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**PELHAM BAY LANDFILL  
BRONX, NEW YORK**

**Operation and Maintenance Manual  
Volume IIa**

Prepared for:

**City of New York  
Department of Environmental Protection**

WCC Project No. 92C4087

November 1996

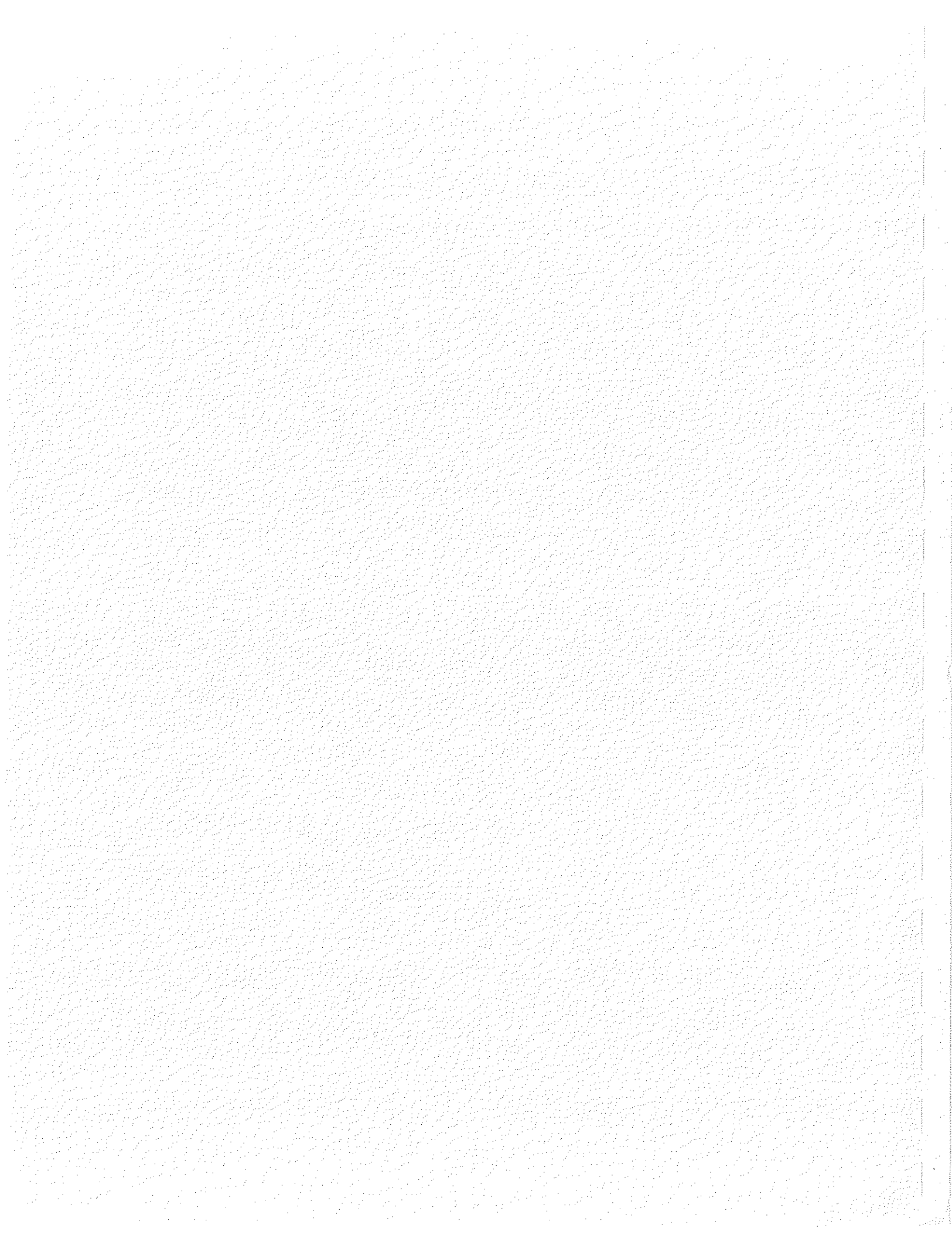
Prepared by:

**Woodward-Clyde** 

Woodward-Clyde Consultants, Inc.  
363 Seventh Avenue, 11th Floor  
New York, New York 10001

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**PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME I**

**TABLE OF CONTENTS**

---

<u>Section</u>	<u>Page</u>
1.0 INTRODUCTION	1-1
1.1 PURPOSE OF MANUAL	1-1
1.2 ORGANIZATION OF THE O&M MANUAL	1-2
1.3 SITE DESCRIPTION	1-4
1.4 LEGAL CONTEXT	1-4
1.5 ADDITIONAL PROJECT COMPONENTS	1-5
2.0 DESCRIPTION OF LANDFILL CLOSURE SYSTEMS	2-1
2.1 GENERAL	2-1
2.2 LANDFILL COVER SYSTEM	2-1
2.3 STORMWATER MANAGEMENT SYSTEM	2-3
2.4 GROUNDWATER/LEACHATE MANAGEMENT SYSTEM	2-4
2.4.1 Groundwater Management System	2-5
2.4.1.1 Cutoff Wall	2-5
2.4.1.2 Groundwater Collection Drain	2-6
2.4.1.3 Groundwater Monitoring Wells	2-6
2.4.2 Leachate Collection and Disposal System	2-6
2.4.2.1 Downgradient Collector Drain and Sump	2-7
2.4.2.2 Curtain Drain	2-9
2.4.2.3 Lift Stations 1 and 2	2-9
2.4.2.4 Decontamination Trailer	2-10
2.4.2.5 Gravel Decon Pad Containment Sump	2-11
2.4.2.6 Leachate Storage Tanks	2-11
2.4.2.7 Leachate Storage Tanks Containment Sump	2-12
2.4.2.8 Contract HP-877 Force Main	2-12
2.4.2.9 Central Control Alarm and Motor Control Center	2-13
2.5 LANDFILL GAS MANAGEMENT SYSTEM	2-13
2.5.1 Landfill Gas Collection	2-13
2.5.2 Blower and Flare System Operation	2-15
2.5.3 Electrical System	2-17
2.5.3.1 Power "Panel G"	2-17

**PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME I**

**TABLE OF CONTENTS (continued)**

---

<u>Section</u>	<u>Page</u>
2.5.3.2 Power "Panel G-1"	2-17
2.6 ANCILLARY SYSTEMS	2-17
2.6.1 Access Roads	2-18
2.6.2 Fencing	2-18
2.7 ENVIRONMENTAL COMPLIANCE	2-19
2.7.1 Elements of Monitoring Plan	2-19
3.0 PERSONNEL	3-1
3.1 ORGANIZATION	3-1
3.2 STAFFING REQUIREMENTS	3-1
3.3 RESPONSIBILITIES AND DUTIES	3-3
3.4 QUALIFICATIONS	3-5
3.5 TRAINING	3-5
4.0 SAFETY POLICIES AND PROCEDURES	4-1
4.1 OVERVIEW	4-1
4.2 FIELD PROGRAM ORGANIZATION	4-1
4.2.1 O&M Project Manager	4-2
4.2.2 O&M Project Health and Safety Officer	4-3
4.2.3 O&M Site Safety Officer	4-4
4.2.4 Other Personnel	4-5
4.3 REGULATORY REQUIREMENTS	4-5
4.4 GENERAL SAFETY RULES	4-7
4.5 SAFETY STANDARDS	4-9
4.5.1 Hot Work	4-9
4.5.2 Lockout/Tagout	4-12
4.5.3 Confined Space Entry	4-15
4.6 ELECTRICAL SAFETY	4-19
4.7 EMERGENCY PROCEDURES	4-20

**PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME I**

**TABLE OF CONTENTS (continued)**

---

<u>Section</u>	<u>Page</u>
4.7.1 General	4-20
4.7.2 Training Requirements	4-21
4.7.3 Site Communications	4-21
4.8 COMPRESSED GAS CYLINDERS	4-22
4.8.1 General Safety Procedures	4-22
4.8.2 Storage of Cylinders	4-22
4.9 INDUSTRIAL HYGIENE PROCEDURES	4-23
4.10 HAZARD COMMUNICATION POLICY	4-24
4.10.1 General Company Policy	4-24
4.10.2 Material Safety Data Sheets and Chemical Hazard Information	4-24
4.10.3 Labels and Other Forms of Warning	4-24
4.10.4 Training	4-25
4.10.5 Protective Measures	4-26
4.11 INCIDENT/ACCIDENT INVESTIGATION PROCEDURE	4-26
4.12 HEALTH AND SAFETY PLAN	4-27
5.0 DOCUMENTATION AND REPORTING	5-1
5.1 FIELD NOTEBOOK	5-1
5.2 CHECKLISTS	5-2
5.3 LABORATORY RECORDS	5-2
5.4 PHOTOGRAPHS	5-2
5.5 MAPS AND DRAWINGS	5-3
5.6 REPAIR LOGS	5-3
5.7 REPORTING REQUIREMENTS	5-3
6.0 EMERGENCIES AND CONTINGENCY PLAN	6-1
6.1 GENERAL	6-1
6.1.1 Emergencies	6-1
6.1.2 Contingencies	6-1

**PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME I**

**TABLE OF CONTENTS (continued)**

---

<u>Section</u>		<u>Page</u>
6.2	CORRECTIVE ACTION PROCESS	6-2
6.3	CONTINGENCY PROCEDURES	6-3
6.3.1	Gas System Shutdown	6-3
6.3.2	Leachate Tank Overflow	6-4
6.3.3	Excessive Settlement of Cap	6-5
6.3.4	Sideslope Failure	6-5
6.3.5	Stormwater System Failure	6-5
6.3.6	Seepage from Sideslopes	6-6
6.3.7	High Leachate Levels Along Cutoff Wall	6-7
6.3.8	Broken Force Main	6-7
6.3.9	Power Failure for an Extended Period of Time	6-8
6.4	EMERGENCY CONTACTS	6-8
6.5	DIRECTIONS TO THE JACOBI MEDICAL CENTER	6-8



**PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME I**

**TABLE OF CONTENTS (continued)**

---

<u>Section</u>	<u>Page</u>
<u>LIST OF FIGURES</u>	
1-1	SITE LOCATION PLAN
2-1	LANDFILL CAP CONSTRUCTION
2-2	HDPE GEOMEMBRANE PLAN
2-3	STORMWATER MANAGEMENT SYSTEM
2-4	GROUNDWATER MANAGEMENT SYSTEM
2-5	TYPICAL SECTION THROUGH CUTOFF WALL
2-6	LEACHATE COLLECTION SYSTEM
2-7	SCHEMATIC DIAGRAM LEACHATE COLLECTION SYSTEM
2-8	LEACHATE STORAGE TANK AREA SCHEMATIC
2-9	LEACHATE DISCHARGE TO SEWER SCHEMATIC
2-10	GAS COLLECTION AND FLARING SYSTEM
2-11	LANDFILL GAS COLLECTION SYSTEM SCHEMATIC
2-12	ENVIRONMENTAL MONITORING LOCATIONS
3-1	OPERATION AND MAINTENANCE ORGANIZATION CHART
4-1	HOT WORK PERMIT
4-2	CONFINED SPACE ENTRY PERMIT
4-3	HEALTH AND SAFETY INCIDENT REPORT
4-4	HEALTH AND SAFETY PLAN OUTLINE
5-1	FORM RL-1 MAINTENANCE REPAIR LOG
6-1	ROUTE TO JACOBI MEDICAL CENTER

**PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME I**

**TABLE OF CONTENTS (continued)**

---

LIST OF TABLES

TABLE 2-1	GROUNDWATER MONITORING WELLS AND PIEZOMETERS
TABLE 6-1	EMERGENCY CONTACTS AND TELEPHONE NUMBERS

LIST OF FIGURES

FIGURE 1-1	SITE LOCATION PLAN
FIGURE 2-1	LANDFILL CAP CONSTRUCTION
FIGURE 2-2	HDPE GEOMEMBRANE PLAN AND ACCESS ROAD LOCATION
FIGURE 2-3	STORMWATER MANAGEMENT SYSTEM
FIGURE 2-4	GROUNDWATER MANAGEMENT SYSTEM
FIGURE 2-5	TYPICAL SECTION THROUGH CUTOFF WALL
FIGURE 2-6	SCHEMATIC DIAGRAM LEACHATE COLLECTION SYSTEM
FIGURE 2-7	LEACHATE COLLECTION SYSTEM
FIGURE 2-8	LEACHATE STORAGE TANK AREA SCHEMATIC
FIGURE 2-9	LEACHATE DISCHARGE TO SEWER SCHEMATIC
FIGURE 2-10	LANDFILL GAS COLLECTION SYSTEM SCHEMATIC
FIGURE 2-11	GAS COLLECTION AND FLARING SYSTEM
FIGURE 2-12	ENVIRONMENTAL MONITORING LOCATIONS
FIGURE 3-1	OPERATION AND MAINTENANCE ORGANIZATION CHART
FIGURE 4-1	HOT WORK PERMIT
FIGURE 4-2	CONFINED SPACE ENTRY PERMIT
FIGURE 4-3	HEALTH AND SAFETY INCIDENT REPORT
FIGURE 4-4	HEALTH AND SAFETY PLAN OUTLINE
FIGURE 5-1	MAINTENANCE REPAIR LOG
FIGURE 6-1	ROUTE TO JACOBI MEDICAL CENTER

LIST OF APPENDICES

APPENDIX A	MONITORING WELL/PIEZOMETER CONSTRUCTION LOGS
APPENDIX B	THE CITY OF NEW YORK HAZARDOUS MATERIAL RESPONSE PLAN

# PELHAM BAY LANDFILL OPERATION & MAINTENANCE MANUAL VOLUME II

## TABLE OF CONTENTS

---

Material

Attachment

A. GEOSYNTHETICS

GEOGRID  
GEOTEXTILE  
GEOCOMPOSITE

B. SOIL AND GRAVEL MATERIALS

CRUSHED STONE BASE  
CRUSHED AGGREGATE BASE COURSE  
RIP RAP BEDDING MATERIAL  
RIP RAP - CLASS I  
3 IN MINUS BARRIER PROTECTION MATERIAL  
INFILTRATION DRAINAGE TRENCH  
STRUCTURAL BACKFILL  
TRENCH BACKFILL  
PIPE AND MANHOLE BEDDING  
TOPSOIL

C. SEEDING AND FERTILIZER

D. CENTRIFUGAL BLOWERS

E. PUMPS

F. ENCLOSED FLARE

FLEXIBLE HOSE-GAS EXTRACTION WELL  
TEST PORT - GAS WELLHEADS  
PROPANE AND NITROGEN CYLINDERS  
GAS CYLINDER REGULATOR VALVES  
TEMPERATURE GAUGES  
PRESSURE AND VACUUM GAUGES  
GAS FLOW METER  
SAMPLING EQUIPMENT  
GAS EXTRACTION WELL - 11/2 IN CRUSHED STONE  
PAINT SPECS FOR FLARE ASSEMBLY

**PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME II**

**TABLE OF CONTENTS (continued)**

---

Material

Attachment

**G. PVC PIPES AND FITTINGS**

GAS EXTRACTION WELLS - PVC PIPE, FITTINGS, AND VALVES  
PVC SLOTTED PIPE - GAS EXTRACTION WELL

**H. POLYETHYLENE PIPES AND FITTINGS**

HDPE COLLECTION PIPE (LEACHATE COLLECTION)  
HDPE COLLECTION PIPE - JOINT DETAIL (LEACHATE COLLECTION)  
HDPE GAS PIPE AND FITTINGS  
4 IN CORRUGATED HDPE PIPE & FITTINGS  
STEEL CASING (CARRIER PIPE) FOR HDPE GAS PIPE UNDER ROAD  
HDPE PIPE ANCHORS  
30 IN SMOOTH HDPE SEDIMENTATION BASIN CONNECTION PIPING

**I. DUCTILE IRON PIPES AND FITTINGS**

DUCTILE IRON PIPING  
3 IN MJ PIPE SLEEVE #344 (FLEX. PIPE CONN)  
FLANGE BOLTS AND GASKETS

**J. STAINLESS STEEL PIPING AND FITTINGS**

STAINLESS STEEL PIPES  
GASKETS FOR STAINLESS STEEL PIPES

**K. VALVES AND APPURTENANCES**

4 IN, 6 IN, 8 IN PVC BUTTERFLY VALVES  
4 IN, 6 IN, 8 IN STAINLESS STEEL BACK UP RINGS  
BUTTERFLY VALVE FOR GAS VENTILATION  
SWING CHECK VALVES  
6 IN DIAMETER FLAP VALVE  
GAS EXTRACTION VALVE BOX  
CHECK VALVE  
WEDGE VALVES

# PELHAM BAY LANDFILL OPERATION & MAINTENANCE MANUAL VOLUME II

## TABLE OF CONTENTS (continued)

---

Material

Attachment

3 IN FLANGE GATE VALVE  
3 IN FLANGE CHECK VALVE  
VALVE BOX - LEACHATE COLLECTION SYSTEM  
VALVE CHAMBER  
24 IN DIAMETER FLAP VALVE

### L. INSTRUMENTS

INSTRUMENTATION AND CONTROL FOR GAS CONTROL UNIT

### M. ELECTRICAL COMPONENTS

RIGID GALVANIZED CONDUIT  
PVC GALVANIZED CONDUIT  
CABLE RACK FOR MANHOLE  
ELECTRICAL PULLBOXES  
WIRES AND CABLES  
ELECTRICAL HANDHOLE  
CAST IRON COVER FOR ELECTRICAL HANDHOLE  
UNDERGROUND DUCT BANK - CONDUIT AND WIRE  
DRY TYPE TRANSFORMER  
PANELBOARD, TRANSFORMER AND SWITCHES  
400 WATT FLOOD LAMPS

### N. MISCELLANEOUS EQUIPMENT

GROUNDWATER MANAGEMENT SYSTEM  
MONITORING WELLS  
GROUNDWATER SAMPLING EQUIPMENT  
EXTRACTION WELL DRILLING EQUIPMENT  
SUBMISSION FOR PIEZOMETERS  
WELL ABANDONMENT  
BENTONITE PELLET SEALS  
MANHOLES AND APPURTENANCES  
CP MANHOLES - FRAMES AND GRATES  
MANHOLE STEPS  
MANHOLE PIPE CONNECTOR FOR SANITARY SYSTEMS  
PRECAST MANHOLE EXTENSION

**PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME II**

**TABLE OF CONTENTS (continued)**

---

Material

Attachment

MANHOLE WATERPROOFING  
STORMWATER MANAGEMENT SYSTEM  
72 IN SEWER ROOF SLAB  
RECONSTRUCTION OF EXISTING 30 IN AND 72 IN SEWERS  
NEOPRENE BOOT CONNECTION - INFILTRATION DRAINAGE TRENCH  
BAFFLED OUTLETS  
RICHMOND DOWEL BAR SPLICER  
SUPPLEMENTAL INFORMATION  
SLURRY MIXING PLANT - DESIGN MIX REPORT  
SLURRY WALL CONSTRUCTION - SLURRY TRENCH SOIL SEALING  
GRADE

**PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME II**

**TABLE OF CONTENTS (continued)**

Material

Attachment

**ADDITIONAL DOCUMENTS**

LAMSON CENTRIFUGAL LFG BLOWERS & CONTROLS (SUBMITTAL PACKAGE)

AER-X-DUST CORPORATION

PO BOX 93

TENNENT, NEW JERSEY 07763

OPERATION AND MAINTENANCE MANUAL FOR FLYGT SUBMERSIBLE

EXPLOSION PROOF PUMPS

G.A. FLEET ASSOCIATES, INC.

55 CALVERT STREET

BOX 616

HARRISON, NEW YORK 10528

TENSAR DRAINAGE COMPOSITE (TECHNICAL SUBMISSION)

TENSAR ENVIRONMENTAL SYSTEMS, INC.

5775-B GLENRIDGE DRIVE

LAKESIDE CENTER, SUITE 450

ATLANTA, GEORGIA 30382-5363

GUNDLE STANDARDS MANUAL MATERIALS AND INSTALLATION

GUNDLE LINING SYSTEMS INC.

19103 GUNDLE ROAD

HOUSTON, TEXAS 77073-3598

OPERATING MANUAL FOR 7 ft BY 40 ft ZTOF ENCLOSED GROUND FLARE

SYSTEM

JOHN ZINK COMPANY

11920 EAST APACHE

TULSA, OKLAHOMA 74116

HEALTH, SAFETY & SPILL RESPONSE PLAN: FOR THE CONSTRUCTION OF A  
SLURRY WALL AND LEACHATE CONTROL SYSTEM AT THE PELHAM  
BAY LANDFILL

ERM - NORTHWEST

175 FROEHLICH FARM BOULEVARD

WOODBURY, NEW YORK 11797

PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME II

TABLE OF CONTENTS (continued)

---

Material

Attachment

**ADDITIONAL DOCUMENTS (continued)**

QUALITY CONTROL PLAN FOR PELHAM BAY LANDFILL CLOSURE  
BRECO MECHANICAL GROUP, INC.  
201 SAW MILL RIVER ROAD  
YONKERS, NEW YORK 10701



**PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME III**

**TABLE OF CONTENTS**

---

<u>Section</u>	<u>Page</u>
1.0 INTRODUCTION	1-1
2.0 LANDFILL COVER SYSTEM	2-1
2.1 GENERAL	2-1
2.2 MAJOR SUBSYSTEMS AND COMPONENTS	2-1
2.3 MONITORING, INSPECTION, AND MAINTENANCE	2-2
2.3.1 Cover Inspection	2-3
2.3.2 Grass Cover/Topsoil Layer	2-3
2.3.3 Cover Soil and Cap Components	2-5
2.3.4 Cap Repair Protocol	2-6
2.3.4.1 Surface Cracks	2-6
2.3.4.2 Vegetative Growth	2-6
2.3.4.3 Vector Penetration	2-7
2.3.4.4 Settlement	2-7
2.3.4.5 Erosion	2-8
2.3.4.6 Slope Stability	2-9
2.3.4.7 Seepage	2-10
2.3.4.8 Vandalism	2-10
3.0 STORMWATER MANAGEMENT SYSTEM	3-1
3.1 GENERAL	3-1
3.2 MAJOR SUBSYSTEMS AND COMPONENTS	3-1
3.3 MONITORING, INSPECTION, AND MAINTENANCE	3-2
3.3.1 General	3-2
3.3.2 Stormwater Drainage Ditches	3-3
3.3.2.1 Ditches	3-3
3.3.2.2 Infiltration Drainage Trenches	3-4
3.3.2.3 Culverts	3-5
3.3.3 Manholes and HDPE Pipes	3-5
3.3.4 Concrete Baffled Outlets	3-7
3.3.5 Riprap	3-8
3.3.6 Sedimentation Ponds	3-8
3.3.7 Inlet/Outlet Structures	3-9

**PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME III  
TABLE OF CONTENTS (continued)**

<u>Section</u>	<u>Page</u>
4.0 GROUNDWATER/LEACHATE MANAGEMENT SYSTEM	4-1
4.1 GENERAL	4-1
4.2 MAJOR SUBSYSTEMS AND COMPONENTS	4-1
4.2.1 Downgradient Collection Drains	4-2
4.2.2 Collection Sumps (D-1, D-8, D-10)	4-4
4.2.3 Curtain Drain	4-8
4.2.4 Lift Stations Nos. 1 and 2	4-10
4.2.5 Force Main Heat Tracing	4-13
4.2.6 Decontamination Trailer Sump	4-14
4.2.7 Gravel Decon Pad Area Sump	4-15
4.2.8 Leachate Storage Tanks	4-17
4.2.9 Leachate Storage Tank Containment Area Sump	4-20
4.2.10 Carbon Adsorption System (Storage Tank Off Gas)	4-22
4.2.11 Contract No. HP-877, Forcemain Discharge to POTW	4-25
4.2.12 Storage Tank Off-Loading and Tanker Loading	4-26
4.2.13 Central Control Alarm Panel	4-28
4.2.14 Motor Control Center	4-30
4.2.15 Cut-Off Wall and Collector Drain	4-31
4.3 MONITORING, INSPECTION AND MAINTENANCE	4-32
4.4 TROUBLESHOOTING PROCEDURES	4-32
4.5 SPARE PARTS	4-32
5.0 LANDFILL GAS MANAGEMENT	5-1
5.1 GENERAL	5-1
5.2 EQUIPMENT AND COMPONENTS	5-1
5.2.1 Gas Collection System	5-2
5.2.2 Condensate System	5-7
5.2.3 Enclosed Flare System	5-8
5.2.4 Electrical System	5-15
5.2.4.1 Power "Panel G"	5-16
5.2.4.2 Power "Panel G-1"	5-17
5.2.4.3 15KVA Transformer	5-18
5.2.4.4 Disconnect Switches	5-19

**PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME III  
TABLE OF CONTENTS (continued)**

<u>Section</u>	<u>Page</u>
5.3 MONITORING, INSPECTION, AND MAINTENANCE	5-20
5.4 SAMPLING AND ANALYSIS	5-20
5.4.1 Gas Collection System	5-15
5.4.1.1 Instrumentation	5-21
5.4.1.2 Total Vacuum Pressure Measurement	5-21
5.4.1.3 Methane Concentration Measurement	5-22
5.4.2 Condensate System	5-23
5.4.3 Gas Flaring System	5-23
5.4.4 Additional Sampling and Analysis Requirements	5-23
5.5 TROUBLESHOOTING PROCEDURES	5-24
5.5.1 Gas Collection System and Well System	5-24
5.5.2 Condensate System	5-25
5.5.3 Gas Flaring System	5-25
5.5.4 Electrical System	5-27
5.6 SPARE PARTS	5-27
6.0 ENVIRONMENTAL MONITORING AND TESTING	6-1
6.1 MONITORING PLAN	6-1
6.1.1 Elements of Monitoring Plan	6-1
6.1.2 Program Review	6-2
6.1.3 Well Sampling Equipment	6-2
6.2 ENVIRONMENTAL MONITORING	6-3
6.2.1 Sampling Schedule	6-3
6.2.2 Effectiveness of Remedial Measures	6-7
6.2.3 Sampling Procedures	6-7
6.2.4 Analytical Program	6-7
6.2.4.1 Analytical Schedules and Methods	6-7
6.2.4.2 Laboratory QC Samples	6-7
6.2.4.3 Reporting and Deliverables	6-8
6.2.4.4 Special Analytical Protocols	6-8
6.2.4.5 Laboratory Audit	6-8

**PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME III  
TABLE OF CONTENTS (continued)**

---

<u>Section</u>	<u>Page</u>
6.2.4.6 Data Audit	6-9
6.2.5 Evaluation of Monitoring Results	6-9
6.3 RECORDS	6-9
6.4 SUPPORTING DOCUMENT	6-10
7.0 ANCILLARY SYSTEMS	7-1
7.1 GENERAL	7-1
7.2 MAJOR SUBSYSTEMS AND COMPONENTS	7-1
7.3 MONITORING, INSPECTION AND MAINTENANCE	7-1
7.4 EXPECTED ROUTINE MAINTENANCE ITEMS	7-2

**PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME III  
TABLE OF CONTENTS (continued)**

---

Section Page

**LIST OF TABLES**

<u>TABLE NO.</u>	<u>TITLE</u>
4-1	LEACHATE COLLECTION SYSTEM TROUBLESHOOTING GUIDE
4-2	SPARE PART LIST FOR GROUNDWATER/LEACHATE MANAGEMENT SYSTEM
5-1	LANDFILL GAS SYSTEM WELL TROUBLESHOOTING CHECKLIST
5-2	SPARE PARTS FOR GAS BLOWERS
5-3	SPARE PARTS FOR GAS FLARE
6-1	MONITORING WELLS AND POINTS
6-2	ANALYTICAL SCHEDULE
6-3	REPORTED MONITORING WELL GROUNDWATER CONCENTRATIONS

**PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME III  
TABLE OF CONTENTS (continued)**

---

Section

Page

**LIST OF FIGURES**

<u>FIGURE NO.</u>	<u>TITLE</u>
2-1	COVER SYSTEM INSPECTION ZONE LOCATION PLAN
4-1	CONTROL PANEL FOR SUMP PUMPS D-1, D-8 AND D-10
4-2	CENTRAL CONTROL ALARM PANEL
4-3	LEACHATE LIFT PUMPS MAIN CONTROL PANEL AND PUMP DUPLEX STARTER PANEL
4-4	LEACHATE LIFT PUMPS MAIN CONTROL PANEL
4-5	SCHEMATIC DIAGRAM LEACHATE COLLECTION SYSTEM
5-1	GAS BLOWERS AND ENCLOSED FLARE FLOW AND INSTRUMENTATION DIAGRAM
5-2	BLOWER CONTROL PANEL
5-3	BLOWER CONTROL PANEL INSTRUMENT IDENTIFICATION
5-4	ENCLOSED FLARE CONTROL PANEL
5-5	ENCLOSED FLARE CONTROL PANEL, INSTRUMENT DETAIL
5-6	DIGITAL TEMPERATURE CONTROLLER
5-7	GAS COLLECTION AND FLARING SYSTEM
6-1	ENVIRONMENTAL MONITORING LOCATION

**PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME III  
TABLE OF CONTENTS (continued)**

---

Section Page

**LIST OF PHOTOGRAPHS**

<u>PHOTOGRAPH NO.</u>	<u>TITLE</u>
4-1	MAIN ALARM CONTROL PANEL, LEACHATE LIFT PUMPS
4-2	SUMP PUMPS D-1, D-8 AND D-10 CONTROL PANEL
4-3	LIFT STATION NO. 1 AND CONTROL
4-4	LIFT STATION NO. 2
4-5	LIFT STATION NO. 1 AND CONTROL
4-6	LEACHATE TANK TRUCK LOADING ARM
4-7	LEACHATE STORAGE TANKS
4-8	COMPRESSED AIR SYSTEM
5-1	WASTE GAS BLOWERS AND PIPING
5-2	ENCLOSED FLARE
5-3	BLOWERS CONTROL PANEL
5-4	FLARE CONTROL PANEL AND PURGE BLOWER PANEL
5-5	BLOWERS/FLARE MAIN BREAKERS

**PELHAM BAY LANDFILL  
OPERATION & MAINTENANCE MANUAL  
VOLUME III  
TABLE OF CONTENTS (continued)**

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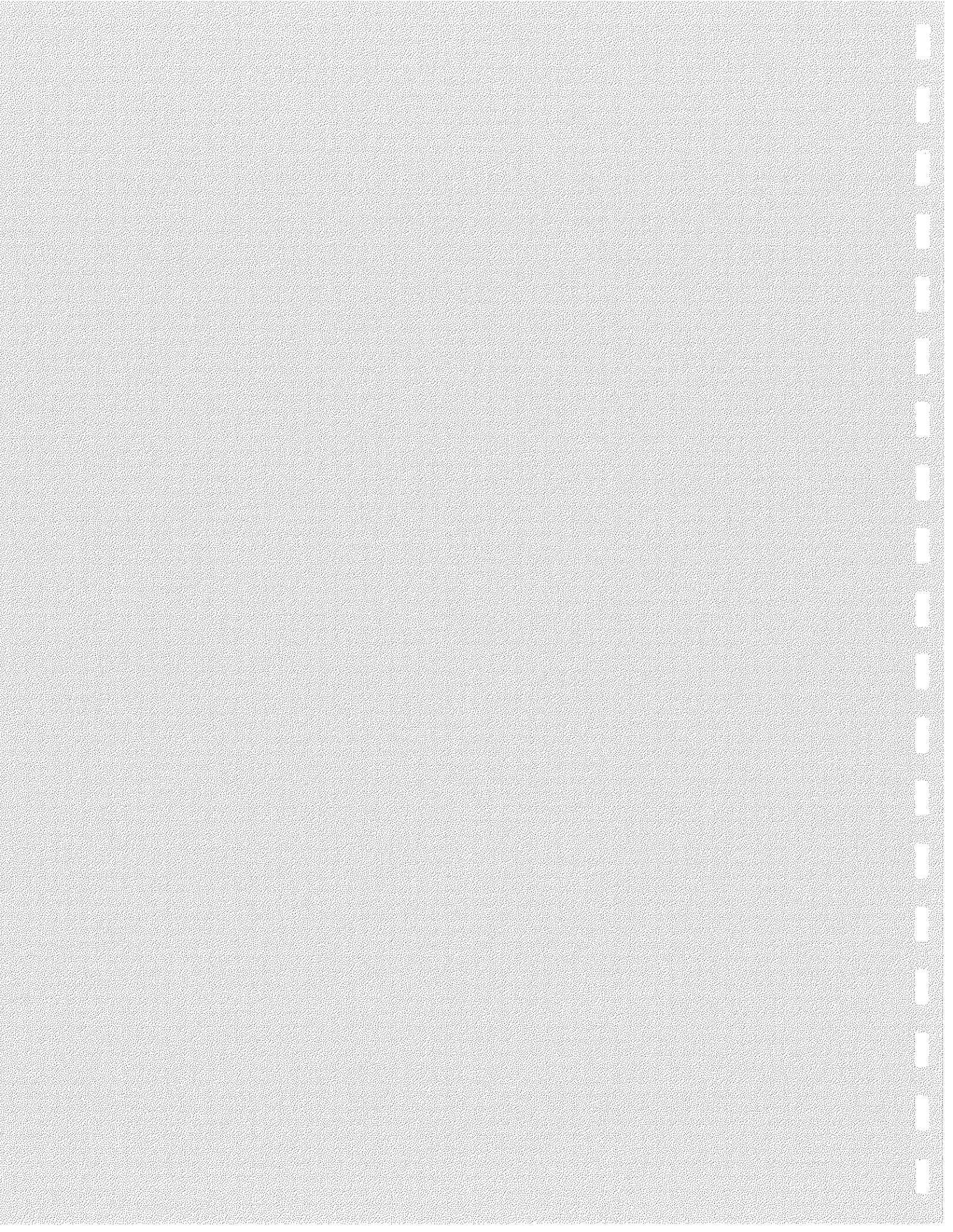
Section Page

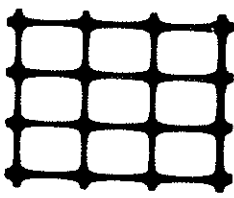
**LIST OF APPENDICES**

<u>APPENDIX NO.</u>	<u>TITLE</u>
A	SITE INSPECTION CHECKLIST SHEETS
B	TASKS FOR OPERATION AND MAINTENANCE
C	LONG TERM MONITORING PROGRAM
D	GROUNDWATER SAMPLE COLLECTION PROTOCOL USING BAILERS
E	GROUNDWATER SAMPLE COLLECTION PROTOCOL USING LOW FLOW RATE PURGING AND SAMPLING TECHNIQUE
F	SURFACE RUN-OFF WATER SAMPLE COLLECTION PROTOCOL
G	GROUNDWATER TABLE MEASUREMENT PROTOCOL
H	TARGET COMPOUND LISTS (TCLS) AND CONTRACT REQUIRED QUANTITATION LIMITS (CRQLS)
I	SAMPLING LOG SHEETS
	- GROUNDWATER ELEVATION SUMMARY
	- SAMPLING EVENT SUMMARY
	- GROUNDWATER ELEVATION
	- QUARTERLY SAMPLING/GROUNDWATER









**Tensar**

02168-  
2.1 E

**The Tensar Corporation**

1210 Citizens Parkway  
Morrow, Georgia 30260  
(404) 968-3255

JULY 15, 1994

UX 1500 HT Geogrid

BARBELLA ENVIRONMENTAL  
TECHNOLOGY

WHITEHOUSE, NJ 08888

REFERENCE: TENSAR ORDER NUMBER: 400669  
PURCHASE ORDER NUMBER: 01  
BILL OF LADING NUMBER: 07659

SOLD TO: BARBELLA ENVIRONMENTAL  
TECHNOLOGY  
PO BOX 273  
WHITEHOUSE, NJ 08888

SHIP TO: BARBELLA ENVIRONMENTAL  
PELLHAM BAY LANDFILL  
3599 BRUCKNER BLVD  
SEE DIRECTIONS  
BRONX, NY 10464

This is to certify that TENSAR UX150095 geogrid as manufactured by the Tensar Corporation, meets the characteristics and properties per the attached specification sheet. Actual lot number(s) shipped are as indicated:

<u>LOT NUMBER</u>	<u>NO. ROLLS</u>	<u>TENSILE MODULUS</u> (lb/ft)	<u>ULTIMATE TENSILES</u> (lb/ft)	<u>% CB</u>
1-3970	7	106,450	7423.4	2.40
1-3973	9	112,276	7423.4	2.70
1-3974	45	113,236	7567.3	2.60
1-3975	9	110,357	7389.1	2.60

sincerely,

Ron Humpolick  
Manager of Continuous Improvement  
and Quality Control

Notary Public, Clayton County, Georgia  
My Commission Expires May 10, 1998



## UNIAXIAL GEOGRID UX1500HT

The geogrid shall be a regular grid structure formed by uniaxially drawing a continuous sheet of select high density polyethylene material and shall have aperture geometry and rib and junction cross-sections sufficient to permit significant mechanical interlock with the material being reinforced. The geogrid shall have high flexural rigidity and high tensile modulus in relation to the material being reinforced and shall also have high continuity of tensile strength through all ribs and junctions of the grid structure. The geogrid shall have high resistance to deformation under sustained long term design load while in service and shall also be resistant to ultraviolet degradation, to damage under normal construction practices and to all forms of biological or chemical degradation normally encountered in the material being reinforced.

The geogrid shall also conform in all respects to the property requirements listed below.

PROPERTY	TEST METHOD	UNITS	VALUE
<b>Interlock</b>			
• open area	COE Method <sup>1</sup>	%	60 (nom)
<b>Reinforcement</b>			
• creep limited strength <sup>6</sup>	GRI GG3-87 <sup>2</sup> or (ASTM D5262)	lb/ft	2,700 (min)
• flexural rigidity	ASTM D1388-64 <sup>3</sup>	mg-cm	4,700,000 (min)
• tensile modulus-MD	GRI GG1-87 <sup>4</sup>	lb/ft	100,000 (min)
• junctions	GRI GG2-87 <sup>5</sup>		
- strength		lb/ft	5,000 (min)
- efficiency		%	90 (min)
<b>Material</b>			
• high density polyethylene	ASTM D 1248	%	97 (min)
	Type III/Class A/Grade 5		
• carbon black	ASTM 4218	%	2.0 (min)
<b>Dimensions</b>			
• roll length		ft	150
• roll width		ft	4.3
• roll weight		lb	84

### Notes:

- Percent open area measured without magnification by Corps of Engineers Method as specified in CWO2215 Civil Works Construction Guide, November 1977.
- Long term load capacity measured by through the junction tensile creep testing to 10,000 hours as described in Geosynthetic Research Institute test method GG3-87 "Creep Behavior and Long Term Design Load of Geogrids".
- ASTM D 1388-64 modified to account for wide specimen testing as described in Tensar test method TTM-5.0 "Stiffness of Geosynthetics".
- Secant modulus at 2% elongation measured by Geosynthetic Research Institute test method GG1-87 "Geogrid Tensile Strength". No offset allowances are made in calculating secant modulus.
- Geogrid junction strength and junction efficiency measured by Geosynthetic Research Institute test method GG2-87 "Geogrid Junction Strength".
- The long-term allowable design strength (LTADS) is determined using the method outlined in GRI-GG4 "Determination of the Long Term Design Strength of Stiff Geogrids." The GRI-GG4 method applies various partial factors of safety to account for construction damage, junction strength, connections, chemical and biological degradation.



Product Name	Manufacturing process	Coating Type	Polymer Type <sup>a</sup>	Dimensional Properties				Wide Width Strip Tensile Strength ASTM D 4585-86 kN/m (lb/ft)/%				Long Term Design Strength GFI GG4 <sup>b</sup> lb/ft	Manufacturer's Suggested Applications <sup>c</sup>
				Mass/Unit Area ASTM D 5261-62 g/m <sup>2</sup> (oz/yd <sup>2</sup> )	Aperture Size mm (in)		Strength 5% strain		Ultimate Strength%				
					MD	XD	MD	XD	MD	XD			

TENSAZ UX 1000SB

Tensar Technologies Inc. (cont.)

Product Name	Manufacturing process	Coating Type	Polymer Type <sup>a</sup>	Mass/Unit Area ASTM D 5261-62 g/m <sup>2</sup> (oz/yd <sup>2</sup> )	Aperture Size mm (in)	Strength 5% strain	Ultimate Strength%	Long Term Design Strength GFI GG4 <sup>b</sup> lb/ft	Manufacturer's Suggested Applications <sup>c</sup>			
BX1300	PSD <sup>m</sup>	NA	PP	247 (7.3)	48 (1.8)	64 (2.5)	11 (740)	17 (1160)	29 (1970)	NP	B	
BX1400 (AR)	PSD <sup>m</sup>	NA	PP	247 (7.3)	48 (1.8)	64 (2.5)	10 (670)	16 (1010)	17 (1150)	25 (1700)	NP	asphalt reinforcement
BX1500	PSD <sup>m</sup>	NA	PP	473 (13.9)	23 (1)	30 (1.2)	17 (1160)	23 (1590)	29 (1990)	30 (2670)	NP	E
BX4100 (SG1)	PSD <sup>m</sup>	NA	PP	184 (5.4)	38 (1.4)	36 (1.4)	10 (650)	12 (850)	13 (900)	16 (1090)	NP	B, E
BX4200 (SG2)	PSD <sup>m</sup>	NA	PP	260 (7.7)	36 (1.4)	36 (1.4)	13 (890)	18 (1230)	18 (1250)	23 (1570)	NP	B, E
GC1400 (ARO)	PSD <sup>m</sup>	NA	PP/PET	383 (11.0)	48 (1.8)	64 (2.5)	10 (670)	15 (1000)	17 (1150)	25 (1700)	NP	asphalt reinforcement, waterproofing
UX1000SB	PSD <sup>m</sup>	NA	HDPE	371 (10.9)	NP	NP	18 (1270)	NA	35 (2400)	NA	810	W, S, E
UX1400SB	PSD <sup>m</sup>	NA	HDPE	510 (15.0)	NP	NP	28 (1920)	NA	61 (4170)	NA	1335	W
UX1400HT	PSD <sup>m</sup>	NA	HDPE	434 (12.8)	NP	NP	31 (2150)	NA	65 (4430)	NA	1625	W, S, E, L, V
UX1500SB	PSD <sup>m</sup>	NA	HDPE	835 (24.6)	NP	NP	53 (3640)	NA	95 (6580)	NA	2190	W
UX1500HT	PSD <sup>m</sup>	NA	HDPE	635 (18.7)	NP	NP	56 (3950)	NA	103 (7070)	NA	2525	W, S, E, L, V
UX1600SB	PSD <sup>m</sup>	NA	HDPE	1134 (33.4)	NP	NP	70 (4820)	NA	125 (8540)	NA	2855	W
UX1600HT	PSD <sup>m</sup>	NA	HDPE	922 (27.2)	NP	NP	76 (5210)	NA	132 (9040)	NA	3285	W, S, E, L, V
UX1700HT	PSD <sup>m</sup>	NA	HDPE	1220 (36.0)	NP	NP	98 (6600)	NA	168 (11500)	NA	4000	W, S, E, L, V

- (1) PET = Polyester
- PP = Polypropylene
- PE = Polyethylene

(2)  $T_{allow} = T_{ult} \left[ \frac{1}{F_{SD} \times F_{SC} \times F_{SCD} \times F_{SDO} \times F_{SJT}} \right]$

$T_{SD}$  = partial factor of safety for installation damage  
 $F_{SC}$  = partial factor of safety for creep deformation  
 $F_{SCD}$  = partial factor of safety for chemical degradation  
 $F_{SDO}$  = partial factor of safety for biological degradation  
 $F_{SJT}$  = partial factor of safety for joints

- (3) B = Base Reinforcement
- W = Walls
- S = Slopes
- E = Embankments
- (A) Punched sheet drawn laminated NDMW geotextile
- (B) Punched sheet drawn
- k<sub>sp</sub> = Data not provided by manufacturer
- NA = Manufacturer determined that this data was not applicable to the product or the data was unavailable

Geotechnical Fabric Report # December 1994

## UNIAXIAL GEOGRID UX1000SB

The geogrid shall be a regular grid structure formed by uniaxially drawing a continuous sheet of select high density polyethylene material and shall have aperture geometry and rib and junction cross-sections sufficient to permit significant mechanical interlock with the material being reinforced. The geogrid shall have high flexural rigidity and high tensile modulus in relation to the material being reinforced and shall also have high continuity of tensile strength through all ribs and junctions of the grid structure. The geogrid shall have high resistance to deformation under sustained long term design load while in service and shall also be resistant to ultraviolet degradation, to damage under normal construction practices and to all forms of biological or chemical degradation normally encountered in the material being reinforced.

The geogrid shall also conform in all respects to the property requirements listed below.

PROPERTY	TEST METHOD	UNITS	VALUE
<b>Interlock</b>			
• apertures <sup>1</sup>	I.D. Calipered <sup>2</sup>	in	5.70 (nom)
- MD		in	0.68 (nom)
- CMD		%	60 (nom)
• open area	COE Method <sup>3</sup> ASTMD1777-64	in	0.020 (nom)
• thickness		in	0.080 (nom)
• ribs	GRI GG3-87 <sup>1</sup> (or ASTM D5262) ASTM D1388-64 <sup>2</sup> GRI GG1-87 <sup>3</sup> GRI GG2-87 <sup>4</sup>	lb/ft	850 (min)
• junctions		mg-cm	500,000 (min)
<b>Reinforcement</b>		lb/ft	35,000 (min)
• creep limited strength <sup>5</sup>		lb/ft	2,400 (min)
• flexural rigidity		%	90 (min)
• tensile modulus - MD	ASTM D 1248	%	97 (min)
• junctions			
- strength	ASTM 4218	%	2.0 (min)
- efficiency			
<b>Material</b>			
• high density polyethylene			
Type III/Class A/Grade 5			
• carbon black			
<b>Dimensions</b>			
• roll length		ft	98
• roll width		ft	4.3
• roll weight		lb	32

## Notes:

1. Long term load capacity measured by through the junction tensile creep testing to 10,000 hours as described in Geosynthetic Research Institute test method GG3-87 "Creep Behavior and Long Term Design Load of Geogrids".
2. ASTM D 1388-64 modified to account for wide specimen testing as described in Tensar test method TTM-6.0 "Stiffness of Geosynthetics".
3. Secant modulus at 2% elongation measured by Geosynthetic Research Institute test method GG1-87 "Geogrid Tensile Strength". No offset allowances are made in calculating secant modulus.
4. Geogrid junction strength and junction efficiency measured by Geosynthetic Research Institute test method GG2-87 "Geogrid Junction Strength".
5. The long-term allowable design strength (LTADS) is determined using the method outlined in GRI-GG4 "Determination of the Long Term Design Strength of Stiff Geogrids." The GRI-GG4 method applies various partial factors of safety to account for construction damage, junction strength, connections, chemical and biological degradation.

## BIAXIAL GEOGRID BX1100 (SS-1)

The geogrid shall be a regular grid structure formed by biaxially drawing a continuous sheet of select polypropylene material and shall have aperture geometry and rib and junction cross-sections sufficient to permit significant mechanical interlock with the material being reinforced. The geogrid shall have high flexural rigidity and high tensile modulus in relation to the material being reinforced and shall also have high continuity of tensile strength through all ribs and junctions of the grid structure. The geogrid shall maintain its reinforcement and interlock capabilities under repeated dynamic loads while in service and shall also be resistant to ultraviolet degradation, to damage under normal construction practices and to all forms of biological or chemical degradation normally encountered in the material being reinforced.

The geogrid shall also conform in all respects to the property requirements listed below.

PROPERTY	TEST METHOD	UNITS	VALUE
<u>Interlock</u>			
• aperture size <sup>1</sup>	I.D. Calipered <sup>2</sup>		
- MD		in	1.0 (nom)
- CMD		in	1.3 (nom)
• open area	COE Method <sup>3</sup>	%	70 (min)
• thickness	ASTM D 1777-64		
- ribs		in	0.03 (nom)
- junctions		in	0.11 (nom)
<u>Reinforcement</u>			
• flexural rigidity	ASTM D1388-64 <sup>4</sup>	mg-cm	250,000 (min)
• tensile modulus	GRI GG1-87 <sup>5</sup>	lb/ft	14,000 (min)
• junctions	GRI GG2-87 <sup>6</sup>		
- strength		lb/ft	765 (min)
- efficiency		%	90 (min)
<u>Material</u>			
• polypropylene	ASTM D 4101 Group 1/Class 1/Grade 2	%	98 (min)
• carbon black	ASTM 4218	%	0.5 (min)
<u>Dimensions</u>			
• roll length		ft	164
• roll width		ft	9.8 & 13.1
• roll weight		lb	71 & 95

### Notes:

1. MD dimension is along roll length. CMD dimension is across roll width.
2. Maximum inside dimension in each principal direction measured by calipers.
3. Percent open area measured without magnification by Corps of Engineers method as specified in CW 02215 Civil Works Construction Guide, November 1977.
4. ASTM D 1388-64 modified to account for wide specimen testing as described in Tensar test method TTM-5.0 "Stiffness of Geosynthetics".
5. Secant modulus at 2% elongation measured by Geosynthetic Research Institute test method GG1-87 "Geogrid Tensile Strength". No offset allowances are made in calculating secant modulus.
6. Geogrid junction strength and junction efficiency measured by Geosynthetic Research Institute test method GG2-87 "Geogrid Junction Strength".



# MIRAFI<sup>®</sup>

## 140N

RECEIVED

JUN 21 1994

MIRAFI 140N GEOTEXTILE

### SUBSURFACE DRAINAGE

#### Drainage Fabric

Good drainage is essential for soil stability. In order for drainage structures to be effective — along highways, in embankments, under airfields and athletic fields, or anywhere — they must have a properly designed protective filter.

Traditionally, graded-aggregate filter systems have been used with limited success to prevent soil particles from migrating into subsurface drainage structures. However, these aggregate drains have several inherent problems, including high cost and difficult installation.

Mirafi 140N, a nonwoven filter fabric, provides an effective, cost-efficient alternative to graded-aggregate filters. Among its design features are:

- Easily conforms to the ground or trench surface for fast and trouble-free installation;
- Creates a superior filter media because of its high water flow rate and excellent filtration properties;
- Meets severe stresses of installation with its high puncture and burst resistance.

Mirafi 140N eliminates many of the problems associated with graded-aggregate filters, including:

- Determining the aggregate gradation required to match soil conditions;
- Finding a convenient and economical source of a specific aggregate gradation;
- Transporting and placing a graded aggregate;
- Assuring that the in-place aggregate gradation provides effective filter performance.

An additional benefit of Mirafi 140N is that the drain size can often be reduced when Mirafi fabric is installed because the thick, graded-aggregate layer is eliminated. As a result, less excavation and less aggregate will be required.



## Mirafi 140N Fabric Properties

Fabric Property	Unit	Test Method	Typical Values <sup>1</sup>
Grab Tensile Strength	lb	ASTM D-1682-64	120
Grab Tensile Elongation	%	ASTM D-1682-64	55
Burst Strength	psi	ASTM D-3786-80a <sup>2</sup>	210
Trapezoid Tear Strength	lb	ASTM D-1117-80	50
Puncture Strength	lb	ASTM D-3787-80 <sup>3</sup>	70
Coefficient of Permeability, k	cm/sec	CFMC GET-2	0.2
Water Flow Rate	gal/min/sf	CFMC GET-2	285

## Mirafi 140N Packaging

Roll Width (ft.)	Roll Length (ft.)	Roll Wt. (lbs.)
15.0	360	185
12.5	360	175

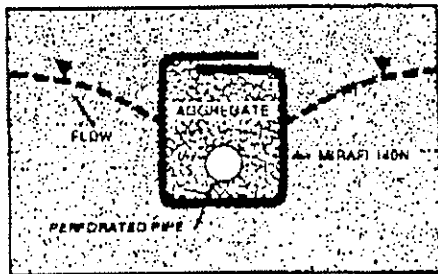
<sup>1</sup>The values listed are average values. Contact the Mirafi Technical Department for minimum certifiable values.

<sup>2</sup>Naphtalm Bursing Tester.

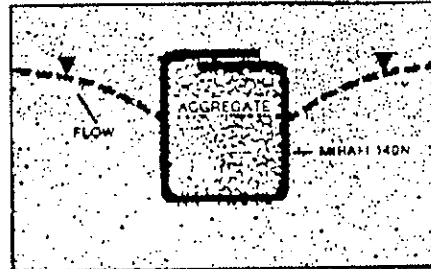
<sup>3</sup>Tension Testing Machine with ring clamp; steel ball replaced with a 5/16-inch diameter solid steel cylinder centered within the ring clamp.

To the best of our knowledge, the information contained herein is accurate. However, Mirafi, Inc. cannot assume any liability whatsoever for the accuracy or completeness thereof. Final determination of the suitability of any information or material for the use contemplated, of its manner of use, and whether the suggested use infringes any patents is the sole responsibility of the user.

## Type of Fabric Wrapped Drains

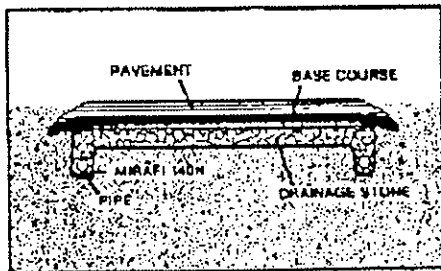


Conventional Drain (with pipe)

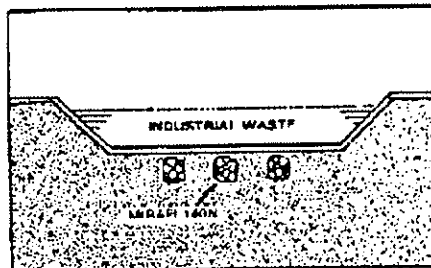


French Drain (without pipe)

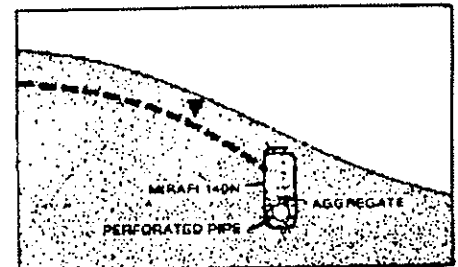
## Typical Drain Applications



Blanket Drain & Edge Drain




Pond Underdrain



Interceptor Drain

# MIRAFI INC

A member of the  DOMINION TEXTILE group  
Mirafi<sup>®</sup> is a trademark owned by Mirafi Inc. © 1984 Mirafi Inc.

MIRAFI INC. P.O. BOX 240967/CHARLOTTE, N.C. 28224  
(704) 523-7477 or (800) 438-1855/TELEX 216903 MRFI

404-447-6272

TREVIRA 1150

**Product Description**  
**Trevira® Spunbond Type 011/350**

Technical Fibers Group  
 Hoechst Celanese Corporation  
 Spunbond Business Unit  
 Post Office Box 5650  
 Spartanburg, SC 29304-5650  
 803 579 5007  
 Toll Free 1 800 845 7597  
 Fax 803 579 5930

Trevira® Spunbond Type 011/350 is a 100% continuous filament polyester nonwoven needlepunched engineering fabric. The fabric is resistant to biological and naturally encountered chemicals, alkalis, acids, and ultraviolet light exposure. Trevira® Spunbond Type 011/350 conforms to the property values listed in the following table:

FABRIC PROPERTY	UNIT	TEST METHOD	TYPICAL VALUE <sup>1</sup>	MINIMUM TEST VALUES <sup>2</sup>
Fabric Weight	oz/yd <sup>2</sup>	ASTM D-5261	10.5	10.0
Fabric Thickness, t	mils	ASTM D-5199	140	125
Grab Strength (MD/CD)	lbs	ASTM D-4632	420/350	305
Grab Elongation (MD/CD)	%	ASTM D-4632	75/80	60
Trapezoid Tear Strength (MD/CD)	lbs	ASTM D-4533	140/125	100
Puncture Resistance	lbs	ASTM D-4833	155	130
Mullen Burst Strength	psi	ASTM D-3786	560	510
Water Flow Rate	gpm/ft <sup>2</sup>	ASTM D-4491	120	80
Permittivity, Ψ	sec <sup>-1</sup>	ASTM D-4491	1.6	1.07
Permeability, k = Ψxt	cm/sec	ASTM D-4491	.57	.34
AOS	Sieve Size mm	ASTM D-4751	100-120 .149-.125	70 .210
Standard Roll Widths <sup>3</sup>	ft	12.5 and 15.0		
Standard Roll Lengths <sup>3</sup>	ft	300		

MD = Machine Direction CD = Cross Machine Direction

- <sup>1</sup> The values listed are average values.
- <sup>2</sup> These minimum values represent minimum test values as determined from Quality Control (QC) testing.
- <sup>3</sup> Other width and length rolls are available upon request.



**Synthetic Industries 801  
Nonwoven Geotextile**

Synthetic Industries 801 is a polypropylene, staple fiber, needlepunched nonwoven geotextile. The fibers are needled to form a stable network that retain dimensional stability relative to each other. The geotextile is resistant to ultraviolet degradation and to biological and chemical environments normally found in soils. Synthetic Industries 801 conforms to the property values listed below:

<u>PROPERTY</u>	<u>TEST METHOD</u>	<u>MINIMUM AVERAGE ROLL VALUES<sup>1</sup></u>	
		<u>English</u>	<u>Metric</u>
<b><u>Mechanical</u></b>			
Grab Tensile Strength	ASTM D4632	200 lbs	890 N
Grab Elongation	ASTM D4632	50 %	50 %
Puncture Strength	ASTM D4833	130 lbs	580 N
Mullen Burst	ASTM D3786	400 psi	2756 kPa
Trapezoidal Tear	ASTM D4533	85 lbs	380 N
<b><u>Hydraulic</u></b>			
Apparent Opening Size (AOS)	ASTM D4751	80 US Std. Sieve	0.180 mm
Permittivity, $\Psi$	ASTM D4491	1.50 sec <sup>-1</sup>	1.50 sec <sup>-1</sup>
Permeability, $k = \Psi \cdot t$	ASTM D4491	0.38 cm/sec	0.38 cm/sec
Water Flow Rate	ASTM D4491	110 gpm/ft <sup>2</sup>	4482 l/min/m <sup>2</sup>
<b><u>Endurance</u></b>			
UV Resistance (% retained @ 500 hours)	ASTM D4355	70 %	70 %

**Notes:**

<sup>1</sup> Values shown are in weaker principal direction. Minimum average roll values represent a 95 percent confidence level, calculated as  $\bar{x}$  mean minus two standard deviations.

**Standard Roll Size Information:** 15.0' x 300' = 500 sq. yds.

Seller makes no warranty, express or implied, concerning the product furnished hereunder other than it shall be of the quality and specifications stated herein. ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS EXPRESSLY EXCLUDED AND TO THE EXTENT THAT IT IS CONTRARY TO THE FOREGOING SENTENCE, AN IMPLIED WARRANTY OR MERCHANTABILITY IS EXPRESSLY EXCLUDED. Any recommendations made by Seller concerning uses or applications of said product are believed reliable and Seller makes no warranty of results to be obtained.  
This Data Sheet supersedes all previous Data Sheets for this style and is subject to change without notice.

GI801-3-02.03.94

# RDB PLASTOTECNICA SpA

Via Dell'Industria, 3  
22090 Vigano (CO) Italy  
Telefono 039/82191  
Telefax 039/8219290  
Telegrammi RDB - VIGANO

Cap. Soc. 10.000.000.000 Lit.  
CCIAA Como 176026  
Reg. Trib. Lecco Sec. 8071 v. 20  
Pia. Meccanografica n. CO 024471  
Codice Fiscale 04868970167  
Partita IVA 01263300137

7 December 1994  
FWgf

Messrs  
NICOLON / MIRAFI GROUP  
3500 Parkway Lane, Suite 500  
Norcross, GEORGIA 30082

Fax n° 001-404-7291829

Attention Mr. Tom Stephens

## DECLARATION OF CONFORMITY # 071294/2

Goods

TENAX MS 1000 / MIRAFI MIRAGRID MX-1  
TENAX MS 2000 / MIRAFI MIRAGRID MX-2

### TO WHOM IT MAY CONCERN

We hereby certify that the above mentioned goods are manufactured using the following components:

Polypropylene Group 1 - Class 1 - Grade 2 (ASTM D 4101): 98 % min. in weight  
Carbon Black (ASTM D 4218): 0,5 % min. in weight

The manufacturing process is controlled to guarantee the above properties according to our Quality System procedures, that have been implemented and certified in accordance to ISO 9002.

Best regards.



**TENAX**

Red e griglia  
in plastica estesa.

University of Alaska Fairbanks  
 Fairbanks Alaska  
 Torsional Rigidity Test Results  
 12/17/94

907-474-6126

Client:  
 Material:

Data  
 Sample #

Load	Moment	1	2	3	Average
Kg	cm-kg	Rotation on Initial Loading - Deg			
0	0	0	0	0	0
0.67	3.98	1.9	1.4	2	1.77
1.67	9.91	6.4	4.2	5.9	5.50
2.67	15.85	11.9	10.7	10	10.87
3.67	21.77	17.4	13.4	14.7	15.17
4.67	27.7	22.4	18.5	19.9	20.27
5.67	33.63	26.3	21.4	26.5	24.73

Secant Modulus  
 Sample #

Load	Moment	1	2	3	Average
Kg	cm-kg	Secant Modulus on Initial Loading - cm-kg/deg			
0	0				
0.67	3.98	2.09	2.84	1.99	2.31
1.67	9.91	1.55	2.36	1.68	1.86
2.67	15.85	1.33	1.48	1.59	1.47
3.67	21.77	1.25	1.62	1.48	1.45
4.67	27.7	1.24	1.50	1.39	1.38
5.67	33.63	1.28	1.57	1.27	1.37

Interpolated Average Secant Modulus @ 20 cm-kg: 1.456 cm-kg/deg

# Miragrid MX 1 Technical Data

**Product Description**

Miragrid **MX 1** is a bi-directional grid with comparable strength in both the machine direction and cross-machine direction. Miragrid **MX 1** is manufactured by extruding and orienting U.V. stabilized polypropylene to form a monolithic grid structure. Miragrid **MX 1** features high tensile strength and modulus with excellent resistance to construction and environmental damage. Miragrid **MX 1** conforms to the property values listed in the following table.

Grid Property	Test Method	Unit	Minimum Average Roll Value	
			MD	CD
Ultimate Tensile Strength	GRI GG-1	lb/ft	950	1,350
Secant Modulus @ 2% Strain	GRI GG-1	lb/ft	14,000	21,000
Junction Strength	GRI GG-2	lb/ft	855	1,215
Junction Efficiency	GRI GG-2	%	90	90
Flexural Rigidity	ASTM D 1388	mg-cm	750,000	
Open Area	COE-02215	%	80	
Rib Thickness	ASTM D 1777	in	0.10	0.08
Junction Thickness	ASTM D 1777	in	0.17	
Grid Aperture Size	Measured	in	1.2	1.6
Weight	ASTM D 3776	oz/yd <sup>2</sup>	7	

Tensile  
modulus

✓  
✓  
✓  
✓  
✓  
✓  
✓  
✓  
✓

# Miragrid MX 1 Packaging

STYLE NUMBER	832690
ROLL DIMENSIONS	13.1' x 164'
SQUARE YARDS PER ROLL	238.7
ESTIMATED ROLL WEIGHT	125 lbs

✓  
✓  
✓

MD - Machine Direction  
CD - Cross-machine Direction

## GUNDLOCK INSTALLATION GUIDE

Gundlock is a High Density Polyethylene (HDPE) extruded shape designed to provide a mechanical anchor attachment for Gundline HD (High Density Polyethylene liner). Gundlock is designed to embed in any face of new cast-in-place or precast concrete construction and can be fabricated to maneuver around shapes and corners.

Any thickness of Gundline HD can be welded to the Gundlock. If unexpectedly high tensile loads are experienced by the liner, the liner is designed to yield before the Gundlock yields or pulls out of the concrete. The Gundlock profile is detailed in Figure 1.

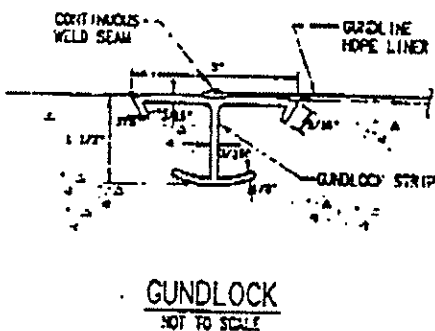


FIGURE-1

Attachment of Gundline HD to Gundlock is performed by grinding the Gundlock and Gundline HD and then extrusion welding the Gundline HD to the Gundlock.

Gundlock should not be used as a waterstop for most installations although it may be utilized as such in special



applications. Please consult Gundlock Lining Construction for further information.

Proper installation techniques must be observed to insure a secure embedment of the Gundlock and a sound weld to the Gundline HD sheeting.

#### GUNDLOCK INSTALLATION

Gundlock must be cut and butt welded together to fit corners and shapes. (Figures 2 - 4) This cutting and welding, if performed correctly will provide a continuous support for the liner, and secure a seal. Suggested procedures can be found on page 5. Corners and "T" connections can be supplied pre-fabricated.

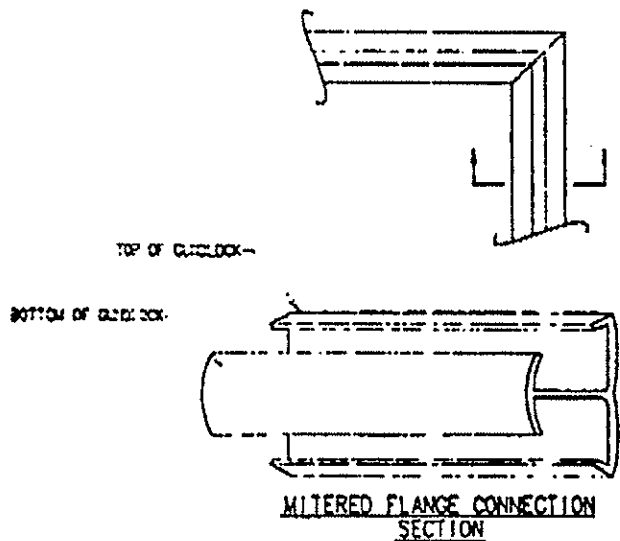


FIGURE-2

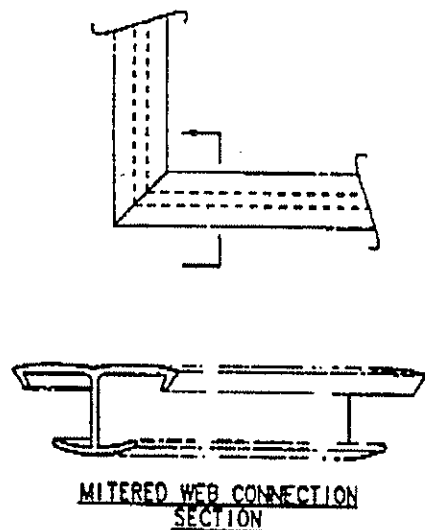


FIGURE-3

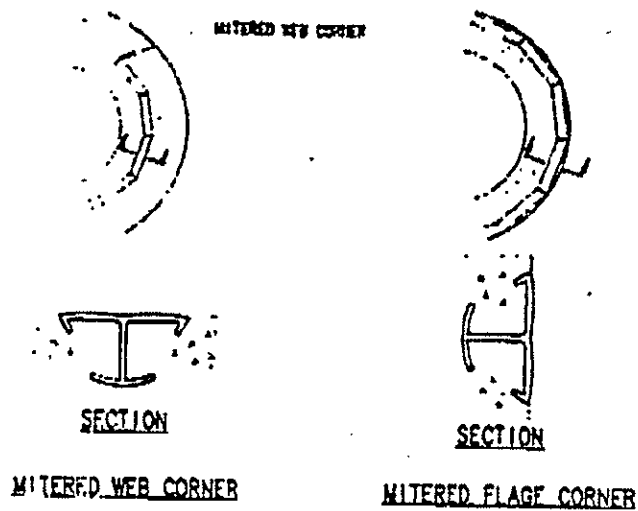


FIGURE 4

ATTACHMENT OF GUNDLCK TO FORMS

Gundlock is attached to the inside of a concrete form by finishing nails prior to concrete placement. (Figure 5 ). The size of the finishing nails must be 1" long or shorter. The nails must be driven flush with the back of the Gundlock to allow for their easy removal when the forms are wrecked. The Gundlock should be attached at sufficient points to insure a flush fitting with the form. Alternate methods of

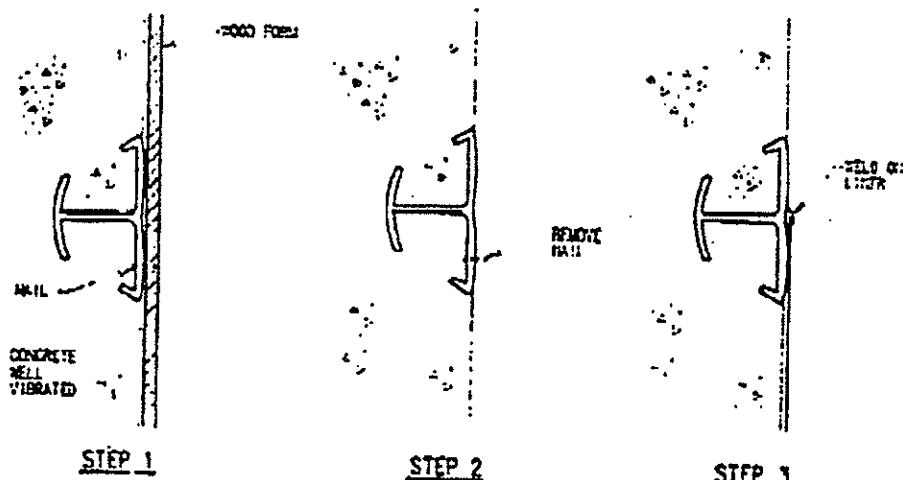
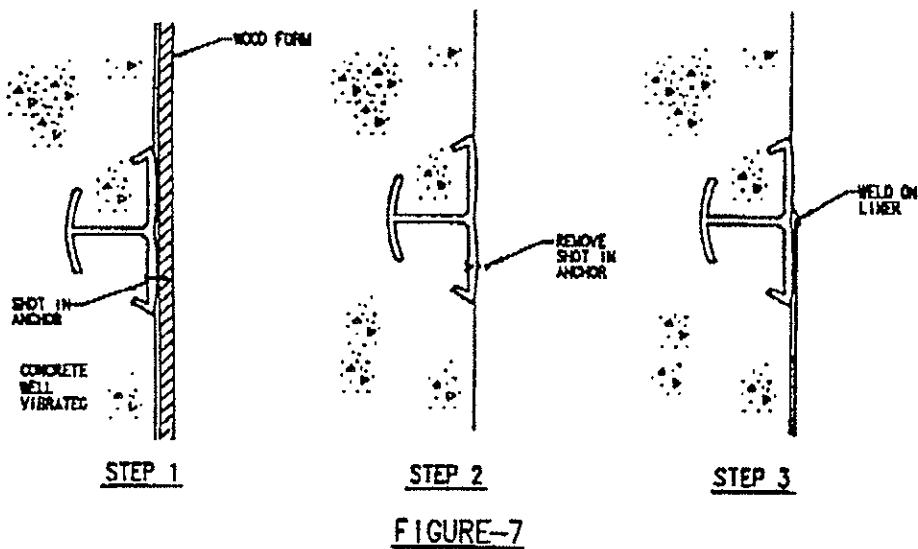
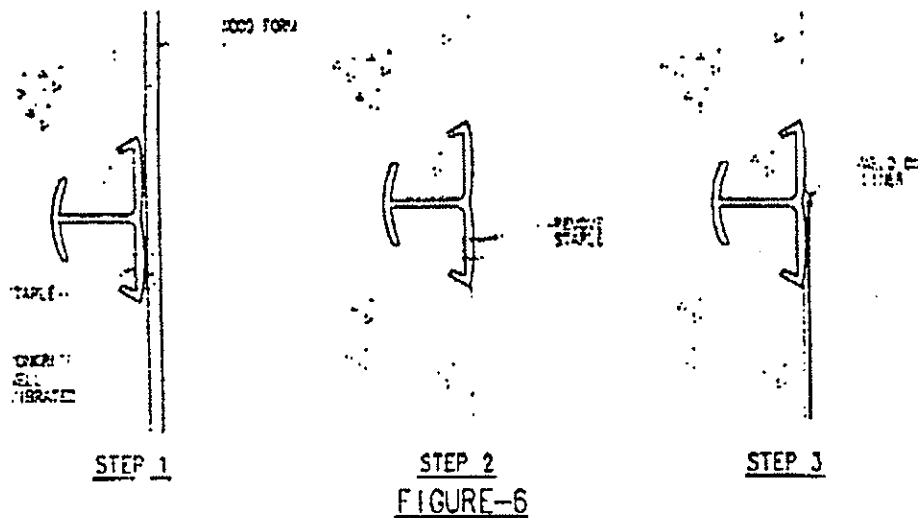


FIGURE-5

attachment are staples or shot in anchors. Examples are shown in figures 6 and 7. Any of the aforementioned methods will provide a proper attachment of the Gundlock to wood, steel, concrete, or plastic. Other materials may require special methods of attachment.



#### EMBEDMENT OF GUNDLOCK

Proper embedment of the Gundlock requires careful attention. The "T" shape of the section can entrap air if sufficient consolidation of the concrete is not achieved. Concrete placed around Gundlock must be properly vibrated to ensure

the concrete fills void spaces. Caution: If the concrete surrounding the Gundlock is not consolidated (vibrated), the Gundlock cannot develop the full pull out strength of the lock.

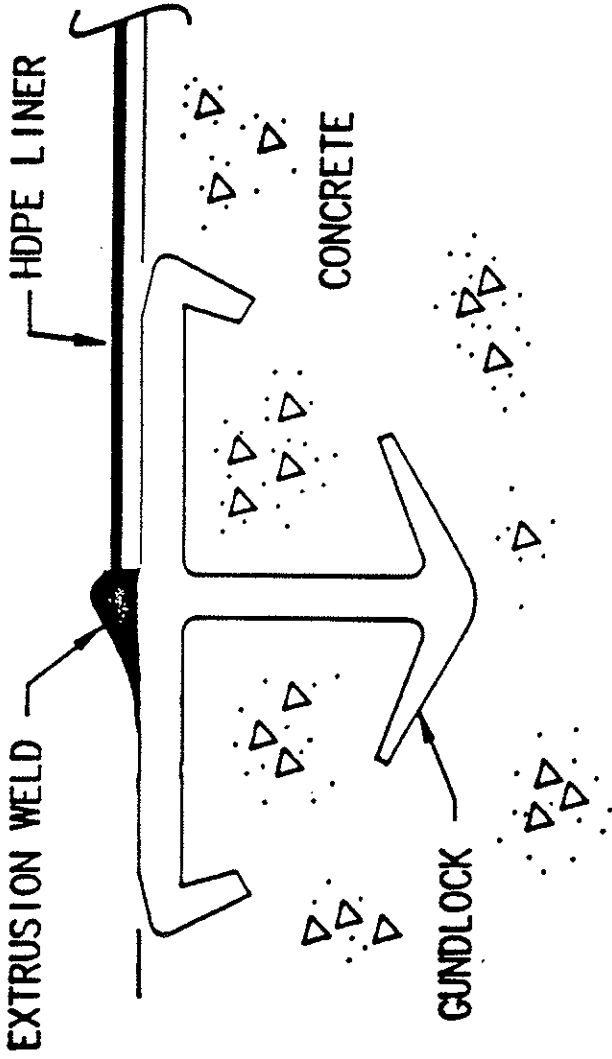
#### GUNDLOCK PREPARATION

After the concrete has set and the forms wracked, the finishing nails, staples or anchors can be removed. Occasionally concrete will get between the Gundlock and the form and must be chipped away to reveal the Gundlock. The sharp edges thus created by the chipping back of the concrete must be beveled to prevent possible cutting or puncturing of the liner.

#### SUGGESTED METHOD: HEAT FUSION WELDING OF GUNDLOCK


The recommended method of butt welding HDPE Gundlock is the heat fusion welding method which yields a continuous strip of material. The following is a list of tools and procedures required to perform the heat fusion welding method:

1. Carpenters Power Chop Saw or any saw which can cut material squarely. (Note: A handsaw or hacksaw will not cut it squarely.)
2. Utility Knife
3. 110V Leister Triac
4. 135MM Welding Mirror

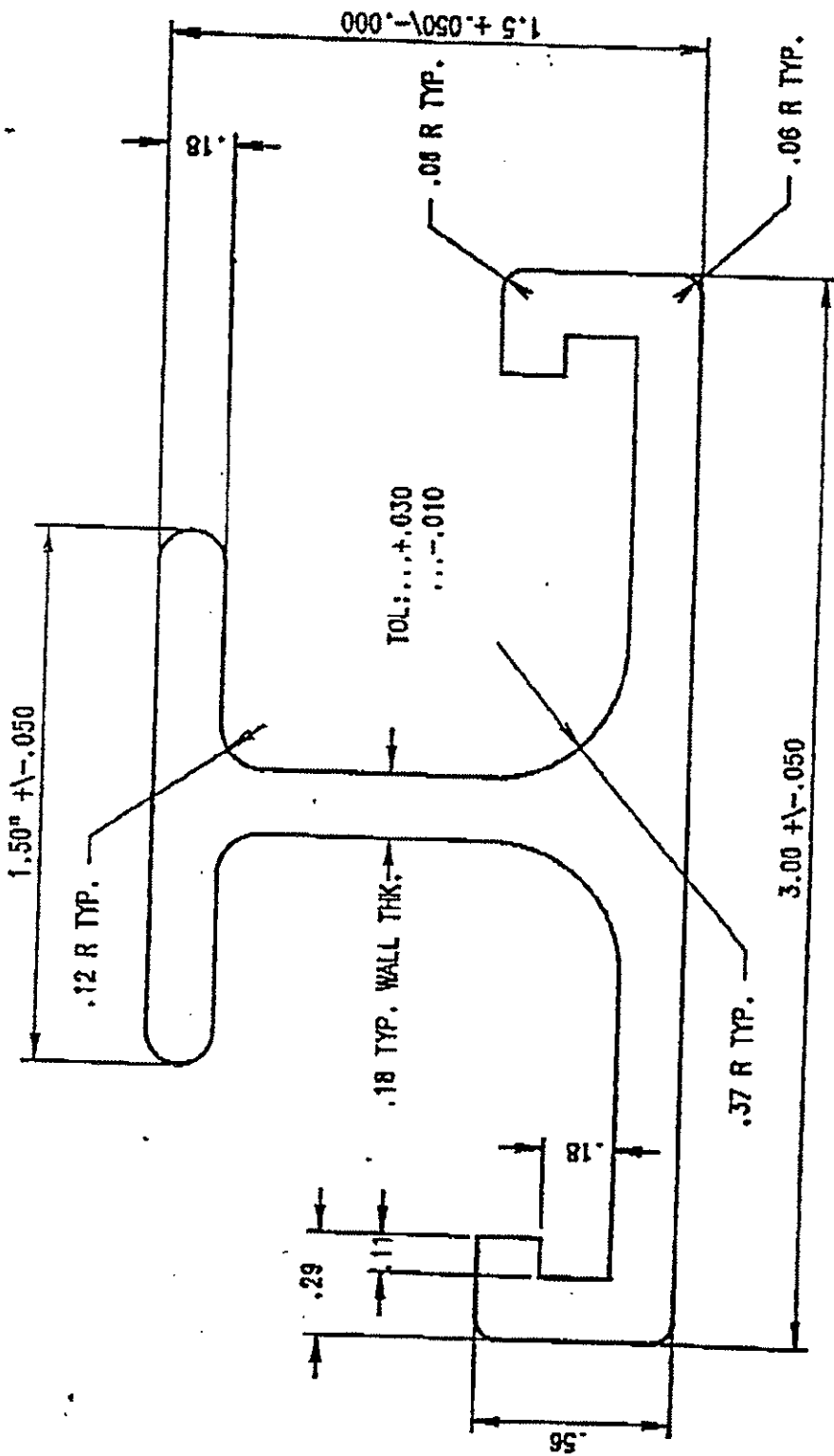


# TYPICAL GUNDLOCK DETAIL

(not to scale)

 <b>GUNDLOCK</b> <small>PRODUCT / COMPANY</small>	DATE: 10-23-89
	DRAWING No. STDR-82
	APPROVED BY: PSP
BY: PP	

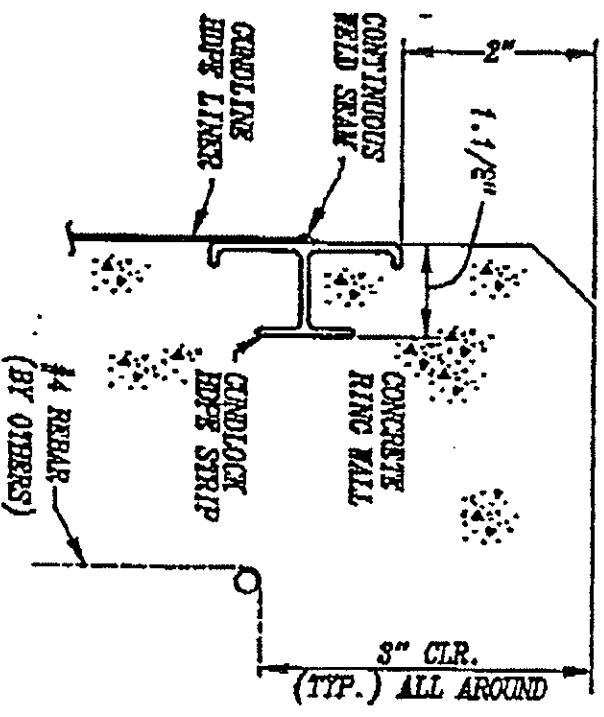
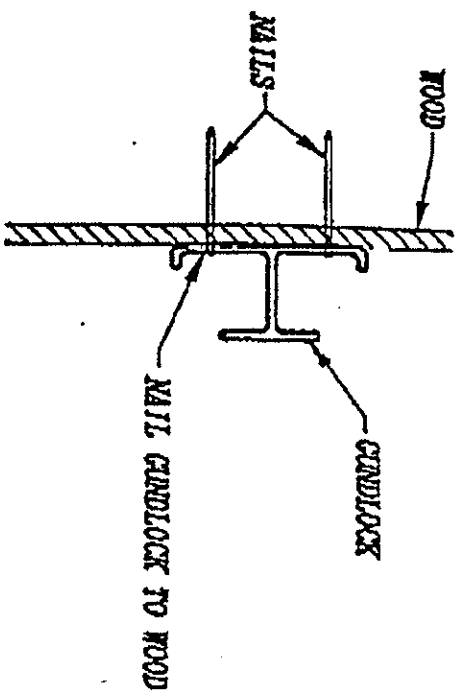
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**Gundie**  
 1425 W. WYOMING ST.  
 WASHINGTON, TEXAS 76782  
 PHONE 714/297-1111 FAX 714/297-1112

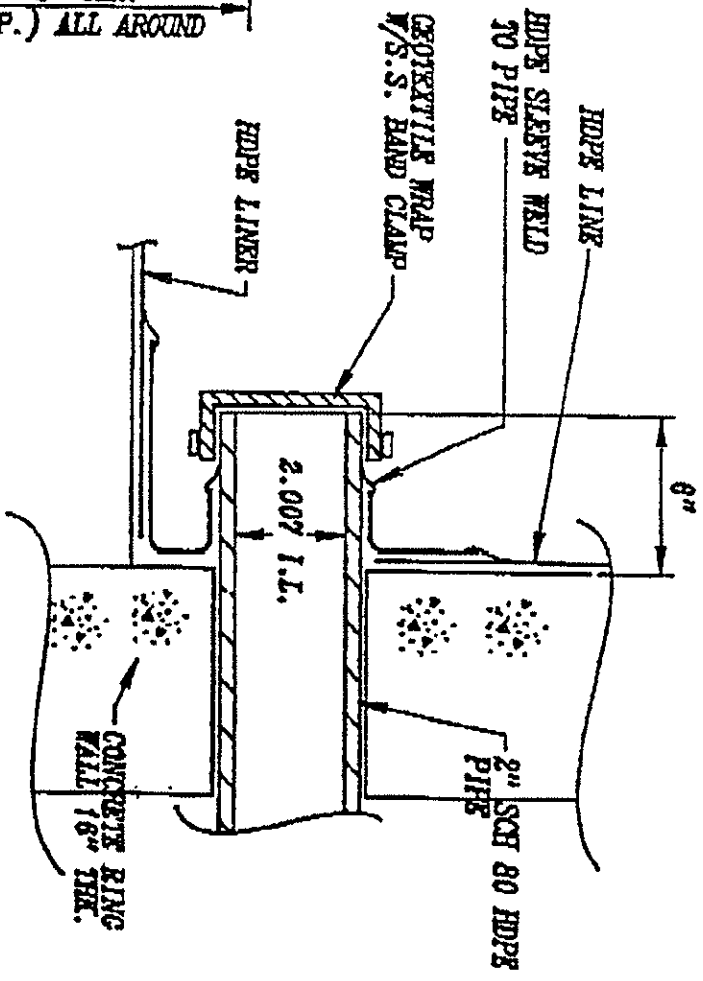
DATE: 09-20-89  
 DRAWING No. STDR-15  
 APPROVED BY: PSP

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**CINDLOCK**  
(not to scale)  
**DETAIL-1**

REFERRED BY:  
GENERAL LITERATURE CONSTRUCTION  
EXPERTS, BELLS  
FOR DOOR INSTALLATION



**DETAIL-2**  
(not to scale)

04-12-88	2	GENERAL		
04-12-88	1	GENERAL		
DATE	REV.	DESCRIPTION	APPROVED BY	BY

**Gundle**

WALL HALL 1000

DATE: 02-10-89  
DRAWING NO. STD-R-24

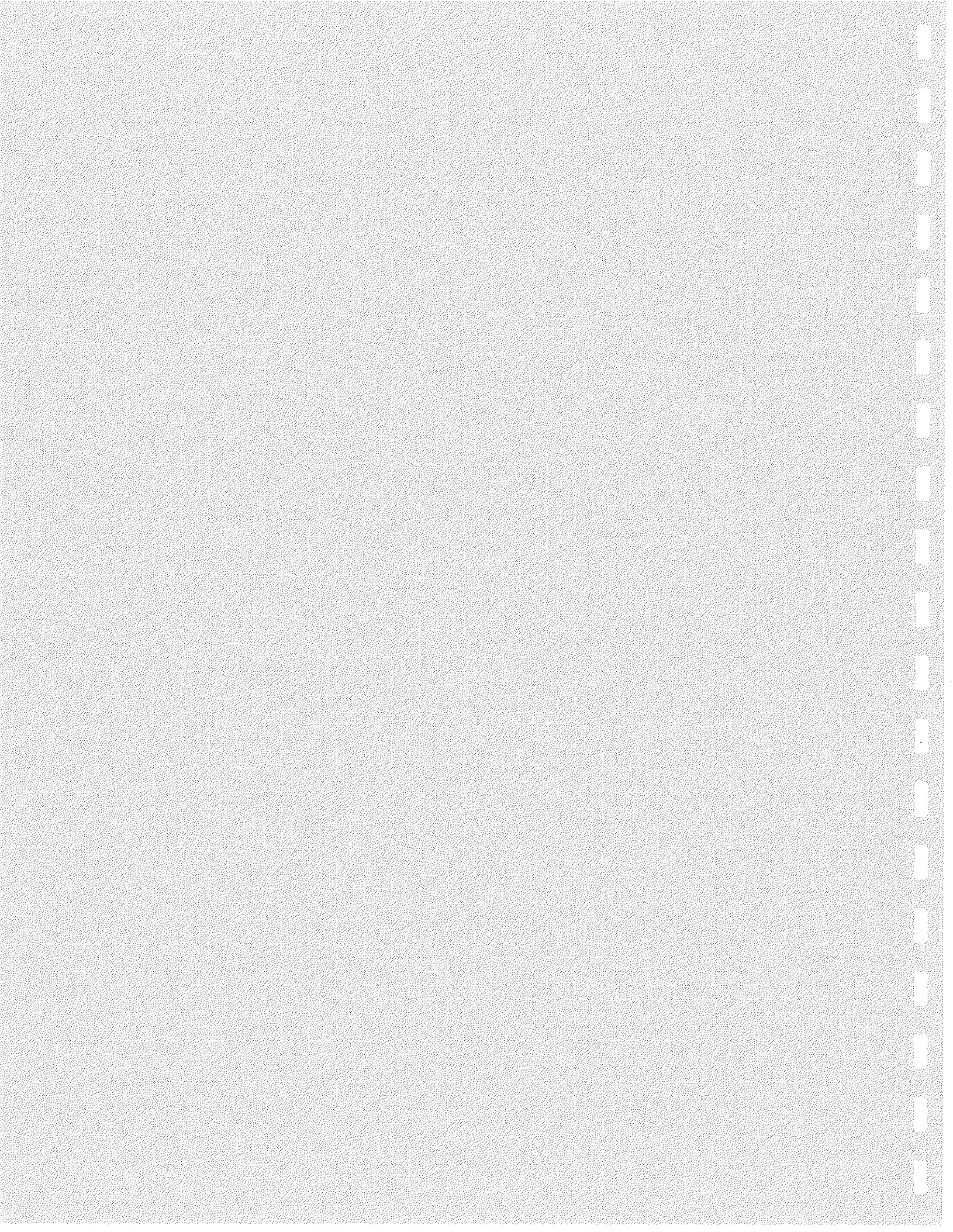
APPROVED BY:

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NEW YORK TRAP ROCK CORPORATION  
 162 OLD MILL ROAD  
 WEST NYACK, NY 10994  
 U.S.A.  
 914-358-4500

120194

Aggregate Blend

WEST NYACK  
 DIABASE

AGGREGATE BLEND -- MANUAL

CRUSHED STONE BASE

Specification ID : CRUSHED, ST. BASE

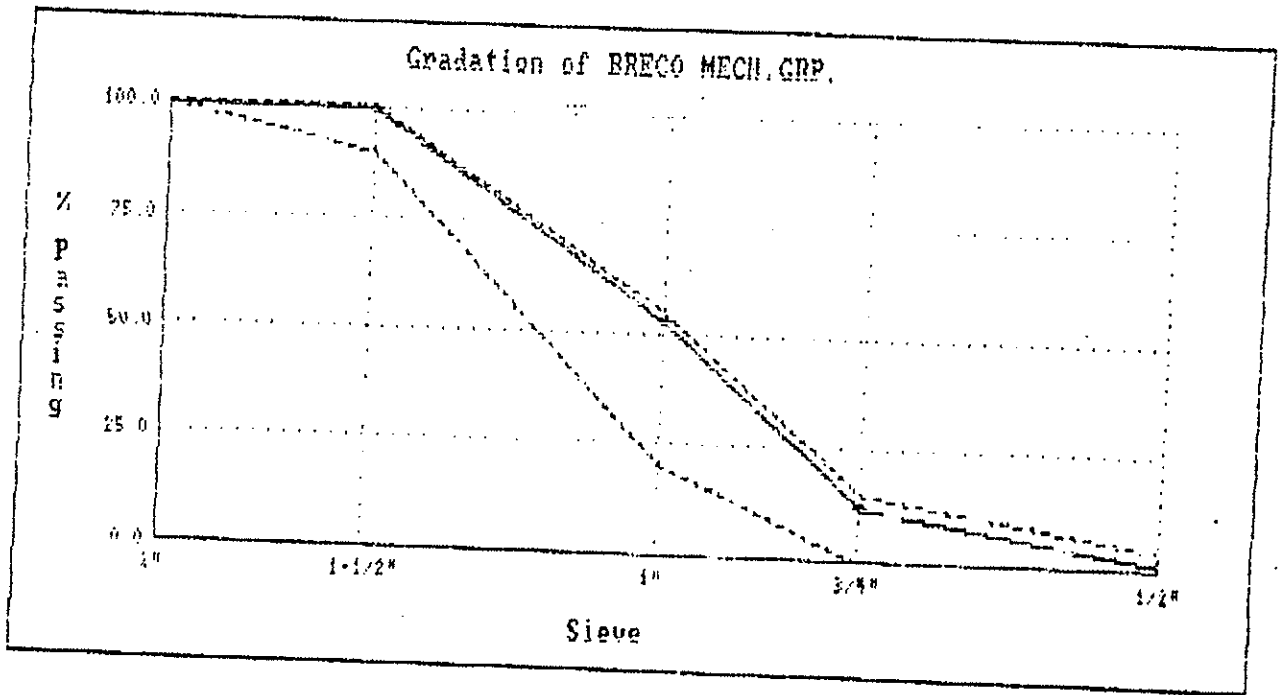
Blend ID : BRECO MECH. GRP.

Sieve	Low	High	% Pass	Aggregate	Pct
2 "	100.0	100.0	100.0	0400W	100.0
1-1/2 "	90.0	100.0	99.7		
1 "	20.0	55.0	53.1		
3/4 "	-	15.0	11.8		
1/2 "	-	5.0	1.6		

*Approx. Average Gradation*

*1 1/4"*

Cost - Fineness modulus 7.88



WEST NYACK QUARRY  
 N. Y. S. D. O. T. SOURCE NO. ((8-8R))

N. Y. S. D. O. T. TEST NO. = 93AR9

SPECIFIC GRAVITY = 2.91

162 OLD MILL ROAD  
WEST NYACK, NY 10994  
U.S.A.  
914-358-4500

Gas Extractor, Well  
1/2 Crushed Stone

120194

Aggregate Blend

WEST NYACK  
DIABASE

AGGREGATE BLEND -- MANUAL

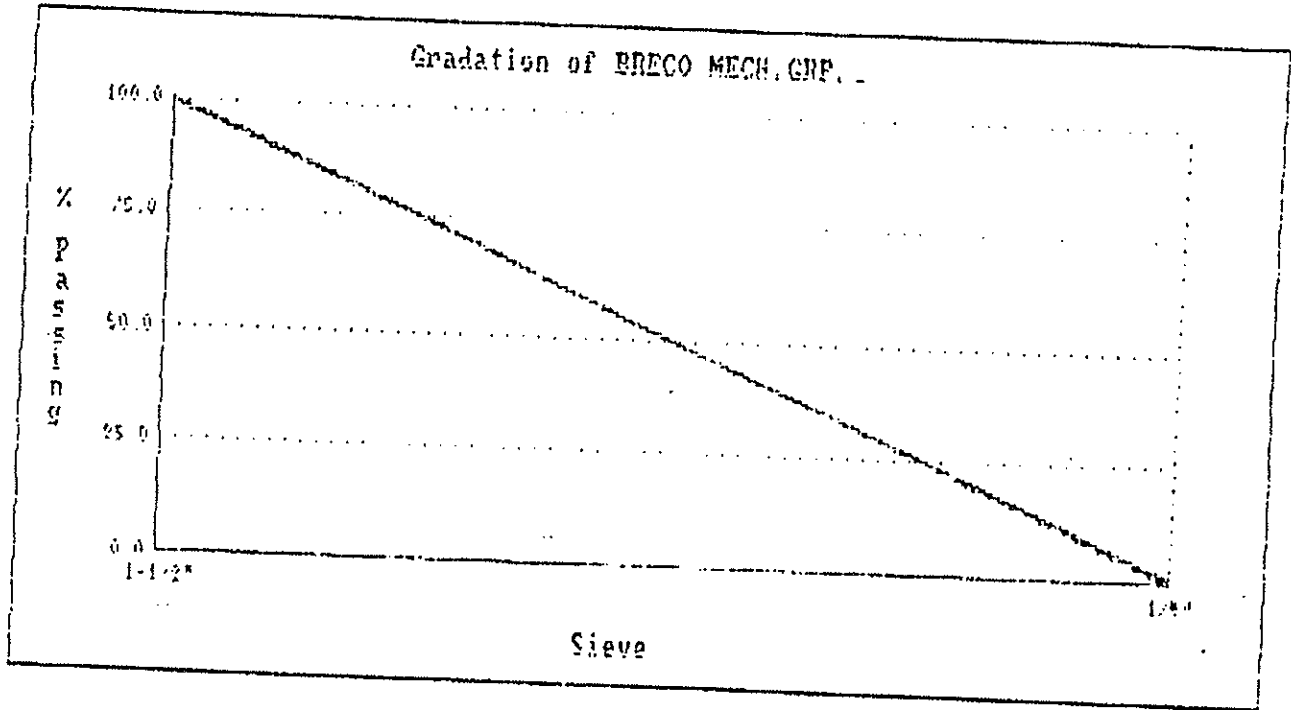
Specification ID : STONE BEDDING

Blend ID : BRECO MECH.GRP.

Sieve	Low	High	% Pass	Aggregate	Pct
1-1/2 "	100.0	100.0	99.8	0400W	100.0
1/4 "	-	-	1.4		
Cost	-	-			

1 1/4"

Approx. Average Gradation  
Fineness modulus



WEST NYACK QUARRY  
N. Y. S. D. O. T. SOURCE NO. ((8-8R))  
N. Y. S. D. O. T. TEST NO. = 93AR9  
SPECIFIC GRAVITY = 2.91

# FAIRWAY

Quality Assurance

November 7, 1994

CRUSHED STONE BASE COURSE

client ConAgg Recycling Corp.  
980 East 149th Street  
Bronx, NY 10455  
Attn: Ed Cicalese

project Barbella Environmental  
Pelham Landfill

subject Gradation Analysis

On this date, three samples of special blend material was delivered to this laboratory by the client. Test results are shown below.

<u>Sieve Size</u>	Percent <u>1</u>	Passing by <u>2</u>	Weight <u>3</u>	<u>Spec</u>
2"	100 ✓	100 ✓	100 ✓	100
1/4"	60 ✓	57 ✓	62 ?	30-60
No. 40	35	25	27	
No. 200	7.8 ✓	7.7 ✓	7.6 ✓	10-20

DL

FAIRWAY TESTING CO., INC.

  
F. J. Aguirre, P.E.

Smith Street • Stony Point, N.Y. 10980 • 914-942-2088

NEW YORK TRAP ROCK CORPORATION  
 162 OLD MILL ROAD  
 WEST NYACK, NY 10994  
 U.S.A.  
 914-358-4500

120194

WEST NYACK  
 DIABASE

Aggregate Blend

AGGREGATE BLEND -- MANUAL

RIP RPT  
 BEDDING  
 05/11/94

Specification ID : BEDDING MATER.

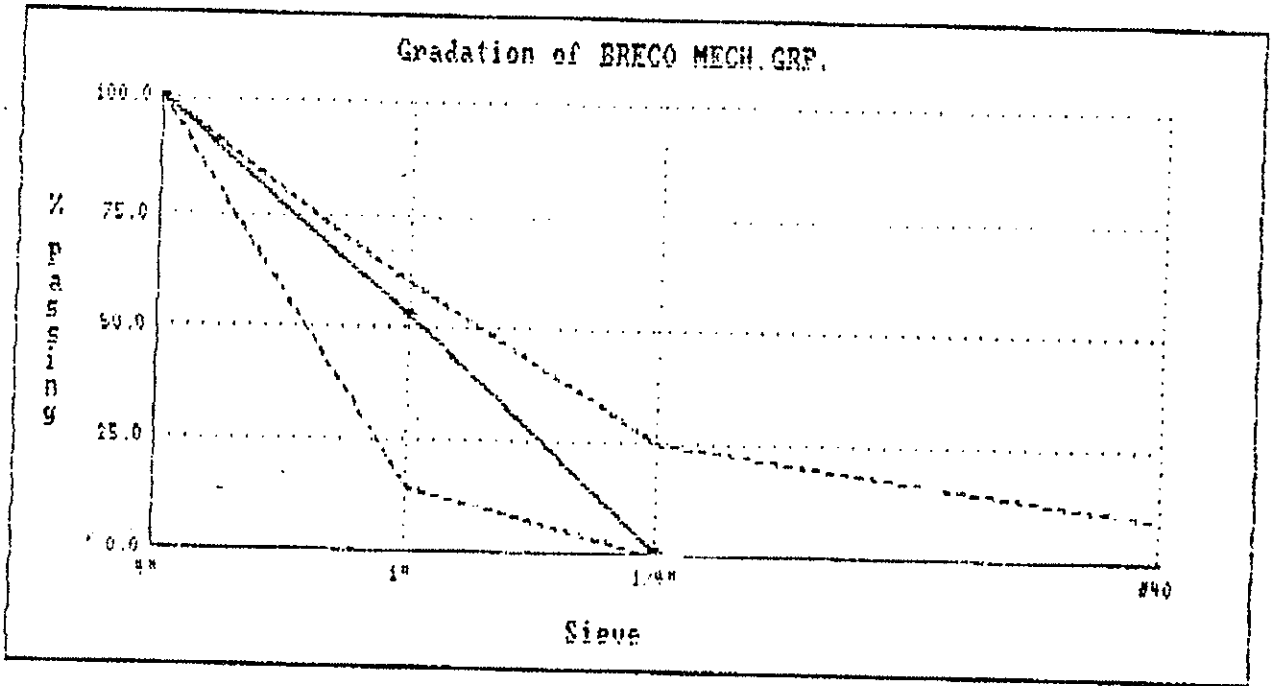
Blend ID : BRECO MECH.GRP.

Sieve	Low	High	% Pass	Aggregate	Pct
4 "	100.0	100.0	100.0	0400W	100.0
1 "	15.0	60.0	53.1		
1/4 "	-	25.0	1.4		
# 40	-	10.0	0.7		

Approx. Average Gradation

1 1/4'

Cost - Fineness modulus -



WEST NYACK QUARRY  
 N. Y. S. D. O. T. SOURCE NO. ((8-8R)  
 N. Y. S. D. O. T. TEST NO. = 93AR9  
 SPECIFIC GRAVITY = 2.91

NEW YORK TRAP ROCK CORPORATION  
 162 OLD MILL ROAD  
 WEST NYACK, NY 10994  
 U.S.A.  
 914-358-4500

RECEIVED DEC 15 1994

120194

WEST NYACK  
 DIABASE

Aggregate Blend

AGGREGATE BLEND -- MANUAL

RIP RAP-CLASS I

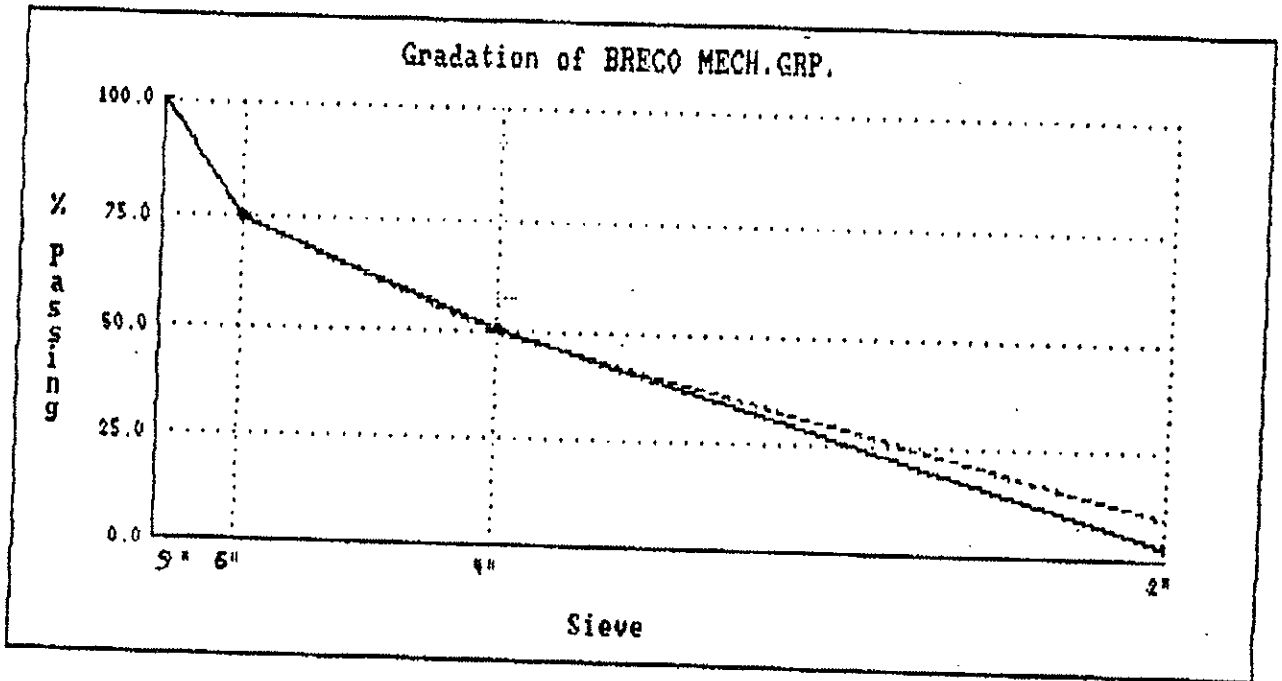
Specification ID : RIP RAP CLASS 1

Blend ID : BRECO MECH.GRP.

Sieve	Low	High	% Pass	Aggregate	Pct
9"	100.0	100.0	100.0	SMALL SURGE	100.0
6"	75.0	75.0	75.0		
4"	50.0	50.0	51.0		
2"	10.0	10.0	3.0		

*Approx Average Grading*

Cost - Fineness modulus -



WEST NYACK QUARRY  
 N. Y. S. D. O. T. SOURCE NO. ((8-8R))

N. Y. S. D. O. T. TEST NO. = 93AR9

SPECIFIC GRAVITY = 2.91

# FAIRWAY

Quality  
Assurance

**RECEIVED MAR 13 1996** March 8, 1996

*John Marks*  
5.2

client Breco Mechanical Group, Inc.  
project Pelham Landfill

On March 5, 1996 a representative from this firm visited the jobsite and picked-up a soil sample labeled "3" Minus Star Recycling, 5000 cy". Test results are shown below.

<u>Sieve Size</u>	<u>Percent Passing by Weight</u> <u>Sample</u>	<u>Spec.02210-3.C.1</u>
3"	100	100
1"	100	
3/4"	97	
3/8"	92	
No. 4	85	
No. 10	73	
No. 40	45	
No. 200	19.1	
Plasticity Index	NP	
Classification	SM	

FAIRWAY TESTING CO., INC.

*P. J. Aguianno*  
P. J. Aguianno, P.E.



# FAIRWAY

Quality  
Assurance

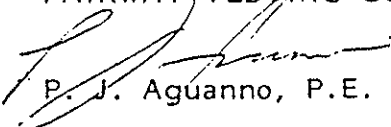
March 8, 1996

client Breco Mechanical Group, Inc.  
project Pelham Landfill

On March 5, 1996 a representative from this firm visited the jobsite and picked-up a soil sample labeled "3" Minus, Morris Park". Test results are shown below.

<u>Sieve Size</u>	<u>Percent Passing by Weight</u> <u>Sample</u>	<u>Spec.02210-3.C.1</u>
3"	100	100
1"	100	
3/4"	93	
3/8"	87	
No. 4	82	
No. 10	75	
No. 40	37	
No. 200	13.2	
Plasticity Index	NP	
Classification	SM	✓

FAIRWAY TESTING CO., INC.

  
P. J. Aguanno, P.E.

# FAIRWAY

Quality  
Assurance

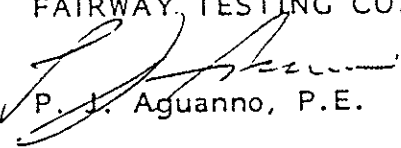
March 8, 1996

client Breco Mechanical Group, Inc.  
project Pelham Landfill

On March 5, 1996 a representative from this firm visited the jobsite and picked-up a soil sample labeled "3" Minus Durante, 5000 cy". Test results are shown below.

<u>Sieve Size</u>	<u>Percent Passing by Weight Sample</u>	<u>Spec.02210-3.C.1</u>
3"	100	100
1"	100	
3/4"	96	
3/8"	90	
No. 4	85	
No. 10	78	
No. 40	53	
No. 200	23.0	
Plasticity Index	NP	
Classification	SM	✓

FAIRWAY TESTING CO., INC.

  
P. J. Aguanno, P.E.

# FAIRWAY

Quality  
Assurance

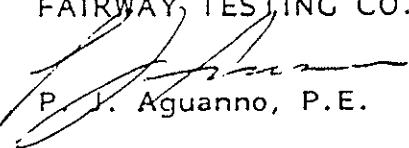
March 8, 1996

client Breco Mechanical Group, Inc.  
project Pelham Landfill

On March 5, 1996 a representative from this firm visited the jobsite and picked-up a soil sample labeled "3" Minus ConAgg". Test results are shown below.

<u>Sieve Size</u>	<u>Percent Passing by Weight</u> <u>Sample</u>	<u>Spec.02210-3.C.1</u>
3"	100	100
1"	95	
3/4"	93	
3/8"	87	
No. 4	82	
No. 10	75	
No. 40	51	
No. 200	22.3	
Plasticity Index	NP	✓
Classification	SM	

FAIRWAY TESTING CO., INC.

  
P. J. Aguanno, P.E.

# FAIRWAY

Quality  
Assurance

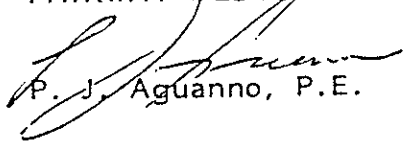
March 8, 1996

client Breco Mechanical Group, Inc.  
project Pelham Landfill

On March 5, 1996 a representative from this firm visited the jobsite and picked-up a soil sample labeled "3" Minus Star Recycling, 10,000 cy". Test results are shown below.

<u>Sieve Size</u>	<u>Percent Passing by Weight Sample</u>	<u>Spec. 02210-3.C.1</u>
3"	100	100
1"	100	
3/4"	98	
3/8"	93	
No. 4	86	
No. 10	74	
No. 40	44	
No. 200	17.3	
Plasticity Index	NP	
Classification	SM	✓

FAIRWAY TESTING CO., INC.

  
P. J. Aguanno, P.E.

# FAIRWAY

Quality  
Assurance

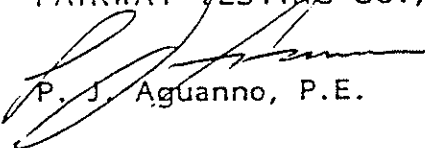
March 8, 1996

client Breco Mechanical Group, Inc.  
project Pelham Landfill

On March 5, 1996 a representative from this firm visited the jobsite and picked-up a soil sample labeled "3" Minus Durante Loamy Soil, 10,000 cy". Test results are shown below.

<u>Sieve Size</u>	<u>Percent Passing by Weight</u>	
	<u>Sample</u>	<u>Spec.02210-3.C.1</u>
3"	100	100
1"	100	
3/4"	97	
3/8"	91	
No. 4	85	
No. 10	78	
No. 40	53	
No. 200	23.3	
Plasticity Index	NP	✓
Classification	SM	

FAIRWAY TESTING CO., INC.

  
P. J. Aguanno, P.E.

# FAIRWAY

Quality  
Assurance

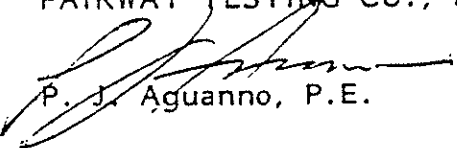
March 8, 1996

client Breco Mechanical Group, Inc.  
project Pelham Landfill

On March 5, 1996 a representative from this firm visited the jobsite and picked-up a soil sample labeled "1" Minue Durante, 30,000 cy". Test results are shown below.

<u>Sieve Size</u>	<u>Percent Passing by Weight</u> <u>Sample</u>
1"	100
3/4"	95
3/8"	90
No. 4	83
No. 10	72
No. 40	41
No. 200	15.2
Plasticity Index	NP ✓
Classification	SM

FAIRWAY TESTING CO., INC.

  
P. J. Aguanno, P.E.

# FAIRWAY

## Soils Test Report

February 14, 1996

client Breco Mechanical Group

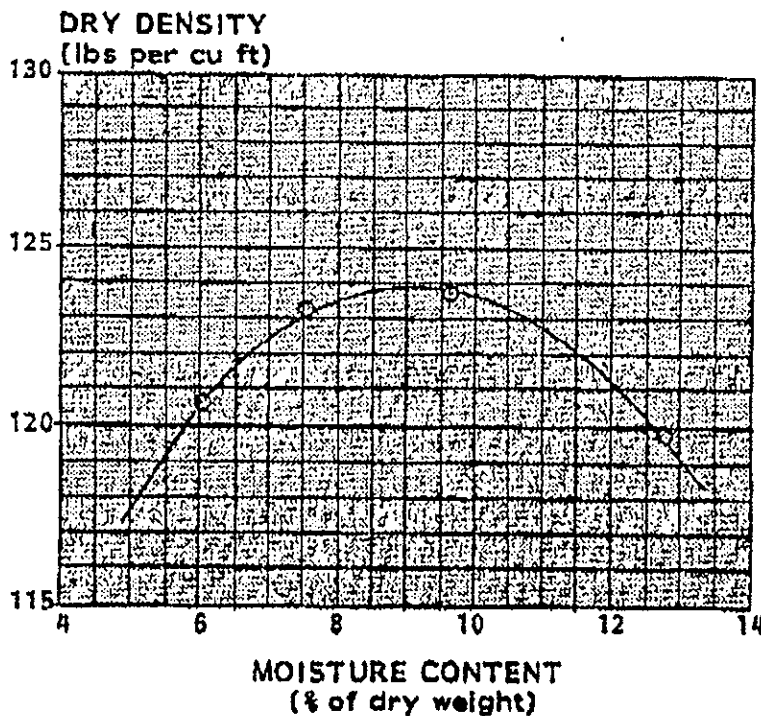
project Pelham Landfill

Compaction ASTM  
Method D698

subject Moisture-Density Curve Analysis  
and Gradation Analysis

Maximum Dry Density 123.9 pcf  
Optimum Moisture Content 9.1 %

On February 12, 1996 a 3" minus soil sample was delivered to this laboratory by the client. The sample was labeled "Preconstruction: Morris Park", with test results shown below.



Sieve Size	% Passing by Weight
3"	
Actual	100
Specification	100

FAIRWAY TESTING CO., INC.

*[Signature]*  
P. J. Aguanno, P. E.

AUG 25 1995

# FAIRWAY

## Soils Test Report

August 23, 1995

client Breco Mechanical Group, Inc.

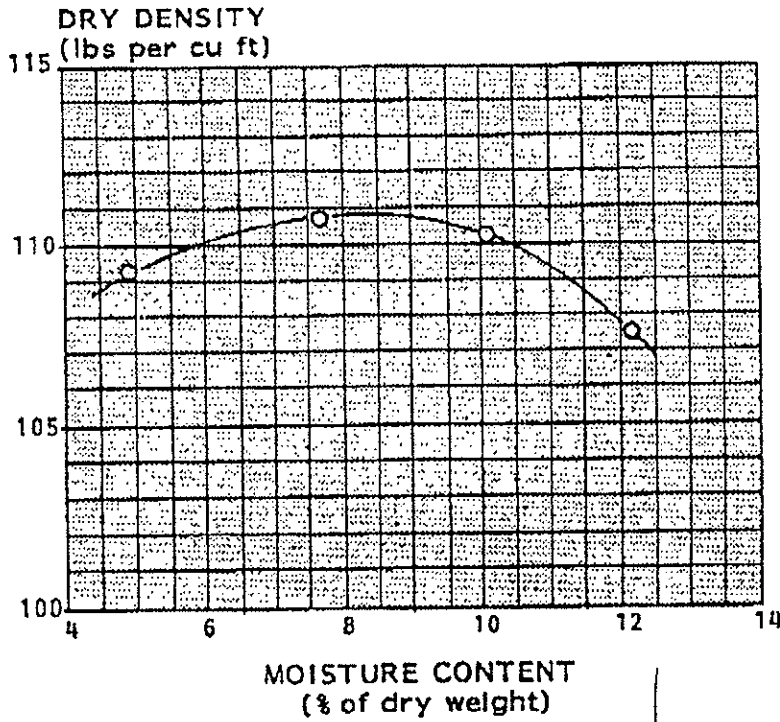
Compaction ASTM  
Method D698

project Pelham Landfill

subject Moisture-Density Curve Analysis

Maximum Dry Density 110.9 pcf  
Optimum Moisture Content 8.5 %

On this date, a representative from this firm visited the jobsite and picked-up a sample of material labeled, Santilli #2 1" minus sampled 8-22-95. Test results are shown below.



100% passing 1" sieve.

FAIRWAY TESTING CO., INC.

*P. L. Aguanno*  
P. L. Aguanno, P. E.



# FAIRWAY

Minimum ConAgg

March 6, 1995

## Soils Test Report

client Breco Mechanical

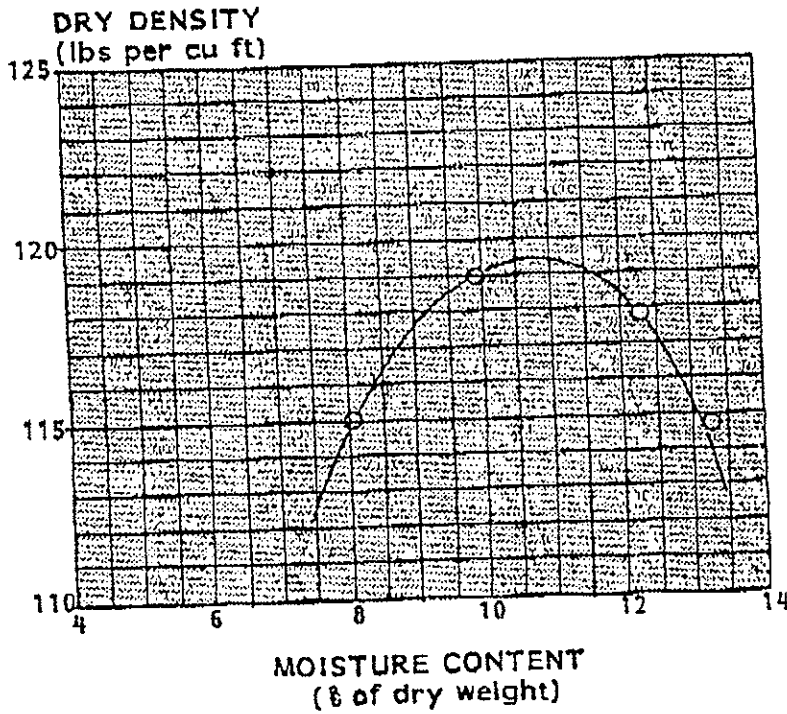
Compaction Method ASTM D698

project Pelham Landfill

Maximum Dry Density 119.4 pcf  
Optimum Moisture Content 8.8 %

subject Moisture-Density Curve Analysis  
and Gradation Analysis

On March 3, 1995 a representative from this firm visited the jobsite and selected an in-place soil sample taken on the slope face. Test results are shown below. This was ConAgg material.



Sieve Size	Percent		Passing		Weight by		
	1"	3/4"	3/8"	No. 4	No. 10	No. 20	No. 200
Actual	100	99	90	76	63	42	14.6

FAIRWAY TESTING CO., INC.

*E. J. Aguianno*  
E. J. Aguianno, P. E.

# FAIRWAY

Quality  
Assurance

September 1, 1995

1" minus Luffe

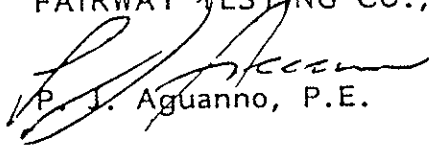
client Breco Mechanical Group  
project Pelham Landfill

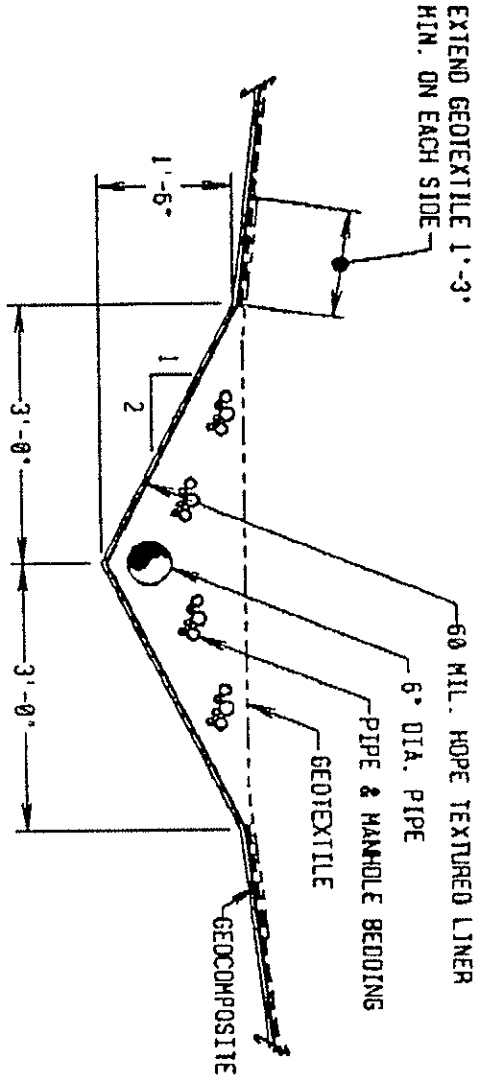
On August 31, 1995, a representative from this firm visited the jobsite and picked-up two soil samples labeled Durante. Test results are shown below.

<u>Sample</u>	<u>Identification</u>
1	1" minus, 60,000 cy
2	3" minus, 60,000 cy

<u>Sieve Size</u>	Percent Passing by Weight	
	<u>1</u>	<u>2</u>
3"	100	100
1"	100	100

FAIRWAY TESTING CO., INC.

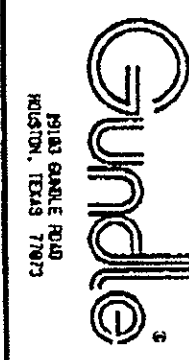
  
P. J. Aguanno, P.E.



## TYPICAL INFILTRATION DRAINAGE TRENCH

(NOT TO SCALE)

THIS DRAWING IS THE PROPERTY OF GUNDRUE CONSTRUCTION COMPANY AND MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION. SUCH DAMAGE SHALL BE AT THE USER'S RISK. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR VERIFYING THE ACCURACY OF ALL INFORMATION ON WHICH THIS DRAWING IS BASED. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR VERIFYING THE ACCURACY OF ALL INFORMATION ON WHICH THIS DRAWING IS BASED. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR VERIFYING THE ACCURACY OF ALL INFORMATION ON WHICH THIS DRAWING IS BASED.



TITLE:	PROPOSED ALTERNATE TO		
DWN: BAK	DATE: 9-21-94	SCALE: NTS	DNG: A479-01
	BID ITEM #73		

STRUCTURAL  
BACKFILL

**FAIRWAY**

Quality  
Assurance

December 27, 1994

client Briarwood Contracting Corp.  
project Pelham Landfill

On this date, a representative from this firm visited Tilcon NY and picked-up two aggregate samples. Test locations and results are shown below.

PIPE and MANHOLE BEDDING - Tomkins Cove, NY

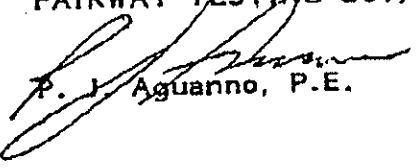
Sieve Size	Percent Passing by Weight	
	Sample	Spec
1/2"	100	100
3/8"	79	90-100
No. 8	1	0-15
No. 30	0.3	0-30

STRUCTURAL BACKFILL - Haverstraw, NY

Sieve Size	Percent Passing by Weight	
	Sample	Spec
3/4"	100	100
No. 4	99	70-95
No. 16	51	30-70
No. 50	28	20-50
No. 200	12.3	2-20

Soil Classification: SP, poorly graded sand

FAIRWAY TESTING CO., INC.

  
P. J. Aquanno, P.E.

Smith Street • Stony Point, N.Y. 10980 • 914-942-2088



- Testing

TRENCH  
BACKFILL

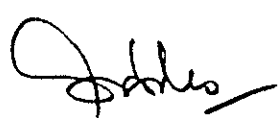
50 - 04 73RD PLACE  
WOODSIDE, NY 11377

QUALITY CONTROL LABORATORY

PRODUCT NAME: CLEANFILL

SIEVE ANALYSIS

<u>Passing sieve</u>	<u>Percent by weight</u>
1 "	100.0
1/2 "	97.7
3/8 "	95.5
1/4 "	90.4
# 4	87.0
#10	67.2
#40	46.3
#100	19.4
#200	14.7

  
Stan Fernandes  
Lab. Director

Starr  
(Trench Backfill)



# FAIRWAY

RECEIVED APR 28 1995

## Soils Test Report

April 26, 1995

TOPIC  
302-111

client Breco Mechanical

project Pelham Landfill

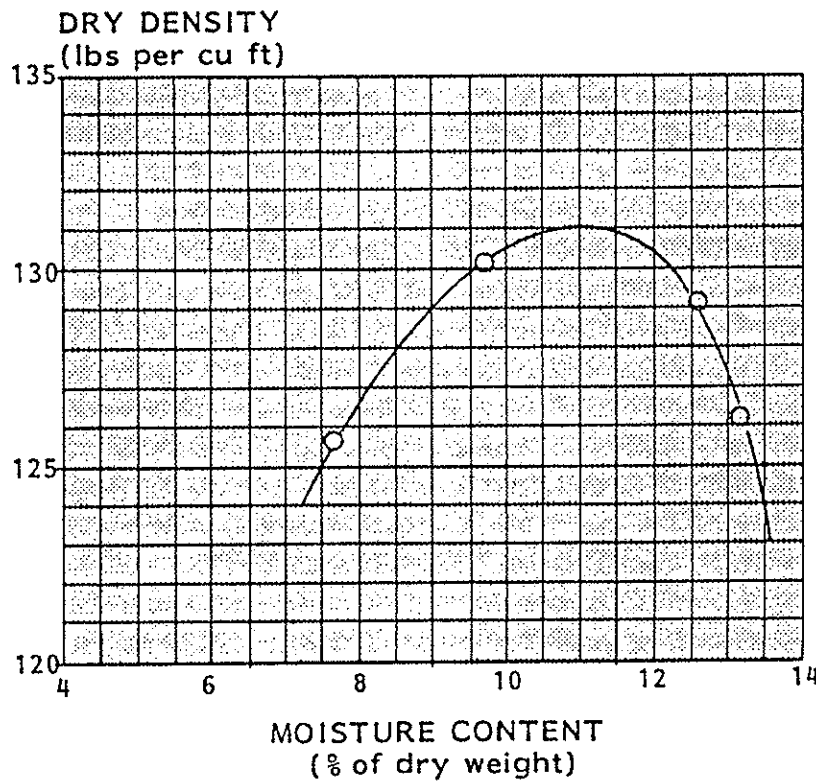
subject Moisture-Density Curve Analysis

Compaction Method ASTM D695

Maximum Dry Density 131.0 pcf  
Optimum Moisture Content 11.1 %

On April 21, 1995 a representative from this firm visited the jobsite and picked-up an on-site soil sample from the trench backfilling operations. Test results are shown below.

ON-SITE  
SAMPLE



### GRADATION ANALYSIS (D422)

Sieve Size	Percent Passing									
	3"	2"	1-1/2"	1"	3/4"	3/8"	by No. 4	No. 10	No. 35	No. 200
Sample	100	91	84	82	79	71	65	58	38	14.1

SOIL CLASSIFICATION (ASTM D2487): GM, silty gravel with sand

FAIRWAY TESTING CO., INC.

*P. J. Aguanno*  
P. J. Aguanno, P. E.

# FAIRWAY

Quality Assurance

January 31, 1995

client Breco Mechanical  
project Pelham Landfill

On this date, a representative from this firm visited Tilcon Quarries, Tompkins Cove, NY and picked-up an aggregate sample. Test results are shown below.

### Pipe and Manhole Bedding

<u>Sieve Size</u>	<u>Percent Passing by Sample</u>	<u>Weight Spec</u>
1/2"	100	100
3/8"	92	90-100
No. 8	2	0-15
No. 30	1.1	0-30

FOOTNOTED-CLIENT  
SUBMITTAL REVIEW

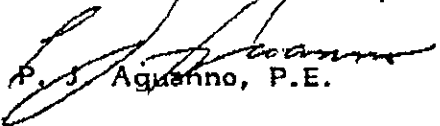
NO EXCEPTIONS

FURNISH AS NOTED

REVISIONS

This review has been limited to an evaluation of whether the information presented conforms with the Contract Documents. The reviewer is not responsible for verifying data or conditions in the field. Review by the contractor is the contractor's responsibility. This review is not a substitute for the contractor's responsibility to inspect and accept the work. Documents including contract documents.

FAIRWAY TESTING CO., INC.

  
P. J. Aquanno, P.E.

Date 2/3/95 by SMM

SUBMITTAL NUMBER 43A

WC PROJECT NO. 92C4037

### BRECO MECHANICAL GROUP, INC.

DATE: 1-31-95  
CONTACT 876-HP-5  
ITEM: -  
SPEC. SECTION: 02225  
PARAGRAPH: 2.1A  
PAGE NO.: 02225-2  
DRAWING NO.: -  
LOCATION: -  
SUBMITTAL NO.: 876-HP-43A  
APPROVED BY: B. Diu



TILCON NEW YORK INC. P.O. Box 362 Haverstraw, NY 10927 914 838 1300

December 6, 1994

Mr. Brian Dyer  
 Breco Mechanical Group, Inc.  
 Breco Field Office  
 Pelham Bay Landfill  
 3599 Bruckner Boulevard  
 Bronx, NY 10464

Re: Pelham Bay Landfill Closure

Dear Sirs:

The following are the gradational analyses of the materials being submitted for use at the above referenced site, as compared with the specifications given.

Pipe & MH Bedding

<u>Sieve Size</u>	<u>Tomkins Cove 3/8*</u>	<u>Spec. Given</u>
1/2*	100 ✓	100
3/8*	87.8	90-100
#8	1.2 ✓	0-15
#30	0 ✓	0-3

Structural Backfill

<u>Sieve Size</u>	<u>Haverstraw Screenings</u>	
3/8*	100	
#4	99.2	(60-95)
#8	74.4	
#16	52.0 ✓	(30-72)
#30	35.9	
#50	24.2 ✓	(20-50)
#100	14.6	
#200	7.7 ✓	(2-20)



-2-

The Rip/Rap material produced at the Tilcon New York Inc. Haverstraw plant is made to conform to N.Y. State D.O.T. specifications.

The items submitted for Rip/Rap Class II is Light Stone Fill, for Rip/Rap Class IV, Medium Stone Fill and 18" top size material for Rip/Rap Class III.

Rip/Rap Class II

<u>Light Stone Fill</u>	<u>% Of Total By Weight</u>
Lighter than 100 lbs.	90-100
Larger than 6 inches	50-100
Smaller than 1/2 inch	0-10

Rip/Rap Class IV

<u>Medium Stone Fill</u>	<u>% of Total By Weight</u>
Heavier than 100 lbs.	50-100
Smaller than 4 inches	0-10

It is advised that all Rip/Rap items be visually inspected by the customer prior to shipment.

If you have any questions, please call me.

Sincerely,

*Morsia Thomas*

Morsia Thomas  
Director, Quality Control

# FAIRWAY

Quality Assurance

September 27, 1995

TOPSOIL KARLA

client Breco Mechanical Group  
project Pelham Landfill  
Subject Topsoil Analysis

On September 26, 1995, a representative from this firm visited the jobsite and took a topsoil sample. Test results are shown below.

### Percent Passing by Weight

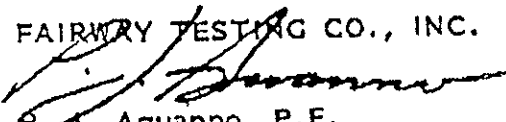
<u>Sieve Size</u>	<u>Sample</u>
1"	100
3/4"	100
3/8"	96
No. 4	86
No. 10	74
No. 35 - (.5 sieve)	56
No. 270	23.2
Silt, %	21.2
Clay, %	2.0
Combined Silt and Clay, %	23.2
pH	6.9
Organic Content, %	7.7
Nitrogen, ppm	50
Potash, ppm	100
Phosphorous, ppm	200
Specific Conductance Micro MHO/cm	150

Total % Sand  
74  
- 23.2  
50.8%

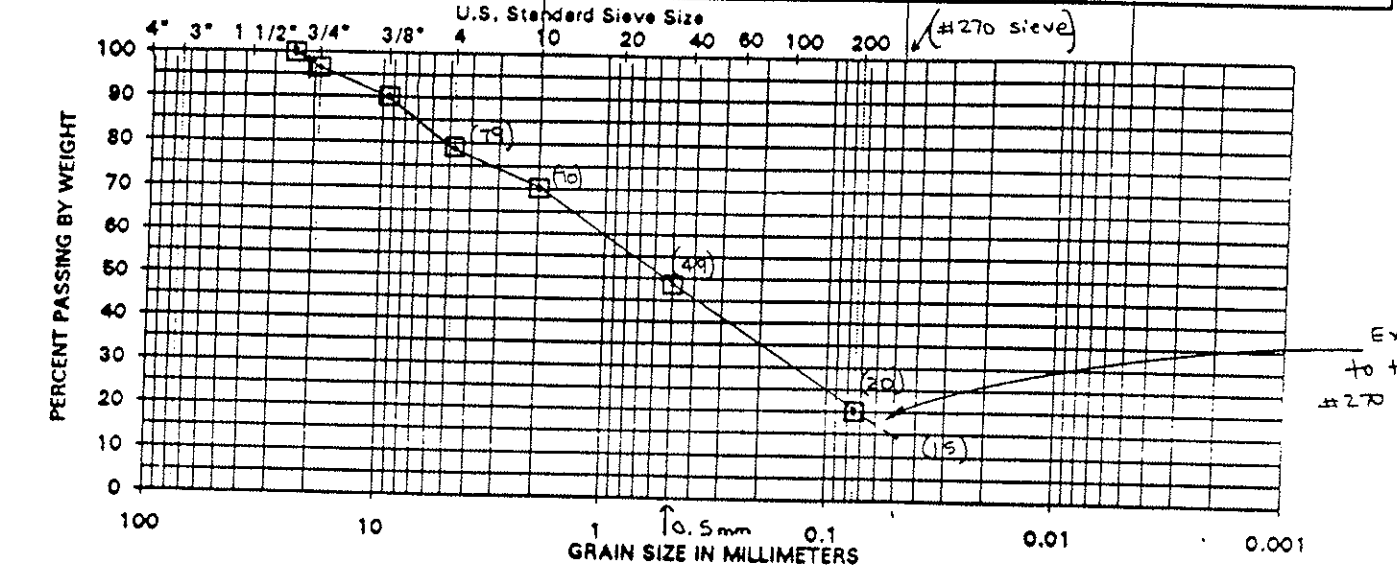
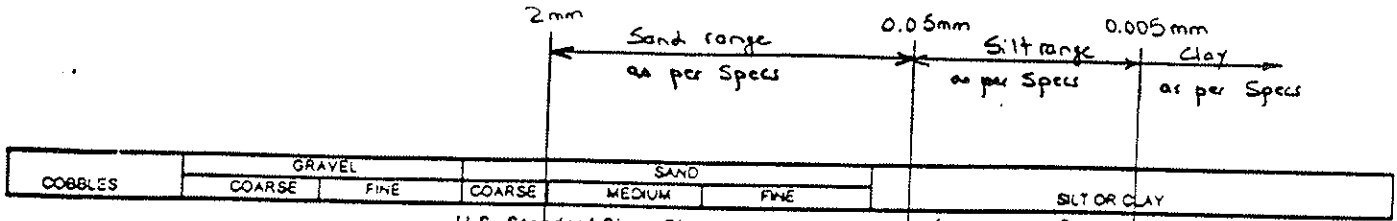
% Sand > .5 mm  
74  
56  
18%

$$\frac{18\%}{50.8\%} = 35\%$$

FAIRWAY TESTING CO., INC.

  
J. Aguanno, P.E.

Less than 1/2 the sand is greater than .5, therefore the minimum combined silt and clay content shall be 20%



Extrapolate to the #270 sieve

BORING	SAMPLE	DEPTH (FT)	SYMBOL	DESCRIPTION	w (%)	LL	PL
-	-	-	□		-	-	-
-	-	-	■		-	-	-

Spec review, Section 02920, 2.1

1A) Spec: 2" max. size  
Sample: 100% passing 1" } ⇒ OK ✓

1B) Spec: Organic content ≥ 3.75%  
Sample: Organic content = 13.9% } meets specs, OK ✓

1C)

Gradation	Range	If % larger than 0.5mm is < 50% of sand content ①	If % larger than 0.5mm is > 50% of sand content ②	Sample	Status
Sand	2mm - 0.05mm	40 - 80%	40 - 75%	55%	OK
Silt	0.05mm - 0.005mm	10 - 30%		12%	OK
Clay	0.005mm and smaller	10 - 30%	15 - 30%	8%	
Silt + Clay		≥ 20%	≥ 25%	20%	OK

Extrapolating gradation curve to the #270 sieve, % passing #270 sieve = 15%  
 ⇒ Sand content of sample = 70 - 15 = 55%  
 ⇒ 50% of sand content = 55/2 = 22.5% } ⇒ "% larger than 0.5mm" is < 50% sand water:  
 ⇒ % larger than 0.5mm = 70 - 49 = 21% } ⇒ column ① applies  
 ⇒ gradat of sample is OK ✓

1D) Spec: pH = 6.0 - 7.0 } meets specs, OK ✓  
 Sample: pH = 7.0

# FAIRWAY

Quality Assurance

February 8, 1996

TOPSOIL - ALFREDO NURSERY

client Breco Mechanical Group  
 project Pelham Landfill  
 subject Topsoil Analysis

On February 7, 1996, a representative from this firm visited the Labriolla composting yard and picked up two soil samples. Test results are shown below.

Sample	Location
<del>A</del>	<del>On site soil, (South pit face)</del>
* B	Blended topsoil, (on-site soil with mulch)

Percent Passing by Weight

Sieve Size	A	B
1"	100	100
3/4"	94	92
3/8"	91	81
No. 4	84	78
No. 10	77	75
No. 35 - .5 sieve	63	64
No. 270	26.7	28.4
Silt, %	24.6	25.9
Clay, %	2.1	2.5
Combined Silt & Clay	26.7	28.4 ✓
pH	7.1	6.6
Organic Content, %	2.0	7.5
Nitrogen, ppm	50	150
Potash, ppm	200	150
Phosphorus, ppm	150	125
Specific Conductance		
Micro MHO/cm	350	400

Sand {

Total % Sand  
 $\frac{75}{- 28.4}$   
 46.6%

% Sand > .5 mm  
 $\frac{75}{64}$   
 11 %

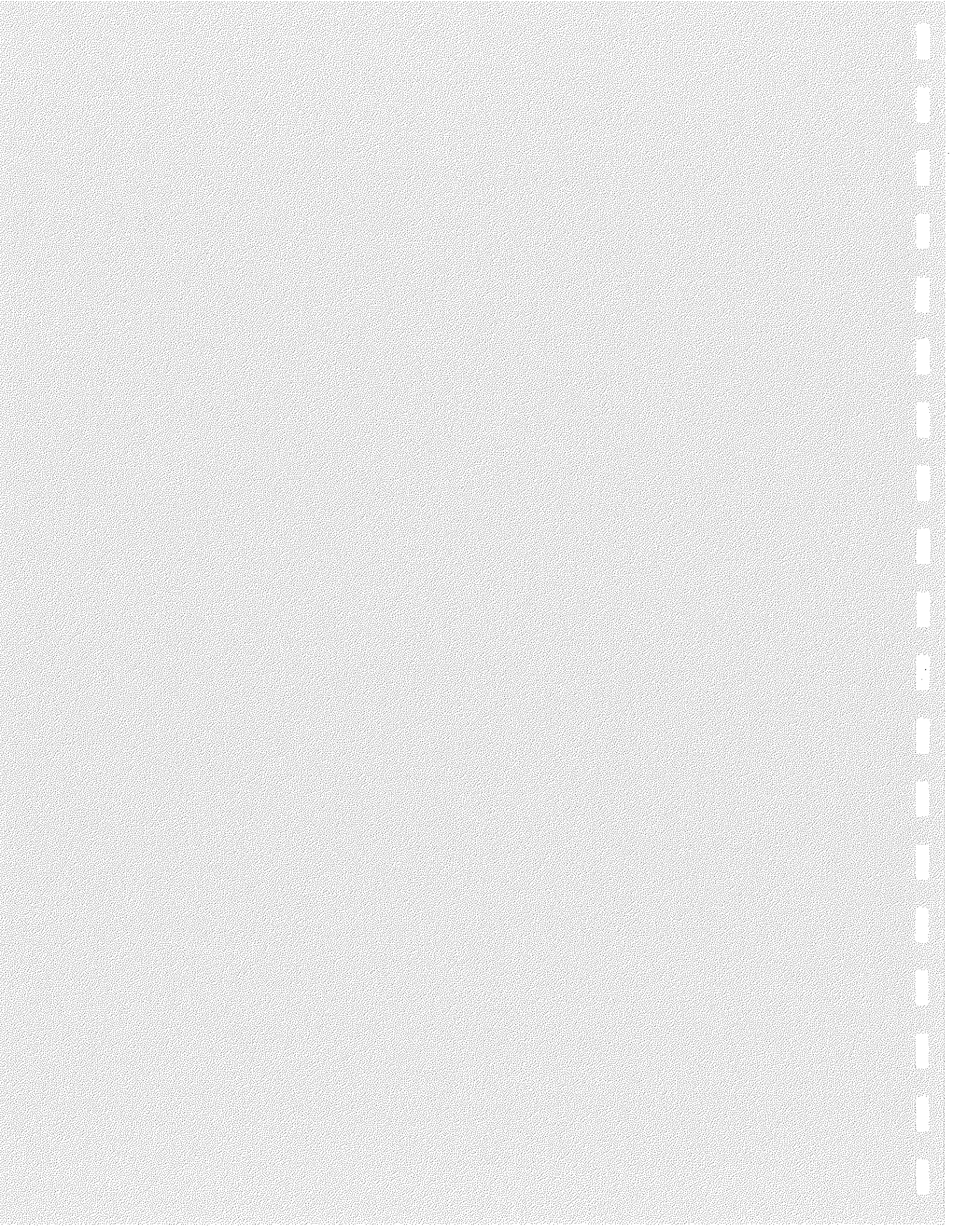
$\frac{11\%}{46.6\%} = 23.6\%$

FAIRWAY TESTING CO., INC.

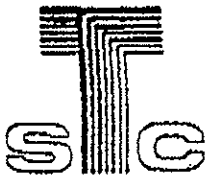
*[Signature]*  
 P. J. Aguanno, P.E.

less than 1/2 the sand is greater than .5, therefore the minimum combined silt and clay content shall be 20%









# TRUFFA SEED COMPANY

Manufacturers of "VALLEY FARMS" Brand  
Grass Seed & Wild Bird Food

(914) 692-6060  
FAX (914) 692-2003

SEE US AT THE SHOW

## FAX TRANSMITTAL

Date 3/29/96

Time \_\_\_\_\_

# of Pages \_\_\_\_\_  
(Including This One)

To: Walt - GPA

From: Tom T.

SUBJECT: Please verify this mixture  
with final substitution \*  
thanks

### FELHAM BAY LANDFILL REMEDIATION SEED

#### Grass Seed Type

#### Application

Asclepias Syriaca (Milkweed)	3.0
* Cassia Fasciculata (Partridge Pea)	0.5
Euthamia graminifolia (Lance-leaf Goldenrod)	0.25
Solidago rugosa (Rough-stemmed Goldenrod)	0.25
Aster Pilosus (White Heath Aster)	0.25
Solidago Canadensis (Canadian Goldenrod)	0.25
Andropogon gerardii (Big Bluestem)	5.0
Schizachyrium scoparium (Little Bluestem)	4.5
Sorghastrum nutans (Indiangrass)	3.5
Panicum virgatum (Switchgrass)	1.5
Rudbeckia hirta (Black-eyed Susan)	0.25

19.25 LBS / acre

31 INDUSTRIAL DRIVE, MIDDLETOWN, N.Y. 10940

# ROCKLAND

Covers up to 15,000 Sq. Ft.

## SOLUBLE HYDRO-STARTER

# 18-20-10

### 20% Organic Powder Blue

#### GUARANTEED ANALYSIS

Total Nitrogen (N).....	18%
2.8% W.I.N.	
3.7% Ammoniacal Nitrogen	
11.5% Urea	
Available Phosphoric Acid ( $P_2O_5$ ).....	20%
Soluble Potash ( $K_2O$ ).....	10%

Rockland Soluble Hydro-Starter, containing the Premium Nitrogen source, Powder Blue Nitroform® is a suspension type formula which will not leach or volatilize. Hydro-Starter is formulated to give the grass seedling a balanced feeding of required nutrients for maximum results. Hydro-Starter's powder-like consistency contains quick and slow release Nitrogen that will not damage seed in the slurry mix. Equipment wear and tear is significantly reduced. Hydro-Starter may also be used for improved rooting of sod, either before or after planting.

#### APPLICATION RATES AND YIELDS:

	Coverage	N/1000 sq. ft.	Phosphorus/1000 sq. ft.
40 Lb. Bag	10,000 sq. ft.	.72 lbs.	.8 lbs.
	12,500 sq. ft..	.58 lbs.	.64 lbs.
	15,000 sq. ft.	.48 lbs.	.53 lbs.

Pre-Plant Sod Rates: Mix 40 lbs. in 160 to 200 gallon tank with Mechanical agitation and apply to 10,000 Sq. Ft.

B916240

#B916240048

### Net Weight 40 Lbs.

\* Nitroform is a Registered Trademark of  
Nor-Am Agricultural Products.

1968



SEED AND FERTILIZER MULCH  
TACKING AGENT III

# TACKING AGENT III

TERRA-MULCH TACKING AGENT III IS A COMBINATION OF ORGANIC POLYMERS DESIGNED TO STABILIZE SOIL BY SUSPENDING WATER WITHIN THE FIBER MULCH MATRIX, REDUCING EROSION, WHILE INCREASING WATER ABSORPTION INTO THE SEED BED. THIS UNIQUE PRODUCT PROVIDES FOR A BETTER ENVIRONMENT FOR SEED TO GERMINATE IN WHILE INCREASING THE SURFACE TENSION OF ALL TYPES OF HYDRO-SEEDING MULCH MATERIALS - WOOD FIBER, PAPER FIBER AND COMBINATIONS OF WOOD AND PAPER. TACKING AGENT III IS A HIGH VISCOSITY POLYMER TACKIFIER THAT EXCEEDS MINIMUM REQUIREMENTS FOR NON-ASPHALTIC EMULSIONS. A STANDARD APPLICATION OF TACKING AGENT III TREATS AN EQUIVALENT OF 100 LBS OF GRASS SEED WITH AN ACRYLIC CO-POLYMER GEL. SEED TREATMENT IMPROVING STRESS TOLERANCE OF YOUNG SEEDLINGS.

## PHYSICAL PROPERTIES

NET WEIGHT	8-25-50 LB / BAGS
pH RANGE	7.0 +/- .2
VISCOSITY (SAYBOLT) <sup>a</sup>	102 CPS +/- 2
VISCOSITY (SAYBOLT) <sup>b</sup>	197 CPS +/- 2
SURFACE TENSION <sup>a</sup>	73.9 DYNES / CM
SPECIFIC GRAVITY	.7281

<sup>a</sup> VALUE BASED ON 30 LBS PER 1000 GALLONS OF WATER

<sup>b</sup> VALUE BASED ON 60 LBS PER 1000 GALLONS OF WATER

VISCOSITY AND SURFACE TENSION TESTING BASED ON SIMULATED FIELD APPLICATION AFTER 5 MINUTES OF MECHANICAL AGITATION.

## APPLICATION RATES

### MULCH BINDING

6 / 1 TO 4 / 1 SLOPE	20 LBS PER ACRE
4 / 1 TO 2 / 1 SLOPE	30 LBS PER ACRE
2 / 1 TO 1 / 1 SLOPE	40 LBS PER ACRE
>THAN 1 / 1 SLOPE	60 LBS PER ACRE

### STRAW & HAY MULCH BINDING

30 LBS TACK III & 150 LBS CELLULOSE FIBER AND 1000 GALLONS OF WATER PER ACRE OR 50 LBS OF TACK III PER 1000 GALLONS OF WATER PER ACRE.

TERRA-MULCH TACKING AGENT III CONTAINS THE KNOWN FLOCCULANT POLYACRYLAMIDE (PAM). IN 1994 TACKING AGENT III WAS EVALUATED BY A MAJOR TURF UNIVERSITY TO DETERMINE ITS VALUE AS A SOIL STABILIZER. TACK III WAS APPLIED ALONE AT A RATE 60 LBS PER ACRE ON A 45% SLOPE. THE TEST PLOTS WERE SUBJECTED TO SIMULATED RAINFALL OF 12 INCHES PER HOUR FOR 30 MINUTES, THE SIMULATION TOOK PLACE WITHIN 2 HOURS OF SEEDING. TACKING AGENT III REDUCED EROSION VERSUS THE CONTROL BY 68.6% AND REDUCED WATER RUNOFF BY 21.7%. TACKING AGENT III CONTAINS A MARKER DYE FOR EASY METERING OF THE SPRAYED AREA WHEN TACKING HAY AND STRAW MULCHES. TACKING AGENT III BECOMES SLIPPERY WHEN WET. CLEAN UP ALL SPILLS THOROUGHLY. ASK YOUR DEALER ABOUT OUR TERRA-MULCH SATISFACTION GUARANTEE.

## MANUFACTURED BY

SPITTLE ENTERPRISES, INC  
PO BOX 1918  
HUNTERSVILLE, NC 28078

## DISTRIBUTED BY

REFIBER WEST  
WOOD RECYCLING INC  
3 WHEELING AVENUE  
WOBURN, MA 01801  
800-982-8732



# RE FIBER™ Wood

100% Recycled Wood Fiber

RE-FIBER Wood is a wood fiber mulch designed for hydraulic seeding and erosion protection that's manufactured using wood that is 100% recycled. It is engineered for discriminating landscape professionals and is created in harmony with today's environmental concerns.



► **RE-FIBER Wood is university-tested.**

In field and laboratory tests, Re-Fiber Wood allowed significantly less soil runoff and produced greater plant size and bulk than its competitors. Its custom-designed fiber length assures rapid and efficient absorption of water for a homogeneous mixture in hydraulic mulching equipment. Hydroseeders can count on easy handling and a uniform application.

► **RE-FIBER Wood is 100% biodegradable.**

It is specially formulated to protect the seed and soil from wind and heavy rainfall and gradually decompose as the lush carpet of lawn is established. The mulch contains no germination or growth-inhibiting materials.

► **RE-FIBER Wood SPECIFICATIONS**

Moisture Content (total weight basis)	12%±3%
pH (average)	5.4
Organic Content (minimum)	99%
Inorganic (ash) Content (maximum)	1%
Water Holding Capacity (minimum)	1 gal./lb.
Bag Net Weight	50 lb.-22.6 kg

RE-FIBER Wood is packaged in 50 pound color-coded bags for easy measurement and convenience. The durable bags are constructed from recyclable plastic and are suitable for outside storage.

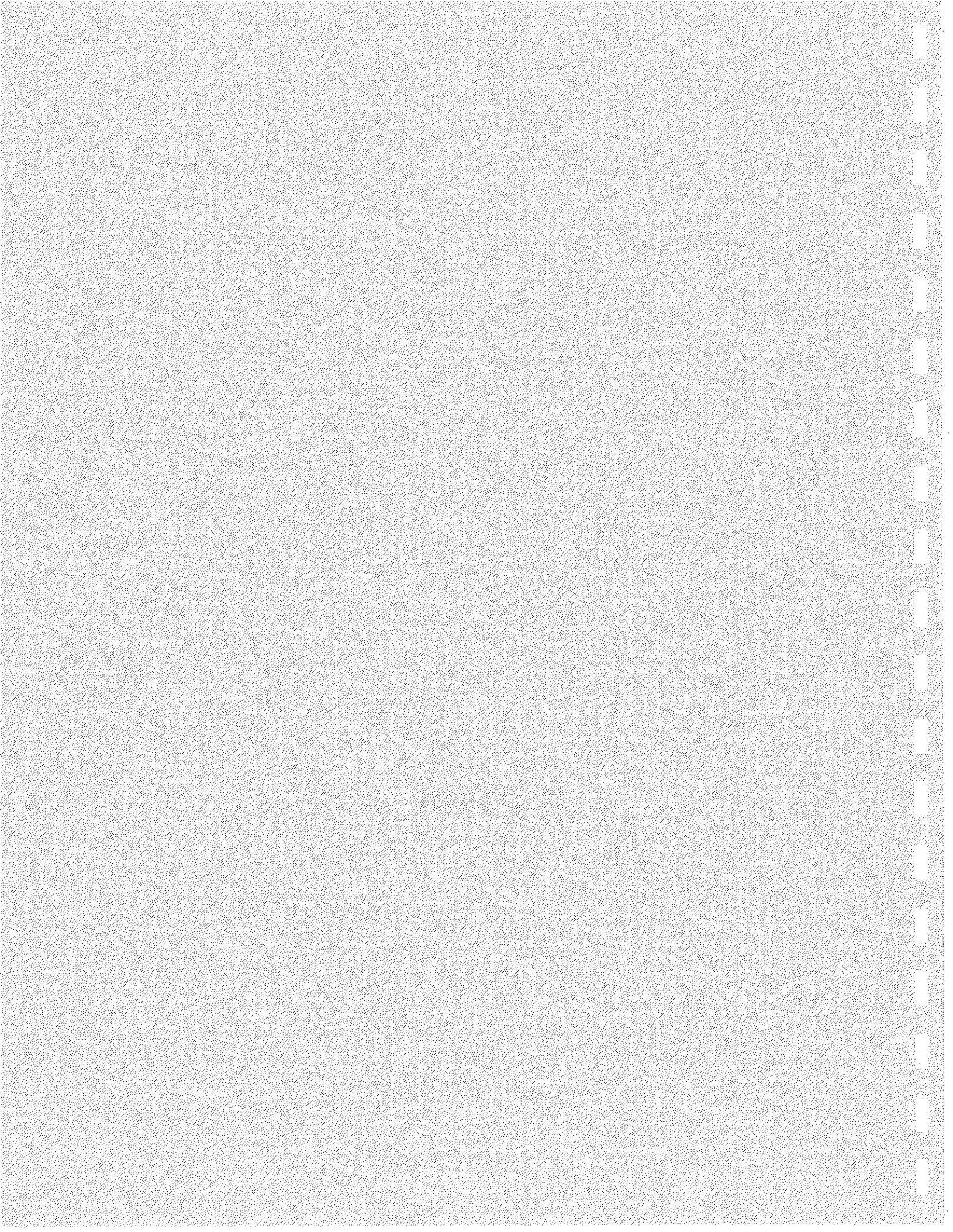
**RE-FIBER Wood**  
manufactured by  
**Wood Recycling, Inc.**



Distributed by

For further information, call Wood Recycling, Inc • (800) 982-8732  
3 WHEELING AVENUE • WOBURN, MA 01801 • (617) 937-0855 • FAX (617) 932-0245







# SERIES 4

## Versare Primers

### PRODUCT PROFILE

**GENERIC DESCRIPTION** Modified Alkyd

**COMMON USAGE** Rust inhibitive primer for shop and field coating of structural and miscellaneous steel, tanks and machinery. Used under alkyd and water base acrylic topcoats.

**COLORS** 55 Red, 56 Gray, 57 White

**PERFORMANCE CRITERIA** Extensive test data available. Contact your Tnemec representative for specific test results.

### COATING SYSTEMS

**TOPCOATS** Series 2H, 6, 7, 23, 43-38, 82, 113, 114. Note: Some systems are not for use on surfaces that are continually wet or sweat frequently. Reference the applicable topcoat data sheet for additional information.

### SURFACE PREPARATION

**STEEL** SSPC-SP2 Hand Tool or SSPC-SP3 Power Tool Cleaning  
SSPC-SP6 Commercial Blast Cleaning when extended field exposure is expected.

**ALL SURFACES** Must be clean, dry and free of oil, grease and other contaminants.

### TECHNICAL DATA

**VOLUME SOLIDS\*** 54.0 ± 2.0%

**RECOMMENDED DFT** 2.0 to 3.5 mils (50 to 90 microns) per coat.

**CURING TIME**

Temperature	To Handle	To Recoat
75°F (24°C)	4 hours	12 hours

Curing time varies with air & substrate temperature, air movement, humidity and film thickness.

**VOLATILE ORGANIC COMPOUNDS**

	Unthinned	Thinned 10%
	2.88 - 3.05 lbs/gallon (345 - 366 grams/litre)	3.20 - 3.36 lbs/gallon (384 - 403 grams/litre)

**THEORETICAL COVERAGE\*** 866 mil sq ft/gal (21.3 m<sup>2</sup>/L at 25 microns). See APPLICATION for coverage rates.

**NUMBER OF COMPONENTS** One

**PACKAGING** 55 gallon (208.2L) drums, 5 gallon (18.9L) pails and 1 gallon (3.79L) cans.

**NET WEIGHT PER GALLON\*** 12.14 ± 0.25 lbs (5.51 ± .11 kg)

**STORAGE TEMPERATURE** Minimum 20°F (-7°C) Maximum 110°F (43°C)

**SHELF LIFE** 24 months at recommended storage temperature.

**FLASH POINT - SETA** 100°F (38°C)

**HEALTH & SAFETY** Paint products contain chemical ingredients which are considered hazardous. Read container label warning and Material Safety Data Sheet for important health and safety information prior to the use of this product. **Keep out of the reach of children.**

Centrifugal Blower  
Col-Selection

Tnemec Company

**APPLICATION**

**COVERAGE RATES\***

	Dry Mil (Microns)	Wet Mil (Microns)	Sq Ft/Gal (m <sup>2</sup> /Gal)
Suggested	2.5 (65)	4.5 (115)	346 (32.2)
Minimum	2.0 (50)	3.5 (90)	433 (40.2)
Maximum	3.5 (90)	6.5 (165)	247 (23.0)

Allow for overspray and surface irregularities. Film thickness is based upon closest 0.5 mil (5 microns). Application of coating below minimum or above maximum recommended dry film thicknesses may adversely affect coating performance.

**MIXING** Stir thoroughly, making sure no pigment remains on the bottom of the can.

**THINNING** Use No. 1 Thinner or mineral spirits. For air spray, thin up to 10% or ¼ pint (380 mL) per gallon. For airless spray, brush or roller, thin up to 5% or ¼ pint (190 mL) per gallon.

**SURFACE TEMPERATURE** Minimum 40°F (4°C) Maximum 120°F (49°C)  
The surface should be dry and at least 5°F (3°C) above the dew point.

**APPLICATION EQUIPMENT**

*Air Spray*

Gun	Fluid Tip	Air Cap	Air Hose ID	Mat'l Hose ID	Atomizing Pressure	Pot Pressure
DeVilbiss MBC or JGA	E	765 or 78	5/16" or 3/8" (7.9 mm or 9.5 mm)	3/8" or 1/2" (9.5 mm or 12.7 mm)	60-80 psi (4.2-5.5 bar)	10-20 psi (0.7-1.4 bar)

Low temperatures or longer hoses require higher pot pressure.

*Airless Spray*

Tip Orifice	Atomizing Pressure	Mat'l Hose ID	Manifold Filter
0.015"-0.019" (380-485 microns)	1800-3000 psi (124-207 bar)	1/4" or 3/8" (6.4 mm or 9.5 mm)	60 mesh (250 microns)

Use appropriate tip/atomizing pressure for equipment, applicator technique and weather conditions.

**Roller:** Use high quality synthetic nap covers. Use 1/4" to 1/2" (6.4 mm to 12.7 mm) nap depending on surface roughness.

**Brush:** Use high quality natural or synthetic bristle brushes.

**CLEANUP** Flush and clean all equipment immediately after use with the recommended thinner or mineral spirits.

\* Values may vary with color.

**WARRANTY & LIMITATION OF SELLER'S LIABILITY:** Tnemec Company, Inc. warrants only that its coatings represented herein meet the formulation standards of Tnemec Company, Inc. THE WARRANTY DESCRIBED IN THE ABOVE PARAGRAPH SHALL BE IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. The buyer's sole and exclusive remedy against Tnemec Company, Inc. shall be for replacement of the product in the event that a defective condition of the product should be found to exist. NO OTHER REMEDY (INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY, OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS) SHALL BE AVAILABLE TO THE BUYER. The sole purpose of this exclusive remedy shall be to provide buyer with replacement of the product if any defect in materials is found to exist. This exclusive remedy shall not be deemed to have failed its essential purpose so long as Tnemec Company, Inc. is willing and able to replace the defective materials. Technical and application information herein is provided for the purpose of establishing a general profile of the coating and proper coating application procedures. Test performance results were obtained in a controlled environment and Tnemec Company makes no claim that these tests or any other tests, accurately represent all environments. As application, environmental and design factors can vary significantly, due care should be exercised in the selection and use of the coating. PUBLISHED TECHNICAL DATA AND INSTRUCTIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. CONTACT YOUR TNEMEC REPRESENTATIVE FOR CURRENT TECHNICAL DATA AND INSTRUCTIONS.



### PRODUCT PROFILE

**GENERIC DESCRIPTION** Alkyd

**COMMON USAGE** Semi-gloss industrial enamel. Good flow, hiding and protection for most surfaces in mild to moderately severe exposures. Not for use on surfaces that are continually wet or sweat frequently.

**COLORS** Refer to Tnemec ColorBook.

**FINISH** Semi-gloss

**SPECIAL QUALIFICATIONS** Certain colors meet USDA requirements for use in federally inspected meat and poultry plants.

**PERFORMANCE CRITERIA** Extensive test data available. Contact your Tnemec representative for specific test results.

### COATING SYSTEMS

**PRIMERS**

*Steel:* Series 4, 10, 37H, 50-330, 59  
*Galvanized Steel and Non-Ferrous Metal:* Series 27. **Note:** Apply an intermediate coat of Series 27 or scarify the surface of Series 27 that has been exterior exposed for 3 weeks or longer prior to topcoating with 23. Brush blasting with fine abrasive is the preferred method of scarification.  
*Interior Drywall:* 51-792  
*Wood:* 36-603

### SURFACE PREPARATION

**ALL SURFACES** Must be clean, dry and free of oil, grease and other contaminants. Remove rust and paint not tightly bonded. Spot prime.

### TECHNICAL DATA

**VOLUME SOLIDS\*** 55.5 ± 2.0%

**RECOMMENDED DFT** 1.5 to 3.0 mils (40 to 75 microns) per coat. **Note:** Number of coats required will vary depending on color, substrate (surface) and other variables. Contact your Tnemec representative for specific recommendations.

**CURING TIME**

Temperature	To Touch	To Handle	To Recoat
75°F (24°C)	5-7 hours	9-13 hours	12-18 hours

Curing time varies with air & substrate temperature, air movement, humidity and film thickness.  
**Water Tank Exteriors:** Five days or more curing time required before filling with water.

**VOLATILE ORGANIC COMPOUNDS**

<i>Unthinned</i>	<i>Thinned 10%</i>
2.88 - 3.04 lbs/gallon (345 - 364 grams/litre)	3.20 - 3.35 lbs/gallon (384 - 401 grams/litre)

**THEORETICAL COVERAGE\*** 890 mil sq ft/gal (21.8 m<sup>2</sup>/L at 25 microns). See APPLICATION for coverage rates.

**NUMBER OF COMPONENTS** One

**PACKAGING** 55 gallon (208.2L) drums, 5 gallon (18.9L) pails and 1 gallon (3.79L) cans.

**NET WEIGHT PER GALLON\*** 11.70 ± 0.25 lbs (5.31 ± .11 kg)

**STORAGE TEMPERATURE** Minimum 20°F (-7°C) Maximum 110°F (43°C)

**SHELF LIFE** 24 months at recommended storage temperature.

**FLASH POINT - SETA** 100°F (38°C)

**HEALTH & SAFETY** Paint products contain chemical ingredients which are considered hazardous. Read container label warning and Material Safety Data Sheet for important health and safety information prior to the use of this product. **Keep out of the reach of children.**

COLOR - PA-39 Polar Morn

BEAULT-LEMOINE  
 10000  
 10000  
 10000

**APPLICATION****COVERAGE RATES\***

	Dry Mila (Microns)	Wet Mila (Microns)	Sq Ft./Gal (m <sup>2</sup> /Gal)
Suggested	2.0 (50)	3.5 (90)	445 (41.3)
Minimum	1.5 (40)	2.5 (65)	593 (55.1)
Maximum	3.0 (75)	5.5 (140)	297 (27.6)

Allow for overspray and surface irregularities. Film thickness is based upon closest 0.5 mil (5 microns). Application of coating below minimum or above maximum recommended dry film thicknesses may adversely affect coating performance.

**MIXING** Stir thoroughly, making sure no pigment remains on the bottom of the can.

**THINNING** Use No. 1 Thinner or mineral spirits. For air spray, thin up to 10% or ¼ pint (380 mL) per gallon. For airless spray, brush or roller, thin up to 5% or ¼ pint (190 mL) per gallon.

**SURFACE TEMPERATURE** Minimum 40°F (4°C) Maximum 120°F (49°C)  
The surface should be dry and at least 5°F (3°C) above the dew point.

**APPLICATION EQUIPMENT***Air Spray*

Gun	Fluid Tip	Air Cap	Air Hose ID	Mat'l Hose ID	Atomizing Pressure	Pot Pressure
DeVilbiss MBC or JGA	E	765 or 78	5/16" or 3/8" (7.9 mm or 9.5 mm)	3/8" or 1/2" (9.5 mm or 12.7 mm)	60-80 psi (4.2-5.5 bar)	10-20 psi (0.7-1.4 bar)

Low temperatures or longer hoses require higher pot pressure.

*Airless Spray*

Tip Orifice	Atomizing Pressure	Mat'l Hose ID	Manifold Filter
0.013"-0.017" (330-430 microns)	1800-3000 psi (124-207 bar)	1/4" or 3/8" (6.4 mm or 9.5 mm)	60 mesh (250 microns)

Use appropriate tip/atomizing pressure for equipment, applicator technique and weather conditions.

**Roller:** Use high quality synthetic nap covers. Use 1/4" to 1/2" (6.4 mm to 12.7 mm) nap, depending on surface roughness.

**Brush:** Use high quality natural or synthetic bristle brushes.

**CLEANUP** Flush and clean all equipment immediately after use with the recommended thinner or mineral spirits.

\* Values may vary with color.

**WARRANTY & LIMITATION OF SELLER'S LIABILITY:** Tnemec Company, Inc. warrants only that its coatings represented herein meet the formulation standards of Tnemec Company, Inc. THE WARRANTY DESCRIBED IN THE ABOVE PARAGRAPH SHALL BE IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. The buyer's sole and exclusive remedy against Tnemec Company, Inc. shall be for replacement of the product in the event that a defective condition of the product should be found to exist. NO OTHER REMEDY (INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY, OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS) SHALL BE AVAILABLE TO THE BUYER. The sole purpose of this exclusive remedy shall be to provide buyer with replacement of the product if any defect in materials is found to exist. This exclusive remedy shall not be deemed to have failed its essential purpose so long as Tnemec Company, Inc. is willing and able to replace the defective materials. Technical and application information herein is provided for the purpose of establishing a general profile of the coating and proper coating application procedures. Test performance results were obtained in a controlled environment and Tnemec Company makes no claim that these tests or any other tests accurately represent all environments. As application, environmental and design factors can vary significantly, due care should be exercised in the selection and use of the coating. **PUBLISHED TECHNICAL DATA AND INSTRUCTIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. CONTACT YOUR TNEMEC REPRESENTATIVE FOR CURRENT TECHNICAL DATA AND INSTRUCTIONS.**

FOR INDUSTRIAL USE ONLY

Printed in USA







# The Fleet Companies



G. A. Fleet Associates, Inc.

P. O. Box 616  
 Harrison, NY 10528  
 G. A. Fleet Assoc.  
 (914) 835 - 4000  
 Fax (914) 835 - 1331  
 Fleet Pump & Service  
 (914) 835 - 3801  
 Fax (914) 835 - 2946

11200 -  
 2.1 B

**Important:**  
 This drawing is not to scale-use dimensions shown. Do not fix foundation bolts rigidly until equipment is in place, since castings vary slightly in dimensions.

FLYGT Submersible Pump and  
 Accessories

**Sold To:**  
 Barbella Environment Tech, Inc.  
 P. O. Box 273  
 Salem Industrial Park, Bldg #8  
 Whitehouse, NJ 08888  
 Contact: Thomas Jackson

**Ship To:**  
 BET c/o Pelham Bay Landfill  
 Pelham Bridge Road  
 Hunt's Point Area  
 Bronx, NY

Engineer: \_\_\_\_\_ Date: 3/15/94 Customer Order No. 1547

Equipment Serial No: \_\_\_\_\_ Distr. Order No. E18811

Marks: Pelham Landfill, Bronx, NY Sheet: 1 Of: 2 By: \_\_\_\_\_

QTY	DESCRIPTION	
6	Unit or Frame: Flygt Model 3" CP-3085X with FLS Leak Detection Installation:	Impeller: 434
	GPM 20 USGPM	TDH 30' TDH
6	Motor: Flygt Submersible	HP 3 RPM 1800
	Volts 460	Phase 3 Cycle 60
	Description: TENV - Air Filled - Class F Insulation - FM Listed - Nema B Type - 1.15 S. F.	
	Control Voltage: 24 Volt	
6	Control & Accessories	
6	40 ft. SUBCAP, 14 AWG/7 19 MM Submersible Power Cables with Kellems Cable Grips	
6	3" Cast Iron Discharge Elbows with Integral Lower Guide Bar Brackets and Sparkproof Discharge Adapters	
6	Upper Guide Bar Brackets	
6	20' Galvanized Lifting Chain	
6	Certified Performance Tests. Curves to be Supplied for Engineer's Approval Prior to Shipment	
3	Aluminum Access Covers (φ5' M. H.) w/ Pump Access Hatch (30" x 48")	
3	Firetrol Model FTA620-HGO3B-X2275*001 Duplex Control Panel with options as follows:	
	3 by 3 HP, 440-480/3/60 Power Output	
	NEMA 3R Exterior Enclosure	
	NEMA 7 XP Interior Enclosure	
	Two (2) Motor Starters	
	HOA Selector Switches	
	Pump Run Pilot	
	120V Space Heater and Thermostat	
	Automatic Alternator with P1 Auto P2 Selector Switch	
	Audible and Visible High Water Alarm	
	Motor Start Counter	
	Convenience Outlet 120V	
	Industrial Relays for Start, Stop, and Alarm (HWA)	
	Mini-CAS Relays	
	B & W Electrode Probes	

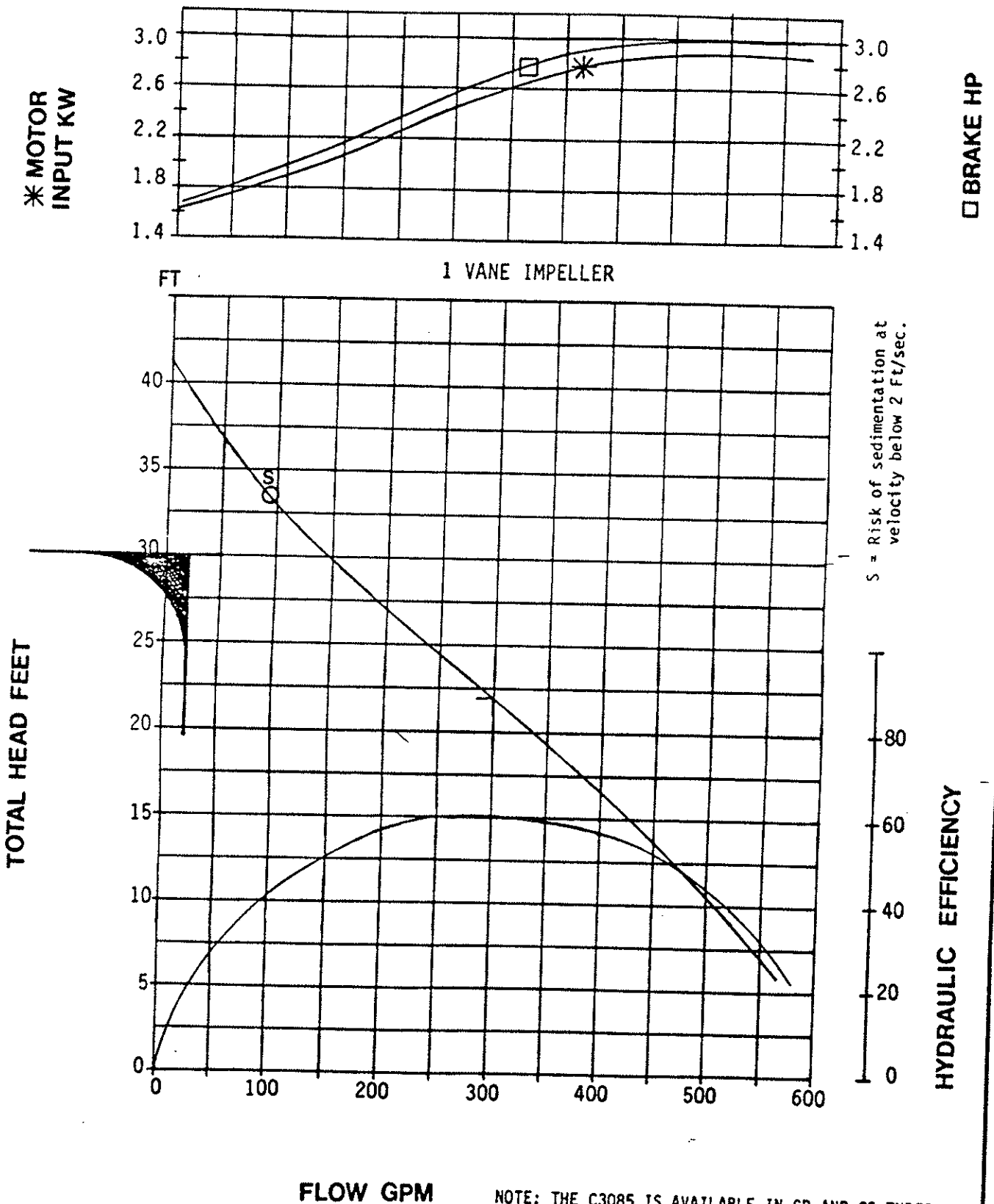
DWG: No. D-10

3.0 HP - 4 Pole Motor  
 3 $\phi$ : 200, 230/460, 575V

# CP/CS 3085

Wastewater Impeller 434

SECTION	PAGE
3085	8/434
SUPERSEDES	ISSUED
	4/86



NOTE: THE C3085 IS AVAILABLE IN CP AND CS TYPES ONLY. FOR CT TYPE USE MODEL 3085/82.

PERFORMANCE CURVES ARE BASED ON TESTS WITH CLEAR WATER AT AMBIENT TEMPERATURE.



**FLYGT CORPORATION**  
 A SUBSIDIARY OF IIT  
 129 GLOVER AVE., NORWALK, CT. 06856

# CP-3085

SECTION

PAGE

4

1

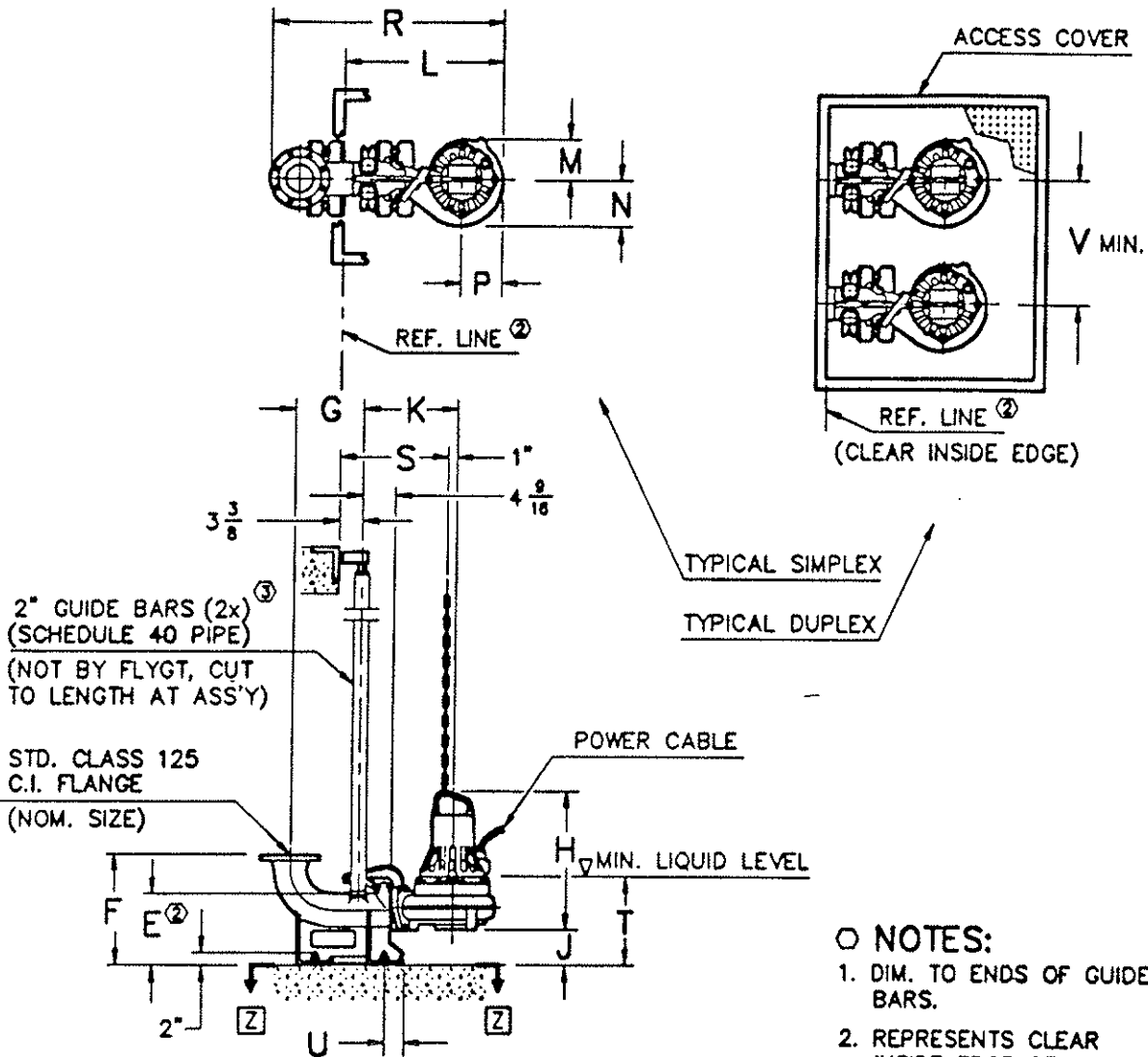
## Outline Dimensions

SUPERSEDES

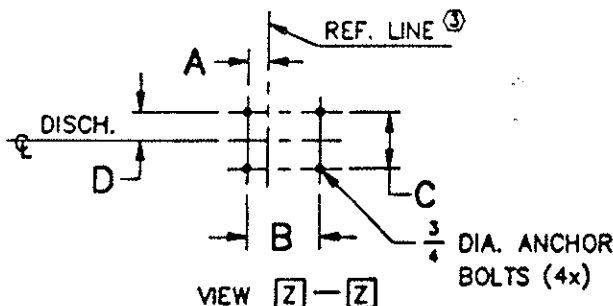
ISSUED

6/90

12/91



- NOTES:
1. DIM. TO ENDS OF GUIDE BARS.
  2. REPRESENTS CLEAR INSIDE EDGE OF ACCESS FRAME OR OPENING.
  3. SEE STATION DWGS. FOR COMPLETE INSTALLATION DIMENSIONS.



NOM. SIZE	VERSION	WEIGHT(LBS)	
		PUMP	DISCH
3"	STD	145	80
4"	STD	145	80

ALL DIMENSIONS IN INCHES

NOM. SIZE	VERSION	DIMENSIONAL CHART																		
		A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V
3"	STD	2 1/8	9 1/8	7 1/2	3 1/8	10 1/2	15 1/2	9 1/8	20	4 1/2	13 1/2	23 1/2	5 1/2	6 1/2	6 1/2	33 1/2	15 1/2	12 1/2	2 1/2	17 1/2
4"	STD	2 1/2	9 1/8	7 1/2	3 1/8	10 1/2	15 1/2	9 1/8	20	5	13 1/2	23 1/2	5 1/2	6 1/2	6 1/2	33 1/2	15 1/2	12 1/2	2 1/2	17 1/2





FLYGT CP3085 ~~AND 3102~~  
SUBMERSIBLE PUMPS  
MATERIALS OF CONSTRUCTION

CASING	-	Cast Iron, Class 30
IMPELLER	-	Cast Iron, Class 30*
SHAFT	-	Stainless Steel, AISI 420
MECHANICAL SEAL	-	Double Type
<u>UPPER</u>	-	Carbon Rotating/Carbon Ceramic Stationary
<u>LOWER</u>	-	Tungsten Carbide Rotating/Tungsten Carbide Stationary
FASTENERS	-	Stainless Steel, AISI 304
"O" RINGS	-	Nitrile Rubber

\*INDICATES: Bronze not available

(b:flymtcon.mw)

# C/D-3085

SECTION

MODEL

6

3085

## Electrical Data

SUPERSEDES

ISSUED

6/90

12/91

### MOTOR DATA

RATED OUTPUT POWER HP (KW)	Ø	VOLTS NOM.	FULL LOAD AMPS	LOCKED ROTOR AMPS	LOCKED ROTOR KVA	LOCKED ROTOR CODE LETTER KVA/HP	RATED INPUT POWER KW	POLES/RPM
1.6 (1.2)	1	230	7.1	23.0	5.3	B	1.6	4/1700
2.0 (1.6)	3	200	7.4	33.8	11.7	G	2.2	4/1700
		230	8.4	29.4				
		460	3.2	14.7				
		575	2.6	11.8				
2.4 (1.8)	1	230	10.0	46.0	10.6	D	2.3	4/1700
<del>*2.9 (2.2)</del>	<del>1</del>	<del>230</del>	<del>12.0</del>	<del>47.0</del>	<del>11.0</del>	<del>C</del>	<del>2.8</del>	<del>2/3450</del>
3.0 (2.4)	3	<del>200</del>	<del>10.0</del>	<del>55.2</del>	19.1	H	3.0	4/1700
		<del>230</del>	<del>9.9</del>	<del>49.9</del>				
		460	4.5	24.0				
		<del>575</del>	<del>3.9</del>	<del>40.2</del>				
<del>*4.0 (3.0)</del>	<del>3</del>	200	11.0	69.9	24.2	G	3.6	2/3450
		230	10.0	60.8				
		460	5.0	30.4				
		575	4.0	24.2				

Pump Motor HP	EFFICIENCY			POWER FACTOR		
	100% LOAD	75% LOAD	50% LOAD	100% LOAD	75% LOAD	50% LOAD
1.6	75.0	78.6	74.1	0.98	0.99	0.97
2.0	73.5	74.5	72.5	0.82	0.75	0.64
2.4	80.0	81.7	79.0	0.98	0.99	0.97
<del>*2.9</del>	<del>80.5</del>	<del>82.2</del>	<del>79.5</del>	<del>0.99</del>	<del>0.99</del>	<del>0.98</del>
3.0	77.5	78.5	76.5	0.82	0.75	0.64
<del>*4.0</del>	<del>81.5</del>	<del>82.5</del>	<del>81.5</del>	<del>0.92</del>	<del>0.89</del>	<del>0.80</del>

### CABLE DATA

HP	VOLTS	MAX. LENGTH FT.	CABLE SIZE	NOMINAL DIA.	CONDUCTORS (IN ONE CABLE)
1.6 (1Ø)	230	320	#14/7	19.0mm (0.75")	(3) #14AWG (PWR) (2) #14AWG (CTRL) (1) #14AWG (GND) (1) #14AWG (GC)
2.0 (3Ø)	200	265			
	230	350			
	460	1400			
	575	2180			
2.4 (1Ø)	230	225			
<del>*2.9 (1Ø)</del>	<del>230</del>	<del>190</del>			
3.0 (3Ø)	<del>200</del>	<del>195</del>			
	<del>230</del>	<del>290</del>			
	460	1000			
	<del>575</del>	<del>4660</del>			
<del>*4.0 (3Ø)</del>	200	180			
	230	225			
	460	900			
	575	1400			

\* FOR VORTEX IMPELLER PUMPS

FLYGT

MASTER SPEC LIST FOR CP-PUMP CABLES

SUBMERSIBLE PUMPS - FLYGT CP-3085

CABLE SPEC'S:

JACKET: Dupont Hypalon (Chlorosulfinated)  
INSULATION: Dupont Nordel (Ethylene)  
CABLE DIAMETER: 0.75" dia.  
CONDUCTOR SIZES: 3-# 14 (Power Leads), 2-# 14 (Thermal  
Switches), 1-# 14 (Ground Lead), 1-#  
14 Ground Check)  
COLOR CODES FOR LEADS: Red, White & Black - (POWER LEADS)  
Green - (GROUND LEAD)  
Yellow/Green - (GROUND LEAD)  
Blue & Orange - (THERMAL SWITCHES)

D:b  
(speccppc)



# Special Purpose Pumps

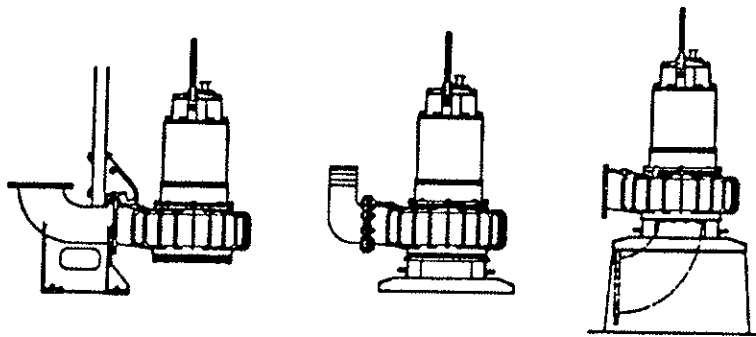
SECTION	PAGE
<b>8</b>	<b>61</b>
SUPERSEDES	ISSUED
6/90	12/91

## EXPLOSIONPROOF PUMPS

These units are special versions, model number suffix (X), of ITT Flygt's standard wastewater pumps constructed to meet explosionproof requirements and are Factory Mutual Systems approved for use in hazardous locations defined as Class 1, Division 1, Groups C and D (gasses and vapors) Class 2, Div. 1, Groups E & G (dusts), Class 3, Div. 1, (fibers and flyings).

To achieve this approval, pumps are assembled from selected castings that are redesigned with longer flame paths and closer tolerances. Cable entries are specially designed as well.

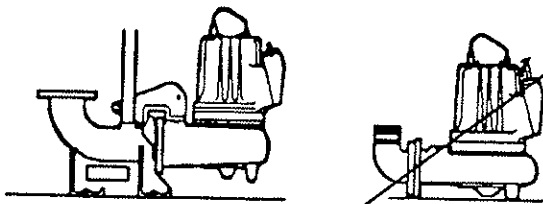
Model	Horsepower
3085 (X)	1.0 - 3
3102 (X)	6.0 - 5
3127 (X)	6.6 - 10
3152 (X)	14.0 - 25
3170 (X)	25.0 - 30
3201 (X)	29.0 - 47
3230 (X)	120.0 - 214
3300 (X)	32.0 - 120
3305 (X)	100.0 & 140
3311 (X)	104.0 - 328
3355 (X)	74.0 - 148
3500 (X)	100.0 - 280
3530 (X)	100.0 - 300
3531 (X)	100.0 - 300
3601 (X)	100.0 - 300
3602 (X)	100.0 - 300



## FIBROUS WASTE CUTTER PUMPS

These units, FP and FS prefix to model number, are constructed of cast iron and have non-clogging type impellers with cutter attachment for pumping wastewater containing stringy or fibrous materials or agricultural waste.

Model	Horsepower
F-3085	2.3 - 3
F-3102	4.0 - 5
F-3127	7.6 - 7.6
F-3152	16.0 - 20

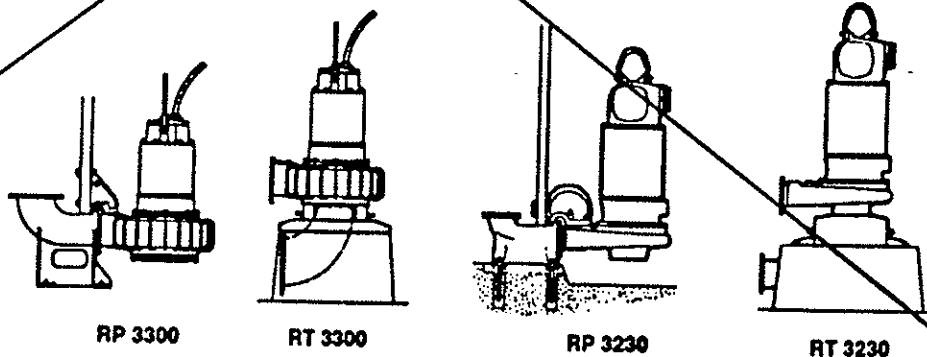


## RAW WATER PUMPS

These submersible pumps are for use in clean or raw water applications with capacities exceeding 2,500 GPM and total dynamic heads up to 320 feet. Motor output ranges from 32 to 214 HP. Hydraulic efficiencies of between 71% and 77% are obtained at the best efficiency points.

Model	Horsepower
3230	120 - 214
3300	32 - 120

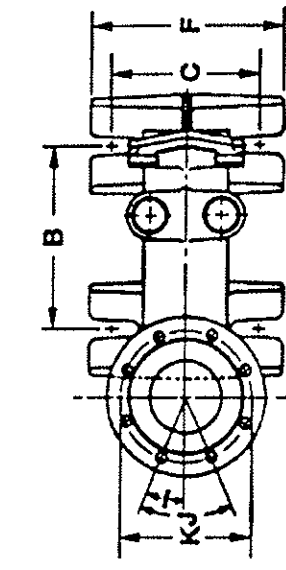
Impellers are of multi-vane design.



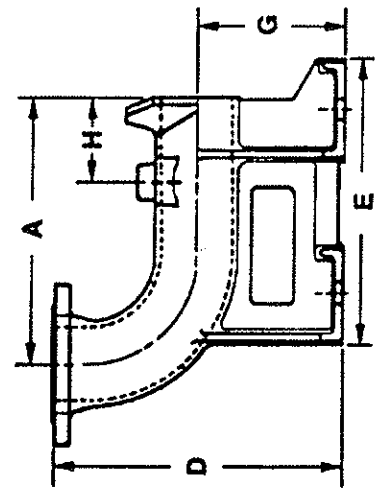
# Standard Discharge Connection Dimensions

Pump Model	Discharge Conn.	Discharge Inlet	Conn. Outlet	A	B	C	D	E	F	G	H	I	J	K
2-1/2" - 3087	490 17 06	2-1/2"	2-1/2"	11 5/8	7 7/8	5 3/4	9 7/8	11 1/2	7 7/8	6 1/2	4 9/16	45°	90° X 4	5 1/2
3" - 3088, 3085, 3085/82, 3102, 3127, 3140, 3152	444 68 05	3"	3"	14	9 7/8	7 3/4	15 3/4	15 3/8	10 5/8	7 7/8	.	.	.	6
4" - 3089, 3085, 3085/82, 3102, 3127, 3140, 3152	540 13 05	4"	4"	14 9/8	.	.	.	.	.	.	.	22.5°	45° X 6	7 1/2
6" - 3102, 3127, 3140, 3152, 3201, 3170	444 70 08	5 1/2"	6"	15 9/16	11	9 1/2	17 3/4	.	12 3/16	9 7/8	.	.	.	9 1/2
8" - 3127, 3152, 3170, 3201, 3300	444 71 06	6"	8"	16 3/4	.	.	15	15	.	10 1/8	.	.	.	11 3/4
8" - 3230	388 24 06	8"	8"	21 5/8	19 11/16	16 3/4	.	23 5/8	19 3/4	8 7/8	6 7/8	.	.	.
10" - 3140, 3201	444 73 05	8"	10"	18 3/4	.	9 1/2	.	24	12 3/16	8 7/8	4 9/16	15°	30° X 12	14 1/4
10" - 3152, 3170	481 76 05	10"	10"	18 11/16	.	7 7/8	.	.	.	.	.	.	.	17
12" - 3152, 3170, 3300	481 75 05	10"	12"	21 5/8	.	20 3/4	31 1/2	25 5/8	24 7/16	19 11/16	.	.	.	.
12" - 3201	481 77 05	12"	12"	21 5/8	.	20 13/16	.	25 9/16	25 9/16	19 11/16	.	.	.	18 3/4
12" - 3305, 3311	373 92 05	12"	12"	24 5/8	25 9/16	24 1/2	23 5/8	29 1/2	27 9/16	10 13/16	6 7/8	.	.	.
14" - 3201, 3300	320 15 05	12"	14"	22 5/8	19 11/16	21	33 1/2	25 5/8	24 7/16	19 11/16	4 9/16	.	.	.
14" - 3311	442 18 05	12"	14"	25 9/16	25 9/16	24 1/2	23 5/8	29 1/2	27 9/16	11 13/16	6 7/8	.	.	.
14" - 3355	388 27 05	14"	14"	30 1/2	31 1/2	28 1/2	33	35 7/16	31 1/2	15 3/8	8 7/8	9°	18° X 20	25
20" - 3500, 3530, 3531	387 90 05	20"	20"	33	35 7/16	32 5/8	37 3/8	39 3/8	35 7/16	17 3/4	.	.	.	29 1/2
24" - 3601, 3602	388 65 05	24"	24"	33	35 7/16	32 5/8	37 3/8	39 3/8	35 7/16	17 3/4	.	.	.	29 1/2

ALL DIMENSIONS ARE IN INCHES



Note:  
Discharge connection shown is typical for all sizes.  
Note the actual discharge connection may vary from that shown.



SECTION	PAGE
<b>10</b>	<b>12</b>
SUPERSEDES	ISSUED
6/90	12/91

# Lifting Chain & Cable

## CHAIN

Chain is hot dipped galvanized carbon steel and may be ordered in any length. Fittings consist of two end shackles and are available in kits.

### PUMP MODELS:

### CHAIN SIZE:

3067, 3080, 3085, 3085/82,  
3102, 3127.

5/0 Straight Coil

3140, 3152

5/16" Proof Coil

3170, 3201

3/8" Proof Coil

3230, 3300, 3305, 3355

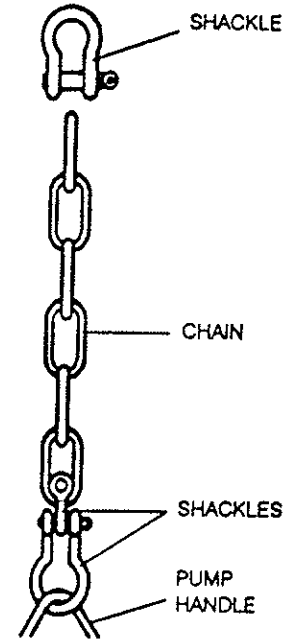
7/16" Hi-Test

3311

1/2" Hi-Test

3351, 3500, 3530, 3531, 3601,  
3602

Contact ITT Flygt  
Engineering



## CABLE

Cable is stainless steel and may be ordered in the lengths shown below. For other lengths, contact ITT Flygt Application Engineering. Fittings consist of two end shackles and are available in kits.

### PUMP MODELS:

### CABLE SIZE:

3067 Thru 3152

1/4" - (316 stainless steel)

3170, 3201, 3230, 3300,  
3305, 3355

3/8" - (304 stainless steel)

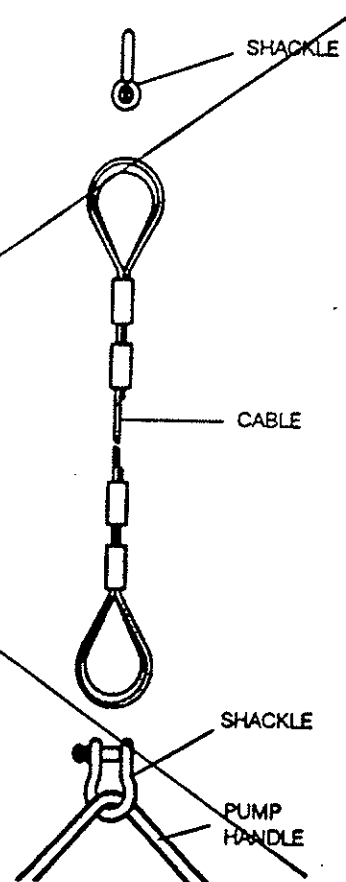
3311, 3351, 3500, 3530,  
3531, 3601, 3602

Contact ITT Flygt  
Engineering

### LENGTHS:

For Models 3067 Thru 3152 -- 316 stainless steel cable is available in 20 to 55 foot lengths (in 5 foot increments).

All other models -- 304 stainless steel cable is available in 20, 25, and 30 foot lengths.

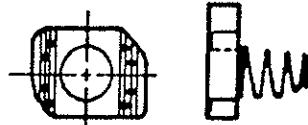
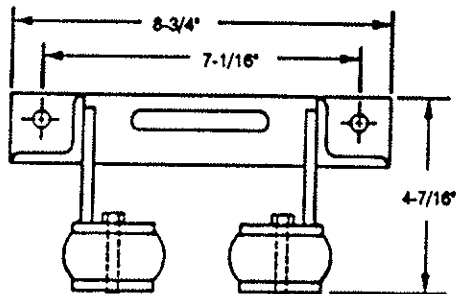
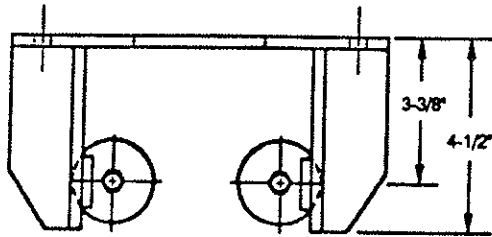


Contact ITT Flygt Application Engineering for information on models not listed.

SECTION	PAGE
10	6
SUPERSEDES	ISSUED
4/86	12/91

# Upper Guide Bar Brackets

UPPER GUIDE BAR BRACKET



LATERAL NUT WITH SPRING



PLAIN WASHER



LOCK WASHER



HEX. HEAD BOLT

## KIT NO. 14 58 93 15

(Galvanized Steel)

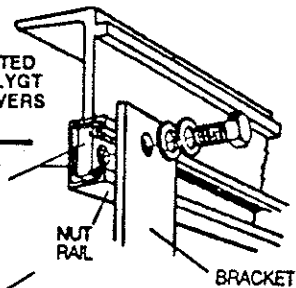
Standard for the following "CP" pumps:

- 3067
- ~~3080~~
- 3085
- ~~3102~~
- 3126
- 3127
- 3140
- 3152

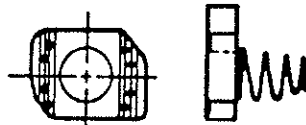
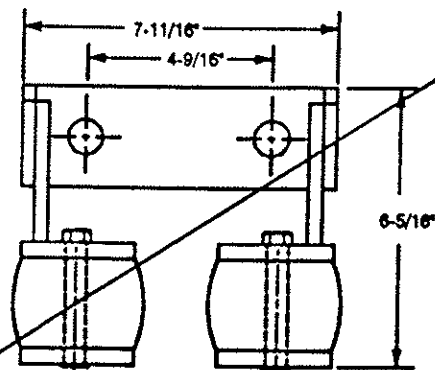
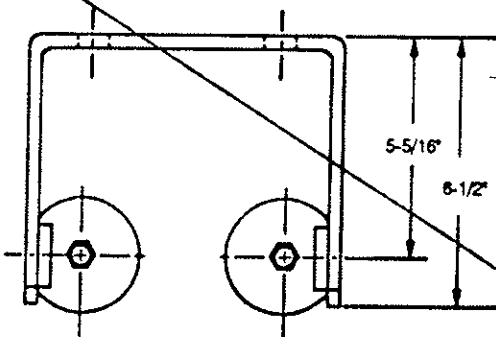
Also available in 304 stainless steel -  
KIT NO. 14 58 93 06

Note: use with 2" nominal guide bars

UNISTRUT  
FEATURE  
INCORPORATED  
IN ALL ITT FLYGT  
ACCESS COVERS



UPPER GUIDE BAR BRACKET



LATERAL NUT WITH SPRING



PLAIN WASHER



LOCK WASHER



HEX. HEAD BOLT

## KIT NO. 14 58 93 25

(Galvanized Steel)

Standard for the following "CP" pumps:

- 3170
- 3201
- 3230
- 3300
- 3305
- 3311
- 3351
- 3355
- 3500
- 3530
- 3531
- 3601
- 3802

Also available in 304 stainless steel -  
KIT NO. 14 58 93 08

Note: use with 3" nominal guide bars