demolition operation begins.

6. APPLICABLE REGULATIONS, CODES, AND GUIDELINES:

6.1 Occupational Safety and Health Administration (OSHA):

Title 29 Code of Federal Regulations Section 1919.1001 - General Industry Standard For Asbestos.

Title 29 Code of Federal Regulations Section 1910.134 - General Industry Standard For Respiratory Protection.

Title 29 Code of Federal Regulations Section 1926 - Construction Industry.

Title 29 Code of Federal Regulations Section 1910.2 - Access to Employee Exposure and Medical Records.

Title 29 Code of Federal Regulations Section 1919.1200 - Hazard Communication.

6.2 Environmental Protection Agency (EPA):

Title 40 Code of Federal Regulations Part 61 Subparts A and M (Revised Subpart B) - National Emission Standard for Asbestos.

Title 40 Code of Federal Regulations Parts 241 and 257 (Land Disposal)

6.3 Federal Standard (Fed. Std.): Fed. Std. 595A Colors and Notices 2,3,4,5,7 and Errata, 8.

6.4 Military Standard (M.1 Std.): M.1 - Std. - 101B Color Code for Pipelines and for Compressed Gas Cylinders.

6.5 American National Standards Institute (ANSI): Publication 29-2-79; Fundamentals Governing the Design and Operation of Local Exhaust Systems.

6.6 National Institute of Occupational Safety and Health (NIOSH): Manual of Analytical Methods, 2nd Ed. Vol. 1, Physical and Chemical Analysis Method (P&CAM) Method 239 and Method 7400.

6.7 State Regulations: Part 56 of Title 12 of the Official Compilation of Codes, Rules and Regulations of the State of New York (cited as 12 NYCRR Part 56).

6.8 Controlling Requirements: Where the requirements of this section of the Technical Provisions and the above regulations differ, the stricter requirements shall govern.

7. ADDITIONAL SUBMITTALS AND NOTIFICATIONS:

7.1 Prior to Commencement of Work:

7.1.1 The Contractor will notify in writing at least twenty (20) days prior to the commencement of any on-site asbestos related project activity and in accordance with 40 CFR Part 61.146 (M) the following agencies:

U.S. Environmental Protection Agency
Air & Hazardous Material Division
26 Federal Plaza
New York, New York 10278

N.Y.S. Department of Environmental Conservation
21 South Putt Corner Road
New Paltz, New York 12561
(914) 255-5453

Additionally notify the local Board of Health, Fire Department, and the Department of Labor and Industry in writing within 10 days prior to the commencement of work. The notification shall include at a minimum: name and address of owner; description of facility including size (S.F.), age and use; amount of asbestos being abated; location of asbestos in structure; estimated start and end dates; nature and method of abatement project; name and location of disposal site. The Contractor shall provide the Contracting Officer with a copy of these notices.

7.1.2 Submit proof satisfactory to the Contracting Officer that required permits, site location, and arrangements for transport and disposal of asbestos containing waste materials have been made. Obtain and submit a copy of handling procedures and list of protective equipment utilized for asbestos disposal at the landfill, signed by the landfill owner.

7.1.3 Submit documentation satisfactory to the Contracting Officer that the Contractor's employees, including foremen, supervisors and any other company personnel or agents who may be exposed to airborne asbestos fibers or who may be responsible for any aspects of abatement activities, have received adequate training within the past 12 months that includes, at a minimum.

7.1.4 Submit documentation from a physician that all employees or agents who may be exposed to airborne asbestos in excess of background level have been, within the past 12 months, provided with an opportunity to be medically monitored to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. In addition, document that personnel have received medical monitoring as

required in OSHA 29 CFR 1910.1001 (j).

7.1.5 Submit shop drawings for layout and construction of: decontamination enclosure systems; waste container pass out airlock; and barriers for isolation of the work area as detailed in this specification and required by applicable regulations.

7.1.6 Submit a list of all equipment that will be used during the removal. When rental equipment is to be used in abatement areas or to transport asbestos contaminated waste, a written notification concerning intended use of the rental equipment must be provided to the rental agency with a copy submitted to the Contracting Officer.

7.1.7 Submit manufacturer's certification that HEPA vacuums, negative pressure ventilation units and other local exhaust ventilation equipment conform to ANSI Z9.2-79.

7.1.8 Document NIOSH approvals for all respiratory protective devices utilized on-site. Include manufacturer certification of HEPA filtration capabilities for all cartridges and filters.

7.1.9 Submit results of pre-abatement air sampling which will include location of samples, name of Air Sampling Professional, equipment, and methods utilized for sampling and analysis.

7.1.10 Submit documentation of respirator fit-testing for all Contractor employees and agents who must enter the work area. This fit-testing shall be in accordance with qualitative procedures as detailed in the OSHA Safety & Health Standards 29 CFR 1910.1025 Appendix D Qualitative Fit Test Protocol or be qualitative in nature.

7.1.11 The Contractor shall submit a work plan describing procedures and operations for the asbestos removal project. The work plan shall include the following information: method for preparation of work area; personal protective equipment to be used including respiratory protection and protective clothing; employees who will participate in the project, including delineation of experience, training, and assigned responsibilities during the project; decontamination procedures for personnel, work area and equipment; abatement methods and procedures to be utilized; required air monitoring procedures; procedures for handling and disposing of waste material; procedures for final decontamination and cleanup; and schedule of activities.

7.2 During Abatement Activities:

7.2.1 Submit weekly job progress reports detailing abatement activities. Include review of progress with respect to previously established milestones and schedules, major problems and action taken, injury reports, equipment breakdown and bulk material and air sampling results conducted by Contractor's Air Sampling Professional.

7.2.2 Submit copies of all transport manifests, trip tickets and disposal receipts for all asbestos waste materials removed from the work area during the abatement process.

7.2.3 Submit daily, copies of worksite entry logbooks with information on worker and visitor access.

7.2.4 Submit logs documenting filter changes on respirators, HEPA vacuums, negative pressure ventilation units, and other engineering controls.

7.2.5 Submit results of air sampling data collected during the course of the abatement for OSHA compliance air monitoring.

8. SITE SECURITY: The work area is to be restricted only to authorized, trained, and protected personnel. Entry into the work area by unauthorized individuals shall be reported immediately to the Contracting Officer. A log book shall be maintained in the clean-room area decontamination system. Anyone who enters the work area must record name, affiliation, time in, and time out for each entry.

9. EMERGENCIES/ACCIDENTS: For non-life-threatening situations employees injured or otherwise incapacitated shall decontaminate following normal procedures with assistance from fellow workers if necessary, before exiting the workplace to obtain proper medical treatment. For life threatening injury or illness, worker decontamination shall take least priority after measures to stabilize the injured worker, remove him/her from the workplace and secure proper medical treatment. Planning shall be in accordance with Section: Safety, Health and Emergency Response.

MATERIALS AND EQUIPMENT

10. GENERAL: Prior to the start of the asbestos abatement work, have at the site sufficient quantities of all the materials and equipment needed to complete the project in the proper manner.

11. MATERIALS:

11.1 Polyethylene Sheeting: Frame resistant polyethylene film in the largest size possible to minimize seams, and 6 mil thick, shall be provided. Frosted, clear or black film may be used. Reinforced sheeting may be required when contained area is exposed to outside.

11.2 Duct Tape: Duct tape 2 inches or 3 inches wide with an adhesive formulated to aggressively stick to sheet polyethylene shall be provided.

11.3 Spray Cement: Where needed, spray adhesive in aerosol cans which is specially formulated to stick tenaciously to sheet polyethylene shall be provided.

11.4 Pumps and Filters: High volume air sampling pumps, low volume air sampling pumps, and filter cassettes shall be provided to carry out air monitoring program.

11.5 Amended Water: Amended water to properly wet down all asbestos surface shall be provided. The surfactant shall be 50 percent polyethylene ether and 50 percent polyglycol ester.

11.6 Encapsulate: A penetrating encapsulate shall be provided which is specially designed for removal of asbestos containing materials rather than for in place encapsulation. ASTM publication ~~P-189~~ shall be used in selecting an encapsulate. P-189-87.

11.7 Rubber Roofing: Uniform flat sheets of flexible sheet roofing material of either EPDM (Ethylene Propylene Diene Monomers) or Neoprene (Polychloroprene) in a normal thickness of 1/16 inch (45 mils) shall be provided.

11.8 Gypsum Drywall: Provide gypsum system and associated materials with fire resistance ratings for enclosure work. Provide fire-resistance rated assemblies identical to those indicated by reference to GA File Nos. in GA "Fire Resistance Design Manual" or by reference to design designations in UL "Fire Resistance Directory".

11.9 Disposal Bags/Drums: Disposal bags shall be of 6 mil polyethylene, pre-printed with labels. Disposal drums shall be metal or fiberboard with locking ring tops. Stick-on labels as per EPA or OSHA requirements for disposal drums.

11.10 Other Items: In addition, assure that a sufficient quantity of the following items are provided: scrapers, brushes, brooms, staple guns, shovels, rubber squeegees and dustpans, and other tools required to complete the abatement, decontamination, and disposal project. Scaffolding, staging, ladders, and lumber necessary for ceration of asbestos containment areas, etc. Electrical cord of proper size to simultaneously supply all required power systems in the work area throughout the project duration. Water hose to reach all work areas and spray equipment to apply an adequate amount of amended water or encapsulate to all ACM surfaces. Logbooks, log forms, markers with indelible ink, clipboards, and pens for recording data and marking area of ACM. Towels, soap, and paper towel will be required.

11.11 Storage of Materials: At the work site, store all materials in a place and manner which protects them from damage or contamination. During period of cold weather, all plastic materials shall be stored in a manner which protects them from the cold. No flammable or hazardous materials shall be inside any building. Regularly inspect all materials to identify damaged or deteriorating items. Damaged or deteriorated items shall not be used and shall be removed from the site as soon as they are discovered. Any materials which become contaminated with asbestos shall be disposed of consistent with the requirements of 40 CFR 61.152 and these specifications. Stored materials shall not present a hazard or an inconvenience to workers, visitors, and/or other occupants and employees of the building.

12. EQUIPMENT:

12.1 Personal Protective Equipment: Furnish the Contracting Officer with two complete sets of personal protective equipment needed to complete the project, as required herein, for each entry into and inspection of the asbestos control area.

12.1.1 Respirators: Select respirators approved by the Mine

Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services, for use in atmosphere containing asbestos fibers. Provide personnel engaged in the abatement of ACM with respirators as listed in Table I at the end of the section.

12.1.2 Cartridges: A sufficient supply of respirator cartridges shall maintained at the work site to provide new cartridges to all employees, authorized visitors and government personnel throughout the entire length of the abatement project. Cartridge shall be replaced after 8 hours of use or if breathing becomes difficult. Cartridge respirators shall be used only during set-up procedure.

12.1.3 Protective Clothing: Furnish, at no cost to government, protective equipment for protection from airborne and waterborne asbestos fibers. An adequate supply of these items shall be available for worker, authorized visitor, and government personnel use. Workers and visitors shall not take protective clothing and equipment off the work site at any time.

a. Coveralls (whole body protective clothing): Disposable full-body coverall and disposable head covers shall be worn by all workers in the work area. Sleeves shall be secured at the wrist and pant legs at the ankle with tape. In heat-stree conditions, breathable clothing, such as cotton coveralls, shall be provided.

b. Boots: Work boots with non-skid soles shall be worn by all workers and where required by EM 385-1-1 and OSHA, safety boot (steel toe or steel toe and shank) shall be worn. Provide boots at no cost to workers. Paint uppers of all boots red with waterproof enamel. Do not allow boots to be removed from the work area for any reason, after being accompanied with asbestos containing material. Dispose of boots as asbestos contaminated waste at the end of the work.

c. Gloves: Provide disposable plastic or rubber work gloves to workers and require that they be worn at all times while in the work area. Cloth or other types of gloves may be worn inside the plastic or rubber gloves or as otherwise determined by the Contracting Officer, but shall not be used alone. Secure sleeves at the wrist. Do not remove gloves from the work area, and dispose of as asbestos contaminated waste at the end of the work.

d. Hard Hats: Provide head protective (hard hat) as required by EM 385-1-1 and OSHA for all workers and require that these be worn. Provide spares for visitors. Protective plastic strap suspension hats shall be used. Label hats with same warning labels as used on disposable bags. Required that hard hats be worn at all times that work is in progress that may potentially cause head injury. Require that hats remain in the work area throughout the work. Thoroughly clean, decontaminate and bag hats before removing them from the work area at the end of the work.

e. Eye Protection: Fog-proof goggles for personnel engaged in asbestos operations will be worn when the use of a full face respirator is not required.

f. Work Clothing: Work clothes to wear under the

disposable protecting coverall and foot covering shall be provided.

g. Other Items: Whatever other items of protective clothing and safety equipment are required, as determined by the Industrial Hygienist, shall be provided by the Contractor, including but not limited to, goggles, heavy gloves, safety shoes, hard hats and additional layer of disposal clothing for low temperature conditions.

12.2 Negative Air Pressure System: When a contained asbestos control area is required, a negative air pressure system shall be used, and pressure differential recording taken. Do not remove or strip any asbestos from any area unless it is done in a negative air pressure area.

12.2.1 Requirements for the Filter System: Provide a negative air pressure system in the asbestos control area. Filters on vacuums and negative air pressure equipment shall be UL 586-labeled HEPA filters. Negative air pressure equipment shall be sufficient to maintain a minimum pressure differential of minus 0.02 inch of water column relative to adjacent, unsealed areas. The negative air pressure system units shall each meet the following minimum requirements:

- a. Deliver its rated volume of air with a clean first stage filter, an intermediate filter, and a primary HEPA filter in place.
- b. The HEPA filter must be certified capable of removing particles to 0.3 microns at a minimum efficiency of 99.97 percent.
- c. Under typical asbestos abatement conditions, it must continue to deliver no less than 70 percent of rated capacity when the HEPA filter is 70 percent full or measures 2.5 inches of static pressure differential on a magnehelic gage.
- d. Calibrate the monometer daily as recommended by the manufacturer. Provide manually recorded manometer readings of the pressure differential between the asbestos control area and adjacent unsealed areas at the beginning of each workday and every 2 working hours thereafter.
- e. Must provide a means for the operator to easily interpret the readings in terms of cubic feet of air per minute moving through the machine at any given moment.
- f. Must have an electronic mechanism which automatically shuts the machine off in the event of a filter breach or absence of a filter.
- g. Must have an audible horn which sound an alarm when the machine has shut itself off.
- h. Must have an automatic safety mechanism which prevents a workman from improperly inserting the main HEPA filter.
- i. Must be ducted through the containment barrier walls to the outside the work area. The unit shall never exhausted into the

work area.

12.2.2 Number of Units Required: Provide enough negative air pressure system units and other HEPA filtered exhaust ventilation system units to change all the air within the containment barrier at least once every 15 minutes. The negative air pressure system shall be operated continuously, 24 hours a day, until the asbestos control area barrier is removed. Replace filters as required to maintain the efficiency of the system.

12.2.3 Auxiliary Generator: Provide gasoline powered self starting generator with a capacity adequate to power a minimum of 50 percent of the negative air machines at any time during the work. Provide a switching relay which will automatically start auxiliary generator and switch over power supplied to the negative air pressure system machine to auxiliary generator. Locate the generator so as not to present a carbon monoxide hazard to workers.

12.2.4 Disconnecting Negative Air Pressure System: Do not shut down the negative air pressure system during asbestos abatement work unless authorized by the Contracting Officer in writing. At completion of the asbestos abatement and disposal project, allow units to run until all decontamination work has been completed and final air sampling results indicate average fiber concentration of the work area acceptable to the Industrial Hygienist and the Contracting Officer and independent air monitoring Contractor. Dismantling of the negative air pressure system shall conform to decontamination procedures. Additionally, remove and properly dispose of pre-filters, seal intake to the machine with 6 mil polyethylene to prevent environmental contamination.

12.3 Sampling Equipment: The equipment needed to perform bulk sampling/analysis and air monitoring/analysis is briefly listed below:

- a. High volume and low volume sampling pumps.
- b. Filter cassetts.
- c. Flow calibrator.
- d. Transmission Electron Microscope.
- e. Phase Contrast Illumination Microscope.
- f. Polarized Light Microscope.
- g. Bulk sampling kits.

EXECUTION

13. SIGNS: Post caution signs meeting the specifications of OSHA 29 CFR 1910.1001 (g) (1) (ii) at all locations and approaches to a location where airborne concentrations of asbestos may exceed ambient background levels. Signs shall be posted at a distance sufficiently far enough away from the work area to permit an employee to read the sign and take the necessary protective measures to avoid exposure. Additional signs may need to be posted following construction of workplace enclosure barriers.

14. WORK AREA PREPARATION:

14.1 Secure the Work Area: A work area is the location where

asbestos abatement work occurs and as such is considered contaminated and shall be isolated from the rest of the areas. The work area shall be decontaminated at the completion of the asbestos abatement and disposal work. Completely isolate the work area from other parts of the areas so as to prevent asbestos containing dust or debris from passing beyond the asbestos control area. Should non-isolated area become contaminated, clean those areas.

14.2 Temporary Utilities: Install all necessary temporary equipment to provide adequate power, light, heat, and water to the work area, in order to accomplish the abatement operations properly and safely, and provide a system to collect and store or treat waste water. Maintain responsibility for the security and maintenance of the utility system in the work areas. In the event of a failure of any utility system, the Government will not be responsible for any loss of time or any other expense incurred by the Contractor.

a. All connections to the Government's water system shall include back flow protection device. All connections and fittings installed by the Contractor shall be removed by the Contractor after the completion of work with no damage or alteration to existing water piping and equipment.

b. Employ heavy-duty abrasion-resistant hoses to provide water to each work area and decontamination area. Provide all fittings.

c. Provide hot water heater to provide hot water to the decontamination showers. Wiring shall conform to NEMA, NECA, and UL standards.

d. Provide adequate and safe electrical service to all areas. Comply with NEMA, NECA, NSPA, and UL standards. Use only grounded extension cords. Provide incandescent lamps/light fixtures of adequate wattage to provide good illumination in all work areas.

e. Provide a sufficient quantity of single occupant self-contained chemical toilets, properly vented and fully enclosed.

f. Provide type "A" fire extinguishers for temporary offices and where there is minimal danger of electrical/flammable liquid fires. Provide not less than one extinguisher in each area, decontamination area, clean room and outside area.

g. Provide scaffolding, ladders, staging, etc. as needed. Equip rungs of all metal ladders, etc. with non-slip surfaces. Provide non-skid surface on all scaffold surface subject to foot traffic.

14.3 Pre-Cleaning: Pre-clean all movable objects within the work area using a HEPA filtered vacuum and/or wet cleaning methods as appropriate. After cleaning, these objects shall be removed from the work area and disposed of as uncontaminated debris. Pre-clean all fixed objects in the work area using HEPA filtered vacuums and/or wet cleaning techniques as appropriate. Careful attention must be paid to machinery behind grills or gratings where access

may be difficult but contamination significant. Also pay particular attention to wall, floor and ceiling penetrations behind fixed items. After pre-cleaning, enclose fixed objects in 4 mil polyethylene sheeting and seal securely in place with tape. Pre-clean all surfaces in the work area using HEPA filtered vacuums and/or wet cleaning methods as appropriate. Do not use any methods that would raise dust such as dry sweeping or vacuuming with equipment not equipped with HEPA filters. Do not disturb asbestos containing materials during the pre-cleaning phase.

14.4 Masking and Sealing: Seal all intake and exhaust vents in the work area with tape and 6-mil polyethylene. Also seal off all openings between the work area and uncontaminated areas outside of the work area with 4 mil polyethylene sheeting and tape.

14.5 Sheeting: Cover floors in the work area with two layers of 6 mil polyethylene sheeting. Plastic shall be sized to minimize seams. If the floor area necessitates seams, those on successive layers of sheeting shall be staggered to reduce the potential for water to penetrate to the flooring material. A distance of at least 6 feet between seams is sufficient. Do not locate any seams at wall/floor joints. Floor sheeting shall extend at least 2 feet up the sidewalls of the work area. Sheeting shall be installed in a fashion that will prevent slipping between successive layers of material. Vinyl sheeting may be used for improved traction on floors. Cover walls in the work area with polyethylene sheeting. In addition, openings through these walls to uncontaminated areas of the building must be sealed. Walls shall be covered with two layers of 4 mil polyethylene sheeting. Plastic shall be sized to minimize seams. Seams shall be staggered and separated by a distance of at least 6 feet. Wall sheeting shall overlap floor sheeting by at least 12 inches beyond the wall/floor joint to provide a better seal against water damage and for negative pressure ventilation. Wall sheeting shall be secured adequately to prevent it from falling away from the walls. This will require additional support/attachment when negative pressure ventilation systems are utilized. Floor and wall sheeting shall be installed in a overlapped fashion to allow for the removal of the upper floor & wall layer without disturbing the lower layer.

14.6 The construction of an enclosed work area is impractical and unnecessary for the removal of the asbestos shingles on the building exterior and outside of buildings. The Contractor shall provide a 100 foot roped off perimeter around the area where the asbestos handling procedures are performed and maintain other requirements for asbestos work area. The perimeter of the work area shall have asbestos caution signs meeting the specifications of OSHA 29CFR 1910.1001 (g) (1) (ii) posted every 50 feet along the perimeter line. Seal all the openings to the building interior (i.e. windows, doors) with a single layer of 6 mil polyethylene sheeting. The enclosed cargo container, used for transporting the asbestos to the landfill, will be stored inside the perimeter of the work area.

15. WORKER DECONTAMINATION ENCLOSURE SYSTEMS: Worker decontamination enclosure systems shall be provided at all locations where workers will enter or exit the work area, and at the work area perimeter line for outside work. One system at a

single location for each contained work area is required. The enclosure systems may be constructed out of metal, wood or plastic support as appropriate.

15.1 Shop Drawings: Plans for construction, including materials and layout, shall be submitted as shop drawings and approved by the Contracting Officer prior to work initiation. No work shall be performed until the shop drawings have been approved by the Contracting Officer. Any changes, revisions or modifications required by the Contracting Officer; and any delays caused as a result of these items shall not result in any extra cost or liability to be incurred by the Government. Worker decontamination enclosure systems constructed at the worksite shall utilize 6 mil opaque black or white polyethylene sheeting or other acceptable materials for privacy. Detailed descriptions of portable, pre-fabricated units, if used, must be submitted for approval by the Contracting Officer prior to commencement of onsite activities. Plans must include floor plan with dimensions, materials, size, thickness, plumbing and electrical utilities.

15.2 Requirements: The worker decontamination enclosure system shall consist of at least a clean room, a shower room, and an equipment room, each separated from each other and from the work area by airlocks. Entry to and exit from all airlocks and decontamination enclosure system chambers shall be through curtained doorways consisting of two sheets of overlapping polyethylene sheeting. One sheet shall be secured at the top and left side, the other sheet at the top and right side. Both sheets shall have weights attached to the bottom to insure that they hang straight and maintain a seal over the doorway when not in use. Doorway designs providing equivalent protection may be utilized. Access between any two rooms in the decontamination enclosure system shall be through an airlock with at least one foot separating each curtained doorway. Pathways into (from clean to contaminated) and out from (contaminated to clean) the work area shall be clearly designated.

15.2.1 Clean room shall be sized to adequately accommodate the work crew. Benches may be provided as well as hooks for hanging up street clothes. (Lockers may be provided for valuables, however, workers may be requested to secure valuables in their cars.) Shelves for storing respirators may also be provided in this area. Clean work clothes (if used under disposables), clean disposable clothing, replacement filters for respirators, towels and other necessary items shall be provided in adequate supply at the clean room. A location for postings shall also be provided in this area. Whenever possible, a lockable door shall be used to permit access into the clean room from outside the work area. Lighting, heat and electricity shall be provided as necessary for comfort. This space shall not be used for storage of tools, equipment or materials, (except as specifically designated) or as office space.

15.2.2 Shower room shall contain one or more showers as necessary to adequately accommodate workers. Each shower head shall be supplied with hot and cold water adjustable at the tap. The shower enclosure shall be constructed to ensure against leakage of any kind. An adequate supply of soap, shampoo and towels shall be supplied by the Contractor and available at all times. Shower

water shall be drained, collected and filtered through a system with at least 0.5-1.0 micron particle size collection capability. (Note: A system containing a series of several filters with progressively smaller pore sizes is recommended to avoid rapid clogging of filtration system by large particles.)

15.2.3 The equipment room shall be used for storage of equipment and tools at the end of a shift after they have been decontaminated using a HEPA filtered vacuum and/or wet cleaning techniques as appropriate. Replacement filters (in sealed containers until used) for HEPA vacuums and negative pressure ventilation equipment, extra tools, containers of surfactant and other materials and equipment that may be required during the abatement may also be stored here as needed. A walk-off pan (a small children's swimming pool or equivalent filled with water) shall be located in the work area just outside the equipment room for workers to clean off foot coverings after leaving the work area and prevent excessive contamination of the worker decontamination enclosure system. A drum lined with a labeled 6 mil polyethylene bag for collection of disposable clothing shall be located in this room. Contaminated footwear (e.g. rubber boots, other reusable footwear) shall be stored in this area for reuse the following workday.

16. WASTE CONTAINER PASS-OUT AIRLOCK: The waste container pass-out airlock shall be constructed at some location away from the worker decontamination enclosure system. Whenever possible, this shall be located where there is direct access from the work area to the outside of the building. The waste container pass-out airlock is optional for small work areas and nonfriable asbestos removal work areas. This airlock system shall consist of an airlock, a container staging area, and another airlock with access to outside the work area. The waste container pass-out airlock shall be constructed in similar fashion to pass-out airlock and at partitions constructed to isolate the work area from occupied areas shall be inspected at least twice daily, prior to the start of each day's abatement activities and following the completion of the day's abatement activities. Document inspections and observations in the daily project log. Damage and defects in the enclosure system are to be repaired immediately upon discovery. At any time during the abatement activities after barriers have been erected, if visible material is observed outside of the work area or if damage occurs to barriers, work shall immediately stop, repairs be made to barriers and debris/residue cleaned up using appropriate HEPA vacuuming HEPA vacuums or wet cleaning techniques may be necessary.

17. WORKPLACE ENTRY AND EXIT PROCEDURES: All workers and authorized personnel shall enter the work area through the worker decontamination enclosure system. All personnel who enter the work area must sign the entry log, located in the clean room, upon entry and exit. All personnel, before entering the work area for the first time, shall read and be familiar with all applicable regulations, personal protection requirements (including workplace entry and exit procedures) and emergency procedures. A sign-off sheet shall be used to acknowledge that these have been reviewed and understood by all personnel prior to entry. These procedures shall be posted in the clean room and equipment room.

17.1 Workplace Entry: All personnel shall proceed first to the clean room, remove all street clothes and appropriately don respiratory protection (as deemed adequate for the job conditions) and disposable coveralls, head covering and foot coverings. Hard hats, eye protection and gloves shall also be utilized if required. Clean respirators with new cartridges and protective clothing shall be provided and utilized by each person for each separate entry into the work area. Personnel wearing designated protective equipment shall proceed from the clean room, through the shower room and equipment room to the main work area.

17.2 Workplace Exit: Before leaving the work area all personnel shall remove gross contamination from the outside of respirators and protective clothing by brushing and/or wet wiping procedures. (Small HEPA vacuums with brush attachments may be utilized for this purpose, however, larger machines may tear the suits.) Each person shall clean bottoms of protective footwear in the walk-off pan just prior to entering the equipment room. Personnel shall proceed to the equipment room where they remove all protective equipment except respirators. Deposit disposable clothing into appropriately labeled containers for disposal. Reusable, contaminated footwear shall be stored in the equipment room when not in use in the work area. Upon completion of abatement it shall be disposed of as asbestos contaminated waste. Rubber boots may be decontaminated at the completion of the abatement for reuse. Still wearing respirators, personnel shall proceed to the shower area, clean the outside of the respirators and the exposed face area under running water prior to removal of respirator and shower and shampoo to remove residual asbestos contamination. Various types of respirators will require slight modification of these procedures. An air line respirator with HEPA filtered disconnect protection may be disconnected in the equipment room. A powered air-purifying respirator facepiece will have to be disconnected from the filter/power pack assembly which is not waterproof, upon entering the shower. A dual cartridge respirator may be worn into the shower. After showering and drying off, proceed to the clean room and don clean disposable clothing if there will be later re-entry into the work area or street clothes if it is the end of the work shift.

18. WASTE CONTAINER PASS-OUT PROCEDURES: Asbestos contaminated waste that has been containerized shall be transported out of the work area through the waste container pass-out airlock or through the worker decontamination enclosure if a separate airlock has not been constructed. Waste pass-out procedures shall utilize two teams of workers, an "inside" team and an "outside" team. The inside team wearing appropriate protective clothing and respirators for inside the work area shall clean the outside, including bottoms, of properly labeled containers (bags, drums, or wrapped components) using HEPA vacuum and wet wiping techniques and transport them into the waste container pass-out airlock. No worker from the inside team shall further exit the work area through this airlock. The outside team, wearing protective clothing and appropriately assigned respirators, shall enter the airlock from outside the work area, enclose the containers in clean, labeled, 6 mil polyethylene bags and remove them from the airlock to the outside. No worker from the outside team shall further enter the work area through this airlock. The exit from this airlock shall be secured to prevent unauthorized entry.

19. PERSONNEL PROTECTION REQUIREMENTS:

19.1 Training: Prior to commencement of abatement activities all personnel who will be required to enter the work area or handle containerized asbestos containing materials must have received adequate training in accordance with applicable regulation. Special on-site training on equipment and procedure unique to this job site shall be performed by the Contractor as needed.

19.2 Respiratory Protection: All respiratory protection shall be provided to workers in accordance with the submitted written respiratory protection program, which includes all items in OSHA 29 CFR 1910.134 (1-11). Workers shall be provided with personally issued, individual identified (marked with waterproof designations) respirators. No one having facial hair which interferes with a proper face respirator seal shall be permitted to don a respirator and enter the work area. Additional respirators (minimum of 2 of each type) and training on their donning and use must be available at the work site for authorized visitors who may be required to enter the work area.

No respirator protection is required during set-up periods in areas containing only nonfriable asbestos. The minimum level of respiratory protection during removal and cleanup periods shall be a full-face powered air-purifying respirator that has NIOSH & MSHA approval and is equipped with cartridge filters approved for use in asbestos contaminated atmospheres.

19.3 Workers must perform positive and negative air pressure fit tests each time a respirator is put on, whenever the respirator design so permits. Powered air-purifying respirators shall be tested for adequate flow as specified by the manufacturer.

Workers shall be given a qualitative fit test in accordance with procedures detailed in the OSHA Lead Standard (29 CFR 1910.1025, Appendix D Qualitative Fit Test Protocols) for all respirators to be used on this abatement project. An appropriately administered quantitative fit test may be substituted for the qualitative fit test.

19.4 Protective Clothing: Disposable clothing including head, foot and full body protection shall be provided in sufficient quantities and adequate sizes for all workers and authorized visitors. Hard hats, protective eyewear, gloves, rubber boots and/or other footwear shall be provided as required for workers and authorized visitors. Safety shoes may be required for some activities.

20. AIR MONITORING, BULK SAMPLING, AND ANALYSIS: Sampling of bulk specimens and monitoring of airborne concentrations of asbestos fibers shall be in accordance with 29 CFR 1926.58 and as specified herein. The analysis of bulk and air monitoring samples shall be performed by a laboratory certified by the State of New York. The Government shall have the option to perform independent monitoring and sampling. The testing laboratory shall retain bulk samples and the air monitoring samples after satisfactory completion of the contract. Samples shall be retained for a period of 1 year. For

additional bulk sampling requirements, see paragraph 20.6.

20.1 Monitoring Prior To Asbestos Work: At least three samples from each area shall be collected prior to the start of abatement activities in order to determine prevalent airborne concentrations. Samples shall be taken both inside and outside of the work area to establish existing levels under normal activity conditions. Two samples shall be analyzed using Phase Contrast Microscopy (PCM) analysis and the third sample shall be taken for analysis by Transmission Electron Microscope (TEM). However, the TEM sample will only be analyzed if the PCM sample results indicate that the F/CC level exceeds the permissible exposure limit of 0.2 F/CC as an eight hour time-weighted average or a conflict occurs between the PCM analysis results.

20.2 Monitoring During Asbestos Work: Air sampling shall be taken at a frequency as designated by the Industrial Hygienist during the work shift inside asbestos control area and outside entrance to the asbestos control area. At least one round of station samples shall be collected and subjected to on-site phase contrast microscopy (PCM) analysis using the 7400 method during each work shift. If monitoring outside the asbestos control area shows airborne concentrations have reached or exceeded 0.01 F/CC, or the pre-abatement reference level, notify the Contracting Officer immediately.

20.3 Final Air Monitoring: Post-abatement air sampling shall be conducted after the work areas pass visual inspection by the Contracting Officer, and at least 24 hours after encapsulation has taken place. Three general air samples (minimum of 1,000 liters of air each) from each work area shall be collected aggressively with portable fans circulating air in the work area to simulate actual use conditions to determine post-abatement air concentrations. Two samples shall be analyzed using Phase Contrast Microscopy (PCM). The third sample shall be collected for analysis by Transmission Electron Microscopy (TEM) and shall be analyzed if either of two PCM samples exceed the allowable airborne fiber concentration of 0.01 F/CC or if a conflict arises using PCM analysis.

20.4 Analytical Methods: PCM samples shall be analyzed using NIOSH method 7400, third edition at a laboratory located on site. TEM samples shall be analyzed using the transmission electron microscopy protocol, NIOSH method 7402, latest revision. Personnel samples shall be analyzed by OSHA Reference Method.

20.5 Laboratory Testing: The services of a certified testing laboratory shall be employed by the Contractor to perform TEM laboratory analysis of air samples. A microscope and certified technician shall be set up at the job site so that verbal reports on air sample analysis by PCM can be obtained immediately. Samples sent to the laboratory for TEM analysis shall be processed within 3 days and a verbal report received on the fourth day after receipt of the samples by the laboratory. A complete record, certified by the testing laboratory employees performing analysis, of all air monitoring tests and results, shall be furnished to the Contractor and Contracting Officer within 24 hours of sample taking for PCM, and 3 working days for TEM. The Contractor's Industrial Hygienist and the employee taking the sample shall also sign the monitoring

results.

20.6 Bulk Sampling and Analysis: The collection and laboratory analysis of bulk samples of building materials will provide the confirmation and determination of ACM in sampled locations. Bulk sampling and analysis will be performed when there is a question as to whether a material is ACM, and to determine the exact extent and location of previously unsuspected areas of ACM. If one or more samples from an area have more than 1 percent asbestos, then the area must be treated as if it contains asbestos. If there is doubt, return to the area and collect additional samples.

20.7 Sample and Monitoring Record Maintenance: Keep comprehensive records concerning the testing, monitoring, and analysis of air conditions in and around the work area throughout every phase of this asbestos project.

21. ASBESTOS HANDLING PROCEDURES: Determine the most efficient manner in which to carry out the asbestos abatement from the work areas in conformance with this specification. Select from options available as specified below and in conformance with 29 CFR 1926.58. The selected options or combinations of options selected to comply with the regulations shall be detailed in the Contractor's Asbestos Abatement Plan, including, but not limited to details of construction, materials used, equipment required, work practices to be used, etc.

21.1 Asbestos Containing Materials Abatement with Containment: A containment barrier with a negative air pressure system shall be used when ACM from piping, ducts, walls, or other surfaces is scraped, stripped, or otherwise removed.

21.2 Asbestos Removal: All ACM removal will be in accordance with the Contractor's approved Asbestos Abatement Plan. Prior to commencing glovebag procedures, removal procedures, construction of containment barrier and negative air pressure system, workers wearing the appropriate protective clothing and respirator as determined by the pre-air sampling, shall enter the work area and begin wetting all asbestos bearing surfaces. All wood and other unattached debris shall be collected and cleaned and disposed of in the required manner for ACM. Upon completion of initial debris cleanup, glovebag and containment barrier procedures shall be initiated. Perform all cutting, drilling, abrading or otherwise penetrating any ACM in a manner to minimize release of asbestos fibers into the air. Sufficiently wet ACMs with a fine spray of amended water or removal encapsulate during removal, cutting or other handling to reduce the emission of airborne fibers. Remove ACM and immediately place in plastic disposal bags. Where unusual circumstances prohibit the use of plastic disposal bags, the Industrial Hygienist shall submit, in the Asbestos Abatement Plan, an alternate proposal for disposal of ACMs and containment of the airborne fibers for disposal.

21.2.1 Wetting: Until asbestos-bearing surfaces are encapsulate prior to removal, or removed by other means, they shall be wetted with amended water or removal encapsulate at such intervals as to prevent the asbestos bearing surface from drying out. At the start of each new work shall begin with a thorough wetting of the work

area. When wetting is conducted inside a containment barrier and negative air pressure system, the wetting shall begin at points most distant from the negative air pressure system unit intake openings and proceed toward the intake openings. The spray equipment used to apply the amended water or removal encapsulate shall be capable of producing a "mist" application to the asbestos-bearing surface to reduce the release of the fiber. The asbestos-bearing material shall be saturated sufficiently to wet the substrate without causing excess dripping.

21.2.2 Glovebag Technique: Removal of asbestos using glovebags shall be done using methods and techniques in accordance with 29 CFR 1926.58, Appendix G. Glovebags shall be used only by those workers who are trained, experienced, and skilled in the method of encapsulation. Glovebag shall be constructed of 6 mil polyethylene plastic, with two inward projecting long water wand sleeve, an internal tool pouch, and an attached, labeled receptacle for asbestos waste. The glovebag shall be constructed and installed in such a manner that it surrounds the object or area to be decontaminated and contains all asbestos fibers during the removal process. The Industrial Hygienist will randomly smoke test glovebags to insure proper installation. Negative air enclosure shall be used during all phases of glovebag removal procedures.

21.2.3 Managing Asbestos Containing Wastes: In order to maintain asbestos concentrations at minimum, the saturated, or encapsulated, or otherwise enclosed asbestos must be removed in manageable sections. ACMs which can not be encapsulated shall be placed in a containment barrier and negative air pressure system, and the ACMs shall be scrapped from the contaminated surface using whatever tools are required. Brooms, shovels, dustpans, rubber squeegees, rubber dustpans, HEPA vacuum cleaners and other appropriate tools shall be used to gather gross asbestos waste on floors and walls.

21.2.4 Waste Containers: Place asbestos waste in approved bagged containers, and apply caution labels on the containers in accordance with 29 CFR 1926.58 (k) (2) if not already preprinted on the containers. Clean external surfaces of the filled containers thoroughly by wet sponging in the designated area. The containers shall then be removed to the washroom, thoroughly wet cleaned, and then removed to the holding area pending removal. Uncontaminated workers shall not enter the washroom or the work area; contaminated workers shall not exit through the equipment decontamination unit. Containers (bags or drums) shall be sealed when full. Double bagging of wet material, due to its weight, shall be done. Bags shall not be overfilled. They should be securely sealed to prevent accidental opening and leakage by taping in gooseneck fashion. Do not seal bags with wire or cord. Bags shall be placed in drums for staging and transportation to the approved landfill. Bags shall be decontaminated on exterior surfaces by wet cleaning and HEPA vacuum before being placed in clean drums and sealed with locking ring tops. Large components removed intact may be wrapped in two layers of 6 mil polyethylene sheeting secured and sealed with tape for transport to the landfill. Asbestos containing waste with sharp-edged components, shall be placed into drums for disposal.

21.2.5 Completion of Removal Work: After completion of all asbestos stripping and removal work, surfaces from which asbestos

containing materials have been removed shall be wet brushed, wiped or sponged clean, or cleaned by some equivalent method to remove all visible residue. Collect any water runoff and filter through a dual filtration system. Provide first filter to remove fibers 20 micron and larger and final filter that removes all fibers 5 micron and larger. After the gross amount of asbestos has been removed from every surface, and/or encapsulated materials have been removed, all remaining visual accumulations of asbestos remaining on floors shall be collected using shovels, duct pans, rubber squeezes, rubber dustpans and HEPA vacuum cleaners as appropriate to maintain the integrity of the containment barrier as used. When all coverings have been removed, workman shall use HEPA vacuum cleaners to vacuum every surface. Particular attention shall be paid to those surfaces or locations which could harbor accumulations of residual asbestos dust. The work area shall be encapsulated after a final visual inspection.

21.3 Site Inspection: While performing asbestos removal work, the Contractor shall be subject to on-site inspection by the Contracting Officer who may be assisted by safety or health personnel. If the work is in violation of specification requirements, the Contracting Officer will issue a stop work order to be in effect immediately and until the violation is resolved. Standby time and expenses required to resolve the violation shall be at the Contractor's expense.

22. DECONTAMINATION PROCEDURE:

22.1 Equipment Decontamination Procedures: Any tool, furnishing, apparatus, fixture, piece of equipment, container of supplies or any other item moved out of the sealed work area, or glovebag, shall be thoroughly decontaminated. Items removed from the sealed work area shall be HEPA vacuumed, damp wiped, showered thoroughly, wrapped and sealed in multiple layers of polyethylene sheeting. The following procedure shall be used:

a. At the washdown station, thoroughly wet-clean contaminated equipment or sealed polyethylene disposal bags and waste containers, and pass these into the Wash Room. When passing equipment or containers into the Wash Room, close all doorways of the Equipment Decontamination Unit, other than the doorway between the washdown station and Wash Room. Keep all outside personnel clear of the Equipment Decontamination Unit. Inside the Wash Room, wet-clean the bags and/or equipment. After cleaning, pass items into the Holding Room. Close all doorway except the doorway between the Holding Room and the Clean Room. Workers from the building exterior enter the Holding Area and remove decontamination equipment and/or containers for disposal. Require these workers to wear full protective clothing and wear appropriated respirators. At no time shall a worker from an uncontaminated area enter the Equipment Decontamination Unit when an asbestos abatement worker is inside.

b. Electrical items which can be damaged by water shall be wrapped and sealed in at least two layers of 6 mil polyethylene sheeting before they are passed into the Holding Area.

c. Tools: All the Contractor's tools shall be removed from the work site in 6 mil plastic bags or sealed wraps or appropriate containers. Brooms, long scrapers, shovels, and similar implements shall have their working ends bagged. Each bag shall be secured to the handle with tape. Tubs of scrapers, wire brushes and similar implements shall be completely bagged and sealed prior to their removal from the work area. Coils of hose and electrical wire shall be bagged and sealed prior to removal from the work area. Scaffolding and ladders shall be wrapped in polyethylene. Responsibility for ultimate disposition of contaminated tools is the Contractor's. Ensure that the tools will be either disposed of or cleaned soaps to meet State and Federal regulations.

22.2 Personnel Decontamination Procedures: Ensure that the following personal decontamination procedures are strictly adhered to whenever personnel leave a work area.

a. Each worker and authorized visitor shall, upon entering the work site, remove personal clothes in the clean room and put on a respirator and clean protective clothing before entering the Equipment Room or the work area.

b. All workers and authorized visitors shall, each time they leave the work area, remove gross contamination from clothing before leaving the work area; proceed to the Equipment Decontamination room and remove all clothing except respirators. Disposable clothing, gloves and foot coverings shall be handled and disposed of as contaminated wastes. Each person HEPA vacuum hands, hair, face and respirator. Assist others in HEPA vacuuming respirator seal to the face. Still wearing the respirator, proceed unclothed to the shower.

c. For all personnel using powered air-purifying respirators, the following decontamination procedure will be followed. Showering is mandatory. In the shower, thoroughly wet body including the hair and face when using a powered air purifying respirator (PAPR), hold the blower unit above the head to keep canisters dry. Take the precautions not to wet battery pack and internal part to the PAPR. With respirator in place, thoroughly wash body, hair, respirator face piece and all parts of respirator except the blower unit and battery pack on a PAPR. Wash thoroughly under the scraps and where the respirator mask seals to the face. Take a deep breath, hold it and completely remove respirator and hold it away from the face before starting to breathe. Carefully wash face piece of respirator inside and out. If using a PAPR, shut down in the following sequence: first cap inlets to filter cartridges, then turn off blower unit. Thoroughly wash blower unit and hoses. Carefully wash battery pack as this will destroy the battery. Shower the body, face, etc. completely with soap and water. Rinse thoroughly. Rinse shower room floor and walls prior to exit. Proceed directly to Clean Room.

d. Following showering and drying off, each worker and authorized visitor shall proceed directly to the clean room and dress in clean clothes at the end of each day's work, or before eating, smoking, or drinking. Before reentering the work area from the clean room, each worker and authorized visitor shall put on a clean respirator and shall dress in clean protective clothing.

e. Workers removing waste containers from the equipment decontamination unit shall enter the holding area from the outside wearing a respirator and dressed in clean coveralls. No worker shall use this system as a means to leave or enter the washroom or the work area.

f. The color of the disposable clothing worn outside the work area shall be different from the color of disposable clothing worn inside the work or decontamination area.

g. Imminent threats to life in the sealed work area take precedence over decontamination considerations. In any emergency involving an imminent threat to life, the injured person shall be removed from the work area in the quickest way possible. This will be the only exception to these decontamination requirements. Emergency exit will be provided in the work area.

22.3 **Cleaning the Decontamination Unit:** Clean debris and residue from the inside the Decontamination Unit on a daily basis or as needed, if more often than once a day. Damp wipe or hose down all surfaces after each shift change. Clean debris from shower pans daily or more often as needed. If the Clean Room become contaminated with asbestos containing debris, and fiber release equals or exceeds 0.01 F/CC, stop work, determine the cause of the contamination and decontaminate the Clean Room. If decontamination is not possible, abandon the Clean Room, remove the barriers in a safe manner, and erect a new Clean Room. These actions shall be undertaken only under the supervision of the Industrial Hygienist.

23. **FINAL CLEANUP:** When all visual asbestos has been removed from the work area, the final cleanup phase shall begin. All outer perimeter seals shall remain in place during the final cleanup. Protective clothing and respirators shall remain in use. All normal decontamination procedures shall continue to be followed. Containment barriers and negative air pressure systems established inside if buildings shall remain in full operation.

23.1 **General:** If the asbestos abatement work is on damaged or friable asbestos containing materials, then the room is deemed contaminated before start of work and in need of decontamination. In this case, proceed with at least two cleanings of the barrier plastic sheets, duct tape, etc., and at least two cleanings of the room surfaces. If asbestos abatement work is on undamaged and non friable asbestos containing materials, then the building decontamination is at least two cleanings of the primary plastic barrier, duct tape, etc. Negative air pressure systems shall be used to remove airborne fibers generated during abatement and cleanup work.

23.2 **First Cleaning:** Carry out a first cleaning of all surfaces of the work area including items of remaining plastic sheeting, tools, scaffolding and/or staging by use of damp cleaning and/or HEPA filter vacuuming. The HEPA vacuum will fail if used with wet materials. Do not perform dry dusting or dry sweeping.

23.2.1 Workmen shall use buckets of water to which a surfactant or grease cutting detergent has been added for wetted in the buckets and then wiped across all spaces of the work area. The wiping

cloths shall not be rinsed and reused. Instead, when dirty, they shall be discarded in a debris bag which the workmen shall keep available for this purpose. Wiping down shall continue until final TEM analysis if air samples documents that the area is cleaned. The area shall be considered clean when the asbestos level does not exceed 0.01 F/CC.

23.2.2 Wait 24 hours to allow the negative air pressure system to clean the air of airborne fibers.

23.3 Second Cleaning: Carry out a second cleaning of all surfaces in the work area in the same manner as the first cleaning. Wait 24 hours to take final air samples.

23.4 Release Criteria: No seals shall be removed until the Contracting Officer has approved such removal. Where perimeter barrier methods are used for cleanup, final cleanup procedures shall be carried out in accordance with the Contractor's Asbestos Abatement Plan. The Contractor shall confirm that decontamination of the work area is complete and the Release Criteria is met if the work area passes visual inspection and the final air sample results have a concentration of less than 0.01 F/CC or are not greater than the pre-abatement area sample levels, whichever is less.

23.4.1 Inspection and Monitoring: When asbestos abatement, disposal, and cleanup are complete, the Industrial Hygienist shall certify, in writing, that the concentration of airborne fibers in the control area is less than 0.01 F/CC (longer than 5 micrometers) or equal to or less than the pre-abatement sample level, whichever is less. Do not remove the asbestos control area containment barriers and caution signs prior to the Contracting Officer's receipt of the Industrial Hygienist's certification. After the final cleanup, remove filters on the building HVAC system and dispose as asbestos contaminated waste. Following cleanup provide and install new filters. reestablish decontaminated HVAC, mechanical, and electrical systems in proper working order. The Contracting Officer will visually inspect the affected surfaces for residual asbestos containing material and accumulated dust; the Contractor shall re-clean areas showing dust or residual asbestos materials. If re-cleaning is required, monitor the airborne fiber concentration after re-cleaning.

23.4.2 Removal of the Barrier: If Release Criteria is met, remove the critical containment barriers and shut down and remove the negative air pressure system. Clean light fixtures and lamps; ensure all work at full efficiency. Clean transparent materials (glass, windows, door glass) affected by work. Replace any damaged/broken materials. Clean exposed hard surfaced finishes and restore to original reflective condition. Clean plumbing fixtures and ensure all are in working and sanitary conditions. Remove exposed labels and signs, except for permanent "Asbestos", "Asbestos Free" or Thermal Insulation Labels. Clean the project site (guard, ground) and restore to prework condition. Notify the Contracting Officer before unrestricted entry is permitted. The Government shall have the option to perform independent monitoring to certify the areas safe before entry is permitted.

24. DISPOSAL OF ASBESTOS CONTAINING MATERIALS AND WASTES: All materials contaminated with asbestos shall be disposed of in accordance with the approved Contractor's Waste Disposal Plan. Provide documentation that the landfill is licensed, and is acceptable to the NYSDEC and will accept the asbestos waste.

24.1 Disposal: Collect asbestos waste, scrap, debris bags, containers, equipment, and asbestos contaminated clothing which may produce airborne concentrations of asbestos fibers; place in sealed impermeable bags imprinted with a caution label. Dispose of waste asbestos containing material at an EPA permitted landfill off Government property. For temporary storage, store sealed impermeable bags in asbestos waste drums. An area for interim storage of asbestos waste containing drums will be assigned by the Contracting Officer. Procedure for hauling and disposal shall comply with 40 CFR 61, Subpart M, 40 CFR 241 and 257, and State, regional, and local standards. Contaminated drums must be disposed of as other asbestos contaminated wastes are disposed of. Workers unloading the sealed drums shall wear appropriate respirators and personal protective equipment when handling asbestos containing materials at the disposal site.

24.2 Receipts: Advise the operator of the approved landfill, at least 24 hours in advance of transport, of the quantity of material to be delivered. Obtain and retain receipts or manifests from landfill for materials and disposed of at the landfill.

SUPPORT ACTIVITIES AND PERSONNEL

25. TRAINING: Training shall be provided by the Contractor to all employees or agents who may be required to disturb asbestos contaminated materials for abatement and auxiliary purposes and to all supervisory personnel who may be involved in planning, execution or inspection of abatement projects.

25.1 Topics: Training shall provide, at a minimum, information on the following topics:

The health hazards of asbestos including the nature of various asbestos related diseases, routes of exposure, known dose-response relationships, the synergistic relationship between asbestos exposure and cigarette smoking, latency periods for disease and health basis for standards.

The physical characteristics of asbestos including fiber size, aerodynamic properties, physical appearance and uses.

Employee personal protective equipment including: the types and characteristics of respirators; field testing the face-piece-to-face seal (positive and negative pressure fitting tests); qualitative and quantitative fit testing procedures; variations between laboratory and field fit factors; factors that affect respirator fit (e.g. facial hair); selection and use of disposable clothing; use and handling of launderable clothing, non-skid shoes, gloves, eye protection and hard hats.

Medical monitoring requirements for workers including

required and recommended tests, reasons for medical monitoring and employee access to records.

Air monitoring procedures and requirements for workers including description of equipment and procedures, reasons for monitoring, types of samples and current standards with recommended changes.

Work practices for asbestos abatement: including purpose; proper construction and maintenance of air-tight plastic barriers, job set-up of airlocks, worker decontamination systems and waste transfer airlocks. posting of warning signs; engineering controls; electrical and ventilation system lockout; proper working techniques; waste cleanup, storage and disposal procedures.

Personal hygiene including: entry and exit procedures for the work area; use of showers and prohibition of eating, drinking, smoking and chewing in the work area.

Special safety hazards that may be encountered including electrical hazards, air contaminants (CO, wetting agents, encapsulants, materials from previous site operations), fire and explosion hazards, scaffold and ladder hazards, slippery surfaces, confined spaces, heat stress and noise.

Workshops affording both supervisory personnel and abatement workers the opportunity to see (and experience) the construction of containment barriers and decontamination facilities.

Supervisory personnel shall, in addition, receive training on contract specifications, liability insurance and bonding, legal considerations related to abatement, establishing respiratory protection medical surveillance programs, EPA and OSHA record keeping requirements, and other topics as requested by the Contracting Officer.

25.2 Requirements: Training must be provided by individuals qualified by virtue of experience and education to discuss the topic areas. The training course provided to employees must consist of at least 40 hours of a combination of classroom and hands-on instruction. Training is to have occurred within 12 months prior to the initiation or abatement activities. All employees to be involved with this project must hold valid certificates of completion of the training course. Contractor must document training by providing date of training, training entity, course outline, and names and qualifications of trainers.

26. MEDICAL MONITORING: Medical monitoring shall be provided by the Contractor to any employee or agent that may be exposed to asbestos in excess of background levels during any phase of abatement project. Due to the synergistic effects between smoking and asbestos exposure, it is highly recommended that only non-smoker be employed in positions which require them to enter asbestos contaminated atmospheres. Medical monitoring shall have been performed within the past year.

26.1 Requirements: Medical monitoring shall include at a minimum: work/medical history to elicit symptomatology of respiratory

disease; chest x-ray (posterior-anterior, 14 x 13 inches) evaluated by a certified B-reader; pulmonary function test, including forced vital capacity (FVC) and forced expiratory volume at one second (FEV)1, administered and interpreted by a Certified Pulmonary Specialist. Employees shall be given an opportunity to be evaluated by a physician to determine their capability to work safely while breathing through the added resistance of a respirator. Examining physicians shall be aware of the nature of respiratory protective devices and their contributions to breathing resistance. They shall also be informed of the specific types of respirators the employee shall be required to wear and the work he will be required to perform, as well as special workplace conditions such as high temperatures, high humidity, and chemical contaminants to which he may be exposed.

26.2 **Medical Records:** The Contractor shall maintain complete and accurate records as required by 29 CFR 1926.58 of employees medical examinations for the period of at least 30 years after termination of employment and make records of the required medical examinations available for inspection and copying to: the Assistant Secretary of Labor of Occupational Safety and Health (NIOSH), authorized representatives of either, and an employee's physician upon the request of the employee or former employee.

27. **AIR SAMPLING PROFESSIONAL (ASP):** The Air Sampling Professional shall conduct all air sampling for the Contracting Officer. The Air Sampling Professional shall be an industrial hygienist certified by the American Board of Industrial Hygiene and have prior experience in the health and safety aspects of an asbestos removal project. The Industrial Hygienist may be a Professional Engineer or Certified Safety Professional with minimum of 5 years experience in industrial hygiene, subject to approval by the Contracting Officer. The Air Sampling Professional shall have adequate liability insurance to protect against errors and omissions in the performance of support activities.

28. **LABORATORY SERVICES:** The laboratory utilized for analyzing air samples shall be satisfactory participants in the NIOSH Proficiency Analytical Testing (PAT) program asbestos analysis. Laboratories used for bulk material identification shall be satisfactory participants in the EPA quality assurance program for bulk asbestos analysis.

29. **PROJECT DOCUMENTATION:** Maintain and have available for inspection at the job site the following:

29.1 **Daily Narrative Log:** A daily narrative log kept by the Industrial Hygienist or his designee. This log shall document the major events which occur each day. This log shall provide a comprehensive description of conditions in and around the job site. It shall include the names of all persons who visit the job site and all persons who enter the sealed or restricted work area. It shall contain the details of all accidents, emergencies, breakdowns of equipment, and any material, procedural or safety difficulties, including issues and complaints brought to management attention by the Contractor's employees. It shall contain details such as the number of persons on the job, the time they entered the work area and the time they left, and the nature of the work-in-progress.

Each day's entries shall be signed and dated by the person who made them.

29.2 **Daily Air Monitoring Log:** A daily air monitoring log which records all required items outlined in paragraph, AIR MONITORING, BULK SAMPLING, AND ANALYSIS.

29.3 **Work Schedules:** Work schedules and progress charts amended on a daily basis.

29.4 **Work Summary Report:** Upon completion of the work at each structure, slab, or work area, prepare a report and submit it to the Contracting Officer. The report shall contain:

- a. A summary of all work that was done.
- b. A brief description of how the work was accomplished.
- c. A description of any problem areas encountered during the work.
- d. A copy of the narrative log maintained at the job site throughout the work.
- e. A copy of the air monitoring log maintained at the job site throughout the work.
- f. A copy of the log stating dates of bulk sampling, location of bulk sampling and results of the analysis on bulk samples.

30. **QUALITY CONTROL:** Establish and maintain a quality control system for all operations performed under this section to assure compliance with contract requirements and pertinent Federal, State, and local laws, rules and regulations as cited throughout the text of this section. Maintain records of inspection, testing, monitoring, or related items, as well as records of any corrective actions taken, shall be furnished to the Contracting Officer in accordance with contract requirements and as otherwise directed.

31. **PROJECT CLOSEOUT:** To claim 100 percent completion of the Contract, the Contractor must complete all Cleanup and Disposal actions. The Contracting Officer must have certified through visual inspection, air monitoring results and review of project documents that the work has been 100 percent complete. The Contracting Officer will reinspect the work and work area after the Contractor notice of completion of work. The Contracting Officer will verify final acceptance or advise the Contractor or work that is incomplete or obligations that have not been fulfilled, but are required for final acceptance.

TABLE I

Respirator Protection for Asbestos Fibers

| Airborne Concentration of ACM | Required Respirator (a,b) | Required Fit Test |
|--|---|---------------------------------------|
| Not in excess of 2 F/CC (10 X PEL) (10 X PEL) | Half-mask air-purifying respirator equipped with high-efficiency filter | Qualitative or Quantitative |
| | Full facepiece air-purifying respirator equipped with high-efficiency filter | Qualitative |
| Not in excess of 10 F/CC (50 X PEL) | Full facepiece air-purifying respirator equipped with high-efficiency filters | Quantitative |
| | Any powered air-purifying respirator equipped with full facepiece and high-efficiency filters | Quantitative (Negative Pressure Mode) |
| | Any supplied-air respirator with a tight fitting facepiece and operated in continuous flow of demand mode | Quantitative (Negative Pressure Mode) |
| Not in excess of 200 F/CC (1,000 X PEL) | Full facepiece supplied-air respirator operated in pressure demand mode | Not Required |
| In excess of 200 F/CC | Full facepiece supplied-air respirator operated in pressure demand mode equipped with an auxiliary positive-pressure self-contained breathing apparatus | Not Required |

- a. Respirators assigned for higher environmental concentrations can be used at lower concentrations.
- b. A high-efficiency filter at least 99.97 percent efficient against mono-dispersed particles of 0.3 micrometers in diameter or larger.

** END OF SECTION **

SECTION 02300

REMOVAL AND DISPOSAL OF UNDERGROUND/ABOVEGROUND STORAGE TANKS

PART 1 - GENERAL

1. APPLICABLE PUBLICATIONS: The publications listed below form a part of this section to the extent referenced. The publications are referenced in the text by basic designation only.

AMERICAN PETROLEUM INSTITUTE:

| | |
|---------------------------|--|
| RP1604-1987 & 3 Mar 89 | Removal and Disposal of Used Underground Petroleum Storage Tanks |
| Bull 1628 | Underground Spill Cleanup Manual Protection |
| RP 2003-83 | Against Ignitions Arising out of Static, Lightning and Stray Currents |
| Publ 2015A-82 | A Guide for Controlling the Lead Hazard Associated with Tank Entry and Cleaning |
| Publ 2217-84 | Guidelines for confined space work in the Petroleum Industry |

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
PUBLICATIONS:

| | |
|----------------------|--|
| D 1556-82 | Density of Soil in place by the Sand Cone Method |
| D 1557-78 (R1990) | Moisture Density Relations of Soils and Soil-Aggregate Mixtures Using 10-lb (4.54 kg) Rammer and 18-inch (457 mm) Drop |
| D 2167-84 | Density and Unit Weight of Soil in Place by the Rubber Balloon Method |
| D 2487-85 | Classification of Soils for Engineering Purposes |

MILITARY STANDARDS:

| | |
|------------|---|
| EM 385-1-1 | Corps of Engineers Safety and Health Requirements Manual |
|------------|---|

CODE OF FEDERAL REGULATIONS - PROTECTION OF THE ENVIRONMENT
SUBCHAPTER I - SOLID WASTES:

| | |
|------------|--|
| 40 CFR 260 | Hazardous Waste Management System: General |
| 40 CFR 261 | Identification and Listing of Hazardous Waste |

- 40 CFR 262 Standards Applicable to Generators of Hazardous Waste
- 40 CFR 263 Standards Applicable to Transporters of Hazardous Waste
- 40 CFR 264 Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
- 40 CFR 265 Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
- 40 CFR 266 Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities
- 40 CFR 268 Land Disposal Restrictions
- 40 CFR 280 Underground Storage Tanks; Technical Requirement

CODE OF FEDERAL REGULATIONS - TRANSPORTATION - SUBCHAPTER B - HAZARDOUS MATERIALS TRANSPORTATION AND PIPELINE SAFETY:

- 49 CFR 106 Rule-making Procedures
- 49 CFR 107 Hazardous Materials Program Procedures

CODE OF FEDERAL REGULATIONS - TRANSPORTATION - SUBCHAPTER C - HAZARDOUS MATERIALS REGULATIONS:

- 49 CFR 171 General Information, Regulations, and Definition
- 49 CFR 172 Hazardous Materials Tables and Hazardous Materials Communications Regulations
- 49 CFR 173 Shippers - General Requirements for Shipments and Packaging
- 49 CFR 177 Carriage by Public Highway
- 49 CFR 178 Shipping Container Specifications
- 49 CFR 179 Specifications for Tank Cars

NATIONAL FIRE PROTECTION ASSOCIATION:

- 30 Flammable and Combustible Liquids Codes
- 327 Standard Procedure for Cleaning or Safeguarding Small Tanks and Containers
- 329 Recommended Practice for Handling Underground Leakage of Flammable and Combustible Liquids

2. SUBMITTALS: See Section 01500

2.1 For Approval:

- (1) Qualifications.
- (2) Work Plan.

2.2 For Information:

- (1) Sampling Results of Tank Contents and Soil.
- (2) Documentation of Disposal.
- (3) List of Transporters and Disposal Facilities.
- (4) Manifests for Hazardous Waste Disposal.
- (5) Solid Waste Transporters Permit.
- (6) License of Waste Disposal Facility.
- (7) Site Closure Documentation.
- (8) Demolition Permit.
- (9) Tank Removal Notification from State Prior to Work.
- (10) Notification to Local Fire Marshall.

3. QUALIFICATIONS: The Contractor shall have a minimum of two (2) years of tank removal experience and be certified to remove tanks by the State of New York. The Contractor's staff shall include appropriate health and safety personnel, and personnel qualified to perform the necessary sampling as necessary to properly execute the requirements of this specification.

4. REGULATORY REQUIREMENTS:

4.1 Permits and Licenses: The Contractor shall obtain any local, State, or Federal permits or licenses required to perform the work included in this contract prior to commencing removal operations at no additional cost to the government.

4.2 Statutes and Regulations: All work included in this contract shall be conducted in strict compliance with all applicable local, State and Federal regulations, statutes, codes and policies. Tank closure shall be carried out in accordance with the requirements identified in 40 CFR 280 as well as the applicable local and State regulations. Compliance shall be the responsibility of the Contractor.

4.3 Notification: The Contractor shall notify the Owner and the Contracting Officer 30 days prior to tank removal. The Contractor shall be responsible for contacting the State in accordance with the applicable reporting requirements.

5. GENERAL SCOPE: The Contractor shall furnish all labor, materials, and equipment required to perform the work specified. The work will consist of removal, decontamination and disposal of underground/aboveground storage tanks, associated piping, and appurtenance. These tanks were used for storing fuel oil, diesel fuel, gasoline, lube or waste oil (see Oil Tank Inventory Sheet) and were taken out of service. Residue remaining in the tanks is considered as hazardous waste and shall be properly handled and disposed of

in accordance with all Federal, State and local environmental regulations. Surface soils and soils surrounding the tanks may be contaminated. If soils are contaminated, they shall be properly handled and disposed of as a hazardous waste. The site shall be treated as a hazardous waste site and given special consideration due to the nature of the materials and hazards present until closure activities are complete. Listed below are a list of tasks which are required for this project:

- Remove tank contents.
- Remove and dispose of concrete slab.
- Purge the tank.
- Excavate and stockpile material to expose tanks and piping.
- Disconnect piping and appurtenance from tank.
- Decontaminate -complete (tank, piping and appurtenance).
- Remove tanks.
- Clean and decontaminate tank exteriors.
- Remove residue from tanks.
- Decontaminate tank interiors.
- Sample and analyze soil underneath the tank excavated.
- Remove and dispose of contaminated soil.
- Dispose of the tank, piping, and appurtenance.
- Transport and properly dispose of all wastes generated.

PART 2 - EXECUTION

6. WORK PLAN: Work shall proceed in a manner to minimize disruption to operations at the effected facilities. The Contractor shall develop, implement, maintain, and supervise a comprehensive tank and ancillary equipment removal work plan for those tanks. Procedures shall be based on guidance provided in these specifications.

7. PREPARATION:

7.1 Safety Guidelines: The Contractor's personnel working in the general vicinity of the tank shall be trained and thoroughly familiar with the safety precautions, procedures, and equipment required for controlling the potential hazards associated with the work. The Contractor shall utilize proper personal protection and safety equipment during work in and around the tank. Documentation that employees have completed the proper OSHA mandated safety training shall be submitted in a Site Specific Safety and Health Plan (SSHP) in accordance with the requirements specified in Section 01500.

7.2 Sampling and Analysis of Tank Contents: See Section 01500 paragraph 5.3.3

7.3 Protection of Existing Structures and Utilities: The Contractor shall take all necessary precautions to assure no damage occurs to existing structures, their appurtenances or utilities that may be effected by work activities. The Contractor shall coordinate with the Owner to locate underground utilities prior to beginning construction. Utilities encountered that were not previously shown or

otherwise located shall not be disturbed without coordinating with the Contracting Officer.

7.4 Surface Preparation:

7.4.1 Road and Parking Lot Closings, and Digging Permits: The Contractor shall obtain the necessary permits required by the installation to do excavation within the facility boundary. The Contractor shall notify the Owner a minimum of 14 calendar days prior to beginning work in the effected areas. Excavation areas as well as work near roadways shall be marked in accordance with the Safety and Health Requirements Manual (EM 385-1-1).

7.4.2 Clearing: Sufficient surface areas as required shall be cleared of surface obstacles, trees, stumps, pavement, or concrete prior to commencing operations. Concrete or asphalt pavement shall be broken and removed with the resulting debris disposed off-site.

7.4.3 Topsoil: Topsoil shall be stripped and stockpiled separately for reuse at a location approved by the Contracting Officer if it meets the requirements of clean fill.

7.4.4 Pavement and Sidewalks: Where it is necessary to remove pavement and sidewalk shall be removed by cutting on a straight and true line. The pavement and sidewalk shall be cut with an approved concrete saw to a depth of at least 2 inches and the remaining depth may be sheared or broken with suitable pneumatic tools.

7.5 Removal of Tank Contents:

7.5.1 Operations: The Contractor's operations shall comply with all Federal, State, and local regulations and permit requirements pertaining to water, air, solid waste, erosion and noise pollution.

7.5.2 Residue Removal and Storage: Tank liquids and residues shall be contained, stored on-site, and analyzed by the Contractor prior to being transported to the designated storage and disposal facility, and disposed of by the Contractor in accordance with applicable Federal and State hazardous waste disposal regulations. Federal disposal regulations are contained in 40 CFR Parts 260-268. The Contractor shall obtain all required permits at no additional cost to the Government. The Contractor shall provide approved containers, vehicles, equipment, labor, signs, labels and manifests, necessary for accomplishment of the work including materials necessary for cleaning up spills that could occur from tank removal operations included in the Work Plan. Waste spills shall be reported immediately to the Contracting Officer. The Contractor shall take immediate containment and cleanup actions necessary to minimize the effect of the spill.

8. TANK EXCAVATION:

8.1 Exploratory Excavations: Exploratory trenches shall be excavated as necessary to determine the tank location, limits and the location of ancillary equipment.

8.2 Tank Excavation: The Contractor shall excavate around the perimeter of the tank in a manner that will limit the amount of potentially contaminated soil that could be mixed with previously uncontaminated soil. The Contractor shall keep obviously contaminated soil segregated from clean fill, including separate stockpiles. The Contractor shall maintain an excavation around the tank of sufficient size to allow the workers ample room to complete the work, but bracing or shoring shall be installed in the absence of stable conditions. Safety in and around the excavation shall conform to the requirements given in the USACOE, safety and Health Requirements Manual, EM 385-1-1 and Section: 01500.

8.3 Stockpiles: Uncontaminated excavated soil from tank removal activities shall be stockpiled and used for backfill in the tank excavation prior to using borrow material. After the tank has been removed, the soil at the bottom and around the perimeter of the excavation shall be visually inspected. If the soil is found to be contaminated, it shall be removed and stockpiled for sampling. The Contracting Officer shall determine the extent of the contaminated soil to be removed from each site. Uncontaminated soil shall be stockpiled separately from the contaminated soil, a safe distance away from, but adjacent to the excavation. Contaminated soil shall be placed on a geomembrane a minimum of 30 mils thick, and covered with a 6 mil sheet of geomembrane. The geomembrane shall be placed such that the stockpiled soil does not come into contact with surface water run-off. The 6 mil geomembrane cover shall prevent rain or surface water from coming into contact with the contaminated soil, as well as limit the escape of the volatile constituents in the stockpile.

9. TANK REMOVAL:

9.1 Preparation for Tank Removal:

9.1.1 Piping and Ancillary Equipment Removal: Drain piping back into the tank and disconnect the piping from the tank. Remove and cap all tank ancillary equipment connections, and piping in the excavation zone, except those connections necessary to vapor free (purge) the tank. The Contractor shall take special precautions to ensure no spillage of the pipe contents occurs.

9.1.2 Residue and Liquids: Remove residue and liquids from the tank, and refer to Section: 01500 for health and safety requirements during cleaning and sampling operations.

9.1.3 Purging: Prior to excavating in the vicinity of the tank, it shall be purged in accordance with API Publication 1604 using a minimum of 3 pounds of dry ice per 100 gallons of tank. Purging methods utilizing liquids shall not be

allowed. Specific methods used shall be described in the Work Plan. The tank atmosphere shall be continuously monitored for combustible vapor. Monitoring requirements shall be as specified in Section: 01500.

9.2 Removal from Excavation: After removal from the excavation the tank shall be placed on a level surface at a location approved by the Contracting Officer and secured with wood blocks to prevent movement. All holes in the tanks shall be plugged using boiler plugs except one single 1/8" vent hole to prevent the tank from being subjected to differential pressures prior to transporting the tank to an approved tank disposal area.

9.3 Filling and Backfilling: The tank area and other excavations made to facilitate the tank removal shall be backfilled only after soil sampling and analysis are met. Stockpiled material subjected to chemical confirmation testing shall be used as backfill if it is found to be "clean - less than 100 ppm of TPH". The Contractor shall backfill the excavation within 48 hours after the bottom of the tank excavation is determined to have soil contamination levels below the State standards of 100 ppm TPH.

10. TANK CLEANING:

10.1 Tank Exterior Cleaning: Uncontaminated soil shall be removed from the tank exterior using non-sparking tools to eliminate soil deposition on roadways during transportation to a temporary storage area, and ensure markings will adhere to the tank surface. Uncontaminated soil removal shall be accomplished on a paved area adjacent to the tank removal site if available. Soil removed from the tank exterior shall be recovered and disposed of. Contaminated material removal from the exterior of the tank shall be accomplished adjacent to the tank excavation. Soil removed shall be collected on a 30 mil geomembrane and stockpiled with other contaminated soil removed from the excavation.

10.2 Tank Interior Cleaning: The tank interior shall be cleaned using a high pressure low volume water spray or steam cleaned until all loose scale and residue is removed, and contamination is no longer visible in the effluent stream. Cleaning shall be accomplished in a manner that eliminates the need for personnel to enter the tank. Cleaning can be done using specially designed tank cleaning equipment which allows the tank to be kept in tact. If the Contractor intends to use less specialized equipment, the tanks shall be partially dissected to overcome confined space entry hazards. This can be accomplished by either cutting them lengthwise approximately six inches above the mid-height of the tank, or by removing the end walls. In either case, the cutting operation shall be accomplished using nonsparking or non-heat producing equipment. Tank cleaning and cutting methods shall be submitted as part of the Contractors Work Plan. Waste streams resulting from tank cleaning shall be collected for proper disposal.

11. TEMPORARY STORAGE: After the tank is cleaned and prior to disposal, the tank shall be labeled, placed on blocks, and temporarily stored on a flat area adjacent to the excavation.

12. SOIL TESTING AND ANALYSIS: After a tank has been removed from the ground, the tank, adjacent and underlying soil shall be examined for any evidence of leakage. The soil shall be visually inspected for staining and also screened for the presence of contamination in accordance with Section: 01500, paragraph 5.3.4. If any evidence of leakage is present, it shall be reported to the Contracting Officer the same day it is discovered.

13. DISPOSAL REQUIREMENTS: The Contractor shall provide all services necessary for the disposal of hazardous wastes in accordance with all local, State, and Federal EPA solid and hazardous waste laws and regulations, specifically RCRA, and conditions specified herein. These services shall include all necessary personnel, labor, transportation, packaging, detailed analysis, equipment, and reports. Mere acceptance of the hazardous waste at a properly permitted Treatment, Storage, or Disposal Facility (TSDF) does not meet the definition of final treatment/disposal for this work. The Contractor shall obtain a Certificate of Waste Disposal from the disposal facility to prove that the final treatment/disposal of all waste has been accomplished at an EPA/State approved facility for each waste accepted. The certificate of disposal shall be submitted to the Contracting Officer.

13.1 Transportation of Wastes: The Contractor shall provide transportation in accordance with Department of Transportation (DOT) Hazardous Material Regulations 49 CFR 100-199, and 40 CFR 263. The Contractor shall also comply with State and local requirements, including obtaining all necessary permits, licenses, and approvals. The Contractor shall show evidence that licensed Hazardous Waste Transporter is being used and that the TSDF meets all requirements to the Contracting Officer as part of the Plan of Operations.

13.2 Spill Responsibility: The Contractor shall be solely responsible for any and all spills or leaks during the performance of this contract which occur as a result of or are contributed to by the actions of its employees or subcontractors. The Contractor shall clean-up such spills or leaks in a manner that complies with applicable Federal, State, and local laws and regulations. The clean-up shall be at no additional cost to the Government. The Contractor shall report any spills related to project activities to the Contracting Officer.

13.3 Contractor Reporting Requirements: The Contractor shall report all spills or leaks, regardless of their quantity, to the Contracting Officer immediately following their discovery. A written follow up shall be submitted to the Contracting Officer not later than 7 days after the initial report. The written report shall be in narrative form and as a minimum include the following:

(1) Description of the material spilled including identity, quantity, and manifest number.

(2) Whether amount spilled is EPA/State reportable and, if so, whether it was reported.

(3) Exact time and location of spill including description of the area involved.

(4) Containment procedures initiated.

(5) Summary of any communications Contractor has with press or Government Officials other than Contracting Officer.

(6) Description of clean-up procedures employed or to be employed at the site, including disposal location of spill residue.

13.4 Safety: The Contractor shall perform all operations in a prudent, safe and professional manner. At a minimum, the Contractor personnel and equipment shall comply with applicable Federal, State, local and installation laws, safety regulations and procedures, and the Contractor shall ensure that its employees and subcontractors perform in a safe manner. The Contractor shall ensure that all personnel involved in handling and packaging the hazardous waste be trained for the level of expertise required for the proper performance of the task and shall have a workable knowledge about general first aid procedures and spills. Personal protective equipment shall be provided by the Contractor and shall be appropriate to ensure safe handling of the hazardous material. The Contractor shall agree that his personnel and equipment are subject to safety inspections by Government personnel at any time.

13.5 Salvage Rights: The Contractor shall retain the rights to salvage value of wastes, so long as the requirements of 40 CFR 266, or the applicable State requirements are met. Tanks must be disposed of.

13.6 Records: The Contractor shall maintain a current record of all waste determinations, including appropriate results of analyses performed, substances and sample location, the time of collection. Transportation, treatment, disposal methods and dates, the quantities of waste, the names and addresses of transporter(s) and the disposal or reclamation facility, shall also be recorded and available for the Contracting Officer's inspection, as well as the following information documenting services performed as a minimum:

(1) Two copies of a cover letter signed by a responsible company official certifying that all services involved have been performed in accordance with the terms and conditions of this specification.

(2) The original and one copy of all manifests, if not previously provided.

(3) Two copies of all analysis performed for disposal, if not previously provided to the Contracting Officer.

(4) Two copies of all waste analysis or waste profile sheets, if not previously provided to the Contracting Officer.

(5) Two copies of all certifications of final treatment/disposal signed by the responsible disposal facility official.

Following contract close out, the records shall become the property of the government.

13.7 Hazardous Waste Manifests: The Contractor shall utilize a State approved manifest system in conformance with 40 CFR 263 so that the wastes can be tracked from generation to ultimate disposal. The manifests must comply with all of the provisions of the transportation and disposal regulations. The Contractor shall be responsible for preparing manifests. The Owner must sign the generator portion of the manifest. The appropriate copy of each signed manifest shall be submitted to the Contracting Officer at the time each waste shipment leaves the site. Prior to transportation of the hazardous Waste, the Contractor shall comply with all of the established pretransport requirements. The wastes must be transported by a certified hazardous waste hauler (i.e. the hauler must have a USEPA or appropriate State hazardous waste identification number) in approved containers. All transporters must sign the appropriate portions of the manifest and must comply with all of the provisions established in the Resource Conservation and Recovery Act (RCRA) and DOT regulations.

13.8 Documentation of Treatment or Disposal: The wastes must be taken to a treatment, storage or disposal facility which has EPA or appropriate State permits and hazardous waste identification numbers and complies with all of the provisions of the disposal regulations. Documentation of acceptance of hazardous or toxic materials by a facility legally permitted to treat or dispose of those materials shall be furnished to the Contracting Officer not later than 5 working days following the delivery of those materials to the facility. A statement of agreement from the proposed treatment, storage or disposal facility and certified transporters to accept hazardous wastes shall be furnished to the Contracting Officer not less than 14 days before transporting any hazardous wastes. If the Contractor selects a different facility than is identified in the bid, and in the Work Plan, the Contractor shall provide documentation for approval to certify that the facility is authorized and meets the standards specified in 40 CFR 264.

13.9 Packaging and Marking: The Contractor shall package, mark, label, and load all items in such a manner that all applicable Federal, State and local EPA and DOT regulations are met. If items must be repackaged for proper shipment,

the Contractor shall perform such repackaging and furnish all required materials. When repackaging is necessary, the Contractor shall dispose of the original container and packaging in a manner that complies with all applicable Federal, State and local EPA and DOT regulations. The Contractor shall ensure that the appropriate placards are affixed to each vehicle prior to leaving the site.

13.10 Contractor's Representative: The Contractor shall provide the name and telephone number of at least one responsible individual and an alternate, who will serve to respond to operational problems or emergencies on a 24-hour basis. The Contractor shall agree that notice to his designated representative shall constitute notice to the Contractor and shall agree to be bound by any commitments or representations made by the representative.

13.11 Public Affairs: The Contractor shall immediately direct all news inquiries concerning this work to the Contracting Officer.

13.12 Transportation Numbers: The Contractor shall submit a list of transporters along with their addresses and EPA identification numbers and indicate exactly which items will be transported with each carrier and where those items will be transported. Any changes to the list shall have prior written approval from the Contracting Officer.

14. TANK CLOSURE REPORTS: For each site opened, the Contractor shall prepare a Tank Closure Report which will be submitted to the Contracting Officer and the NYSDEC within 14 days of completing work at each site. Tank Closure Reports shall include the following information as a minimum:

(1) A cover letter signed by a responsible company official certifying that all services involved have been performed in accordance with the terms and conditions of this specification.

(2) A narrative report describing what was encountered at each site, including:

- a. Condition of the tank.
- b. Any visible evidence of leaks or stained soils.
- c. Results of vapor monitoring readings.
- d. Actions taken including quantities of materials treated or removed.
- e. Reasons for selecting sample locations.
- f. Reasons for backfilling site.
- g. Whether or not groundwater encountered.

(3) Copies of all analysis performed for disposal.

(4) Copies of all waste analysis or waste profile sheets.

(5) Copies of all certifications of final disposal signed by the responsible disposal facility official.

(6) Information on who sampled, analyzed, transported, and accepted all wastes encountered.

(7) Copies of all analysis performed for verification. All analysis shall give the identification number of the sample used. Sample identification numbers shall correspond to those provided on the one-line drawings.

(8) Scaled on-line drawings showing tank locations, excavated areas, areas of contamination, underground utilities within 50 feet, sample locations and sample identification numbers.

** END OF SECTION **

SECTION 02400

REMOVAL AND DISPOSAL OF TRANSFORMERS

PART 1 - GENERAL

1. GENERAL SCOPE: The work consists of sampling/analysis of dielectric fluids from transformers and the removal and disposal of transformers and fluids. Transformers include pad-mounted and pole-mounted transformers which are classified as PCB, PCB contaminated and non-PCB transformers by EPA regulations.

2. REFERENCES:

PUBLIC LAWS:

- | | |
|-----------|---|
| PL 94-510 | Toxic Substances Control Act |
| PL 96-510 | Comprehensive Environmental Response, Compensation, and Liability Act |
| PL 94-580 | Resource Conservation and Recovery Act |

CODE OF FEDERAL REGULATIONS:

- | | |
|-------------|---|
| 29 CFR 1910 | Occupational Safety and Health Standards |
| 40 CFR 112 | Oil Pollution Prevention |
| 40 CFR 266 | Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities |
| 40 CFR 761 | Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions |
| 49 CFR 178 | Shipping Container Specifications |

*40 CFR
51 will apply?*

54 FEDERAL REGISTER (FR) 52717: Final Rule, Polychlorinated Biphenyls; Notification and Manifesting for PCB Waste Activities, 21 Dec 1989.

USAEHA WATER QUALITY INFORMATION PAPER No. 18: Regulations Concerning Polychlorinated Biphenyls, 31 Aug 1989

MILITARY STANDARDS:

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| EM 385-1-1 | Corps of Engineers Safety and Health Requirement Manual |
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All other applicable Federal, State, and local codes, standards and regulations. The Contractor is cautioned that he is responsible for ascertaining the extent to which these regulations affect the operations resulting from this solicitation and to comply therewith.

3. DEFINITIONS:

3.1 Chemical Waste Landfill: A landfill at which protection against risk of injury to health or the environment from migration of PCBs to land, water, or the atmosphere is provided. The environment and human health are protected from PCBs and PCB items deposited therein by locating, engineering, and operating the landfill as specified in 40 CFR 761.75.

3.2 Incinerator: An engineered device using controlled flame combustion to thermally degrade PCBs and PCB items. Examples of devices used for incineration include rotary kilns, liquid injection incinerators, cement kilns, and high temperature boilers. Incinerators can burn any concentrations of PCBs and must be approved under the provisions of 40 CFR 761.70.

3.3 Non-PCB Transformer: Transformer that contains less than 50 ppm PCB.

3.4 PCB and PCBs: Any chemical substance that is limited to the biphenyls molecule that has been chlorinated to varying degrees or any combination of substances which contains such substance.

3.5 PCB Article: Any manufactured article, other than a PCB container, that contains PCBs and whose surface(s) has been in direct contact with PCBs. "PCB article" includes capacitors, transformers, electric motors, pumps and pipes.

3.6 PCB Container: Any package, can, bottle, bag, barrel, drum, tank, or other device that contains PCB or PCB articles and whose surface has been in direct contact with PCBs.

3.7 PCB Contaminated Transformers: Transformers that contains 50 ppm or greater PCB, but less than 500 ppm PCB. Oil-filled transformers whose PCB concentration is unknown must be assumed to be PCB contaminated.

3.8 PCB Item: Any PCB article, PCB container, or other PCB equipment that deliberately or unintentionally contains or has a part of any PCB or PCBs.

3.9 PCB Transformer: Transformers that contains 500 ppm PCB or greater.

4. CONTRACTOR SERVICES:

4.1 The Contractor shall provide all engineering, labor, materials equipment, licenses, and permits necessary for removal and disposal of transformers.

4.2 The Contractor shall examine the transformers to be removed and familiarize himself with all on-site conditions which may affect his work. Failure to do so shall not lessen his responsibility or entitle him to additional compensation for work not included in his quotation.

4.3 The scope of work includes but is not limited to the following:

- (1) Sampling and analysis.
- (2) On-site spill prevention and clean-up of spills that do occur.
- (3) Draining and flushing of transformers as necessary.
- (4) Marking, labelling and manifesting of all PCB containers and PCB contaminated waste.
- (5) Transport and disposal of all PCB containers and PCB contaminated waste to an EPA approved disposal facility.
- (6) Clean-up of work area.
- (7) Record-keeping.
- (8) Wipe test or soil test for areas where spillage is suspected or as directed by the Contracting Officer.

5. SUBMITTALS: The following items shall be submitted for approval. All submissions shall be clearly marked to show specific items proposed for use. Prior to delivery of any materials to the job site, all items shall be approved by the Contracting Officer.

5.1 Work Plan: Submit a detailed plan of the work procedures to be used in the removal and transport of PCBs and PCB contaminated waste. The plan shall include the prevention of contamination to personnel and the environment, sketch showing PCB work zones at each location, monitoring level of contamination by wipe tests, interfaces of trades involved in the work, emergency spill control procedures, and the containerization, rigging and transportation of all PCBs and PCB contaminated waste. The PCB plan shall be approved, signed and dated by the Certified Industrial Hygienist (CIH) prior to submittal to the Contracting Officer.

5.2 Manufacturers' Data:

- (1) Containers
- (2) Pumping apparatus
- (3) Sorbents and solvents
- (4) Protective clothing for personnel
- (5) Secondary containment equipment

5.3 Transport and Disposal: Submit the name, address and telephone number of the firm or firms handling the transport and disposal of PCBs and PCB contaminated waste. Also submit all applicable Federal, State and local permits authorizing these activities.

6. PUBLIC PROTECTION:

6.1 The Contractor shall take all necessary precautions to prevent injury to the public, building occupants, or damage to property of others. For the purposes of this contract, the public or building occupants shall include all persons not employed by either the Contractor or a subcontractor working under his direction.

6.2 Work shall not be performed in any area occupied by the public unless specifically permitted by the contract or the Contracting Officer and unless adequate steps are taken for the protection of the public.

6.3 Prior to commencing any PCB related work activities, barricades, roping and warning signs shall be put in place to clearly identify and guard against unauthorized entry into the work area.

6.4 Public Thoroughfare: When work is to be performed over a public thoroughfare such as a sidewalk, lobby, or corridor, the thoroughfare shall be closed, if possible, or other precautions taken such as the installation of screens or barricades. Screens and barricades shall be removed upon completion of the project.

7. HEALTH AND SAFETY: See Section 01500

7.1 The Contractor shall comply with the EPA regulations regarding PCB including all regulations for servicing, decontamination, handling, and disposal of PCB and all waste and debris generated by this contract in accordance with 40 CFR 761, the Toxic Substances Control Act, and the Resource Conservation and Recovery Act.

7.2 The Contractor shall strictly adhere to all precautions necessary to insure the safety, health and well being of all workers in accordance with 29 CFR 1910.

7.3 At all times when PCBs in any volume are not sealed in drums or containers, and during pumping operations, all workers shall wear protective clothing which shall include at a minimum:

- (1) Disposable, nonporous gloves.
- (2) Disposable coveralls.
- (3) Disposable shoe covers.
- (4) Eye protection.

7.4 In confined area, breathing apparatus shall be worn to provide protection from exposure to vapors or fumes.

7.5 Upon exiting from the work area, all disposable protective clothing shall be placed in EPA specified containers, sealed, and disposed of with other PCB contaminated waste.

PART 2 - PRODUCT

8. MATERIALS AND EQUIPMENT:

8.1 Container: Containers used for the storage and transporting of PCB and PCB contaminated waste shall conform to applicable EPA regulations.

8.2 Solvent and Cleaner: Solvents and cleaners shall be xylene, toluene, kerosene, or other fluid recognized for their high degree of PCB solubility and shall be as allowed by EPA regulations.

8.3 Sorbent: Acceptable sorbents shall include granular material, powdered clay, blankets and pillows of non-woven fiber, amorphous inorganic foam particle pillows or an approved equal.

8.4 Pump: Pumps shall be equipped with an automatic shut-off device sensing container level and an electrical shut-off controlable by the operator while filling the container. Pumps shall restrict the flow to a rate of 16 gallons per minute or less when pumping into containers. Pumps shall have an adjustable pressure by-pass set to a maximum pressure of 40 psi.

8.5 Hose: Hoses shall be compatible with the material to be pumped and shall be of reinforced construction. It shall be rated 120 psi or greater.

8.6 Shut-off Valve: Quick shut-off valves shall be installed on the transformer or regulator tank during pumping operation and shall be 90 degree ball valves.

PART 3 - EXECUTION

9. SAMPLING AND ANALYSIS: See Section 01500, paragraph 5.3.6.

10. SPILL PREVENTION AND FLUID HANDLING PRECAUTIONS: Prior to any PCB removal operations the Contractor shall perform the following:

10.1 Provide secondary containment around all the equipment to be used including drums, pumping apparatus and the transformer itself. In addition, sorbents in amounts adequate to absorb a multi-gallon spill shall be placed within the work area.

10.2 Confirm the integrity of all pumping apparatus.

10.3 All necessary emergency spill equipment shall be prepared on-site.

10.4 Protect fixed items from possible contamination by covering with 6-mil plastic sheet and sealing.

10.5 The Contractor shall establish work zones as required for the protection of personnel, the public, and the environment from exposure to any quantity of PCBs.

11. TRANSFORMER DRAINING AND FLUSHING:

11.1 The Contractor has the option to drain the transformers at the disposal site. The Contractor shall determine the

adequacy to exercise this option based on the conditions and sizes of transformers, and inform the Contracting Officer prior to commencing any work. This option shall not relieve the Contractor from carrying out the work specified herein in a safe and proper manner in accordance with the applicable Federal, State, and local regulations.

11.2 In the event of on-site draining, the transformers shall be drained into EPA approved containers prior to any movement. Containers shall not be filled in excess of 95% of capacity to provide for expansion.

11.3 Following draining of the PCB fluids, the transformer carcasses shall be filled with a suitable flush fluid and allowed to stand for a minimum of eighteen (18) hours.

11.4 All flush fluids shall be acceptable by the EPA and upon removal from the transformer shall be placed in EPA approved containers.

11.5 Transformer flushing may be done at an EPA permitted decommissioning facility or on-site when required by project restriction.

11.6 All flush fluids shall be disposed of in accordance with applicable regulations.

11.7 Prior to moving any PCBs or PCB contaminated waste, the Contractor shall have checked the outing. Cushions or bumpers shall be placed on or around sharp stationary equipment or building projections that line the exit route.

11.8 All PCB filled drums shall be loaded on the transport vehicle by one of the following methods:

- (1) By a hoist or lift truck utilizing a two-point drum lifter.
- (2) By a hoist or lift truck provided with a band-around type drum lifter.
- (3) By a lift truck lifting the drums from underneath by a pallet attached to the drum by a banding arrangement.
- (4) By a hoist or lift truck lifting the drums by means of a specially designed and self-tightening flexible harness.

11.9 All equipment such as pumps, container, etc. shall be confined to the work areas until containers are sealed and equipment such as pumps are decontaminated in accordance with EPA regulations and properly secured for transport.

11.10 After removal of PCB from transformers has begun, the work area shall not be left unattended until all fluids and solids which have come in contact with PCB are properly sealed in EPA specified non-leaking drums and the work area

is secured.

12. CONTAINERIZATION AND MARKING:

12.1 PCB related activities shall be scheduled such that all PCB are transported off the site as soon as the PCB fluids are removed from the transformers.

12.2 Packing of PCB and PCB contaminated waste shall be as follows:

- (1) All PCB fluids and flush fluids shall be packaged in leakproof containers meeting 49 CFR 178.
- (2) Solid PCB contaminated waste such as earth, rags, used personal protective clothes, etc., shall be placed in containers meeting 49 CFR 178.
- (3) All PCB containers shall be properly sealed and labeled. In addition to the standard PCB warning label, each container shall have the name and address of the company transporting the container, the name and address of the company performing the containerization, serial number assigned to the container, the date it was sealed and released for transport, and the item contained, i.e., solids or liquids.
- (4) Solid and PCB fluids shall not be packaged in the same container.

13. TRANSPORTATION TO DESTRUCTION FACILITIES:

13.1 All drums, containers, and transformer carcasses shall be transported to a legally permitted decommissioning and/or an EPA approved incineration facility. No PCB items, with the exception of properly decontaminated tools and pumping equipment used during the course of the work shall be transported elsewhere.

13.2 Before the PCB containers are transported for disposal they shall be inspected by the Contracting Officer to assure that all containers are properly labeled and identified and the Contractor shall submit to him a list of containers transported in each shipment.

13.3 The Contractor shall properly complete a Uniform Hazardous Waste Manifest (UHWM) for each transport of PCB materials. The Contracting Officer will sign the manifests and retain copies for the Government. Those completed manifests shall contain data on all PCB containers and transformer carcasses.

13.4 Prior to loading the drums and other PCB items onto the transport vehicle, the vehicle shall be prepared with secondary containment.

13.5 All drums, containers and transformer carcasses shall be secured to the transport vehicle to prevent movement.

13.6 The transport company shall be licensed for the transport of PCB wastes. An EPA Number will be required.

13.7 The driver of the transport vehicle shall be trained in the laws and regulations governing PCB transportation.

13.8 Vehicles used for the transportation of PCB items must be clearly marked.

13.9 The Contractor shall have a Spill Contingency Plan as part of the PCB Plan for the control and clean-up of any spills occurring between the transformer location and disposal facility.

14. DISPOSAL:

14.1 Disposal shall conform to 40 CFR Part 761, and all other Federal, State and local regulations.

14.2 All fluids from PCB, PCB contaminated, or non-PCB transformers, or as a result of any flushing activities, regardless of PPM level, shall be incinerated by an EPA approved incineration facility.

14.3 All PCB transformer carcasses, after flushing, will be disposed of in an EPA approved Chemical Waste Landfill, or by an EPA approved carcass destruction facility.

14.4 All PCB solids and containers shall be disposed of in accordance with EPA regulations.

15. CLEAN-UP OF WORK AREA:

15.1 After completion of on-site work, all hoses, pumps, drip pans, tools, and equipment used shall be decontaminated in accordance with applicable EPA regulations and properly secured.

15.2 Any contamination on exterior surfaces of equipment to be moved which may contaminate the work area during performance of the work shall be removed prior to movement of the equipment.

15.3 All concrete or other surfaces which have come in contact with PCB in the course of the work shall be thoroughly scrubbed using a combination of sorbents, solvents, and cleaners.

15.4 All soils which have been contaminated as a results of work related activities shall be removed and disposed at the Contractor's expense. *& confirmation - BS*

15.5 Within 90 days after any disposal, the Contractor shall furnish to the Contracting Officer or his representative three (3) copies of the "Certification of Destruction" for the fluids, the transformers and the contaminated solids prior to final settlement.

16. SITE INSPECTION: While performing PCB removal work, the Contractor shall be subject to on-site inspection by the Contracting Officer who may be assisted by safety and health officer. If the work is in violation of specification requirements, the Contracting Officer will issue a stop work order to be in effect immediately and until the violation is resolved. Standby time and expenses required to resolve the violation shall be at the Contractor's expense. Contractor shall furnish the Contracting Officer with two complete sets of personal protective equipment, as required herein, for each entry into and inspection of the PCB control area.

17. CONTRACTOR RESPONSIBILITY:

17.1 The Contractor shall assume title to all PCB equipment when the material is loaded on the vehicle used for the PCB work and agrees to indemnify, defend, and save harmless from and against any liability, expense, or loss resulting from the failure by the Contractor or subcontractors to comply fully with every Government directive which directly or indirectly regulates or affects the collection, handling, storage or transportation of the materials to be disposed of by the Contractor, hereunder and from and against any and all claims, suit, and liabilities, directly or indirectly based upon damage to, or destruction of any property (including the property of Contractor), or injury (including death) to any person arising out of or attributed to any negligent or willful act of the Contractor or subcontractor in the collection, handling, storage or transportation of the materials to be disposed of by the Contractor hereunder.

17.2 The Contractor shall immediately inform the Contracting Officer in writing, of any spill or other situation which could result in contamination or loss and any corrective action taken.

18. RECORD-KEEPING: All records, test results, etc., as well as the records of any corrective action taken, shall be kept by the Contractor, and their carbon copies shall be furnished to the Government.

** END OF SECTION **

SECTION 02500

PATCHING OF BITUMINOUS CONCRETE PAVING

PART 1 - GENERAL

1. RELATED WORK SPECIFIED IN THIS CONTRACT:

1.1 SECTION 02300: REMOVAL AND DISPOSAL OF UNDERGROUND/
ABOVEGROUND STORAGE TANKS

1.2 The State of New York, Department of Transportation,
Standard Specifications for Construction and Materials,
Revision of April 1985, hereafter designated as NYSDOT
Specifications.

2. DESCRIPTION: Furnish all labor, materials, and equipment
to construct plant mix bituminous concrete pavement in
conformance with the contract plan and as specified herein.
Work shall conform to the NYSDOT Specifications.

3. QUALITY CONTROL:

3.1 Qualification of Bituminous Concrete Producer: Use only
materials which are furnished by a bulk bituminous concrete
producer regularly engaged in production of hot-mix, hot-laid
bituminous concrete.

4. SUBMITTALS:

4.1 Mix Design: Provide the Contracting Officer with a job
mix formula for each course used in the work.

4.2 Reports: Provide 2 copies of each of the items listed
below (see Section: Contractor Quality Control):

(1) Aggregate material: Submit verification or
confirmation that aggregates used in the bituminous mix
conform to SECTION 703 of the NYSDOT Specifications.

(2) Asphalt cement: Submit verification or
confirmation that bituminous material used in the bituminous
mix conforms to SECTION 703 of the NYSDOT Specifications.

PART 2 - PRODUCTS

5. MATERIALS:

5.1 Aggregates: Conform to SECTION 703 of the NYSDOT
Specifications.

5.2 Asphalt Cement: Conforms to SECTION 702 of the NYSDOT
Specifications.

5.3 Tack Coat: Conforms to SECTION 407 of the NYSDOT

Specifications.

5.4 Prime Coat: Conforms to SECTION 702 of the NYSDOT Specifications.

PART 3 - EXECUTION

6. INSTALLATION:

6.1 Plant Mix Hot Bituminous Pavement: Produce and place in conformance with SECTION 401 of the NYSDOT Specifications.

6.2 Permanent Trench Pavement Repair:

(1) Saw cut existing pavement to provide a vertical bonding face.

(2) Remove sawn cut existing paving and underlying material within the area of excavation to facilitate removal of structure(s).

(3) After backfilling and compaction are completed, install aggregate base and subbase in the area to be repaved.

(4) Prior to placement of asphalt, apply a prime coat of diluted emulsified asphalt to the untreated base coarse and sawn edges at a rate of 0.05 to 0.15 gallon/square yard.

(5) Apply a 2-inch base course over the aggregate subbase.

(6) Apply a tack coat at a rate 0.01 to 0.5 gallon/square yard prior to placing wearing course. The previous course shall be thoroughly cleaned of all loose material prior to applying tack coat.

(7) Apply a one-inch wearing course.

(8) Roller compact both course, compacting the final wear course to meet existing pavement surfaces.

** END OF SECTION **

SECTION 02600

EXCAVATION, BACKFILLING, FILLING AND SEEDING

PART 1 - GENERAL

1. APPLICABLE PUBLICATIONS: The American Society for Testing and Materials (ASTM) publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

| | |
|-----------|--|
| D 1556-82 | Density of Soil in-place by the Sand-Cone Method |
| D 2487-85 | Classification of Soils for Engineering Purposes |

2. DEFINITIONS:

2.1 Satisfactory Materials: Satisfactory materials include materials classified in ASTM D 2487 as GW, GP, SW, SP, GC, GM, SM and shall be free of trash, debris, roots or other organic matter, or stones larger than 3 inches in any dimension.

2.2 Unsatisfactory Materials: Unsatisfactory materials include materials classified in ASTM D 2487 as Pt, OH, OL and any other materials not defined as satisfactory.

2.3 Cohesionless and Cohesive Materials: Cohesionless materials include materials classified in ASTM D 2487 as GW, GP, SW, and SP. Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GM and SM will be identified as cohesionless only when the fines are non-plastic.

PART 2 - EXECUTION

3. TOPSOIL shall be stripped to a depth of 12 inches below existing grade within the designated excavations and grading lines and deposited in storage piles for later use.

4. EXCAVATION shall be limited to around the perimeter of the tank and associated piping, and shall be executed in a manner that will limit the amount of potentially contaminated soil that could be mixed with previously uncontaminated soil. The Contractor shall keep obviously contaminated soil segregated from clean fill, including separate stockpiles. The Contractor shall maintain an excavation around the tank of sufficient size to allow the workers an ample room to complete the work, but shall also protect the workers from sliding or cave-ins. Sheeting, bracing or shoring shall be installed in the absence of stable conditions.

The Contractor shall secure open excavations and

stockpile areas while awaiting for the soil sampling results. The Contractor shall schedule the soil sampling and analysis to ensure that the results are available within 3 days and that the excavation is not left open for a period exceeding 5 days.

Satisfactory materials shall be placed and compacted as specified in paragraph 12. Determination of elevations and measurements of approved overdepth excavation of unsatisfactory material below the limits required shall be performed under the direction of the Contracting Officer.

5. DRAINAGE AND DEWATERING:

5.1 Drainage: Surface water shall be directed away from excavation and construction sites so as to prevent erosion and undermining of foundations. Diversion ditches, dikes and grading shall be provided and maintained as necessary during construction. Excavated slopes and backfill surfaces shall be protected to prevent erosion and sloughing. Excavation shall be performed so that the site and the area immediately surrounding the site is continually and effectively drained.

5.2 Dewatering: Groundwater flowing toward or into excavations shall be controlled to prevent sloughing of excavation slopes and walls, boils, uplift and heave in the excavation and to eliminate interference with orderly progress of construction. French drains, sumps, ditches or trenches will not be permitted within 3 feet of the foundation of any structure, except with specific written approval, and after specific contractual provisions for restoration of the foundation area have been made. Control measures shall be taken by the time the excavation reaches the water level in order to maintain the integrity of the in situ material. While the excavation is open, the water level shall be maintained continuously at least one foot below the working level.

6. SHORING including sheet piling, shall be furnished and installed as necessary to protect workmen, banks, adjacent paving, structures, and utilities. Shoring, bracing, and sheeting shall be removed as excavations are backfilled, in a manner to prevent caving.

7. CLASSIFICATION OF EXCAVATION: Excavation will be unclassified regardless of the nature of material encountered.

8. BLASTING will not be permitted.

9. BORROW: Where satisfactory materials are not available in sufficient quantity from required excavations, approved materials shall be obtained.

10. EXCAVATED MATERIALS: Satisfactory excavation material required for fill or backfill shall be placed in the proper section of the permanent work required under this section or shall be separately stockpiled if it cannot be readily placed. Satisfactory material in excess of that required for

the permanent work and all unsatisfactory material shall be disposed of off the site.

11. SUBGRADE PREPARATION: Unsatisfactory material in surfaces to receive fill or in excavated areas shall be removed and replaced with satisfactory materials. The surface shall be scarified to a depth of 6 inches before the fill is started. Sloped surfaces steeper than 1 vertical to 4 horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material. When subgrades are less than the specified density, the ground surface shall be broken up to a minimum depth of 6 inches, Pulverized, and compacted to the specified density. When the subgrade is part fill and part excavation or natural ground, the excavation or natural ground portion shall be scarified to a depth of 12 inches and compacted as specified for the adjacent fill. Material shall not be placed on surfaces that are muddy, frozen, or contain frost. Compaction shall be accomplished by approved equipment well suited to the soil being compacted. Material shall be moistened or aerated as necessary.

12. FILLING AND BACKFILLING: Satisfactory materials shall be used for fills and backfills, and for the replacement of unsatisfactory materials. Satisfactory materials shall be placed in horizontal layers not exceeding 8 inches in loose thickness, or 6 inches when hand-operated compactors are used. After Placing, each layer shall be plowed, disked, or otherwise broken up, moistened or aerated as necessary, thoroughly mixed and compacted as specified. Backfilling shall not begin until construction below finish grade has been approved, underground utilities systems have been inspected, tested and approved, forms removed, and the excavation cleaned of trash and debris. Backfill shall be brought to indicate finish grade when specified, and shall include backfill for underground storage tank. Backfill shall not be placed in wet or frozen areas. Heavy equipment for compacting backfill shall not be operated. The area shall be compacted in layers not more than 4 inches in compacted thickness with power-driven hand tampers suitable for the material being compacted.

Approved compacted subgrades that are disturbed by the Contractor's operations or adverse weather shall be scarified and compacted.

13. COMPACTION: Each layer of the fill shall be compacted to at least 85% of laboratory maximum density for general grading and 95% for subgrade for roads and paved areas. Field in-place density shall be determined in accordance with ASTM D 1556-82.

14. GRADING: Areas within 5 feet beyond the excavation for removal of the underground storage tanks shall be constructed true to grade, shaped to drain, and shall be maintained free of trash and debris until final inspection has been completed and the work has been accepted.

15. SPREADING TOPSOIL: Areas from which topsoil has been removed shall be topsoiled. The surface shall be free of

materials that would hinder planting or maintenance operations. The subgrade shall be pulverized to a depth of 2 inches by disking or plowing for the bonding of topsoil with the subsoil. Topsoil shall then be uniformly spread, graded, and compacted to the thickness of approximately three (3) inches, and its elevations and slopes shall be graded to match the surroundings. The surface shall be left free of irregularities. Topsoil shall be compacted by one pass of a cultipacker, roller, or other approved equipment weighing 100 to 160 pounds per linear foot of roller. Topsoil shall not be placed when the subgrade is frozen, excessively wet, extremely dry, or in a condition otherwise detrimental to seeding, planting, or proper grading.

16. PROTECTION: Settlement or washing that occurs in graded, topsoiled, or backfilled areas prior to acceptance of the work shall be repaired and grades re-established to the required elevations and slopes.

17. SEEDING: All topsoil removed during construction shall be replaced and seeded over to restore the ground surface to its original undisturbed condition as directed by the contracting officer.

17.1 Application of Lime and Fertilizer: Lime shall be applied by tillage at the rate of 80 pounds per 1000 square feet before fertilizer is applied. Fertilizer shall be applied at the rate of 30 pounds per 1000 square feet. All fertilizers, pH adjusters, and soil conditioners shall be incorporated into the soil to a minimum depth of 4 inches.

17.2 Planting Seed: Seed shall be uniformly broadcast at the rate of 3 pounds per 1000 square feet using broadcast seeders. Half of seed shall be broadcast in one direction, and the remainder at right angles to the first direction. Seed shall be covered to an average depth of 1/4 inch by disk harrow, steel mat drag, cultipacker, or other approved device. Seed shall not be broadcast when winds are above 10 miles per hour.

17.3 Applying Mulch: Straw mulch shall be spread uniformly in a continuous blanket, using 1-1/2 tons per acre. Mulch shall be spread by suitable method until the area is uniformly covered. The mulch shall not be bunched.

** END OF SECTION **

SECTION 03301

CONCRETE

1. GENERAL: Conformance with ACI 318-83 R86, except as specified herein. Concrete in accordance with ASTM C 94-86-Rb.

2. STORAGE: Store materials so that they will not deteriorate or become contaminated.

3. MATERIALS:

3.1 Abrasive aggregate: Aluminum oxide, or silicon-carbide abrasive.

3.2 Anchorage items: Furnish standard manufacture and of types needed.

3.3 Cement: ASTM C 150-86, Type I or II. Only one source and type of cement shall be used for exposed concrete surfaces of any structure.

3.4 Aggregate: ASTM C 33-86, 3/4-in. maximum nominal size.

3.5 Curing materials:

3.5.1. Absorptive materials: Burlap, jut, or fabric-type mats.

3.5.2 Membrane-forming curing compound: Liquid of commercial formulation, sprayable and nontoxic, that will form a film highly resistant to moisture loss from concrete while curing and will dry within 4 hours. Clear with fugitive dye or pigmented. Base material shall be resin or chlorinated rubber, as required.

3.5.3 Water: Potable.

3.6 Bowels: Plain carbon steel bars, minimum yield point of 60,000 psi.

3.7 Expansion-joint filler strips, premolded: Commercially nonextruding, resilient bituminous or nonbituminous type, 3/8-in. thick.

3.8 Form coating: Nonstaining form oil or form release agent.

3.9 Form materials that will produce the specified finishes without adversely affecting the concrete surfaces.

3.10 Form ties: Metal, factory-fabricated removable or snap-off.

3.11 Joint sealant: Hot- or cold-applied, made specifically for sealing joints in concrete.

3.12 Reinforcement and tie bars: ASTM A 615-87. Deformed bars, grade 60 billet steel. Welded steel wire fabric mesh in accordance with ASTM A 185-85.

3.13 Non shrink grout shall conform to CRD C621 and shall be a formulation suitable for this application.

4. QUALITY:

4.1 Strength: Concrete shall be proportioned and mixed for a minimum compressive strength of 3,000 pounds per square inch at 28 days.

4.2 Entrained-air content: 5 to 7 percent by volume of concrete for exposed concrete. Air entrainment is optional for interior work.

4.3 Slump: 2 to 4 in. for walls, 1 to 3 in. for other work.

4.4 Tests: Tests shall be performed in accordance with ACI 301-84.

5. FORMWORK provide dimensionally correct concrete surfaces which are free of offset, waviness, or bulges. Use manufacturer's stock size panels for surfaces which are exposed. Use smaller panels cut to required dimensions only where required by openings and joints. Chamfer, bevel, or round corners by moldings placed in the forms. Thoroughly clean form surfaces and coat before each use. Remove forms at a time and in a manner that will not injure the concrete.

6. REINFORCEMENT: Detail and place in accordance with ACI SP 66-80 and ACI 301-84, except as otherwise indicated or specified below.

6.1 Wire-mesh reinforcement: Continuous between joints in slabs on grade. Laps at least one full mesh plus 2 in., staggered to avoid continuous lap in either direction, and securely wired or clipped with the standard clips. Mesh supported or precast concrete units in a manner that will support the mesh at the minimum height indicated.

6.2. Dowels and tie bars: Install dowels and tie bars at right angles to joints, accurately aligned parallel to the finished surface. Rigidly hold in place during concrete placement. Oil or grease one end of dowels.

7. INSTALLATION OF ANCHORAGE ITEMS: Provide anchorage items of number, size, and location to insure sufficient anchorage for purpose intended.

8. JOINTS:

8.1. Perimeter felt joints: Provide 30-1b. asphalt-saturated felt, extending full slab depth for joints between interior slabs on grade and vertical surfaces.

8.2 Premolded expansion-joint filler: Use wood strip to form a groove not less than 3/4-in. deep. Remove wood strip after the concrete has set and fill groove with joint sealant so as to be slightly after drying.

9. PLACING: Place exterior slabs upon clean undisturbed surfaces free from frost, ice, water. Place impervious sheets over dry or pervious surfaces receiving concrete. Concrete may be placed directly on impervious surfaces that are thoroughly moistened but not muddy. Place concrete in layers not over 12 in. deep. Avoid embedment of conduits and pipes in concrete unless specifically indicated. Protect concrete from freezing.

10. CONSOLIDATION OF CONCRETE: Consolidate concrete thoroughly by using internal vibrators supplemented by handspading, rodding, and tamping.

11. SLABS ON GRADE:

11.1 Concrete: Compact, screed to grade, and prepare for the specified finish. Place slabs in panels in alternate checkerboard pattern or in alternate lanes divided into panels as shown on the drawings.

11.2 Contraction joints: True to line, 1/8-in wide, and of depth equal to approximately 1/4 of the slab thickness. Saw joint of form by inserting fiberboard strips of the required dimensions.

11.3 Seal joints: Seal joints is exposed slabs with joint sealant.

12. FINISHES OF CONCRETE OTHER THAN SLABS: Remove fins and loose material. Repair unsound concrete. Prepare and fill solid with stiff mortar all voids over 1/2 in. in diameter, and tie rod and bolt holes. Match patchwork with adjoining surfaces. Cure patchwork for 71 hours. Use white portland cement as necessary to attain color match.

13. CONCRETE SLAB FINISHES: No deviation exceeding 1/8 in. when tested with a 10-ft. straightedge. Pitch surfaces to drains. Screed and float surfaces to the required finish

level with no coarse aggregate visible before finishing as specified below.

13.1 Monolithic finish: Use on slabs unless otherwise specified. Screed and wood float. After the surface moisture has disappeared, steel-trowel to a smooth, even dense finish free from blemish including trowel marks.

13.2 Nonslip finish: Use on exterior building entrances and other surfaces indicated. Uniformly sprinkle not less than 1/4 lb. of abrasives aggregate over each square foot of the floated concrete, and steel-trowel to a smooth finish. After curing, expose the abrasive aggregate by steel brushing, rubbing with an abrasive stone, or sand blasting.

14. CURING: Start as soon as free water has disappeared from concrete surfaces after placing and finishing. Maintain and protect the concrete from moisture loss for 7 days. Curing shall be accomplished by one of the following methods:

14.1 Moist curing: Wet absorptive materials before placing and keep continuously wet during impervious-sheet materials.

14.2 Membrane-forming compound curing: Apply in a two-coat continuous operation, each coat applied at a coverage of not more than 300 sq. ft. per gallon and at right angles to each other. Respray damaged surfaces. Do not use on surfaces receiving floor hardener or receiving applications depending on adhesion or bonding or where smooth finish is required, except that resin-base or chlorinated-rubber-base compounds may be used on floors receiving resilient flooring. Use clear compounds or permanently exposed surfaces; such surfaces shall be shaded from the sun during the curing period.

15. NONSHRINK GROUT: Nonshrink grout shall be mixed and placed in accordance with material manufacturer's written recommendations. Forms of wood or other suitable material shall be used to retain the grout. The grout shall be placed quickly and continuously, completely filling the space without segregation or bleeding of the mix.

SECTION D
Packaging and Marking

NOT USED

SECTION E

Inspection and Acceptance

-See Section 01305, Submittal Procedures.
Contains ENG FORM 4288

-See Section 01440, Contractor Quality Control.

SECTION F

Deliveries and Performance

NOT USED

SECTION G

Contract Administration Data

NOT USED

F/G

SECTION H

Special Contract Requirements

H

SECTION H - CONTRACT REQUIREMENTS

H.1 COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK:

a. The Contractor shall be required to (i) commence work under this contract within 7 calendar days after the date the Contractor receives the notice to proceed, (ii) prosecute the work diligently, and (iii) complete the entire work ready for use not later than 180 calendar days after the date the Contractor receives the notice to proceed, except that in case the Contracting Officer determines that sodding/seeding is not feasible during the construction period, the Contractor shall accomplish such sodding/seeding in the first planting period following the contract completion date. This action will not operate to extend the performance time for the balance of the work. The time stated for completion shall include final cleanup of the premises.

b. Locations: The sites of work is located at:
Camp Hero, Montauk, New York

c. The Contractor shall furnish all labor, materials, equipment, and services (except those furnished by the Government) for the following work: Removal and Disposal of Soil/Shrubs/Debris; and Environmental Sampling Analysis (Soil Waste Pile Sampling in accordance with the plans and specifications).

d. All work shall be in accordance with the drawings and specifications or instructions attached hereto and made a part thereof, or to be furnished hereafter by the Contracting Officer and subject, in every detail to his supervision, direction, and instructions (DoD FAR Supplement 52.236-7014)

e. Magnitude of Construction Project: The estimated value of the proposed work is between \$1,000,000 and \$5,000,000.

H.2 LIQUIDATED DAMAGES - CONSTRUCTION: (APR 1984) (FAR 52.212-5)

a. If the Contractor fails to complete the work within the time specified in the contract, or any extension, the Contractor shall pay to the Government as liquidated damages, the sum of \$390 each day of delay.

b. If the Government terminates the Contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the Government in completing the work.

c. If the Government does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the work is completed or accepted.

H.3 EQUAL OPPORTUNITY PREAWARD CLEARANCE OF SUBCONTRACTS:
(1984 APR)

Notwithstanding the clause of this contract entitled "Subcontracts", the Contractor shall not enter into a first-tier subcontract for an estimated or actual amount of \$50,000 or more without obtaining in writing from the Contracting Officer a clearance that the proposed subcontractor is in compliance with the equal opportunity requirements and therefore is eligible for award. (FAR 52.222-28)

H.4 INSURANCE: (APR 1984)

a. The Contractor shall procure and maintain during the entire period of his performance under this contract the following minimum insurance:

- (1) General Liability Insurance (Comprehensive form of policy):

Bodily Injury Liability - \$500,000 per occurrence.

- (2) Automobile Liability Insurance (Comprehensive form of policy):

Bodily Injury Liability - \$200,000 per person and \$500,000 per accident.

Property Damage Liability - \$20,000 per accident.

- (3) Workmen's Compensation and Employer's Liability Insurance:

Compliance with applicable workmen's compensation and occupational disease statutes is required. Employers' liability coverage in the minimum amount of \$100,000 is also required.

b. Prior to the commencement of work hereunder, the Contractor shall furnish to the Contracting Officer a certificate or statement of the above required insurance. The policies evidencing required insurance shall contain an endorsement to the effect that cancellation or any material change in the policies adversely affecting the interests of the Government in such insurance shall not be effective for such a period as may be prescribed by the laws of the State in which this contract is to be performed and in no event less than thirty (30) days after written notice thereof to the Contracting Officer.

c. The Contractor agrees to insert the substances of this clause, including this paragraph c., in all subcontracts hereunder.

H.5 PERFORMANCE OF WORK BY THE CONTRACTOR: (1984 APR)

The Contractor shall perform on the site, and with its own organization, work equivalent to at least twenty (20) percent of the total amount of work to be performed under the contract. This percentage may be reduced by a supplemental agreement to this contract if, during performing the work, the Contractor requests a reduction and the Contracting Officer determined that the reduction would be to the advantage of the Government. (FAR 52.236-1)

H.6 WARRANTY OF CONSTRUCTION: (APR 1984)

a. In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (j) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

b. This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.

c. The Contractor shall remedy at the Contractor's expense any failure to conform, or any defect. In addition, the Contractor shall remedy at the Contractor's expense any damage to Government-owned or controlled real or personal property, when that damage is the result of -

- (1) The Contractors failure to conform to the contract requirements; or
- (2) Any defect of equipment, material, and workmanship, or design furnished.

d. The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

e. The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect or damage.

f. If the Contractor fails to remedy any failure, defect or damage within a reasonable time after receipt of notice, the Government shall have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

g. With respect to all warranties, express or implied,

from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall -

- (1) Obtain all warranties that would be given in normal commercial practices;
- (2) Require all warranties to be executed, in writing, for the benefit of the Government, if directed by the Contracting Officer; and
- (3) Enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

h. In the event the Contractor's warranty under paragraph (b) of this clause has expired, the Government may bring suit at its expense to enforce a subcontractor's, manufacturer's, or supplier's warranty.

i. Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Government nor for the repair of any damage that results from any defect in Government furnished material or design.

j. This warranty shall not limit the Government's rights under the Inspection and Acceptance clause of this contract with respect to latent defects, gross mistakes, or fraud. (FAR 52.246-21)

H.7 CERTIFICATES OF COMPLIANCE:

Any certificates required for demonstrating proof of compliance of materials with specification requirements shall be executed in 4 copies. Each certificate shall be signed by an official authorized to certify in behalf of the manufacturing company and shall contain the name and address of the Contractor, the project name and location, and the quantity and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates shall contain the name and address of the testing laboratory and the date and dates of the tests to which the report applies. Certification shall not be construed as relieving the Contractor from furnishing satisfactory material, if, after tests are performed on selected samples, the material is found not to meet the specific requirements. (ECI 7-670.3)

H.8 NOT USED

H.9 BID BOND: (MAR 1989)

a. The offeror (bidder) shall furnish a separate bid bond, or United States bonds, Treasury notes or other public

debt obligations of the United States, in the proper form and amount, by the time set for opening of bids. Failure to do so may be cause for rejection of the bid. The Contracting Officer will return bonds or notes of the United States (1) to unsuccessful bidders as soon as practicable after the opening of bids; and (2) to the successful bidders upon execution of contractual documents and bonds (including any necessary coinsurance or reinsurance agreements), as required by the bid as accepted.

b. If the successful bidder, upon acceptance of its bid by the Government within the period specified for acceptance, fails to execute all contractual documents or give a bond(s) as required by the solicitation within the time specified, the Contracting Officer may terminate the contract for default.

c. Unless otherwise specified in the bid, the Bidder will (1) allow sixty (60) days for acceptance of its bid; and (2) give bond within ten (10) days after receipt of the forms by the Bidder.

d. In the event the contract is terminated for default, the Bidder is liable for any cost of acquiring the work that exceeds the amount of its bids. The bid bond, or bonds or notes of the United States, is available to offset the difference. (DOD FAR Supplement 252.228-7007)

H.10 CONTRACT DRAWINGS, MAPS AND SPECIFICATIONS: (52.236-7002)

a. Five sets of large scale (half-size optional) contract drawings and specifications will be furnished to the Contractor without charge except for applicable publications incorporated into the technical provisions by reference. Additional sets will be furnished on request at the cost of reproduction. One set of reproducibles will be furnished to the Contractor on a one-time basis in lieu of the above contract drawings at the option of the Contracting Officer. The work shall conform to the specifications and the following contract drawings identified on the following index of drawings.

| <u>FILE NO.</u> | <u>TITLE</u> | <u>DATE</u> | <u>LATEST REV. NO. & DATE</u> |
|-----------------|--|-------------|---------------------------------------|
| DERP-1 | SITE PLAN - STORAGE TANKS Camp Hero, Montauk, NY | 7/1/92 | |
| DERP-2 | SITE PLAN - TRANSFORMERS, DRUMS & MISCELLANEOUS Camp Hero, Montauk, NY | 7/1/92 | |
| DERP-3 | SITE PLAN - BUILDING DEMOLITION/ DEBRIS REMOVAL(BD/DR) AND SEALING OF EXTERIOR BUNKER OPENINGS Camp Hero, Montauk, NY | 7/1/92 | |

| <u>FILE NO.</u> | <u>TITLE</u> | <u>DATE</u> | <u>LATEST REV. NO. & DATE</u> |
|----------------------------|---|-------------|---------------------------------------|
| SEE SECTION J PAGE J1-1 | LOCATION MAP Camp Hero, Montauk, NY | 7/1/92 | |
| SEE SECTION J PAGE J1-1 | VICINITY MAP Camp Hero, Montauk, NY | 7/1/92 | |
| SEE SECTION J PAGE J1-3 | GENERAL SITE PLAN Camp Hero, Montauk, NY | 7/1/92 | |

b. Omissions from the drawings or specifications or the misdescription of details of work which are manifestly necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the Contractor from performing such omitted or misdescribed details of the work, but they shall be performed as if fully and correctly set forth and described in the drawings and specifications.

c. The Contractor shall check all drawings furnished him immediately upon their receipt and shall promptly notify the Contracting Officer of any discrepancies. Figures marked on drawings shall, in general, be followed in preference to scale measurements. Large scale drawings shall in general govern small scale drawings. The Contractor shall compare all drawings and verify the figures before laying out the work and will be responsible for any errors which might have been avoided thereby. (DOD FAR Supplement 52.236-7002)

H.11 RECORD DRAWINGS

During the progress of the job, the Contractor shall keep a careful record at job site of all changes and corrections from the layouts shown on the drawings. The Contractor shall enter such changes and corrections on contract drawings promptly but in no case later than a weekly basis. The record drawings shall indicate, in addition to all changes and corrections, the actual location of all sub-surface utility lines. In order that the location of these lines and appurtenances may be determined in the event the surface openings or indicators become covered over or

obscured, the record drawings shall show, by offset dimensions to two permanently fixed surface features, the end of each run including each change in direction. Valve, splice boxes and similar appurtenances shall be located by dimensioning along the utility run from a reference point. The average depth below the surface of each run shall also be recorded. At the time of beneficial occupancy of each structure or facility involved under the contract, the Contractor shall submit to the Contracting Officer two (2) sets of as-built prints showing the aforementioned data. If the Contractor fails to maintain the record drawings as required herein, the Contracting Officer will consider that satisfactory progress has not been achieved for the period in question, thereby requiring the retainage of 10% of any progress payments to be made until such drawings are made current. Additionally, the estimated cost of maintaining the record drawings will be deducted from any such progress payments.

H.12 DESIGNATION OF PROPERTY ADMINISTRATOR:

The Chief, Property and Accounting Section, U.S. Army Engineer District, New York, Federal Building, 26 Federal Plaza, New York, N.Y. 10278-0090 is designated as Property Administrator in connection with this contract.

H.13 PHYSICAL DATA:

Information and data furnished or referred to below are furnished for the Contractor's information. However, it is expressly understood that the Government will not be responsible for any interpretation or conclusion drawn therefrom by the Contractor. (FAR 52.236-4) (APR 1984)

a. Weather Conditions: Climatological data determined from records of the U.S. Weather Bureau Station:

| | | |
|----------------------------|---|--------------|
| U.S. Weather Bureau | | |
| Station Location | : | New York, NY |
| Mean Annual Temperature | : | 55 Degrees F |
| Mean Annual Percipitation: | | 44 Degrees F |

b. Transportation Facilities: State Route #27 (Montauk Point State Parkway) serves the locality of the proposed work. Roads within the site shall be maintained throughout construction and shall be restored to as good condition as existed prior to their use. The Contractor shall also construct such temporary haul roads and bridges as may be necessary for the conduct of his work. Any such temporary construction shall be restored to its original condition. All costs for the use of existing transportation facilities, for the construction of temporary facilities, and for maintenance, repair, removal and restoration shall be borne by the Contractor.

H.14 PRICING OF ADJUSTMENTS:

When costs are a factor in any determination of a contract price adjustment pursuant to the Changes clause or any other clause of this contract, such costs shall be in accordance with Part 31 of the Federal Acquisition Regulation and DFARS 52.215-7000 (APR 1985) as follows: In determining whether a pricing adjustment is expected to exceed \$100,000 the term "pricing adjustment" shall mean "the aggregate increases and/or decreases in cost plus applicable profits."

H.15 PAYMENT FOR MATERIALS DELIVERED OFF-SITE:

Pursuant to the Contract Clauses in this contract titled "Payments Under Fixed-Price Construction Contracts", materials delivered to the Contractor at locations other than the site of the work may be taken into consideration in making payments if included in payment estimates and if all the conditions of the Contract Clauses are fulfilled. Payment for items delivered to locations other than the work site will be limited to those materials which have been approved, if required by the technical provisions; those materials which have been fabricated to the point where they are identifiable to an item of work required under this contract. Such payment will be made only after receipt of paid or receipted invoices or invoices with cancelled check showing title to the items in the prime contractor and including the value of materials and labor incorporated into the item.

H.16 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE:

a. Allowable cost for construction and marine plant and equipment in sound workable condition owned or controlled and furnished by a contractor or subcontractor at any tier shall be based on actual cost data when the Government can determine both ownership and operating costs for each piece of equipment or equipment groups of similar serial and series from the Contractor's accounting records. When both ownership and operating costs can not be determined from the Contractor's accounting records, equipment costs shall be based upon the applicable provisions of EP 1110-1-8, "Construction Equipment Ownership and Operating Expense Schedule," Region 1. Working conditions shall be considered to be average for determining equipment rates using the schedule unless specified otherwise by the Contracting Officer. For equipment not included in the schedule, rates for comparable pieces of equipment may be used or a rate may be developed using the formula provided in the schedule. For forward pricing, the schedule in effect at the time of negotiations shall apply. For retrospective pricing, the schedule in effect at the time the work was performed shall apply.

(* This manual can be ordered from the Government Printing Office by calling Tel. No. (202) 783-3238. There is a charge for the manual.)

b. Equipment rental costs are allowable, subject to the provisions of FAR 31.105(d)(ii) and FAR 31.205-36 substantiated by certified copies of paid invoices. Rates for equipment rented from an organization under common control, lease-purchase or sale-lease back arrangements will be determined using the schedule except the rental costs leased from an organization under common control that has an established practice of leasing the same or similar equipment to unaffiliated lessees are allowable. Costs for major repairs and overhaul are unallowable.

c. When actual equipment cost are proposed and the total amount of the pricing action is over \$25,000, cost or pricing data shall be submitted on standard form 1411, "Contract Pricing Proposal Cover Sheet." By submitting cost or pricing data, the Contractor grants to the Contracting Officer or an authorizing representative the right to examine those books, records, documents and other supporting data that will permit evaluation of the proposed equipment costs. After price agreement the contractor shall certify that the equipment costs or pricing data submitted are accurate, complete and current.

H.17 ALTERATIONS IN CONTRACT: (APR 1984)

Portions of this contract are altered as follows:

a. Add the following sentence to paragraph "g" of basic contract clause, SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (1984 APR):

"Upon completing the work under this contract, the Contractor shall furnish a complete set of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the equipment is completed and accepted."
Alt.1 (APR 1984) FAR 52.236-21) (7-602.54 (b) (1) OCT 1976)

b. In Contract Clause No. 76, change the portion of the title which reads, "MODIFICATION OF PROPOSALS-" to "MODIFICATION PROPOSAL-".

H.18 AVAILABILITY AND USE OF UTILITY SERVICES: (APR 1984)

Limited use of utilities are available at this site. The Contractor, at his own expense and in a workmanlike manner, satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines while in coordination with the property owner. Before final acceptance of the work by the

Government, the Contractor shall remove all temporary connections, distribution lines.

H.19 NOT USED

H.20 SALVAGE MATERIALS AND EQUIPMENT: (JAN 1965)

The Contractor shall maintain adequate property control records for all materials or equipment specified to be salvaged. These records may be in accordance with the Contractor's system of property control, if approved by the property administrator. The Contractor shall be responsible for the adequate storage and protection of all salvaged materials and equipment and shall replace, at no cost to the Government, all salvage materials and equipment which are broken or damaged during salvage operations as the result of his negligences, or while in his care. (DOD FAR Supplement 52.236-7005)

H.21 NOT USED

H.22 CONSTRUCTION PROJECT SIGNS:

The Contractor shall construct two signs; one for project identification sign and the other to show on-the-job safety performance. Sample sign drawings together with mounting and fabrication details are provided at the end of this section. The signs shall be erected and soon as possible and within 15 calendar days after the day of Notice to Proceed. The two signs are to be displayed side by side and mounted for reading by passing viewers. Exact placement location will be designated by the Contracting Officer. Panels are fabricated using HDO (High Density Overlay) plywood with dimensional lumber uprights and bracing. The sign faces are nonreflective vinyl. All legends are to be die-cut or computer-cut in the sizes and type-faces specified and applied to the white panel background following the graphic formats shown on the attached sheets. The Communications Red Panel on the left side of the construction project sign with Corps signature (reverse version) is screen printed onto the white background.

No separate payment will be made for erecting and maintaining the signs and all costs in connection therewith will be considered the obligation of the Contractor. Upon completion of the project, the Contractor shall remove the signs from the work area.

H.23 NOT USED

H.24 NOT USED

H.25 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER:

a. This provision specifies the procedures for the determination of time extensions for unusually severe weather in accordance with the contract clause entitled "DEFAULT (FIXED-PRICE CONSTRUCTION)". In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

- (1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.
- (2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.

b. The following schedule of monthly anticipated adverse weather delay is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

STATION LOCATION: New York City, New York
MONTHLY ANTICIPATED ADVERSE WEATHER CALENDAR DAYS
WORK DAYS BASED ON (5) DAY WORK WEEK

| <u>JAN</u> | <u>FEB</u> | <u>MAR</u> | <u>APR</u> | <u>MAY</u> | <u>JUN</u> | <u>JUL</u> | <u>AUG</u> | <u>SEP</u> | <u>OCT</u> | <u>NOV</u> | <u>DEC</u> |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| (8) | (7) | (8) | (7) | (9) | (10) | (6) | (5) | (5) | (6) | (5) | (7) |

c. Upon acknowledgement of the notice to proceed and continuing throughout the contract, the Contractor will record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day. The number of actual adverse weather delay days shall include days impacted by the actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days.

If the number of actual adverse weather delay days exceeds the number of days anticipated in paragraph B, above, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the contract clause entitled "DEFAULT-FIXED PRICE CONSTRUCTION". (ER 415-1-15) (31 Oct 89)

H.26 SCHEDULING AND DETERMINATION OF PROGRESS:

In accordance with the contract provisions, the Contractor shall, within five (5) days after receipt of Notice to Proceed by him or as otherwise determined by the Contracting Officer, submit for approval a practicable progress schedule. The progress schedule shall be in the form of a chart graphically indicating the sequence proposed to accomplish each work feature or operation. The chart shall be prepared to show the starting and completion dates of all work features on a linear horizontal time scale beginning with date of Notice to Proceed and indicating calendar days to completion. Each activity in construction shall be represented by an arrow. The head to tail arrangement of arrows shall flow from left to right. Each arrow representing an activity shall be annotated to show the activity description and duration. Contractor shall indicate on the chart the important work features or operations that are critical to the timely overall completion of the project. Key features are milestone dates and shall be so indicated on the chart. This schedule will be the medium through which the timeliness of the Contractor's construction effort is appraised. When changes are authorized that result in contract time extensions, Contractor shall submit a modified chart for approval by the Contracting Officer. The terms of Contract Clauses, SCHEDULES FOR CONSTRUCTION CONTRACTS, with reference to overtime, extra shifts, etc., may be invoked when the Contractor fails to start or complete work features or portions of same by the time indicated by the milestone dates on the approved progress chart, or when it is apparent to the Contracting Officer from the Contractor's actual progress that these dates will not be met. Neither on this chart nor on the periodic charts which the Contractor is required to prepare and submit, as described in paragraph, SCHEDULES FOR CONSTRUCTION CONTRACTS of the Contract Clauses, shall the actual progress to be entered include or reflect any materials which may be on the site, but are not yet installed or incorporated in the work. For payment purposes only, an allowance will be made by the Contracting Officer of up to 100 percent of the invoiced cost of materials or equipment delivered to the site but not incorporated into the construction. pursuant to Contract Clauses, PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS. The making of such an allowance will be contingent upon a determination by the Contracting Officer that the Contractor's compliance with the quality control requirements of the contract is more than satisfactory.

When the Contractor submits his progress schedule, he will include in the submission a progress curve which reflects the intended schedule for completing the work. The progress curve (S-Curve) will be plotted to reflect Cumulative Progress (Percent) based on placement along the y-axis and Time along the x-axis. The progress curve will be furnished at the same time the progress schedule is submitted for approval and updated monthly by the Contractor.

H.27 IDENTIFICATION OF EMPLOYEES:

The contractor shall be responsible for furnishing to each employee and for requiring each employee engaged on the work to display such identification as may be approved and directed by the Contracting Officer. All prescribed identification shall immediately be delivered to the Contracting Officer for cancellation upon the release of any employees. When required by the Contracting Officer, the Contractor shall obtain and submit fingerprints of all persons employed or to be employed on the project. (DOD FAR Supplement 52.236-7007)

H.28 NOT USED

H.29 NOT USED

H.30 QUANTITY SURVEYS: (APR 1984)

a. Quantity surveys shall be conducted, and the data derived from these surveys shall be used in computing the quantities of work performed and the actual construction completed and in place.

b. The Contractor shall conduct the original and final surveys and surveys for any periods for which progress payments are requested. All these surveys shall be conducted under the direction of a representative of the Contracting Officer, unless the Contracting Officer waives this requirement in a specific instance. The Government shall make such computations as are necessary to determine the quantities of work performed or finally in place. The Contractor shall make the computations based on the surveys for any periods for which progress payments are requested.

c. Promptly upon completing a survey, the Contractor shall furnish the originals of all field notes and all other records relating to the survey or to the layout of the work to the Contracting Officer, who shall use them as necessary to determine the amount of progress payments. The Contractor shall retain copies of all such material furnished to the Contracting Officer. (FAR 52.236-16)

H.31 NOT USED

H.32 NOT USED

H.33 SUPERINTENDENCE OF SUBCONTRACTORS: (JAN 1965)

a. The Contractor shall be required to furnish the following, in addition to the superintendence required by the

Contract Clauses titled, "SUPERINTENDENCE BY THE CONTRACTOR".

- (1) If more than 50% and less than 70% of the value of the contract work is subcontracted, one superintendent shall be provided at the site and on the Contractor's payroll to be responsible for coordinating, directing, inspecting and expediting the subcontract work.
- (2) If 70% or more of the value of the work is subcontracted, the Contractor shall be required to furnish two such superintendents to be responsible for coordinating, directing, inspecting and expediting the subcontract work.

H.34 PROCEDURES FOR SUBMISSION AND PAYMENT OF ALL CONTRACT PAYMENTS

In addition to the requirements contained in the Contract Clause entitled "PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS" and to implement the requirements of the Prompt Payment Act Amendments of 1988, P.L. 100-496, the following shall apply to all payments made under this contract:

a. At the time of submission of the progress chart, the contractor shall submit for approval by the Contracting Officer or his authorized representative a breakdown of the contract work which shall be to the degree of detail required by the Contracting Officer or his representative to effect reasonable progress payments. The Contracting Officer or his representative shall review this breakdown within 30 calendar days after receipt and either advise the contractor that it is approved or disapproved, and if disapproved the reasons for disapproval. Only after the breakdown is approved shall any payment invoice be accepted from the contractor and any payment made to him. The Contracting Officer can determine if it is in the best interest of the Government to make payment without an approved breakdown, however, in no case shall more than 10% of the contract amount be paid unless the breakdown is approved.

b. The contractor shall submit his request for payment by submission of a proper invoice to the office or Person(s) designated in subparagraph (c). For purposes of payment a "proper invoice" is defined as the following:

- (1) An estimate of the work completed in accordance with the approved breakdown indicating the percentage of work of each item and the associated costs.
- (2) A properly completed Eng Form 93 and 93a (where required).
- (3) All contractual submissions indicated elsewhere in this contract to be submitted

with payment, such as updated progress schedules, updated submittal registers, etc.

- (4) The following certification executed by a responsible official of the organization authorized to bind the firm. A "responsible official" would be either a corporate officer, partner, or owner, in the case of a sole proprietorship.

I hereby certify, to the best of my knowledge and belief, that -

(a) The amounts requested are only for Performance in accordance with the specifications, terms and conditions of the contract;

(b) Payments to subcontractors and suppliers have been made from previous payments received under the contract and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract requirements and the requirements of chapter 39 of Title 31, United States Code; and

(c) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract.

(d) All required prime and subcontractor payrolls have been submitted.

(Name)

(Title)

(Date)

c. The Government shall designate the office or person(s) who shall first receive the invoice submissions and the Contractor shall be so notified at the preconstruction conference. In addition to the designated Project Engineer, the contractor shall at the same time submit one copy of the detailed breakdown and the Eng Form 93 and 93a Form to the Area Engineer.

d. The Government representative shall return any request for payment which is deemed defective within 7 days

of receipt and shall specify the defects. If the defect concerns a disagreement as to the amount of work performed and or the amount of the payment being submitted, the Government and the contractor's representative should meet to resolve the differences and reach agreement. Upon agreement, the contractor shall submit a new breakdown and Eng Form 93 (and 93a) and any other submissions requiring correction. These will be incorporated with the previous submittal and will then constitute a proper invoice.

e. If agreement cannot be reached, the Government shall determine the proper amount per Contract Clause, PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS and process the payment accordingly. In this event, a "proper invoice" for Prompt Payment Act purposes will not have been submitted to the Government.

f. The Government shall pay the contractor in accordance with the following time frames:

- (1) Progress Payments - From the date a "proper invoice" is received, in accordance with subparagraphs b and d of this clause, the Government will issue a check within 14 calendar days.
- (2) Reduction in Retainage Pavement. If during the course of the contract, a reduction in retainage payment is required, the Government shall issue a check within 14 calendar days after the approval of the release to the contractor by the Contracting Officer or his authorized representative.
- (3) Final Payment. A final payment request shall not be considered valid until the contractor has fulfilled all contract requirements including all administrative items, payrolls, warranties, etc. and has submitted a release of claims. When the contractor has fulfilled all contract requirements and a "proper invoice" has been submitted, the Government shall issue a check within 14 days from the date of acceptance of the project by the Contracting Officer.

H.35 VERIFICATION OF SMALL BUSINESS UTILIZATION:

a. This clause is applicable to small business concerns whose contracts exceed \$1,000,000.

b. In accordance with the clause at FAR 52.219-8, entitled UTILIZATION OF SMALL BUSINESS CONCERNS AND DISADVANTAGED BUSINESS CONCERNS, in effect on the date of this contract, the Contracting Officer may survey the extent of small and small disadvantaged business utilization under this contract. The Contractor may be required to report to

the Contracting Officer statistical data on the number and dollars amounts of subcontracting awards with small businesses and small disadvantaged businesses.

c. As appropriate, the Contracting Officer may require one or more follow-up reports to the initial report.

d. The Contractor agrees to insert this clause in any subcontract that may exceed \$1,000,000, including this subparagraph (d).

H.36 SPECIAL PROHIBITION ON EMPLOYMENT: (APR 1987) (52.203-7001)

a. Definitions: "Arising out of a contract with the Department of Defense", as used in this clause, means any act in connection with (1) attempting to obtain, (2) obtaining, or (3) performing a contract or subcontract of any agency, department, or component of the Department of Defense. "Conviction of fraud or any other felony", as used in this clause, means any conviction for fraud or a felony in violation of state or Federal criminal statutes, whether entered on a verdict or plea, including a plea of nolo contendere, for which sentence has been imposed.

b. Section 941, Title IX, Pub. L. 99-500 (10 U.S.C. 2408) prohibits a person who is convicted of fraud or any other felony arising out of a contract with the Department of Defense from working in a management or supervisory capacity on any defense contract, or serving on the board of directors of any defense contractor, for a period, as determined by the Secretary of Defense, of not less than one (1) year from the date of conviction. Defense contractors are subject to a criminal penalty of not more than \$500,000 if they are convicted of knowingly employing a person under a prohibition or allowing such person to serve on their board of directors.

c. The Contractor agrees not to knowingly employ any person, convicted of fraud or any other felony arising out of a contract with the Department of Defense, in a management or supervisory capacity on any Department of Defense contract or subcontract or allow such person to serve on its board of directors from the date the Contractor learns of the conviction until one (1) year has expired from the date of conviction. However, if the person has also been debarred pursuant to FAR Subpart 9.4, the above prohibition shall extend for the period of debarment, but in no event shall the prohibition be less than (1) year from the date of the conviction.

d. If the Contractor knowingly employs a convicted person in a management or supervisory capacity on any defense contract or subcontract or knowingly allows such person to serve on its board of directors within the prohibited period, the Government may consider, in addition to the criminal penalties contained in Section 941 of Pub. L. 99-500, other available remedies, such as suspension or debarment, and may

direct the cancellation of this contract at no cost to the Government, or terminate this contract for default.

e. The Contractor agrees to include the substance of this clause, including this paragraph (e), appropriately modified to reflect the identity and relationship of the parties, in all subcontracts exceeding \$25,000.

H.37 NOT USED

H.38 HAZARDOUS MATERIAL IDENTIFICATION & MATERIAL SAFETY DATA (AUG 1987)

a. The Contractor agrees to submit a Material Safety Data Sheet (Department of Labor Form OSHA-20), as prescribed in Federal Standard No. 313B, for all hazardous material 5 days before delivery of the material, whether or not listed in Appendix A of the standard. This obligation applies to all materials delivered under this contract which will involve exposure to hazardous materials or items containing these materials.

b. "Hazardous material," as used in this clause, is as defined in Federal Standard No. 313B, in effect on the date of this contract.

c. Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

d. The Contractor shall comply with applicable Federal, State, and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material.

e. The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

- (1) To use, duplicate, and disclose any data to which this clause is applicable. The purpose of this right are to (i) apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous material; (ii) obtain medical treatment for those affected by the material; and (iii) have other use, duplicate, and disclose the data for the Government for these purposes.
- (2) To use, duplicate, and disclose data furnished under this clause, in accordance with subparagraph (e)(1) above, in precedence over any other clause of this contract providing

for rights in data.

- (3) That the Government is not precluded from using similar or identical data acquired from other sources.
- (4) That the data shall not be duplicated, disclosed, or released outside the Government, in whole or in part for any acquisition or manufacturing purpose, if the following legend is marked on each piece of data to which this clause applies - "This is furnished under United States Government Contract No..... and shall not be used, duplicated, or disclosed for any acquisition or manufacturing purpose without the permission of This legend shall be marked on any reproduction of this data."
- (5) That the Contractor shall not place the legend or any other restrictive legend on any data which (i) the Contractor or any subcontractor previously delivered to the Government without limitations or (ii) should be delivered without limitations under the conditions specified in the Federal Acquisition Regulation in the clause at 52.227-14, Rights in Data.

f. The Contractor shall insert this clause, including this paragraph f. with appropriate changes in the designation of the parties, in subcontractors at any tier (including purchase designations or purchase orders) under this contract involving hazardous material. (FAR 52.223-3)

H.39 ASBESTOS - (Occupational Health and Environment)
(EFARS 52.2/9009)

a. THE CONTRACTOR IS WARNED THAT EXPOSURE TO AIRBORNE ASBESTOS HAS BEEN ASSOCIATED WITH FOUR DISEASES: LUNG CANCER, CERTAIN GASTROINTESTINAL CANCER, PLEURAL OR PERITONEAL MESOTHELIOMA AND ASBESTOSIS. Studies indicate there are significantly increased health dangers to persons exposed to asbestos who smoke and further, to family members and other persons who become indirectly exposed as a result of the exposed worker bringing asbestos-laden work clothing home to be laundered.

b. The Contractor is advised that friable and/or nonfriable asbestos containing material has been identified in area(s) where contract work is to be performed. Friable asbestos containing material means any material that contains more than 1 percent asbestos by weight that hand pressure can crumble, pulverize or reduce to powder when dry. Nonfriable asbestos containing material do not release airborne asbestos fiber during routine handling and end-use. However, excessive fiber concentrations may be produced during

uncontrolled abrading, sanding, drilling, cutting, machining, removal, demolition or other similar activities.

c. Care must be taken to avoid releasing, or causing to be released, asbestos fiber into the atmosphere where they may be inhaled or ingested. The Occupational Safety and Health Administration (OSHA) has set standard at 29 CFR 1910.1001, for exposure to airborne concentrations of asbestos fibers, methods of compliance, medical surveillance, housekeeping procedures and other measures that must be taken when working with and around asbestos containing materials which release airborne asbestos fibers at concentrations in excess of those established 29 CFR 1910.1001. 29 CFR 1910.1001 has been identified as applicable to construction (29 CFR 1926.55 gases, vapors, fumes, dusts and mists). The Environmental Protection Agency (EPA) has established standards at 40 CFR 61 Subparts A&M for the control of asbestos emissions to the environment and the handling and disposal of asbestos wastes.

d. When contract work activities are carried out in locations where the potential exists for exposure to to airborne asbestos fibers described in 1.b. or where asbestos waste will be generated, the Contractor shall assure that all measures necessary to provide effective protection to persons from exposure to asbestos fibers and prevention of contamination to property, materials, supplies, equipment and the internal and external environment are effectively instituted.

e. As minimum, the Contractor shall comply with the provisions of 29 CFR 1910.1001 and 1926.55; 49 CFR 172.101, 172.200-204, 172.316, 173.1090; 40 CFR 61 Subparts A&M; any state implementing hazardous waste regulation that regulates asbestos as a hazardous waste under the Resources Conservation and Recovery Act (RCRA) requirements and any other applicable Federal, State, and local requirements.

f. In addition to the information required in Contract Clause titled, Accident Prevention, of this contract, the Contractor Accident Prevention Plan must also fully address the following topics, and at the Contractor's option may include additional information as applicable.

(1) Medical Surveillance: 29 CFR 1910.1001(J)

(2) Employee training: Prior to beginning work in asbestos containing material area(s). 29 CFR 1910.1001 and 29 CFR 1910.134.

(3) Respiratory protection: 29 CFR 1910.1001 and 29 CFR 1910.134.

(4) Personal protective clothing and equipment: 29 CFR 1910.1001(d). The use of compressed air to remove asbestos from worker's clothing is prohibited. The Contractor shall specify the type of change room, wash facilities and laundering

facilities as applicable.

(5) Airborne asbestos monitoring: 29 CFR 1910.1001(f).

Specify the monitoring and analytical procedures to be used prior to, during, and after completion of contract work in areas where asbestos containing materials are located. All asbestos monitoring shall be conducted under the guidance of an Industrial Hygienist Certified by the American Board of Industrial Hygiene. Samples shall be analyzed by an American Industrial Hygiene Association (AIHA) accredited laboratory proficient in the analysis of asbestos and asbestos containing materials. Turn around time from end of sampling period to review of results of analyses by Contractor shall be no longer than 72 hours.

(6) Housekeeping: 29 CFR 1910.1001(h). Dry sweeping of contract work areas contaminated with asbestos containing material is prohibited. The Contractor shall specify methods and materials used to package asbestos containing waste and plan to control any accidental airborne release or spill of asbestos containing material.

(7) Method of compliance: 29 CFR 1910.1001(c). The Contractor shall include procedures relating to engineering controls, local exhaust ventilation, particular tools to be used and work practices. Specify methods, materials and equipment to be used to prevent asbestos contamination to property, materials, supplies, equipment and the internal and external environment during maintenance, renovation or other contract activities. Local exhaust ventilation equipment including power operated tools equipped with local exhaust ventilation shall conform with the Standard Fundamentals Governing the Design and Operation of Local Exhaust Systems ANSI Z9.2 latest revised edition. Describe the type of high-efficient filtered (HEPA) vacuum cleaners that shall be used to vacuum asbestos containing materials. Describe methods and materials to be used to assure all asbestos containing material will be thoroughly wetted by use of a wetting agent and water before removal and that airborne asbestos dust will be kept to a minimum.

(8) Methods and materials to be used to decontaminate any property, materials, supplies, equipment and the environment if asbestos contamination results. 29 CFR 1910.1001(c).

(9) Recordkeeping procedures. 29 CFR 1910.1001(i) and 1910.20.

(10) Specific description of type of packaging,

marking and shipping conveyances to be used to transport asbestos containing waste from the generation point to a storage or disposal facility in compliance with Department of Transportation requirements. 49 CFR 172.101, 172.200-204, 176.316, 173.1090.

(11) Emergency procedures that would be taken if an accident or spill of asbestos containing material occurs during the transport of asbestos containing waste. 40 CFR 61 Subpart A&M.

(12) Methods and equipment used to off load and bury asbestos containing waste to control airborne emission at the burial site. 40 CFR 61 Subparts A&M.

g. The Contractor shall complete and return to the Contracting Officer within 15 working days after the completion of all airborne asbestos monitoring conducted under this contract, a "Summarization of Airborne Asbestos Sampling Results" form provided by the Government. NOTE: This completed summarization form is to be used by the US Army Corps of Engineers for statistical information purposes and does not relieve the Contractor from his recordkeeping requirements as described in 29 CFR 1910.1001(i) and 1910.20.

H.40 UNEXPECTED EVENTS OR OCCURRENCE

a. Spill Prevention and Cleanup: The potential exists for hazardous material/waste spills during project activities. The Contractor shall take all necessary precautions to prevent any accidental release of materials. The Contractor will at all times have on-site sufficient supplies, i.e. sorbents, lining materials and other items necessary to contain hazardous materials spills and incidents. Any emergency or spill condition, upon containment or resolution, shall be immediately reported to the Contracting Officer, and appropriate State and Federal authorities where required by law. Spills due to Contractor negligence shall be remediated at the Contractor's expense and no additional payment will be made.

b. Emergency Planning: Emergency planning shall be developed prior to project initiation. Emergency planning shall include, but not be limited to, considerations of fire, explosion, toxic atmospheres, electrical hazards, excavation hazards, trips and falls, and heat related injury.

H.41 NOT USED

H.42 MEASUREMENT AND PAYMENT OF TRANSFORMER CONTENTS, TANK CONTENTS, CONTAMINATED SOIL REMOVAL, AND CLEANING OF CONTAMINATED SURFACES

The unit of measurement for the transformers contents, and tank contents will be gallon (Gal.); contaminated soil removal will be cubic yard (C.Y); general debris removal will be tons; and, surface area to be cleaned will be square feet (sq-ft.). The quantities presented in the SECTION B: PRICE SCHEDULE and the contract drawings are approximate or estimated. Payment for removal shall be made at contract unit price per gallon for transformers and tank contents removal; C.Y for contaminated soil removal; tons for general debris removal; Square feet for surface cleaning or decontamination. This unit price payment system shall cover all costs in connection with transformers, tanks; general debris removal; surface cleaning or decontamination; and contaminated soil removal as specified in SECTION: FUEL STORAGE TANK AND SOIL REMOVAL and indicated on the contract drawings. Equitable adjustments to the contract will be made for any change of work in accordance with the contract clause, FAR 52.212-11, VARIATION IN ESTIMATED QUANTITY.

H.42.1 MEASUREMENT AND PAYMENT OF ASBESTOS REMOVAL

The unit of measurement for asbestos removal will be linear and square foot. The quantities presented in SECTION B: PRICE SCHEDULE and contract drawing(s) are approximate. It is the prospective bidder's responsibility to verify the conditions of the site, and the conditions of the materials that are to be removed as delineated in this specifications. Payment for removal shall be made at contract unit price per linear foot or square foot for asbestos material removed from the site. This unit price payment item shall cover all costs in connection with removal of asbestos containing materials as specified in SECTION: ASBESTOS ABATEMENT AND DISPOSAL and indicated on contract drawing(s). Equitable adjustments to the contract will be made for any change of work in accordance with the contract clause, FAR 52.212-11, VARIATION IN ESTIMATED QUANTITY."

H.43 The Contractor is advised that the U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, dated April 1981, Rev'd Oct 87, adherence to the provisions of which is required as given in the Accident Prevention Clause of the SECTION I - CONTRACT CLAUSES, has the following interim changes:

1. Page 21, Section 07.A.03, replace with the following:

"07.A.03 - Protective footwear, such as rubber boots, protective covers, ice clamp-ons, and steel-toed safety boots, shall be worn by all persons exposed to hazards to the feet (including, but not limited to impact, puncture, slipping, electrical, or chemical hazards).

a. For all activities in which Corps or contractor

personnel or official visitors are potentially exposed to foot hazards, the applicable job/activity hazard analysis, accident prevention plan, or project safety plan shall include an analysis of, and prescribe specific protective measures to be enforced for, foot hazards.

b. Footwear providing protection against impact and compressive forces, conduction hazards, electrical hazards, and sole puncture shall meet the applicable requirements of ANSI Z41."

2. Page 143, Section 18.C.05, replace with the following:

"18.C.05 - All load drums on loading-hoisting equipment shall be equipped with at least one positive holding device. This device should be applied directly to the motor shaft or some part of the gear train. It is not necessary that the positive holding device utilize shearing of metal to meet this requirement. Friction surfaces are acceptable."

3. Page 145, add Sections 18.C.24 and 18.C.25 which will read:

"18.C.24 - During personnel handling operations load and boom hoist drum brakes, swing brakes, and locking devices such as pawls or dogs shall be engaged when the occupied platform is in a stationary working position."

"18.C.25 - During personnel handling operations the load hoist drum shall have a system or device on the power train other than the load hoist brake, which regulates the lowering rate of speed of the hoist mechanism (controlled load lowering). Free fall is prohibited."

4. Page 146, Section 18.D.09, replace with the following:

"18.D.09 - All telescopic boom cranes engaged in standard lift operations (including concrete bucket) should be equipped with a two-block warning feature(s), a two-block damage prevention feature, or an anti-two block device for all points of two-blocking (i.e., jibs, extension, etc). In addition, all new telescopic boom cranes shall be equipped with an anti-two block device or a two block damage prevention feature for all points of two-blocking. Cranes that are used exclusively as duty cycle machines (clamshell, dragline, grapple, pile driving operations) are exempt from this requirement but will meet the requirements of ANSI/ASME-B30.5-1989 (as revised). To alleviate difficulties associated with attaining compliance, an implementation time period until 1 January 1991 is granted. In all cases where cranes are utilized without these safeguards equivalent protection shall be established, documented and approved by the designated authority."

5. Page 146, add Sections 18.D.10 and 18.D.11, which will read:

"18.D.10 - All lattice boom cranes engaged in standard

lift crane operations (including concrete bucket) should be equipped with a two-block warning feature which functions for all points of two-blocking. Cranes that are used exclusively as duty cycle machines (clamshell, dragline, grapple, pile driving operations) are exempt from this requirement but will meet the requirements of ANSI/ASME-B30.5-1989 (as revised). In all cases where cranes are utilized without these safeguards equivalent protection shall be established and documented and then approved by the designated authority."

"18.D.11 - During personnel handling operations all telescopic and lattice boom cranes shall be equipped with a device which when activated disengages all functions whose movement can cause contact between the load block or overhaul ball and the boom tip (anti-two block device), or a system shall be used which deactivates the hoisting action before damage occurs in the event of a two-blocking situation (two-block damage prevention feature). The device or system must be installed for all points of two-blocking (i.e. jib or boom points) and in the case of the anti-two block device the crane must be equipped with automatic brakes on each hoist line; hoist lines not so equipped must be taken out of service while personnel lifts are being made."

END OF CLAUSE

PROJECT IDENTIFICATION SIGN

MILITARY PROJECT

The graphic format for this 4' x 6' sign panel follows the legend guidelines and layout as specified below. The large 4' x 4' section of the panel on the right is to be white with black legend. The 2' x 4' section of the sign on the left with the full Corps signature (reverse version) is to be screen printed Communications Red on the white background. The castle insignia will be furnished by the Government in pressure sensitive vinyl for affixing by the Contractor. See attached sheet for fabrication and mounting guidelines.

SAMPLE:

Legend Group 1: One- to two-line description of Corps relationship to project.
Color: White
Typeface: 125^s Helvetica Regular
Maximum line length: 19"

Legend Group 2: Division or District Name (optional). Placed below 10.5" Reverse Signature (6" Castle).
Color: White
Typeface: 125^s Helvetica Regular

Legend Group 3: One- to three-line project title legend describes the work being done under this contract.
Color: Black
Typeface: 3" Helvetica Bold
Maximum line length: 42"

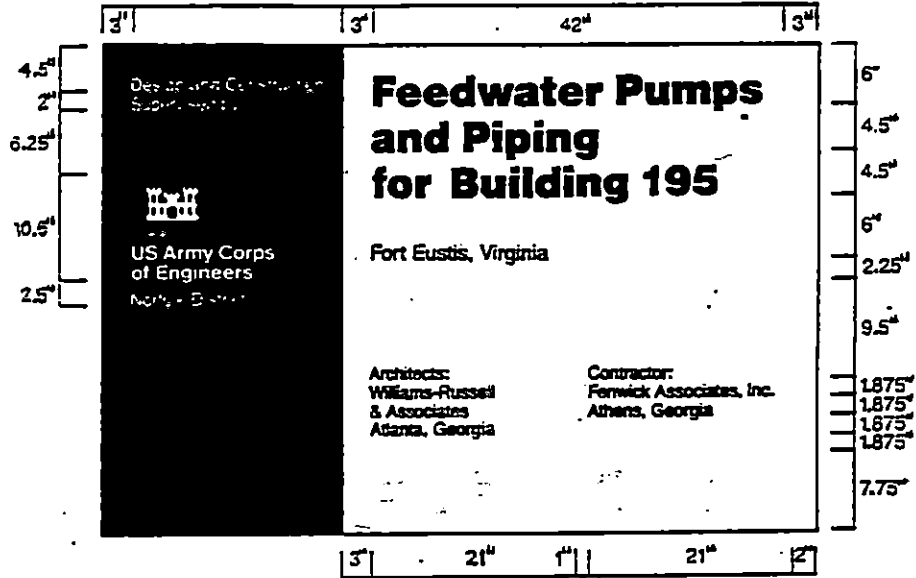
Legend Group 4: One- to two-line identification of project or facility (civil works) or name of sponsoring department (military).
Color: Black
Typeface: 15^s Helvetica Regular
Maximum line length: 42"

Cross-align the first line of Legend Group 4 with the first line of the Corps Signature (US Army Corps) as shown.

Legend Groups 5a-b: One- to five-line identification of prime contractors including: type (architect, general contractor, etc.), corporate or firm name, city, state. Use of Legend Group 5 is optional.
Color: Black
Typeface: 125^s Helvetica Regular
Maximum line length: 21"

All typography is flush left and rag right, upper and lower case with initial capitals only as shown. Letter- and word-spacing to follow Corps standards as specified in

* Appendix D.



(Dimensions are in inches)

| Sign Type | Legend Size | Panel Size | Post Size | Specification Code | Mounting Height | Color Bkg/Lgd |
|-----------|-------------|------------|-----------|--------------------|-----------------|---------------|
| CID-01 | various | 4' x 6' | 4" x 4" | HDO-3 | 48" | WH-RD/BK |

* Refers to the U.S. Army Corps of Engineers "Sign Standards Manual", EP-310-1-6.

SAFETY PERFORMANCE SIGN

The graphic format, color, size and type-faces used on the sign are to be reproduced exactly as specified below. The title with First Aid logo in the top section of the sign, and the performance record captions are standard for all signs of this type. Legend Groups 2 and 3 below identify the project and the contractor and are to be placed on the sign as shown. Safety record numbers are mounted on individual metal plates and are screw-mounted to the background to allow for daily revisions to posted safety performance record.

Legend Group 1: Standard two-line title "Safety is a Job Requirement", with (8" od.) Safety Green First Aid logo. Color: To match PMS 347 Typeface: 3" Helvetica Bold Color: Black

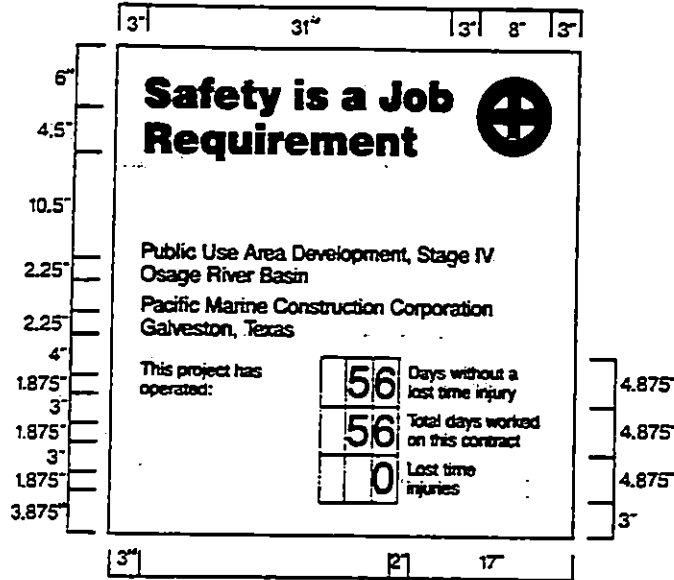
Legend Group 2: One- to two-line project title legend describes the work being done under this contract and name of host project. Color: Black Typeface: 1.5" Helvetica Regular Maximum line length: 42"

Legend Group 3: One- to two-line identification: name of prime contractor and city, state address. Color: Black Typeface: 1.5" Helvetica Regular Maximum line length: 42"

Legend Group 4: Standard safety record captions as shown. Color: Black Typeface: 1.25" Helvetica Regular

Replaceable numbers are to be mounted on white .060 aluminum plates and screw-mounted to background. Color: Black Typeface: 3" Helvetica Regular Plate size: 2.5" x .5"

All typography is flush left and rag right, upper and lower case with initial capitals only as shown. Letter- and word-spacing to follow Corps standards as specified in * Appendix D.

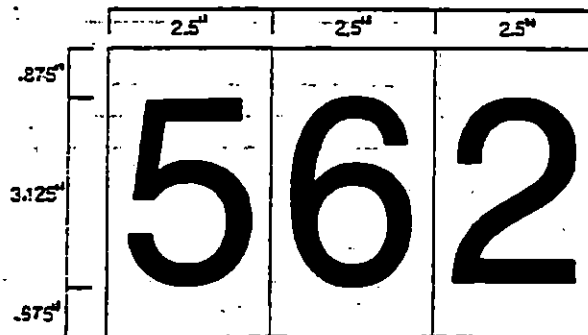


Dimensions in inches.

See attached sheet for fabrication and mounting guidelines.

* Refers to the U.S. Army Corps of Engineers, "Sign Standards Manual", EPS-310-1-6.

| Sign Type | Legend Size | Panel Size | Post Size | Specification Code | Mounting Height | Color Bkg/Lgd |
|-----------|-------------|------------|-----------|--------------------|-----------------|---------------|
| CID-02 | various | 4' x 4' | 4" x 4" | HDO-3 | 48" | WH/BK-GR |



Fabrication and Mounting Guidelines

All Construction Project Identification signs and Safety Performance signs are to be fabricated and installed as described below. The signs are to be erected at a location designated by the contracting officer and shall conform to the size, format, and typographic standards shown on the attached sheets.

Detailed specifications for HDO plywood panel preparation are provided in Appendix B. **
 Shown below the mounting diagram is a panel layout grid with spaces provided for project information. Photocopy this page and use as a worksheet when preparing sign legend orders.

The sign panels are to be fabricated from .75" High Density Overlay Plywood. Panel preparation to follow HDO specifications provided in Appendix B. **

Sign graphics to be prepared on a white non-reflective vinyl film with positionable adhesive backing.

All graphics except for the Communications Red background with

Corps signature on the project sign are to be die-cut or computer-cut non-reflective vinyl, pre-spaced legends prepared in the sizes and typefaces specified and applied to the background panel following the graphic formats shown on the attached sheets.

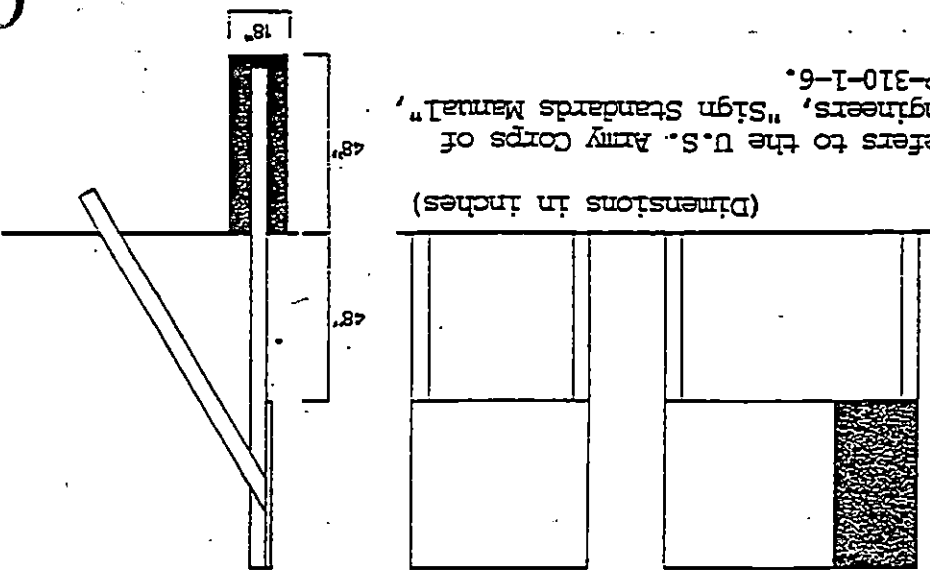
The 2 x 4 Communications Red panel (to match PMS-032) with full Corps signature (reverse version) is to be screen printed on the white background. Identical-

tion of the District or Division may be applied under the signature with white cut vinyl letters prepared to Corps standards. Large scale reproduction artwork for the signature is provided on page 4.8 (photographically enlarge from 6.875" to 10.57") **

Drill and insert six (6) .375" T-nuts from the front face of the HDO sign panel. Position holes as shown. Flange of T-nut to be flush with sign face.
 Apply graphic panel to prepared HDO plywood panel following manufacturers' instructions.
 Sign uprights to be structural grade 4" x 4" treated Douglas Fir or Southern Yellow Pine, No.1 or better. Post to be 12' long. Drill six (6) .375" mounting holes in uprights to align with T-nuts in panel. Countersink (.57") back of hole to accept socket head cap screw (4" x .375").

Assemble sign panel and uprights. Imbed assembled sign panel and uprights in 4" hole. Local soil conditions and/or wind loading may require bolting additional 2" x 4" struts on inside face of uprights to reinforce installation as shown.

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** Refers to the U.S. Army Corps of Engineers, "Sign Standards Manual", EP-310-1-6.

(Dimensions in inches)

Construction Project Sign Legend Group 1: Corps Relationship

Legend Group 2: Division/District Name

Legend Group 3: Project Title

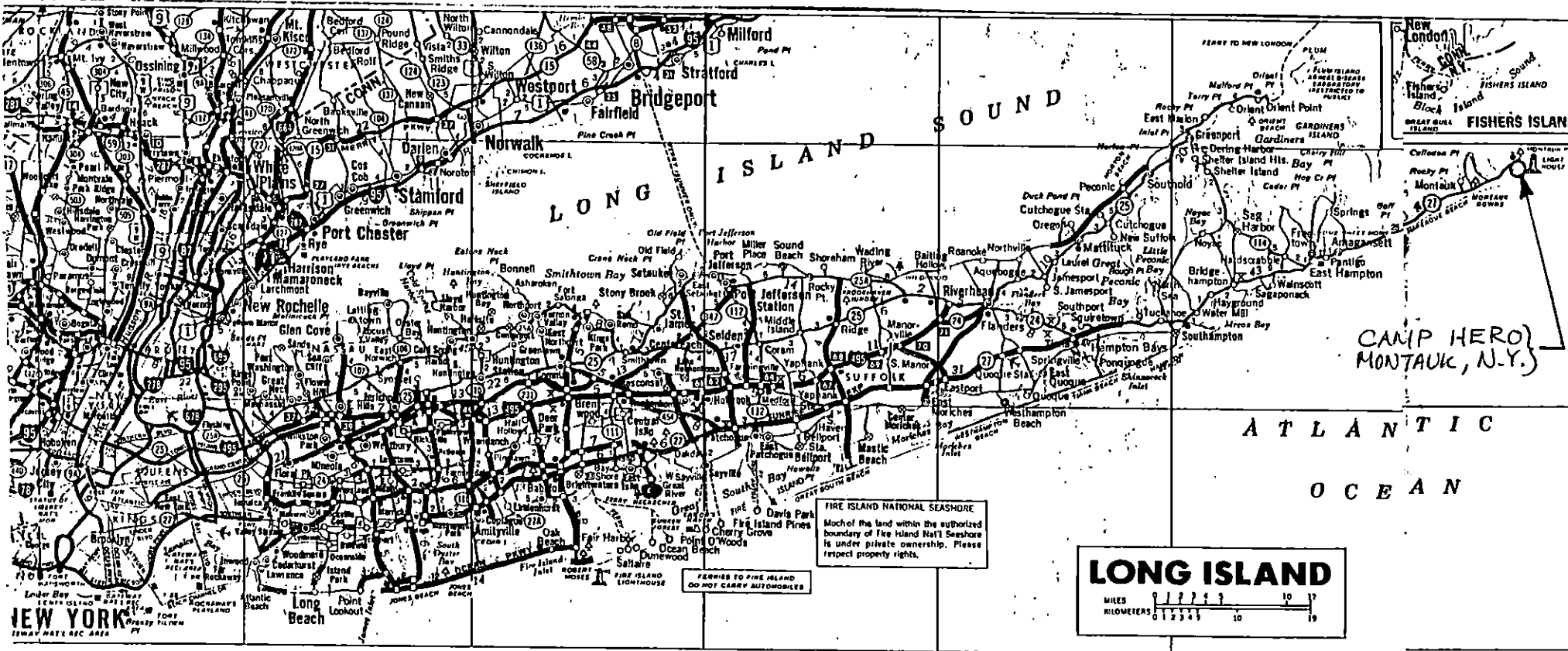
Legend Group 4: Facility Name

Legend Group 5a: Contractor/A&E

Legend Group 5b: Contractor/A&E

Safety Performance Sign Legend Group 1: Project Title

Legend Group 2: Contractor/A&E



LOCATION MAP
CAMP HERO
MONTAUK, N.Y.

