

Marsh

Fine Kitchens And Baths Since 1906.

October 26, 1998

Ms. Lori Murtaugh, Hydrogeologist
Groundwater Quality Section
Bureau of Water
2600 Bull Street
Columbia, North Carolina 29201-1708

RE: Continued Groundwater Investigation Of The Marsh Lumber Company Facility Located In Pamplico, South Carolina (Site ID# A-21-AA-14343).

Dear Ms. Murtaugh:

The purpose of this letter is to present the bid specification Marsh Furniture Company developed for the continuation of the groundwater investigation at Marsh Lumber Company in Pamplico, South Carolina.

Per our discussion 10-26-98, you indicated you wanted to review and approve our plan prior to the initiation of any additional investigative activity. The attached bid specification is presented for your review and approval. The intent of the Scope of Work defined by the attached bid specification is to provide for:

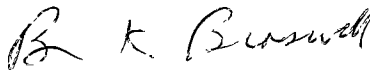
- Development of detailed stratigraphic data in the area of the release;
- Determining if the pentachlorophenol plume is naturally attenuating or moving away from the position of MW-3
- Delineating the vertical and lateral extent of the plume.

Following this assessment, sufficient detail will be available to make informed decisions regarding the need for any additional assessment and the potential for this site to possibly be a candidate for a natural attenuation remedial effort (assuming the pentachlorophenol is going away under naturally occurring conditions).

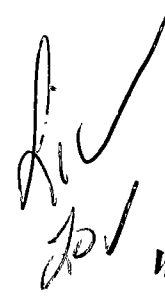
If you have any questions regarding this information, please don't hesitate to call me at (336) 819-4035.

Best Regards,

Marsh Furniture Company



Bruce K. Braswell
Regulatory Compliance Manager



RECEIVED

OCT 30 1998

Water Monitoring, Assessment & Protection Division

mw# 2/8

02/21/99

Note: Our area code has been changed to 336



Marsh Furniture Company

Request For Proposal

Facility Identification:

Marsh Lumber Company
Pamplico, South Carolina

RECEIVED
OCT 20 1998
Water Monitoring, Assessment &
Protection Division

October 15, 1998

Introduction

Marsh Furniture Company has assembled this fixed bid request for proposal for distribution to potential bidders to continue the assessment of a groundwater incident at the Marsh Lumber Company facility located in Pamplico, South Carolina. Interested bidders should have bids prepared and submitted to Bruce Braswell at Marsh Furniture Company in High Point, North Carolina. Bids can be faxed to (336) 884-0883. The due date for the bid is October 23, 1998. Questions regarding this bid specification can be directed to Bruce Braswell at Marsh Furniture Company at (336) 819-4035.

The Marsh Lumber Company facility, located in Pamplico, South Carolina, has a dip tank and drip pad (Green Chain Area) for green lumber freshly cut from logs. The Green Chain operation previously used pentachlorophenol. Assessment conducted previously at the Marsh Lumber Company facility indicated the presence of pentachlorophenol in groundwater. The constituent was detected in two monitoring wells (MW-3 & MW-10) hydraulically downgradient of the Green Chain Area (see **Figure 1**).

Scope of Work

Marsh Furniture Company is requesting proposals to conduct an additional assessment of the pentachlorophenol plume to determine the vertical and lateral extent of the groundwater impact. Data generated previously by Law Environmental indicates there is a potential aquatard/aquaclude located at approximately 30' in depth below grade. To perform this next assessment phase, Marsh Furniture Company is specifying the following details for the Scope of Work:

- The contractor shall use a geoprobe equipped with a Macro Core sampling tube to advance borings at the facility while obtaining continuous cores. Detailed stratigraphic logs shall be prepared from descriptions made in the field by a licensed geologist. Soil descriptions shall be made using AGI data sheets (NRCS for soils) and geologic units shall be described using AAPG protocol. Detailed descriptions shall be made and recorded of grain sizes and distribution, grain composition, matrix composition, and details regarding any evidence of biological activity (fossils, root zones, etc.). Close attention shall be paid to stratigraphic details (such as an underclay and/or the presence of clay rich layering) that may prevent the downward migration of pentachlorophenol to 30' below grade. Upon removal from the Macro Core, recovered soil/lithologic core sleeve's are to be labeled, using an indelible black marker, with an arrow indicating the stratigraphic upwards position. The cores are then to be placed in a waxed cardboard "core box" for description and storage. The contractor representative can use a razor knife or other sharp instrument to split the sleeves to allow description. It is the responsibility of the contractor to assure that 1/2 of the sleeve remains intact for future reference. Upon completion of the descriptions, the core box is to be labeled with the boring identification, date, total depth and any other pertinent information. The core boxes are the property of Marsh Furniture Company and are to be left on site at the completion of the project with a representative designated by Marsh Furniture Company.

- If a potential aquatard or aquaclude is encountered above 30' below grade, immediately following groundwater sampling at the borehole terminal depth, the geoprobe boring shall be tremmie grouted with a slurry of Portland cement and bentonite powder mixed 50/50. If the geoprobe borings do not encounter lithologic evidence that indicates the potential presence of an aquatard/aquaclude, the boring can be filled with 1/4" bentonite pellets to grade. Care is to be taken when backfilling with bentonite pellets to minimize bridging of the borehole.
- The contractor shall obtain groundwater samples using the geoprobe unit at depths of 15' below grade level and at 30' below grade (or on top of the "very stiff gray fine to coarse sandy silt" described by Law Environmental as being present at 30.50 feet below grade at the position of MW-8) at each proposed boring location shown in **Figure 2**. A minimum of three liters of groundwater are to be purged at each sampling interval prior to acquisition of groundwater samples. Purge water shall be contained and placed in a drum (17H) labeled as purge water for subsequent disposal.
- The contractor is expected to use care with the probe and sampling equipment to prevent cross-contamination. Accordingly, all reusable downhole equipment shall be steam cleaned and then decontaminated using the following procedures:
 - Wash with an Alconox solution
 - Rinse with distilled water
 - Rinse with isopropyl alcohol
 - Rinse with distilled water
 - Rinse with a 10% nitric acid solution
 - Rinse with distilled water
- All decon water shall be contained and placed in a separate 17H drum and labeled as decon water for subsequent disposal.
- Following completion of the last borehole, the contractor shall survey the ground elevations and locations of the sampling points relative to an artificial benchmark established at a permanent structure (building corner etc.). In addition, the contractor shall survey the locations and top of casing elevations of MW-1, MW-3, MW-8, MW-9, MW-10 and MW-11, relative to the benchmark. Marsh Furniture Company will provide a person to assist with the survey and groundwater sampling.

Groundwater Sampling & Analytical Testing

In addition to the groundwater samples specified above, the contractor shall use disposable Teflon bailers (one for each well) to sample the following monitoring wells: MW-1, MW-3, MW-8, MW-9, MW-10 and MW-11. Samples are also to be obtained from the decon water drum and the purge water drum for disposal profiling. Groundwater samples obtained from monitoring wells, storage drums and the geoprobe assessment are to be analyzed at a laboratory licensed to conduct business in the state of South Carolina using EPA approved methodology. All groundwater samples are to be analyzed using

EPA Method 8270 (acid extractable) using the Priority Pollutant list. The contractor shall specify in the comments section of the Chain of Custody that pentachlorophenol is suspected. The laboratory chosen by the contractor shall assure that lowest possible detection limits indicated by SW-846 are maintained. If the detection limits are not achievable, the laboratory is to indicate the reason why in the laboratory test report.

All groundwater samples obtained from the Marsh Lumber Company facility are to be labeled, immediately placed on ice, and maintained at 4° C until delivered to the laboratory. The laboratory chosen by the contractor shall note the temperature of the samples at the time of delivery on the Chain of Custody.

Reporting

Upon receipt of the analytical test report from the laboratory, the contractor shall fax a copy of the results to the attention of Bruce Braswell at Marsh Furniture Company at (336) 884-0883. Within ten days of receiving the analytical test report from the laboratory, the contractor shall deliver to Marsh Furniture Company a draft copy of the assessment report for review. Marsh Furniture Company will review the draft report and comment to the contractor on any potential changes. Within ten days of the draft review, the contractor shall deliver to Marsh Furniture Company three final copies of the report for distribution.

At a minimum, the report shall have an introduction, discussion and conclusion. Assessment data shall be presented in the following form: two orthogonal geologic cross-sections that demonstrate stratigraphic relationships at the facility as determined by the lithologic descriptions made during the geoprobe investigation. The report shall contain isoconcentration contour maps that depict the lateral extent of the plume drawn on the plan view base map and the vertical extent of the plume superimposed on the geologic cross sections. Recommendations are to be submitted under a separate cover.

Insurance

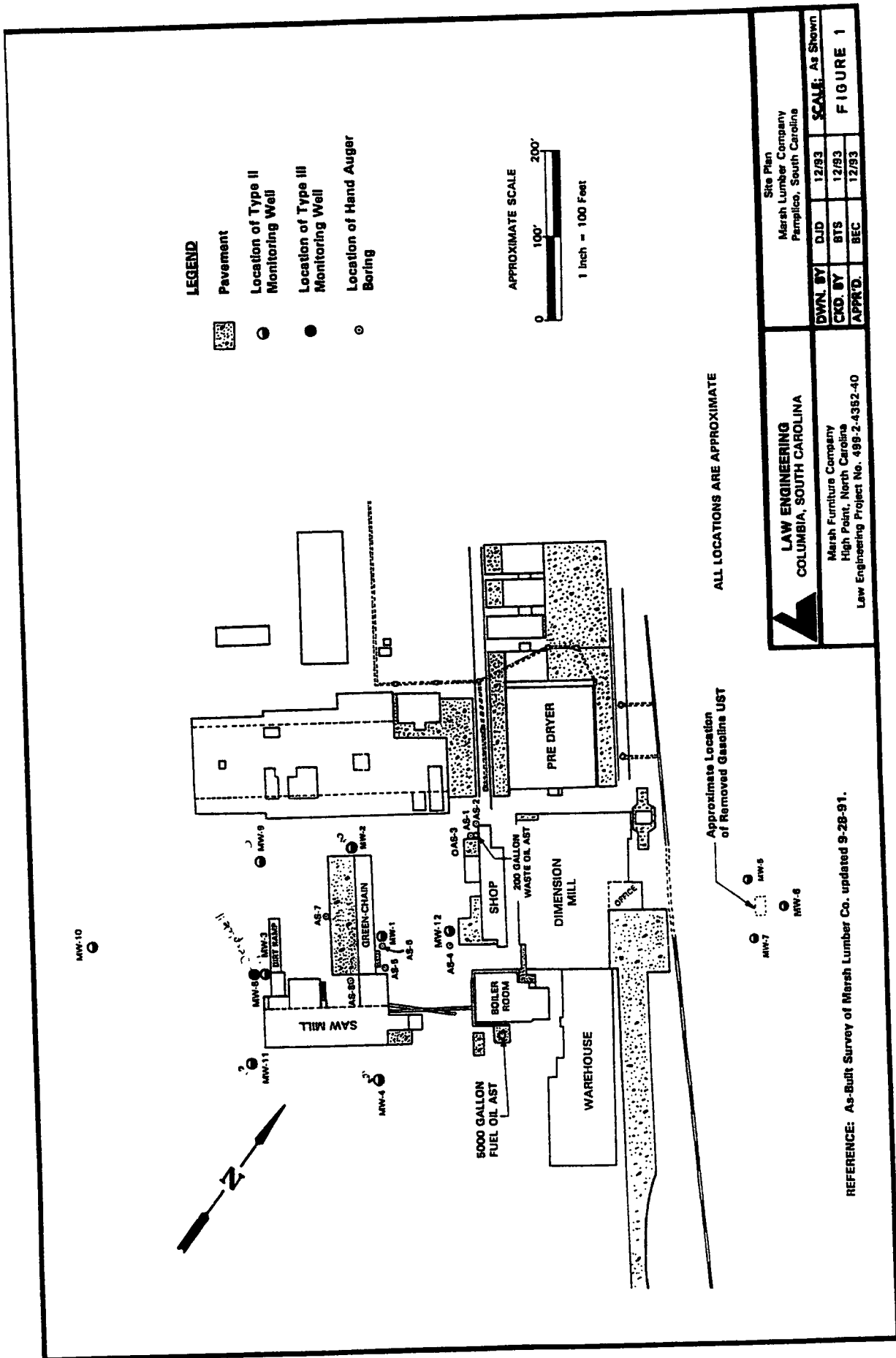
The contractor shall maintain the following insurance, limits of liability, and name Marsh Furniture Company and Marsh Lumber Company as additionally insured. Certificates of insurance indicating Marsh Furniture Company and Marsh Lumber Company as additionally insured shall be provided to Marsh Furniture Company prior to initiating the project. The limits of liability to be maintained are:

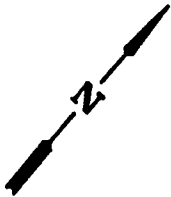
General Liability -	\$1,000,000.00
Pollution Liability -	\$1,000,000.00
Errors and Omissions -	\$1,000,000.00
Automobile General Liability -	\$1,000,000.00

Fixed Bid Form

Field Work			
Description	Units	Unit Rate	Extension
Mobilization			
Geoprobe - Day Rate			
Geoprobe Disposables			
Core Boxes			
Geologist			
EPA Method 8270 - AE			
17H Drums			
Service Truck			
Mileage			
Sample Shipment			
Per Diem			
Survey			
Report Preparation			
Principal			
Geologist			
Drafting			
Clerical			
Lump Sum Fixed Bid Total _____			

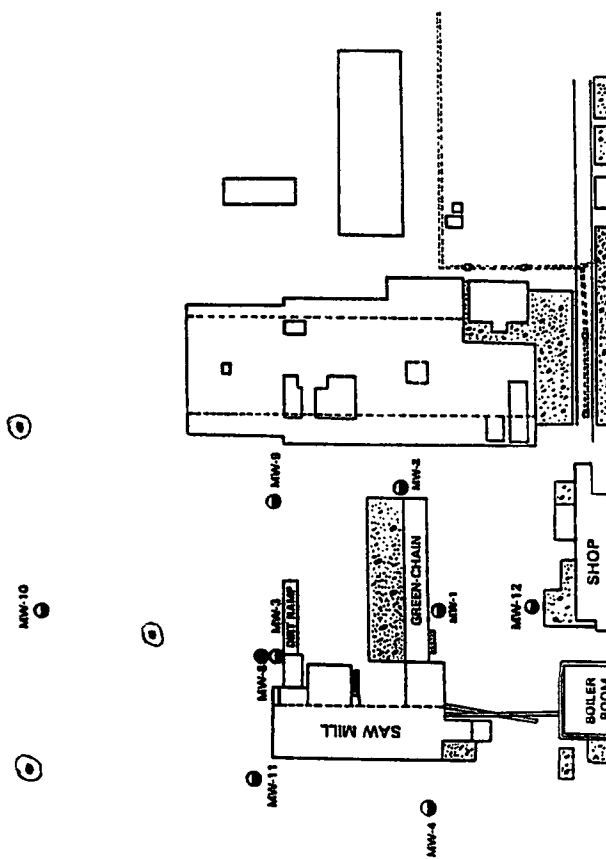
All bidding contractors are required to submit their bids on this form. This bid is a fixed price bid for the specified work and units. Change Orders will be given for a change in the Scope of Work only or a change in the specified units and only when previously executed in writing by Marsh Furniture Company.





LEGEND

- Location of Type II Monitoring Well
- Location of Type III Monitoring Well
- ⊙ Proposed Location of Geoprobe Borings



APPROXIMATE SCALE



1 inch = 100 Feet

ALL LOCATIONS ARE APPROXIMATE

LAW ENGINEERING
COLUMBIA, SOUTH CAROLINA

Marsh Furniture Company
High Point, North Carolina
Law Engineering Project No. 499-2-4352-40

Proposed Well Location Plan
Marsh Lumber Company
Pamplico, South Carolina

DWN. BY	DJD	12/93	SCALE: As Shown
CKD BY	BTS	12/93	FIGURE Z
APPR'D	BEC	12/93	

REFERENCE: As-Built Survey of Marsh Lumber Co. updated 8-28-91.



2600 Bull Street
Columbia, SC 29201-1708

November 30, 1998

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Mark B. Kent

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Brian K. Smith


Rodney L. Grandy

Marsh Furniture Company
Attn: Bruce Braswell
P.O. Box 870
High Point, NC 27261

Re: **Marsh Lumber Company, (Green Chain Area)**
Assessment Plan received October 30, 1998
Site ID # A-21-AA-14343
Florence County

Dear Mr. Braswell:

The Groundwater Quality Section of the Bureau of Water has completed a review of the referenced plan. The entire plan is approved as submitted. Please note the conditions on the attached monitoring well approval. An assessment report which documents the results of this activity should be submitted to this office on or before February 1, 1999. If you have any questions concerning the above matter feel free to contact me at (803) 734-4668 or E-mail at murtaudc@columb32.dhec.state.sc.us.

Sincerely,

Lori Murtaugh, Hydrogeologist
Groundwater Quality Section
Bureau of Water

dcm/14343.02

cc: **Reggie Massey, Pee Dee District EQC**
Shaun Rankin, LAW Engineering, (Columbia)



2600 Bull Street
Columbia, SC 29201-1708

Monitoring Well Installation Approval

COMMISSIONER:
Douglas E. Bryant

Approval is hereby granted to: **Law Engineering**
(on behalf of): **Marsh Lumber**
Site ID#: **14343**
County: **Florence**

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Rodney L. Grandy

This approval is for the construction of monitoring wells designated GP-1 through GP-5 in accordance with the construction plans and technical specifications submitted to the Department on October 30, 1998. The well(s) are to be constructed within the surficial aquifer for the intended purpose of monitoring groundwater quality and/or water level(s) at the referenced facility. Approval is provided with the following conditions:

1. The surveyed elevations, boring and/or geologist logs and actual (as built) construction details for each well be submitted to within thirty (30) days of completion (of last well(s) installed).
2. Well construction and sampling derived waste including, but not necessarily limited to, drill cuttings, drilling fluids, development and purge water should be managed properly and in compliance with applicable requirements. If containerized, each vessel should be clearly labeled with regard to contents, source, and date of activity.
3. A minimum of forty-eight (48) hours prior to initiation of drilling activities, please provide notice to Pee Dee District, EQC Office (843-661-4825).
4. Please provide groundwater quality analytical data (chemical analyses and/or water level(s)) and associated measurements (i.e., *in-situ* field measurements) to Lori Murtaugh within thirty (30) days of receipt from laboratory.
5. Monitoring wells shall be installed by a well driller certified by the State of South Carolina.
6. Each well shall be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate shall provide monitoring well I.D.#, date of construction, static water level, and driller name and state certification number.
7. Wells shall be abandoned per R.61-71.10.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71.

Approved by:

B. Thomas Knight, P.G., Manager
Groundwater Quality Section
Bureau of Water

cc: Reggie Massey, Pee Dee District EQC
Bruce Braswell, Marsh Lumber