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1. Land Recovery, Inc. is a person responsible for Thun Field Landfill within the meaning of Chapter 90.48 RCW, Chapter 70.105A RCW, Chapter 70.95 RCW, Chapter 70.94 RCW, 42 U.S.C. 6901 et seq., with respect to the Thun Field Landfill site;
2. There have been releases of hazardous substances at the Thun Field Landfill site within the meaning of Chapter 70.105A RCW;
3. The Thun Field Landfill site is a disposal site within the meaning of Chapter 70.95 RCW;
4. The actions to be taken pursuant to this Order are reasonable and necessary to mitigate damage to public groundwaters and to protect the public health or welfare or the environment;
5. A reasonable time for beginning and completing the actions required by this Order has been provided for; and
6. Land Recovery, Inc. has agreed to undertake the actions specified in the Order.

In signing this Order, Land Recovery, Inc. hereby agrees to undertake all actions required of them by the terms and conditions of this Order within the time frames specified herein.

II

Parties

This Order shall apply to and be binding upon the following parties, their successors, and assignees:

1. Land Recovery, Inc. (hereinafter LRI)
2. State of Washington, Department of Ecology

III

Statement of Facts

Thun Field Landfill, also known as Hidden Valley Landfill and Pierce County Landfill, is located at 17925 South Meridian Street, approximately five (5) miles south of Puyallup in Pierce County, Washington. The site lies in the North One Half of the Northwest Quarter of Section 34, Township 19 North, Range 4 E.W.M. It is bordered on the west by South Meridian Street (SR 161), on the north by two undeveloped parcels and by the Thun Field Pierce County Airport, and on the east by undeveloped wooded property. To the south, Puyallup Sand and Gravel Company owns and operates a gravel processing operation.

The Thun Field Landfill site is approximately 72 acres. The existing landfilling area (footprint) is approximately 52 acres.

The Thun Field Landfill began accepting municipal solid waste in the mid 1960s under the operation of the Pierce County Department of Public Works.

In 1977, Pierce County turned over operation of the landfill to the current operator, LRI. There are four owners for that land, which constitutes the Thun Field Landfill. The land owners are: LRI, The Corliss Company, Pierce County, and Air Park Associates.

Three hydrogeologic studies have been undertaken to characterize ground water and geological conditions beneath the Thun Field Landfill. In 1982, Hart, Crowser and Associates, Inc., completed the Thun Field Landfill Hydrogeologic Study. Ground water flow towards the northwest was identified in two potentially discontinuous aquifers. Evidence of landfill leachate impacts to ground water was identified. In 1985, Brown and Caldwell, as a part of the Clover/Chambers Creek Geohydrologic Study, evaluated the impacts of the Thun Field Landfill operations on ground water quality in the Clover/Chambers Creek Basin. This evaluation concluded shallow ground water quality has been affected by landfilling operations. In 1985, Sweet, Edwards and Associates, Inc., completed the report, Hydrogeologic Data Update, Thun Field Landfill which supported the findings reported by Hart, Crowser in 1982.

On May 9, 1986, Sweet, Edwards and Associates, Inc. completed a statistical comparison of the averages of all ground water water quality data from the monitoring wells at Thun Field Landfill. Statistically significant increases in downgradient wells over background levels in upgradient wells for ground water at Thun Field Landfill were identified for pH, temperature, conductivity, iron, manganese, ammonia as nitrogen, nitrate as nitrogen and total organic halogens. In addition, Ecology believes that chromium, copper and zinc are present in downgradient wells.

Downgradient ground water monitoring at Thun Field Landfill in 1986 identified excursions of state and federal primary drinking water standards for nitrate as nitrogen. Excursions of proposed federal maximum contaminant levels for trichloroethene, benzene and vinyl chloride have also been identified in downgradient monitoring wells at Thun Field Landfill.

From late 1984 to date, the Tacoma-Pierce County Health Department (TPCHD) has conducted methane monitoring at and in the vicinity of the Thun Field Landfill. Methane gas levels above the lower explosive limit north of the landfill boundary have been recorded by the health department.

In May 1986, the Thun Field Landfill was proposed for nomination to the U.S. Environmental Protection Agency's National Priority List (NPL). LRI has entered into an agreement with the TPCHD regarding interim and final closure of the active portions of the landfill, construction of a gas collection system and gas migration control system, and further site development consistent with the minimum functional standards.

IV

Scope of Order

This Order shall govern the following matters undertaken in mitigation of damage to waters of the state and for the protection of the public health, safety or environment:

1. LRI shall plan, propose, initiate, complete, and report upon a Remedial Investigation of contamination emanating from the Thun Field Landfill site;
2. LRI shall plan, propose, initiate, complete, and report upon a Remedial Action Feasibility Study (Feasibility Study) of contamination emanating from the Thun Field Landfill site.
3. Notwithstanding the provisions of 70.95 RCW and 173-304 WAC, LRI shall cease disposal of solid waste over the existing landfill footprint and plan, propose, initiate and complete final cover and closure of the existing waste footprint at Thun Field Landfill in accordance with the schedules set forth in the aforementioned agreement with TPCHD attached hereto as Appendix C. An updated site operations plan addressing operations interim through the date of landfill closure of the existing footprints shall be submitted to Ecology and the TPCHD by April 1, 1988. Ecology retains the authority to require earlier completion of final cover and closure construction for the existing waste at Thun Field Landfill dependent on the results and recommendations of the Remedial Investigation/Feasibility Study required by this Order, if necessary to protect the public health, welfare or the environment.



V

Remedial Investigation

LRI shall plan, propose, initiate, complete and report upon a Remedial Investigation of contamination emanating from the Thun Field Landfill site in accordance with Appendix A to this Order. The purpose of the Remedial Investigation is to provide information and data needed for the evaluation, selection, and implementation of remedial response actions at the Thun Field Landfill site to protect public health and welfare, and the environment, and mitigate damage to public groundwaters. LRI shall submit to Ecology all plans and reports in accordance with Appendix B to this Order.

The Remedial Investigation shall be conducted consistent with substantive provisions of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300 (1986).

A draft and final Remedial Investigation report shall be submitted to Ecology for review and comment. The Remedial Investigation final report must receive Ecology approval, pursuant to paragraph VIII, to be considered final.

VI

Feasibility Study

LRI shall plan, propose, initiate, complete, and report upon a Feasibility Study for the Thun Field Landfill site in accordance with Appendix B to

this Order. In accordance with the schedule in Appendix B, Land Recovery Inc. shall submit a detailed work plan for a Feasibility Study for the Thun Field Landfill site in accordance with the scope of work in Appendix A to this Order. The purpose of the Feasibility Study is to identify and assess remedial or removal action alternatives available to abate or minimize, to the extent necessary to protect the public health or welfare or the environment, the release or threatened release of hazardous substances as identified through the Remedial Investigation conducted pursuant to Paragraph VI of this Order. The Feasibility Study Work Plan shall be conducted consistent with feasibility study scope of work requirements cited in the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300 (1986).

A draft and final Feasibility Study shall be submitted to Ecology for review and comment. The Feasibility Study must receive Ecology approval, pursuant to paragraph VIII, to be considered final.

## VII

### Community Relations

Ecology shall maintain lead for the community relations at the site, and develop a community relations plan consistent with the requirements of the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300 (1986). LRI will cooperate with Ecology in fulfilling the tasks specified in the community relations plan. LRI shall specifically:

- A. Assist Ecology in the finalization of fact sheets, press releases, public notices. Ecology shall make reasonable efforts to accommodate LRI's concerns prior to the release of such information; Ecology shall communicate the contents of the fact sheets, press releases, and public notices to LRI forty eight (48) hours, exclusive of weekends or holidays, prior to the release of information;
- B. LRI will participate with Ecology in public meetings related to the RI/FS.
- C. LRI shall make reasonable efforts to accommodate Ecology's concerns with regard to LRI's fact sheets, press releases, or public notices if LRI chooses release of said documents on the RI/FS project. LRI shall communicate the contents of the fact sheets, press releases and public notices to Ecology forty-eight (48) hours, exclusive of weekends and holidays, prior to the release of such information.
- D. Ecology shall provide an information repository at the following

Locations:

Puyallup Public Library  
324 South Meridian  
Puyallup, WA 98371

Pierce Co. Dept. of Public Works  
Administration Office  
2401 South 35th  
Tacoma, WA 98405

Tacoma-Pierce County Health Dept.  
3629 South "D" Street  
Tacoma, WA 98408  
591-6553

U.S. Environmental Protection  
Agency  
Superfund Branch  
1200 Sixth Avenue  
Seattle, WA 98101  
442-2710

State of Washington  
Department of Ecology  
Hazardous Waste Cleanup Program  
PV-11  
Olympia, WA 98504-6811  
438-3000

At a minimum, copies of all public notices, fact sheets, and press releases, all quality-assured ground water, surface water, soil sediment, and air-monitoring data, detailed work plans, supplemental remedial planning documents, and all other similar documents relating to performance of these remedial actions shall be promptly placed in these repositories.

### VIII

#### Reporting and Notification

LRI shall submit to Ecology written monthly progress reports which describe the actions they have taken during the previous month to implement the requirements of this Order. Progress reports shall also describe the activities scheduled to be taken during the next month. All progress reports shall be submitted by the tenth day of the month after the effective date of this Order. The progress reports shall include a detailed statement of the manner and extent to which the requirement and time schedules set out in the Order are being met.

LRI shall prepare draft reports of the Remedial Investigation and Feasibility Study and will submit them to Ecology Southwest Regional Office, Ecology Hazardous Waste Cleanup Program, and EPA. Final reports shall be submitted within 60 days of the receipt of comments from Ecology. Final reports must have Ecology approval to be considered final. Unless otherwise specified, progress reports and any other documents submitted pursuant to this Order shall be sent by certified mail, return receipt requested, and addressed to:

Hazardous Waste Cleanup Program  
Department of Ecology  
PV-11  
Olympia, Washington 98504-6811

IX

Resolution of Disputes

Except as otherwise specifically provided for in this Order, any dispute which arises with respect to the meaning or application of this Order shall in the first instance be the subject of informal negotiations between LRI, and Ecology. Such negotiations shall be at the written request of any party. The period for informal negotiations shall be for a period of ten (10) days from the date of such request unless otherwise extended or shortened by mutual written agreement of the parties. If the dispute is not resolved during the ten day informal negotiations period, the Ecology director shall make a final written determination addressing the issue.

The decision of Ecology pursuant to this dispute resolution procedure shall not be appealable pursuant to Chapter 43.21B RCW to the Pollution Control Hearings Board (PCHB). However, LRI may commence an action in Superior Court of the State of Washington to obtain review of Ecology's written determination. Such an action must be brought within ten days of LRI's receipt of Ecology's determination. The parties stipulate venue for any such action shall lie in Thurston County or Pierce County Superior Court. In the event that a court finds that it lacks jurisdiction, dispute resolution shall be through the PCHB.

X

Creation of Danger

In the event Ecology determines or concurs in a determination by another local, state or federal agency that activities implementing or in noncompliance with this Order, or any other circumstances or activities, are creating or has the potential to create a danger to the health or welfare of the people on the Thun Field Landfill site or in the surrounding area or to the environment, Ecology may order LRI to stop further implementation of this Order for such period of time as needed to abate the danger or may petition a court of competent jurisdiction for such an Order. During any stoppage of work under this part, LRI's obligations with respect to the work ordered to be stopped shall be suspended and the time periods for performance of that work, as well as the time period for any other work dependent upon the work which stopped, shall be extended, pursuant to Paragraph XXIV of this Order, for the period of the suspension and such further period of time, if any, as Ecology determines is reasonable under the circumstances.

In the event LRI determine activities undertaken in furtherance of this Order or any other circumstances or activities are creating a substantial endangerment to the people on the Thun Field Landfill site or in the surrounding area or to the environment, LRI may stop implementation of this Order for such periods of time necessary for Ecology to evaluate the situation and determines whether LRI should proceed with implementation of the Order or whether the work stoppage should be continued until the danger is abated.

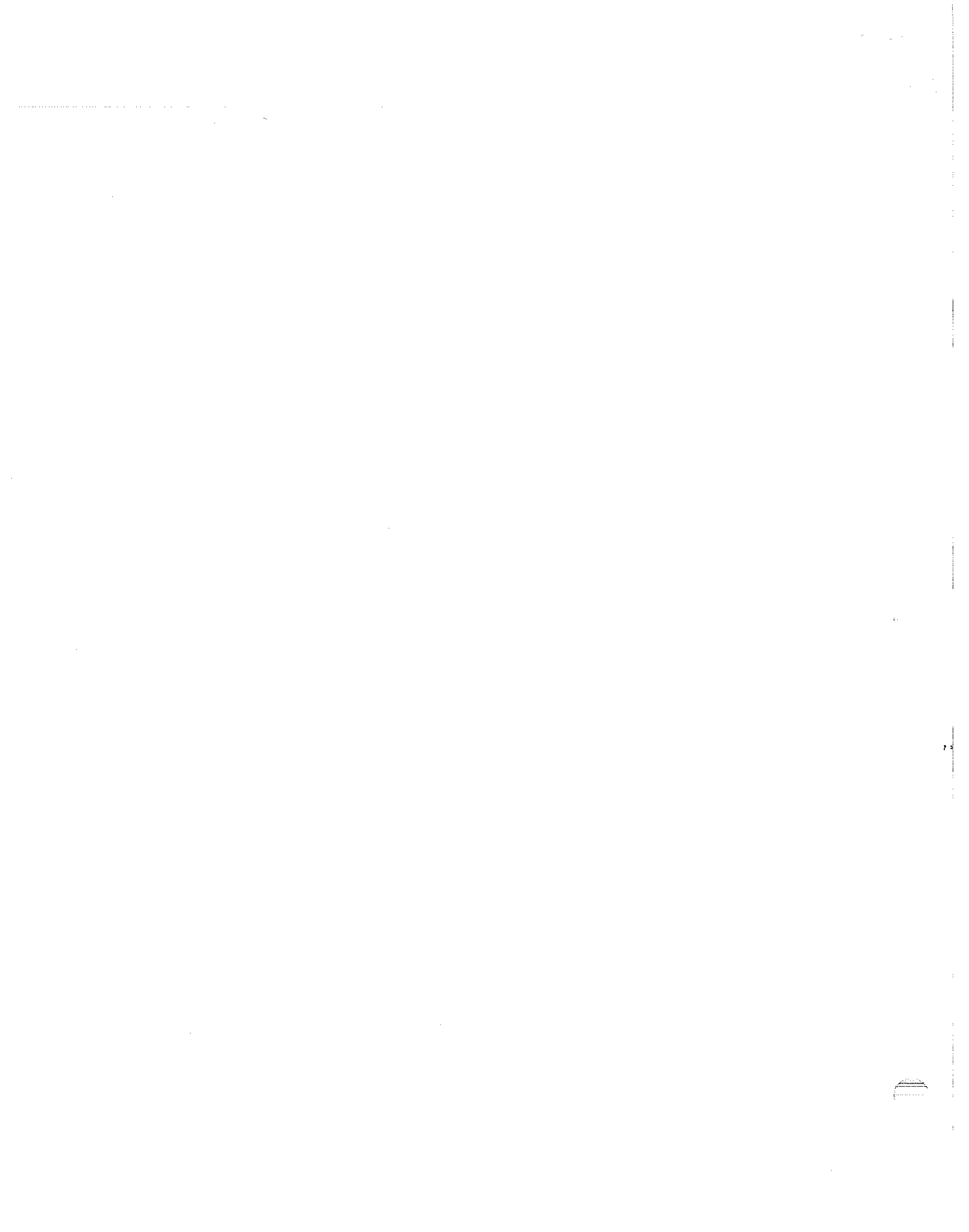
LRI shall immediately notify either Ecology field personnel on site or the project manager and, within twenty-four hours of any such stoppage, provide Ecology with documentation of LRI's analysis in reaching this determination. If Ecology disagrees with LRI's determination, it shall give LRI written direction to resume implementation of this Order. If Ecology approves of LRI's determination, LRI's obligations with respect to the work stoppage shall be suspended and the time periods for performance of that work, as well as the time period for any other work dependent upon the work which was stopped, shall be extended, pursuant to Part XXIV of this Order, for the period of the suspension and such further period of time, if any, as Ecology determines is reasonable under the circumstances.

Unless otherwise specified, all notification of Ecology pursuant to this paragraph shall be made at (206) 438-3000. Within forty-eight (48) hours of any such notification, LRI shall prepare a written notice for submittal to Ecology. Any disagreements pursuant to this paragraph shall be resolved through the dispute resolution procedures.

## XI

### Project Manager

Ecology and LRI shall each designate a project manager and alternate for the purpose of overseeing the implementation of this Order. Within ten (10) days of the effective date of this Order, LRI and Ecology shall notify each other of the name and address of its project manager and alternate. Either party may change its designated project manager or





designate an alternate by notifying the other party, in writing, of the change. To the maximum extent possible, communications between LRI and Ecology concerning the terms and conditions of this Order shall be directed through the project managers. Each project manager shall be responsible for assuring that all communications from the other project manager are appropriately disseminated and processed.

During the course of the implementation of this Order the project managers shall, whenever possible, operate by consensus. The project managers shall attempt to resolve disputes informally through good faith discussion of the issues.

The Ecology project manager shall have the authority including but not limited to (1) take samples or agree upon samples to be taken; (2) direct work stop as provided in Paragraph X; (3) observe, take photographs and make such other reports on the progress of the work as the project manager or alternate deems appropriate; (4) review records, files and documents relevant to this Order; and (5) make or authorize minor field modifications in techniques, procedures or design utilized in carrying out this Order which are necessary to the completion of the project. Any field modifications shall be approved orally by the Ecology project manager. Within forty-eight (48) hours following the modification, LRI's project manager shall prepare a memorandum detailing the modification and shall provide or mail a copy of the memorandum to the Ecology project manager.

XII

Sampling and Data Availability

Ecology and LRI shall make available to each other the results of sampling, tests or other data generated by either party, or on their behalf, with respect to the implementation of this Order. At the request of Ecology, LRI shall allow split or duplicate samples to be taken by Ecology from testing conducted by LRI during the implementation of this Order. LRI's project manager shall endeavor to notify the Ecology project manager five (5) days in advance of any sample collection for which the Ecology project manager has indicated they may wish to obtain split or duplicate samples. If it is not possible to provide five (5) days prior notification, LRI shall notify the Ecology project manager as soon as possible after becoming aware samples will be collected.

XIII

Retention of Records

LRI shall preserve for a minimum of 10 years all records and documents in their possession or in the possession of their divisions, employees, agents, accountants, contractors or attorneys which relate in any way to the subject matter of this Order as it pertains to the Thun Field Landfill site, despite any document retention policy to the contrary.

This section shall not apply to documents subject to the attorney-client or other privilege.

Upon the request of Ecology, LRI shall make all records and documents referred to in this part, available within a reasonable period of time to Ecology and allow Ecology access to review such records and documents wherever they are located.

XIV

Confidential Information

LRI may claim any exemption from disclosure of public records allowed pursuant to existing law. If no such claim accompanies the information when it is submitted to Ecology, the information may be made available to the public by Ecology. Ecology shall make its best efforts to provide notice to LRI of disclosure of such information. Analytical data shall not be claimed as confidential by LRI.

XV

Access

Ecology or its authorized representatives shall have authority to enter all property of the Thun Field Landfill site owned by LRI in Pierce County, Washington, at all reasonable times for the purpose of taking photographs, inspecting records, operating logs and contracts related to the subject matter of this Order as it pertains to the Thun Field Landfill site; reviewing the progress of LRI in implementing this Order; conducting tests or taking samples as Ecology deems necessary; and verifying the data submitted to Ecology by LRI. Prior to entry, Ecology or its representatives will notify Thun Field Landfill on site representatives. LRI shall honor all reasonable requests for such access by Ecology conditioned only upon presentation of proper credentials.

Access to locations not owned by LRI necessary for remedial investigation activities must be identified in the draft and final sampling and work plans. Any written access agreements between off-site property owners and LRI, to allow necessary off-site RI activities, shall be appended to the final work plans. LRI shall use its best efforts to obtain such agreements. If LRI is unable to obtain such agreements, Ecology shall assist LRI in obtaining such agreements.

XVI

Hold Harmless Agreement

LRI agrees to indemnify and save and hold Ecology, its agents and employees harmless from any and all claims or causes of action arising from or on account of acts or omissions of LRI, its officers, employees, agents, or contractors in entering into and implementing this Order; provided, however, LRI not indemnify Ecology nor save nor hold its employees and agents harmless from any claims or causes of action arising out of the acts or omissions of Ecology, or its employees and agents in implementing the activities pursuant to this Order.

XVII

Other Claims

Nothing herein is intended to release any claims, causes of action or demands in law or equity against any person, firm, partnership or corporation not a signatory to this Order for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, disposal or release of any pollutant, contaminant or hazardous substances at, to, or from the Thun Field Landfill site.

Ecology shall not be held as a party to any contract entered into by LRI to implement the activities required pursuant to this Order.

XIII

Other Applicable Laws

Nothing in this Order shall waive the requirements of all applicable local, state and federal laws and regulations, including laws and regulations related to occupational safety and health, unless exemption from such requirement is therein provided. In the event there is a conflict of federal, state or local laws or regulations, the more stringent of the conflicting provisions shall apply.

XIX

Amendment of Order

This Order may only be amended by a written agreement between LRI and Ecology. Such amendment shall become effective upon signature of both parties.

Other than in paragraph XI, no informal advice, guidance, suggestions, or comments by Ecology will be construed as relieving LRI of their obligation to obtain formal approval as may be required by this Order or as modifying the terms or requirements of this Order.

XX

Reservation of Rights

- A. Nothing herein shall waive Ecology's right to enforce this Order under Chapter 70.105A RCW, Chapter 70.94 RCW, Chapter 70.95 RCW, Chapter 90.48 RCW, Subchapter IV of 42 USC 6901-6991i, or any other law.
- B. Nothing herein shall waive Ecology's right to take any action authorized by Chapter 70.105A RCW, Chapter 70.95 RCW, Subchapter IV of 42 USC 6901-6991i, Chapter 90.48 RCW, or any other law, should LRI fail to maintain compliance with this Order.
- C. The execution of this Consent Order is not an admission of liability of any issue dealt with in this Consent Order. In signing this Order, the parties do not admit, and retain the right to controversy in any subsequent proceedings, other than proceedings used to enforce this Order, the validity of or the responsibility for, any of the factual or legal determinations made herein. Nor is the execution of this Consent Order, or any statement or assertion contained herein, an admission of liability or responsibility for any remedial or other actions which may be taken in the future for any work beyond that described herein and any modification hereto. Should Ecology seek to compel the performance of any remedial action, other than that called for by this Order, or modification hereto, this Order shall have no force and effect with respect to such demand of Ecology. Except as provided under paragraph XXI, it is agreed that any payments made pursuant to this Consent Order by LRI are not and do not constitute penalties, fines or monetary sanctions of any kind.

XXII

Covenant Not to Sue and Satisfaction of This Order

The provisions of this Consent Order shall be deemed satisfied upon LRI's receipt of written notice from Ecology that the program outlined in this Consent Order, as amended by any modifications made pursuant to paragraphs XIX above of this Order, has been completed.

To avoid litigation and its expense, and for and in consideration of the completion of the work by LRI, the state does hereby covenant not to sue, execute judgment, take administrative action, or take any civil action pursuant to Chapter 90.48 RCW, or any other statutory or common law concerning protection of health and the environment against only LRI, its officers, its successors or assigns arising out of or related to the work performed pursuant to this Consent Order. The completion of the final RI/FS pursuant to this Consent Order is a condition precedent to enforcement of this covenant.

Notwithstanding compliance with the terms of this Consent Order, LRI is not released from liability, if any, for any actions beyond the terms of this Consent Order taken by Ecology respecting the site. Consistent with this paragraph, the state reserves the right to take any enforcement action against anyone pursuant to Chapter 90.48 RCW, and/or any available legal authority, including the right to seek injunctive relief, monetary penalties, and punitive damages for any violation of law or this Consent Order.

To the extent that the law of the State of Washington may be determined to control and govern the interpretation of this Consent Order, the parties do not intend that this part of the Order shall be a release as the term is defined by Washington law.

XXIII

Recovery of Expenses

*Land Recovery*  
A. LRI agrees to reimburse the appropriate account of the Treasury of the State of Washington, as identified by Ecology, for reasonable and appropriate costs associated with Ecology activities at the Site conducted since July 1, 1987. At the end of each fiscal quarter, Ecology will submit to LRI an itemized statement of Ecology's expenses for the previous quarter. Following receipt of the itemized statement, LRI shall pay, within ninety (90) days, into the appropriate account of the Treasury of the State of Washington, as identified by Ecology, the required sum which sums shall not exceed a total of 9.9 percent of LRI's contractual costs except for laboratory costs, incurred in implementation of the RI/FS requirements of this Order.

B. This Order shall not be construed in any way as a waiver of Ecology's or LRI's right to seek reimbursement from any responsible party, including entities not a signatory to this Order, for recovery of response costs incurred by Ecology or LRI in conjunction with activities conducted at the Site.

C. The initial payments pursuant to this Clause are not due until December 31, 1987.



XXIV

Extensions of Schedules

Extensions shall be granted if requests for extensions are submitted in a timely fashion and good cause exists for granting the extension. All extensions shall be requested by LRI in writing. The request shall specify the reason(s) the extension is needed. Extensions shall only be granted for such period of time as Ecology determines is reasonable under the circumstances. A requested extension shall not be effective until approved by Ecology in writing.

Ecology may extend the time schedules contained in this Order for a period not to exceed ninety (90) days, except if an extension is needed as a result of: (1) delays in the issuance of a necessary permit which was timely applied for, or (2) judicial review of the issuance, non-issuance or reissuance of a necessary permit, Ecology may extend the time schedules for a longer period. Extensions of greater than 90 days requested for reasons other than the two specified above may be granted under this Order, but only if authorized by Ecology under Paragraph XIX of this Order.

The burden shall be on LRI to demonstrate to the satisfaction of Ecology the request for the extension has been submitted in a timely fashion and good cause exists for granting the extension. Good cause may include, but not be limited to, the following:

- (1) Circumstances beyond the reasonable control and despite the due diligence of LRI, including delays caused by Ecology;

- (2) Delays which are directly attributable to any changes in permit terms or conditions or refusal to grant a permit needed to implement the requirements of this Order if LRI filed a timely application for the necessary permit; and
- (3) Inability to obtain access to properties not owned by LRI, despite compliance of LRI with Paragraph XV.
- (4) Act of God, fire, flood, blizzard, extreme temperatures, or other unavoidable casualty.

However, neither increased costs of performance of the terms and conditions of the Order nor changed economic circumstances may be considered circumstances beyond the reasonable control of LRI.

XXV

Conveyance of Title

No conveyance of any interest in the Thun Field Landfill site owned by LRI shall be consummated by LRI without provision for continued implementation of the requirements of this Order. LRI shall notify Ecology by registered mail at least thirty (30) days prior to any conveyance by LRI of any interest in land which comprises the Thun Field Landfill site and of the enforceable provisions made for the continued implementation of the terms of this Order, including operation and maintenance of any facility or system installed pursuant to this Order.

XXVI

Cooperation

Ecology and LRI agree to cooperate to the fullest extent possible in carrying out the requirements of this Order. Such cooperation shall include frequent communications as this Order is being implemented.

XXVII

Termination

The provisions of this Order shall be deemed satisfied and terminated upon LRI receipt of written notice from Ecology that LRI has demonstrated, to the satisfaction of Ecology, all terms of the Order have been completed.

XXIII

Effective Date

This Order is effective upon the date the Ecology Director or designee executes this Order.

By their signatures hereon, the undersigned represent they have authority to bind the parties they represent, their agents, successors and assignees.

It is so agreed and ordered:

LAND RECOVERY, INC.

Harold Edle May  
President

8-24-87  
Date

It is so agreed and ordered:

Phillip Johnson, Deputy Dir Ecology 8/27/87  
John Littler Date  
Hazardous Waste Cleanup, Program Manager  
For State of Washington, Department of Ecology

Approved as to form

Jeffrey S. Myers  
Jeffrey S. Myers, Assistant Attorney General

## APPENDIX A

### SCOPE OF WORK THUN FIELD LANDFILL

#### TASK 1 - WORK PLAN

Develop work plans for the Remedial Investigation/Feasibility Study (RI/FS) consistent with this Scope of Work and consistent with the NCP, and within the time frame set by the Order. Work plans will include detailed discussions of the technical approaches to be used in the investigation and schedules for completion.

#### REMEDIAL INVESTIGATION

#### TASK 2 - DESCRIPTION OF CURRENT SITUATION

Collect and evaluate existing data and reports to provide a description of problems at the site and identify objectives of the Remedial Investigation. Submit this summary to Ecology in report form along with the work plans developed under Task 1. This task will involve the following sub-tasks:

##### A. Physical Characteristics of the Site

Summarize information on the location of the site and general site physiography, hydrology, and geology.

##### B. Nature and Extent of Problems

Based on existing information, describe the threat or potential threat to public health and the environment. Identify the potential and actual on-site and off-site health and environmental effects of releases from the Thun Field Landfill. Include information on areal extent, depth, and volume of fill, hazardous substances disposed of in the landfill, affected environmental media, and possible pathways of human exposure. Information, identify the need for initial removals or interim remedial measures.

##### C. Site History

Summarize the operating history of the landfill, including title, ownership, and response actions taken in the past by local, state, federal, or private parties.

##### D. Boundary Definition

Identify boundaries of area to be included in the Remedial Investigation and Feasibility Study, including areas of monitoring.

#### E. Site Maps

Prepare site maps to scale showing physical surface features of the site. Such features include, but are not limited to, water features, wetlands, drainage patterns, buildings, utilities, topography, and monitoring well and sampling locations.

#### F. General Response Actions

Identify general response actions which are appropriate for the site and which address the actual and potential health and environmental effects identified in Task 2.b. The purpose of this sub-task is to ensure that data collection efforts are adequate to address, at a minimum, the following potential remedial alternatives or combinations of remedial alternatives:

- On-site and off-site gas migration control systems
- Leachate/ground water extraction and treatment
- Waste removal
- Alternative water supplies
- Point-of-entry treatment
- Removal/treatment of contaminated soils
- Interim and final cover
- Early site closure
- Long-term environmental monitoring
- In-situ ground water treatment
- No action

#### G. Data Gaps

Identify inadequacies and data gaps in the existing data for the site which limit their use for the assessment of potential impacts and the screening of remedial alternatives.

### TASK 3 - PLANS AND MANAGEMENT

#### A. Sampling and Analysis Plan.

Prepare a sampling and analysis plan to address all field activities necessary to obtain additional site data. The plan will be based on previously established sampling plans that are currently in effect at the Hidden Valley Landfill. The plan will define the level of effort and specific field activities for each of the media to be sampled. The plan will discuss the following:

- Site background and description
- Investigation objectives
- Existing data review
- Sampling locations
- Sampling frequency
- Sampling procedures
- Field equipment calibration and maintenance procedures and frequency
- Sample custody

Sample parameters  
Analytical procedures  
Data analysis

B. Quality Assurance/Quality Control (QA/QC) Plan

Develop a QA/QC plan to assure that the entire RI/FS and the individual components are conducted in a technically correct manner. The plan will encompass the review of existing data, field program development and implementation, sampling techniques, instrument calibration, laboratory analysis, data interpretation, and verification of computer models.

C. Health and Safety Plan

Prepare a health and safety plan after completion of the sampling plan to address hazards that the investigation team may encounter at the site. Inputs to the plan will include the site description and maps, results of previous sampling activities, field reports, and proposed field activities. The health and safety plan will include the following elements:

- Site description
- Hazard evaluation
- Monitoring requirements
- Levels of protection
- Work limitations
- Authorized personnel responsibilities
- Decontamination requirements
- Emergency information

D. Data Management Plan

Develop and initiate a data management plan to document and track investigation data and results.

TASK 4 - SITE INVESTIGATION

Conduct those investigations necessary to characterize the site and its actual or potential hazard to public health and the environment. The investigations must result in data of adequate technical content to support the development and evaluation of remedial alternatives during the Feasibility Study. The site investigation shall follow the plans developed in Task 3. All sample analysis will be conducted at laboratories following EPA protocols or their equivalents. Strict chain-of-custody procedures will be followed in the sampling procedures. The site investigation must include the following:

A. Hydrogeologic Investigation

Conduct a program to determine the presence and potential extent of ground water contamination in the Shallow Perched, Upper Regional, and Lower Regional aquifers. Previous hydrogeologic studies conducted at the Thun Field Landfill and other existing data collected at the landfill shall be used as a basis for design of the program. The program shall

include the following:

Description of site geology and stratigraphy.  
Characterization of the aquifers.  
Identification of existing and potential users of the aquifers.  
Identification of recharge/discharge areas.  
Determination of horizontal and vertical ground water flow directions.  
Determination of horizontal and vertical ground water flow gradients.  
Assessment of the mobility of pollutants.  
Assessment of the soils' attenuation capacity and mechanisms.  
Identification of the effects of any pumping alternatives that are developed, if applicable.  
Determination of the horizontal and vertical distribution of contaminants.  
Prediction of the long-term disposition of contaminants.  
Calculation of a water balance for the landfill.

The hydrogeologic investigation shall include with details to be provided in the work plan:

1. Phase I.

a. Wells

- i. Drill and install a well designated MW-16S and a well designated MW-16D near the northeastern corner of the site.
- ii. Drill and install a well designated MW-15S and a well designated MW-15D between MW-14S and D and MW-11S and D (see Figure 1).
- iii. Drill and install a well designated MW-17S, a well designated MW18S, and a well designated MW18D northwest of the landfill.
- iv. Drill and install well designated MW-19S and a well designated MW-19D along the south site boundary of the landfill.
- v. Install two additional deep wells (MW-14R and MW-20R) into the regional aquifer (see Figure 1).

Such wells shall be completed by December 31, 1987.

b. Determination of Aquifer Parameters

Perform a drawdown/recovery test in a new well to be sited, and conduct a drawdown/recovery test in the water supply well, if possible. Conduct single-well hydraulic conductivity tests in all monitoring wells at the site to determine hydraulic properties of aquifers at the site.

At the time of the drawdown/recovery test, Ecology will evaluate ground water quality data to determine if flood or spray irrigation of the pumped water is an appropriate disposal method. If flood or spray irrigation is not appropriate, the in-situ hydraulic conductivity tests will be the only field tests used for determination of aquifer parameters.



c. Ground Water Sampling Parameters

After installation of monitoring wells required under Phase I of the Hydrogeologic Investigation is complete, four quarterly rounds of sampling will be conducted. (Wells B-1A and B-1B will not be sampled.) Parameters to be analyzed are as follows:

Round 1 - For all wells except B-7A and B-7B:

EPA Priority Pollutants full scan  
State of Washington Minimum Functional Standards  
parameters (Chapter 173-304-490(2)(d)(i)WAC),  
omitting Total Coliform

For wells B-7A and B-7B:

State of Washington Minimum Functional Standards  
parameters (Chapter 173-304-490(2)(d)(i)WAC),  
omitting Total Coliform

Round 2 - For all wells except B-7A and B-7B:

Volatile Organic Compounds  
State of Washington Minimum Functional Standards  
parameters (Chapter 173-304-490(2)(d)(i)WAC),  
omitting Total Coliform

For wells B-7A and B-7B:

State of Washington Minimum Functional Standards  
parameters (Chapter 173-304-490(2)(d)(i)WAC),  
omitting Total Coliform

Round 3 - For all wells except B-7A and B-7B:

Volatile Organic Compounds  
State of Washington Minimum Functional Standards  
parameters (Chapter 173-304-490(2)(d)(i)WAC),  
omitting Total Coliform

Priority Pollutant Metals shall be tested for in 12 wells,  
including all wells where detected above background in  
Round 1. All other priority pollutants shall be tested  
for where detected above 5 ppb, except for acetone and  
phalate, which shall be tested for if detected above 50  
ppb.

For wells B-7A and B-7B:

State of Washington Minimum Functional Standards  
parameters (Chapter 173-304-490(2)(d)(i)WAC),  
omitting Total Coliform



Round 4 - For all wells except B-7A and B-7B:

Volatile Organic Compounds  
State of Washington Minimum Functional Standards  
parameters (Chapter 173-304-490(2)(d)(i)WAC),  
omitting Total Coliform

d. Assessment of Soils Attenuation

Sampling of the gravelly soil at the landfill may not be possible. If representative samples can be obtained, a sieve analysis as well as cation exchange capacity and organic carbon content testing will be completed on a minimum of four samples.

e. Leachate Head Wells

Install three leachate head wells in the landfill, at locations to be identified in the work plan, to determine if ground water mounding in the landfill material and possibly in the shallow aquifer influences ground water flow direction and recharge rates. A single round of samples shall be tested for full scan priority pollutants, temperature, conductivity, pH, chloride, nitrate, nitrite ammonia, sulfate, total iron, total zinc, total manganese, chemical oxygen demand, and biochemical oxygen demand.

2. Phase II.

Phase II of the hydrogeologic investigation will be designed based on the analysis of data collected during Phase I. Additional priority pollutants tests in Phase I leachate headwells shall not be required and no further construction of leachate head wells shall be required in Phase II. The Phase II RI Work Plan shall set forth a schedule for completion of the work.

B. Surface Water Investigation

A surface water investigation will be required if it is determined that leachate movement into surface water is identified as a concern.

C. Soils Investigation

A maximum of three backhoe pits shall be dug in each of four areas designated on Figure 2. The soil profile exposed in these pits shall be visually inspected for staining. Three soil samples per pit shall be screened for organics using an OVA in a headspace sampling mode. The results shall be compared to reference samples from (a) clean background location(s). A maximum of eight discrete soil samples (maximum of three from any one area) from stained locations and locations where OVA readings are elevated above background shall be analyzed for EPA's priority pollutant list of contaminants.

D. Air Investigation

Conduct a program to characterize and define expected air emissions from the landfill after completion of the landfill gas migration and control

systems. This shall consist of adequate sampling to 1) characterize the raw gas quality and destruction efficiency of hydrogen sulfide and volatile organic compounds from discrete sources (i.e. flares and/or combustors) and 2) characterize through models the ambient air impacts for these compounds resulting from overall site emissions with confirmation by selected ambient air quality analysis.

E. Landfill Gas Subsurface Migration

1. Define the existing concentrations of subsurface landfill gas.

Phase I.

Install gas probes at locations around the perimeter of the landfill as set forth in Figure 1. The new gas probes will be multiple completion probes and will be monitored for subsurface landfill gas that might be migrating from the landfill. Construction and monitoring details will be provided in the work plan.

Phase II.

Additional probes may be required based on the findings of the initial gas migration investigation.

2. Ensure that safety conditions are monitored in on-site structures.  
All on-site structures and confined areas shall be tested for methane gas.

TASK 5 - SITE INVESTIGATION ANALYSIS

Prepare a thorough analysis and summary of all site investigations and their results for the purpose of ensuring that the investigation data are sufficient in quality and quantity to support the Feasibility Study. Describe the number, location, and types of nearby populations and pathways that may result in an actual or potential threat to public health, welfare, or the environment. The analysis shall include the following:

- a. Physical characteristics and operating history of the site, including general site physiography, hydrology and geology; and information on size, volume and nature of fill.
- b. Results of sampling, including physical and chemical characteristics, contaminants identified, and concentrations present.
- c. Site maps showing boundaries, physical surface features, buildings, utilities, topography and monitoring wells and sampling locations.
- d. Description of site geology and stratigraphy based on the literature, the existing on-site information, and the additional exploration work to be performed for this investigation.
- e. Characterization of transmissivity, storage coefficient, hydraulic conductivity, ground water velocity, porosity.

- f. Identification of existing and potential users of the aquifer.
- g. Identification of recharge/discharge areas based on regional hydrogeologic studies and information collected during this investigation.
- h. Determination of horizontal and vertical ground water flow directions.
- i. Determination of horizontal and vertical ground water flow gradients.
- j. Assessment of the mobility of pollutants based on water quality data collected at the site and chemical properties available in the literature.
- k. Assessment of the soils' attenuation capacity and mechanisms.
- l. Determination of the horizontal and vertical distribution of contaminants.
- m. Prediction of the long-term disposition of contaminants based on the site data and literature information.
- n. Calculation of a water balance for the landfill based on the HELP model.
- o. Presentation and description of conclusions derived from the site investigation analysis.

#### TASK 6 - REPORTS

##### A. Monthly Progress Reports.

Prepare monthly reports to Ecology and EPA describing the technical progress of the project. These reports shall discuss the status of work, difficulties encountered during the reporting period, and actions being taken to rectify problems.

##### B. Draft Report

Prepare a draft report covering the Remedial Investigation and distribute copies to Ecology Southwest Regional Office, Ecology Hazardous Waste Cleanup Program, and EPA for review and comment. The report shall include the results of Tasks 4 and 5.

##### C. Final Report

Prepare a final Remedial Investigation report incorporating or responding to comments received from Ecology and EPA.

#### TASK 7 - RISK ASSESSMENT

Perform a risk assessment of the existing situation and the acceptable doses of contaminants by the receptors. Submit a Risk Assessment report to Ecology

Southwest Regional Office, Ecology Hazardous Waste Cleanup Program, and EPA as part of the draft Remedial Investigation set forth in Task 6. A reference document for preparation of the risk assessment is the Superfund Public Health Evaluation Manual (OSWER Directive 9285.4-1, dated October 1986).

### FEASIBILITY STUDY

The work plan for the Feasibility Study shall include the following tasks. A reference document for preparation of the Feasibility Study is the Guidance on Feasibility Studies under CERCLA (EPA/540/G-85/003).

TASK 8 - DESCRIPTION OF PROPOSED RESPONSE

TASK 9 - DESCRIPTION OF REMEDIAL ACTIONS COMPLETED OR UNDERWAY

TASK 10 - PRELIMINARY REMEDIAL TECHNOLOGIES

TASK 11 - DEVELOP LIMITED NUMBER OF ALTERNATIVES

- A. Establish Remedial Response Objectives
- B. Identify Remedial Alternatives

TASK 12 - INITIAL SCREENING OF ALTERNATIVES

TASK 13 - EVALUATION OF THE ALTERNATIVES

- A. Technical Analysis
- B. Environmental Analysis
- C. Public Health Analysis
- D. Institutional Analysis
- E. Cost Analysis
- F. Evaluation of Cost-Effective Alternatives

TASK 14 - FURTHER INVESTIGATION OF REMEDIAL ALTERNATIVES

TASK 15 - REPORTS

A. Monthly Progress Reports

Provide monthly reports to Ecology and EPA on the progress of work on the feasibility study.

B. Draft Report

A preliminary report presenting the results of Task 8 through 14 will be prepared and transmitted to Ecology Southwest Regional Office, Ecology Hazardous Waste Cleanup Program, and EPA for review and comment.

C. Final Report

A final report for submission to Ecology Southwest Regional Office, Ecology Hazardous Waste Cleanup Program, and EPA will be prepared. The report will include a responsiveness summary on public comments received, as well as a description of the proposed remedy.

XXI

Failure to Make Timely Submittals/Stipulated Penalties

- A. For each day LRI fails to make a submittal to Ecology in accordance with this Order or any other time schedules contained in this Order or any other time schedule approved or modified in writing by Ecology, LRI stipulates it shall be obligated to pay a civil penalty into the General Fund of the Treasury of the State of Washington in an amount according to the following schedule:
1. Up to \$250 per day for the first seven calendar days;
  2. Up to \$500 per day for the next seven calendar days;
  3. Up to \$1,000 per day for the next sixteen calendar days; and
  4. Up to \$5,000 per day for any further delays.
- B. Penalties provided for under this paragraph shall not accrue if LRI has submitted to Ecology a timely request for an extension of schedules under Paragraph XXIV of this Order and such request has been granted. Penalties provided for under this paragraph shall not accrue if LRI has timely submitted a report to be approved by Ecology as "final" pursuant to Paragraphs V, VI, and VIII. Penalties provided for under this paragraph shall not accrue during such time as dispute resolution as provided in paragraph IX is ongoing; provided that the final decision maker determines that LRI's position was with substantial merit, in good faith and LRI has cooperated in expediting the review to the maximum extent possible.

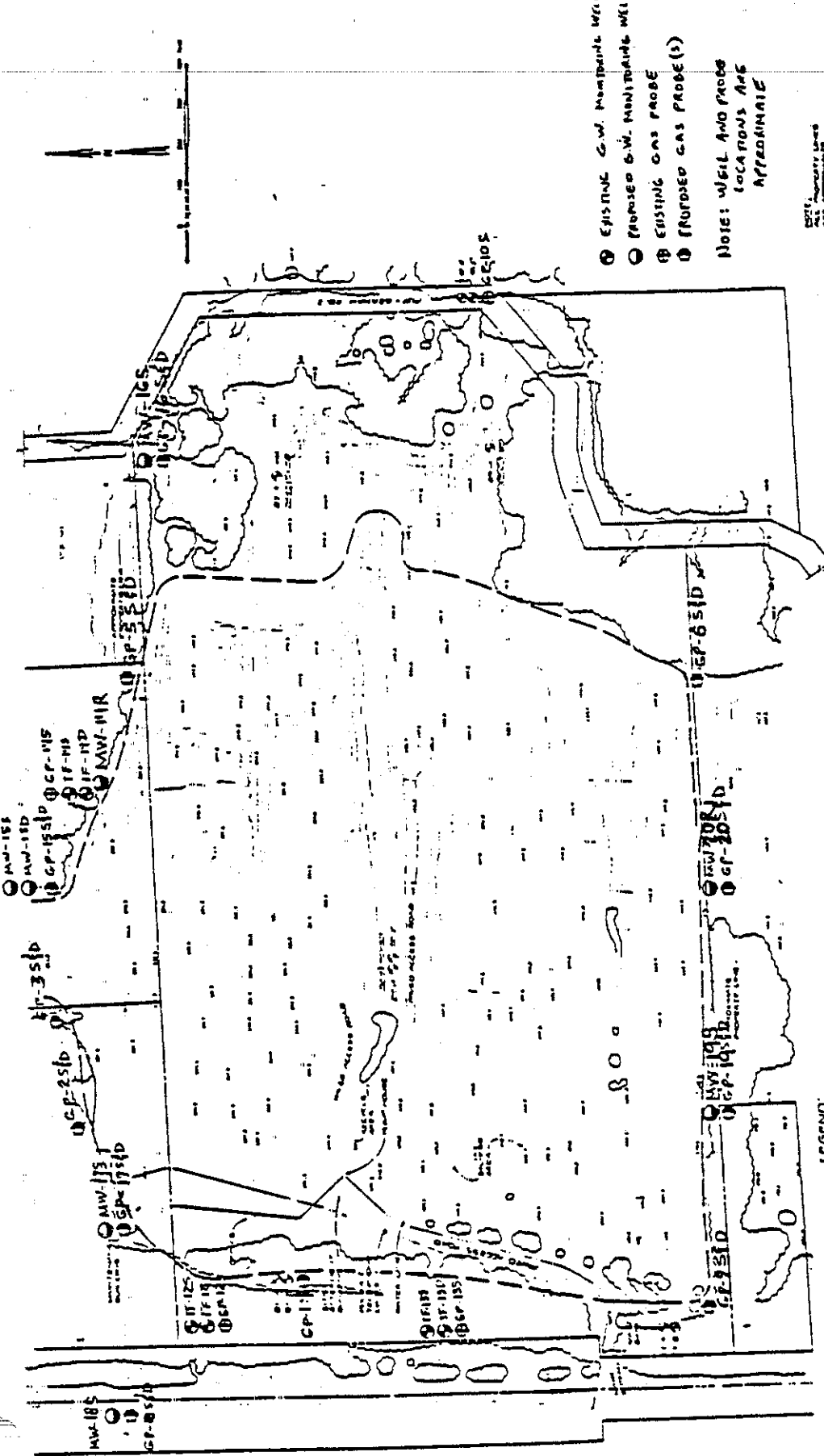
C. Upon determination by Ecology that LRI has failed to make a submittal referenced herein, Ecology shall immediately give written notice to LRI of the failure, specifying the provision of the Order which has not been complied with and specifying the amount of the civil penalty to be assessed. A notice to LRI by Ecology that a civil penalty has begun to accrue shall not be appealable as a final order of the Department. LRI shall pay the civil penalty within sixty (60) days of delivery of the submittal to Ecology.

D. Payments required by this part shall accrue from the date on which the submittal was to have been made. Payments required by this part shall cease to accrue when LRI delivers the required submittal to Ecology.

Nothing in this part shall be construed as prohibiting or in any way limiting the ability of Ecology to seek further civil penalties available under Chapter 70.105 A RCW, Chapter 70.94 RCW, Subchapter IV 42 USC 6901 -6991; and Chapter 90.48 RCW for any noncompliance with this Order except for noncompliance with the schedule for making submittals to which this point applies.

E. Any disagreement over the factual basis for issuance of a penalty under this section shall be resolved through the dispute resolution clause. Any penalty issued pursuant to this section shall not be appealable to the Pollution Control Hearings Board pursuant to Chapter 43.21B RCW. Nothing, however, shall waive LRI's right of review of the facts giving rise to stipulated penalties in a court of competent jurisdiction after exhaustion of remedies provided in this order.





- EXISTING G.W. MONITORING WELL
- PROPOSED G.W. MONITORING WELL
- EXISTING GAS PROBE
- PROPOSED GAS PROBE (S)

NOTE: WELL AND PROBE LOCATIONS ARE APPROXIMATE

DATE: 10/20/88  
BY: [Signature]

LEGEND:  
—— EXISTING UTILITY AND CONDUIT  
○ PROPOSED UTILITY AND CONDUIT

THIS PLAN AND ALL INFORMATION CONTAINED HEREIN ARE THE PROPERTY OF THE COMPANY AND ARE NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE COMPANY.

FIGURE 1

SITE PLAN

<p>REVISIONS</p> <table border="1"> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	DESCRIPTION	DATE				<p>SCALE</p> <table border="1"> <tr> <td> </td> <td> </td> </tr> </table>		
NO.	DESCRIPTION	DATE								
<p>DATE: 10/20/88 BY: [Signature]</p>		<p>PROJECT NO. 100-100-100-100</p>								
<p>CLIENT: [Name]</p>		<p>CONTRACT NO. 100-100-100-100</p>								
<p>DESIGNED BY: [Name]</p>		<p>CHECKED BY: [Name]</p>								
<p>DRAWN BY: [Name]</p>		<p>DATE: 10/20/88</p>								
<p>SCALE: AS SHOWN</p>		<p>PROJECT NO. 100-100-100-100</p>								
<p>CLIENT: [Name]</p>		<p>CONTRACT NO. 100-100-100-100</p>								
<p>DESIGNED BY: [Name]</p>		<p>CHECKED BY: [Name]</p>								
<p>DRAWN BY: [Name]</p>		<p>DATE: 10/20/88</p>								
<p>SCALE: AS SHOWN</p>		<p>PROJECT NO. 100-100-100-100</p>								

LAND RECOVERY, INC.  
P.O. BOX 100  
DALLAS, TEXAS 75201

REVISIONS

REUSE OF DOCUMENTS  
THIS DOCUMENT IS NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE COMPANY.

DATE: 10/20/88  
BY: [Signature]

PROJECT NO. 100-100-100-100

CONTRACT NO. 100-100-100-100

DATE: 10/20/88

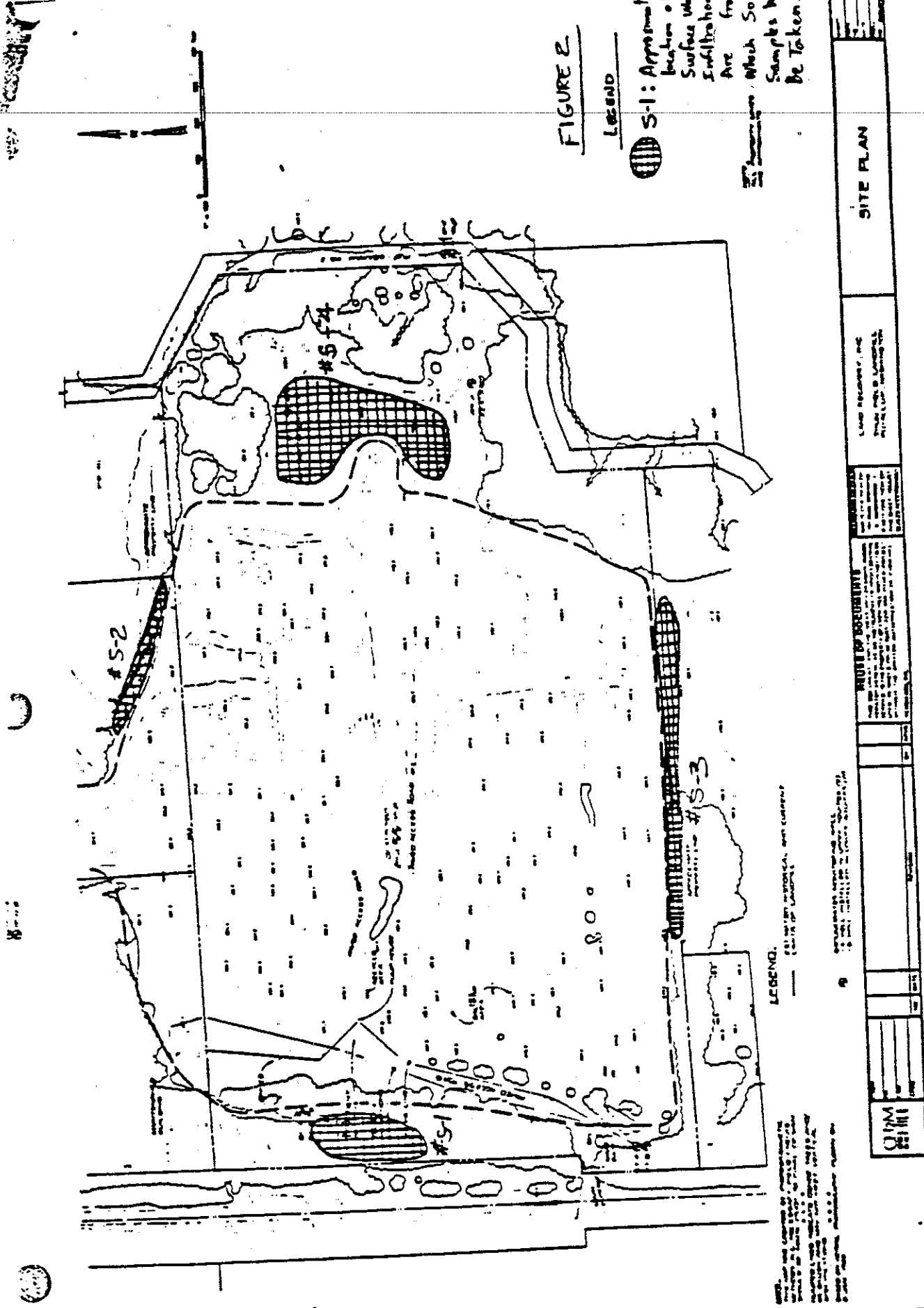


FIGURE 2

LEGEND



S-1: Approximate location of Surface Water Infiltration Area from which Soil Samples will be Taken.

LEGEND:  
 --- (2) 1/2" WIDE PROPERTY LINE  
 --- (2) 1/2" WIDE ROADWAY

9. SURVEYED BY: [Name]  
 10. DATE: [Date]

THIS PLAN WAS PREPARED BY [Name] FOR THE [Name] PROJECT. IT IS THE PROPERTY OF [Name] AND IS NOT TO BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF [Name].

NOTES BY ENGINEER

1. ALL DIMENSIONS ARE IN FEET AND DECIMALS THEREOF.

2. LAND ACQUIRED, AND TRACTS NOT BOUNDARY WITHIN THIS PLAN, ARE SHOWN BY DASHED LINES.

3. [Additional notes]

SITE PLAN

DATE: [Date]  
 DRAWN BY: [Name]

## APPENDIX B

### REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

#### I. INTRODUCTION

Parts VI and VII of the Thun Field Landfill Consent Order (Order), to which this exhibit is appended, require LRI to conduct a Remedial Investigation and Feasibility Study (RI/FS) of the Thun Field Landfill site. This appendix sets forth the requirements for completing the RI/FS and is appended to and made an integral and enforceable part of the Order.

#### II. RETAIN CONSULTANT

LRI shall retain a consultant(s) qualified to undertake and complete the requirements of this Appendix and shall notify the Ecology project manager of the name of that consultant(s) within ten (10) working days of the effective date of this Order.

#### III. REMEDIAL INVESTIGATION/FEASIBILITY STUDY DELIVERABLES

LRI shall prepare and submit to Ecology for review and approval, the following Remedial Investigation and Feasibility Study (RI/FS) products as set forth in Parts VI and VII of this Order;

- A. Current Situation Report due no later than October 15, 1987.
- B. Draft Phase I RI Work Plan due no later than October 15, 1987.
- C. Final Phase I RI Work Plan due no later than 30 days after receipt of comments from Ecology.
- D. Draft Sampling & Analysis Plan, QA/QC Plan, Health & Safety Plan, and Data Management Plan due no later than September 30, 1987.
- E. Final Sampling & Analysis Plan, QA/QC Plan, Health & Safety Plan, and Data Management Plan due no later than 30 days after receipt of comments from Ecology.
- F. Draft Phase II RI Work Plan and draft Risk Assessment Work Plan and a draft Feasibility Study work plan due no later than December 31, 1988.
- G. Final Phase II RI Work Plan due no later than 60 days after receipt of Ecology comments.
- H. Final Risk Assessment Work Plan due no later than 30 days after receipt of Ecology comments.

- 
- I. Draft Remedial Investigation Report and draft Risk Assessment due no later than 60 days after completion of Phase II work.
  - J. Final Remedial Investigation Report and Risk Assessment and final FS Work Plan due no later than 60 days after receipt of Ecology comments.
  - K. Draft Feasibility Study Report due no later than 120 days after Ecology's approval of the final FS Work Plan.
  - L. Final Feasibility Study Report due no later than 60 days after receipt of Ecology comments to draft Feasibility Study.

APPENDIX C

MEMORANDUM OF AGREEMENT

The Tacoma-Pierce County Health Department (TPCHD) and Land Recovery, Inc. (LRI) hereby agree as follows:

I. NEW FACILITY SITING

- 1) That LRI and TPCHD will support the efforts of Pierce County, possibly in conjunction with the City of Tacoma, to site a new solid waste landfill based upon general criteria which will be provided to Pierce County by the Pierce County Solid Waste Advisory Committee.
- 2) That LRI intends to site a privately owned and operated solid waste landfill within Pierce County for the disposal of ash and/or other solid waste. Without prejudging the merits of any given proposal, the parties agree that such private siting efforts should be encouraged and should not be precluded due to the initiation of a siting process conducted by Pierce County as set forth above.
- 3) That any new solid waste landfill sited as a result of the above-mentioned efforts should be made available for the disposal of ash from the LRI incinerator contemplated by this agreement.
- 4) That LRI will not pursue the disposal of solid wastes beyond existing permitted boundaries at the Hidden Valley Landfill if its plan for long term solid waste handling and disposal as outlined in this agreement is successfully implemented.

II. CLOSURE OF CURRENT ACTIVE PORTION

- 1) That LRI will provide a combination of temporary and final cover of the existing footprint of the Hidden Valley Landfill in accordance with the schedules set forth on Exhibits A and B, attached. The schedule dates set forth in Exhibits A and B are latest completion dates for each area. LRI will use its best efforts to provide temporary and final cover over portions of each area as soon as practical based on the establishment of appropriate contours and construction season limitations.
- 2) That LRI will limit the active working face of the facility after installation of the temporary cover to 5 acres or less.

- 3) That LRI will expand the existing interior gas collection system in Areas 1 and 2 of Exhibit B prior to installation of final cover and prior to installation of side slope liner over garbage located in the west portion of Area 3. The perimeter gas migration control system will be constructed in accordance with the schedule set forth in Exhibit C. Construction of Section 1 of this system is dependent upon LRI obtaining ownership or access to the area for purposes of constructing the system. LRI will utilize its best efforts to obtain such access and TPCHD will support these efforts as necessary. The schedule for construction of the other sections of the system is dependent on obtaining rate increases effective no later than December 31, 1986, and such schedules shall be extended commensurate with delays in the rate increase beyond that date.

### III. LEACHATE COLLECTION AND DISPOSAL

- 1) That LRI will complete an assessment of leachate collection feasibility within 6 months of the date of this agreement and a plan for leachate collection and disposal at least one year prior to construction.
- 2) That TPCHD will support LRI if it decides to seek approval of the Department of Ecology for the placement of a side slope liner over existing, landfilled solid waste in the western portion of area 3 of Exhibit B.
- 3) That LRI will modify its existing request for a variance from the November 27, 1989 deadline for leachate collection and disposal in accordance with the terms of this agreement. If the revised variance request is approved, LRI would either close the landfill or provide leachate collection and disposal by November 27, 1991 except under the following conditions:
  - A) A new landfill and/or incinerator is projected to be available by November 27, 1992, or
  - B) Due to decreases in projected solid waste volumes occurring after the upcoming rate increases, insufficient materials have been available for contouring of the landfill in accordance with the site development plan.

Under either of these conditions solid waste could continue to be accepted at the facility without leachate collection for 6 months beyond November 27, 1991, followed by up to 6 months for final closure. However, any solid waste landfilling at the Hidden Valley facility beyond May 27, 1992 would require leachate collection and disposal. After November 27, 1991, solid waste landfilling will not be

continued at the Hidden Valley site if an alternate landfill site becomes available unless construction of a leachate collection system has been initiated. However, nothing shall preclude the continued disposal of inert or demolition material at the site provided such disposal is consistent with the state's Minimum Functional Standards and does not adversely impact the performance of closure measures.

- 4) If it becomes necessary to construct leachate collection facilities at the landfill site, LRI will be allowed to complete filling of any area with leachate collection to final contours as set forth in the site development plan despite the availability of alternate disposal facilities.

#### IV. PROPOSED INCINERATOR

- 1) That TPCHD supports the use of incineration as a preferred option to landfilling.
- 2) That LRI will begin the procedures to gain approval for construction of mass-burn incinerator. LRI recognizes that TPCHD cannot endorse this specific proposal prior to permit application and environmental review.

#### V. ENVIRONMENTAL MONITORING


- 1) That LRI will conduct gas migration studies and continue ground water monitoring at the facility in accordance with provisions of WAC 173-304-490 in order to determine the effectiveness of the proposed mitigation measures and to identify emergent problems.
- 2) Nothing in this agreement shall be construed to impact any existing statutory authority of any state or local agency to fully enforce the provisions of RCW 90.48.

DATED this \_\_\_\_ day of September, 1986.

LAND RECOVERY, INC.

TACOMA PIERCE COUNTY  
HEALTH DEPARTMENT

By   
its SEC. TAEC

By   
its Health Officer

**METHANE MIGRATION CONTROL  
EXHIBIT C**

8-776



THIS PLAN WAS PREPARED BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) FOR THE U.S. DEPARTMENT OF ENERGY (DOE) UNDER THE PROVISIONS OF THE FEDERAL ACQUISITION REGULATION (FAR) 27.101-6. THE PLAN IS THE PROPERTY OF EPA AND IS LOANED TO YOU BY EPA. IT IS TO BE RETURNED TO EPA UPON COMPLETION OF YOUR PROJECT. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF EPA.

CONTRACT NO. W-7400-ENG-82-1-1000  
PROJECT NO. 1000-1-1000  
TASK NO. 1000-1-1000

DATE: 8/77

SCALE: AS SHOWN

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REVISIONS  
NO. DATE DESCRIPTION

NO.	DATE	DESCRIPTION

1 AND ASSOCIATES, INC.  
2000 15th St., N.W.  
Atlanta, GA 30336

**SITE PLAN**

PRELIMINARY