Central Staging and Soil Management Area (Former Miller Property) Operating and Closure Plan

Anniston PCB Site,
Anniston Alabama

August 2004
Revision 2

Solutia Inc.
702 Clydesdale Avenue
Anniston, Alabama 36201-5328
Tel 256-231-8400

August 10, 2004

SENT VIA FEDERAL EXPRESS

Ms. Pamela J. Langston Scully, P.E.
Remedial Project Manager
United States Environmental Protection Agency
Atlanta Federal Center
61 Forsyth Street, S.W.
Atlanta, GA 30303-3104

Re: NTC Removal Action
Central Staging and Soil Management Area Operating and Closure Plan
Anniston PCB Site (Docket No. CV-02-PT-0749-E)
Anniston, Alabama

Dear Ms. Scully:

Please find enclosed six (6) hard copies and ten (10) electronic copies of the revised Non-Time Critical (NTC) Removal Action Central Staging and Soil Management Area Operating and Closure Plan (CSSMA O&C Plan), Revision 2.0 for the Anniston PCB Site in Anniston, Alabama. Comments on the CSSMA O&C Plan Revision 1.0, which was submitted on June 4, 2004, were received from the United States Environmental Protection Agency (EPA) on July, 27, 2004. As applicable, all of the EPA's comments have been incorporated into the revised plan.

In response to Comment No. 1, soils that were temporarily staged on the property, including soil staged on the ground, have been removed and disposed at an off-Site disposal facility. Additionally, following removal of the soil, eight confirmatory samples were collected to ensure that no soils with greater than 50 milligrams per kilogram (mg/kg) remain in the soil management area. The number and locations of samples were determined by EPA and Solutia Inc. representatives in the field on July 29, 2004. The results of the analyses indicate that concentrations are less than 50 mg/kg. A summary of the materials removed, copies of waste manifest forms and the results of the confirmatory analyses will be submitted under separate cover. In response to Comment No. 4, three pilot holes were hand augered at locations proposed for monitoring wells at the soil management area. No ground water was encountered in the upper 5 feet of soil at these locations, confirming that the current grade level is greater than 5 feet above the ground water table. The results of this investigation will be reported under separate cover along with the confirmatory sampling results. In response to Comment No. 6, we have attached specification sheets for the disposable pumps that will be used to collect groundwater samples from the wells that will be installed at the site.

Please do not hesitate to contact me at 256-231-8404 with any questions or comments that you may have regarding this matter.

Sincerely,

Craig R. Branchfield
Manager, Remedial Projects

cc: Mr. Phillip Davis (ADEM)
Mr. G. Douglas Jones, Esq.
Mr. Thomas Dahl

Enclosures

Report on

CENTRAL STAGING AND SOIL MANAGEMENT AREA
(FORMER MILLER PROPERTY)
OPERATING AND CLOSURE PLAN

FOR THE

ANNISTON PCB SITE
(Docket No. CV-02-PT-0749-E)

Prepared for:

United States Environmental Protection Agency
Waste Management Division
Atlanta Federal Center
61 Forsyth Street, S.W.
Atlanta, GA 30303

Prepared by:

Solutia Inc. and Pharmacia Corporation
702 Clydesdale Avenue
Anniston, Alabama 36201

August 2004
Revision 2

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APPENDICES

1.0 INTRODUCTION

This Central Staging and Soil Management Area Operating and Closure Plan (O&C Plan) has been prepared to supplement the Residential Soil Removal Work Plan (RSRWP) (Solutia, 2003b). The RSRWP was prepared in accordance with the requirements of the Non-Time-Critical Removal Agreement (NTC Removal Agreement) included as Appendix G to the Partial Consent Decree (Docket No. CV-02-PT-0749-E) between the United States Environmental Protection Agency (EPA), Solutia Inc. (Solutia), and Pharmacia Corporation (Pharmacia). The Partial Consent Decree (CD) for the Anniston PCB Site (Site) was entered by the United States District Court for the Northern District of Alabama on August 4, 2003. The NTC Removal Agreement contained within the CD provides for the performance of a removal action in connection with residential properties that may contain soil with polychlorinated biphenyls (PCBs) located in and around Anniston, Calhoun County, Alabama.

The NTC Removal Action is an extension of a removal action undertaken under the terms of an Administrative Order on Consent (Removal Order) dated October 27, 2000 (amended and reentered on October 5, 2001). The Removal Order was undertaken as a first step in the residential property cleanup program. The Removal Order provided for immediate action if the PCB concentration in composite soil samples at residential properties was 10 milligrams per kilogram (mg/kg) or greater.

The NTC Removal Action establishes a cleanup level of 1 mg/kg for surficial residential soils and required preparation of an Engineering Evaluation and Cost Analysis (EE/CA) Report to identify the most appropriate removal action alternative for residential properties within the Anniston PCB Site. The EE/CA Report, Revision 1.0, was submitted in August 2003 (Solutia, 2003a) and determined that soil removal with disposal remote from the affected residential properties was the most appropriate removal action alternative (Alternative 2a). The NTC Removal Action Approval Memorandum (USEPA, 2004) concurred with the findings in the EE/CA Report. The majority of the soil containing less than 10 mg/kg PCBs will be placed beneath a clean soil cover at an on-Site soil management area located near the Solutia facility. Any soil found with PCB concentrations equal to or greater than 10 mg/kg, based on five-point composite sampling, will be disposed at an off-Site permitted facility.

The design objectives for the on-Site soil management area include the following:

- to provide an on-Site area for placement of material removed during the residential cleanup program;
- to facilitate future use of the property for commercial or industrial purposes;
- to minimize the potential for human and ecological exposure to PCB-containing soils that exist and that will be placed at the area; and
- to prevent erosion and downstream transport of these PCB-containing soils, during soil placement, cover construction and in the long term.

The soil cover containment for the PCB-containing soil to be deposited at the on-Site soil management area was approved in the NTC Removal Action Memorandum. The cover will prevent, or significantly reduce, the exposure of potential receptors to the PCB-containing soil and prevent, or significantly reduce, the potential for migration of PCBs to surface water. The PCB-containing soils and the cover will also prevent, or significantly reduce, the potential for erosion and direct contact with in-place soils directly underlying the soil management area that also contain PCBs at tested concentrations less than 5 mg/kg. When the PCB-containing soil is placed and compacted in the manner described in the O&C Plan, the property is expected to be suitable for future commercial or industrial development.

A property suitable to accept the soil has been identified within the Site adjacent to the Solutia facility, north of West 10th Street, east of Clydesdale Avenue, and south of the Norfolk Southern railroad tracks, as shown on Figure 1. The property was acquired by Solutia from the Miller Estate and comprises approximately 9 acres. Initial estimates indicate that approximately 40,000 cubic yards of PCB-containing soil and cover soil can be accommodated at this location in two separate cells; however, no more than 25,000 cubic yards of PCB-containing soil will be placed without prior EPA approval.

This O&C Plan presents the procedures for the staging and management of soils at the former Miller property. The proposed layout for the Central Staging and Soil Management Area (CSSMA), as shown on Figure 2, was designed to allow future use of the property for industrial and/or commercial purposes. Two cells are proposed: a Western Cell and an Eastern Cell. The footprints for the proposed cells were selected based on existing topography and final elevation requirements for future development. Upon completion, both cells will be covered with a geotextile and a 1-foot thick clean, vegetated soil cap. The cap will drain toward existing drainage conveyances discharging to the adjacent railroad ditch (11th Street Ditch).

This O&C Plan is divided into five sections. Section 1.0 is an introductory section describing the project and its regulatory framework. Section 2.0 discusses CSSMA site preparation activities that will be required prior to placement of any soils and includes a description of the groundwater monitoring wells that will be installed around the proposed cells. Section 3.0 presents the Operating and Maintenance Plan and includes details regarding soil acceptance and placement procedures, best management practices to be employed, spill prevention control and countermeasures requirements, emergency procedures, site security provisions and recordkeeping requirements. Section 4.0 presents closure and post-closure requirements upon completion of the project and includes the final cover design, survey and deed notation requirements, and inspection, monitoring and reporting requirements. Section 5.0 includes references.

2.0 SITE PREPARATION

Prior to the commencement of soil placement operations, areas to be improved will be cleared and graded to facilitate positive drainage away from the staged soil materials. All stormwater management and erosion and sedimentation controls described in Section 3.3.1 will be installed and maintained for the duration of the project. Such controls will include construction of stabilized entrance/exit roads at the three access points to the property (Figure 2) and installation of sedimentation barriers (silt fence and hay bales) along the perimeter of the proposed fill and other disturbed areas.

The footprints for the proposed Western and Eastern Cells will then be surveyed and appropriately marked, identifying both the lateral extent of the cells and the proposed final grade elevations.

An equipment decontamination pad will be constructed to ensure that no contamination leaves the staging and fill areas. The pad construction will consist of a 40-mil high density polyethylene (HDPE) liner placed on the ground surface, covered by 6 inches of coarse graded sand followed by 12 inches of aggregate. Lumber will be placed for vehicles to travel over, and the pad will be sloped to a collection sump. The collection sump will be equipped with a pump having a hose connected to a small polyethylene tank to contain any decontamination water. A portable high-pressure washer will be maintained at the pad to spray off any equipment (e.g. dump truck tires) prior to leaving the area as necessary.

Three groundwater monitoring wells, approximately 25 to 30 feet deep, will be installed around the perimeter of the on-Site soil management area as shown on Figure 2 to evaluate groundwater quality at the site. These wells will be installed as outlined in the "Technical Memorandum on Groundwater Monitoring at the Central Staging and Soil Management Area", dated June 23, 2004. Additionally, the well installations will follow the guidelines outlined in the Site-Wide Quality Assurance Project Plan (Site-Wide QAPP) (BB&L, 2004). Once developed, the wells will be sampled and analyzed for Target Compound List volatile organic compounds, semi-volatile organic compounds, and chlorinated pesticides; and Target Analyte List inorganic parameters. In addition to the quality control samples required by the Site-Wide QAPP, a rinsate blank sample will be collected from water passed through the pump system that will be used to collect the groundwater samples. Sampling frequency and future monitoring parameters will be determined after initial analytical results are received.

3.0 OPERATING AND MAINTENANCE PLAN

Procedures for routine operation, inspection, maintenance, repairs, and recordkeeping are contained in this Operating and Maintenance Plan (O&M Plan). The O&M Plan for the CSSMA consists of the following sections:

- Soil Acceptance Practices and Procedures
- Soil Placement Practices and Procedures
- Best Management Practices Plan
- Spill Prevention Control and Countermeasures Plan
- Emergency Plan
- Site Security
- Recordkeeping Requirements and Maintenance of Records

3.1 Soil Acceptance Practices and Procedures

Materials to be accepted for placement at the former Miller property are limited to non-hazardous soil and excavation debris removed in conjunction with the NTC Removal Action. All such soil must contain less than 10 milligrams per kilogram (mg/kg) of PCBs based on five-point composite sampling. Waste characterization documentation for the source(s) of all such soil must be provided prior to acceptance for placement. Required documentation will include analytical results confirming the concentrations of PCBs (<10 mg/kg) and lead (<400 mg/kg or confirmed non-hazardous based on Toxicity Characteristic Leaching Procedure [TCLP] testing). The sampling and analytical testing will be performed prior to excavating the soil at the residential properties in accordance with the procedures contained in the NTC Removal Action Supplemental Sampling and Analysis Plan (Solutia, 2004). A Bill of Lading signed by an authorized representative or designee of Solutia/Pharmacia shall be provided confirming the source, waste characteristics and intended disposition for each truckload entering the site. Each truckload shall also be visually inspected prior to placement and compaction to ensure that materials are consistent with the Bill of Lading description.

The on-Site soil management area will be developed in two cells, the Western Cell and Eastern Cell. The Western Cell will have more stringent requirements for the soil that is to be placed because this area may later be developed for commercial or industrial purposes. Compaction requirements for the soil deposited in the Western Cell are included in Section 3.2.4. These requirements are similar to those for placing structural fill material for normal building

construction.

Any oversized material (e.g. rocks or other debris) will be identified and placed appropriately to ensure that proper compaction can be achieved in the Western Cell. The Construction Manager will assess the amount and size of the oversized material acceptable for the Western Cell. The assessment will be based on achieving a reasonable uniform soil matrix that can be compacted using conventional soil compaction equipment without leaving voids or loose areas. Generally, the maximum size that will be acceptable for material placed in the Western Cell is 6 inches. These criteria will further be evaluated with quality assurance testing as described in Section 3.2.4.

3.2 Soil Placement Practices and Procedures

3.2.1 Operating Hours

Normal operating hours will be 6:00 a.m. through 6:00 p.m. on Monday through Friday. Weekend operation may be required as dictated by project schedules.

3.2.2 Ingress and Egress

Entrance to and exit from the property will occur at one of the three following locations shown on Figure 2:

- West entrance from Clydesdale Avenue;
- Southwest entrance from 10th Street opposite Cobbtown Road; and
- Southeast entrance from 10th Street opposite Montrose.

3.2.3 Cell Placement Requirements

Approximately 12,200 cubic yards of fill can be placed in the Eastern Cell and approximately 26,200 cubic yards of fill can be placed in the Western Cell (both volumes include clean fill for soil cover material). However, no more than 25,000 cubic yards of PCB-containing soil will be placed in the CSSMA without prior approval from the EPA. Soil material relatively free of debris will be placed in the Western Cell and will be compacted as described in the following subsection. The Western Cell will require a sufficient subbase for future development. Any oversized material (e.g. rocks or debris found within the soil excavated from residential properties) shall be placed and spaced in a manner that will not compromise the suitability of the

area for future development. Material not suitable for compaction, as determined by the Construction Manager, shall be placed in the Eastern Cell.

All PCB-containing soil will be placed at least five feet above the groundwater table as measured at the three groundwater monitoring well locations.

3.2.4 Compaction Requirements

For the Western Cell, soil material will be placed in horizontal 12 inch lifts. Each lift shall be compacted by equipment suitable to the Construction Manager. Soil material in the Western Cell will be tested to ensure that it is compacted to 95% of its maximum density as determined by the Standard Proctor test (ASTM D 698). A quality assurance monitor will conduct in-place density tests in accordance with ASTM procedures at a frequency of one test per each lift placed within a phase. The top surface of each layer will have sufficient crown to provide adequate drainage for water at all times during the construction period.

For the Eastern Cell, the same procedures shall apply as described above for the Western Cell except compaction testing will not be required on the soil in the Eastern Cell. .

3.2.5 Daily Cover Requirements

At the conclusion of each day, or as otherwise required by stormwater control best management practices (Section 3.3.1), all material placed in the cells which is not contained under a final cover shall be covered with polyethylene sheeting. The sheeting shall be secured with weights to prevent stormwater run-on into and/or run-off from the active portions of the cells.

3.3 Best Management Practices Plan

The Best Management Practices Plan (BMP Plan) for the property has been developed using EPA and Alabama Department of Environmental Management (ADEM) guidance documents and engineering judgment. The BMP Plan is comprised of three sections addressing stormwater control, dust control and noise control requirements as presented in the subsections below.

3.3.1 Stormwater Control

The stormwater management and control element of the BMP Plan has been developed to minimize erosion and sedimentation during construction and operation of the CSSMA by implementing best management practices and engineering controls consistent with EPA and ADEM guidance.

BMPs are schedules of activities, practices and/or procedures that will prevent or reduce impact to surface water associated with CSSMA construction and operation. The EPA has defined seven baseline BMPs to limit and control sediment and erosion, as follow:

- Minimize clearing of vegetation;
- Minimize the time that soil is exposed;
- Prevent runoff from flowing across disturbed areas;
- Stabilize disturbed soils as soon as possible;
- Reduce the velocity of runoff crossing the property;
- Provide drainage ways for increased runoff; and
- Remove sediment from stormwater runoff before it leaves the property.

As applicable, these BMPs will be adopted at the CSSMA and will be accomplished using the following project management and engineering controls:

- Project Management Controls
    - Work will be sequenced and scheduled to minimize areas of disturbance.
    - Good housekeeping practices will be followed at all times.
        - Established vegetation outside of cleared areas will be protected.
        - Materials stored on the property will be placed in an orderly manner in their appropriate containers and sheltered as required to prevent surface water contact.
    - Engineering controls will be properly constructed, inspected and maintained.
    - CSSMA personnel will be properly trained regarding BMPs and engineering controls adopted at the property.
    - A stormwater monitoring point will be established at a location downstream of CSSMA activities to evaluate the effectiveness of all control elements and the potential need for sampling.

- Engineering Controls
    - Entrance/exit ways will be stabilized using 6 inches of suitable aggregate placed on top of a geotextile in order to reduce or eliminate transport of mud by motor vehicles or runoff onto public rights-of-way.
    - An equipment decontamination pad will be constructed to remove soil from vehicles and equipment prior to leaving the property (see Section 2.0).
    - Construction-disturbed areas will be stabilized with vegetation as soon as practicable. These areas will be stabilized using a combination of temporary vegetation, permanent vegetation and mulch.
    - Surface water diversion berms will be constructed around the Western and Eastern Cells as shown in Figures 2 through 4. These berms will be constructed along the western and southern boundaries of the Western Cell, and along the southern and eastern boundaries of the Eastern Cell. These berms will be constructed of clean soil material and will be located at the boundaries of the cells where off-site surface water runs onto the property. A detail for the diversion berms has been included on Figure 5. These diversion berms will divert stormwater run-on to the property away from the Western and Eastern Cells.
    - The placement of PCB-containing soil in each cell will be phased as shown in Figures 2 through 4. The phases within each cell will be filled to grade and covered will clean soil before proceeding to the next phase. This approach will reduce the time that PCB-containing soil is exposed and the surface area that is exposed at any one time, and thus decrease the likelihood of stormwater flowing over PCB-containing soils. As each phase is completed, it will be stabilized with vegetation. Details of the phasing are included on Figure 5.
    - The CSSMA will be graded and soil interceptor berms will be constructed to reduce the potential for stormwater run-on into the soil placement cells.
    - Silt fence and/or hay bales will be installed on side- and down-slope boundaries of disturbed areas and the site perimeter to filter sediment from run-off.
    - Hay bales and/or rock check dams will be placed at surface water discharge areas to reduce stormwater flow velocities and further filter residual sediment in runoff.
    - The active portions of the soil management phases will be covered at the end of each working day or in anticipation of a storm event with polyethylene sheeting

secured with weights to prevent stormwater run-on into and/or run-off from the cells.

- A permanent vegetative cover will be added to the soil management cells upon final closure for long-term erosion protection in accordance with provisions of Section 4.1 of the CSSMA O&C Plan.

The following maintenance and inspection procedures will be followed to assure effective implementation and maintenance of the described control measures:

- All engineering control measures will be inspected once per week and as soon as practical following a significant precipitation event. Such inspections will be documented using the form provided in Appendix A.
- Silt fence will be inspected for depth of sediment, tears, to confirm that the fabric is securely attached to the fence posts, and to confirm that the fence posts remain firmly in the ground.
- Hay bales will be inspected for accumulation of sediment, absence of gaps between the bales, to confirm the bales are firmly staked in the ground, and to determine the condition/integrity of individual bales.
- Interceptor dikes will be inspected to confirm integrity.
- Stabilized entrance/exit ways will be inspected to confirm presence/maintenance of sufficient aggregate and possible exposure of underlying geotextile.
- The equipment decontamination pad will be inspected to confirm the structural integrity and the proper operation of the collection sump.
- The established monitoring point will be inspected to determine if there is any presence/evidence of sediment runoff from the CSSMA.

Any defects or deficiencies noted during inspection will be promptly corrected within 72 hours of detection.

3.3.2 Dust Control

The following work practices and engineering controls will be used to control dust throughout the project:

- Planning and scheduling of work activities will be coordinated to minimize the number of times materials are handled or disturbed and to limit the areas of exposure.

- Surface stabilization measures (e.g. vegetative cover, liners) will be installed to prevent dusting from exposed areas.
- Water will be applied to the property and work area surfaces when wind-borne dust is present and where other effective engineering controls are not being employed.
- Stabilized entrance and exit ways will be properly maintained to control potential dusting.
- Speed limits for vehicles will be maintained at less than 10 miles per hour to reduce dust generation from travel.
- Real-time perimeter air monitoring will be performed at upwind and downwind directions during CSSMA construction and normal operating periods using respirable dust monitors (Mini-ram devices or equivalent) to demonstrate that work performed at the CSSMA is performed in a safe manner and that fugitive dust emissions are not leaving the property. If the instrument sustains a reading greater than 0.5 milligrams per cubic meter for more than two minutes, dust control practices and engineering controls will be immediately evaluated to determine improvements required to reduce concentrations below this level. Air monitoring data will be recorded onto an Air Monitoring Log (Appendix B).

All CSSMA operating personnel will be properly trained regarding the implementation of these work practices and controls.

3.3.3 Noise Control

Potential noise intrusion will be controlled by limiting the CSSMA operations to daylight hours (6:00 a.m. to 6:00 p.m. maximum; see Section 3.2.1) and controlling site entrance and exit ways (see Section 3.2.2).

3.4 Spill Prevention Control and Countermeasures Plan

Potential sources of pollution at the property include stormwater runoff from areas containing PCB containing soils, spills that may occur from storage or use of diesel fuel and/or gasoline for site vehicles, spills of decontamination water/rinsate, and leaks of hydraulic oil from heavy equipment. Stormwater management controls are detailed in the BMP Plan provided in Section

3.3.1. The general practices listed below will be followed for spill and leak prevention and cleanup:

- All CSSMA vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance for leakage.
- Any mobile refueling tanks used on the property will be regularly inspected and, when not refueling, kept in an area protected from damage by operating equipment.
- If refueling occurs on the property, it will be restricted to a location designated by the contractor upon mobilization. No equipment will be left unattended during refueling operations, and absorbent pads will be kept on site for emergency cleanup operations if an overfill occurs.
- Petroleum products will be stored in sealed and labeled containers.
- Used oil or oil filters, batteries and hydraulic fluids will be properly disposed.
- All necessary precautions will be taken to prevent leaks or spills from maintenance and refueling operations from coming into contact with the ground and/or stormwater.
- All materials and equipment necessary for spill cleanup will be kept in a designated material storage area.
- All spills will be cleaned up immediately upon discovery. Spills of any toxic or hazardous material will be reported to the appropriate State or local governmental agency, as required. Any environmental releases that occur will be reported to the Construction Manager using the form provided in Appendix C.
- All areas of the property that could contribute to stormwater pollution by petroleum-based products will be inspected weekly in conjunction with the weekly inspection of stormwater control measures described in Section 3.3.1. The form provided in Appendix A will be used to confirm adherence to standard practices described above and record any deficiencies and corrective measures required.

Depending on the nature and size of a potential release, spill containment and control measures may include:

- Construction of temporary containment berms utilizing on-site materials.
- Construction of diversion dikes and/or placement of booms to protect local drainage pathways.
- Digging a sump, installing a polyethylene liner and diverting the spill/release material into the sump.

- Placing drums, containers and/or sorbent pads under the leak to collect the spilling material before it flows over onto the ground.
- Transferring the material from its original container to another container.

All CSSMA personnel will be properly trained regarding the implementation of the spill countermeasure and control procedures described in this section.

3.5 Emergency Plan

This subsection describes the procedures for emergencies at the CSSMA. The approved contractor's Health and Safely Plan for the residential soil removal activities will be followed by CSSMA personnel engaged in construction and operation at the property.

In the event of an emergency, the designated Site Safety Officer will act as the Emergency Coordinator. A fully equipped, large capacity first aid kit, portable eye-wash containers and a portable fire extinguisher with combination Class ABC rating will be maintained at the property at all times for use in responding to potential emergency situations. If the emergency situation requires fire, police or medical personnel, the telephone numbers provided below should be used to contact such personnel.

EMERGENCY PHONE NUMBERS – ANNISTON PCB SITE

Emergency Services	**Telephone Numbers**
Police	911
Fire	911
Northeast Regional Medical Center	800-424-9300 (24 hour)
Poison Control	911
Solutia/Pharmacia personnel to be notified in case of emergency:	
Craig Branchfield	256-231-8404
Donn Williams	601-807-1187
EPA personnel to be notified in case of emergency:	
Pam Scully	404-562-4300

The Solutia/Pharmacia Project Manager (Craig Branchfield), Construction Manager (Donn Williams), and EPA Remedial Project Manager (Pam Scully) should also be notified as soon as possible.

If evacuation is necessary, the Emergency Coordinator is responsible for securing the property in a safe manner and conducting a head count to ensure that all personnel have safely exited the property.

All CSSMA personnel will be properly trained regarding the implementation of the emergency planning procedures described in this section.

3.6 Security

The property is surrounded by a perimeter fence with locking gates at the entrance and exit ways. When CSSMA operations are occurring, the area will be manned by personnel appropriate for the work being performed. No casual visitors or unauthorized personnel will be allowed to enter the property without prior approval from Solutia/Pharmacia or its representative. Gates at access points not being used will be maintained in a locked condition. All gates will be locked during non-operating periods. Perimeter fencing and gates will be inspected on a daily basis to observe any evidence of potential unauthorized entry to the property. Vegetative growth along the fence will be maintained at a level so that attempted entry by unauthorized persons can be observed and stopped.

3.7 Recordkeeping Requirements and Maintenance of Records

Records of all inspections and other recordkeeping required by this O&C Plan will be maintained by the CSSMA operator with copies maintained on file at an appropriate location. Such inspections and records include:

- Bills of Lading for all soil placed at the CSSMA (Section 3.1).
- Inspection of truckload contents prior to spreading/compaction (Section 3.1).
- Weekly stormwater and spill control inspections (Sections 3.3.1 and 3.4; Appendix A).
- Air monitoring data (Section 3.3.2; Appendix B).
- Log of maintenance activities (Section 3.3.1).
- Records/Reporting of environmental releases (Section 3.4; Appendix C).
- CSSMA security inspections (Section 3.6).

- Training records for CSSMA operating personnel (Sections 3.3.1, 3.3.2, 3.4 and 3.5).

The following techniques and methods will be used to document and report inspection results where no specific forms are provided: field notebooks, timed and dated photographs, video tapes, and/or drawings and maps.

All required records will be audited semi-annually by Solutia/Pharmacia or its designated representative to evaluate compliance with this O&C Plan and identify opportunities for improvement. Copies of all required records will be provided to EPA following the closure of the CSSMA. All such records will be maintained for a period of at least one year following the closure of the CSSMA.

4.0 CLOSURE AND POST-CLOSURE PLAN

4.1 Final Cover Design

The general contours and cross sections of the final cover system are shown on Figures 3 through 5. The finished elevations of both cells (Western Cell and Eastern Cell) are sloped to provide natural drainage toward existing drainage conveyances discharging to the adjacent railroad ditch (11^{th} Street Ditch). The closure cover system will consist of a non-woven geotextile (marker layer) overlain by 1 foot of clean cover soil capable of sustaining plant growth (vegetative soil layer). This cover design is equivalent to that previously used for capping properties located on the north and east sides of the Solutia facility, and is designed to support vegetation and to promote run-off of surface water from the CSSMA. The cover system for the Western Cell is also designed to support future development of the area. The finished elevation and cover design will provide a suitable base for future redevelopment of the property for industrial and/or commercial purposes.

4.2 Survey and Deed Notation

The final configuration of the CSSMA will be surveyed by a licensed surveyor upon completion of soil placement and installation of the final cover. The location and dimensions of PCB-containing soil placed at the CSSMA will be duly recorded. A notation will subsequently be placed and recorded on the deed for the property identifying the locations and dimensions of the placement cells, restricting future use of the property for commercial and/or industrial purposes, restricting the installation of any groundwater supply wells, and identifying requirements and procedures for long-term maintenance of the final cover. Any future intrusive subsurface work in the areas where the cells are located will be restricted to require proper management of any PCB-containing soils and preservation of an equivalent final cover.

4.3 Inspection and Maintenance Requirements

The closed soil placement cells will be inspected monthly and following significant precipitation events (greater than 3 inches in 24 hours) to confirm the integrity of the final cover and stormwater drainage routes. The final cover (cap) will be inspected for evidence of erosion, loss of cover soil, and loss of vegetation. The adjacent stormwater ditches will be inspected for evidence of siltation and/or blockage. The perimeter fence will be inspected to confirm its effectiveness in limiting access to the property. Inspections will be conducted for the duration of the post-closure period (30 years) using the form provided in Appendix D.

Maintenance of the cap and stormwater drainage system will be completed as required and is expected to include the following elements:

- Mowing (once per year).
- Revegetation, as required (seed, fertilizer, mulch).
- Replacement of lost topsoil.
- Repair of any erosion damage.
- Maintenance of perimeter security fence.
- Cleaning and repair, as required, of local drainage ditches.

A log of all maintenance activities and repairs will be maintained at an appropriate location.

4.4 Reporting Requirements

Reporting required by this Plan will include a Final Closure Report and subsequent Annual Effectiveness Reports. The Final Closure Report will document the operating history, volume of PCB-containing soil placed at the CSSMA, final cover construction details and survey, the placement of the required notation on the property deed, and copies of required records. The Annual Effectiveness Reports will evaluate and document the effectiveness of the final cover placement and will include a summary of inspections and maintenance activities performed during the year.

5.0 REFERENCES

Blasland, Bouck & Lee, Inc. (BB&L), 2004. Site-Wide Quality Assurance Project Plan, Anniston PCB Site, Anniston, Alabama, June 2004.

Solutia Inc., 2003a. *NTC Removal Action Engineering Evaluation and Cost Analysis (EE/CA) Report, Anniston PCB Site, Anniston, Alabama, Revision 1.0*, August 2003.

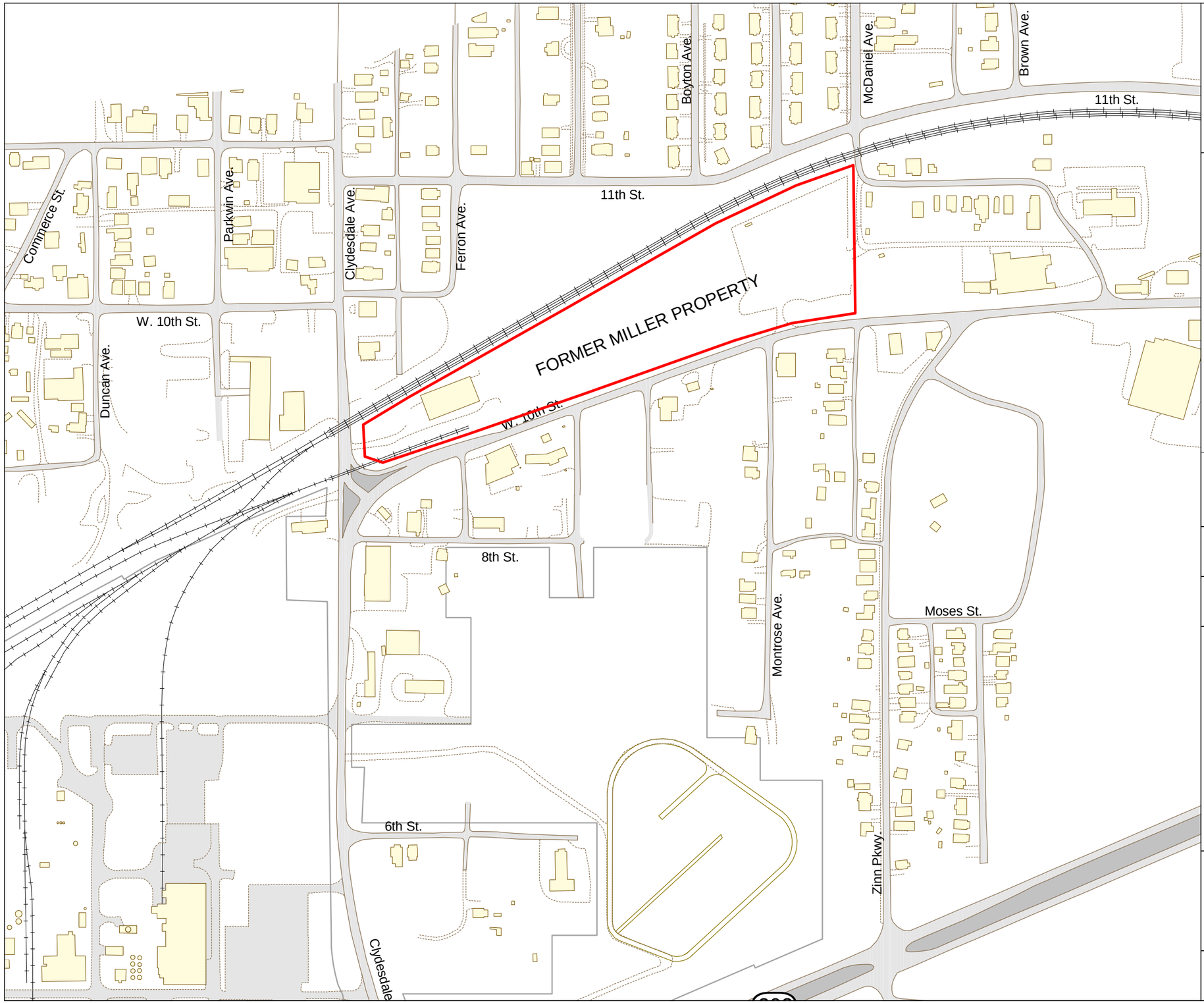
Solutia Inc., 2003b. *NTC Removal Action Residential Soil Removal Work Plan, Anniston PCB Site, Anniston, Alabama, Revision 1.0*, March 2004.

Solutia Inc., 2004. *NTC Removal Action Supplemental Sampling and Analysis Plan, Anniston PCB Site, Anniston, Alabama, Revision 2.0*, June 2004.

USEPA, 2002. Partial Consent Decree, *United States of America v. Pharmacia Corporation (p/k/a Monsanto Company) and Solutia Inc.*, Civil Action No. CV-02-PT-0749-E, October 2002, Effective Date August 4, 2003.

USEPA, 2004. *NTC Removal Action Approval Memorandum, Enforcement Action Memorandum; January 29, 2004.*

FIGURES



Site Location

LEGEND and SCALE

- On-Site Boundary
- Major Roads
- Minor Roads
- Drainage Basin
- Powerlines
- Railroads
- Buildings

150 0 150 300 Feet

NOTES

ZONE
Alabama East 101

SOURCE
Golder Associates (on-site base map)
USGS 1:2400 Quad Maps

MAP PROJECTION
US State Plane

DATUM
NAD83

LOCATION MAP

N

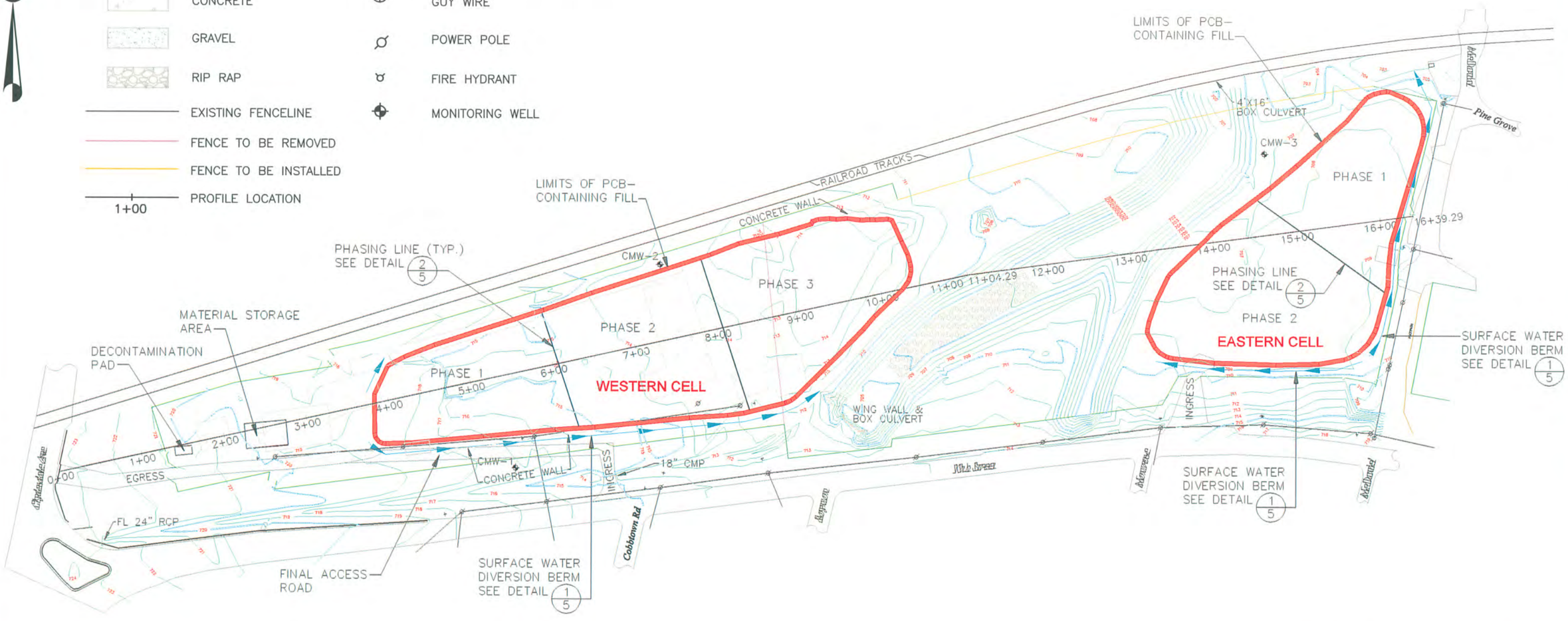
ANNISTON PCB SITE

Golder Associates

DATE:	PRODUCED BY:	PROJECT/FILE No:	FIGURE NO.
March-2004	JES	943-3680 Q:\...\rfi-gis\rfi-base.apr	1

LEGEND

	EXISTING CONTOURS	CMP	CORRUGATED METAL PIPE
	ASPHALT	RCP	REINFORCED CONCRETE PIPE
	CONCRETE		GUY WIRE
	GRAVEL		POWER POLE
	RIP RAP		FIRE HYDRANT
	EXISTING FENCELINE		MONITORING WELL
	FENCE TO BE REMOVED		
	FENCE TO BE INSTALLED		
1+00	PROFILE LOCATION		



120 0 120

1"=120' FEET

NOTES

1. SEE FIGURE 5 FOR THE PROFILE THROUGH THE PROPERTY AND THE COVER CROSS SECTION DETAIL.

REFERENCES

1. MILLER DEVELOPMENT PLAN REV. 3 BY TAYLOR LAND SURVEYING INC. DATED 2/24/04.

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW
1	05/04	–	ADD DIVERSION BERM & PHASING LINES	RMS	SJM	

PROJECT
CENTRAL STAGING AND SOIL MANAGEMENT AREA
ANNISTON PCB SITE

TITLE
FORMER MILLER PROPERTY DEVELOPMENT PLAN

Golder Associates
Atlanta, Georgia

PROJECT No.	043-3746.WP1		FILE No.	943680MIL002-R1	
DESIGN	–	–	SCALE	AS SHOWN	REV. –
CADD	RMS	05/04			
CHECK	SJM	05/04			2
REVIEW					

Drawing file: three_wells.dwg Aug 10, 2004 - 2:17pm

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- ASPHALT
- CONCRETE
- GRAVEL
- RIP RAP
- PROFILE LOCATION (1+00)
- CMP — CORRUGATED METAL PIPE
- RCP — REINFORCED CONCRETE PIPE
- GUY WIRE
- POWER POLE
- FIRE HYDRANT
- EXISTING FENCELINE
- FENCE TO BE REMOVED
- FENCE TO BE INSTALLED

RAILROAD TRACKS
PHASE 1
PHASE 2
PHASE 3
LIMITS OF PCB-CONTAINING FILL
PHASE LINE (TYP.) SEE DETAIL 2/5
SURFACE WATER DIVERSION BERM SEE DETAIL 1/5
SURFACE WATER DIVERSION BERM SEE DETAIL 1/5
FINAL ACCESS ROAD
SURFACE WATER FLOW DIRECTION
CONCRETE WALL
INGRESS
18" CMP
WING WALL & BOX CULVERT
10th Street
Cobbtown Rd
Boynton
4+00
5+00
6+00
7+00
8+00
9+00
10+00
11+00
11+04.29
2%
3:1
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720

50 0 50
1"=50' FEET

NOTES

1. SEE FIGURE 5 FOR THE PROFILE THROUGH THE WESTERN CELL AND THE COVER CROSS SECTION DETAIL.

REFERENCES

1. MILLER DEVELOPMENT PLAN REV. 3 BY TAYLOR LAND SURVEYING INC. DATED 2/24/04.

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW
1	05/04	–	ADD DIVERSION BERM & PHASING LINES	RMS	SLM	

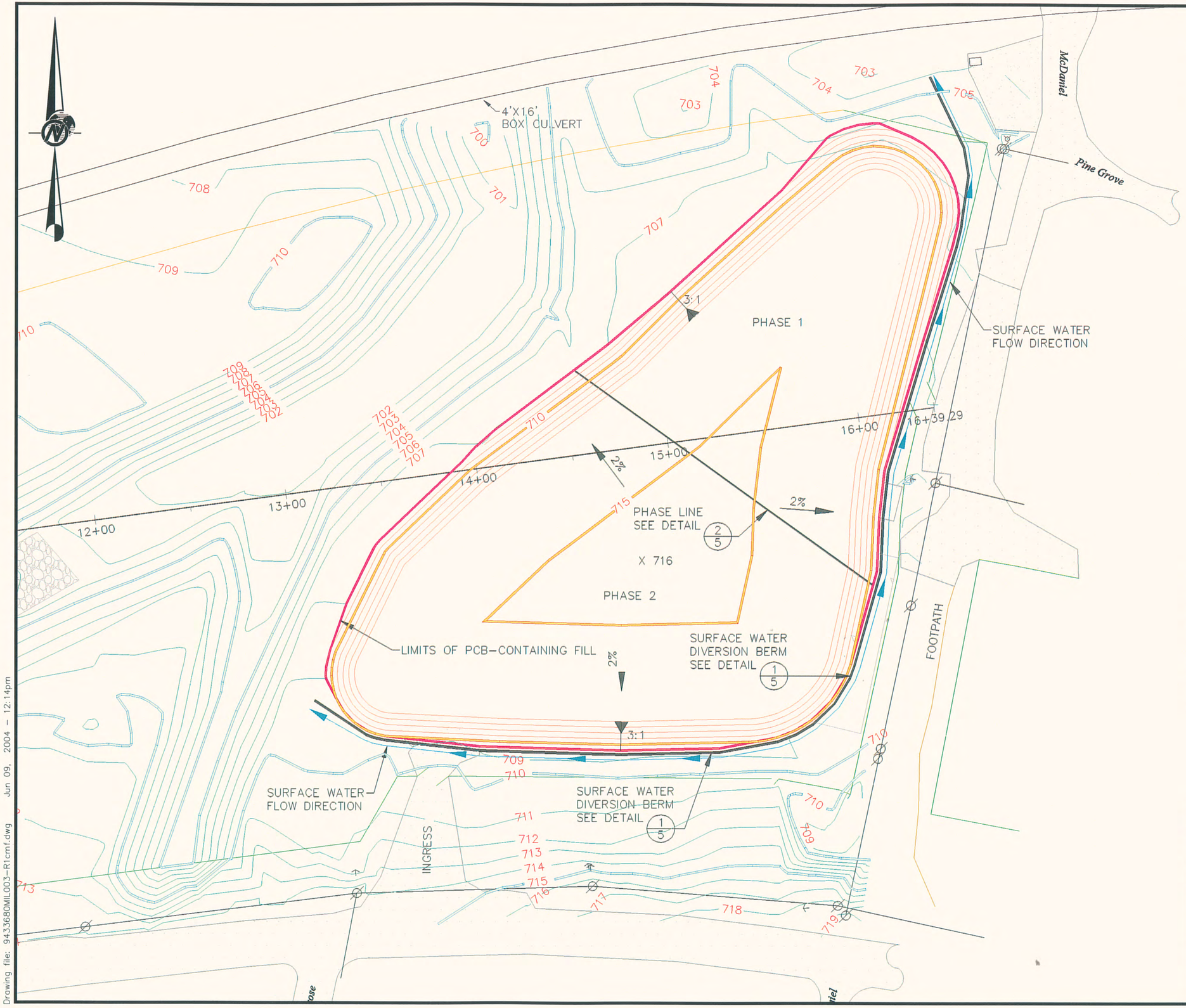
PROJECT
CENTRAL STAGING AND SOIL MANAGEMENT AREA
ANNISTON PCB SITE

TITLE
WESTERN CELL

Golder Associates
Atlanta, Georgia

PROJECT No.	0433746.WP1		FILE No.	9433680MIL003-R1
DESIGN	–	–	SCALE	AS SHOWN REV. –
CADD	RMS	05/04		
CHECK	SJM	05/04		3
REVIEW				

Drawing file: 9433680MIL003-R1.cmf.dwg Jun 09, 2004 - 12:13pm



LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- ASPHALT
- CONCRETE
- GRAVEL
- RIP RAP
- EXISTING FENCELINE
- FENCE TO BE REMOVED
- FENCE TO BE INSTALLED
- PROFILE LOCATION (1+00)
- CMP CORRUGATED METAL PIPE
- RCP REINFORCED CONCRETE PIPE
- GUY WIRE
- POWER POLE
- FIRE HYDRANT

NOTES

1. SEE FIGURE 5 FOR THE PROFILE THROUGH THE EASTERN CELL AND THE COVER CROSS SECTION DETAIL.

REFERENCES

1. MILLER DEVELOPMENT PLAN REV. 3 BY TAYLOR LAND SURVEYING INC. DATED 2/24/04.

50 0 50
1"=50' FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW
1	05/04	–	ADD DIVERSION BERM & PHASING LINES	RMS	SJM	

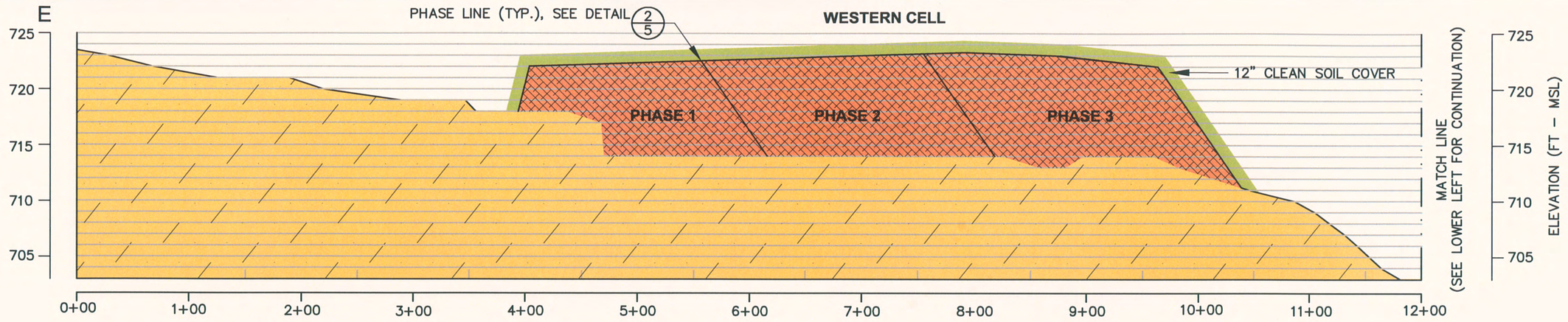
PROJECT
CENTRAL STAGING AND SOIL MANAGEMENT AREA
ANNISTON PCB SITE

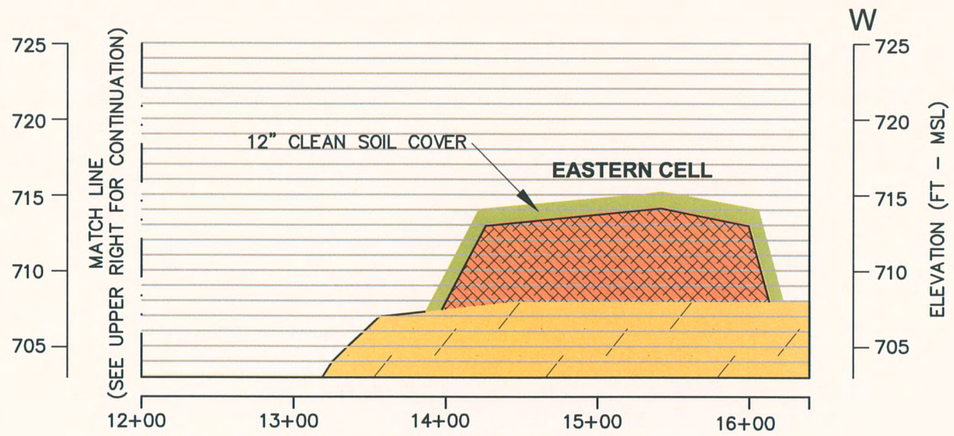
TITLE
EASTERN CELL

Golder Associates
Atlanta, Georgia

PROJECT No. 043-3746.WP1			FILE No. 9433680MIL003-R1		
DESIGN	–	–	SCALE AS SHOWN	REV.	–
CADD	RMS	05/04	4		
CHECK	SJM	5/04			
REVIEW					

Drawing file: 9433680MIL003-R1cmf.dwg Jun 09, 2004 - 12:14pm



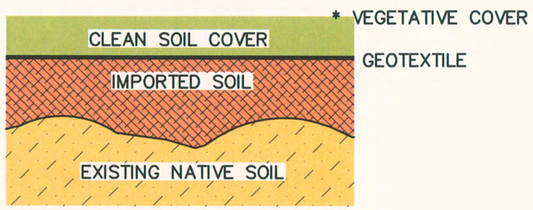


A/5 PROFILE THROUGH FORMER MILLER PROPERTY

100 0 100

1"=100' FEET

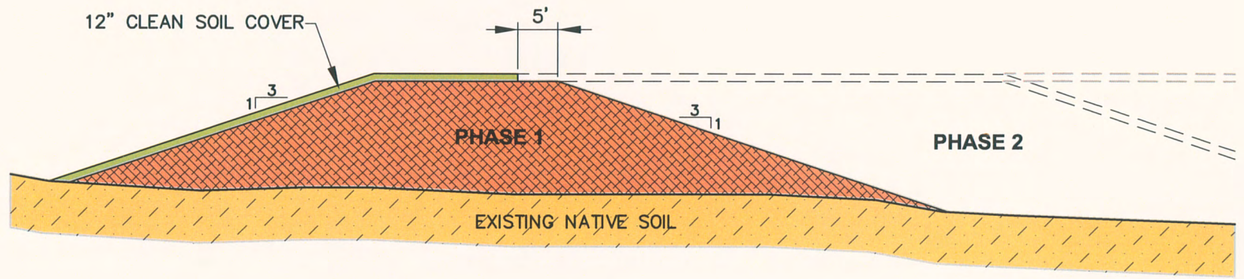
VERTICAL EXAGGERATION 10X



NOTE:
ASTERISK (*) INDICATES COVER MAY BE FINISHED WITH ASPHALT OR CONCRETE.

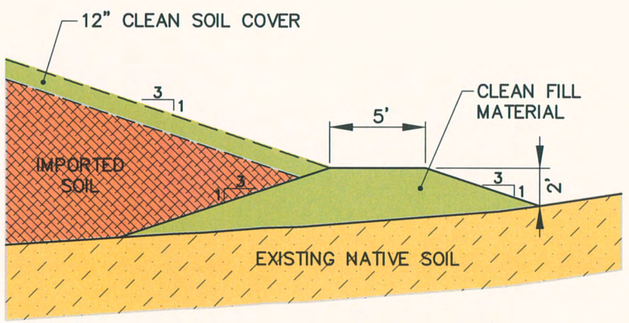
B/5 TYPICAL COVER CROSS SECTION

NTS



2/5 TYPICAL PHASING DETAIL

NTS



1/5 SURFACE WATER DIVERSION BERM

NTS

REFERENCES

1. MILLER DEVELOPMENT PLAN REV. 3 BY TAYLOR LAND SURVEYING INC. DATED 2/24/04.

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW
1	05/04	–	ADD DIVERSION BERM & PHASING DETAILS	–		

PROJECT
CENTRAL STAGING AND SOIL MANAGEMENT AREA
ANNISTON PCB SITE

TITLE
DETAILS

Golder Associates
Atlanta, Georgia

PROJECT No. 043-3746.WP1			FILE No. 9433680MIL004-R1		
DESIGN	–	–	SCALE AS SHOWN	REV.	–
CADD	RMS	05/04	5		
CHECK	SJM	05/04			
REVIEW					

Drawing file: 9433680MIL004-R1.dwg Jun 09, 2004 - 12:17pm

APPENDIX A

STORMWATER INSPECTION AND MAINTENANCE REPORT FORM

STORMWATER INSPECTION AND MAINTENANCE REPORT FORM

Site Name: Central Staging Soil Management Area (Miller Property)

Site location (City, County, State): Anniston, Calhoun County, Alabama

NPDES Permit Number: ALR Not Applicable

Weekly Rainfall Summary

Day	**SUN**	**MON**	**TUE**	**WED**	**THU**	**FRI**	**SAT**
Date							
Rainfall							

Sampling Information

Sample Type:

Location:

Analysis:

Inspection Results

Deficiencies or Required Maintenance:

Planned Corrective Action:

Corrective Action Schedule:

Other Comments:

Signature **Date**

APPENDIX B

AIR MONITORING LOG

AIR MONITORING LOG

PROJECT SITE Central Staging Soil Management Area	PROJECT LOCATION Anniston, Calhoun County, Alabama
DESCRIPTION OF SITE: (weather, temp. soil conditions)	

INSTRUMENT	INSTRUMENT RESPONSE	LOCATION	TIME	COMMENTS

CALIBRATION DATA: (type and concentration of calibration gas, instrument adjustments if any)

ADDITIONAL NOTES:

SIGNATURE:_____ DATE:_____

APPENDIX C

ENVIRONMENTAL RELEASE FORM

ENVIRONMENTAL RELEASE REPORT FORM

Site Name: Central Staging Soil Management Area (Miller Property)

Site location (City, County, State): Anniston, Calhoun County, Alabama

Date and Time of Release: _____

Duration of Release : _____ Quantity of Release: _____

Description of Release (Location, Source, Cause, Media Affected):

Response Action Taken:

Corrective Action Taken:

Notifications Made:

Revisions to Spill Prevention, Control and Countermeasures Plan:

Other Comments:

_____ _____

Signature **Date**

APPENDIX D

POST-CLOSURE INSPECTION FORM

CENTRAL STAGING SOIL MANAGEMENT AREA
(MILLER PROPERTY)

POST-CLOSURE INSPECTION FORM
(Monthly Inspection)

INSPECTOR: _____

Date of Inspection: _____

Item & Item No.		Checklist					
Security Items	S1	Are signs visible and in good condition?	Yes		No		(If No, describe below)
	S2	Are gates functioning properly?	Yes		No		"
	S3	Are gates locked?	Yes		No		"
	S4	Locks in good condition (signs of rust,etc.)?	Yes		No		"
	S5	Do locks work?	Yes		No		"
Cover System	C1	Are there bare spots in vegetation?	Yes		No		(If Yes, describe below)
	C2	Is there soil cracking evident?	Yes		No		"
	C3	Is there erosion evident?	Yes		No		"
	C4	Is there settlement or subsidence evident?	Yes		No		"
Ditches and Drainage Channels	D1	Is there any debris or obstruction?	Yes		No		(If Yes, describe below)
	D2	Is there sediment buildup?	Yes		No		"
Mowing and Fertilization	V1	Are there overgrown areas?	Yes		No		(If Yes, describe below)
	V2	Does grass appear unhealthy?	Yes		No		"

MAINTENANCE / REPAIR REQUIREMENTS

-- Describe any items requiring work. Mark the location of the item on a figure if necessary. Add other sheets if necessary.

Item No.	Maintenance or Repair Required	Marked on Figure (Yes or No)	Date of Request for Work	Date Maintenance / Repair Work Completed*

*Attach completed Maintenance / Repair Log.