APRIL 8, 1998

SOLUTIA

Applied Chemistry, Creative Solutions

Solutia Inc.
300 Birmingham Highway
Anniston, Alabama 36201
Tel 205-231-8447

FINAL DESIGN DRAWINGS FOR INTERIM MEASURES SOLUTIA INC. FACILITY ANNISTON, ALABAMA

REVISION 1 (7/24/98)

I, Angela Butler, am responsible for filing documents in the

(Name of file) Solutia, Inc. file. The attached document,

(Name of document) Final Design Drawings for Interim Measures

was originally submitted to the Alabama Department of Environmental Management in a 3-ring binder.

For ease of filing, only the binder has changed. No material has changed in the document. No other alterations have been made to said document, and it is otherwise in its original form as submitted to the Alabama Department of Environmental Management.

Angela Butler

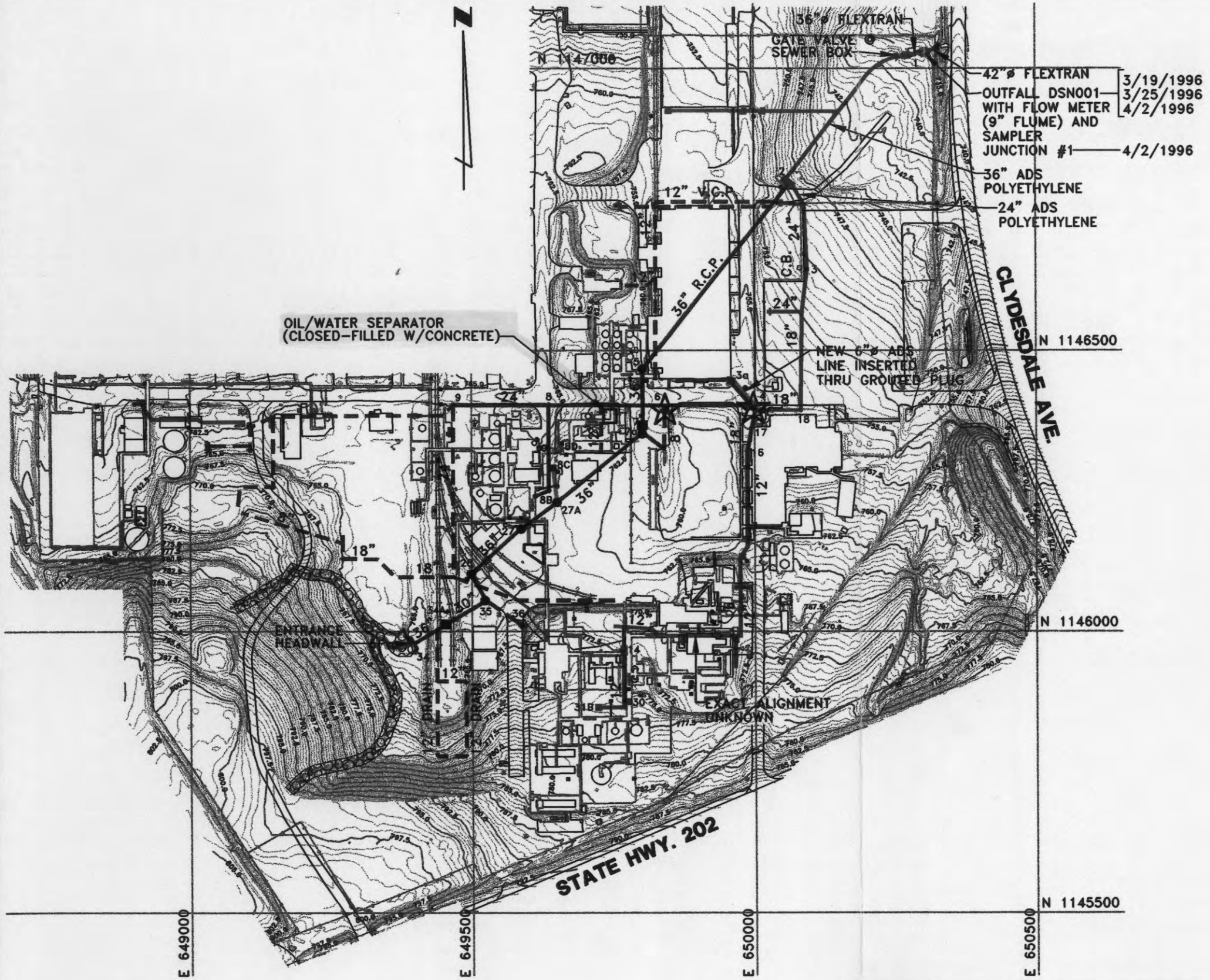
Angela Butler

Done this 8th day of Sept., 1998.

Witness:

PER 7/24/98 NOD RESPONSE

REPLACEMENT FIGURE 1 FOR SECTION 4 OF FINAL DESIGN DRAWINGS FOR INTERIM MEASURES



LEGEND

- EXISTING CONTOURS
- EXISTING ROADWAY
- EXISTING RAIL ROAD
- EXISTING BUILDING / TANK
- NEW STORM SEWER LINES
- RETROFITTED STORM SEWER LINES (CURE-LINE PIPE LINING INSTALLED)
- RIP RAP / CHANNEL PROTECTION
- DECOMMISSIONED STORM SEWER LINES
- STORM SEWER LINES REMAINING UNALTERED
- 8B — ARBITRARY MANHOLE / CATCH BASIN NUMBER ASSIGNED DURING SAMPLING
- SEWER GRATE AS ORIGINALLY LOCATED ON PLANT CONTOUR MAPS
- LINED CATCH BASIN
- LINED MANHOLE
- GROUTED PLUG

SCALE IN FEET
0 200 400

Golder Associates — Atlanta, Georgia

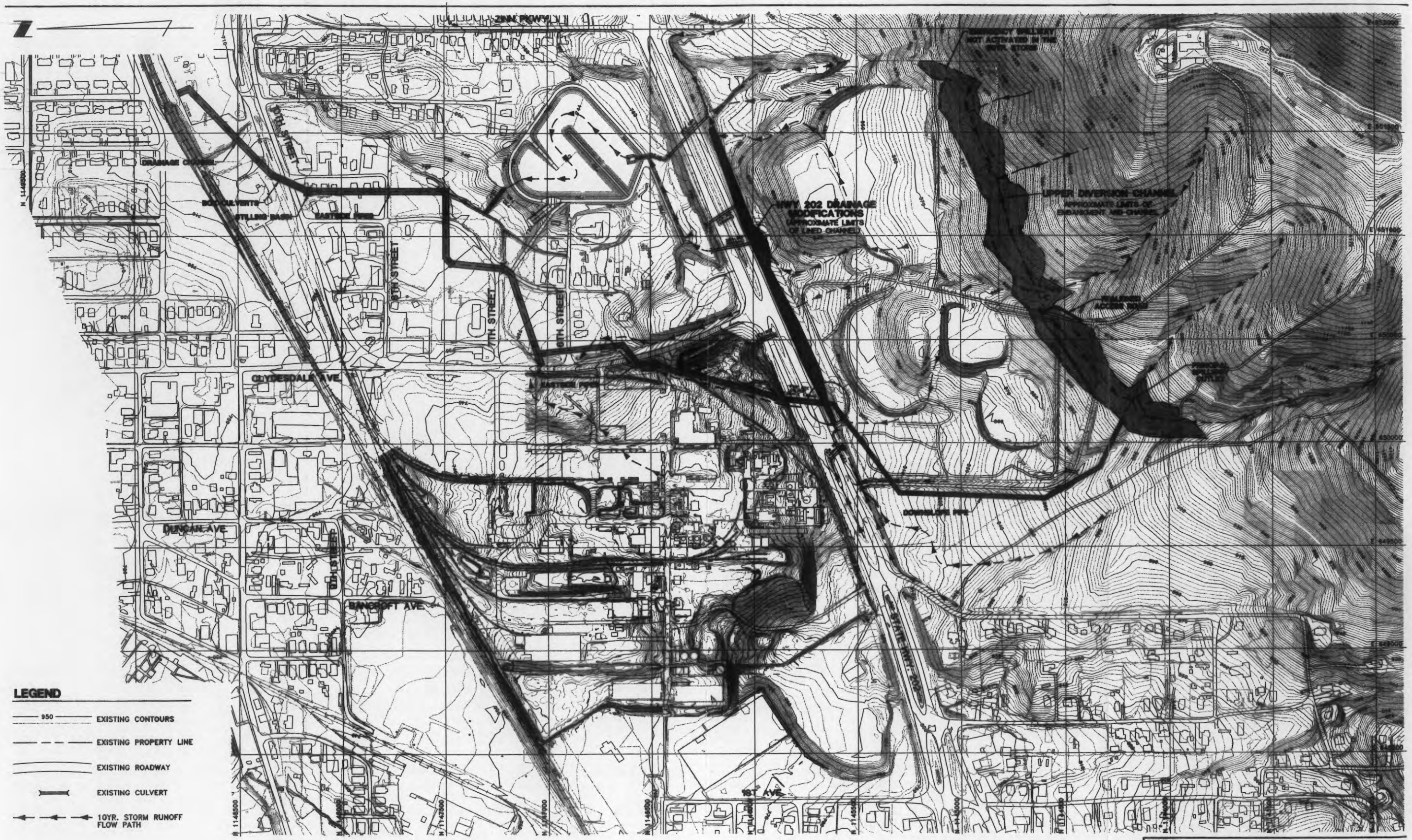
CLIENT/PROJECT: SOLUTIA

TITLE: IN-PLANT STORM SEWERS 1997 MODIFICATIONS

DRAWN	RMS	DATE	2/98	JOB NO.	943-3680
CHECKED		SCALE	AS SHOWN	DWG. NO.	323 REV. NO.
REVIEWED		FILE NO.	943-3680	SUBTITLE	FIGURE NO. 1

Per 7/24/98 N.O.D. RESPONSE

REPLACEMENT FIGURE 3 FOR SECTION 1 OF
FINAL DESIGN DRAWINGS FOR INTERIM MEASURES



NO.	DATE	DESCRIPTION	DR. BY	APP. BY
1	MAY/97	REALIGN. ACC. RD. & FLOW PATH	RMS	
2	MAY/97	ISSUED FOR CONSTRUCTION	RMS	

CLIENT/PROJECT
MONSANTO - DCC PROJECT

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

Golder Associates
Atlanta, Georgia

DRAWN	RMS	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED		DWG. NO.	200 REF. NO.
APPROVED		JOB NO.	943-3680
PCS NO.	943-3680	REVISION	3

SOLUTIA
Applied Chemistry, Creative Solutions

Solutia Inc.
300 Birmingham Highway
Anniston, Alabama 36201
Tel 205-231-8447

April 8, 1998

Mr. Wm. Gerald Hardy, Chief
Hazardous Waste Branch
Land Division
Alabama Department of Environmental Management
1751 Cong. W. L. Dickinson Drive
Montgomery, AL 36130-1463

Re: Interim Measures Final Design Drawings
Solutia Inc. Anniston, AL Facility
EPA ID No. ALD 004 019 048

Dear Mr. Hardy:

Attached are copies of the final design drawings for the Interim Measures that were constructed at the Solutia Anniston Facility in 1997. These drawings include all of the design revisions that were made during construction in response to conditions which were actually encountered in the field. An "as-built" construction report and a certification report for the upgrade to the cap on a portion of the South Landfill are currently being prepared and will be submitted to the Department as soon as they are complete.

The drawings are divided into five sections, as follows:

- Section 1 contains drawings showing the work carried out to divert stormwater run-on from the South Landfill and from the near-plant portion of AOC B. Drawings for piping to convey the diverted stormwater through AOC B are also included. This work was performed to fulfill the goals of Interim Measures No. 1 and 3, as described in our Interim Measures report submitted to you on March 31, 1998.

- Section 2 contains drawings for the upgrade of the cap on portions of the South Landfill (Interim Measure No. 2 in our report).

- Section 3 includes drawings for a soil cover to contain soils and sediments on Solutia-owned properties within portions of AOC B (Interim Measure No. 3 in our report).

- Section 4 contains a drawing showing the work that was carried out to upgrade the in-plant sewers (Interim Measure No.4).

- Section 5 includes the process flow diagrams for the piping necessary to divert non-contact cooling water to the in-plant water treatment facility (Interim Measure No. 4).

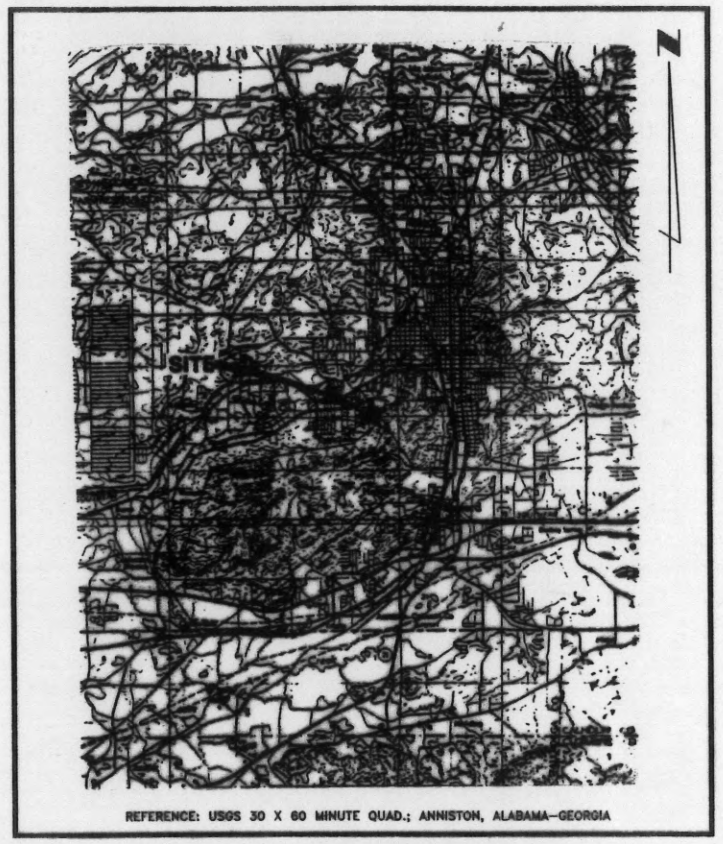
If you have any questions, please contact me at 205-231-8404.

Sincerely,

SOLUTIA INC.

Alan G. Faust
Manager of Remedial Projects

MONSANTO
DCC PROJECT
ANNISTON, ALABAMA



SITE LOCATION MAP

SCALE IN MILES
1 0 1 2 3 4 5

Plans Prepared By:

Golder Associates
3730 CHAMBLEE TUCKER ROAD
ATLANTA, GEORGIA 30341

Woodward-Clyde
7600 WEST TIDWELL, SUITE 600
HOUSTON, TEXAS 77040-5719

O'BRIEN & GERE ENGINEERS, INC.
5000 CEDAR PLAZA PKWY., SUITE 211
ST. LOUIS, MISSOURI 63128

OWNER AND OPERATOR

Monsanto

300 BIRMINGHAM HWY.
ANNISTON, ALABAMA 36201

SITE ADDRESS:

300 BIRMINGHAM HWY.
ANNISTON, ALABAMA 36201

ISSUED FOR CONSTRUCTION
MAY 1997

SHEET NO.	TITLE	FILE NO.
1.	COVER SHEET	197
2.	EXISTING CONDITIONS AND LAYOUT OF WORK UNITS	198
3.	PRE-CONSTRUCTION SITE DRAINAGE PLAN	199
4.	POST-CONSTRUCTION SITE DRAINAGE PLAN - 10YR. STORM	200
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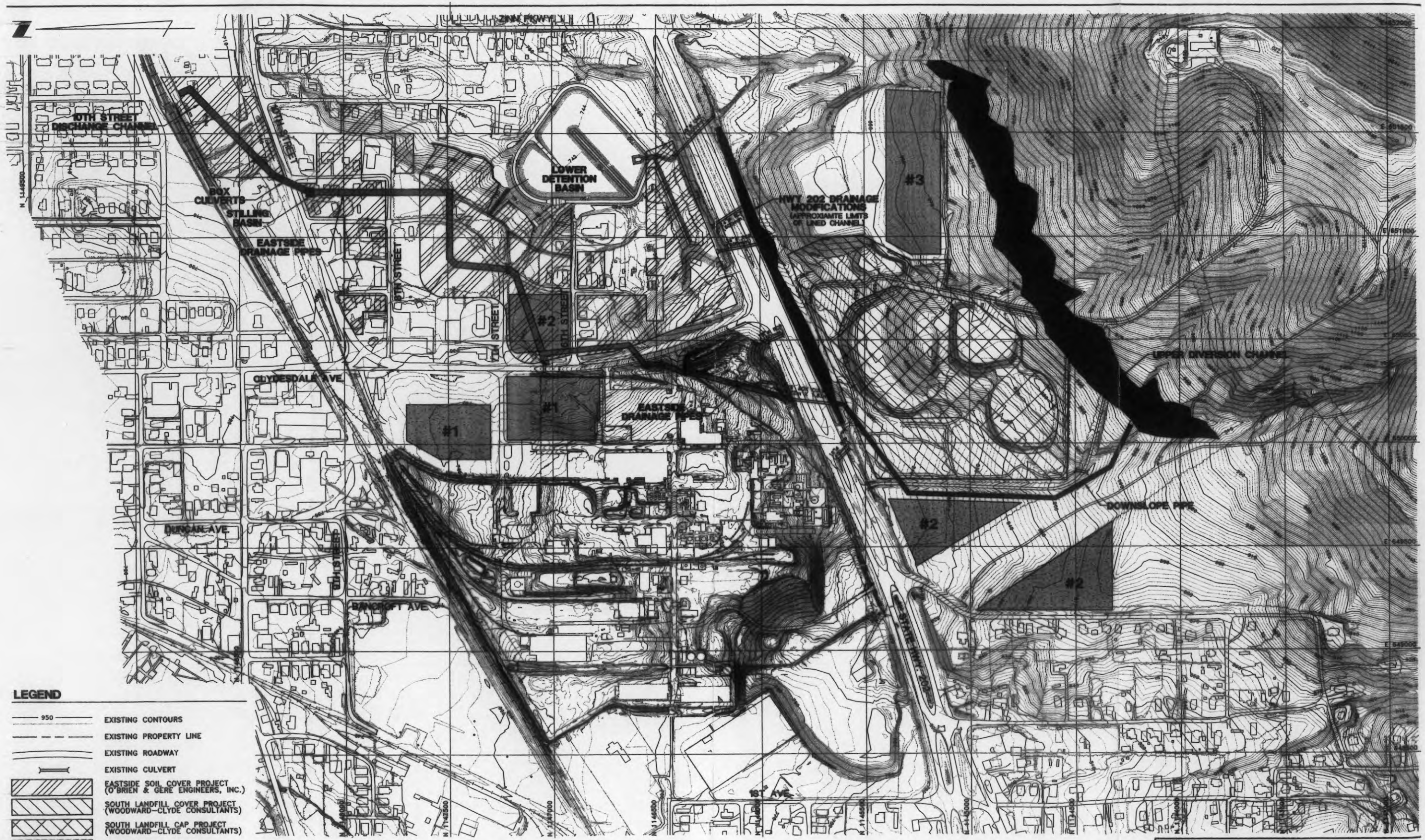
197.DWG



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

ALABAMA REGISTERED No. 21254 PROFESSIONAL ENGINEER WILLIAM R. SELLNER

SCALE IN FEET

0 200 400 600 800

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

CLIENT/PROJECT: MONSANTO - DCC PROJECT

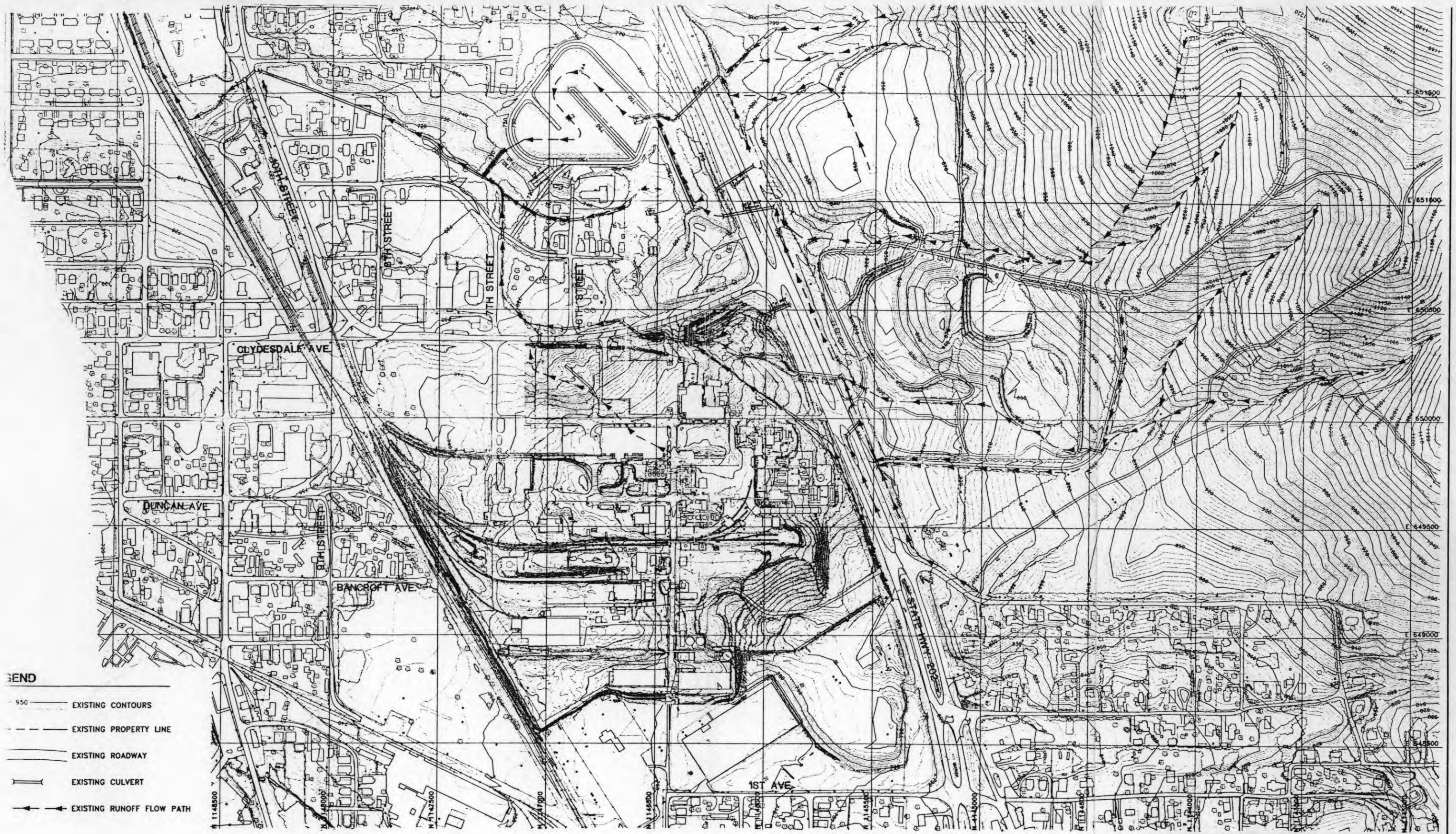
TITLE: EXISTING CONDITIONS AND LAYOUT OF WORK UNITS

Atlanta, Georgia

Golder Associates

DRAWN	RMS	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED		DWG. NO.	188
APPROVED		JOB NO.	943-3680
FILE NO.	943-3680	DISTRICT	

REV. NO. 2



LEGEND

- 950 EXISTING CONTOURS
- EXISTING PROPERTY LINE
- EXISTING ROADWAY
- EXISTING CULVERT
- EXISTING RUNOFF FLOW PATH

ALABAMA REGISTERED No. 9586 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

SCALE IN FEET

0 200 400 600 800

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

CLIENT/PROJECT: MONSANTO - DCC PROJECT

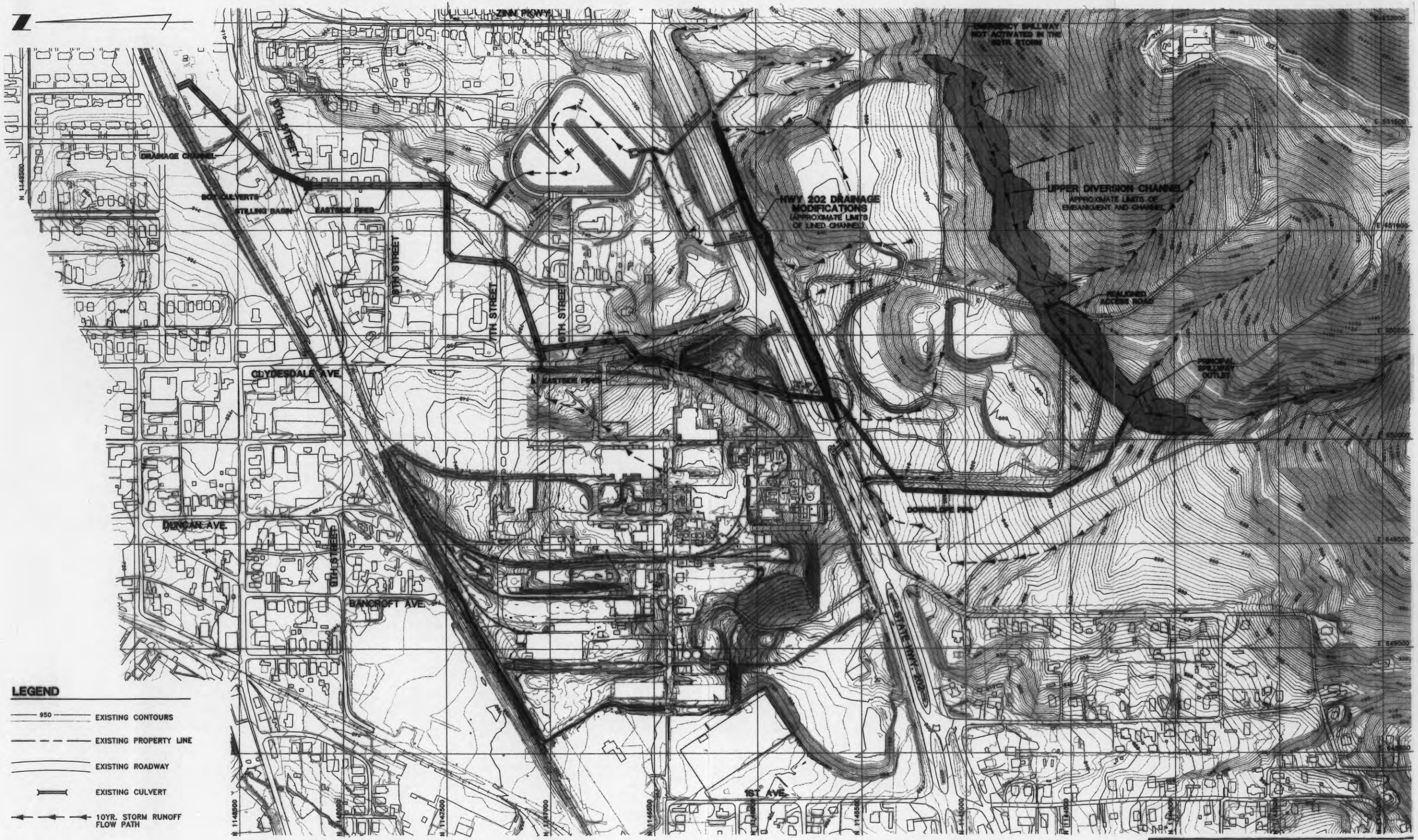
TITLE: PRE-CONSTRUCTION SITE DRAINAGE PLAN

Golder Associates — Atlanta, Georgia

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

REV. NO.

SHEET 3



LEGEND

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

SCALE IN FEET
0 200 400 600 800

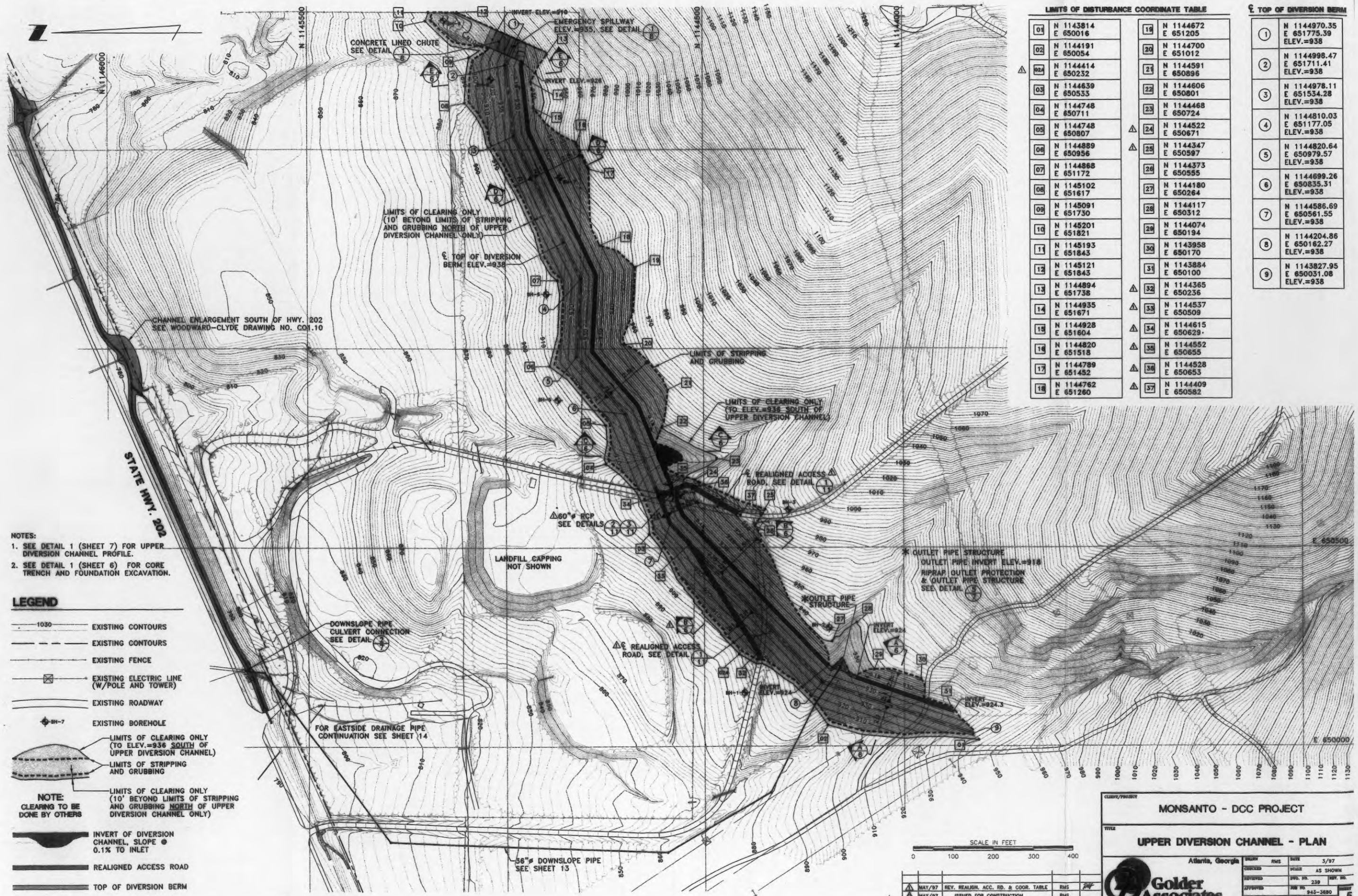
NO.	DATE	DESCRIPTION	DR. BY	APP. BY
1	MAY/97	REALIGN. ACC. RD. & FLOW PATH	RMS	
2	MAY/97	ISSUED FOR CONSTRUCTION	RMS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

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

Golder Associates
Atlanta, Georgia

DRAWN	RMS	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED		DWG. NO.	200
APPROVED		REV. NO.	
FILE NO.	943-3680	JOB NO.	943-3680
		SUBTITLE	
		SHEET	4



NOTES:

1. SEE DETAIL 1 (SHEET 7) FOR UPPER DIVERSION CHANNEL PROFILE.
2. SEE DETAIL 1 (SHEET 6) FOR CORE TRENCH AND FOUNDATION EXCAVATION.

LEGEND

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

LIMITS OF DISTURBANCE COORDINATE TABLE

01	N 1143814 E 650016		19	N 1144672 E 651205	
02	N 1144191 E 650054		20	N 1144700 E 651012	
924	N 1144414 E 650232	⚠	21	N 1144591 E 650896	
03	N 1144639 E 650533		22	N 1144606 E 650801	
04	N 1144748 E 650711		23	N 1144468 E 650724	
05	N 1144748 E 650807		24	N 1144522 E 650671	⚠
06	N 1144889 E 650956		25	N 1144347 E 650597	⚠
07	N 1144868 E 651172		26	N 1144373 E 650555	
08	N 1145102 E 651617		27	N 1144180 E 650264	
09	N 1145091 E 651730		28	N 1144117 E 650312	
10	N 1145201 E 651821		29	N 1144074 E 650194	
11	N 1145193 E 651843		30	N 1143958 E 650170	
12	N 1145121 E 651843		31	N 1143884 E 650100	
13	N 1144894 E 651738		32	N 1144365 E 650236	⚠
14	N 1144935 E 651671		33	N 1144537 E 650509	⚠
15	N 1144928 E 651604		34	N 1144615 E 650629	⚠
16	N 1144820 E 651518		35	N 1144552 E 650655	⚠
17	N 1144789 E 651452		36	N 1144528 E 650653	⚠
18	N 1144762 E 651260		37	N 1144409 E 650582	⚠

℄ 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

SCALE IN FEET
0 100 200 300 400

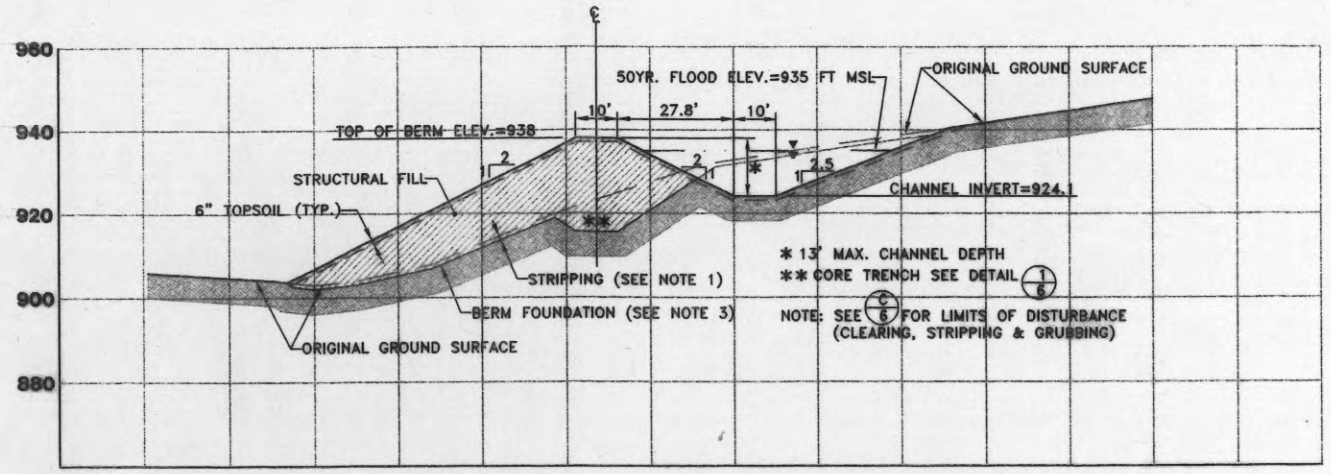
REV.	DATE	DESCRIPTION	DR. BY	APP. BY
⚠	MAY/97	REV. REALIGN. ACC. RD. & COOR. TABLE	RMS	
⚠	MAY/97	ISSUED FOR CONSTRUCTION	RMS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

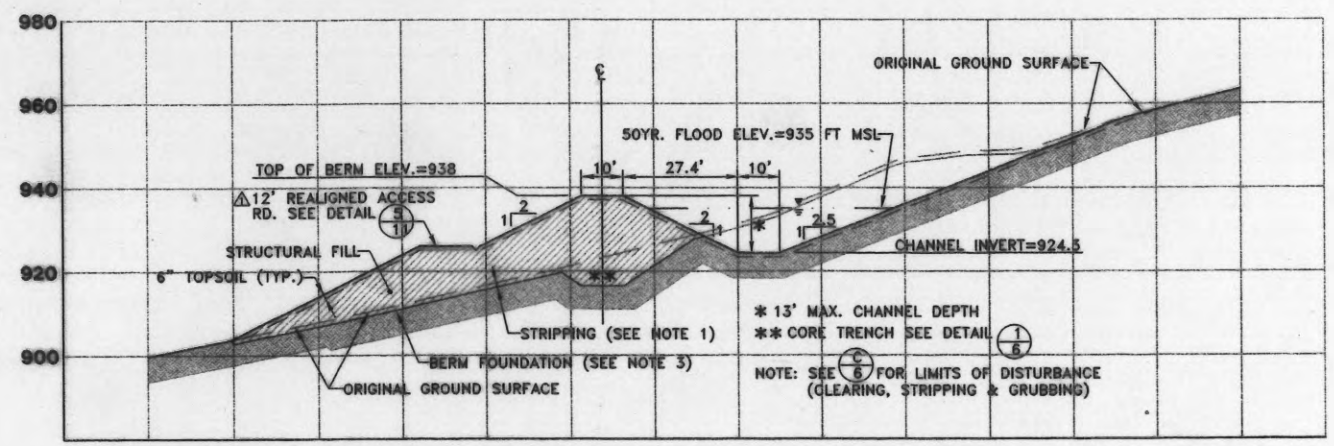
TITLE: UPPER DIVERSION CHANNEL - PLAN

Golder Associates — Atlanta, Georgia

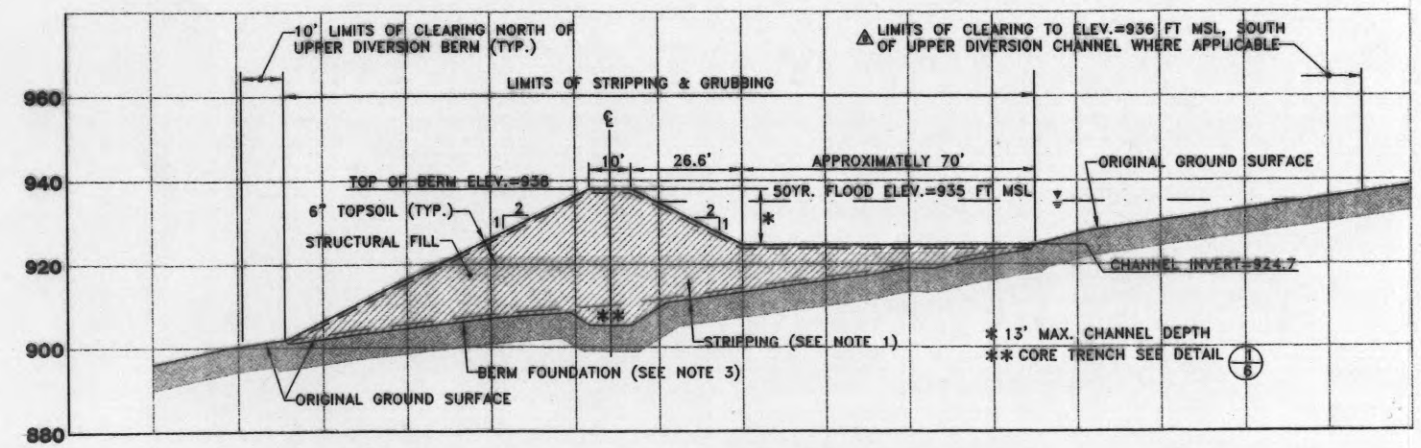
DRAWN	RMS	DATE	5/97
CHECKED		SCALE	AS SHOWN
REVIEWED		DWG. NO.	239
APPROVED		REV. NO.	
FILE NO.	943-3680	JOB NO.	943-3680
		SHEET	5



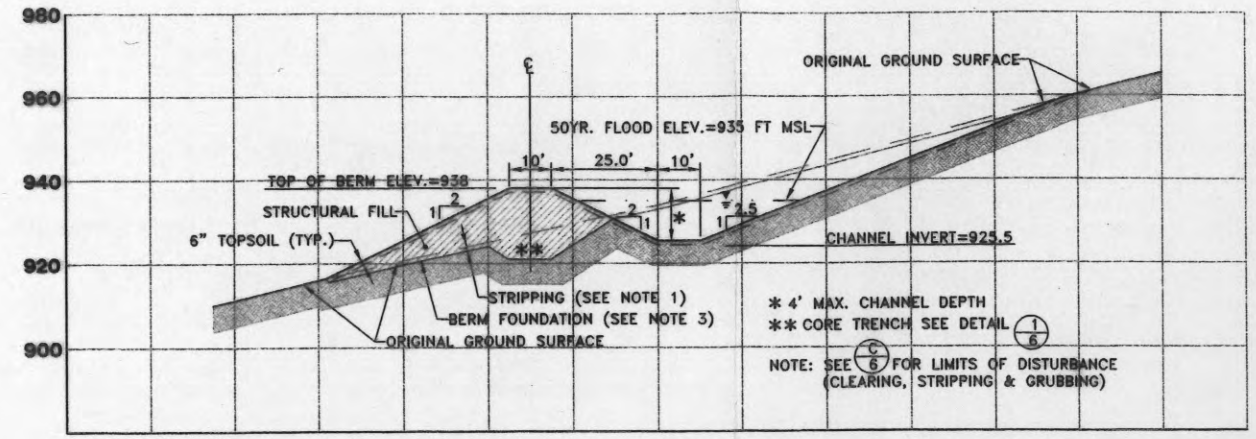
A/6 **SECTION A-A / UPPER DIVERSION CHANNEL**



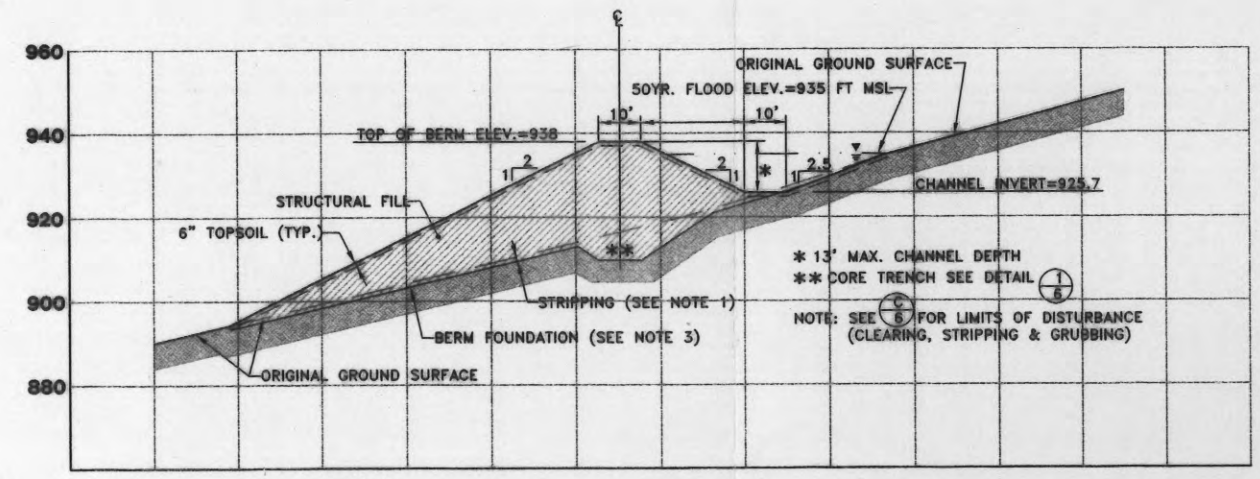
B/6 **SECTION B-B / UPPER DIVERSION CHANNEL**



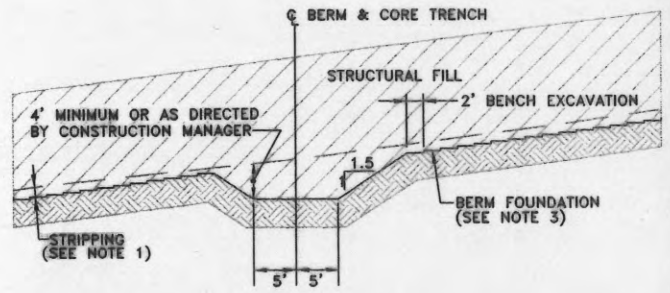
C/6 **SECTION C-C / UPPER DIVERSION CHANNEL**



D/6 **SECTION D-D / UPPER DIVERSION CHANNEL**



E/6 **SECTION E-E / 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.

SCALE IN FEET
0 20 40
NO VERTICAL EXAGGERATION

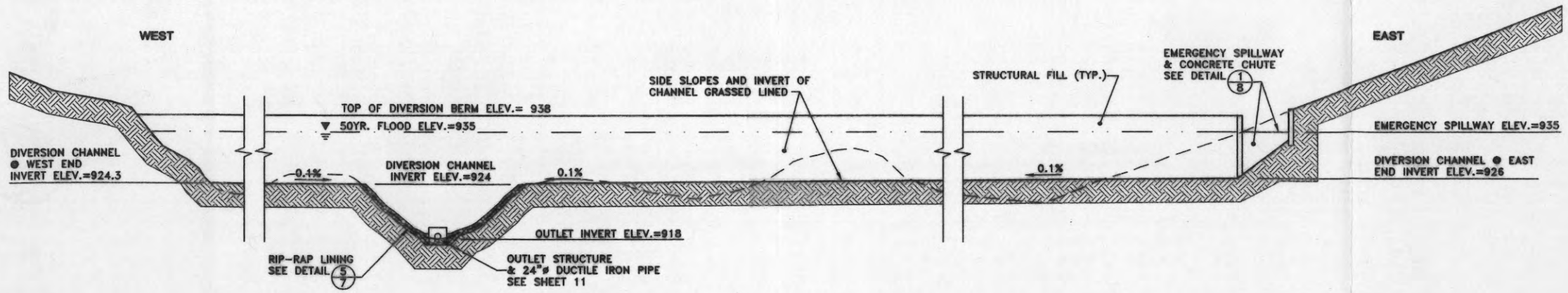
REV.	DATE	DESCRIPTION	RD. BY	APP. BY
⚠	MAY/97	ADD REALIGN. ACC. RD. TO SEC. B-B	RMS	
⚠	MAY/97	ISSUED FOR CONSTRUCTION	RMS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

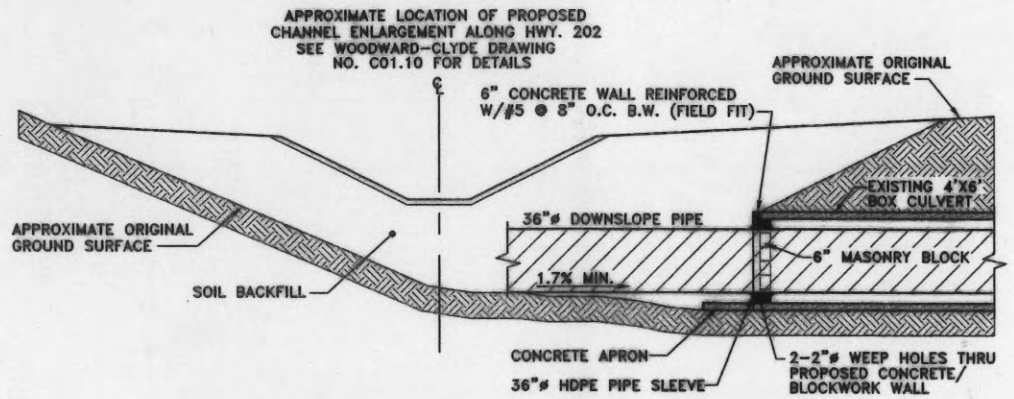
TITLE: UPPER DIVERSION CHANNEL - SECTIONS

Golder Associates — Atlanta, Georgia

DRAWN	RMS	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED		DWG. NO.	241
APPROVED		REV. NO.	
PROJ NO.	943-3680	JOB NO.	943-3680
		SHEET	6

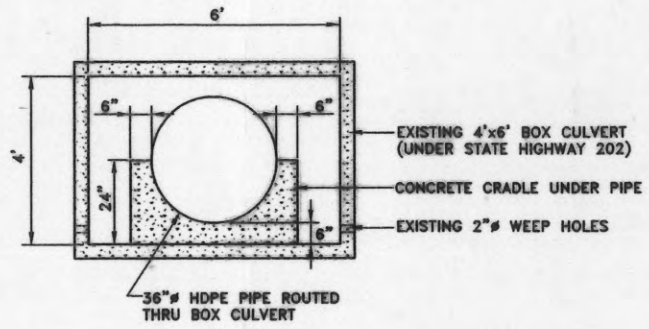


1/7 SCHEMATIC PROFILE OF DIVERSION CHANNEL



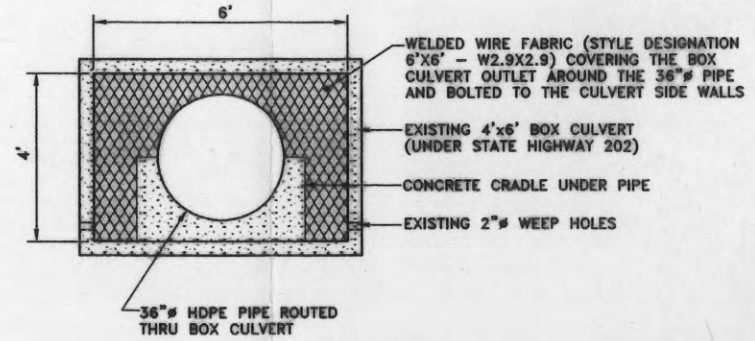
2/7 BOX CULVERT BLOCKAGE DETAIL

N.T.S.



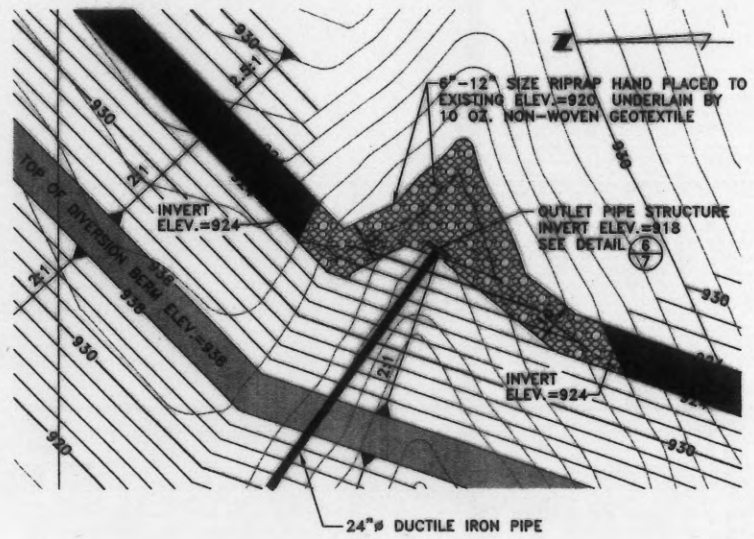
3/7 TYPICAL SECTION THRU BOX CULVERT

N.T.S.



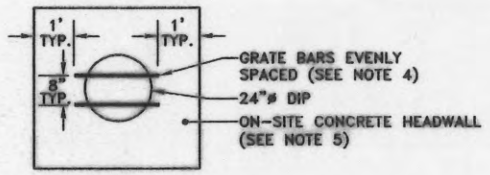
4/7 SECTION AT THE OUTLET OF BOX CULVERT

N.T.S.



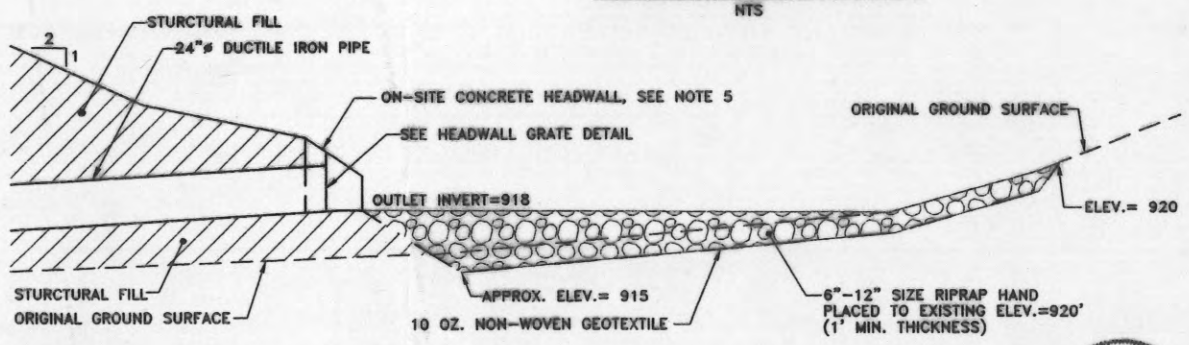
5/7 UPPER DIVERSION CHANNEL RIPRAP OUTLET PROTECTION DETAIL

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	RVD. BY	APP. BY
1	MAY/97	ISSUED FOR CONSTRUCTION	RJS	

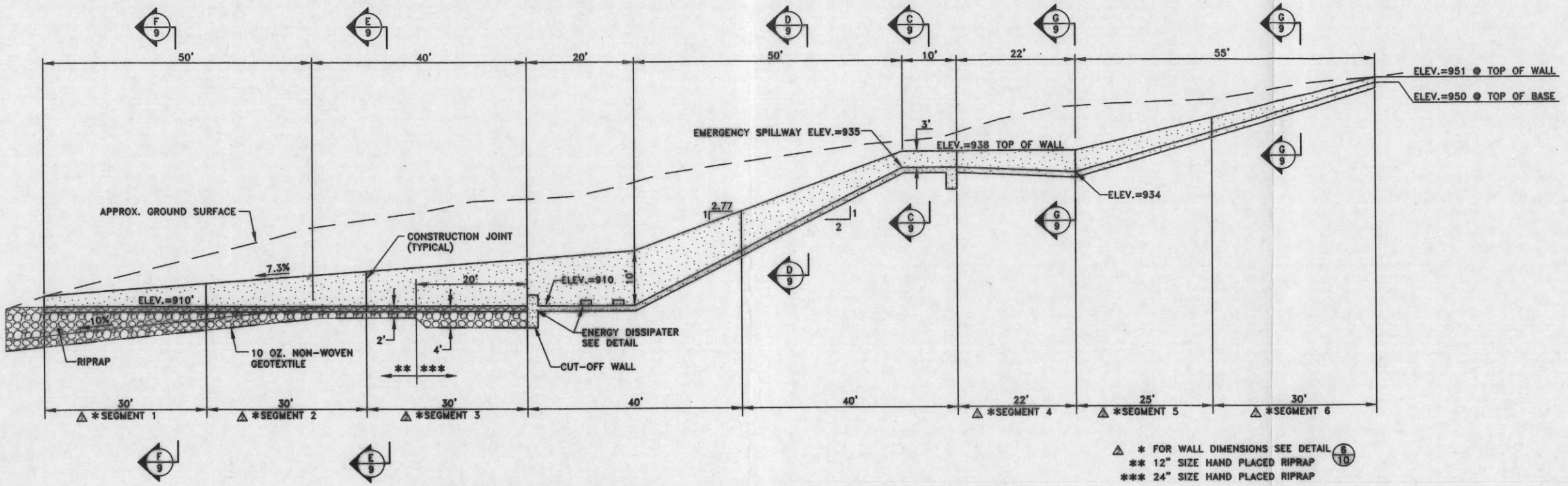
CLIENT/PROJECT: MONSANTO - DCC PROJECT

TITLE: UPPER DIVERSION CHANNEL PROFILE AND MISCELLANEOUS DETAILS

Atlanta, Georgia

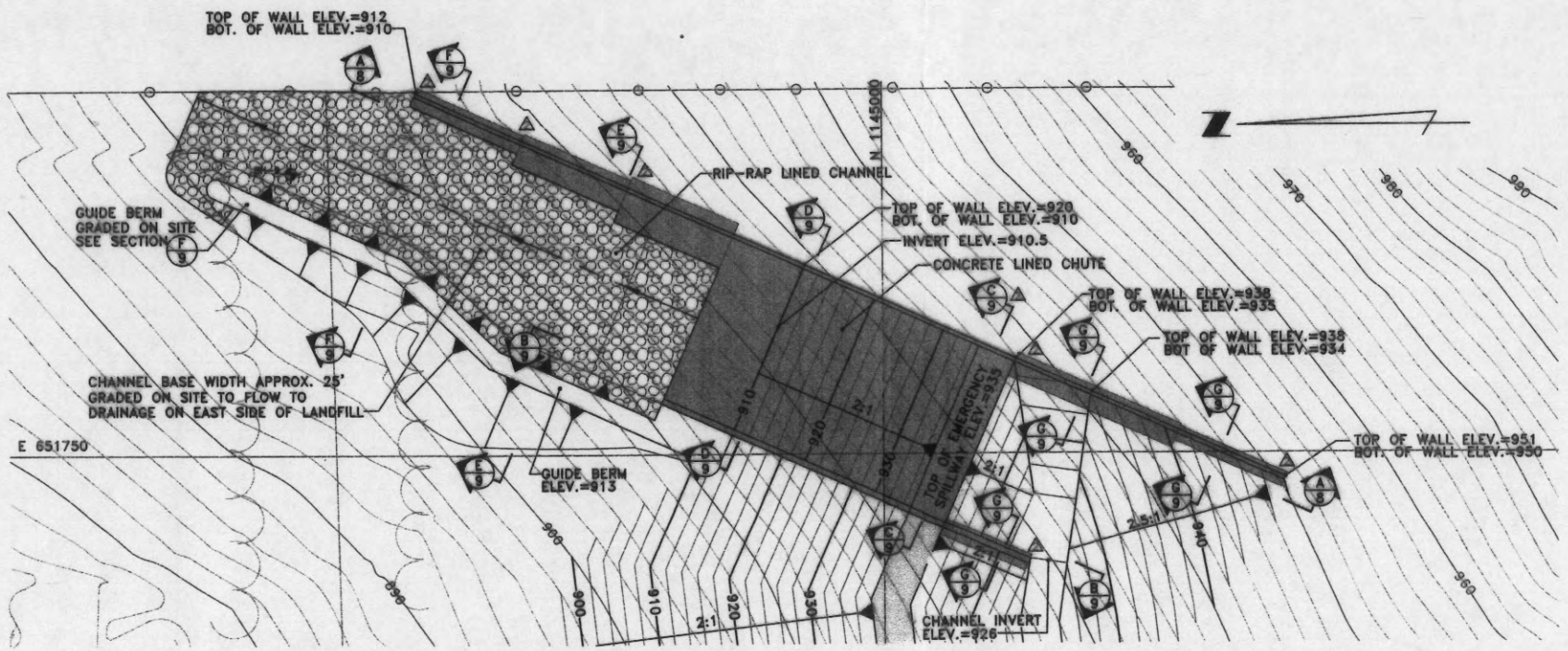
Golder Associates

DRAWN	RMS	DATE	3/97
CHECKED	JFC	SCALE	AS SHOWN
REVIEWED	WRM	DWG. NO.	205
APPROVED	WRS	REV. NO.	
FILE NO.	943-3680	JOB NO.	943-3680
		SHEET	7



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.

REV.	DATE	DESCRIPTION	DR. BY	APP. BY
△	JULY/97	REV. DIMENSION NOTES SEC. A/8	RMS	
		ADD FOOTER TO RET.WALL		
△	MAY/97	ISSUED FOR CONSTRUCTION	RMS	

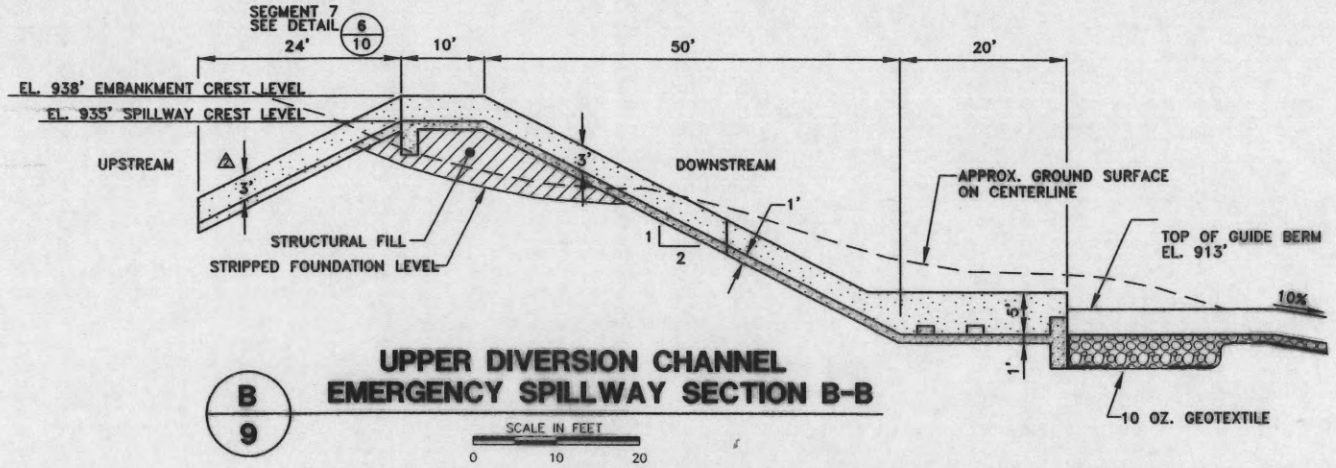
CLIENT/PROJECT
MONSANTO - DCC PROJECT

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

Atlanta, Georgia
Golder Associates

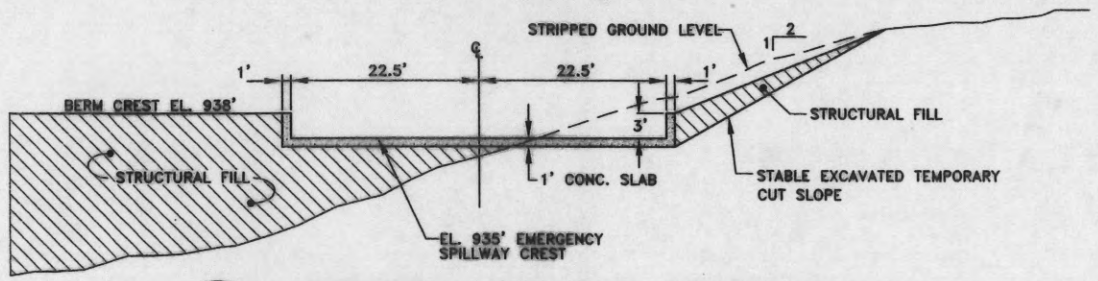
DRAWN	RMS	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED		DWG. NO.	204
APPROVED		JOB NO.	943-3680
FILE NO.	943-3680	SUBTITLE	

REV. NO.
SHEET 8



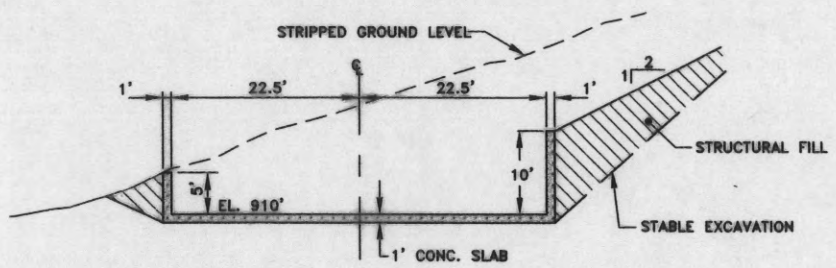
B/9 UPPER DIVERSION CHANNEL EMERGENCY SPILLWAY SECTION B-B

SCALE IN FEET 0 10 20



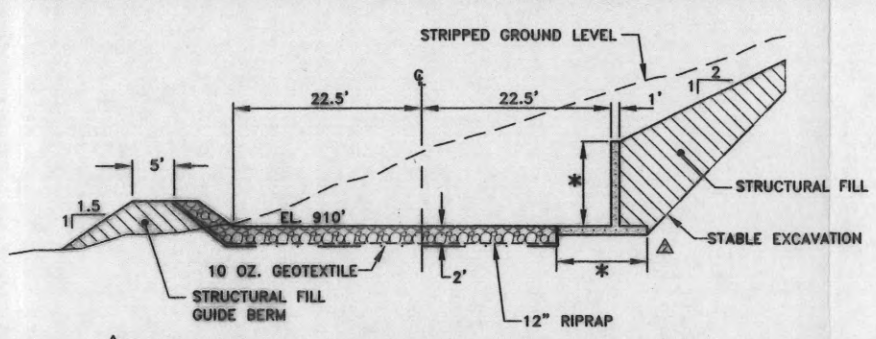
C/9 EMERGENCY SPILLWAY SECTION C-C

SCALE IN FEET 0 10 20



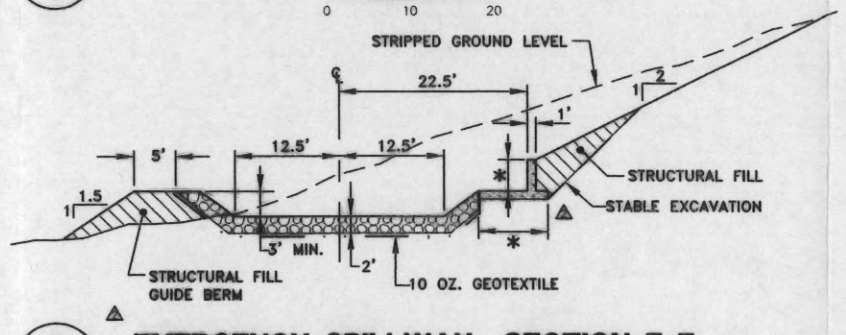
D/9 EMERGENCY SPILLWAY SECTION D-D

SCALE IN FEET 0 10 20



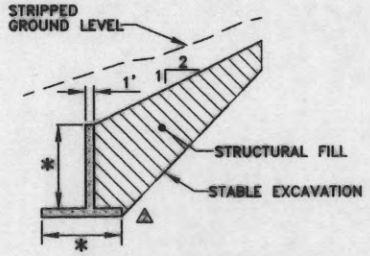
E/9 EMERGENCY SPILLWAY SECTION E-E

SCALE IN FEET 0 10 20



F/9 EMERGENCY SPILLWAY SECTION F-F

SCALE IN FEET 0 10 20

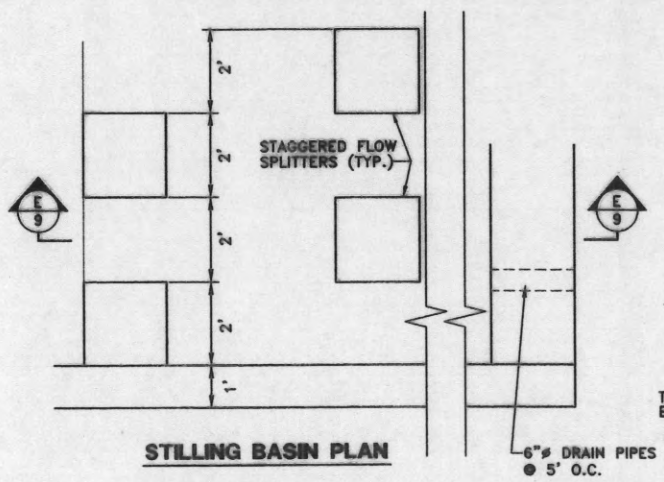


* FOR WALL SEGMENT SEE SECTION A/8

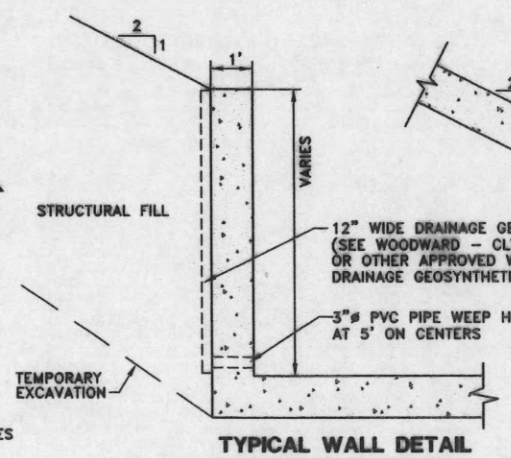
* FOR WALL DIMENSIONS SEE DETAIL 6/10

G/9 EMERGENCY SPILLWAY SECTION G-G

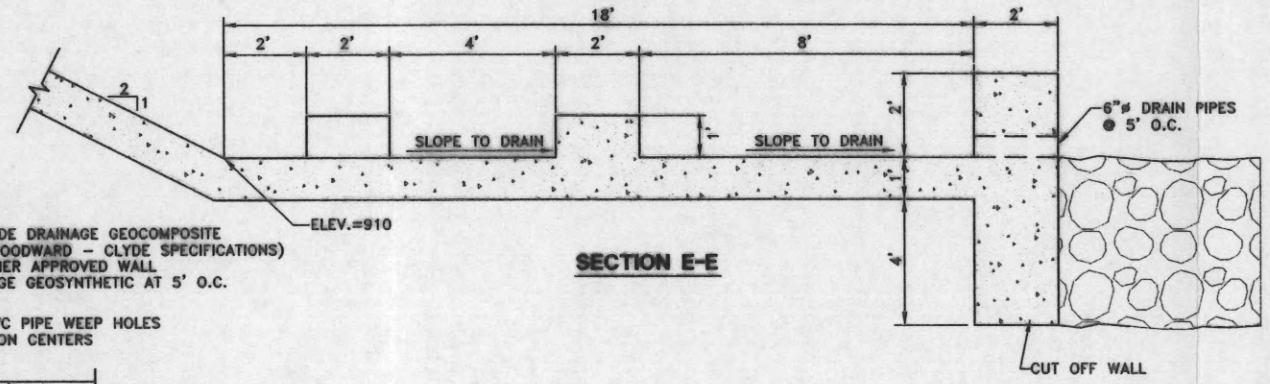
SCALE IN FEET 0 10 20



STILLING BASIN PLAN



TYPICAL WALL DETAIL



SECTION E-E

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.

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

SCALE IN FEET 0 2 4

REV.	DATE	DESCRIPTION	DR. BY	APP. BY
2	JULY/97	REV. RET. WALL H&S, E&W OF SPILLWAY	RNS	
1	MAY/97	ISSUED FOR CONSTRUCTION	RNS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

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

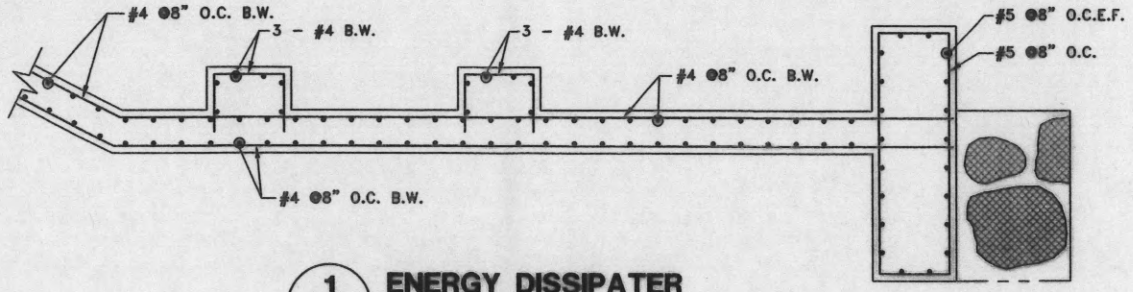
Atlanta, Georgia

Golder Associates

DRAWN	R.C.A.	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED		DWG. NO.	205
APPROVED		JOB NO.	943-3680
FILE NO.	943-3680	SUBSYSTEM	

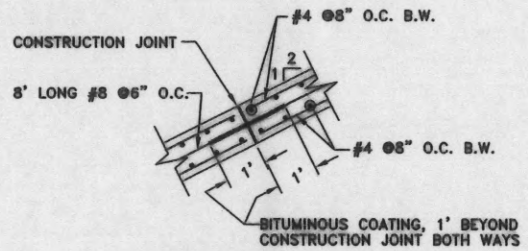
REV. NO. 2

SHEET 9



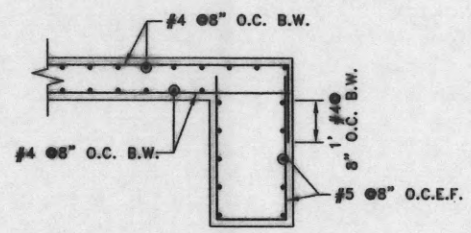
1/10 **ENERGY DISSIPATER**

SCALE IN FEET 0 2 4



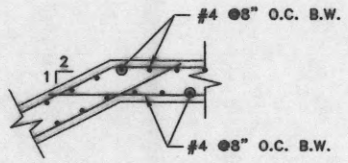
2/10 **CONSTRUCTION JOINT REINFORCING DETAIL**

SCALE IN FEET 0 2 4



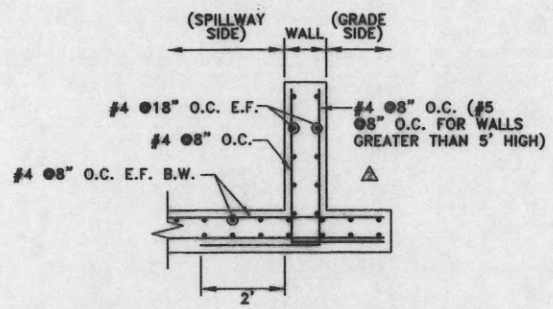
3/10 **UPSTREAM CUT OFF**

SCALE IN FEET 0 2 4



4/10 **SLAB**

SCALE IN FEET 0 2 4

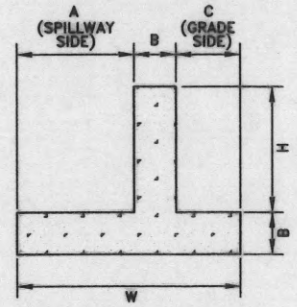


5/10 **WALL REINFORCING**

SCALE IN FEET 0 2 4

△ DIMENSION TABLE

SEGMENT	W	A	B	C	H FROM	H TO
1	5.0'	2.5'	1.0'	1.5'	2.0'	4.18'
2	8.5'	5.5'	1.0'	2.0'	4.18'	6.36'
3	12.5'	8.5'	1.0'	3.0'	6.36'	8.53'
4	6.5'	4.0'	1.0'	1.5'	3.0'	4.0'
5	6.5'	4.0'	1.0'	1.5'	4.0'	2.62'
6	4.0'	2.0'	1.0'	1.0'	2.62'	1.0'
7	4.0'	2.0'	1.0'	1.0'	3.0'	3.0'



△ TYPICAL SECTION

6/10 **RETAILING WALL DETAIL**

NTS

EMERGENCY SPILLWAY GEOMETRY - 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.

REV.	DATE	DESCRIPTION	DR. BY	APP. BY
△	JULY/97	REV. DET. 5/10, ADD. DET. 6/10	PMS	
△	MAY/97	ISSUED FOR CONSTRUCTION	GEH	

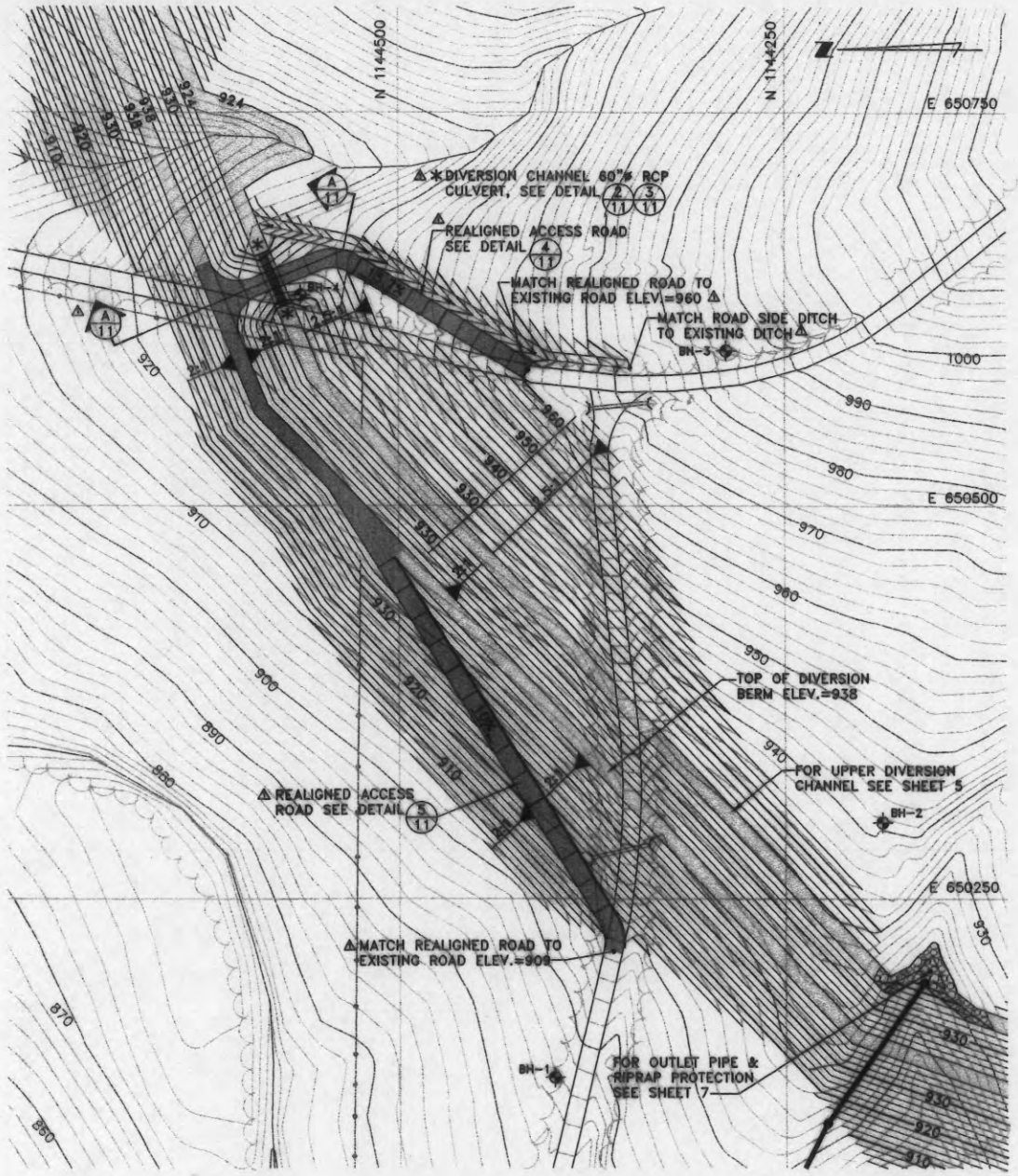
CLIENT/PROJECT: MONSANTO - DCC PROJECT

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

Atlanta, Georgia — Golder Associates

DRAWN	GEH	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED		DWG. NO.	206
APPROVED		JOB NO.	943-3680
FILE NO.	943-3680	SURVEYED	

REV. NO. — SHEET 10

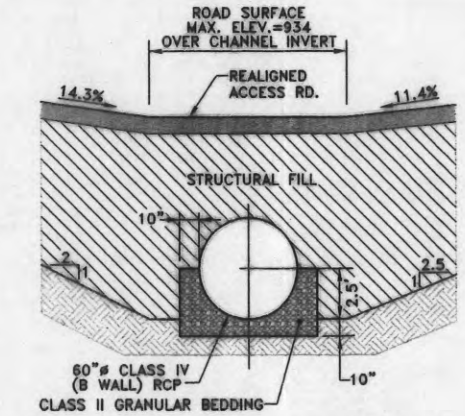


1/11 REALIGNED ACCESS ROAD

SCALE IN FEET
0 50 100 150 200

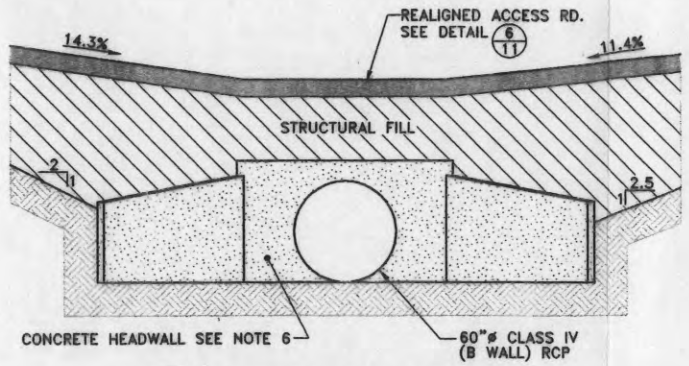
LEGEND

- 1030 — EXISTING CONTOURS
- — — — EXISTING CONTOURS
- EXISTING FENCE
- EXISTING ROADWAY
- REALIGNED ACCESS ROAD
- BH-7 EXISTING BOREHOLE



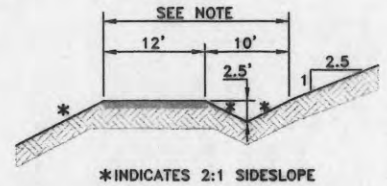
3/11 60" RCP BEDDING DETAIL ⚠

NTS



2/11 HEADWALL DETAIL ⚠

NTS



*INDICATES 2:1 SIDESLOPE

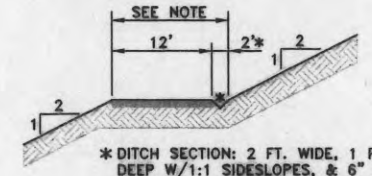
NOTE:
THIS SECTION IS TYPICAL OF REALIGNED ACCESS ROAD ON EXISTING SIDESLOPE ONLY (SOUTH OF CHANNEL). ROAD ALIGNMENT WIDTH OVER THE DIVERSION CHANNEL AND ON TOP OF THE DIVERSION BERM IS 10'. SEE DETAIL 6/11 FOR PAVEMENT DETAILS.

4/11 ROAD SIDE DITCH 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.
6. CONCRETE HEADWALLS TO BE CONSTRUCTED IN ACCORDANCE WITH ALABAMA DOT SPECIAL DRAWING NO. HW-620-30, DATED 10/4/74, TITLED "CONCRETE HEADWALL FOR PIPE CULVERT".

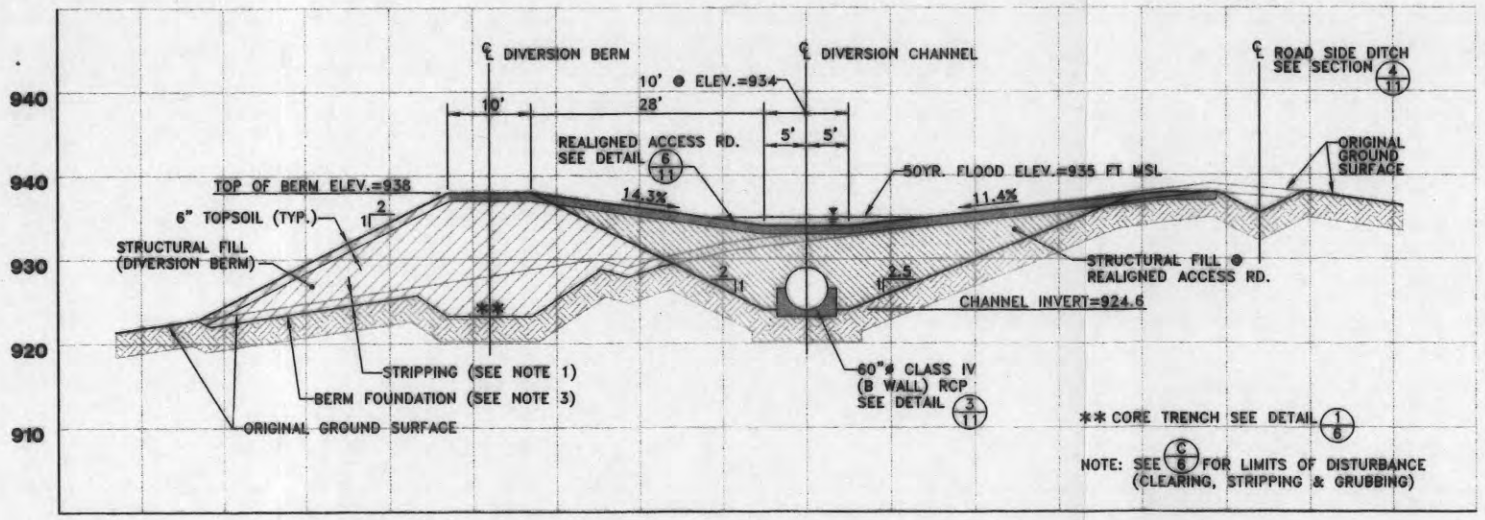


* DITCH SECTION: 2 FT. WIDE, 1 FT. DEEP W/1:1 SIDESLOPES, & 6" THICK (ALDOT CL. I) RIPRAP, UNDERLAIN W/10 OZ. GEOTEXTILE.

NOTE:
THIS SECTION IS TYPICAL OF REALIGNED ACCESS ROAD ON THE DIVERSION BERM SIDSLOPE ONLY (NORTH OF CHANNEL). ROAD ALIGNMENT WIDTH OVER THE DIVERSION CHANNEL AND ON TOP OF THE DIVERSION BERM IS 10'. SEE DETAIL 6/11 FOR PAVEMENT DETAILS.

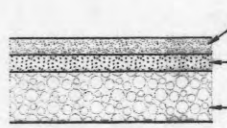
5/11 ROAD SIDE DITCH DETAIL ⚠

NTS



A/11 SECTION A-A @ REALIGNED ACCESS RD. & 60" RCP CROSSING ⚠

SCALE IN FEET
0 10 20



6/11 PAVEMENT DETAIL

NTS

REV.	DATE	DESCRIPTION	DR. BY	APP. BY
⚠	MAY/97	REV. REALIGN. ACC. RD. & DETAILS	RMS	
⚠	MAY/97	ISSUED FOR CONSTRUCTION	RMS	

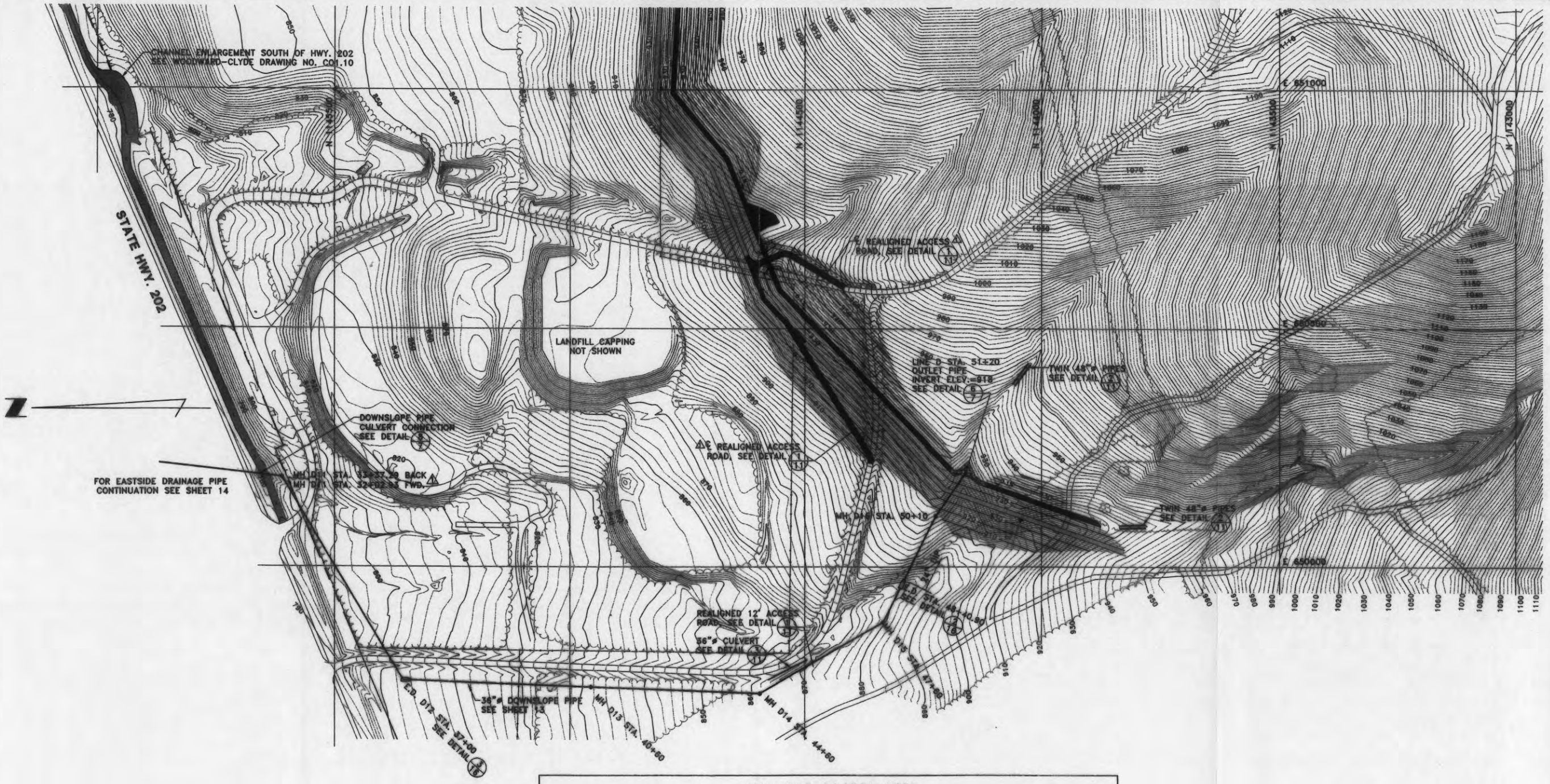
CLIENT/PROJECT: MONSANTO - DCC PROJECT

TITLE: REALIGNED ACCESS ROAD PLAN AND DETAILS

Golder Associates — Atlanta, Georgia

DRAWN	RMS	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED		DWG. NO.	240
APPROVED		JOB NO.	943-3680
REF. NO.	943-3680		

REV. NO. — SHEET 11



MANHOLE COORDINATES

LINE	MH#	STATION	INVERT	EASTING	NORTHING	LINE	MH#	STATION	INVERT	EASTING	NORTHING
D	11	32+02.93 ⚠1	777.74	650187.32 ⚠1	1145612.13 ⚠1	D	15	47+60	868.88	649883.05	1144335.26
D	LOWER CONN.	37+00	793.04	649781.99	1145354.89	D	LOWER CONN.	48+40.90	868.00	649955.38	1144299.03
D	13	40+60	820.63	649747.08	1144955.16	D	16	50+10	908.00	650106.57	1144223.29
D	14	44+60	848.07	649733.65	1144595.42	D	OUTLET	51+20	918.00	650196.59	1144160.07

INVERTS LISTED IN TABLE ARE "OUT" INVERTS

SCALE IN FEET
0 100 200 300 400

WIEDEMAN AND SINGLETON, INC.
ENGINEERS
ATLANTA GEORGIA

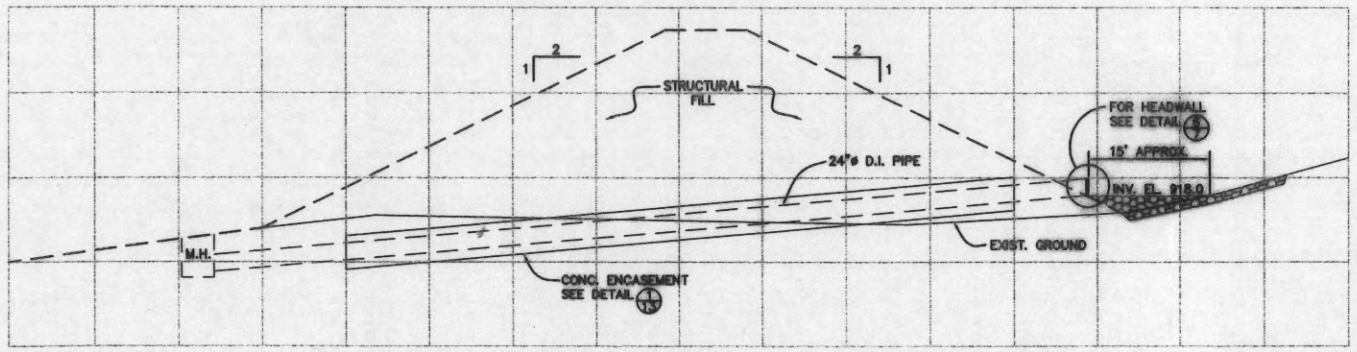
REV.	DATE	DESCRIPTION	DR. BY	APP. BY
⚠1	JUNE 97	MH D11 POSITION CHANGED	RCS	
⚠	MAY 97	ISSUED FOR CONSTRUCTION	RCS	

CLIENT/PROJECT
MONSANTO - DCC PROJECT

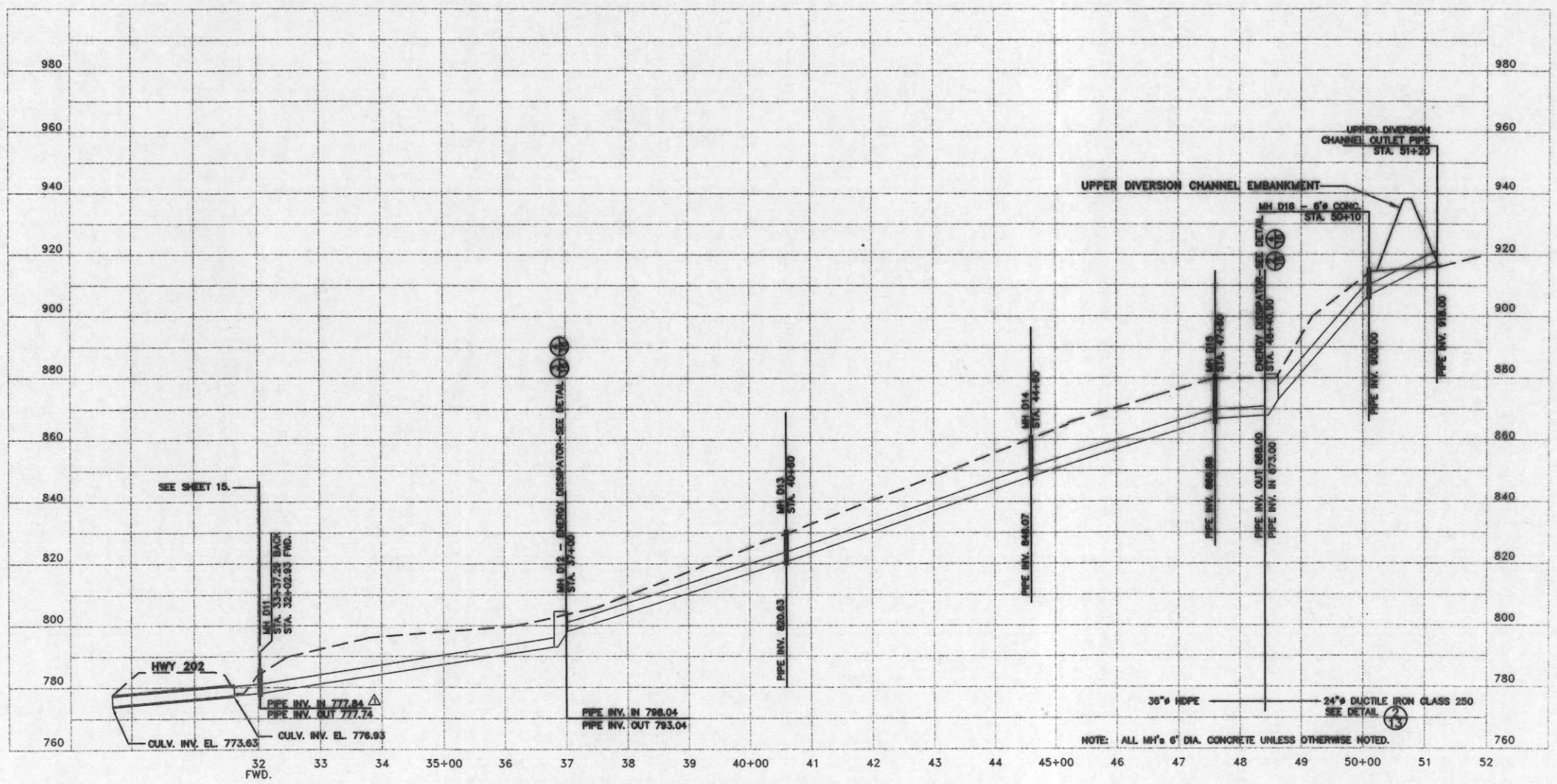
TITLE
UPPER DIVERSION CHANNEL OUTLET PIPE PLAN

Atlanta, Georgia
Golder Associates

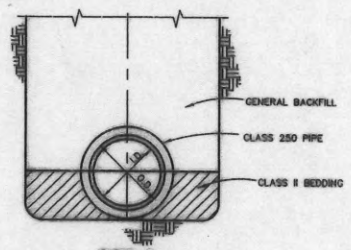
DRAWN	RMS/RCS	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED		DWG. NO.	REV. NO.
APPROVED		JOB NO.	943-3680
FILE NO.	943-3680	DRAWING	12



SECTION OF OUTLET PIPE
N.T.S.

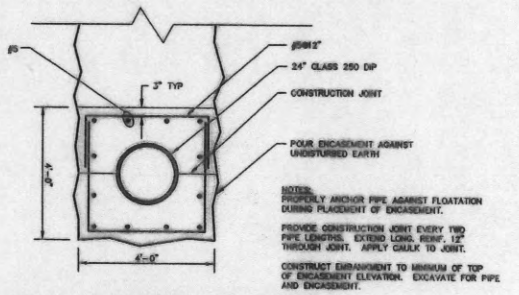


PROFILE LINE 'D' DOWNSLOPE PIPE
SCALE: 1" = 100' HORIZ.
1" = 20' VERT.



TYPE 2
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

WIEDEMAN AND SINGLETON, INC.
ENGINEERS
ATLANTA GEORGIA

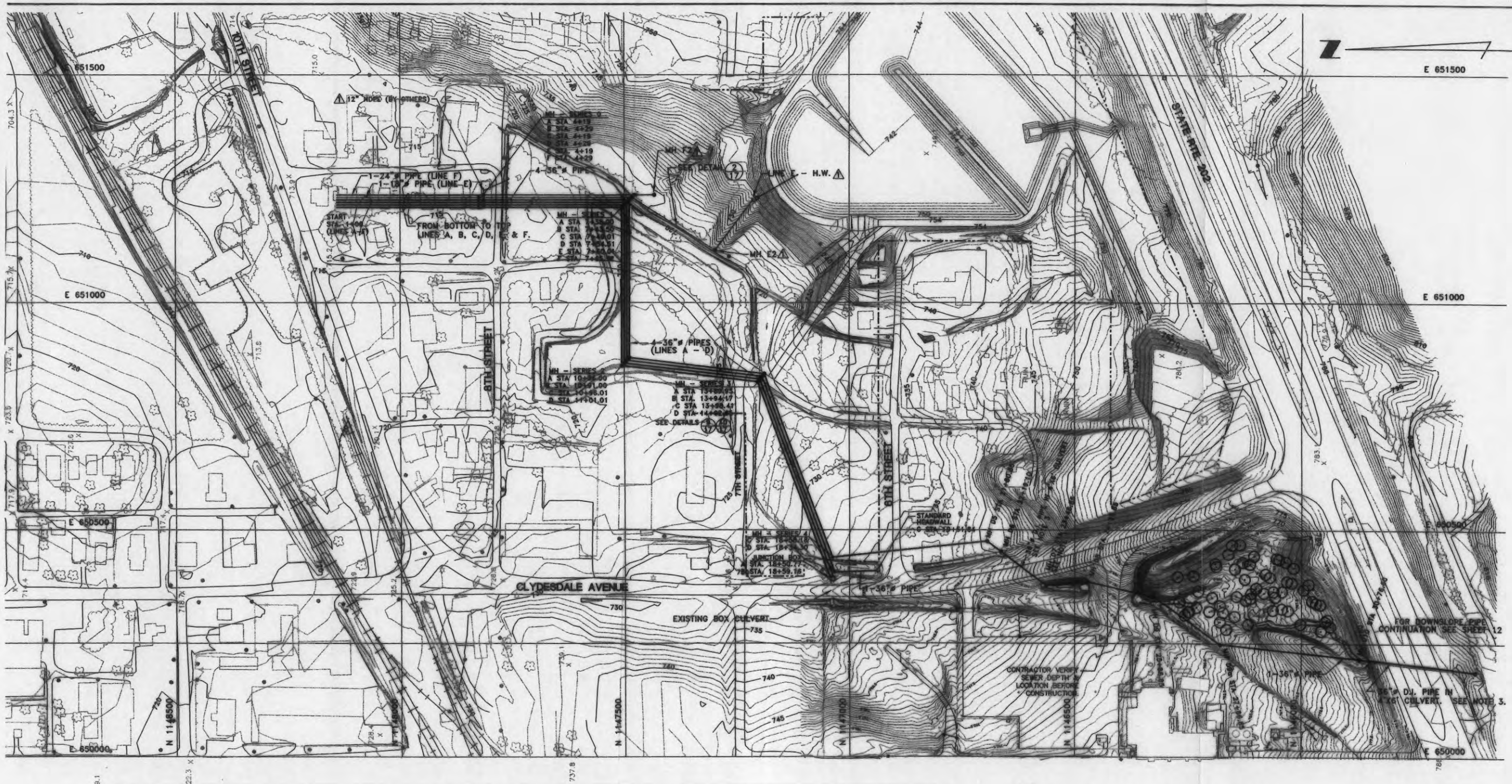
NO.	DATE	DESCRIPTION	DR. BY	APP. BY
1	JUNE 97	MH 11 REV.	RCS	
0	MAY 97	ISSUED FOR CONSTRUCTION	RCS	

CLIENT/PROJECT
MONSANTO - DCC PROJECT

TITLE
DOWNSLOPE PIPE - PROFILE AND DETAILS

Golder Associates
Atlanta, Georgia

DRAWN	RCS	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED		DWG. NO.	REV. NO.
APPROVED		JOB NO.	943-3680
FILE NO.	943-3680	SHEET/SIZE	13



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	1147505.1262
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	650868.9447	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
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+02.65	724.71	650843.6317	1147189.0613
D	4	18+34.30	729.30	650439.1560	1147038.3260
D	5	21+80.85	732.94	650474.6613	1146693.5996
D	6	22+19.10	739.28	650451.9205	1146662.8438
D	7	23+46.85	742.16	650377.16	1146561.73
D	8	24+38.85	743.11	650385.69	1146472.14
D	9	25+86.85 ⚠	744.67 ⚠	650352.03 ⚠	1146325.98 ⚠
D	9a	27+66.85 ⚠	754.51 ⚠	650247.56 ⚠	1146179.38 ⚠
D	10	30+76.60 ⚠	771.46 ⚠	650215.91 ⚠	1145871.25 ⚠
E	0	4+29	713.50	651230.81	1147824.05
E	1	7+65.52	716.00	651230.95	1147483.04
E	2	9+83.32 ⚠	717.50 ⚠	651115.64 ⚠	1147297.23 ⚠
E	H.W.	11+19.54 ⚠	735.50 ⚠	651223.33 ⚠	1147215.81 ⚠
F	0	4+19	714.42	651236.31	1147814.05
F	1	7+60.01	717.79	651236.45	1147477.54
F	2	8+04.08 ⚠	721.00 ⚠	651236.47 ⚠	1147433.47 ⚠

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

SCALE IN FEET
0 100 200 300 400

WIEDEMAN AND SINGLETON, INC.
ENGINEERS
ATLANTA GEORGIA

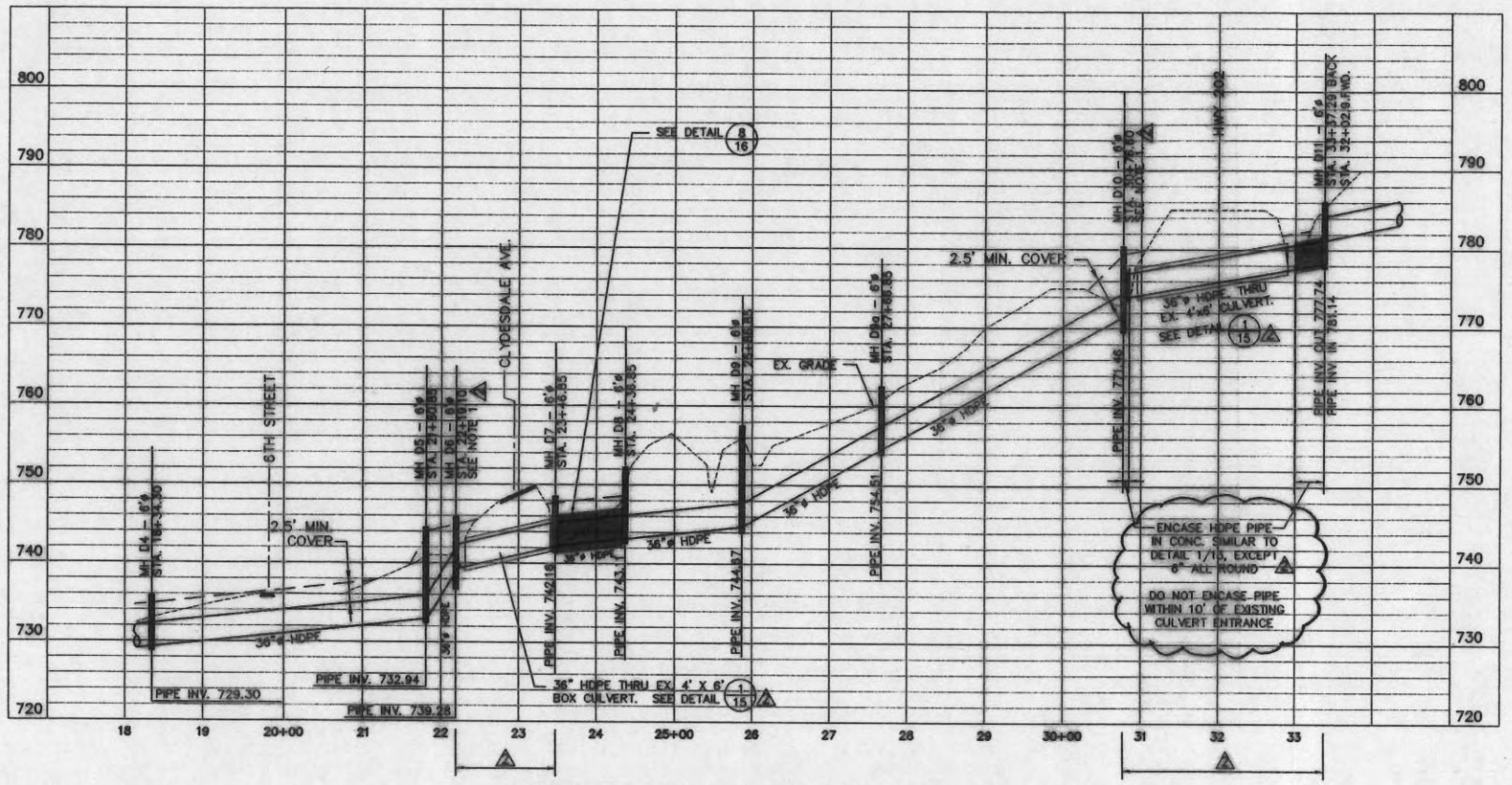
REV.	DATE	DESCRIPTION	DR. BY	APP. BY
⚠	JULY 97	NOTE 3 DELETED	RCS	
⚠	JUNE 97	LINE 'D' REVISED MH 8 – 11	RCS	
		LINES 'E' & 'F' REVISED		
⚠	MAY 97	ISSUED FOR CONSTRUCTION	RCS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

TITLE: EASTSIDE DRAINGE PIPES - PLAN

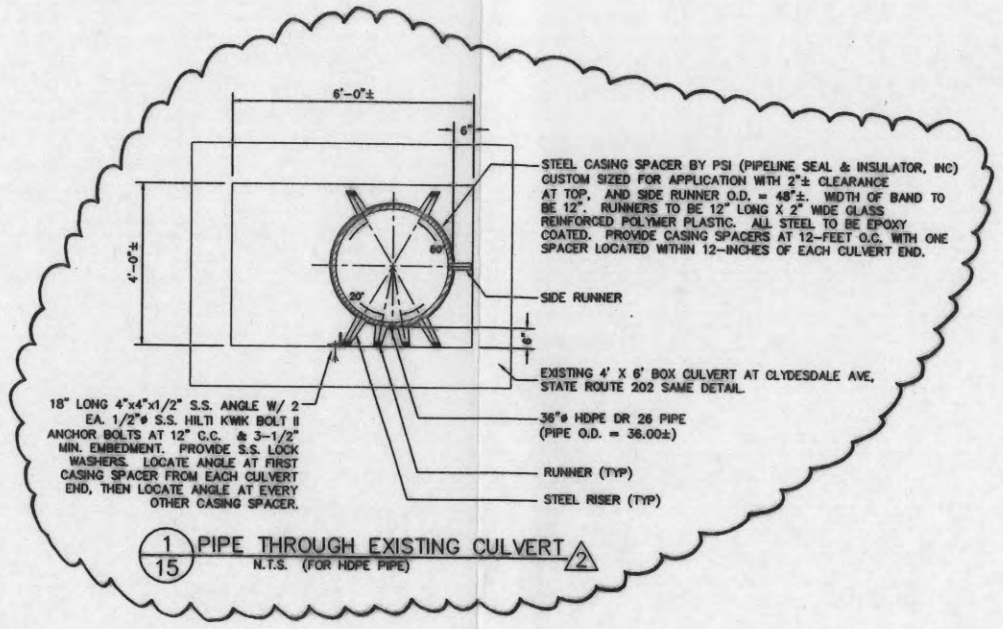
Golder Associates — Atlanta, Georgia

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

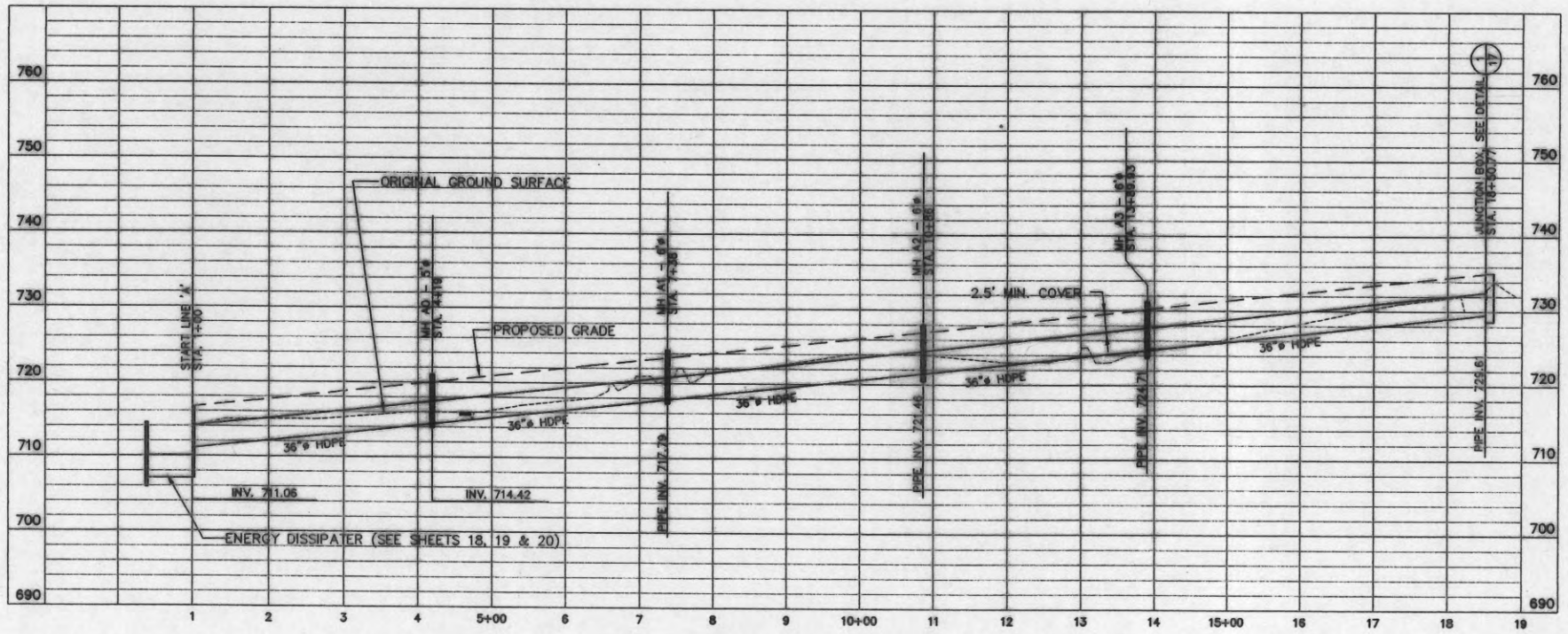


PROFILE LINE 'D' MANHOLES 4–11

SCALE 1" = 100' HORIZ. 1" = 10' VERT.



1/15 PIPE THROUGH EXISTING CULVERT △2
N.T.S. (FOR HDPE PIPE)



PROFILE LINE 'A' MANHOLES SERIES '0' – 'J.B.'

SCALE 1" = 100' HORIZ. 1" = 10' VERT.
(SEE MANHOLE COORDINATES TABLE ON SHEET 14 FOR INVERT & STATIONS OF LINE B – D)

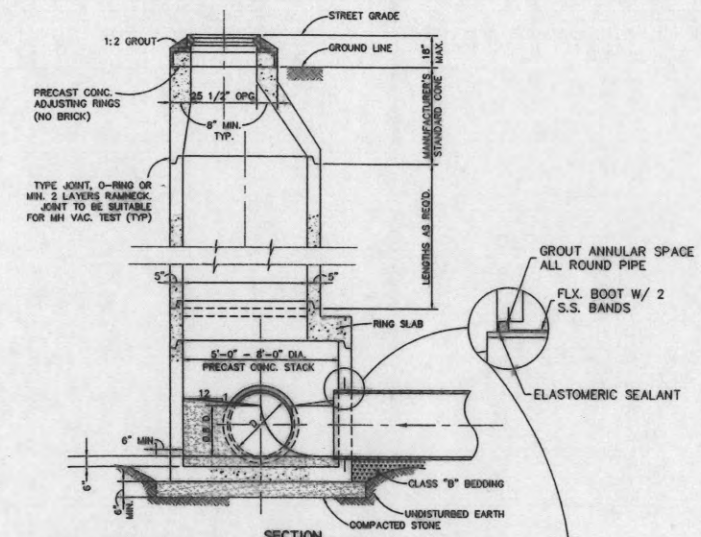
NOTES:
1. FOR MANHOLES D8 AND D10 PROVIDE MIN. OF 1.5 FEET OF CONC. FILL BELOW INVERT ELEVATION.

SCALE IN FEET
0 100 200 300 400

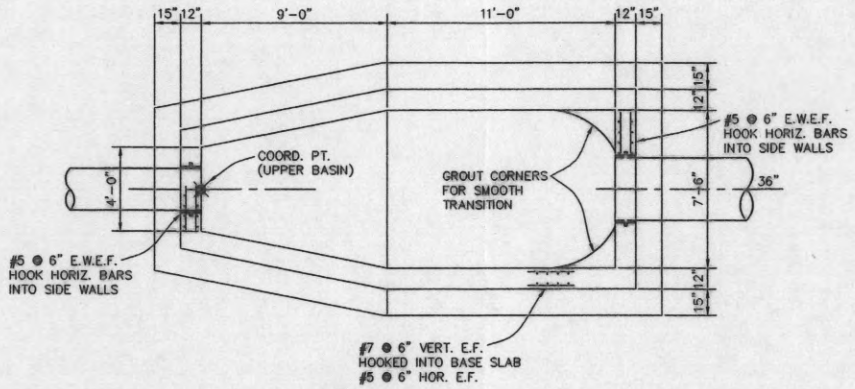
REV.	DATE	DESCRIPTION	DR. BY	APP. BY
△	JULY 97	CHANGED DETAIL 1/15, NOTE 1 ADDED	RCS	
△	JUNE 97	DETAIL 1 ADDED. PROFILE REVISED FOR LINE D. CONC. ENCASEMENT ADDED.	RCS	
△	MAY 97	ISSUED FOR CONSTRUCTION	RCS	

WIEDEMAN AND SINGLETON, INC. ENGINEERS
ATLANTA GEORGIA

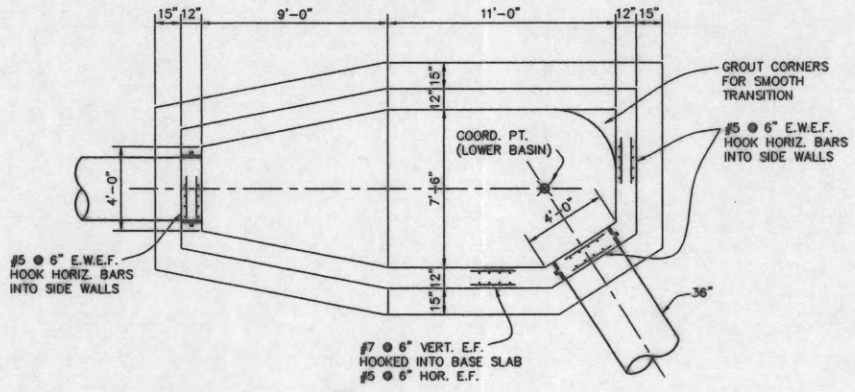
CLIENT/PROJECT: MONSANTO - DCC PROJECT
TITLE: EASTSIDE DRAINAGE PIPES - PROFILES
Atlanta, Georgia
Golder Associates
DRAWN RCS DATE 3/97
CHECKED SCALE AS SHOWN
REVIEWED SPEC. NO. REF. NO.
APPROVED JOB NO. 943-3680 SHEET 15
PROJ NO. 943-3680 DWGFILE



1/16 **STANDARD PRECAST CONCRETE MANHOLE**
PRECAST CONC.
3/8" = 1'-0"

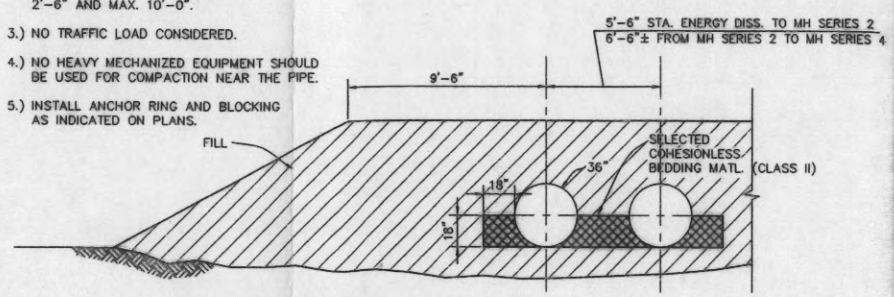


2/16 **PLAN - UPPER**

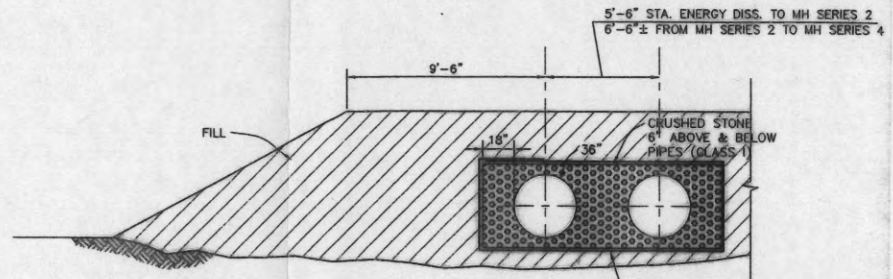


3/16 **PLAN - LOWER**

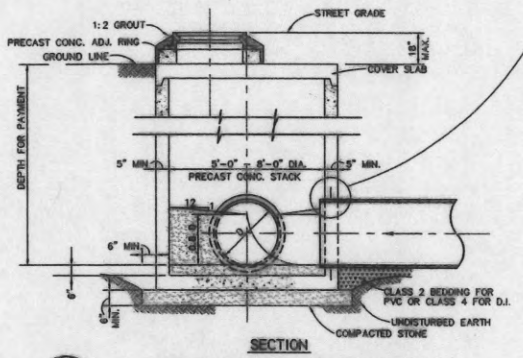
NOTES:
1.) PIPE TO BE PE 3408 DR26.
2.) PIPE COVER TO BE A MINIMUM OF 2'-6" AND MAX. 10'-0".
3.) NO TRAFFIC LOAD CONSIDERED.
4.) NO HEAVY MECHANIZED EQUIPMENT SHOULD BE USED FOR COMPACTION NEAR THE PIPE.
5.) INSTALL ANCHOR RING AND BLOCKING AS INDICATED ON PLANS.



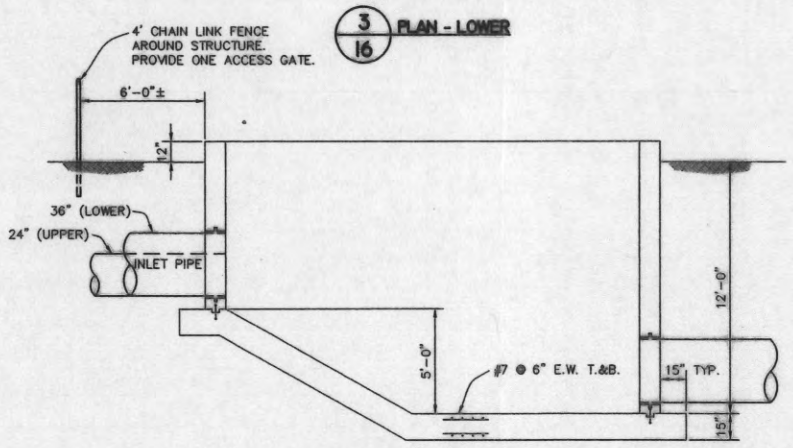
5/16 **PIPE INSTALLATION DETAIL**
N.T.S.



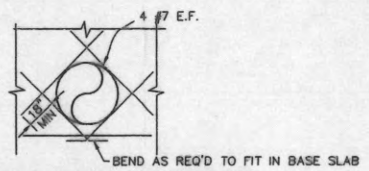
6/16 **BEDDING DETAIL 10-15 FT. OF COVER**
N.T.S.



7/16 **TYPICAL SHALLOW MANHOLE**
PRECAST CONC.
3/8" = 1'-0"



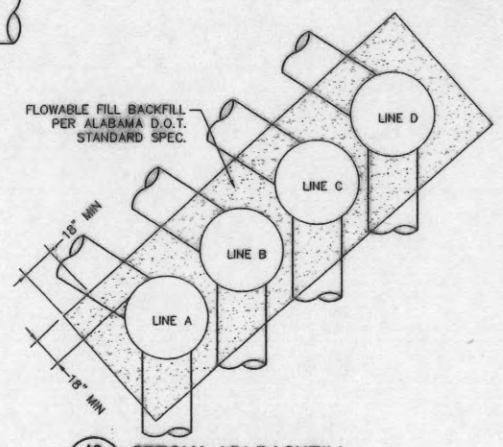
SECTION OF ENERGY DISSIPATOR
(TYP. UPPER AND LOWER)



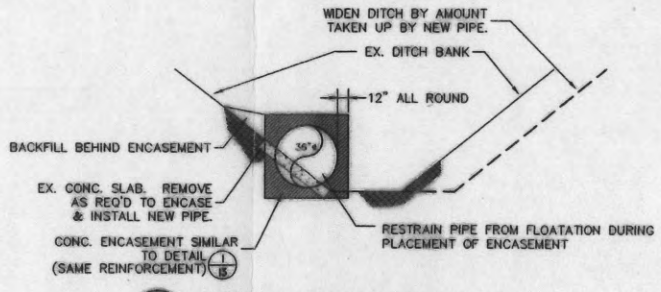
REINFORCING AT PIPE WALL PENETRATIONS
(TYP. 4 LOCATIONS)

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.



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.

WIEDEMAN AND SINGLETON, INC.
ENGINEERS
ATLANTA GEORGIA

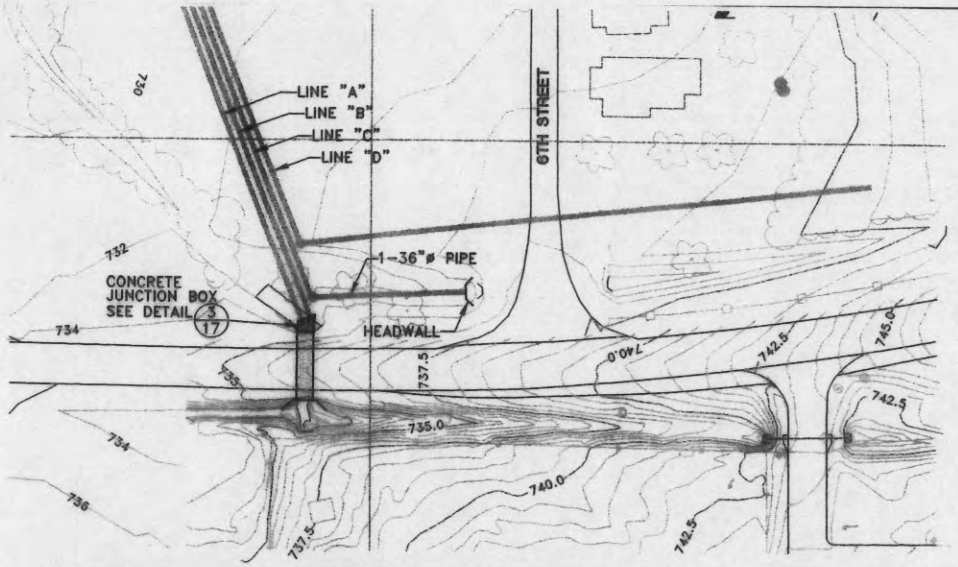
REV.	DATE	DESCRIPTION	DR. BY	APP. BY
2	JUNE 97	DETAIL 9 DELETED	RCS	
1	MAY 97	ISSUED FOR CONSTRUCTION	RCS	

CLIENT/PROJECT
MONSANTO - DCC PROJECT

TITLE
DRAINAGE SYSTEM - DETAILS

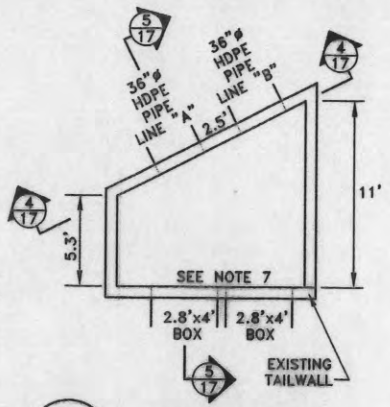
Golder Associates
Atlanta, Georgia

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



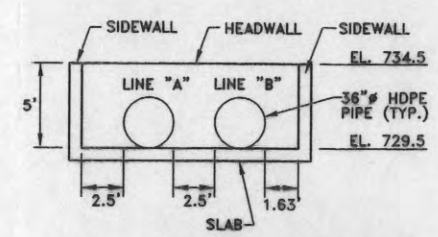
1/17 **CULVERT CROSSING AT CLYDESDALE & 7TH STREET**

SCALE IN FEET 0 50 100



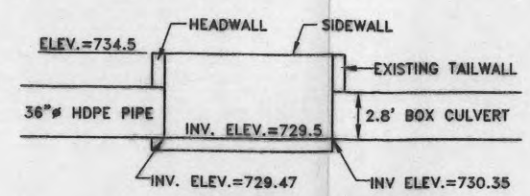
3/17 **PLAN VIEW**

SCALE IN FEET 0 5 10



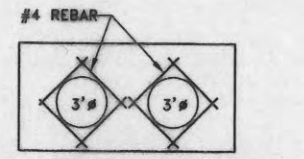
4/17 **TYPICAL SECTION ACROSS BOX**

SCALE IN FEET 0 5 10



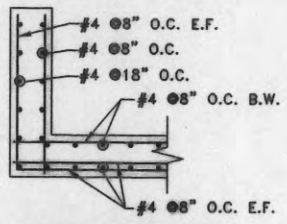
5/17 **TYPICAL SECTION ALONG PIPE/BOX**

SCALE IN FEET 0 5 10



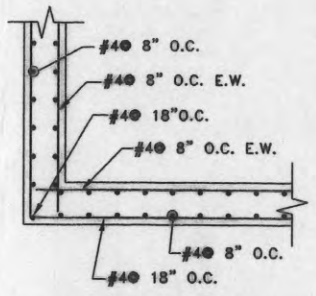
6/17 **SECTION THRU HEADWALL**

SCALE IN FEET 0 5 10



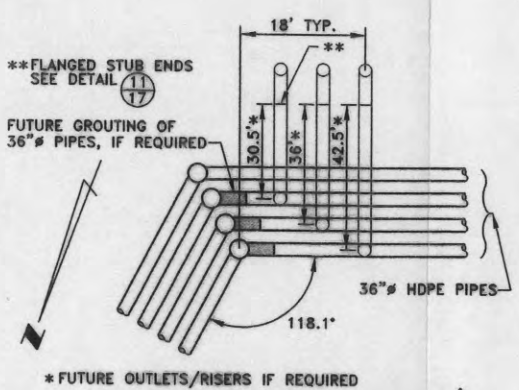
7/17 **REBAR DETAIL SLAB/WALL**

SCALE IN FEET 0 2 4



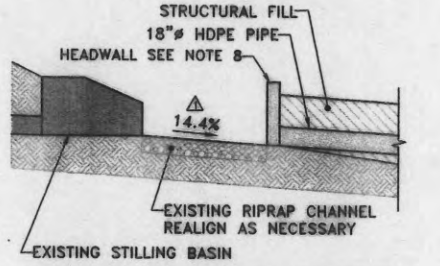
8/17 **REBAR DETAIL PLAN VIEW**

SCALE IN FEET 0 2 4

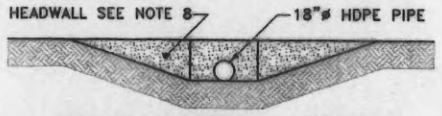


9/17 **PLAN OF EAST BENDS AT 7TH STREET** ⚠

N.T.S.



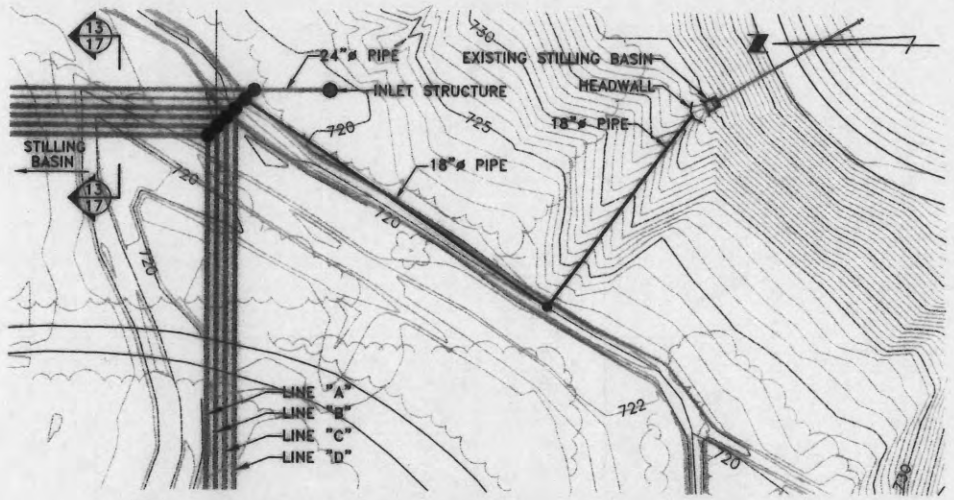
CHANNEL TO OUTLET / SECTION



OUTLET HEADWALL / SECTION

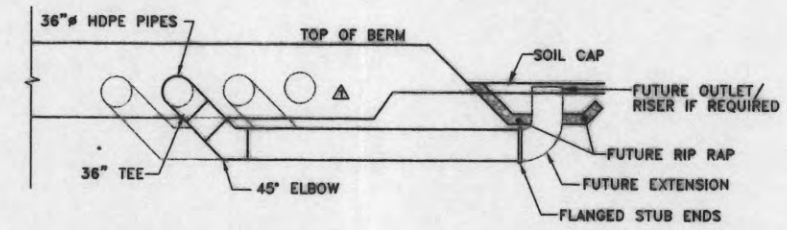
10/17 **INTERMEDIATE POND OUTLET DETAILS**

N.T.S.



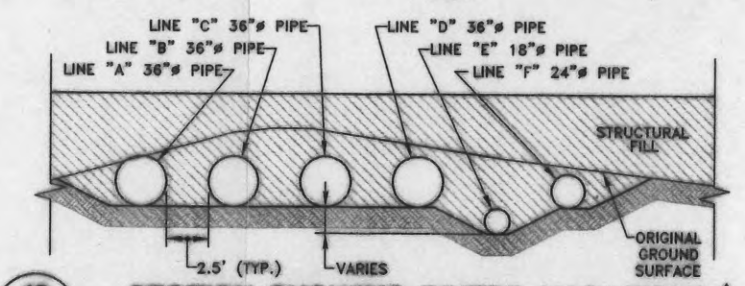
12/17 **18" PIPE FROM EXISITNG DETENTION BASIN** ⚠

SCALE IN FEET 0 50 100



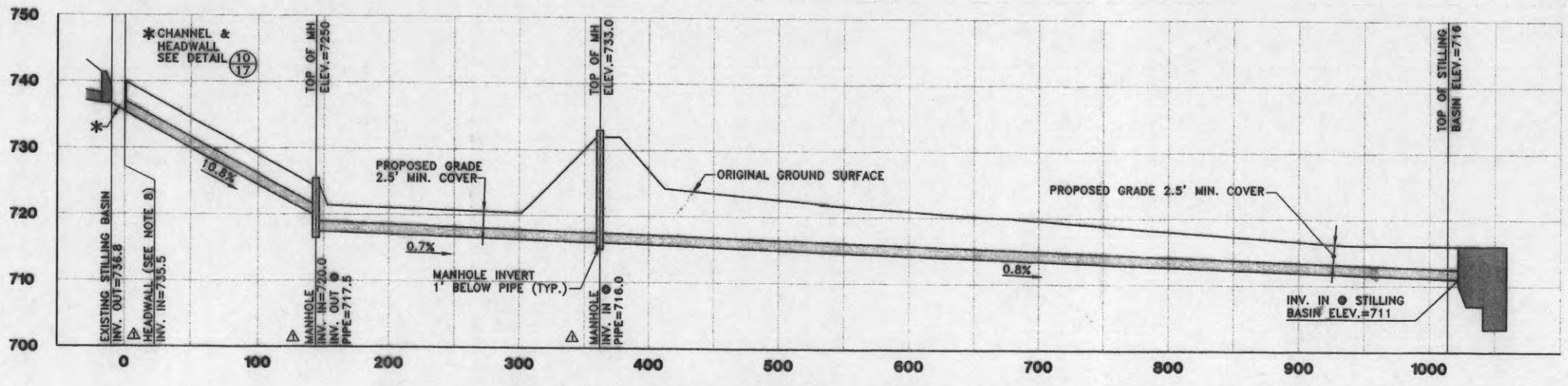
11/17 **SECTION SHOWING ALLOWANCE FOR FUTURE DISCHARGE TO LOWER DETENTION BASIN**

N.T.S.



13/17 **SECTION SHOWING INVERT VARATIONS** ⚠

N.T.S.



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

SCALE IN FEET 0 50 100

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 CULVERT.
8. HEADWALL FROM PREVIOUS CONSTRUCTION TO BE USED FOR THE CONCRETE HEADWALL AT THE OUTLET END OF THE 18"ø HDPE PIPE. THIS HEADWALL IS TO BE MODIFIED IN THE FIELD TO FIT THE 18"ø HDPE PIPE AND EXISTING SIDESLOPE CHANNEL.

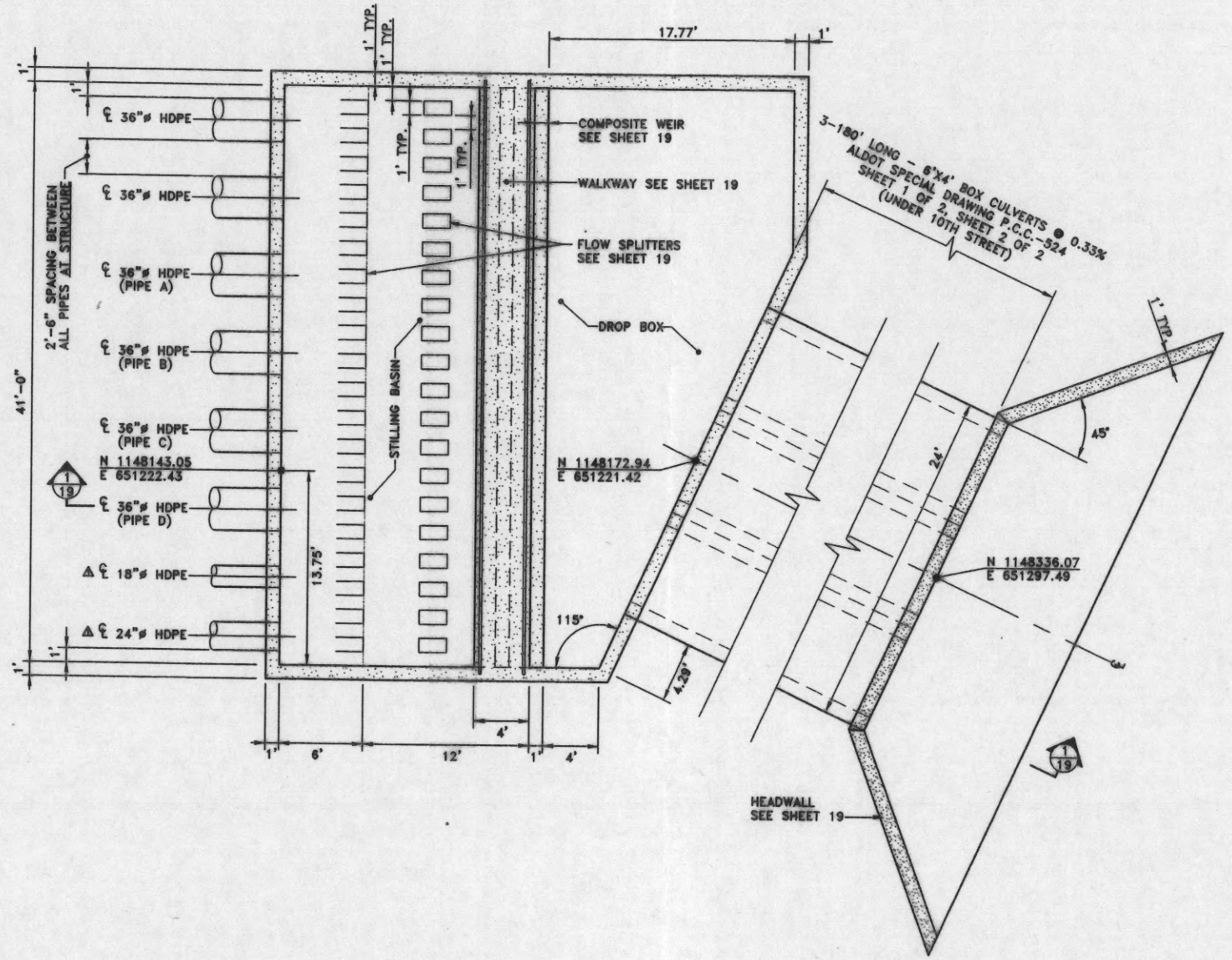
REV.	DATE	DESCRIPTION	DR. BY	APP. BY
⚠	5/97	REV. 18" PIPE ALIGNMENT, ADD DETAILS	RMS	
⚠	5/97	ISSUED FOR CONSTRUCTION	RMS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

TITLE: PIPEWORK PLAN AND DETAILS

Golder Associates — Atlanta, Georgia

DRAWN	RMS	DATE	6/2/97
CHECKED		SCALE	AS SHOWN
REVIEWED		DWG. NO.	208
APPROVED		JOB NO.	943-3680
FILE NO.	943-3680	SUBTITLE	



1/18 ENERGY DISSIPATER AND DROP BOX / PLAN

SCALE IN FEET
0 5 10

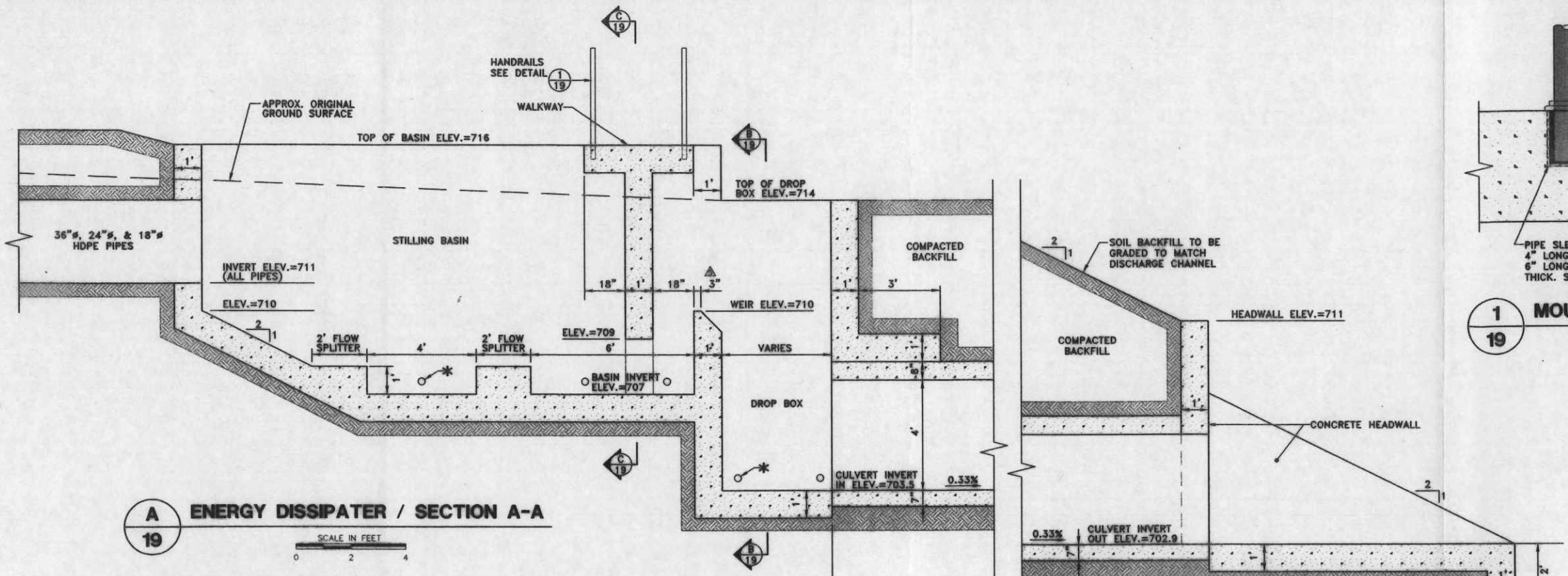
REV.	DATE	DESCRIPTION	DR. BY	APP. BY
2	MAY/97	REV. 18" & 24" PIPE ALIGNMENT	RMS	
1	MAY/97	ISSUED FOR CONSTRUCTION	RMS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

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

Golder Associates
Atlanta, Georgia

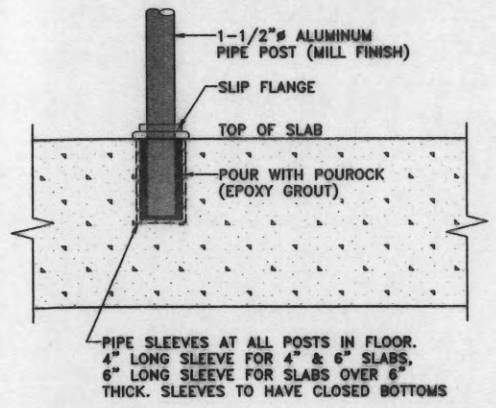
DRAWN	RMS	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED		DWG. NO.	209 REV. NO.
APPROVED		JOB NO.	943-3680
PCN NO.	943-3680	SHEET	18



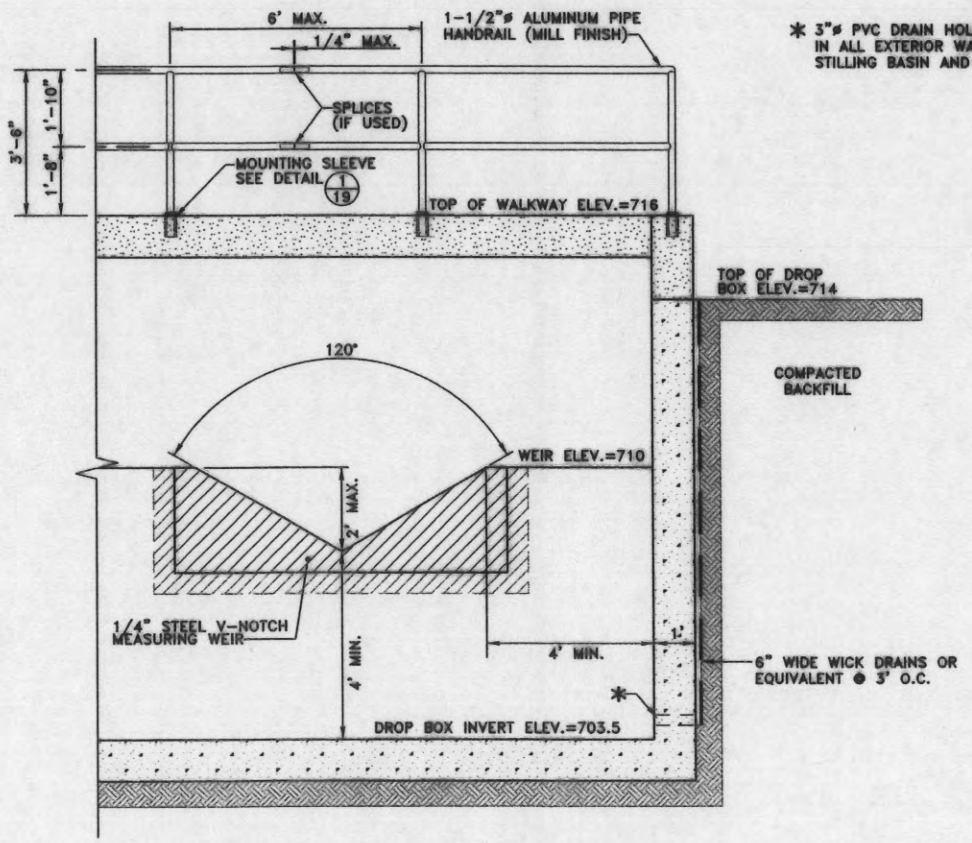
A / 19 ENERGY DISSIPATER / SECTION A-A

SCALE IN FEET 0 2 4

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

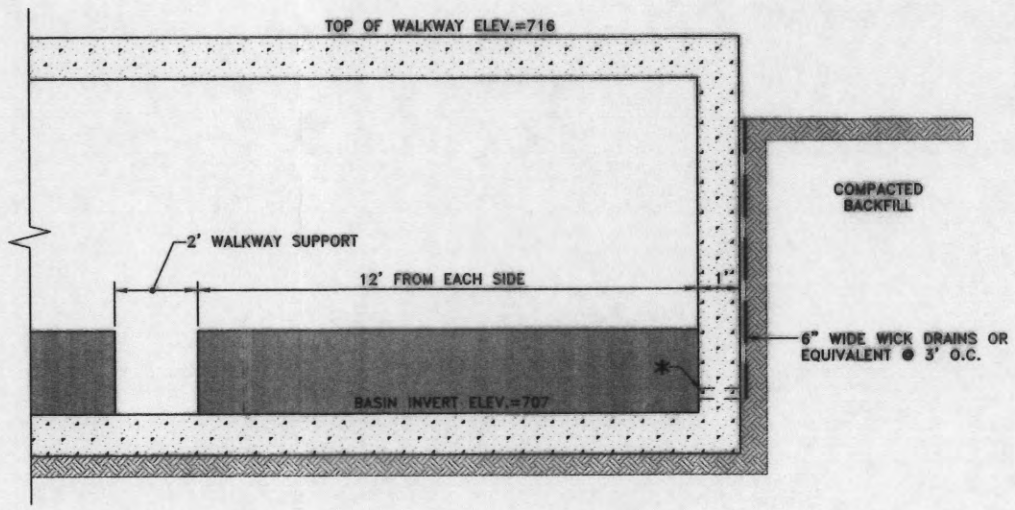


1 / 19 MOUNTING SLEEVE DETAIL



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.

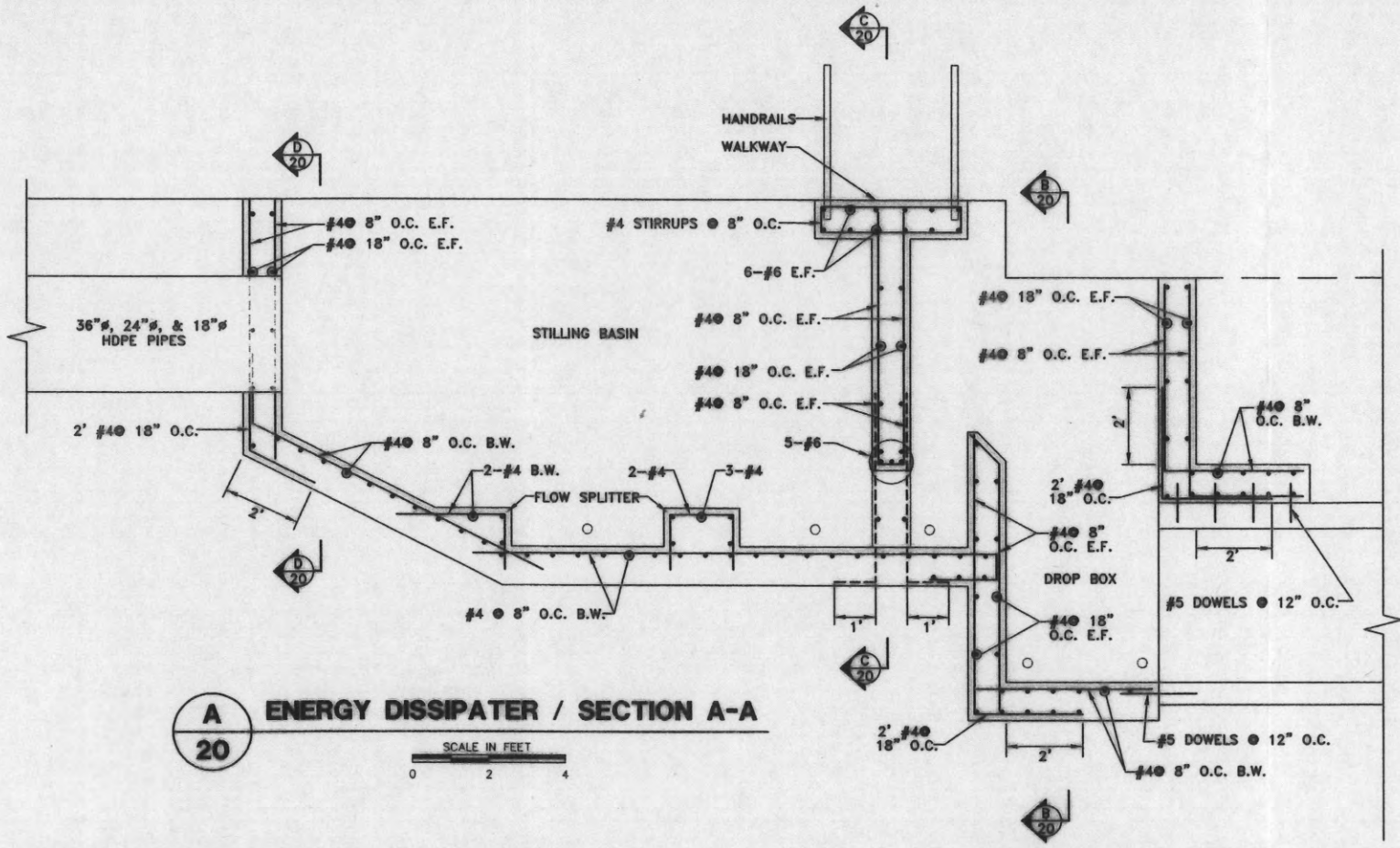
REV.	DATE	DESCRIPTION	DR. BY	APP. BY
2	SEPT/97	REV. DETAIL A/19	RMS	
1	MAY/97	ISSUED FOR CONSTRUCTION	RMS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

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

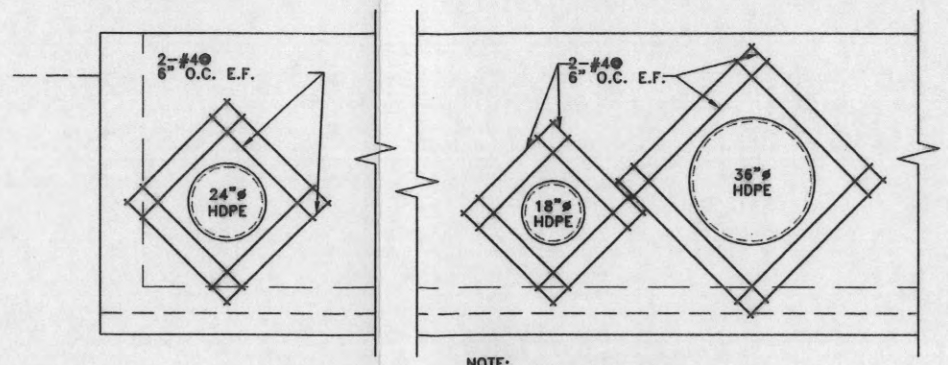
Atlanta, Georgia — Golder Associates

DRAWN	RMS
CHECKED	
REVIEWED	
APPROVED	
FILE NO.	943-3680
DATE	3/97
SCALE	AS SHOWN
DWG. NO.	210
REV. NO.	
JOB NO.	943-3680
SUBFILE	
SHEET	19



A/20 ENERGY DISSIPATER / SECTION A-A

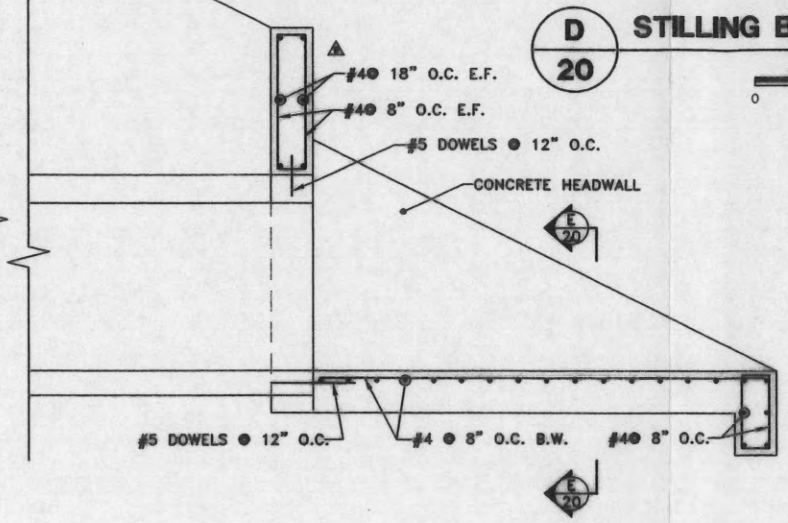
SCALE IN FEET 0 2 4

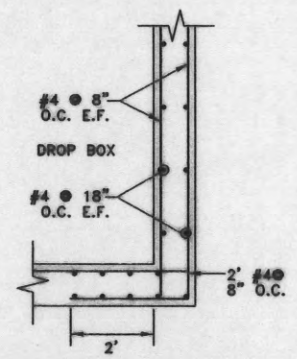


NOTE:
HORIZONTAL AND VERTICAL REBARS OMITTED FOR CLARITY

D/20 STILLING BASIN / SECTION D-D

SCALE IN FEET 0 2 4

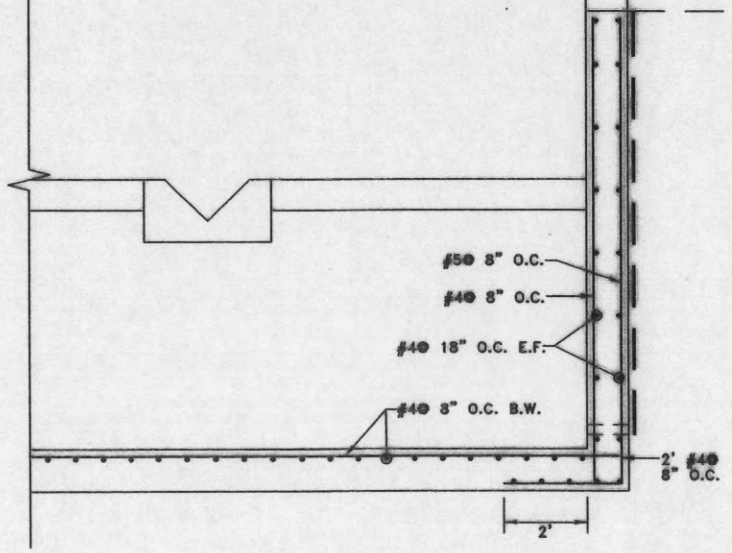




E/20 CONCRETE HEADWALL SECTION E-E

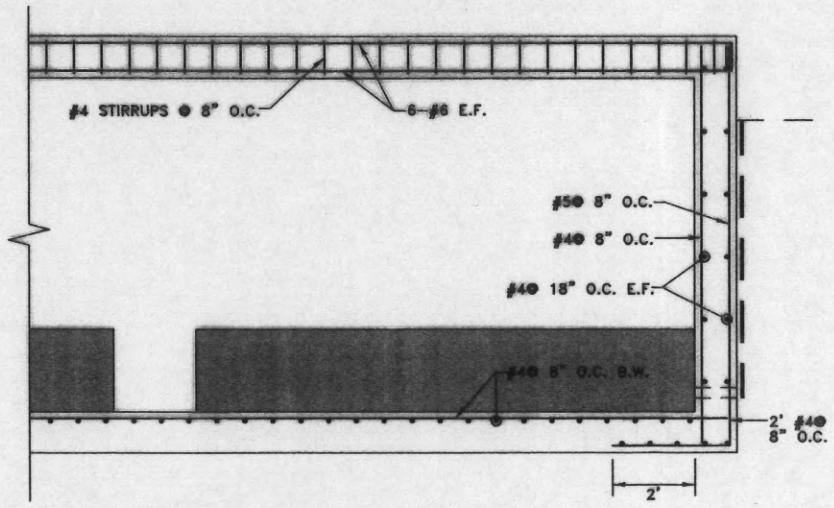
SCALE IN FEET 0 2 4

ENERGY DISSIPATER (STILLING BASIN/DROP BOX) REINFORCEMENT DETAILS



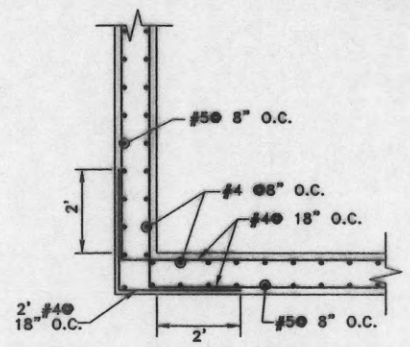
B/20 DROP BOX / SECTION B-B

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

ALABAMA REGISTERED PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

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.

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

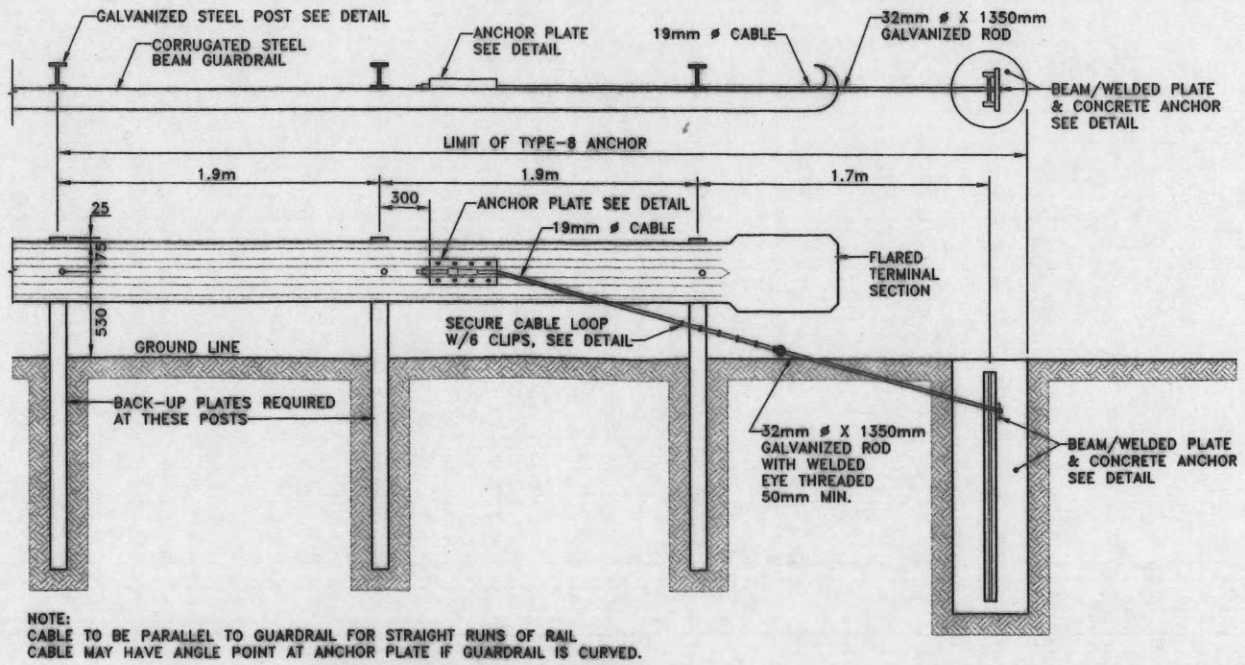
CLIENT/PROJECT: MONSANTO - DCC PROJECT

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

Golder Associates — Atlanta, Georgia

DRAWN	RMS	DATE	3/97
CHECKED	JTS	SCALE	AS SHOWN
APPROVED	WRA	DWG. NO.	211
APPROVED	WRS	JOB NO.	943-3680
FILE NO.	943-3680	DISCIPLINE	

REV. NO. | SHEET 20

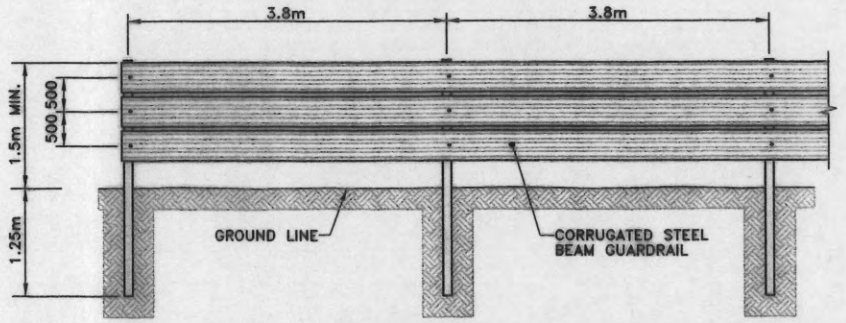


NOTE:
CABLE TO BE PARALLEL TO GUARDRAIL FOR STRAIGHT RUNS OF RAIL
CABLE MAY HAVE ANGLE POINT AT ANCHOR PLATE IF GUARDRAIL IS CURVED.

TYPE-8 ANCHOR / ELEVATION
NTS

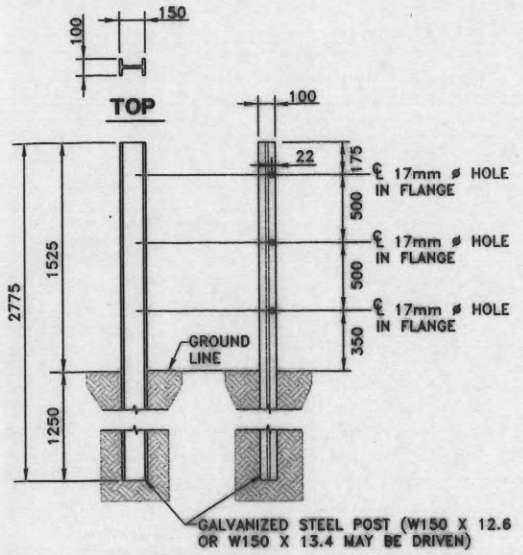
ALABAMA DOT PERMANENT BARRICADE & TYPE-8 ANCHOR DETAILS

SPECIAL DRAWING NO. B-713, DATED 3/8/89, PAGE 301 &
SPECIAL DRAWING NO. GA-630-8, DATED 10/25/93, PAGE 303

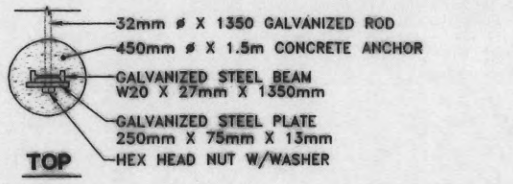


NOTE: ALL GUARDRAIL AND ACCESSORIES REQUIRED FOR MOUNTING SHALL BE GALVANIZED.

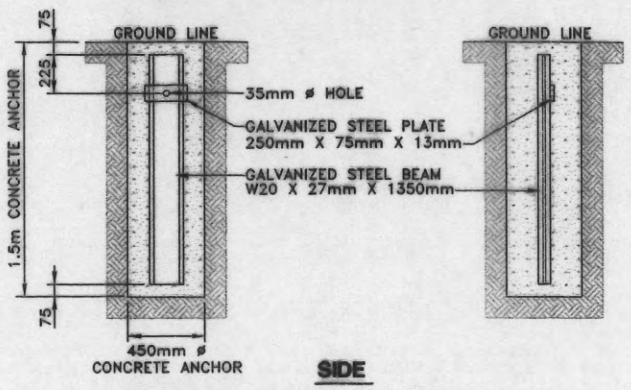
GUARDRAIL ELEVATION
NTS



GALVANIZED STEEL "H" POST
NTS

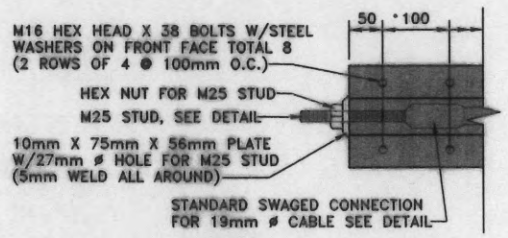


TOP

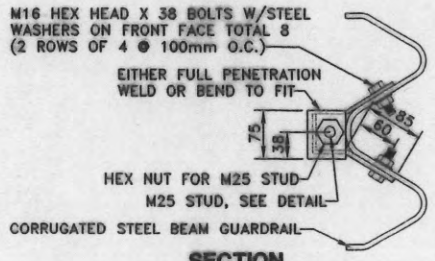


SIDE

WELDED PLATE ON 200mm BEAM IN CONCRETE ANCHOR
NTS

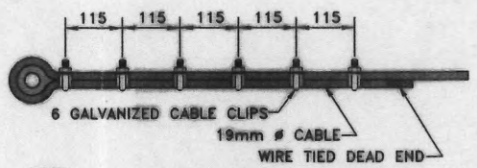


PLAN



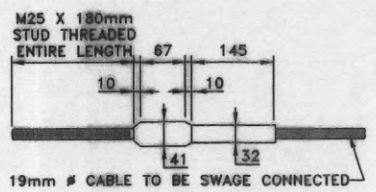
SECTION

ANCHOR PLATE
NTS

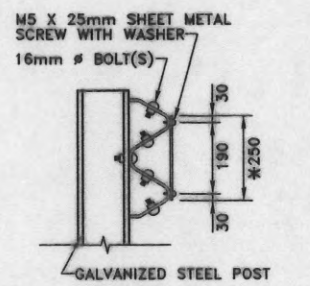


NOTE:
THE BASE OF THE CLIP BEARS AGAINST THE LIVE END OF THE WIRE LOOP. WHILE THE "U" OF THE BOLT PRESSES AGAINST THE DEAD END.

PROPER METHOD OF APPLYING WIRE ROPE CLIPS
NTS



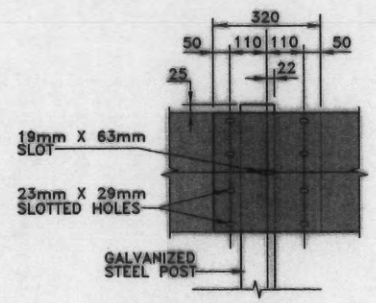
STANDARD SWAGED FITTING AND STUD
NTS



* ALUMINUM SIGN PANEL 3mm THICK

ALL DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES

ARRANGEMENT AT GALVANIZED STEEL POST
NTS



RAIL SPLICE
NTS

ALABAMA REGISTERED No. 9088 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN
8/1/97

REV.	DATE	DESCRIPTION	DR. BY	APP. BY
3	8/97	REV. 3	RMS	

CLIENT/PROJECT: MONSANTO

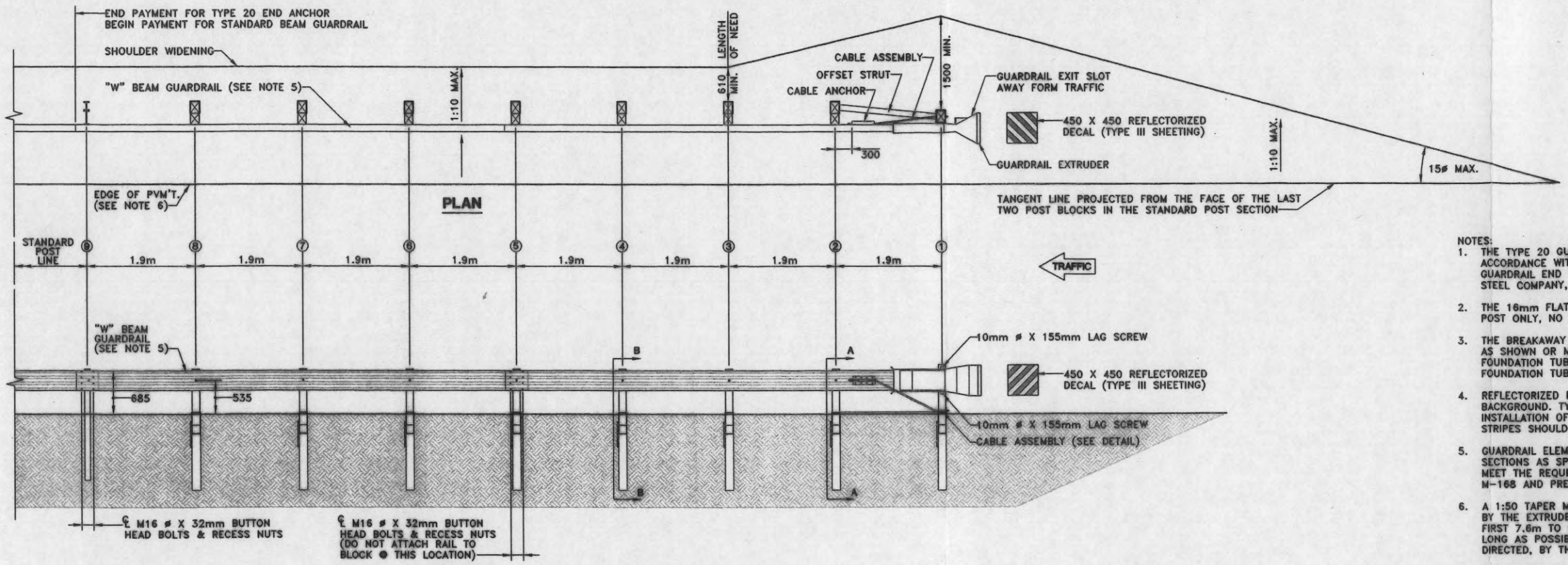
TITLE: MISCELLANEOUS DETAILS (SHEET 1 OF 2)

Golder Associates — Atlanta, Georgia

DRAWN	RMS	DATE	3/97
DESIGNED		SCALE	AS SHOWN
REVIEWED	WRS	DWG. NO.	267
APPROVED		JOB NO.	943-3680
FILE NO.	943-3680	REVISION	

ALABAMA DOT
DETAILS OF GUARDRAIL END ANCHOR - TYPE 20

SPECIAL DRAWING NO. GA-630-20
DATED 11/8/93, PAGE 312



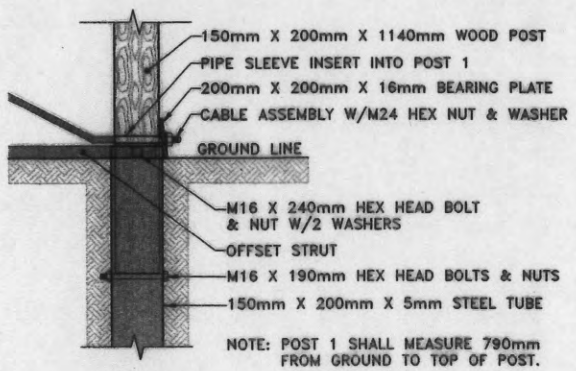
ELEVATION

TYPE-20 END ANCHOR

NTS

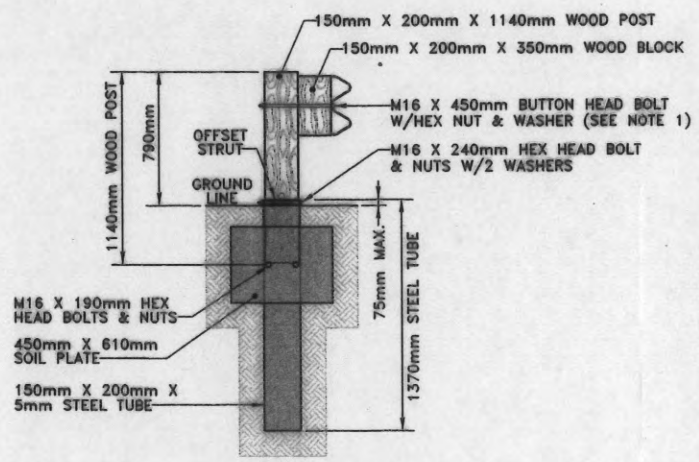
NOTES:

1. THE TYPE 20 GUARDRAIL END ANCHOR SHALL BE INSTALLED IN ACCORDANCE WITH INSTRUCTIONS AND RECOMMENDATIONS FOR GUARDRAIL END TERMINAL TYPE "ET-2000" MANUFACTURED BY SYRO STEEL COMPANY, GIRARD, OH 44420.
2. THE 16mm FLAT WASHER IS USED UNDER THE NUT BEHIND THE POST ONLY, NO WASHER IS USED AT THE RAIL.
3. THE BREAKAWAY POSTS AT LOCATIONS 3, 4, 5, 6, 7, & 8 MAY BE AS SHOWN OR MAY UTILIZE POST AS SHOWN IN OPTION "B" WITHOUT FOUNDATION TUBES. POST AT LOCATIONS 1 & 2 MUST USE FOUNDATION TUBES.
4. REFLECTORIZED DECAL SHALL BE DIAGONAL YELLOW ON A BLACK BACKGROUND. TYPE III SHEETING, AND SHOULD BE INSTALLED AFTER INSTALLATION OF THE EXTRUDED HEAD. THE YELLOW DIAGONAL STRIPES SHOULD SLOPE DOWNWARD TO THE SIDE OF TRAFFIC FLOW.
5. GUARDRAIL ELEMENTS SHALL BE 7.6m CONTINUOUS, 2.657mm THICK SECTIONS AS SPECIFIED IN AASHTO M-180. TIMBER POSTS SHALL MEET THE REQUIREMENTS FOR MATERIALS AS SPECIFIED IN AASHTO M-168 AND PRESERVED IN AASHTO M-133.
6. A 1:50 TAPER MAY BE USED TO AVOID INTRUSION ONTO SHOULDER BY THE EXTRUDED HEAD. A 1:25 TAPER MAY BE USED OVER THE FIRST 7.6m TO KEEP THE GUARDRAIL PARALLEL TO THE ROAD AS LONG AS POSSIBLE. ALL TAPERS SHALL BE APPROVED, AND AS DIRECTED, BY THE ENGINEER.
7. THE 150mm X 200mm WOOD POST AT LOCATIONS 1, 2, 3, 4, 6, 7, & 8 ARE "NOMINAL" DIMENSIONS. THE POST IS S4S (SMOOTH FOUR SIDES) THROUGH A PLANER, SO IT WILL FIT INTO THE TUBE SLEEVE.



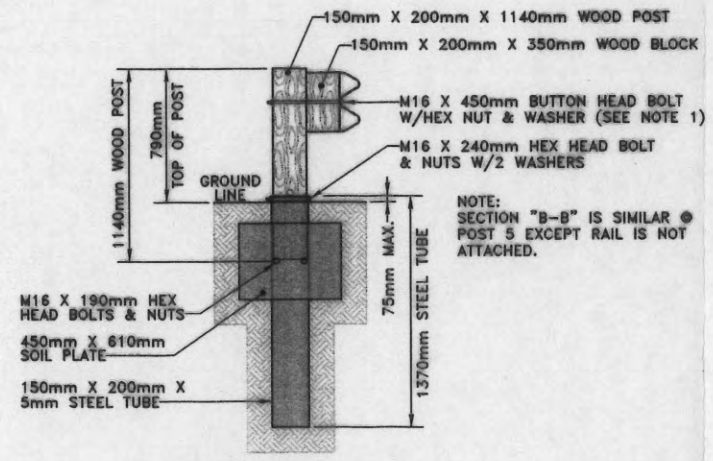
PARTIAL VIEW @ POST 1

NTS



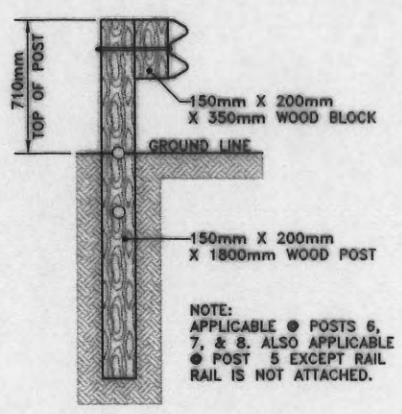
SECTION "A-A" @ POST 2

NTS



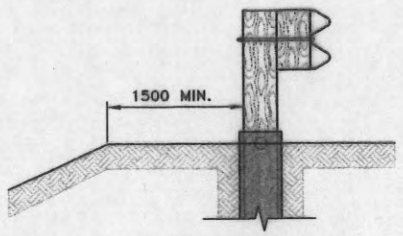
SECTION "B-B" @ POSTS 3, 4, 6, 7, & 8

NTS



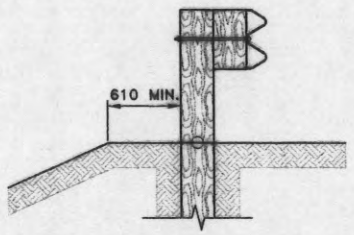
SECTION FOR OPTION "B"

NTS



TYPICAL FOR POST 1

NTS



TYPICAL FOR POSTS 3 THRU 8

NTS

ALABAMA REGISTERED No. 20236 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

8/1/97

REV.	DATE	DESCRIPTION	DR. BY	APP. BY
3	8/97	REV. 3	RMS	

CLIENT/PROJECT: MONSANTO

TITLE: MISCELLANEOUS DETAILS (SHEET 2 OF 2)

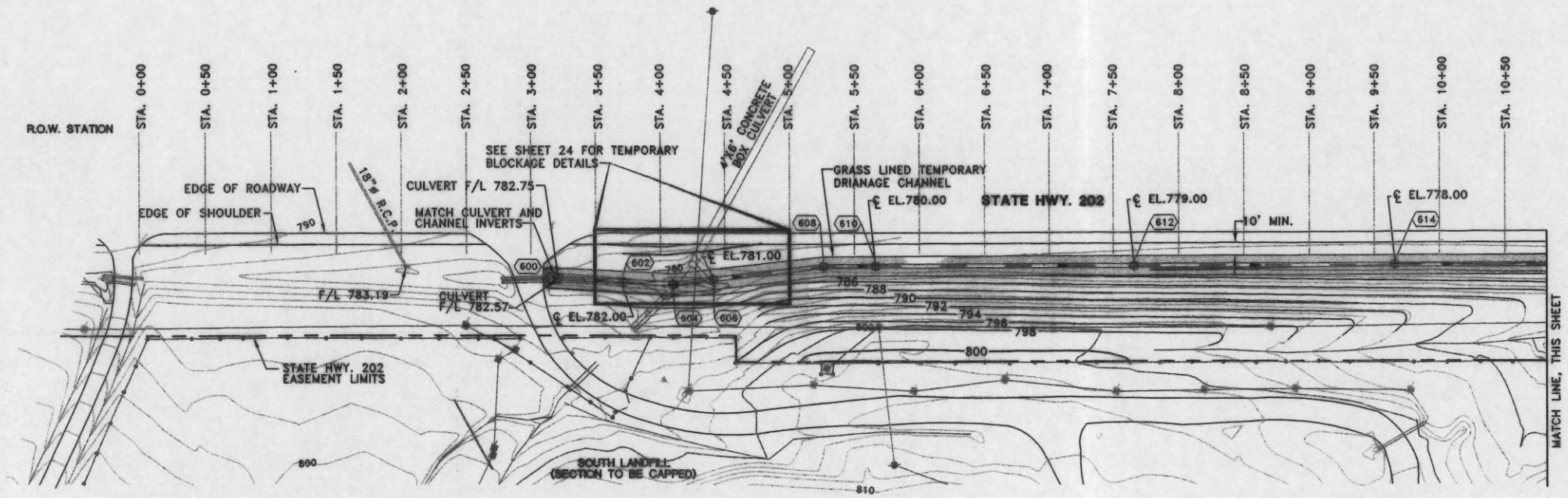
Atlanta, Georgia

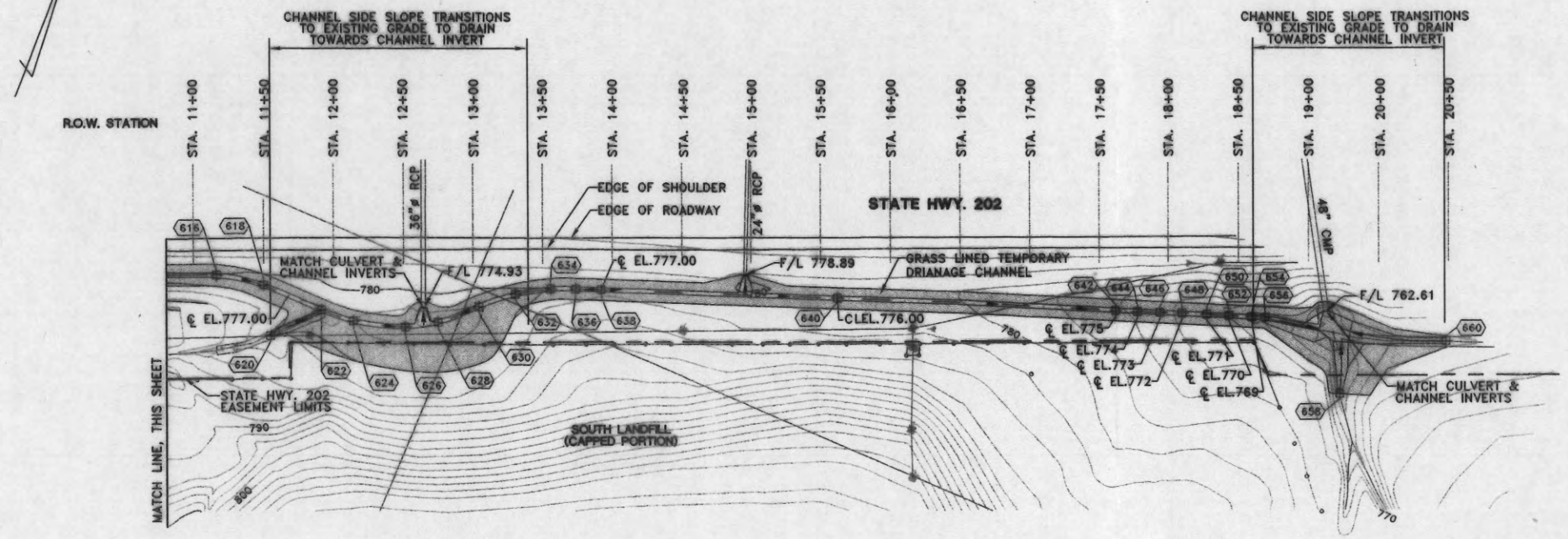
Golder Associates

DRAWN	RMS	DATE	3/97
CHECKED		SCALE	AS SHOWN
APPROVED	WRS	DWG. NO.	268
APPROVED		JOB NO.	943-3680
FILE NO.	943-3680	SUBTITLE	

REF. NO.

SHEET 22





LEGEND

- 790 — FINAL GRADE CONTOUR
- 790 — EXISTING CONTOUR
- SIGN
- TELEPHONE POLE
- TELEPHONE BOX
- POWER POLE
- O/H ELECTRIC LINE
- GUY ANCHOR
- GUY POLE
- CHAINLINK FENCE
- CHANNEL FLOW DIRECTION
- GRASS LINED TEMPORARY DRAINAGE CHANNEL
- 600 SURVEY CONTROL POINT AND IDENTIFICATION NUMBER

NOTES:

1. EXCAVATED MATERIAL SHALL BE PLACED UNDER THE GEOSYNTHETIC CAP TO BE CONSTRUCTED FOR THE SOUTH LANDFILL, 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%, EXCEPT FROM STATION 11+50 TO STATION 13+50.
5. SLOPE CHANNEL INVERT UNIFORMLY BETWEEN SURVEY CONTROL POINTS.
6. TEMPORARY DRAINAGE CHANNEL SHALL BE CONSTRUCTED SUCH THAT AT THE COMPLETION OF CONSTRUCTION A LINING CAN BE INSTALLED (CONCRETE, FABRIC-FORM CONCRETE, OR SUITABLE EQUIVALENT). THE TEMPORARY DRAINAGE CHANNEL EXCAVATION PLAN SHOULD ALLOW FOR ANY OVER EXCAVATION AS MAY BE NECESSARY TO ACCOUNT FOR THE THICKNESS OF THE PERMANENT LINING SELECTED.
7. ALL CHANNEL ELEVATIONS SHOWN ON THIS DRAWING REFLECT THE FINISHED ELEVATIONS PROPOSED FOR THE PERMANENT/FINAL DRAINAGE CHANNEL FOLLOWING PROTECTIVE LINING INSTALLATION.
8. TEMPORARY DRAINAGE CHANNEL SHALL HAVE A MINIMUM BOTTOM WIDTH OF 3 FT., WITH 2(H):1(V) SIDE SLOPES AND A MINIMUM DEPTH OF 3 FT.. ALLOWANCES SHOULD BE TAKEN FOR OVER EXCAVATION AS MAY BE REQUIRED FOR LINING INSTALLATION (SEE NOTES 6 & 7).
9. CHANNEL GRADING DESIGN PROVIDED BY WOODWARD/CYLDE CONSULTANTS, INC., 7600 W. TIDWELL, SUITE 600, HOUSTON TEXAS, 77040; APRIL 1997.

ALABAMA REGISTERED No. 20592 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

8/1/97

SCALE IN FEET
0 50 100 150 200

REV.	DATE	DESCRIPTION	DR. BY	APP. BY
1	8/97	REV. 3	RMS	

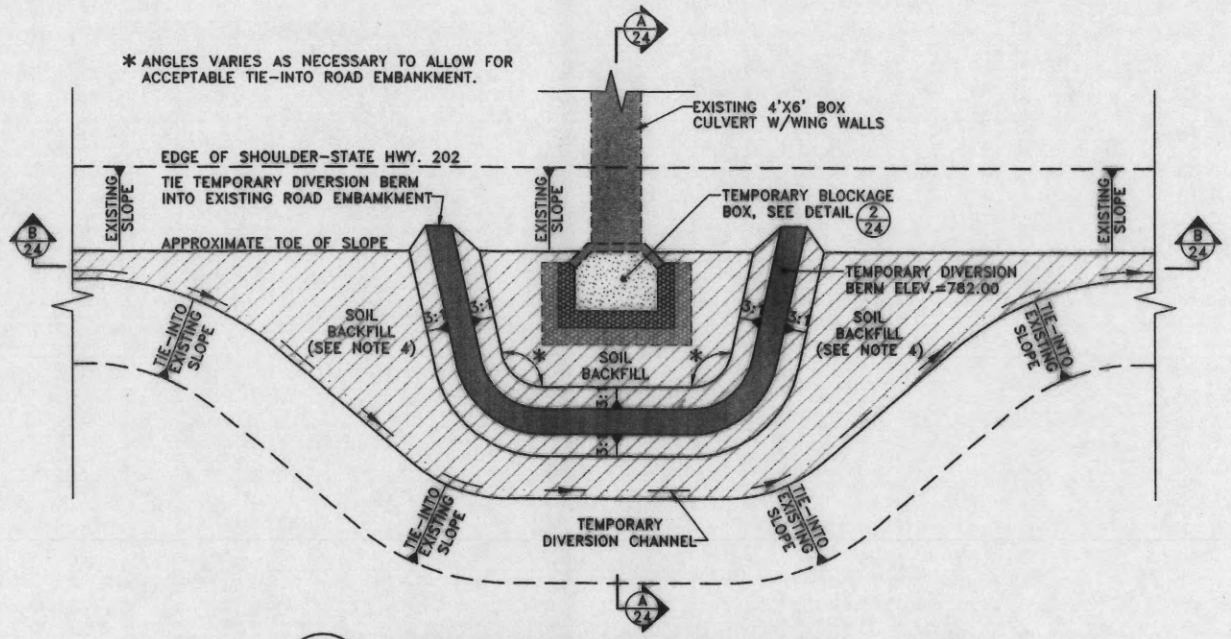
CLIENT/PROJECT: MONSANTO

TITLE: HWY. 202 TEMPORARY DRAINAGE CHANNEL DURING CONSTRUCTION

Golder Associates — Atlanta, Georgia

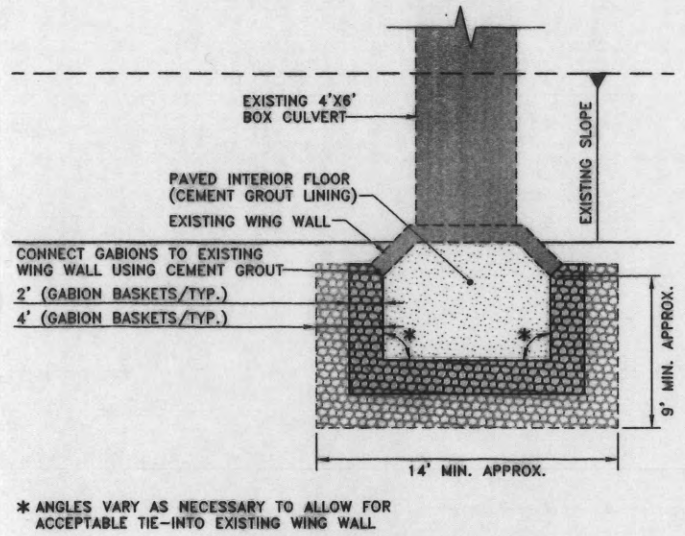
DRAWN	W-C	DATE	4/97
CHECKED		SCALE	AS SHOWN
REVIEWED	WRS	PROJ. NO.	289
APPROVED		JOB NO.	943-3680
FILE NO.	943-3680		

REV. NO. —
SHEET 23



1/24 **TEMPORARY BLOCKAGE DETAIL - PLAN**

NTS



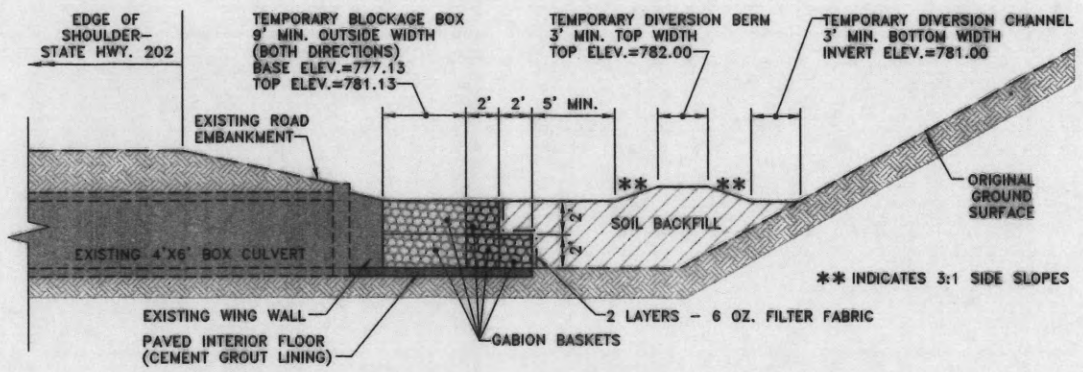
* ANGLES VARY AS NECESSARY TO ALLOW FOR ACCEPTABLE TIE-INTO EXISTING WING WALL

2/24 **TEMPORARY BLOCKAGE BOX DETAIL - PLAN**

NTS

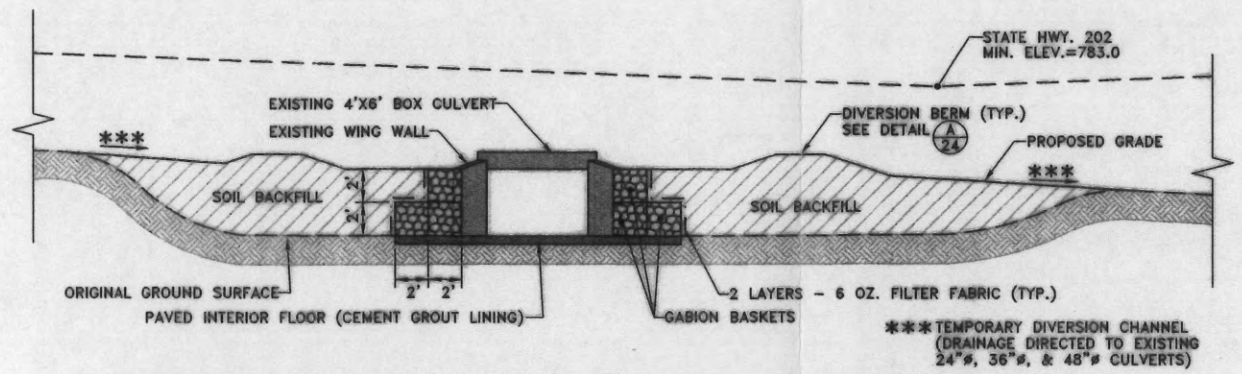
NOTES:

1. TEMPORARY BLOCKAGE BOX SHALL BE CONSTRUCTED OF GABION BASKETS. A SEPARATION LAYER OF FILTER FABRIC IS REQUIRED BETWEEN THE SOIL BACKFILL AND THE BASKETS. DETAILS SHALL BE PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
2. CHANNEL CONSTRUCTION SHOULD ACCOUNT FOR ANY OVER-EXCAVATION AS MAY BE REQUIRED TO INSTALL A PERMANENT LINING.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS AND MAINTENANCE OF TEMPORARY DIVERSION STRUCTURES DURING CONSTRUCTION.
4. IN THE SECTION OF TEMPORARY DIVERSION CHANNEL WHICH IS IN THE IMMEDIATE VICINITY OF THE 4' X 6' BOX CULVERT (I.E. 10' UPSTREAM TO 10' DOWNSTREAM) THE BASE AND SIDES OF THE CHANNEL SHALL BE LINED WITH CONCRETE 4" THICK MIN.) FOR ADDED EROSION PROTECTION. CONCRETE SHALL REACH A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI.



A/24 **TEMPORARY BLOCKAGE SECTION**

NTS



B/24 **TEMPORARY DRAINAGE CHANNEL - SCHEMATIC PROFILE**

NTS

ALABAMA REGISTERED No. 20080 PROFESSIONAL ENGINEER WILLIAM R. SELLHORN

8/1/97

NO.	DATE	DESCRIPTION	DR. BY	APP. BY
1	8/97	REV. 3	RMS	

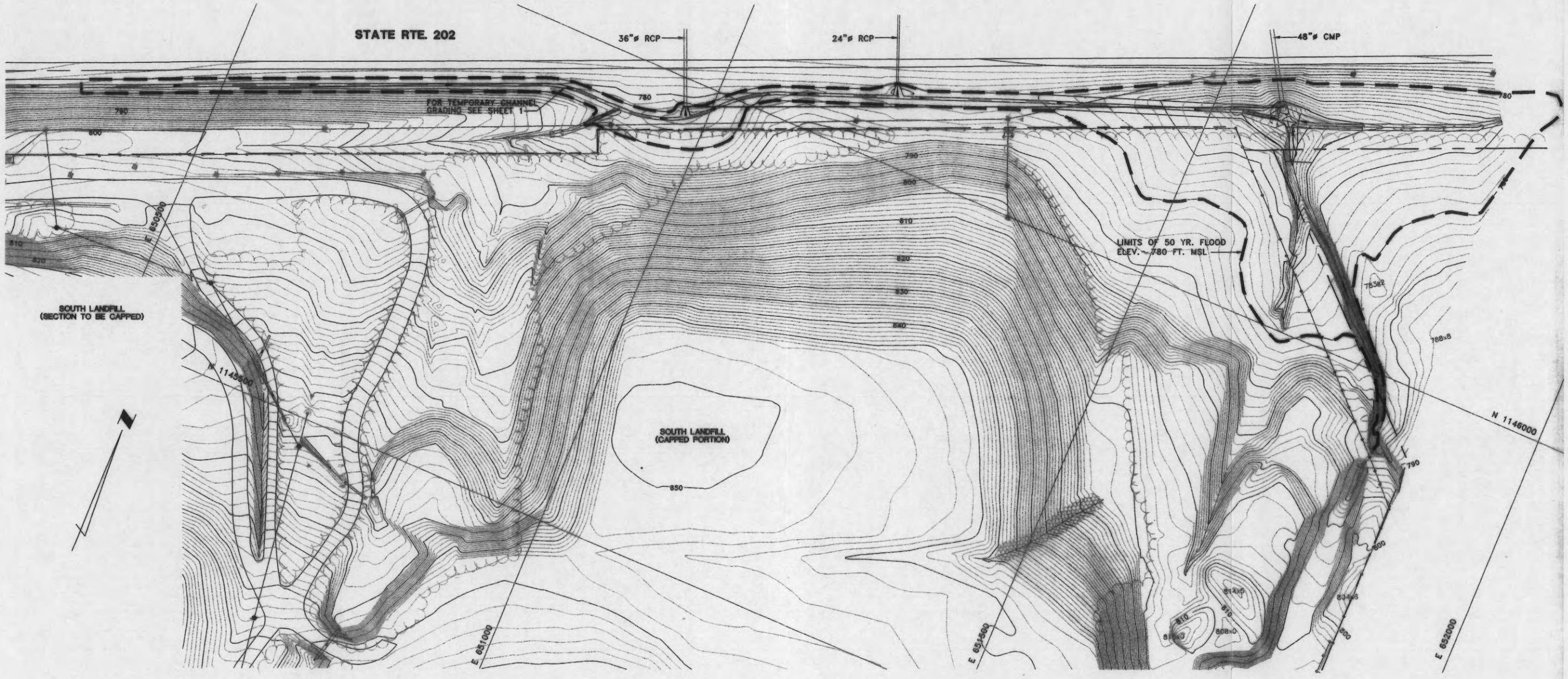
CLIENT/PROJECT: MONSANTO

TITLE: HWY. 202 TEMPORARY CULVERT BLOCKAGE DETAILS - DURING CONSTRUCTION

Atlanta, Georgia

Golder Associates

DRAWN	RMS	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED	WRS	DWG. NO.	270 REV. NO.
APPROVED		JOB NO.	943-3680
FILE NO.	943-3680	SUBTITLE	SHEET 24



LEGEND

- 800 — EXISTING CONTOURS
- — — — EXISTING CONTOURS
- EXISTING ELECTRIC LINE (W/POLE AND TOWER)
- EXISTING ROADWAY
- SH-7 EXISTING BOREHOLE
- LIMITS OF 50 YR. FLOOD ELEVATION

ALABAMA REGISTERED PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN No. 20066

8/1/97

SCALE IN FEET
0 50 100 150 200

REV.	DATE	DESCRIPTION	BY	APP. BY
1	8/97	REV. 3	RMS	

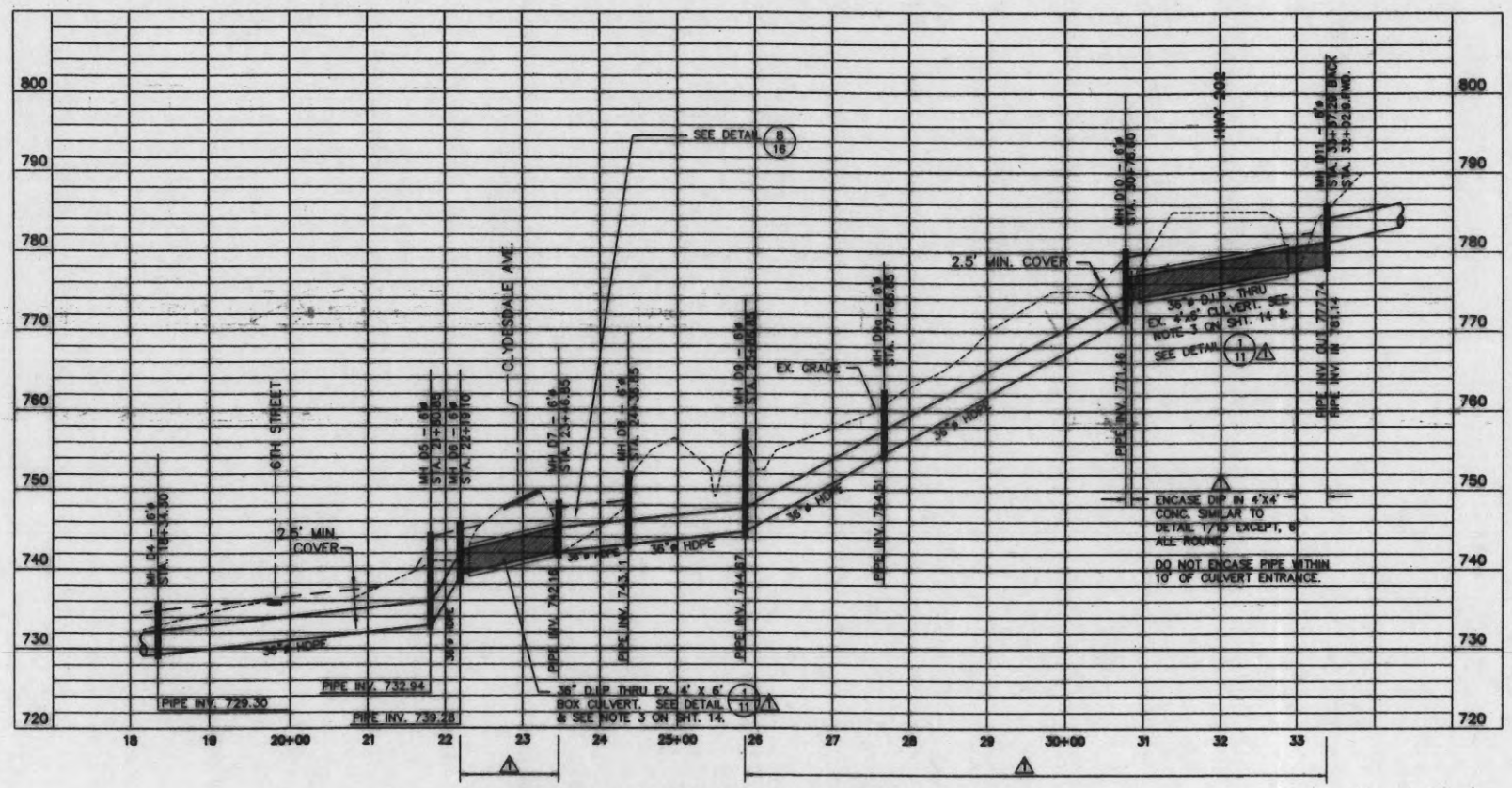
CLIENT/PROJECT: MONSANTO

TITLE: LIMITS OF 50 YR. FLOOD ELEVATION IN THE POST CONSTRUCTION CONDTION

Atlanta, Georgia

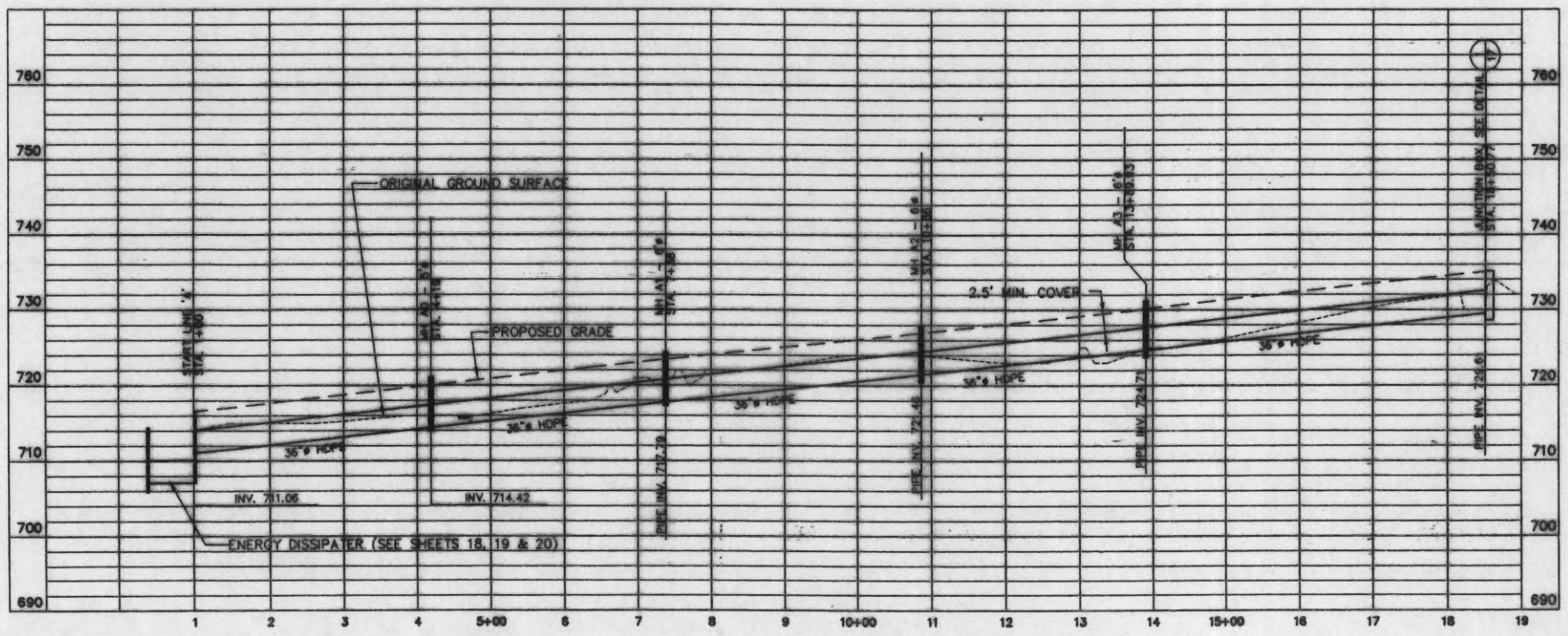
Golder Associates

DRAWN	RMS	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED	WRS	DWG. NO.	271
APPROVED		JOB NO.	943-3680
FILE NO.	943-3680	SHEETS	2



PROFILE LINE 'D' MANHOLES 4-11

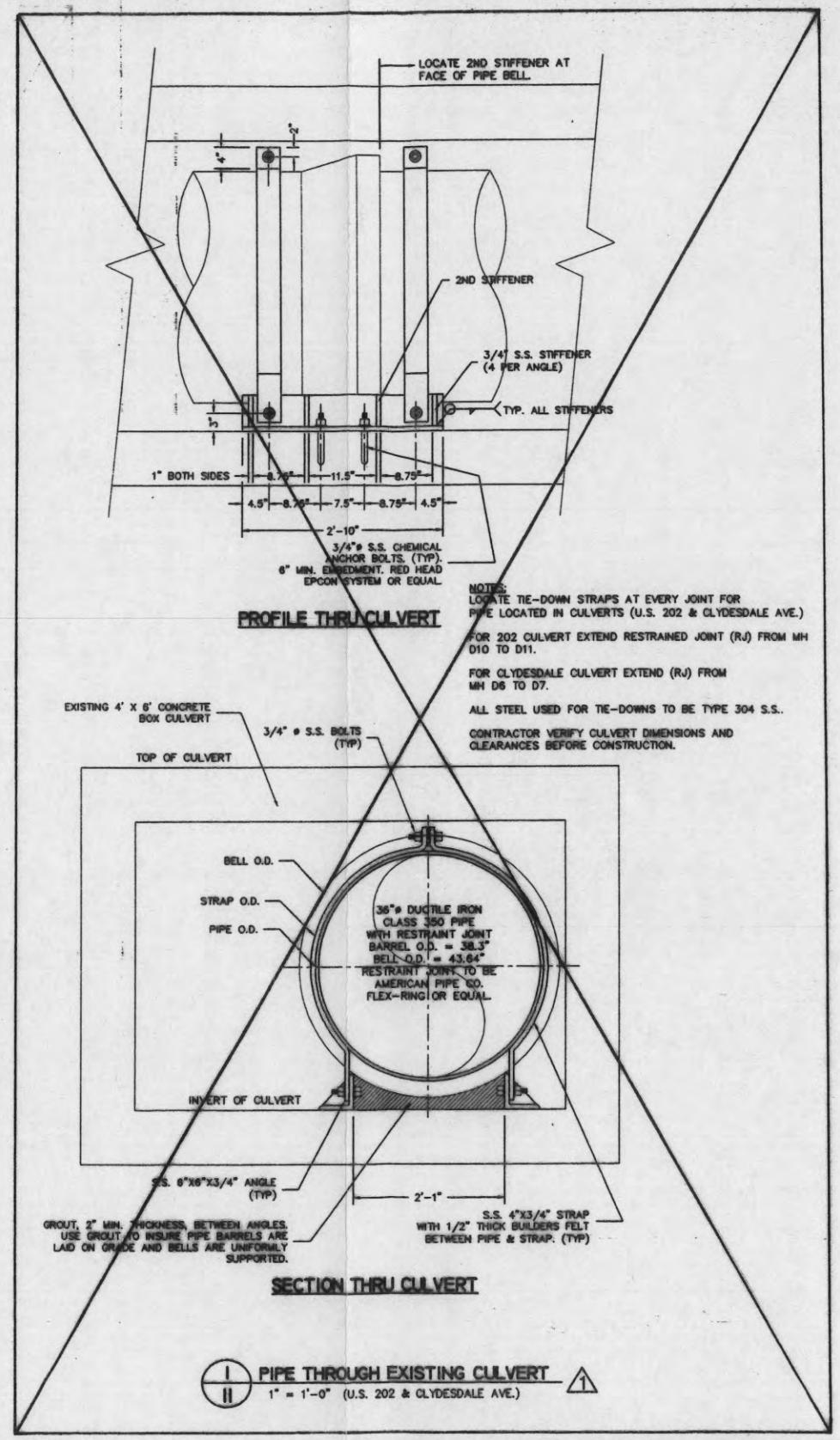
SCALE 1" = 100' HORIZ. 1" = 10' VERT.



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

SCALE 1" = 100' HORIZ. 1" = 10' VERT.

(SEE MANHOLE COORDINATES TABLE ON SHEET 14 FOR INVERT & STATIONS OF LINE B - D)



1 SEE DETAIL 1/15 ON SHEET 15 OF REVISION 2, FOR PIPE THROUGH CULVERT DETAIL.

SCALE IN FEET

0 100 200 300 400

WIEDEMAN AND SINGLETON, INC. ENGINEERS

ATLANTA GEORGIA

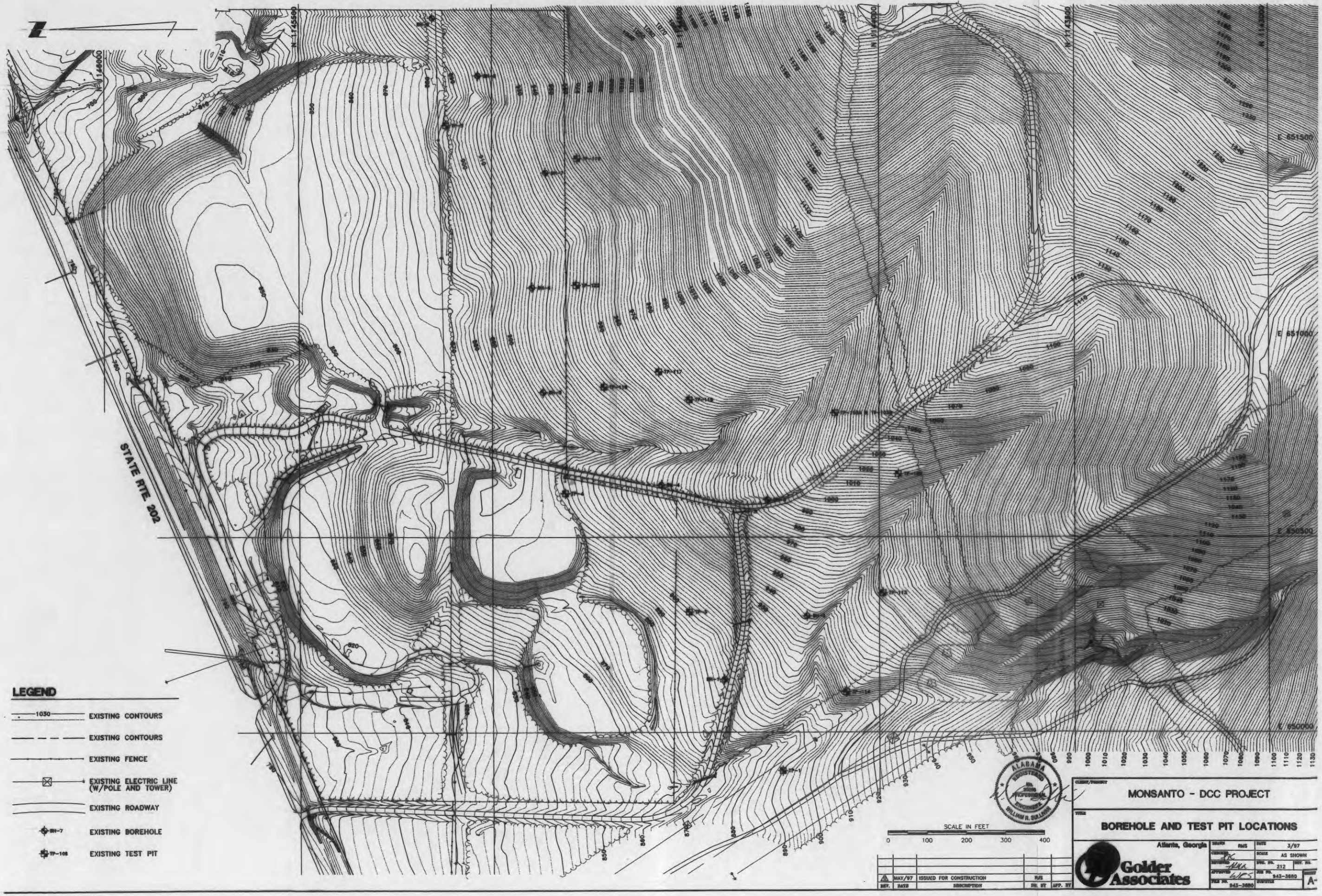
REV.	DATE	DESCRIPTION	DR. BY	APP. BY
3	9/97	REV. 3	RMS	
2	JUNE 97	DETAIL 1 ADDED. PROFILE REVISED FOR LINE D. CONC. ENCASEMENT ADDED.	RCS	
1	MAY 97	ISSUED FOR CONSTRUCTION	RCS	

CLIENT/PROJECT: MONSANTO - DCC PROJECT

TITLE: MISCELLANEOUS PIPE DETAILS

Golder Associates Atlanta, Georgia

DRAWN RCS DATE 3/97
DESIGNED SCALE AS SHOWN
REVIEWED DWG. No. 272 REV. No.
APPROVED PRJ No. 943-3680 SHEET 26
FILE No. 943-3680



ALABAMA REGISTERED No. 20096 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

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

CLIENT/PROJECT

MONSANTO - DCC PROJECT

TITLE

BORHOLE AND TEST PIT LOCATIONS

Golder Associates

Atlanta, Georgia

DRAWN RMS	DATE 3/97	
CHECKED FK	SCALE AS SHOWN	
REVIEWED HMA	DWG. NO. 212	REV. NO.
APPROVED WRS	JOB NO. 943-3680	SHEET A-
FILE NO. 943-3680	SUBTITLE	

RECORD OF BOREHOLE BH-1

PROJECT: MONSANTO | PROJECT LOCATION: ALABAMA | PROJECT NUMBER: 943-3680016
BORING DATE: 1/7/97 | BORING LOCATION:
SHEET: 1 OF 2 | DATUM: FT-MSL

DEPTH SCALE FEET	BORING METHOD	DESCRIPTION	USCS	ELEV DEPTH	NUMBER	TYPE	BLOWS / 6 in	N	REC/ATT	NOTE WELL SKETCH
0	H.S.A.	Compact, dry, reddish-brown SILTY CLAY with little to some sand and gravel		0.00						
5					1	DO	4,6,13,10	19	1.5/2	
10					2	DO	1,3,6,10	12	1.25/2	
15					3	DO	5,8,11,12	19	1.4/2	
20					T1	TO			2/2	
		Firm, moist, reddish-brown CLAY and silt with little to some sand		22.00	4	DO	6,6,10,10	16	1.5/2	
25					5	DO	5,6,7,9	13	1.3/2	
30					6	DO	1,6,8,12	14	1.6/2	
35					7	DO	2,6,10,13	16	1.9/2	
40					T2	TO			2/2	

DRILL RIG: CME-55 | DRILLING CONTRACTOR: G & E SERVICES | DRILLER: C. WYCKOFF
Golder Associates
LOGGED: JFE | CHECKED: | DATE: 1/7/97

BH-1

RECORD OF BOREHOLE BH-1

PROJECT: MONSANTO | PROJECT LOCATION: ALABAMA | PROJECT NUMBER: 943-3680016
BORING DATE: 1/7/97 | BORING LOCATION:
SHEET 2 OF 2 | DATUM: FT-MSL

DEPTH SCALE FEET	BORING METHOD	DESCRIPTION	USCS	ELEV DEPTH	NUMBER	TYPE	BLOWS / 6 in	N	REC/ATT	NOTE WELL SKETCH
40	H.S.A.				T2	TO			2/2	
					8	DO	28,45		8/2	
		Boring terminated at 43 ft. BGS		43.00						
45										
50										
55										
60										
65										
70										
75										
80										

DRILL RIG: CME-55 | DRILLING CONTRACTOR: G & E SERVICES | DRILLER: C. WYCKOFF
Golder Associates
LOGGED: JFE | CHECKED: | DATE: 1/7/97

BH-1

RECORD OF BOREHOLE BH-2

PROJECT: MONSANTO | PROJECT LOCATION: ALABAMA | PROJECT NUMBER: 943-3680016
BORING DATE: 1/7/97 | BORING LOCATION:
SHEET: 1 OF 2 | DATUM: FT-MSL

DEPTH SCALE FEET	BORING METHOD	DESCRIPTION	USCS	ELEV DEPTH	NUMBER	TYPE	BLOWS / 6 in	N	REC/ATT	NOTE WELL SKETCH
0	H.S.A.	Dense, dry, reddish-brown SAND with some clay and little gravel		0.00						
5					1	DO	4,23,25,18	48	1.5/2	
10					2	DO	10,21,24,29	45	1.85/2	
15					3	DO	1,11,11,17	22	0.8/2	
20		Hard, moist, reddish-brown SAND with trace to little clay and silt		20.00	4	DO	2,8,50	50	0.7/2	
25		Firm, moist, reddish-orange SAND with some silt, trace to little clay		24.00	5	DO	8,13,14,14	27	1.76/2	
30		Compact, moist, reddish-orange SAND with some clay		30.00	6	DO	1,4,6,10	10	1.9/2	
					T1	TO			0.4/2	
35					7	DO	2,10,12,12	22	1.3/2	
40					8	DO	6,6,8,7	16	1.7/2	

DRILL RIG: CME-55 | DRILLING CONTRACTOR: G & E SERVICES | DRILLER: C. WYCKOFF
Golder Associates
LOGGED: JFE | CHECKED: | DATE: 07/[illegible]

BH-2

RECORD OF BOREHOLE BH-2

PROJECT: MONSANTO | PROJECT LOCATION: ALABAMA | PROJECT NUMBER: 943-3680016
BORING DATE: 1/7/97 | BORING LOCATION:
SHEET: 2 OF 2 | DATUM: FT-MSL

DEPTH SCALE FEET	BORING METHOD	DESCRIPTION	USCS	ELEV DEPTH	NUMBER	TYPE	BLOWS / 6 in	N	REC/ATT	NOTE WELL SKETCH
40	H.S.A.				8	DO	6,6,8,7	16	1.7/2	
		Boring terminated at 41 ft. BGS		41.00						
45										
50										
55										
60										
65										
70										
75										
80										

DRILL RIG: CME-55 | DRILLING CONTRACTOR: G & E SERVICES | DRILLER: C. WYCKOFF
Golder Associates
LOGGED: JFE | CHECKED: | DATE: [illegible]

BH-2

RECORD OF BOREHOLE BH-3

PROJECT: MONSANTO | PROJECT LOCATION: ALABAMA | PROJECT NUMBER: 943-3680016
BORING DATE: 1/7/97 | BORING LOCATION:
SHEET: 1 OF 2 | DATUM: FT-MSL

DEPTH SCALE FEET	BORING METHOD	DESCRIPTION	USCS	ELEV DEPTH	NUMBER	TYPE	BLOWS / 6 in	N	REC/ATT	NOTE WELL SKETCH
0	H.S.A.	Very Dense, dry, reddish-brown SAND with little to some clay and gravel		0.00						
5					1	DO	4,29,50	50	1.7/2	
10					2	DO	20,21,30,29	51	1.6/2	
15		Dense, dry, reddish-brown SAND with little to some clay and silt		14.00	3	DO	17,15,17,17	32	1.6/2	
20					4	DO	22,14,15,20	29	2/2	
25		Compact, dry, reddish-brown SAND with little to some clay and silt		24.00	5	DO	1,4,10,16	14	1.9/2	
30		Compact, dry, reddish-pink SAND with some silt and little clay		29.00	6	DO	7,7,12	19	1.1/2	
35					7	DO	6,17,15,20	32	1.6/2	
40		Very dense, dry, reddish-brown SAND with some silt and little clay			8	DO	3,50	50	1.7/2	

DRILL RIG: CME-55 | DRILLING CONTRACTOR: G & E SERVICES | DRILLER: C. WYCKOFF
Golder Associates
LOGGED: JFE | CHECKED: | DATE: 1/7/97

BH-3

RECORD OF BOREHOLE BH-3

PROJECT: MONSANTO | PROJECT LOCATION: ALABAMA | PROJECT NUMBER: 943-3680016
BORING DATE: 1/7/97 | BORING LOCATION:
SHEET: 2 OF 2 | DATUM: FT-MSL

DEPTH SCALE FEET	BORING METHOD	DESCRIPTION	USCS	ELEV DEPTH	NUMBER	TYPE	BLOWS / 6 in	N	REC/ATT	NOTE WELL SKETCH
40	H.S.A.				8	DO	3,50	50	1.7/2	
		Boring terminated at 41 ft. BGS		41.00						
45										
50										
55										
60										
65										
70										
75										
80										

DRILL RIG: CME-55 | DRILLING CONTRACTOR: G & E SERVICES | DRILLER: C. WYCKOFF
Golder Associates
LOGGED: JFE | CHECKED: | DATE: 1/7/97

BH-3

ALABAMA REGISTERED No. 20255 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

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

CLIENT/PROJECT: MONSANTO

TITLE: BOREHOLE AND TEST PIT LOGS

Golder Associates — Atlanta, Georgia

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

PROJECT: MONSANTO
PROJECT LOCATION: ALABAMA
PROJECT NUMBER: 943-3680016

RECORD OF BOREHOLE BH-4

BORING DATE: 1/8/97
BORING LOCATION:

SHEET: 1 OF 2
DATUM: FT-MSL

DEPTH (SCALE FEET)	BORING METHOD	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV / DEPTH	SAMPLES: NUMBER	TYPE	BLOWS / 6 in	N	RECOVERY	PIEZOMETER INSTALLATION: NOTE / WELL SKETCH
0	H.S.A.	Compact, slightly moist, reddish-brown CLAY with some sand, little gravel and silt			0.0 / 6.0						
5						1	DO	8,8,8,15	16	1.75/2	
10						T1	TO			1.5/2	
						2	DO	6,8,12,10	32	1.7/2	
15						3	DO	2,8,8,10	14	1.5/2	
20						T2	TO			1.5/2	
						4	DO	4,6,10,11	16	1.7/2	
25		Firm, moist, reddish brown CLAY, with some sand			26.0	5	DO	2,7,8,9	15	2/2	
30						6	DO	5,6,7,10	13	2/2	
35						7	DO	3,6,7,8	13	1.5/2	
40		Compact, slightly moist, reddish-brown CLAY with little to some clay			38.0	8	DO	5,8,8,10	16	1.5/2	

DRILL RIG: CME-55
DRILLING CONTRACTOR: G & E SERVICES
DRILLER: C. WYCKOFF

Golder Associates

LOGGED: JFE
CHECKED:
DATE: 1/7/97

BH-4

PROJECT: MONSANTO
PROJECT LOCATION: ALABAMA
PROJECT NUMBER: 943-3680016

RECORD OF BOREHOLE BH-4

BORING DATE: 1/8/97
BORING LOCATION:

SHEET: 2 OF 2
DATUM: FT-MSL

DEPTH (SCALE FEET)	BORING METHOD	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV / DEPTH	SAMPLES: NUMBER	TYPE	BLOWS / 6 in	N	RECOVERY	PIEZOMETER INSTALLATION: NOTE / WELL SKETCH
40	H.S.A.	Boring terminated at 41 ft. BGS			41.0	9	DO	3,5,5,10	10	1.5/2	
45											
50											
55											
60											
65											
70											
75											
80											

DRILL RIG: CME-55
DRILLING CONTRACTOR: G & E SERVICES
DRILLER: C. WYCKOFF

Golder Associates

LOGGED: JFE
CHECKED:
DATE: 1/7/97

BH-4

PROJECT: MONSANTO
PROJECT LOCATION: ALABAMA
PROJECT NUMBER: 943-3680016

RECORD OF BOREHOLE BH-5

BORING DATE: 1/15/97
BORING LOCATION:

SHEET: 1 OF 2
DATUM: FT-MSL

DEPTH (SCALE FEET)	BORING METHOD	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV / DEPTH	SAMPLES: NUMBER	TYPE	BLOWS / 6 in	N	RECOVERY	PIEZOMETER INSTALLATION: NOTE / WELL SKETCH
0	H.S.A.	Compact, moist to very moist, brown/mottled gray, SILTY CLAY with trace to little sand, trace organics			0.0 / 4.0						
5						1	DO	2,5,6,6	11	0.7/2	
10		Compact, moist to very moist, reddish brown, mottled, white SILTY CLAY, little to some sand, trace organics			10.0	2	DO	2,11,10,14	21	2/2	
15		Dense, moist to very moist, reddish-brown SILTY CLAY with trace sand			15.0	3	DO	4,12,13,20	25	1.5/2	
20						T1	TO			2/2	
		Dense, moist to very moist, white SAND and some clay			20.0	4	DO	14,17,17,23	34	2/2	
25		Compact, moist, mottled purple and white SAND with some silt and clay			25.0	5	DO	6,10,12,14	22	2/2	
30						6	DO	8,16,25,27	41	2/2	
35		Compact, moist, mottled white SAND with some silt and clay			35.0	7	DO	10,15,15,20	35	2/2	
40					40.0						

DRILL RIG: CME-55
DRILLING CONTRACTOR: G & E SERVICES
DRILLER: C. WYCKOFF

Golder Associates

LOGGED: JFE
CHECKED:
DATE: 1/15/97

BH-5

PROJECT: MONSANTO
PROJECT LOCATION: ALABAMA
PROJECT NUMBER: 943-3680016

RECORD OF BOREHOLE BH-5

BORING DATE: 1/15/97
BORING LOCATION:

SHEET: 2 OF 2
DATUM: FT-MSL

DEPTH (SCALE FEET)	BORING METHOD	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV / DEPTH	SAMPLES: NUMBER	TYPE	BLOWS / 6 in	N	RECOVERY	PIEZOMETER INSTALLATION: NOTE / WELL SKETCH
40	H.S.A.	Compact, moist, brown CLAY and silt with trace sand			40.0 / 42.0	8	DO	3,6,13,15	32	1.8/2	
45		Boring terminated at 42 ft. BGS			42.0						
50											
55											
60											
65											
70											
75											
80											

DRILL RIG: CME-55
DRILLING CONTRACTOR: G & E SERVICES
DRILLER: C. WYCKOFF

Golder Associates

LOGGED: JFE
CHECKED:
DATE: 1/15/97

BH-5

PROJECT: MONSANTO
PROJECT LOCATION: ALABAMA
PROJECT NUMBER: 943-3680016

RECORD OF BOREHOLE BH-6

BORING DATE: 1/13/97
BORING LOCATION:

SHEET: 1 OF 2
DATUM: FT-MSL

DEPTH (SCALE FEET)	BORING METHOD	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV / DEPTH	SAMPLES: NUMBER	TYPE	BLOWS / 6 in	N	RECOVERY	PIEZOMETER INSTALLATION: NOTE / WELL SKETCH
0	H.S.A.	Stiff, dry, yellow-brown CLAY with little to some sand			0.0 / 6.0						
5						1	DO	5,13,17,20	30	2/2	
10		Stiff, dry, reddish-brown CLAY with little to some sand			10.0	T1	TO			2/2	
						2	DO	5,10,12,15	22	1.2/2	
15		Dense, dry, yellow and reddish-brown SAND with little clay			14.0	3	DO	2,9,14,20	23	1.6/2	
20						T2	TO			2/2	
		Dense to very dense, dry, reddish-brown SILT with little to some clay			21.0	4	DO	4,30,32,20	62	0.4/2	
25		Dense, dry, red-brown SILT with little to some clay and sand			24.0	5	DO	11,11,15,18	26	1.3/2	
30		Dense, dry, red-brown SILT with trace clay			29.0	6	DO	4,15,19,25	34	1.6/2	
35		Dense, dry, red-brown SILT with some clay and little silt			34.0	7	DO	8,13,25,29	38	1.7/2	
40		Very stiff, slightly moist, white mottled, red-brown CLAY with some sand, trace to little silt			39.0	8	DO	16,15,16,24	31	1.8/2	

DRILL RIG: CME-55
DRILLING CONTRACTOR: G & E SERVICES
DRILLER: C. WYCKOFF

Golder Associates

LOGGED: JFE
CHECKED:
DATE: 1/13/97

BH-6

PROJECT: MONSANTO
PROJECT LOCATION: ALABAMA
PROJECT NUMBER: 943-3680016

RECORD OF BOREHOLE BH-6

BORING DATE: 1/13/97
BORING LOCATION:

SHEET: 2 OF 2
DATUM: FT-MSL

DEPTH (SCALE FEET)	BORING METHOD	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV / DEPTH	SAMPLES: NUMBER	TYPE	BLOWS / 6 in	N	RECOVERY	PIEZOMETER INSTALLATION: NOTE / WELL SKETCH
40	H.S.A.	Boring terminated at 41 ft. BGS			41.0	9	DO	16,16,16,24	39	1.5/2	
45											
50											
55											
60											
65											
70											
75											
80											

DRILL RIG: CME-55
DRILLING CONTRACTOR: G & E SERVICES
DRILLER: C. WYCKOFF

Golder Associates

LOGGED: JFE
CHECKED:
DATE: 1/13/97

BH-6

PROJECT: MONSANTO
PROJECT LOCATION: ALABAMA
PROJECT NUMBER: 943-3680016

RECORD OF BOREHOLE BH-7

BORING DATE: 1/14/97
BORING LOCATION:

SHEET: 1 OF 1
DATUM: FT-MSL

DEPTH (SCALE FEET)	BORING METHOD	SOIL PROFILE: DESCRIPTION	USCS	GRAPHIC LOG	ELEV / DEPTH	SAMPLES: NUMBER	TYPE	BLOWS / 6 in	N	RECOVERY	PIEZOMETER INSTALLATION: NOTE / WELL SKETCH
0	H.S.A.	Compact, dry, red-brown CLAY with little to some silt and sand			0.0						
5						1	DO	6,8,13,16	33	1.7/2	
10						T1	TO			2/2	
						2	DO	10,15,20,24	35	1.8/2	
15		Dense to very dense, dry, tan CLAY with trace to little silt			14.0	3	DO	20,50	70	1/2	
20						4	DO	5,16,32,50	61	1.4/2	
25		Dense to very dense, dry, reddish-orange CLAY with little to some sand and cobbles			24.0	5	DO	2,50,50,50	70	1/2	
30		Refusal at 31 ft. BGS			31.0						
35											
40											

DRILL RIG: CME-55
DRILLING CONTRACTOR: G & E SERVICES
DRILLER: C. WYCKOFF

Golder Associates

LOGGED: JFE
CHECKED:
DATE: 1/14/97

BH-7

ALABAMA REGISTERED No. 16904 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

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

CLIENT/PROJECT: MONSANTO

TITLE: **BOREHOLE AND TEST PIT LOGS**

Golder Associates — Atlanta, Georgia

DRAWN	RJS	DATE	3/97
CHECKED		SCALE	AS SHOWN
REVIEWED		DWG. NO.	REV. NO.
APPROVED	WRS	JOB NO.	943-3680
FILE NO.	943-3680	SHEET/SIZE	A-III

PROJECT: MONSANTO
PROJECT LOCATION: ALABAMA
PROJECT NUMBER: 943-3680016

RECORD OF BOREHOLE BH-8

BORING DATE: 1/14/97
BORING LOCATION:

SHEET: 1 OF 1
DATUM: FT-MSL

SOIL PROFILE				SAMPLES					PIEZOMETER INSTALLATION
DEPTH SCALE FEET / BORING METHOD	DESCRIPTION	USCS	GRAPHIC LOG / ELEV DEPTH	NUMBER	TYPE	BLOWS / 6 in	N	RECOVERY	NOTE / WELL SKETCH
H.S.A.	Firm, moist, orange-brown CLAY with some sand and gravel		6.5	1	DO	7,11,11,12	22	1.5/2	
	Stiff, moist, reddish-brown CLAY with little to some sand and trace gravel		8.5	2	DO	11,15,20,24	35	1.4/2	
	Firm, moist, reddish-brown CLAY with little to some sand and trace silt		14.5	3	DO	10,13,16,19	29	1.8/2	
	No recovery		16.5	4	DO	10,17,16,16	33	0/2	
	Very stiff, moist, reddish-brown CLAY with trace to little sand			5	DO	8,16,28,29	44	1.4/2	
				6	DO	6,17,24,24	41	1.7/2	
	Very stiff, moist, orange-brown CLAY, with some sand		34.5	7	DO	2,10,43,42	53	1.5/2	
	Refusal at 37 ft. BGS		37.5						

DRILL RIG: CME-55
DRILLING CONTRACTOR: G & E SERVICES
DRILLER: C. WYCKOFF

Golder Associates

LOGGED: JPE
CHECKED:
DATE: 1/16/97

BH-8

PROJECT: MONSANTO
PROJECT LOCATION: ALABAMA
PROJECT NUMBER: 943-3680016

RECORD OF BOREHOLE BH-9

BORING DATE: 1/14/97
BORING LOCATION:

SHEET: 1 OF 2
DATUM: FT-MSL

SOIL PROFILE				SAMPLES					PIEZOMETER INSTALLATION
DEPTH SCALE FEET / BORING METHOD	DESCRIPTION	USCS	GRAPHIC LOG / ELEV DEPTH	NUMBER	TYPE	BLOWS / 6 in	N	RECOVERY	NOTE / WELL SKETCH
	Very stiff, moist, brownish-red CLAY with little to some sand		6.5						
H.S.A.				1	DO	13,20,24,20	45	1.5/2	
				2	DO	2,10,13,20	23	2/2	
				T1	TO			1.8/2	
	Firm, moist, brownish-red CLAY with little to some sand		13.5	3	DO	5,11,12,9	23	1.5/2	
				4	DO	5,10,10,10	20	1.5/2	
				T2	TO			1/2	
	Stiff, moist, stiff, brownish-red CLAY with little to some sand, trace silt		24.5	5	DO	10,10,12,21	22	1.7/2	
				6	DO	6,10,10,10	20	1.5/2	
				7	DO	5,10,12,17	22	2/2	
				8	DO	12,11,15,10	26	2/2	

DRILL RIG: CME-55
DRILLING CONTRACTOR: G & E SERVICES
DRILLER: C. WYCKOFF

Golder Associates

LOGGED: JPE
CHECKED:
DATE: 1/16/97

BH-9

PROJECT: MONSANTO
PROJECT LOCATION: ALABAMA
PROJECT NUMBER: 943-3680016

RECORD OF BOREHOLE BH-9

BORING DATE: 1/14/97
BORING LOCATION:

SHEET: 2 OF 2
DATUM: FT-MSL

SOIL PROFILE				SAMPLES					PIEZOMETER INSTALLATION
DEPTH SCALE FEET / BORING METHOD	DESCRIPTION	USCS	GRAPHIC LOG / ELEV DEPTH	NUMBER	TYPE	BLOWS / 6 in	N	RECOVERY	NOTE / WELL SKETCH
H.S.A.				9	CO	10,11,15,15	26	2/2	
	Boring terminated at 41 ft. BGS		41.0						

DRILL RIG: CME-55
DRILLING CONTRACTOR: G & E SERVICES
DRILLER: C. WYCKOFF

Golder Associates

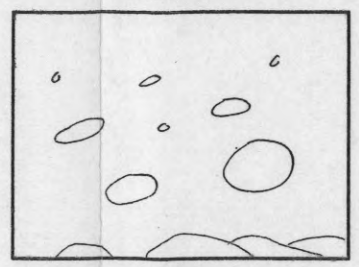
LOGGED: JPE
CHECKED:
DATE: 1/16/97

BH-9

TEST PIT No. TP-1

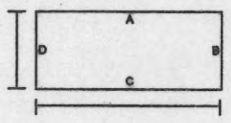
PROJECT: MONSANTO/SURFWATER — EXCAV. EQUIP.: Backhoe — G.L. ELEV.: 888 FT MSL
JOB No.: 943-3680016 — GAI INSPECTOR: JEF — DATE: 5/23/96
DIMENSIONS (l x b x h): 6'x5'x4.5' — DEPTH TO WATER LEVEL:

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 cuased by cobbles and large boulders.

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

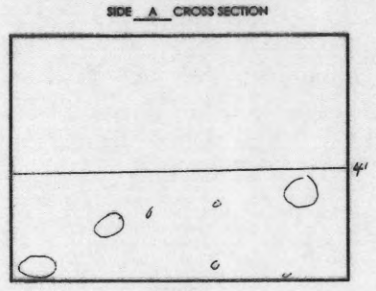
REMARKS:

TP-1

TEST PIT No. TP-2

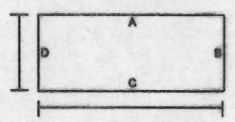
PROJECT: MONSANTO/SURFWATER — EXCAV. EQUIP.: Backhoe — G.L. ELEV.: 898 FT MSL
JOB No.: 943-3680016 — GAI INSPECTOR: JEF — DATE: 5/23/96
DIMENSIONS (l x b x h): 8'x3'x4' — DEPTH TO WATER LEVEL:

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	0-5'

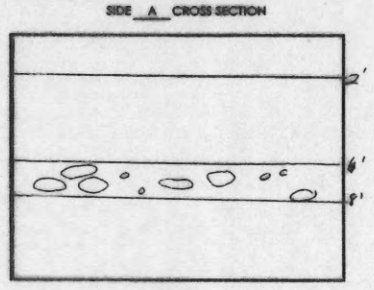
REMARKS:

TP-2

TEST PIT No. TP-3

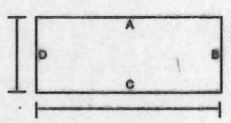
PROJECT: MONSANTO/SURFWATER — EXCAV. EQUIP.: Backhoe — G.L. ELEV.: 898 FT MSL
JOB No.: 943-3680016 — GAI INSPECTOR: JEF — DATE: 5/23/96
DIMENSIONS (l x b x h): 14'x3'x8' — DEPTH TO WATER LEVEL:

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	2-4
2	Bulk	8-13

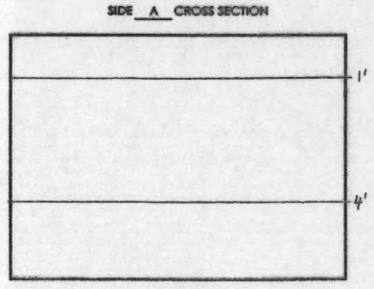
REMARKS:

TP-3

TEST PIT No. TP-4

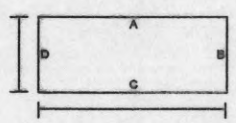
PROJECT: MONSANTO/SURFWATER — EXCAV. EQUIP.: Backhoe — G.L. ELEV.: 887 FT MSL
JOB No.: 943-3680016 — GAI INSPECTOR: JEF — DATE: 5/23/96
DIMENSIONS (l x b x h): 8'x4'x6' — DEPTH TO WATER LEVEL:

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:

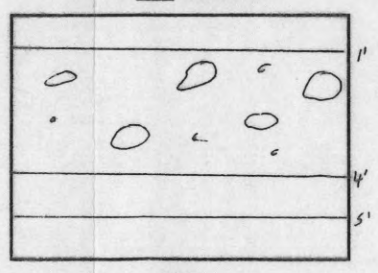
TP-4

ALABAMA REGISTERED No. 20288 PROFESSIONAL ENGINEER WILLIAM R. SULLIVAN

TEST PIT No. TP-5

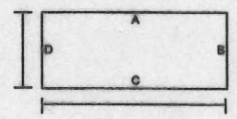
PROJECT: MONSANTO/SURFWATER — EXCAV. EQUIP.: Backhoe — G.L. ELEV.: 906 FT MSL
JOB No.: 943-3680016 — GAI INSPECTOR: JEF — DATE: 5/23/96
DIMENSIONS (l x b x h): 7'x4'x6' — DEPTH TO WATER LEVEL:

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	1-6

REMARKS:

TP-5

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

CLIENT/PROJECT: MONSANTO

TITLE: BOREHOLE AND TEST PIT LOGS

Golder Associates — Atlanta, Georgia

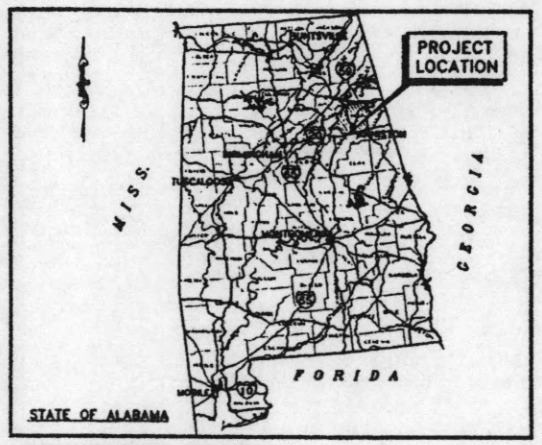
DRAWN	RJS	DATE	3/97
CHECKED	JE	SCALE	AS SHOWN
REVIEWED	MRS	DWG. NO.	REV NO.
APPROVED	MRS	JOB NO.	943-3680
FILE NO.	943-3680	SUBTITLE	FIGURE A-IV

FINAL COVER CONSTRUCTION
SOUTH LANDFILL - ANNISTON, ALABAMA

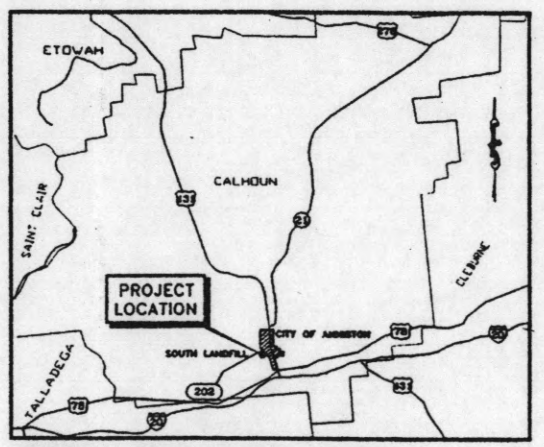
Prepared For:

Monsanto
300 Birmingham Highway
Anniston, Alabama
(March 1997)

INDEX OF DRAWINGS



VICINITY MAP

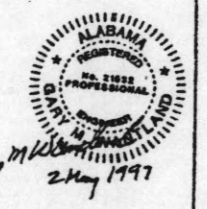


SITE LOCATION MAP

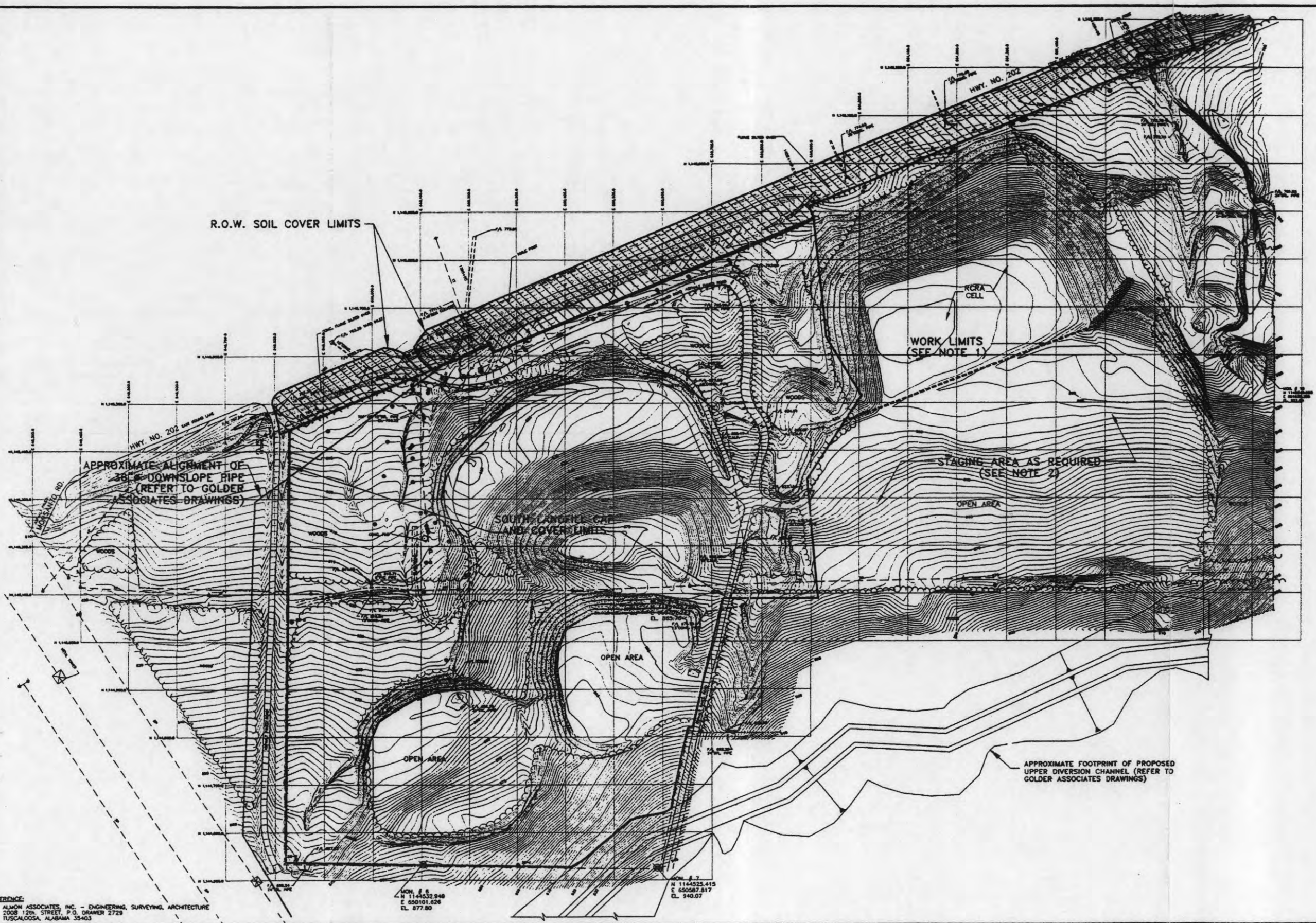
Prepared By:

Woodward-Clyde Consultants
Engineering & science applied to the earth & its environment

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



FILE #: ANNISTON-2S | OPERATOR: P.R. | PROJECT #: 98T187 | LOCATION: HOUSTON, TEXAS | SEND TO:
PLOT SCALE: | DATE: 03-11-97 | TASK #: 5000 | PROJ: SOUTH LANDFILL COVER CONSTRUCTION | PHONE: (713) 680-0700



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

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

ALABAMA REGISTERED No. 21532 PROFESSIONAL ENGINEER
Gary M. Wantland
2 May 97

FILE: ANNISTON-96T187(2) | OPERATOR: P.R. | PROJECT #: 96T187 | LOCATION: ANNISTON, ALA. | SEND TO:
PLOT SCALE: 1 : 100 | DATE: 02-10-97 | TASK #: 3000 (PROJ. SOUTH LANDFILL COVER CONSTRUCTION) | PHONE: (713) 896-9200

DRAWING NUMBER	REFERENCE DRAWING TITLE	REV	DESCRIPTION OF REVISION	BY	DATE
		0	ISSUED FOR CONSTRUCTION	GMW	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:	P.R.
CHECKED BY:	M.A.A.
PEER REVIEWER:	G.M.W.
PROJ MANAGER:	L.E.E.
DATE:	3/27/97

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	649,971.84	1,144,642.58	TOE DRAIN CENTERLINE
006	649,967.61	1,144,687.02	TOE DRAIN CENTERLINE
008	649,964.79	1,144,735.06	TOE DRAIN CENTERLINE
010	649,967.89	1,144,779.17	TOE DRAIN OUTLET
~~012~~	~~649,970.24~~	~~1,144,823.71~~	~~TOE DRAIN CENTERLINE~~
~~014~~	~~649,988.56~~	~~1,144,858.03~~	~~TOE DRAIN CENTERLINE~~
~~016~~	~~650,008.76~~	~~1,144,877.83~~	~~TOE DRAIN CENTERLINE~~
~~018~~	~~650,049.60~~	~~1,144,907.22~~	~~TOE DRAIN CENTERLINE~~
~~020~~	~~650,086.07~~	~~1,144,925.67~~	~~TOE DRAIN CENTERLINE~~
~~022~~	~~650,106.35~~	~~1,144,932.36~~	~~TOE DRAIN OUTLET~~
~~024~~	~~650,117.88~~	~~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~~	~~650,128.40~~	~~1,145,321.58~~	~~TOE DRAIN OUTLET~~
040	650,127.87	1,145,365.60	TOE DRAIN CENTERLINE
042	650,142.43	1,145,390.30	TOE DRAIN CENTERLINE
044	650,178.35	1,145,437.35	TOE DRAIN CENTERLINE
046	650,187.68	1,145,446.41	TOE DRAIN CENTERLINE
048	650,225.77	1,145,486.22	TOE DRAIN OUTLET
050	650,273.21	1,145,525.21	TOE DRAIN CENTERLINE
052	650,303.62	1,145,550.61	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	1,145,585.65	TOE DRAIN OUTLET
058	650,428.08	1,145,596.83	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	650,760.88	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	650,481.92	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	650,371.65	1,144,751.44	ANCHOR TRENCH CENTERLINE
100	650,346.18	1,144,697.08	ANCHOR TRENCH CENTERLINE
102	650,322.21	1,144,654.77	ANCHOR TRENCH CENTERLINE
104	650,274.73	1,144,603.43	ANCHOR TRENCH CENTERLINE
106	650,200.78	1,444,580.49	ANCHOR TRENCH CENTERLINE
108	650,097.11	1,144,567.86	ANCHOR TRENCH CENTERLINE
110	649,995.86	1,144,583.86	START TOE DRAIN
△1 011	649,967.78	1,144,824.39	ANCHOR TRENCH CENTERLINE
△1 013	649,969.00	1,144,866.19	ANCHOR TRENCH CENTERLINE
△1 015	649,970.55	1,144,901.55	ANCHOR TRENCH CENTERLINE
△1 017	649,978.17	1,144,981.13	TOE DRAIN OUTLET
△1 019	649,990.49	1,145,079.02	ANCHOR TRENCH CENTERLINE
△1 021	649,998.35	1,145,137.72	TOE DRAIN OUTLET
△1 023	650,009.03	1,145,172.84	ANCHOR TRENCH CENTERLINE
△1 025	650,036.72	1,145,228.52	ANCHOR TRENCH CENTERLINE
△1 027	650,060.12	1,145,273.03	ANCHOR TRENCH CENTERLINE
△1 029	650,079.68	1,145,303.22	TOE DRAIN OUTLET

STORMWATER CHANNEL SURVEY CONTROL			
CONTROL POINT	EASTING	NORTHING	DESCRIPTION
400	649,814.27	1,145,279.79	CHANNEL CENTERLINE
405	649,830.74	1,145,304.20	CHANNEL CENTERLINE
410	649,849.30	1,145,326.34	CHANNEL CENTERLINE
415	649,866.72	1,145,345.71	CHANNEL CENTERLINE
420	649,889.25	1,145,364.48	CHANNEL CENTERLINE
425	650,000.00	1,145,441.51	CHANNEL CENTERLINE
430	650,139.14	1,145,537.97	CHANNEL CENTERLINE
435	650,148.52	1,145,551.70	CHANNEL CENTERLINE
440	650,155.09	114,565.56	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	650,265.37	1,145,130.89	CHANNEL LOW POINT

HIGHWAY 202 DRAINAGE CHANNEL SURVEY CONTROL			
CONTROL POINT	EASTING	NORTHING	DESCRIPTION
600	798,126.88	1,048,444.65	CHANNEL CENTERLINE
602	798,076.99	1,048,442.18	CHANNEL CENTERLINE
604	798,038.38	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	797,482.20	1,048,455.13	CHANNEL CENTERLINE
616	798,367.33	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	798,209.62	1,047,958.67	CHANNEL CENTERLINE
630	798,179.75	1,047,969.61	CHANNEL CENTERLINE
632	798,153.69	1,047,978.29	CHANNEL CENTERLINE
634	798,128.28	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	797,673.97	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)
#6	1,144,532.949	650,101.626	877.80
#7	1,144,525.415	650,587.817	940.07

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.

REV	DESCRIPTION OF REVISION	BY	DATE
△1	EXTENDED GEOSYNTHETIC LIMITS	MSC	7/2/97
△0	ISSUED FOR CONSTRUCTION	CMW	5/2/97

DRAWING NUMBER | REFERENCE DRAWING TITLE

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: G.M.W.
PROJ MANAGER: L.E.C.
DATE: 02-10-97

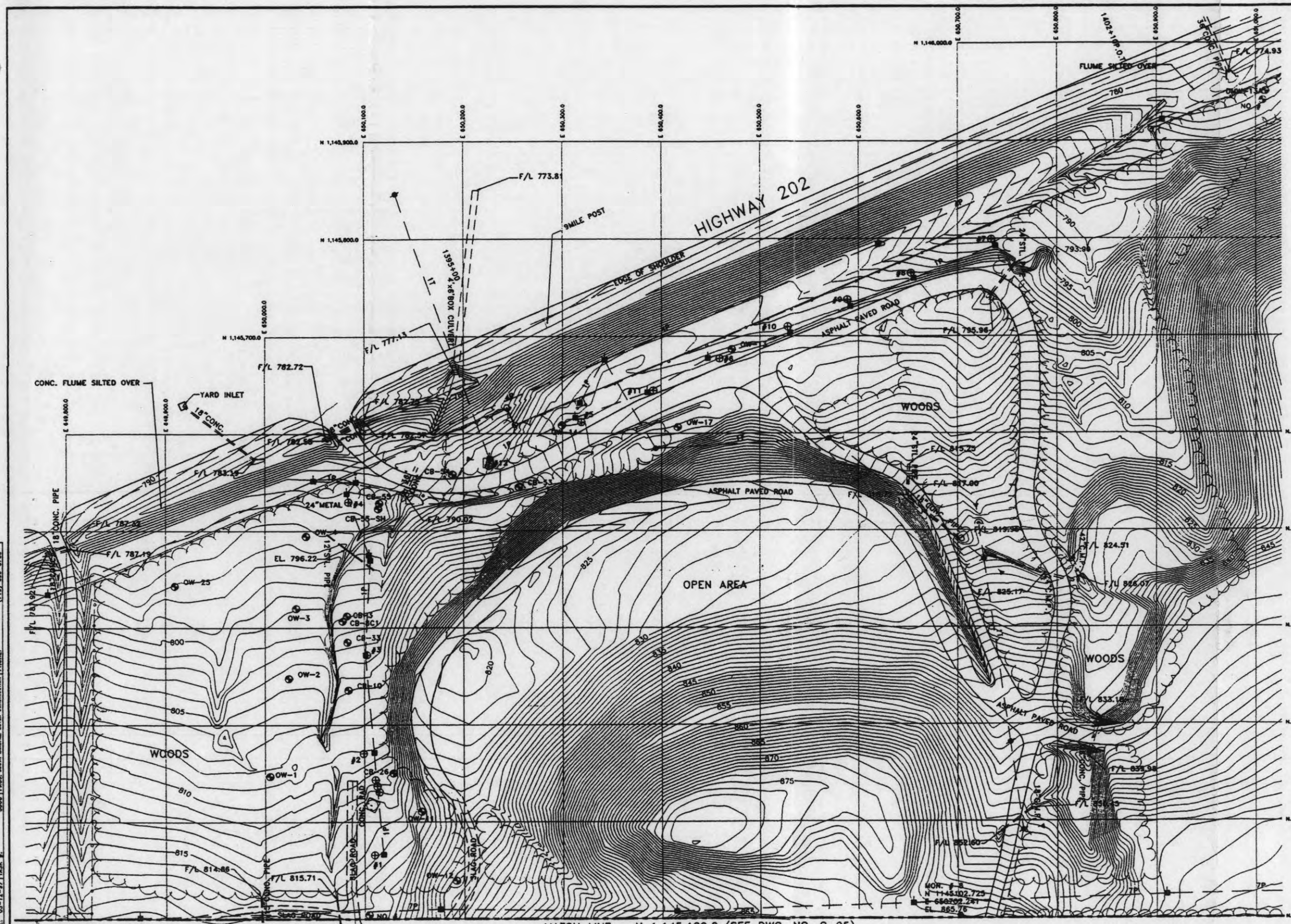
PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION
PROJECT LOCATION: ANNISTON, ALABAMA

SURVEY CONTROL DATA

REVISION: △1
PROJECT: 96T187
DRAWING: C-03

ALABAMA REGISTERED PROFESSIONAL ENGINEER No. 21532

FILE # ANNISTON-96187031 | OPERATOR S.J. | PROJECT # 96T187 | LOCATION: HOUSTON, TEXAS | SEND TO:
PLOT SCALE: 1:1 | DATE: 03-27-97 | TASK # 5000 | PROJ. SOUTH LANDFILL COVER CONSTRUCTION | PHONE: (713) 690-0700



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:

- 890 EXISTING CONTOUR
- CONCRETE MONUMENT SET BY ALMONASSOC.
- CURB INLET
- #10 INTERCEPTOR WELL
- MW-1 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 2729 TUSCALOOSA, ALABAMA 35403

ALABAMA REGISTERED No. 21038 PROFESSIONAL ENGINEER GARY M. WAHTLAND

Gary M. Wahtland 2 May 97

FILE #: ANNISTON-96T187C04	DAT
PLOT SCALE: 1 : 50	DATE: 03-12-97

PROJECT #:	96T187
TASK #:	3000

LOCATION: HOUSTON, TEXAS
PROJ. SOUTH LANDFILL COVER CONSTRUCTION

SEND TO:
PHONE: (713) 690-9700

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

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Anniston, Alabama 36201

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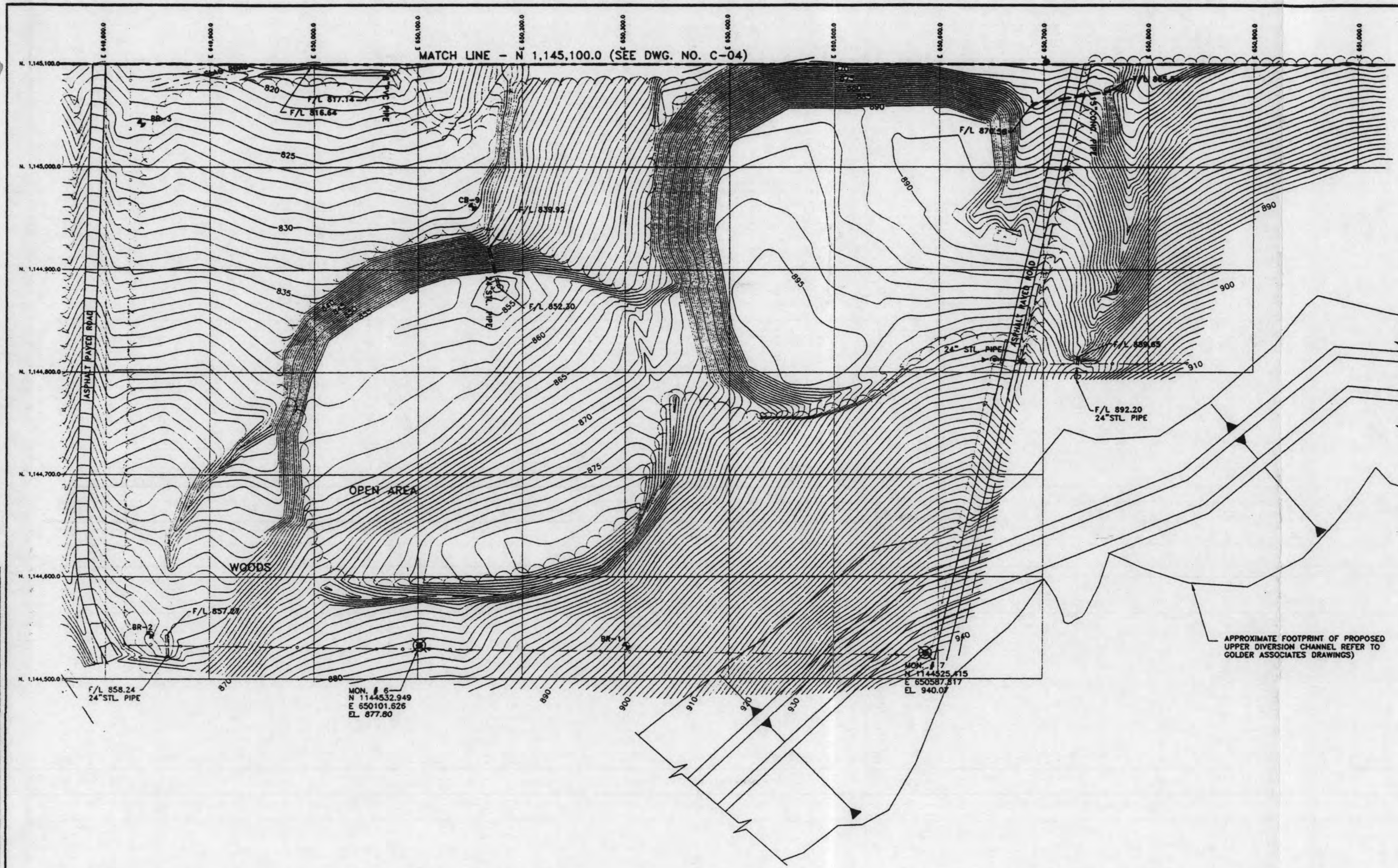
Engineering & science applied to the earth & its environment
7600 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

DESIGNED BY:	M.S.C.
DRAWN BY:	GAT
CHECKED BY:	M.A.A.
PEER REVIEWER:	G.M.W.
PROJ MANAGER:	L.E.E.
DATE:	03-27-97

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

EXISTING SITE PLAN
(SHEET 1 OF 2)

REVISION: 0
PROJECT 96T187
DRAWING C-04



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:

- 890 —— 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

Gary M Waddell 2 May 97
ALABAMA REGISTERED No. 21538 PROFESSIONAL ENGINEER GARY ... AND

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

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

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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

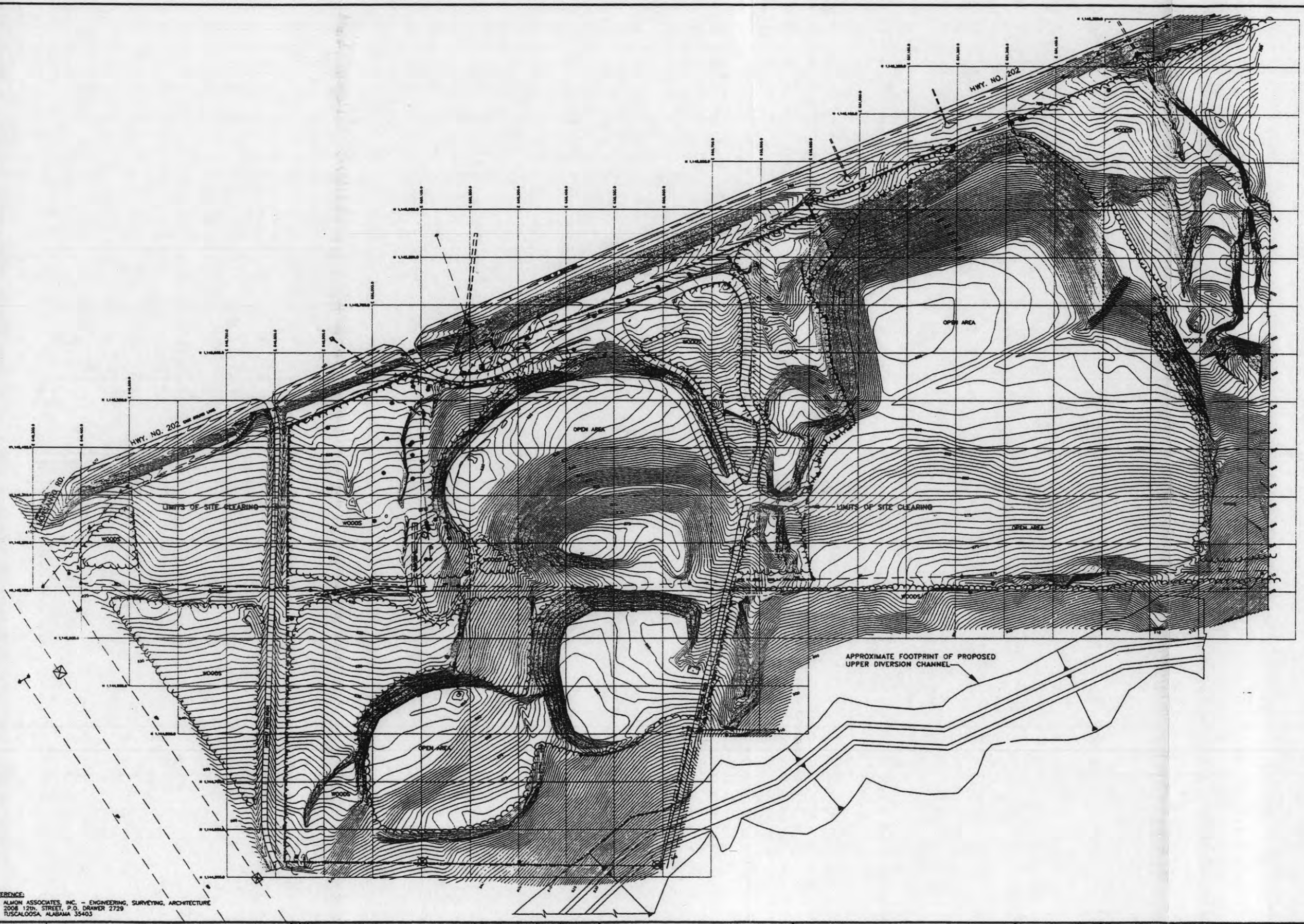
DESIGNED BY: M.S.C.
DRAWN BY: GAT
CHECKED BY: M.A.A.
PEER REVIEWER: G.M.W.
PROJ MANAGER: L.C.E.
DATE: 03-27-97

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

EXISTING SITE PLAN
(SHEET 2 OF 2)

REVISION: 0
PROJECT: 96T187
DRAWING: C-05

FILE: ANNISTON-96T18705 | PLOT SCALE: 1 : 1 | GAT PROJECT #: 96T187 | DATE: 03-12-97 | TASK #: 5000 | LOCATION: HOUSTON, TEXAS | PROJ. SOUTH LANDFILL COVER CONSTRUCTION | SEND TO: | PHONE: (713) 690-0700



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 REFERENCE, THIS PROJECT)
- ● 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
- LIMITS OF SITE CLEARING

ALABAMA REGISTERED No. 21532 PROFESSIONAL ENGINEER

REFERENCE:
ALMON ASSOCIATES, INC. – ENGINEERING, SURVEYING, ARCHITECTURE
2068 12th. STREET, P.O. DRAWER 2729
TUSCALOOSA, ALABAMA 35403

FILE #: ANNISTON-9811870 | AOR: GAT | PROJECT #: 9811187 | LOCATION: HOUSTON, TEXAS | SEND TO:
PLOT SCALE: 1 : 100 | DATE: 03-16-97 | TASK #: 5000 | PROJ. SOUTH LANDFIL COVER CONSTRUCTION | PHONE: (713) 690-0700

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

MONSANTO
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Anniston, Alabama 36201

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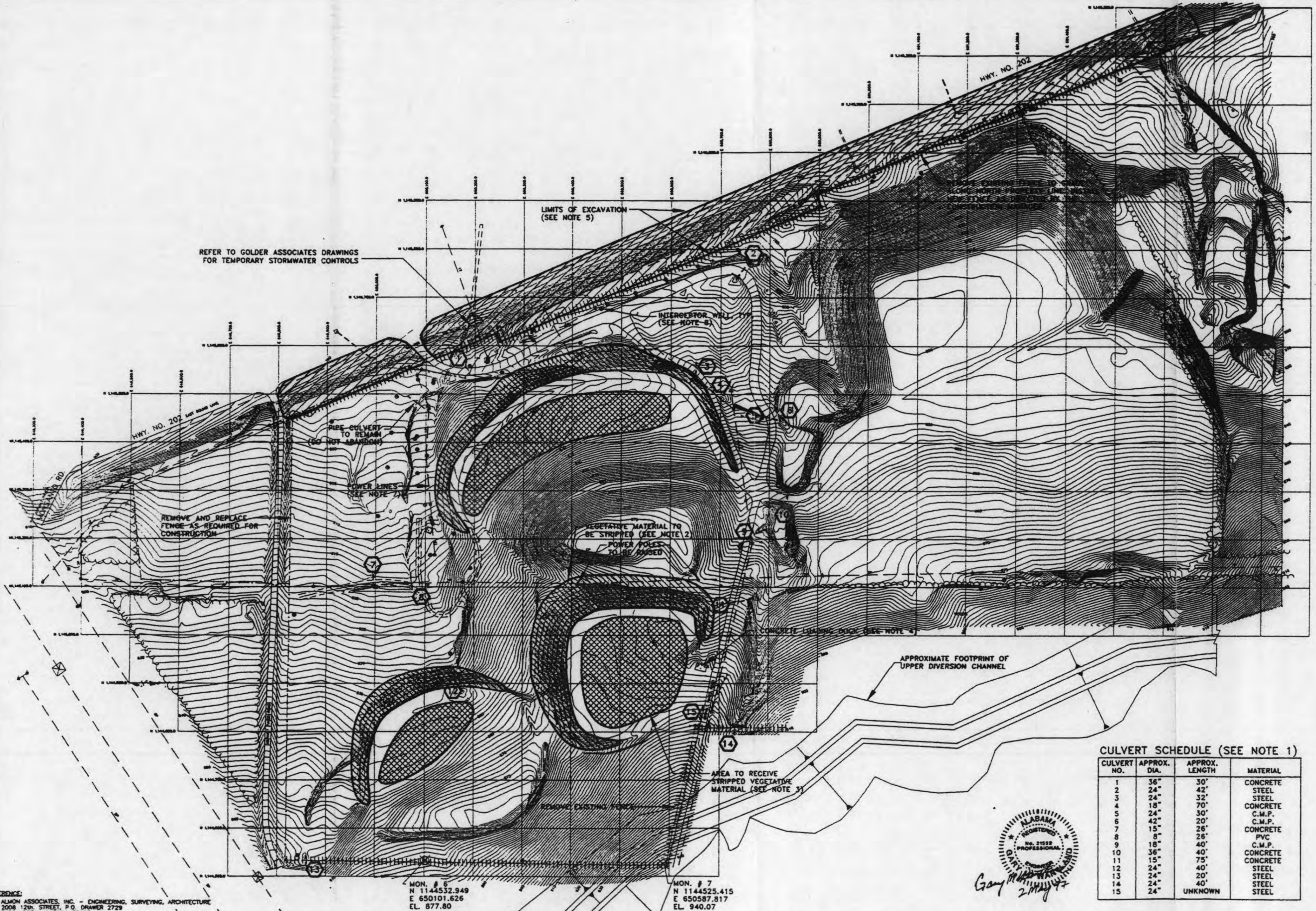
7600 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

DESIGNED BY:	M.S.C.
DRAWN BY:	P.R./G.T.
CHECKED BY:	M.A.A.
PEER REVIEWER:	G.M.W.
PROJ MANAGER:	L.E.C.
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
0 100 200

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)
- CURB INLET
- INTERCEPTOR WELL
- MONITOR WELL
- SIGN
- TELEPHONE POLE
- TELEPHONE BOX
- POWER POLE
- O/H ELECTRIC LINE
- GUY ANCHOR
- GUY POLE
- TREE
- CHAINLINK FENCE
- 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"	28'	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 No. 21532 PROFESSIONAL ENGINEER GARY M. WARD
Gary M. Ward 2 May 97

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

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

MONSANTO
300 Birmingham Highway
Anniston, Alabama 36201

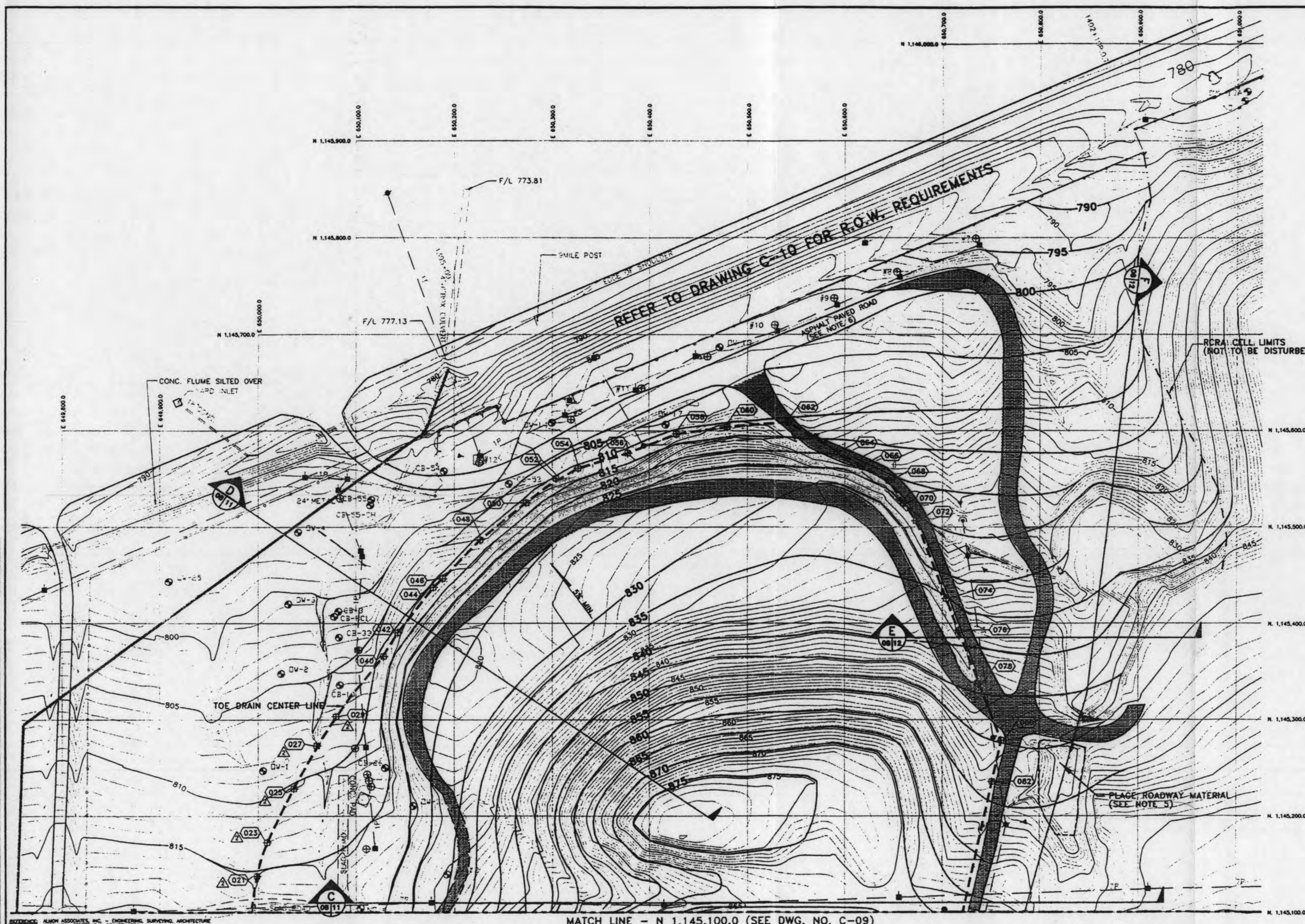
Woodward-Clyde Consultants
Engineering & science applied to the earth & its environment
7600 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

DESIGNED BY: W.S.C.
DRAWN BY: P.R.
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
REVISION: 0
PROJECT 96T187

SITE PREPARATION PLAN

DRAWING C-07



MATCH LINE – N 1,145,100.0 (SEE DWG. NO. C-09)

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.
4. MINIMIZE EQUIPMENT OPERATIONS ON RCRA CELL SIDE SLOPES.
5. ALL ROADWAY MATERIAL WITHIN THE LIMITS OF THE GEOSYNTHETIC CAP SHALL BE REMOVED AND PLACED IN THE RAVINE AS SHOWN.
6. (△1) MAINTAIN AND REPAIR ASPHALT PAVED ROAD NOT SCHEDULED FOR SCARIFICATION AS DIRECTED BY THE CONSTRUCTION MANAGER.
7. (△2) PROTECT AND MAINTAIN GROUNDWATER RECOVERY SYSTEM PIPING AND ELECTRICAL CABLE AS DIRECTED BY THE CONSTRUCTION MANAGER.

LEGEND:

- 890 — INTERMEDIATE CONTOUR
- 890 — EXISTING CONTOUR
- TOE DRAIN 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
- GUY POLE
- TREE
- CHAINLINK FENCE
- 001 SURVEY CONTROL POINT AND IDENTIFICATION NUMBER (SEE DRAWING C-03 FOR TABLES)
- ROADWAY TO BE SCARIFIED PRIOR TO PLACING FILL MATERIAL(SEE NOTE 5)

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

REV	DESCRIPTION OF REVISION	BY	DATE
2	EXTENDED GEOSYNTHETIC LIMITS	MSC	7/2/97
1	GRADING MODIFICATIONS	MSC	05/27/97
0	ISSUED FOR CONSTRUCTION	GMW	05/02/97

DRAWING NUMBER | REFERENCE DRAWING TITLE

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: CAT
CHECKED BY: M.A.A.
PEER REVIEWER: G.M.W.
PROJ MANAGER: L.E.E.
DATE: 3/27/97

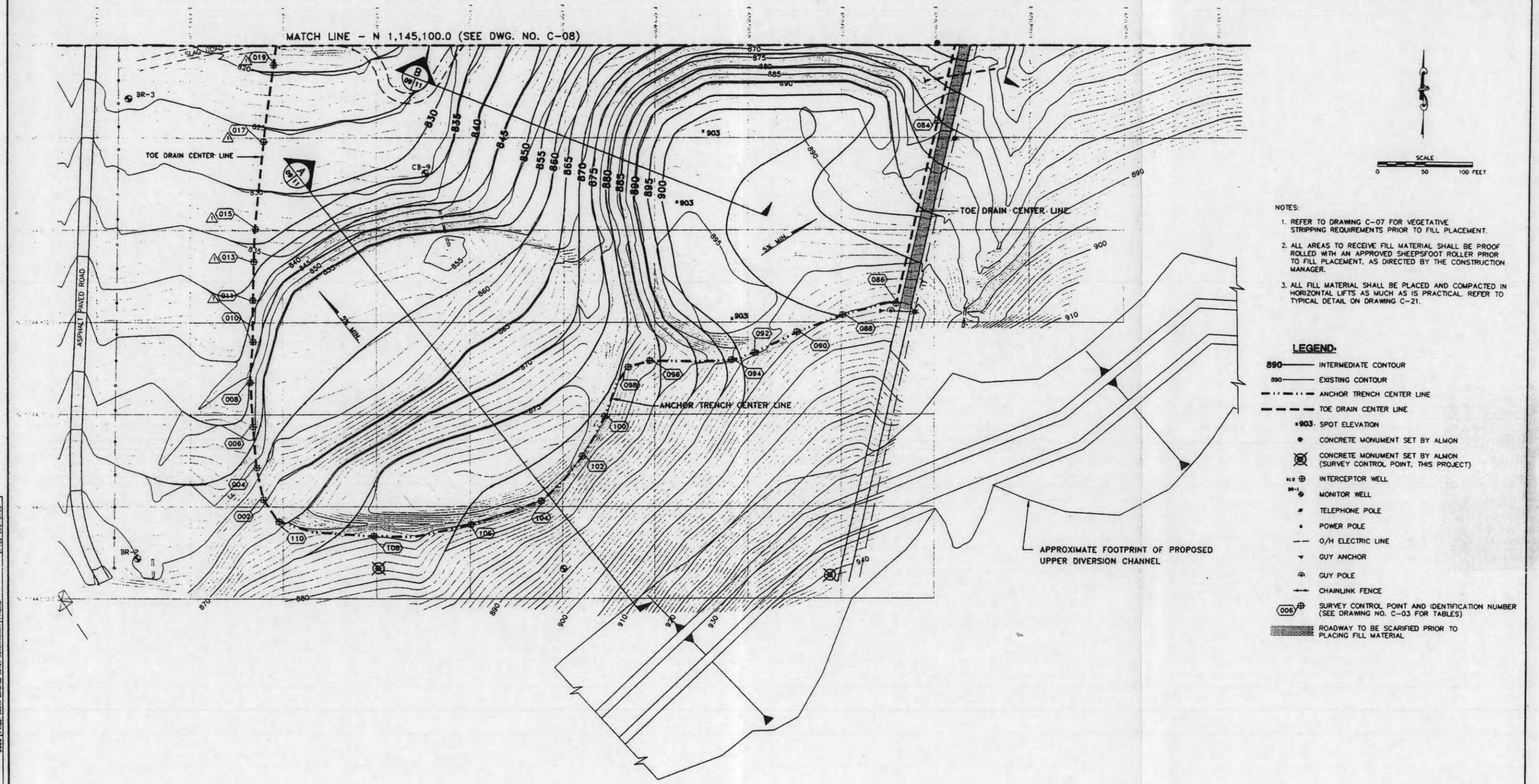
PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION
PROJECT LOCATION: ANNISTON, ALABAMA

INTERMEDIATE GRADING PLAN
TOP OF GENERAL FILL
(SHEET 1 OF 2)

REVISION: 2
PROJECT: 96T187
DRAWING: C-08

ALABAMA REGISTERED No. 21538 PROFESSIONAL ENGINEER G... M. WANTLAND
14 July 97

PLOT SCALE 1 : 50 | DATE 01-17-97 | TASK #: 5000 | PROJ SOUTH LANDFILL COVER CONSTRUCTION | PHONE: (713) 890-0700



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
- GUY POLE
- CHAINLINK FENCE
- 006 SURVEY CONTROL POINT AND IDENTIFICATION NUMBER (SEE DRAWING NO. C-03 FOR TABLES)
- ROADWAY TO BE SCARIFIED PRIOR TO PLACING FILL MATERIAL

ALABAMA REGISTERED No. 21932 PROFESSIONAL ENGINEER M. WANTLAND 14 July 97

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

DRAWING NUMBER	REFERENCE DRAWING TITLE	REV	DESCRIPTION OF REVISION	BY	DATE
		1	EXTENDED GEOSYNTHETIC LIMITS	MSC	7/2/97
		0	ISSUED FOR CONSTRUCTION	GMW	05/02/97

MONSANTO
300 Birmingham Highway
Anniston, Alabama 36201

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7600 West Tidwell, Suite 900
Houston, Texas 77040
United States of America

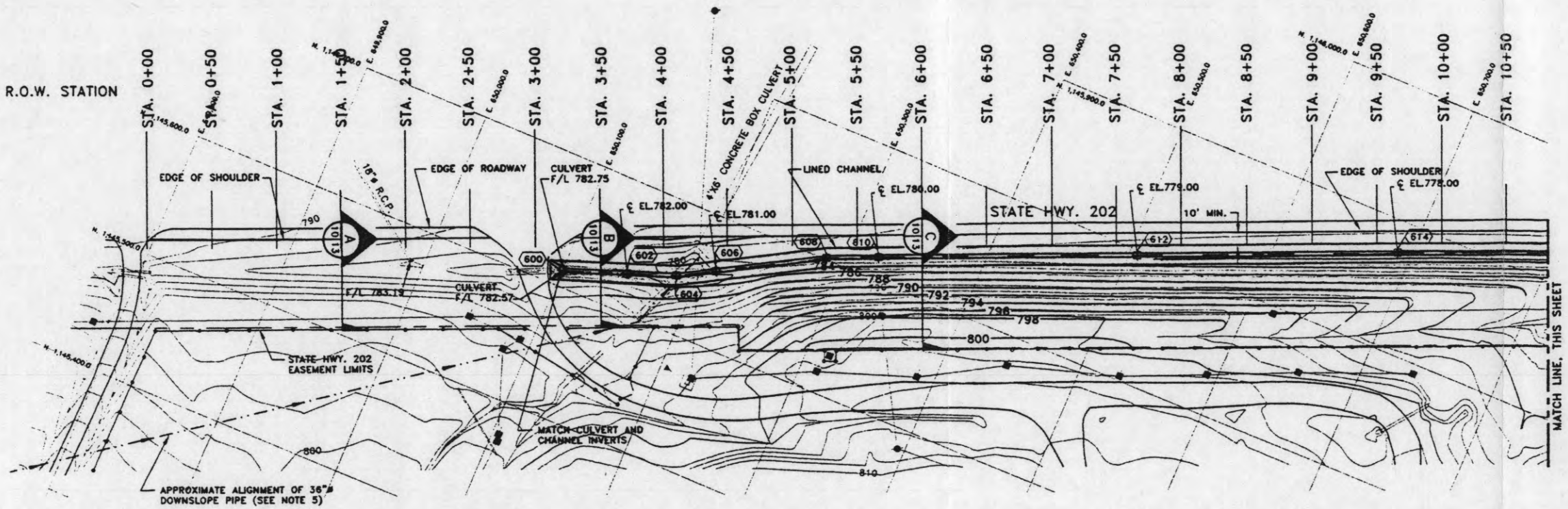
DESIGNED BY:	M.S.C.
DRAWN BY:	GAT
CHECKED BY:	M.A.A.
PEER REVIEWER:	G.M.W.
PROJ MANAGER:	L.E.E.
DATE:	3/27/97

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

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

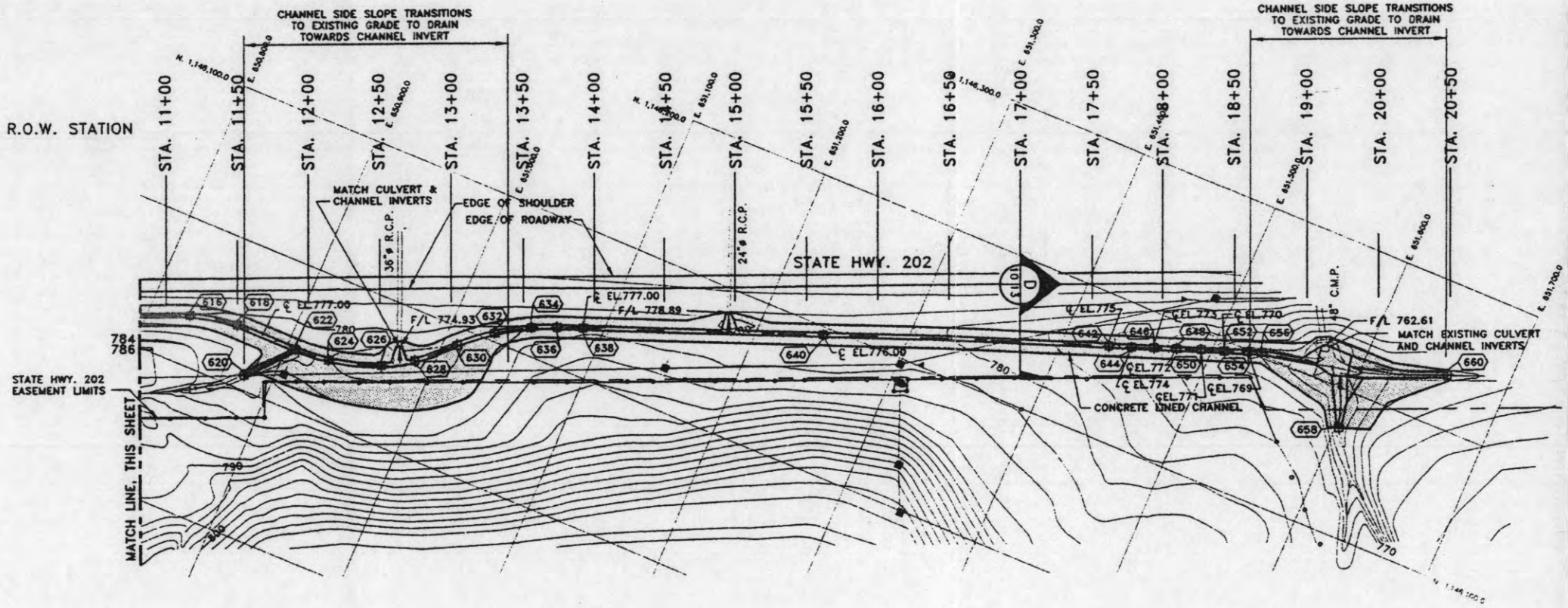
REVISION 1
PROJECT 96T187
DRAWING C-09

FILE #: ANNISTON-96187091 | OPERATOR: GAT | PROJECT #: 96T187 | LOCATION: HOUSTON, TEXAS | SEND TO:
PLOT SCALE: 1 : 50 | DATE: 03-12-97 | TASK #: 5000 | PROJ. SOUTH LANDFILL COVER CONSTRUCTION | PHONE: (713) 690-0700



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)

ALABAMA REGISTERED No. 21532 PROFESSIONAL ENGINEER GARY M. WARTLAND

Gary M Wartland
2 May 97

FILE #: ANNISTON-96T1871O | DR: GAT | PROJECT #: 96T187 | LOCATION: HOUSTON, TEXAS | SEND TO:
PLOT SCALE: 1 : 50 | DATE: 03-21-97 | TASK #: 5000 | PROJ. SOUTH LANDFILL COVER CONSTRUCTION | PHONE: (713) 690-0700

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

MONSANTO

300 Birmingham Highway
Anniston, Alabama 36201

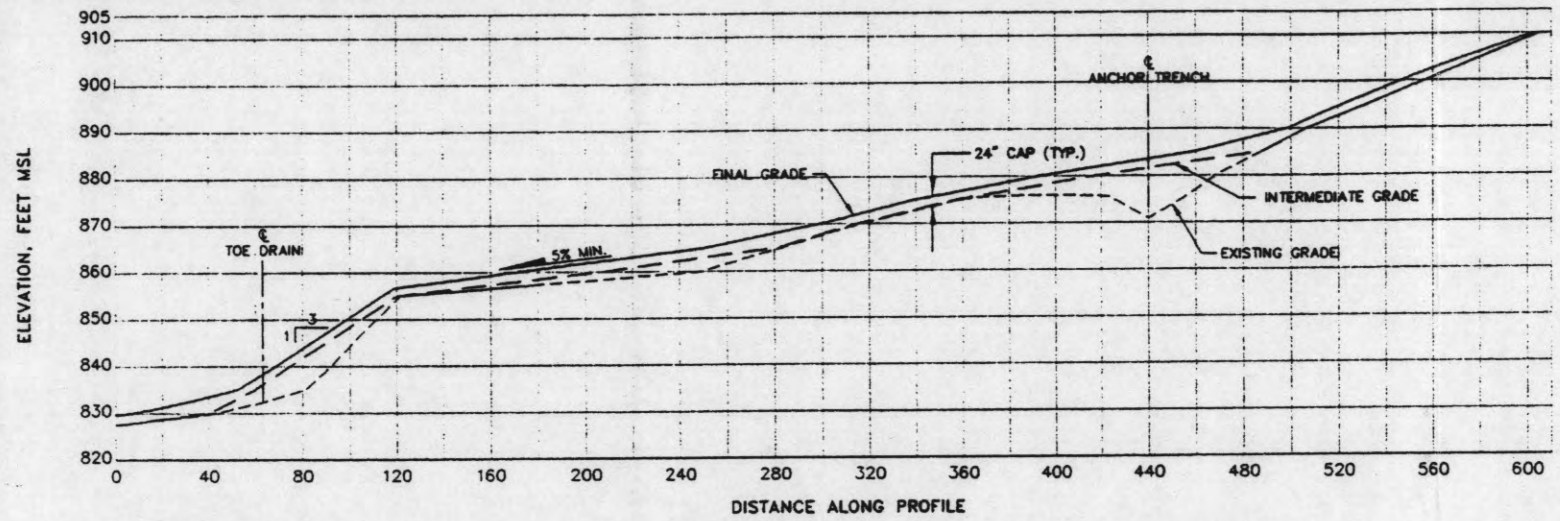
Woodward-Clyde Consultants
Engineering & science applied to the earth & its environment
7600 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

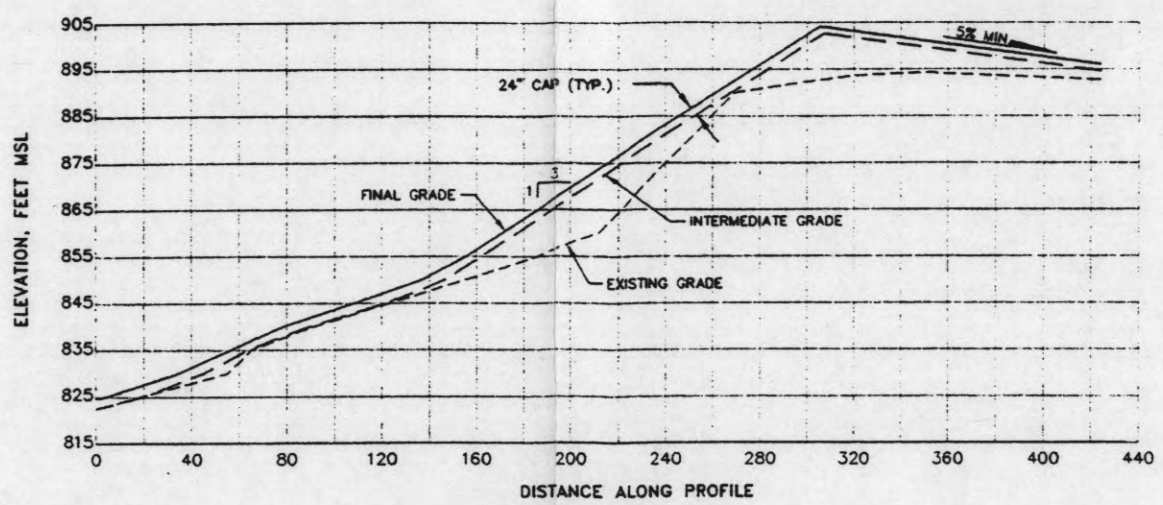
DESIGNED BY:	M.S.C.
DRAWN BY:	GAT
CHECKED BY:	M.A.A.
PEER REVIEWER:	G.M.W.
PROJ MANAGER:	L.E.E.
DATE:	03-27-97

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

HWY 202 DRAINAGE MODIFICATIONS

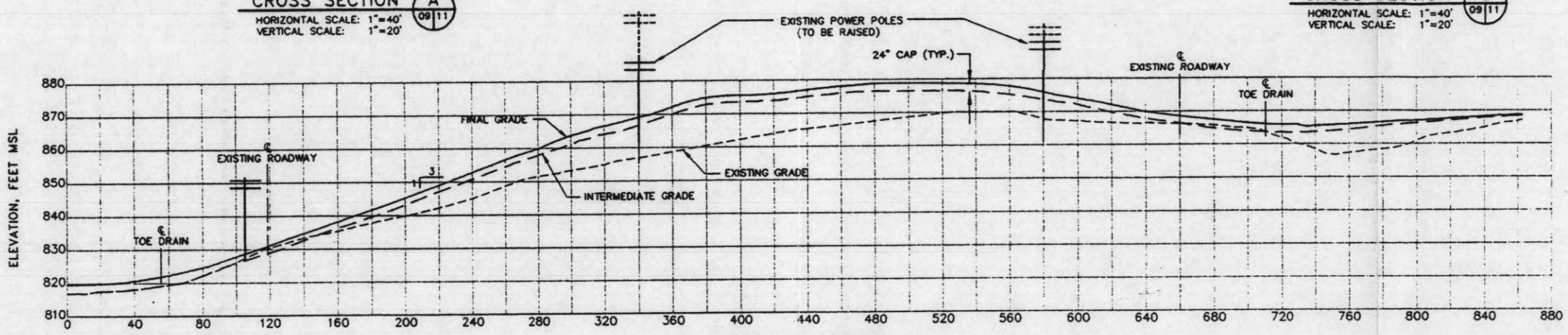
REVISION: 0
PROJECT: 96T187
DRAWING: C-10





CROSS SECTION A (09|11)

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

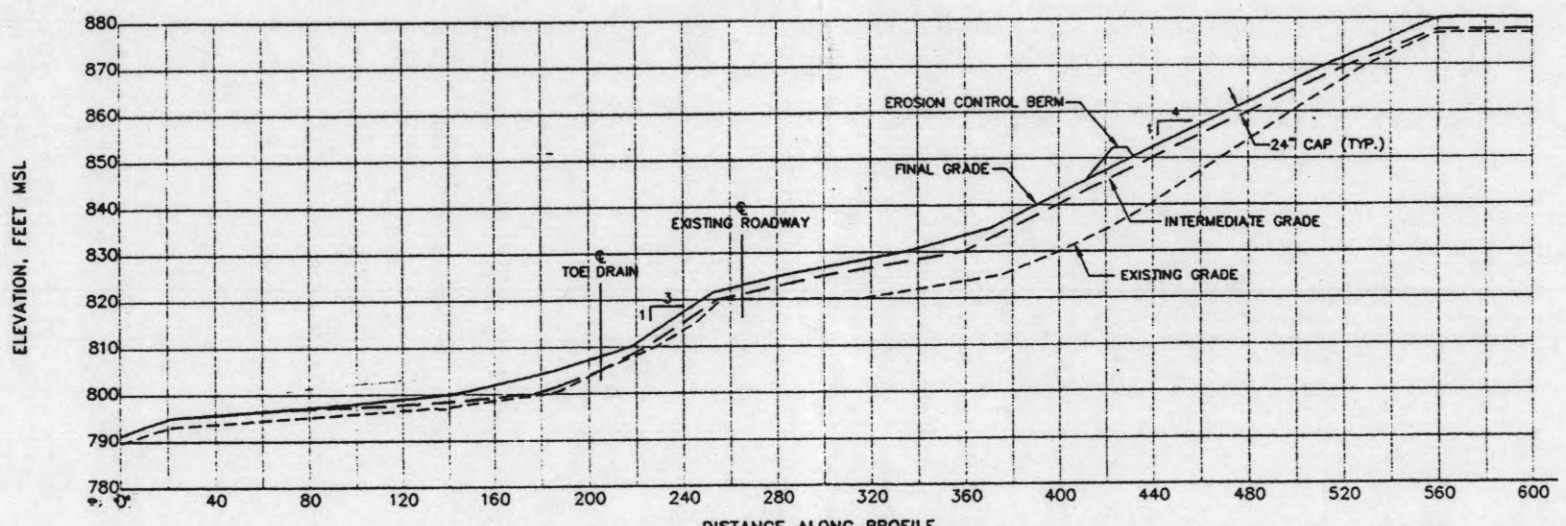


CROSS SECTION B (09|11)

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 No. 21838 PROFESSIONAL ENGINEER
Gary M. Ward
7 May 1997

FILE #: ANNISTON-96T187.11 | OPERATOR: P.R. | PROJECT #: 96T187 | LOCATION: HOUSTON, TEXAS | SEND TO:
PLOT SCALE: 1 : 40 | DATE: 03-14-97 | TASK #: 3000 | PROJ. SOUTH LANDFILL COVER CONSTRUCTION | PHONE: (713) 690-0700

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

MONSANTO
300 Birmingham Highway
Anniston, Alabama 36201

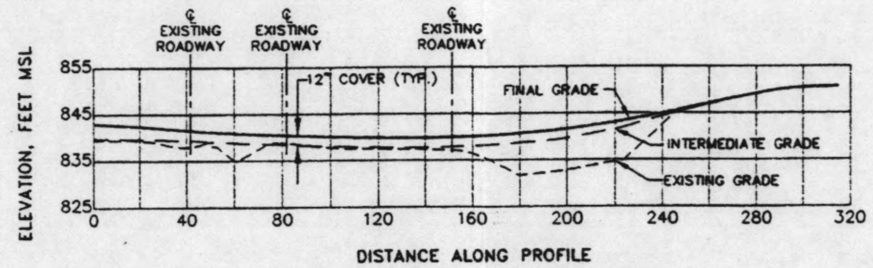
Woodward-Clyde Consultants
Engineering & science applied to the earth & its environment
7600 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

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

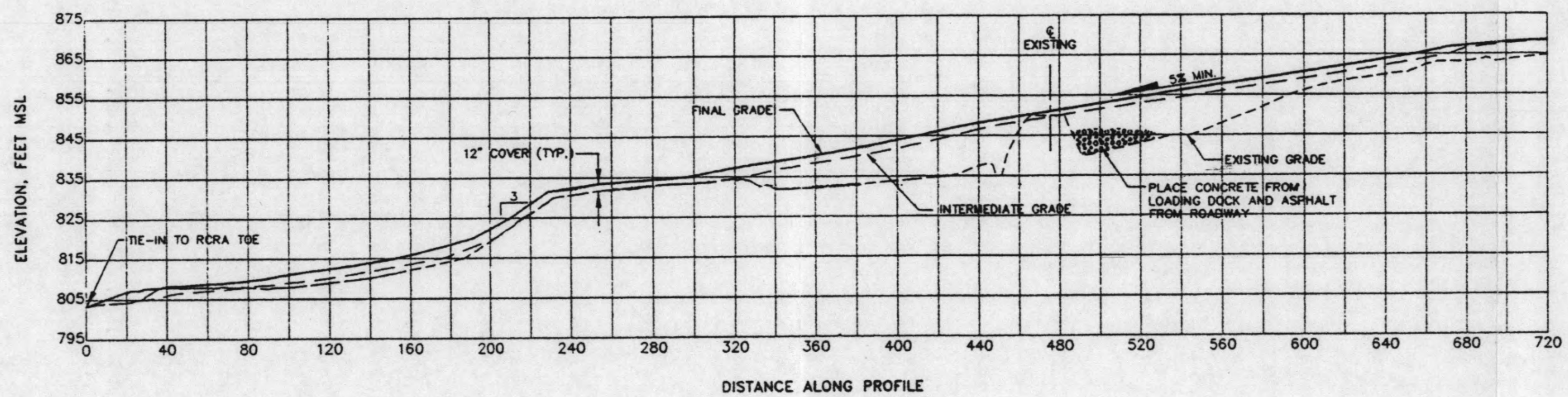
PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION
PROJECT LOCATION: ANNISTON, ALABAMA

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

(Seal: ALABAMA REGISTERED No. 21552 PROFESSIONAL ... G. M. WAYLAND; signature) 2 May 1997

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

DRAWING NUMBER	REFERENCE DRAWING TITLE

MONSANTO
300 Birmingham Highway
Anniston, Alabama 36201

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

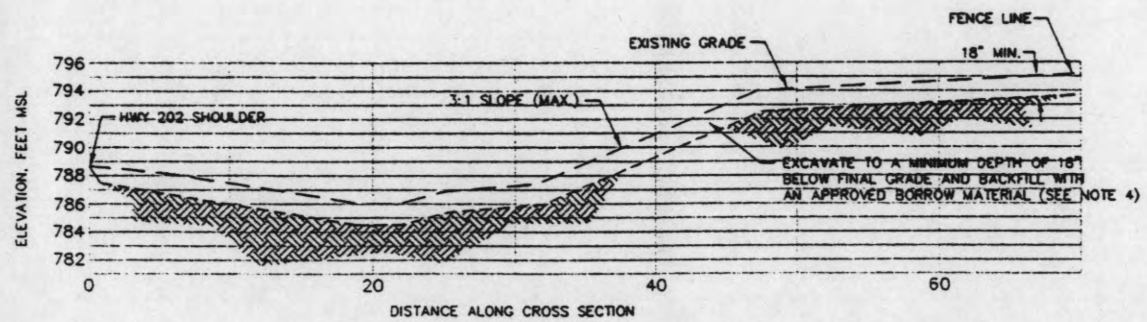
DESIGNED BY:	M.S.C.
DRAWN BY:	P.R.
CHECKED BY:	M.A.A.
PEER REVIEWER:	G.M.W.
PROJ MANAGER:	L.E.C.
DATE:	3/27/97

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

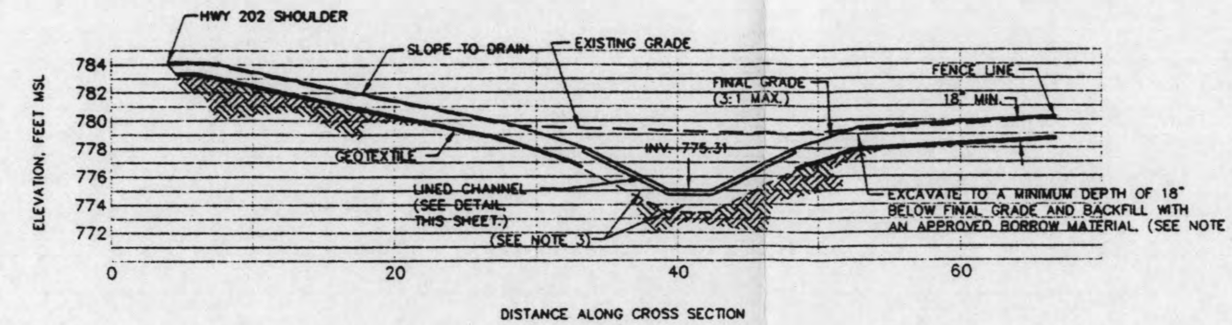
GRADING CROSS-SECTIONS
(E-E AND F-F)

REVISION: 0
PROJECT: 96T187
DRAWING: C-12

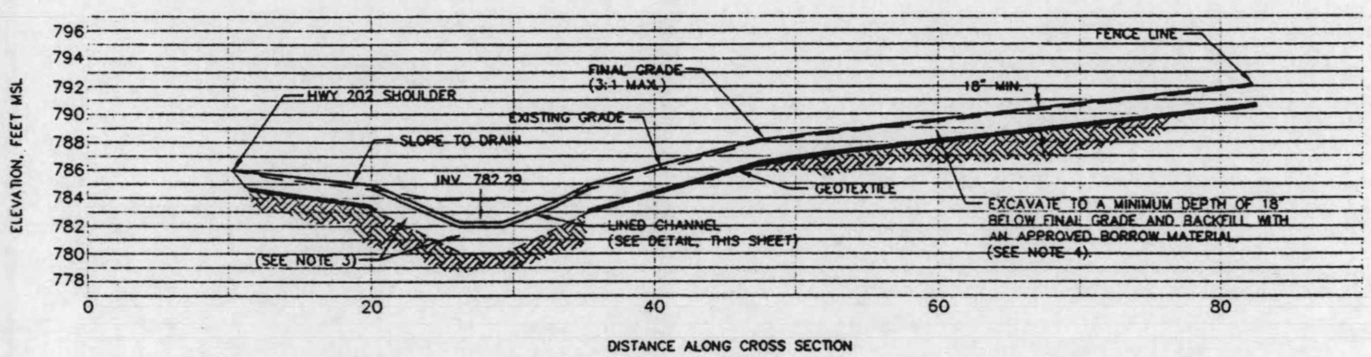
FILE #: ANNISTON-96T187I2 | OPER: P.R. | PROJECT #: 96T187 | LOCATION: HOUSTON, TEXAS | SEND TO:
PLOT SCALE: 1 : 40 | DATE: ...14-97 | TASK #: 5000 | PROJ. SOUTH LANDFILL COVER CONSTRUCTION | PHONE: (713) 690-0700



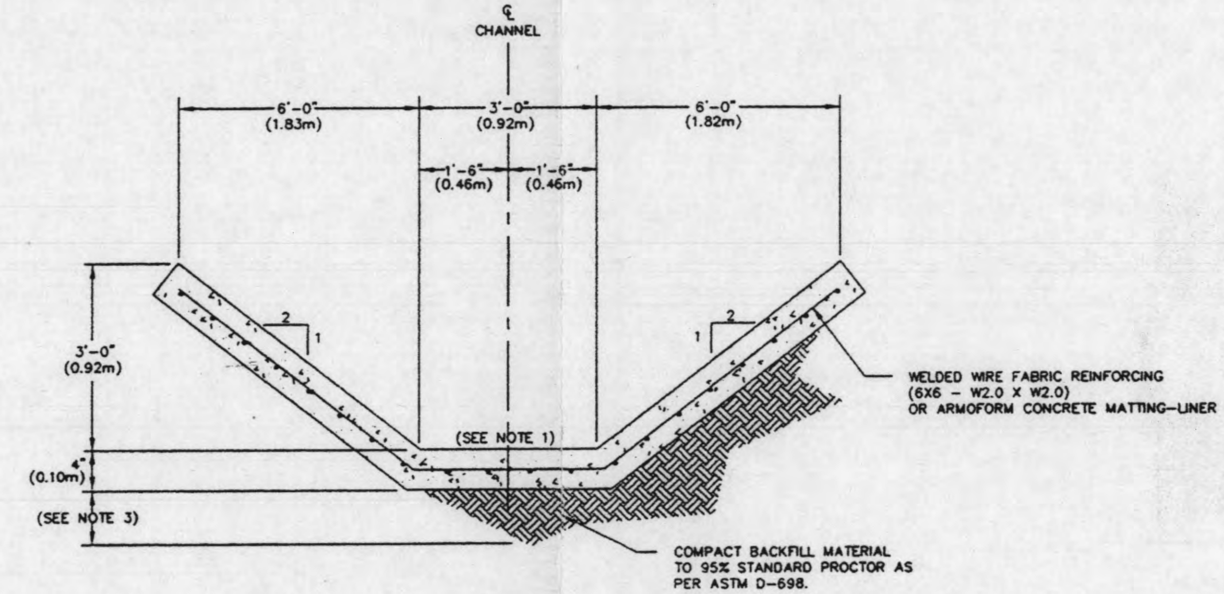
CROSS SECTION A – (STA. 1+50) A 10|13
NOT TO SCALE



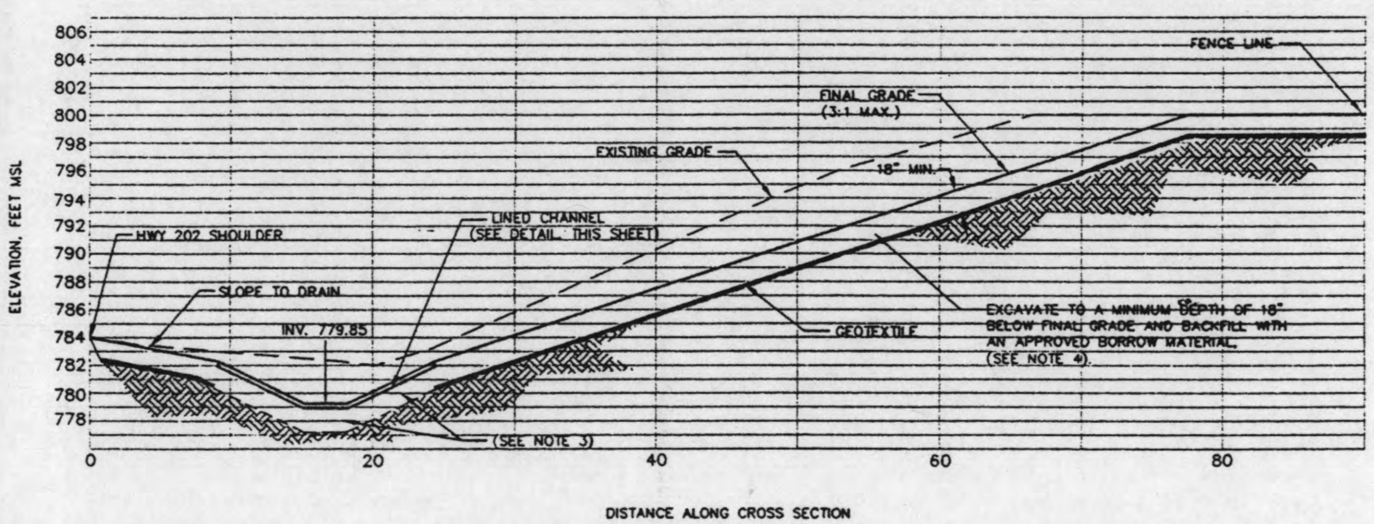
CROSS SECTION D – (STA 17+00) D 10|13
NOT TO SCALE



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



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



CROSS SECTION C – (STA. 6+00) C 10|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.

Gary M Wa... 2 May 97

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

MONSANTO
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Anniston, Alabama 36201

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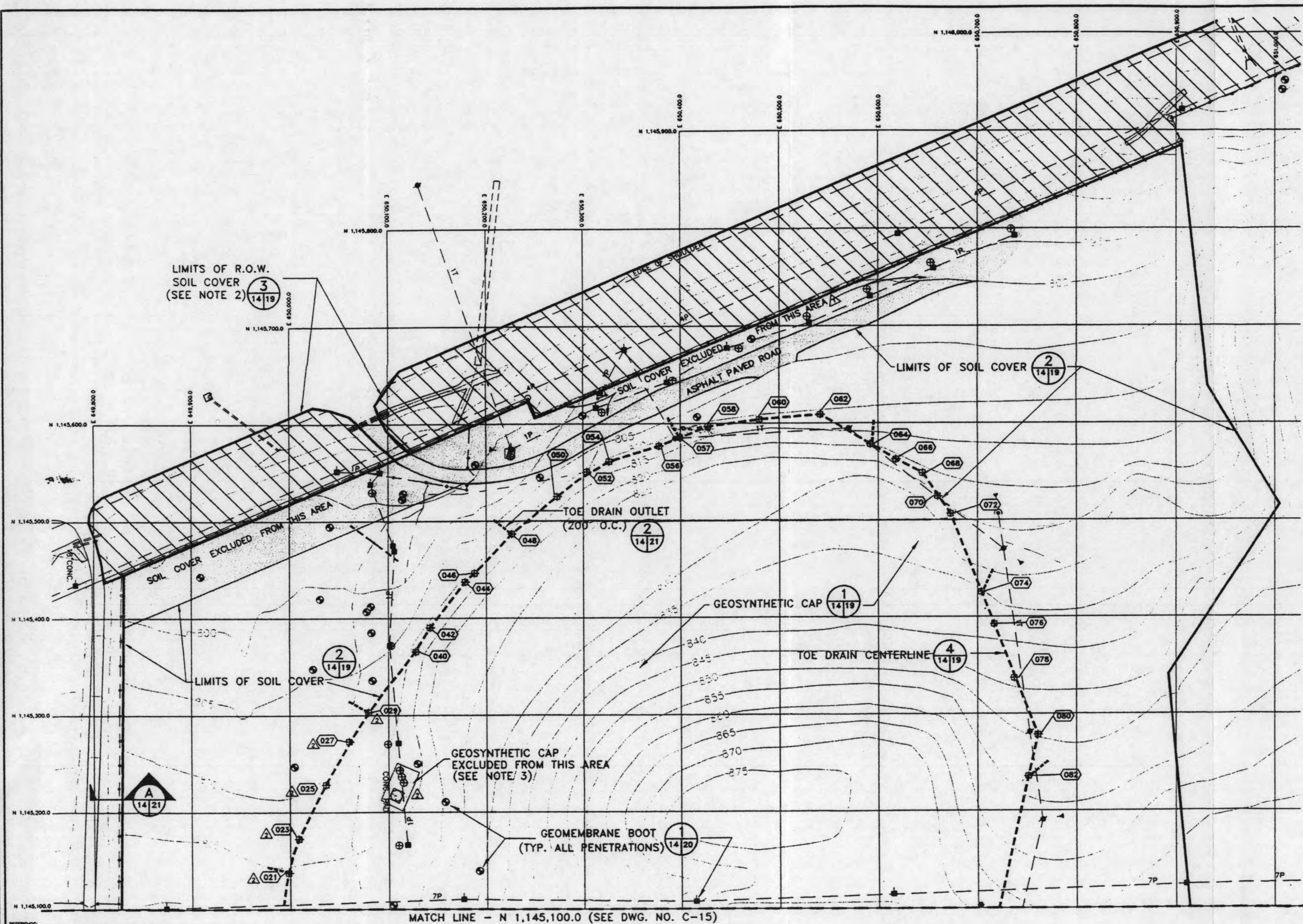
Houston, Texas 77040
United States of America

DESIGNED BY: M.S.C. | DRAWN BY: GAT | CHECKED BY: M.A.A. | PEER REVIEWER: G.M.W. | PROJ MANAGER: L.E.E. | DATE: 03-27-97

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION
PROJECT LOCATION: ANNISTON, ALABAMA
HWY 202 DRAINAGE CHANNEL CROSS-SECTIONS
REVISION: 0
PROJECT: 96T187
DRAWING: C-13



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.
3. EXCLUDE GEOSYNTHETIC CAP AS DIRECTED BY THE CONSTRUCTION MANAGER.
4. INSTALL TEMPORARY GEOTEXTILE (MINIMUM 4 FEET WIDE) BETWEEN FOUNDATION SOIL AND GEOMEMBRANE AND BETWEEN GEOCOMPOSITE AND GEOMEMBRANE COVER SOIL AROUND PERIMETER OF EXCLUDED AREA, AS DIRECTED BY THE CONSTRUCTION MANAGER. CENTER TEMPORARY GEOTEXTILE ALONG EDGE OF GEOSYNTHETICS.

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
- CHAINLINK FENCE
- GUY POLE
- 004 SURVEY CONTROL POINT AND IDENTIFICATION NUMBER (SEE DRAWING NO. C-03 FOR TABLES)

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

REV	DESCRIPTION OF REVISION	BY	DATE
2	EXTENDED GEOSYNTHETIC LIMITS	MSC	7/2/97
1	LIMITS OF SOIL COVER MODIFIED	MSC	05/27/97
0	ISSUED FOR CONSTRUCTION	GMW	05/02/97

DRAWING NUMBER | REFERENCE DRAWING TITLE

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

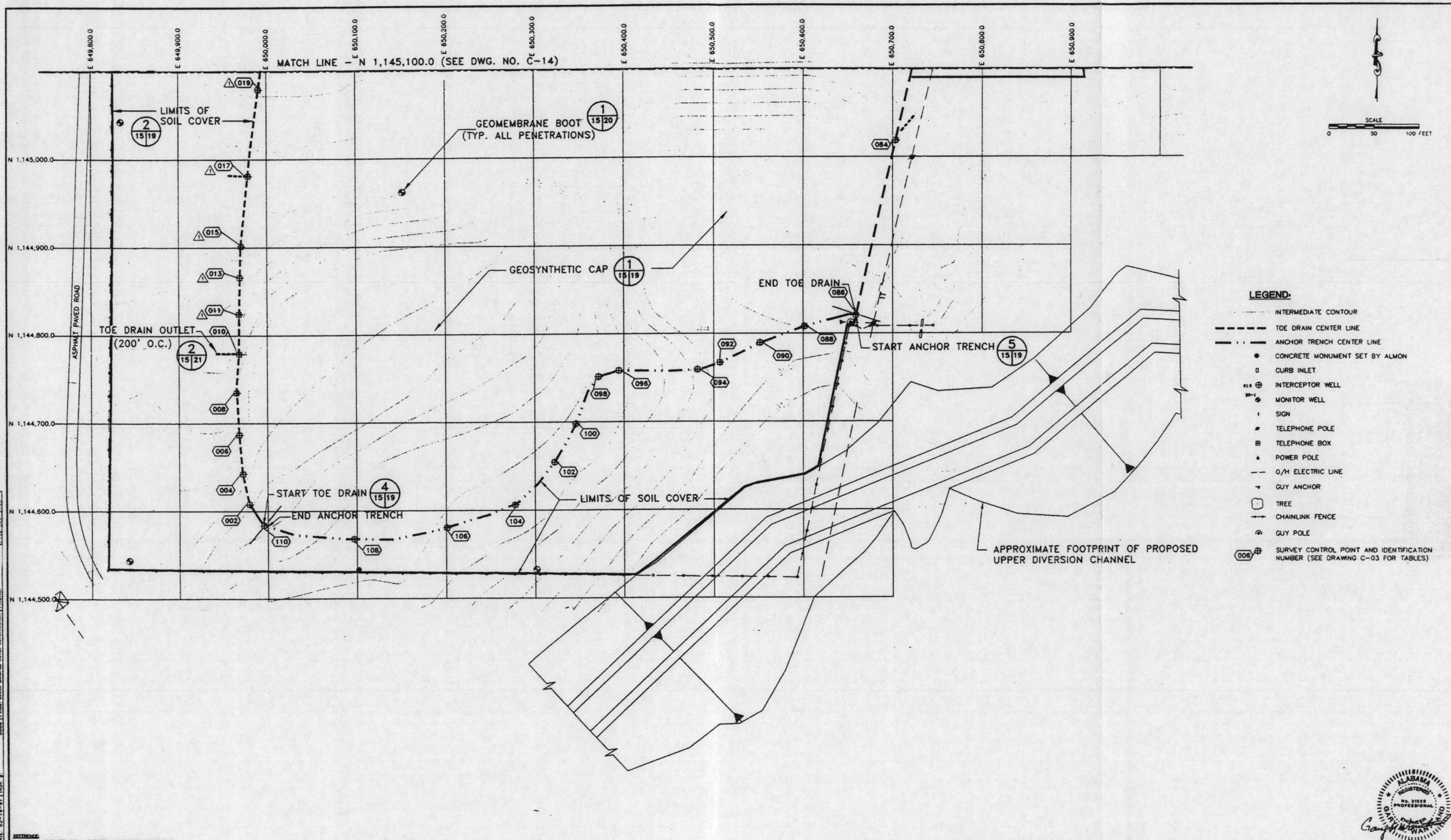
DESIGNED BY: M.S.C.
DRAWN BY: S.J.
CHECKED BY: M.A.A.
PEER REVIEWER: G.M.W.
PROJ MANAGER: L.E.E.
DATE: 3/27/97

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

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

REVISION: 2
PROJECT: 96T187
DRAWING: C-14

FILE # ANNISTON-96187142 | DWG/SJ | PROJECT # 96T187 | LOCATION HOUSTON, TEXAS | SEND TO: (713) 680-0700
PLOT SCALE: 1:1 | DATE: 03-14-97 | TASK # 5000 | PROJ. SOUTH LANDFILL COVER CONSTRUCTION | PHONE:



MATCH LINE - N 1,145,100.0 (SEE DWG. NO. C-14)
E 649,800.0
E 649,900.0
E 650,000.0
E 650,100.0
E 650,200.0
E 650,300.0
E 650,400.0
E 650,500.0
E 650,600.0
E 650,700.0
E 650,800.0
E 650,900.0
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
ASPHALT PAVED ROAD
LIMITS OF SOIL COVER
2 15|19
GEOMEMBRANE BOOT (TYP. ALL PENETRATIONS)
1 15|20
GEOSYNTHETIC CAP
1 15|19
TOE DRAIN OUTLET (200' O.C.)
2 15|21
START TOE DRAIN
4 15|19
END ANCHOR TRENCH
LIMITS OF SOIL COVER
END TOE DRAIN
START ANCHOR TRENCH
5 15|19
APPROXIMATE FOOTPRINT OF PROPOSED UPPER DIVERSION CHANNEL
019
017
015
013
011
010
008
006
004
002
110
108
106
104
102
100
098
096
094
092
090
088
086
084
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)

REV	DESCRIPTION OF REVISION	BY	DATE
1	EXTENDED GEOSYNTHETIC LIMITS	GMW	07/03/97
0	ISSUED FOR CONSTRUCTION	GMW	05/02/97

DRAWING NUMBER | REFERENCE DRAWING TITLE

MONSANTO

300 Birmingham Highway
Anniston, Alabama 36201

Woodward-Clyde Consultants

Engineering & sciences applied to the earth & its environment

7600 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: M.S.C.
DRAWN BY: GAT
CHECKED BY: M.A.A.
PEER REVIEWER: G.W.W.
PROJ MANAGER: L.E.E.
DATE: 3/27/97

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION

PROJECT LOCATION: ANNISTON, ALABAMA

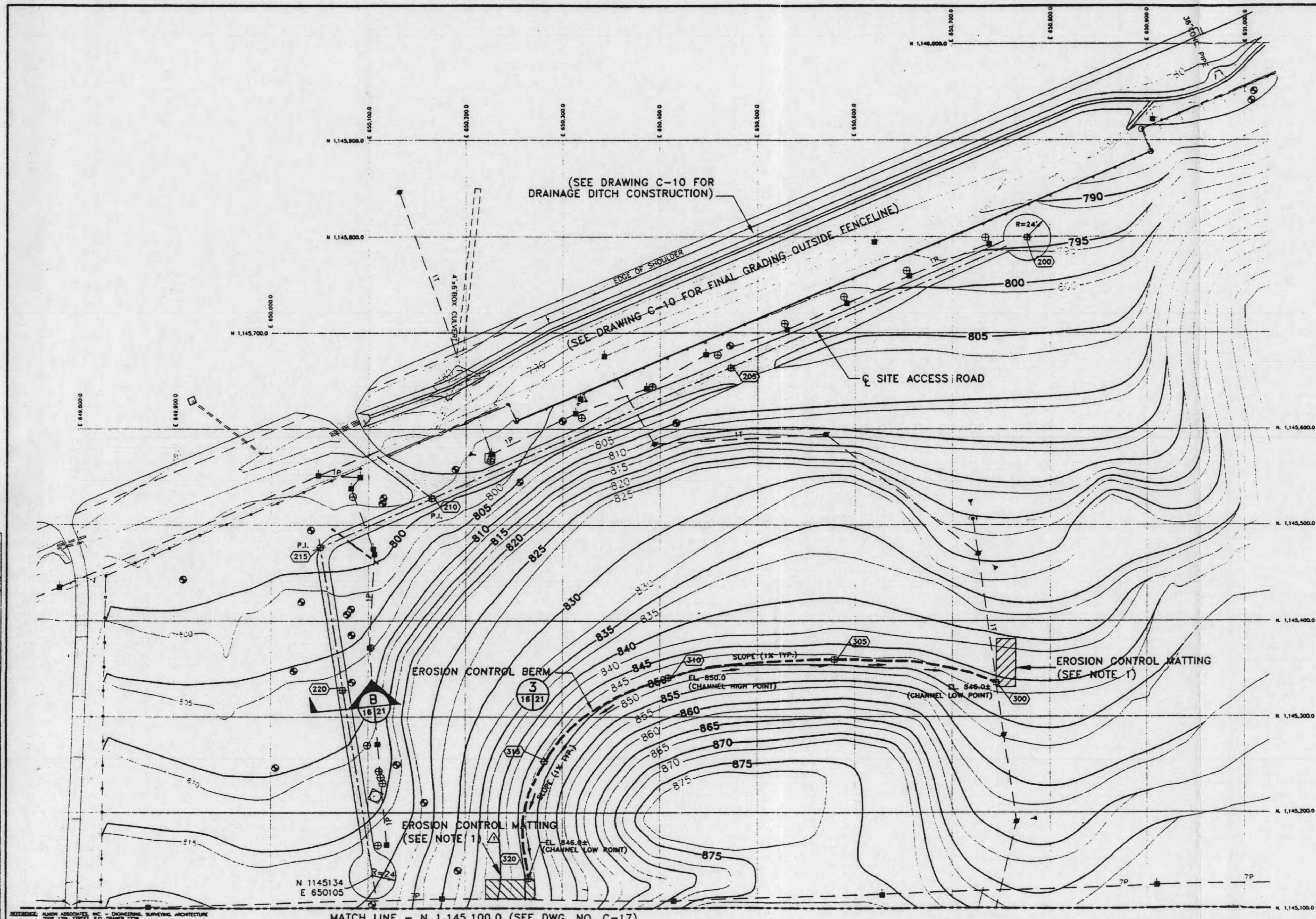
LIMITS OF GEOSYNTHETIC CAP AND SOIL COVER
(SHEET 2 OF 2)

REVISION: 1

PROJECT: 96T187

DRAWING: C-15

14 July 97



SCALE 0 50 100 FEET

NOTES:

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

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
- SURVEY CONTROL POINT AND IDENTIFICATION NUMBER (SEE DRAWING C-03 FOR TABLES)
- EROSION CONTROL BERM CENTERLINE
- SITE ACCESS ROAD

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

REV.	DESCRIPTION OF REVISION	BY	DATE
2	EXTENDED GEOSYNTHETIC LIMITS	MSC	07/03/97
1	GRADING/ACCESS ROAD MODIFICATIONS	MSC	05/27/97
0	ISSUED FOR CONSTRUCTION	GMW	05/02/97

DRAWING NUMBER | REFERENCE DRAWING TITLE

MONSANTO

300 Birmingham Highway
Anniston, Alabama 36201

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

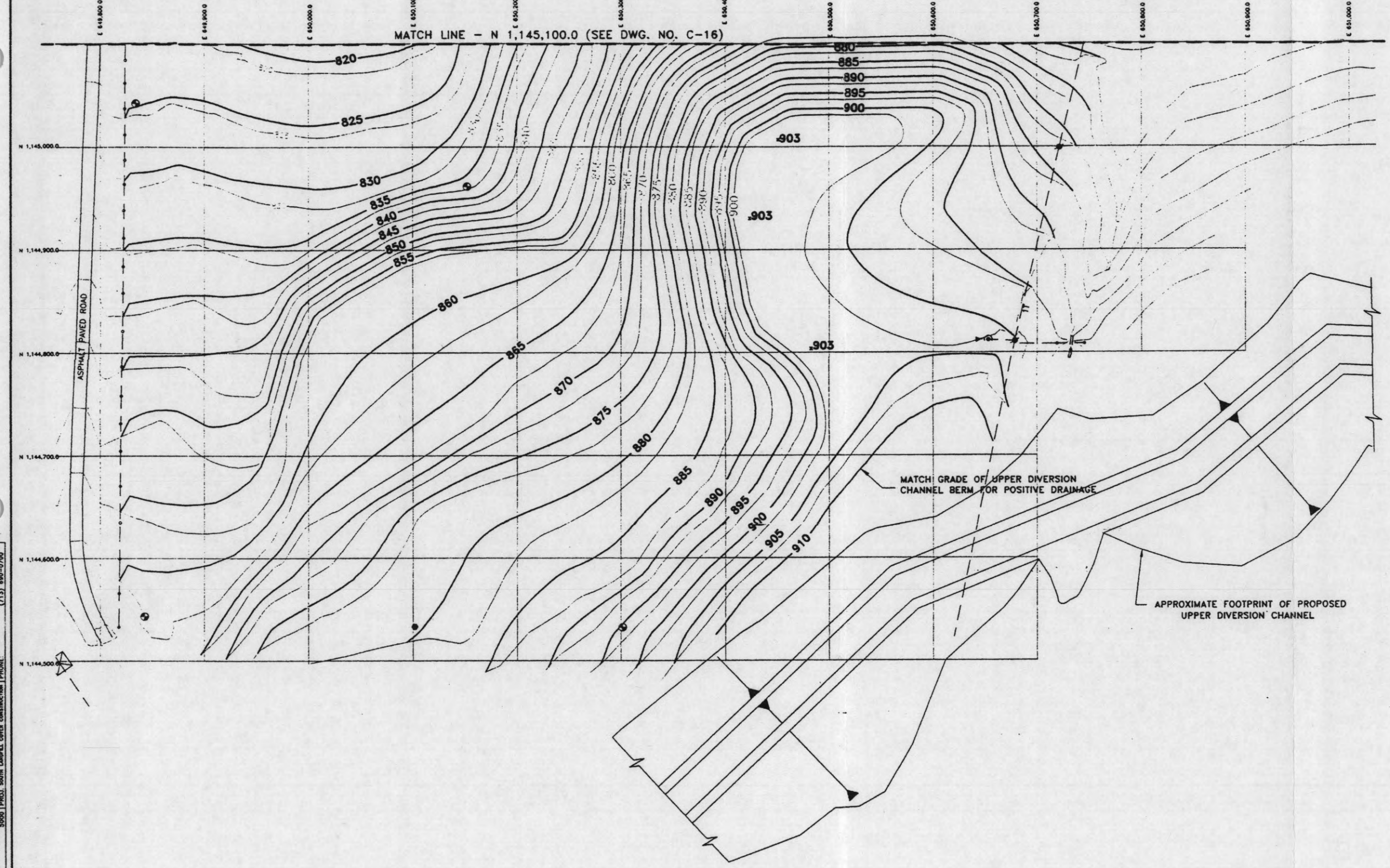
DESIGNED BY: M.S.C.
DRAWN BY: GAT
CHECKED BY: M.A.A.
PEER REVIEWER: G.M.W.
PROJ MANAGER: L.C.E.
DATE: 3/27/97

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

FINAL GRADING PLAN
(SHEET 1 OF 2)

REVISION: 2
PROJECT: 96T187
DRAWING: C-16

FILE # ANNISTON-96187 | PLOT SCALE 1 : 50 | DATE: 03-15-97 | GAT | PROJECT # 96T187 | TASK # 5000 | LOCATION: HOUSTON, TEXAS | PROJ. SOUTH LANDFILL COVER CONSTRUCTION | SEND TO: | PHONE: (713) 690-0700



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

ALABAMA REGISTERED No. 21058 PROFESSIONAL
Gary A. WANTLAND
14 July 97

DRAWING NUMBER	REFERENCE DRAWING TITLE	REV	DESCRIPTION OF REVISION	BY	DATE
		1	EXTENDED GEOSYNTHETIC LIMITS	MSC	07/03/97
		0	ISSUED FOR CONSTRUCTION	GMW	05/02/97

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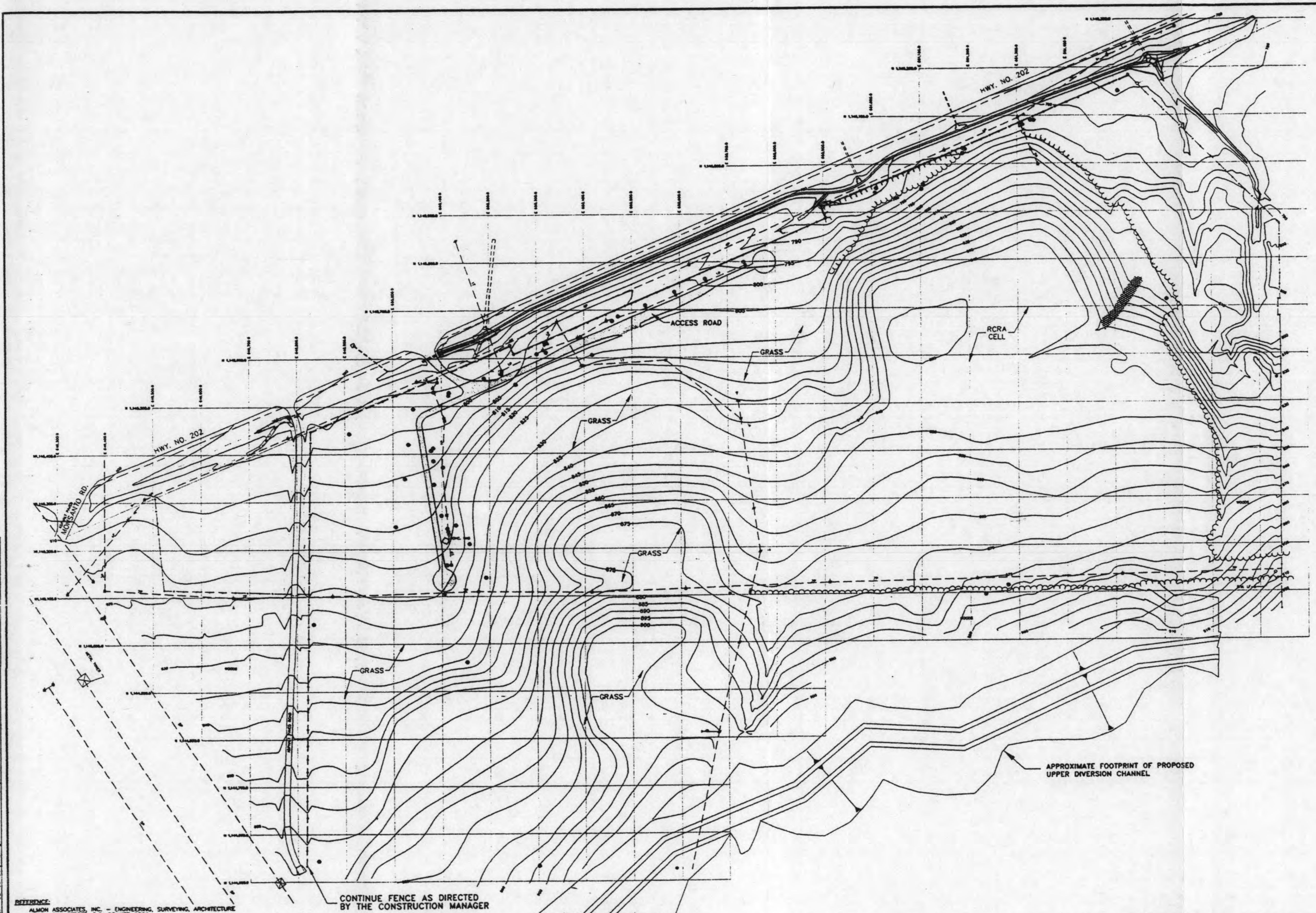
DESIGNED BY:	M.S.C.
DRAWN BY:	GAT
CHECKED BY:	M.A.A.
PEER REVIEWER:	G.M.W.
PROJ MANAGER:	L.E.E.
DATE:	3/27/97

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

FINAL GRADING PLAN
(SHEET 2 OF 2)

REVISION: 1
PROJECT: 96T187
DRAWING: C-17

FILE: ANNISTON-96T187 | LOCATION: HOUSTON, TEXAS | SEND TO:
PLOT SCALE: 1 : 240 | PLOT DATE: 03-13-97 | TASK #: 5000 | PROJ. SOUTH LANDFILL COVER CONSTRUCTION | PHONE: (713) 880-0700
OPERATOR: GAT | PROJECT #: 96T187



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
2006 12th. STREET, P.O. DRAWER 2729
TUSCALOOSA, ALABAMA 35403

REV	DESCRIPTION OF REVISION	BY	DATE
2	EXTENDED GEOSYNTHETIC LIMITS	MSC	07/03/97
1	GRADING/ACCESS ROAD MODIFICATIONS	MSC	05/27/97
0	ISSUED FOR CONSTRUCTION	GMW	05/02/97

DRAWING NUMBER	REFERENCE DRAWING TITLE

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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

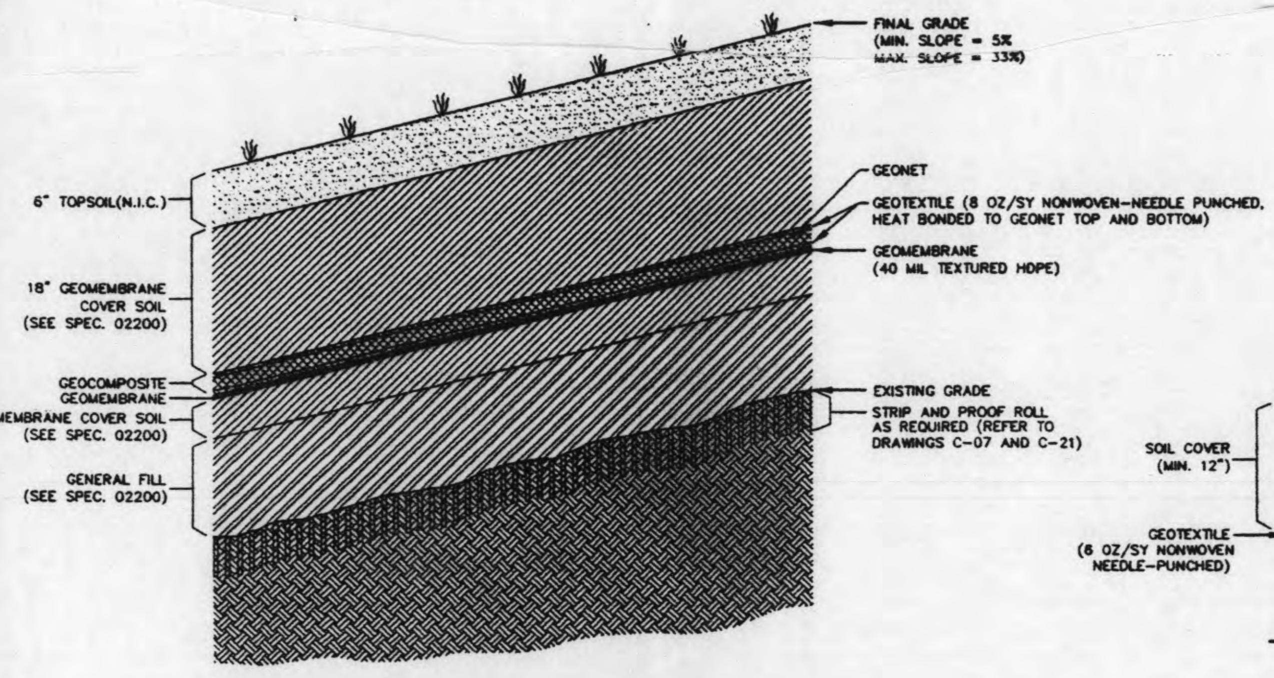
DESIGNED BY: M.S.C.
DRAWN BY: P.R.
CHECKED BY: M.A.A.
PEER REVIEWER: G.M.W.
PROJ MANAGER: L.E.C.
DATE: 3/27/97

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

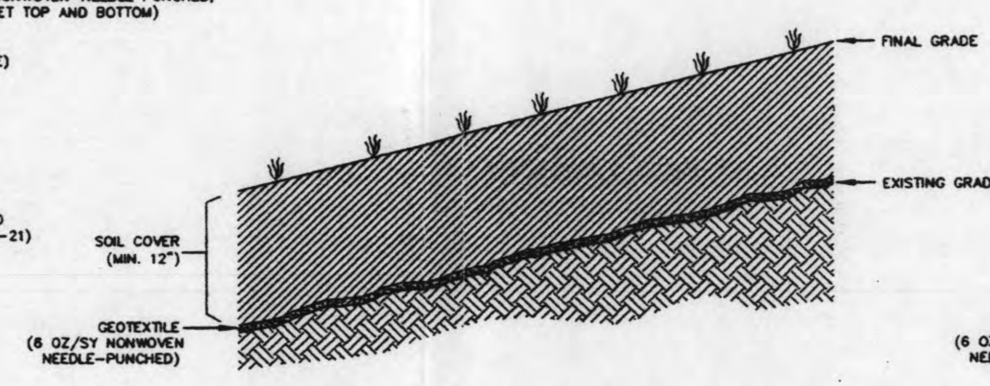
FINAL SITE PLAN

REVISION: 2
PROJECT: 96T187
DRAWING: C-18

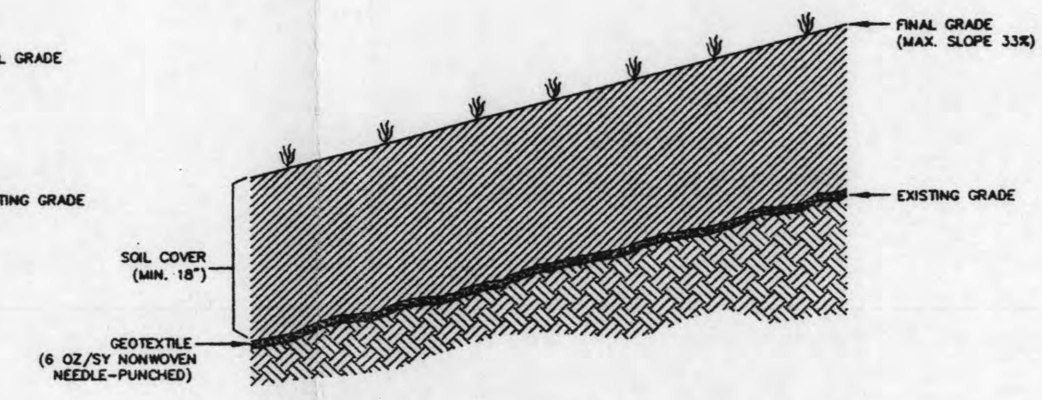
FILE: ANNISTON-96187182 | OPERATOR: P.R. | PROJECT #: 96T187 | LOCATION: HOUSTON, TEXAS | SEND TO:
PLOT SCALE: 1 : 100 | DATE: 02-10-97 | TASK #: 3000 | PROJ. SOUTH LANDFILL COVER CONSTRUCTION | PHONE: (713) 690-0700



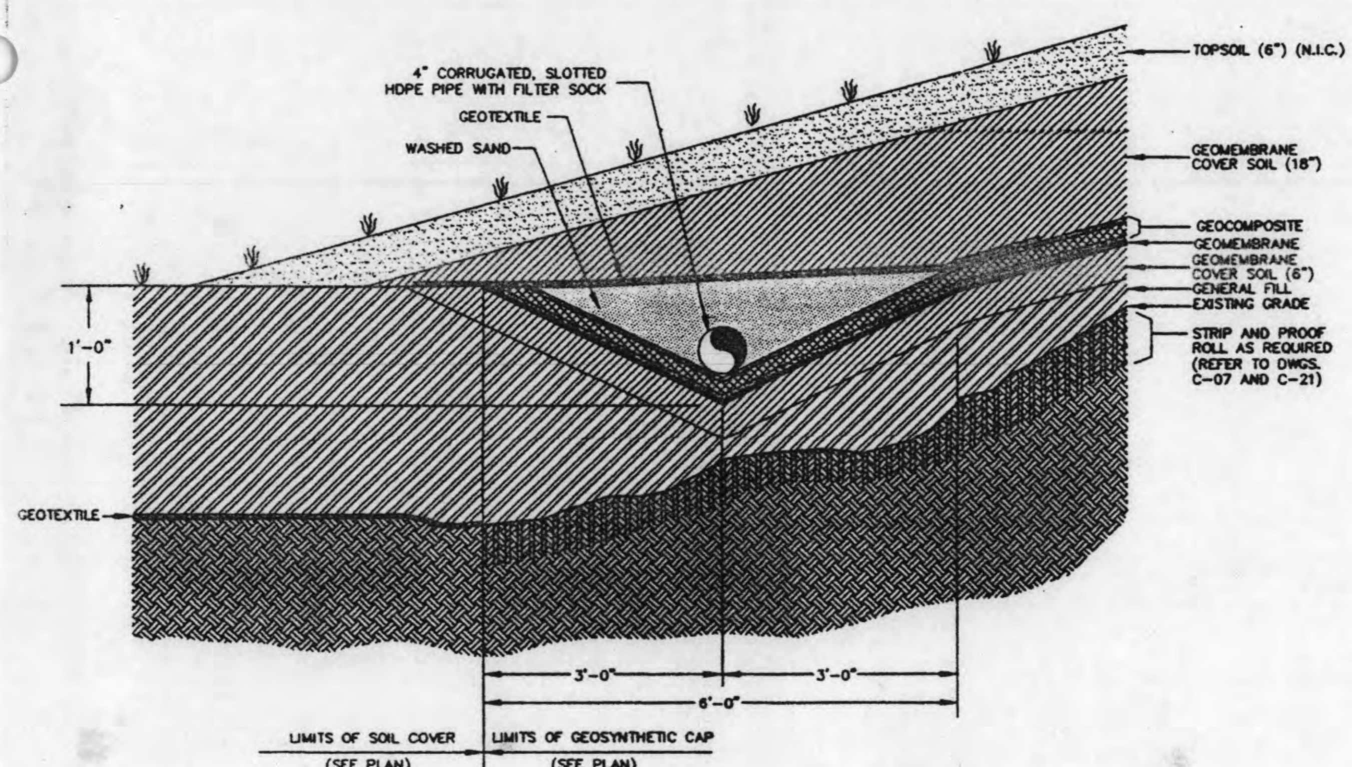
TYPICAL GEOSYNTHETIC CAP SECTION (1 / 14|19)
NOT TO SCALE



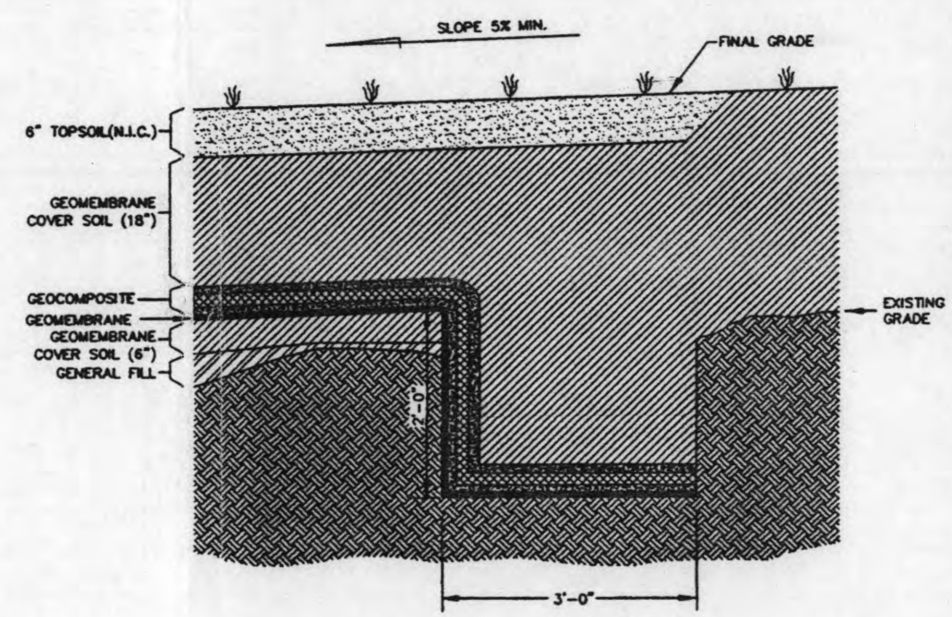
TYPICAL ON-SITE SOIL COVER SECTION (2 / 14|19)
NOT TO SCALE



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

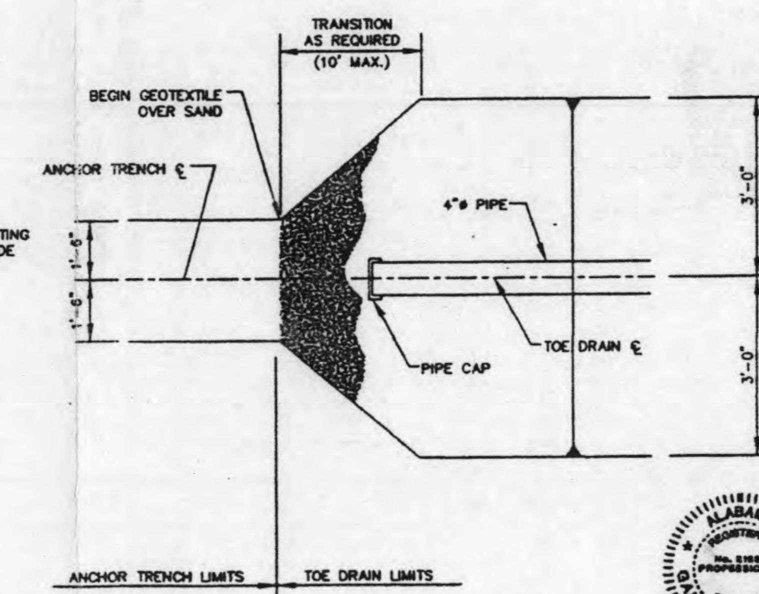


PERIMETER TOE DRAIN DETAIL (4 / 14|19)
NOT TO SCALE



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|19)
NOT TO SCALE



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

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

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Anniston, Alabama 36201

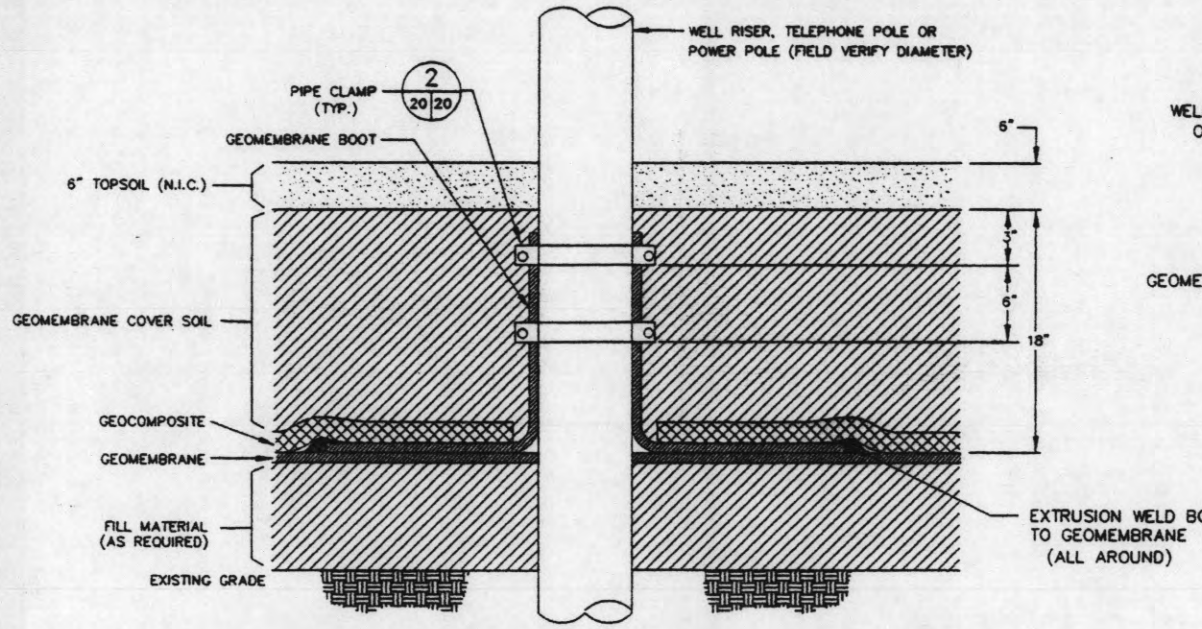
Woodward-Clyde Consultants
Engineering & science applied to the earth & its environment
7600 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

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

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

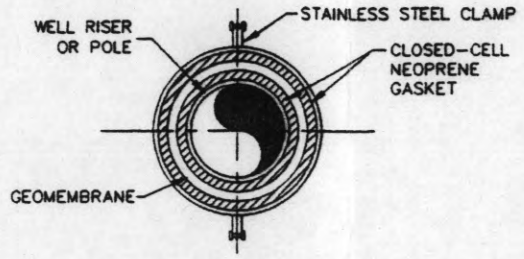
CAP AND COVER CROSS-SECTIONS

REVISION: 0
PROJECT: 96T187
DRAWING: C-19



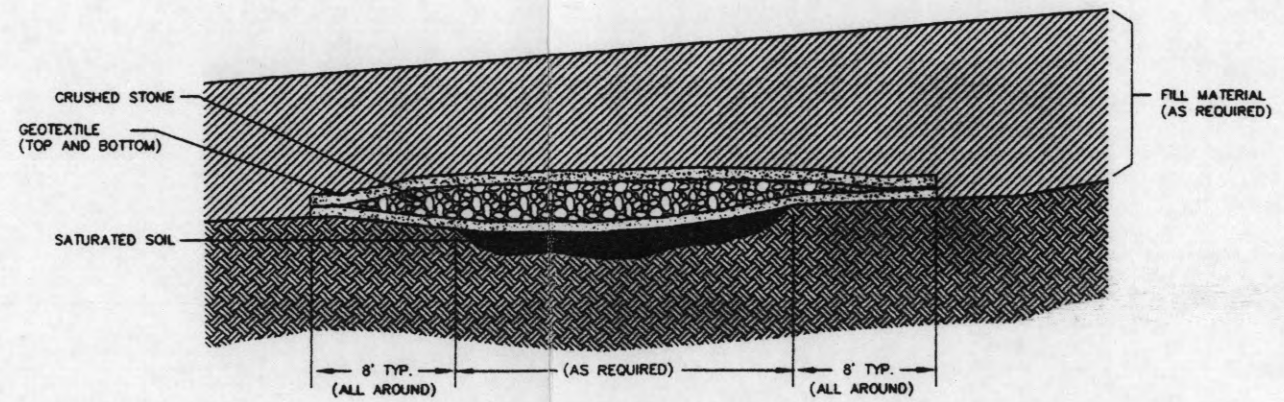
TYPICAL GEOMEMBRANE PENETRATION DETAIL 1 14 20

NOT TO SCALE



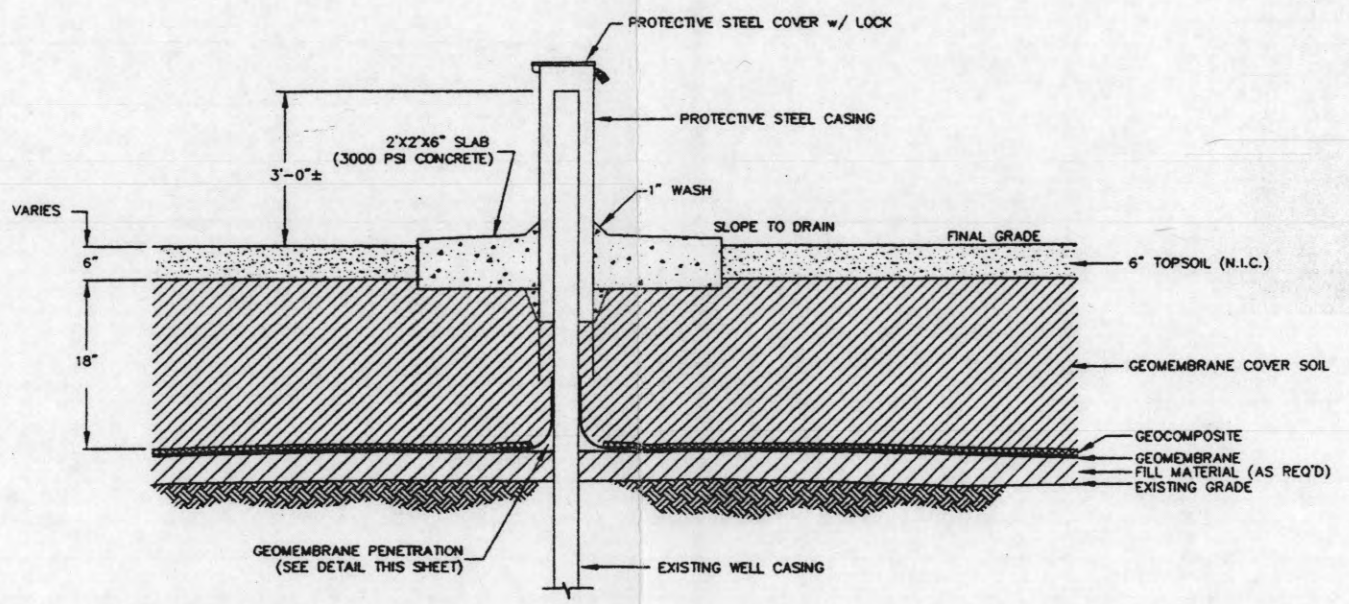
PIPE CLAMP 2 20 20

SCALE: NOT TO SCALE



SEEP AREA MITIGATION DETAIL 3 20 20

NOT TO SCALE



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

TYPICAL MONITORING WELL MODIFICATION DETAIL 5 07 20

NOT TO SCALE

ALABAMA REGISTERED No. 21532 PROFESSIONAL ENGINEER

Gary M. Wakeland

3/27/97

FILE #: ANNISTON-RE/ PLOT SCALE: | OPERATOR: S.J./GAI | DATE: 03-11-97 | PROJECT #: 96T187 | TASK #: 5000 | LOCATION: PROJ. SOUTH LANDFILL COVER CONSTRUCTION | HOUSTON, TEXAS | SEND TO: | PHONE: (713) 590-0700

DRAWING NUMBER	REFERENCE DRAWING TITLE	REV	DESCRIPTION OF REVISION	BY	DATE
		0	ISSUED FOR CONSTRUCTION	GMW	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:	P.R.
CHECKED BY:	M.A.A.
PEER REVIEWER:	G.M.W.
PROJ MANAGER:	L.E.E.
DATE:	3/27/97

PROJECT NAME: SOUTH LANDFILL COVER CONSTRUCTION

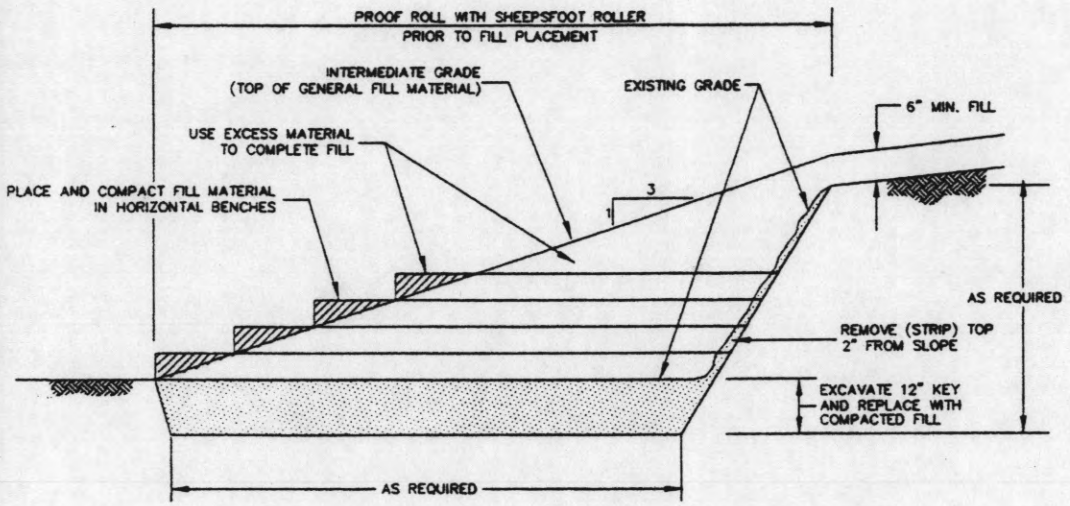
PROJECT LOCATION: ANNISTON, ALABAMA

MISCELLANEOUS DETAILS

REVISION: 0

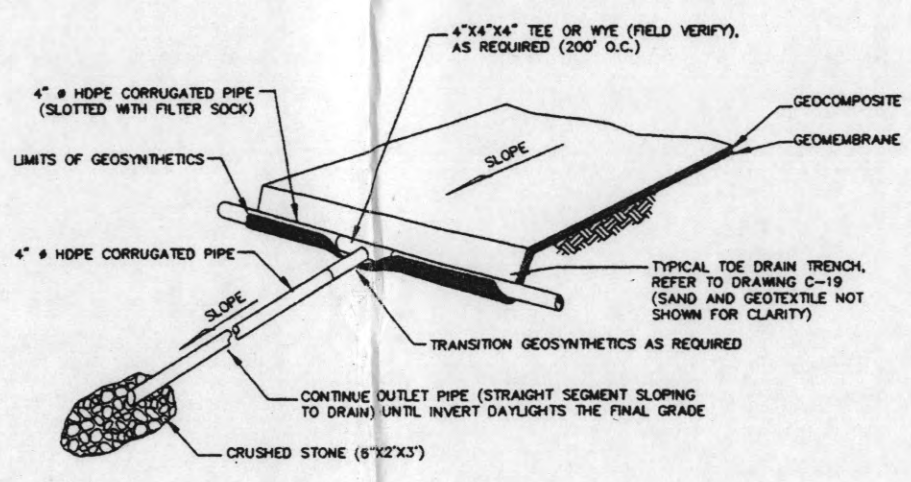
PROJECT 96T187

DRAWING C-20



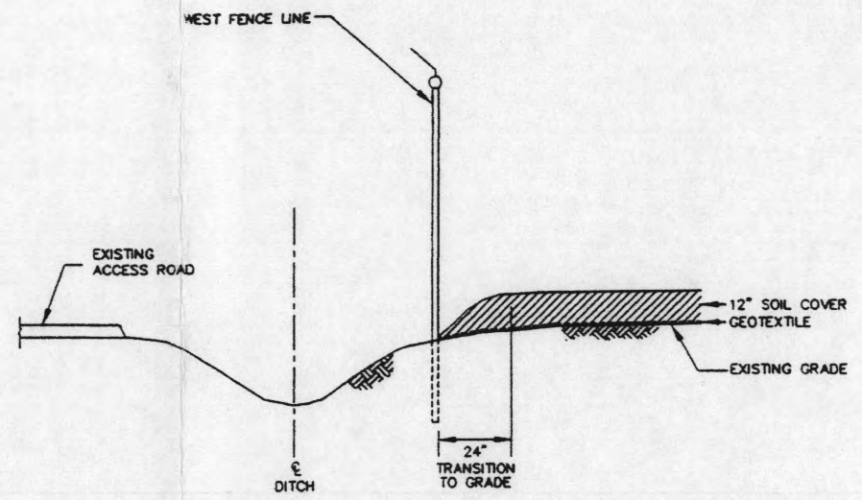
TYPICAL FILL PLACEMENT FOR SLOPES GREATER THAN 3:1 (1 / 07|21)

NOT TO SCALE



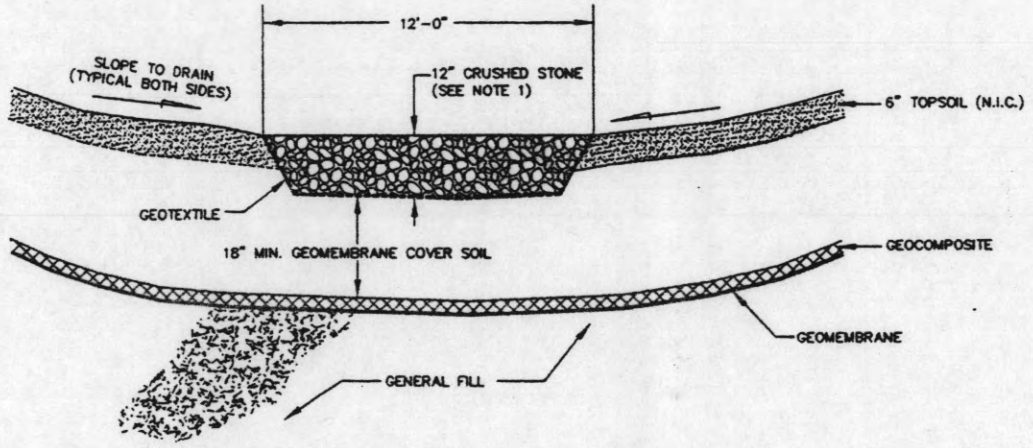
TOE DRAIN OUTLET (2 / 14|21)

NOT TO SCALE



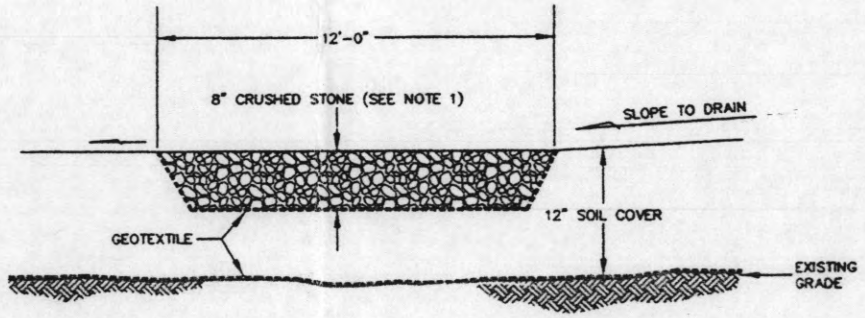
TYPICAL SECTION – LIMITS OF SOIL COVER AT WEST FENCE (A / 14|21)

NOT TO SCALE



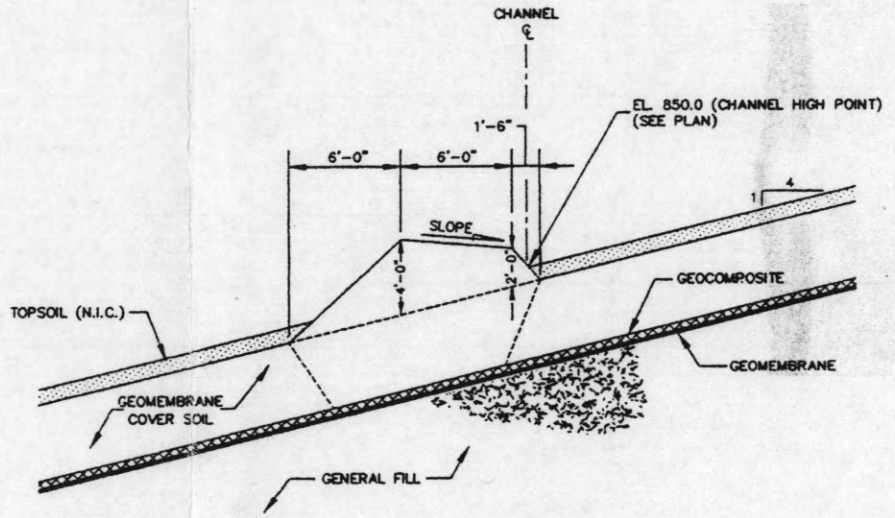
TYPICAL SECTION – POWER LINE EASEMENT ACCESS ROAD (A / 16|21)

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.

ALABAMA REGISTERED No. 21522 PROFESSIONAL ENGINEER
GARY M. WANTLAND
20 May 1997

DRAWING NUMBER	REFERENCE DRAWING TITLE	REV	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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7600 West Tidwell, Suite 600
Houston, Texas 77040
United States of America

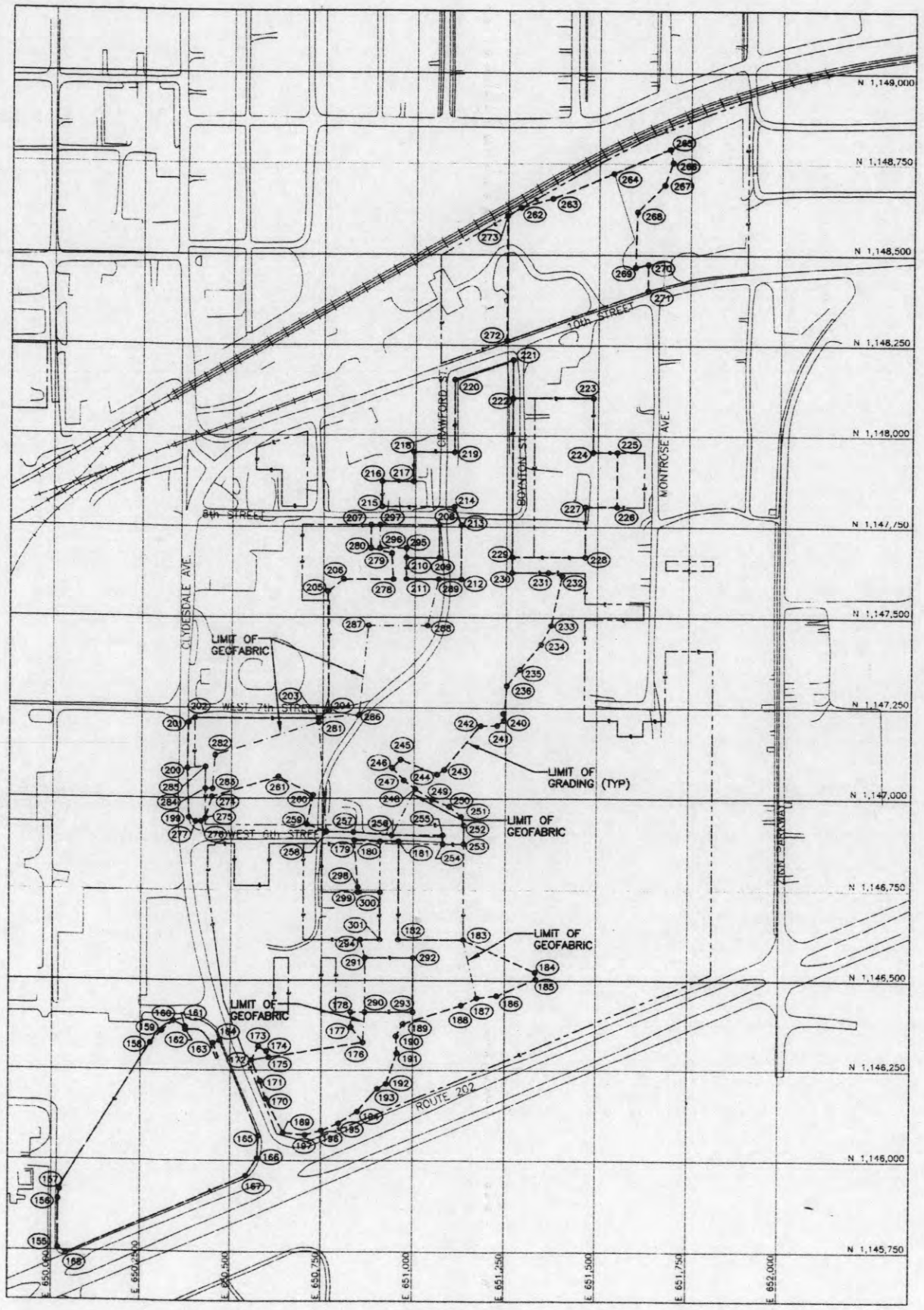
DESIGNED BY:	M.S.C.
DRAWN BY:	S.J.
CHECKED BY:	M.A.A.
PEER REVIEWER:	G.M.W.
PROJ MANAGER:	L.E.E.
DATE:	3/27/97

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

MISCELLANEOUS DETAILS

REVISION: 0
PROJECT: 96T187
DRAWING: C-21

FILE #: ANNISTON-96T187 | PROJECT #: 96T187 | LOCATION: HOUSTON, TEXAS | SEND TO:
PLOT SCALE: 1 : 1 | DATE: 03-14-97 | TASK #: 5000 | PROJ. SOUTH LANDFILL COVER CONSTRUCTION | PHONE: (713) 680-0700



KEY PLAN
1"=200'

LIMIT OF GRADING COORDINATES

POINT	NORTHING	EASTING
155	1145756.3949	650018.5343
156	1145890.9987	650018.5343
157	1145916.6619	650022.8473
158	1146325.2742	650276.6276
159	1146358.9606	650308.4469
160	1146386.7880	650340.5391
161	1146370.0318	650373.7677
162	1146362.0822	650374.6211
163	1146325.2928	650451.8010
164	1146332.6436	650469.6788
165	1146068.8239	650578.1541
166	1146007.0791	650574.4480
167	1145958.9181	650543.5639
168	1145741.5762	650040.7708
169	1146077.6895	650645.5065
170	1146170.3329	650597.5636
171	1146220.2614	650581.9018
172	1146278.3954	650557.9840
173	1146316.4505	650576.6144
174	1146303.0494	650598.4318
175	1146285.9946	650604.9111
176	1146327.9419	650863.9450
177	1146369.8454	650830.5477
178	1146411.2799	650829.9367
179	1146886.5258	650837.5895
180	1146882.4872	650909.0085
181	1146882.4872	650959.0085
182	1146611.6148	650959.0085
183	1146611.6148	651135.8085
184	1146522.5602	651334.1498
185	1146504.7596	651336.0956
186	1146457.4254	651227.8529
187	1146451.0858	651173.6316
188	1146430.3827	651130.4898
189	1146378.1926	650972.5970
190	1146344.9832	650954.0467
191	1146297.9718	650956.2040
192	1146212.2374	650927.7326
193	1146199.3882	650904.1738
194	1146135.7521	650849.4002
195	1146103.6311	650797.9921
196	1146083.7453	650750.5637
197	1146071.5779	650705.6713
199	1146947.0200	650381.0400
200	1147083.2500	650376.9800
201	1147207.9300	650378.8500
202	1147220.6148	650396.8085
203	1147220.6148	650737.8153
204	1147242.5256	650765.8085
205	1147571.0286	650761.8278
206	1147604.5330	650805.2937
207	1147755.1148	650879.8650
208	1147755.1148	651065.8085
209	1147665.1148	651065.8085
210	1147665.1148	650975.8085
211	1147605.1148	650975.8085
212	1147605.1148	651125.8085
213	1147755.1148	651125.8085
214	1147805.1148	651105.8085
215	1147805.1148	650909.5000
216	1147875.1148	650909.5000
217	1147875.1148	650994.5000
218	1147955.1148	650994.5000
219	1147955.1148	651105.8085
220	1148155.1148	651105.8085
221	1148210.1148	651265.8085
222	1148105.1148	651265.8085
223	1148105.1148	651485.8085
224	1147955.1148	651485.8085
225	1147955.1148	651551.5558
226	1147805.1148	651551.5558
227	1147805.1148	651465.8085
228	1147667.6148	651465.8085
229	1147667.6148	651265.8085
230	1147624.6148	651265.8085
231	1147624.6148	651365.8085
232	1147615.2519	651403.1737
233	1147479.1083	651374.0315
234	1147425.3286	651346.6459
235	1147356.6454	651288.3769
236	1147311.8000	651252.0248
237	--	--
238	--	--
239	1147234.8717	651242.6350
240	1147215.4434	651244.2464
241	1147201.2965	651226.2667
242	1147200.4994	651181.6101
243	1147080.0480	651081.6926
244	1147066.8499	651062.3958
245	1147106.4441	650962.8651
246	1147084.1089	650940.5215
247	1147049.5909	650972.0057
248	1147025.9916	651003.4396
249	1146996.3143	651049.7922
250	1146978.7542	651095.4585
251	1146950.9089	651128.3282
252	1146926.6148	651135.8085
253	1146876.6148	651135.8085
254	1146876.6148	651078.6473
255	1146899.7338	651078.6473
256	1146899.3434	650939.8561
257	1146907.5500	650835.5200
258	1146908.9000	650760.8400
259	1146928.9107	650707.1076
260	1147008.7472	650724.5019
261	1147060.1269	650628.0446
262	1148630.5184	651285.3447
263	1148655.4301	651372.3910
264	1148723.2800	651537.7300
265	1148791.2259	651691.9267
266	1148754.0683	651699.5868
267	1148693.1044	651677.3681
268	1148618.6503	651602.8975
269	1148466.7638	651598.4293
270	1148474.4212	651632.9204
271	1148401.1277	651632.9204
272	1148264.0233	651247.6261
273	1148607.7069	651247.6261
274	1147004.0044	650445.4076
275	1146945.4505	650427.4223
276	1146936.2856	650415.2003
277	1146936.2856	650400.3596
278	1147604.5330	650940.6072
279	1147678.9972	650936.4605
280	1147691.3028	650879.8650
281	1147209.0198	650738.6718
282	1147118.4275	650453.8906
283	1147026.1272	650446.7335
284	1147026.1272	650426.8085
285	1147086.6148	650426.8085
286	1147230.6109	650849.3610
287	1147477.2241	650874.3521
288	1147477.2241	651034.4774
289	1147605.1148	651064.2673
290	1146411.6148	650869.3085
291	1146561.6148	650869.3085
292	1146561.6148	650999.3085
293	1146411.6148	650999.3085
294	1146611.6148	650855.5794
295	1147691.3912	650975.8085
296	1147691.3912	650904.4882
297	1147755.1148	650904.4882
298	1146757.7796	650848.3906
299	1146743.6148	650848.3906
300	1146743.6148	650909.0085
301	1146611.6148	650909.0085

NO.	DATE	REVISION	INIT
1	6/9/97	ISSUED PER MODIFICATION NO. 1	
0	5/7/97	ISSUED FOR CONSTRUCTION	
B	4/18/97	ISSUED FOR INTERNAL REVIEW	
A	3/28/97	ISSUED FOR INTERNAL REVIEW	

1"=200' 200 0 200 400

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ALABAMA REGISTERED No. 16584 PROFESSIONAL ENGINEER DEAN C. PALMER

O'BRIEN & GERE ENGINEERS, INC.

MONSANTO COMPANY
DETENTION CAP COVER
ANNISTON, ALABAMA

GENERAL

LIMITS OF GRADING PLAN & COORDINATES

IN CHARGE OF RJ PANCK
DESIGNED BY TJS CHECKED BY RJP
DRAWN BY KFR
FILE NO. 2600.034-029
DATE MAR. 28, 1997

G-0

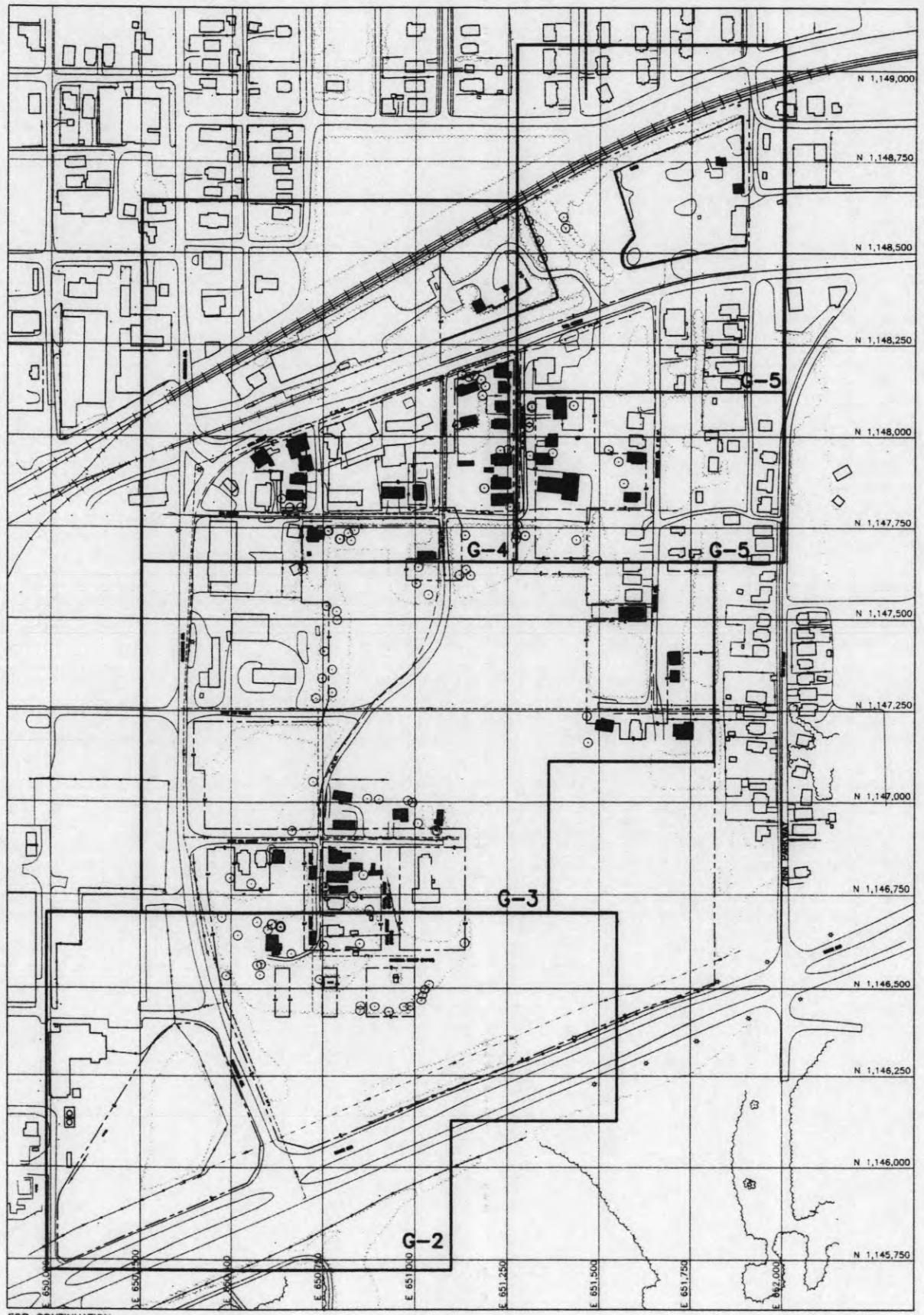
MOD NO. 1 REF G-0, REV 0

Dean C. Palmer

PLOT DATE: 6/9/97

E:\DWGS\PROJECTS\MONSANTO\DWG\025.DWG

I:\DWB3\PROJECTS\MONSANTO\DWG\023.DWG



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 TAKEN 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 OR EMPLOYEES 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 ADMINISTATIVE 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 NECESSARILLY 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 TO REMAIN IN SERVICE PRIOR TO THE START OF CONSTRUCTION. THE ALABAMA LINE 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 RELOCATED AND IS NOT PART OF THIS CONTRACT. APPROXIMATELY 120 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 OF SOIL 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 ON NATIVE SOIL AND IN ACCORDANCE WITH SPECIFICATION 02297.

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.

MOD NO. 1 REF G-1, REV 0

LEGEND

EXISTING		PROPOSED
℄	PROPERTY LINE	
	EDGE OF PAVEMENT	
	RAILROAD	
723	CONTOUR	723
730	CONTOUR (5')	730
776.9 ×	SPOT ELEVATION	
	LIMIT OF GRADING	
	LIMIT OF GEOTEXTILE	
	LIMIT OF GRADING COORDINATE	159
	LIGHT	
	UTILITY POLE	
	GUARD RAIL	
G	GAS LINE	
16"W	WATERLINE	
24"ø RCP INV=778.89	STORM LINE	SMH-1
	FENCE	
	CENTERLINE OF BERM	
	SWALE	
	CONCRETE SWALE	
	RIP-RAP	
	STRUCTURES TO BE DEMOLISHED BY OTHERS	
	LIMITS OF GEOTEXTILE	

NO.	DATE	REVISION	INIT.
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A	3/28/97	ISSUED FOR INTERNAL REVIEW	

1" = 200' 200 0 200 400

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ALABAMA REGISTERED No. 16584 PROFESSIONAL ENGINEER DEAN L. PALMER

O'BRIEN & GERE ENGINEERS, INC.

MONSANTO COMPANY
DETENTION CAP COVER
ANNISTON, ALABAMA

GENERAL

PLAN, NOTES & LEGEND

IN CHARGE OF RJ PANEK
DESIGNED BY TJS CHECKED BY RJP
DRAWN BY KFR

FILE NO. 2600.034-023
DATE MAR. 28, 1997

G-1

PLOT DATE: 6/9/97

MOD NO. 1 REF G-2, REV 0

PLOT DATE:6/9/97

PLAN
1"=50'

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

ROUTE 202

ROSSELL STREET (PAPER)

PEARL STREET (PAPER)

FERRON STREET (PAPER)

CLYDESDALE AVE.

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

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C	5/7/97	ISSUED FOR CONSTRUCTION	

1"=50'

O'BRIEN & GERE ENGINEERS, INC.

MONSANTO COMPANY
DETENTION CAP COVER
ANNISTON, ALABAMA

GENERAL

GRADING PLAN

IN CHARGE OF _____ FILE NO. 2600.034-024
DESIGNED BY TJS CHECKED BY RJP DATE
DRAWN BY KFR MAR. 28, 1997

G-2

I:\DWB3\PROJECTS\MONSANTO\DWG\010.DWG

I:\DWG\PROJECTS\MONSANTO\DWG\010.DW

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

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

GRASSED LINED SWALE SEE DETAIL SHT. G–6

50'x50' RIPRAP ALDOT SECTION 610–A CLASS 3 24" THICK

SAN MH RIM=717.13 INV=713.13

24" HDPE 710'@0.0127

18RCP INV=728.09

GASLINE LOC. APPROXIMATE BETWEEN 7TH AND 8TH STREET DUE TO PAV'T. REMOVAL

N 1,147,500

CLYDESDALE AVE.

N 1147486.3811 E 650888.1500

N 1147486.5085 E 650865.2912

N 1147486.3087 E 651222.6970

NO GEOTEXTILE PLACED & COVER MATERIAL THIS AREA

MONTROSE AVE.

R=33'

CONCRETE EMERGENCY SPILLWAY SEE DETAIL ON SHEET G–7

REINFORCED SPILLWAY EMBANKMENT

8'9 INLET STRUCTURE INV=720.0 SEE DETAIL ON SHEET 7

PROPOSED 36" HDPE STORM PIPES SEE GOLDER ASSOCIATES SHEET 14

BERM CENTERLINE (TYP)

1V:4H EMBANKMENT SIDE SLOPE

SEE GRADING NOTE 8,9 & 10 ON SHT. G–1

THIS AREA TO BE FINAL GRADED AND SEEDED AS NECESSARY

SEE GENERAL UTILITY NOTE 5 ON SHT. G–1

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

N 1,147,250

WEST 7th STREET

INV=721.31 36" SMP. TO BE REMOVED AND DISPOSED OF

INV=720.59

INV=720.69

N 1147207.7637 E 650840.6588

INV=721.25

N 1147180.2767 E 650820.1263

INV=721.61

INV=721.49

48" PLIC

INV=722.84

SEE GRADING NOTE 7 ON SHT. G–1

INV=737.19

12" PLIC

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

CONTRACTOR SHALL REMOVE AND DISPOSE OF EXIST. 48" PIPE AND REPAIR GRADES AS NECESSARY

EXISTING DRAINAGE STRUCTURE TO BE REMOVED AND DISPOSED OF

JUNCTION BOX: SEE GOLDER ASSOC. SHEET 14. CONTRACTOR TO COORDINATE WORK IN THIS AREA

INV=725.05

INV=730.35

36" CMP INV=730.77 4X3 BOX

N 1,147,000

INV=729.47

BERM CENTERLINE N 1147036.1050 E 650396.0967

PROPOSED 36" HDPE STORM PIPES SEE GOLDER ASSOC. SHEET 14

EXIST. 4'X6' BOX

BERM CENTERLINE (TYP)

EXISTING 36" CMP TO BE REMOVED AND DISPOSED OF

THIS AREA TO BE GRADED AND SEEDED AS SHOWN NO GEOTEXTILE PLACEMENT IN THIS AREA

SEE TYPICAL CHANNEL LINING DETAIL SHT. G–6

FILL EXIST. 15" PIPE WITH CONCRETE ENTIRE LENGTH

MUD FILLED

INV=729.88

INV=727.49

CONTRACTOR SHALL REMOVE AND DISPOSE OF EXIST. END SECTION

EXISTING CONC. SPILLWAY

THIS AREA TO BE GRADED AND SEEDED AS SHOWN NO GEOTEXTILE PLACEMENT IN THIS AREA

CONTINUATION NOT KNOWN

WEST 6th STREET

15"RCP INV=730.93

INV=730.88

FILL EXIST. 36" PIPES WITH CONCRETE ENTIRE LENGTH

INV=729.58

INV=731.17

INV=732.60

NO GEOTEXTILE PLACEMENT & COVER MATERIAL THIS AREA

LIMIT OF PAPER STREET

PRIVATE PROPERTY NO ACCESS

FERRON STREET (PAPER)

PEARL STREET (PAPER)

INV=738.25

N 1,146,750

24"RCP INV=740.22

NO GEOTEXTILE PLACEMENT & COVER MATERIAL THIS AREA

NO GEOTEXTILE PLACEMENT & COVER MATERIAL THIS AREA

E 650,500

E 650,750

E 651,000

E 651,250

E 651,500

E 651,750

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

PLAN 1"=50'

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

NO.	DATE	REVISION	INIT.
1	6/9/97	ISSUED PER MODIFICATION NO. 1	
0	5/7/97	ISSUED FOR CONSTRUCTION	
B	4/18/97	ISSUED FOR INTERNAL REVIEW	
A	3/28/97	ISSUED FOR INTERNAL REVIEW	

1"=50' 50 0 50 100

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. INACCURACIES 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 No. 16584 PROFESSIONAL ENGINEER DEAN L. PALMER

O'BRIEN & GERE ENGINEERS, INC.

MONSANTO COMPANY
DETENTION CAP COVER
ANNISTON, ALABAMA

GENERAL

GRADING PLAN

IN CHARGE OF Dean L Palmer
DESIGNED BY TJS CHECKED BY RJP
DRAWN BY KFR

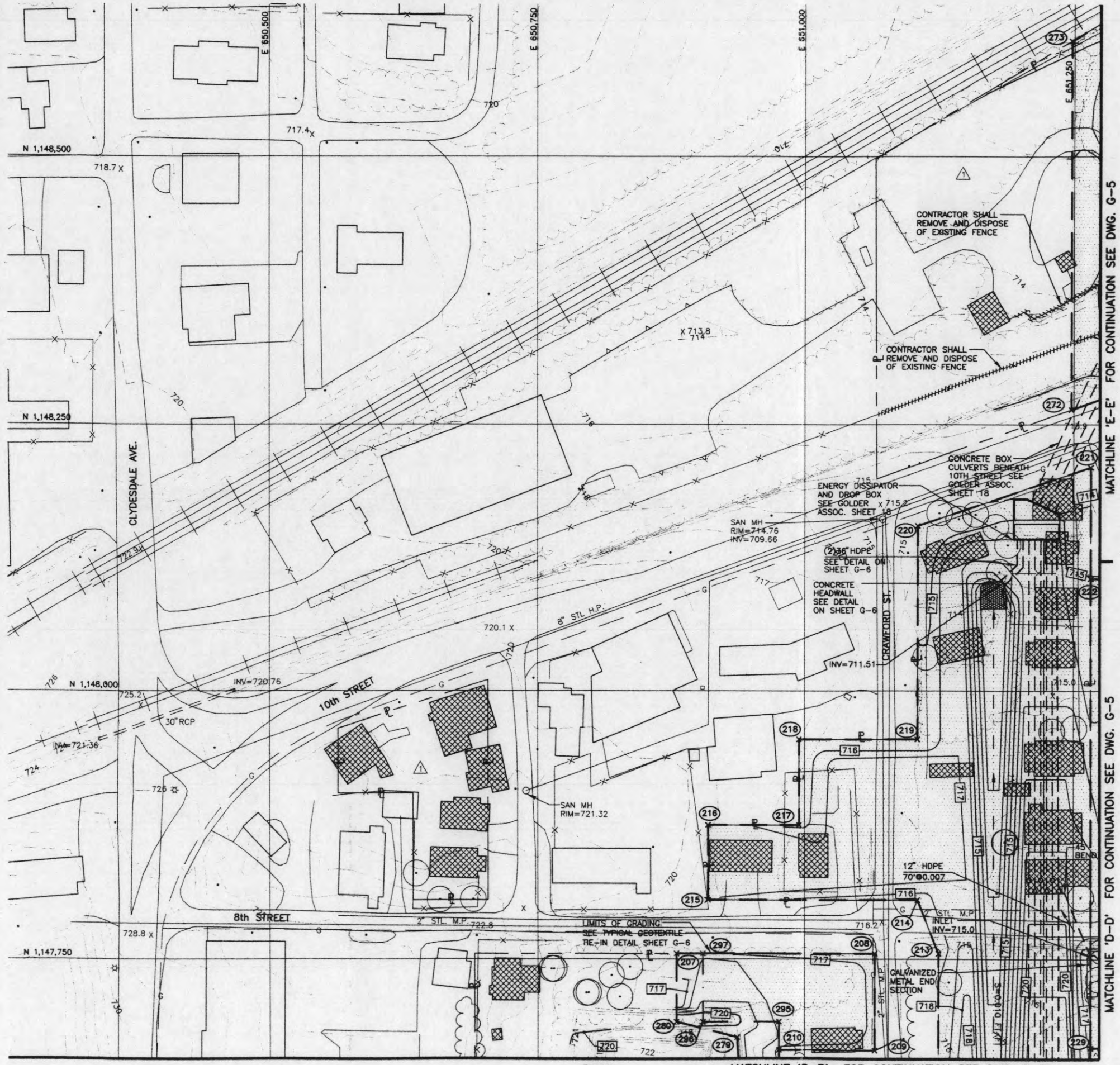
FILE NO. 2600.034–025
DATE MAR. 28, 1997

G–3

MOD NO. 1 REF G–3, REV 0

PLOT DATE: 6/9/97

I:\DIV83\PROJECTS\MONSANTO\DWG\010.DWG



PLAN
1"=50'

PLOT DATE: 6/9/97

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

NO.	DATE	REVISION	INIT.
1	6/9/97	ISSUED PER MODIFICATION NO. 1	
0	5/7/97	ISSUED FOR CONSTRUCTION	
B	4/18/97	ISSUED FOR INTERNAL REVIEW	
A	3/28/97	ISSUED FOR INTERNAL REVIEW	

1"=50' 50 0 50 100

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ALABAMA REGISTERED No. 16584 PROFESSIONAL ENGINEER DEAN L. PALMER

O'BRIEN & GERE ENGINEERS, INC.

MONSANTO COMPANY
DETENTION CAP COVER
ANNISTON, ALABAMA

GENERAL

GRADING PLAN

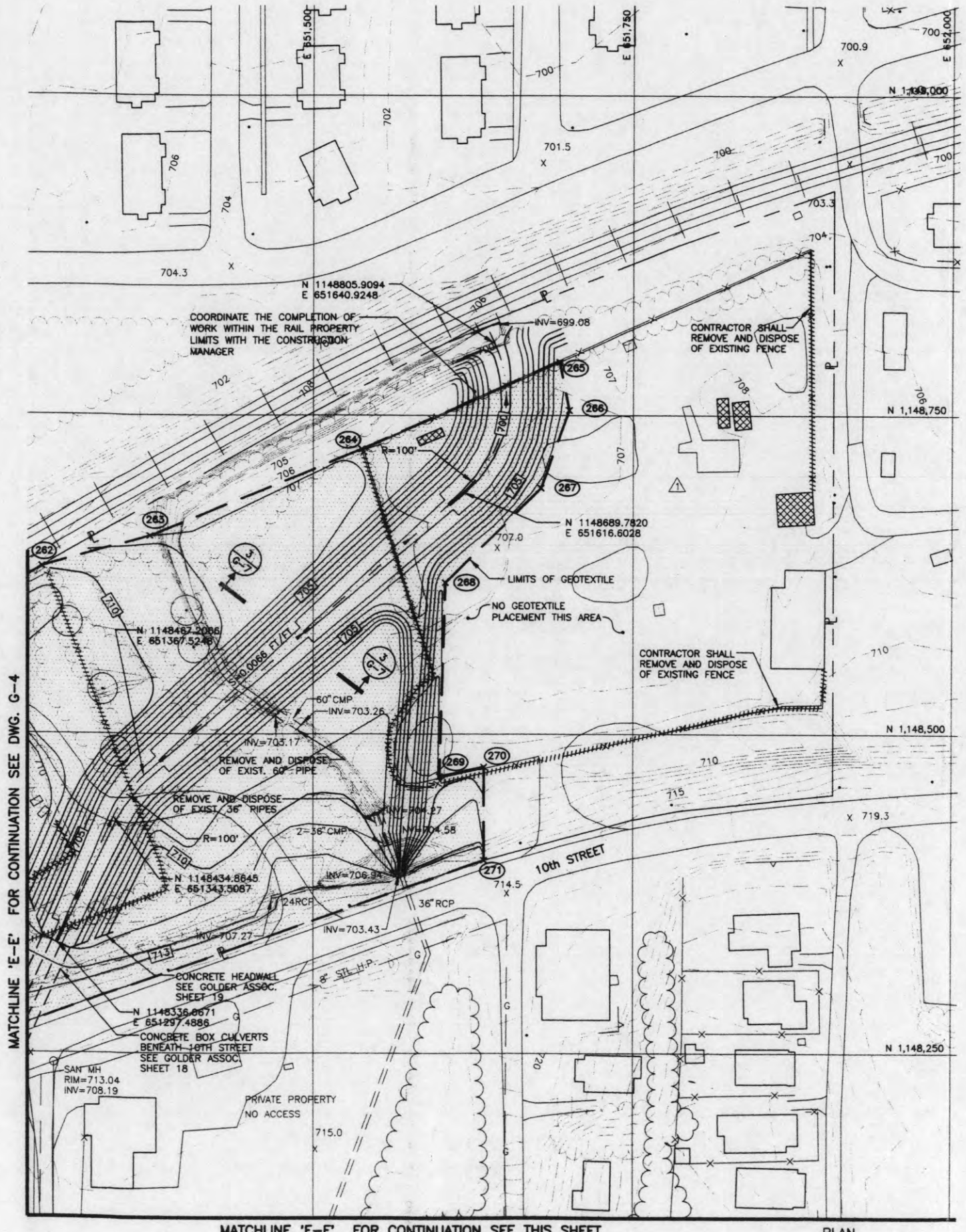
IN CHARGE OF Dean L. Palmer
DESIGNED BY TJS CHECKED BY RJP
DRAWN BY KFR

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

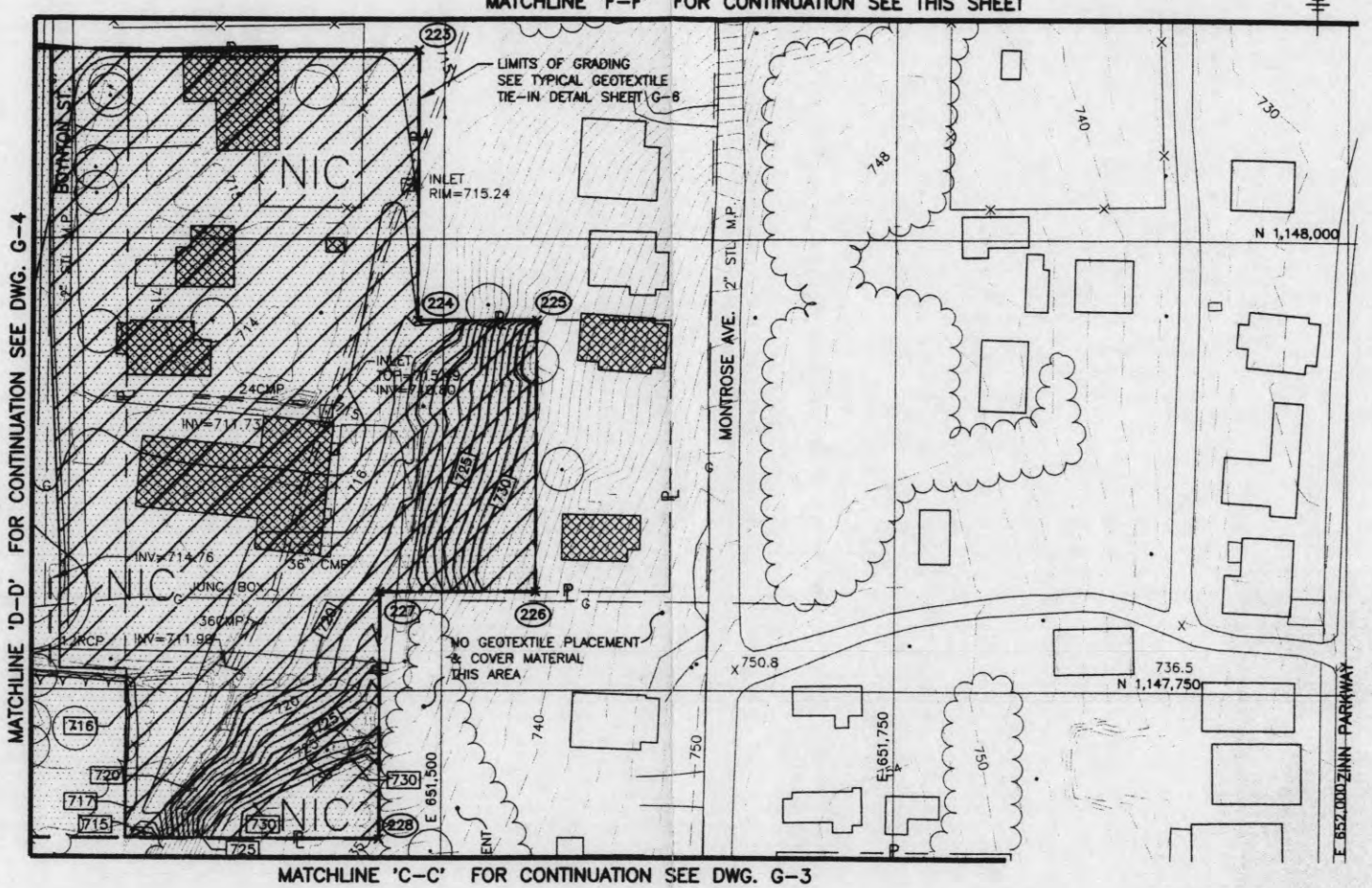
G-4

MOD NO. 1 REF G-4, REV 0

I:\DIV83\PROJECTS\MONSANTO\DWG\010.DWG



PLAN
1"=50'



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

NO.	DATE	REVISION	INIT.
1	6/9/97	ISSUED PER MODIFICATION NO. 1	
0	5/7/97	ISSUED FOR CONSTRUCTION	
B	4/18/97	ISSUED FOR INTERNAL REVIEW	
A	3/28/97	ISSUED FOR INTERNAL REVIEW	

1"=50' 50 0 50 100

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ALABAMA REGISTERED No. 16584 PROFESSIONAL ENGINEER DEAN L. PALMER

O'BRIEN & GERE ENGINEERS, INC.

MONSANTO COMPANY
DETENTION CAP COVER
ANNISTON, ALABAMA

GENERAL

GRADING PLAN

IN CHARGE OF Dean L. Palmer
DESIGNED BY TJS CHECKED BY RJP
DRAWN BY KFR

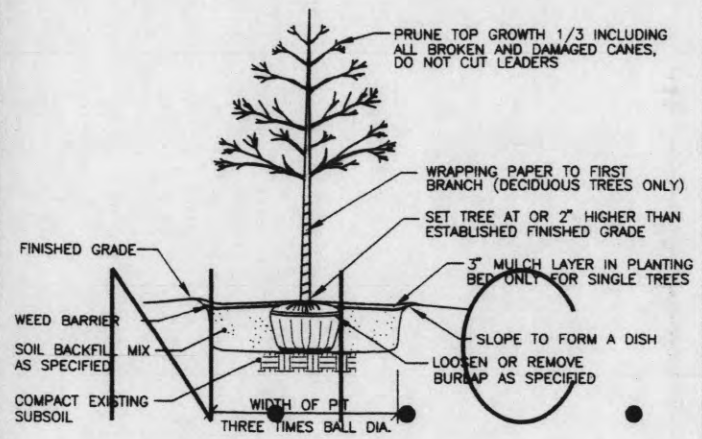
FILE NO. 2600.034-027
DATE MAR. 28, 1997

G-5

MOD NO. 1 REF G-5, REV 0

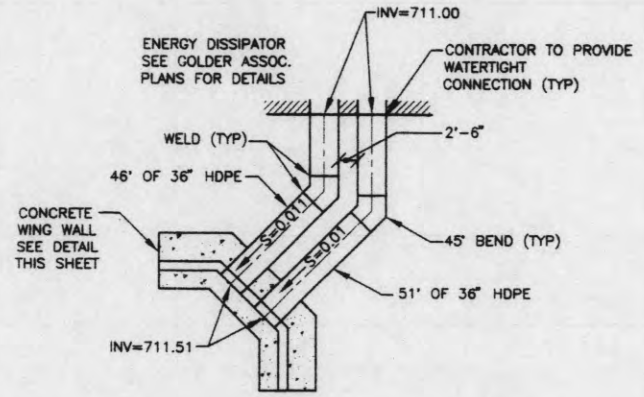
PLOT DATE: 6/9/97

E:\DWGS\PROJECTS\MONSANTO\DWG\016.DWG



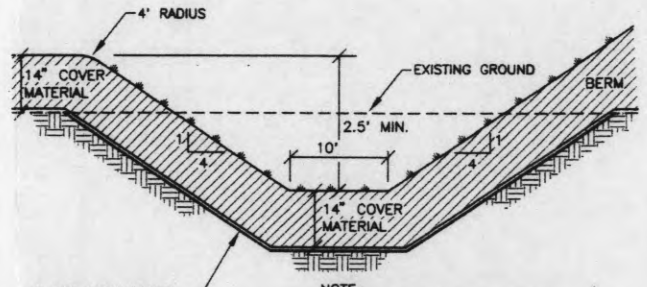
NOTE
GEOTEXTILE LOCATED BELOW LIMITS OF DETAIL. THEREFORE, THE FABRIC IS NOT SHOWN FOR CLARITY.

DECIDUOUS TREE PLANTING DETAILS
NOT TO SCALE



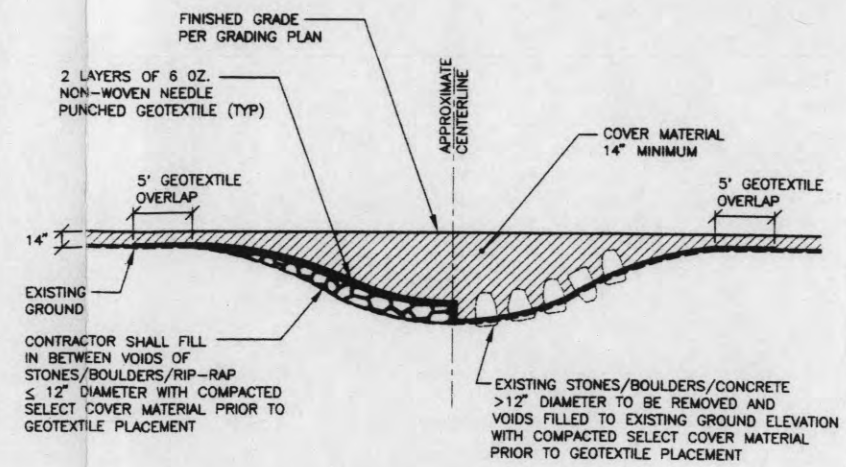
PLAN

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



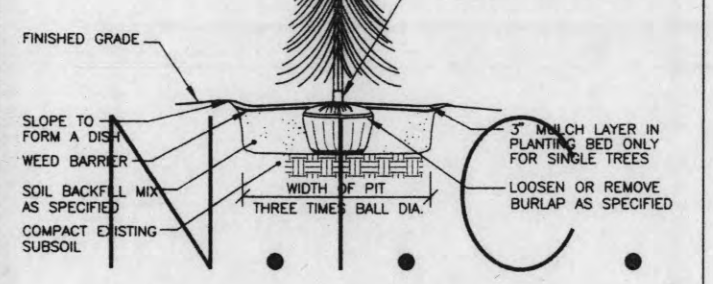
NOTE
DOWNSTREAM OF THE EMERGENCY SPILLWAY CONTRACTOR TO INSTALL LANDLOK® TRM 450 EROSION CONTROL FABRIC, OR EQUAL, WITHIN THE 2.5' SWALE FLOW DEPTH PERIMETER. TO BE INCLUDED UNDER THE SITE SEEDING AND PLANTING CONTRACT.

TYPICAL GRASSED SWALE DETAIL
NOT TO SCALE



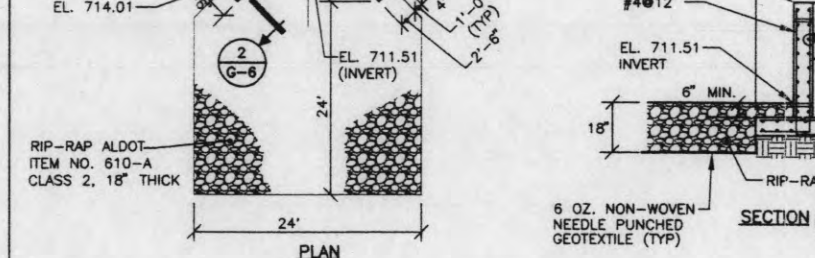
NOTE
CONTRACTOR TO COORDINATE WITH CONSTRUCTION MANAGER FOR ON-SITE DISPOSAL LOCATION AND PLACEMENT CONFIGURATION OF STONES/BOULDERS/CONCRETE REMOVED

TYPICAL CHANNEL LINING DETAIL
NOT TO SCALE

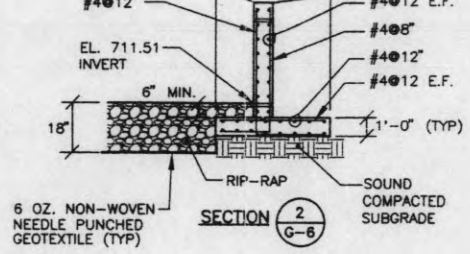


NOTE
GEOTEXTILE LOCATED BELOW LIMITS OF DETAIL. THEREFORE, THE FABRIC IS NOT SHOWN FOR CLARITY.

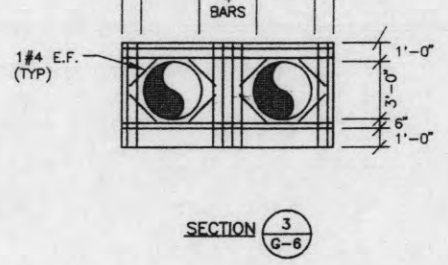
EVERGREEN TREE PLANTING DETAILS
NOT TO SCALE



PLAN

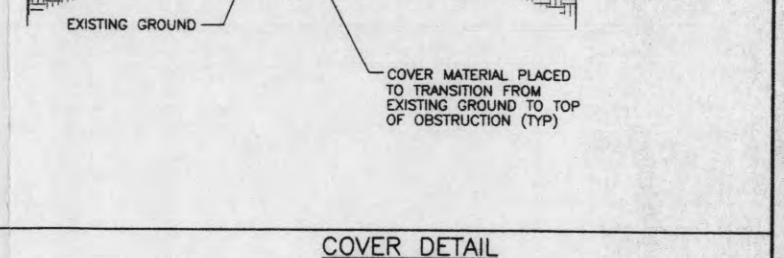


SECTION (2 / G-6)

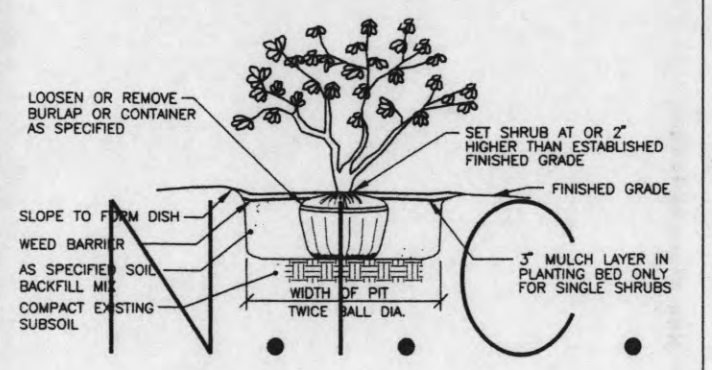


SECTION (3 / G-6)

WING WALL DETAIL
NOT TO SCALE

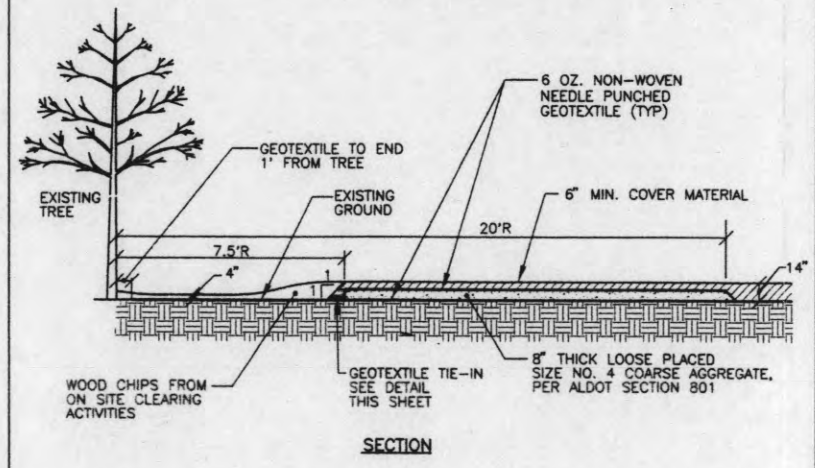


COVER DETAIL
NOT TO SCALE



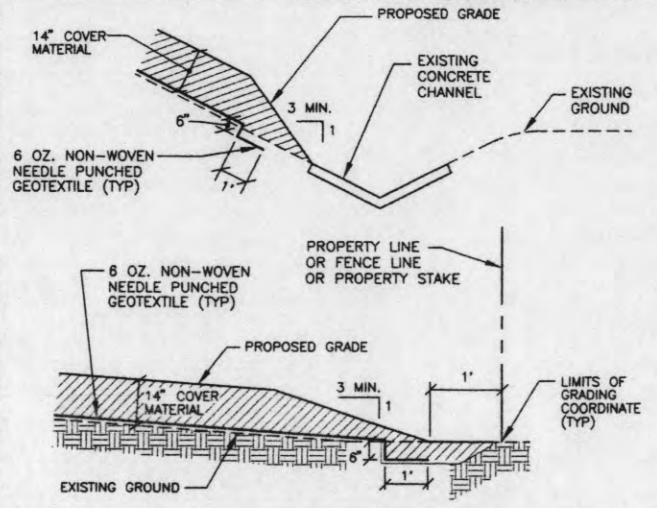
NOTE
GEOTEXTILE LOCATED BELOW LIMITS OF DETAIL. THEREFORE, THE FABRIC IS NOT SHOWN FOR CLARITY.

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

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ALABAMA REGISTERED No. 16584 PROFESSIONAL ENGINEER DEAN L. PALMER

NO.	DATE	REVISION	INIT.
1	6/9/97	ISSUED PER MODIFCATION NO. 1	
0	5/7/97	ISSUED FOR CONSTRUCTION	
B	4/18/97	ISSUED FOR INTERNAL REVIEW	
A	3/28/97	ISSUED FOR INTERNAL REVIEW	

NOT TO SCALE

O'BRIEN & GERE ENGINEERS, INC.

MONSANTO COMPANY
DETENTION CAP COVER
ANNISTON, ALABAMA

GENERAL

MISCELLANEOUS DETAILS

IN CHARGE OF Dean L. Palmer
DESIGNED BY TJS CHECKED BY RJP
DRAWN BY KFR

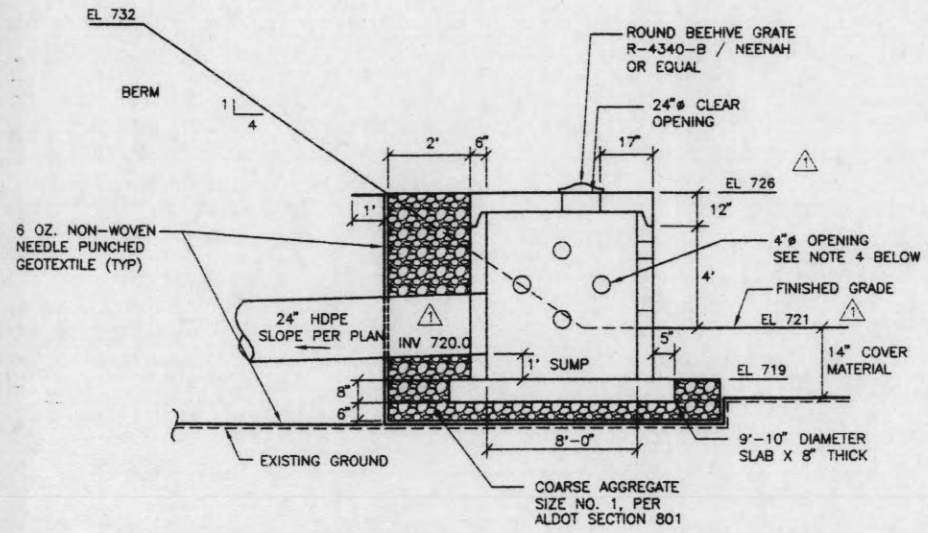
FILE NO. 2600.034-016
DATE MAR. 28, 1997

G-6

MOD NO. 1 REF G-6, REV 0

PLOT DATE:6/9/97

I:\DW63\PROJECTS\MONSANTO\DWG\028.DWG



SPECIFICATIONS

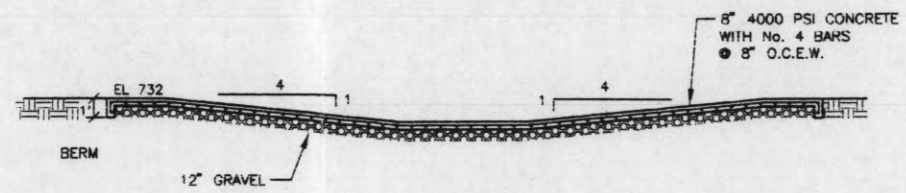
CONCRETE	4000 PSI @ 28 DAYS
ENTRAINED AIR	5%-9%
STEEL	ASTM A496-A615 GRADE 60-60 KSI
DESIGN LOADING	AASHTO HS-20-44 WITH 30% IMPACT AND EQUIVALENT SOIL PRESSURE OF 130 (PSF), FLOATATION FORCES NOT ACCOUNTED FOR

NOTES

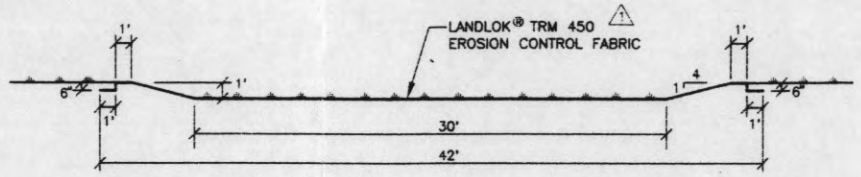
1. REINFORCED STEEL CONFORMS TO LATEST ASTM A185 SPECIFICATION 0.12 SQ. IN./LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) IN BASE SLAB.
2. CONCRETE COMPRESSIVE STRENGTH 4000 PSI MINIMUM.
3. MANHOLE DESIGN SPECIFICATIONS CONFORM TO LATEST ASTM C478 SPEC. FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS.
4. 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

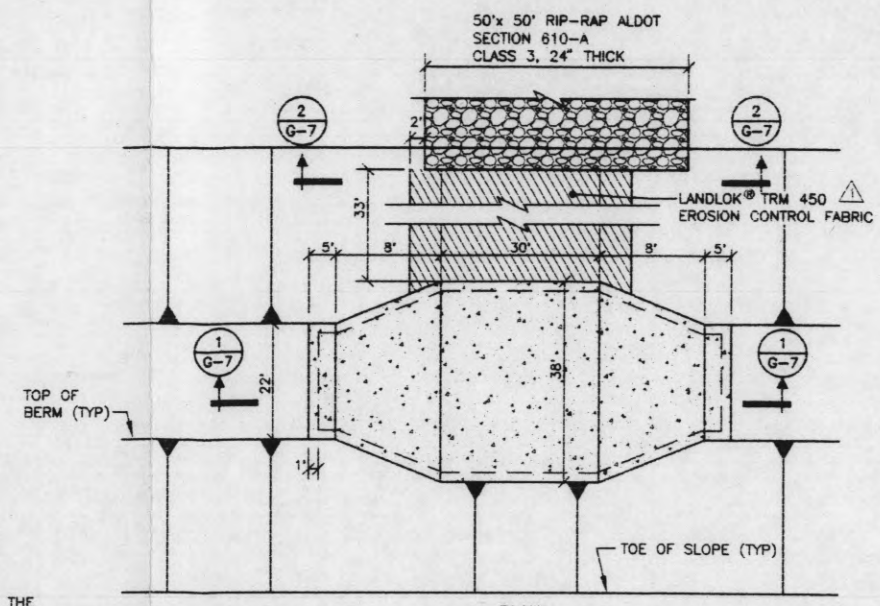


SECTION (1 / G-7)



SECTION (2 / G-7)

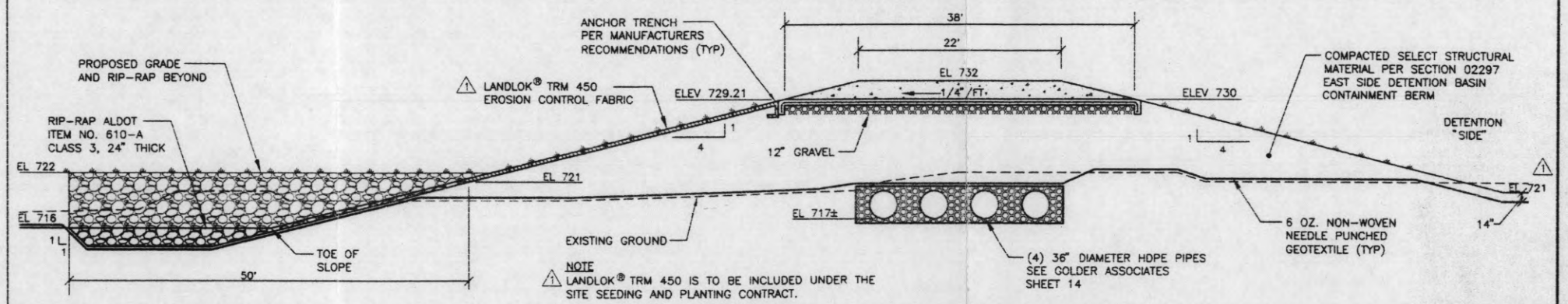
⚠1 NOTE
LANDLOK® TRM 450 IS TO BE INCLUDED UNDER THE SITE SEEDING AND PLANTING CONTRACT.



PLAN

CONCRETE EMERGENCY SPILLWAY

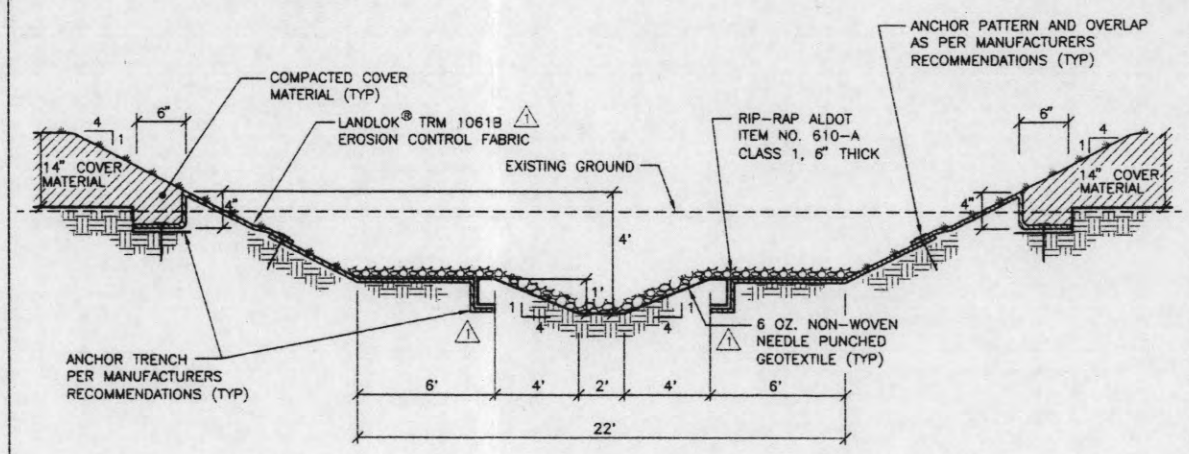
NOT TO SCALE



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

EMERGENCY SPILLWAY - SECTION (3 / G-3)

NOT TO SCALE



⚠1 NOTE
LANDLOK® TRM 10618 IS TO BE INCLUDED UNDER THE SITE SEEDING AND PLANTING CONTRACT.

10th STREET CHANNEL LAYOUT

NOT TO SCALE

MOD NO. 1 REF G-7, REV 0

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ALABAMA REGISTERED No. 16584 PROFESSIONAL ENGINEER DEAN L. PALMER

Dean L. Palmer

NO.	DATE	REVISION	INIT.
⚠1	6/9/97	ISSUED PER MODIFICATION NO. 1	
⚠0	5/7/97	ISSUED FOR CONSTRUCTION	
⚠B	4/18/97	ISSUED FOR INTERNAL REVIEW	
⚠A	3/28/97	ISSUED FOR INTERNAL REVIEW	

NOT TO SCALE

O'BRIEN & GERE ENGINEERS, INC.

MONSANTO COMPANY
DETENTION CAP COVER
ANNISTON, ALABAMA

GENERAL

MISCELLANEOUS DETAILS

IN CHARGE OF Dean L. Palmer
DESIGNED BY TJS CHECKED BY RJP
DRAWN BY KFR

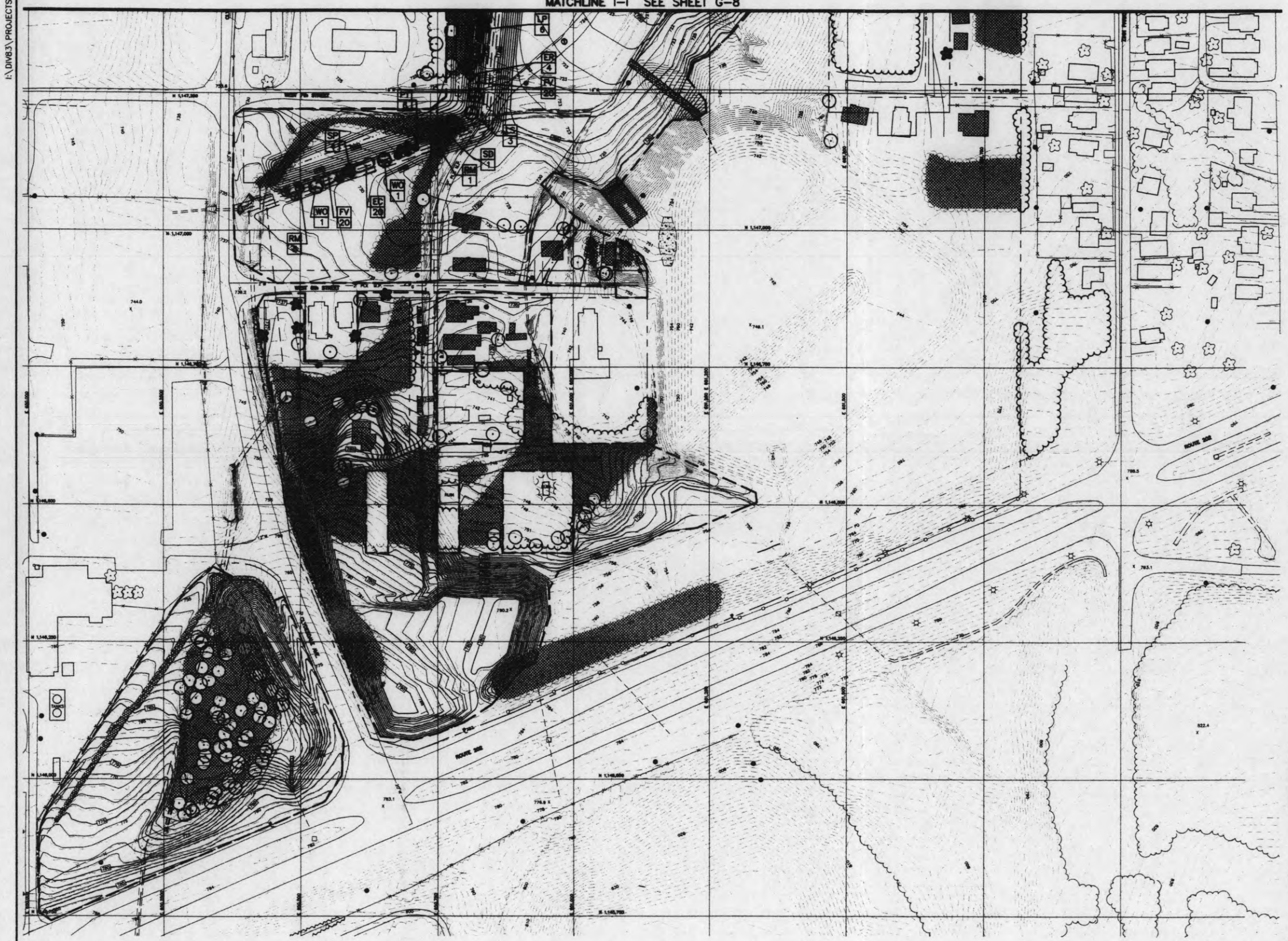
FILE NO. 2600.034-028
DATE MAR. 28, 1997

G-7

PLOT DATE: 6/9/97

I:\DIV83\PROJECTS\MONSANTO\DWG\013.DWG

MATCHLINE 1-1 SEE SHEET G-8



PLAN
1"=100'

LEGEND

- EXISTING TREE TO BE CUT AND DISPOSED OF
- EXISTING TREES TO BE CUT AND DISPOSED OF
- EXISTING TREE TO REMAIN
- EXISTING TREES TO REMAIN
- TREES TO BE PLANTED

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

1"=100' 100 0 100 200

PRELIMINARY
NOT FOR CONSTRUCTION
DATE: 5/6/97

O'BRIEN & GERE ENGINEERS, INC.

MONSANTO COMPANY
RESIDENTIAL COVER DESIGN PROJECT
ANNISTON, ALABAMA

GENERAL
(SOUTH)
LANDSCAPE PLAN

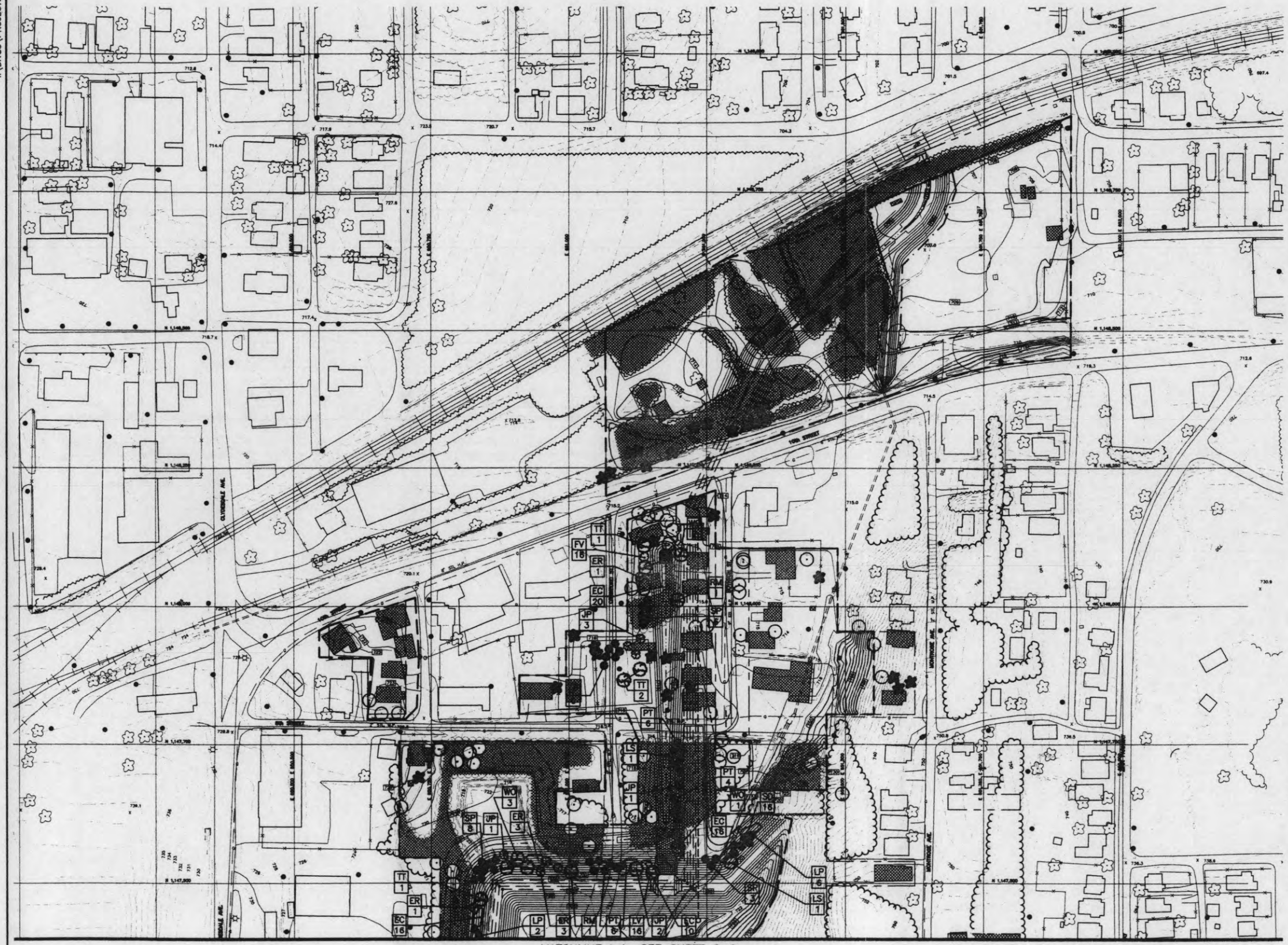
IN CHARGE OF _____
DESIGNED BY TJS CHECKED BY RJP
DRAWN BY KFR

FILE NO. 2600.034-015
DATE APRIL 18, 1997

G-8

PLOT DATE: 5/6/97

I:\DIV83\PROJECTS\MONSANTO\DWG\013.DWG



MATCHLINE I-I SEE SHEET G-9

PLAN
1"=100'

PLANT LIST					
KEY	SCIENTIFIC NAME	COMMON NAME	SIZE	QUANTITY	ROOT
SP	PINUS ECHINATA	SHORTLEAF PINE	3'-4' HT	21	B&B
LP	PINUS ELLIOTTII	SLASH PINE	3'-4' HT	20	B&B
PT	PINUS TAEDA	LOBLOLLY PINE	3'-4' HT	22	B&B
WO	QUERCUS ALBA	WHITE OAK	1 1/2"-2" CAL	8	B&B
RM	MORUS RUBRA	RED MULBERRY	1 1/2"-2" CAL	6	B&B
LS	LIQUIDAMBAR STYRACIFLUA	SWEETGUM	1 1/2"-2" CAL	5	B&B
ER	CERCIS CANADENSIS	EASTERN REDBUD	1 1/2"-2" CAL	12	B&B
TT	LIRIODENDRON TULIPIFERA	TULIPTREE	1 1/2"-2" CAL	4	B&B
JP	SOPHORA JAPONICA	JAPANESE PAGODATREE	1 1/2"-2" CAL	7	B&B
FV	VIBURNUM CARLESII	FRAGRANT VIBURNUM	15"-18" HT	56	#2 CAN
EC	VIBURNUM OPULUS	EUROPEAN CRANBERRYBUSH	2'-3' HT	82	#2 CAN
LV	VIBURNUM DILATATUM	LINDEN VIBURNUM	18"-24" HT	16	#2 CAN
SD	CORNUS AMOMUM	SILKY DOGWOOD	18"-24" HT	17	#2 CAN

LEGEND

- EXISTING TREE TO BE CUT AND DISPOSED OF
- EXISTING TREES TO BE CUT AND DISPOSED OF
- EXISTING TREE TO REMAIN
- EXISTING TREES TO REMAIN
- TREES TO BE PLANTED

NOTE

EXISTING TREES SHOWN TO REMAIN WILL BE EVALUATED IN THE FIELD. APPROXIMATELY 50% OF THESE TREES SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AFTER EVALUATION. TREES TO ULTIMATELY REMAIN (APPROX. 50%) WILL BE FLAGGED BY THE OWNER.

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

1"=100' 100 0 100 200

THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. INACCURACIES 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.

O'BRIEN & GERE ENGINEERS, INC.

MONSANTO COMPANY
RESIDENTIAL COVER DESIGN PROJECT
ANNISTON, ALABAMA

PRELIMINARY
NOT FOR
CONSTRUCTION
DATE: 5/6/97

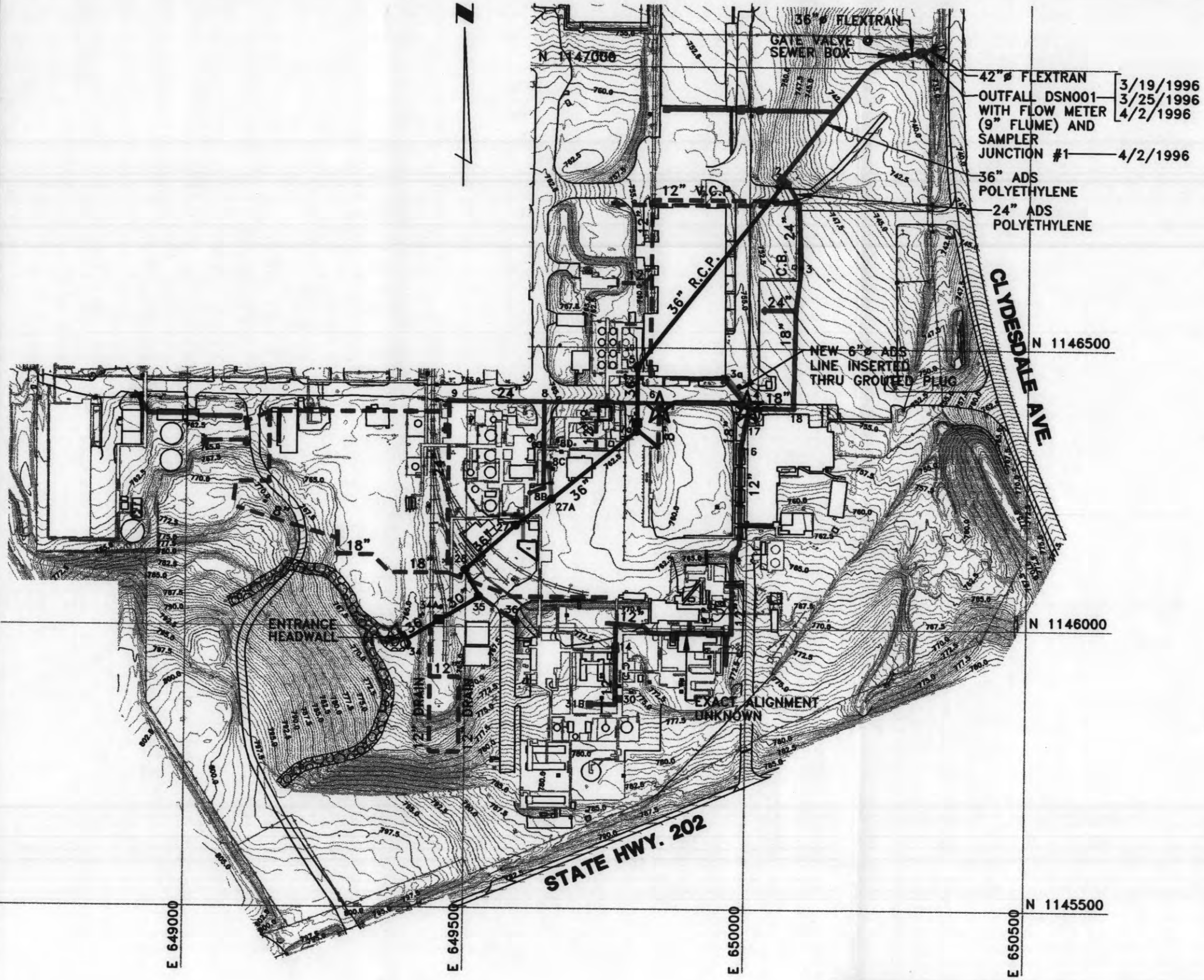
GENERAL
(NORTH)
LANDSCAPE PLAN

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

FILE NO. 2600.034-014
DATE APRIL 18, 1997

G-9

PLOT DATE: 5/6/97



LEGEND

- EXISTING CONTOURS
- EXISTING ROADWAY
- EXISTING RAIL ROAD
- EXISTING BUILDING / TANK
- NEW STORM SEWER LINES
- RETROFITTED STORM SEWER LINES (CURE–LINE PIPE LINING INSTALLED)
- RIP RAP / CHANNEL PROTECTION
- DECOMMISSIONED STORM SEWER LINES– ALIGNMENT CONFIRMED VIA VIDEO CAMERA OR TRACING
- DECOMMISSIONED STORM SEWER LINES– ALIGNMENT TAKEN FROM PAST SEWER LAYOUT MAPS– EXACT LOCATION NOT VERIFIED
- STORM SEWER LINES REMAINING UNALTERED
- 8B ARBITRARY MANHOLE / CATCH BASIN NUMBER ASSIGNED DURING SAMPLING
- SEWER GRATE AS ORIGINALLY LOCATED ON PLANT CONTOUR MAPS
- LINED CATCH BASIN
- LINED MANHOLE
- GROUTED PLUG

SCALE IN FEET

0 200 400

Golder Associates — Atlanta, Georgia

CLIENT/PROJECT: SOLUTIA

TITLE: **IN-PLANT STORM SEWERS 1997 MODIFICATIONS**

DRAWN	RMS	DATE	2/98	JOB NO.	943-3680
CHECKED		SCALE	AS SHOWN	DWG. NO.	323
REVIEWED		FILE NO.	943-3680	REV. NO.	
				SUBTITLE	
				FIGURE NO.	1

PNP DRYER WATER

217 - 3 - L2DA1 - 3"

PNP COOLING TOWER BLOWDOWN

CONDENSATE

SOFTENER/DEALKALIZER BLOWDOWN DWG.S0001D04

MANUAL BOILER BLOWDOWN DWG. S0001D04

BIPHENYL COOLING TOWER BLOWDOWN

CONTINUOS BLOWDOWN DWG. S0001D05

LS 229-1

229 - 1 - PVC - 2"

950190229

BRINE TRENCH

LS 863-1

2"x3"

863 - 1 - F2BA1 - 3"

863 - 2 - F2BA1 - 2"

600190863

SANTOWAX/BIPHENYL SUMP

400 - 1 - F3CA1 - 2"

603190400

BENZENE CONTAINMENT PIT

200 - 1 - P2GA1 - 2"

608190200

THERMINOLS SUMP

101 - 3 - F2BA1 - 3"

101 - 2 - F2BA1 - 3"

PI 000-0

2"x3"

LIC 101-1

423190101

DIKED CONTAINMENT PIT

101 - 4 - F2BA1 - 3"

FI 101-2

101 - 1 - F2BA1 - 3"

CLARIFIER DISCHARGE

3208 - 1 - Q10V - 6"

WASTE TREATMENT

FQI 205-1

423193204

423193205

WET WELL

3208 - 2 - Q10V - 6"

*E	*E	*N	*N	*N	*E
190100	190200	190229	190863	193101	193205
BENZENE PIT PUMP	THERMINOLS SUMP PUMP	S/W SUMP PUMP	BOILER WASTE PUMP	WASTE PIT PUMP	SECONDARY WET WELL PUMP

*E	*E	*E
193204	190400	
PRIMARY WET WELL PUMP		

REV.	DATE		BY	CKD.	APP'd.
REV.	DATE		BY	CKD.	APP'd.
REV.	DATE		BY	CKD.	APP'd.
2	12/97	ADDED DRAIN & PI	KDG	KBR	
1	6/97	CHANGED PUMP NUMBER	KDG	KBR	
0	3/97	AS BUILT	KDG	GNS	

Monsanto

MONSANTO COMPANY
PLANT ENGINEERING AND DESIGN DEPT.
ANNISTON, AL.

LOCATION ANNISTON

AUTH. NO. 6763

JOB NO.

ENGINEERING FLOW DIAGRAM FOR WATER DIVERSION SYSTEM

	BY	DATE	REVIEWED BY	REVIEWED DATE	REVIEWED BY	REVIEWED DATE
DRAWN						
CHECKED						
APPROVED PROJ. ENGR.						
APPROVED						

SCALE

DWG. NO. D W6763D03-2

BLOWDOWN
FROM BOILER
DWG. S0001D05

1 1/2" x 2"

BD- 1- F3CA1- 2"

1 1/2" - 5MH

3" SCH. 80 C.S.

F2CB1 - 2"

CONDENSATE

B C A G D

F

BD- 4- F3CA1- 3"

1 1/2" - 5MH

1 1/2" - 5MH

220228

H

E

TO BRINE TRENCH

*ER

220228

ATMOSPHERIC BLOWDOWN TANK

REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
1	10/96	ISSUED FOR CONSTRUCTION	KDG	GNS	GNS

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MONSANTO COMPANY
PLANT ENGINEERING AND
DESIGN DEPT.
ANNISTON, AL.

AUTH. NO. 6763

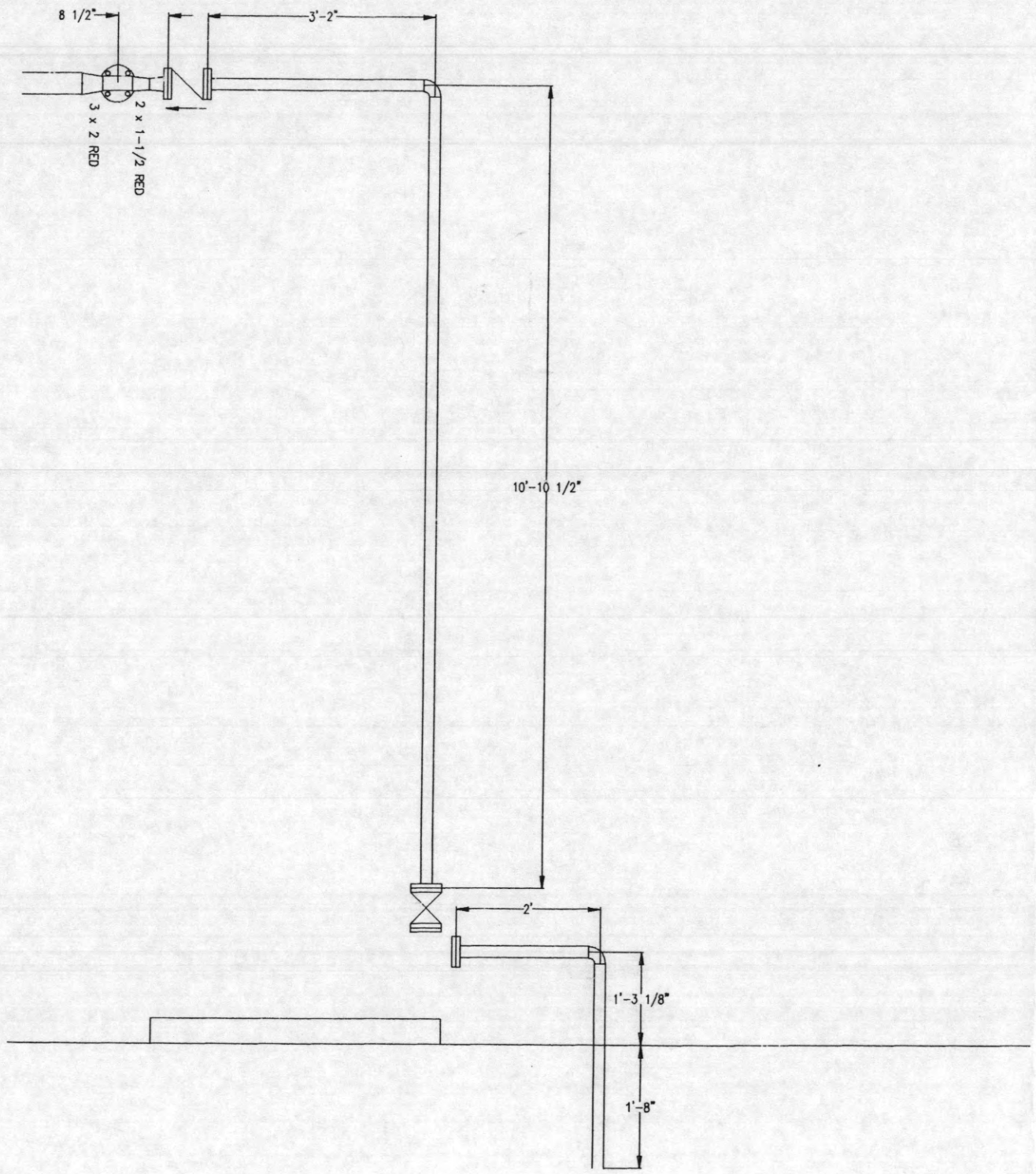
LOCATION ANNISTON JOB NO.

MANUEL BOILER BLOWDOWN ATMOSPHERIC BLOWDOWN TANK

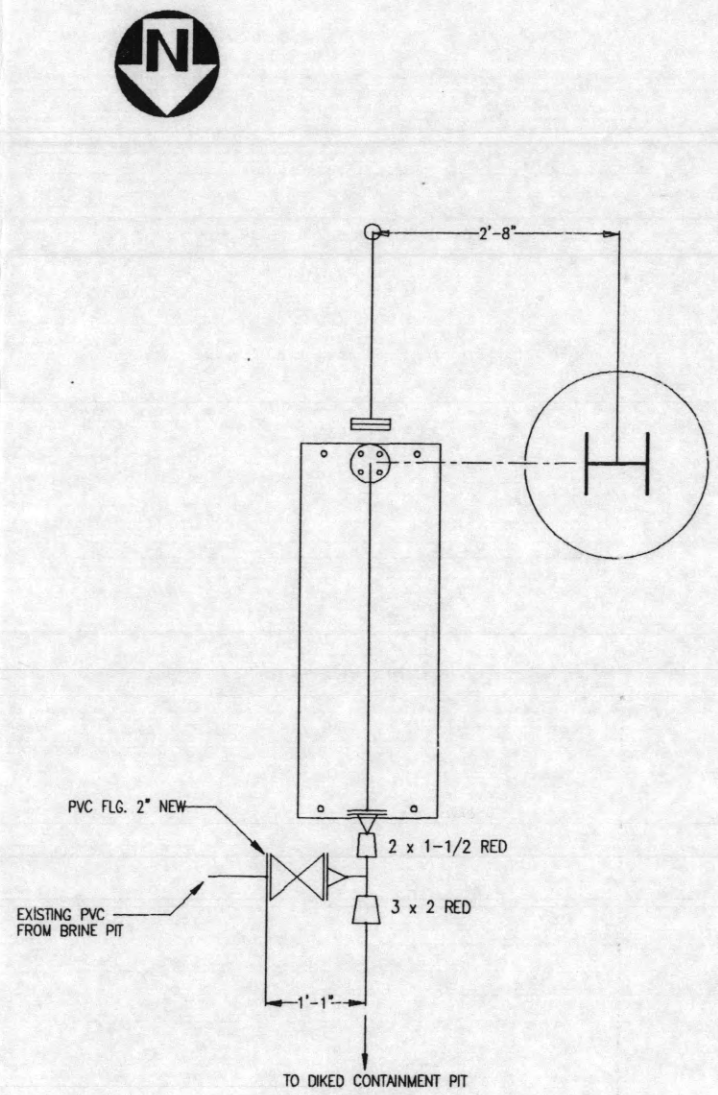
	BY	DATE	REVIEWED BY	REVIEWED DATE	REVIEWED BY	REVIEWED DATE
DRAWN						
CHECKED						
APPROVED PROJ. ENGR.						
APPROVED						

SCALE

DWG. NO. D W6763D02-1



WEST ELEVATION



NOTES:

1. PIPE IS 1-1/2" NPS A106 (C/S)
2. VALVE IS 1-1/2 PLASTIC BALL
3. CHECK VALVE IS 1-1/2" PLASTIC
4. DIMENSIONS ARE BASED ON PUMP LOCATION AS SHOWN.
5. REDHEAD ANCHOR BOLTS INTO EXISTING CONCRETE AND GROUT.

REV.	DATE		BY	CKD.	APP'D.
REV.	DATE		BY	CKD.	APP'D.
REV.	DATE		BY	CKD.	APP'D.
REV.	DATE		BY	CKD.	APP'D.
REV.	DATE		BY	CKD.	APP'D.
0	12/98	RELEASED FOR CONSTRUCTION	KR		

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MONSANTO COMPANY
PLANT ENGINEERING AND
DESIGN DEPT.
ANNISTON, AL.

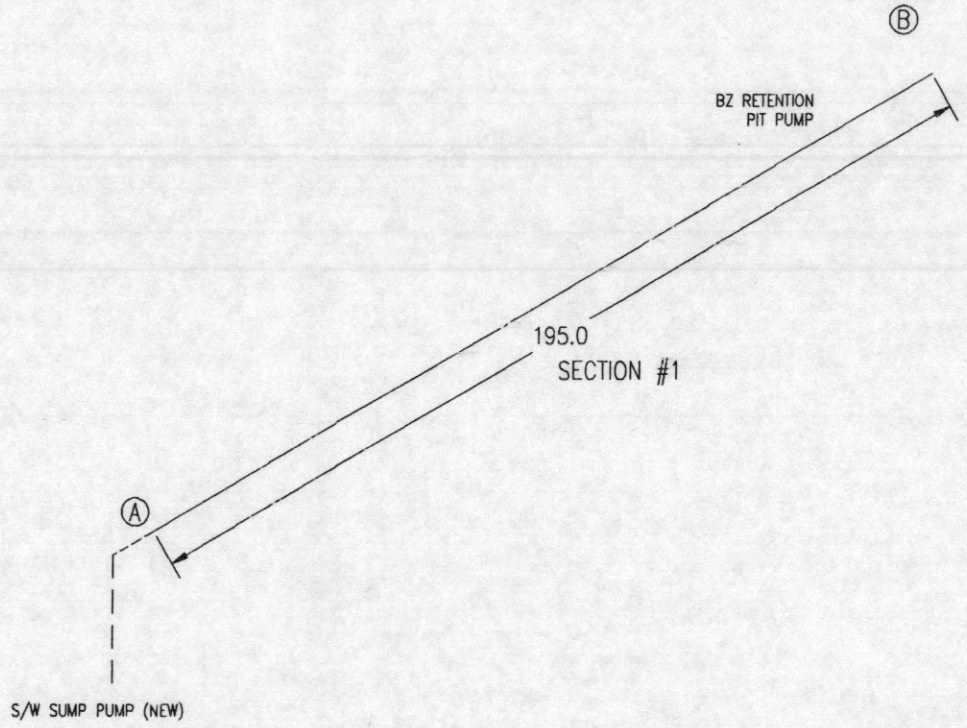
LOCATION ANNISTON | AUTH. NO. 8163 | JOB NO.

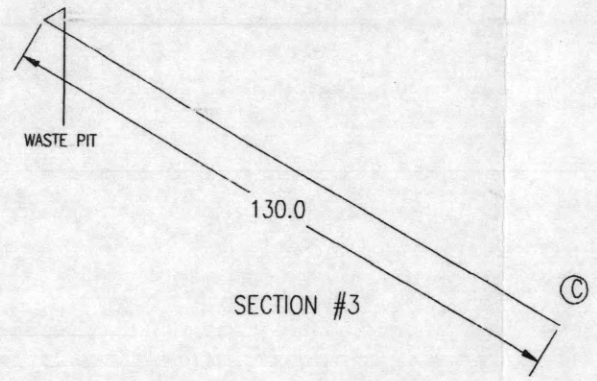
S/W PIT PIPING & PUMP ARRANGEMENT

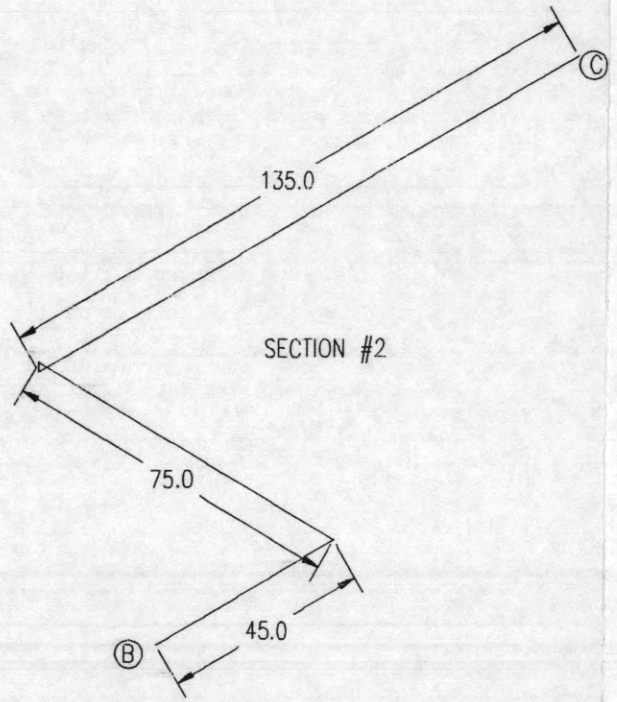
	BY	DATE	REVIEWED BY	REVIEWED DATE	REVIEWED BY	REVIEWED DATE
DRAWN						
CHECKED						
APPROVED PROJ. ENGR.						
APPROVED						

SCALE

DWG. NO. D W1799-M01-0







NOTES:

1. ALL NEW PIPING PER MONSANTO ANNISTON PLANT SPECIFICATION F2BA1-3".
2. CONNECT ALL PIPING ACCORDING TO LETTERS
3. DISMANTLE EXISTING SECTION 1 AND REPLACE WITH 3" CARBON STEEL PIPE.
4. ALL DIMENSIONS TO BE FIELD VERIFIED.
5. PIPING SHOULD BE PAINTED GREEN WITH WHITE LETTERS FOR LABELLING (TABLE 3,SECTION LX, NO. 14,PAGE 4 OF MONSANTO ANNISTON PLANT SAFETY AND HEALTH PROCEDURES.

REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
1	10/96	ISSUED FOR CONSTRUCTION	KDG	GNS	GNS
0	8/96	RELEASED FOR BID PACKAGE	KR		

Monsanto

MONSANTO COMPANY
PLANT ENGINEERING AND
DESIGN DEPT.
ANNISTON, AL.

LOCATION ANNISTON

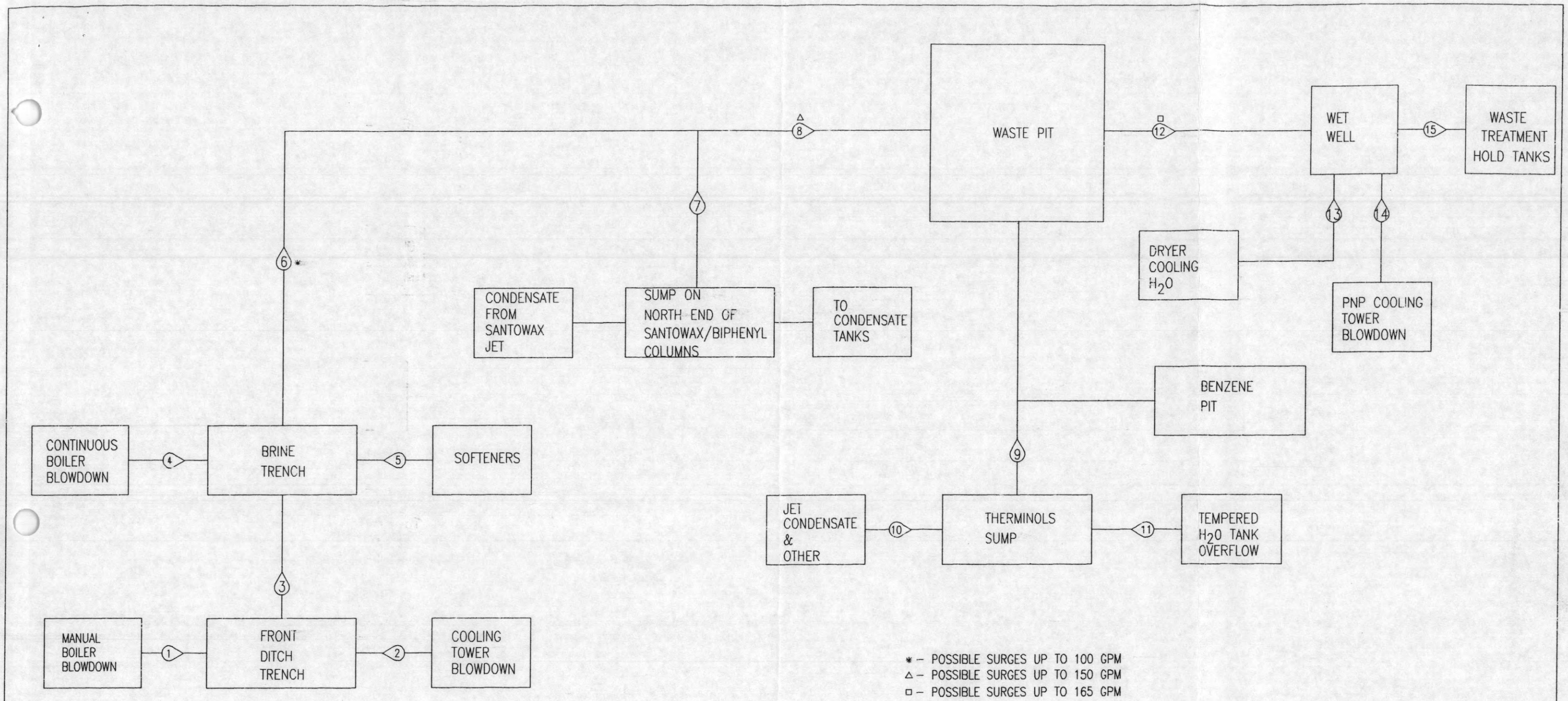
AUTH. NO. 8185
JOB NO.

BIPHENYL WASTE WATER DIVERSION ISOMETRICS

	BY	DATE	REVIEWED BY	REVIEWED DATE	REVIEWED BY	REVIEWED DATE
DRAWN	8/96	KBR				
CHECKED						
APPROVED PROJ. ENGR.						
APPROVED						

SCALE 1"=20'

DWG. NO. D W6763-P10-1



* – POSSIBLE SURGES UP TO 100 GPM
△ – POSSIBLE SURGES UP TO 150 GPM
□ – POSSIBLE SURGES UP TO 165 GPM

STREAM NUMBER		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
STREAM / COMPONENT / FORMULA	M.W.	MANUAL BOILER BLOWDOWN	COOLING TOWER BLOWDOWN	FRONT DITCH TRENCH	CONTINOUS BOILER BLOWDOWN	SOFTENERS	BRINE TRENCH	SUMP ON NORTH END OF SW/BIPH COLUMNS	ALL BIPHENYL WATERS	THERMINOLS SUMP	JET CONDENSATE & OTHER	TEMPERED WATER TANK OVERFLOW	WASTE PIT	DRYER COOLING H_2O	PNP COOLING TOWER BLOWDOWN	WASTE TREATMENT
WATER H_2O	18	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SPECIFIC GRAVITY		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FLOW,GPD		3000	16,000	19,000	13,000	9,700	41,700	72,000	113,700	21,500	11,500	10,000	135,200	10,000	5,800	151,000

REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
1	10/8	FINAL DESIGN	KDG	GNS	
0	10/2	RELASED FOR REVIEW	KDG	GNS	

Monsanto MONSANTO COMPANY PLANT ENGINEERING AND DESIGN DEPT. ANNISTON, AL.

LOCATION ANNISTON | AUTH. NO. | JOB NO.

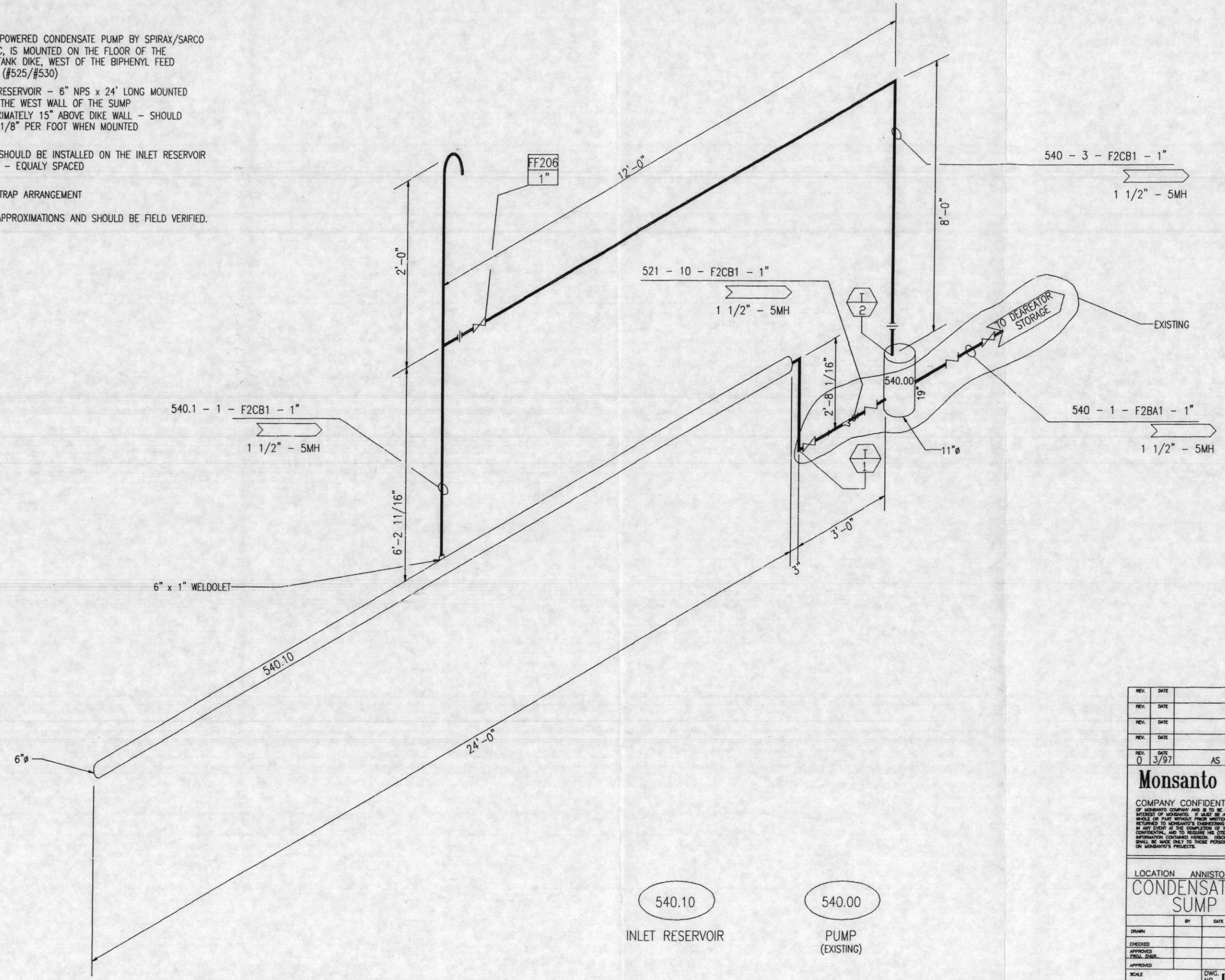
FRONT DITCH MATERIAL BALANCE

	BY	DATE	REVIEWED BY	REVIEWED DATE	REVIEWED BY	REVIEWED DATE
DRAWN						
CHECKED						
APPROVED PROJ. ENGR.						
APPROVED						

SCALE NONE | DWG. NO. D W1799D04

NOTES:

1. EP# 540.000 –STEAM POWERED CONDENSATE PUMP BY SPIRAX/SARCO 1" PPEC, IS MOUNTED ON THE FLOOR OF THE SUMP TANK DIKE, WEST OF THE BIPHENYL FEED PUMPS (#525/#530)
2. EP# 540.100 –INLET RESERVOIR – 6" NPS x 24' LONG MOUNTED ABOVE THE WEST WALL OF THE SUMP APPROXIMATELY 15" ABOVE DIKE WALL – SHOULD SLOPE 1/8" PER FOOT WHEN MOUNTED
3. 35 1/2" THREADOLET SHOULD BE INSTALLED ON THE INLET RESERVOIR TO ACCOMODATE TRAPS – EQUALY SPACED
4. SEE ATTACHMENT FOR TRAP ARRANGEMENT
5. ALL DIMENSIONS ARE APPROXIMATIONS AND SHOULD BE FIELD VERIFIED.



540.10
INLET RESERVOIR

540.00
PUMP
(EXISTING)

REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
REV. 0	DATE 3/97	AS BULIT	BY KDG	CKD.	APPD. GNS

Monsanto

MONSANTO COMPANY
PLANT ENGINEERING AND
DESIGN DEPT.
ANNISTON, AL.

LOCATION ANNISTON

AUTH. NO.
JOB NO.

CONDENSATE HEADER AT SUMP TANK DIKE

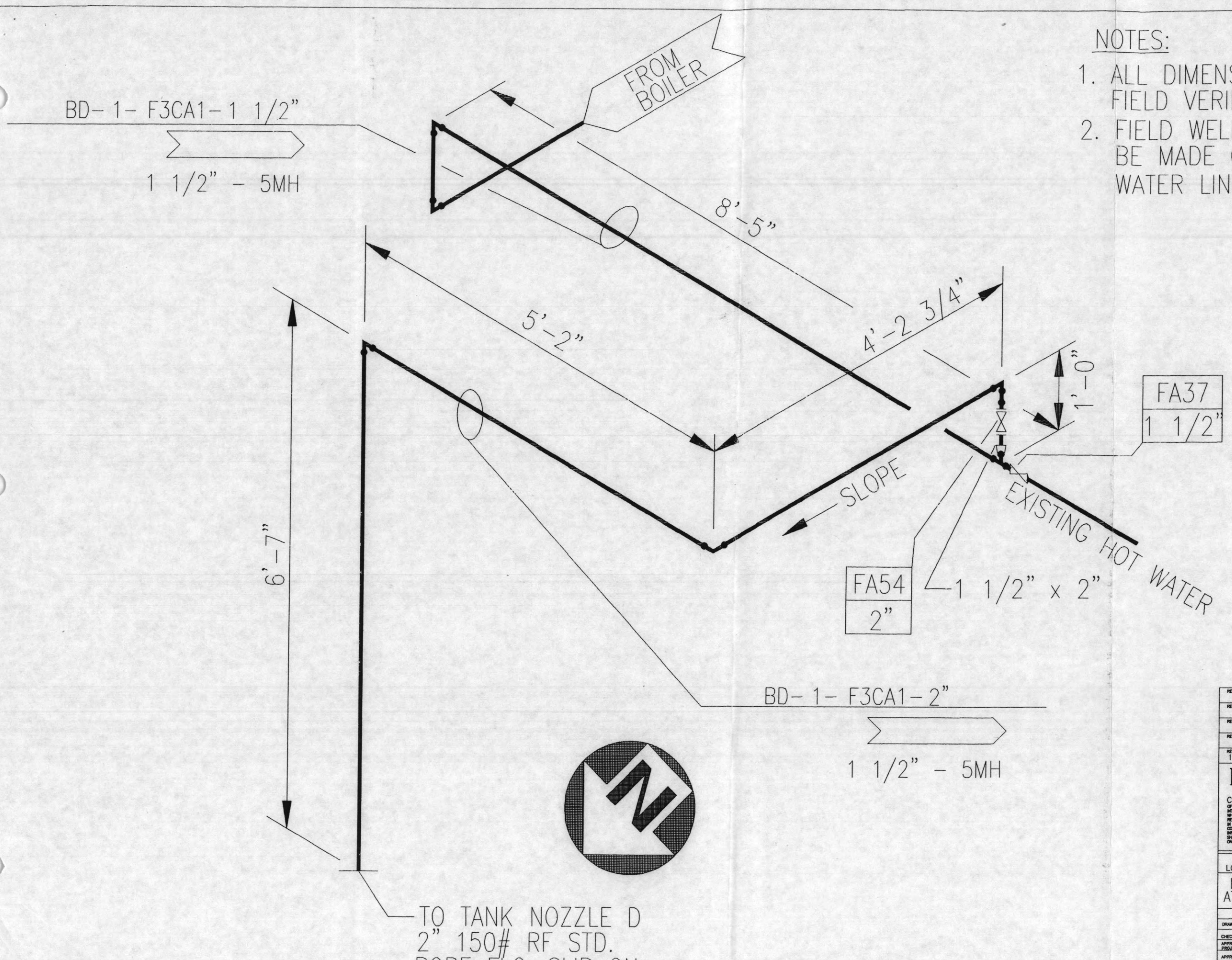
	BY	DATE	REVIEWED BY	REVIEWED DATE	REVIEWED BY	REVIEWED DATE
DRAWN						
CHECKED						
APPROVED PROJ. ENGR.						
APPROVED						

SCALE

DWG. NO. DW6763-P06-0

NOTES:

1. ALL DIMENSIONS SHOULD BE FIELD VERIFIED.
2. FIELD WELDS WILL HAVE TO BE MADE ON EXISTING HOT WATER LINES.



REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
REV. 1	DATE 10/96	ISSUED FOR CONSTRUCTION	BY KDG	CKD. GNS	APPD. GNS

Monsanto

MONSANTO COMPANY
PLANT ENGINEERING AND
DESIGN DEPT.
ANNISTON, AL.

LOCATION	ANNISTON	AUTH. NO. 6763 JOB NO.

MANUEL BOILER BLOWDOWN
ATMOSPHERIC BLOWDOWN TANK

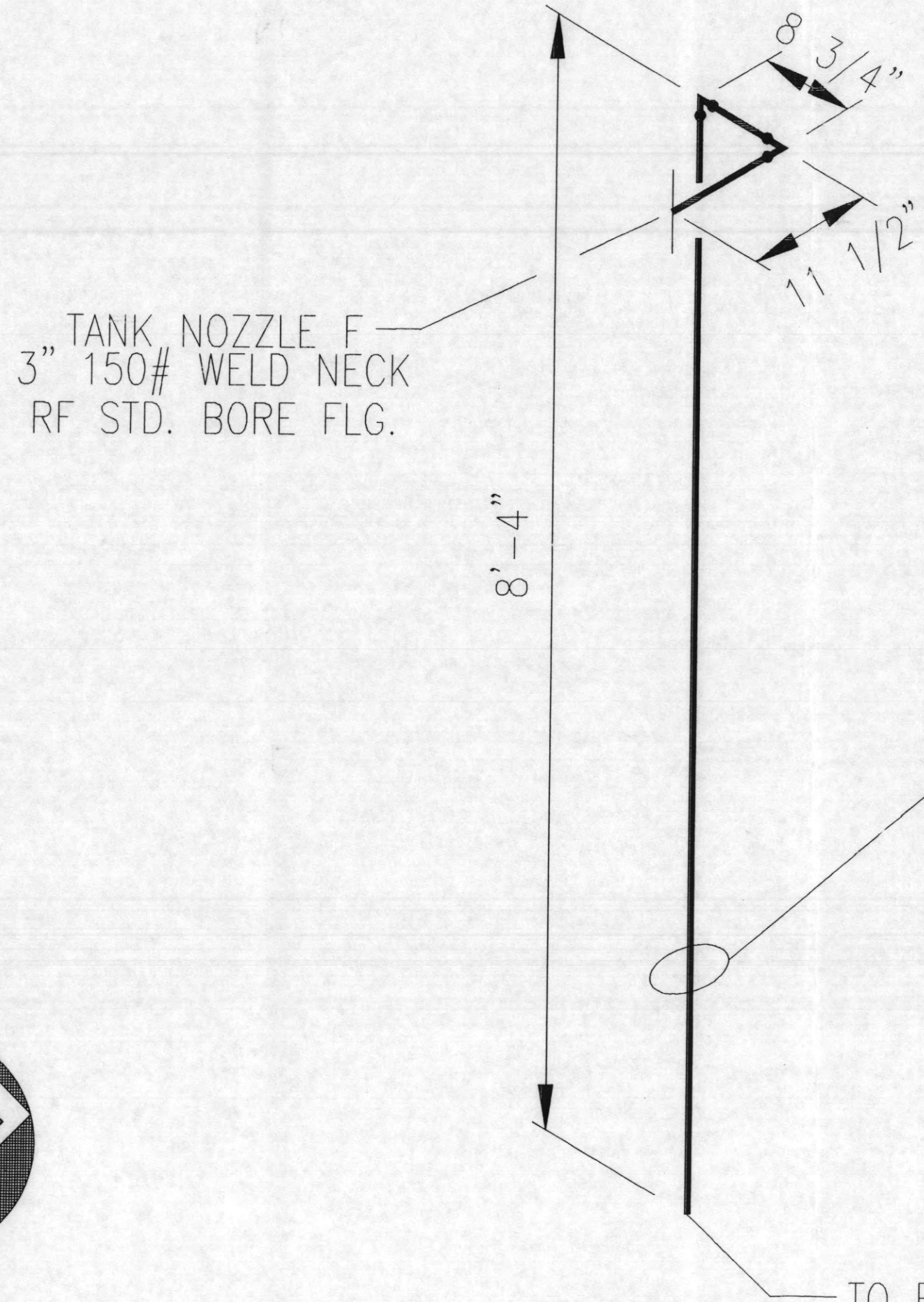
	BY	DATE	REVIEWED BY	REVIEWED DATE	REVIEWED BY	REVIEWED DATE
DRAWN						
CHECKED						
APPROVED PROJ. ENGR.						
APPROVED						

SCALE

DWG. NO. D W6763P03-1

NOTES:

1. ALL DIMENSIONS ARE APPROXIMATIONS AND MUST BE FIELD VERIFIED.



REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
REV. 1	DATE 10/96	ISSUED FOR CONSTRUCTION	BY KDG	CKD. GNS	APPD. GNS

Monsanto

MONSANTO COMPANY
PLANT ENGINEERING AND
DESIGN DEPT.
ANNISTON, AL.

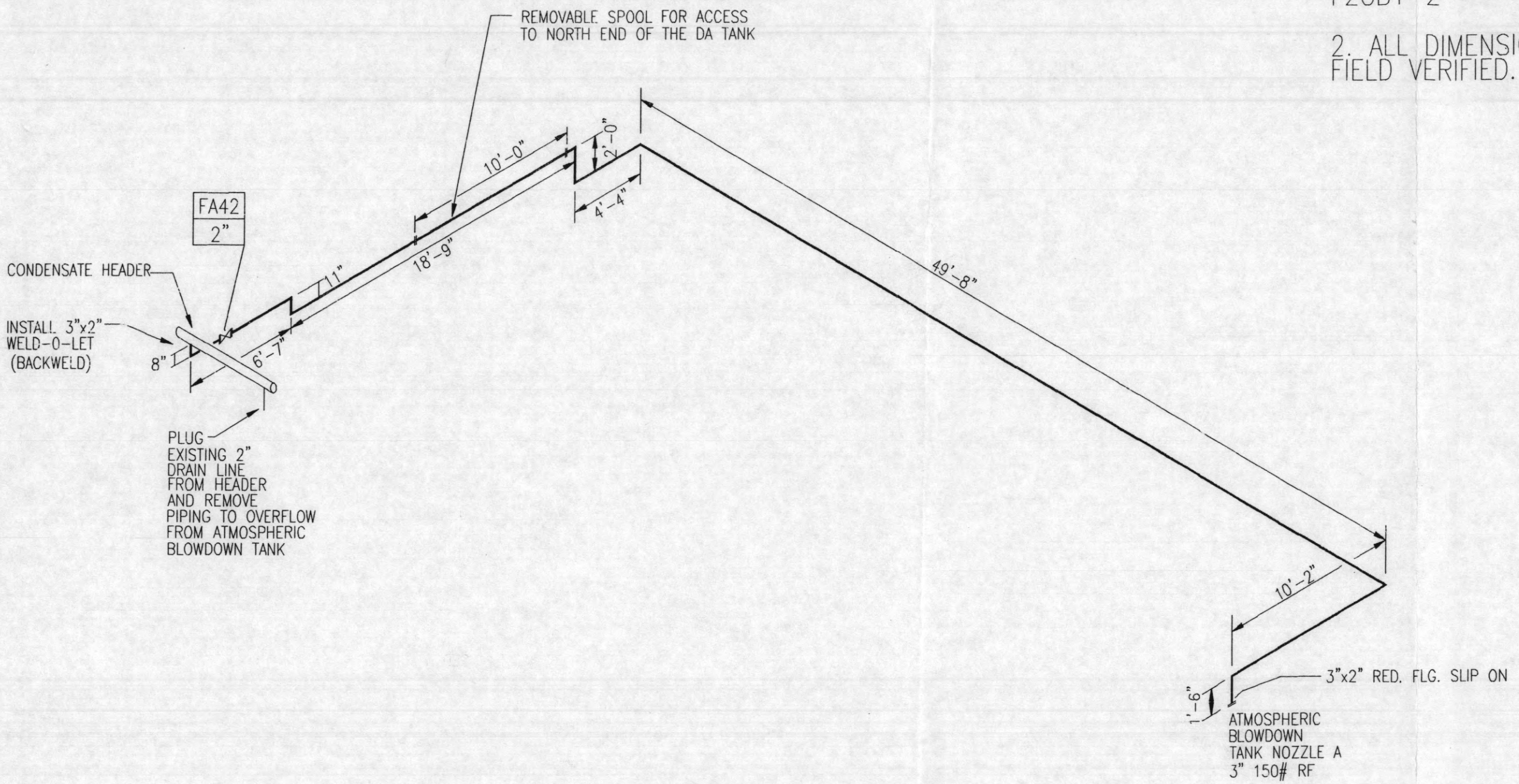
LOCATION ANNISTON	AUTH. NO. 6763 JOB NO.

MANUEL BOILER BLOWDOWN
ATMOSPHERIC BLOWDOWN TANK

	BY	DATE	REVIEWED BY	REVIEWED DATE	REVIEWED BY	REVIEWED DATE
DRAWN						
CHECKED						
APPROVED PROJ. ENGR.						
APPROVED						

SCALE

DWG. NO. D W6763P04-1



NOTES:

1. ALL NEW PIPING PER MONSANTO ANNISTON PLANT SPECIFICATION F2CB1-2"

2. ALL DIMENSIONS SHOULD BE FIELD VERIFIED.

REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
REV.	DATE		BY	CKD.	APPD.
REV. 2	DATE 5/97	AS BUILT	BY KDG	CKD. KBR	APPD. KBR
REV. 1	DATE 10/96	ISSUED FOR CONSTRUCTION	BY KDG	CKD. GNS	APPD. GNS

Monsanto

MONSANTO COMPANY
PLANT ENGINEERING AND
DESIGN DEPT.
ANNISTON, AL.

AUTH. NO. 6763

LOCATION ANNISTON JOB NO.

REROUTING OF CONDENSATE TO MANUEL BLOWDOWN TANK

	BY	DATE	REVIEWED BY	REVIEWED DATE	REVIEWED BY	REVIEWED DATE
DRAWN	KDG	10/96				
CHECKED						
APPROVED PROJ. ENGR.						
APPROVED						
SCALE						

DWG. NO. D W6763P02-2