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ALTAMONT ENVIRONMENTAL, INC.

ENGINEERING & HYDROGEOLOGY

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Transmitted via email to:
allen.gaither@ncdenr.gov

July 9, 2009

Mr. Allen Gaither
Division of Waste Management
Solid Waste Section
Asheville Regional Office
2090 US Highway 70
Swannanoa, NC 28778

Subject: Environmental and Geotechnical Investigation
Proposed Livestock Market and Events Center
Closed International Paper Company Landfill 5C
Permit #44-01, Canton, NC

Dear Mr. Gaither,

Thank you for speaking with Altamont Environmental, Inc. (Altamont) recently regarding the feasibility investigation of the closed International Paper Company Landfill 5C (landfill). On behalf of International Paper Company and Western North Carolina Communities, LLC, we would like to conduct an investigation to determine the suitability of the construction and operation of a livestock market and events center at the referenced landfill. The landfill is apparently lined with three-inch diameter washed stone and is capped with approximately two feet of clayey soil material. The investigation will include penetrating the existing clay cap and waste in order to collect samples of the waste for health and safety concerns and geotechnical evaluations, explore the depth of waste, and install landfill gas probes. This letter includes a description of the proposed work and requests approval from the North Carolina Department of Environment and Natural Resources (DENR), Division of Waste Management (DWM), Solid Waste Section to conduct the investigation.

The investigation will be conducted in the two easternmost landfill cells, the earthen dikes that surround those cells, the borrow area for the landfill cover (east of the landfill), and other areas outside the eastern waste boundary. The attached Figure 1 identifies the area of the landfill where the investigation will take place.

GEOTECHNICAL EVALUATION

Initial Investigation

Prior to conducting the geotechnical evaluation, Altamont and its subcontractors are currently locating aboveground and belowground utilities, waste boundaries, leachate lines, waste thicknesses, and buffers in potential development areas and obtaining a current topographical and boundary survey of the relevant portions of the property. The aforementioned work is being completed with a variety of standard locating and surveying equipment as well as ground-penetrating radar and electromagnetic profiler equipment.

Altamont will also collect one representative sample of the waste below the existing cover in order to address health and safety concerns for the proposed investigation plan. The sample of waste will be collected using a hand auger by a technician wearing Tyvek sleeves, safety glasses, and Nitrile gloves. Sampling equipment and the waste will be kept in a downwind direction from the sampler before being placed in laboratory-supplied sample containers and shipped to the laboratory. Waste will be analyzed for various constituents including but not limited to dioxins, metals, pH, semivolatile organic compounds, volatile organic compounds, coliforms, and total organic halides. The analyses will determine the exposure risk to drillers and geotechnical laboratory technicians should they ingest, inhale, or come into dermal contact with the landfill waste. Before the geotechnical evaluation is conducted, the utilities will be located, the appropriate risk will be measured, and personal protective equipment will be prescribed for this proposed investigation.

Landfill Cells for Building and Parking Areas

The geotechnical evaluation proposed within and surrounding the referenced landfill cells will consist of approximately 20 soil test borings. Standard Penetration Testing will be used to investigate the subsurface conditions at the two landfill cells (approximately 10 borings will be placed within or just outside each cell). Within landfill cells, borings will be extended through the landfill waste to the underlying material.

The borings will be monitored for groundwater. Standard Penetration Testing will be performed at two-and-a-half-foot intervals to a depth of 10 feet below the existing grade. Thereafter, Standard Penetration Testing will be performed at five-foot intervals. Upon conclusion, the borings will be backfilled with a combination of bentonite and soil auger cuttings. The bentonite will be placed in the bottom and top of each borehole upon completion. We propose that six boreholes remain open to allow for immediate conversion into landfill gas probes.

Eight three-inch-diameter, undisturbed, samples of the in-place soils will be obtained from the borings. The undisturbed samples will be returned to the laboratory for visual classification. Four laboratory consolidation tests will be performed on selected samples of the soils obtained from the undisturbed sampling. The consolidation tests will be used to estimate both total and differential settlement for the proposed buildings.

Two Atterberg limits and 20 natural-moisture-content determination tests will be performed on selected samples of soil obtained from the penetrometer testing intervals. The results of this testing will be used to determine soil plasticity characteristics.

Borrow Area

The portion of the borrow area that lies outside of the waste boundary will be investigated using a trackhoe to excavate observation pits. The observation pits will be excavated to refusal on the underlying bedrock unit, or to the length of the trackhoe arm (typically 12 feet to 15 feet), whichever occurs first. The observation pits will be backfilled with the excavated material upon completion.

Two Atterberg limits and 20 natural-moisture-content determination tests will be performed on selected samples of soil obtained from the penetrometer testing intervals. The results of the Atterberg limits and natural-moisture-content testing will be used to determine soil plasticity characteristics.

Two Standard Proctor and natural-moisture-content determination tests will be performed on composite soil samples collected at the site from the observation pits. The Standard Proctor test will be used to determine soil compaction characteristics including maximum dry density and optimum moisture content.

A geotechnical engineering report will be prepared to present the results of the field and laboratory testing. The report will include a discussion of the subsurface soils encountered, site geology, and the results of the settlement analysis. The report will provide geotechnical engineering recommendations regarding site preparation for proposed buildings (two) and parking areas, foundation type, and allowable foundation bearing capacity, and will include a cross-section through the borings illustrating the findings at the boring locations.

LANDFILL GAS MONITORING

Six landfill gas (LFG) monitoring probes are proposed to be installed following the conclusion of the geotechnical evaluation for this investigation plan. The LFG probes will be constructed with one-inch diameter schedule 40 PVC riser pipe, with one-inch diameter slotted screen at the bottom. The slotted section will be surrounded by a filter material. The casing will be sealed above the filter material and slotted screen with a fine-grained sand pack, bentonite, grout, and concrete seal as shown in the attached Figure 2.

For your reference, a previous LFG evaluation was performed by the Town of Canton when developing the nearby Landfill 5B cell as a baseball park. Landfill 5B and Landfill 5C contain similar waste. The evaluation by the Town of Canton found 0.1% methane over a one-week long passive LFG monitoring event in one of four sampling locations on the Landfill 5B cell. If LFG is found at similar low concentrations during the proposed monitoring at Landfill 5C, ongoing LFG monitoring may not be necessary.

Additionally, a second phase of LFG monitoring may be proposed during the post-closure permit modification that will be submitted after (1) this investigation is completed, (2) feasibility of the project is further assessed, and (3) plans and specifications for the project are finalized. Two 1979 photos taken of the Landfill 5C during the late stages of construction, as well as an image of the 1980 as-built drawing of the landfill, are attached for your reference.

The goals of this investigation plan are to determine if the landfill is a feasible site for the proposed livestock market and events center, and to:

- Protect the health and safety of the public and livestock that will use the proposed facility
- Avoid negative environmental impacts from development at the landfill site
- Protect the integrity of the landfill from impact from the proposed facility

Mr. Allen Gaither
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Altamont appreciates your time and consideration of this investigation plan, and we look forward to your comments and approval. Please feel free to call or respond with any questions or comments related to this project.

Sincerely,

ALTAMONT ENVIRONMENTAL, INC.



Paul Dow, P.E.

Enclosures: Figure 1–Investigation Plan Area
 Figure 2–Landfill Gas Probe
 1979 Photos of Landfill 5 Construction
 As-Built Drawing of Landfill 5C



LEGEND:



UTILITY LOCATION AND TOPOGRAPHIC/BOUNDARY AREA

NOTE:

BOUNDARY AREA = APPROXIMATELY 30.4 ACRES

SOURCE:

TOPOGRAPHIC SURVEY FROM LAW ENGINEERING TESTING CO., CHARLOTTE, NC
 AERIAL PHOTOGRAPH FROM HAYWOOD COUNTY GIS

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DRAWN BY: ANNA SAYLOR

PROJECT MANAGER: JOEL LENK

CLIENT: INTERNATIONAL PAPER/WNC, LLC

DATE: 07/01/2009

SCALE (FEET)

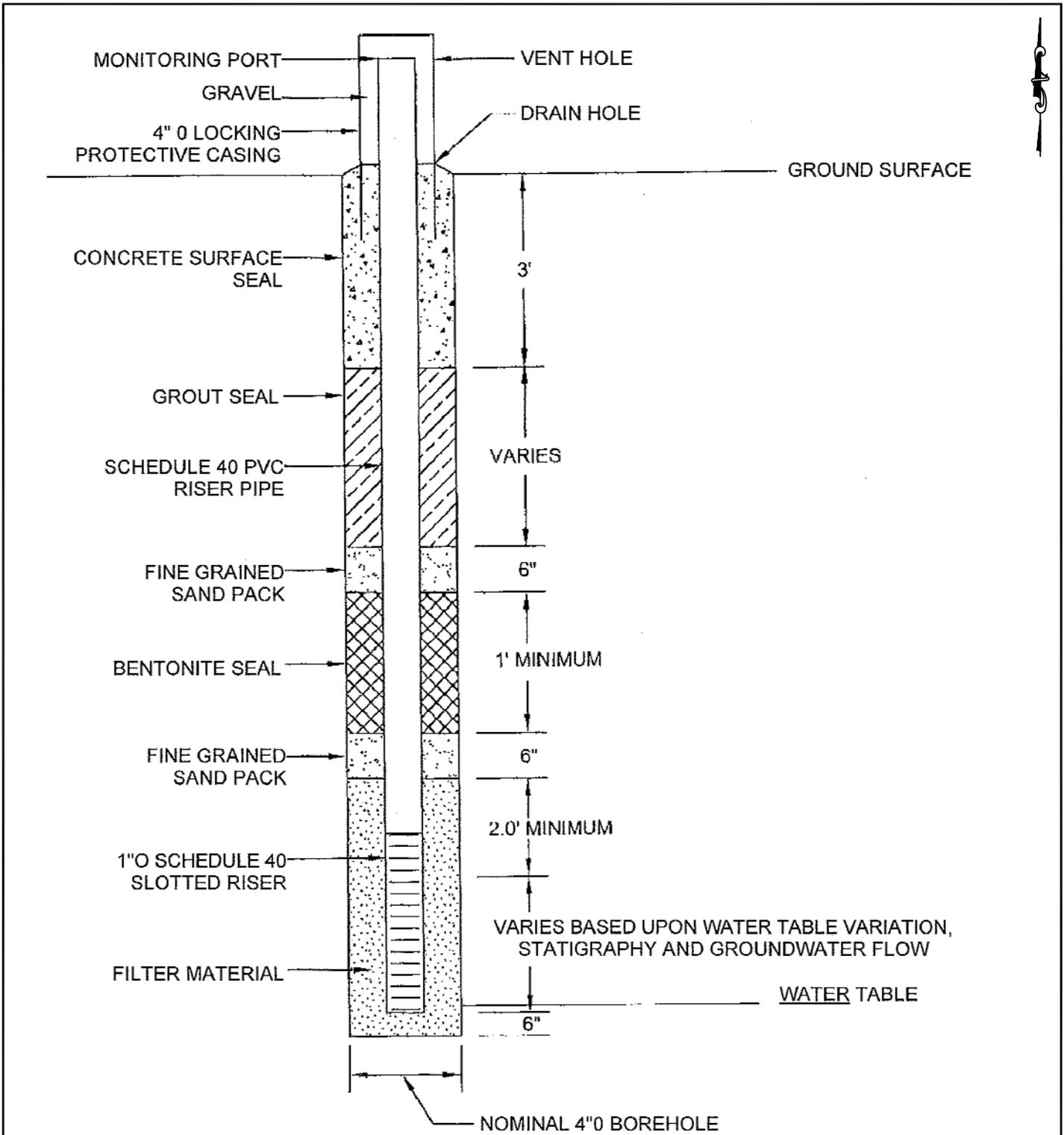


INVESTIGATION PLAN AREA

LIVESTOCK MARKET AND
 EVENTS CENTER
 HAYWOOD COUNTY, NORTH CAROLINA

FIGURE

1



Source: Waste Management, Inc. - Landfill Gas Probe Construction - High Acres Landfill and Recycling

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**LANDFILL GAS PROBE
(TYPICAL)**

INTERNATIONAL PAPER LANDFILL 5C
 PERMIT# 44-01
 HAYWOOD COUNTY, NORTH CAROLINA

FIGURE

2

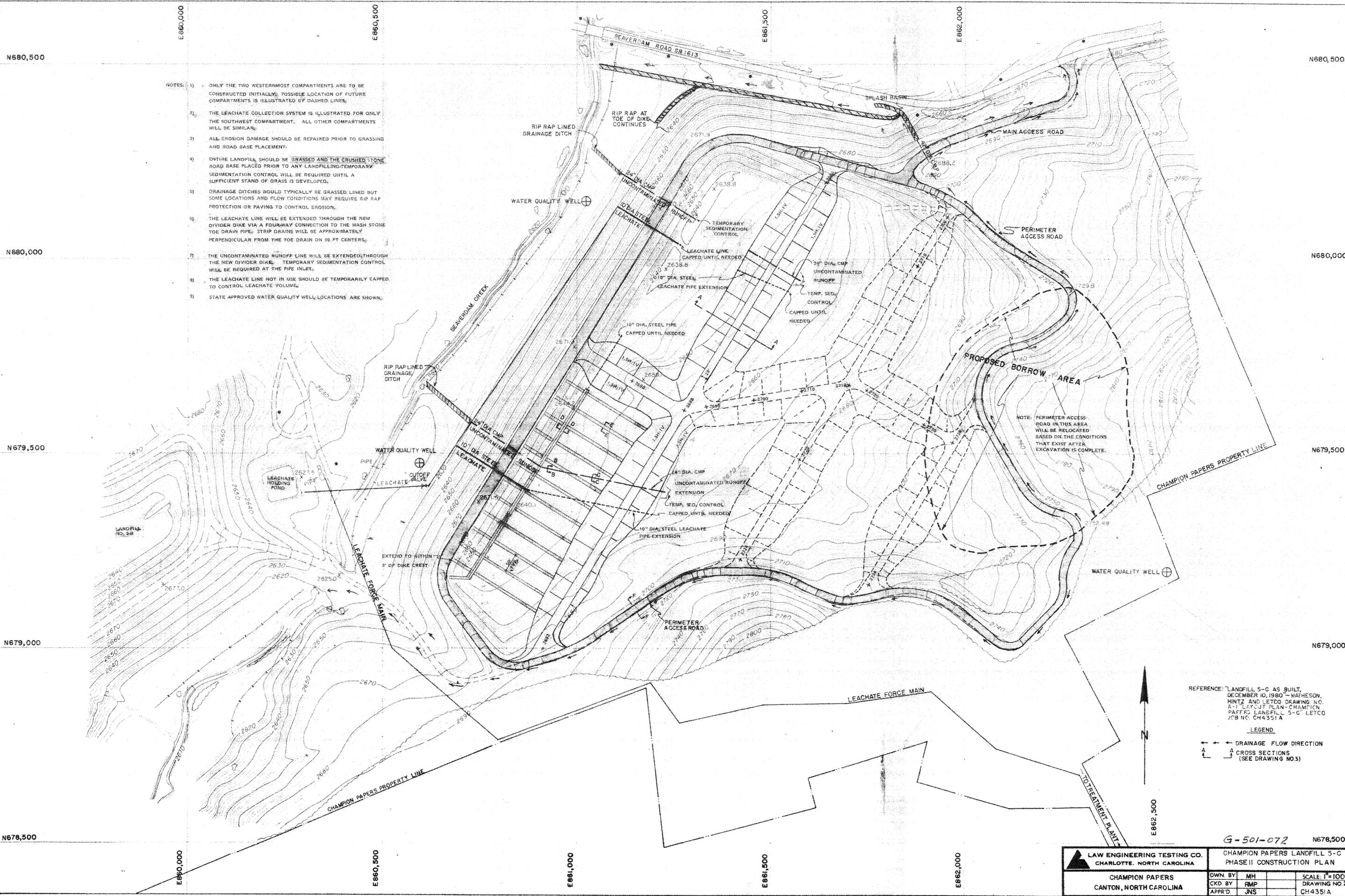
DRAWN BY: PAUL DOW
 PROJECT MANAGER: JOEL LENK
 CLIENT: IP / WNCC, LLC
 DATE: 07/08/09

NOT TO SCALE

P:\IP\LF 5\LIVESTOCK...\DENR...\FIGURE 2-INVESTIGATION LTR.DWG







- NOTES:
- 1) ONLY THE TWO WESTERMOST COMPARTMENTS ARE TO BE CONSTRUCTED INITIALLY. POSSIBLE LOCATION OF FUTURE COMPARTMENTS IS ILLUSTRATED BY DASHED LINES.
 - 2) THE LEACHATE COLLECTION SYSTEM IS ILLUSTRATED FOR ONLY THE SOUTHWEST COMPARTMENT. ALL OTHER COMPARTMENTS WILL BE SIMILAR.
 - 3) ALL EROSION DAMAGE SHOULD BE REPAIRED PRIOR TO GRASSING AND ROAD BASE PLACEMENT.
 - 4) ENTIRE LANDFILL SHOULD BE GRASSED AND THE CRUSHED STONE ROAD BASE PLACED PRIOR TO ANY LANDFILLING. TEMPORARY SEDIMENTATION CONTROL WILL BE REQUIRED UNTIL A SUFFICIENT STAND OF GRASS IS DEVELOPED.
 - 5) DRAINAGE DITCHES WOULD TYPICALLY BE GRASSED LINED BUT SOME LOCATIONS AND FLOW CONDITIONS MAY REQUIRE RIP RAP PROTECTION OR PAVING TO CONTROL EROSION.
 - 6) THE LEACHATE LINE WILL BE EXTENDED THROUGH THE NEW DIVIDER DIKE VIA A FOUR-WAY CONNECTION TO THE WASH STONE TOE DRAIN PIPE. STRIP DRAINS WILL BE APPROXIMATELY PERPENDICULAR FROM THE TOE DRAIN ON 50 FT CENTERS.
 - 7) THE UNCONTAMINATED RUNOFF LINE WILL BE EXTENDED THROUGH THE NEW DIVIDER DIKE. TEMPORARY SEDIMENTATION CONTROL WILL BE REQUIRED AT THE PIPE INLET.
 - 8) THE LEACHATE LINE NOT IN USE SHOULD BE TEMPORARILY CAPPED TO CONTROL LEACHATE VOLUME.
 - 9) STATE APPROVED WATER QUALITY WELL LOCATIONS ARE SHOWN.

NOTE: PERIMETER ACCESS ROAD IN THIS AREA WILL BE RELOCATED BASED ON THE CONDITIONS THAT EXIST AFTER EXCAVATION IS COMPLETE.

REFERENCE: LANDFILL 5-C AS BUILT, DECEMBER 10, 1980 - WATHESON, HINTZ AND LETCO DRAWING NO. A-1 LAYOUT PLAN - CHAMPION PAPERS LANDFILL 5-C LETCO JOB NO. CH4351A

LEGEND
 → DRAINAGE FLOW DIRECTION
 A-A CROSS SECTIONS (SEE DRAWING NO.3)



G-501-072 N678,500

LAW ENGINEERING TESTING CO. CHARLOTTE, NORTH CAROLINA		CHAMPION PAPERS LANDFILL 5-C PHASE II CONSTRUCTION PLAN	
CHAMPION PAPERS CANTON, NORTH CAROLINA	DWN BY: MH CKD BY: RMP APPR'D: JNS	SCALE: 1"=100'	DRAWING NO. 2 CH4351A