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REPORT ON

INTERIM MEASURES WORK PLAN
MONSANTO ANNISTON FACILITY
ANNISTON, ALABAMA

Submitted to:

Alabama Department of
Environmental Management
1751 Cong W.L. Dickinson Drive
Montgomery, Alabama 36109-2608

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Table of Contents

1. INTRODUCTION

This Interim Measures Work Plan (IMWP) has been prepared pursuant to a letter to Monsanto from the Alabama Department of Environmental Management (ADEM) dated March 11, 1997. In that letter, ADEM informed Monsanto that it had determined that certain Interim Measures previously proposed by Monsanto were deemed appropriate to minimize the potential for future constituents to leave Monsanto's Anniston, Alabama Facility. ADEM also deemed these Interim Measures to be Best Management Practices (BMP) pursuant to the National Pollutant Discharge Elimination System (NPDES) Permit issued to the Facility on December 31, 1996. As such, this IMWP constitutes a portion of the BMP Plan for the Facility required by the NPDES Permit and is incorporated into that Plan by reference.

The specific measures proposed by Monsanto and included in the ADEM letter are as follows:

1. Divert stormwater run-on from the South Landfill (SWMU 1 and SWMU 2) and from the near-plant portion of AOC B. The diverted water will be conveyed in pipeline and open channel through AOC B to a discharge point on the south side of the railroad tracks located north of Tenth Street. From there, the diverted water will flow into an unnamed tributary of Snow Creek.

2. Upgrade the existing cap on portions of the South Landfill (SWMU 1 and SWMU 2).

3. Contain soils and sediments on properties within the portions of AOC B owned by Monsanto and install piping to convey stormwater currently flowing into the East Drainage Ditch from a point just north of Highway 202 to the point where this ditch joins an unnamed tributary of Snow Creek north of Tenth Street.

4. Contain soils and sediments on property owned by Monsanto downgradient of the West End Landfill.

5. Upgrade the in-plant stormwater sewer system and divert non-contact cooling water to the in-plant waste water treatment facility.

This IMWP identifies the objectives of the various Interim Measures, provides details of the actions and procedures for implementation, and provides a schedule for implementation in accordance with the requirements of Condition III.F. of the Alabama Hazardous Wastes Management and Minimization Act (AHWWMA) Post-Closure Permit for the Facility.

2. EXISTING SURFACE WATER DRAINAGE PATTERNS

The existing surface water drainage patterns are shown on the attached Figure 1. Currently, stormwater from the northern slopes of Coldwater Mountain flows north to Highway 202. A series of natural drainage swales convey water down the side of the mountain and along the south side of the highway to a series of culverts which convey the water under the roadway. Starting from the western side of the drainage basin, the drainage patterns and associated culverts are as follows:

- Runoff from Coldwater Mountain south of the West End Landfill and west of the South Landfill (denoted as Area 1 on Figure 1) is conveyed under Highway 202 by a 4 ft. x 4 ft. box culvert located on the west side of Monsanto Drive. The inlet to this culvert is designated as monitoring point DSN 008 in the facility NPDES permit. The runoff is then directed through an open channel around the western and northern edges of the West End Landfill into a drainage ditch running along the western boundary of the Monsanto Plant. The runoff is conveyed to the north under the railroad tracks by a 36 in. diameter culvert and then flows partially in open channel and partially in culvert north to Tenth Street, at which point it enters a ditch running easterly along the northern side of the railroad tracks into an unnamed tributary of Snow Creek.

- Runoff from the western portion of the South Landfill and from the slopes above it (Area 2 on Figure 1) flows under Highway 202 through a 4 ft. x 6 ft. box culvert located west of Clydesdale Avenue. The runoff then flows through the southeastern corner of the manufacturing portion of the Monsanto property (the plant) into a ditch on the western side of Clydesdale Avenue and crosses under Clydesdale Avenue in a 4 ft. x 6 ft. box culvert. Runoff from the northern side of Highway 202, west of Clydesdale Avenue, and the drainage from a French drain which runs along the southern side of the Plant also discharge into this culvert. Once across Clydesdale Avenue, the combined flow is conveyed in open channel to the East Drainage Ditch. This channel also receives smaller flow contributions from the median of Highway 202 via two 18 in diameter culverts which run from the median to the edges of the road. The flow from one of these culverts discharges on the south side of the road and is conveyed to the 4 ft. x 6 ft. box culvert, while the other discharges directly into the ditch on the west side of Clydesdale Avenue, north of Highway 202.

- Runoff from the rest of the northern slopes of Coldwater Mountain (Area 3 on Figure 1) flows to a ditch on the southern side of Highway 202 and is conveyed under the road by three culverts: a 36 in. diameter culvert located immediately east of Clydesdale Avenue, a 24 in. diameter culvert

east of this and, farthest to the east, a 48 in. diameter culvert. These culverts are designated as monitoring points DSN 009, DSN 010 and DSN 011 respectively in the facility NPDES permit. The discharges from the three culverts are diverted into a detention basin (the Lower Detention Basin) which was completed in March 1997. The basin is designed to store the runoff from a 25 year, 24 hour storm falling on the South Landfill and to pass a 100 year, 24 hour storm on the same catchment area. Discharge from the basin occurs via a 12 in. diameter pipe which empties into the East Drainage Ditch at a maximum rate of 16 cfs. The detention basin is also equipped with an emergency spillway which, when necessary, discharges into the East Drainage Ditch.

In addition to the stormwater flows from the catchment area south of Highway 202, the East Drainage Ditch also conveys the following flows north towards Tenth Street:

- Stormwater from the southeast portion of the Monsanto plant which flows into dual 4 ft. x 3 ft. box culverts under Clydesdale Avenue and then into a 36 in. diameter culvert on the east side of the road; and

- Stormwater from the area bounded by Highway 202, Eighth Street, Clydesdale Avenue, and Montrose Avenue.

All of the stormwater collected by the East Drainage Ditch flows north in open channel to Eighth Street. At this point the flow enters two 48 in. diameter culverts which cross under Eighth Street and then transition into a single 36 in. diameter culvert which conveys the stormwater flow north under Tenth Street. The flow is then conveyed in open channel under the railroad tracks into an unnamed tributary of Snow Creek.

Hydrologic studies of the drainage basin indicate that the peak discharge flow often exceeds the capacity of the 36 in. diameter culvert at the eastern end of Eighth Street which conveys flow north from Eighth Street to Tenth Street. As a result, stormwater from a large rainfall event can discharge as surface sheet flow, and flooding has historically occurred in the east side along the alignment of the East Drainage Ditch.

Similar hydrologic studies conducted in the area north of the West End Landfill show that a culvert section immediately north of the railroad tracks between Duncan and Parkwin Avenues is not large enough to pass the flow from a significant storm event and flooding occurs in the area along the alignment of the ditch.

3. INTERIM MEASURES

3.1 Overview

The primary goal for the Interim Measures identified in this IMWP is to control stormwater and mitigate the potential for migration of constituents from the Monsanto facility. Those areas that may act as potential sources of constituents and the mechanisms which could transport these materials offsite have been identified by an extensive soil and sediment sampling program conducted within AOC B since 1995. Soils and sediments in certain areas of the South Landfill and AOC B are potential sources of constituents. Previous sampling efforts conclusively demonstrate that the primary transport mechanism is surface water and, in particular, stormwater flows which exceed the capacity of the culvert systems in the drainage ways north and east of the Monsanto plant. Because the affected soils and sediments are generally confined to the floodplain areas of the drainage ways, the implementation of a comprehensive stormwater management system and the isolation and containment of soils provide the best means of achieving the primary goal of the Interim Measures program.

This program is based on the following key concepts:

- Stormwater from unaffected areas around the Plant (i.e. areas which were not used for manufacturing operations in the past and are hydraulically upgradient of the Plant) will be collected and conveyed in pipe through and around potentially affected areas to the permitted NPDES discharge point farthest downstream of the facility. In this way, unaffected stormwater is conveyed directly to a permitted discharge point.

- Stormwater from potentially affected areas will be collected and separately conveyed in individual pipelines to the same permitted discharge point. In this way, potentially affected storm flows will be conveyed directly to the discharge point without contacting unaffected media. Furthermore, the possibility of one flow stream affecting another is avoided by keeping the various flows in separate pipes.

- Areas in which affected soils and sediments have been identified will be isolated and contained with appropriate covers to prevent offsite migration.

Details of each of the Interim Measures designed to fulfill these goals are provided in the following sections.

3.2 Diversion of Stormwater Run-on

Stormwater from the slopes of Coldwater Mountain immediately above the South Landfill will be collected in a channel to be constructed upgradient (i.e. upslope) of the landfill. The channel will be approximately 2000 feet long and will intercept the stormwater which normally flows over the landfill. It will be constructed in a cut and fill operation, with the maximum height of cut being limited to approximately 12 feet. This will ensure the stability of the existing slopes south of the channel, since stability analyses performed on the cut slopes indicate a minimum factor of safety of 1.8. For comparative purposes, it is noted that this factor of safety is significantly higher and thus, intrinsically safer, than the value of 1.5 which is typically used for the design of highway cut slopes.

Detailed design drawings for this channel are included in Appendix A of this plan [1]. The major features of this design are as follows:

- In cross section, the channel will be constructed with a downstream berm of compacted, engineered fill with an average height of approximately 15 feet above existing grade and a crest width of 10 feet. In order to provide stability against sliding, the berm will be keyed into the existing slope by excavating a core trench along the centerline and backfilling this trench with compacted fill. The channel itself will have a bottom width of 10 feet and a maximum depth of 13 feet, except in the vicinity of the principal spillway.

- The channel will be constructed with both principal and emergency spillways. The principal spillway, located on the western side of the channel, will consist of a concrete inlet structure and a 24 inch ductile iron pipe which will pass under the downstream berm and convey stormwater to an energy dissipater. The pipe and channel have been sized to store a 50 year, 24 hour storm with an outlet flow rate of approximately 70 cfs. Stormwater runoff which exceeds this volume will spill over the berm through an emergency spillway located on the eastern end of the channel. The spillway is designed to safely pass the flow from a storm equivalent to 50 percent of the Probable Maximum Precipitation (PMP), an event which is unlikely to occur within the design life of the structure. The discharge from the emergency spillway will flow into a natural drainage channel which will convey the water to culverts under Highway 202 and thence into the existing Lower Detention Basin.

[1] These and other drawings contained in this IMWP have been issued for construction, but are still subject to correction or change.

- Flow from the energy dissipater at the end of the principal spillway will be carried down the slope of Coldwater Mountain in a 36 in. diameter HDPE pipe with welded joints into a second energy dissipating device on the south side of Highway 202. From there, it will be conveyed under the highway by passing the pipe through the existing 4 ft. x 6 ft. box culvert on the west side of Clydesdale Avenue and will then be carried in pipe under the road, through AOC B, into a discharge structure on the south side of Tenth Street. This discharge structure will be proposed to be designated as DSN 012 under the facility's NPDES permit. A permit application has been submitted to the Alabama Department of Transportation to permanently close the 4 ft. x 6 ft. culvert and a request will be submitted to ADEM to relocate DSN 012 from the coordinates currently identified in the NPDES Permit to the coordinates of the discharge structure to be constructed on the south side of Tenth Street. Details of the design of the pipeline north of Highway 202 and of the discharge structure are provided in Appendix C of this Work Plan.

- Construction of the diversion channel will require relocation of an access road to a microwave relay station at the top of Coldwater Mountain. The design drawings contain details of the relocated access road. Approval for this relocation will be obtained from Bell South before construction begins.

3.3 South Landfill Cap and Cover

3.3.1 Overview

The objective of this Interim Measure is to construct a final cover system on the western half of the South Landfill. The landfill consists of several closed, waste disposal cells. The eastern half of the landfill, including the RCRA cells, is excluded from this project. The integrity of this excluded area is demonstrated by the fact that no constituents have been detected in groundwater monitoring wells immediately downgradient of the area.

The upgrade of the cover system consists of two major components. The first component is the installation of a low maintenance, lightweight cap installed over several cells in order to reduce surface water infiltration and minimize transport of potentially affected soils. The second component is the installation of a soil cover system installed to reduce erosion of potentially affected surficial soils adjacent to the closed cells. Detailed design plans for the planned work are provided in Appendix B and an overview of the major activities associated with the cover system construction is presented below.

3.3.2 Site Preparation

The following site preparation activities are required prior to construction of either the cap upgrade or cover systems.

- **Site Clearing**

  The existing trees, underbrush and heavy vegetation within the limits of construction will be clear-cut prior to construction. The existing topsoil will not be stripped for later use. The limits of clearing total approximately 12 acres. All material will be cleared flush with the existing grade (to within 4 inches unless determined otherwise during construction). Stumps and roots will not be grubbed.

- **Telephone/Power Lines**

  If all existing telephone and power lines and associated poles remain on-site, it appears that one or two poles will need to be raised about 10 feet to accommodate the fill required for slope stability. In this event, a geomembrane boot will be installed around poles in areas covered by the geomembrane. A few poles may require relocation near the existing site entrance to accommodate a proposed diversion berm. Discussions are ongoing with APCO regarding the relocation of existing power poles.

- **Culverts**

  Several culverts are currently being used in the landfill area to convey storm water runoff throughout the site. These culverts will be abandoned in-place since they will not be required for stormwater management following completion of these Interim Measures. In-place abandonment will consist of crushing the culverts or filling them with concrete prior to earthwork activities.

- **Groundwater Well Modifications**

  Several existing groundwater wells are scheduled to be abandoned. However, abandonment of these wells will be delayed until the completion of construction and the receipt of ADEM's approval for abandonment. All wells which will be affected by the planned construction activities will be modified to accommodate the final grade of the cap prior to mobilization.

Modifications will consist of extending the well riser and construction of a new concrete surface pad and locking, protective casing around each well. A geosynthetic boot will be installed around wells in areas to be covered by the geomembrane. A Work Plan which identifies the wells to be modified and provides details of the modifications has been approved by ADEM in a letter dated June 4, 1997.

- **Groundwater Recovery System**

  All required modifications to the existing groundwater recovery system will be completed prior to mobilization. These modifications will include raising the casing and cover elevations of the interceptor wells and control equipment to approximately 12 inches above the proposed final grade. A few power poles and lines may require modifications in order to raise the existing power lines to a minimum allowable height above the proposed final grade.

- **General Fill**

  General fill will be strategically placed to reduce the side slopes of the landfill cells to a maximum of 3H:1V. General fill will also be used to fill a low area between former cells. Prior to placing the fill, the slopes will be prepared by scarifying the existing soils to a depth of approximately 12 inches.

  In addition to being placed on top of each cell to provide a positive slope of approximately 3 percent for surface water drainage, general fill will also be used as a protective layer to minimize irregularities of the existing landfill surface, thereby reducing the potential for damage to the geomembrane barrier layer. A minimum thickness of 6 inches will be required for this protective layer. In areas where this minimum fill is required (e.g., the top of the landfill cells), proof-rolling will be performed. The soil directly beneath the geomembrane will be required to be free from detrimental rock, clods and other debris that may damage the geomembrane.

3.3.3 Cap and Cover Construction

The geosynthetic cap (approximately 12 acres) will be placed on the landfill cells and adjacent slopes. The soil cover (approximately 13 acres) will be installed from the extent of the geosynthetic cap to the property/fence lines. The details of the cap and cover systems are presented below.

- **Geosynthetic Cap**

  A multi-layered geosynthetic cap will be constructed on top of the closed landfill cells and adjacent slopes. Available information demonstrates that surface water catchment basins were developed as part of the active disposal areas. The basins were an integral part of the disposal cells. Since the cap will cover the disposal area (as defined by the existing tree line), the basins will also be covered by the multi-layer geosynthetic cap.

  The cap consists of the following components (from bottom to top):

  - **Geomembrane** - The flexible membrane liner selected is a high-density polyethylene (HDPE) liner with a thickness of 40 mils. The HDPE will provide the physical, mechanical and endurance properties required for this type of cap construction. Additionally, the liner will be textured on both sides in order to increase stability.

  - **Drainage Layer** - A geocomposite will be installed directly on top of the geomembrane to provide lateral drainage. The geocomposite consists of a geonet between two layers of geotextile. The geotextile, a nominal 8 ounce per square yard nonwoven, needle-punched fabric, will be heat bonded to the geonet. Water collected by the drainage layer will discharge into a toe drain system which will convey it to the existing ditch on the south side of Highway 202 and into the Lower Detention Basin.

  - **Cover Soil** - This layer will consist of approximately 18 inches of soil to protect the geomembrane, sustain the root growth of nonwoody plants and provide adequate moisture retention. The depth of the cover soil has been selected to include an allowance for anticipated long term erosion losses and still maintain adequate cover. Select soils (i.e., cohesive) from the borrow source will be used for this layer.

  - **Topsoil** - The topsoil layer, approximately 6 inches thick, will be used on steep slopes to support vegetation which will minimize erosion, maximize evapotranspiration and store water. Additionally, the topsoil will protect underlying materials from freezing during winter. On flatter slopes, the compacted cover soils will be tilled and then seeded.

- **Toe Drain System**

  Water collected by the drainage layer will discharge into the toe drain which will consist of a trench lined with the geomembrane and geocomposite. A corrugated, slotted, HDPE collection pipe will be installed with a filter sock and sand bedding inside the trench. A geotextile will be installed over the sand to prevent fines and debris from clogging the drain pipe. Outlet pipes will be connected to the perimeter toe drain collection pipe on approximately 200 foot centers. These pipes will discharge the collected water to surface ditches which will convey it to the drainage ditch on the south side of Highway 202 and from there into the Lower Detention Basin.

- **Soil Cover**

  A soil cover will be constructed on approximately 13 acres outside of the geosynthetic cap. The area extends from the geosynthetic cap to the existing fence to the north, west and south. The soil cover will tie into the western slope of the RCRA cell, and will extend south to the proposed access road for the upper diversion channel.

  A nonwoven geotextile will be installed directly below the soil cover for delineation between the cover and the former soil surface, as well as for erosion protection. The soil cover itself will consist of a minimum of 12 inches of compacted soil.

- **Topsoil**

  The final cover component will be a layer of topsoil (either 4 or 6 inches) in steep areas. In other areas, the compacted cover soils will be tilled in the upper few inches and will be hydroseeded. Where used, the topsoil will be placed with minimal compaction on the cover soils.

- **Permanent Erosion Control Measures**

  Permanent erosion control measures will be installed in certain areas throughout the site (e.g., diversion berms/swales, landfill side slopes). These measures may include erosion control matting (e.g., Earth-Lock® or Enkamat®) placed in conjunction with initial seeding and stormwater management berms

- **Seeding**

  Once the final cap and cover surfaces have been prepared, seeding will be immediately applied to minimize erosion. The seeding will consist of a hydromulch suited for this environment, as recommended by the Alabama Department of Transportation.

- **Access Roads**

  Permanent roads will be provided on the South Landfill for access to the existing groundwater recovery systems. The access roads will be constructed with crushed stone placed on top of a geotextile. The roads will be approximately 12 feet wide and 8 inches thick at the crown.

- **Drainage Improvements**

  The roadside ditch presently running eastwards along the south side of Highway 202 will be widened and paved to convey all stormwater drainage from the landfill to the three existing culverts under Highway 202 on the east side of Clydesdale Avenue. The discharge from these culverts will then be diverted into the Lower Detention Basin. The United States Environmental Protection Agency (USEPA) has given approval to place the soils removed from the existing ditch under the geomembrane cap of the landfill. These soils have been sampled and the results of PCB analyses on the samples are shown on the attached Figure 2.

  During construction, stormwater runoff from all areas south of Highway 202 (including the area south of the landfill) will be diverted into the Lower Detention Basin for sediment control purposes. To accomplish this, a temporary barrier will be constructed to prevent stormwater from flowing through the 4 ft. x 6ft. box culvert under Highway 202. The inlet of this culvert is designated as monitoring point DSN 008 in the facility NPDES permit and flow past this point also includes flow from monitoring point DSN 007. Consequently, stormwater runoff from the construction area will be prevented from flowing under Highway 202 onto Monsanto property west of Clydesdale Avenue. The barrier has been designed to act as a spillway to prevent flooding of Highway 202 under severe storm conditions.

- **Fences and Gates**

  Permanent fences will be maintained or replaced around the perimeter of the South Landfill. The fence will be a chain link fence 8 feet high with 3 strands of barbed wire. Double hung, chain link gates (12 feet wide) will be provided at all points of ingress/egress.

3.3.4 Protection of Monitoring and Interceptor Wells

All wells will be protected during construction by placing substantial temporary obstructions (e.g., Jersey traffic barriers) around each well. If any wells are damaged during construction, they will be repaired and will be developed and sampled at the end of construction to assess well integrity. If the sampling results indicate that any well was affected, remedial actions (including the possible replacement of the well, unless it was previously scheduled for abandonment) will be proposed to ADEM for review and approval.

3.4 Stormwater Management

These Interim Measures will result in the collection of stormwater flows and the conveyance of these flows in individual pipelines to the permitted NPDES discharge point on the south side of Tenth Street (DSN 012). In order to accomplish this, the following pipelines will be required:

- One 36 in. diameter line to convey stormwater from the Upper Diversion Channel will be constructed upslope (south) of the South Landfill. This pipeline has been previously described in Section 3.2 of this IMWP. It has been designed to convey the flow from a 50 year, 24 hour storm.

- One 36 in. diameter pipeline to convey runoff from the median of Highway 202 and from the drainage area immediately north of Highway 202 and west of Clydesdale Avenue will take the flow from a collection box north of Sixth Street and will convey it through AOC B to the discharge structure to be constructed on the south side of Tenth Street. The pipeline will convey the flow from a 100 year, 24 hour storm. The longer return frequency and thus, larger design storm, was selected to minimize the potential for flooding of Clydesdale Avenue.

- Two 36 in. diameter pipelines to be constructed on the east side of Clydesdale Avenue will convey stormwater runoff from the plant to the new discharge structure on Tenth Street. The pipelines have been sized to convey the peak discharge from a 10 year, 24 hour storm, which is

the maximum capacity of the existing box culvert under Clydesdale Avenue. A larger design storm is not considered warranted since any ponding caused by this larger storm will be limited to Monsanto owned property. The design also allows for the future diversion of plant runoff into a containment area to be constructed in AOC B on the east side of Clydesdale Avenue if such additional containment proves to be necessary.

- The discharge from the existing Lower Detention Basin will be conveyed to the discharge structure south of Tenth Street in one 18 in. diameter pipeline. As previously noted, this basin is capable of storing the 100 year, 24 hour storm with a maximum discharge rate of 16 cfs.

- Runoff from AOC B within the area approximately bounded by Highway 202 on the south, Eighth Street on the north, Clydesdale Avenue on the west, and Montrose Avenue on the east will be collected behind a berm to be constructed in AOC B. Discharge from this drainage area will be conveyed through the berm via a 24 in. diameter pipe which will carry the flow to the discharge structure on the south side of Tenth Street.

All pipelines will be constructed of welded HDPE pipe and, for the most part, will be constructed above existing grade to limit trenching within AOC B. Because of the need to protect and secure the pipelines, an earthen berm will be constructed to cover the pipes.

Flow from all pipelines will be directed into the discharge structure to be constructed on the south side of Tenth Street. This structure will act as an energy dissipater and will be fitted with a weir to measure flow rates and will permit stormwater samples to be obtained for NPDES compliance purposes. As previously noted, it is intended that this structure will be the designated NPDES monitoring point DSN 012, and a request will be submitted to ADEM to include a change to the permit to reflect the coordinates of this point.

Flow from the discharge structure will be carried under Tenth Street through three new 3 ft. by 6 ft. box culverts. The flow from these culverts will enter a new channel to be constructed north of Tenth Street and will be conveyed in open channel to the existing culvert under the railroad tracks.

Details of the pipeline design and the discharge structure are shown on the design drawings provided in Appendix C, while details of the open channel north of Tenth Street are shown in Appendix D.

3.5 East Side Cover

A cover will be constructed on certain Monsanto owned property within AOC B east of Clydesdale Avenue. This area is approximately bounded by Highway 202 on the south, Clydesdale Avenue on the west, Montrose Avenue on the east, and the railroad tracks on the north. Within this overall area, properties which are not owned by Monsanto are as follows:

- One property at 822/824 Crawford Street owned by John Caffey who elected not to participate in the Monsanto Property Purchase Program.

- One property at 717 Boynton Avenue owned by Elbert Best, Jr., and others who elected not to participate in the Monsanto Property Purchase Program.

- Two properties at 1608 and 1612 West Sixth Street owned by Juell Jackson who elected not to participate in the Monsanto Property Purchase Program.

- Properties at 517, 519 and 513 Ferron Street owned by Barry Bowie and others and an adjoining property owned by Terri Kirkland, all of whom elected not to participate in the Monsanto Property Purchase Program.

- Property on Roswell Street known as Lots 4 and 5 of Block 6 on the ownership tax map and owned by Mamie Cannon who elected not to participate in the Monsanto Property Purchase Program.

- An adjoining property on Roswell Street known as Lot 6 of Block 6 on the ownership tax map. Monsanto has been unable to determine the ownership of this property.

- Property at 1508 West Sixth Street owned by the Mars Hill Missionary Baptist Church which elected not to accept Monsanto's offer of relocation.

The cover will also exclude the commercial properties along Clydesdale Avenue and Tenth Street and the western portion of the commercial property between the railroad tracks and Tenth Street, east of Clydesdale Avenue. A cover is not necessary on the higher ground along Montrose Avenue since this area is not affected by flooding.

The objective of the cover is to isolate and contain potentially affected surficial soils and control stormwater drainage. A large number of soil and sediment samples from within this portion of AOC B have been analyzed for PCBs. The results of these analyses are summarized on Figure 3 in the form of sample locations at which the PCB concentration was above or below a screening limit of 10 mg/kg. The extent of the cover has been selected to include all of the sample locations on Monsanto-owned property where PCB concentrations exceeded the screening limit, unless such locations will be covered by other structures (e.g., a berm to be built in the vicinity of Eighth Street). Based on this criterion, the extent of the east side cover is shown on Figure 4, together with the limits of the cover and cap to be placed on the South Landfill. It is noted that the limits shown on Figure 4 are slightly different from those shown on the drawings in Appendix D. Minor additional changes may be necessary in the field.

The cover in the East Side will be constructed in two stages. The first of these will be completed in 1997 and will include the majority of the proposed cover. However, the area around Bethel Missionary Baptist Church cannot be covered until the church is demolished in the spring of 1998. Similarly, a small area immediately south of Highway 202 is scheduled to be covered in 1998 since the majority of this property is within the Highway 202 right-of-way. Approval for any grading within the right-of-way must be obtained from the Alabama Department of Transportation prior to commencing such work and it is possible that the required permits may not be available in time to complete the work this year. However, if approval is received prior to the end of construction this year, this area of the cover will also be constructed in 1997.

The highest PCB concentrations in area AOC B were found in samples from within ditches in this area. This is illustrated on Figure 4, where the sample locations with PCB concentrations equal to, or greater than, 500 mg/kg are separately identified. All of these locations are either in, or in close proximity to, ditches and Monsanto intends to cover those portions of the ditches on its property with an HDPE liner to minimize the potential for surface water infiltration.

The following is a description of the five main design elements of this Interim Measure, details of which are provided in Appendix D:

3.5.1 Demolition of Existing Structures

A contract has been awarded for the demolition of all existing structures on property owned by Monsanto within AOC B. The structures will be demolished to within six inches of the existing ground surface and the demolition debris will be transported to a permitted and lined RCRA Subtitle D landfill in Atlanta,

Georgia. Each structure has been sampled and the results have confirmed that the debris is suitable for disposal as construction and demolition debris. Demolition is currently scheduled for completion by the end of May, 1997.

3.5.2 Geotextile/Soil Cover

Prior to constructing the cover, existing utilities which will be under the cover will be rerouted, unless those utilities will be required by properties not owned by Monsanto. Meetings have been held with the various utility companies, and the only major utility remaining to be relocated is a 16 in. diameter water line running along Seventh Street between Clydesdale Avenue and Zinn Parkway. This line will be relocated along Tenth Street. All other services will be discontinued by the utility companies.

The entire area within the cover limits shown on Figure 4 will be cleared with the exception of established mature trees. A 6-oz weight, continuous filament, needle punched, non-woven geotextile will be installed in cleared areas to define the boundary between the cover and the former soil surface. Over the geotextile, 14 inches of soil cover will be placed and a vegetative cover will be established by hydroseeding the cover soils. The existing drainage ditch will be covered by the same textile and backfilled with as much as 3 to 5 feet of clean fill.

In those areas where the cover abuts property not owned by Monsanto, a drainage swale will be constructed near the edge of the cover to prevent runoff from Monsanto's property from entering those properties. If owners of these properties within the cover area elect to participate in the Monsanto Property Purchase Program in the future, the cover will be extended to the acquired properties.

3.5.3 Berm Structure

A low berm (maximum of 15 feet high) will be constructed through the low area of the subject site, as shown on the drawings included in Appendix D. The berm will collect stormwater runoff from the area in AOC B between Eighth Street and Highway 202 and will also act as a secondary stormwater containment structure for runoff from the plant during larger storm events. The berm will be landscaped with trees and shrubs. Discharge of stormwater impounded behind the berm will be through a 24 in. diameter pipe running through the berm to the discharge structure on the south side of Tenth Street. The berm will also be equipped with an emergency spillway which will allow for stormwater release in the event of major storms.

3.5.4 Geomembrane Cover

Once the geotextile fabric is placed within a drainage ditch and the ditch is backfilled to original grade, a 40 mil HDPE geomembrane liner will be placed over the ditch area on Monsanto owned property and will be covered by the 14 in. thick soil cover. The width of the geomembrane will be a minimum of 20 feet to allow it to extend well past the edges of the ditch which, in most places, is less than 10 feet wide. Where necessary, however, the width of the liner will be increased to ensure that known areas of elevated PCB concentrations are covered. The proposed extent of the geomembrane liner along the drainage ditch is shown on Figure 5, while a schematic cross section through the cover is shown on Figure 6.

Installation of this geomembrane liner will minimize the potential for infiltration of surface water. Consequently, any potential for migration of constituents from the affected soils in the ditch will also be minimized. In addition, the membrane will act as an additional physical barrier to incidental contact with the affected soils.

3.5.5 Fencing and Roadway

A fence will be constructed around the perimeter of any areas which are covered or capped.

3.6 North Side Measures

Monsanto has purchased all but one of the residential properties within this area and has constructed a fence around the perimeter of the area. Engineering studies will begin within the next few months to determine the most effective Interim Measures to control stormwater and contain and isolate affected soils and sediments in this area. At this time, the scope and details of these measures cannot be specified. It is likely that measures similar to the Interim Measures proposed in this IMWP will be proposed. Once the designs have been developed, a supplemental IMWP will be submitted to ADEM for review and approval.

3.7 In-Plant Sewers

All non-contact process water from the plant has been diverted from the in-plant sewer system. The water is now discharged to the in-plant waste water treatment facility and is then discharged to the Anniston Publicly Owned Treatment Works. Thus, only stormwater currently flows through these sewers.

Investigations are currently underway to determine the condition of the major sewer lines which discharge to the outfall designated as DSN 001 in the facility NPDES permit. The interiors of all of the major lines

will be photographed with a remotely operated video camera and, depending on their condition, they will either be lined or will be abandoned in place and replaced with a surface drainage system (curbs and gutters). Where possible, the smaller diameter secondary lines will be abandoned in place. It is anticipated that a combination of lining and replacement will be required. No new sewers will be constructed.

Once the design of these Interim Measures is complete, a supplemental IMWP will be submitted to ADEM for review and approval.

3.8 Reporting

All reporting requirements identified in Condition III.F of the Post-Closure Permit will be satisfied.

3.9 Operations and Maintenance

An Operations and Maintenance (O&M) Plan will be prepared and submitted to ADEM for review and approval within 90 days of approval of this IMWP. The plan will specify the activities required to ensure that the Interim Measures continue to operate as intended, until permanent corrective measures are specified for the site. The effectiveness of the measures will be determined by monitoring both surface water and groundwater during the interim period. The monitoring requirements for surface water are defined in the facility NPDES permit, while groundwater monitoring requirements are defined in the facility Part B permit. In addition, groundwater monitoring will be carried out during the Remedial Facility Investigation to be performed at the facility during 1997 and 1998

3.10 Expected Benefits

The Interim Measures described in this Work Plan will achieve the following:

- manage stormwater runoff in such a way that the possibility of transport of soils and sediments off of Monsanto property is minimized;
- reduce infiltration into the South Landfill and, hence, minimize potential groundwater effects;
- prevent erosion and sediment transport from the South Landfill and from areas containing affected soils and sediments east and north of the facility;

- reduce the potential for surface water infiltration into soils on the east side; in particular, those soils in immediate proximity to the ditches where higher PCB concentrations were found. The potential for infiltration will be minimized by the presence of a geomembrane, and by the fact that the volume of surface water flowing through this area will be reduced by the diversion of the majority of runoff to pipes which will convey the runoff through the area without contacting affected media.

- prevent direct contact with affected materials;

- eliminate in-plant sewers as a potential means of transport of constituents; and

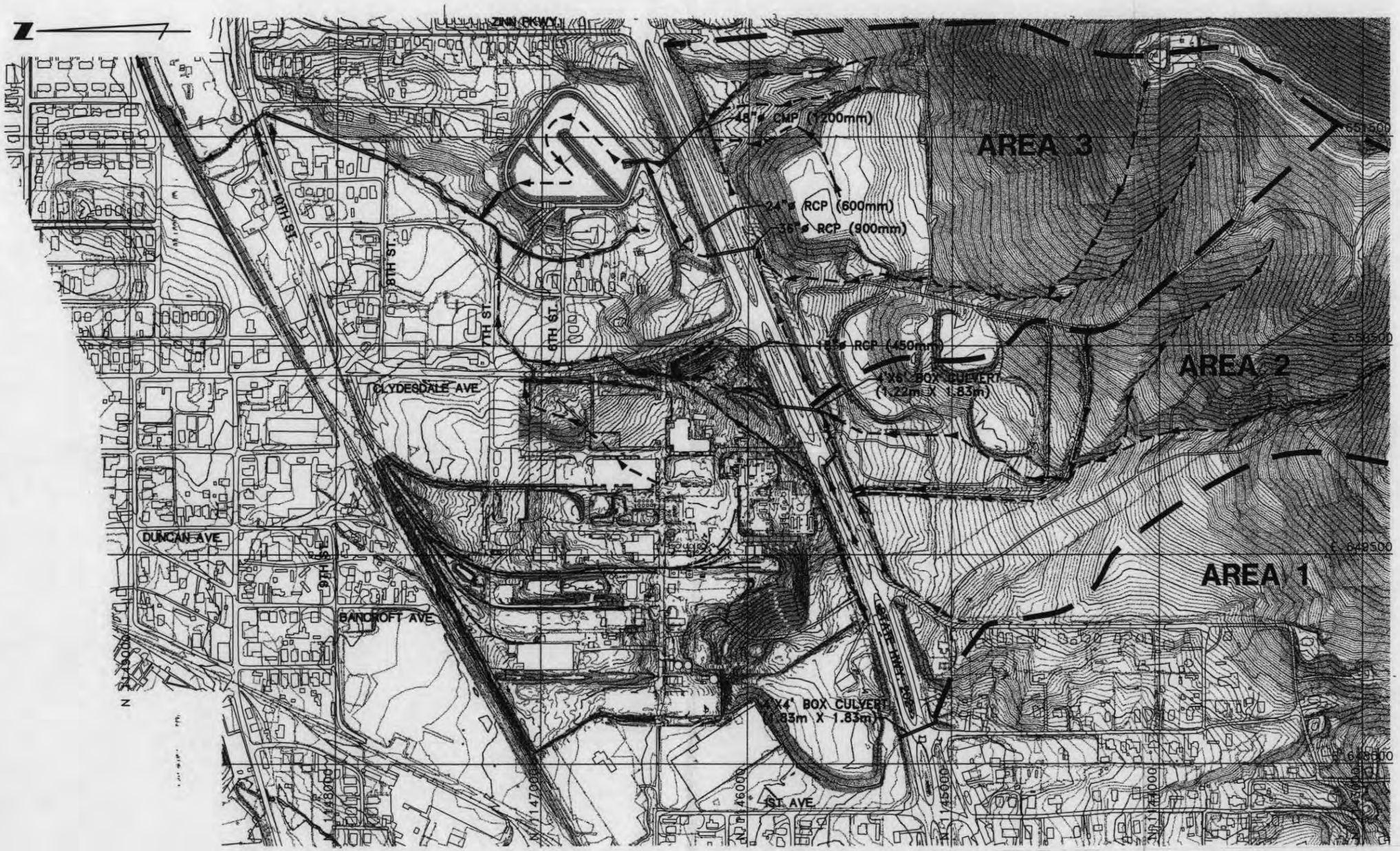
- reduce the peak stormwater discharge from Monsanto property by approximately 40 to 50 percent.

The completion of these measures will assure appropriate management and containment of soil and sediments on property in and around the Monsanto Anniston plant. The measures will satisfy the standards defined in OSWER Directive 9902.3-2a for the major technical components of remedial actions. The measures will be protective of human health and the environment in that they provide containment of the affected media, prevent direct contact with affected media and minimize the potential for migration of constituents to the environment. In addition, since most of the affected properties in the area are currently owned by Monsanto, access to these properties will be restricted.

4. SCHEDULE

The current schedule for the completion of the Interim Measures identified in this Work Plan is as follows:

- Demolition of residential properties - **May 31, 1997.**
- Rehabilitation/abandonment of in-plant sewers - **June 30, 1997.**
- Construction of Upper Diversion Channel, South Landfill cap and cover, East Side Cover (Phase I),and stormwater collection pipelines - **December 31, 1997.**
- Construction of East Side Cover, Phase II - **June 30, 1998.**
- Design of North Side measures - **December 31, 1997.**
- Construction of North Side measures - **September 30, 1998.**



LEGEND

- EXISTING CONTOURS
- EXISTING ROADWAY
- EXISTING CULVERT
- EXISTING RUNOFF FLOW PATH
- DRAINAGE DIVIDE

SCALE IN FEET

0 500 1000

Golder Associates — Atlanta, Georgia

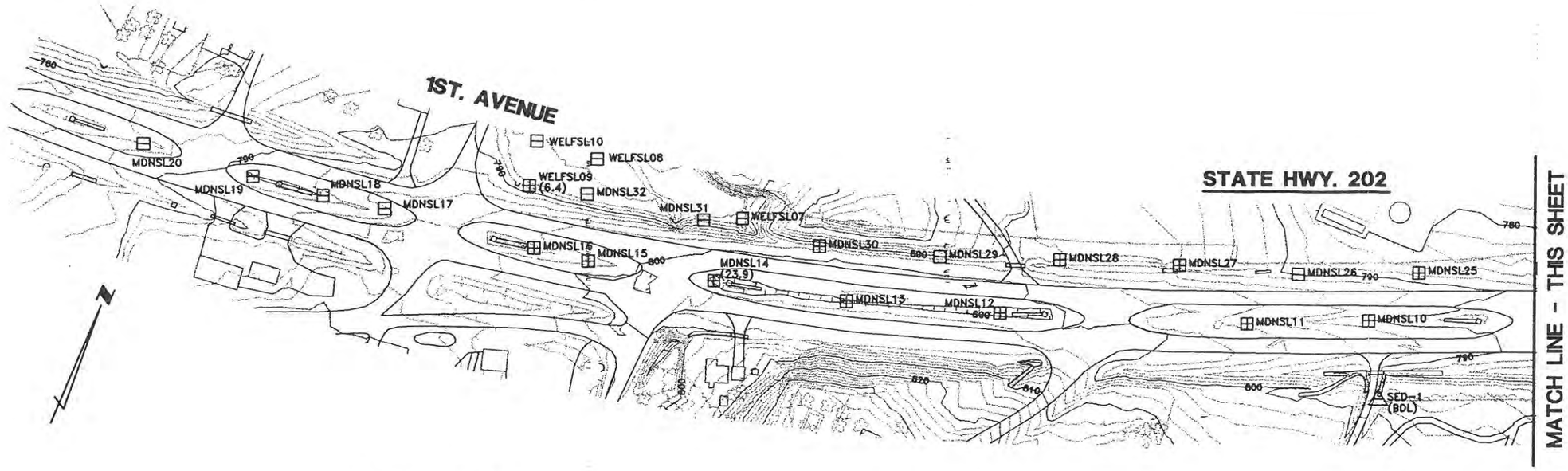
CLIENT/PROJECT

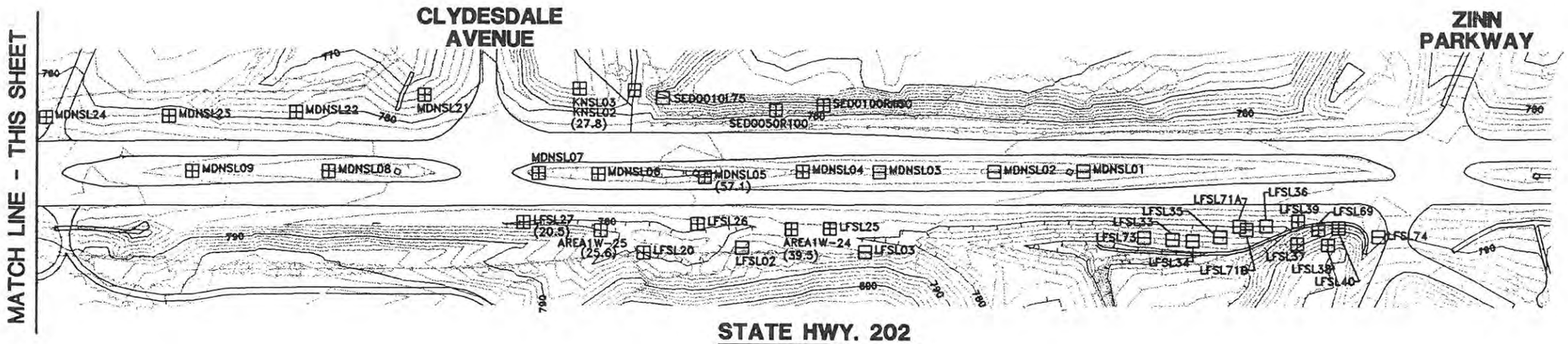
MONSANTO - DCC PROJECT

TITLE

PRE-CONSTRUCTION SITE DRAINAGE PLAN

DRAWN	RMS	DATE	4/97	JOB NO.	943-3680
CHECKED		SCALE	AS SHOWN	DWG. NO. 224	REV. NO.
REVIEWED		FILE NO.	943-3680	SUBTITLE	FIGURE NO. 1





STATE HWY. 202

LEGEND

MDNSL05	SAMPLE ID	⊖	<5 ppm PCB's SEDIMENT FIELD SCREENING RESULT
(57.1)	LABORATORY RESULTS PCB's mg/kg	⧋	>5 ppm PCB's LAB RESULT
⊞	>5 ppm PCB's FIELD SCREENING RESULT	△	<5 ppm PCB's LAB RESULT
⊟	<5 ppm PCB's FIELD SCREENING RESULT	BDL	BELOW DETECTION LIMITS
⊕	>5 ppm PCB's SEDIMENT FIELD SCREENING RESULT		

SCALE IN FEET

0 200 400

Golder Associates — Atlanta, Georgia

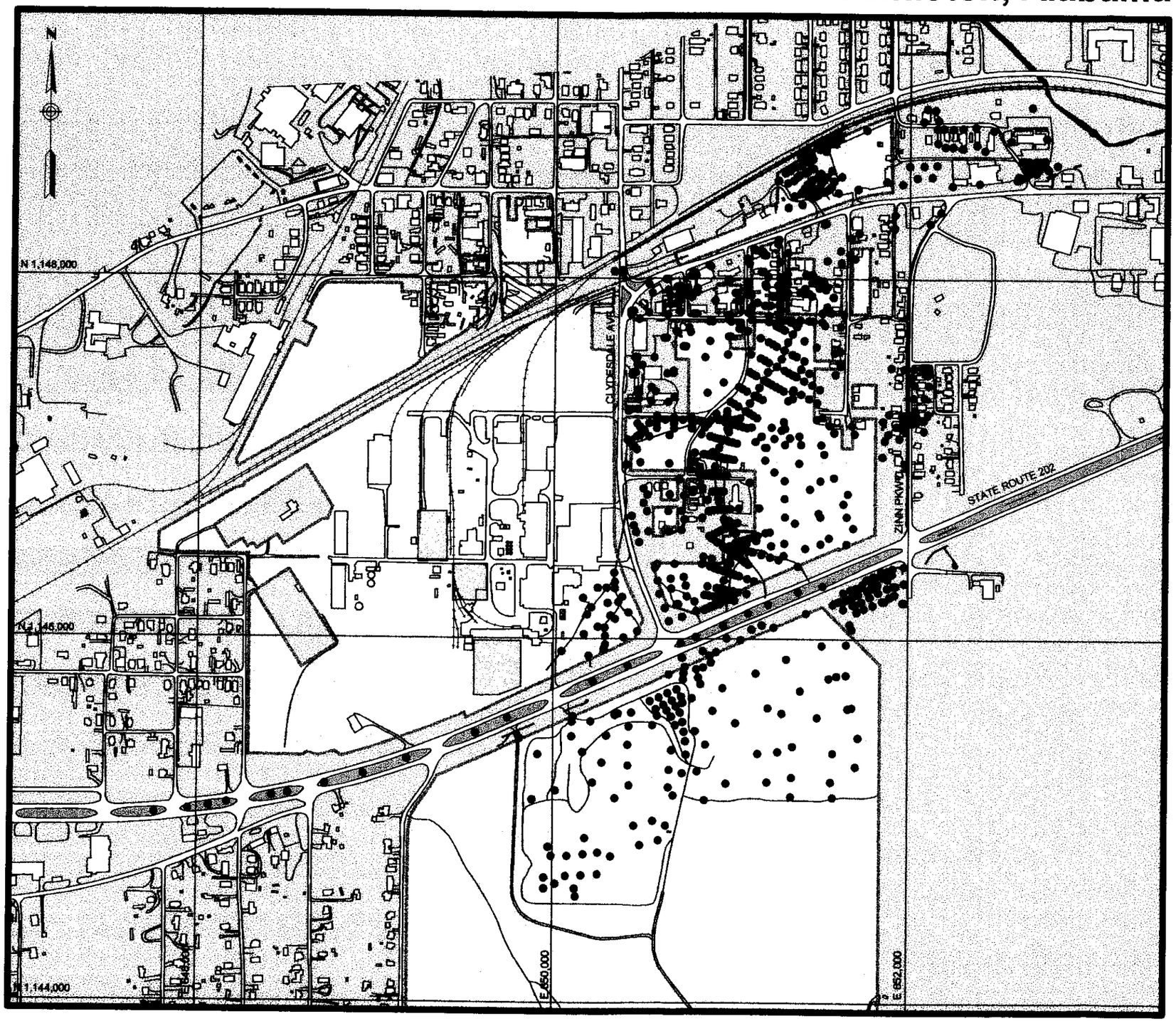
CLIENT/PROJECT: MONSANTO

TITLE: HWY. 202 RIGHT-OF-WAY SAMPLE RESULTS

DRAWN	RMS	DATE	6/97	JOB NO.	943-3680
CHECKED		SCALE	AS SHOWN	DWG. NO.	245
REVIEWED		FILE NO.	943-3680	SUBTITLE	FIGURE NO. 2

Monsanto

Monsanto Plant
Anniston, Alabama



SOIL / SEDIMENT SAMPLING LOCATIONS IN CONSTRUCTION AREA

LEGEND

- Soil / Sediment Sampling Point Below Screening Limit
- Soil / Sediment Sampling Point Above Screening Limit
- Production Area
- Structure
- Stream
- Monsanto Property
- Leased Area

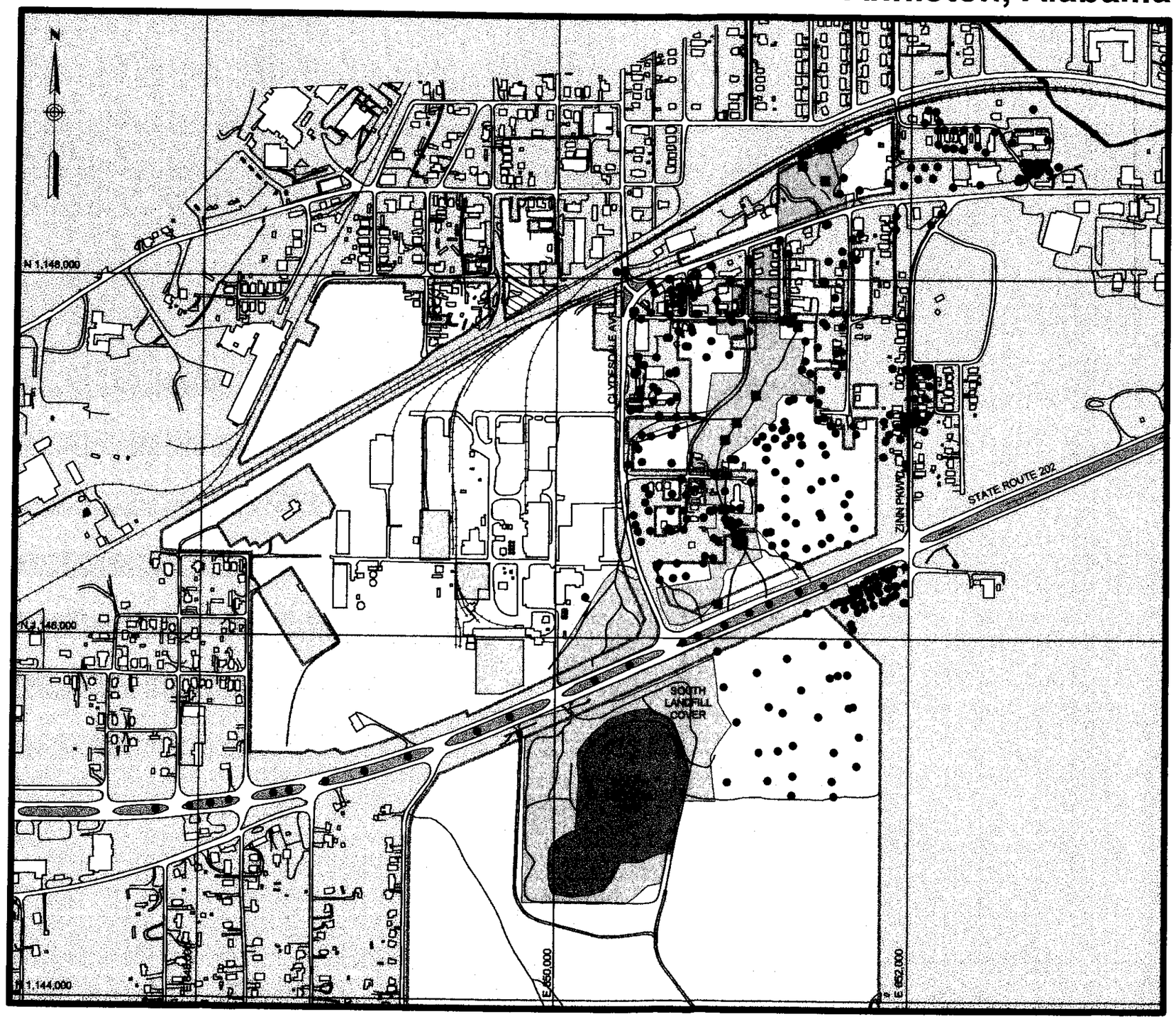
GIS Query No. ANN-Q16-A
Golder Project No. 943-3680
June 05, 1997

Golder Associates

FIGURE 3

Monsanto

Monsanto Plant
Anniston, Alabama



DIVERSION, CAP, AND COVER PROJECT

LEGEND

- Soil / Sediment Sampling Point Below Screening Limit
- Soil / Sediment Sampling Point Above Screening Limit
- Soil / Sediment Sampling Point Total PCB Concentration >= 500 mg/kg
- Production Area
- Structure
- Stream
- Monsanto Property
- Leased Area
- Cover Limits - 1997
- Cover Limits - 1998
- South Landfill Cap - 1997

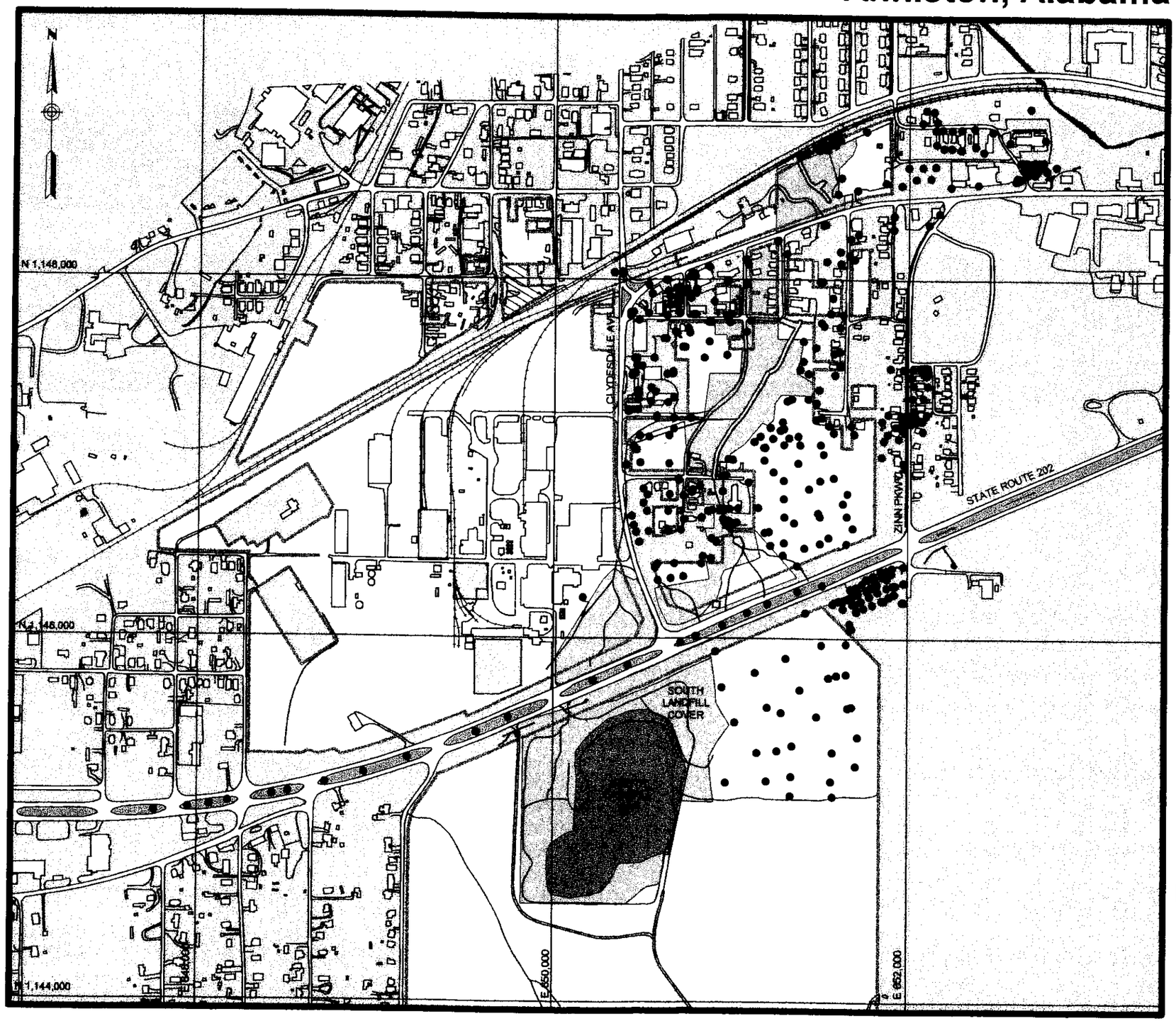
GIS Query No. ANN-Q16-B
Golder Project No. 943-3680
June 05, 199 7

Golder Associates

FIGURE 4

Monsanto

Monsanto Plant
Anniston, Alabama



DIVERSION, CAP, AND COVER PROJECT

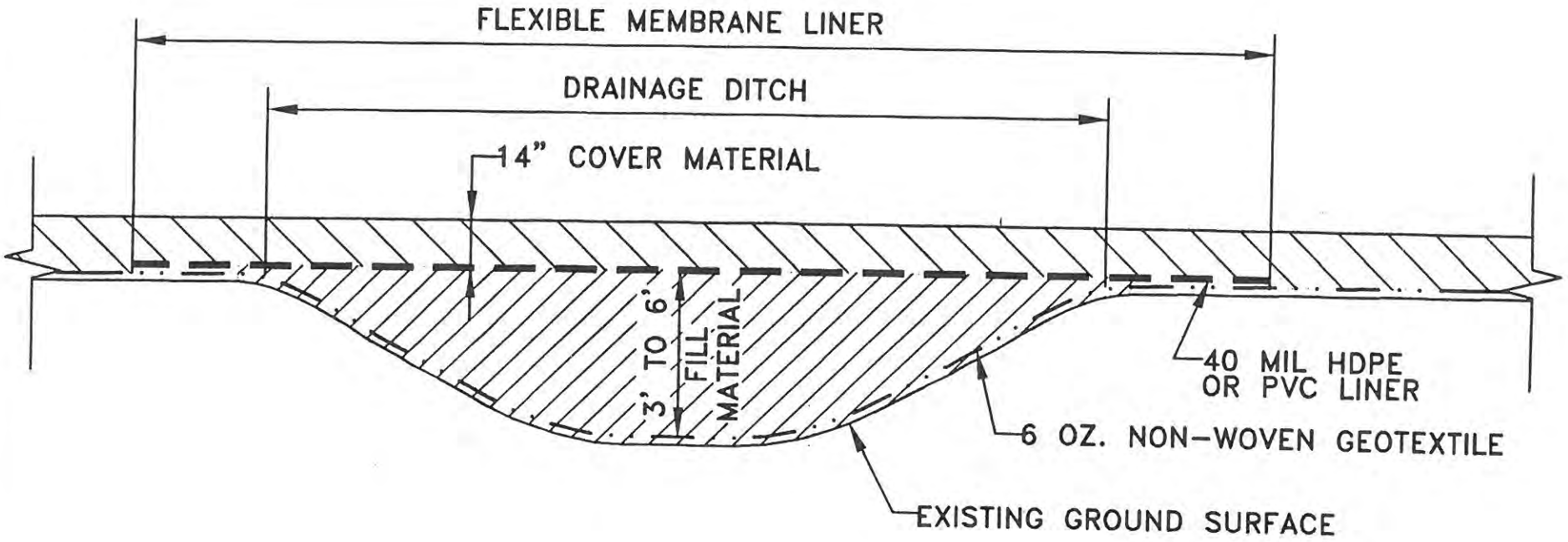
LEGEND

- Soil / Sediment Sampling Point Below Screening Limit
- Soil / Sediment Sampling Point Above Screening Limit
- Soil / Sediment Sampling Point Total PCB Concentration >= 500 mg/kg
- Production Area
- Structure
- Stream
- Monsanto Property
- Leased Area
- Cover Limits - 1997
- Cover Limits - 1998
- South Landfill Cap - 1997
- Limits Of FML In East Side Cover

GIS Query No. ANN-Q16-C
Golder Project No. 943-3680
June 05, 1997

Golder Associates

FIGURE 5

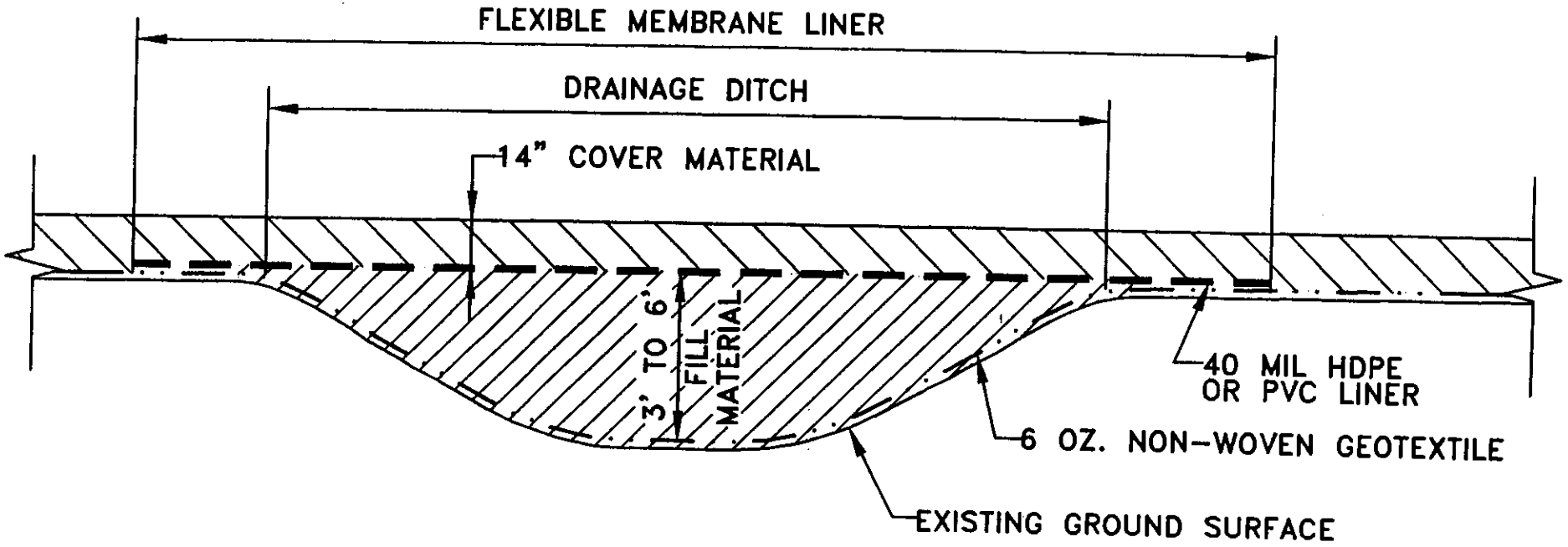


CHANNEL FILL / TYPICAL SECTION

NTS

CLIENT/PROJECT: MONSANTO			Golder Associates Atlanta, Georgia				TITLE: SCHEMATIC OF FLEXIBLE MEMBRANE LINER OVER EAST SIDE DRAINAGE DITCH		
DRAWN: RMS	CHECKED:	REVIEWED:	DATE: 6/97	SCALE: AS SHOWN	FILE NO.: 943-3680	JOB NO.: 943-3680	DWG NO.: 244	SUBTITLE:	REV. NO.:	FIGURE: 6

APPENDIX A



CHANNEL FILL / TYPICAL SECTION

NTS

CLIENT/PROJECT: MONSANTO					Golder Associates Atlanta, Georgia		TITLE: SCHEMATIC OF FLEXIBLE MEMBRANE LINER OVER EAST SIDE DRAINAGE DITCH		
DRAWN: RMS	CHECKED:	REVIEWED:	DATE: 6/97	SCALE: AS SHOWN	FILE NO.: 943-3680	JOB NO.: 943-3680	DWG NO.: 244	SUBTITLE:	REV. NO.:	FIGURE: 6

10TH STREET DISCHARGE CHANNEL

10TH STREET

BOX CULVERTS

STILLING BASIN

EASTSIDE DRAINAGE PIPES

LOWER DETENTION BASIN

8TH STREET

#2

#3

HWY 202 DRAINAGE MODIFICATIONS (APPROXIAMTE LIMTS OF LINED CHANNEL)

UPPER DIVERSION CHANNEL

CLYDESDALE AVE

#1

EASTSIDE DRAINAGE PIPES

DOWNSLOPE PIPE

DUNCAN AVE

BANCROFT AVE

STATE HWY 202

1ST AVE

LEGEND

- 950 — EXISTING CONTOURS
- EXISTING PROPERTY LINE
- EXISTING ROADWAY
- EXISTING CULVERT
- EASTSIDE SOIL COVER PROJECT (O'BRIEN & GERE ENGINEERS, INC.)
- SOUTH LANDFILL COVER PROJECT (WOODWARD-CLYDE CONSULTANTS)
- SOUTH LANDFILL CAP PROJECT (WOODWARD-CLYDE CONSULTANTS)
- #1 APPROXIMATE LIMITS OF CONSRUCTION LAYOUT AREA 1
- #2 APPROXIMATE LIMITS OF CONSRUCTION LAYOUT AREA 2
- #3 APPROXIMATE LIMITS OF CONSRUCTION LAYOUT AREA 3
- #1 APPROXIMATE LIMITS OF BORROW PIT-1 / PLANT NORTH
- #2 APPROXIMATE LIMITS OF BORROW PIT-2 / HWY 202 SOUTH

SCALE IN FEET

0 200 400 600 800

1	MAY/97	ISSUED FOR CONSTRUCTION	RHS

CLIENT/PROJECT

MONSANTO - DCC PROJECT

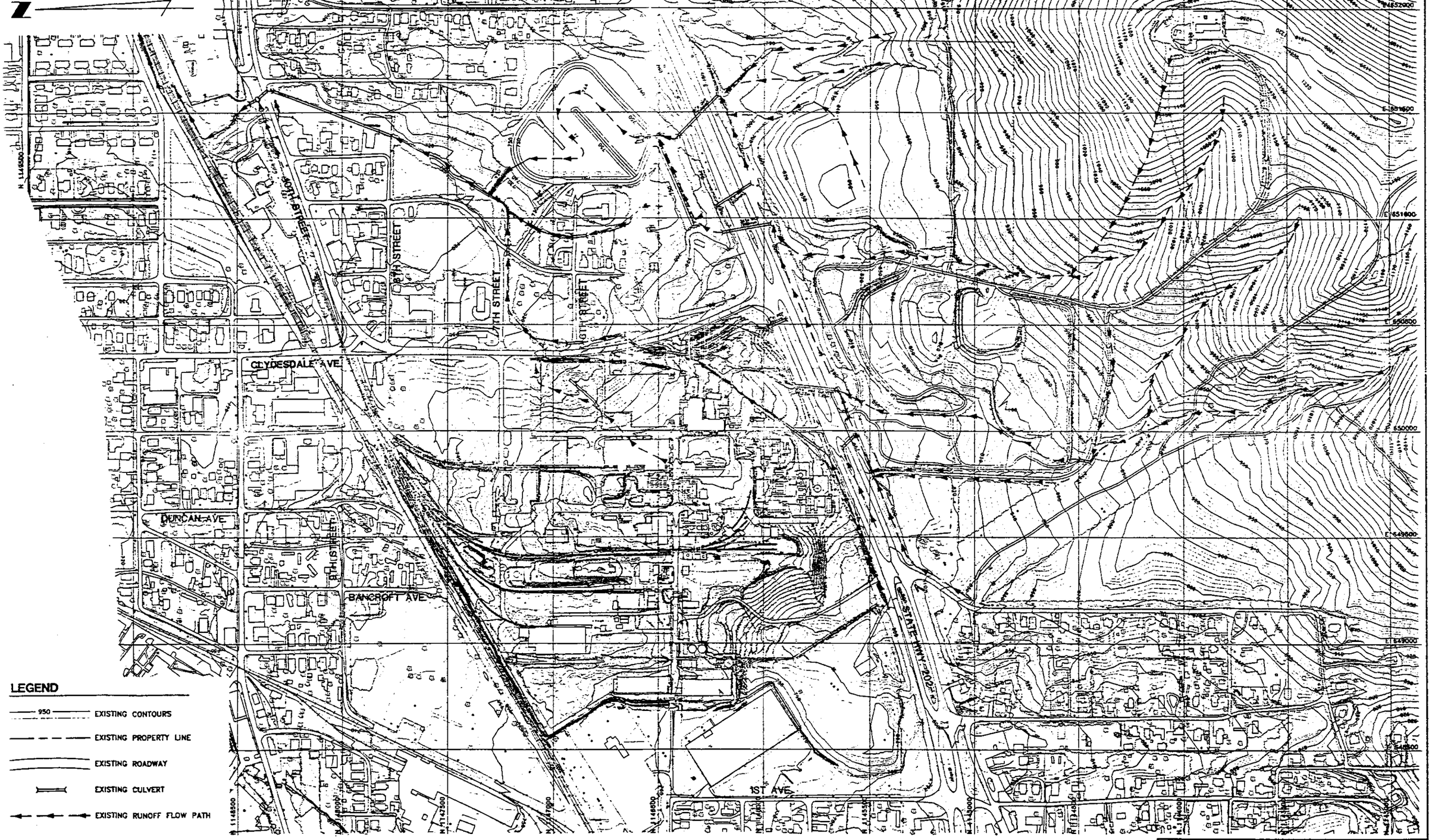
TITLE

EXISTING CONDITIONS AND LAYOUT OF WORK UNITS

Atlanta, Georgia

Golder Associates

DRAWN	RHS	DATE	3/97
CHECKED	WL	SCALE	AS SHOWN
APPROVED		PROJ. NO.	196
		DOC. NO.	
		REV. NO.	943-3680



ALABAMA REGISTERED PROFESSIONAL ENGINEER No. 20251 WILLIAM R. SULLIVAN

SCALE IN FEET
0 200 400 600 800

REV.	DATE	DESCRIPTION	DR. BY	APP. BY
1	MAY/97	ISSUED FOR CONSTRUCTION	RMS	

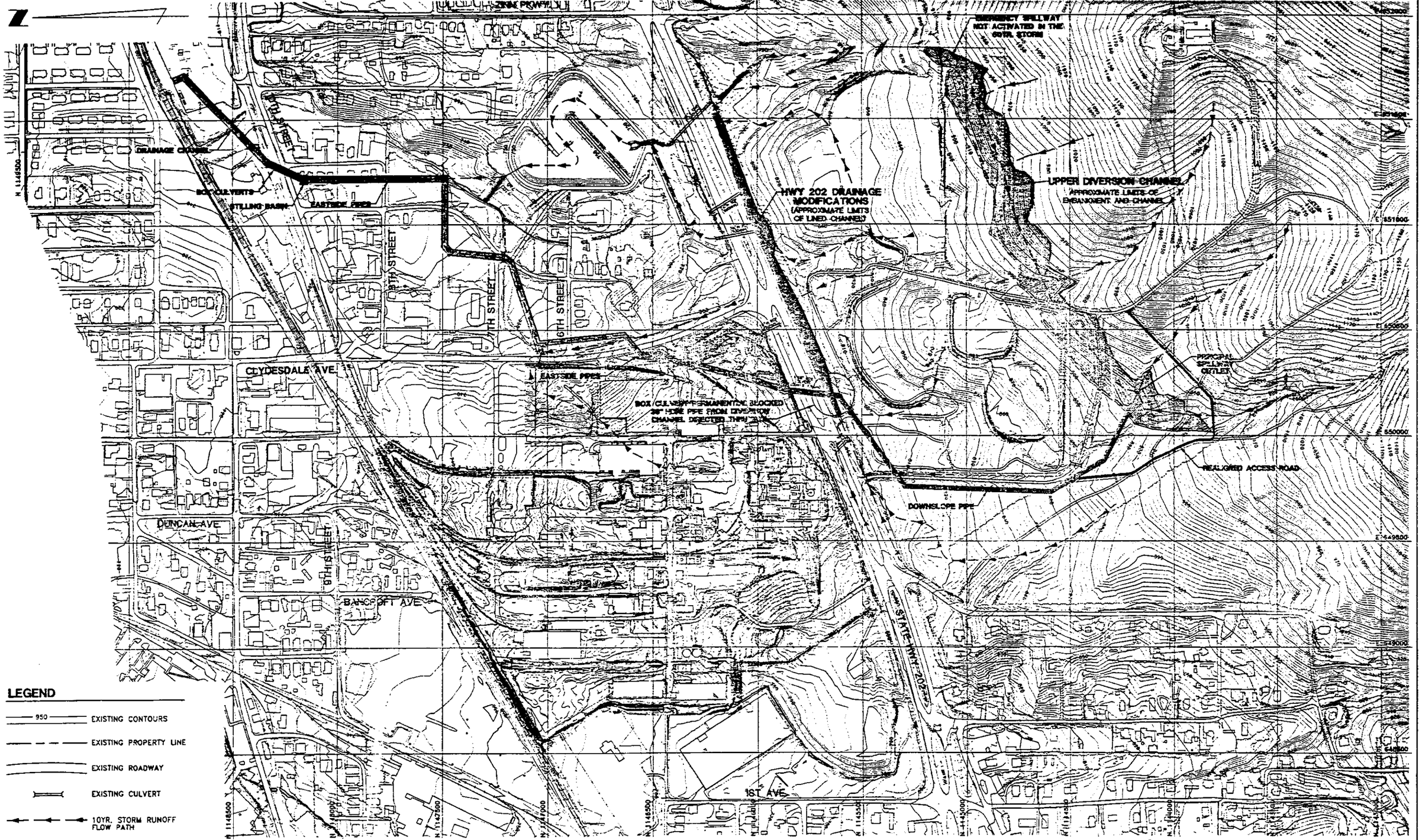
CLIENT/PROJECT
MONSANTO - DCC PROJECT

TITLE
PRE-CONSTRUCTION SITE DRAINAGE PLAN

Atlanta, Georgia

Golder Associates

DRAWN	RMS	DATE	3/97
CHECKED		SCALE	AS SHOWN
APPROVED		PROJ. NO.	199
FILE NO.	943-3680	DWG. NO.	943-3680
		REVISION	3



LEGEND

- 950 — EXISTING CONTOURS
- EXISTING PROPERTY LINE
- EXISTING ROADWAY
- EXISTING CULVERT
- 10YR. STORM RUNOFF FLOW PATH

ALABAMA REGISTERED No. 7594 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

SCALE IN FEET
0 200 400 600 800

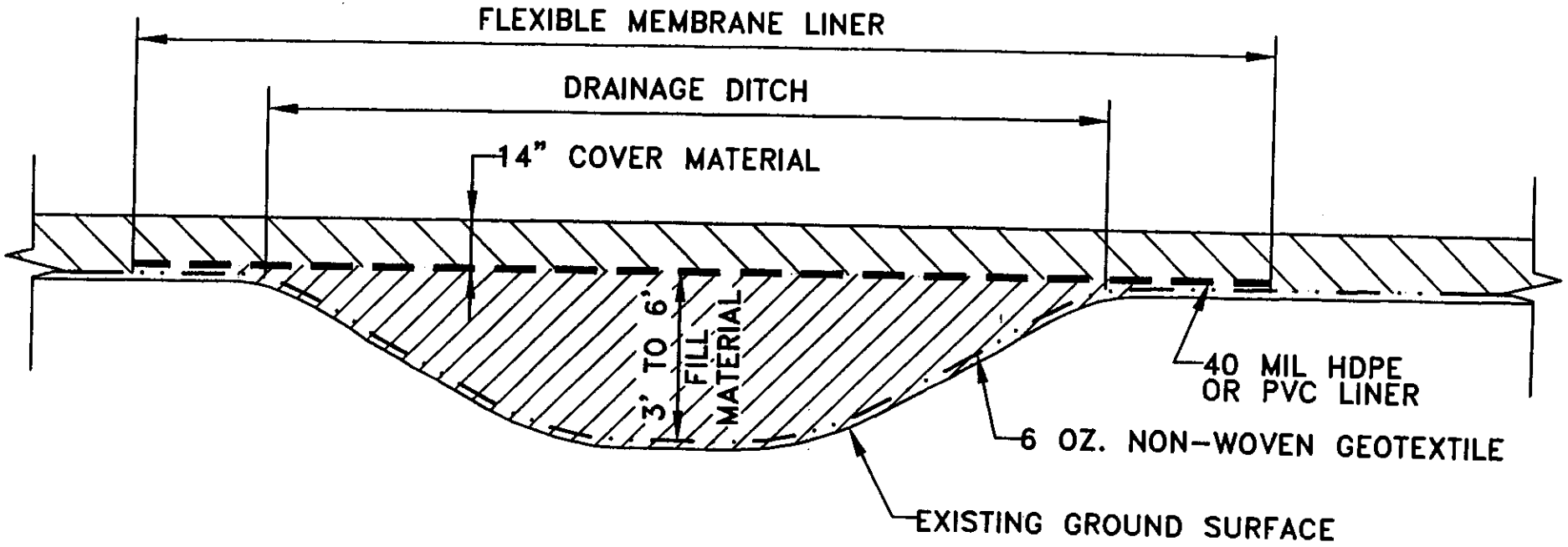
REV.	DATE	DESCRIPTION	DR. BY	APP. BY
2	3MAY/97	ISSUED FOR CONSTRUCTION	RWS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

TITLE: POST-CONSTRUCTION SITE DRAINAGE PLAN - 10YR. STORM

Golder Associates — Atlanta, Georgia

DRAWN	RWS	DATE	3/97
CHECKED	WRS	SCALE	AS SHOWN
REVIEWED	WRS	PROJ. NO.	200
APPROVED	WRS	PROJ. NO.	943-3680
PROJ. NO.	943-3680	DRAWING	4



CHANNEL FILL / TYPICAL SECTION

NTS

CLIENT/PROJECT: MONSANTO					Golder Associates Atlanta, Georgia		TITLE: SCHEMATIC OF FLEXIBLE MEMBRANE LINER OVER EAST SIDE DRAINAGE DITCH		
DRAWN: RMS	CHECKED:	REVIEWED:	DATE: 6/97	SCALE: AS SHOWN	FILE NO.: 943-3680	JOB NO.: 943-3680	DWG NO.: 244	SUBTITLE:	REV. NO.:	FIGURE: 6

10TH STREET DISCHARGE CHANNEL

10TH STREET

BOX CULVERTS

STILLING BASIN

EASTSIDE DRAINAGE PIPES

LOWER DETENTION BASIN

8TH STREET

#2

#3

HWY 202 DRAINAGE MODIFICATIONS (APPROXIAMTE LIMTS OF LINED CHANNEL)

UPPER DIVERSION CHANNEL

CLYDESDALE AVE

#1

EASTSIDE DRAINAGE PIPES

DOWNSLOPE PIPE

DUNCAN AVE

BANCROFT AVE

STATE HWY 202

1ST AVE

LEGEND

- 950 — EXISTING CONTOURS
- EXISTING PROPERTY LINE
- EXISTING ROADWAY
- EXISTING CULVERT
- EASTSIDE SOIL COVER PROJECT (O'BRIEN & GERE ENGINEERS, INC.)
- SOUTH LANDFILL COVER PROJECT (WOODWARD-CLYDE CONSULTANTS)
- SOUTH LANDFILL CAP PROJECT (WOODWARD-CLYDE CONSULTANTS)
- #1 APPROXIMATE LIMITS OF CONSRUCTION LAYOUT AREA 1
- #2 APPROXIMATE LIMITS OF CONSRUCTION LAYOUT AREA 2
- #3 APPROXIMATE LIMITS OF CONSRUCTION LAYOUT AREA 3
- #1 APPROXIMATE LIMITS OF BORROW PIT-1 / PLANT NORTH
- #2 APPROXIMATE LIMITS OF BORROW PIT-2 / HWY 202 SOUTH

SCALE IN FEET

0 200 400 600 800

1	MAY/97	ISSUED FOR CONSTRUCTION	RHS

CLIENT/PROJECT

MONSANTO - DCC PROJECT

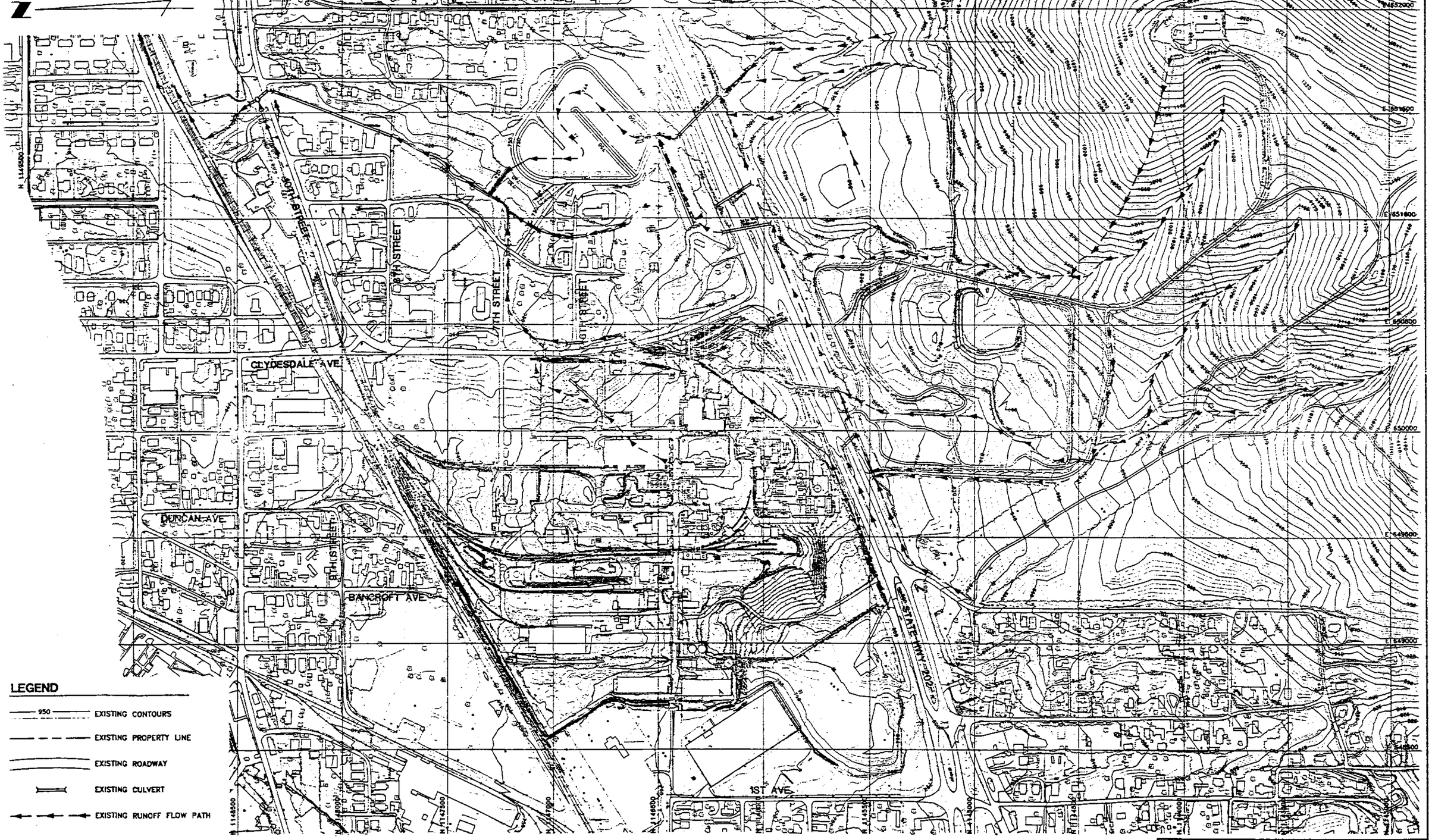
TITLE

EXISTING CONDITIONS AND LAYOUT OF WORK UNITS

Atlanta, Georgia

Golder Associates

DRAWN	RHS	DATE	3/97
CHECKED	WL	SCALE	AS SHOWN
APPROVED		PROJ. NO.	196
		DOC. NO.	
		REV. NO.	943-3680



ALABAMA REGISTERED PROFESSIONAL ENGINEER No. 20251 WILLIAM R. SULLIVAN

SCALE IN FEET
0 200 400 600 800

REV.	DATE	DESCRIPTION	DR. BY	APP. BY
1	MAY/97	ISSUED FOR CONSTRUCTION	RMS	

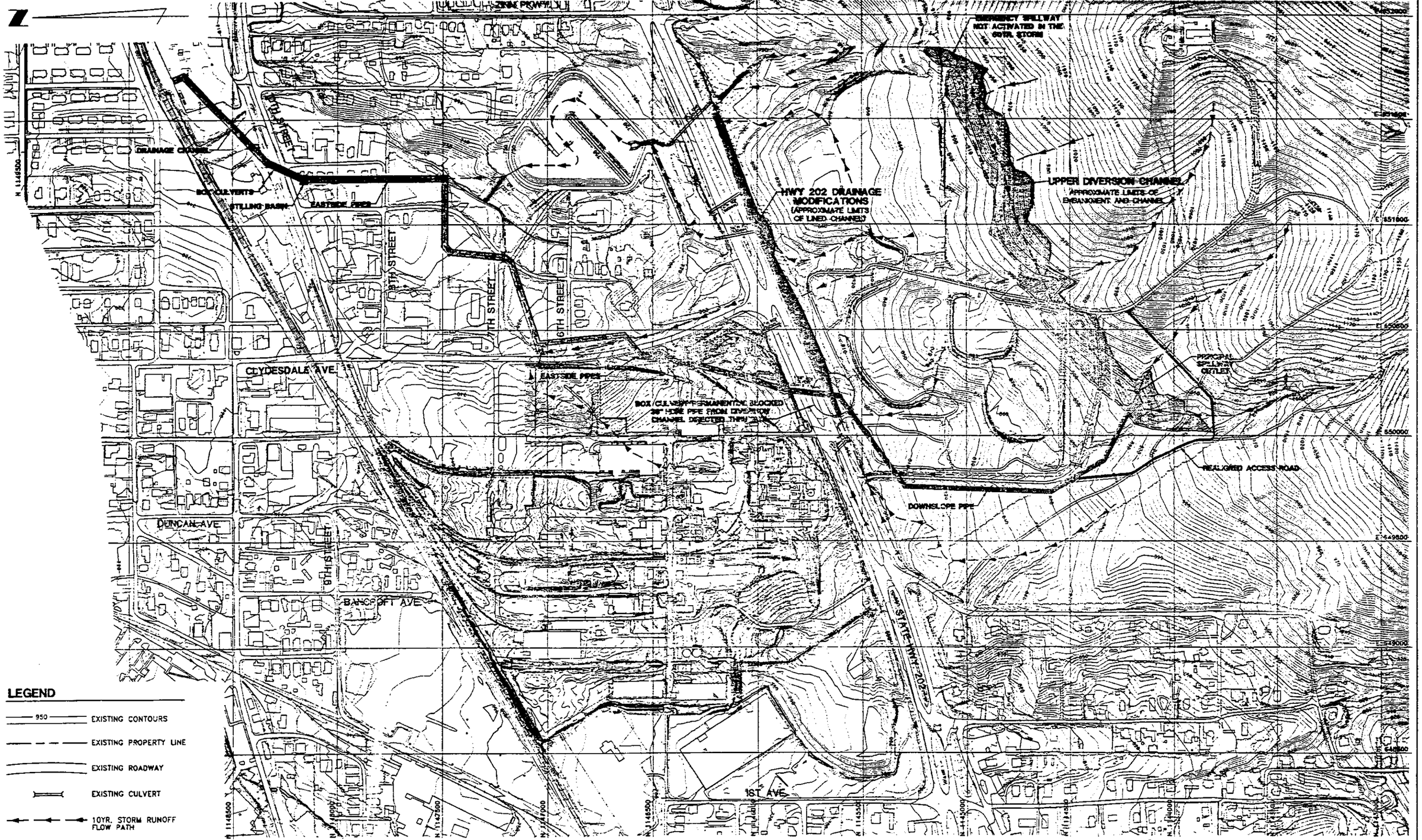
CLIENT/PROJECT
MONSANTO - DCC PROJECT

TITLE
PRE-CONSTRUCTION SITE DRAINAGE PLAN

Atlanta, Georgia

Golder Associates

DRAWN	RMS	DATE	3/97
CHECKED		SCALE	AS SHOWN
APPROVED		PROJ. NO.	199
FILE NO.	943-3680	DWG. NO.	943-3680
		REVISION	3



LEGEND

- 950 — EXISTING CONTOURS
- EXISTING PROPERTY LINE
- EXISTING ROADWAY
- EXISTING CULVERT
- 10YR. STORM RUNOFF FLOW PATH

ALABAMA REGISTERED No. 7594 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

SCALE IN FEET
0 200 400 600 800

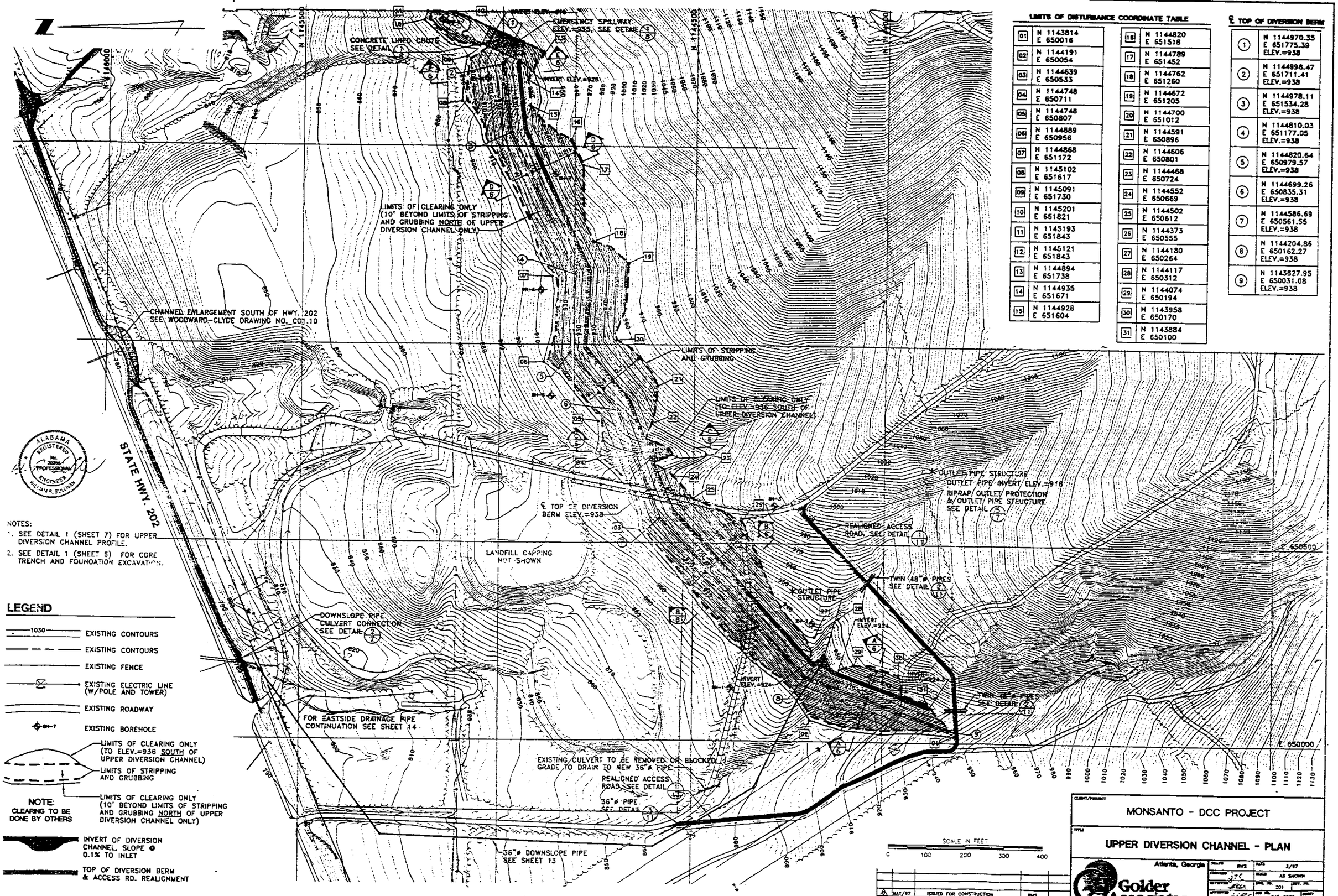
REV.	DATE	DESCRIPTION	DR. BY	APP. BY
2	3MAY/97	ISSUED FOR CONSTRUCTION	RWS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

TITLE: POST-CONSTRUCTION SITE DRAINAGE PLAN - 10YR. STORM

Golder Associates — Atlanta, Georgia

DRAWN	RWS	DATE	3/97
CHECKED	WRS	SCALE	AS SHOWN
REVIEWED	WRS	PROJ. NO.	200
APPROVED	WRS	PROJ. NO.	943-3680
PROJ. NO.	943-3680	DRAWING	4



NOTES:

1. SEE DETAIL 1 (SHEET 7) FOR UPPER DIVERSION CHANNEL PROFILE.
2. SEE DETAIL 1 (SHEET 8) FOR CORE TRENCH AND FOUNDATION EXCAVATIONS.

LEGEND

- EXISTING CONTOURS (1030)
- EXISTING CONTOURS
- EXISTING FENCE
- EXISTING ELECTRIC LINE (W/POLE AND TOWER)
- EXISTING ROADWAY
- EXISTING BOREHOLE
- LIMITS OF CLEARING ONLY (TO ELEV.=936 SOUTH OF UPPER DIVERSION CHANNEL)
- LIMITS OF STRIPPING AND GRUBBING
- LIMITS OF CLEARING ONLY (10' BEYOND LIMITS OF STRIPPING AND GRUBBING NORTH OF UPPER DIVERSION CHANNEL ONLY)

NOTE: CLEARING TO BE DONE BY OTHERS

- INVERT OF DIVERSION CHANNEL, SLOPE @ 0.1% TO INLET
- TOP OF DIVERSION BERM & ACCESS RD. REALIGNMENT

LIMITS OF DISTURBANCE COORDINATE TABLE

01	N 1143814 E 650016	18	N 1144820 E 651518
02	N 1144191 E 650054	17	N 1144789 E 651452
03	N 1144639 E 650533	18	N 1144762 E 651260
04	N 1144748 E 650711	19	N 1144672 E 651205
05	N 1144748 E 650807	20	N 1144700 E 651012
06	N 1144889 E 650956	21	N 1144591 E 650896
07	N 1144868 E 651172	22	N 1144506 E 650801
08	N 1145102 E 651617	23	N 1144468 E 650724
09	N 1145091 E 651730	24	N 1144552 E 650669
10	N 1145201 E 651821	25	N 1144502 E 650612
11	N 1145193 E 651843	26	N 1144373 E 650555
12	N 1145121 E 651843	27	N 1144180 E 650264
13	N 1144894 E 651738	28	N 1144117 E 650312
14	N 1144935 E 651671	29	N 1144074 E 650194
15	N 1144928 E 651604	30	N 1143958 E 650170
		31	N 1143884 E 650100

℄ TOP OF DIVERSION BERM

1	N 1144970.35 E 651775.39 ELEV.=938
2	N 1144998.47 E 651711.41 ELEV.=938
3	N 1144978.11 E 651534.28 ELEV.=938
4	N 1144810.03 E 651177.05 ELEV.=938
5	N 1144820.64 E 650979.57 ELEV.=938
6	N 1144699.26 E 650835.31 ELEV.=938
7	N 1144586.69 E 650561.55 ELEV.=938
8	N 1144204.86 E 650162.27 ELEV.=938
9	N 1143827.95 E 650031.08 ELEV.=938

ALABAMA REGISTERED PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

SCALE IN FEET
0 100 200 300 400

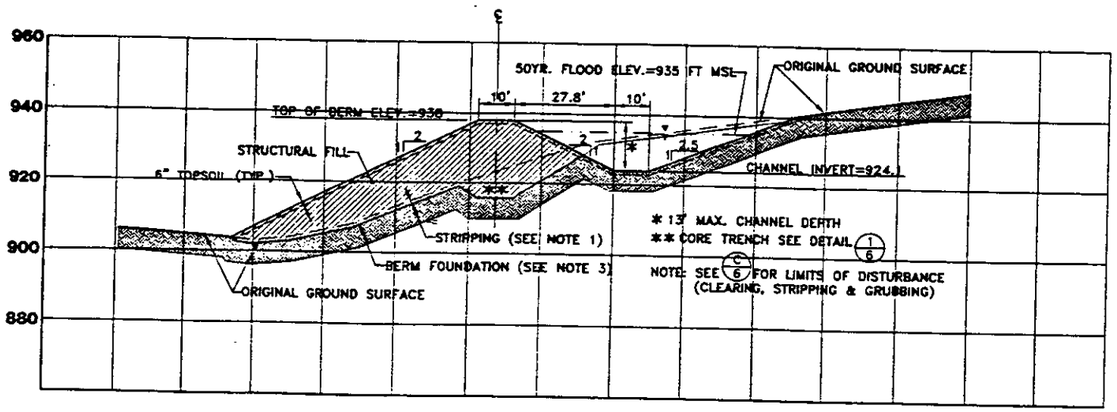
REV.	DATE	DESCRIPTION	BY	APP. BY
A	MAY/97	ISSUED FOR CONSTRUCTION	RWS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

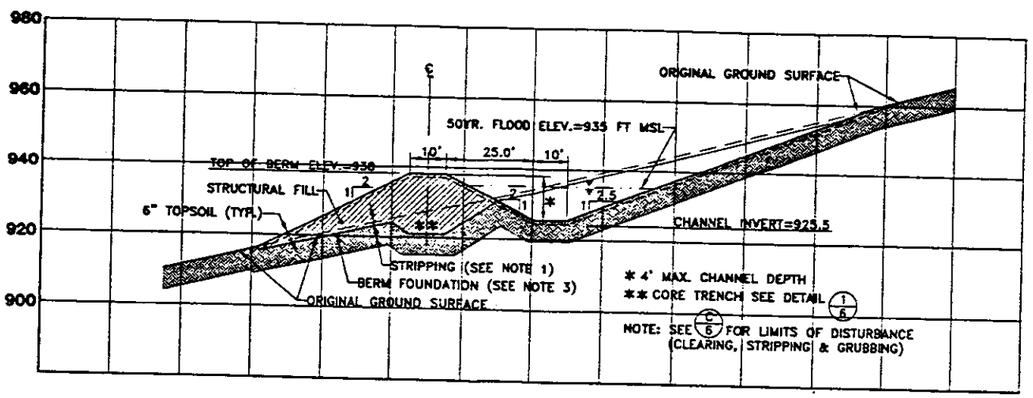
TITLE: UPPER DIVERSION CHANNEL - PLAN

Golder Associates — Atlanta, Georgia

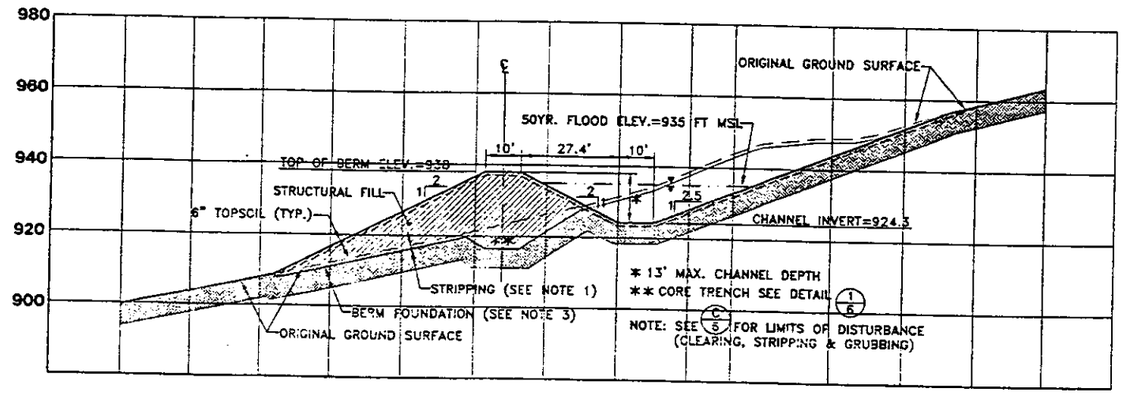
DRAWN	RWS	DATE	3/97
CHECKED	JTC	SCALE	AS SHOWN
APPROVED	JCA	DWG. NO.	201
APPROVED	WRS	JOB NO.	943-3680
REF. NO.	943-1WG1	SHEET	5



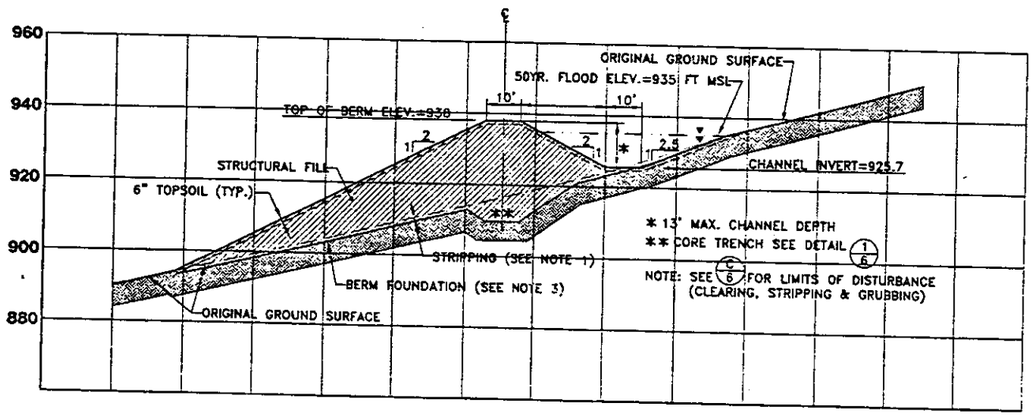
A/6 SECTION A-A / UPPER DIVERSION CHANNEL



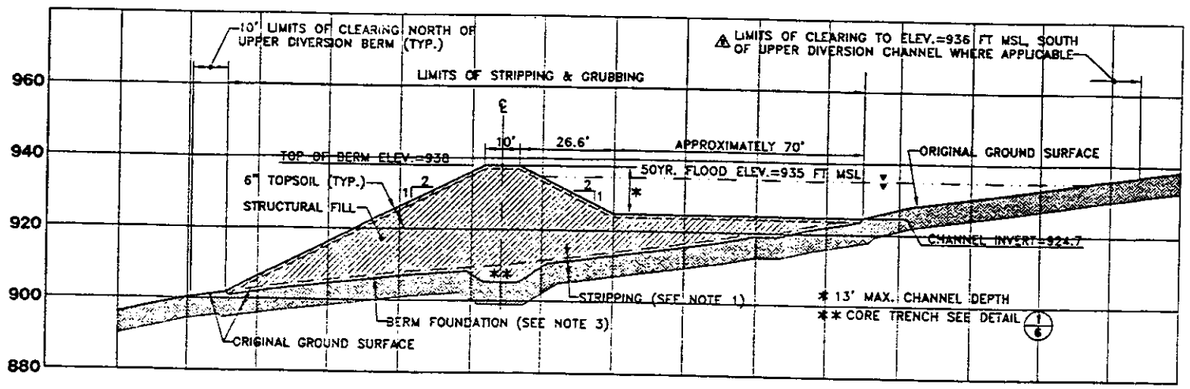
D/6 SECTION D-D / UPPER DIVERSION CHANNEL



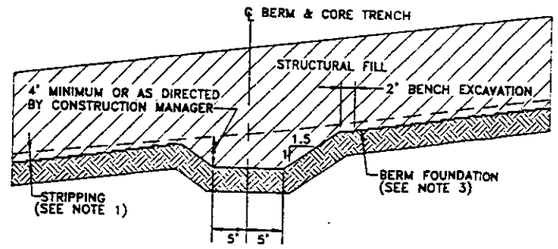
B/6 SECTION B-B / UPPER DIVERSION CHANNEL



E/6 SECTION E-E / UPPER DIVERSION CHANNEL



C/6 SECTION C-C / UPPER DIVERSION CHANNEL



1/6 CORE TRENCH & FOUNDATION BENCH EXCAVATION DETAIL

NTS

NOTES:

1. FOUNDATIONS OF ALL FILL AREAS TO BE CLEARED, GRUBBED AND STRIPPED OF ALL TOPSOIL, ORGANIC MATTER, SOFT MATERIAL AND OTHER UNSUITABLE MATERIAL AS DIRECTED BY CONSTRUCTION MANAGER. STRIPPED SURFACE TO BE COMPACTED. PREPARED FOUNDATION TO BE INSPECTED BY THE CONSTRUCTION MANAGER PRIOR TO FILLING.
2. WHERE EXCAVATION OR FILL IS NOT REQUIRED IN DIVERSION CHANNEL, ORIGINAL GROUND TO BE CLEARED (NOT GRUBBED OR STRIPPED) TO ELEVATION 936.
3. INITIAL LAYER OF STRUCTURAL FILL TO BE BENCHED INTO THE PREPARED FOUNDATION SURFACE WHERE SLOPE IS STEEPER THAN 3:1 OR WHERE DIRECTED BY CONSTRUCTION MANAGER.
4. CHANNEL INVERT SLOPES TOWARDS INTAKE AT 0.1% FROM EAST AND WEST ENDS OF CHANNEL. CHANNEL IS GRADED FROM 14' TO 12' IN DEPTH.
5. LIMITS OF DISTURBANCE (CLEARING, STRIPPING AND GRUBBING) TO BE SEEDED AND MULCHED.

ALABAMA REGISTERED No. 22295 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

SCALE IN FEET
0 20 40
NO VERTICAL EXAGGERATION

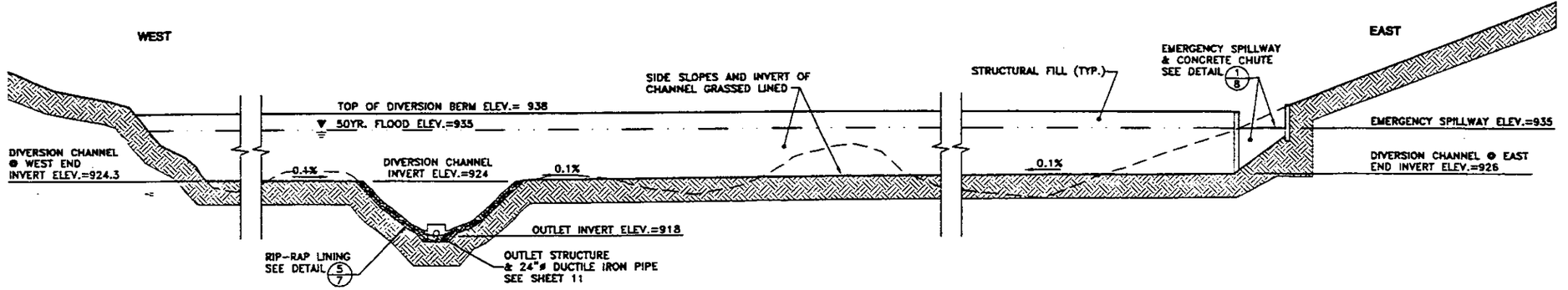
DEV.	DATE	DESCRIPTION	BY	APP. BY
⚠	MAY/97	ISSUED FOR CONSTRUCTION	RMS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

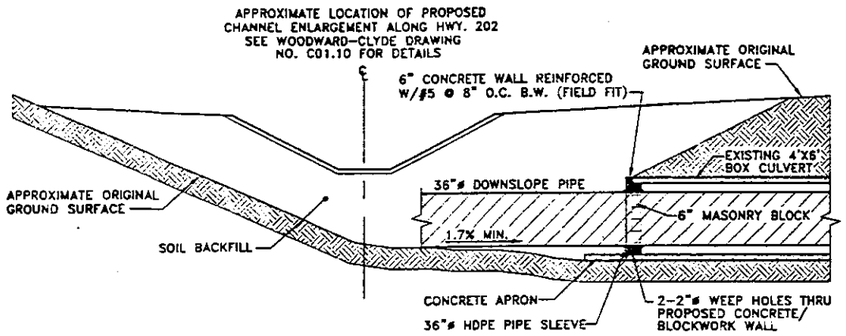
TITLE: UPPER DIVERSION CHANNEL - SECTIONS

Golder Associates — Atlanta, Georgia

DRAWN	RMS	DATE	3/97
CHECKED	TK	SCALE	AS SHOWN
APPROVED	WRS	PROJ. NO.	202
APPROVED	WRS	JOB NO.	943-3680
FILE NO.	943-3680	DRAWING NO.	6

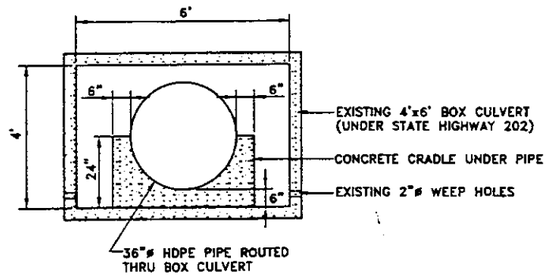


1/7 SCHEMATIC PROFILE OF DIVERSION CHANNEL



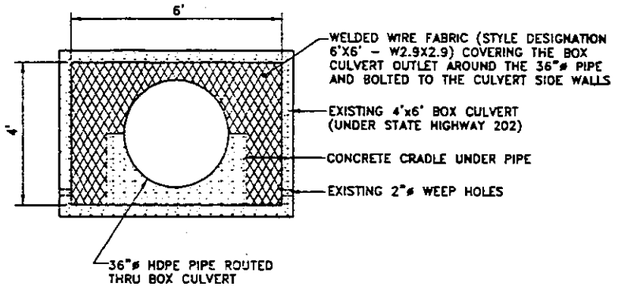
2/7 BOX CULVERT BLOCKAGE DETAIL

N.T.S.



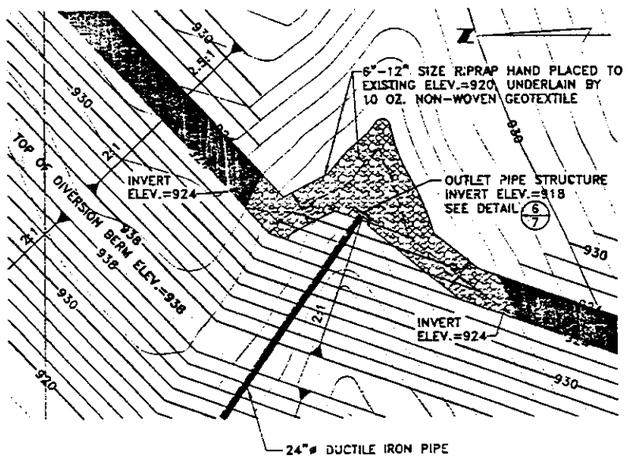
3/7 TYPICAL SECTION THRU BOX CULVERT

N.T.S.



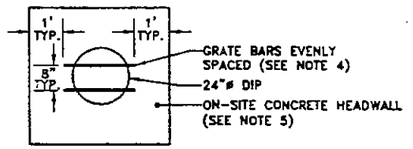
4/7 SECTION AT THE OUTLET OF BOX CULVERT

N.T.S.



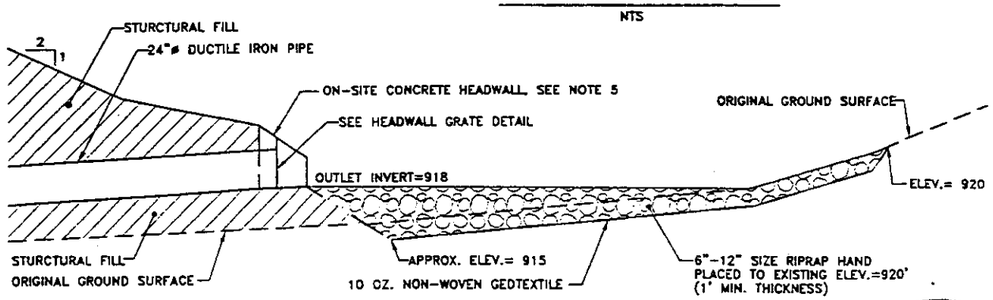
5/7 UPPER DIVERSION CHANNEL RIPRAP OUTLET PROTECTION DETAIL

SCALE IN FEET
0 20 40



HEADWALL GRATE DETAIL

NTS



6/7 OUTLET PIPE STRUCTURE DETAIL

NTS

NOTE: ALL DIMENSIONS ARE APPROXIMATE AND VARY DEPENDING ON EXISTING CULVERT'S DIMENSIONS, ELEVATIONS AND PIPE DIMENSIONS.

NOTES:

1. STRUCTURAL FILL SHALL BE PLACED IN A DIRECTION PERPENDICULAR TO THE ALIGNMENT OF THE PIPE OR AS APPROVED BY THE CONSTRUCTION MANAGER.
2. AREAS WHERE RIPRAP EROSION PROTECTION IS TO BE PROVIDED, 10 OZ./YD² GEOTEXTILE SHALL BE INSTALLED UNDER THE RIPRAP.
3. FULL TIME QUALITY ASSURANCE SHALL BE PROVIDED DURING FOUNDATION PREPARATION AND STRUCTURAL FILL CONSTRUCTION IN ALL AREAS WHERE FILL IS REQUIRED TO ACHIEVE INVERT ELEVATION OF 24" ø PIPE AND BELOW EMERGENCY SPILLWAY.
4. GRATE DETAIL PROVIDED ON PLAN HAS BEEN REFERENCED FROM ALABAMA DOT SPECIAL DRAWING No. HW-614-SP DATED 02/08/91.
5. HEADWALL FROM PREVIOUS CONSTRUCTION FOR MONSANTO IS TO BE USED FOR THE CONCRETE HEADWALL AT THE OUTLET END OF THE 24" ø DUCTILE IRON PIPE. THIS HEADWALL IS TO BE MODIFIED IN THE FIELD TO FIT THE 24" ø DUCTILE IRON PIPE.

ALABAMA REGISTERED PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

REV.	DATE	DESCRIPTION	DES. BY	APP. BY
1	MAY/97	ISSUED FOR CONSTRUCTION	RJS	

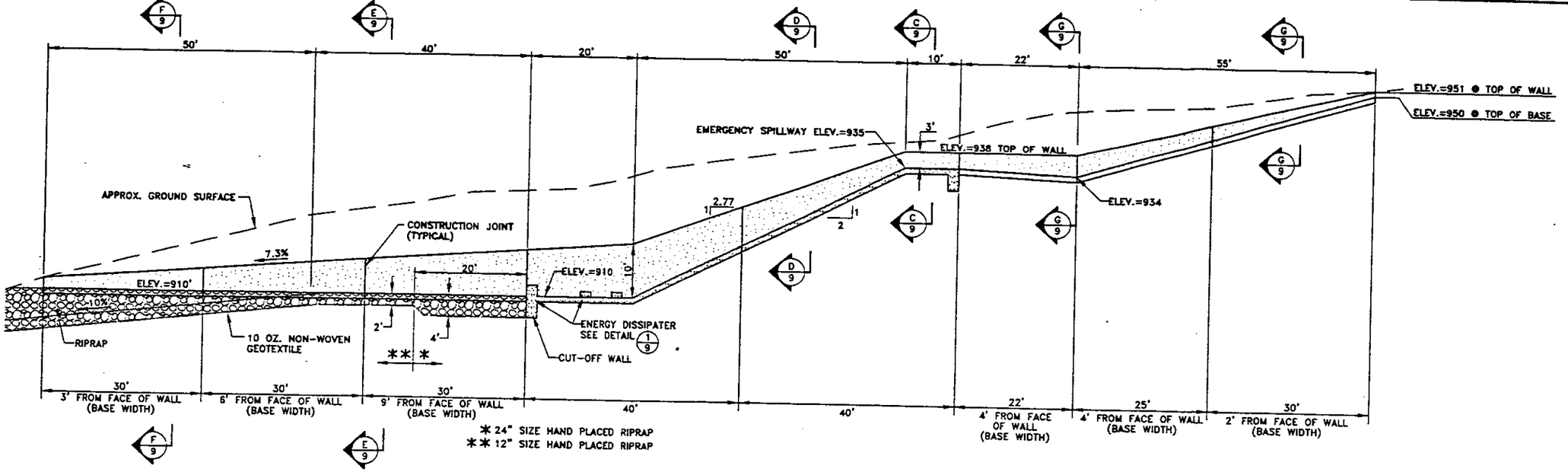
CLIENT/PROJECT: MONSANTO - DCC PROJECT

TITLE: UPPER DIVERSION CHANNEL PROFILE AND MISCELLANEOUS DETAILS

Golder Associates — Atlanta, Georgia

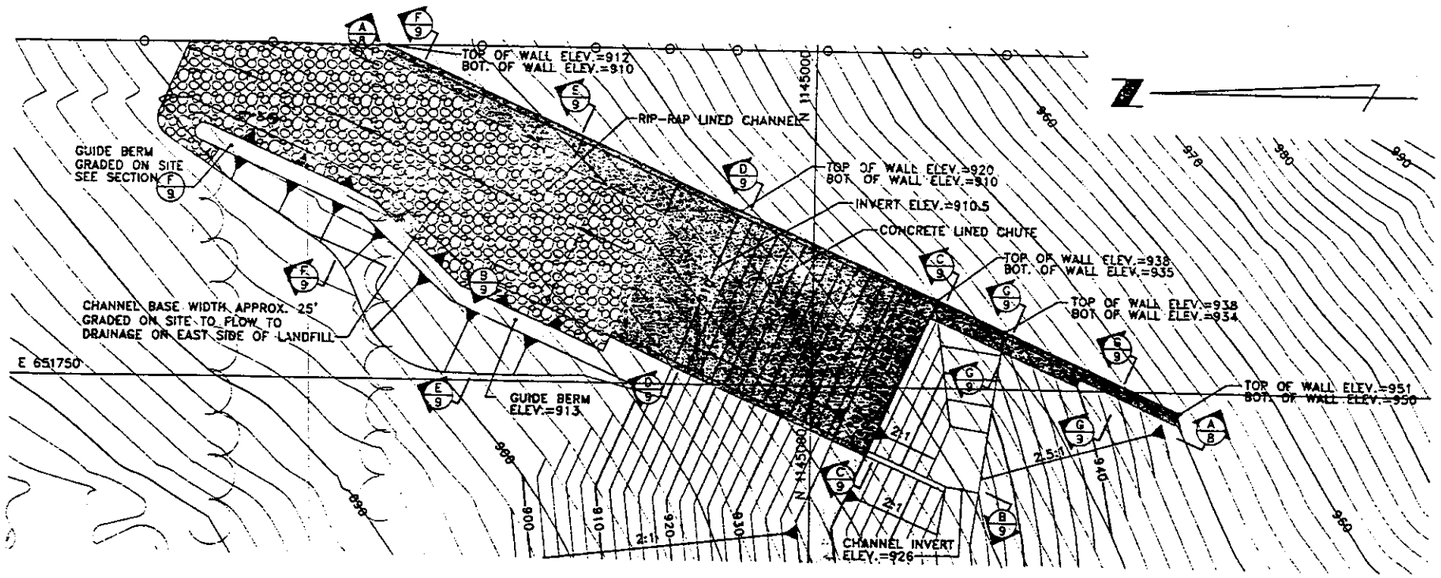
DRAWN	RNS	DATE	3/97
CHECKED	JTC	SCALE	AS SHOWN
APPROVED	WRS	JOB NO.	943-3680
APPROVED		DWG. NO.	7

FILE NO. 943-3680



A/8 UPPER DIVERSION CHANNEL - EMERGENCY SPILLWAY SECTION A-A

SCALE IN FEET
0 10 20



1/8 UPPER DIVERSION CHANNEL - EMERGENCY SPILLWAY PLAN

SCALE IN FEET
0 20 40

NOTES:

1. FOUNDATIONS OF ALL FILL AREAS TO BE CLEARED, GRUBBED AND STRIPPED OF ALL TOPSOIL, ORGANIC MATTER, SOFT MATERIAL AND OTHER UNSUITABLE MATERIAL AS DIRECTED BY CONSTRUCTION MANAGER. STRIPPED SURFACE TO BE COMPACTED BY AT LEAST 4 PASSES OF AN APPROVED COMPACTOR, AS DIRECTED.
2. WHERE EXCAVATION OR FILL IS NOT REQUIRED IN DIVERSION CHANNEL, ORIGINAL GROUND TO BE CLEARED (NOT GRUBBED OR STRIPPED) TO 8' ABOVE CHANNEL INVERT.
3. CHANNEL INVERT SLOPES TOWARDS INTAKE AT 0.1% FROM EAST AND WEST ENDS OF CHANNEL. CHANNEL IS GRADED FROM 14' TO 12' IN DEPTH.

ALABAMA REGISTERED No. 22396 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

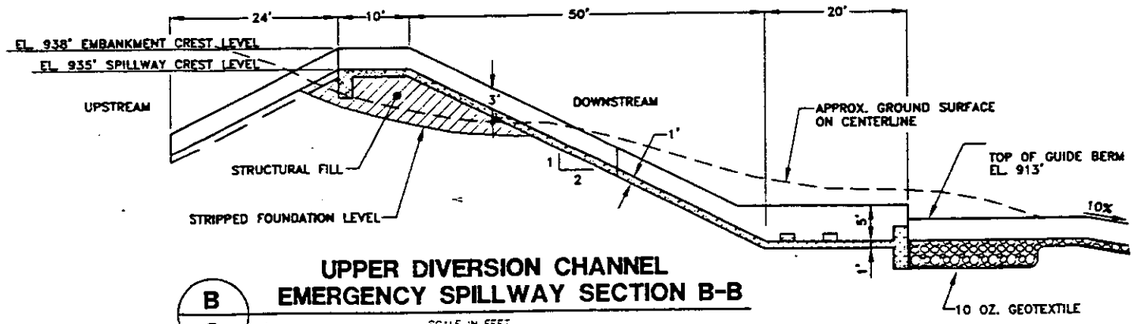
REV.	DATE	DESCRIPTION	DR. BY	APP. BY
A	MAY/97	ISSUED FOR CONSTRUCTION	RMS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

TITLE: UPPER DIVERSION CHANNEL EMERGENCY SPILLWAY (SHEET 1 OF 3)

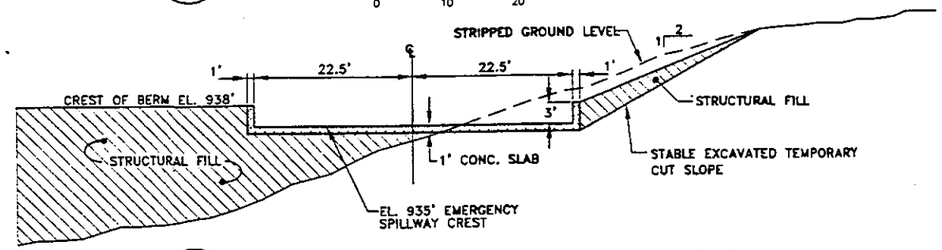
Golder Associates — Atlanta, Georgia

DRAWN	RMS	DATE	3/97
CHECKED	JC	SCALE	AS SHOWN
REVIEWED		DWG. NO.	204
APPROVED		REF. NO.	
FILE NO.	943-3680	JOB NO.	943-3680
		SHEET	8



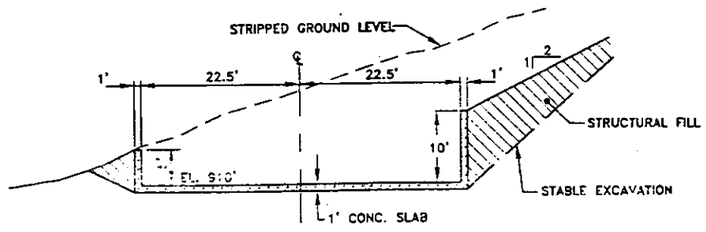
B/9 **UPPER DIVERSION CHANNEL EMERGENCY SPILLWAY SECTION B-B**

SCALE IN FEET 0 10 20



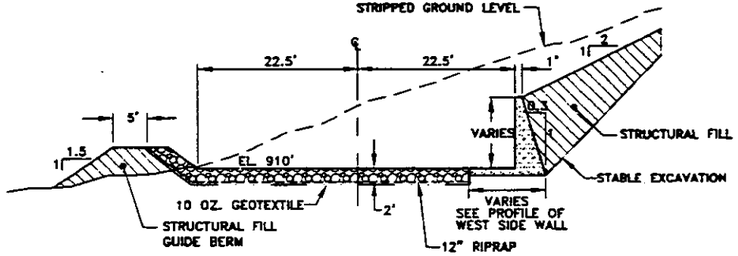
C/9 **EMERGENCY SPILLWAY SECTION C-C**

SCALE IN FEET 0 10 20



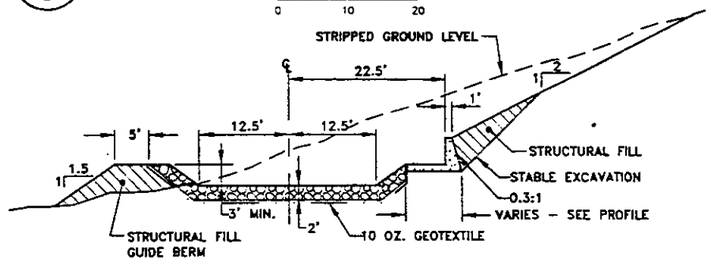
D/9 **EMERGENCY SPILLWAY SECTION D-D**

SCALE IN FEET 0 10 20



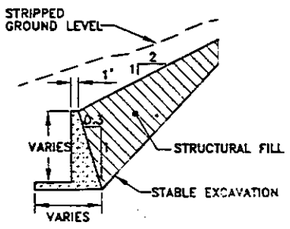
E/9 **EMERGENCY SPILLWAY SECTION E-E**

SCALE IN FEET 0 10 20



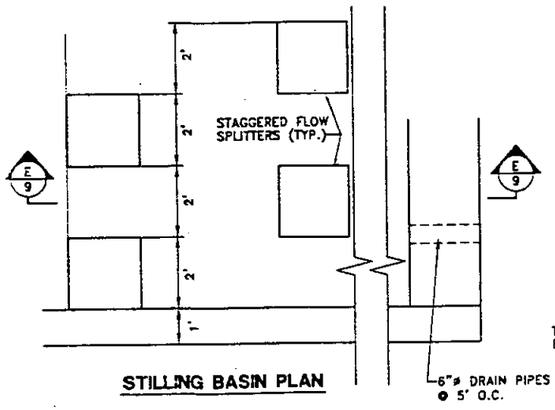
F/9 **EMERGENCY SPILLWAY SECTION F-F**

SCALE IN FEET 0 10 20

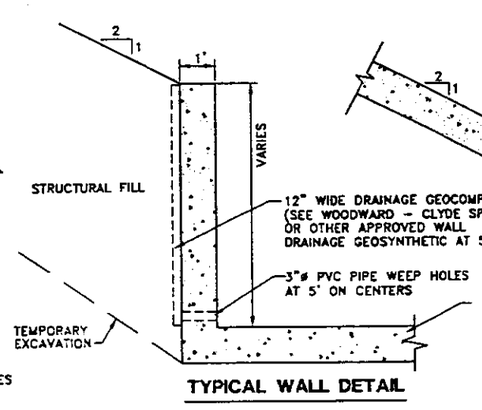


G/9 **EMERGENCY SPILLWAY SECTION G--G**

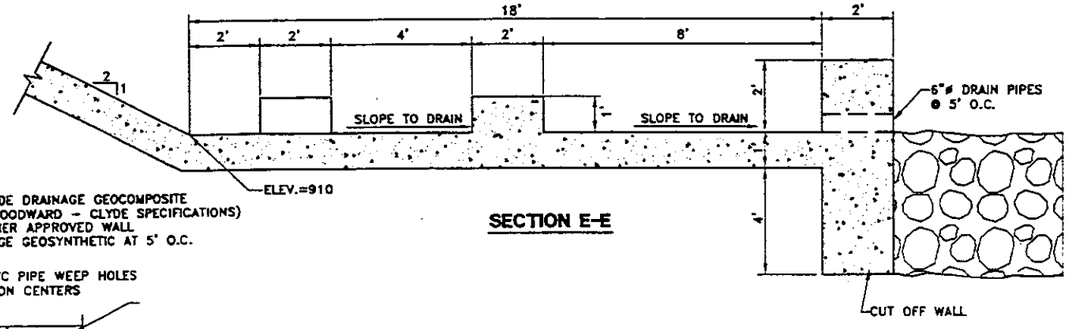
SCALE IN FEET 0 10 20



STILLING BASIN PLAN



TYPICAL WALL DETAIL



SECTION E-E

1/9 **EMERGENCY SPILLWAY - ENERGY DISSIPATER (STILLING BASIN)**

SCALE IN FEET 0 2 4

NOTES:
1. INITIAL LAYER OF STRUCTURAL FILL TO BE BENCHED INTO THE PREPARED FOUNDATION SURFACE WHERE SLOPE IS STEEPER THAN 3:1 OR WHERE DIRECTED BY CONSTRUCTION MANAGER.

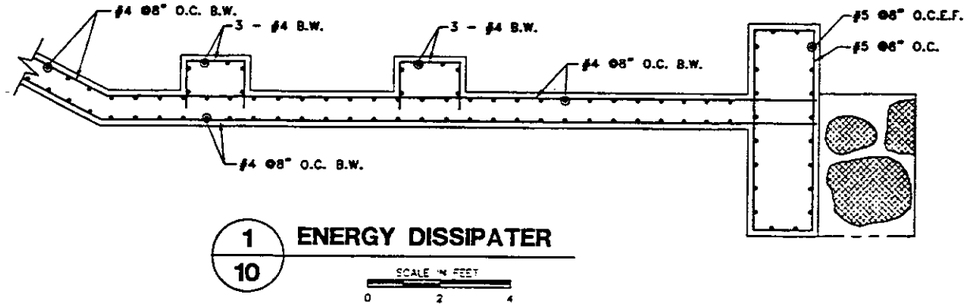
REV.	DATE	DESCRIPTION	BY	APP. BY
1	3/27/97	ISSUED FOR CONSTRUCTION	RMS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

TITLE: UPPER DIVERSION CHANNEL EMERGENCY SPILLWAY (SHEET 2 OF 3)

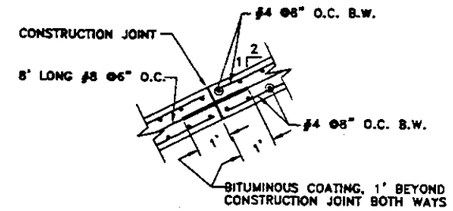
Golder Associates — Atlanta, Georgia

DRAWN R.C.A. DATE 3/97
CHECKED JFC SCALE AS SHOWN
APPROVED SWS PROJ. NO. 943-3680 DWG. NO. 205 REV. NO.
FILE NO. 943-3680 SUFFIX SHEET 9



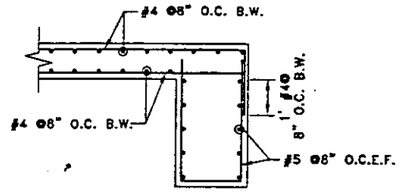
1/10 **ENERGY DISSIPATER**

SCALE IN FEET 0 2 4



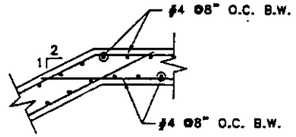
2/10 **CONSTRUCTION JOINT REINFORCING DETAIL**

SCALE IN FEET 0 2 4



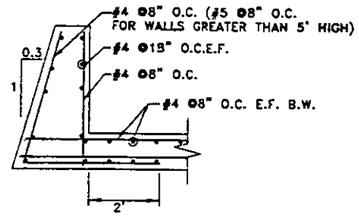
3/10 **UPSTREAM CUT OFF**

SCALE IN FEET 0 2 4



4/10 **SLAB**

SCALE IN FEET 0 2 4



5/10 **WALL REINFORCING**

SCALE IN FEET 0 2 4

EMERGENCY SPILLWAY - REINFORCEMENT DETAILS

NOTES:

1. REFER TO SHEETS 8 AND 9 FOR GENERAL ARRANGEMENT OF ENERGY DISSIPATER.
2. REINFORCING BAR BENDING SCHEDULES SHALL BE PROVIDED BY THE CONTRACTOR.
3. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS FOR BUILDINGS AND ACI 318-95, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
4. CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI AT 28 DAYS.
5. CONCRETE REINFORCING STEEL SHALL BE NEW DEFORMED BILLET STEEL, GRADE 60, CONFORMING TO ASTM A-615.
6. UNLESS OTHERWISE NOTED, REINFORCEMENT LAP SPLICES SHALL BEE ACI CLASS C SPLICES.
7. THE MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE 2 INCHES.

ALABAMA REGISTERED No. 22200 PROFESSIONAL ENGINEER WILLIAM A. SULLIVAN

REV.	DATE	DESCRIPTION	BY	APP. BY
1	MAY/97	ISSUED FOR CONSTRUCTION	GEH	

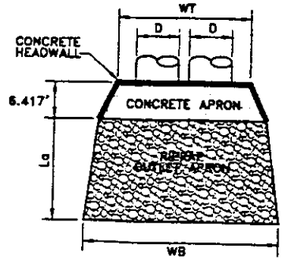
CLIENT/PROJECT: MONSANTO - DCC PROJECT

TITLE: UPPER DIVERSION CHANNEL EMERGENCY SPILLWAY (SHEET 3 OF 3)

Golder Associates — Atlanta, Georgia

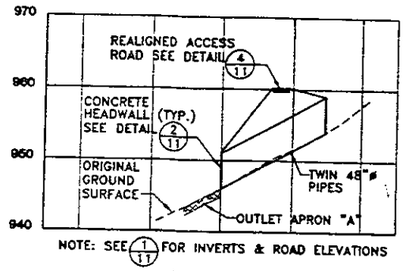
DRAWN	GEH	DATE	3/97
CHECKED	JLK	SCALE	AS SHOWN
APPROVED	WAS	DWG. NO.	206
APPROVED	WAS	ADD. NO.	943-3680
FILE NO.	943-3680		

REV. NO. — SHEET 10

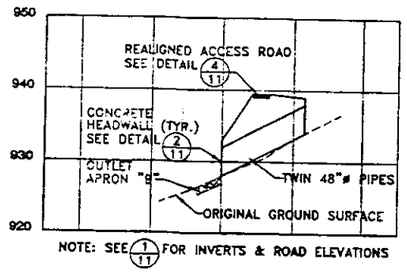


OUTLET APRON SCHEDULE							
OUTLET I.D.	Lo	MATL.	d_{50}	THICK.	WT	WB	D
A	20 FT.	RIPRAP	0.5 FT.	1 FT.	13.323 FT.	34 FT.	4 FT.
B	12 FT.	RIPRAP	0.5 FT.	1.5 FT.	13.323 FT.	16 FT.	4 FT.

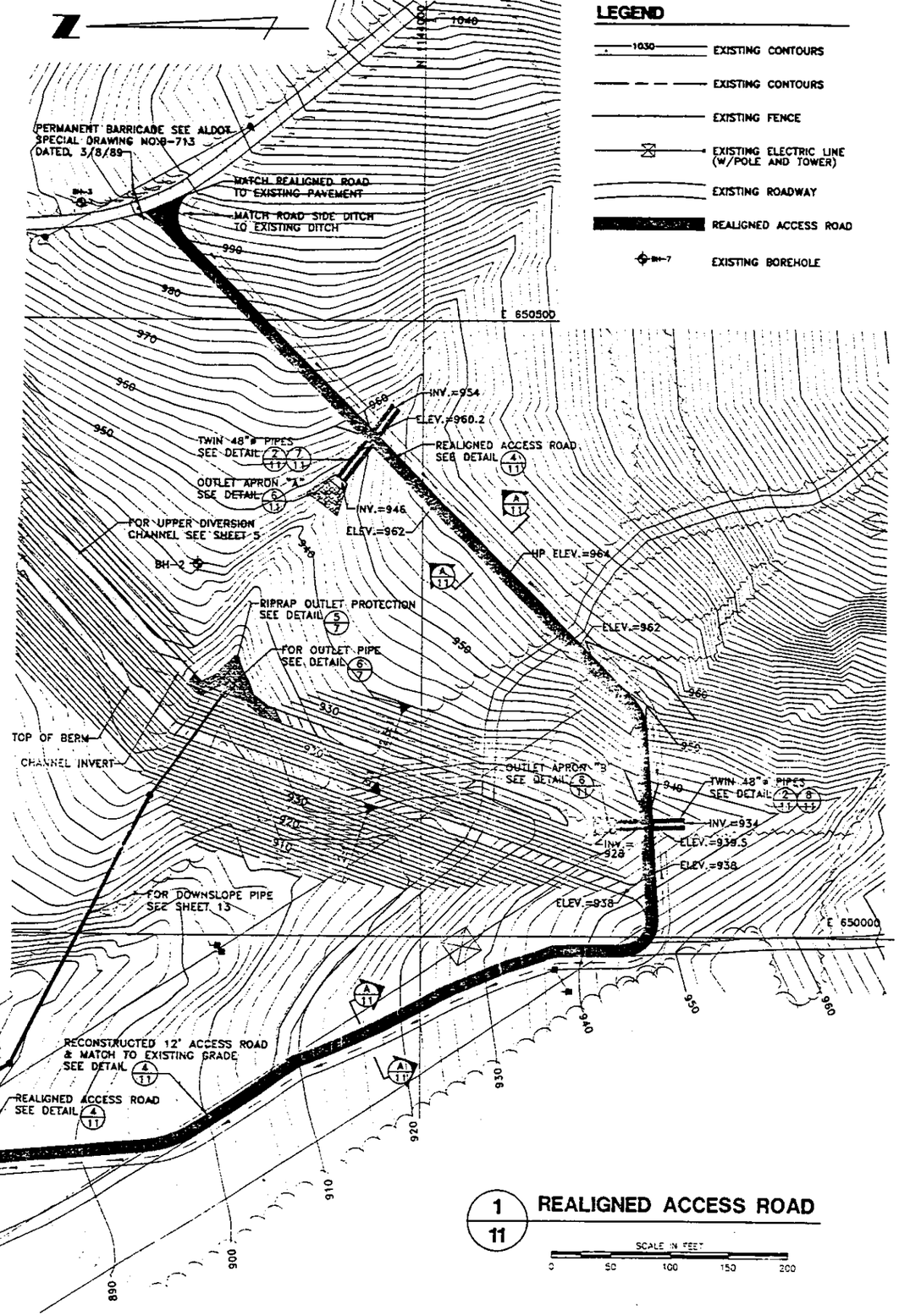
6/11 OUTLET APRON DETAIL
NTS



7/11 PROFILE OF TWIN 48" PIPES/OUTLET "A"
NTS



8/11 PROFILE OF TWIN 48" PIPES/OUTLET "B"
NTS

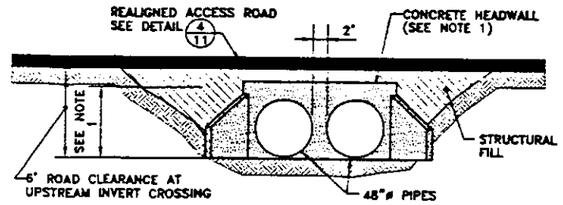


LEGEND

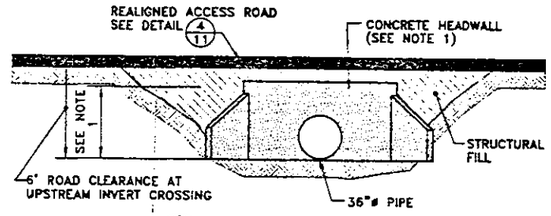
- 1030 — EXISTING CONTOURS
- — — — EXISTING CONTOURS
- EXISTING FENCE
- EXISTING ELECTRIC LINE (W/POLE AND TOWER)
- EXISTING ROADWAY
- REALIGNED ACCESS ROAD
- BH-7 EXISTING BOREHOLE

1/11 REALIGNED ACCESS ROAD

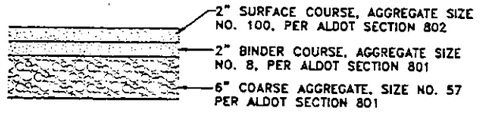
SCALE IN FEET
0 50 100 150 200



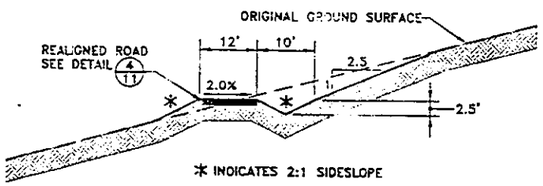
2/11 CULVERT DETAIL
NTS



3/11 CULVERT DETAIL
NTS



4/11 PAVEMENT DETAIL
NTS



A/11 SECTION A-A
NTS

NOTES:

1. CONCRETE HEADWALLS TO BE CONSTRUCTED IN ACCORDANCES WITH ALABAMA DOT SPECIAL DRAWING NO. HW-620-30, DATED 10/4/74, TITLED "CONCRETE HEADWALL FOR PIPE CULVERT.

ALABAMA REGISTERED No. 20291 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

REV.	DATE	DESCRIPTION	DR'S INIT.	APP. BY
1	MAY/97	ISSUED FOR CONSTRUCTION	JH/S	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

TITLE: REALIGNED ACCESS ROAD PLAN AND DETAILS

Atlanta, Georgia

Golder Associates

DRAWN	BMS	DATE	3/97
CHECKED	JTR	SCALE	AS SHOWN
SUPERVISED	JHH	DWG. NO.	207
APPROVED	WRS	REV. NO.	
PROJ. NO.	943-3680	SHEET	11

MANHOLE COORDINATES

LINE	MH #	STATION	INVERT	EASTING	NORTHING
D	11	32+08.24	777.74	650186.34	1145611.54
D	[illegible]	37+00	793.04	649761.99	1145354.89
D	13	40+60	820.63	649747.08	1144955.16
D	14	44+60	848.07	649733.65	1144595.42
D	15	47+60	866.88	649883.05	1144335.26
D	[illegible]	48+40.90	868.00	649955.38	1144299.03
D	16	50+10	908.00	650106.57	1144223.29
D	OUTLET	51+20	918.00	650196.59	1144160.07

INVERTS LISTED IN TABLE ARE "OUT" INVERTS

ALABAMA REGISTERED No. 12422 PROFESSIONAL ENGINEER JOHN W. WIEDEMAN

WIEDEMAN AND SINGLETON, INC.
ENGINEERS
ATLANTA GEORGIA

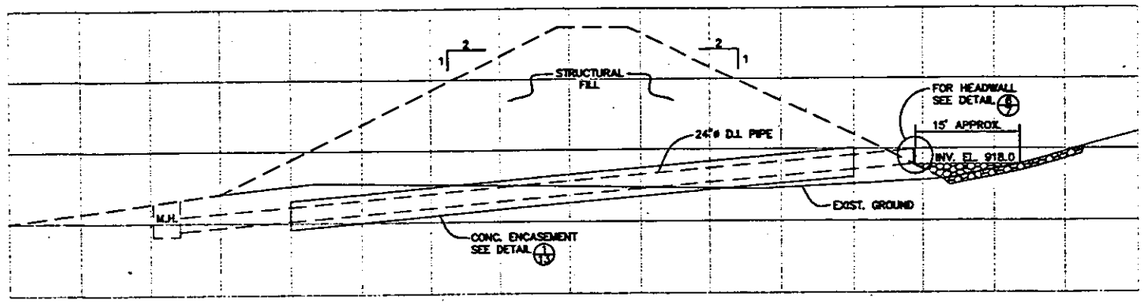
REV	DATE	DESCRIPTION	DR. BY	APP. BY
3	MAY 97	ISSUED FOR CONSTRUCTION	RCS	

CLIENT/PROJECT
MONSANTO - DCC PROJECT

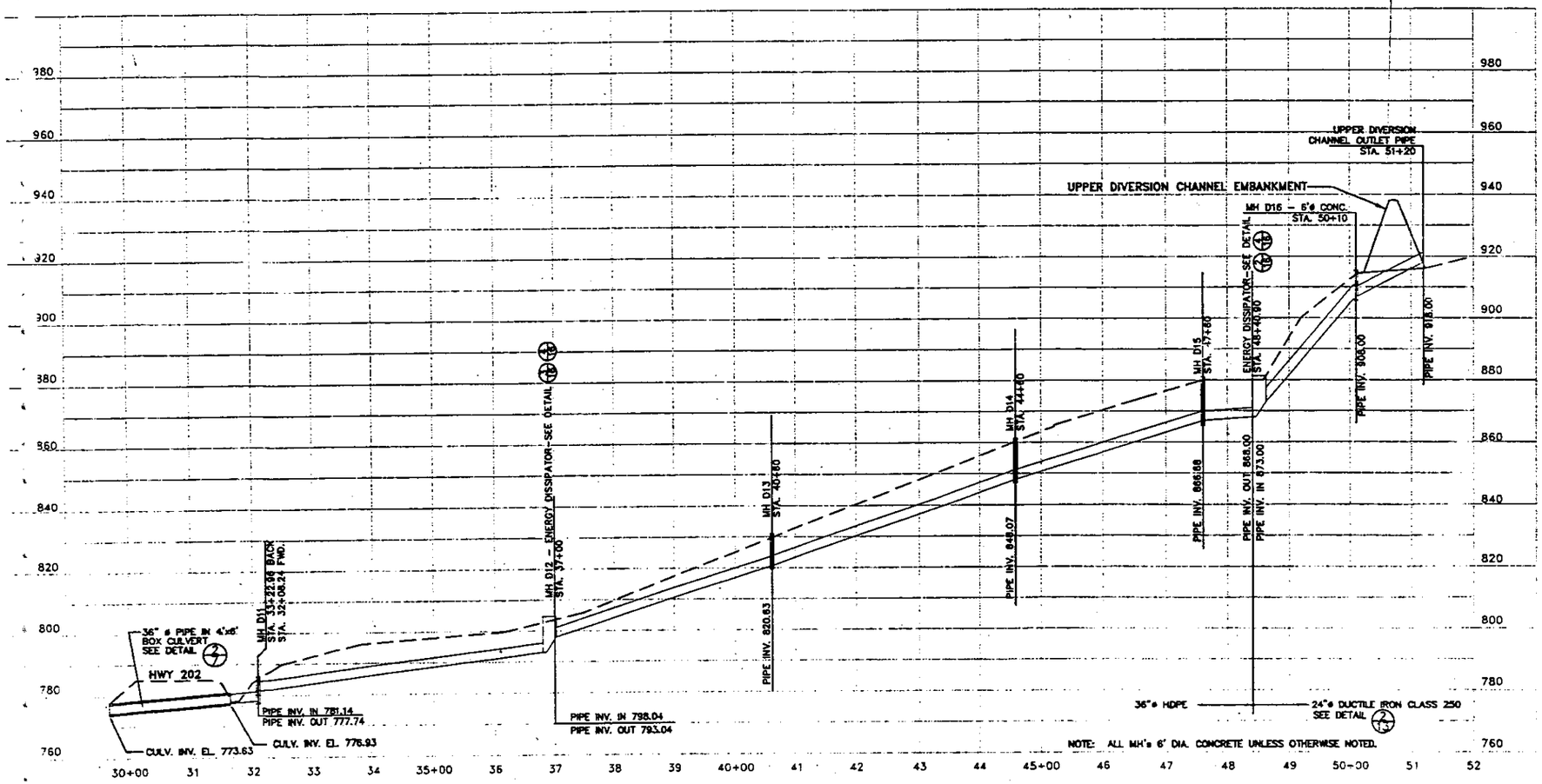
TITLE
UPPER DIVERSION CHANNEL OUTLET PIPE PLAN

Golder Associates
Atlanta, Georgia

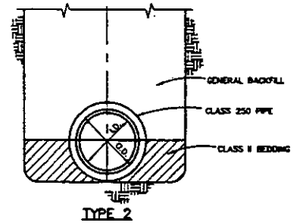
DRAWN	RWS/RCS	DATE	3/97
CHECKED		SCALE	AS SHOWN
RECOMMENDED		APPR. NO.	REF. NO.
APPROVED		JOB NO.	943-3680
FILE NO.	943-3680	DRAWING	12



SECTION OF OUTLET PIPE
N.T.S.

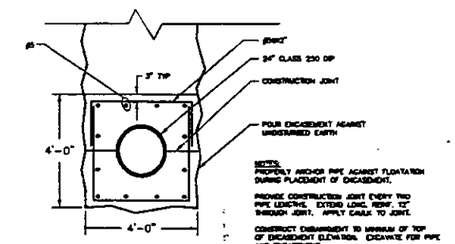


PROFILE LINE 'D' DOWNSLOPE PIPE
STATION 31+98 TO 51+20
SCALE: 1" = 100' HORIZ.
1" = 20' VERT.



FLAT–BOTTOM TRENCH WITH GENERAL BACKFILL
UNDERCUT TRENCH @ BELLS

2/13 BEDDING DETAIL–DUCTILE IRON PIPE
N.T.S.



1/13 DETAIL OF CONCRETE ENCASEMENT THROUGH UPPER DIVERSION CHANNEL
N.T.S.

SCALE IN FEET
0 100 200 300 400

ALABAMA REGISTERED No. 12422 PROFESSIONAL ENGINEER JOHN R. WIEDMAN

WIEDEMAN AND SINGLETON, INC.
ENGINEERS
ATLANTA GEORGIA

			RCS
			RCS
3	MAY 97	ISSUED FOR CONSTRUCTION	RCS
DES	DRFT		

CLIENT/PROJECT
MONSANTO - DCC PROJECT

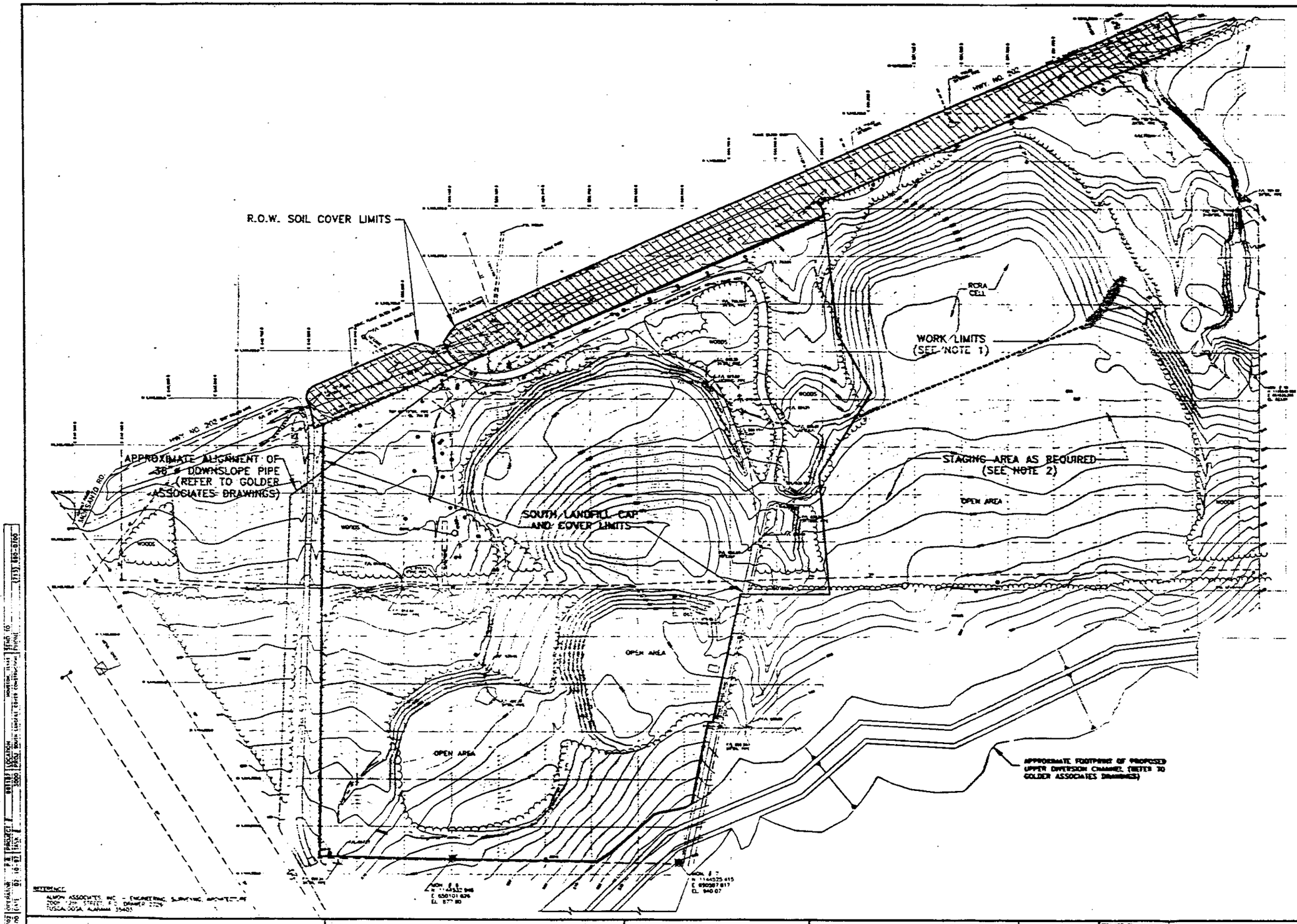
TITLE
DOWNSLOPE PIPE - PROFILE AND DETAILS

Atlanta, Georgia

Golder Associates

DRAWN	RCS	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED	MWA	APPD. BY	APPV. BY
APPROVED	WRS	JOB NO.	945-3680
TASK NO.		DRAWING	13

APPENDIX B



SCALE IN FEET
0 100 200

NOTES.

1. CONTRACTOR IS PROHIBITED FROM STAGING EQUIPMENT OR MATERIALS ON THE RCRA CELL (NO VEHICULAR ACCESS WILL BE PERMITTED ON THE RCRA CELL.)
2. COORDINATE ALL STAGING ACTIVITIES AND REQUIREMENTS WITH THE CONSTRUCTION MANAGER.
3. CONSTRUCTION MANAGER SHALL DELINEATE (STAKE AND FLAG) RCRA CELL LIMITS.
4. ALL EXISTING SITE INFORMATION AND TOPOGRAPHIC CONTOURS PROVIDED BY ALMON ASSOC. INC., PER THEIR AUGUST 1996 GROUND SURVEY.
5. CONTRACTOR SHALL SET AND MAINTAIN TEMPORARY BENCHMARKS, HUBS, STAKES, ETC. AS REQUIRED TO ESTABLISH ALL THE LINES, GRADES AND MEASUREMENTS NECESSARY FOR PROPER EXECUTION OF THE WORK.
6. REFER TO DRAWING C-03 FOR SURVEY CONTROL DATA.

LEGEND

- 890 EXISTING CONTOUR (5' INTERVAL)
- CONCRETE MONUMENT SET BY ALMON
- CONCRETE MONUMENT SET BY ALMON (SURVEY CONTROL POINT, THIS PROJECT)
- CURB INLET
- INTERCEPTOR WELL
- MONITOR WELL
- SIGN
- TELEPHONE POLE
- TELEPHONE BOX
- POWER POLE
- O/H ELECTRIC LINE
- GUY ANCHOR
- TREE
- CHAINLINK FENCE
- GUY POLE

ALABAMA REGISTERED PROFESSIONAL ENGINEER
Gary M Wantland
2 May 97

REFERENCE:
ALMON ASSOCIATES, INC. - ENGINEERING, SURVEYING, ARCHITECTURE
2500 7TH STREET, P.O. DRAWER 2709
TUSCALOOSA, ALABAMA 35403

DRAWING NUMBER	ISSUED FOR CONSTRUCTION	05/02/97
	DESCRIPTION OF REVISION	DATE

MONSANTO
300 Birmingham Highway
Anniston, Alabama 36201

Woodward-Clyde Consultants
7600 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION	PROJECT LOCATION: ANNISTON, ALABAMA
OVERALL SITE PLAN	REVISION 0
	PROJECT 96T187
	DRAWING C-02

TOE DRAIN SURVEY CONTROL

CONTROL POINT	EASTING	NORTHING	DESCRIPTION
002	649,979.12	1,144,607.78	TOE DRAIN CENTERLINE
004	649,971.54	1,144,642.58	TOE DRAIN CENTERLINE
006	649,967.61	1,144,657.02	TOE DRAIN CENTERLINE
008	649,964.79	1,144,735.06	TOE DRAIN CENTERLINE
010	649,967.85	1,144,779.17	TOE DRAIN OUTLET
012	649,979.24	1,144,823.71	TOE DRAIN CENTERLINE
014	649,986.56	1,144,858.03	TOE DRAIN CENTERLINE
016	650,006.76	1,144,877.83	TOE DRAIN CENTERLINE
018	650,049.60	1,144,907.22	TOE DRAIN CENTERLINE
020	650,085.07	1,144,925.67	TOE DRAIN CENTERLINE
022	650,106.35	1,144,932.36	TOE DRAIN OUTLET
024	650,117.68	1,144,934.93	TOE DRAIN CENTERLINE
026	650,127.46	1,145,082.09	TOE DRAIN CENTERLINE
028	650,129.72	1,145,121.73	TOE DRAIN OUTLET
030	650,135.62	1,145,207.27	TOE DRAIN CENTERLINE
032	650,133.46	1,145,236.37	TOE DRAIN CENTERLINE
034	650,131.80	1,145,258.74	TOE DRAIN CENTERLINE
036	650,125.17	1,145,299.45	TOE DRAIN CENTERLINE
038	650,129.40	1,145,321.58	TOE DRAIN OUTLET
040	650,127.37	1,145,365.62	TOE DRAIN CENTERLINE
042	650,142.43	1,145,390.30	TOE DRAIN CENTERLINE
044	650,179.35	1,145,437.35	TOE DRAIN CENTERLINE
046	650,187.58	1,145,446.41	TOE DRAIN CENTERLINE
048	650,226.77	1,145,486.00	TOE DRAIN OUTLET
050	650,273.21	1,145,525.[illegible]	TOE DRAIN CENTERLINE
052	650,303.62	1,145,550.67	TOE DRAIN CENTERLINE
054	650,326.45	1,145,561.13	TOE DRAIN CENTERLINE
056	650,377.89	1,145,576.95	TOE DRAIN CENTERLINE
057	650,399.15	1,145,585.66	TOE DRAIN OUTLET
058	650,428.06	1,145,596.63	TOE DRAIN CENTERLINE
060	650,479.45	1,145,603.96	TOE DRAIN CENTERLINE
062	650,540.80	1,145,608.90	TOE DRAIN CENTERLINE
064	650,592.05	1,145,578.31	TOE DRAIN OUTLET
066	650,617.66	1,145,562.71	TOE DRAIN CENTERLINE
068	650,644.61	1,145,548.39	TOE DRAIN CENTERLINE
070	650,659.83	1,145,524.54	TOE DRAIN CENTERLINE
072	650,672.82	1,145,506.52	TOE DRAIN CENTERLINE
074	650,704.01	1,145,425.66	TOE DRAIN OUTLET
076	650,716.81	1,145,392.52	TOE DRAIN CENTERLINE
078	650,737.15	1,145,336.94	TOE DRAIN CENTERLINE
080	650,760.85	1,145,278.36	TOE DRAIN CENTERLINE
082	650,751.37	1,145,235.56	TOE DRAIN OUTLET
084	650,703.12	1,145,018.49	TOE DRAIN OUTLET
086	650,658.87	1,144,820.19	START ANCHOR TRENCH
088	650,601.35	1,144,808.16	ANCHOR TRENCH CENTERLINE
090	650,552.22	1,144,789.45	ANCHOR TRENCH CENTERLINE
092	650,507.16	1,144,767.02	ANCHOR TRENCH CENTERLINE
094	650,451.92	1,144,759.25	ANCHOR TRENCH CENTERLINE
096	650,394.29	1,144,758.33	ANCHOR TRENCH CENTERLINE

TOE DRAIN SURVEY CONTROL

CONTROL POINT	EASTING	NORTHING	DESCRIPTION
098	650,[illegible]	1,144,751.44	ANCHOR TRENCH CENTERLINE
100	650,[illegible]	1,144,697.08	ANCHOR TRENCH CENTERLINE
102	650,[illegible]	1,144,654.77	ANCHOR TRENCH CENTERLINE
104	650,[illegible]	1,144,603.43	ANCHOR TRENCH CENTERLINE
106	650,[illegible]	1,144,580.49	ANCHOR TRENCH CENTERLINE
108	650,[illegible]	1,144,567.86	ANCHOR TRENCH CENTERLINE
110	649,[illegible]	1,144,563.86	START TOE DRAIN

STORMWATER CHANNEL SURVEY CONTROL

CONTROL POINT	EASTING	NORTHING	DESCRIPTION
400	649,[illegible]	1,145,279.79	CHANNEL CENTERLINE
405	649,[illegible]	1,145,304.20	CHANNEL CENTERLINE
410	649,[illegible]	1,145,326.34	CHANNEL CENTERLINE
415	649,666.72	1,145,345.71	CHANNEL CENTERLINE
420	649,885.25	1,145,364.48	CHANNEL CENTERLINE
425	650,003.00	1,145,441.51	CHANNEL CENTERLINE
430	650,136.[illegible]	1,145,537.97	CHANNEL CENTERLINE
435	650,148.52	1,145,551.70	CHANNEL CENTERLINE
440	650,[illegible]	1,145,565.56	CHANNEL CENTERLINE

ACCESS ROAD SURVEY CONTROL

CONTROL POINT	EASTING	NORTHING	DESCRIPTION
200	650,755.49	1,145,790.03	CENTER OF TURNAROUND
205	650,472.19	1,145,663.45	ACCESS ROAD CENTERLINE
210	650,164.77	1,145,527.75	ACCESS ROAD CENTERLINE PI
215	650,050.46	1,145,476.61	ACCESS ROAD CENTERLINE PI
220	650,076.30	1,145,327.68	ACCESS ROAD CENTERLINE
225	650,070.85	1,145,125.28	END ACCESS ROAD
230	650,106.17	1,145,125.20	ACCESS ROAD CENTERLINE PI
235	650,386.32	1,145,124.66	ACCESS ROAD CENTERLINE
240	650,489.90	1,145,124.47	ACCESS ROAD CENTERLINE
245	650,763.49	1,145,136.15	END ACCESS ROAD

ALTERNATE ACCESS ROAD SURVEY CONTROL

CONTROL POINT	EASTING	NORTHING	DESCRIPTION
500	649,800.59	1,145,125.79	BEGIN ACCESS ROAD
505	650,106.17	1,145,125.20	ACCESS ROAD CENTERLINE PI
510	650,386.32	1,145,124.66	ACCESS ROAD CENTERLINE
515	650,489.90	1,145,124.47	ACCESS ROAD CENTERLINE
520	650,763.49	1,145,136.15	END ACCESS ROAD
525	650,074.07	1,145,327.68	ACCESS ROAD CENTERLINE
530	650,060.12	1,145,415.71	ACCESS ROAD CENTERLINE PT
535	650,071.36	1,145,442.78	ACCESS ROAD CENTERLINE PT
540	650,155.96	1,145,503.98	ACCESS ROAD CENTERLINE PI
545	650,277.96	1,145,579.92	ACCESS ROAD CENTERLINE
550	650,369.60	1,145,618.49	ACCESS ROAD CENTERLINE
555	650,414.80	1,145,638.58	ACCESS ROAD CENTERLINE
560	650,472.19	1,145,663.45	ACCESS ROAD CENTERLINE
565	650,641.93	1,145,739.55	ACCESS ROAD CENTERLINE
570	650,776.72	1,145,799.05	CENTER OF TURNAROUND

EROSION CONTROL BERM SURVEY CONTROL

CONTROL POINT	EASTING	NORTHING	DESCRIPTION
300	650,744.98	1,145,335.56	CHANNEL LOW POINT
305	650,578.99	1,145,359.54	CHANNEL CENTERLINE
310	650,409.15	1,145,340.57	CHANNEL HIGH POINT
315	650,281.04	1,145,253.50	CHANNEL CENTERLINE
320	650,256.37	1,145,130.89	CHANNEL LOW POINT

HIGHWAY 202 DRAINAGE CHANNEL SURVEY CONTROL

CONTROL POINT	EASTING	NORTHING	DESCRIPTION
600	798,126.88	1,048,444.85	CHANNEL CENTERLINE
602	798,076.99	1,048,442.18	CHANNEL CENTERLINE
604	798,038.36	1,048,440.32	CHANNEL CENTERLINE
606	798,007.00	1,048,443.74	CHANNEL CENTERLINE
608	797,921.82	1,048,453.54	CHANNEL CENTERLINE
610	797,881.82	1,048,453.82	CHANNEL CENTERLINE
612	797,681.92	1,048,454.25	CHANNEL CENTERLINE
614	797,482.00	1,048,455.13	CHANNEL CENTERLINE
616	798,357.33	1,047,992.12	CHANNEL CENTERLINE
618	798,333.87	1,047,985.05	CHANNEL CENTERLINE
620	798,329.12	1,047,949.49	CHANNEL CENTERLINE
622	798,292.76	1,047,967.36	CHANNEL CENTERLINE
624	798,269.84	1,047,959.63	CHANNEL CENTERLINE
626	798,232.84	1,047,955.46	CHANNEL CENTERLINE
628	798,205.52	1,047,956.67	CHANNEL CENTERLINE
630	798,179.75	1,047,969.61	CHANNEL CENTERLINE
632	798,153.69	1,047,978.29	CHANNEL CENTERLINE
634	798,128.25	1,047,982.15	CHANNEL CENTERLINE
636	798,110.26	1,047,982.15	CHANNEL CENTERLINE
638	798,091.92	1,047,981.53	CHANNEL CENTERLINE
640	797,921.92	1,047,975.72	CHANNEL CENTERLINE
642	797,721.87	1,047,966.55	CHANNEL CENTERLINE
644	797,705.81	1,047,965.69	CHANNEL CENTERLINE
646	797,689.75	1,047,965.01	CHANNEL CENTERLINE
648	797,573.97	1,047,964.54	CHANNEL CENTERLINE
650	797,656.77	1,047,963.68	CHANNEL CENTERLINE
652	797,640.71	1,047,962.53	CHANNEL CENTERLINE
654	797,624.36	1,047,961.96	CHANNEL CENTERLINE
656	797,614.89	1,047,961.39	CHANNEL CENTERLINE
658	797,561.68	1,047,907.49	CHANNEL CENTERLINE
660	797,485.74	1,047,944.50	CHANNEL CENTERLINE

NOTES

1. THE FOLLOWING MONUMENTS WERE SET BY ALMON ASSOCIATES, INC. IN AUGUST 1996 AND WERE USED FOR BOTH HORIZONTAL AND VERTICAL CONTROL ON THIS PROJECT.

MONUMENT	NORTHING	EASTING	ELEVATION (MSL)
AE	1,144,532.[illegible]	650,[illegible]	[illegible]
AF	1,144,[illegible]	650,[illegible]	[illegible]

2. THE CONTRACTOR SHALL VERIFY THE ACCURACY OF THESE CONTROLS BASED ON A PERMANENT BENCHMARK OF RECORD NEARBY.
3. CONTRACTOR SHALL CAREFULLY COORDINATE THE SURVEY CONTROL FOR THIS AND ADJACENT PROJECTS BY ESTABLISHING AND MAINTAINING TEMPORARY BENCHMARKS.
4. THE SURVEY CONTROL POINTS INCLUDED ON THIS DRAWING ARE PROVIDED FOR GUIDANCE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR DURING CONSTRUCTION.
5. THE ACTUAL SURVEY CONTROL POINTS SHALL BE RECORDED BY THE CONTRACTOR AND INCLUDED ON THE AS-BUILT DRAWINGS.

ALABAMA REGISTERED No. 21232 PROFESSIONAL GARY M. WANTLAND

Gary M. Wantland 2 May 1997

DRAWING NUMBER	MATCHING DRAWING TITLE	NO.	DESCRIPTION OF REVISION	BY	DATE
		0	ISSUED FOR CONSTRUCTION	Com	5/2/97

MONSANTO

300 Birmingham Highway
Anniston, Alabama 36201

Woodward-Clyde Consultants

7600 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

DESIGNED BY	M.S.C.
DRAWN BY	S.J.
CHECKED BY	M.A.A.
PEER REVIEWED	G.M.W.
PROJ. MANAGER	L.E.I.
DATE	02-10-97

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION

PROJECT LOCATION: ANNISTON, ALABAMA

SURVEY CONTROL DATA

REVISION: 0

PROJECT: 96T187

DRAWING: C-03

HIGHWAY 202

EDGE OF SHOULDER

MILE POST

F/L 773.81

1595'-0" 6'x6' BOX CULVERT

F/L 777.13

F/L 782.72

CONC. FLUME SLOTTED OVER

YARD INLET

18" CONC.

F/L 782.25

F/L 782.56

F/L 783.15

F/L 787.33

F/L 787.19

18" CONC. PIPE

EL. 796.22

24" METAL

CB-55

CB-55-SH

F/L 790.62

CB-54

CB-53

ASPHALT PAVED ROAD

F/L 793.96

F/L 795.96

F/L 815.25

F/L 817.00

F/L 816.72

F/L 819.96

F/L 824.51

F/L 825.17

F/L 826.07

F/L 833.18

F/L 839.98

F/L 850.65

F/L 852.60

OPEN AREA

WOODS

CONC. PIPE

SLAG ROAD

F/L 814.86

F/L 815.71

MOR. # 8
N 1145102.725
E 656702.24
EL. 865.76

FLUME SLOTTED OVER

F/L 774.83

SCALE
0 50 100 FEET

NOTES:

1. NO ATTEMPT HAS BEEN MADE TO IDENTIFY UTILITIES ALONG HIGHWAY 202. COORDINATE WITH THE CONSTRUCTION MANAGER TO IDENTIFY AND LOCATE ANY AND ALL UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES.
2. ALL INTERCEPTOR AND MONITORING WELLS SHALL BE BE PROTECTED AND SHALL REMAIN IN SERVICE THROUGHOUT CONSTRUCTION, AS DIRECTED BY THE CONSTRUCTION MANAGER.
3. EXACT LINES, GRADES AND ELEVATIONS ENCOUNTERED AT THE TIME OF CONSTRUCTION MAY VARY SLIGHTLY FROM THOSE SHOWN ON THIS DRAWING.
4. REFER TO DRAWING C-03 FOR SURVEY CONTROL DATA.

LEGEND:

- EXISTING CONTOUR
- CONCRETE MONUMENT SET BY ALMONASSOC.
- CURB INLET
- INTERCEPTOR WELL
- MONITOR WELL
- SIGN
- TELEPHONE POLE
- TELEPHONE BOX
- POWER POLE
- OVERHEAD ELECTRIC LINE
- GUY ANCHOR
- GUY POLE
- TREE
- CHAIN LINK FENCE

MATCH LINE — N 1,145,100.0 (SEE DWG. NO. C-05)

REFERENCE: ALMON ASSOCIATES, INC. ENGINEERING, SURVEYING, ARCHITECTURE
CORP. LIC. NO. 3167 PO. OWNER 2729
ANNISTON, ALABAMA 36201

ALABAMA REGISTERED No. 9922 PROFESSIONAL ENGINEER

Craig Wentland
3 Mar 97

DRAWING NUMBER	REFERENCE DRAWING TITLE

REV	DESCRIPTION OF REVISION	BY	DATE
0	ISSUED FOR CONSTRUCTION	GWW	05/02/97

MONSANTO

300 Birmingham Highway
Anniston, Alabama 36201

Woodward-Clyde Consultants
Engineering & science applied to the earth & its environment
7600 West Tidwell, Suite 800
Houston, Texas 77040
United States of America

DESIGNED BY	MSC
DRAWN BY	GAT
CHECKED BY	MAA
PEER REVIEWER	GWW
PROJ. MANAGER	LEE
DATE	03-27-97

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION
PROJECT LOCATION: ANNISTON, ALABAMA
REVISION 0

EXISTING SITE PLAN
(SHEET 1 OF 2)

PROJECT 96T187
DRAWING C-04

[DATE: 01-TZ-97] [USE: 1:50] [PLOT SCALE: 1:50] [(213) 680-0700] [3600 (1950) SOUTH LANDFILL COVER CONSTRUCTION] [PHONE]

MATCH LINE – N 1,145,100.0 (SEE DWG. NO. C-04)

ASPHALT PAVED ROAD

F/L 817.14

F/L 816.64

F/L 839.92

F/L 852.30

24" STL PIPE

ASPHALT PAVED ROAD

F/L 865.56

18" CONC. PIPE

F/L 870.96

F/L 859.65

F/L 892.20
24"STL. PIPE

OPEN AREA

WOODS

F/L 857.27

F/L 858.24
24"STL PIPE

MON. # 6
N 1144532.949
E 650101.626
EL 877.80

MON. # 7
N 1144525.615
E 650587.617
EL 940.07

APPROXIMATE FOOTPRINT OF PROPOSED UPPER DIVERSION CHANNEL (REFER TO GOLDER ASSOCIATES DRAWINGS)

SCALE
0 50 100 FEET

NOTES:

1. NO ATTEMPT HAS BEEN MADE TO IDENTIFY UTILITIES ALONG HIGHWAY 202. COORDINATE WITH THE CONSTRUCTION MANAGER TO IDENTIFY AND LOCATE ANY AND ALL UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES.
2. ALL INTERCEPTOR AND MONITORING WELLS SHALL BE PROTECTED AND SHALL REMAIN IN SERVICE THROUGHOUT CONSTRUCTION AS DIRECTED BY THE CONSTRUCTION MANAGER.
3. EXACT LINES, GRADES AND ELEVATIONS ENCOUNTERED AT THE TIME OF CONSTRUCTION MAY VARY SLIGHTLY FROM THOSE SHOWN HEREON.
4. REFER TO DRAWING C-03 FOR SURVEY CONTROL DATA.

LEGEND:

- EXISTING CONTOUR
- CONCRETE MONUMENT SET BY ALMON ASSOC.
- CONCRETE MONUMENT SET BY ALMON ASSOC. (SURVEY CONTROL POINT, THIS PROJECT)
- CURB INLET
- INTERCEPTOR WELL
- MONITOR WELL
- SIGN
- TELEPHONE POLE
- TELEPHONE BOX
- POWER POLE
- O/H ELECTRIC LINE
- GUY ANCHOR
- GUY POLE
- TREE
- CHAINLINK FENCE

ALABAMA REGISTERED No. 21121 PROFESSIONAL ENGINEER GARY M. MAITLAND

Gary M. Maitland
7 May 97

ENGINEER:
ALMON ASSOCIATES INC. - ENGINEERING, SURVEYING, ARCHITECTURE
[illegible]

DRAWING NUMBER	REFERENCE DRAWING TITLE	REV	DESCRIPTION OF REVISION	BY	DATE
		3			
		2			
		1	ISSUED FOR CONSTRUCTION	GMM	05/02/97

MONSANTO

300 Birmingham Highway
Anniston, Alabama 36201

Woodward-Clyde Consultants
Engineering & science applied to the earth & its environment
7600 West Tidwell, Suite 500
Houston, Texas 77040
United States of America

DESIGNED BY	M.S.C.
Drawn BY	GAT
CHECKED BY	M.A.A.
PEER REVIEWER	G.M.M.
PROJ. MANAGER	M.S.C.
DATE	

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION

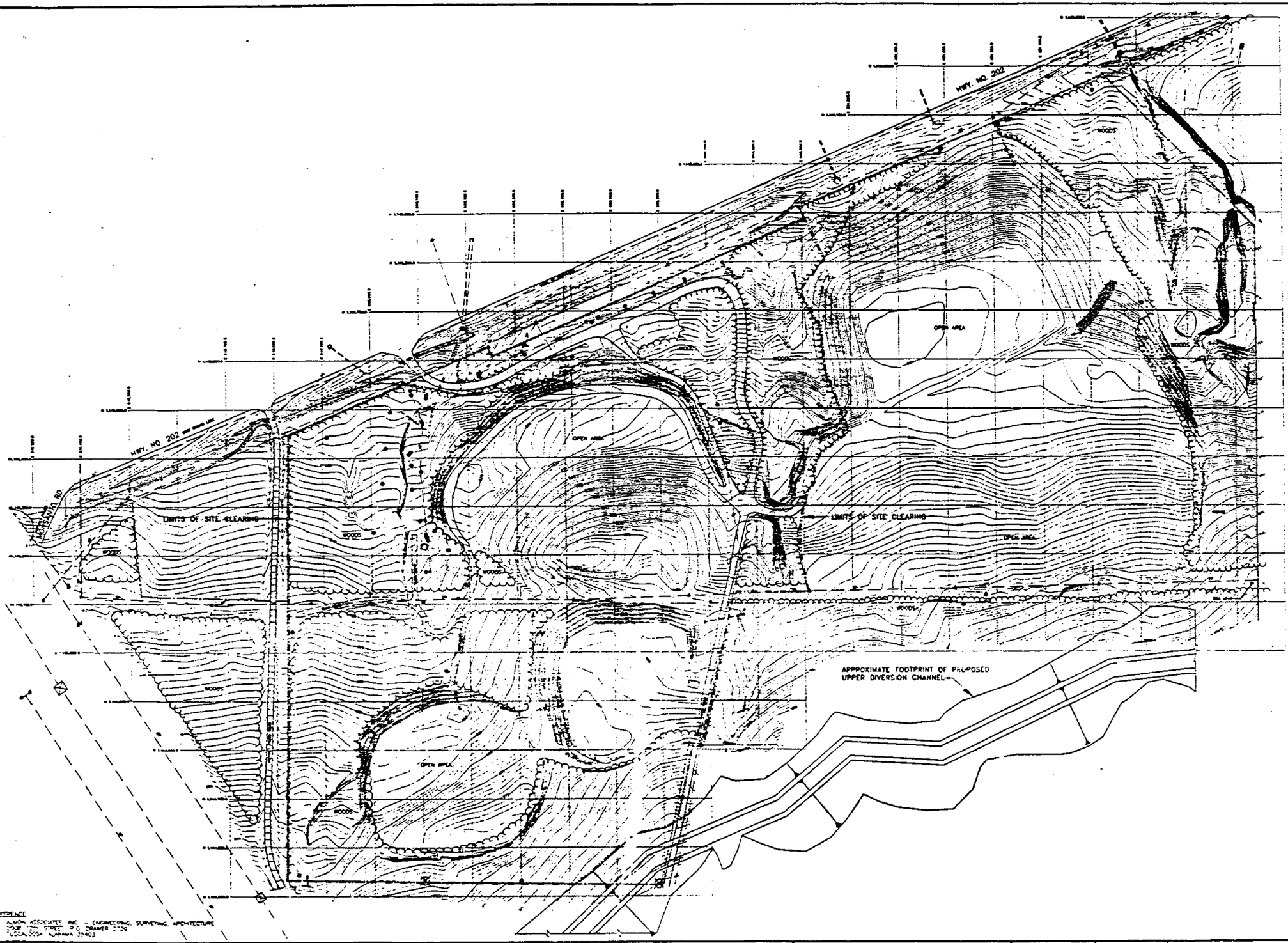
PROJECT LOCATION: ANNISTON, ALABAMA

EXISTING SITE PLAN
(SHEET 2 OF 2)

REVISION: 1

PROJECT: 96T187

DRAWING: C-05



SCALE IN FEET
0 100 200

NOTES:

1. ALL TREES AND VEGETATION SHALL BE CLEARED TO WITHIN 4 INCHES OF EXISTING GRADE.
2. ADDITIONAL TREES AND VEGETATION OUTSIDE OF THESE LIMITS SHALL BE CLEARED AS DIRECTED BY THE CONSTRUCTION MANAGER.
3. APPLY HERBICIDE AS DIRECTED BY THE CONSTRUCTION MANAGER.

LEGEND:

- 890 —— EXISTING CONTOUR (5' INTERVAL)
- ⊠ CONCRETE MONUMENT SET BY ALMON (SURVEY PEFERENCE, THIS PROJECT)
- ● CONCRETE MONUMENT SET BY ALMON
- CURB INLET
- INTERCEPTOP WELL
- MONITOR WELL
- SIGN
- TELEPHONE POLE
- TELEPHONE BOX
- POWER POLE
- O/H ELECTRIC LINE
- GUY ANCHOR
- GUY POLE
- TREE
- CHAINLINK FENCE
- LIMITS OF SITE CLEARING

REFERENCE
ALMON ASSOCIATES, INC. - ENGINEERING, SURVEYING, ARCHITECTURE
2008 NW 10TH STREET P.O. DRAWER 2729
OCALA, FLORIDA 32678

ALABAMA REGISTERED No. 21532 PROFESSIONAL ENGINEER
Gary M. Kelly
2-14-97

DRAWING NUMBER	REFERENCE DRAWING TITLE

REV.	DESCRIPTION OF REVISION	BY	DATE
0	ISSUED FOR CONSTRUCTION		03/21/97

MONSANTO
300 Birmingham Highway
Anniston, Alabama 36201

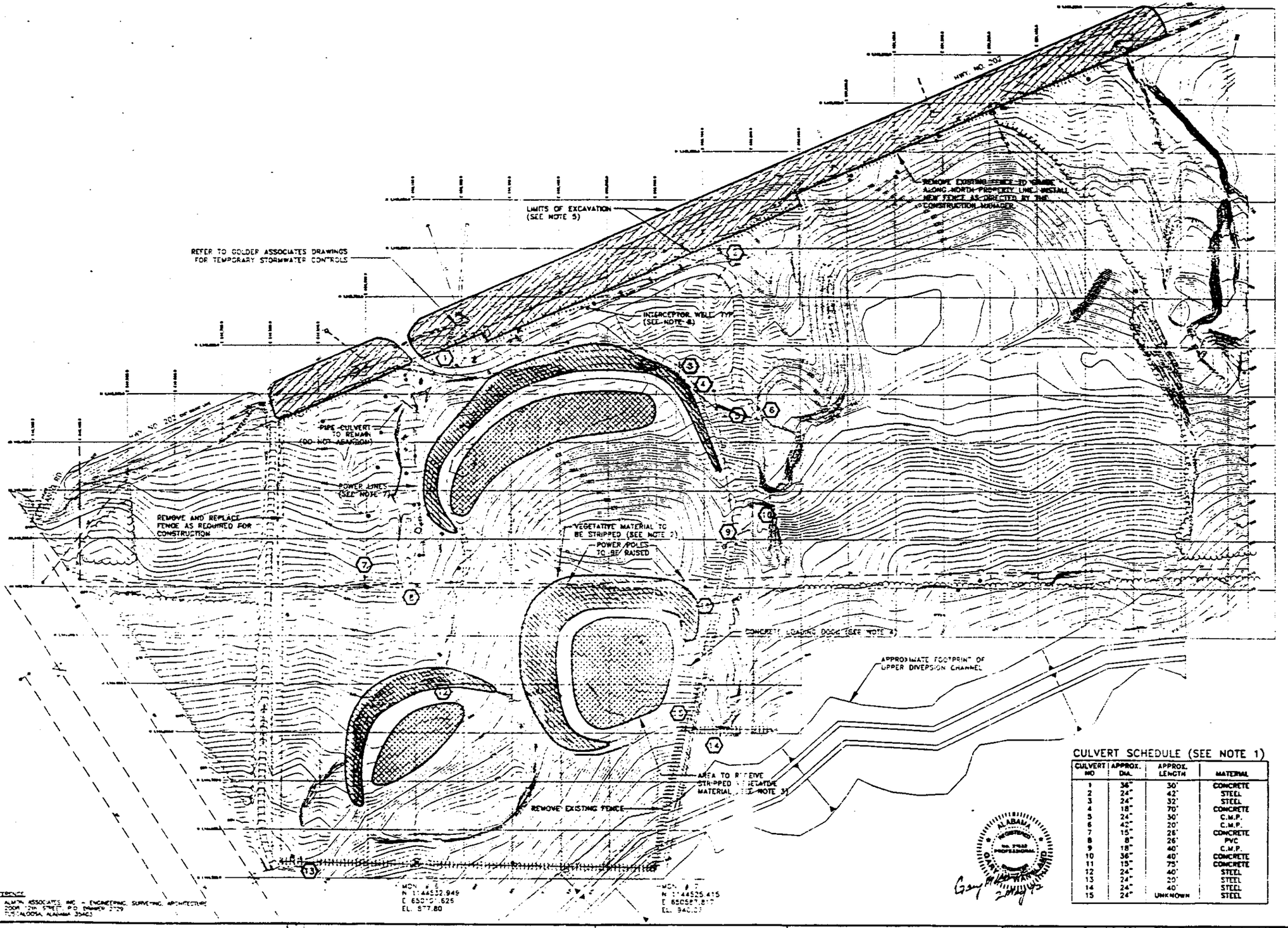
Woodward-Clyde Consultants
Engineering & science applied to the earth & its environment
7600 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

DESIGNED BY	MSS
DRAWN BY	PP/GT
CHECKED BY	MAA
QCQA REVIEWER	DMW
PROJ. MANAGER	LEE
DATE	3/27/97

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION
PROJECT LOCATION: ANNISTON, ALABAMA

SITE CLEARING LIMITS

REVISION: 0
PROJECT: 96T187
DRAWING: C-06



SCALE IN FEET
0 100 250

NOTES:

1. ALL CULVERTS SHALL BE ABANDONED IN PLACE BY CRUSHING OR FILLING WITH A MATERIAL APPROVED BY THE CONSTRUCTION MANAGER.
2. ALL EXISTING SLOPES GREATER THAN 3:1 WITHIN THE LIMITS OF THE CAP SHALL HAVE THE UPPER 2" STRIPPED. REFER TO DRAWING C-21.
3. STRIPPED MATERIAL SHALL BE EVENLY PLACED AND COMPACTED IN THE AREAS DESIGNATED.
4. CONCRETE LOADING DOCK SHALL BE BROKEN UP INTO PIECES NO LARGER THAN 2'X2'X2' AND PLACED IN THE RAVINE NEAR CULVERT NO. 10 PRIOR TO PLACING INTERMEDIATE FILL.
5. THE UPPER 18" OF SOIL SHALL BE EXCAVATED AND PLACED WITHIN THE LIMITS OF THE GEOSYNTHETIC CAP, AS DIRECTED BY THE CONSTRUCTION MANAGER. THE EXCAVATION SHALL EXTEND FROM HWY. 202 SOUTH SHOULDER TO THE FENCE LINE. BACKFILL TO THE EXISTING LINES AND GRADE EXCEPT AS MODIFIED BY THE PROPOSED CHANNEL. (SEE DRAWING C-10).
6. ALL WORK ACTIVITIES IN HWY. 202 R.O.W. SHALL BE PERFORMED IN ACCORDANCE WITH ALDOT REQUIREMENTS.
7. MODIFY POWER POLES AND OVERHEAD LINES AS DIRECTED BY THE CONSTRUCTION MANAGER TO PROVIDE AN ALLOWABLE CLEARANCE HEIGHT.
8. CONTRACTOR SHALL LOCATE ALL GROUNDWATER CONVEYANCE PIPING AND ELECTRICAL CONDUITS PRIOR TO EXCAVATION. ALL PIPING AND CONDUIT SHALL BE RELOCATED AS REQUIRED TO BE OUTSIDE OF THE GEOSYNTHETIC CAP LIMITS.

LEGEND:

- 890 EXISTING CONTOUR
- CONCRETE MONUMENT SET BY ALMON
- CONCRETE MONUMENT SET BY ALMON (SURVEY CONTROL POINT, THIS PROJECT)
- CAPPED PIPE
- INTERCEPTOR WELL
- MONITOR WELL
- SIGN
- TELEPHONE POLE
- TELEPHONE BOX
- POWER POLE
- O/H ELECTRIC LINE
- GUY ANCHOR
- GUY POLE
- TREE
- CHAINLINK FENCE
- (1) EXISTING CULVERT (TO BE ABANDONED)
- LIMITS OF EXCAVATION (18" TYP.)
- LIMITS OF STRIPPING (TOP 2" OF VEGETATION LAYER TO BE REMOVED)
- AREA TO RECEIVE STRIPPED VEGETATIVE MATERIAL
- EXISTING FENCE TO BE REMOVED

CULVERT SCHEDULE (SEE NOTE 1)

CULVERT NO.	APPROX. DIA.	APPROX. LENGTH	MATERIAL
1	36"	30'	CONCRETE
2	24"	42'	STEEL
3	24"	32'	STEEL
4	18"	70'	CONCRETE
5	24"	30'	C.M.P.
6	42"	20'	C.M.P.
7	15"	26'	CONCRETE
8	8"	26'	PVC
9	18"	40'	C.M.P.
10	36"	40'	CONCRETE
11	15"	75'	CONCRETE
12	24"	40'	STEEL
13	24"	20'	STEEL
14	24"	40'	STEEL
15	24"	UNKNOWN	STEEL

ALABAMA REGISTERED 19161 PROFESSIONAL ENGINEER

REFERENCE:
ALMON ASSOCIATES, INC. - ENGINEERING, SURVEYING, ARCHITECTURE
2008 12th STREET, P.O. DRAWER 2129
TUSCALOOSA, ALABAMA 35403

DRAWING NUMBER	REFERENCE DRAWING TITLE

NO.	DESCRIPTION OF REVISION	DATE
	ISSUED FOR CONSTRUCTION	

MONSANTO

300 Birmingham Highway
Anniston, Alabama 36201

Woodward-Clyde Consultants

7600 West Tidwell, Suite 800
Houston, Texas 77040
United States of America

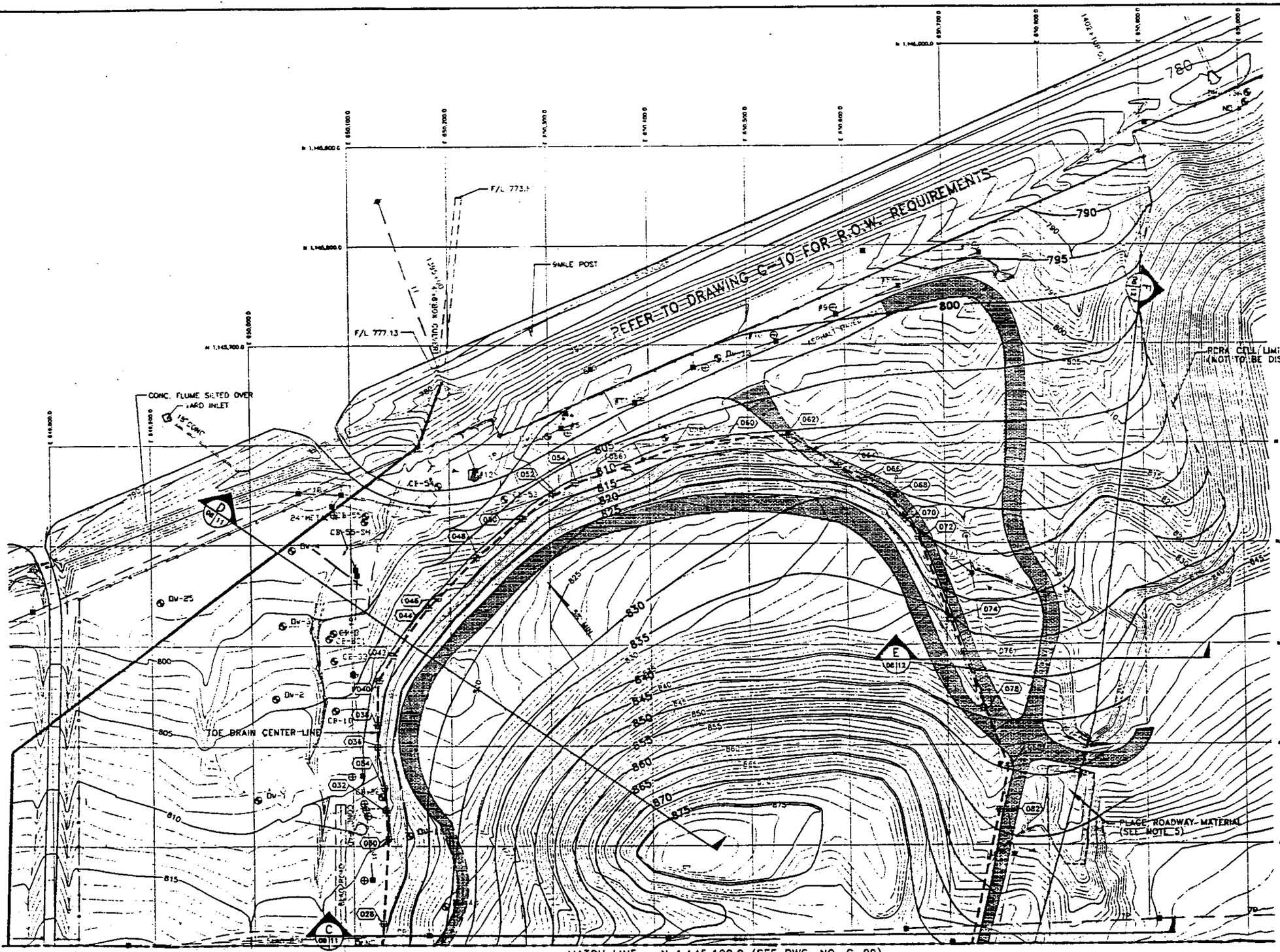
DESIGNED BY	MSE
DRAWN BY	BB
CHECKED BY	MAA
PEER REVIEWED	GMB
PROJ. MANAGER	LEE
DATE	3/27/97

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION
PROJECT LOCATION: ANNISTON, ALABAMA

SECTION: C

SITE PREPARATION PLAN

PROJECT: 96T187
DRAWING: C-07


REFER TO DRAWING C-10 FOR R.O.W. REQUIREMENTS
F/L 773.5
F/L 777.13
MILE POST
CONC. FLUME SLOTED OVER YARD INLET
15" CONC
24" METAL PIPE
CB-SS-SM
CE-SS
CE-33
CR-18
TOE DRAIN CENTER LINE
PLACE ROADWAY MATERIAL (SEE NOTE 5)
RCRA CELL LIMITS (NOT TO BE DISTURBED)
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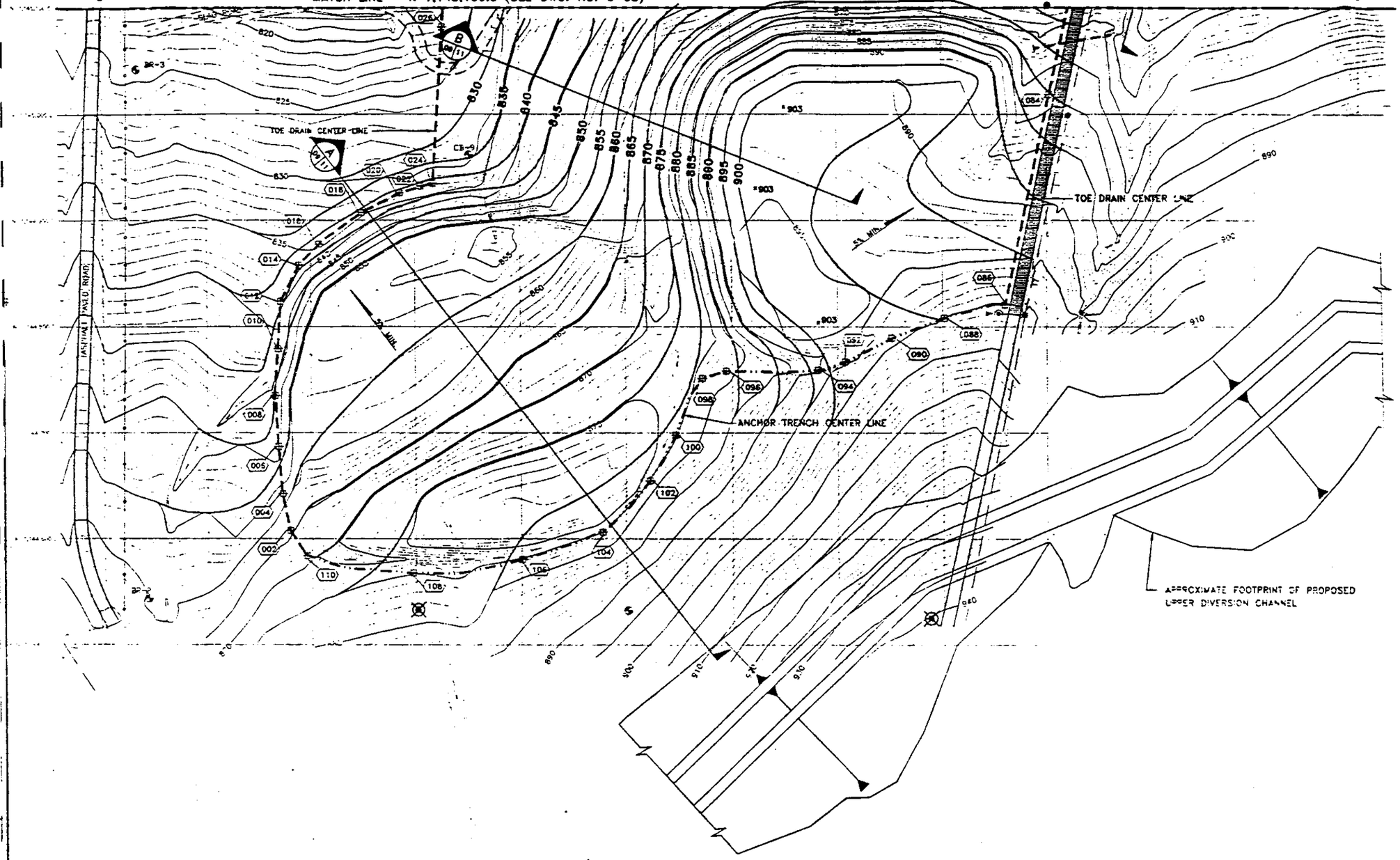
E 1,034

MATCH LINE – N 1,145,100.0 (SEE DWG. NO. C-08)



SCALE
0 50 100 FEET

NOTES:

1. REFER TO DRAWING C-07 FOR VEGETATIVE STRIPPING REQUIREMENTS PRIOR TO FILL PLACEMENT.
2. ALL AREAS TO RECEIVE FILL MATERIAL SHALL BE PROOF ROLLED WITH AN APPROVED SHEEPSFOOT ROLLER PRIOR TO FILL PLACEMENT, AS DIRECTED BY THE CONSTRUCTION MANAGER.
3. ALL FILL MATERIAL SHALL BE PLACED AND COMPACTED IN HORIZONTAL LIFTS AS MUCH AS IS PRACTICAL. REFER TO TYPICAL DETAIL ON DRAWING C-21.

LEGEND:

- 890 —— INTERMEDIATE CONTOUR
- 890 —— EXISTING CONTOUR
- ANCHOR TRENCH CENTER LINE
- TOE DRAIN CENTER LINE
- ×903 SPOT ELEVATION
- ● CONCRETE MONUMENT SET BY ALMON
- ⊠ CONCRETE MONUMENT SET BY ALMON (SURVEY CONTROL POINT, THIS PROJECT)
- INTERCEPTOR WELL
- MONITOR WELL
- TELEPHONE POLE
- POWER POLE
- O/H ELECTRIC LINE
- GUY ANCHOR
- FENCE
- SURVEY CONTROL POINT AND IDENTIFICATION NUMBER (SEE DRAWING NO. C-03 FOR TABLES)
- ROADWAY TO BE SCARIFIED PRIOR TO PLACING FILL MATERIAL

REFERENCE

DRAWING NUMBER	REFERENCE DRAWING TITLE

NO.	DESCRIPTION OF REVISION	BY	DATE
0	ISSUED FOR CONSTRUCTION	GMH	20 JUNE 97

MONSANTO
300 Birmingham Highway
Anniston, Alabama 36201

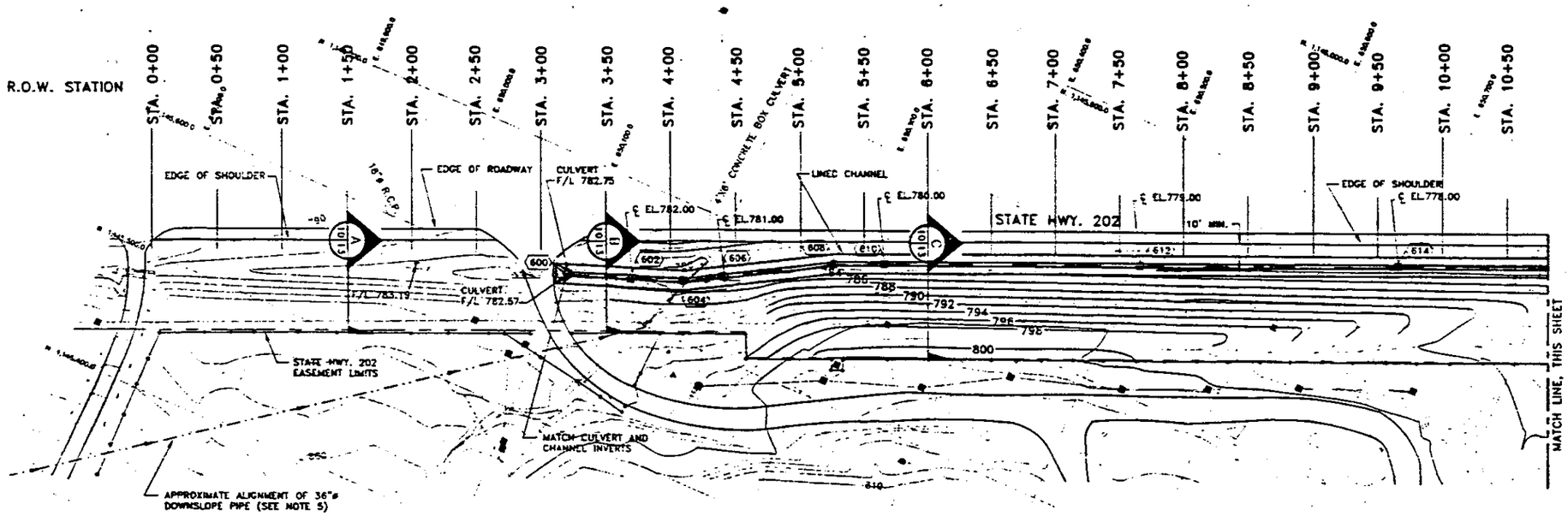
Woodward-Clyde Consultants
7600 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

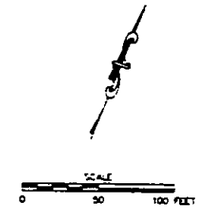
DESIGNED BY: MSS
DRAWN BY: GJC
CHECKED BY: MAA
PEER REVIEWER: LMP
PROJ. MANAGER: JEE
DATE:

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION
PROJECT LOCATION: ANNISTON, ALABAMA

INTERMEDIATE GRADING PLAN
TOP OF GENERAL FILL
(SHEET 2 OF 2)

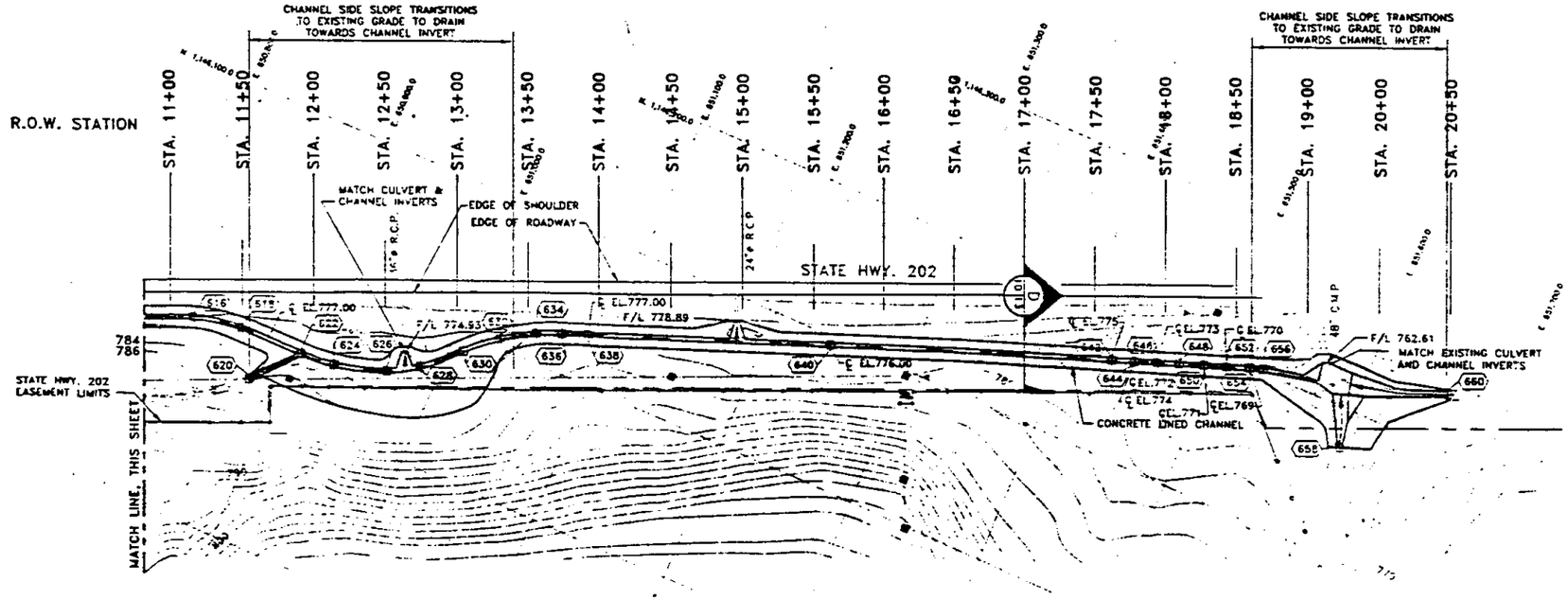
REVISION: 0
PROJECT: 96T187
DRAWING: C-09





NOTES:

1. EXCAVATED MATERIAL SHALL BE PLACED UNDER THE GEOSYNTHETIC CAP, AS DIRECTED BY THE CONSTRUCTION MANAGER.
2. BACKFILL TO THE EXISTING LINES AND GRADES EXCEPT AS MODIFIED BY THE DRAINAGE CHANNEL AND SIDE SLOPE REDUCTION.
3. ALL BACKSLOPES SHALL BE CUT TO ALLOW A MAXIMUM FINAL SLOPE OF 3:1. COORDINATE ALL R.O.W. EXCAVATION AND BACKFILL WORK WITH ON-SITE GRADING.
4. CHANNEL INVERT SHALL HAVE A MINIMUM SLOPE OF 0.5%.
5. REFER TO GOLDER ASSOCIATES DRAWINGS FOR 4'x6' BOX CULVERT BLOCKING DETAILS, AND 36"ø DOWNSLOPE PIPE ALIGNMENT AND DETAILS.
6. LINED CHANNEL SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALDOT SECTION 614-SLOPE PAVING.
7. SLOPE CHANNEL INVERT UNIFORMLY BETWEEN SURVEY CONTROL POINTS.
8. REFER TO GOLDER ASSOCIATES DRAWINGS FOR TEMPORARY STORMWATER BYPASS AROUND THE 4'x6' BOX CULVERT.



LEGEND:

- 790 — FINAL GRADE CONTOUR
- 780 EXISTING CONTOUR
- SIGN
- TELEPHONE POLE
- TELEPHONE BOX
- POWER POLE
- O/H ELECTRIC LINE
- GUY ANCHOR
- GUY POLE
- CHAINLINK FENCE
- CHANNEL FLOW DIRECTION
- LINED CHANNEL
- (600) SURVEY CONTROL POINT AND IDENTIFICATION NUMBER (SEE DRAWING C-03 FOR TABLES)

DRAWING NUMBER	REFERENCE DRAWING TITLE	NO.	DESCRIPTION OF REVISION	BY	DATE
		0	ISSUED FOR CONSTRUCTION	GMW	05/02/97

MONSANTO

300 Birmingham Highway
Anniston, Alabama 36201

Woodward-Clyde Consultants

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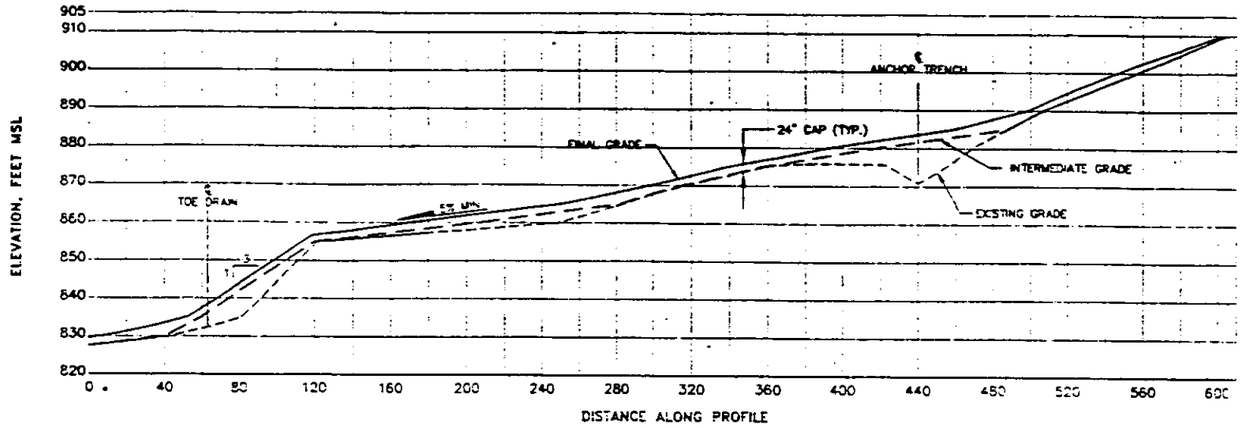
Houston, Texas 77040
United States of America

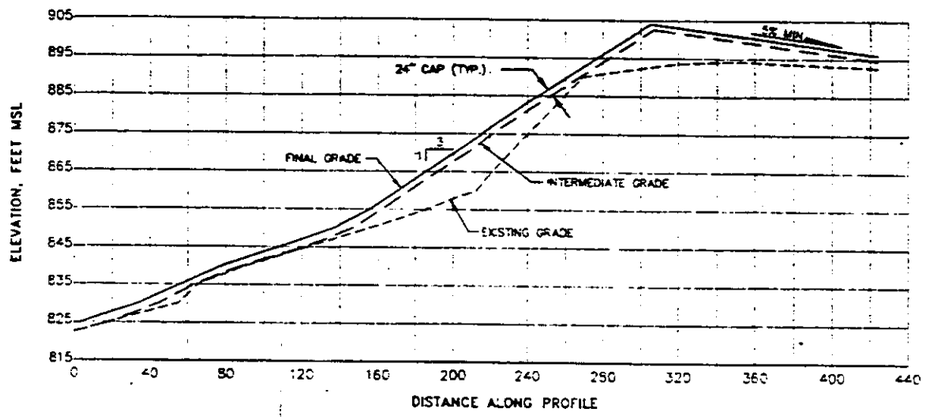
DESIGNED BY	M.S.C.
DRAWN BY	CAT
CHECKED BY	M.A.A.
PEER REVIEWED	G.M.W.
PROJ. MANAGER	L.E.E.
DATE	05-02-97

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION
PROJECT LOCATION: ANNISTON, ALABAMA

HWY 202 DRAINAGE MODIFICATIONS

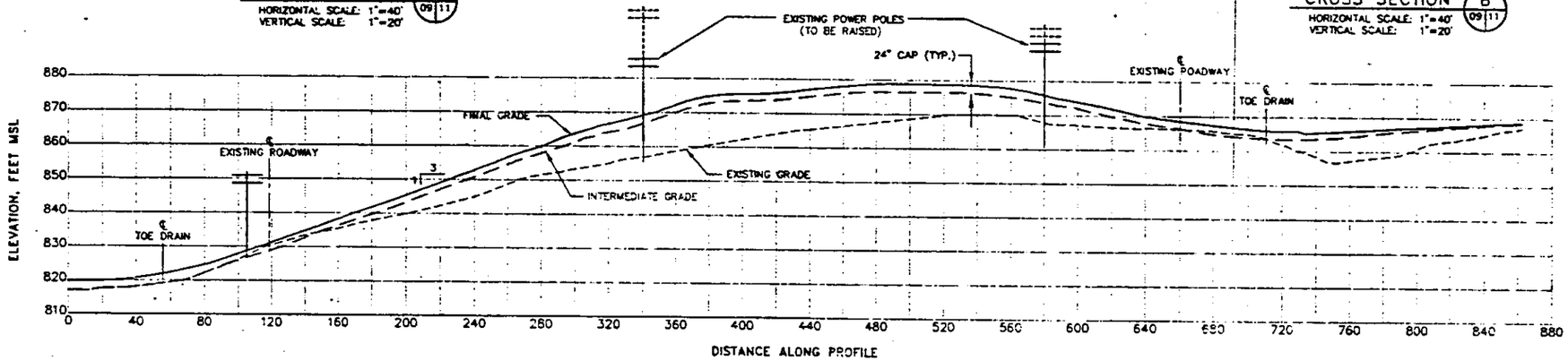
REVISION: 0
PROJECT: 96T157
DRAWING: C-10





CROSS SECTION A (09|11)

HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=20'

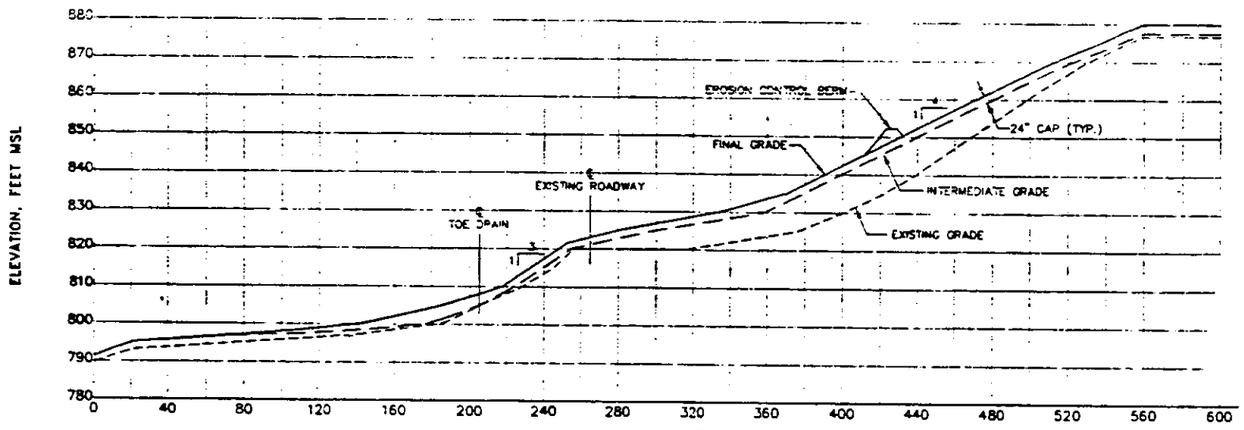


CROSS SECTION B (09|11)

HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=20'

CROSS SECTION C (08|11)

HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=20'



CROSS SECTION D (08|11)

HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=20'

LEGEND:

- EXISTING GRADE
- FINAL GRADE
- INTERMEDIATE GRADE

ALABAMA REGISTERED PROFESSIONAL ENGINEER GARY M. WARD

2 May 97

DRAWING NUMBER	REFERENCE DRAWING TITLE	REV	DESCRIPTION OF REVISION	BY	DATE
		0	ISSUED FOR CONSTRUCTION	JAW	05/02/97

MONSANTO

300 Birmingham Highway
Anniston, Alabama 36201

Woodward-Clyde Consultants

Engineering & science applied to the earth & its environment

7600 West Tidwell, Suite 800
Houston, Texas 77040
United States of America

DRAWN BY	BSS
DESIGN BY	PB
CHECKED BY	WAA
QA/QC REVIEWER	GMW
PROJ. MANAGER	LEE
DATE	5/2/97

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION

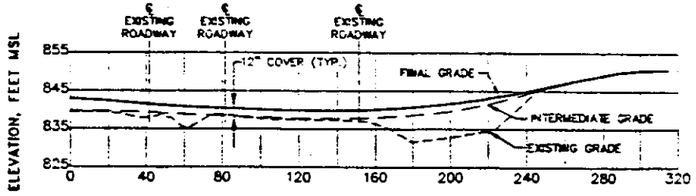
PROJECT LOCATION: ANNISTON, ALABAMA

GRADING CROSS-SECTIONS (A-A, B-B, C-C AND D-D)

REVISION: 0

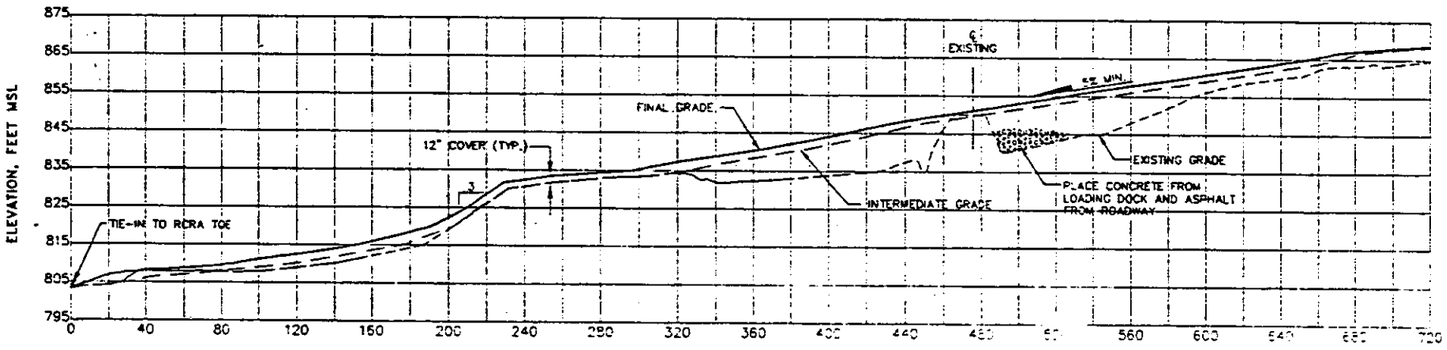
PROJECT: 96T187

DRAWING: C-11



CROSS SECTION E (08|12)

HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=20'



CROSS SECTION F (08|12)

HORIZONTAL SCALE: 1"=40'
VERTICAL SCALE: 1"=20'

LEGEND:

- EXISTING GRADE
- INTERMEDIATE GRADE
- FINAL GRADE

DRAWING NUMBER	REFERENCE DRAWING TITLE	REV	DESCRIPTION OF REVISION	BY	DATE
		0	ISSUED FOR CONSTRUCTION	GMB	05/02/97

MONSANTO

300 Birmingham Highway
Anniston, Alabama 36201

Woodward-Clyde Consultants

7600 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

DESIGNED BY
DRAWN BY
CHECKED BY
REP REVIEWER
PROJ MANAGER LEE
DATE

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION

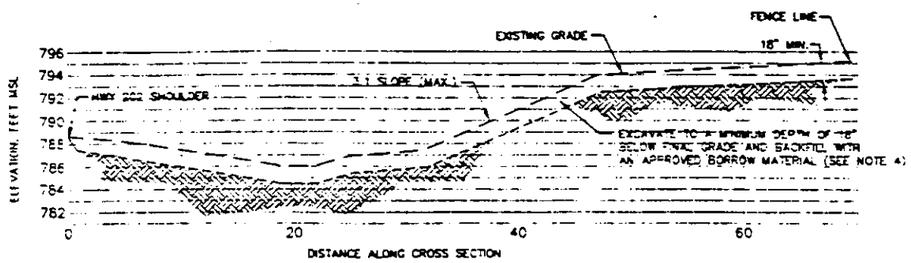
PROJECT LOCATION: ANNISTON, ALABAMA

GRADING CROSS-SECTIONS (E-E AND F-F)

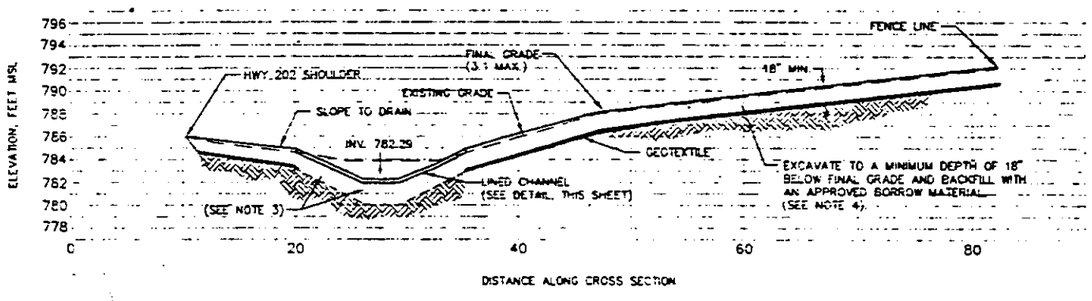
REVISION 0

PROJECT 96T1187

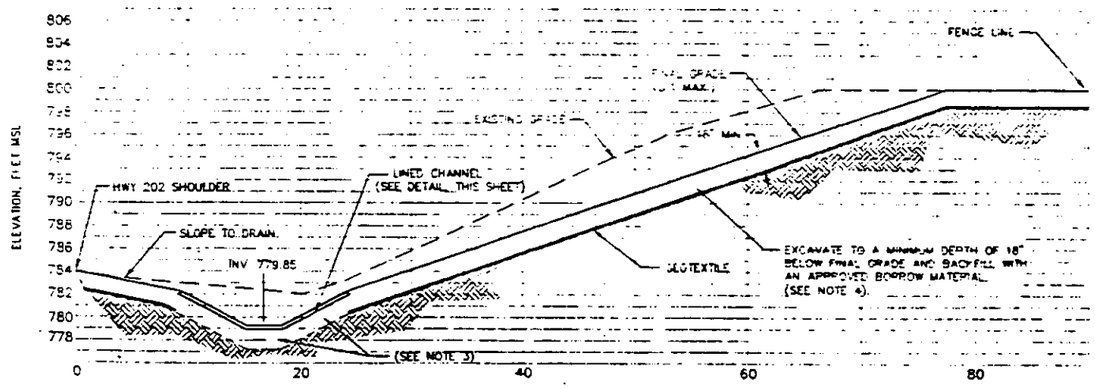
DRAWING C-12



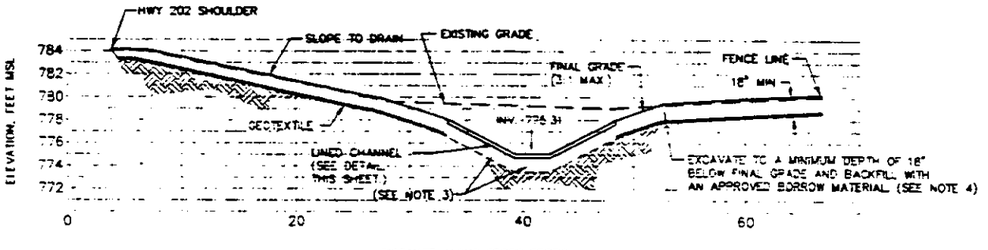
CROSS SECTION A – (STA. 1+50) A 10|13
NOT TO SCALE



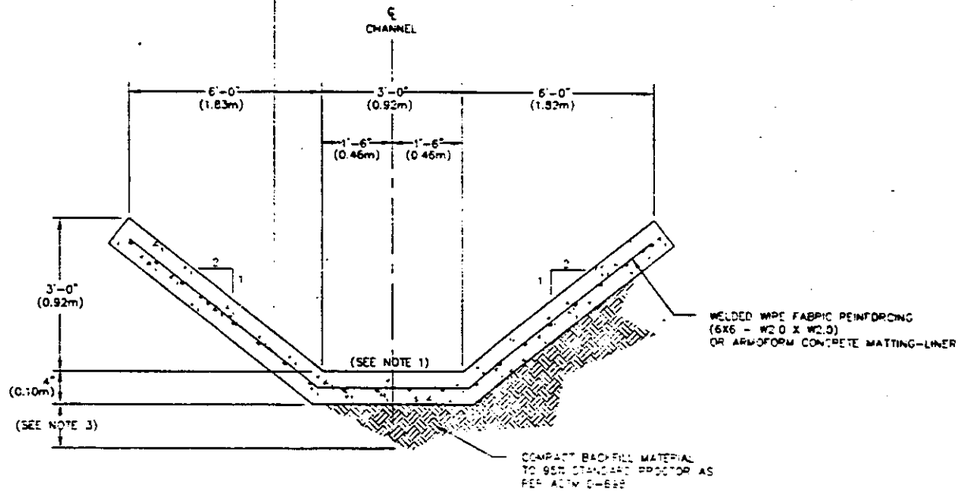
CROSS SECTION B – (STA. 3+50) B 10|13
NOT TO SCALE



CROSS SECTION C – (STA. 6+00) C 10|13
NOT TO SCALE



CROSS SECTION D – (STA 17+00) D 10|13
NOT TO SCALE



TYPICAL SECTION – LINED CHANNEL E 13|13
NOT TO SCALE

NOTES:

1. CHANNEL INVERT SHALL HAVE A MINIMUM SLOPE OF 0.5% REFER TO DRAWING C-10 FOR INVERT ELEVATIONS AND DRAWING C-03 FOR SURVEY CONTROL.
2. ALL CHANNEL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALDOT SECTION 614-SLOPE PAVING.
3. OVER EXCAVATE ONLY AS REQUIRED TO PROVIDE AN ADEQUATE SURFACE FOR SLOPE PAVING, AS DETERMINED BY THE CONSTRUCTION MANAGER.
4. ALL EXCAVATED MATERIAL SHALL BE PLACED UNDER THE GEOSYNTHETIC CAP, AS DIRECTED BY THE CONSTRUCTION MANAGER.

ALABAMA REGISTERED PROFESSIONAL ENGINEER
Gary K. Wallace
2 May 97

DRAWING NUMBER	REFERENCE DRAWING TITLE	NO.	DESCRIPTION OF REVISION	BY	DATE
		1	ISSUED FOR CONSTRUCTION	GKW	05/02/97

MONSANTO
300 Birmingham Highway
Anniston, Alabama 36201

Woodward-Clyde Consultants
7600 West Tidwell, Suite 900
Houston, Texas 77092
United States of America

DESIGNED BY	MSC
DRAWN BY	CAT
CHECKED BY	MAA
QA REVIEWER	DWH
PROJ. MANAGER	LEE
DATE	05-01-97

PROJECT NAME: SCMTH LANDFILL COVER CONSTRUCTION
PROJECT LOCATION: ANNISTON, ALABAMA

HWY 202 DRAINAGE CHANNEL CROSS-SECTIONS

REVISION 1
PROJECT 96T187
DRAWING C-13

(SEE NOTE 1)

SCALE
0 50 100 FEET

NOTES:

1. CONTINUE R.O.W. SOIL COVER TO 48"Ø CMP (E651,600).
2. CONCRETE CHANNEL NOT SHOWN FOR CLARITY. REFER TO DRAWING C-10 FOR DETAILS.

LIMITS OF R.O.W. SOIL COVER (SEE NOTE 2) 3/14/19

LIMITS OF SOIL COVER 2/14/19

TOE DRAIN OUTLET (200' O.C.) 2/14/21

GEOSYNTHETIC CAP 1/14/19

TOE DRAIN CENTERLINE 4/14/19

LIMITS OF SOIL COVER 2/14/19

GEOMEMBRANE BOOT (TYP. ALL PENETRATIONS) 1/14/20

A 14/21

MATCH LINE - N 1,145,100.0 (SEE DWG. NO. C-15)

LEGEND:

- INTERMEDIATE CONTOUR (5' INTERVAL)
- LIMITS OF SOIL COVER
- TOE DRAIN CENTERLINE
- CONCRETE MONUMENT SET BY: ALMON
- CURB INLET
- INTERCEPTOR WELL
- MONITOR WELL
- SIGN
- TELEPHONE POLE
- TELEPHONE BOX
- POWER POLE
- O/H ELECTRIC LINE
- GUY ANCHOR
- TREE
- CHAIN LINK FENCE
- GUY POLE
- 004 SURVEY CONTROL POINT AND IDENTIFICATION NUMBER (SEE DRAWING NO. C-03 FOR TABLES)

ALABAMA REGISTERED LANDSCAPE ARCHITECT No. 2552 PROFESSIONAL

Gary M. Hutchinson
5 May 97

MONSANTO 300 Birmingham Highway Anniston, Alabama 36201	Woodward-Clyde Consultants 7800 West Tidwell, Suite 600 Houston, Texas 77040 United States of America	WARNING: IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE	DESIGNED BY MSS DRAWN BY SJ CHECKED BY MAA PEER REVIEWER GMH PROJ MANAGER LEE DATE 3/27/97

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION
PROJECT LOCATION: ANNISTON, ALABAMA

LIMITS OF GEOSYNTHETIC CAP AND SOIL COVER (SHEET 1 OF 2)

REVISION A
PROJECT 96T187
DRAWING C-14

MATCH LINE – N 1,145,100.0 (SEE DWG. NO. C-14)

E 849,800.0 | E 849,900.0 | E 850,000.0 | E 850,100.0 | E 850,200.0 | E 850,300.0 | E 850,400.0 | E 850,500.0 | E 850,600.0 | E 850,700.0 | E 850,800.0 | E 850,900.0

N 1,145,000.0 | N 1,144,900.0 | N 1,144,800.0 | N 1,144,700.0 | N 1,144,600.0 | N 1,144,500.0

GEOMEMBRANE BOOT (TYP. ALL PENETRATIONS) 1/15/20

LIMITS OF SOIL COVER 2/15/19

GEOSYNTHETIC CAP 1/15/19

TOE DRAIN OUTLET (200' O.C.) 2/15/21

ASPHALT PAVED ROAD

START TOE DRAIN 4/15/19

END ANCHOR TRENCH

END TOE DRAIN

START ANCHOR TRENCH 5/15/19

LIMITS OF SOIL COVER

APPROXIMATE FOOTPRINT OF PROPOSED UPPER DIVERSION CHANNEL

SCALE 0 50 100 FEET

LEGEND:

- INTERMEDIATE CONTOUR
- TOE DRAIN CENTER LINE
- ANCHOR TRENCH CENTER LINE
- CONCRETE MONUMENT SET BY ALMON
- CURB INLET
- INTERCEPTOR WELL
- MONITOR WELL
- SIGN
- TELEPHONE POLE
- TELEPHONE BOX
- POWER POLE
- O/H ELECTRIC LINE
- GUY ANCHOR
- TREE
- CHAINLINK FENCE
- GUY POLE
- 006 SURVEY CONTROL POINT AND IDENTIFICATION NUMBER (SEE DRAWING C-03 FOR TABLES)

REFERENCE: ALMON ASSOCIATES INC. – ENGINEERING SURVEYING ARCHITECTURE

DRAWING NUMBER	REFERENCE DRAWING TITLE	REV	DESCRIPTION OF REVISION	BY	DATE
		0	ISSUED FOR CONSTRUCTION	GMM	05/02/97

MONSANTO
300 Birmingham Highway
Anniston, Alabama 36201

Woodward-Clyde Consultants
7600 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

WARNING
0 5 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED BY	MSC
DRAWN BY	GAY
CHECKED BY	MAA
DEEP REVIEWER	GMM
PROJ MANAGER	LEE
DATE	3/27/97

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION
PROJECT LOCATION: ANNISTON, ALABAMA

LIMITS OF GEOSYNTHETIC CAP AND SOIL COVER (SHEET 2 OF 2)

REVISION 0
PROJECT 96T187
DRAWING C-15

(SEE DRAWING C-10 FOR DRAINAGE DITCH CONSTRUCTION)

(SEE DRAWING C-10 FOR FINAL GRADING OUTSIDE FENCELINE)

℄ SITE ACCESS ROAD

EROSION CONTROL BERM

EROSION CONTROL MATTING (SEE NOTE 1)

℄ POWER LINE EASEMENT ACCESS ROAD

EDGE OF SHOULDER

4'x8' BOX CULVERT

SLOPE (12% TYP.)

EL. 850.0 (CHANNEL HIGH POINT)

EL. 846.0± (CHANNEL LOW POINT)

R=24'

R=75' (MIN)

MATCH LINE – N 1,145,100.0 (SEE DWG. NO. C-17)

SCALE
0 50 100 FEET

NOTES:

1. INSTALL ENKAMAT 7020 OR APPROVED EQUAL, AS DIRECTED BY THE CONSTRUCTION MANAGER.

LEGEND:

- 890 —— FINAL GRADE CONTOUR
- 850 —— INTERMEDIATE/EXISTING GRADE CONTOUR
- ● CONCRETE MONUMENT SET BY ALMON
- D CURB INLET
- ⊕ INTERCEPTOR WELL
- ● MONITOR WELL
- SIGN
- TELEPHONE POLE
- TELEPHONE BOX
- POWER POLE
- O/H ELECTRIC LINE
- GUY ANCHOR
- GUY POLE
- TREE
- CHAINLINK FENCE
- SURVEY CONTROL POINT AND IDENTIFICATION NUMBER (SEE DRAWING C-03 FOR TABLES)
- EROSION CONTROL BERM CENTERLINE

ALABAMA REGISTERED No. 9988 PROFESSIONAL GARY M. FARMLAND
Gary M. Farmland 2 July 1997

DRAWING NUMBER	REFERENCE DRAWING TITLE	REV	DESCRIPTION OF REVISION	BY	DATE
		0	ISSUED FOR CONSTRUCTION	GMF	05/02/97

MONSANTO
300 Birmingham Highway
Anniston, Alabama 36201

Woodward-Clyde Consultants
Engineering & science applied to the earth & its environment
7800 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

DESIGNED BY	MSC
DRAWN BY	GAT
CHECKED BY:	MAA
PEER REVIEWER	CMH
PROJ. MANAGER	LEE
DATE	5/27/97

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION
PROJECT LOCATION: ANNISTON, ALABAMA

FINAL GRADING PLAN
(SHEET 1 OF 2)

REVISION: 0
PROJECT: 96T187
DRAWING: C-16

MATCH LINE – N 1,145,100.0 (SEE DWG. NO. C-16)

ASPHALT PAVED ROAD

MATCH GRADE OF UPPER DIVERSION CHANNEL BERM FOR POSITIVE DRAINAGE

APPROXIMATE FOOTPRINT OF PROPOSED UPPER DIVERSION CHANNEL

SCALE
0 50 100 FEET

LEGEND:

- 890 FINAL GRADE CONTOUR
- 890 INTERMEDIATE/EXISTING GRADE CONTOUR
- CONCRETE MONUMENT SET BY ALMON
- CURB INLET
- INTERCEPTOR WELL
- MONITOR WELL
- SIGN
- TELEPHONE POLE
- TELEPHONE BOX
- POWER POLE
- O/H ELECTRIC LINE
- GUY ANCHOR
- GUY POLE
- TREE
- CHAINLINK FENCE

REFERENCE
ALMON ASSOCIATES, INC. – ENGINEERING SURVEYING ARCHITECTURE
2008 12th STREET, P.O. DRAWER 1720
TUSCALOOSA, ALABAMA 35403

ALABAMA REGISTERED PROFESSIONAL ENGINEER
Gary A. Lamb
24 May 1997

DRAWING NUMBER	REFERENCE DRAWING TITLE	REV	DESCRIPTION OF REVISION	BY	DATE
		C	ISSUED FOR CONSTRUCTION	GAM	05/02/97

MONSANTO
300 Birmingham Highway
Anniston, Alabama 36201

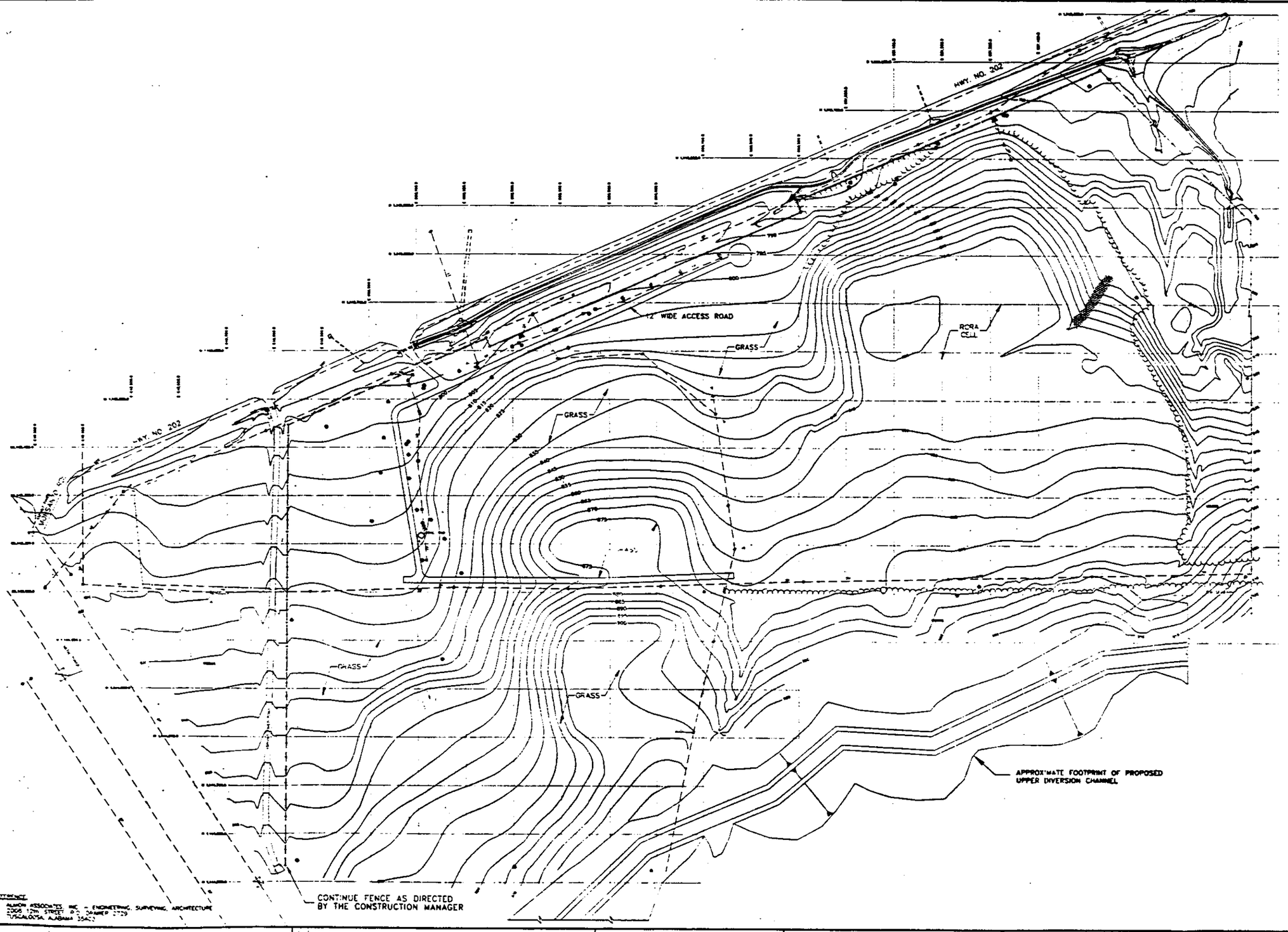
Woodward-Clyde Consultants
Engineering & science applied to the earth & its environment
7600 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

DESIGNED BY	MSC
DRAWN BY	GAT
CHECKED BY	MAA
PEER REVIEWER	GMW
PROJ MANAGER	LEE
DATE	5/27/97

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION
PROJECT LOCATION: ANNISTON, ALABAMA

FINAL GRADING PLAN
(SHEET 2 OF 2)

REVISION C
PROJECT 96T187
DRAWING C-17



NOTES

1. HYDROMULCH SEED ALL DISTURBED AREAS IN ACCORDANCE WITH SECTION 02930–REVEGETATION
2. THIS DRAWING DOES NOT REFLECCT THE UPPER DIVERSION CHANNEL DOWNSLOPE PIPELINE. REFER TO GOLDER ASSOCIATES DRAWINGS DFOR ALIGNMENT AND CONSTRUCTION DETAILS.
3. THE FINAL SITE CONDITIONS SHOWN HEREON ASSUME THE 4x6 BOX CULVERT WILL BE PERMANENTLY BLOCKED. THEREFORE THE DIVERSION CHANNEL SHOWN ON DRAWING C-16A WILL NOT BE REQUIRED.

LEGEND:

- 890 —— FINAL GRADE CONTOUR (5' INTERVAL)
- ● CONCRETE MONUMENT SET BY ALMON ASSOC.
- ▯ CURB INLET
- ⊕ INTERCEPTOR WELL
- ⊕ MONITOR WELL
- SIGN
- TELEPHONE POLE
- TELEPHONE BOX
- POWER POLE
- O/H ELECTRIC LINE
- GUY ANCHOR
- TREE
- CHAINLINK FENCE
- GUY POLE

REFERENCE:
ALMON ASSOCIATES, INC. – ENGINEERING, SURVEYING, ARCHITECTURE
2008 12th STREET P.O. DRAWER 2729
TUSCALOOSA, ALABAMA 35403

ALABAMA REGISTERED No. 9933 PROFESSIONAL ENGINEER

DRAWING NUMBER	DRAWING TITLE	REV	DESCRIPTION OF REVISION	BY	DATE
			ISSUED FOR CONSTRUCTION	GMH	05/02/97

MONSANTO
300 Birmingham Highway
Anniston, Alabama 36201

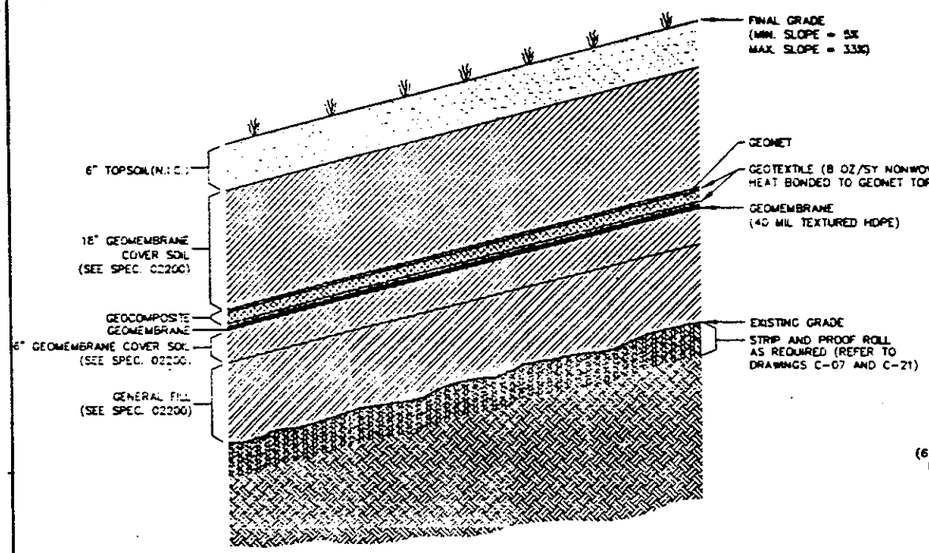
Woodward-Clyde Consultants
7600 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

DESIGNED BY	M.S.C.
DRAWN BY	P.B.
CHECKED BY	M.A.A.
PEER REVIEWER	G.M.H.
PROJ. MANAGER	L.E.E.
DATE	5/02/97

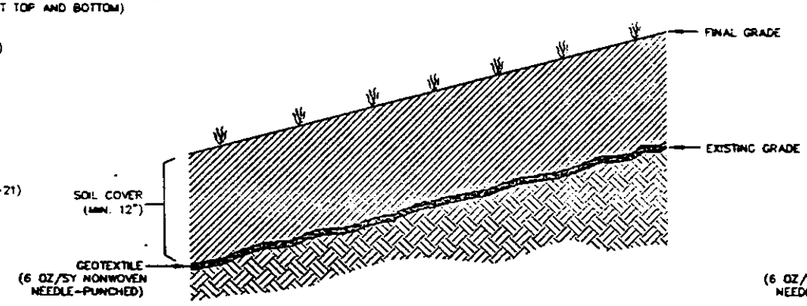
PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION
PROJECT LOCATION: ANNISTON, ALABAMA

FINAL SITE PLAN

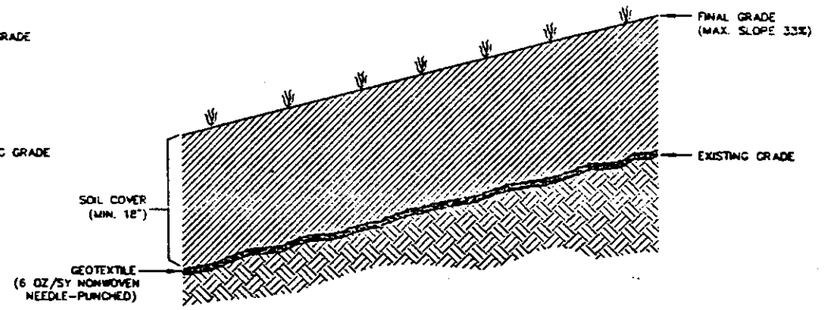
REVISION: 1
PROJECT: 961187
DRAWING: C-18



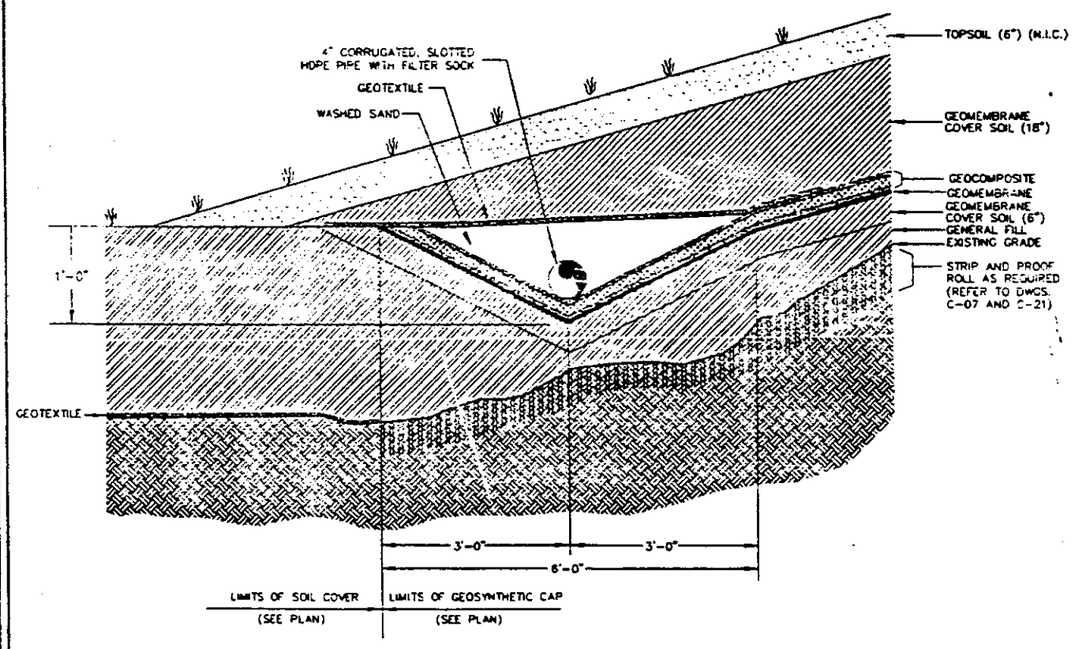
TYPICAL GEOSYNTHETIC CAP SECTION 1 (14|19)
NOT TO SCALE



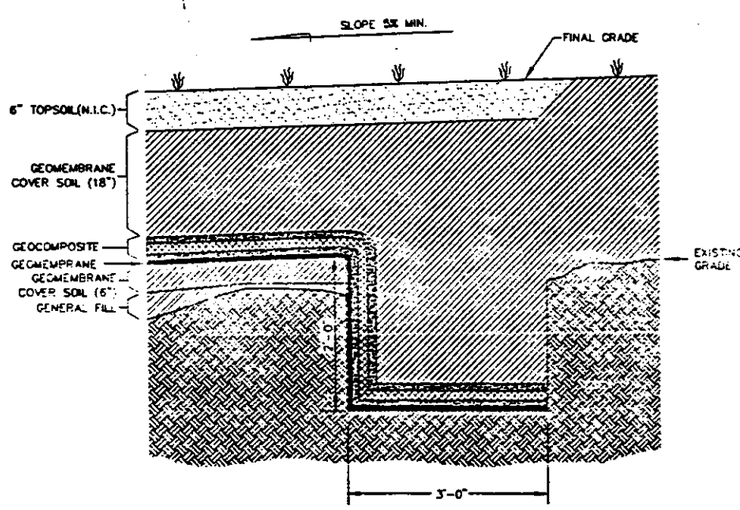
TYPICAL ON-SITE SOIL COVER SECTION 2 (14|15)
NOT TO SCALE



TYPICAL R.O.W. SOIL COVER SECTION 3 (14|19)
NOT TO SCALE

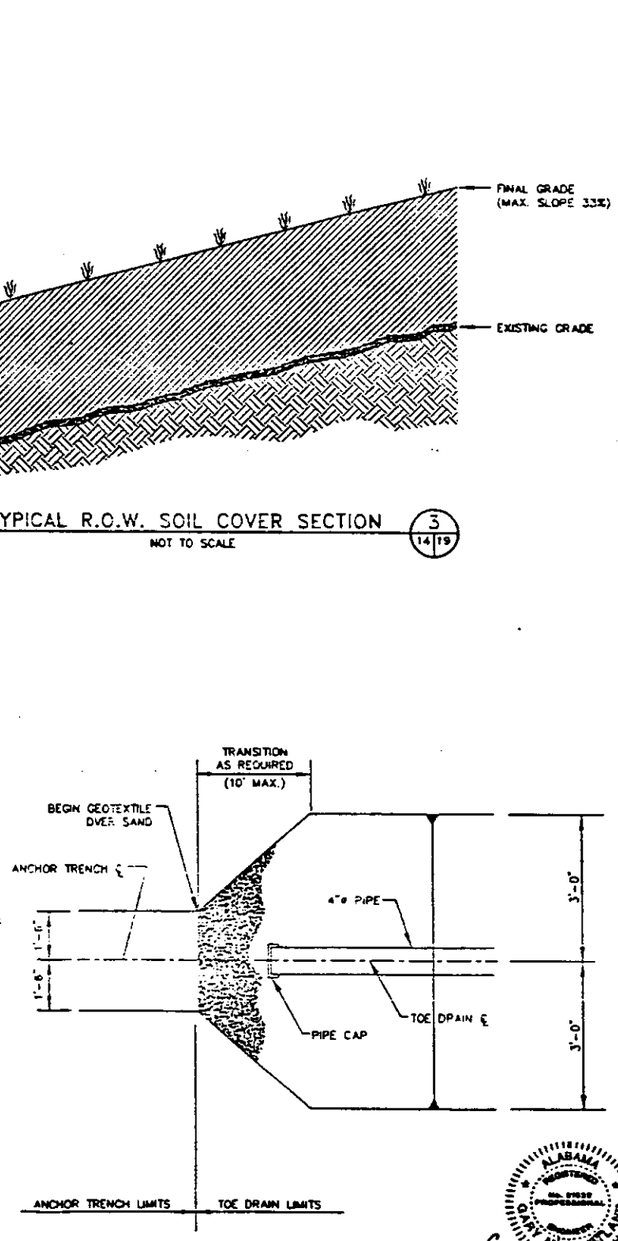


PERIMETER TOE DRAIN DETAIL 4 (14|19)
NOT TO SCALE



NOTE:
1. CONTRACTOR MAY PLACE INTERMEDIATE BACKFILL IN THE TRENCH BETWEEN GEOMEMBRANE AND GEOCOMPOSITE, AS REQUIRED TO TEMPORARILY ANCHOR THE GEOMEMBRANE.

PERIMETER ANCHOR TRENCH DETAIL 5 (14|15)
NOT TO SCALE



TOE DRAIN/ANCHOR TRENCH TRANSITION 6 (19|19)
NOT TO SCALE

ALABAMA REGISTERED No. 21020 PROFESSIONAL ENGINEER
Gary M. Mansfield
2 May 1997

DRAWING NUMBER	REFERENCE DRAWING TITLE	REV	DESCRIPTION OF REVISION	BY	DATE
		0	ISSUED FOR CONSTRUCTION	GMM	05/02/97

MONSANTO
300 Birmingham Highway
Anniston, Alabama 36201

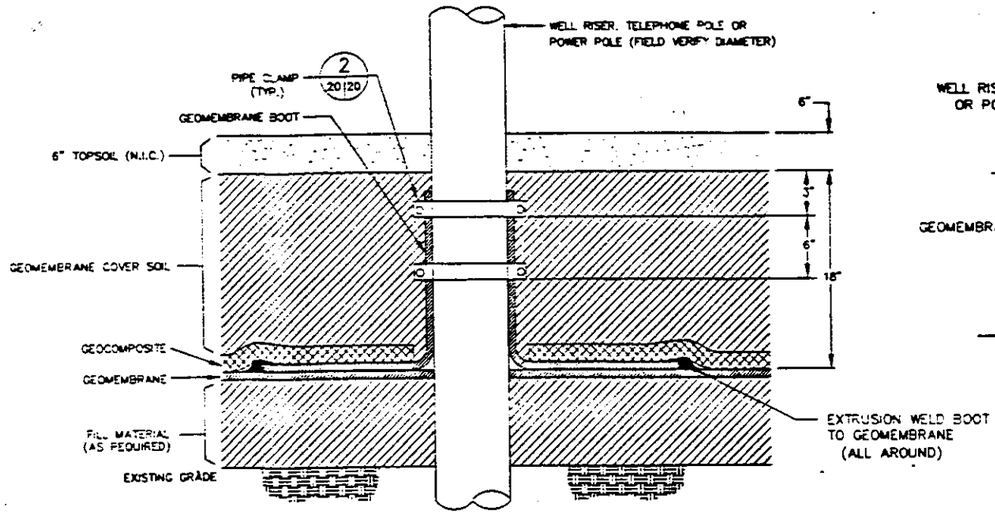
Woodward-Clyde Consultants
Engineering & science applied to the earth & its environment
7600 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

DESIGNED BY	M.S.C.
DRAWN BY	S.J.
CHECKED BY	M.A.A.
PEER REVIEWER	C.M.W.
PROJ MANAGER	L.E.E.
DATE	3/27/97

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION
PROJECT LOCATION: ANNISTON, ALABAMA

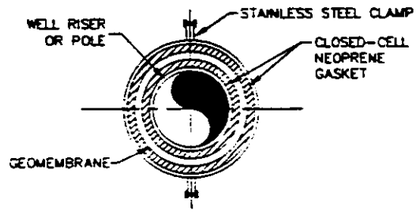
CAP AND COVER CROSS-SECTIONS

REVISION: 0
PROJECT 96T187
DRAWING C-19



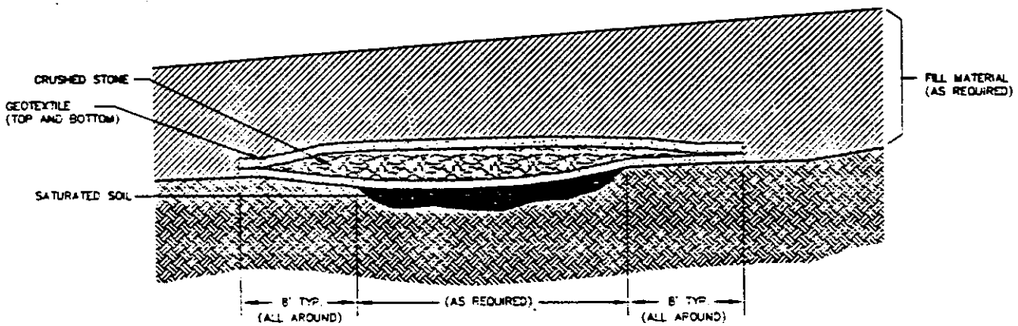
TYPICAL GEOMEMBRANE PENETRATION DETAIL 1 (14|20)

NOT TO SCALE



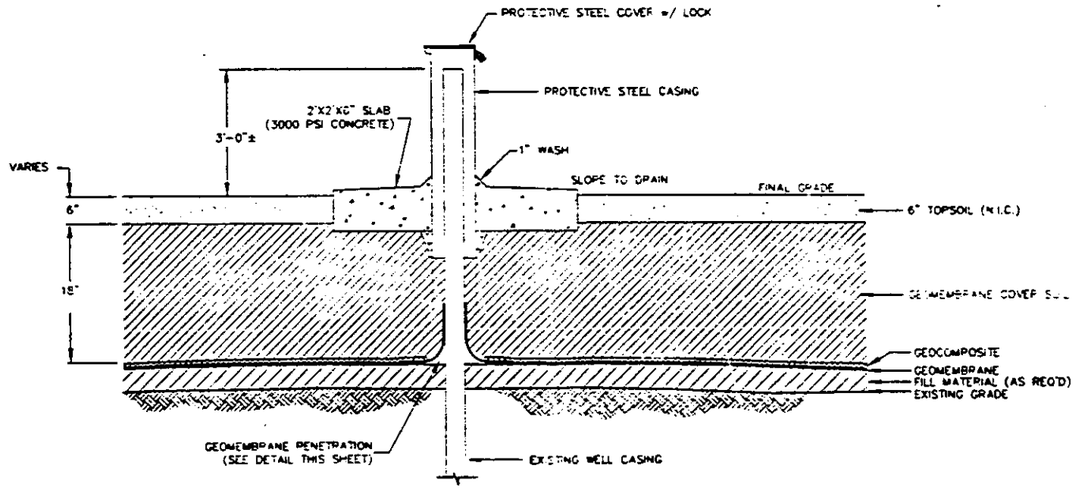
PIPE CLAMP 2 (20|20)

SCALE: NOT TO SCALE



SEEP AREA MITIGATION DETAIL 3 (20|20)

NOT TO SCALE



NOTE: INSTALL CONCRETE SLAB AROUND ALL MONITORING WELLS AS DIRECTED BY THE CONSTRUCTION MANAGER.

TYPICAL MONITORING WELL MODIFICATION DETAIL 5 (07|20)

NOT TO SCALE

ALABAMA REGISTERED PROFESSIONAL ENGINEER

DRAWING NUMBER	REFERENCE DRAWING TITLE	REV	DESCRIPTION OF REVISION	BY	DATE
		1	ISSUED FOR CONSTRUCTION	GMW	05/02/97

MONSANTO

300 Birmingham Highway
Anniston, Alabama 36201

Woodward-Clyde Consultants

Engineering & science related to the earth & its environment

7600 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

DESIGNED BY	MSC
DRAWN BY	PP
CHECKED BY	MAA
PEER REVIEWER	CMB
PROJ MANAGER	LEE
DATE	3/27/97

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION

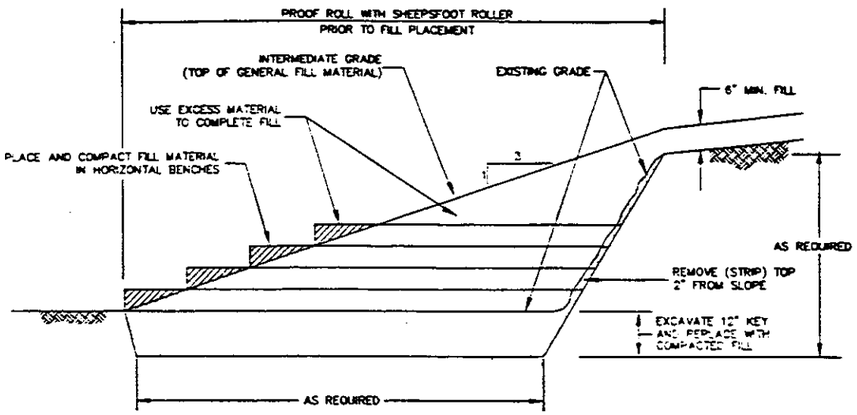
PROJECT LOCATION: ANNISTON, ALABAMA

MISCELLANEOUS DETAILS

REVISION 1

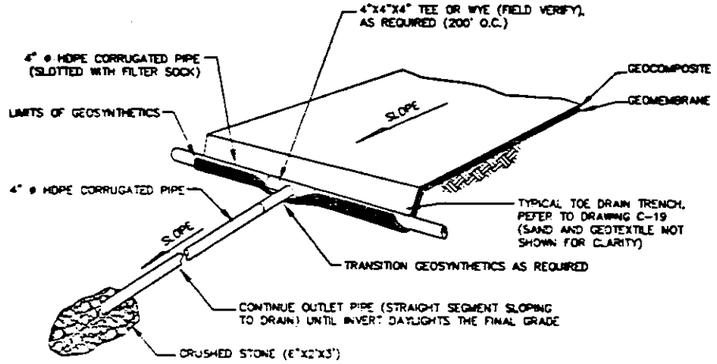
PROJECT 96T187

DRAWING C-20



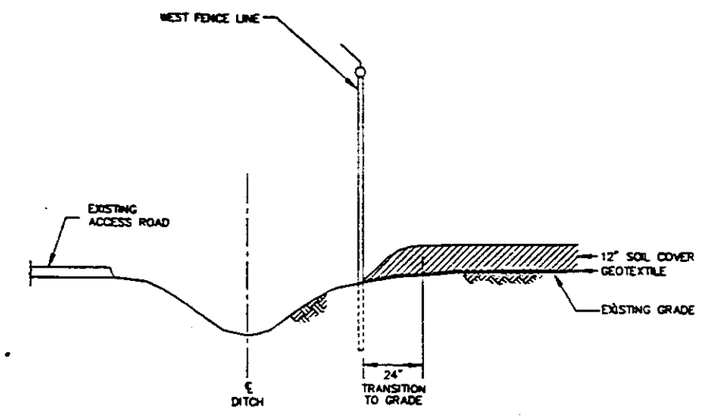
TYPICAL FILL PLACEMENT FOR SLOPES GREATER THAN 3:1 (1 / 07 21)

NOT TO SCALE



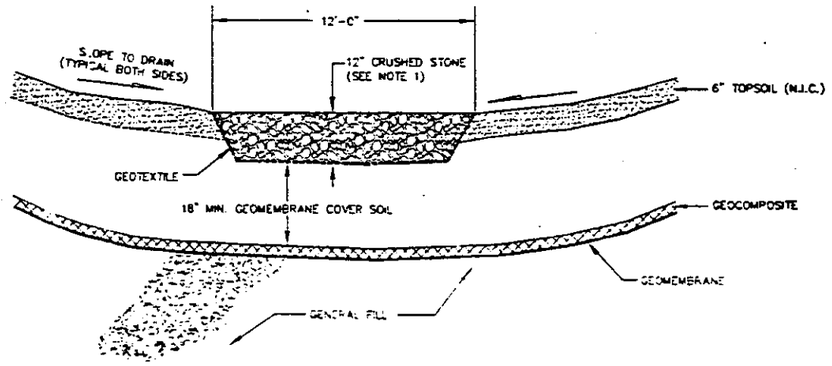
TOE DRAIN OUTLET (2 / 14 21)

NOT TO SCALE



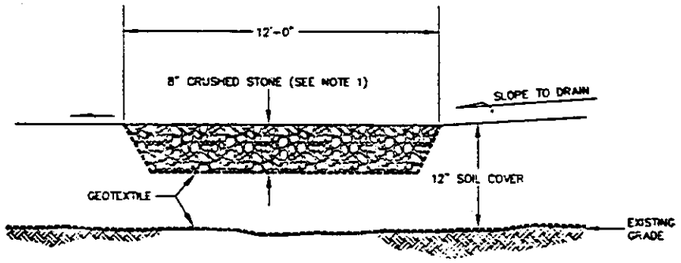
TYPICAL SECTION – LIMITS OF SOIL COVER AT WEST FENCE (A / 14 21)

NOT TO SCALE



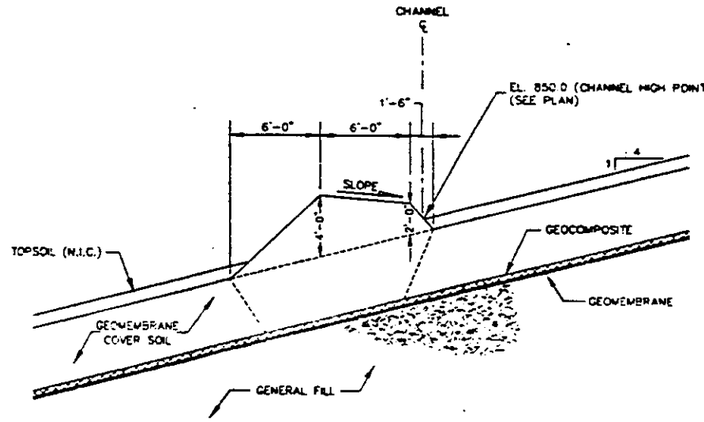
TYPICAL SECTION – POWER LINE EASEMENT ACCESS ROAD (A / 16 21)

NOT TO SCALE



TYPICAL SECTION – SITE ACCESS ROAD (B / 16 21)

NOT TO SCALE

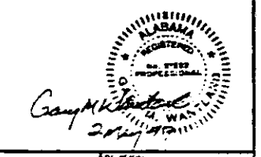


EROSION CONTROL BERM (3 / 16 21)

NOT TO SCALE

NOTES:

1. CRUSHED STONE (GRADED AGGREGATE) SHALL MEET ADOT SPECIFICATIONS, SECTION 801. SUBMIT PROPOSED GRADATION FOR APPROVAL.



DRAWING NUMBER	REFERENCE DRAWING TITLE	REV	DESCRIPTION OF REVISION	BY	DATE
		0	ISSUED FOR CONSTRUCTION	GAW	05/02/97

MONSANTO

300 Birmingham Highway
Anniston, Alabama 36201

Woodward-Clyde Consultants

Engineering & science applied to the earth & its environment

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Houston, Texas 77040
United States of America

DESIGNED BY:	M.S.C.
DRAWN BY:	S.A.
CHECKED BY:	M.A.A.
PEER REVIEWER:	G.A.W.
PROJ. MANAGER:	L.E.K.
DATE:	3/27/97

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION

PROJECT LOCATION: ANNISTON, ALABAMA

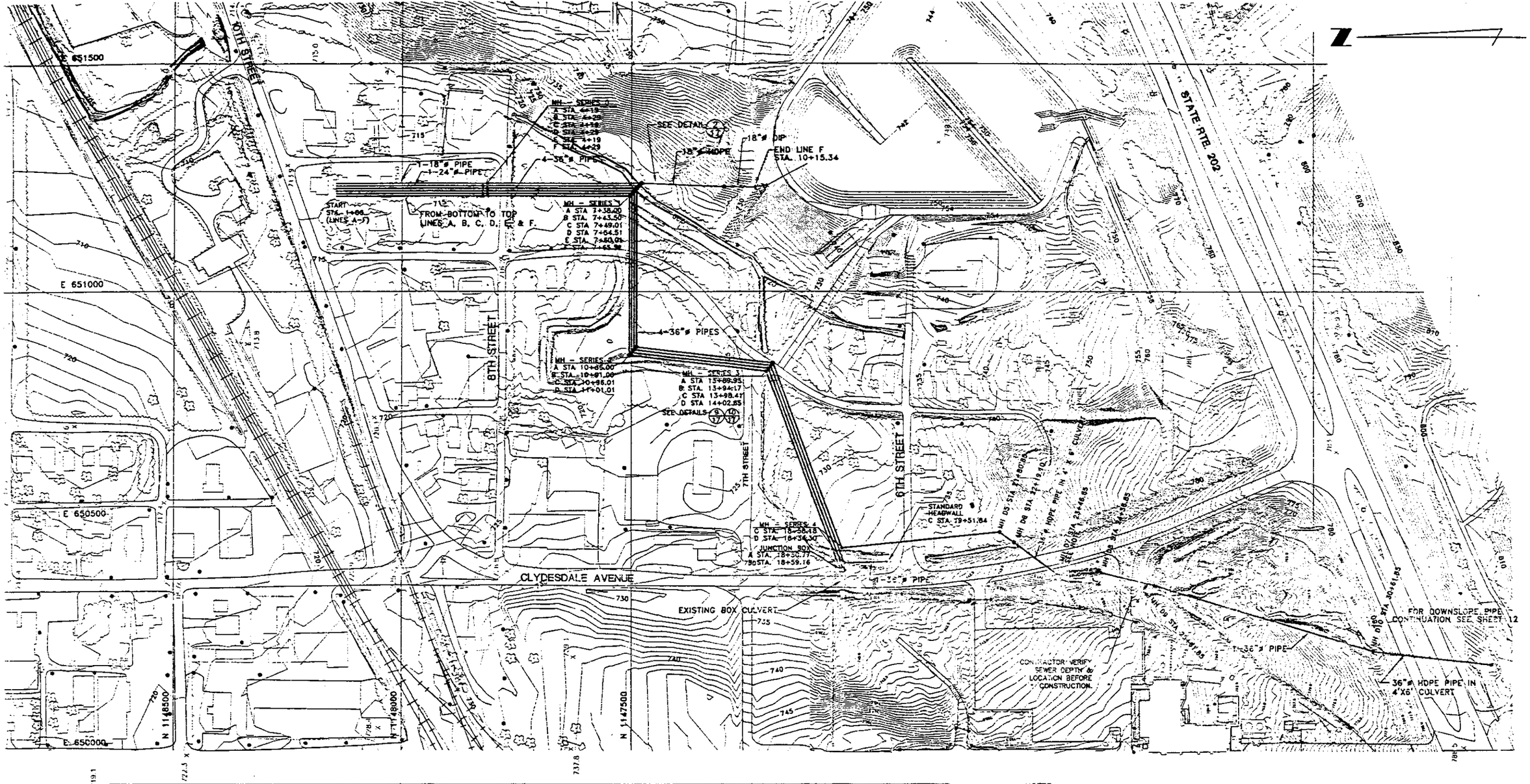
MISCELLANEOUS DETAILS

REVISION: 0

PROJECT: 96T187

DRAWING: C-21

APPENDIX C



MANHOLE COORDINATES

LINE	MH#	STATION	INVERT	EASTING	NORTHING
A	START	1+00	711.06	651208.6773	1148143.0479
A	0	4+19	714.42	651208.8104	1147824.0479
A	1	7+38	717.79	651208.9438	1147505.0479
A	2	10+86	721.46	650860.9434	1147505.1252
A	3	13+89.93	724.71	650825.4079	1147203.2770
A	J.B.	18+50.77	729.61	650393.4243	1147042.7595
B	0	4+29	714.52	651214.3145	1147814.0479
B	1	7+43.50	717.79	651214.4456	1147499.5467
B	2	10+91	721.46	650866.9447	1147499.6248
B	3	13+94.17	724.71	650831.4825	1147198.5384
B	J.B.	18+59.16	729.61	650395.6022	1147036.6352

LINE	MH#	STATION	INVERT	EASTING	NORTHING
C	0	4+19	714.42	651219.8104	1147824.0479
C	1	7+49.01	717.79	651219.9479	1147494.0454
C	2	10+96.01	721.46	650872.9460	1147494.1235
C	3	13+98.41	724.71	650837.5571	1147193.7999
C	4	18+58.18	729.61	650406.5810	1147033.6407
C	H.W.	19+51.84	733.50±	650409.1632	1146940.0163
D	0	4+29	714.52	651225.3145	1147814.0479
D	1	7+54.51	717.79	651225.4502	1147488.5442
D	2	11+01.10	721.46	650878.9473	1147488.6221
D	3	14+02.85	724.71	650843.6317	1147189.0613
D	4	18+34.30	729.30	650439.1560	1147038.3260

LINE	MH#	STATION	INVERT	EASTING	NORTHING
D	5	21+80.85	732.94	650474.5613	1146693.5996
D	6	22+19.10	739.28	650451.9205	1146662.8438
D	7	23+46.85	742.16	650377.1584	1146561.7315
D	8	24+36.85	743.11	650385.6858	1146472.1364
D	9	25+61.85	744.10	650357.2003	1146350.4254
D	10	30+61.85	773.81	650214.9798	1145871.0786
E	0	4+19	714.42	651230.8104	1147824.0479
E	1	7+60.01	717.79	651230.9525	1147483.0430
F	0	4+29	714.52	651236.3145	1147814.0479
F	1	7+65.52	717.79	651236.4548	1147477.5417
F	2	9+45.34	732.50	651228.8100	1147297.8800
F	H.W.	10+15.34	736.80	651228.0000	1147227.8800

INVERT ELEVATIONS ARE 'OUT' INVERT ELEVATIONS

NOTES:
1. FIELD LOCATE MH FOR PROPER ALIGNMENT THROUGH CULVERT.
2. DUE TO PROXIMITY OF MANHOLES AT MH SERIES 0, 1, 2 & 3 BACKFILL WITH FLOWABLE FILL A MIN. DISTANCE OF 18" FROM MH WALLS. SEE DETAIL 10/16

ALABAMA REGISTERED No. 12432 PROFESSIONAL ENGINEER

SCALE IN FEET
0 100 200 300 400

WIEDEMAN AND SINGLETON, INC.
ENGINEERS
ATLANTA GEORGIA

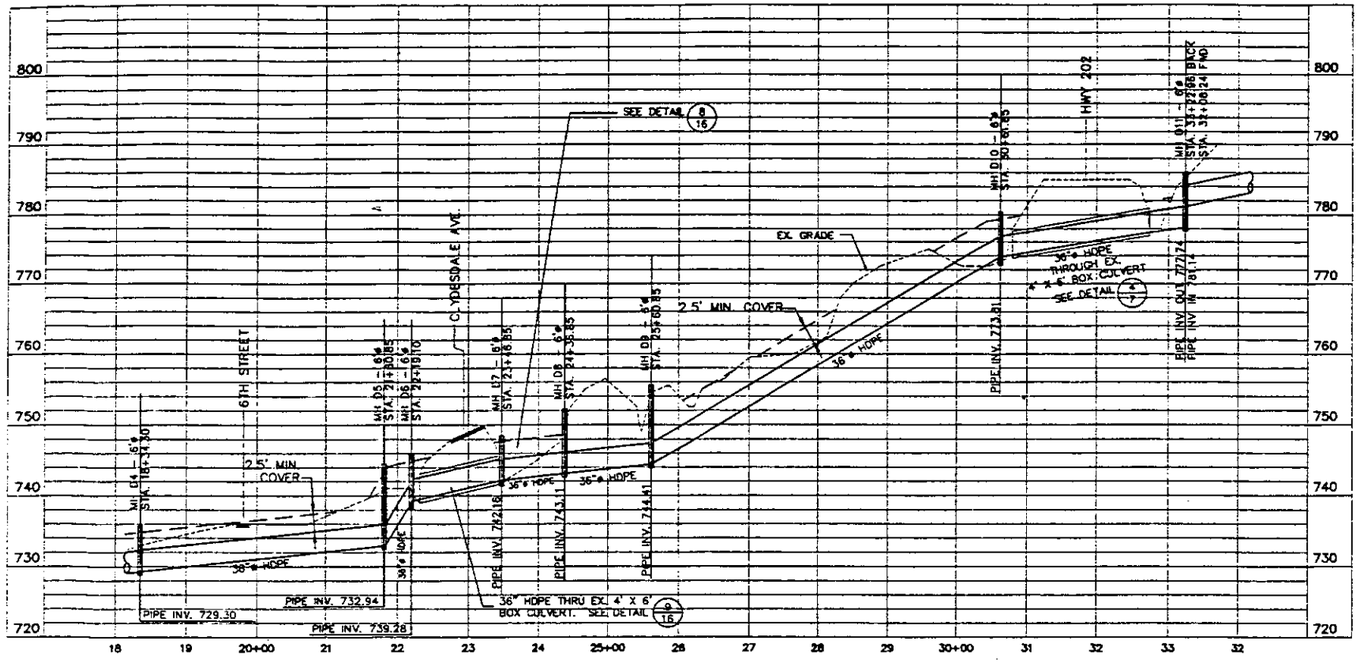
REV.	DATE	DESCRIPTION	DR. BY	APP. BY
A	MAY 97	ISSUED FOR CONSTRUCTION	RCS	

CLIENT/PROJECT
MONSANTO - DCC PROJECT

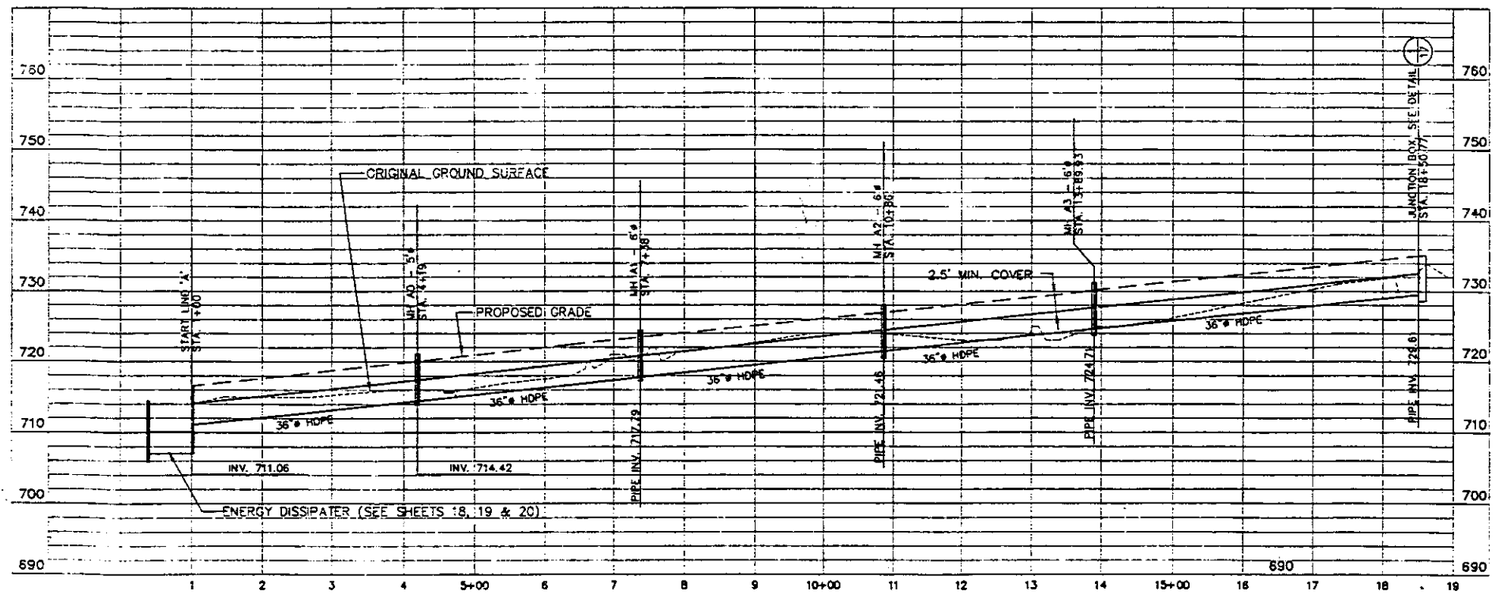
TITLE
EASTSIDE DRAINGE PIPES - PLAN

Golder Associates
Atlanta, Georgia

DRAWN	RMS/RCS	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED		PROJ. NO.	REV. NO.
APPROVED		PROJ. NO.	943-3680
PROJ. NO.	943-3680	SHEET	14



PROFILE LINE 'D' MANHOLES 4–11



PROFILE LINE 'A' MANHOLES SERIES 'O' – 'J.B.'

(SEE COORDINATE MANHOLE TABLE ON SHEET 14 FOR INVERT & STATIONS OF LINE B – D

ALABAMA REGISTERED PROFESSIONAL ENGINEER WILLIAM A. WIEDEMAN

SCALE IN FEET

0 100 200 300 400

WIEDEMAN AND SINGLETON, INC. ENGINEERS

ATLANTA GEORGIA

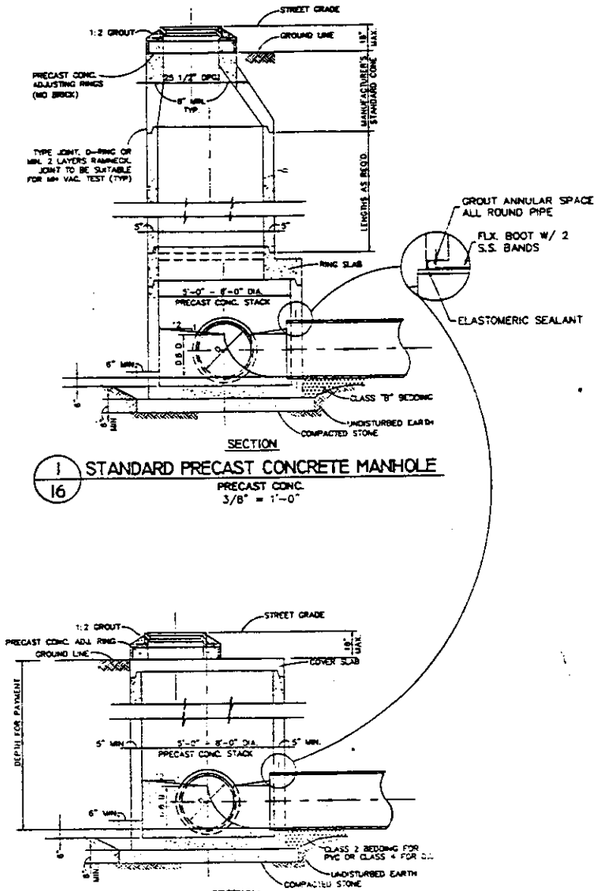
REV.	DATE	DESCRIPTION	DR. BY	APP. BY
1	MAY 97	ISSUED FOR CONSTRUCTION	RCS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

TITLE: EASTSIDE DRAINGE PIPES - PROFILE

Golder Associates — Atlanta, Georgia

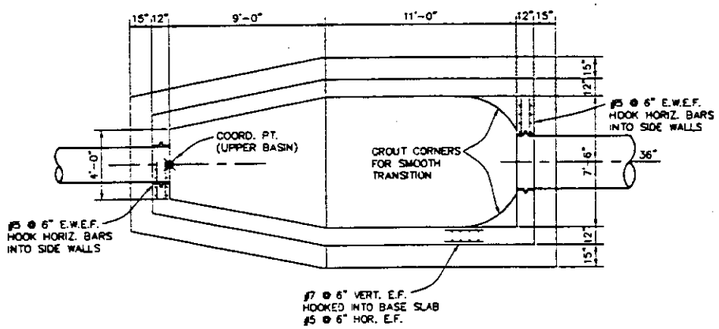
DRAWN	RCS	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED	WAW	APPL. NO.	REV. NO.
APPROVED	WPS	JOB NO.	943-3680
FILE NO.	943-3680	SUBTITLE	SHEET 15



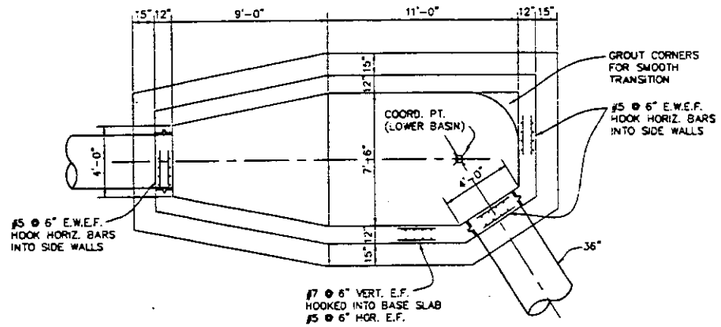
SECTION

1/16 STANDARD PRECAST CONCRETE MANHOLE

PRECAST CONC.
3/8" = 1'-0"

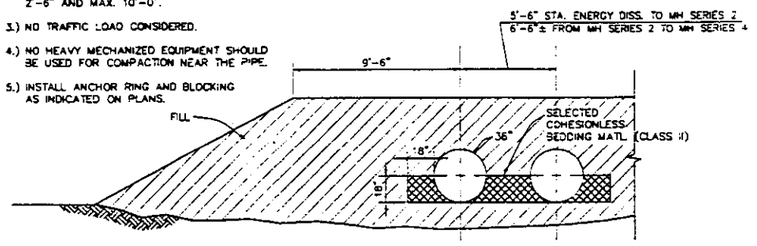


2/16 PLAN - UPPER



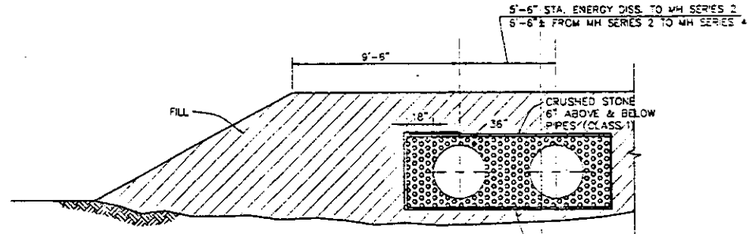
3/16 PLAN - LOWER

NOTES:
1.) PIPE TO BE PE 3408 DR26.
2.) PIPE COVER TO BE A MINIMUM OF 2'-6" AND MAX. 10'-0".
3.) NO TRAFFIC LOAD CONSIDERED.
4.) NO HEAVY MECHANIZED EQUIPMENT SHOULD BE USED FOR COMPACTION NEAR THE PIPE.
5.) INSTALL ANCHOR RING AND BLOCKING AS INDICATED ON PLANS.



5/16 PIPE INSTALLATION DETAIL

N.T.S.



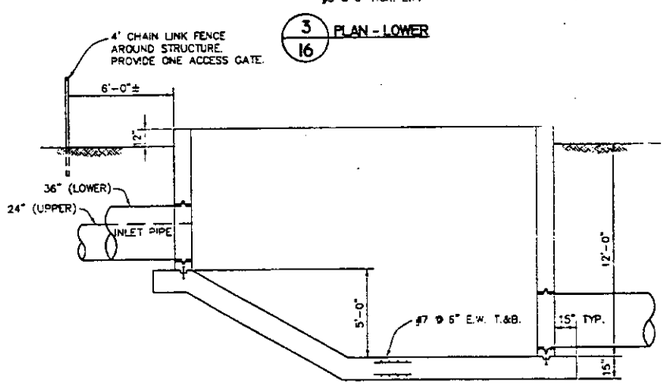
6/16 BEDDING DETAIL 10-15 FT. OF COVER

N.T.S.

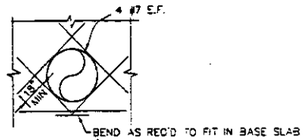
SECTION

7/16 TYPICAL SHALLOW MANHOLE

PRECAST CONC.
3/8" = 1'-0"



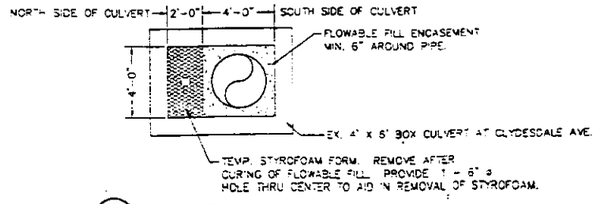
SECTION OF ENERGY DISSIPATOR
(TYP. UPPER AND LOWER)



REINFORCING AT PIPE WALL PENETRATIONS
(TYP. 4 LOCATIONS)

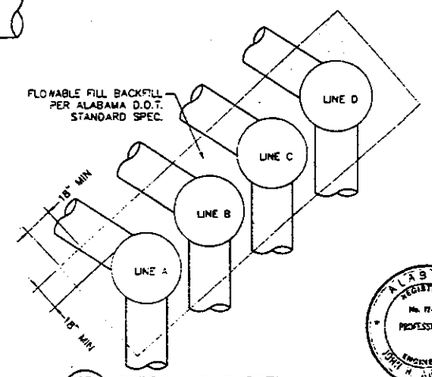
4/16 ENERGY DISSIPATORS

NOTES:
fc = 4000psi
fy = 60,000 psi
8" WATERSTOP REQUIRED AT CONSTRUCTION JOINTS.
2" MIN. REINF. COVER ON FORMED SURFACES.
3" MIN. REINF. COVER ON SURFACES FORMED AGAINST EARTH.
USE MEGALUG AGAINST WALL TO ANCHOR D.I. PIPE.
USE ANCHOR RING WITH HDPE PIPE.



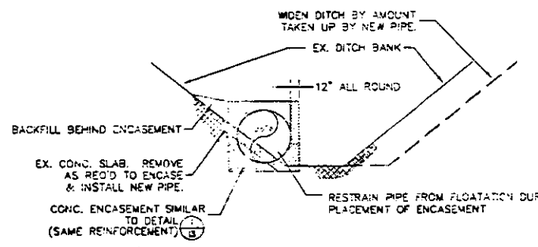
9/16 PIPE THROUGH EXISTING CULVERT

N.T.S.



10/16 SPECIAL MH BACKFILL

N.T.S.



8/16 PIPELINE 'D' BETWEEN MH 7 & 8

N.T.S.

ADDITIONAL NOTES:
1. PROVIDE MINIMUM PIPE COVER OF 2'-6" UNLESS OTHERWISE NOTED.
2. PROVIDE ANCHOR RINGS FOR HDPE CONNECTION TO STRUCTURES.
3. PROVIDE VENTED MANHOLE COVERS UNLESS OTHERWISE NOTED.
4. PIPE THROUGH CULVERTS MUST BE ADEQUATELY RESTRAINED FROM FLOTATION.
5. HDPE MATERIAL SHOULD BE STORED IN A MANNER TO MINIMIZE THERMAL EFFECTS.
6. CONNECTIONS TO MANHOLES AND OTHER STRUCTURES WILL BE MADE BEFORE 10:00 AM IN THE MORNING TO REDUCE EFFECTS OF THERMAL STRESSES.
7. MINIMUM COVER ON PIPE DOES NOT PROVIDE SUFFICIENT COVER FOR VEHICULAR TRAFFIC.

ALABAMA REGISTERED No. 17432 PROFESSIONAL ENGINEER JOHN A. SINGLETON

WIEDEMAN AND SINGLETON, INC. ENGINEERS
ATLANTA GEORGIA

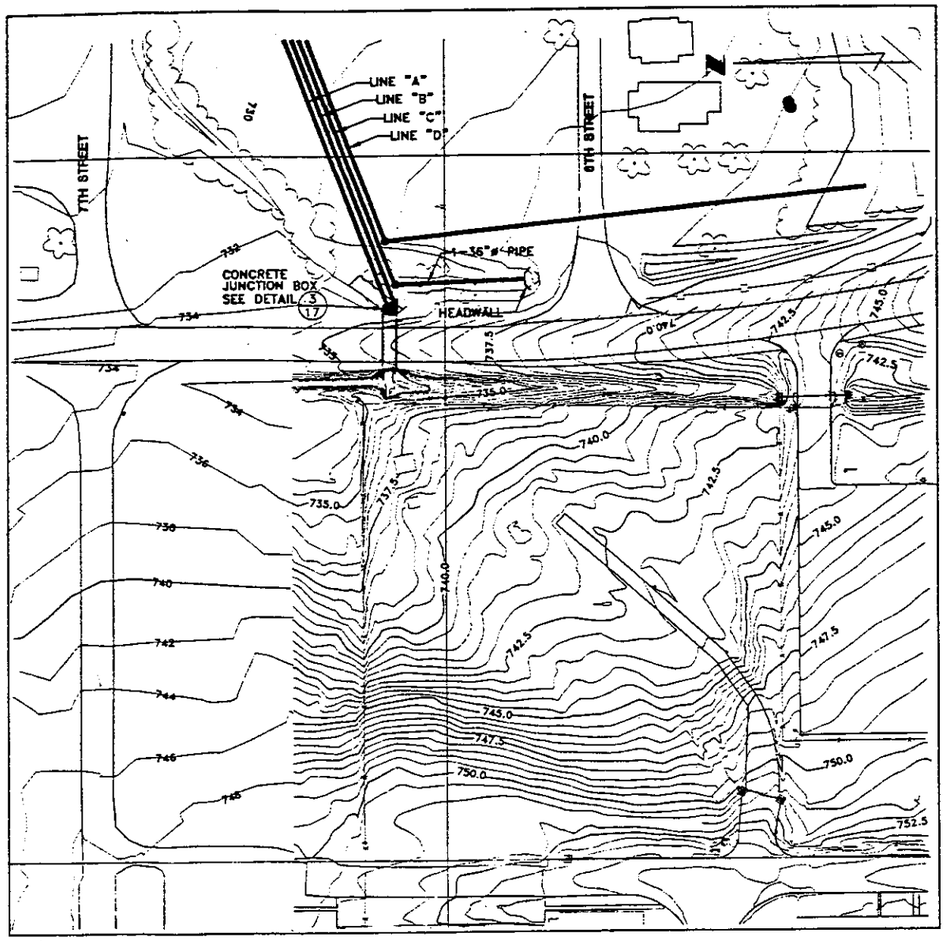
NO.	DATE	DESCRIPTION	DR. BY	APP. BY
1	MAY 97	ISSUED FOR CONSTRUCTION	RCS	

MONSANTO - DCC PROJECT

DRAINAGE SYSTEM - DETAILS

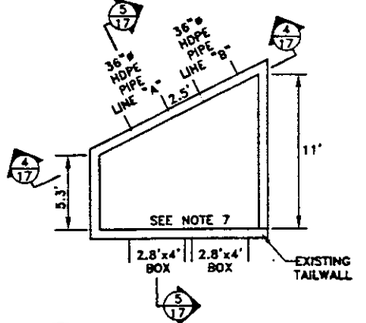
Atlanta, Georgia
Golder Associates

DRAWN	JSG/RCS	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED		APPL. NO.	APP. NO.
APPROVED		JOB NO.	943-3680
FILE NO.	943-1680	SHEET	16



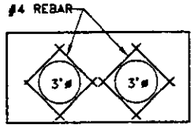
1/17 GRADING PLAN AT CLYDESDALE AND 7TH STREET

SCALE IN FEET 0 50 100



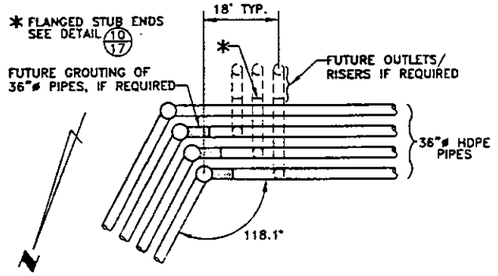
3/17 PLAN VIEW

SCALE IN FEET 0 5 10



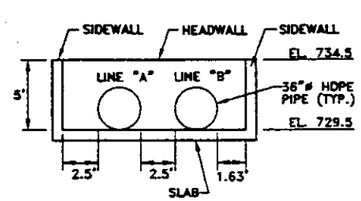
6/17 SECTION THRU HEADWALL

SCALE IN FEET 0 5 10



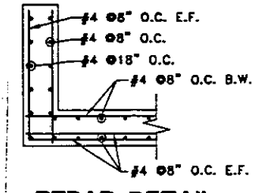
9/17 PLAN OF EAST BENDS AT 7TH STREET

N.T.S.



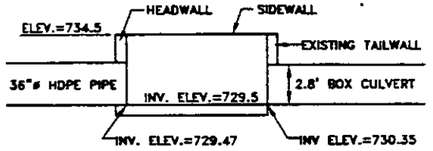
4/17 TYPICAL SECTION ACROSS BOX

SCALE IN FEET 0 5 10



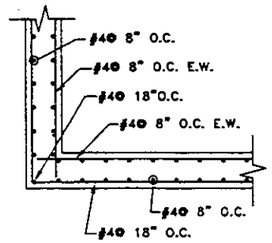
7/17 REBAR DETAIL SLAB/WALL

SCALE IN FEET 0 2 4



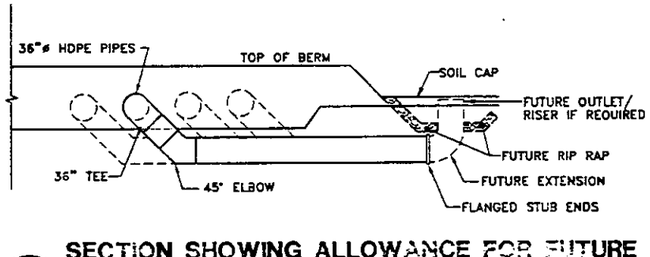
5/17 TYPICAL SECTION ALONG PIPE/BOX

SCALE IN FEET 0 5 10



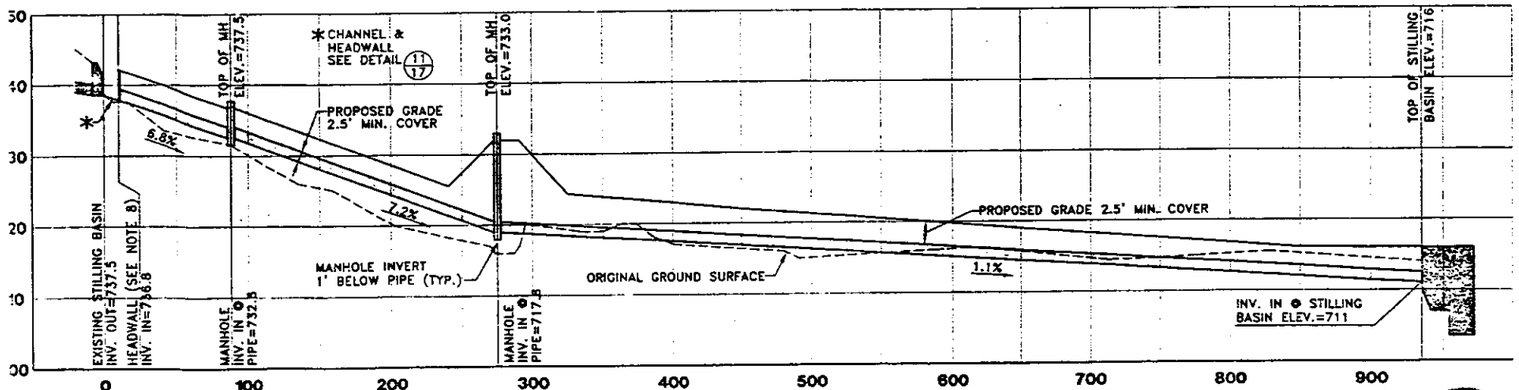
8/17 REBAR DETAIL PLAN VIEW

SCALE IN FEET 0 2 4



10/17 SECTION SHOWING ALLOWANCE FOR FUTURE DISCHARGE TO LOWER DETENTION BASIN

N.T.S.

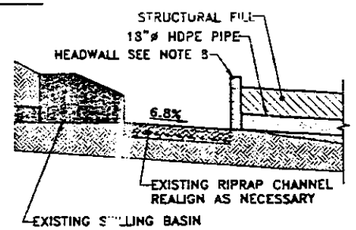


2/17 18" PIPE FROM EXISTING DETENTION BASIN TO STILLING BASIN @ 10TH ST.

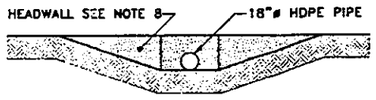
SCALE IN FEET 0 50 100

5X VERTICAL EXAGGERATION

NOTE: SEE SHEET 14 FOR HORIZONTAL ALIGNMENT



CHANNEL TO OUTLET / SECTION



OUTLET HEADWALL / SECTION

11/17 INTERMEDIATE POND OUTLET DETAILS

N.T.S.

NOTES:

1. REINFORCING BAR BENDING SCHEDULES SHALL BE PROVIDED BY THE CONTRACTOR.
2. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS FOR BUILDINGS AND ACI 318-95, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
3. CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI AT 28 DAYS.
4. CONCRETE REINFORCING STEEL SHALL BE NEW DEFORMED BILLET STEEL, GRADE 60, CONFORMING TO ASTM A-615.
5. UNLESS OTHERWISE NOTED, REINFORCEMENT LAP SPLICES SHALL BE ACI CLASS C SPLICES.
6. THE MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE 2 INCHES.
7. DIMENSION OF JUNCTION BOX TO BE ADJUSTED TO FIT EXISTING TAILWALL AT 2.8' X 4' BOX CULVERTS. EXISTING SLAB TO BE REMOVED AND REPLACED WITH NEW AT ELEVATION 729.5. IF TOP OF EXISTING TAILWALL IS BELOW ELEVATION 734.5 IT SHALL BE REMOVED AND REPLACED WITH ONE WHICH CONFORMS TO THE EXISTING BOX CULVERTS.
8. HEADWALL FROM PREVIOUS CONSTRUCTION USED FOR THE CONCRETE HEADWALL AT THE OUTLET END OF THE 18"ø HDPE PIPE. THIS HEADWALL IS TO BE MODIFIED TO FIT IN THE FIELD THE 18"ø HDPE PIPE AND EXISTING SIDESLOPE OF CHANNEL.

ALABAMA REGISTERED No. 20266 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

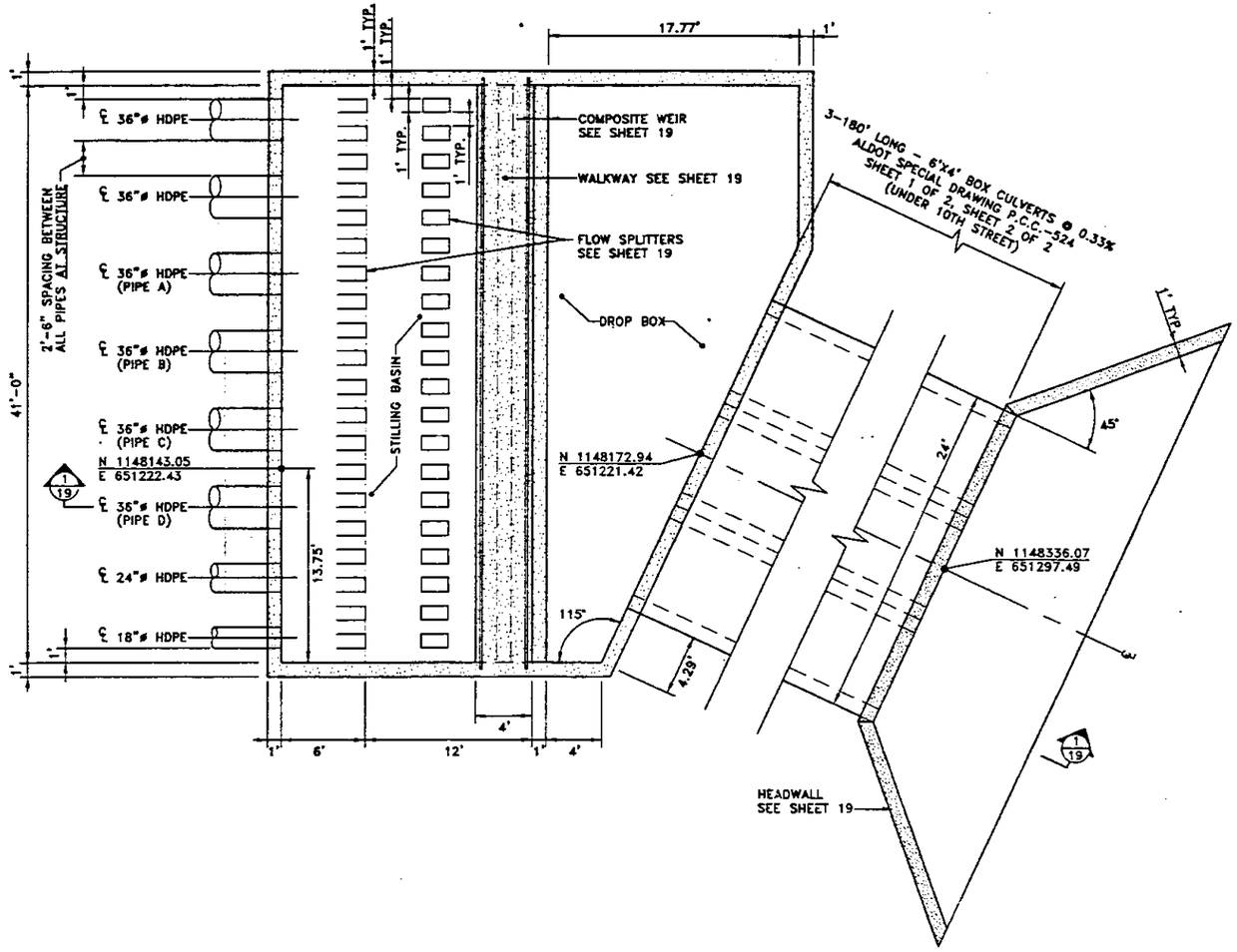
REV.	DATE	DESCRIPTION	DR. BY	APP. BY
1	4/17/97	ISSUED FOR CONSTRUCTION	JLW	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

TITLE: PIPEWORK MISCELLANEOUS DETAILS

Golder Associates — Atlanta, Georgia

DRAWN JLW DATE 3/97
CHECKED WT SCALE AS SHOWN
DESIGNED SMA DWG. NO. 208 REV. NO.
APPROVED WRS JOB NO. 943-3680
REF. NO. 943-3680 SHEET 17



1/18 ENERGY DISSIPATER AND DROP BOX / PLAN

SCALE IN FEET
0 5 10

ALABAMA REGISTERED No. 17299 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

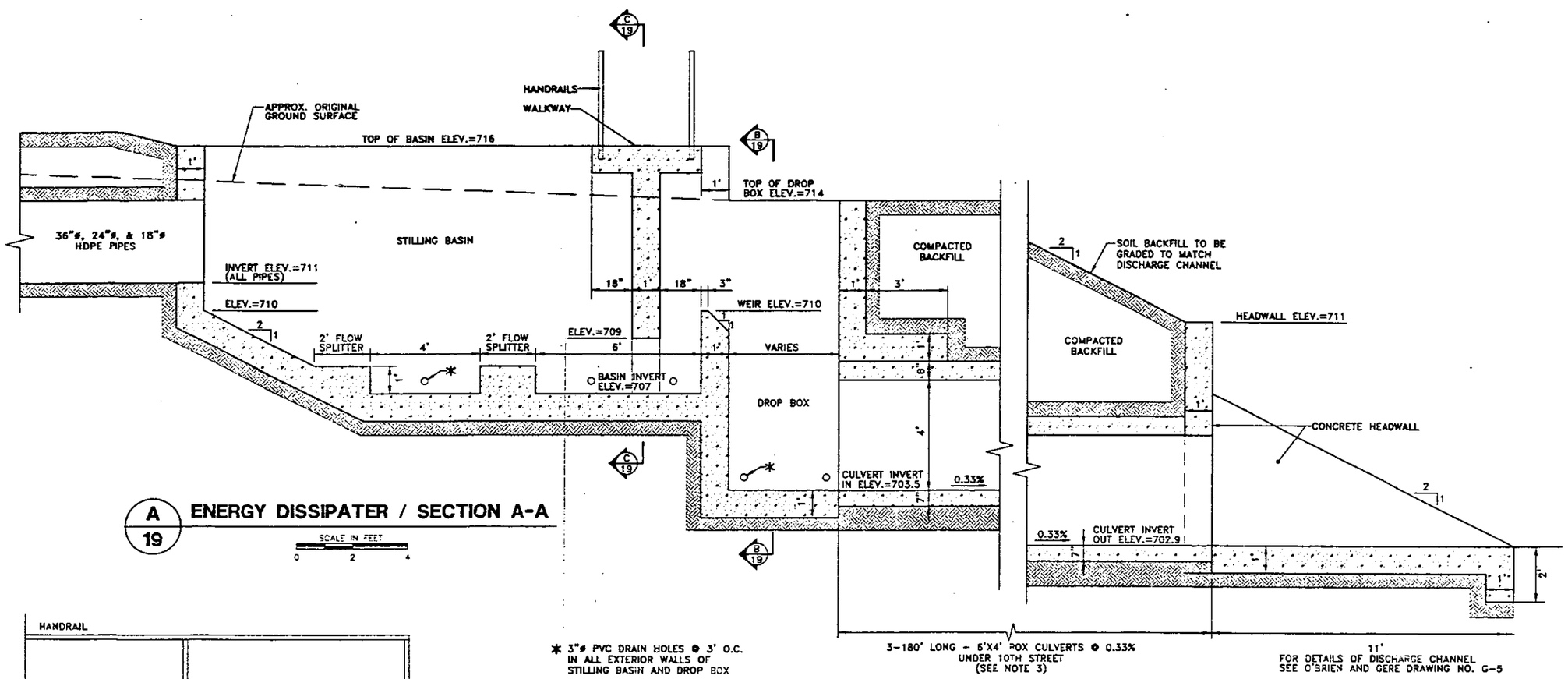
REV.	DATE	DESCRIPTION	RMS	APP. BY
1	MAY/'97	ISSUED FOR CONSTRUCTION	RMS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

TITLE: ENERGY DISSIPATER AND DROP BOX AT 10TH STREET (SHEET 1 OF 3)

Atlanta, Georgia
Golder Associates

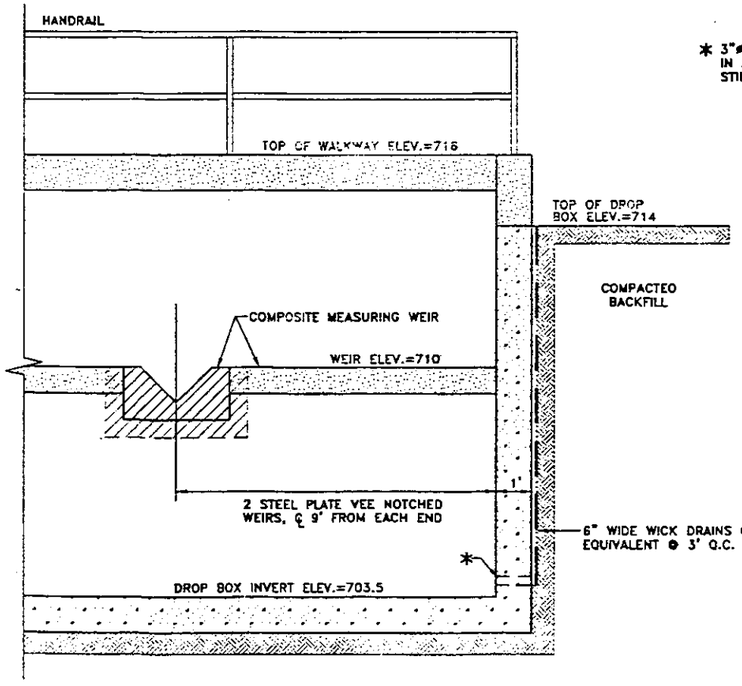
DRAWN	RMS	DATE	3/97
DESIGN		SCALE	AS SHOWN
CHECKED		PROJ. NO.	209
APPROVED		JOB NO.	943-3680
FILE NO.	943-3680	SHEET	18



A/19 ENERGY DISSIPATER / SECTION A-A

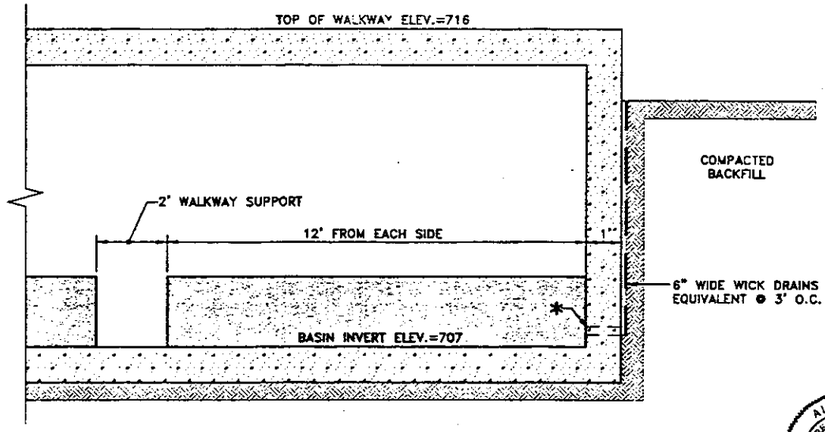
SCALE IN FEET
0 2 4

* 3"ø PVC DRAIN HOLES @ 3' O.C. IN ALL EXTERIOR WALLS OF STILLING BASIN AND DROP BOX



B/19 DROP BOX / SECTION B-B

SCALE IN FEET
0 2 4



C/19 STILLING BASIN / SECTION C-C

SCALE IN FEET
0 2 4

NOTES:

1. THE LAYOUT OF THE CULVERT HAS BEEN PREPARED ON THE ASSUMPTION THAT THE SANITARY SEWER PIPE ALONG 10TH STREET HAS AN INVERT LEVEL OF 709.
2. WATER, GAS AND OTHER UTILITIES MAY HAVE TO BE MOVED.
3. CONCRETE BOX CULVERTS TO BE ALDOT STANDARD "SPECIAL DRAWING P.C.C.-524, SHEET 1 OF 2 & SHEET 2 OF 2".
4. ALL STRUCTURES TO BE FOUNDED ON SOUND, COMPACT, IN-SITU MATERIAL AS DIRECTED BY CONSTRUCTION MANAGER.
5. AFTER COMPLETION OF ENERGY DISSIPATER AND CULVERT CONSTRUCTION, BACKFILL AND SURROUNDING GROUND TO BE GRADED AS DIRECTED BY CONSTRUCTION MANAGER. DRAINAGE ON SOUTH SIDE OF 10TH STREET TO FLOW INTO DROP BOX.
6. ON COMPLETION OF CONSTRUCTION, ENERGY DISSIPATER STRUCTURE SHALL BE FENCED TO PREVENT UNAUTHORIZED ENTRY.

ALABAMA REGISTERED No. 22250 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

REV.	DATE	DESCRIPTION	DR. BY	APP. BY
A	3/97	ISSUED FOR CONSTRUCTION	RMS	

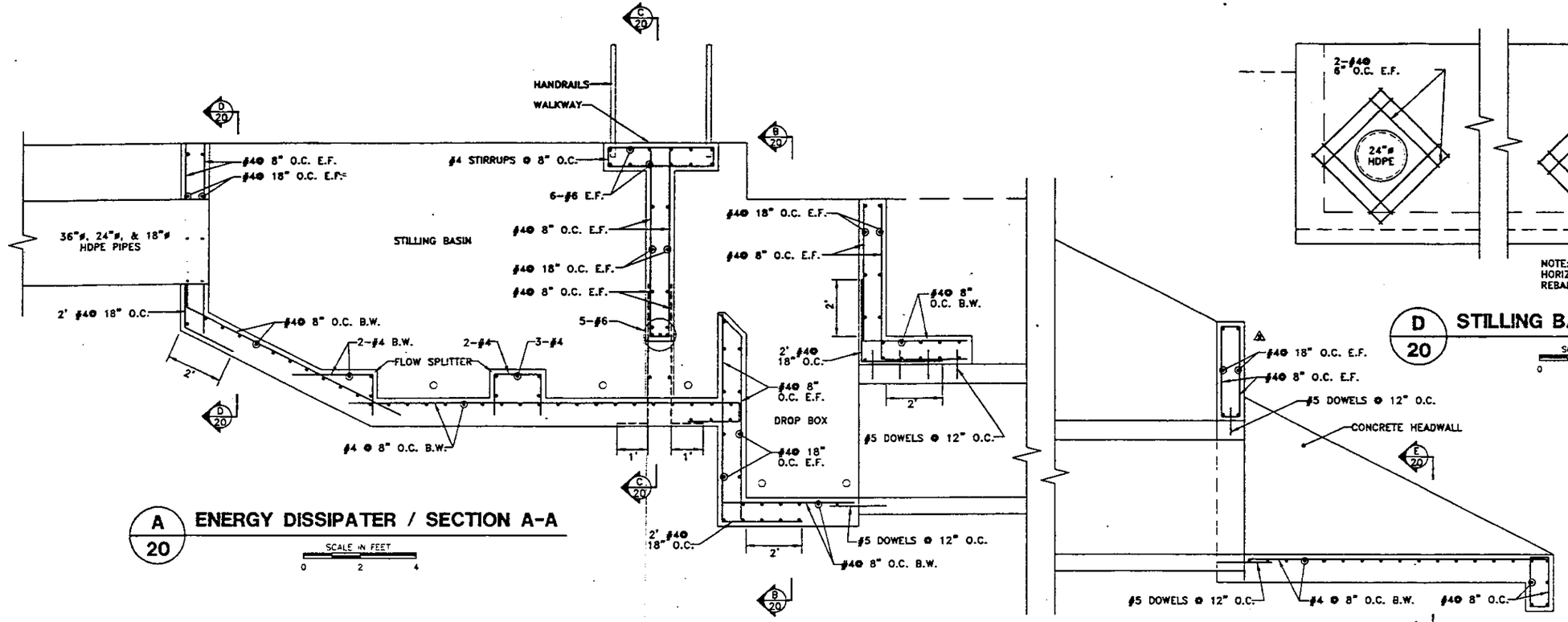
CLIENT/PROJECT
MONSANTO - DCC PROJECT

TITLE
ENERGY DISSIPATER AND DROP BOX AT 10TH STREET (SHEET 2 OF 3)

Golder Associates
Atlanta, Georgia

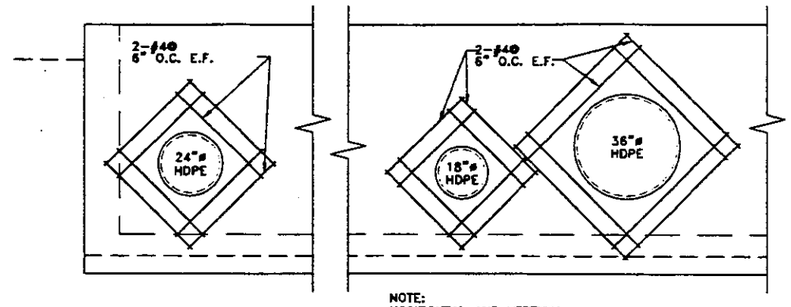
DRAWN	RMS	DATE	3/97
CHECKED	WRS	SCALE	AS SHOWN
REVIEWED	WRS	PROJ. NO.	210
APPROVED	WRS	FILE NO.	943-1680

DWG NO. 943-1680 SHEET 19



A 20 ENERGY DISSIPATER / SECTION A-A

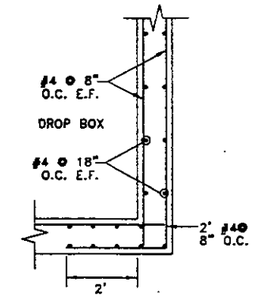
SCALE IN FEET 0 2 4



NOTE:
HORIZONTAL AND VERTICAL REBARS OMITTED FOR CLARITY

D 20 STILLING BASIN / SECTION D-D

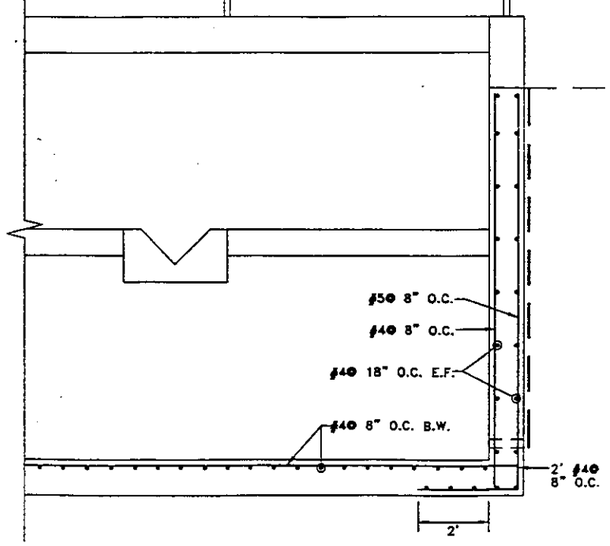
SCALE IN FEET 0 2 4



E 20 CONCRETE HEADWALL SECTION E-E

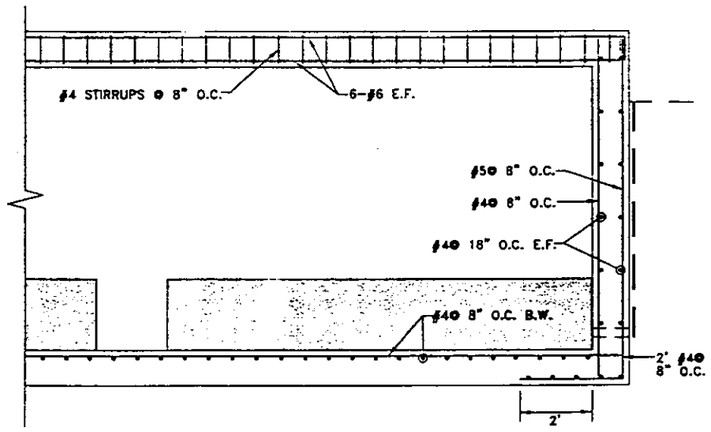
SCALE IN FEET 0 2 4

ENERGY DISSIPATER (STILLING BASIN/DROP BOX) REINFORCEMENT DETAILS



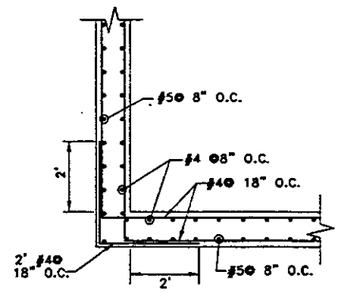
B 20 DROP BOX / SECTION B-B

SCALE IN FEET 0 2 4



C 20 STILLING BASIN / SECTION C-C

SCALE IN FEET 0 2 4



1 20 TYPICAL CORNER DETAIL PLAN VIEW

SCALE IN FEET 0 2 4

NOTES:

1. REFER TO SHEETS 18 AND 19 FOR GENERAL ARRANGEMENT OF ENERGY DISSIPATER.
2. REINFORCING BAR BENDING SCHEDULES SHALL BE PROVIDED BY THE CONTRACTOR.
3. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS FOR BUILDINGS AND ACI 318-95, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
4. CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI AT 28 DAYS.
5. CONCRETE REINFORCING STEEL SHALL BE NEW DEFORMED BILLET STEEL, GRADE 60, CONFORMING TO ASTM A-615.
6. UNLESS OTHERWISE NOTED, REINFORCEMENT LAP SPLICES SHALL BE ACI CLASS C SPLICES.
7. THE MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE 2 INCHES.

ALABAMA REGISTERED No. 22244 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

NO.	DATE	DESCRIPTION	DR. BY	APP. BY
4	MAY/97	ISSUED FOR CONSTRUCTION	RHS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

TITLE: ENERGY DISSIPATER AND DROP BOX AT 10TH STREET (SHEET 3 OF 3)

Golder Associates — Atlanta, Georgia

DRAWN	RHS	DATE	5/97
CHECKED	JPS	SCALE	AS SHOWN
SUPERVISED	WRS	DWG. NO.	211
APPROVED	JPS	JOB NO.	943-3680
FILE NO.	943-3680	SHEET	20

N

STATE RTE. 202

E 651500

E 651000

E 650500

E 650000

N 1145500

N 1144000

N 1142500

LEGEND

- 1030 — EXISTING CONTOURS
- — — — — EXISTING CONTOURS
- EXISTING FENCE
- EXISTING ELECTRIC LINE (W/POLE AND TOWER)
- EXISTING ROADWAY
- BH-7 EXISTING BOREHOLE
- TP-108 EXISTING TEST PIT

SCALE IN FEET

0 100 200 300 400

ALABAMA REGISTERED 20799 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

REV.	DATE	DESCRIPTION	DR. BY	APP. BY
1	MAY/97	ISSUED FOR CONSTRUCTION	RJE	

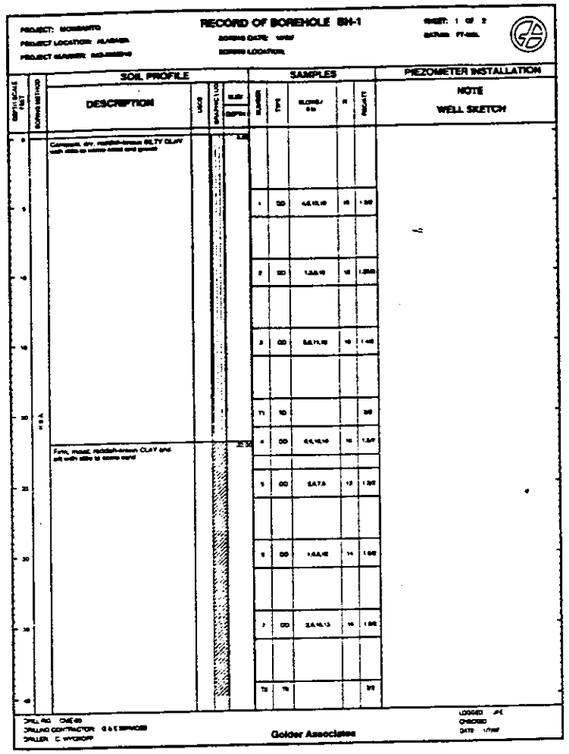
CLIENT/PROJECT: MONSANTO - DCC PROJECT

TITLE: BOREHOLE AND TEST PIT LOCATIONS

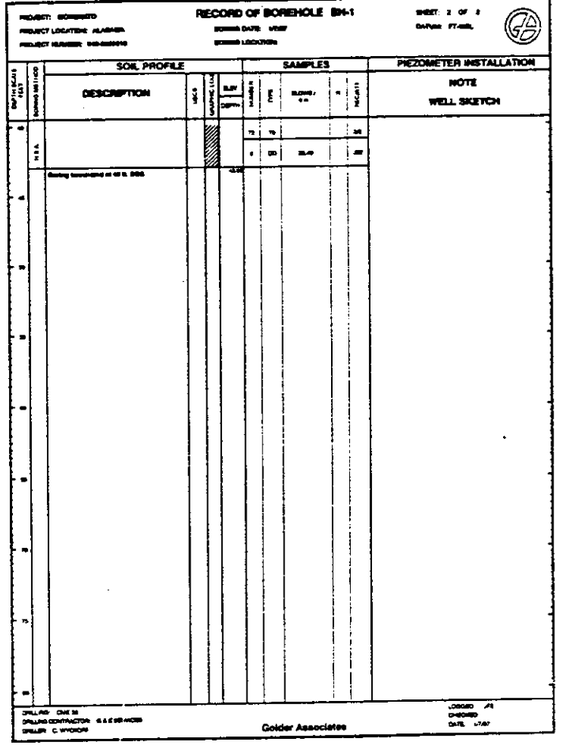
Golder Associates — Atlanta, Georgia

DRAWN	RMS	DATE	3/97
CHECKED		SCALE	AS SHOWN
APPROVED		DWG. NO.	212
APPROVED		JOB NO.	943-3680
PROJ. NO.	943-3680	REVISION	

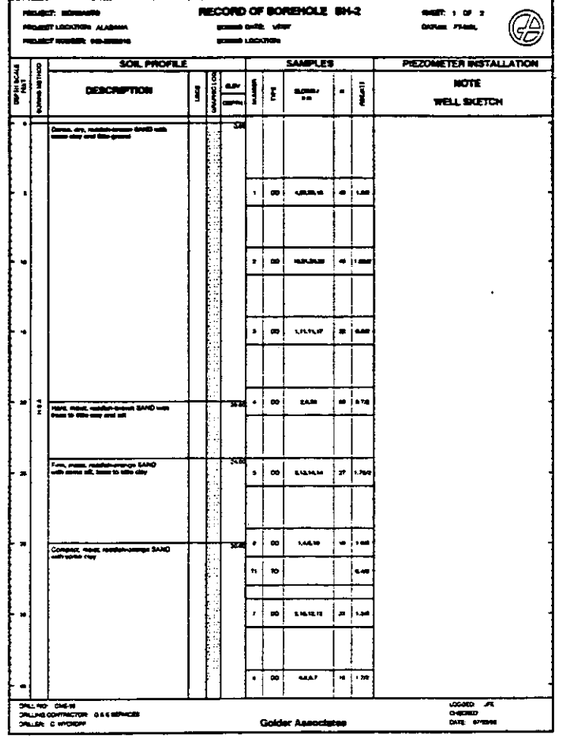
A-1



BH-1



BH-1



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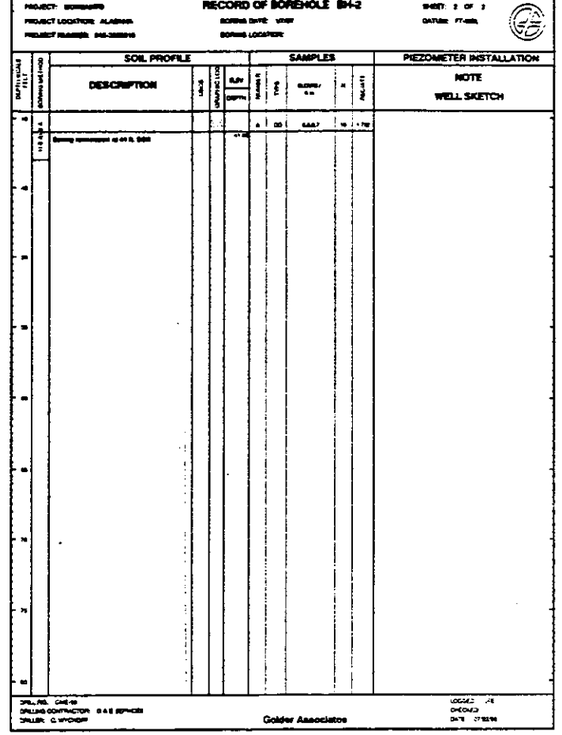

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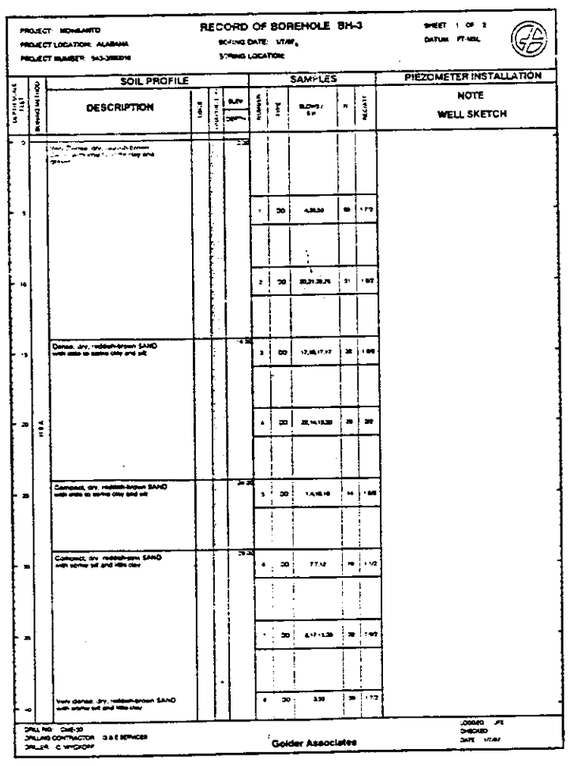

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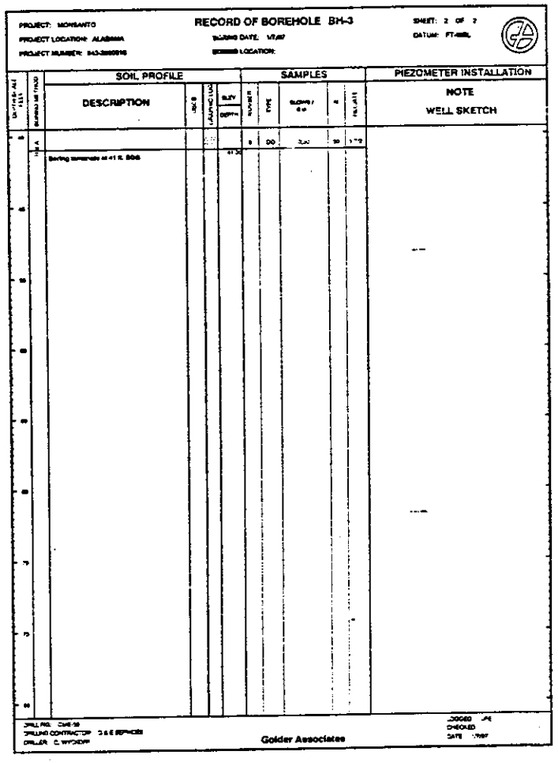


BH-3

ALABAMA REGISTERED ENGINEER WILLIAM R. SULLIVAN

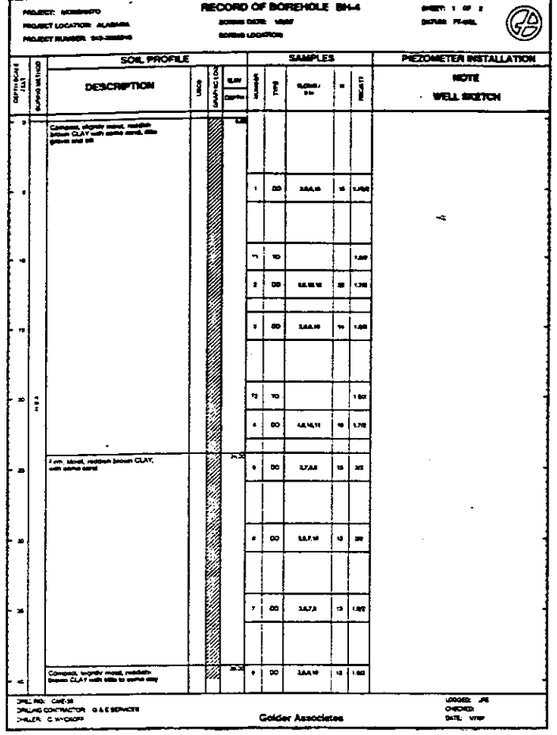
REV	DATE	DESCRIPTION	DR BY	APP BY
A	MAY 97	ISSUED FOR CONSTRUCTION		

CLIENT: MONSANTO

TITLE: BOREHOLE AND TEST PIT LOGS

Golder Associates — Atlanta, Georgia

DRAWN	RJS	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED		PROJ. NO.	REV NO.
APPROVED		JOB NO.	943-3680
FILE NO.	943-3680	OFFICE	A-II



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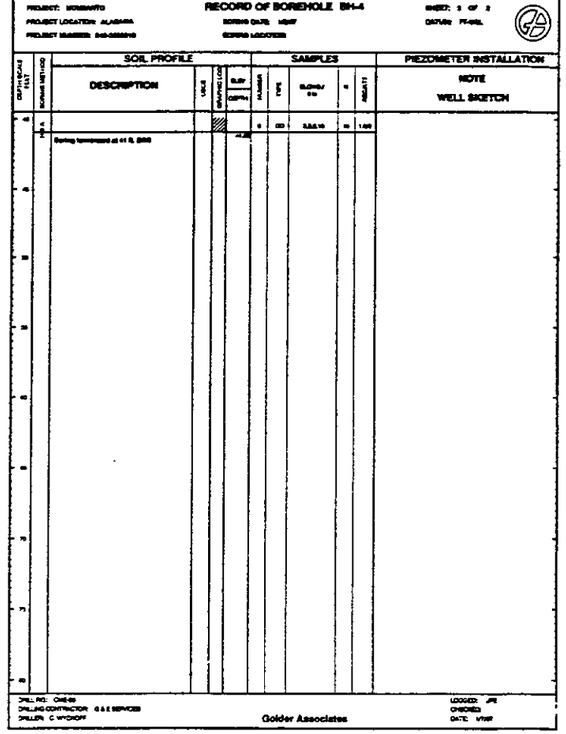

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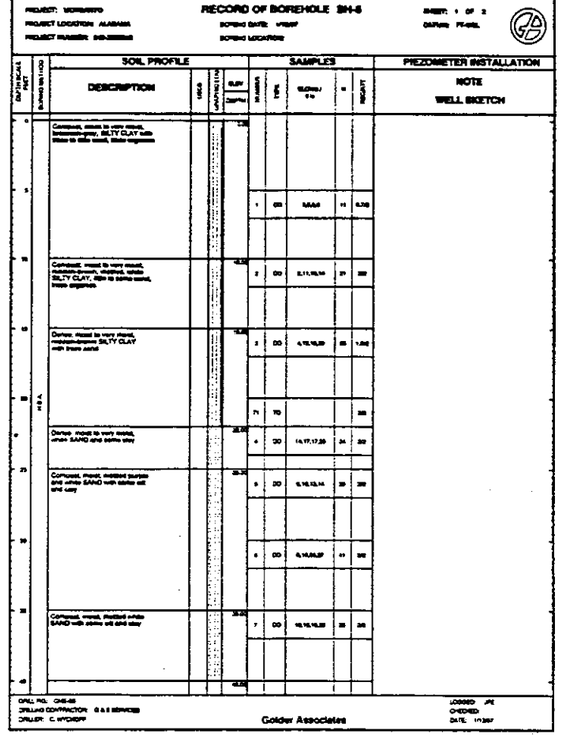

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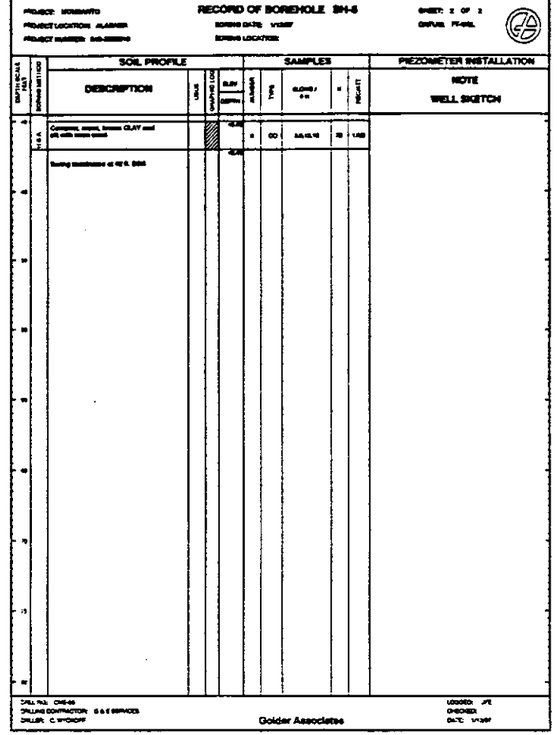

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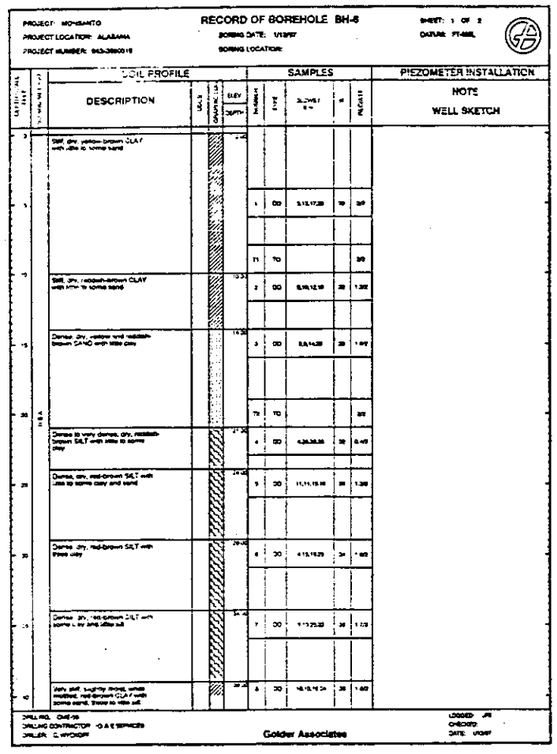

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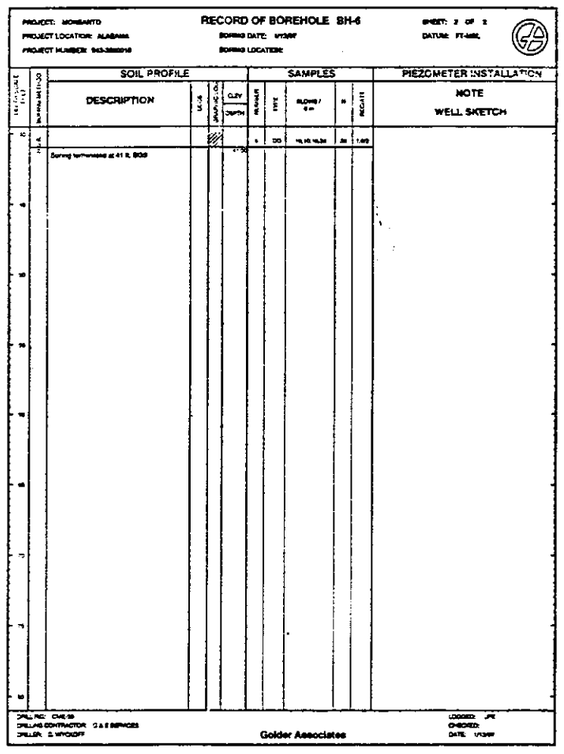

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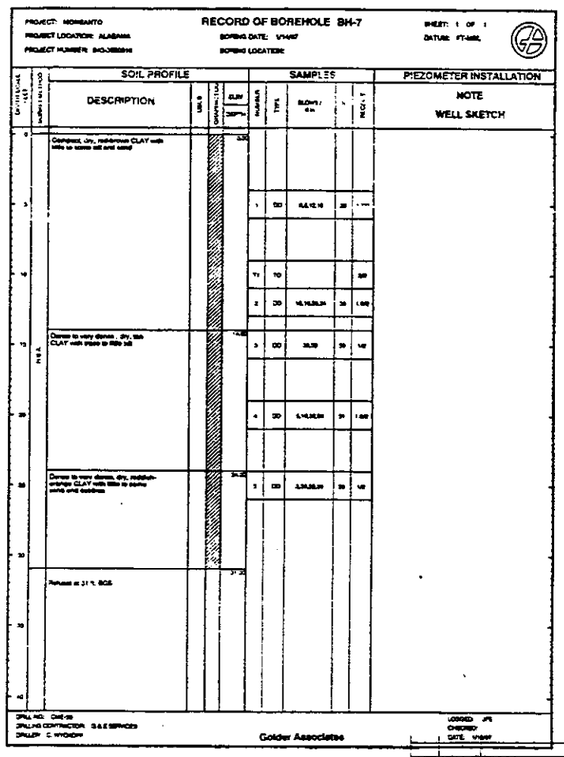


BH-7

ALABAMA REGISTERED PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

CLIENT PROJECT

MONSANTO

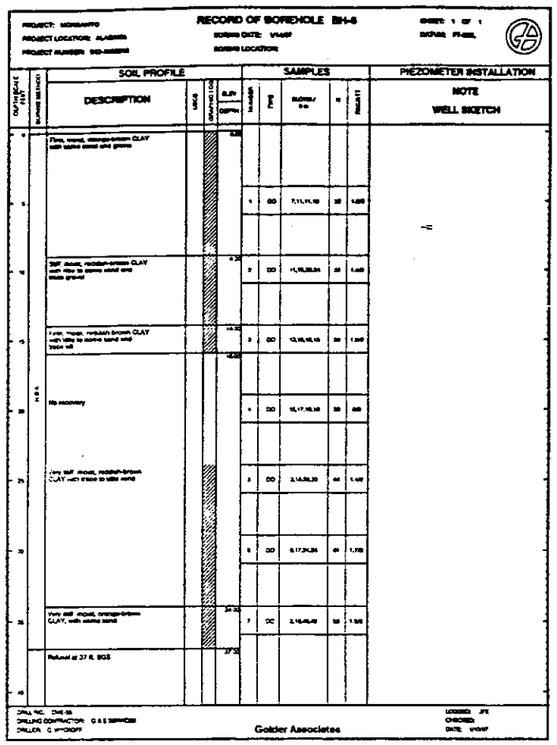
TITLE

BOREHOLE AND TEST PIT LOGS

Golder Associates — Atlanta, Georgia

DRAWN RJS	DATE 3/97		
CHECKED	SCALE AS SHOWN		
REVIEWED	DRG. NO.	REV. NO.	
APPROVED	JOB NO. 943-3680	FILE NO.	
FILE NO. 943-3680			A-111

REV	DATE	DESCRIPTION	DR. BY	APP. BY
1	MAY 97	ISSUED FOR CONSTRUCTION		



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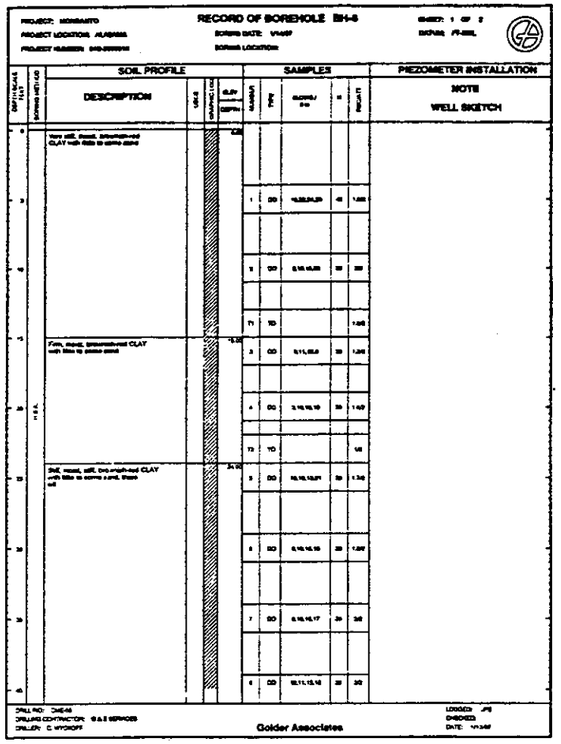

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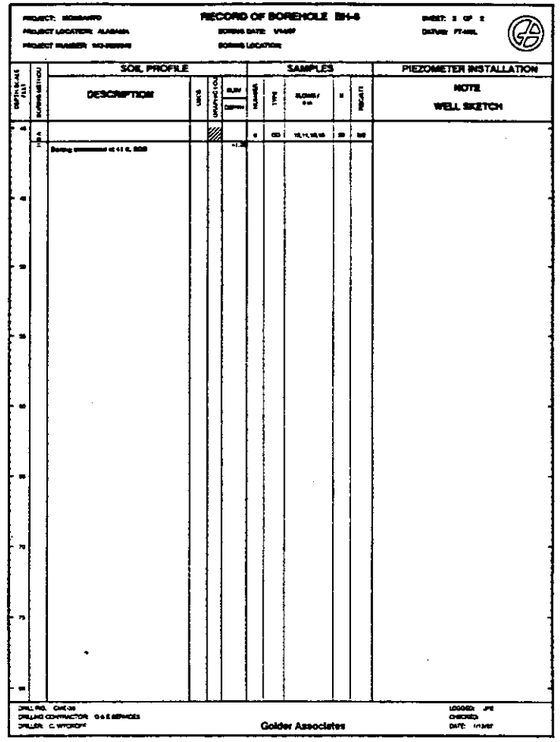


BH-9

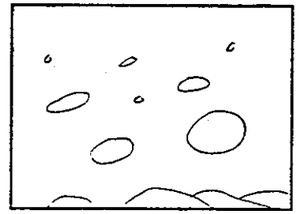
TEST PIT No. TP-1

PROJECT MONSANTO/SURFWATAL EXCAV. EQUIP. Backhoe G.L. ELEV. 888 FT MSL

JOB No. 943-3680016 GAI INSPECTOR JEF DATE 5/23/96

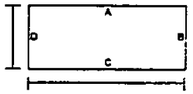
DIMENSIONS (l x b x h) 6'0"W-S' DEPTH TO WATER LEVEL

SIDE A CROSS SECTION



SKETCH

PLAN VIEW



DEPTH (ft.)	SOIL DESCRIPTION
0-4.5	Red, slightly moist, firm, silty CLAY, trace to some sand, gravel and cobbles (1/4" to 1' diameter). Test Pit terminated at 4.5 feet due to difficult excavation caused by cobbles and large boulders.

SAMPLES		
No.	Type	Depth (ft.)
1	Bulk	0-4.5

REMARKS:

TP-1

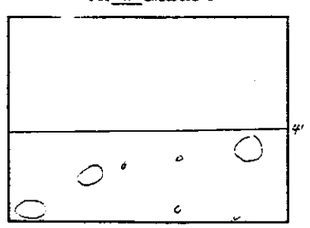
TEST PIT No. TP-2

PROJECT MONSANTO/SURFWATAL EXCAV. EQUIP. Backhoe G.L. ELEV. 898 FT MSL

JOB No. 943-3680016 GAI INSPECTOR JEF DATE 5/23/96

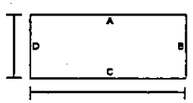
DIMENSIONS (l x b x h) 8'x2'x5' DEPTH TO WATER LEVEL

SIDE A CROSS SECTION



SKETCH

PLAN VIEW



DEPTH (ft.)	SOIL DESCRIPTION
0-4	Red brown, slightly moist, sandy CLAY, some silt, trace gravel.
4-7	Red, slightly moist, firm silty CLAY, trace sand, some gravel and cobbles (1/4" to 8" diameter).

SAMPLES		
No.	Type	Depth (ft.)
1	Bulk	0-3

REMARKS:

TP-2

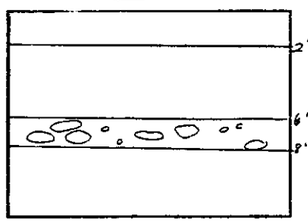
TEST PIT No. TP-3

PROJECT MONSANTO/SURFWATAL EXCAV. EQUIP. Backhoe G.L. ELEV. 898 FT MSL

JOB No. 943-3680016 GAI INSPECTOR JEF DATE 5/23/96

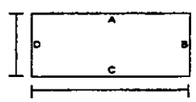
DIMENSIONS (l x b x h) 14'x2'x8' DEPTH TO WATER LEVEL

SIDE A CROSS SECTION



SKETCH

PLAN VIEW



DEPTH (ft.)	SOIL DESCRIPTION
0-2	Brown, slightly moist, sandy CLAY, some silt.
2-6	Red, slightly moist, clayey fine SAND, some silt and gravel.
6-8	Red, slightly moist, clayey fine SAND, some silt, gravel and cobbles(1/4" to 1')
8-14	Yellow, brown, silty fine SAND, trace clay and gravel

SAMPLES		
No.	Type	Depth (ft.)
1	Bulk	2-6
2	Bulk	8-13

REMARKS:

TP-3

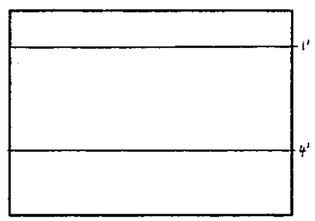
TEST PIT No. TP-4

PROJECT MONSANTO/SURFWATAL EXCAV. EQUIP. Backhoe G.L. ELEV. 867 FT MSL

JOB No. 943-3680016 GAI INSPECTOR JEF DATE 5/23/96

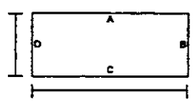
DIMENSIONS (l x b x h) 8'x4'x5' DEPTH TO WATER LEVEL

SIDE A CROSS SECTION



SKETCH

PLAN VIEW



DEPTH (ft.)	SOIL DESCRIPTION
0-1	Brown, dry, silty fine SAND, trace gravel, organics.
1-4	Red, sandy CLAY, some silt, trace gravel.
4-6	Red, fine sandy Clay, some silty, some to and gravel.

SAMPLES		
No.	Type	Depth (ft.)
1	Bulk	0-6

REMARKS:

TP-4

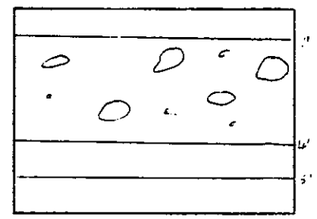
TEST PIT No. TP-5

PROJECT MONSANTO/SURFWATAL EXCAV. EQUIP. Backhoe G.L. ELEV. 906 FT MSL

JOB No. 943-3680016 GAI INSPECTOR JEF DATE 5/23/96

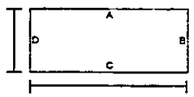
DIMENSIONS (l x b x h) 7'x4'x5' DEPTH TO WATER LEVEL

SIDE A CROSS SECTION



SKETCH

PLAN VIEW



DEPTH (ft.)	SOIL DESCRIPTION
0-1	Dark brown, dry, fine SAND, some silt.
1-4	Brown, dry to slightly moist, medium to fine sand some Gravel and Cobbles (1" to 18").
4-5	Brown, slightly moist, medium to fine silty fine SAND, trace gravel.
5-6	Red, slightly moist, medium to fine SAND and GRAVEL.

SAMPLES		
No.	Type	Depth (ft.)
1	Bulk	1-4

REMARKS:

TP-5

MONSANTO

BOREHOLE AND TEST PIT LOGS

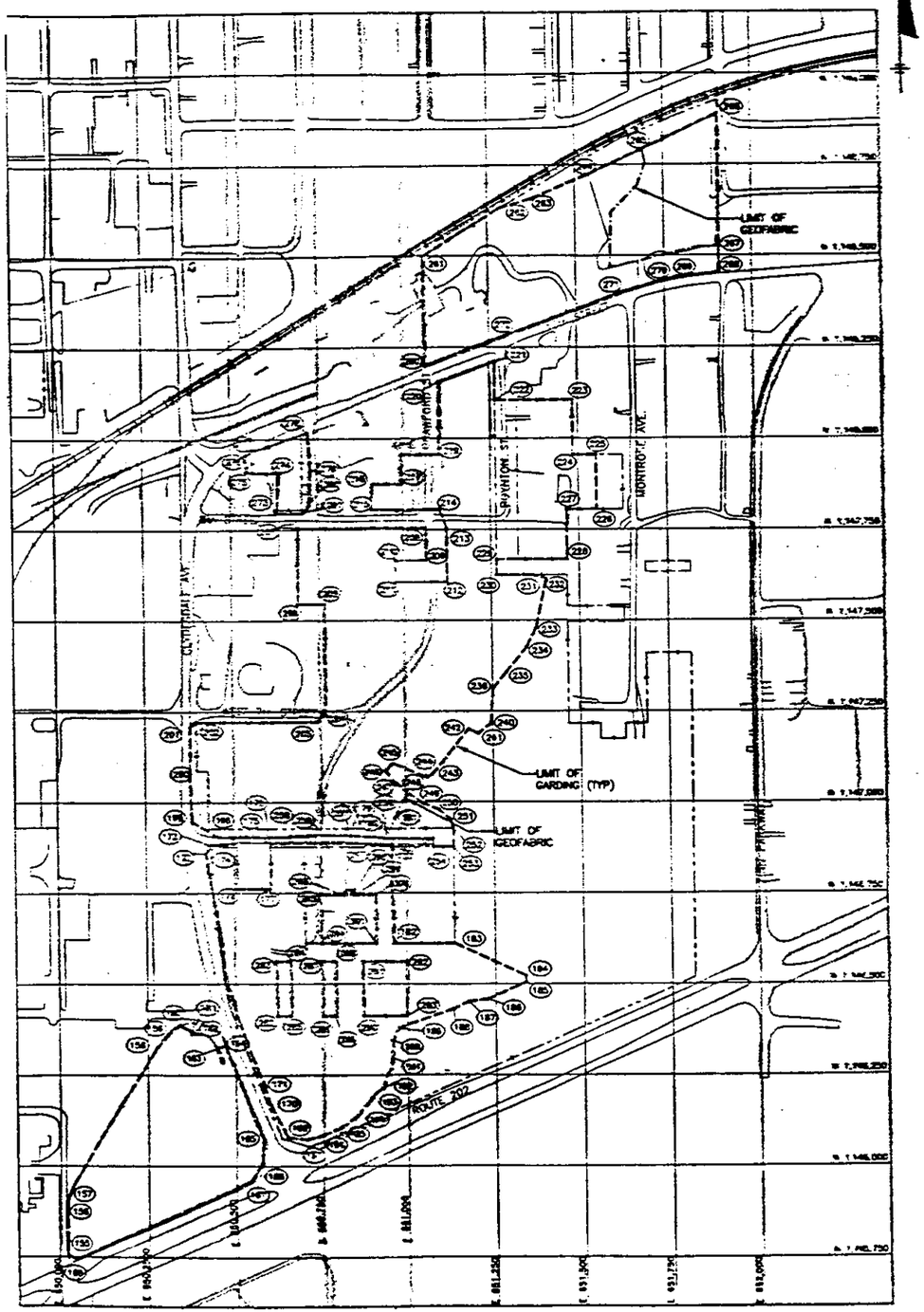
Atlanta, Georgia

Golder Associates

DRAWN RJS	DATE 3/97
CHECKED	SCALE AS SHOWN
REVIEWED	DWG. NO. REV. NO.
APPROVED	JOB NO. 943-3680
FILE NO. 943-3680	FIGURE A-IV

REV	DATE	DESCRIPTION	DR. BY	APP. BY
A	MAY 97	ISSUED FOR CONSTRUCTION		

APPENDIX D



KEY PLAN
1"=200'

LIMIT OF GRADING COORDINATES

POINT	NORTHING	EASTING
156	1145754.385	650618.534
156	1145880.998	650018.534
157	1145916.862	650022.847
158	1146325.774	650278.628
159	1146358.961	650306.447
160	1146366.788	650340.536
161	1146370.035	650373.782
162	1146362.082	650374.801
163	1146325.263	650451.801
164	1146339.644	650466.675
165	1146366.824	650578.154
166	1146307.079	650574.448
167	1145958.518	650543.384
168	1145741.578	650542.771
169	1146077.690	650645.506
170	1146170.333	650597.564
171	1146220.261	650581.902
172	1146858.114	650421.041
173	1146881.018	650433.881
174	1146884.315	650469.981
175	1146884.315	650509.008
176	1146781.615	650509.008
177	1146781.615	650604.008
178	1146886.526	650604.008
179	1146866.526	650637.586
180	1146882.487	650908.008
181	1146882.487	650958.008
182	1146811.815	650958.008
183	1146811.815	651135.808
184	1146522.580	651334.130
185	1146504.760	651336.096
186	1146457.425	651227.853
187	1146451.086	651173.632
188	1146430.383	651130.480
189	1146378.193	650972.567
190	1146344.983	650954.047
191	1146297.572	650958.304
192	1146212.237	650827.733
193	1146195.388	650904.174
194	1146135.752	650848.400
195	1146103.631	650797.992
196	1146083.745	650750.564
197	1146071.578	650705.671
198	1146903.880	650456.750
199	1146947.020	650381.045
200	1147063.250	650278.582
201	1147207.930	650278.805
202	1147220.615	650396.808
203	1147220.615	650737.815
204	1147242.526	650765.808
205	1147545.115	650765.808
206	1147545.115	650890.808
207	1147755.115	650890.808
208	1147755.115	651065.808
209	1147665.115	651065.808
210	1147665.115	650875.808
211	1147805.115	650875.808
212	1147805.115	651125.808
213	1147755.115	651125.808
214	1147805.115	651165.808
215	1147805.115	650909.500
216	1147875.115	650909.500
217	1147875.115	650894.500
218	1147955.115	650894.500
219	1147955.115	651105.808
220	1148155.115	651105.808
221	1148210.115	651265.808
222	1148105.115	651265.808
223	1148105.115	651465.808
224	1147955.115	651465.808
225	1147955.115	651551.556
226	1147805.115	651551.556
227	1147805.115	651465.808
228	1147667.615	651465.808

POINT	NORTHING	EASTING
229	1147667.615	651265.808
230	1147624.615	651265.808
231	1147624.615	651365.808
232	1147575.252	651403.174
233	1147479.108	651374.032
234	1147425.329	651346.646
235	1147356.645	651288.377
236	1147311.800	651252.025
237	–	–
238	–	–
239	–	–
240	1147215.443	651244.246
241	1147186.634	651208.437
242	1147200.496	651181.610
243	1147080.048	651081.693
244	1147066.850	651062.396
245	1147106.444	650962.865
246	1147084.109	650940.521
247	1147049.591	650972.006
248	1147028.992	651003.440
249	1146996.314	651049.792
250	1146978.754	651095.459
251	1146950.909	651128.328
252	1146926.615	651135.808
253	1146876.615	651135.808
254	1146876.615	651078.647
255	1146895.734	651078.647
256	1146895.343	650939.856
257	1146907.550	650835.520
258	1146908.900	650780.840
259	1146903.810	650645.800
260	1148199.146	651067.106
261	1148497.663	651085.669
262	1148630.518	651285.345
263	1148655.430	651372.381
264	1148723.286	651537.730
265	1148791.226	651691.927
266	1148886.736	651907.030
267	1148523.887	651907.030
268	1148453.066	651907.030
269	1148436.980	651786.067
270	1148432.473	651747.137
271	1148401.128	651632.920
272	1148280.632	651293.842
273	1147795.465	650632.775
274	1147906.621	650641.536
275	1147908.618	650545.583
276	1147955.733	650545.583
277	1147965.262	650563.343
278	1148015.634	650720.676
279	1147910.321	650727.558
280	1147817.325	650723.499
281	1147795.465	650702.775
282	1146411.615	650619.308
283	1146561.615	650619.308
284	1146561.615	650659.158
285	1146411.615	650659.158
286	1146411.615	650749.008
287	1146561.615	650749.008
288	1146561.615	650789.308
289	1146411.615	650789.308
290	1146411.615	650859.308
291	1146561.615	650859.308
292	1146561.615	650999.308
293	1146411.615	650999.308
294	1146611.615	650749.008
295	1146743.615	650749.008
296	1146743.615	650618.192
297	1146757.780	650618.192
298	1146757.780	650648.391
299	1146743.615	650648.391
300	1146743.615	650909.008
301	1146611.615	650909.008

ALABAMA
No. 19894
PROFESSIONAL
ENGINEER
U.S.A.

NO.	DATE	REVISION	BY
4	5/7/97	ISSUED FOR CONSTRUCTION	KFR
3	4/16/97	ISSUED FOR INTERNAL REVIEW	KFR
2	3/28/97	ISSUED FOR INTERNAL REVIEW	KFR

1"=200' 200 0 200 400

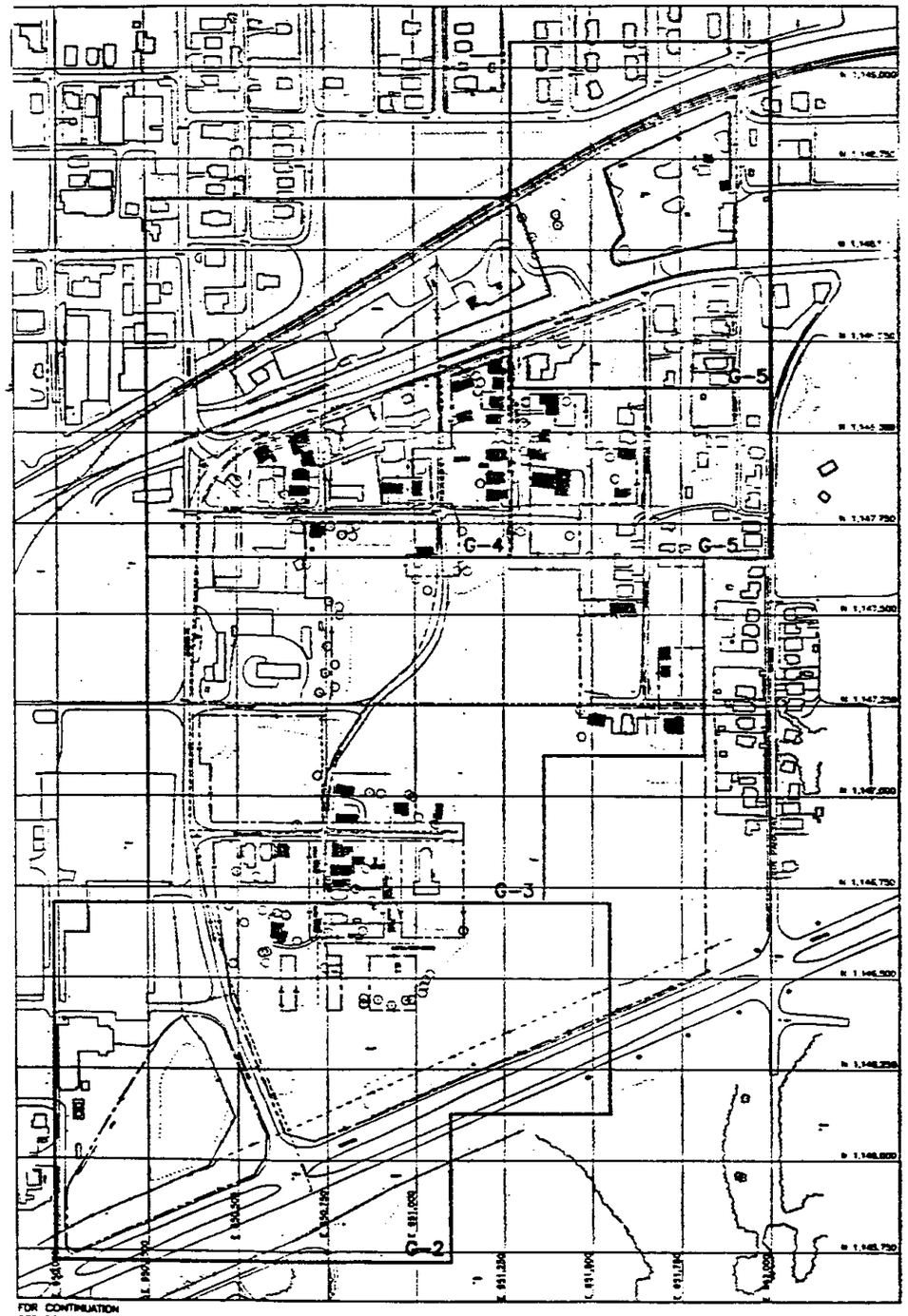
O'BRIEN & GERE ENGINEERS, INC.

MONSANTO COMPANY
DETENTION CAP COVER
ANNISTON, ALABAMA

GENERAL

LIMITS OF GRADING PLAN & COORDINATES

IN CHARGE OF R.J. PANEK	FILE NO. 2600.034-029	G-0
DESIGNED BY TJS CHECKED BY RJP	DATE MAR. 28, 1997	
DRAWN BY KFR		



FOR CONTINUATION
SEE DRAWINGS PREPARED BY
GOLDER ASSOCIATES WITH JOB NO. 943-3680

KEY PLAN
1"=200'

GENERAL NOTES

SURVEY AND MAPPING:

1. EXISTING TOPOGRAPHIC FEATURES, BOUNDARY INFORMATION AND EXISTING UTILITY LOCATIONS SHOWN FROM A TOPOGRAPHIC MAP PREPARED BY DAVID MASON & ASSOCIATES, INC. – DATED 2/12/97, JOB NO. 970012 WITH ASSOCIATED DRAWING NOTES.

ALABAMA STATE SPECIFICATIONS:

1. ANY REFERENCE TO ALABAMA DOT STANDARD SPECIFICATIONS IS LIMITED IN SCOPE TO TECHNICAL ENGINEERING AND CONSTRUCTION WORK, MATERIALS DETAILS, PROCEDURES, ETC. ALL REFERENCES TO THE ALABAMA DOT OR ADMINISTRATIVE OFFICERS OF THE DEPARTMENT THEREOF ARE NULL AND VOID WITH RESPECT TO LEGAL OR CONTRACTUAL RESPONSIBILITIES.
2. FOR CLARIFICATION, WHERE THE STATE OF ALABAMA OR THE ALABAMA DOT OR ADMINISTRATIVE OFFICERS OR EMPLOYEES THEREOF ARE NAMED IN THE STANDARD SPECIFICATIONS, SUCH REFERENCES SHALL BE TAKEN TO MEAN EITHER ENGINEER OR OWNER.
3. CONTRACTOR SHALL OBTAIN MATERIALS TO BE INCORPORATED INTO THE WORK FROM ALABAMA DOT APPROVED SOURCES WHERE ALABAMA DOT MATERIALS ARE SHOWN ON THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL OBTAIN AND SUBMIT A MANUFACTURER'S MATERIAL CERTIFICATION TO THE ENGINEER FOR EACH MATERIAL ITEM AS SPECIFIED – SHOP DRAWINGS, PRODUCT DATA AND SAMPLES OF THE GENERAL REQUIREMENTS, INDICATING THAT THE RESPECTIVE ITEM MEETS THE APPLICABLE ALABAMA DOT OR SPECIAL SPECIFICATIONS INCLUDED IN THIS CONTRACT.
4. THE CONTRACTOR IS TO BE ADVISED THAT THE METHOD OF MEASUREMENT AND BASIS OF PAYMENT FOR INDIVIDUAL ALABAMA DOT ITEM NUMBERS DOES NOT NECESSARILY REFLECT THE OWNER'S METHOD OF MEASUREMENT AND/OR BASIS OF PAYMENT.

GENERAL UTILITY:

1. PLANS SHOW APPROXIMATE LOCATIONS OF KNOWN UTILITIES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR HAVING ALL UTILITIES WITHIN THE LIMITS OF WORK STAKED PRIOR TO THE START OF CONSTRUCTION.
2. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES BY POTHOLING IN ADVANCE PRIOR TO THE START OF CONSTRUCTION. THE ALABAMA ONE LOCATION CENTER TO BE NOTIFIED 72 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION (1-800-292-8525).
3. THE CONTRACTOR SHALL COORDINATE ALL WORK AFFECTING UTILITIES WITH THE OWNER AND CONSTRUCTION MANAGER, AND WITH THE RESPECTIVE UTILITY OWNER. ALL DETAILS OF CONSTRUCTION AND/OR RELOCATION OF AFFECTED UTILITIES SHALL BE APPROVED BY THE OWNER AND OTHER APPROVING AGENCIES.
4. THE CONTRACTOR SHALL TAKE EXTREME CARE WHILE WORKING IN THE VICINITY OF THE UNDERGROUND SOUTHWESTERN BELL FIBER OPTIC CABLE. WORK IN THIS AREA SHALL BE COORDINATED WITH A SOUTHWESTERN BELL REPRESENTATIVE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND/OR REPLACEMENT OF ALL DAMAGES TO EXISTING UTILITIES AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR TO COORDINATE WITH CONSTRUCTION MANAGER FOR EXISTING UTILITIES TO REMAIN IN SERVICE AND EXISTING UTILITIES SCHEDULED FOR ABANDONMENT. THE CONTRACTOR SHALL COORDINATE WITH THE CONSTRUCTION MANAGER FOR ABANDONMENT/REMOVAL PROCEDURES OF EXISTING UTILITIES, STRUCTURES AND ROADWAYS.
6. EXISTING 16" WATER TO BE ABANDONED AND IS NOT PART OF THIS CONTRACT. APPROXIMATELY 1,200 LINEAL FEET OF PIPE BENEATH THE PROPOSED BERM AND SWALE FOOTPRINT SHALL BE FILLED WITH CONCRETE.

GRADING:

1. AREAS TO BE FILLED SHALL BE CLEARED OF TREES, VEGETATION UTILITY POLES, FENCES AND ANY OTHER OBJECTIONABLE MATERIALS. COORDINATE DISPOSAL WITH CONSTRUCTION MANAGER.
2. ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLAN (SEE EROSION CONTROL NOTE 1 BELOW) UNTIL THEY ARE ADEQUATELY STABILIZED.
3. ALL FILLS SHALL BE COMPACTED AS SPECIFIED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE, OR OTHER RELATED PROBLEMS.
4. ALL FILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS UNLESS A GREATER THICKNESS IS ALLOWED BY THE ENGINEER, UPON DEMONSTRATION BY THE CONTRACTOR THAT THE MATERIALS AND COMPACTIVE EFFORT ARE ADEQUATE TO OBTAIN THE REQUIRED DENSITY.
5. WHERE COVER MATERIAL IS PLACED OVER EXISTING PAVED AREAS, THE CONTRACTOR SHALL BREAK THE EXISTING PAVEMENT ON A 25' HORIZONTAL GRID. THE HOLES SHALL PENETRATE INTO THE EXISTING SUBBASE GRANULAR COURSE.
6. MINIMUM ALLOWABLE SLOPE OF COVER MATERIAL 1:V TO 3:H FOR THE FILL MATERIAL TO BE ADEQUATELY MAINTAINED ON LINER.
7. THE CONTRACTOR SHALL REMOVE THE EXISTING RIP-RAP INSTALLED AT THE PRIMARY SPILLWAY OUTFALL AS PART OF THE DETENTION BASIN AND INSTALL AT THE OUTLETS OF THE 24", 36" AND 48" CULVERTS NEAR ROUTE 202. COORDINATE WITH THE CONSTRUCTION MANAGER.
8. EXISTING STOCKPILE (0" - 36") SHALL BE REMOVED DOWN TO WOOD CHIP LAYER. SOIL REMOVED SHALL BE USED AS COVER MATERIAL.
9. AREA UNDER THE BERM FOOTPRINT SHALL BE CLEARED OF SUBSURFACE WOOD CHIPS, CONCRETE, TREE STUMPS AND MISCELLANEOUS DEBRIS WHICH MAY HAVE BEEN COVERED FROM STOCKPILING ACTIVITIES. THE MATERIAL CLEARED SHALL BE GRADED BENEATH THE GEOTEXTILE.
10. BERM IS TO BE PLACED WITH NATIVE SOIL AND IN ACCORDANCE WITH SPECIFICATION 02287.

EROSION CONTROL:

1. THE CONTRACTOR SHALL BE AWARE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED AND IMPLEMENTED ON SITE. THE CONTRACTOR SHALL COORDINATE WITH THE CONSTRUCTION MANAGER FOR COMPLIANCE WITH AND CONTINUATION OF THIS PLAN.

LEGEND

EXISTING		PROPOSED
——— ℄ ———	PROPERTY LINE	
———	EDGE OF PAVEMENT	
	RAILROAD	
723	CONTOUR	723
730	CONTOUR (5')	730
778.5 X	SPOT ELEVATION	
	LIMIT OF GRADING	
	LIMIT OF GEOTEXTILE	
	LIMIT OF GRADING COORDINATE	(1360)
☆	LIGHT	
•	UTILITY POLE	
—□——□——□—	GUARD RAIL	
——— G ———	GAS LINE	
——— 16"W ———	WATERLINE	
24"ø RCP INV=778.89	STORM LINE	SMH-1
——x——x——	FENCE	
	CENTERLINE OF BERM	
	SWALE	
	CONCRETE SWALE	
	RIP-RAP	
▨	STRUCTURES TO BE DEMOLISHED BY OTHERS	
⊙	EXISTING TREE TO REMAIN	
☁	EXISTING TREES TO REMAIN	
✱	EXISTING TREE TO BE CUT AND DISPOSED OF BY OTHERS	
▩	EXISTING TREES TO BE CUT AND DISPOSED OF BY OTHERS	

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. INCONSISTENCIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR IN THE TITLE BLOCK TO DETERMINE THE ACTUAL SCALE OF THIS DRAWING.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT.

ALABAMA REGISTERED PROFESSIONAL ENGINEER DEAN L. PALMER

Dean L. Palmer

NO	DATE	REVISION	INIT.
3	5/7/97	ISSUED FOR CONSTRUCTION	DLP
2	4/18/97	ISSUED FOR INTERNAL REVIEW	DLP
1	3/28/97	ISSUED FOR INTERNAL REVIEW	DLP

1"=200' 200 0 200 400

CORRGUARDIAN ENGINEERS, INC.

MONSANTO COMPANY
DETENTION CAP COVER
ANNISTON, ALABAMA

GENERAL

PLAN, NOTES & LEGEND

IN CHARGE OF R.J. PANEK
DESIGNED BY TJS CHECKED BY DLP
DRAWN BY MPB
FILE NO. 97R12034-023
DATE JUNE 25, 1997

G-1

MATCHLINE 'A-A' FOR CONTINUATION SEE DWG. G-3

NO GEOTEXTILE PLACEMENT & COVER MATERIAL THIS AREA

SERVICE STREET (PAPER)

PEARL STREET (PAPER)

ROSWELL STREET (PAPER)

2" W CONTINUATION NOT KNOWN

EXIST. 4'X5' BOX

EXIST. CONCRETE SIDEWALL

PROPOSED 36" HDPE PIPE SEE GOLDER ASSOC. SHEET 14

EXIST. 4'X6' BOX

GALVANIZED METAL END SECTION

EXISTING CONCRETE CHANNEL SEE TYPICAL TIE-IN DETAIL SHT. G-6

LIMITS OF GRADING SEE TYPICAL GEOTEXTILE TIE-IN DETAIL SHEET G-6

PROPOSED 24" HDPE STORM PIPE 489'@0.041

EXISTING RIP-RAP CHANNEL SEE TYPICAL CHANNEL LINING DETAIL SHT. G-6

TANKS

TEMPORARY CHAINLINK FENCING TO BE INSTALLED PRIOR TO REMOVAL OF EXISTING FENCE. CONTRACTOR SHALL COORDINATE WITH CONSTRUCTION MANAGER FOR FINAL REMOVAL OF FENCE

AFTER INSTALLING TEMPORARY FENCING REMOVE EXISTING FENCE FOR GEOTEXTILE & COVER MATERIAL (TYP.) AND REESTABLISH FENCE AT EXIST. LOCATION UPON COMPLETION OF FILLING OPERATIONS. COORDINATE WITH CONSTRUCTION MANAGER

EXISTING RIP-RAP CHANNEL SEE CHANNEL LINING DETAIL G-6

MIN. 1V:3H SIDE SLOPE

FILL EXISTING 24" PIPES WITH CONCRETE ENTIRE LENGTH

FILL EXIST. 36" PIPE WITH CONCRETE ENTIRE LENGTH

FILL EXIST. 24" PIPE WITH CONCRETE ENTIRE LENGTH

NO GEOTEXTILE PLACEMENT & COVER MATERIAL THIS AREA

SEE GRADING NOTE 7 ON SHEET G-1

EXISTING GUIDERAIL

ROUTE 202

N CLYDESDALE AVE.

N 1,146,500

1,146,250

N 1,146,000

N 1,145,750

E 850,250

E 850,500

E 850,750

E 851,000

E 851,250

E 851,500

PLAN NOTE:
1. FOR LEGEND SEE SHEET G-1.

NO.	DATE	REVISION	INIT.
4	5/7/97	ISSUED FOR CONSTRUCTION	KLP
3	4/18/97	ISSUED FOR INTERNAL REVIEW	KLP
2	3/28/97	ISSUED FOR INTERNAL REVIEW	KLP

1"=50' 50 0 50 100

O'BRIEN & GERE ENGINEERS, INC.

MONSANTO COMPANY
DETENTION CAP COVER
ANNISTON, ALABAMA

GENERAL

GRADING PLAN

IN CHARGE OF K.L.P.
DESIGNED BY TJS CHECKED BY RJP
DRAWN BY KFR

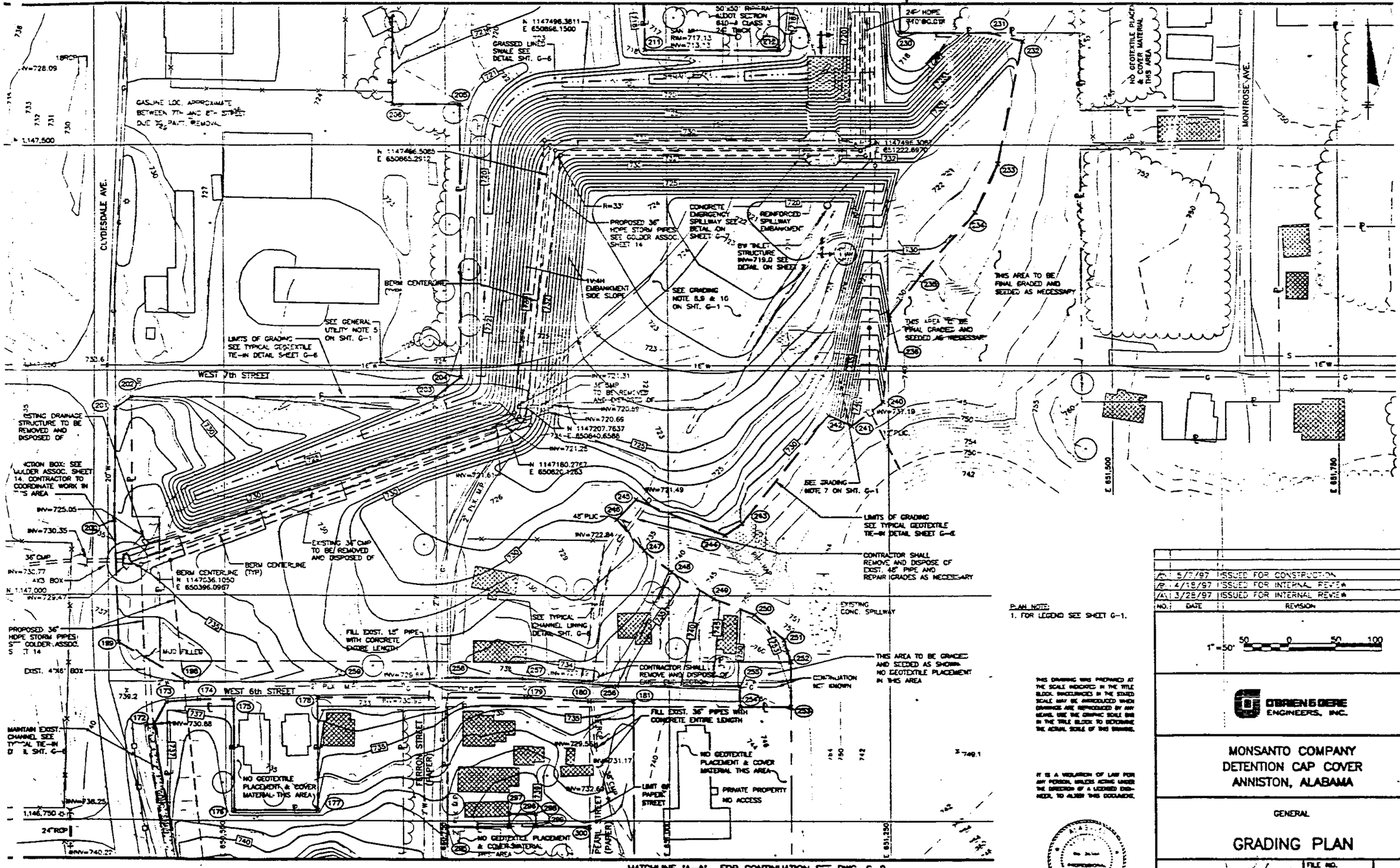
FILE NO. 2600.034-024
DATE MAR. 28, 1997

G-2

PLAN
1"=50'

MATCHLINE 'B–B' FOR CONTINUATION SEE DWG. G–4

MATCHLINE 'C–C' FOR CONTINUATION SEE DWG. G–5



MATCHLINE 'A–A' FOR CONTINUATION SEE DWG. G–2

PLAN
1"=50'

PLAN NOTE:
1. FOR LEGEND SEE SHEET G–1.

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. DISCREPANCIES IN THE STATED SCALE MAY BE ANTICIPATED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR IN THE TITLE BLOCK TO DETERMINE THE ACTUAL SCALE OF THIS DRAWING.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT.

NO.	DATE	REVISION	INIT.
A	5/7/97	ISSUED FOR CONSTRUCTION	RJP
B	4/18/97	ISSUED FOR INTERNAL REVIEW	RJP
A	3/28/97	ISSUED FOR INTERNAL REVIEW	RJP

1"=50' 50 0 50 100

O'BRIEN & GERE ENGINEERS, INC.

MONSANTO COMPANY
DETENTION CAP COVER
ANNISTON, ALABAMA

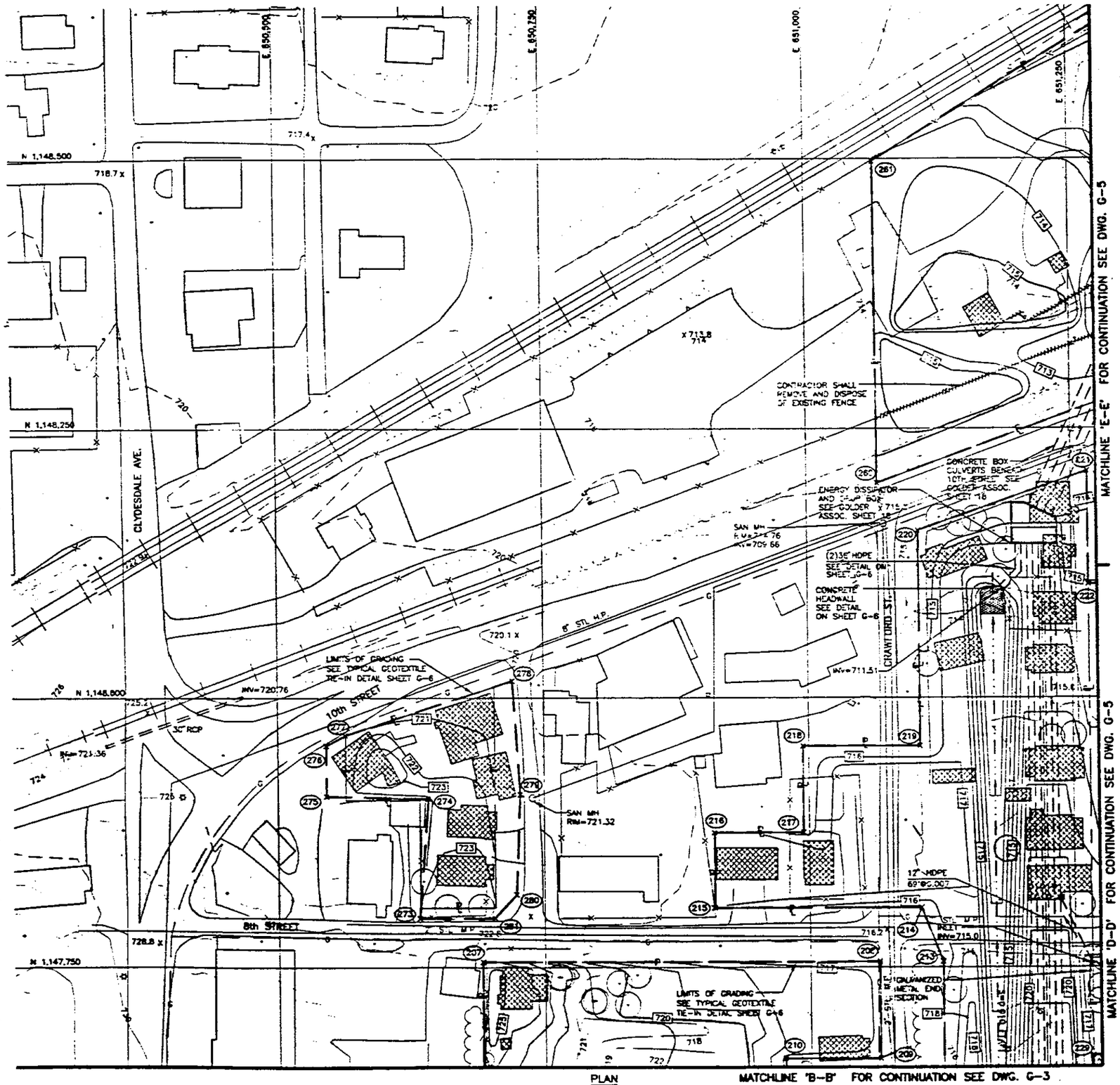
GENERAL

GRADING PLAN

IN CHARGE OF Dean Vanni
DESIGNED BY TJS CHECKED BY RJP
DRAWN BY KFR

FILE NO. 2600.034–025
DATE MAR. 28, 1997

G–3



PLAN

PLAN NOTE:
1. FOR LEGEND SEE SHEET G-1.

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. SUBSEQUENCES IN THE SCALING SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR IN THE TITLE BLOCK TO DETERMINE THE ACTUAL SCALE OF THIS DRAWING.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT.

ALABAMA REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	REVISION	INIT.
3	5/7/97	ISSUED FOR CONSTRUCTION	
2	4/16/97	ISSUED FOR INTERNAL REVIEW	
1	3/28/97	ISSUED FOR INTERNAL REVIEW	

1"=50' 50 0 50 100

O'BRIEN & GERE ENGINEERS, INC.

MONSANTO COMPANY
DETENTION CAP COVER
ANNISTON, ALABAMA

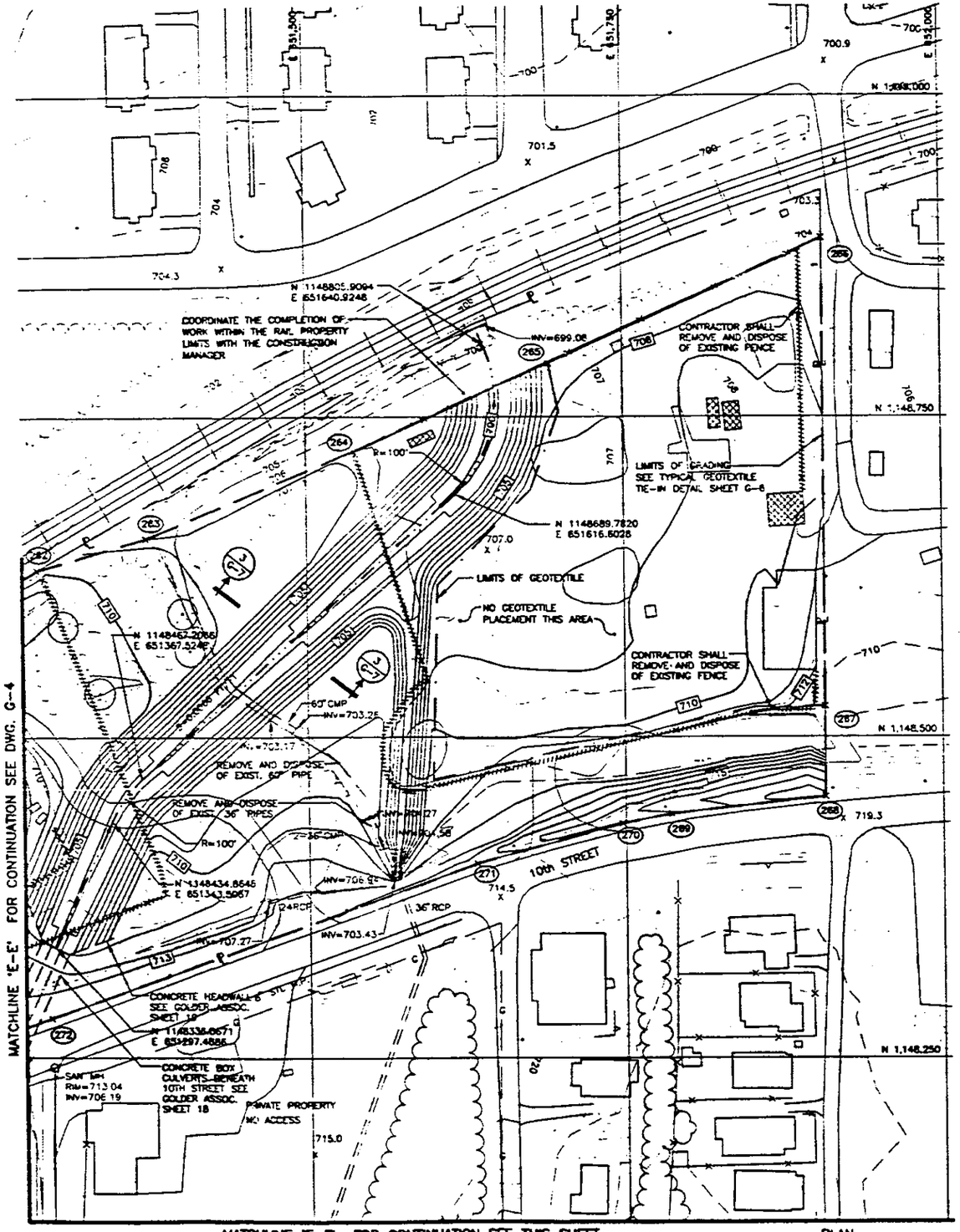
GENERAL

GRADING PLAN

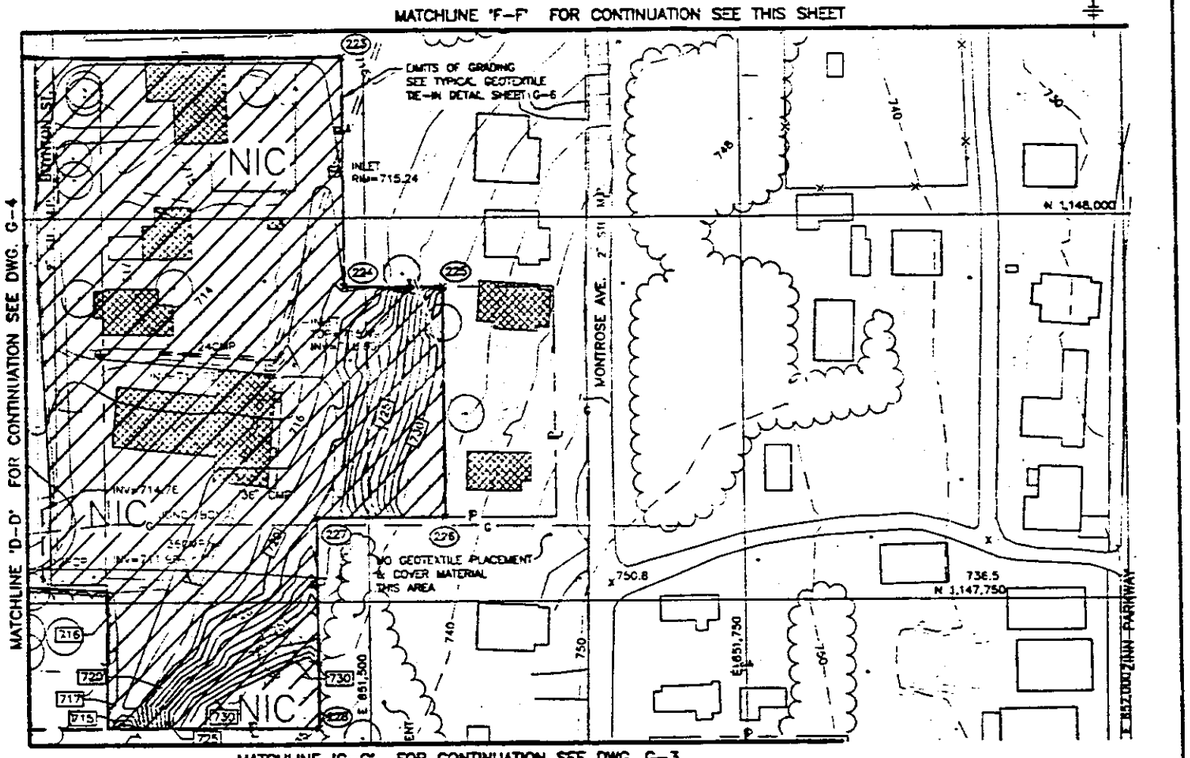
IN CHARGE OF [signature]
DESIGNED BY TJS CHECKED BY RJP
DRAWN BY KTR

FILE NO. 2600.034-026
DATE MAR. 28, 1997

G-4



PLAN
1"=50'



PLAN NOTE:
1. FOR LEGEND SEE SHEET G-1.

NO.	DATE	REVISION	INIT.
C	5/7/97	ISSUED FOR CONSTRUCTION	DJL
B	4/18/97	ISSUED FOR INTERNAL REVIEW	DJL
A	3/28/97	ISSUED FOR INTERNAL REVIEW	DJL

1"=50' 50 0 50 100

O'BRIEN & GERE ENGINEERS, INC.

MONSANTO COMPANY
DETENTION CAP COVER
ANNISTON, ALABAMA

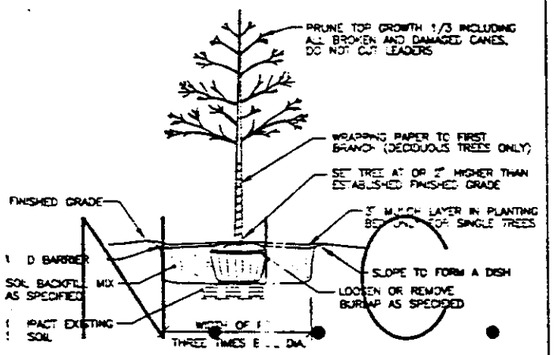
GENERAL

GRADING PLAN

IN CHARGE OF DJL
DESIGNED BY TJS CHECKED BY RJP
DRAWN BY KFR

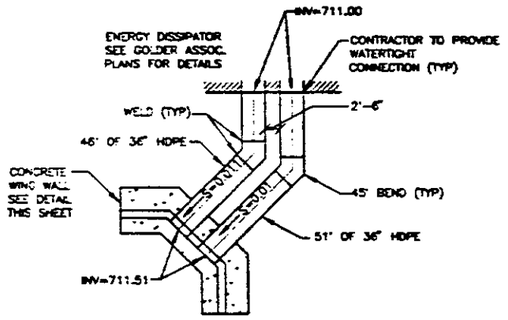
FILE NO. 2600.034-027
DATE MAR. 28, 1997

G-5



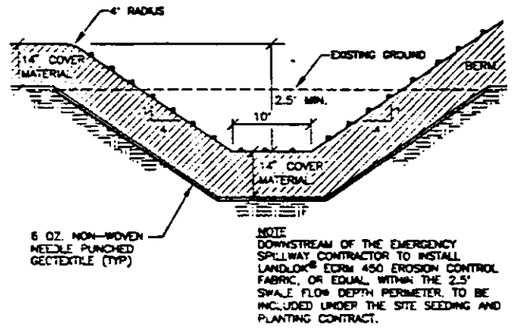
NOTE
GEOTEXTILE LOCATED BELOW LIMITS OF DETAIL. THEREFORE, THE FABRIC IS NOT SHOWN FOR CLARITY.

DECIDUOUS TREE PLANTING DETAILS
NOT TO SCALE



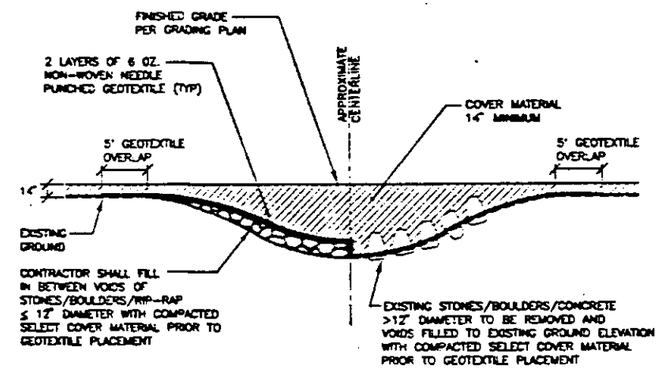
PLAN

(2) 36" HDPE CONNECTION TO ENERGY DISSIPATOR
NOT TO SCALE



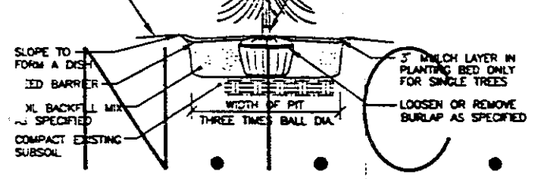
NOTE
DOWNSTREAM OF THE EMERGENCY SPILLWAY CONTRACTOR TO INSTALL LANDLOK® ECRM 450 EROSION CONTROL FABRIC, OR EQUAL, WITHIN THE 2.5' SWALE FLOW DEPTH PERIMETER. TO BE INCLUDED UNDER THE SITE SEEDING AND PLANTING CONTRACT.

TYPICAL GRASSED SWALE DETAIL
NOT TO SCALE



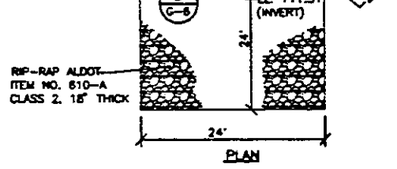
NOTE
CONTRACTOR TO COORDINATE WITH CONSTRUCTION MANAGER FOR ON-SITE DISPOSAL LOCATION AND PLACEMENT CONFIGURATION OF STONES/BOULDERS/CONCRETE REMOVED

TYPICAL CHANNEL LINING DETAIL
NOT TO SCALE

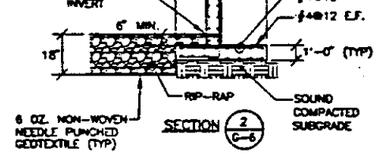


NOTE
GEOTEXTILE LOCATED BELOW LIMITS OF DETAIL. THEREFORE, THE FABRIC IS NOT SHOWN FOR CLARITY.

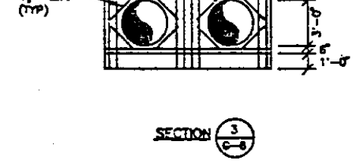
EVERGREEN TREE PLANTING DETAILS
NOT TO SCALE



PLAN

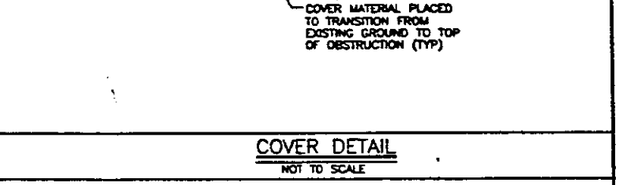


SECTION (2/C-6)

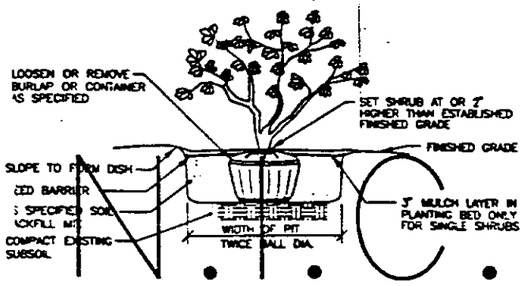


SECTION (3/C-6)

WING WALL DETAIL
NOT TO SCALE

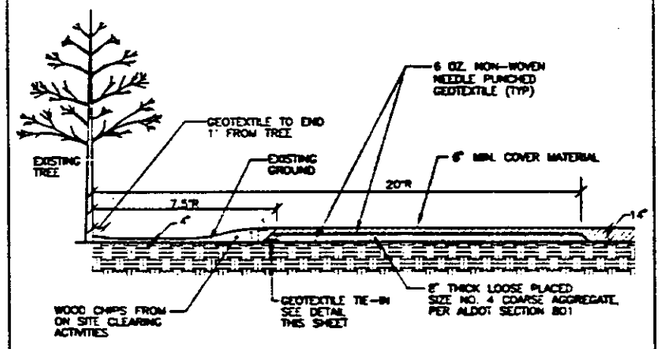


COVER DETAIL
NOT TO SCALE



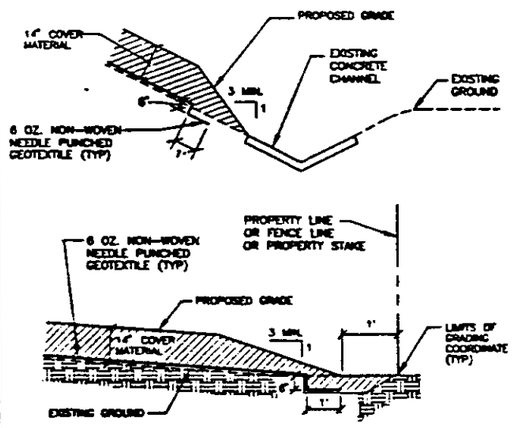
NOTE
GEOTEXTILE LOCATED BELOW LIMITS OF DETAIL. THEREFORE, THE FABRIC IS NOT SHOWN FOR CLARITY.

SHRUB PLANTING DETAIL
NOT TO SCALE



SECTION

COVER TREATMENT AT TREES TO REMAIN
NOT TO SCALE



TYPICAL GEOTEXTILE TIE-IN DETAIL
NOT TO SCALE

COVER DETAIL
NOT TO SCALE

NO.	DATE	REVISION	INT.
5	5/7/97	ISSUED FOR CONSTRUCTION	WJF
4	4/15/97	ISSUED FOR INTERNAL REVIEW	WJF
3	3/28/97	ISSUED FOR INTERNAL REVIEW	WJF

NOT TO SCALE

O'BRIEN & GERE ENGINEERS, INC.

MONSANTO COMPANY
DETENTION CAP COVER
ANNISTON, ALABAMA

GENERAL

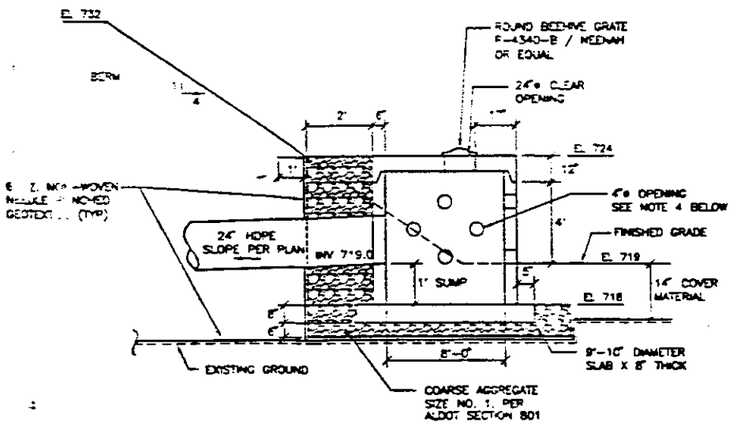
MISCELLANEOUS DETAILS

IN CHARGE OF [illegible]
DESIGNED BY TJS CHECKED BY RJP
DRAWN BY KFR

FILE NO. 2800.034-016
DATE MAR. 28, 1997

G-6

ALABAMA REGISTERED PROFESSIONAL ENGINEER



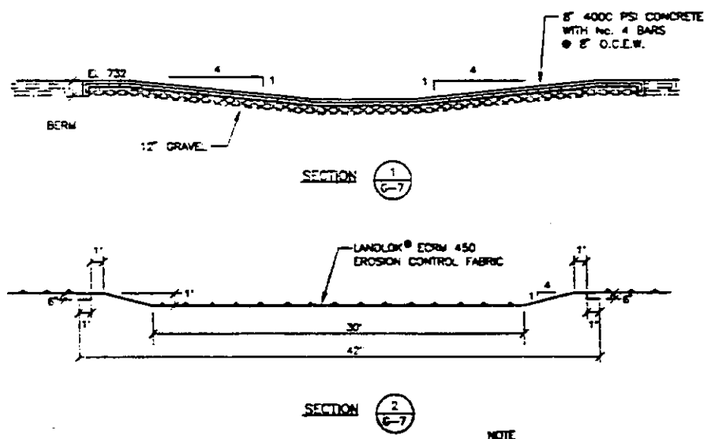
SPECIFICATIONS

CONCRETE	4000 PSI @ 28 DAYS
ENTRAINED AIR	5%-9%
STEEL	ASTM A496-AE15
	GRADE 60-60 KSI
DESIGN LOADING	AASHTO HS-20-44
	WITH 30% IMPACT AND
	EQUIVALENT SOIL PRESSURE
	OF 130 (PSF). FLOTATION
	FORCES NOT ACCOUNTED FOR

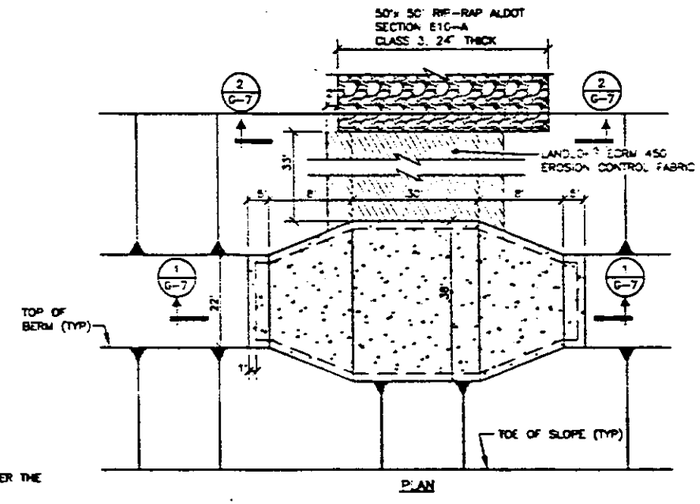
NOTES

1. REINFORCED STEEL CONFORMS TO LATEST ASTM A185 SPECIFICATION: 0.12 SQ. IN./LINEAR FT. AND 0.12 SQ. IN. (BOTH WAYS), IN BASE SLAB
2. CONCRETE COMPRESSIVE STRENGTH 4000 PSI MINIMUM.
3. MANHOLE DESIGN SPECIFICATIONS CONFORM TO LATEST ASTM C478 SPEC. FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS.
4. PROVIDE FILTER FABRIC AROUND INLET STRUCTURE BETWEEN STRUCTURE AND STONE BACKFILL.
5. PROVIDE 4" DIAMETER FACTORY CAST OPENINGS AT 60° SET 12" VERTICALLY CENTER TO CENTER OFFSET 30°

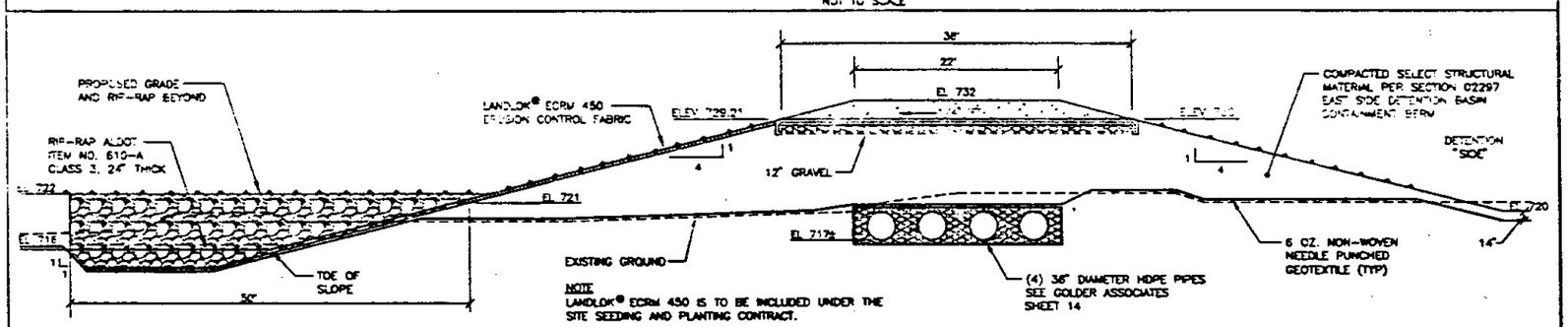
8' DIAMETER INLET STRUCTURE
NOT TO SCALE



NOTE
LANDLOK® ECRM 450 IS TO BE INCLUDED UNDER THE SITE SEEDING AND PLANTING CONTRACT.

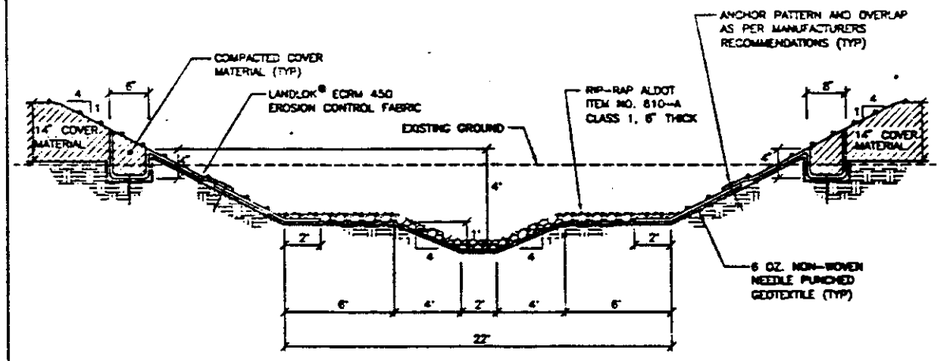


CONCRETE EMERGENCY SPILLWAY
NOT TO SCALE



NOTE
LANDLOK® ECRM 450 IS TO BE INCLUDED UNDER THE SITE SEEDING AND PLANTING CONTRACT.

EMERGENCY SPILLWAY — SECTION (3/G-3)
NOT TO SCALE



NOTE
LANDLOK® ECRM 450 IS TO BE INCLUDED UNDER THE SITE SEEDING AND PLANTING CONTRACT.

10th STREET CHANNEL LAYOUT
NOT TO SCALE

NO.	DATE	REVISION	INIT.
2	5/7/97	ISSUED FOR CONSTRUCTION	GP
1	4/18/97	ISSUED FOR INTERNAL REVIEW	GP
A	3/25/97	ISSUED FOR INTERNAL REVIEW	GP

NOT TO SCALE

O'BRIEN & GERE ENGINEERS, INC.

MONSANTO COMPANY
DETENTION CAP COVER
ANNISTON, ALABAMA

GENERAL

MISCELLANEOUS DETAILS

IN CHARGE OF Dean T. Yeske
DESIGNED BY TJS CHECKED BY RJP
DRAWN BY KFP
FILE NO. 2600.034-028
DATE MAR. 28, 1997

G-7