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**POST REMOVAL SITE CONTROL PLAN
Centredale Manor Restoration Project Superfund Site
North Providence, Rhode Island**

March 4, 2005

Prepared for

**CENTREDALE MANOR PERFORMING PARTIES GROUP
c/o SWIDLER BERLIN SHEREFF FRIEDMAN, LLP
3000 K Street, NW, Suite 300
Washington, DC 20007**

Prepared by

**LOUREIRO ENGINEERING ASSOCIATES, INC.
100 Northwest Drive
Plainville, Connecticut 06062**

AN EMPLOYEE OWNED COMPANY

Comm. No. 15RP301



Loureiro Engineering Associates, Inc.
An Employee Owned Company

TRANSMITTAL

TO: USEPA – Region 1, New England One Congress Street, Suite 1100 (HBR) Boston, Massachusetts 02114-2023	DATE March 7, 2005 PROJECT Centredale Manor LOCATION: N. Providence, RI COMM. NO.: 15RP301.004 PHONE # (617) 918-1230
ATTN: Ted Bazenas	

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The following items:

☒ Plans ☐ Prints ☐ Shop Drawings ☐ Specifications
☐ Reports ☐ Copy of Letter ☐ Post-Removal Site Control Plan

COPIES	DATE OR NO.	DESCRIPTION
4	March 4, 2005	Post-Removal Site Control Plan

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REMARKS:

Ted,

I have attached four copies of the Post-Removal Site Control Plan, revised to reflect your comments, for the Time-Critical Removal Action. Should you have any questions, please feel free to contact me at 860.410.2976.

BY: David N. Scotti, P.G.

Table of Contents

1.	INTRODUCTION	1-1
1.1	Terms of Reference	1-1
1.2	Background	1-1
1.3	Plan Objectives	1-2
2.	ROUTINE INSPECTION AND MAINTENANCE	2-1
2.1	Overview	2-1
2.2	Inspection of the Permeable Protective Cap	2-1
2.3	Inspection and Maintenance of the Sediment Trap	2-1
3.	REPAIR OF THE PERMEABLE PROTECTIVE CAP	3-1
3.1	Overview	3-1
3.2	Repair of the Permeable Protective Cap	3-1
4.	FIELD DOCUMENTATION, REPORTING, AND RECORD KEEPING	4-1
4.1	Field Documentation	4-1
4.2	Reporting	4-1
4.3	Record Keeping	4-1
5.	IMPLEMENTING SCHEDULE AND RESPONSIBILITIES	5-1

ATTACHMENTS

Attachment A Permanent Drainage Easement Documents

Attachment B Inspection and Maintenance Report Forms

ACRONYMS

EPA	Environmental Protection Agency
PRSCP	Post-Removal Site Control Plan
RIDEM	Rhode Island Department of Environmental Management
RIDOT	Rhode Island Department of Transportation
SOW	Statement of Work
TCRA	Time-Critical Removal Action

1. INTRODUCTION

1.1 Terms of Reference

This Post-Removal Site Control Plan (PRSCP) has been prepared for the Centredale Manor Performing Parties Group (Performing Respondents) at their request, and as required by Paragraph 58 of the Third Administrative Order on Consent for Removal Action (Order). The Order outlines a Time-Critical Removal Action (TCRA) at the former tailrace portion of the "Centredale Manor Restoration Project Superfund Site" located in North Providence, Rhode Island (Site). This PRSCP has been prepared in accordance with the Statement of Work (SOW) provided as Appendix D to the Order. The PRSCP is consistent with Section 300.415(l) of the National Contingency Plan and the Office of Solid Waste and Emergency Response Directive No. 9360.2-02.

1.2 Background

As described by the United States Environmental Protection Agency (EPA), the Site includes two parcels, 2072 and 2074 Smith Street, as well as certain sediments and floodplain areas of the Woonasquatucket River from Route 44 southerly to Allendale Dam and further to an area just below Lyman Mill Dam. EPA defines the Site to include certain contaminated areas within this area as well as any other location to which contamination from that area has come to be located, or from which that contamination came. The 2072 Smith Street parcel is occupied by Brook Village Apartments. Centredale Manor Apartments occupies the 2074 Smith Street parcel. The parcels are bordered by a drainage swale to the east. This drainage swale is part of a permeable protective cap constructed during the fall and winter of 2003-2004, which covers soils and sediments within the area of the former tailrace at the Site.

The permeable protective cap was constructed to help prevent or reduce the potential for the migration of, and direct contact with, surface soils, sub-surface soils and exposed sediments that may be impacted with dioxin, metals, volatile organic compounds, polychlorinated biphenyls, and other constituents in the area of the former tailrace. The drainage swale moderates the impact of flood conditions and is used to manage stormwater runoff that discharges into this area of the Site. A sediment trap was installed at the northern extent of the drainage swale where stormwater runoff discharges into the swale from the Rhode Island Department of Transportation (RIDOT) Smith Street stormwater system. The permeable protective cap includes the drainage swale and the soil cap constructed adjacent to the drainage swale portion of the cap.

1.3 Plan Objectives

The SOW stipulates that a proposal be submitted to address post-removal site controls. This PRSCP satisfies this requirement by providing the general provisions for inspection of the permeable protective cap, and inspection and maintenance of the sediment trap. The objective of this document is to provide a plan that, when implemented, will ensure the effectiveness and integrity of the TCRA. The general provisions provided in this PRSCP include provisions for submitting reports. Specifically, the objectives of this document are to provide an inspection and maintenance plan for the proper function of the permeable protective cap, and for documenting the post-removal site controls that are performed.

2. ROUTINE INSPECTION AND MAINTENANCE

2.1 Overview

To ensure that the permeable protective cap continues to function as intended, a plan that involves periodic inspections and maintenance has been developed. The periodic inspections shall be performed as described in this section to ensure the structural integrity of the permeable protective cap. Routine inspection and maintenance of the sediment trap shall be performed to minimize impacts to the permeable protective cap, if any, resulting from stormwater runoff associated with the RIDOT Smith Street stormwater management system. The maintenance and inspection program is described in the following sections.

2.2 Inspection of the Permeable Protective Cap

Inspections of the permeable protective cap shall consist of walking the length of both the soil and the drainage swale portions of the cap to observe the physical conditions of the cap. The permeable protective cap shall be inspected twice per year; once during the first week of April and then during the first week of October. The cap shall be inspected for conditions that may affect the integrity of the cap. Such conditions may include, but are not limited to, the following:

- erosion of the soil cap and soil along the banks of the drainage swale;
- woody vegetation on the soil cap or within the drainage swale;
- animal burrows that impair the effectiveness or integrity of the permeable protective cap;
- movement of the stone and exposure of the cellular confinement system; and
- vandalism.

2.3 Inspection and Maintenance of the Sediment Trap

The sediment trap is an improvement to the RIDOT Smith Street stormwater management system. As such, and in accordance with the Permanent Drainage Easement acquired by RIDOT, the sediment trap shall be inspected and maintained by RIDOT – Highway & Bridge Maintenance Division. A copy of the Permanent Drainage Easement document and associated plot plans that have been recorded in the Land Evidence Records by the North Providence Town Clerk is provided in Attachment A.

At a minimum, RIDOT shall inspect the trap to ensure that sediment and/or debris carried by stormwater runoff into the trap does not adversely affect the operating function of the trap. In

addition, RIDOT shall maintain the sediment trap by clearing sediment and/or debris from the trap in maintaining the operating function of the trap. RIDOT shall also be responsible for other upkeep and maintenance as may be necessary to keep the sediment trap in working order.

3. REPAIR OF THE PERMEABLE PROTECTIVE CAP

3.1 Overview

Should conditions develop that jeopardize the effectiveness or integrity of the permeable protective cap, measures shall be taken to address those conditions. The measures shall include any necessary repairs to ensure the structural integrity of the permeable protective cap. The EPA On-Scene Coordinator (or designee) will determine the scope and extent of repairs or maintenance to the cap and drainage swale. These repairs may include those necessary to maintain the soil cap as well as those necessary to maintain the drainage swale portion of the cap.

Based on their routine inspections and maintenance, RIDOT shall make any repairs that are deemed necessary to ensure the functional operation of the sediment trap. In making any necessary repairs to their sediment trap, RIDOT shall not alter, modify, or disturb the permeable protective cap without written permission from the EPA Region 1.

3.2 Repair of the Permeable Protective Cap

Ordinary repairs that may be required to ensure the integrity of the permeable protective cap may include, but are not limited to, the following:

- re-establish a grass cover on bare or exposed areas of the soil cap;
- remove woody vegetation from the soil cap and drainage swale portion of the cap, provided that the structural integrity of the cap is not further disturbed;
- replace original stone or add new stone to cover the cellular confinement system in areas where this system has been exposed; and
- place additional soil where there has been erosion of the soil cap and/or erosion of the soil along the banks of the drainage swale.

4. FIELD DOCUMENTATION, REPORTING, AND RECORD KEEPING

4.1 Field Documentation

Each inspection shall be documented using an inspection report form. An example of inspection and maintenance report forms are provided in Attachment B. Digital photographs shall also be used to document each inspection. Inspection photographs may be vitally important. Over time, photographs may serve to provide a pictorial history of the evolving characteristics of the area of the cap and the surrounding area. Photographs may be used to demonstrate that some observed conditions have existed for some time. With this knowledge, quick and economical remedies can be developed and implemented.

4.2 Reporting

An annual report shall be prepared and submitted to the EPA and the Rhode Island Department of Environmental Management (RIDEM). The report shall document the inspections, maintenance, and any repairs performed on the permeable protective cap. The report should contain an assessment of the conditions of the cap based on the visual observations. The report should also include a description of any deficient or unsafe conditions that have been identified. Recommendations, including schedules for additional inspections should be included in the report. Recommendations for corrective measures relating to design, construction, operation, observed conditions, maintenance, or inspection of the permeable protective cap should also be included in the annual report. The report shall include a copy of all inspection and maintenance forms. A record of the photodocumentation should also be submitted with the annual report.

4.3 Record Keeping

The records of all inspections, including the records of any actions taken to correct conditions found during inspections shall be maintained for a period of time defined by the requirements of the TCRA.



5. IMPLEMENTING SCHEDULE AND RESPONSIBILITIES

The SOW provides for implementation of all post-removal site controls in accordance with the terms and schedules set forth in this PRSCP. The permeable protective cap should be inspected at least annually. The frequency of inspecting and maintaining (clearing sediment and/or debris from) the sediment trap shall occur as RIDOT deems necessary to properly maintain the operating function of their stormwater management system at this location.

The measures to be performed by the Performing Respondents are limited to: (i) inspection of both the soil and drainage swale components of the permeable protective cap; and (ii) any maintenance and/or repairs to the permeable protective cap that may be necessary to ensure the effectiveness and integrity of the TCRA. In accordance with the SOW, these post-removal site control measures are to be implemented by the Performing Respondents until June 30, 2005.

The post-removal site control measures to be performed by the Performing Respondents do not include inspection of the sediment trap. In accordance with the Permanent Drainage Easement acquired by RIDOT and this PRSCP, inspection of the RIDOT sediment trap is to be performed by RIDOT – Highway & Bridge Maintenance Division. Likewise, any maintenance measures that are required to be taken and/or any repairs that are required to be made to the RIDOT sediment trap are to be made by RIDOT.



ATTACHMENT A
PERMANENT DRAINAGE EASEMENT DOCUMENTS

01374

**PERMANENT DRAINAGE EASEMENT
STATE HIGHWAY PLAT NO. 2655**

BK02055PG021

DEED OF EASEMENT

KNOW ALL PERSONS BY THESE PRESENTS that Centerdale Manor Associates Limited Partnership ("CMALP"), a Limited Partnership organized under the General Laws of the State of Rhode Island, for good and valuable consideration, the receipt of which is hereby acknowledged, does hereby grant to the State of Rhode Island, Department of Transportation ("RIDOT"), a **Permanent Drainage Easement** at a location (the "Easement Location") within the parcel identified as Plat 14/Lot 250, owned by CMALP and located at 2074 Smith Street, North Providence Rhode Island (the "Parcel"), as laid out and shown on State Highway Plat No. 2655, which is incorporated herein for reference.

RIDOT acknowledges that drainage equipment (the "Equipment"), intended to separate debris, soil, sediment, and other particles draining from an abutting drain line owned and maintained by RIDOT, has been installed within the Easement Location and is attached to said drain line. RIDOT further acknowledges that the Easement Location adjoins an earthen-geotextile cap (the "Cap") installed over sediments in late 2003 pursuant to an Administrative Order on Consent (CERCLA Docket No. 1-2003-0073, September 16, 2003) ("AOC") between the U.S. Environmental Protection Agency ("EPA") and several private Respondents.

PERMANENT DRAINAGE EASEMENT

The easement granted herein consists of the perpetual right and easement to access the Easement Location to inspect, maintain, repair, or replace the Equipment, and to remove debris, soil, sediment, and other particles from the Equipment, together with the permanent right and easement to pass and re-pass over and across the road and associated parking lots on the Parcel and over and across land between the road and the Easement Location, as is reasonable and necessary to access the Easement Location and the Equipment.

RIDOT hereby agrees that in exercising its rights under this Permanent Drainage Easement, it will not alter, modify, or disturb the Cap without written permission from EPA Region 1, and will restore the Easement Location to its pre-existing condition following the disturbance or removal of any debris, soil, sediment, or other particles from the Easement Area. RIDOT further consents to CMALP allowing access to the Easement Location, for the sole purpose of inspections or maintenance of the Cap, by EPA, the Rhode Island Department of Environmental Management, and their authorized employees, representatives, and contractors. RIDOT further consents to CMALP allowing access to the Easement Location by the Respondents to the AOC and their representatives and contractors, as is reasonable and necessary to fulfill the obligations of the Respondents under the AOC.

The parties acknowledge that, as a part of this Deed of Easement, RIDOT is granted all of CMALP's right, title, and interest in the Equipment installed within the Easement Location. From and after the date hereof, RIDOT agrees that it shall operate and maintain the Equipment so that it remains operable and performs its intended purpose.

PARCEL No. 250-D

Said easement is more particularly bounded and described as follows:

Beginning at a point opposite and two hundred and twenty five more or less (225±) feet southwesterly from Station 92+08± on the Smith Street baseline as established by State Highway Plat No. 265.

Thence southerly, in a straight line, to a point opposite and two hundred and forty one more or less (241±) feet southwesterly from Station 91+95± on the Smith Street baseline as established by State Highway Plat No. 265.

BK 02055PS022

**PERMANENT DRAINAGE EASEMENT
STATE HIGHWAY PLAT NO. 2655**

Thence westerly, in a straight line, to a point opposite and two hundred and eighty four more or less (284±) feet southwesterly from Station 92+54± on the Smith Street baseline as established by State Highway Plat No. 265.

Thence northerly, in a straight line, to a point opposite and two hundred and sixty eight more or less (268±) feet southwesterly from Station 92+66± on the Smith Street baseline as established by State Highway Plat No. 265.

Thence easterly, in a straight line, to the point of beginning.

The herein described parcel is delineated as Parcel Number 1D on State Highway Plat No. 2655, and contains one thousand four hundred and fifty seven more or less (1,457±) square feet (0.033± acres) of land.

The consideration is such that no documentary stamps are required.

IN WITNESS WHEREOF the undersigned has hereunto subscribed.

CENTERDALE MANOR ASSOCIATES
LIMITED PARTNERSHIP

By its General Partner,
CS HOUSING ASSOCIATES LP

By its General Partner,
C/S CENTREDALE CORP.

By: Paul E. Tryder
Paul E. Tryder
Authorized representative of its
General Partners

ACKNOWLEDGMENTS

COMMONWEALTH OF MASSACHUSETTS
COUNTY OF No. Fol. V

In Norwood, MA on this 10th day of December, 2004, then personally appeared before me Paul E. Tryder, a person known to me and by me to be the person who executed the foregoing instrument, and he acknowledged said instrument, by him executed to be his free act and deed in his said capacity and also the free act and deed of Corporation.

James J. Kane
Notary Public

My commission expires: 10/29/10

BK02055P6023

PERMANENT DRAINAGE EASEMENT
STATE HIGHWAY PLAT NO. 2655

STATE OF RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

By: James R. Capaldi
James R. Capaldi, P.E.
Director

STATE PROPERTIES COMMITTEE

APPROVED AS TO FORM:

Richard B. Woolley SHA6
for Attorney General

APPROVED AS TO SUBSTANCE:

D. H. Jeffett
Director of Administration

APPROVED:

James F. Walker
Chairman
State Properties Committee

APPROVED:

Timothy B. 2-8-05
Public Member
State Properties Committee

RHODE ISLAND HOUSING AND MORTGAGE FINANCE CORPORATION

APPROVED:

By: Richard H. Godfrey, Jr.
Executive Director
Rhode Island Housing and Mortgage Finance Corporation

RECEIVED FOR RECORD
North Providence, R.I. FEB 22 2005
9:06 o'clock AM
Witness: Maryann Desjardins
Town Clerk

INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	INDEX OF OWNERS / PLAT NO. 2655

LEGEND

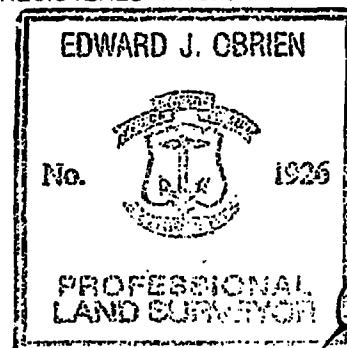
00/00	ASSESSOR'S PLAT / LOT NUMBER
P.D.B.	PERMANENT DRAINAGE EASEMENT BOUNDARY
—	EXISTING PROPERTY LINE
— — —	STATE HIGHWAY LINE
T	TOTAL AREA
D	PERMANENT DRAINAGE EASEMENT AREA

NOTE: THE BOUNDARY LINES ESTABLISHED BY THIS PLAT NO. 2655 ARE DELINEATED AND DEFINED AS FOLLOWS:

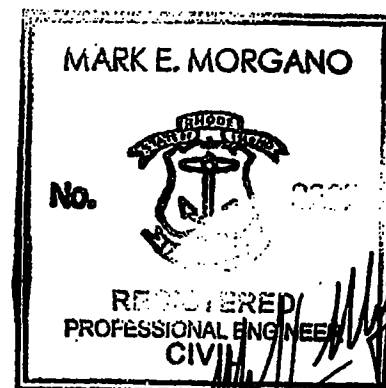
— — — P.D.B. — — —
PERMANENT DRAINAGE EASEMENT BOUNDARY

THIS SURVEY AND PLAN CONFORM TO A CLASS I STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATON FOR PROFESSIONAL LAND SURVEYORS.

EDWARD J. OBRIEN,
REGISTERED PROFESSIONAL LAND SURVEYOR ~ RI.NO. 1926



[Signature]
01-31-2005



[Signature]
07 FEB 05

PLAT
SHOWING LAND IN

NORTH PROVIDENCE, RHODE ISLAND

ACQUIRED FOR HIGHWAY PURPOSES ON BEHALF OF

THE STATE OF RHODE ISLAND
& PROVIDENCE PLANTATIONS

BY THE
DIRECTOR OF TRANSPORTATION
IN CONJUNCTION WITH PHYSICAL ALTERATION PERMIT 031030-A
ACQUIRED BY DEED, STATE PROPERTY COMMITTEES February 8 2005

FILED IN THE OFFICE OF THE CLERK OF THE TOWN
OF NORTH PROVIDENCE ON THE 22nd DAY OF February 2005

STATE HIGHWAY PLAT NO. 2655

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	RHODE DEPARTMENT OF
	R.I.			1	2	



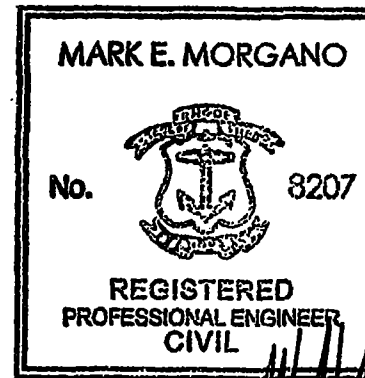
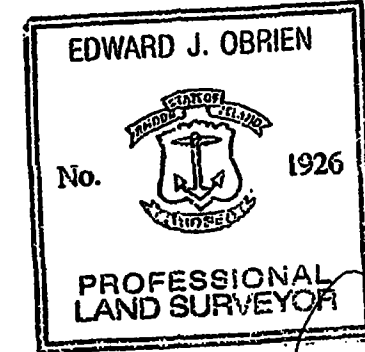
SITE LOCATION MAP
SCALE: 1" = 2000'

NOTES:

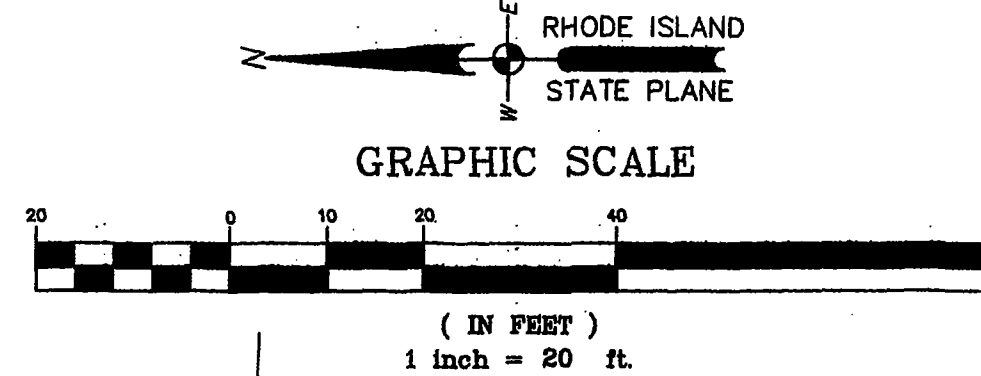
THE NAMES OF THE PERSONS SHOWN ON THIS PLAT ARE LISTED ONLY FOR AID IN THE IDENTIFICATION OF PARCELS AND SHOULD NOT BE CONSIDERED AS SUBSTANTIATION OF TITLE. AREAS AND DIMENSIONS OF INDIVIDUAL PARCELS HAVE BEEN TAKEN FROM ASSESSORS PLATS AND RECORDS AS OF OCTOBER 18, 2004.

SUBMITTED *[Signature]*
DEPUTY CHIEF ENGINEER DEPT. OF TRANSPORTATION
APPROVED *[Signature]*
CHIEF ENGINEER DEPT. OF TRANSPORTATION
APPROVED *[Signature]*
DIRECTOR OF TRANSPORTATION

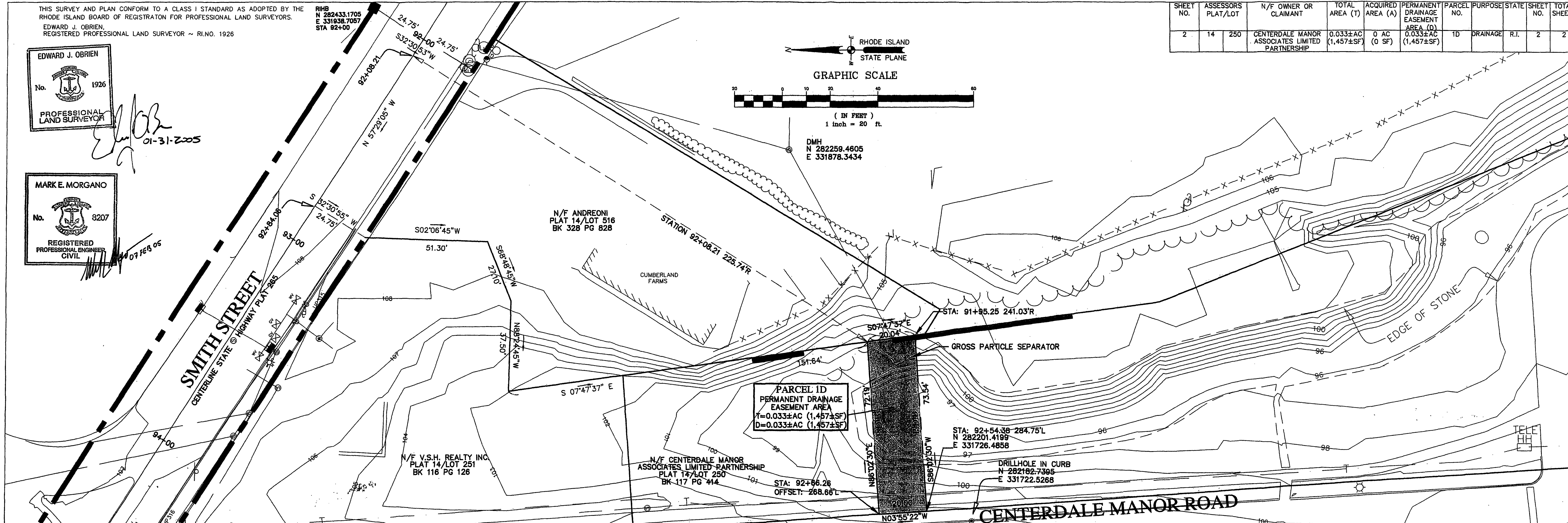
THIS SURVEY AND PLAN CONFORM TO A CLASS I STANDARD AS ADOPTED BY THE
RHODE ISLAND BOARD OF REGISTRATON FOR PROFESSIONAL LAND SURVEYORS.
EDWARD J. OBRIEN,
REGISTERED PROFESSIONAL LAND SURVEYOR ~ RI.NO. 1926



RIHB
N 282433.1705
E 331838.7057
STA 92+00



SHEET NO.	ASSESSORS PLAT/LOT	N/F OWNER OR CLAIMANT	TOTAL AREA (T)	ACQUIRED AREA (A)	PERMANENT DRAINAGE EASEMENT AREA (D)	PARCEL NO.	PURPOSE	STATE	SHEET NO.	TOTAL SHEET
2	14	250	CENTERDALE MANOR ASSOCIATES LIMITED PARTNERSHIP	0.033±AC (1,457±SF)	0 AC (0 SF)	0.033±AC (1,457±SF)	1D	DRAINAGE	R.I.	2



ATTACHMENT B
INSPECTION AND MAINTENANCE REPORT FORMS

INSPECTION REPORT
Permeable Protective Cap
Centredale Manor Restoration Project
North Providence, Rhode Island

GENERAL INFORMATION			
Inspection Date:			
Inspector/Personnel:			
Weather:			
INSPECTION	Inspected (Yes/No)	Maintenance Required (Yes/No)	Comments
A. Soil Cap			
Erosion of the Cap			
Exposed Cellular Confinement System (Side Slope of the Soil Cap)			
Animal Burrows			
Woody Vegetation			
Vandalism			
Other (specify):			
B. Drainage Swale			
Exposed Cellular Confinement System			
Animal Burrows			
Erosion of Soil Along Banks of the Drainage Swale			
Vandalism			
Other (specify):			

MAINTENANCE REPORT

Permeable Protective Cap Centredale Manor Restoration Project North Providence, Rhode Island

GENERAL INFORMATION

Inspection/Maintenance Date:

Inspector/Personnel:

Weather:

Maintenance and/or Repairs Performed

Soil Cap

Drainage Swale

Recommended Follow-up Actions