

Final Amendment 1 to Site-Specific Work Plan

Ordnance and Explosives (OE) Removal Action Eastern Bypass Revision 3

Fort McClellan, Alabama

Task Order 0010
Contract Number DACA87-99-D-0010



U.S. Army Corps of Engineers
Engineering and Support Center
Huntsville, Alabama

Geographical Corps District:
US Army Corps of Engineers, Mobile District

Prepared by
Foster Wheeler Environmental Corporation
Ft. McClellan, Alabama

March 2003

The following Amendment 1 to the Easter Bypass Site Specific Work Plan Revision 3 is for the addition of the Eastern Bypass Y area. This amendment covers only those paragraphs that have additional requirements or that are added to the original document.

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1.1.8 Amendment 1 to this document adds an additional 60 acres designated as the EBP "Y" Area Junction. This area is contiguous to the northern boundary of OE Area 2 and the northeastern boundary of OE Area 1. This removal conforms to the scope of the original removal. It may include up to 2.5 acres of mechanical removal with the rest being conventional clearance to depth using geophysical investigation to select anomalies.

2.2 Technical Scope

2.2.1 The Statement of Work (SOW) supplied for this Task Order consists of:

- a. **Task 1** - Preparation of Site Specific Work Plan and Conventional Explosives Safety Submission
- b. **Task 2** - Location Surveys, Site Preparation and Mapping;
- c. **Task 3** - Geophysical Mapping and Preparation of Dig Sheets;
- d. **Task 4** - Unexploded Ordnance Removal, Turn In of Inert Ordnance and Metallic Debris, and Perform Quality Control; and
- e. **Task 5** - Prepare and Submit Site Specific Removal Report.
- f. **Task 6** – Modification to Workplan to accommodate additional 40 acres to right-of-way
- g. **Task 7** – Location Surveys and Mapping – Boundary and Grid Setout;
- h. **Task 8** – Brush Clearance – removal of brush and trees up to 6 inches within additional 40 acres;
- i. **Task 9** – Perform UXO Clearance and Range Residue Management on additional 40 acres;
- j. **Task 10** – Perform Quality Control on Additional 40 acres;
- k. **Task 11** – Removal Report;
- l. **Task 12** – Prepare Work Plan and Conventional Explosive Safety Submission Changes;
- m. **Task 13** - Perform Location Surveys at the Specified Target Area and Adjoining Areas Designated for Mechanical Removal;
- n. **Task 14** – Prepared Final Amendment to Explosive Safety Submittal
- o. **Task 15** - Vegetation Removal and Disposal;
- p. **Task 16** - Perform Mechanical Excavation and Separation of UXO/OE like items for Clearance at the Specified Target Zone and Adjoining High OE Density Areas;
- q. **Task 17** - Perform Demolition, Demilitarization, AEDA/Range Residue Management and Disposal of all UXO/OE like Items from the Specified Target Zone and Adjoining High OE Density Areas;
- r. **Task 18** – Perform Quality Control at the Specified Target Zone and Adjoining High OE Density Areas
- s. **Task 19** – Removal Report;
- t. **Task 20** - Equipment Repair Due to Explosive Damage and/or UXO Clearance Work, In Support of Task 16 Work.
- u. **Task Order 0019** – Additional 60 acres. See paragraph 2.3.19 for details.

2.3.12.3.2 Operation of Excavation, Loading and Hauling Machinery. Foster Wheeler Environmental will provide personnel familiar with and qualified to operate the specific machinery. The machines will operate as follows:

- An armored Excavator will systematically excavate soil within the designated areas and load into the armored dump trucks.
- The armored dump trucks shall transport the soil from the excavation area to the processing area. An appropriate amount of freeboard shall be observed in the trays of the dump trucks to ensure contaminated soil does not fall off during transport to the processing area.
- An armored, wheeled front-end loader shall be used to maintain the soil piles and load the mechanical processing equipment. The armored, wheeled front-end loader shall also maintain scrap piles and load the metal shredder as required during Task 17.

2.3.12.3.3 Operation of Sifting Equipment and Metal Separating Magnets. Equipment shall be supplied and operated to sift the raw contaminated soil into multiple process streams. **Figure 2.2** is included to show the approximate location and lay out of the Mechanical Processing Area. To date, no ordnance items have been discovered that could be caused to detonate by the electromagnets. Jamming or clogging of the machinery will be assumed to be UXO related until proven otherwise. In the event a jam occurs, the Control Booth Operator will stop all operations and will direct all equipment operators to remain in their equipment. The Control Booth Operator and one other UXO technician will investigate the jam. The operator will notify the USACE Safety Representative and SUXOS, and together they will determine the best method to safely remove the jam. Minimum personnel will be allowed on site outside of armored equipment during the clearing of jam. For sifting and separation operations the following equipment shall be used:

- A PowerGrid 1200 with approximately three-inch bars above the hopper. The first process stream (PS1) sloughing off these bars shall be approximately three inches or greater and will pass along a raised conveyor that has a metal separating electromagnet incorporated into its top roller. The purpose of the electromagnet is to separate ferrous objects from the soil into an adjacent hopper, which shall be at the end of the conveyor. Depending on the composition of this process stream, the soil (minus all UXO and OE scrap larger than 3.0") will be back filled to the excavation site, after being checked. Alternative actions include recycling this process stream back through the PowerGrid 1200. This decision shall be made when the characteristics of this process stream can be clearly ascertained. The soil passing through the three-inch bars will proceed by conveyor to the loading hopper of the Trommel 830. For the Eastern Bypass "Y" Area Junction different brand names of mechanical sifting equipment may be used in place of the name brand equipment mentioned above. This new equipment will work in similar ways with the outcome being the same. The new equipment will separate the metal spoils from the soil.
- A Trommel 830 shall be provided and operated to separate the incoming process stream of three inches or less into two process streams (PS2 and PS3). The process

stream (PS2) of approximately 1" to 3" shall pass out the end of the Trommel 830 onto a raised conveyor. An electromagnet is incorporated into the PS2 conveyor to separate ferrous and non-ferrous materials. Once characteristics are known, as indicated in the previous paragraph, PS2 shall be dealt with further. The other process stream (PS3) shall consist of material less than 1" and will again pass through a raised conveyor incorporating an electromagnet. PS3 will be appropriately handled once actual characteristics are apparent. For the Eastern Bypass "Y" Area Junction different brand names of mechanical sifting equipment may be used in place of the name brand equipment mentioned above. This new equipment will work in similar ways with the outcome being the same. The new equipment will separate the metal spoils from the soil.

2.3.18 **Grid Sizes and Layout**

2.3.18.1 The grid size that will be utilized on this Task Order is 100' X 100' plan view.

2.3.19 **Additional 60 Acres (Task Order 19)** – Additional 60 acres designated as EBP "Y" Area Junction. This area is contiguous to the northern boundary of OE Area 2 and the northeastern boundary of OE Area 1 (See Figure 2.5). All work will be completed under existing work plan methodologies with the exception of Task 3, which adds a geophysical prove out before collecting geophysical data under this Task Order. Specific subtasks are described below.

2.3.19.1 **Task 1:** Not used

2.3.19.2 **Task 2:** Not used

2.3.19.3 **Task 3:** Geophysical Prove Out. A geophysical prove out will be completed and a report written in accordance with DID OE-005-05A.01 This prove out will occur at FWENC's existing geophysical test grid and will occur prior to starting actual collection of geophysical data under this task.

2.3.19.4 **Task 4:** Prepare Revision to this work plan.

2.3.19.5 **Task 5:** Perform Location Surveys and Mapping. This task is similar in scope to Task 2, paragraph 2.3.3 and will include boundary delineation and grid layout. Because of the need for mechanical removal a topographic survey of the mechanical removal area will also be needed, and will be conducted similar to paragraph 2.3.9.2.

2.3.19.6 **Task 6:** Establish and Management of GIS. For the purpose of Task Order 19, the GIS Model will be converted to Arcview format. This change in format only effects the additional 60 acres under this task order.

2.3.19.7 **Task 7:** Perform Surface Clearance, Brush Clearing and Vegetation Removal. Surface clearance will be completed prior to brush clearing and vegetation

removal operations. The brush clearance and vegetation removal will be done primarily by mechanical means with manual brush removal used as needed to supplement the mechanical brush clearing.

2.3.19.8 **Task 8:** Geophysical Investigation and Evaluation. Similar in scope to this portion of Task 3, paragraph 2.3.4

2.3.19.9 **Task 9:** Anomaly Reacquisition and Marking. Similar in scope to this portion of Task 4, paragraph 2.3.5.2.

2.3.19.10 **Task 10:** Perform UXO/OE Clearance. Similar in scope to this portion of Task 4, paragraph 2.3.5.3. The exception to this is the criteria for accepting grids that have been completed. The criteria for accepting grids is: "No ferrous objects with a width (intermediate principle dimension) between a 37mm projectile and a 81mm mortar at a depth of less than 11 diameters of the object." The Mechanical removal portion of this area will be completed similarly to paragraph 2.3.12.3.

2.3.19.11 **Task 11:** Inspection and Final Disposition of AEDA/Range Residue. Similar in scope to this portion of task 4, paragraph 2.3.5.6 except the scrap will be turned over to the approved FWENC scrap holding area for disposition under a separate task order.

2.3.19.12 **Task 12:** Not used.

2.3.19.13 **Task 13:** Prepare Site-Specific Removal Report. Similar in scope to Task 5, paragraph 2.3.6.

2.3.19.14 **Task 14:** Meetings. FWENC will participate in 3 on-site, on-board technical review meetings.

2.3.19.15 **Task 15:** Provide Support for Government Quality Assurance. This task requires one dedicated UXO Technician II to assist in the government QA process. It also provides for demolition support after the completion of the removal activity for 2 weeks in the event government QA discover a UXO/OE item requiring demolition to be performed.

2.4.2.3 **Task Order Manager.** The Task Order Manager is Mr. Greg Williams (see Appendix E for resume). His responsibilities include: co-ordination with the Foster Wheeler Project Manager in developing project scope and costs, detailed work order specifications and schedules and identification of project personnel to be utilized in accomplishing the Statement of Work. Procurement and management of subcontractors is also the responsibility of the TO Manager. The TO Manager is responsible for the completion of all major deliverables. The TO Manager will also approve charges by field and office personnel, compare ongoing project cost and schedule performance to the baseline cost/schedule, and bring any significant variance to the attention of the Foster

Wheeler PM, who will communicate impacts to the USAESCH PM as necessary. The TO Manager will identify if a change in scope is necessary to meet technical requirements, and will discuss potential changes in scope with the Foster Wheeler PM, and with the USAESCH PM as necessary. For the Mechanical Removal and Eastern Bypass "Y" Area Junction portion of this Task Order, Mr. Todd Biggs is the Task Order Manager and his duties and responsibilities remain the same as stated above for these portions of the Task Order.

4.1.5 For the Eastern Bypass "Y" Area Junction the MPM remains the 37mm Mk II Projectile. The EZ for this area will remain 1181 ft as per the original SSWP. Figure 4.2 shows the EZ for the Eastern Bypass "Y" Area Junction. The EZ for this additional area does not encompass any inhabited buildings and existing gates and barricades will be used to control entry and exit from the area during intrusive operations.

5.3.2.4 It may prove advantageous to utilize Robotic Total Stations or Constellation Systems for positional data due to the increased efficiency and accuracy of the setup procedure when compared to USRADS. The instrument will be set up on a known point and will track a reflective prism situated directly above the central axis of the EM-61 coil. The use of this system will be based upon the results from the test phase of the geophysical program.

5.3.3 Personnel

5.3.3.1 The geophysical staff will consist of (1) QC Geophysicist, (1) Interpretation Geophysicist and (1) Site Geophysicist. Three geophysical survey crews will be used to acquire data. Each acquisition team will consist of one UXO Technician III and two UXO Technician II.

5.3.3.2 The Site Geophysicist will work with the Mapping Teams to ensure the production rates are met and the data quality, especially during field data acquisition activities, is adequate to meet the program objectives. The QC Geophysicist will be responsible for the overall quality of the geophysical program, and will provide guidance to the Interpretation and Site Geophysicist in the processing and interpretation of the data. All Geophysicists involved will process and interpret the geophysical data as well as provide field QC oversight for the data acquisition and specific intrusive investigation processes, including target reacquisition and comparison of excavation results with the interpreted geophysical characteristics.

5.3.3.3 The Mapping Teams will be responsible for collecting data and providing this data to the Site GIS Manager and Site Geophysicist on a daily basis. All geophysical data will be supplied to the data manager or Site Geophysicist after the conclusion of each day's data acquisition activities. The Site Geophysicist is responsible for the field component of the geophysical investigation including planning data acquisition, ensuring data quality, resolution of instrumentation problems, and assisting with the review of intrusive investigation data. The Interpretation Geophysicist is responsible for data

processing, transfer of the raw and positionally corrected data to USAESCH geophysical representative on a weekly basis and technical review of geophysical and intrusive investigation data. The Site and Interpretation Geophysicists both report to the QC Geophysicist.

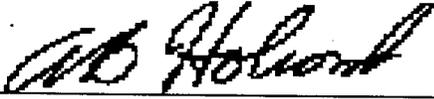
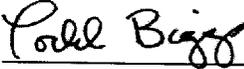
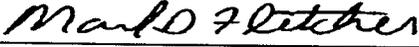
5.8 Anomaly Reacquisition

5.8.1 It is anticipated that Vulcan System will be the primary method used to provide navigation assistance to relocate the x-y grid coordinates of interpreted targets. Anomaly co-ordinates will be provided to the Reacquisition Teams who will place numbered surveyor's pin flags at the anomaly location. Where it is appropriate, other methods such as USRADS, Robotic Total Station, Constellation, measuring tape or other surveying methods may be used.

6.2 Introduction

6.2.1 This Site-Specific Safety and Health Plan (SSHP) has been prepared to address the hazards associated with characterization activities within this Task Order at Fort McClellan in Anniston, Alabama. This SSHP will be used in combination with the Site-Wide SSHP, and both plans will be available to workers during activities in the Eastern Bypass OE Removal Area. By their signatures, the undersigned certify that this SSHP will be utilized for the protection of the health and safety of workers during work tasks.

APPROVALS:

 _____ Arthur B. Holcomb, PE, CIH Project Manager	1/8/03 _____ Date
 _____ Todd Biggs, Task Order Manager	1/8/03 _____ Date
 _____ Mark Fletcher Project Environmental and Safety Manager	1/8/03 _____ Date
 _____ Nathaniel Martin UXO Safety Officer	1/8/03 _____ Date

11.6 Geophysical Acceptance Inspection

11.6.1 After work is complete, an acceptance inspection will be conducted using a sampling plan. The sampling plans/procedures that may be used are MIL-STD 1916 or other client directed plans, such as a minimum 10% check. For the 40.7-acre extension, the sampling plan selected is the minimum 10% check with a handheld instrument

(Vallon VMX2 or equivalent). For the Armored Mechanical Ordnance Removal there will be an initial 100% geophysical mapping of the defined clearance area. Periodic geophysical mapping or handheld magnetometer checks will be conducted as a QC inspection to ensure enough soil has been removed and the contaminated area has been cleared. Upon completion, a final 100% geophysical mapping will be conducted prior to turnover. The site geophysicist will analyze the data to determine if anomalies are present and their location. If no additional anomalies are located the QC Specialist will present the grid to the USAESCH Safety Specialist who will conduct his QA inspection. Process and product QC inspections will also be conducted throughout the project. Figure 11.2 illustrates the simplified Armored Mechanical Ordnance Removal process. When MIL-STD 1916 is selected as the sampling plan, it will be applied using verification level (VL) III, inspection by attributes, inspection by lots, using switching procedures in the standard. The method of conducting the inspection will be to apply the sampling plan to areas completed, collect data in those areas using the same type of equipment as the field teams, process the data, identify anomalies, and excavate the anomalies to determine the nature of the anomaly. For the Eastern Bypass "Y" Area Junction, a random 10% sampling method will be used. This method will involve mapping 10% of each grid in randomly selected lanes in those grids geophysically investigated. In grids, which were manually investigated the geophysical acceptance method will be a standard 10% check with a hand held instrument.

11.6.2 For the Eastern Bypass "Y" Area Junction acceptance criteria is, "No ferrous objects with a width (intermediate principle dimension) between a 37mm projectile and a 81mm mortar at a depth of less than 11 diameters of the object."

14.1.2 For the Eastern Bypass "Y" Area Junction, the format of the GIS system will be Arcview. The remaining portions of the FWENC's GIS system will remain in the current Geomedia format until directed otherwise. For the purpose of this task, all GIS data pertaining to the Eastern Bypass "Y" Area Junction will be converted to Arcview and maintained in that format.

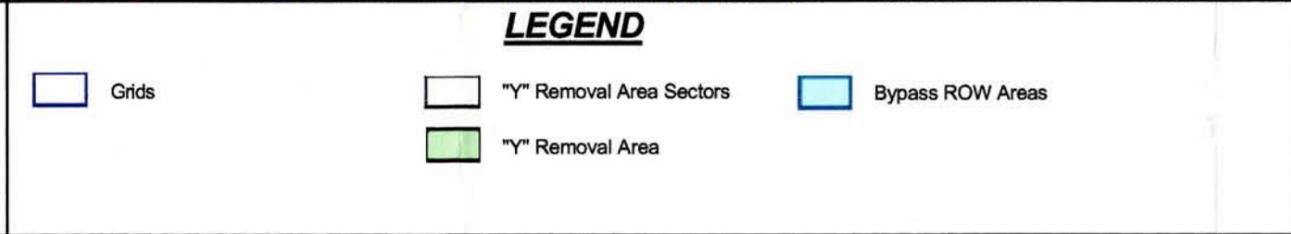
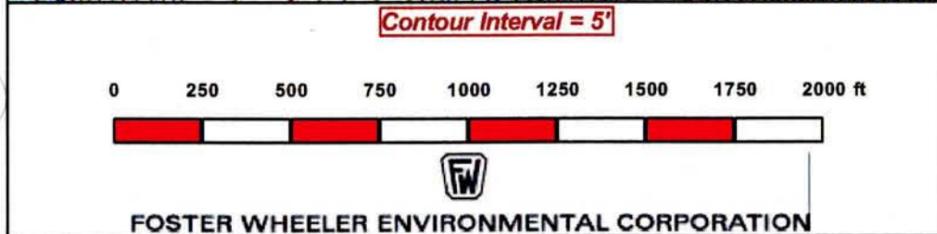
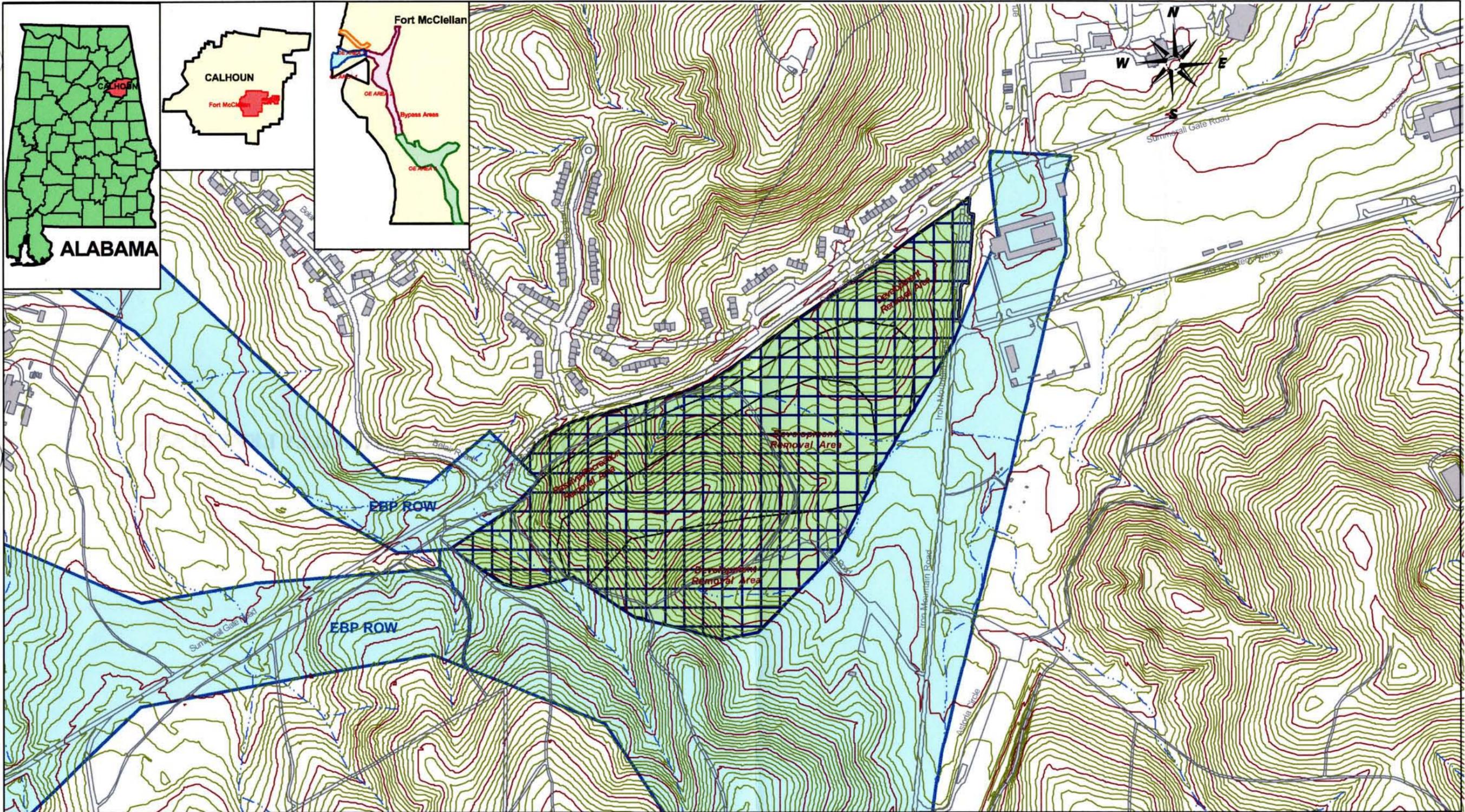
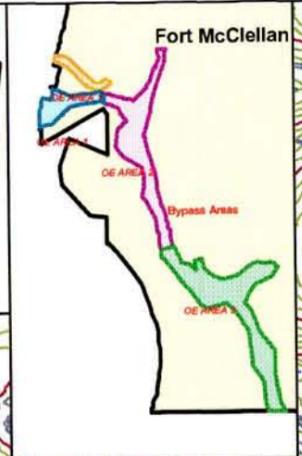
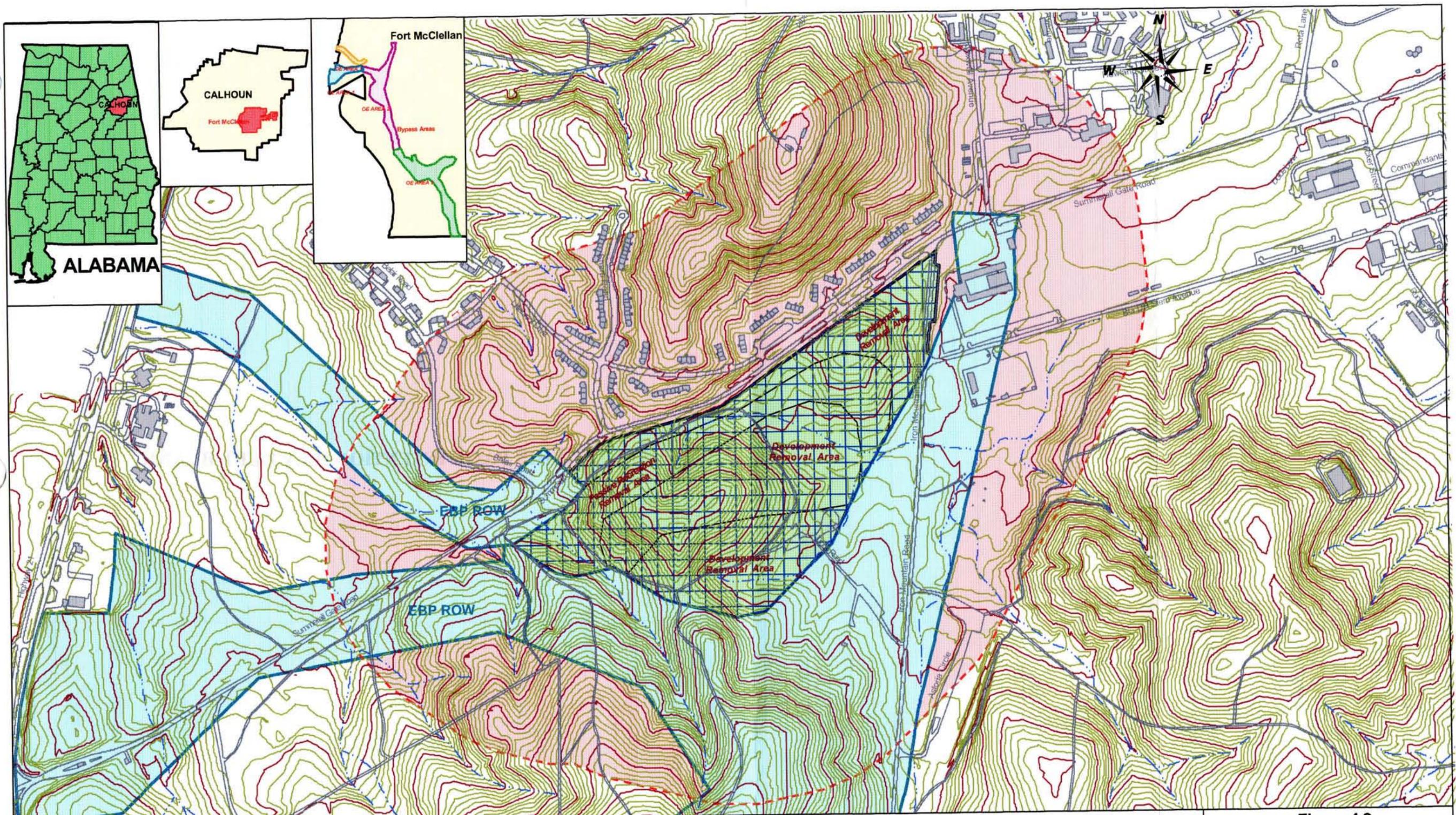
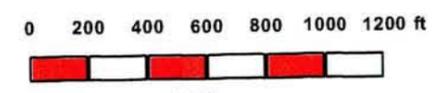


Figure 2.5
EBP "Y" Area Junction
 Fort McClellan, Calhoun County
 Anniston, Alabama
 March 2003



Contour Interval = 5'



FOSTER WHEELER ENVIRONMENTAL CORPORATION

LEGEND

- Grids
- 1181' EZ for "Y" Removal Area
- "Y" Removal Area Sectors
- "Y" Removal Area
- Bypass ROW Areas

Figure 4.2
EBP "Y" Area Junction
Quantity Distance Arcs
 Fort McClellan, Calhoun County
 Anniston, Alabama
 March 2003

Y Area Removal Action Task Schedule

Figure 8-1

Activity ID	Activity Description	Orig Dur	% Comp	Early Start	Early Finish	Target 1 Early Start	Target 1 Early Finish	2003	2004
Y Area Removal Action									
Y Area Removal Action									
Work Plan									
YA0010	Internal Draft Work Plan Preparation	21	100	16DEC02A	20DEC02A			Internal Draft Work Plan Preparation	
YA0020	Submit Internal Draft Work Plan	0	100		20DEC02A			Submit Internal Draft Work Plan	
YA0030	Internal Draft Work Plan Review Period	22	100	23DEC02A	31DEC02A			Internal Draft Work Plan Review Period	
YA0040	Internal Draft Work Plan Comments	0	100	02JAN03A				Internal Draft Work Plan Comments	
YA0050	Draft Work Plan Preparation	10	100	02JAN03A	07JAN03A			Draft Work Plan Preparation	
YA0060	Submit Draft Work Plan	0	100		07JAN03A			Submit Draft Work Plan	
YA0070	Draft Work Plan Review Period	22	100	08JAN03A	24JAN03A			Draft Work Plan Review Period	
YA0080	Draft Work Plan Comments	0	100	24JAN03A				Draft Work Plan Comments	
YA0090	Draft Final Work Plan Preparation	10	100	24JAN03A	06FEB03A			Draft Final Work Plan Preparation	
YA0100	Submit Draft Final Work Plan	0	100		07FEB03A			Submit Draft Final Work Plan	
YA0110	Draft Final Work Plan Review Period	22	30	10FEB03A	03MAR03			Draft Final Work Plan Review Period	
YA0120	Draft Final Work Plan Comments	0	0	04MAR03				Draft Final Work Plan Comments	
YA0130	Final Work Plan Preparation	10	0	04MAR03	17MAR03			Final Work Plan Preparation	
YA0140	Submit Final Work Plan	0	0		17MAR03			Submit Final Work Plan	
Grid Preparation									
YA0150	Boundary Survey	1	0	17MAR03	17MAR03			Boundary Survey	
YA0154	Surface Clearance	16	0	18MAR03	08APR03			Surface Clearance	

Start Date	16DEC02	Sheet 1 of 2	
Finish Date	02JUN04	Foster Wheeler Environmental	
Data Date	10FEB03	Y Area Removal Action	
Run Date	26MAR03 07:00	2215 - YARA	

Legend:	Early Bar	Target	Progress Bar	Critical Activity

Date	Revision	Checked	Approved

