



**US Army Corps
of Engineers** ®
New England District

PUBLIC NOTICE

696 Virginia Road
Concord, MA 01742-2751

Date: May 8, 2007
Comment Period Ends: June 8, 2007
File Number: NAE-2006-2337
In Reply Refer To: Michael J. Elliott
Or by e-mail: michael.j.elliott@usace.army.mil

The District Engineer has received a permit application from the applicant below to **conduct work in waters of the United States** as described below and on page 4 of this Public Notice. The Corps is soliciting comments on both the project itself and the range of issues to be addressed in the environmental documentation. Full size plans are available for review at the Corps offices located at 696 Virginia Road in Concord, MA.

APPLICANT

Narragansett Electric Company (NEC) doing business as National Grid.

ACTIVITY

The project is called the Southern RI 115 kV Transmission Project. It involves the construction of a new extension of the L-190 Transmission Line from the Old Baptist Tap Road Point in East Greenwich, south within existing Narragansett Electric right of way (ROW) to the West Kingston Substation in South Kingstown, a distance of 12.3 miles. There will also be two 115 kV Transmission Tap Lines, extending east from the L-190 Line along NEC ROW in North Kingstown 0.5 miles to the site of a proposed new substation. Also, the existing West Kingston substation will be modified and expanded.

WATERWAY AND LOCATION OF THE PROPOSED WORK

This work is proposed along various waters and wetlands in East Greenwich, North Kingstown, Exeter, South Kingstown and West Kingstown, Rhode Island. The proposed locations are on the USGS Wickford, Narragansett Pier and Kingston, RI quadrangle sheets at various latitude/longitude coordinates.

AUTHORITY

Permits are required pursuant to:

- Section 10 of the Rivers and Harbors Act of 1899
- Section 404 of the Clean Water Act
- Section 103 of the Marine Protection, Research and Sanctuaries Act).

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Where the activity involves the discharge of dredged or fill material into waters of the United States or the transportation of dredged material for the purpose of disposing it in ocean waters, the evaluation of the impact of the activity in the public interest will also include application of the guidelines promulgated by the Administrator, U.S Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act, and/or Section 103 of the Marine Protection Research and Sanctuaries Act of 1972 as amended.

In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. **Comments should be submitted in writing by the above date.** If you have any questions, please contact Michael Elliott at (978) 318-8131, (800) 343-4789 or (800) 362-4367, if calling from within Massachusetts.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The Corps holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

106 REVIEW COMPLETE

Based on his initial review, the District Engineer has determined that little likelihood exists for the proposed work to impinge upon properties with cultural or Native American significance, or listed in, or eligible for listing in, the National Register of Historic Places. Therefore, no further consideration of the requirements of Section 106 of the National Historic Preservation Act of 1966, as amended, is necessary. This determination is based upon one or more of the following:

- a. The permit area has been extensively modified by previous work.
- b. The permit area has been recently created.
- c. The proposed activity is of limited nature and scope.
- d. Review of the latest published version of the National Register shows that no presence of registered properties listed as being eligible for inclusion therein are in the permit area or general vicinity.
- e. Coordination with the State Historic Preservation Officer and/or Tribal Historic Preservation Officer.

ENDANGERED SPECIES CONSULTATION

The New England District, Army Corps of Engineers has reviewed the list of species protected under the Endangered Species Act of 1973, as amended, which might occur at the proposed project site during the construction and subsequent operation/use period sought by the applicant. We have undertaken a Biological Assessment (BA) of the potential for interactions and adverse impacts to those listed species.

CENAE-R
FILE NO. NAE-2006-794

It is our determination that the proposed activity for which authorization is being sought is designed, situated or will be operated/used in such a manner that it is not likely to adversely affect any Federally listed endangered or threatened species or their designated critical habitat. By this Public Notice, we are requesting that the appropriate Federal Agency concur with our BA determination.

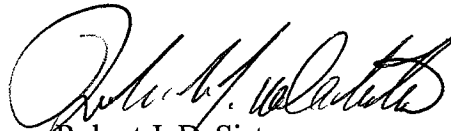
The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

The following authorizations have been applied for, or have been, or will be obtained:

- Permit, License or Assent from State.
- Permit from Local Wetland Agency or Conservation Commission.
- Water Quality Certification in accordance with Section 401 of the Clean Water Act.

THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.

For more information on the New England District Corps of Engineers programs, visit our website at <http://www.nae.usace.army.mil>.



Robert J. DeSista
Chief, Permits & Enforcement Branch
Regulatory Division

If you would prefer not to continue receiving Public Notices, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at bettina.m.chaisson@usace.army.mil. You may also check here () and return this portion of the Public Notice to: Bettina Chaisson, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751.

NAME: _____
ADDRESS: _____

PROPOSED WORK AND PURPOSE

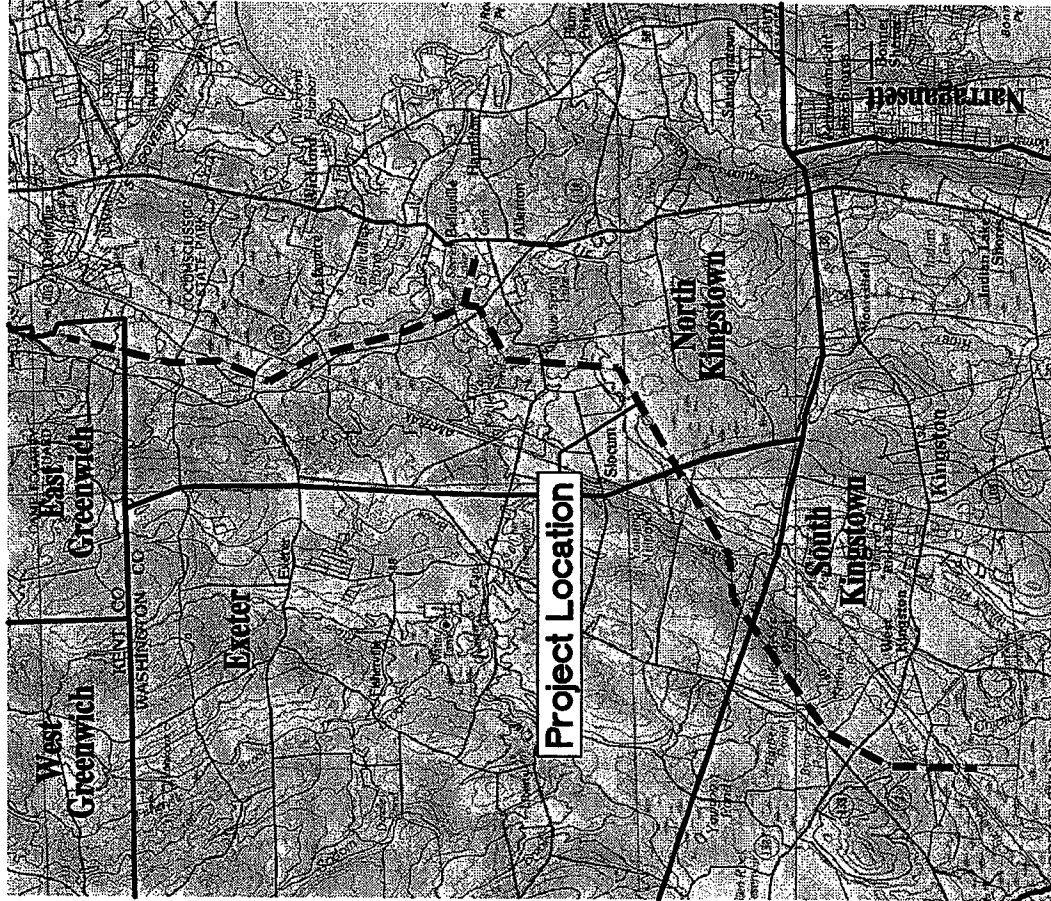
The project involves the 12.3 mile extension of the L-190 Transmission Line from the Old Baptist Road Tap Point in East Greenwich, south within an existing Narragansett Electric Company right of way (ROW) to the West Kingston Substation in South Kingstown. There will also be two 115 kV Transmission Tap Lines, extending east from the L-190 Line along NEC ROW in North Kingstown 0.5 miles to the site of a proposed substation off Tower Hill Road.

The project will be constructed within existing ROWs. Some of the proposed power line support structures will be constructed within wetlands and waters of the United States. Much of the impacts to waters/wetlands will be temporary impacts from swamp mats placed to access the site. The swamp mats will be removed after the work on that particular part of the project is completed. Project impacts are approximately 4.4 acres of temporary wetland impacts from placing swamp mats plus 0.03 acres of permanent wetland filling (foundations) for support structures. There are 36 freshwater wetland systems comprised of wetlands, ponds and streams within the ROWs that will be impacted by the project.

A secondary impact from the project is tree clearing in wetlands. Tree species with a mature height exceeding 10 feet will be removed from wetlands near the transmission line to provide safe clearance from the electrical line while the existing shrubs and herbaceous vegetation will be preserved. Existing forested wetland will be cleared and these forested wetlands will convert into scrub-shrub communities. Refer to sheets 38 and 39. Width of the tree clearing along the L-190 extension varies from 34 to 65 feet. Width of the tree clearing along the two new 0.5 miles long tap lines to supply the Tower Hill Substation varies from 103 to 108 feet. Tree clearing in wetlands for this project is 16.4 acres.

Much of the project will be conducted in uplands and is not in Corps jurisdiction. The expanded and modified West Kingston Substation and the new Tower Hill Substation will be constructed in uplands. The work to construct the two new 0.5 miles long tap lines to supply the Tower Hill Substation will have permanent impacts of 402 square feet (0.009 acre). Total permanent filling in wetlands for this project is 0.03 acres.

The work is described on the enclosed plans in 46 sheets entitled "SOUTHERN RHODE ISLAND TRANSMISSION PROJECT" dated "JUNE 29, 2006" revised "FEB. 23, 2007".



Plan Legend

- 115KV Overhead Transmission Line
- Proposed Erosion Control
- Proposed Swamp Mat
- Proposed Stabilized Construction Exit
- Proposed Access Route
- Existing Building
- Existing Path/Traffic
- Existing Public Roadway
- Existing Contour Line
- Proposed Contour Line
- Proposed Impact Area
- Proposed Electrical Structure
- Existing Electrical Structures
- Edge of Right-of-Way
- Town Line
- Edge of Wetland
- Edge of Waterway
- WF-xx^A Wetland Flag
- Edge of Existing Wooded Area

DATE **JUNE 29, 2006**
 REVISED: **FEB. 23, 2007**
 SHEET **1** OF **46**

SOUTHERN RHODE ISLAND TRANSMISSION PROJECT PROJECT LOCATION MAP

APPLICATION BY:
NARRAGANSETT ELECTRIC COMPANY
 280 MELLROSE STREET
 PROVIDENCE, RI 02907

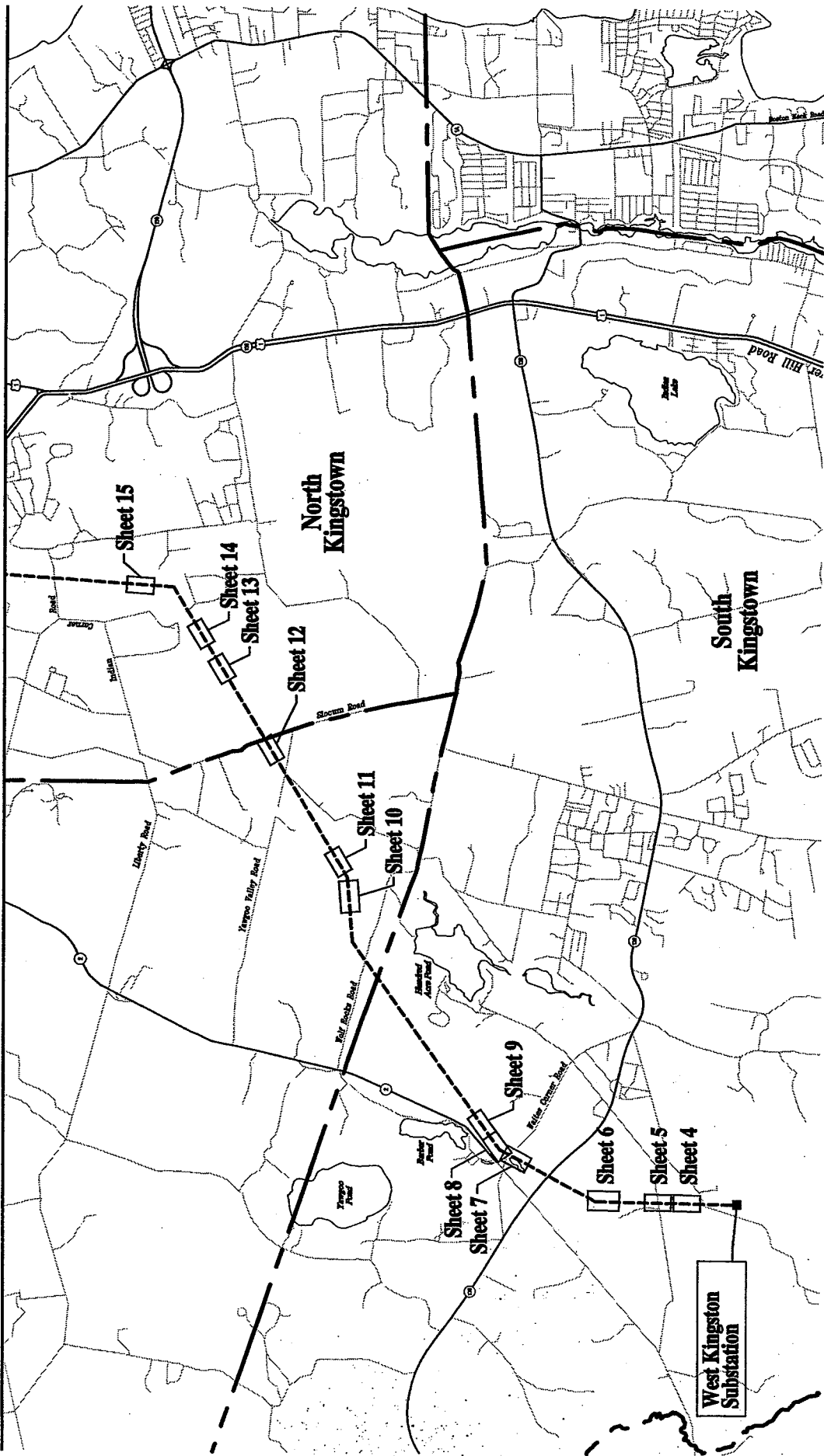
AT: EAST GREENWICH, NORTH KINGSTOWN, EXETER
 AND SOUTH KINGSTOWN
 IN: KENT AND WASHINGTON COUNTY
 STATE OF RHODE ISLAND



Vanasse Hangen Brustlin, Inc.
 Transportation
 Land Development
 Environmental Services
 530 Broadway
 Providence, RI 02909
 401.272-8100 • FAX 401.273-5694

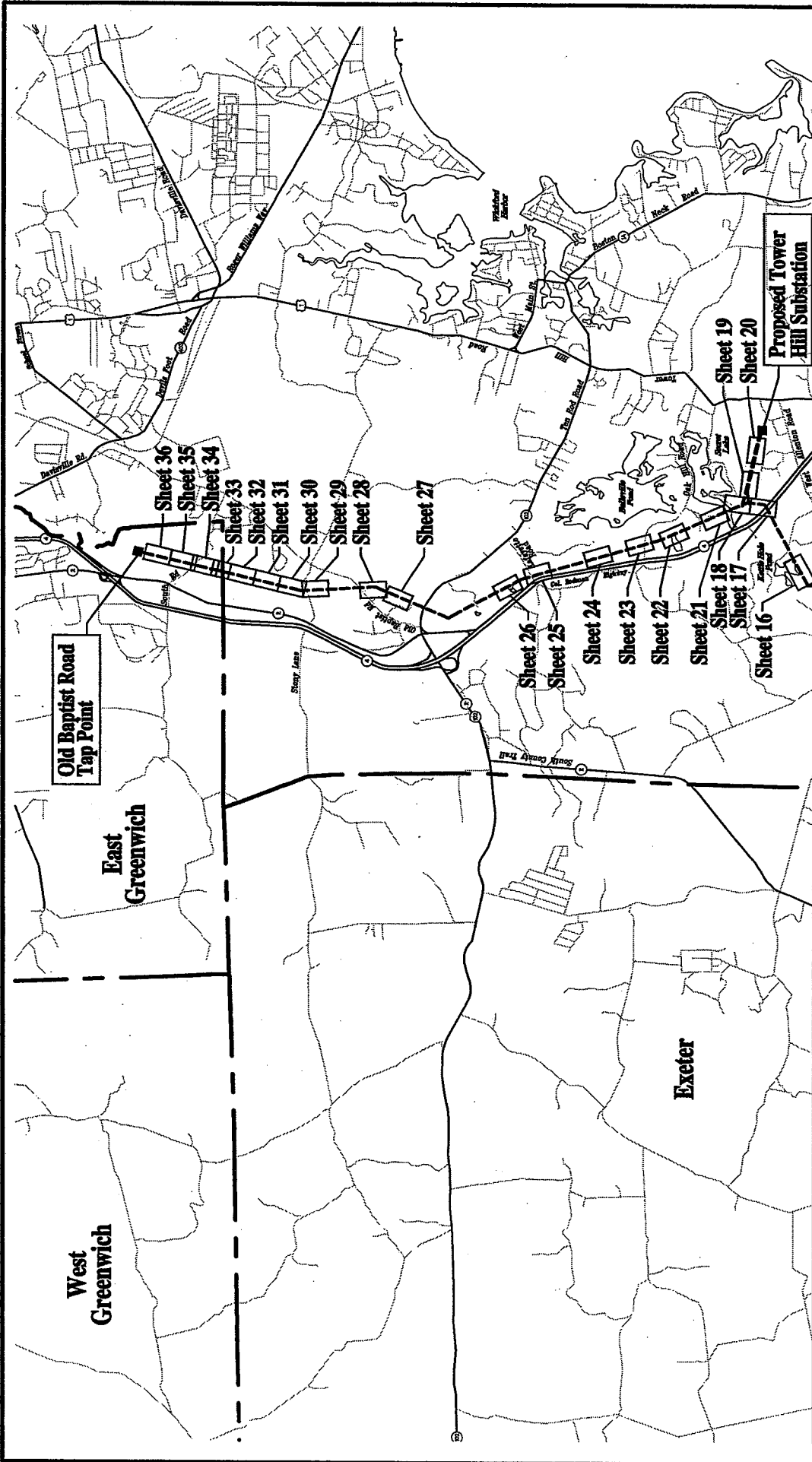
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Match to Sheet 3



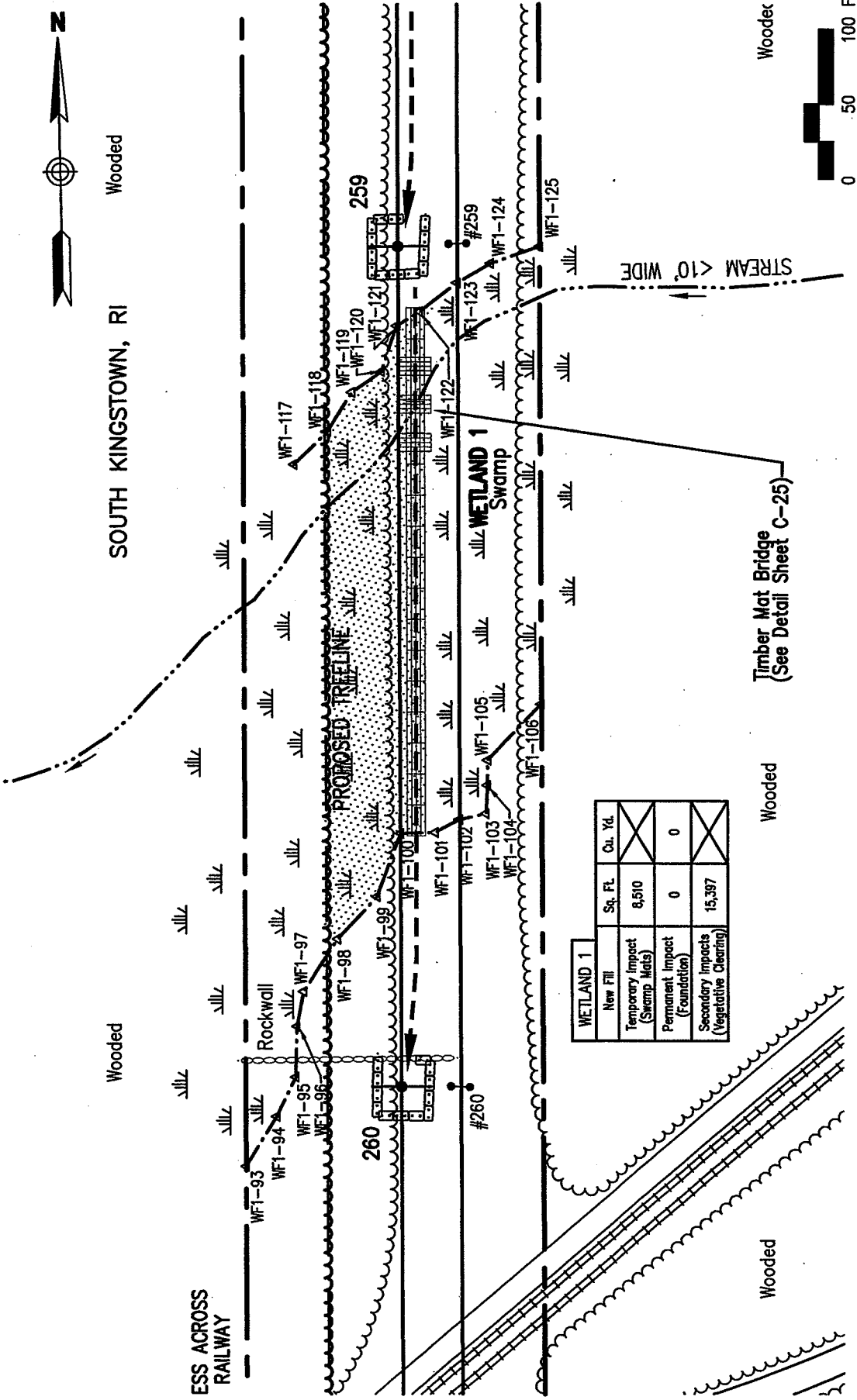
<p>Southern Rhode Island Transmission Project KEY SHEET 1</p>		<p>DATE JUNE 29, 2006 REVISED: FEB. 23, 2007</p>
<p>AT: EAST GREENWICH, NORTH KINGSTOWN, EXETER AND SOUTH KINGSTOWN</p>	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>	<p>SHEET 2 OF 46</p>
<p>Vannasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-8100 • FAX 401.273-9694</p>		
<p>VHB</p>		

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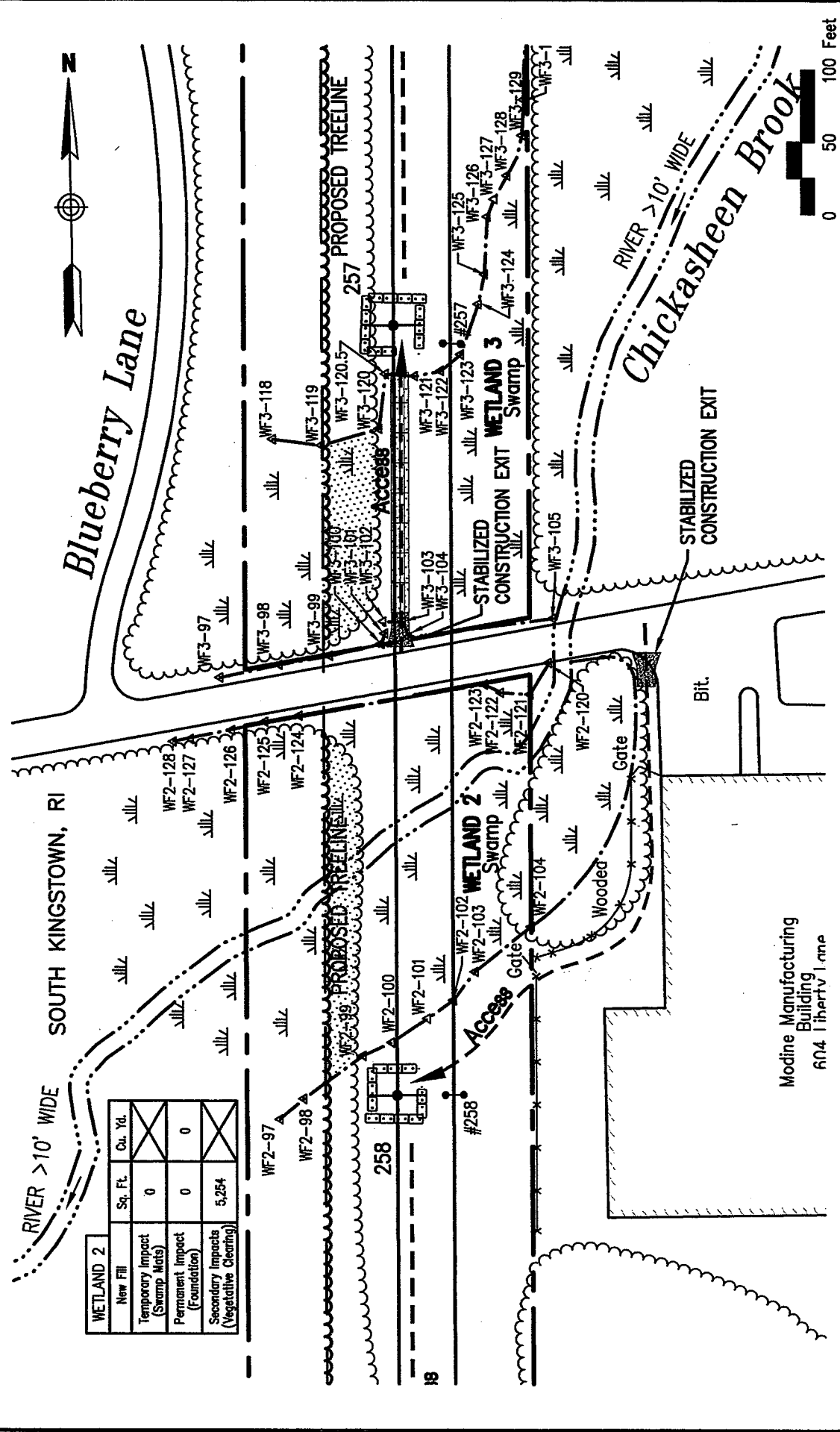
Match to Sheet 2

<p>VHAB</p> <p>Vannase Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-8100 • FAX 401.273-9694</p>	<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT KEY SHEET 2</p> <p>AT: EAST GREENWICH, NORTH KINGSTOWN, EXETER AND SOUTH KINGSTOWN IN: KENT AND WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>	<p>DATE JUNE 29, 2006 REVISED: FEB. 23, 2007</p> <p>SHEET 3 OF 46</p>
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WETLAND 1			
	Sq. Ft.	Cu. Yd.	
Temporary Impact (Swamp Mats)	8,510		X
Permanent Impact (Foundation)	0	0	
Secondary Impacts (Vegetative Clearing)	15,397		X

<p>VHB</p> <p>Vanasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-8100 • FAX 401.273-9694</p>	<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT WETLAND 1 (POLES 259 - 260)</p>		<p>DATE JUNE 29, 2006 REVISED: FEB. 23, 2007</p>
	<p>AT: SOUTH KINGSTOWN IN: WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>	<p>SHEET 4 OF 46</p>

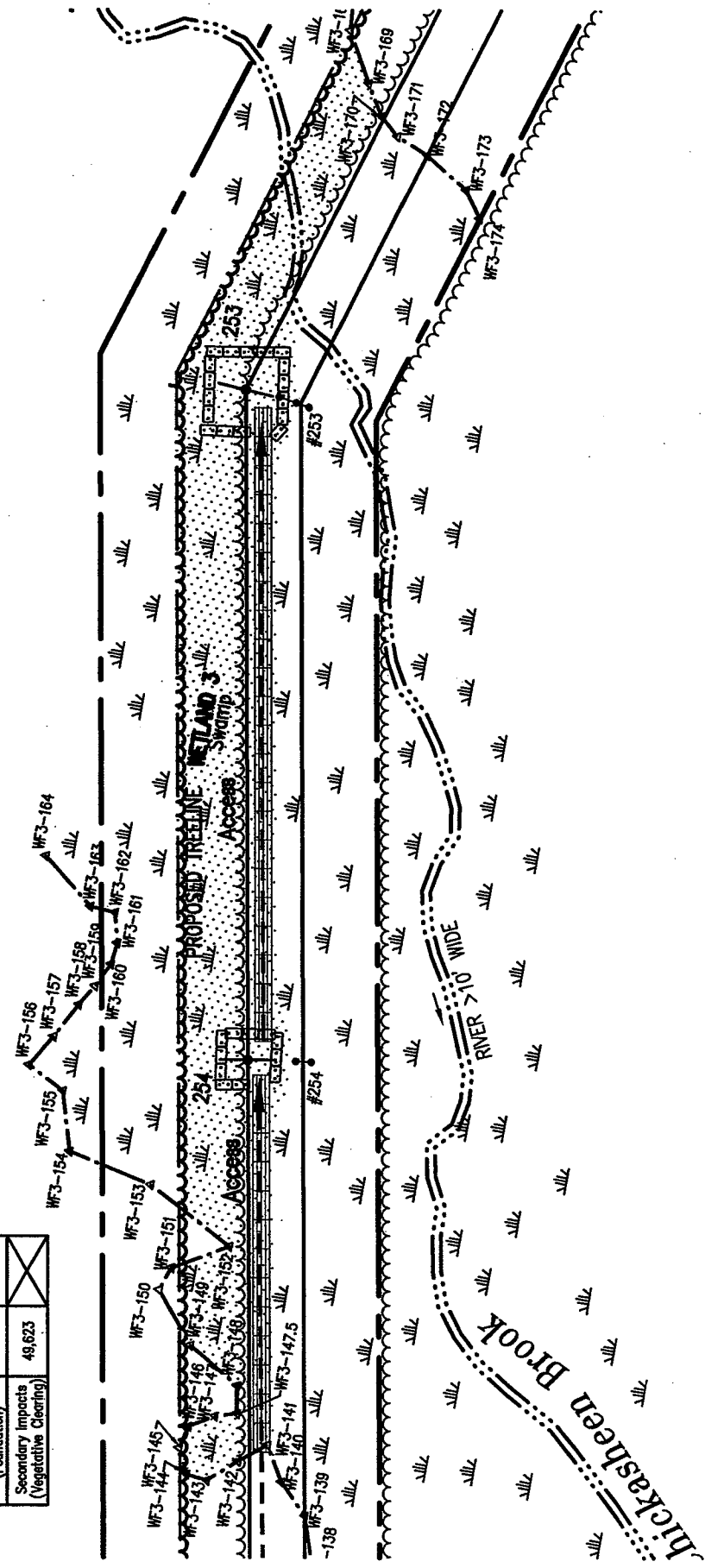


WETLAND 2	Sq. Ft.	Cu. Yd.
New Fill	0	0
Temporary Impact (Swamp Mats)	0	0
Permanent Impact (Foundation)	0	0
Secondary Impacts (Vegetative Clearing)	5,254	0

<p>VHAB</p> <p>Vanasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272.8100 • FAX 401.273.9694</p>	<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT WETLAND 2 (POLES 257 - 258)</p>		<p>DATE JUNE 29, 2006 REVISED: FEB. 23, 2007</p>
	<p>AT: SOUTH KINGSTOWN IN: WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>	<p>SHEET 5 OF 46</p>

WETLAND 3			
New Fill	Sq. Ft.	Cu. Yd.	
Temporary Impact (Swamp Mats)	26,761		X
Permanent Impact (Foundation)	100.6	167.6	
Secondary Impacts (Vegetative Clearing)	49,623		X

SOUTH KINGSTOWN, RI



DATE **JUNE 29, 2006**
 REVISED: **FEB. 23, 2007**
 SHEET **6** OF **46**

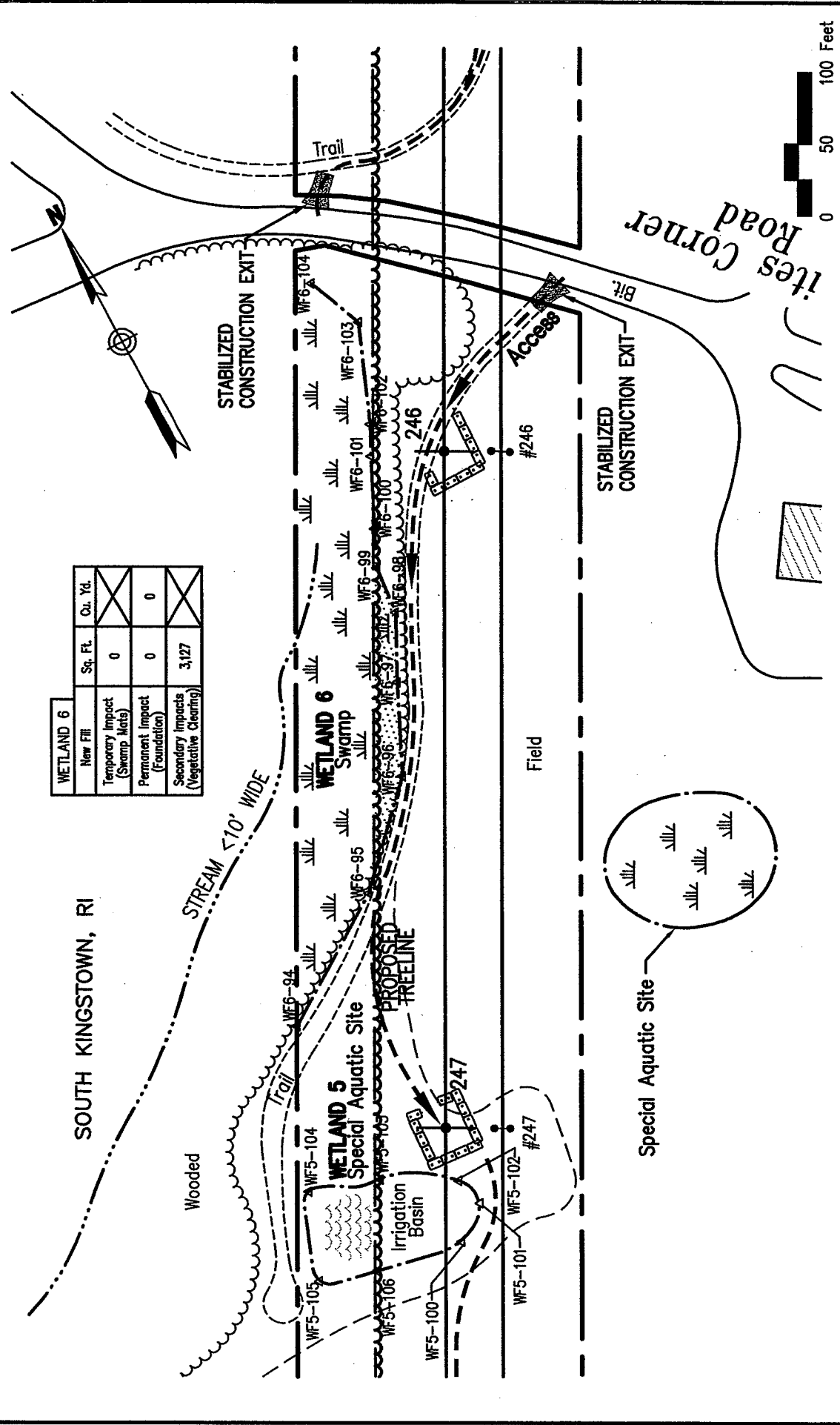
SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
WETLAND 3 (POLES 253 - 254)

APPLICATION BY:
NARRAGANSETT ELECTRIC COMPANY
 280 MELFROSE STREET
 PROVIDENCE, RI 02907

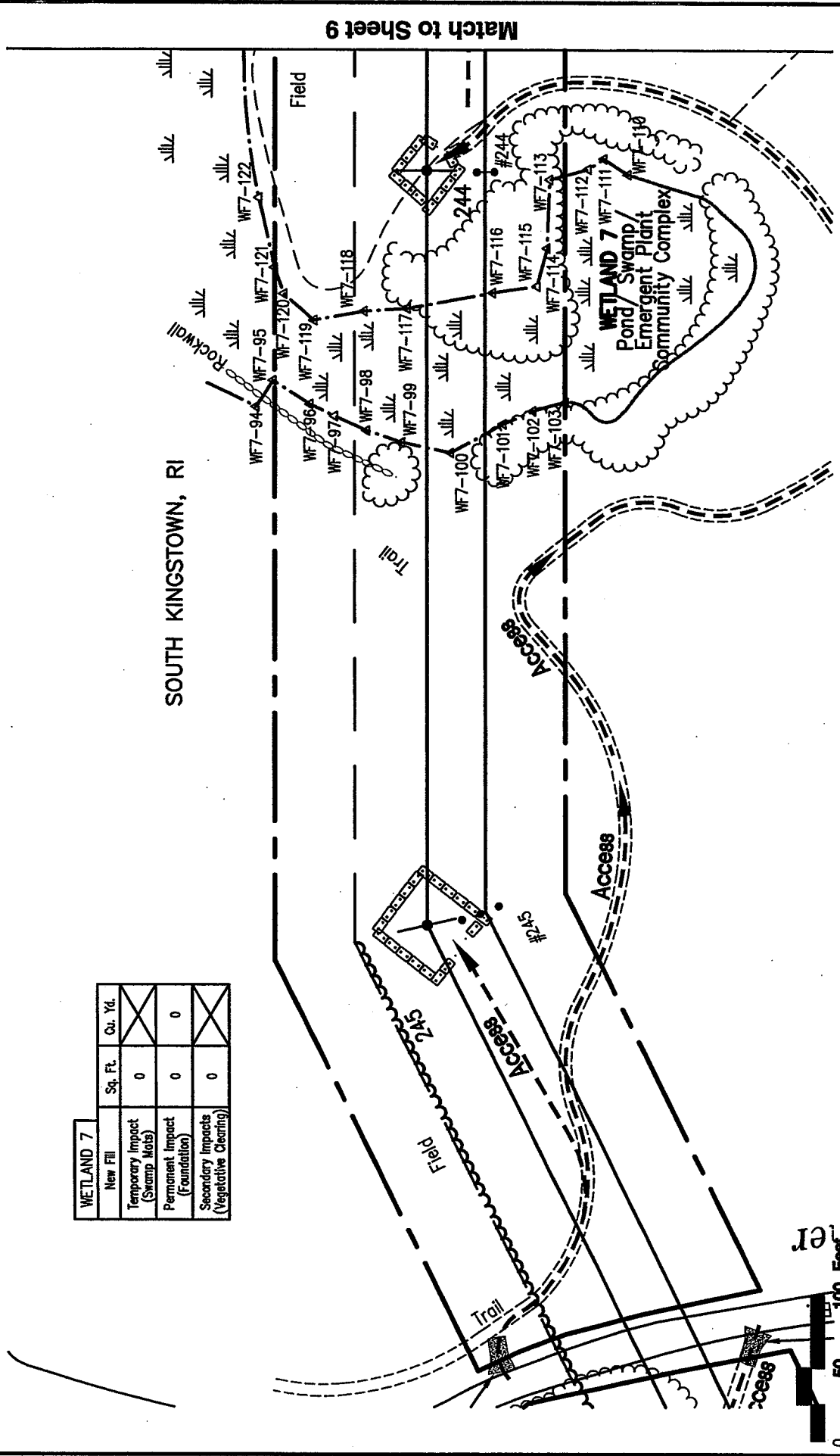
AT: SOUTH KINGSTOWN
 IN: WASHINGTON COUNTY
 STATE OF RHODE ISLAND

VHAB

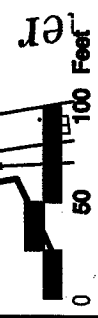
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 Environmental Services
 530 Broadway
 Providence, RI 02909
 401.272-8100 • FAX 401.273-9694



<p>VHB</p> <p>Vannasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-8100 • FAX 401.275-9694</p>	<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT WETLAND 6 (POLES 246 - 247)</p>		<p>DATE JUNE 29, 2006 REVISED: FEB. 23, 2007</p>
	<p>AT: SOUTH KINGSTOWN IN: WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELLROSE STREET PROVIDENCE, RI 02907</p>	<p>SHEET 7 OF 46</p>

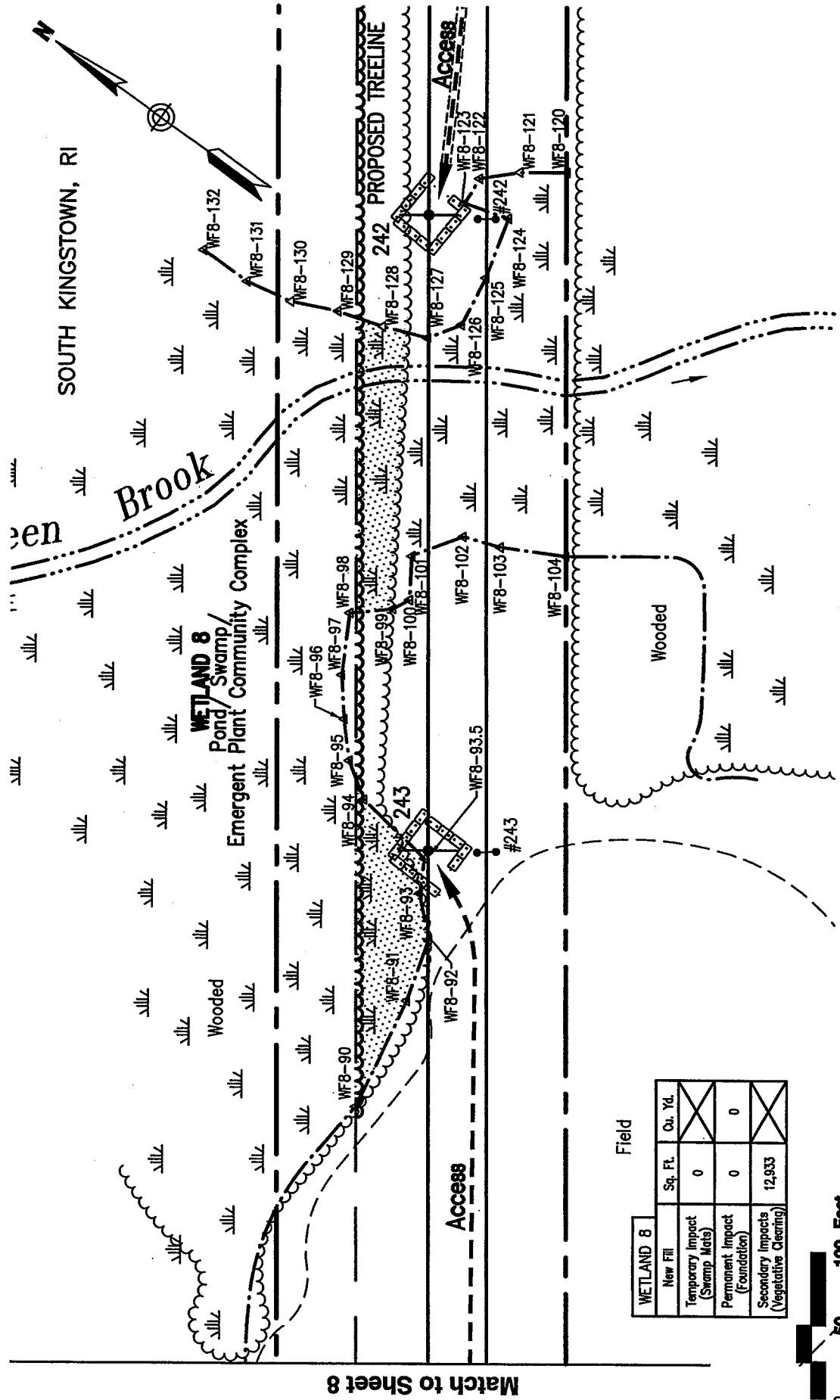


WETLAND 7			
New Fill	Sq. Ft.	Cu. Yd.	
Temporary Impact (Swamp Mats)	0		X
Permanent Impact (Foundation)	0	0	
Secondary Impacts (Vegetative Clearing)	0		X

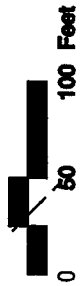


<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT WETLAND 8 (POLES 242 - 243)</p>		<p>DATE JUNE 29, 2006 REVISED: FEB. 23, 2007</p>
<p>AT: SOUTH KINGSTOWN IN: WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>	<p>SHEET 8 OF 46</p>
<p>Vannasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-8100 • FAX 401.273-9694</p>		<p>VHB</p>

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WETLAND 8		Sq. Ft.	Qu. Yd.
New Fill		0	0
Temporary Impact (Swamp Mats)		0	0
Permanent Impact (Foundation)		12,933	0
Secondary Impacts (Vegetative Clearing)			



Match to Sheet 8

DATE **JUNE 29, 2006**
 REVISED: **FEB. 23, 2007**

SHEET **9** OF **46**

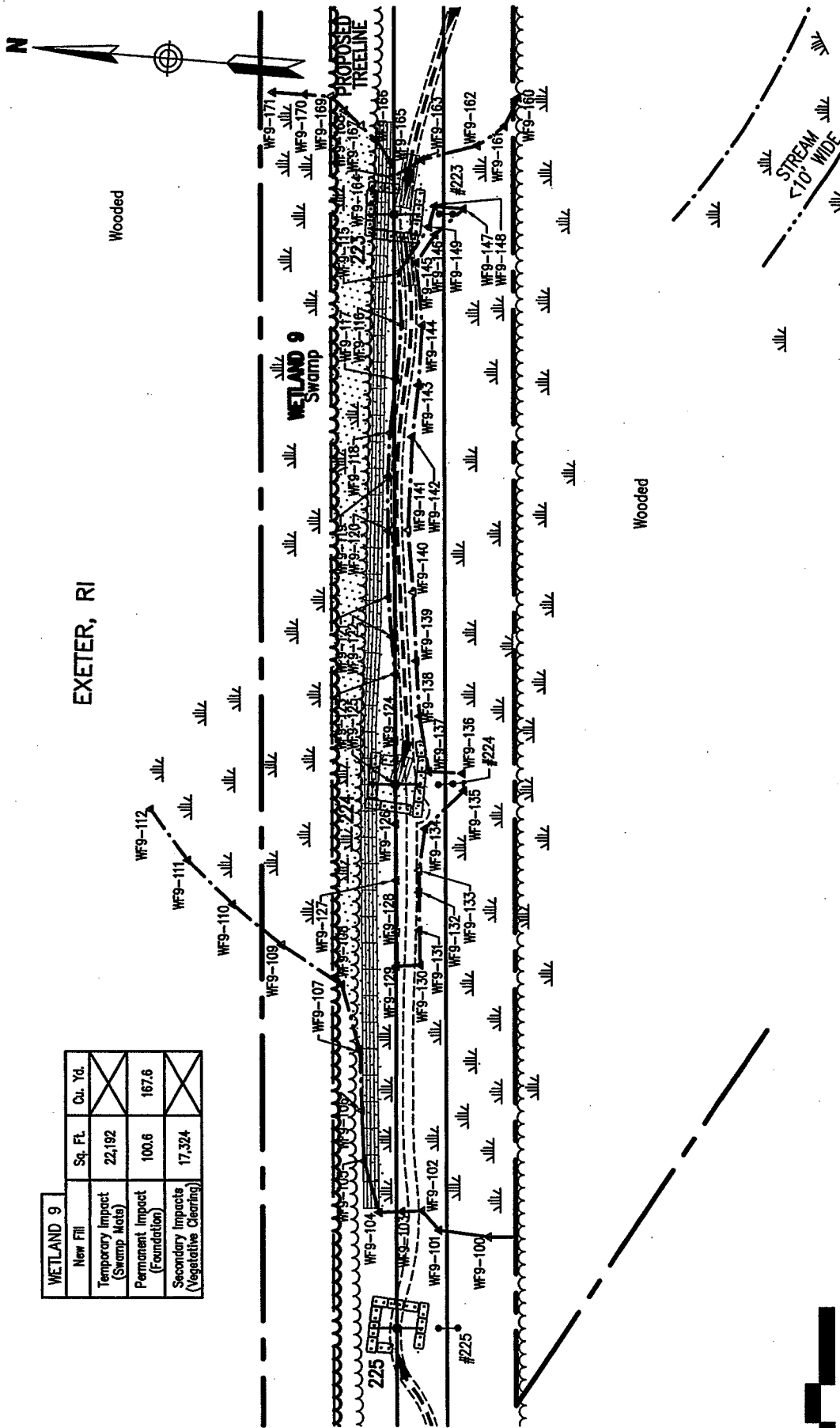
SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
WETLAND 8 (POLES 242 - 243)

APPLICATION BY:
NARRAGANSETT ELECTRIC COMPANY
 280 MELROSE STREET
 PROVIDENCE, RI 02907

AT: SOUTH KINGSTOWN
 IN: WASHINGTON COUNTY
 STATE OF RHODE ISLAND

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WETLAND 9			
New Fill	Sq. Ft.	Cu. Yd.	
Temporary Impact (Swamp Mats)	22,192		X
Permanent Impact (Foundation)	100.6	167.6	
Secondary Impacts (Vegetative Clearing)	17,324		X



DATE **JUNE 29, 2006**
 REVISED: **FEB. 23, 2007**

SHEET **10** OF **46**

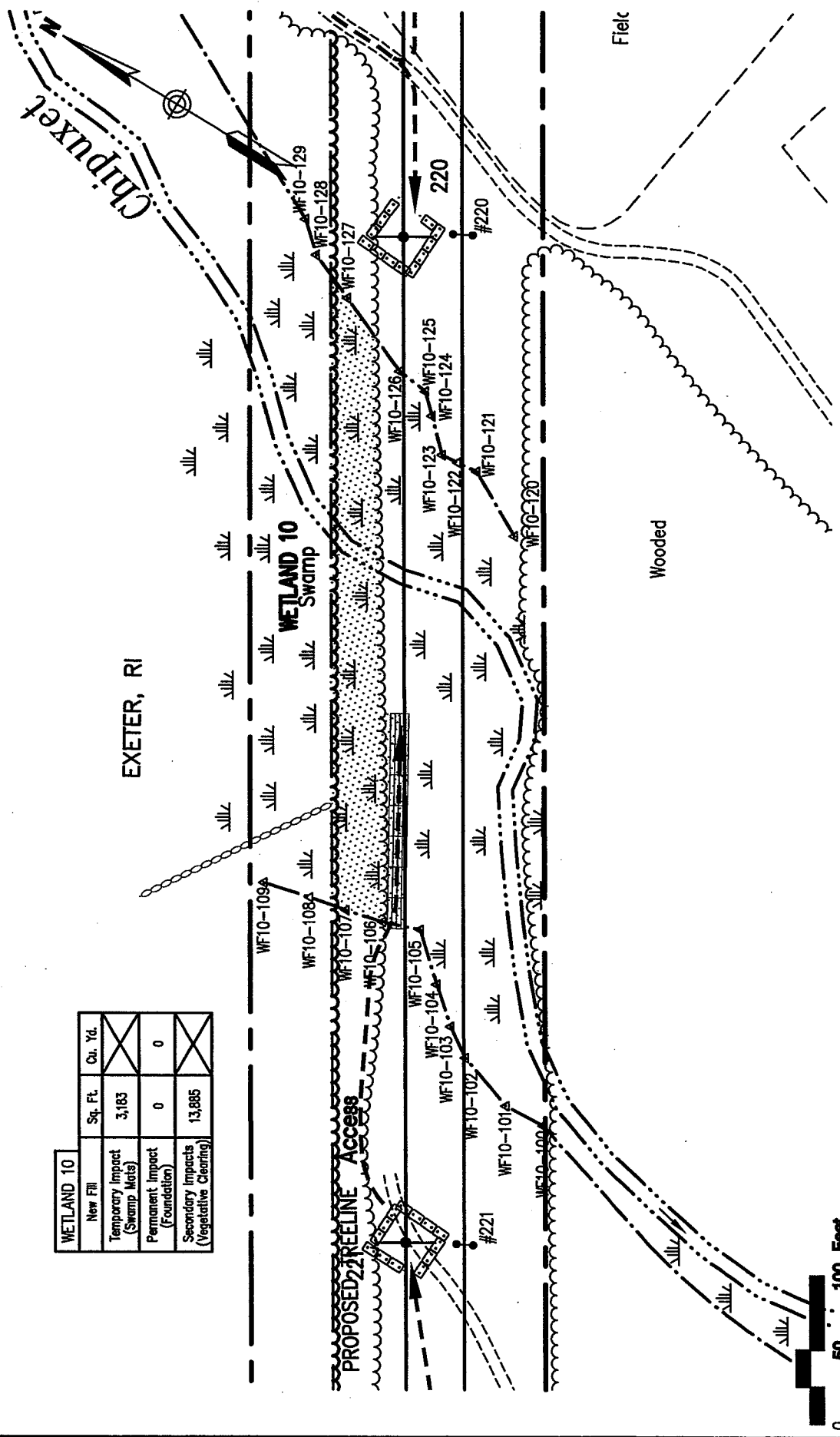
SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
WETLAND 9 (POLES 223 - 225)

AT: **EXETER**
 IN: **WASHINGTON COUNTY**
STATE OF RHODE ISLAND

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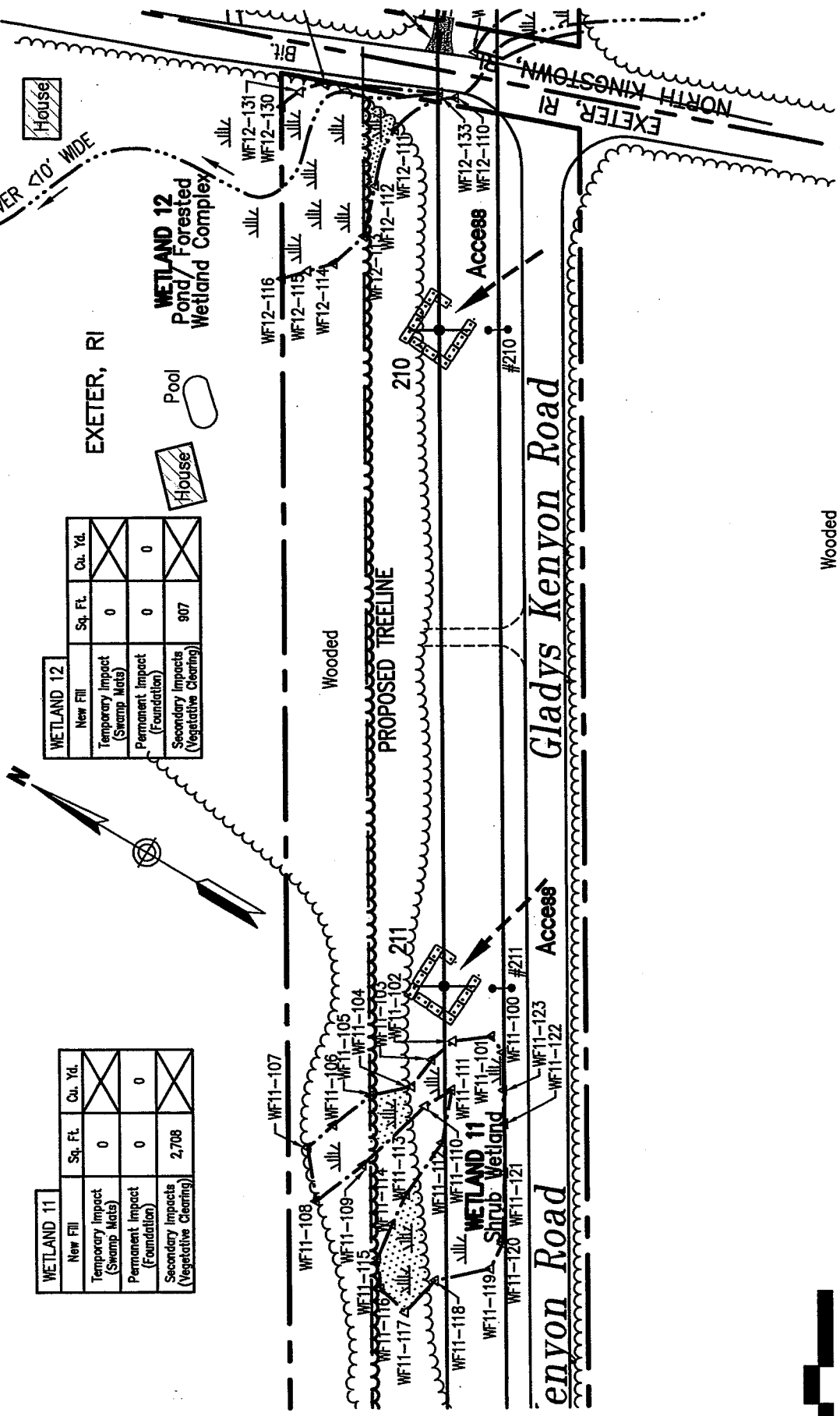


APPLICATION BY:
NARRAGANSETT ELECTRIC COMPANY
 280 MELROSE STREET
 PROVIDENCE, RI 02907



WETLAND 10			
New Fill	Sq. Ft.	Cu. Yd.	
Temporary Impact (Swamp Mats)	3,183		X
Permanent Impact (Foundation)	0		0
Secondary Impacts (Vegetative Clearing)	13,885		X

<p>Vanasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-8100 • FAX 401.273-9694</p>	<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT WETLAND 10 (POLES 220 - 221)</p>	<p>DATE JUNE 29, 2006 REVISED: FEB. 23, 2007</p>
<p>VHB</p>	<p>AT: EXETER IN: WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>
<p>SHEET 11 OF 46</p>		<p>71716ac-plans.dwg</p>



WETLAND 11			
New Fill	Sq. Ft.	Ch. Yd.	
Temporary Impact (Swamp Mats)	0		X
Permanent Impact (Foundation)	0	0	
Secondary Impacts (Vegetative Clearing)	2,708		X

WETLAND 12			
New Fill	Sq. Ft.	Ch. Yd.	
Temporary Impact (Swamp Mats)	0		X
Permanent Impact (Foundation)	0	0	
Secondary Impacts (Vegetative Clearing)	907		X



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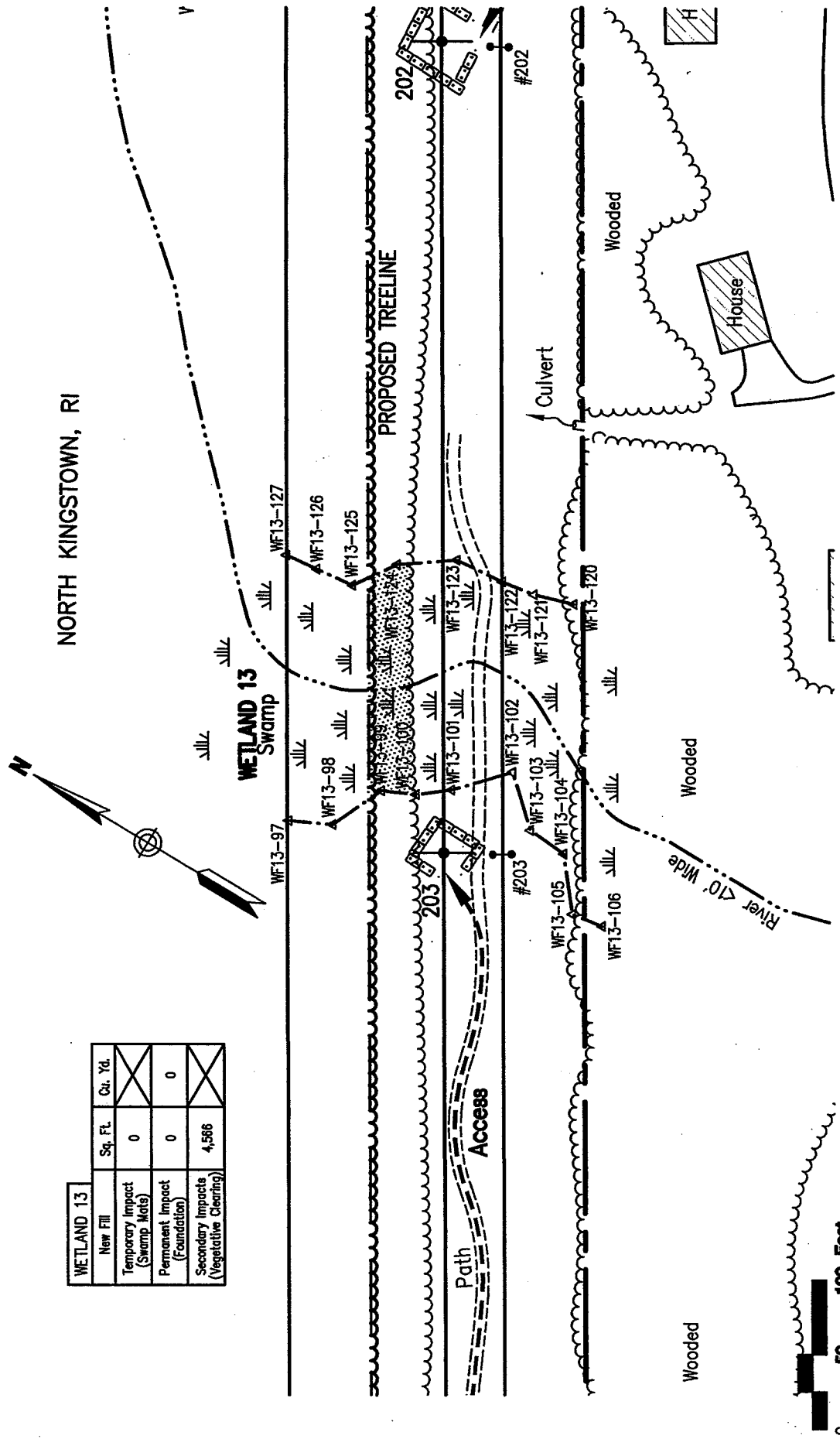
SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
WETLANDS 11 AND 12 (POLES 210 - 211)

AT: EXETER
 IN: WASHINGTON COUNTY
 STATE OF RHODE ISLAND

APPLICATION BY:
 NARRAGANSETT ELECTRIC COMPANY
 280 MELLROSE STREET
 PROVIDENCE, RI 02907

DATE JUNE 29, 2006
 REVISED: FEB. 23, 2007
 SHEET 12 OF 46

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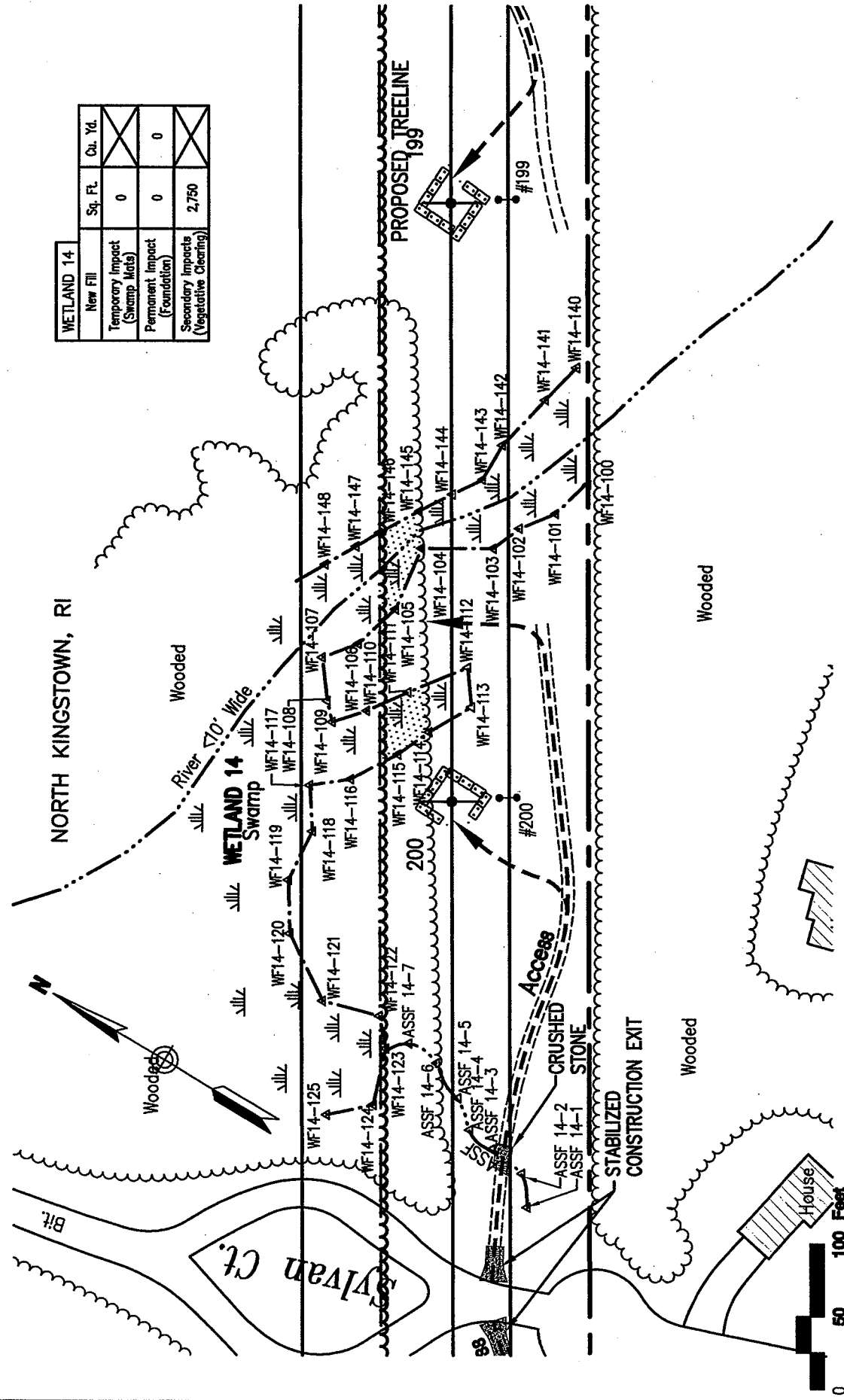


NORTH KINGSTOWN, RI

WETLAND 13			
	Sq. Ft.	Cul. Yd.	
New Fill	0		
Temporary Impact (Swamp Mats)	0		
Permanent Impact (Foundation)	0	0	
Secondary Impacts (Vegetative Clearing)	4,566		

<p>DATE JUNE 29, 2006 REVISED: FEB. 23, 2007</p>	<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT WETLAND 13 (POLES 202 - 203)</p>	<p>Application by: NARRAGANSETT ELECTRIC COMPANY 280 MEL ROSE STREET PROVIDENCE, RI 02907</p>
<p>SHEET 13 OF 46</p>	<p>AT: NORTH KINGSTOWN IN: WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>VHB Vanasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-3100 • FAX 401.273-9694</p>

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WETLAND 14			
New Fill	Sq. Ft.	Cu. Yd.	
Temporary Impact (Swamp Mats)	0		X
Permanent Impact (Foundation)	0	0	
Secondary Impacts (Vegetative Clearing)	2,750		X

DATE **JUNE 29, 2006**
 REVISED: **FEB. 23, 2007**
 SHEET **14** OF **46**

SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
WETLAND 17 (POLES 199 - 200)

APPLICATION BY:
NARRAGANSETT ELECTRIC COMPANY
 280 MELLROSE STREET
 PROVIDENCE, RI 02907

AT: NORTH KINGSTOWN
 IN: WASHINGTON COUNTY
 STATE OF RHODE ISLAND

VHB

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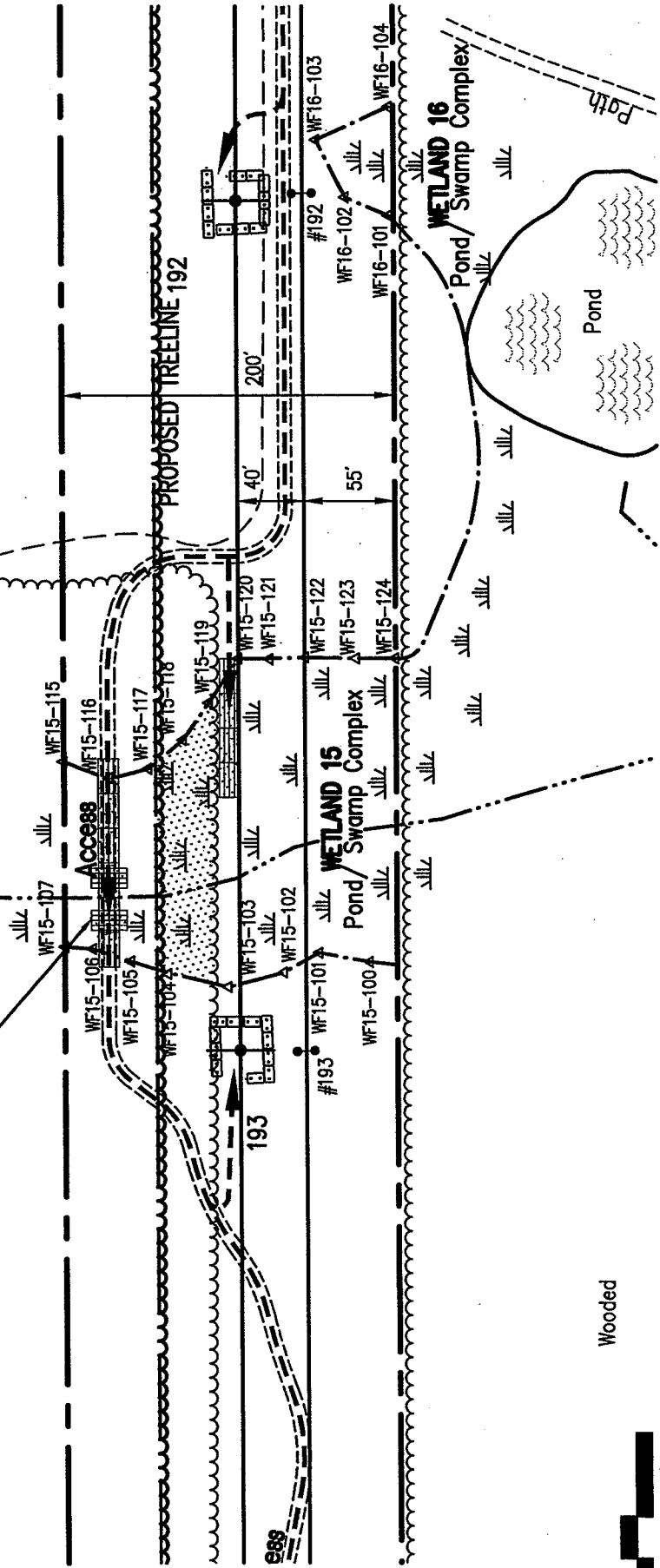


NORTH KINGSTOWN, RI

Wooded

Timber Mat Bridge
(See Detail Sheet C-25)

WETLAND 15			
	Sq. Ft.	Cu. Yd.	
New Fill	2,968		X
Temporary Impact (Swamp Mats)	0	0	
Permanent Impact (Foundation)	0	0	
Secondary Impacts (Vegetative Clearing)	5,218		X



Wooded



Vanasse Hangen Brustlin, Inc.
Transportation
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401.272-8100 • FAX 401.273-9694



SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
WETLAND 15 (POLES 192 - 193)

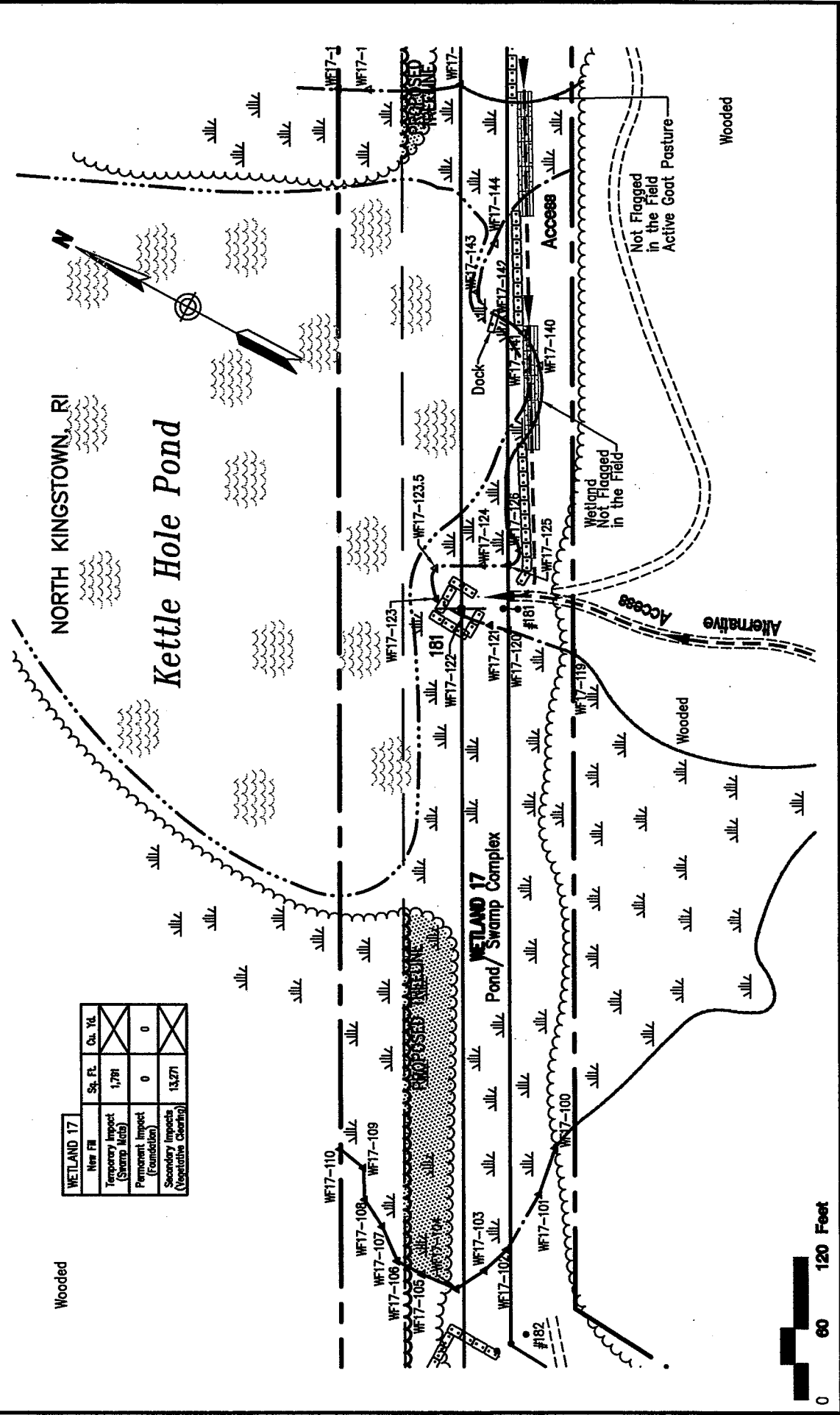
AT: NORTH KINGSTOWN
IN: WASHINGTON COUNTY
STATE OF RHODE ISLAND

APPLICATION BY:
NARRAGANSETT ELECTRIC COMPANY
280 MELROSE STREET
PROVIDENCE, RI 02907

DATE **JUNE 29, 2006**
REVISED: **FEB. 23, 2007**

SHEET **15** OF **46**

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WETLAND 17		Sq. Ft.	Qu. Yd.
New Fill		1,791	X
Temporary Impact (Sharp Edge)		0	0
Permanent Impact (Foundation)		13,271	X
Secondary Impacts (Vegetative Clearing)			



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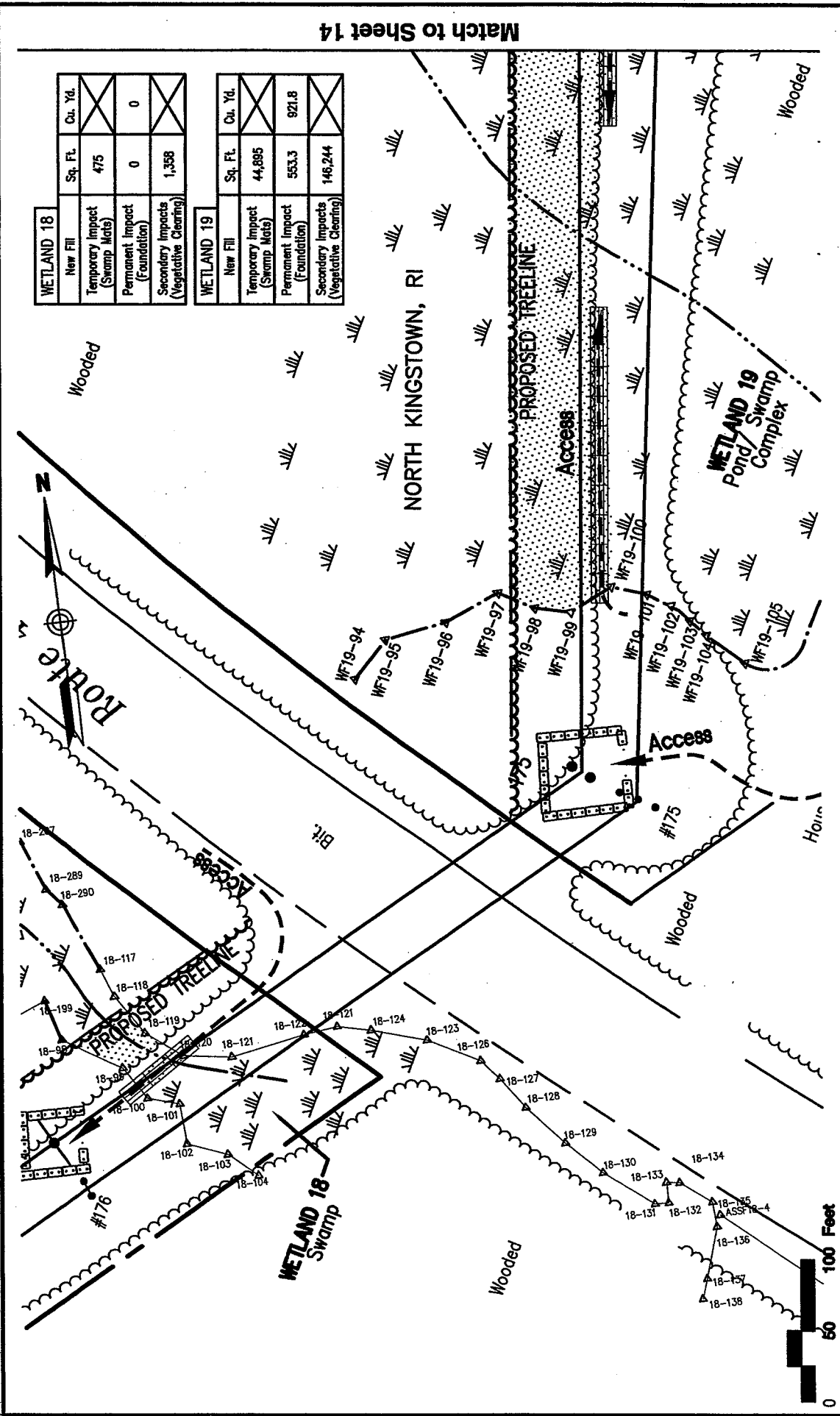
SHEET **16** OF **46**

SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
WETLAND 17 (POLES 181 - 182)

AT: NORTH KINGSTOWN
 IN: WASHINGTON COUNTY
 STATE OF RHODE ISLAND

APPLICATION BY:
NARRAGANSETT ELECTRIC COMPANY
 280 MELROSE STREET
 PROVIDENCE, RI 02907

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WETLAND 18

	Sq. Ft.	Cu. Yd.
New Fill	475	
Temporary Impact (Swamp Mats)	0	0
Permanent Impact (Foundation)	1,358	
Secondary Impacts (Vegetative Clearing)		

WETLAND 19

	Sq. Ft.	Cu. Yd.
New Fill	44,885	
Temporary Impact (Swamp Mats)	553.3	921.8
Permanent Impact (Foundation)	146,244	
Secondary Impacts (Vegetative Clearing)		

SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
WETLANDS 18 AND 19 (POLES 175 - 176)

DATE: JUNE 29, 2006
 REVISED: FEB. 23, 2007

AT: NORTH KINGSTOWN
 IN: WASHINGTON COUNTY
 STATE OF RHODE ISLAND

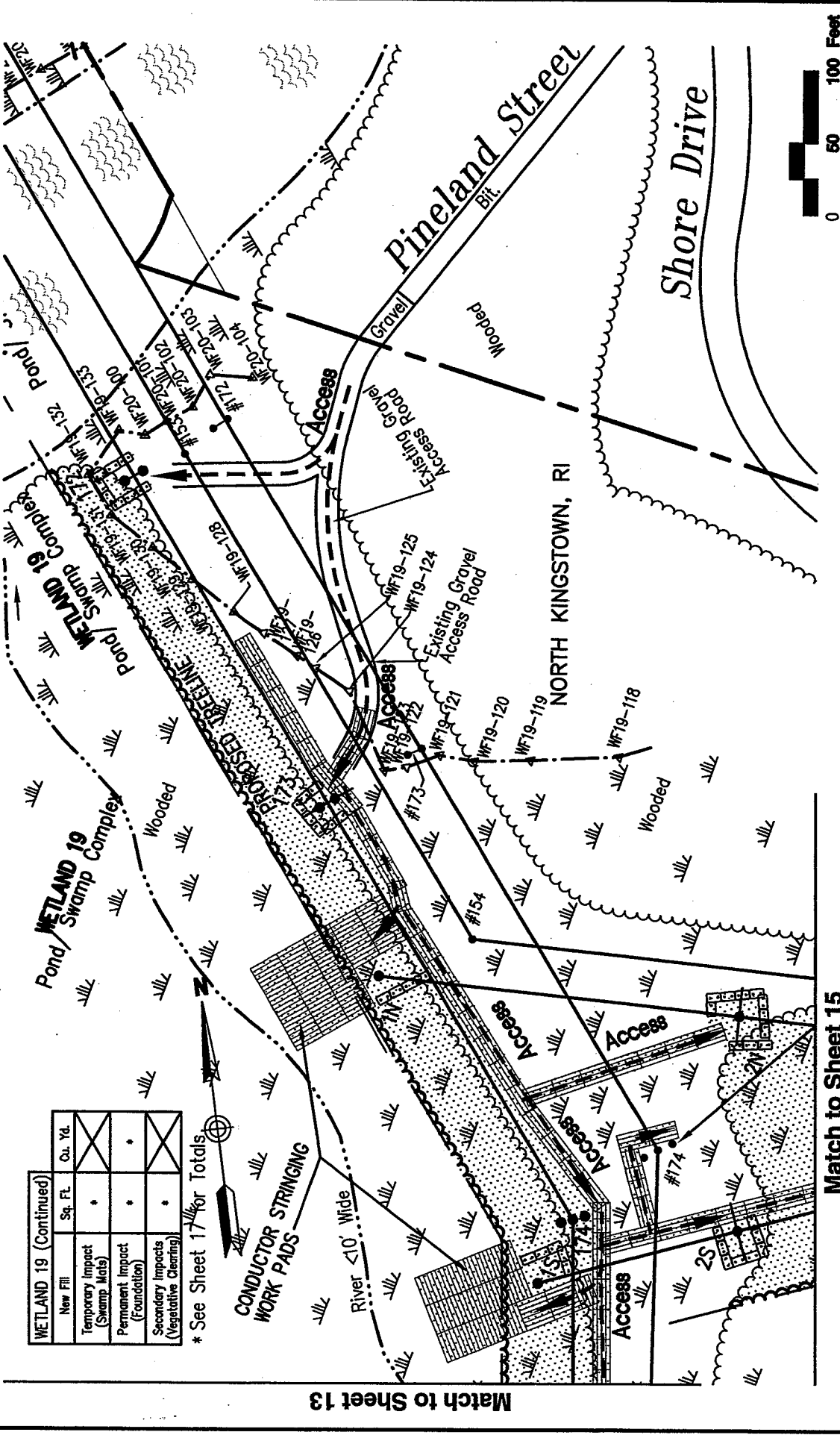
APPLICATION BY:
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SHEET 17 OF 46

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WETLAND 19 (Continued)		Sq. Ft.	Qt. Yd.
New Fill			
Temporary Impact (Swamp Mats)	*		
Permanent Impact (Foundation)	*		
Secondary Impacts (Vegetative Clearing)	*		

* See Sheet 17 for Totals.

Match to Sheet 15

Match to Sheet 13



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SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
WETLAND 19 (POLES 174 - 174)

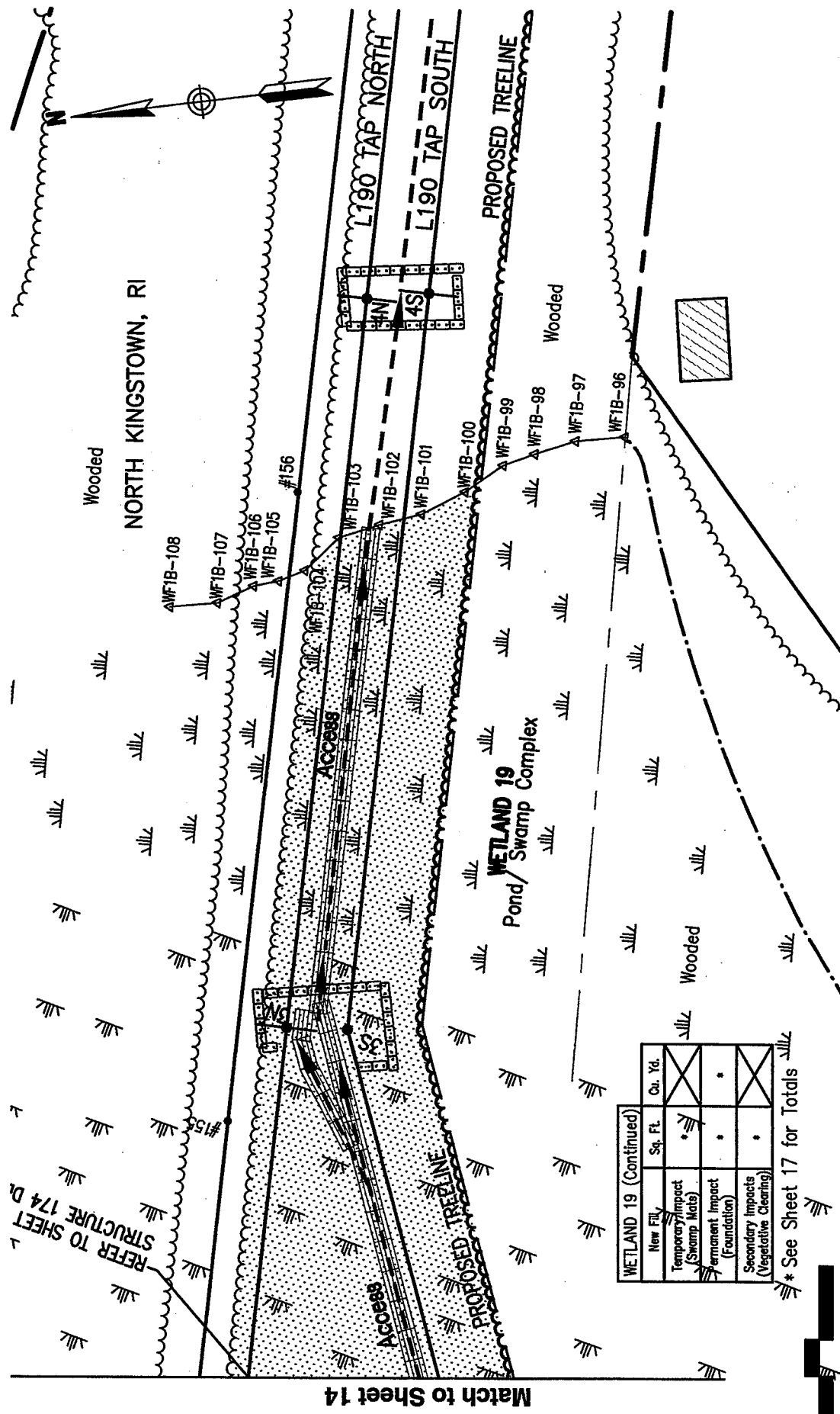
AT: NORTH KINGSTOWN
 IN: WASHINGTON COUNTY
 STATE OF RHODE ISLAND

APPLICATION BY:
 NARRAGANSETT ELECTRIC COMPANY
 280 MELROSE STREET
 PROVIDENCE, RI 02907

DATE **JUNE 29, 2006**
 REVISED: **FEB. 23, 2007**

SHEET **18** OF **46**

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REFER TO SHEET 174 D
STRUCTURE 174 D

Match to Sheet 14

WETLAND 19 (Continued)		
New Fill	Sq. Ft.	Cu. Yd.
Temporary Impact (Swamp Mats)	*	X
Permanent Impact (Foundation)	*	*
Secondary Impacts (Vegetative Clearing)	*	X

* See Sheet 17 for Totals

Southern Rhode Island Transmission Project
Wetland 19 (Poles 3N/3S - 4N/4S)

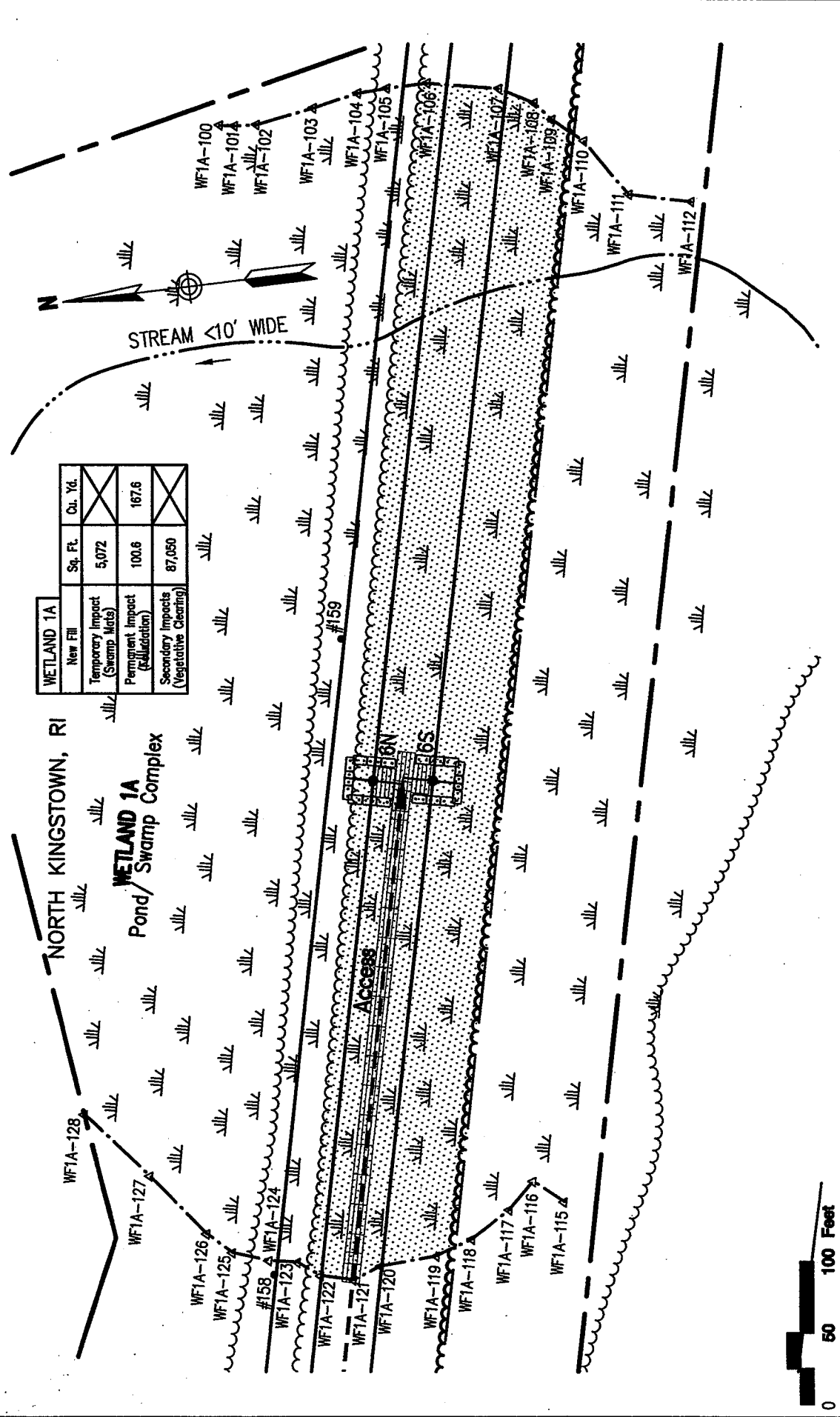
AT: NORTH KINGSTOWN
 IN: WASHINGTON COUNTY
 STATE OF RHODE ISLAND

DATE **JUNE 29, 2006**
 REVISED: **FEB. 23, 2007**

SHEET **19** OF **46**


Application by:
NARRAGANSETT ELECTRIC COMPANY
 280 MELROSE STREET
 PROVIDENCE, RI 02907

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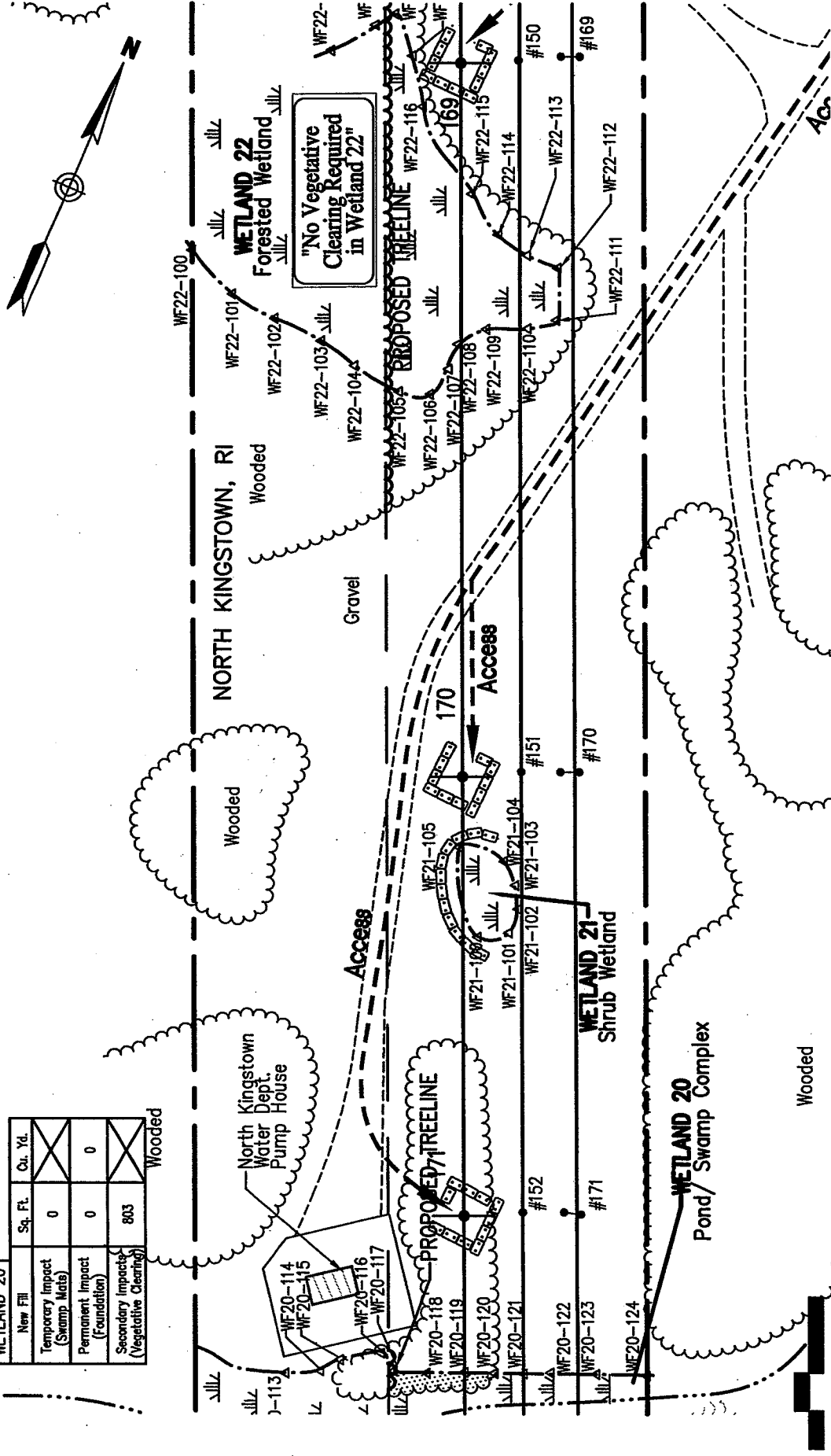
WETLAND 1A			
New Fill	Sq. Ft.	Sq. Yd.	Cl. Yd.
Temporary Impact (Swamp Muds)	5,072		
Permanent Impact (Solidification)	100.6		167.6
Secondary Impacts (Vegetative Clearing)	87,050		

NORTH KINGSTOWN, RI
WETLAND 1A
 Pond/Swamp Complex

<p>Vanasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-8100 • FAX 401.273-9694</p> 	<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT WETLAND 1A (POLES 6N/6S)</p>		<p>DATE JUNE 29, 2006 REVISED: FEB. 23, 2007</p>
	<p>AT: NORTH KINGSTOWN IN: WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>	<p>SHEET 20 OF 46</p>

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WETLAND 20			
New Fill	Sq. Ft.	Cu. Yd.	
Temporary Impact (Stamp Mats)	0		
Permanent Impact (Foundation)	0	0	
Secondary Impacts (Vegetative Clearing)		803	



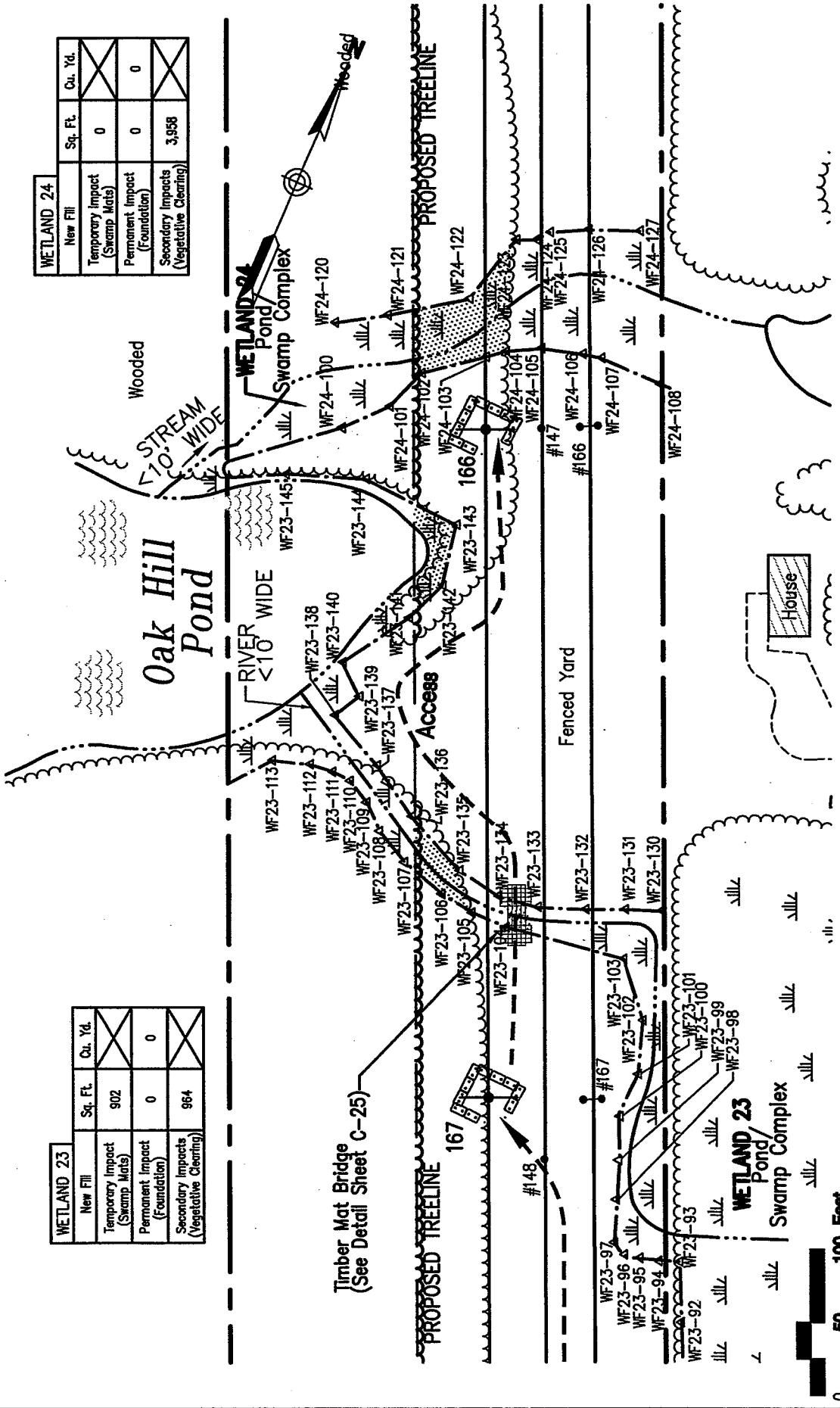
"No Vegetative Clearing Required in Wetland 22"

<p>VHB</p> <p>Vannase Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-8100 • FAX 401.273-9694</p>	<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT WETLAND 22 (POLES 169 - 170)</p>		<p>DATE JUNE 29, 2006 REVISED: FEB. 23, 2007</p>
	<p>AT: NORTH KINGSTOWN IN: WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>	<p>SHEET 21 OF 46</p>

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WETLAND 23		Sq. Ft.	Qu. Yd.
New Fill		902	
Temporary Impact (Swamp Mats)		0	0
Permanent Impact (Foundation)		0	0
Secondary Impacts (Vegetative Clearing)		964	

WETLAND 24		Sq. Ft.	Qu. Yd.
New Fill		0	
Temporary Impact (Swamp Mats)		0	0
Permanent Impact (Foundation)		0	0
Secondary Impacts (Vegetative Clearing)		3,958	



DATE **JUNE 29, 2006**
 REVISED: **FEB. 23, 2007**
 SHEET **22** OF **46**

SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
WETLANDS 23 AND 24 (POLES 166 - 167)

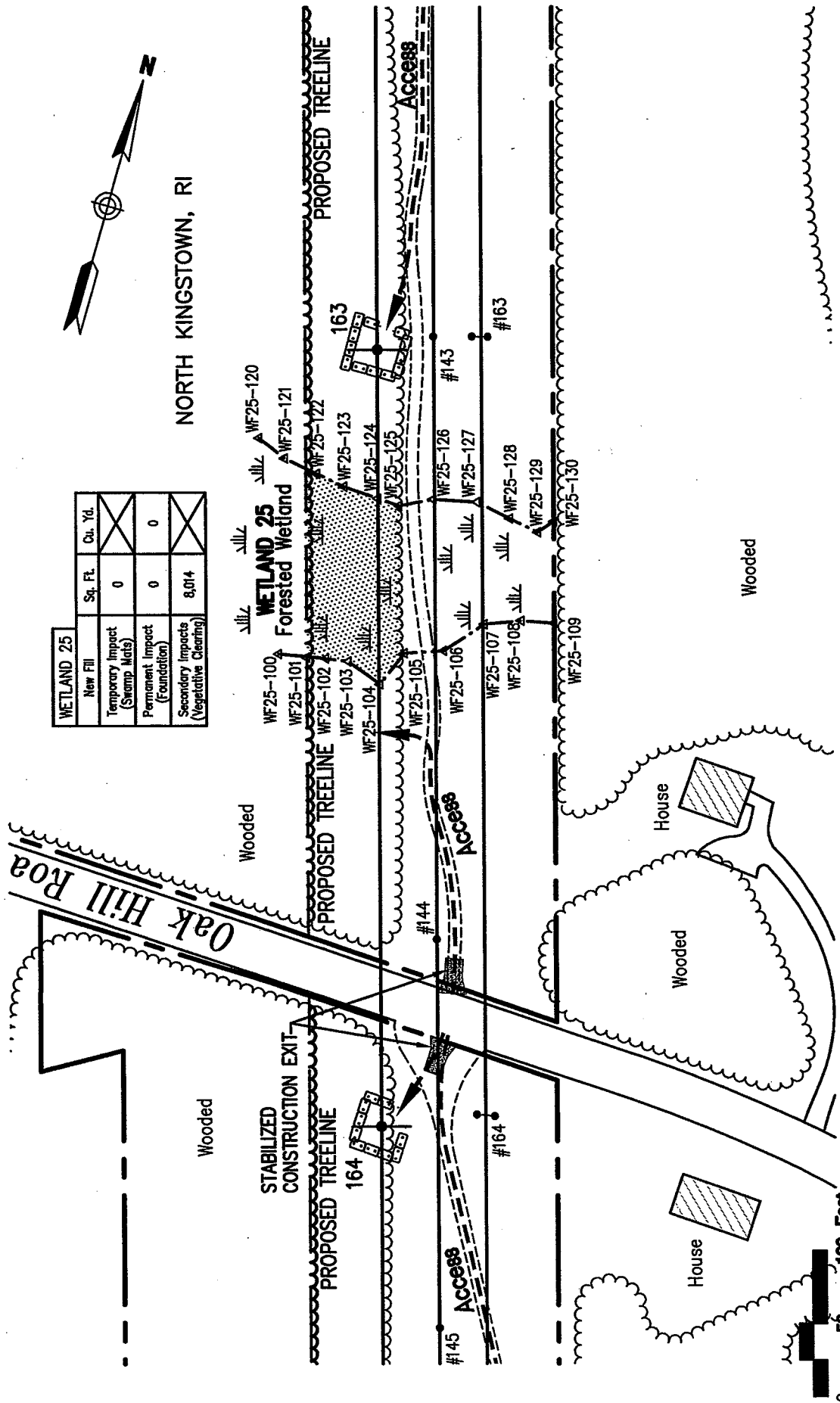
APPLICATION BY:
NARRAGANSETT ELECTRIC COMPANY
 280 MELROSE STREET
 PROVIDENCE, RI 02907

AT: NORTH KINGSTOWN
 IN: WASHINGTON COUNTY
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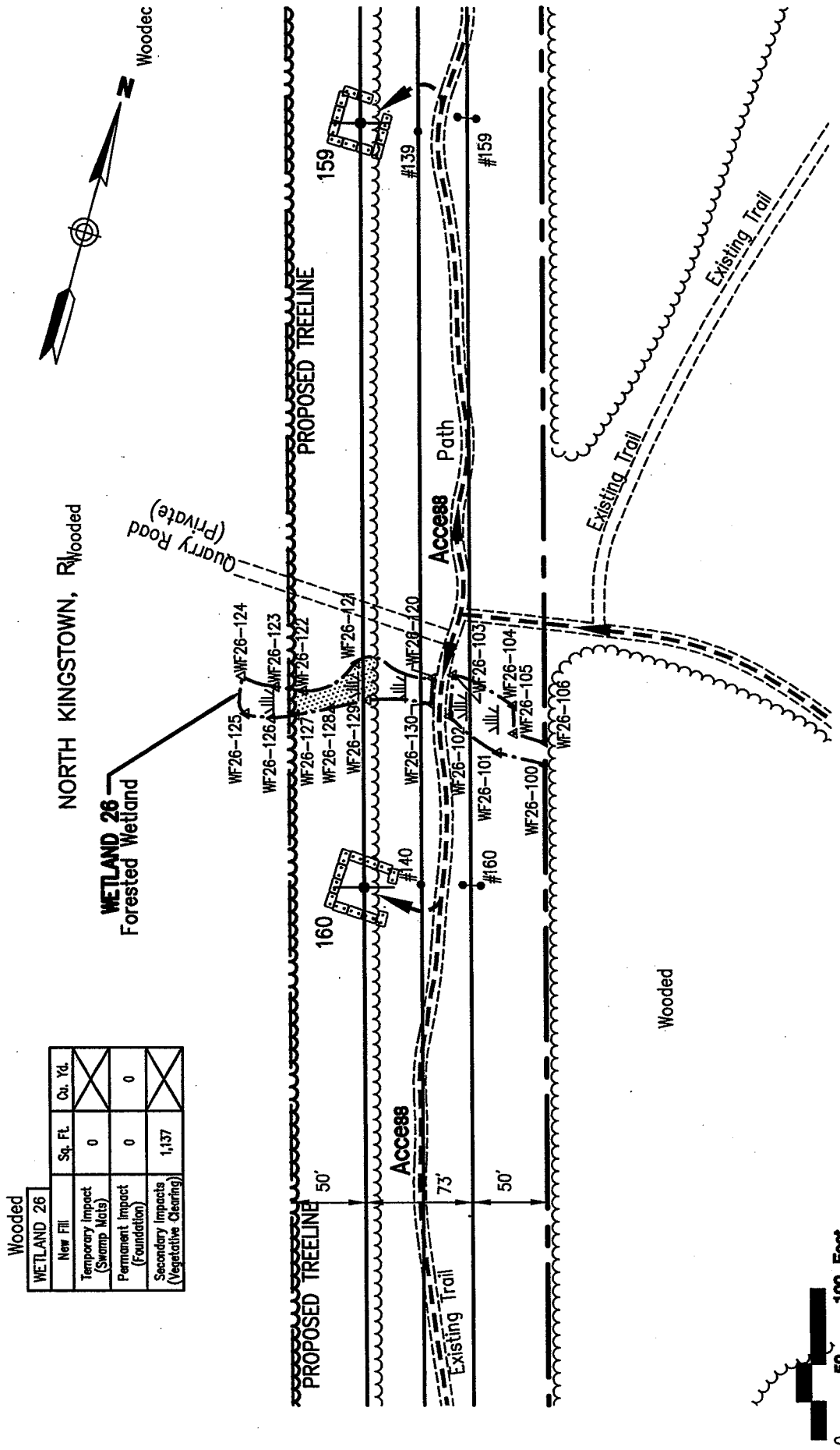
WETLAND 25			
	Sq. Ft.	Cu. Yd.	
New Fill	0		X
Temporary Impact (Swamp Mats)	0		X
Permanent Impact (Foundation)	0	0	
Secondary Impacts (Vegetative Clearing)	8,014		X

NORTH KINGSTOWN, RI

Yanasse Hanger Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-8100 • FAX 401.273-9694	SOUTHERN RHODE ISLAND TRANSMISSION PROJECT WETLAND 25 (POLES 163 - 164)		DATE JUNE 29, 2006 REVISED: FEB. 23, 2007
	AT: NORTH KINGSTOWN IN: WASHINGTON COUNTY STATE OF RHODE ISLAND	APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELLROSE STREET PROVIDENCE, RI 02907	SHEET 23 OF 46



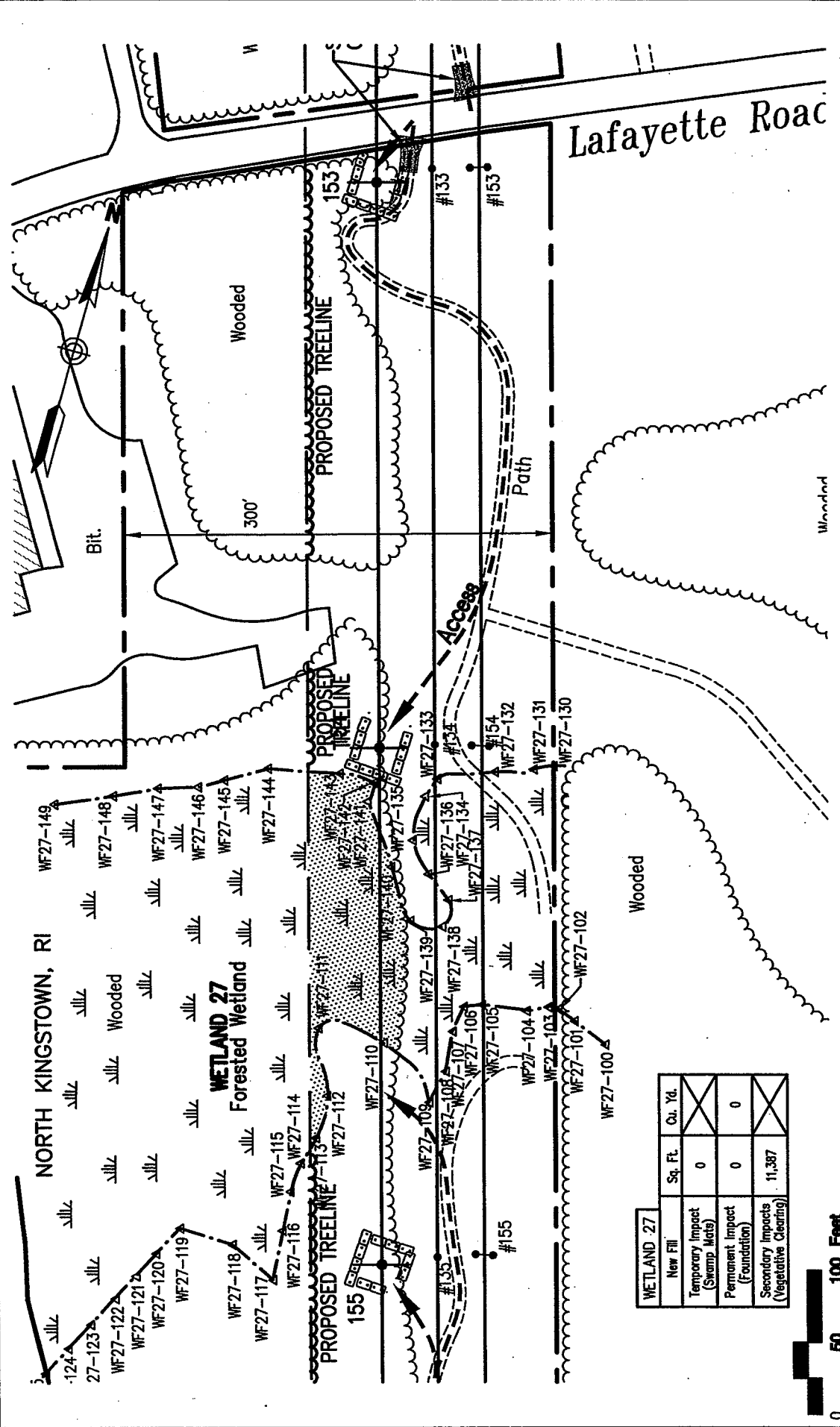
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Wooded			
WETLAND 26	Sq. Ft.	Cr. Yd.	
New Fill	0		X
Temporary Impact (Swamp Mats)	0		X
Permanent Impact (Foundation)	0	0	
Secondary Impacts (Vegetative Clearing)	1,137		X

<p>Yonasse Hagen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-8100 • FAX 401.273-9694</p>	<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT WETLAND 26 (POLES 159 - 160)</p>		<p>DATE JUNE 29, 2006 REVISED: FEB. 23, 2007</p>
	<p>AT: NORTH KINGSTOWN IN: WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>	<p>SHEET 24 OF 46</p>

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WETLAND 27		Sq. Ft.	Cu. Yd.
New Fill			
Temporary Impact (Shrub Mats)	0		X
Permanent Impact (Foundation)	0		0
Secondary Impacts (Vegetative Clearing)	11,387		X

SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
WETLAND 27 (POLES 153 - 155)

DATE **JUNE 29, 2006**
 REVISED: **FEB. 23, 2007**

AT: NORTH KINGSTOWN
 IN: WASHINGTON COUNTY
 STATE OF RHODE ISLAND

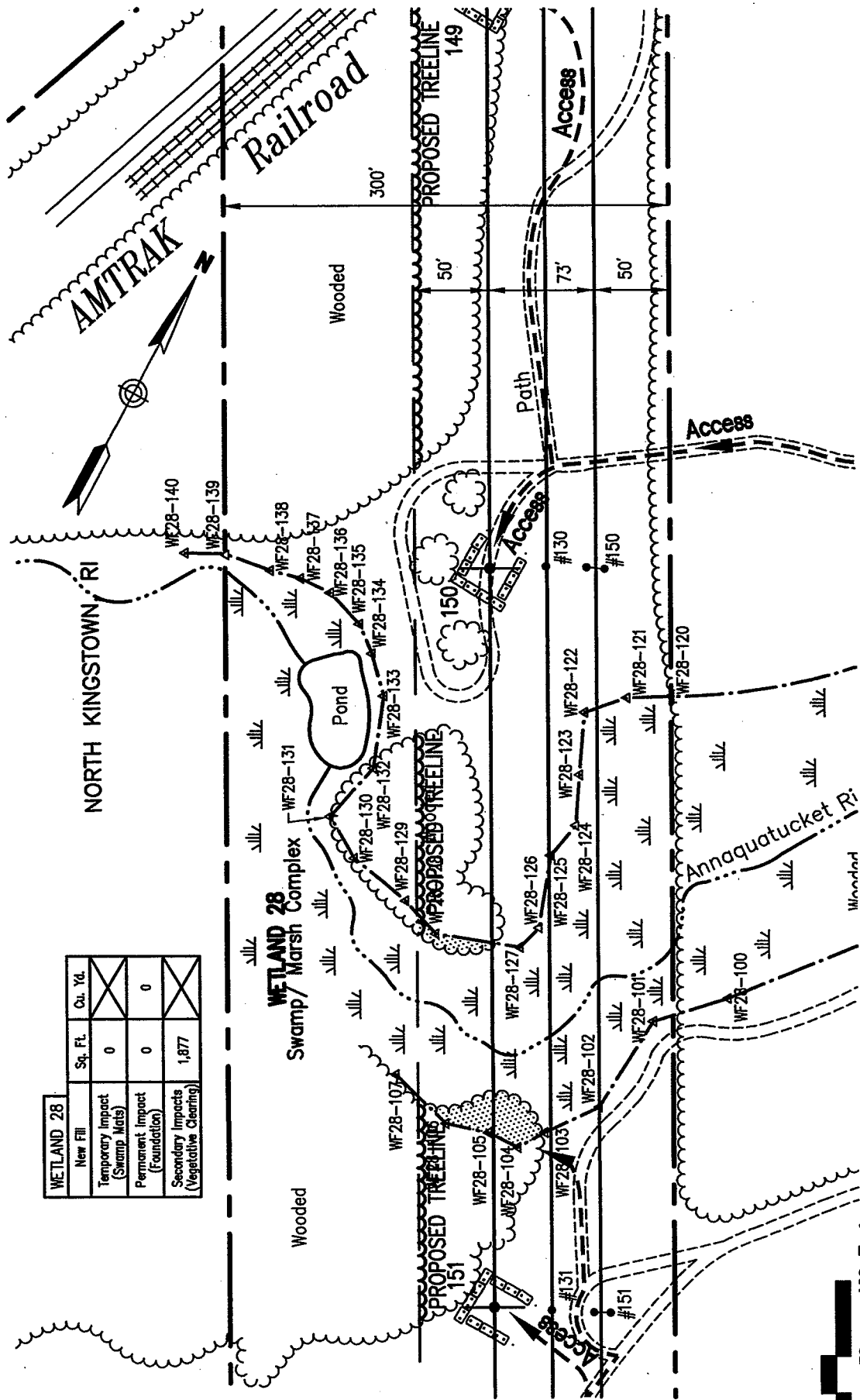
APPLICATION BY:
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SHEET **25** OF **46**

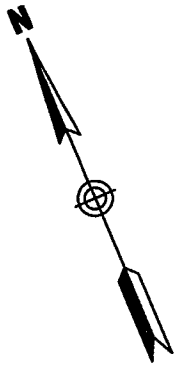
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WETLAND 28		Sq. Ft.	Cu. Yd.
New Fill		0	
Temporary Impact (Swamp Mats)		0	
Permanent Impact (Foundation)		0	0
Secondary Impacts (Vegetative Clearing)		1,877	



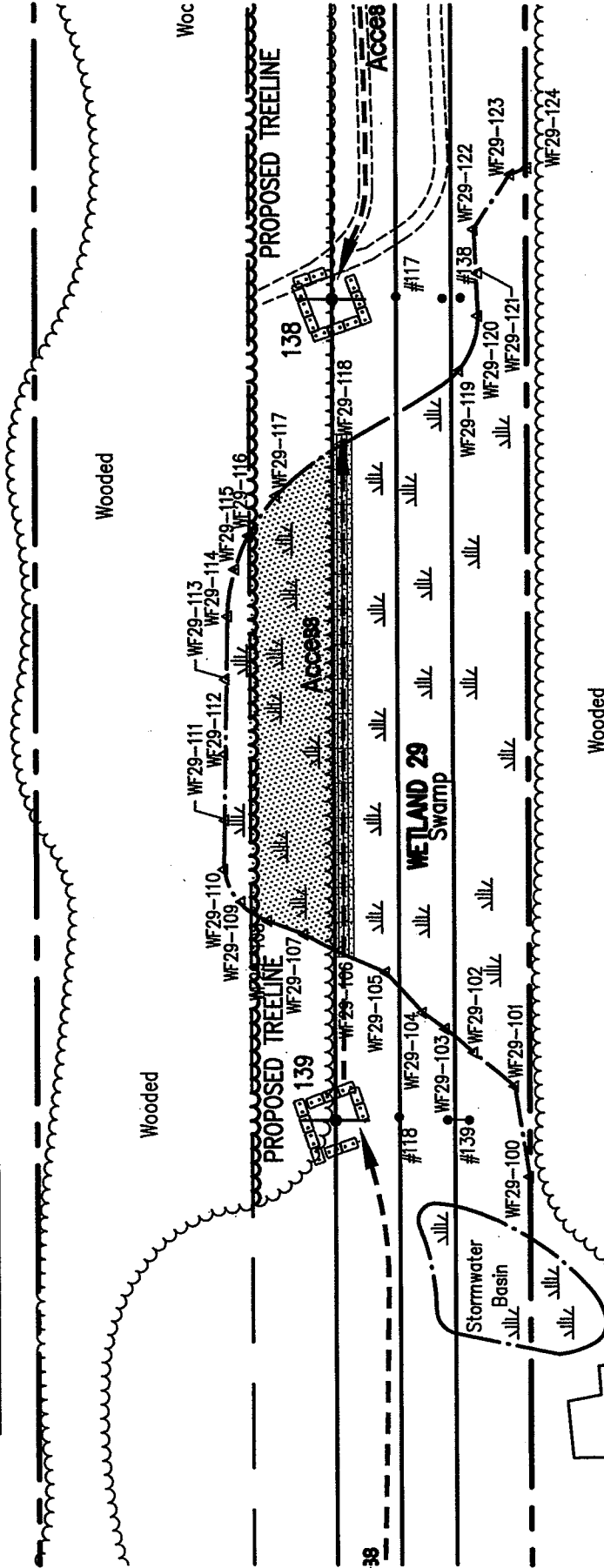
<p>Vanasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services 550 Broadway Providence, RI 02909 401.272-8100 • FAX 401.273-9694</p>	<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT WETLAND 28 (POLES 150 - 151)</p>	<p>DATE JUNE 29, 2006 REVISED: FEB. 23, 2007</p>
<p>AT: NORTH KINGSTOWN IN: WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>	<p>SHEET 26 OF 46</p>

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NORTH KINGSTOWN, RI

WETLAND 29		
New Fill	Sq. Ft.	Cu. Yd.
Temporary Impact (Swamp Mats)	5,280	X
Permanent Impact (Foundation)	0	0
Secondary Impacts (Vegetative Clearing)	12,727	X



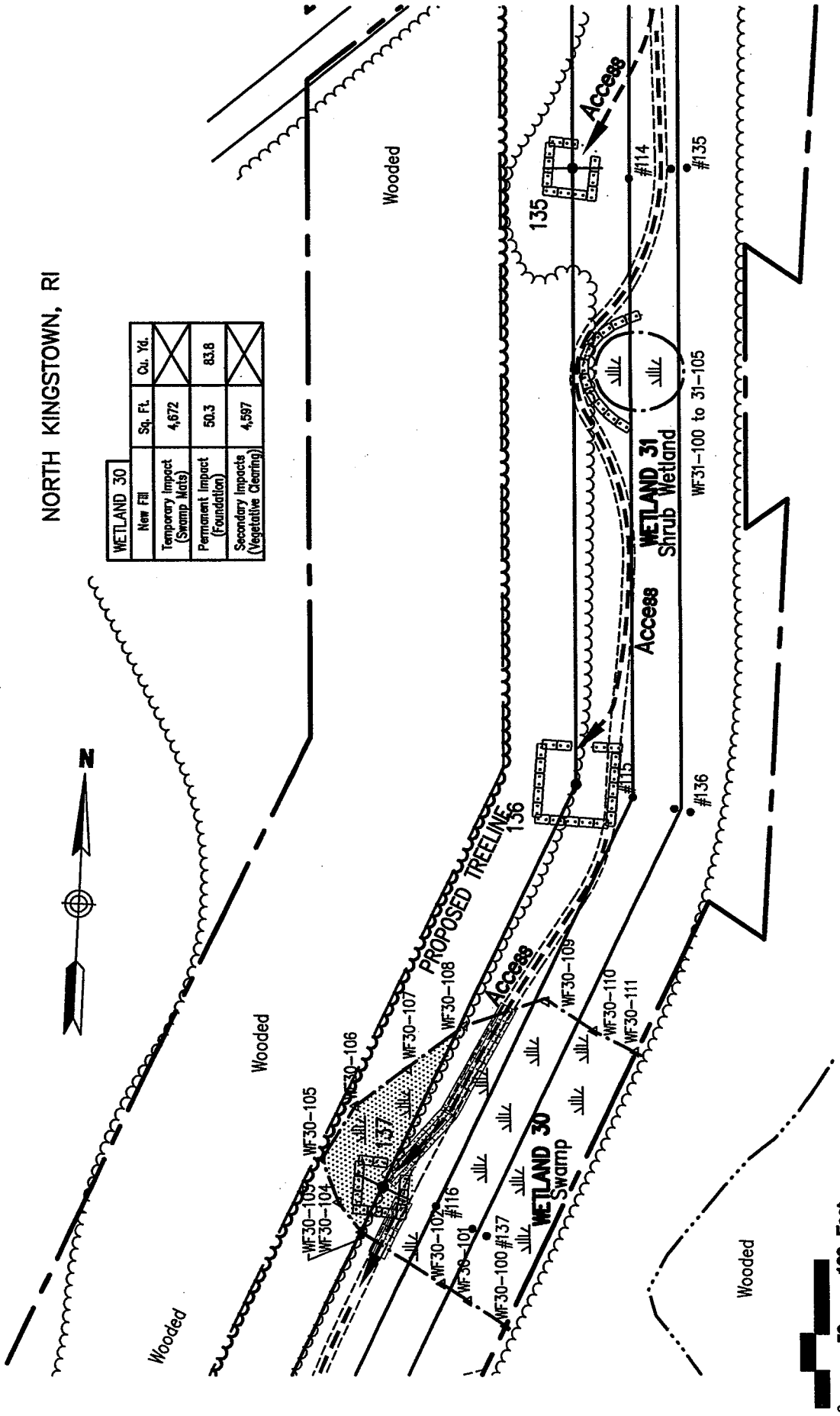
<p>VHB</p> <p>Vannasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-8100 • FAX 401.273-9684</p>	<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT</p> <p>WETLAND 29 (POLES 138 - 139)</p>		<p>DATE JUNE 29, 2006</p> <p>REVISED: FEB. 23, 2007</p>
	<p>AT: NORTH KINGSTOWN</p> <p>IN: WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>	<p>SHEET 27 OF 46</p>


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NORTH KINGSTOWN, RI

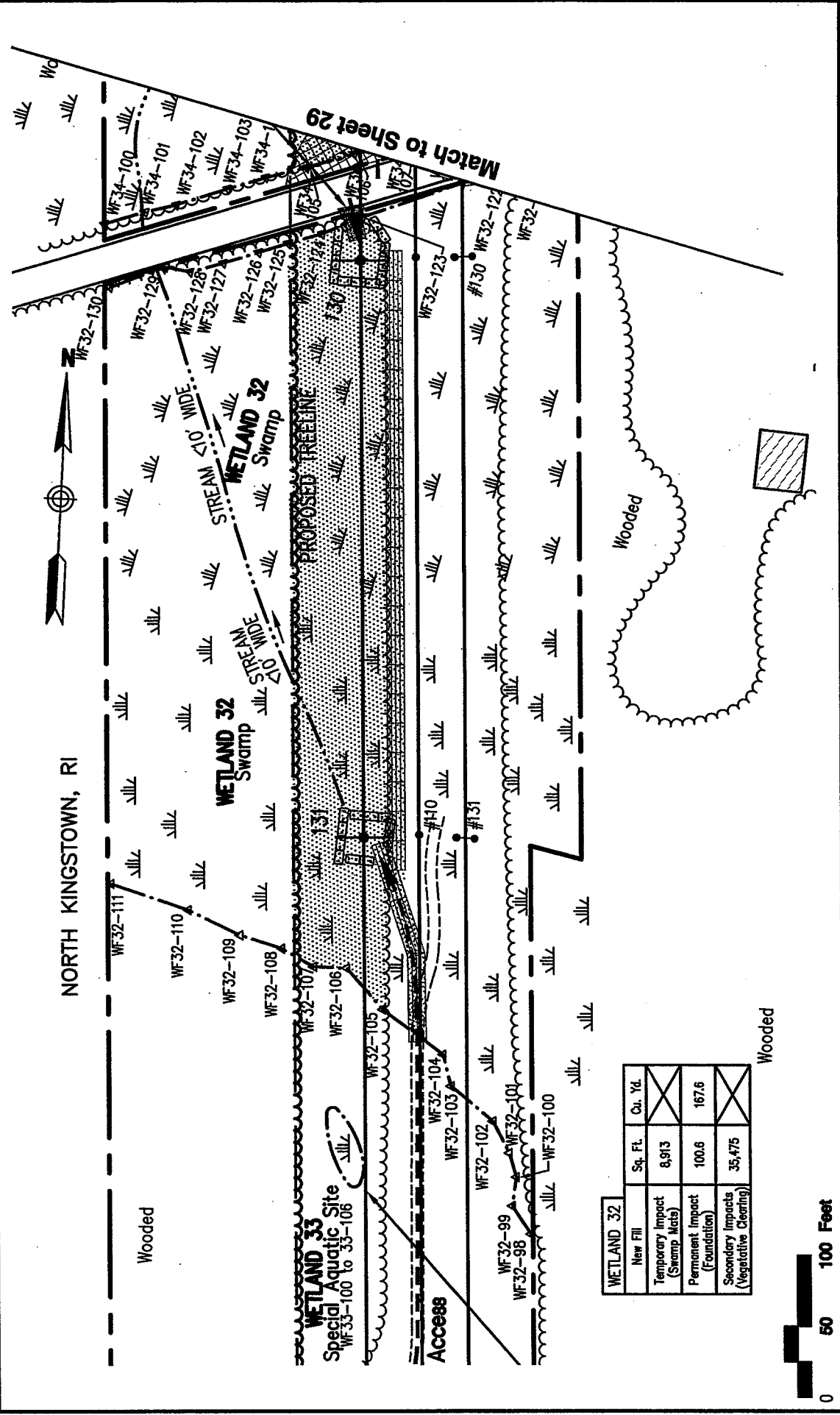


WETLAND 30			
New Fill	Sq. Ft.	Cu. Yd.	
Temporary Impact (Swamp Mats)	4,672		X
Permanent Impact (Foundation)	50.3		83.8
Secondary Impacts (Vegetative Clearing)	4,597		X



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	<p>AT: NORTH KINGSTOWN IN: WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>	<p>SHEET 28 OF 46</p>

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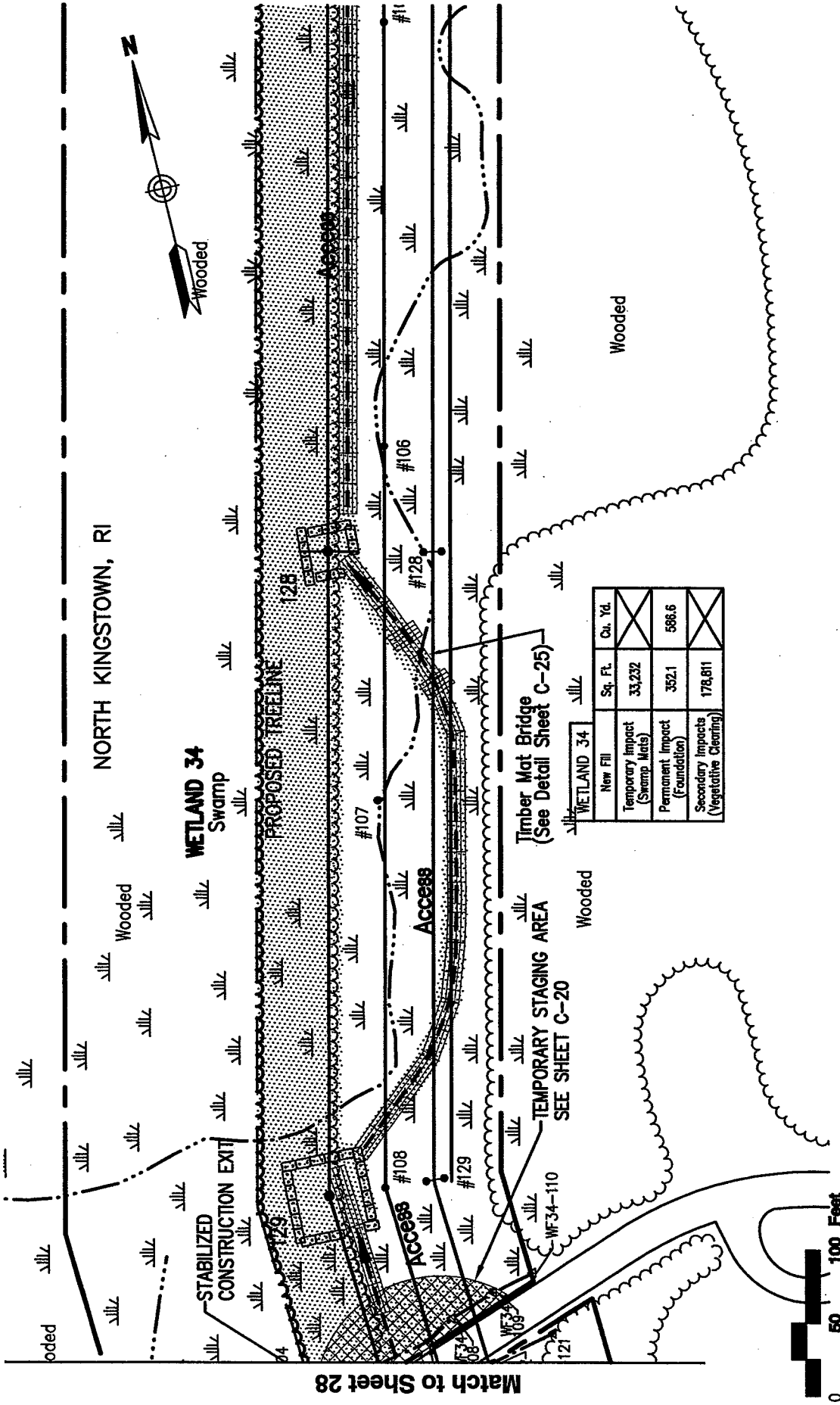
WETLAND 32	Sq. Ft.	Cu. Yd.
New Fill	8,913	X
Temporary Impact (Stamp Mats)	100.6	167.6
Permanent Impact (Foundation)	35,475	X
Secondary Impacts (Vegetative Clearing)		



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	<p>AT: NORTH KINGSTOWN IN: WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>	<p>SHEET 29 OF 46</p>



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	Sq. Ft.	Cu. Yd.
New Fill	33,232	X
Temporary Impact (Swamp Mats)	3521	X
Permanent Impact (Foundation)	178,811	X
Secondary Impacts (Vegetative Clearing)	588.6	X



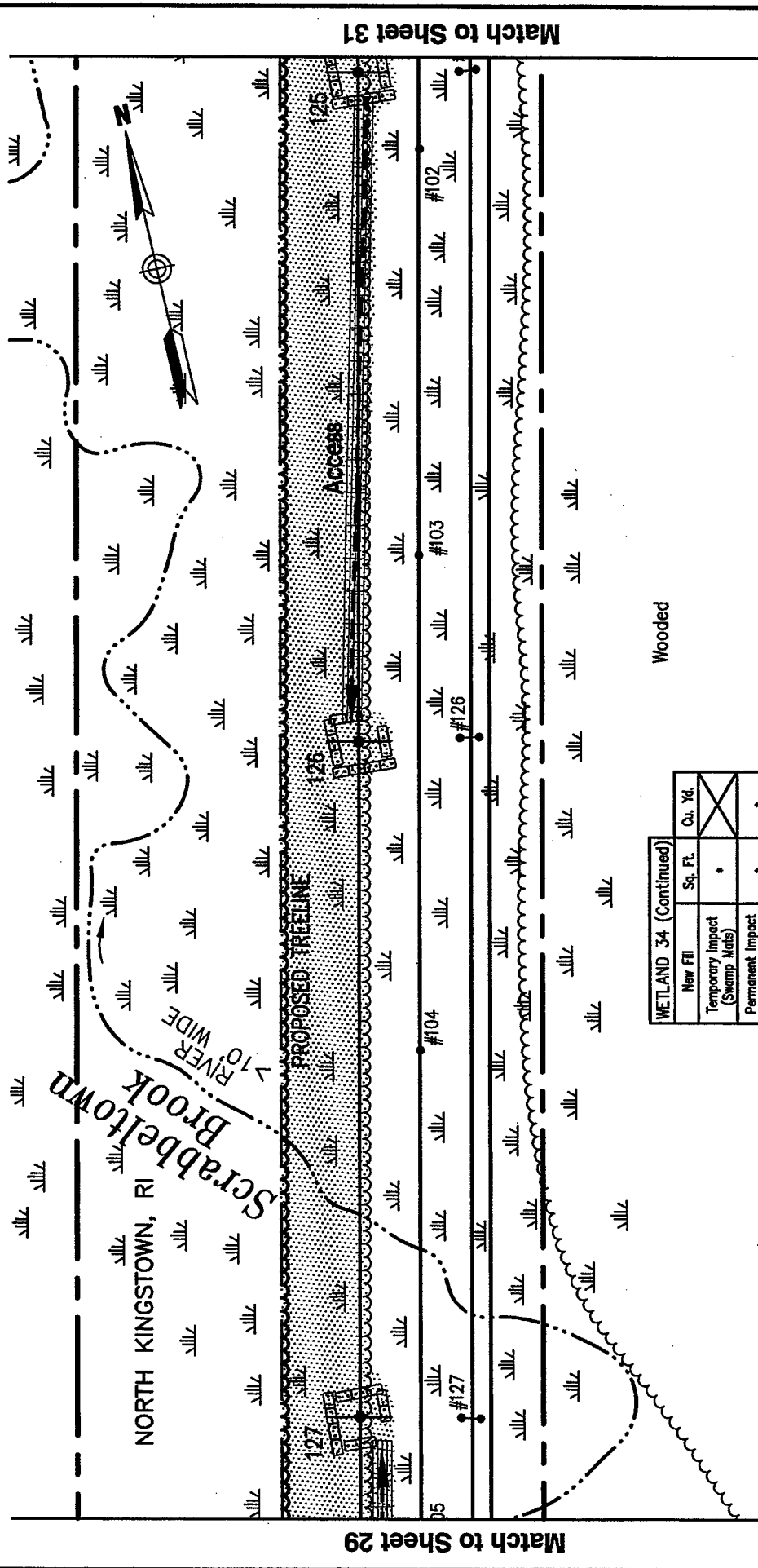
DATE **JUNE 29, 2006**
 REVISED: **FEB. 23, 2007**
 SHEET **30** OF **46**

SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
WETLAND 34 (POLES 128 - 129)
 APPLICATION BY:
NARRAGANSETT ELECTRIC COMPANY
 280 MELROSE STREET
 PROVIDENCE, RI 02907

AT: NORTH KINGSTOWN
 IN: WASHINGTON COUNTY
 STATE OF RHODE ISLAND

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WETLAND 34 (Continued)			
New Fill	Sq. Ft.	Qy. Yr.	
Temporary Impact (Swamp Mats)	*		X
Permanent Impact (Foundation)	*	*	*
Secondary Impacts (Vegetative Clearing)	*		X

* See Sheet 30 for Totals



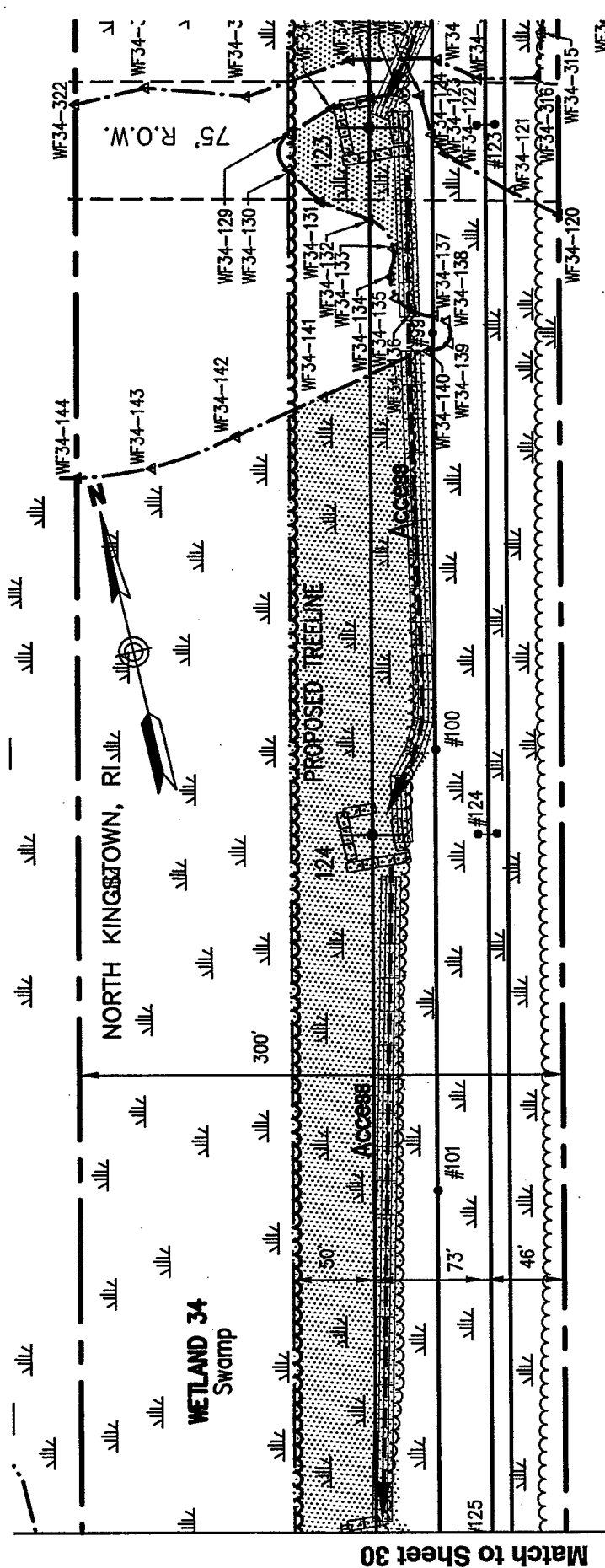
DATE **JUNE 29, 2006**
 REVISED: **FEB. 23, 2007**
 SHEET **31** OF **46**

SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
WETLAND 34 (POLES 125 - 127)

APPLICATION BY:
NARRAGANSETT ELECTRIC COMPANY
 280 MELROSE STREET
 PROVIDENCE, RI 02907

AT: NORTH KINGSTOWN
 IN: WASHINGTON COUNTY
 STATE OF RHODE ISLAND

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Match to Sheet 30

WETLAND 34 (Continued)		
New Fill	Sq. Ft.	Cu. Yd.
Temporary Impact (Swamp Mats)	*	X
Permanent Impact (Foundation)	*	*
Secondary Impacts (Vegetative Clearing)	*	X

* See Sheet 30 for Totals



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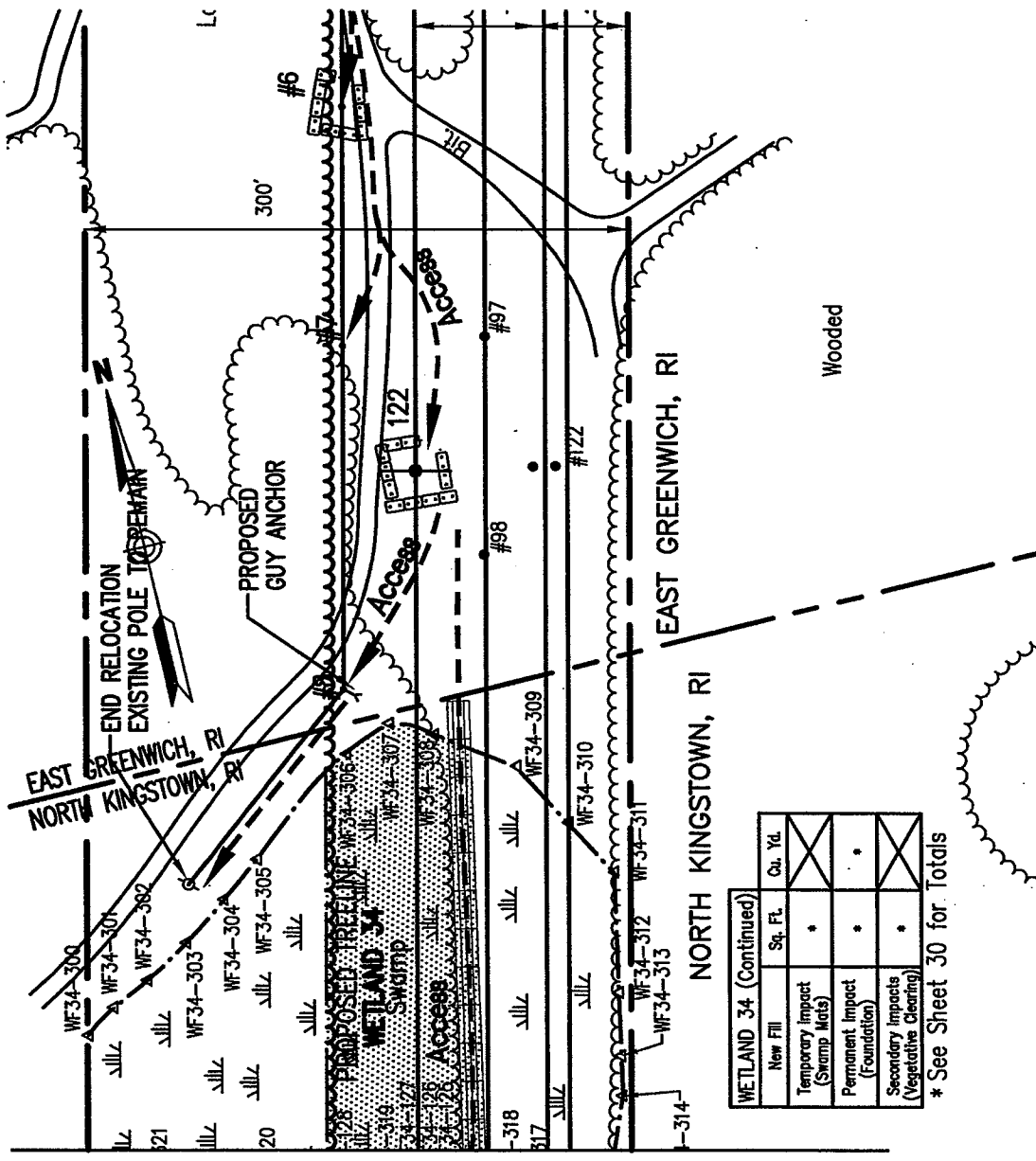
SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
WETLAND 34 (POLES 118 - 119)

DATE **JUNE 29, 2006**
 REVISIONS: **FEB. 23, 2007**

AT: NORTH KINGSTOWN
 IN: WASHINGTON COUNTY
 STATE OF RHODE ISLAND

APPLICATION BY:
NARRAGANSETT ELECTRIC COMPANY
 280 MIELROSE STREET
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SHEET **32** OF **46**



WETLAND 34 (Continued)		
	Sq. Ft.	Cu. Yd.
New Fill		
Temporary Impact (Swamp Mats)	*	X
Permanent Impact (Foundation)	*	*
Secondary Impacts (Vegetative Clearing)	*	X

* See Sheet 30 for Totals



DATE **JUNE 29, 2006**
 REVISED: **FEB. 23, 2007**
 SHEET **33** OF **46**

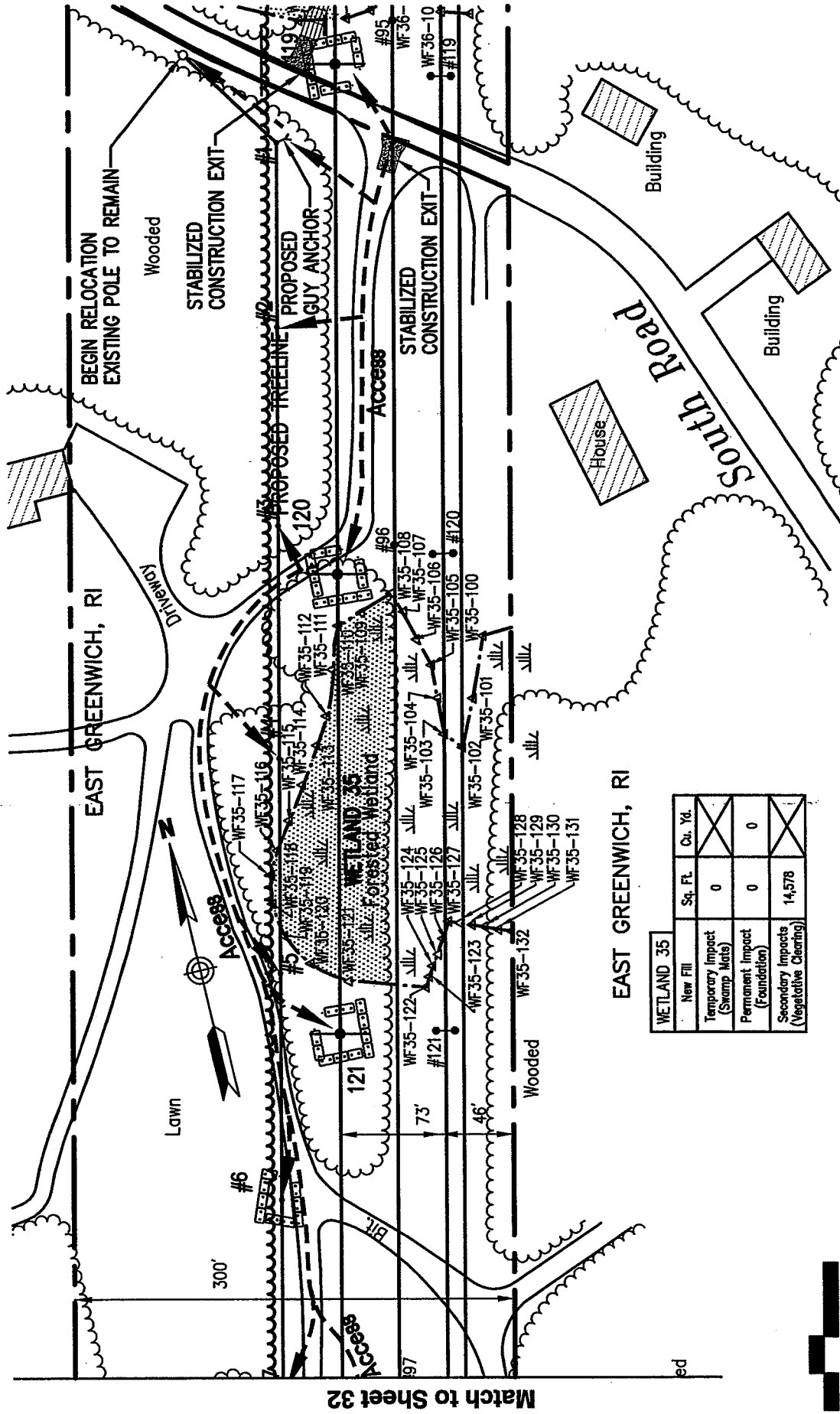
SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
WETLAND 34 (POLES 121 - 122)

AT: NORTH KINGSTOWN
 IN: WASHINGTON COUNTY
 STATE OF RHODE ISLAND

Application BY:
NARRAGANSETT ELECTRIC COMPANY
 280 MELLROSE STREET
 PROVIDENCE, RI 02907

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WETLAND 35			
	Sq. Ft.	Cu. Yd.	
New Fill			
Temporary Impact (Swamp, Mats)	0		X
Permanent Impact (Foundation)	0	0	
Secondary Impacts (Vegetative Clearing)		14,578	X

DATE **JUNE 29, 2006**
 REVISED: **FEB. 23, 2007**
 SHEET **34** OF **46**

SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
WETLAND 35 (POLES 119 - 121)

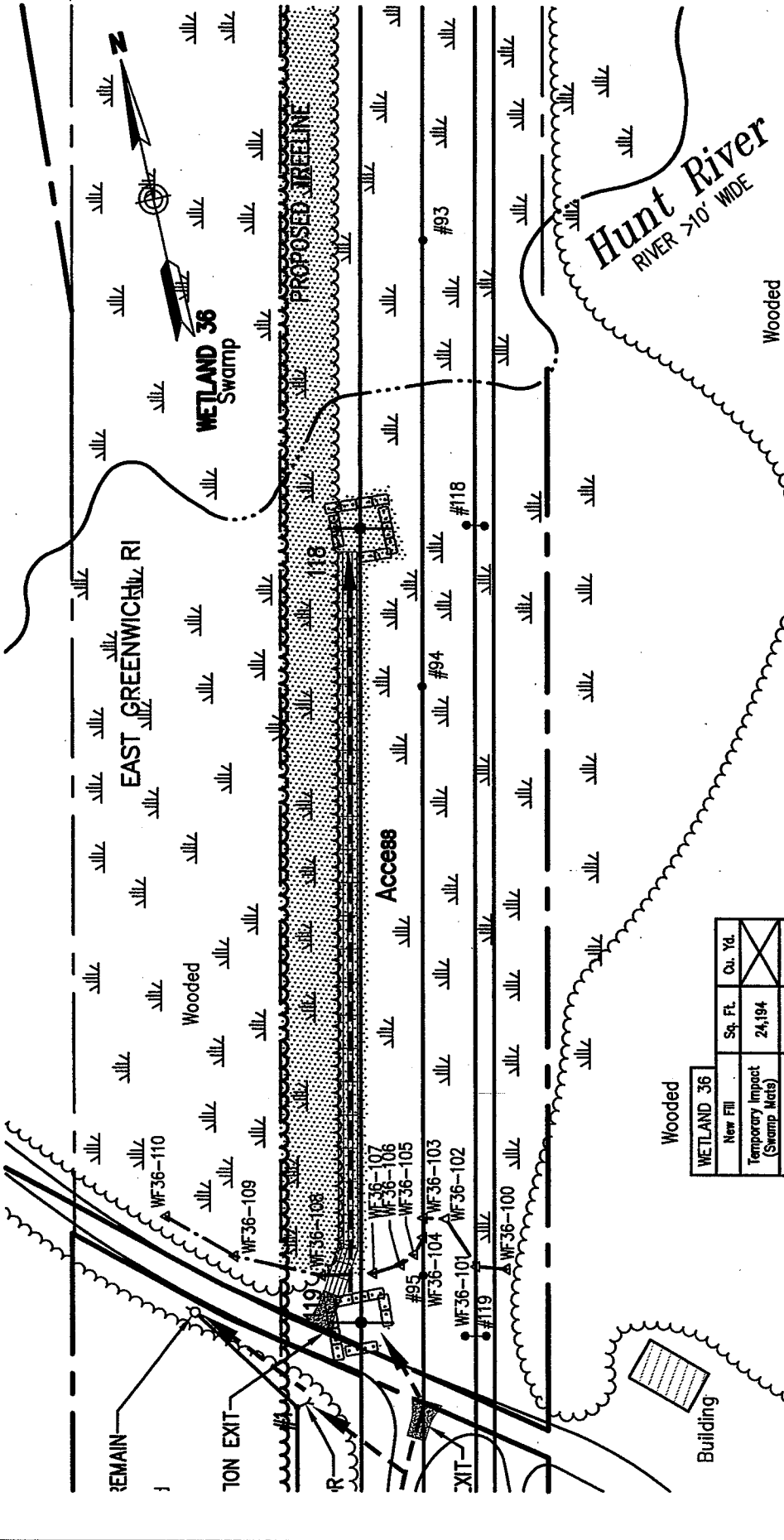
APPLICATION BY:
NARRAGANSETT ELECTRIC COMPANY
 280 MELLORE STREET
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AT: NORTH KINGSTOWN
 IN: WASHINGTON COUNTY
 STATE OF RHODE ISLAND

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WETLAND 36	Sq. Ft.	Cu. Yd.
New Fill	24,194	X
Temporary Impact (Swamp Mats)	150.9	251.4
Permanent Impact (Foundation)	56,680	X
Secondary Impacts (Vegetative Clearing)		



DATE **JUNE 29, 2006**
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 SHEET **35** OF **46**

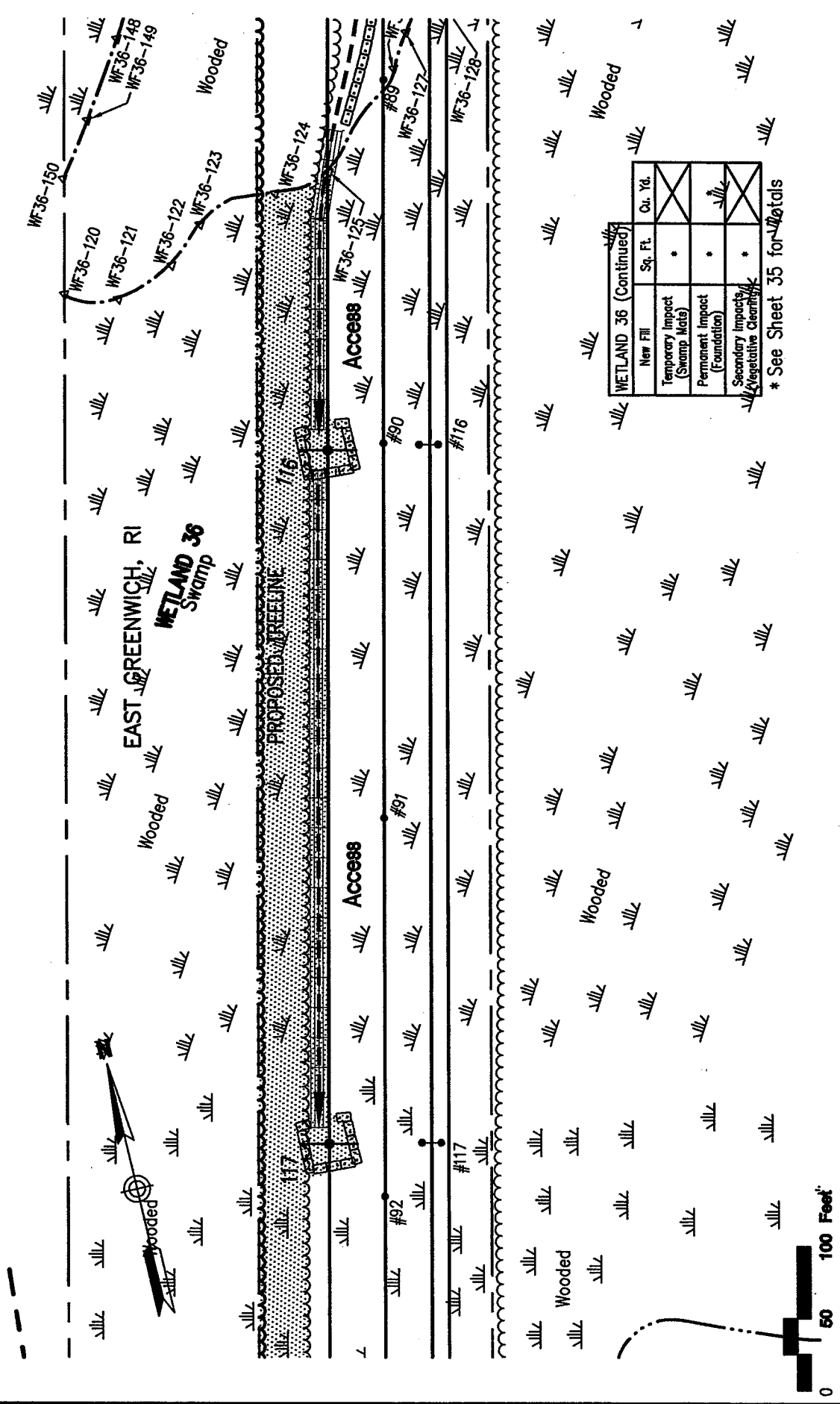
SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
WETLAND 36 (POLES 118 - 119)

APPLICATION BY:
NARRAGANSETT ELECTRIC COMPANY
 280 MEL ROSE STREET
 PROVIDENCE, RI 02907

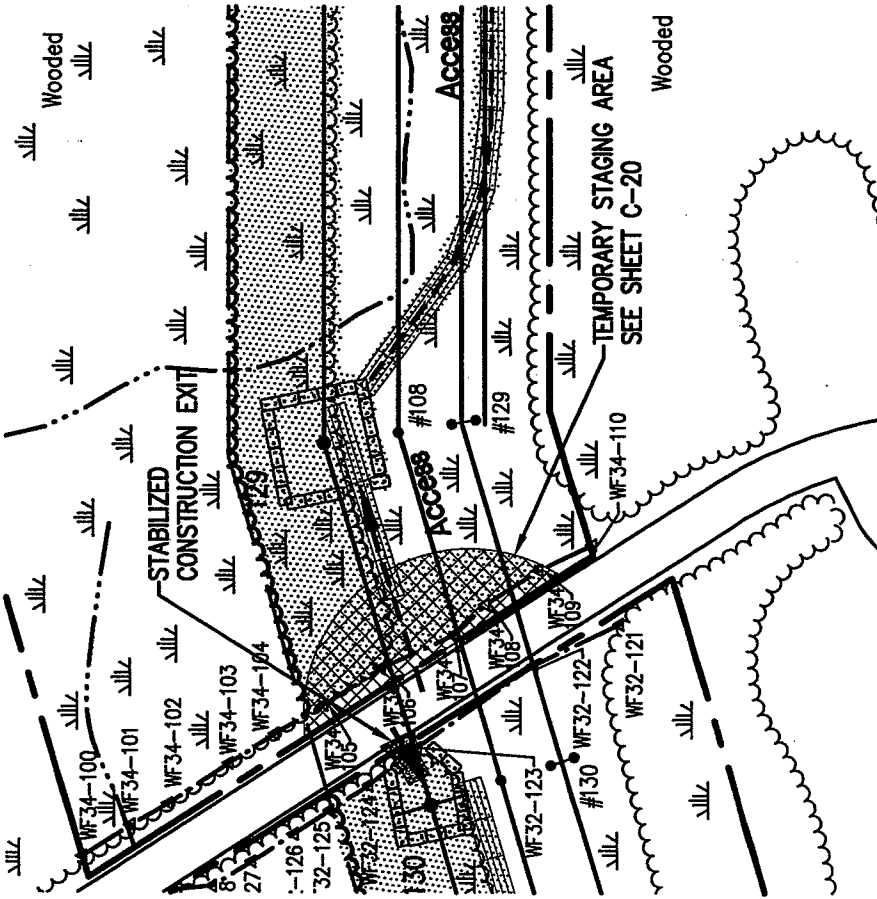
AT: NORTH KINGSTOWN
 IN: WASHINGTON COUNTY
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<p>Vanasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-8100 • FAX 401.273-9684</p>	<p>AT: NORTH KINGSTOWN IN: WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT WETLAND 36 (POLES 116 - 117)</p>
<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>		<p>DATE JUNE 29, 2006 REVISED: FEB. 23, 2007</p>
<p>VHB</p>		<p>SHEET 36 OF 46</p>

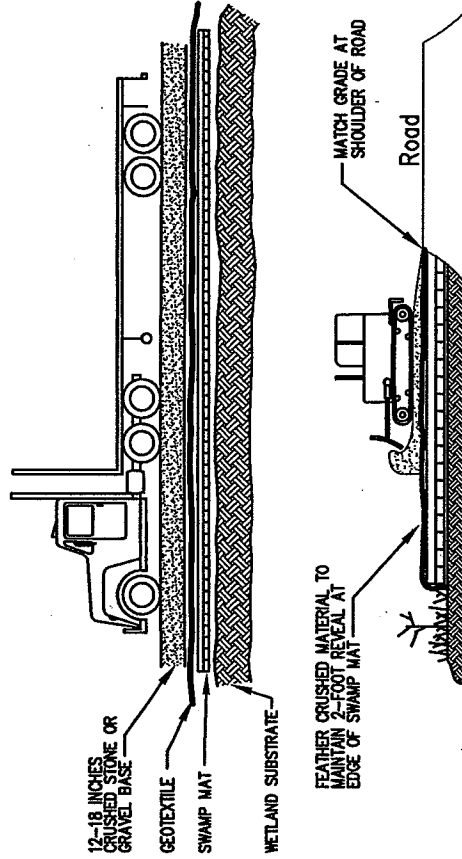


TEMPORARY STAGING AREA CONSTRUCTION SEQUENCE

- 1) Mark Limit of Vegetation Clearing with Orange Flagging.
- 2) Clear Vegetation within Marked Perimeter to within 1-foot of Ground Surface. This Work May Be Completed by Workers Using Hand Tools or Equipment Operating Off of Swamp Mats.
- 3) Install Swamp Mats over Cleared Area Using Boom Trucks or Crane First Stationed on Road and Working Progressively into Wetland
- 4) Install Geotextile Fabric over Swamp Mats Manually. Minimum 2-foot Overlap at Seams.
- 5) Place and Spread Gravel or Crushed Stone (D50 2-inch). Feather Material toward Edges of Swamp Mats Leaving a Minimum 2-foot Reveal at Edge of Mat. Match Grade at Shoulder of Road.

TEMPORARY STAGING AREA RESTORATION SEQUENCE

- 1) Once Construction has been Completed, pull back Geotextile Fabric making sure to Capture the Gravel or Stone Material. Haul Gravel or Stone Material Off-Site.
- 2) Remove Mats Working from Wetland Edge Back Toward the Road.
- 3) Use Straw or Cellulose Fiber Mulch to Protect and Stabilize any Areas of Disturbed Soils.
- 4) Monitor Site for Invasive Plants for Two Years Following Construction.

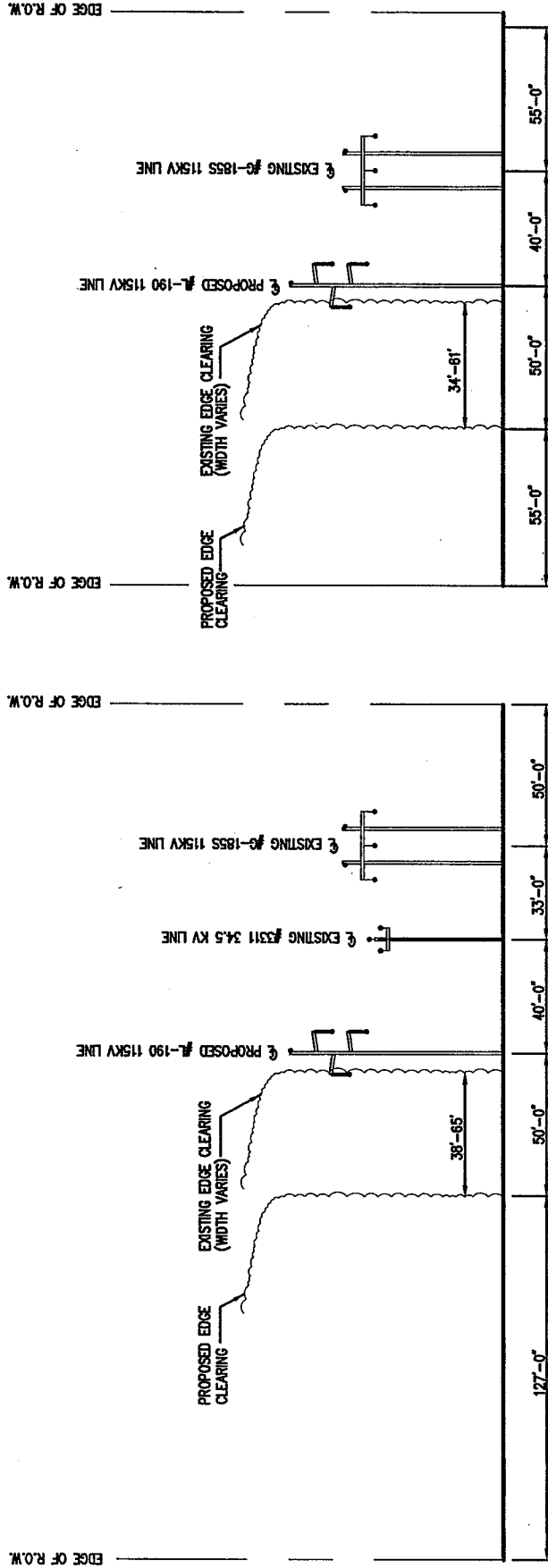


TEMPORARY STAGING AREA DETAILS



<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT TEMPORARY STAGING AREA</p>	<p>DATE JUNE 29, 2006 REVISION: FEB. 23, 2007</p>
	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>
<p>AT: NORTH KINGSTOWN IN: WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>SHEET 37 OF 46</p>
<p>Vanasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-6100 • FAX. 401.273-9694</p>	

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300' RIGHT-OF-WAY

200' RIGHT-OF-WAY

**Cross-Section Showing Proposed Arrangement of Lines Between
Old Baptist Road Tap Point and Tower Hill Tap Point (Facing North)**

Source: National Grid, 2005.

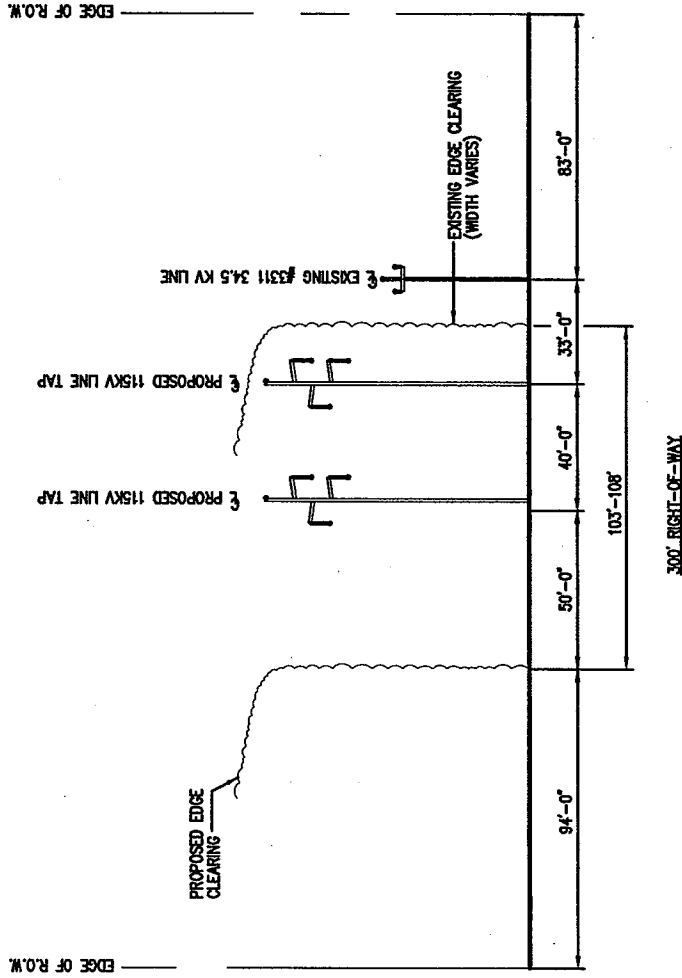
N.T.S.

**Cross-Section Showing Proposed Arrangement of Lines Between
Tower Hill Tap Point and West Kingston Substation (Facing North)**

Source: National Grid, 2005.

N.T.S.

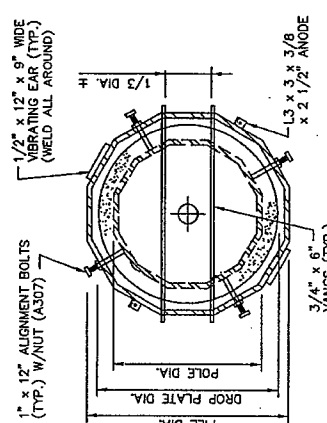
<p>VHB</p> <p>Vanasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-8100 • FAX 401.273-9694</p>	<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT</p> <p>TYPICAL SECTIONS</p>		<p>DATE JUNE 29, 2006</p> <p>REVISED: FEB. 23, 2007</p>
	<p>AT: EAST GREENWICH, NORTH KINGSTOWN, EXETER AND SOUTH KINGSTOWN</p> <p>IN: KENT AND WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>	<p>SHEET 38 OF 46</p>



Cross-Section Showing Proposed Arrangement of Tap Lines Between Tower Hill Tap Point and Tower Hill Substation (Facing West)

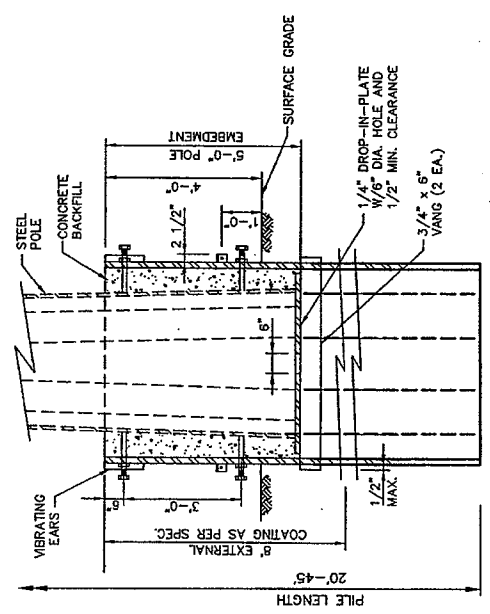
Source: National Grid, 2003. N.T.S.

<p>DATE JUNE 29, 2006 REVISED: FEB. 23, 2007</p>	<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT TYPICAL SECTIONS</p>	<p>Vanasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-8100 • FAX 401.273-9694</p>
<p>SHEET 39 OF 46</p>	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>	<p>AT: EAST GREENWICH, NORTH KINGSTOWN, EXETER AND SOUTH KINGSTOWN IN: KENT AND WASHINGTON COUNTY STATE OF RHODE ISLAND</p>



- NOTES:
1. SUPPLIER TO VERIFY PILE THICKNESS AND GRADE. MIN. WALL THICKNESS SHALL BE 1/2" (SEE SPECS).
 2. PILE TIP TO BE OPEN.
 3. SUPPLIER TO COAT TOP 8' OF PILE WITH COATING AS PER SPEC.
 4. CONCRETE BACKFILL SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI.

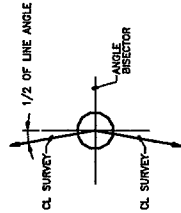
PLAN VIEW



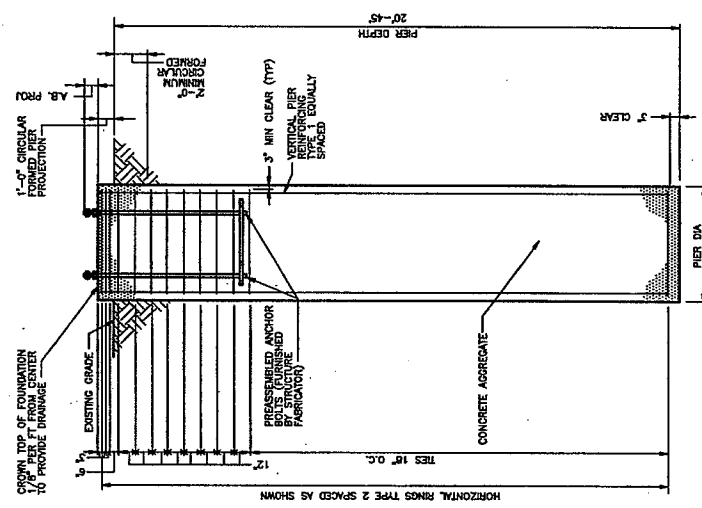
ELEVATION DETAIL

NOTES:

1. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, AND A613.
2. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI. ALL CONCRETE SHALL BE PLACED IN ONE LIFT. ALL CONCRETE SHALL BE PROTECTED FROM LOSS OF MOISTURE FOR A MINIMUM OF 7 DAYS.
3. FORMED CONCRETE SURFACES WHICH WILL BE EXPOSED ABOVE GRADE SHALL BE CLEANED AND RUBBED TO PRODUCE A SMOOTH, UNIFORM SURFACE FREE OF MARKS, Voids, SURFACE CRACKS, AND DISCOLORATIONS.
4. ALL CONCRETE SHALL BE PLACED IN A SINGLE CONTINUOUS OPERATION TO PRODUCE A UNIFORM FINISH.
5. ALL CONCRETE SHALL BE CURED BY THE BRUSHING ASSISTATOR. CONTRACTOR SHALL VERIFY ANCHOR BOLT PROTECTION AND ORIENTATION OF ANCHOR BOLT CASE WITH FABRICATOR'S DRAWINGS BEFORE CONSTRUCTION.
6. STEEL CASINGS, IF USED TO KEEP THE PIER HOLE OPEN WHILE POURING CONCRETE SHALL BE LEFT IN PLACE.



TUBULAR STEEL STRUCTURE DRILLED PIER FOUNDATION PLANS
(ANCHOR BOLT CASES SHALL BE ORIENTED AS MARKED ON THE TOP TEMPLATE OF THE ANCHOR BOLT ASSEMBLY)



Socket Pile Foundation

Source: Black & Veatch Corporation

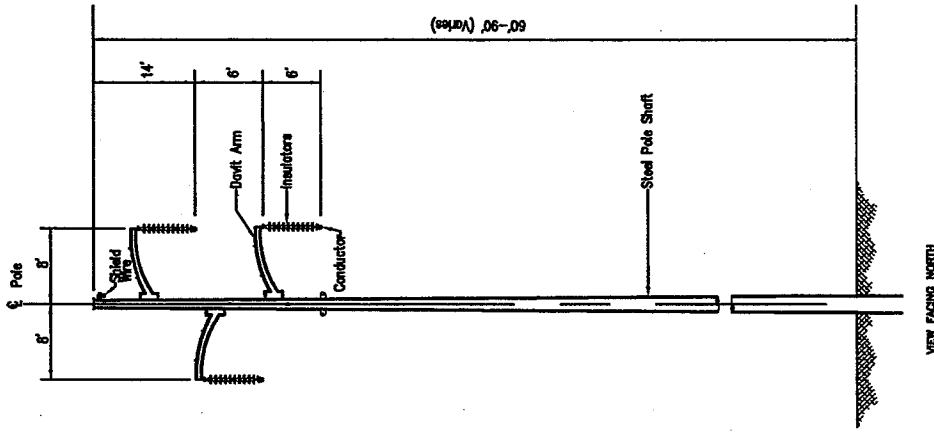
N.T.S.

Drilled Pier Foundation

Source: Black & Veatch Corporation

N.T.S.

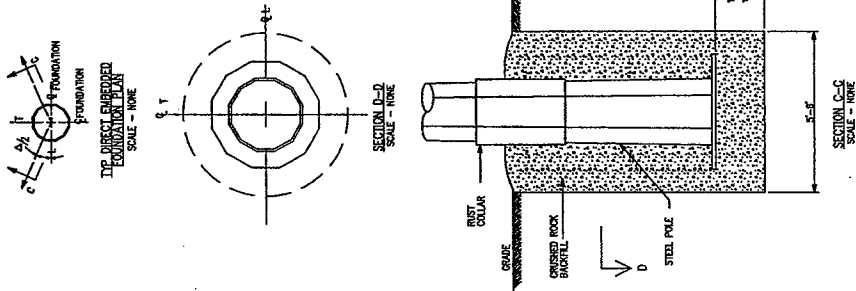
<p>VHB</p> <p>Vanasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-8100 • FAX. 401.273-9694</p>	<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT</p> <p>Details</p>		<p>DATE JUNE 29, 2006</p> <p>REVISED: FEB. 23, 2007</p>
	<p>AT: EAST GREENWICH, NORTH KINGSTOWN, EXETER AND SOUTH KINGSTOWN STATE OF RHODE ISLAND</p>	<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>	<p>SHEET 40 OF 46</p>



Typical Single-Shaft Steel Pole Davit Arm Structure

Source: National Grid, 2005.

N.T.S.

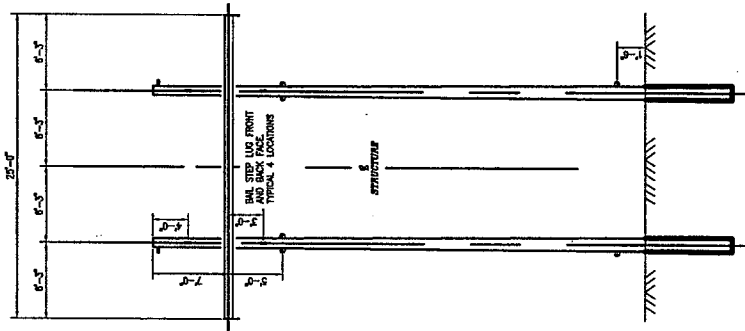


Direct Embedded Foundation

Source: Black & Veatch Corporation

N.T.S.

<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT</p> <p>Details</p>		<p>DATE JUNE 29, 2006</p> <p>REVISED: FEB. 23, 2007</p>
		<p>SHEET 41 OF 46</p>
<p>AT: EAST GREENWICH, NORTH KINGSTOWN, EXETER AND SOUTH KINGSTOWN</p> <p>IN: KENT AND WASHINGTON COUNTY STATE OF RHODE ISLAND</p>		<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>
<p>VHB</p> <p>Vanasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-8100 • FAX 401.273-9694</p>		

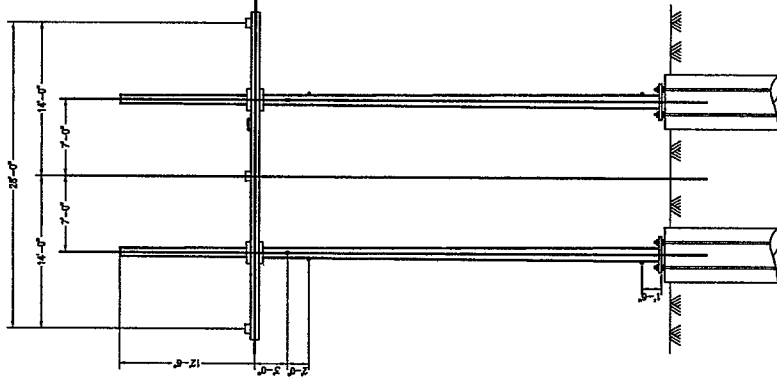


ELEVATION

Steel H Frame Structure

N.T.S.

Source: Black and Veatch Corporation



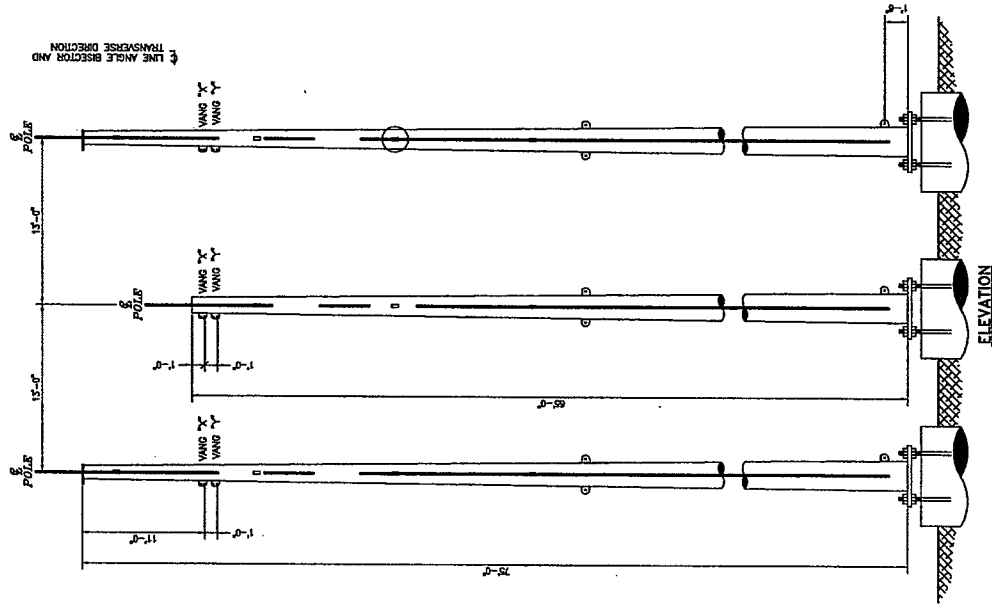
ELEVATION

Airbreak Switch Structure

N.T.S.

Source: Black and Veatch Corporation

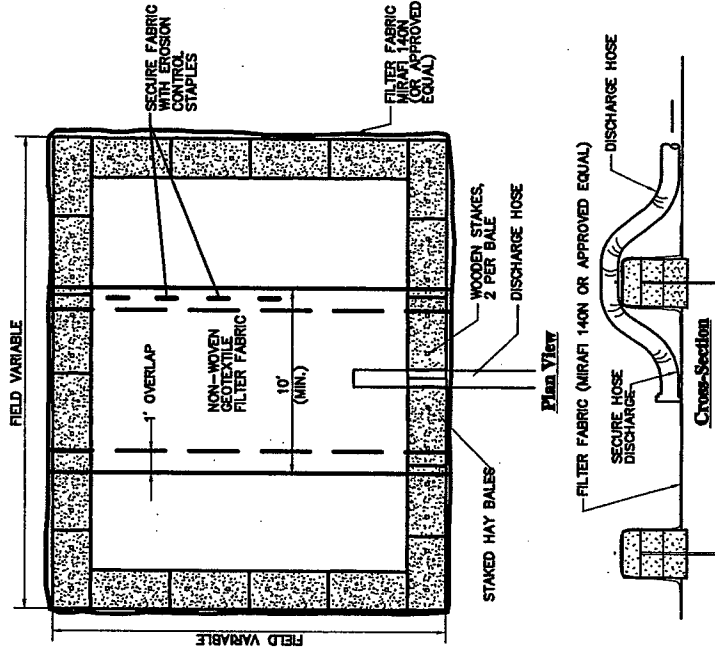
<p>SOUTHERN RHODE ISLAND TRANSMISSION PROJECT</p> <p>Details</p>		<p>DATE: JUNE 29, 2006</p> <p>REVISED: FEB. 23, 2007</p>
<p>APPLICATION BY: NARRAGANSETT ELECTRIC COMPANY 280 MELROSE STREET PROVIDENCE, RI 02907</p>	<p>SHEET 42 OF 46</p>	
<p>AT: EAST GREENWICH, NORTH KINGSTOWN, EXETER AND SOUTH KINGSTOWN IN: KENT AND WASHINGTON COUNTY STATE OF RHODE ISLAND</p>	<p>VHB</p> <p>Vanasse Hangen Brustlin, Inc. Transportation Land Development Environmental Services 530 Broadway Providence, RI 02909 401.272-5100 • FAX 401.273-9694</p>	



3 Pole Deadend Structure

N.T.S.

Source: Black and Veatch Corporation



Notes:

1. NUMBER OF BALES MAY VARY DEPENDING ON SITE CONDITIONS.
2. THE BASIN TO BE SIZED TO PREVENT DISCHARGE WATER FROM OVERTOPPING BASIN.

Dewatering Haybale Basin

N.T.S.

Source: VHB

3/02

REV LD_690



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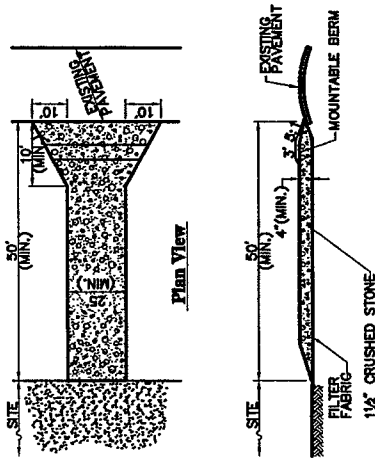
SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
 Details

APPLICATION BY:
NARRAGANSETT ELECTRIC COMPANY
 280 MELFROSE STREET
 PROVIDENCE, RI 02907

AT: EAST GREENWICH, NORTH KINGSTOWN, EXETER
 AND SOUTH KINGSTOWN
 IN: KENT AND WASHINGTON COUNTY
 STATE OF RHODE ISLAND

DATE **JUNE 29, 2006**
 REVISED: **FEB. 23, 2007**

SHEET **43** OF **46**

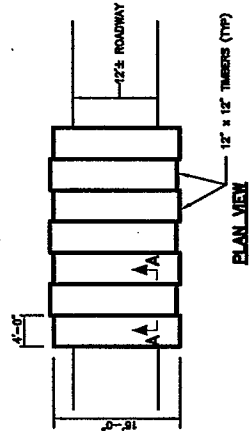


Notes:

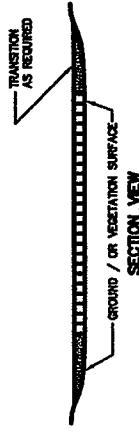
- ENTRANCE WIDTH SHALL BE A TWENTY-FIVE (25) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.
- STABILIZED CONSTRUCTION EXIT SHALL BE REMOVED AND ENTRANCE SHALL BE RESTORED TO ITS PRE-CONSTRUCTION CONDITION FOLLOWING COMPLETION OF PROJECT.

Stabilized Construction Exit

N.T.S. 9/03 REV LD.BEZ Source: WB



**SECTION A-A
TYPICAL MAT SECTION
BOLTED TOGETHER**



Notes:

- TO BE INSTALLED AS NECESSARY TO ACCESS POLES AND CLEAR VEGETATION.
- PREPARATION FOR INSTALLATION OF SWAMP MATS WILL CONSIST OF CUTTING TALL WOODY SPECIES AND MOWING SHRUBS IF CONDITIONS REQUIRE. VEGETATION ROOT MASS WILL REMAIN UNDISTURBED.

Swamp Mat Detail

N.T.S.

Timber Mat Bridge Detail

Source: National Grid

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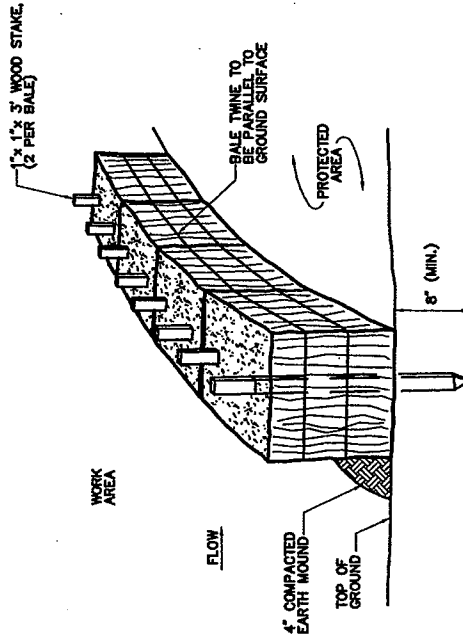
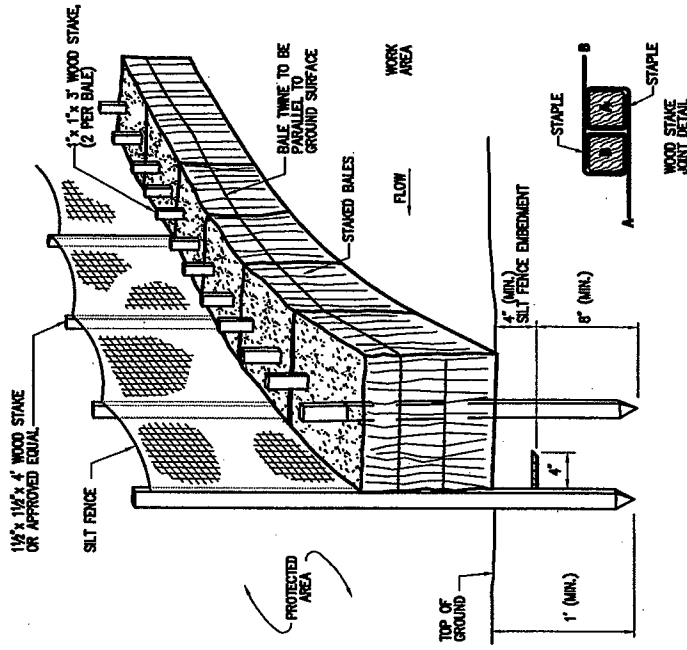
SOUTHERN RHODE ISLAND TRANSMISSION PROJECT

Details

APPLICATION BY:
NARRAGANSETT ELECTRIC COMPANY
280 MELROSE STREET
PROVIDENCE, RI 02907

DATE JUNE 29, 2006
REVISED: FEB. 23, 2007

SHEET 44 OF 46



Hay Bale Barrier

N.T.S.

Source: VHB

3/02

REV LD_653

Staked Haybales and Silt Fence

N.T.S.

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SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
 Details

AT: EAST GREENWICH, NORTH KINGSTOWN, EXETER
 AND SOUTH KINGSTOWN
 IN: KENT AND WASHINGTON COUNTY
 STATE OF RHODE ISLAND

APPLICATION BY:
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 PROVIDENCE, RI 02907

DATE **JUNE 29, 2006**
 REVISED: **FEB. 23, 2007**

SHEET **45** OF **46**

MANTA RAY MR-1
SPECIFICATIONS

DESCRIPTION: IMPACT, TRACK, DRILL, OR VIBRATION DRIVEN SOIL ANCHOR

ANCHOR WIDTH: 7"

ANCHOR LENGTH: 14.5"

BEARING AREA: 71 SQ. INCHES

ANCHOR WEIGHT: 12 LBS.

ANCHOR PRODS: CTR-10 CONTINUOUS THREAD BAR (OTHERS MAY BE AVAILABLE CONSULT FORESIGHT)

INSTALLATION DEPTH: 7 - 30 FT.

YIELD STRENGTH: 30 KIPS

ULTIMATE STRENGTH: 40 KIPS

WORKING LOAD: UP TO 27 KIPS

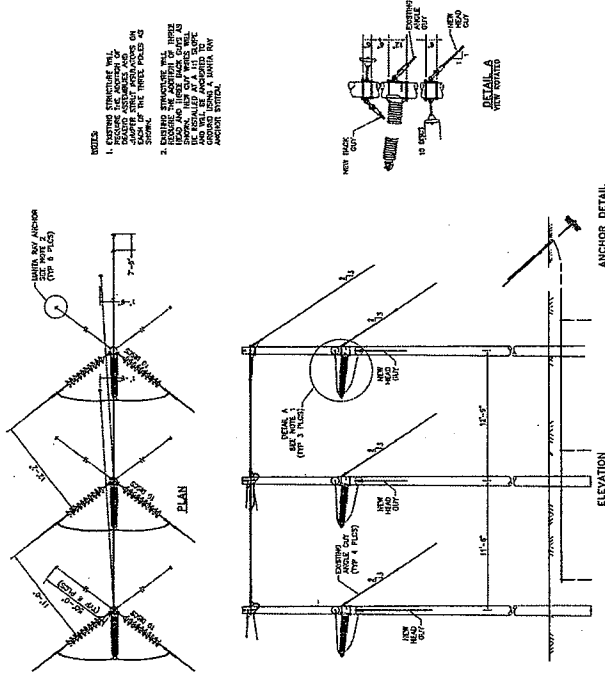
HOLDING CAPACITY: 15 - 20 KIPS AT 2 IN. (7 FT.) DEPTH IN MEDIUM DENS. COARSE SAND OR STIFF CLAYS WITH BLOW COUNT (N) = 14 - 25

FORESIGHT PRODUCTS, LLC
1000 W. 10TH ST.
COMMERCE CITY, CO 80023 USA
PHONE: 303 285-8955
FAX: 303 287-3866
WWW.FORESIGHTCORP.COM

Manta Ray MR-1 Anchor

N.T.S.

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530 Broadway
Providence, RI 02909
401.272-8100 • FAX 401.275-9694



- NOTES**
1. EXISTING FOUNDATIONS SHALL BE EXCAVATED AND REINFORCED BY ANCHORS ONLY AND ANCHORS SHALL BE INSTALLED AT THE TRAIL PILES OR SPACED.
 2. EXISTING FOUNDATIONS SHALL BE EXCAVATED AND REINFORCED BY ANCHORS ONLY AND ANCHORS SHALL BE INSTALLED AT THE TRAIL PILES OR SPACED.

Structure #174

N.T.S.

Source: Bleck and Veitch Corporation

SOUTHERN RHODE ISLAND TRANSMISSION PROJECT
Details

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NARRAGANSETT ELECTRIC COMPANY
280 MELROSE STREET
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AT: EAST GREENWICH, NORTH KINGSTOWN, EXETER
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IN: KENT AND WASHINGTON COUNTY
STATE OF RHODE ISLAND

DATE **JUNE 29, 2006**
REVISED: **FEB. 23, 2007**

SHEET **46** OF **46**

ACOE Individual Permit Wetland Impact Summary Table
 Southern Rhode Island Transmission Project
 revised February 26, 2007

Wetland #	Temporary Impact (Swamp Mats)	Permanent Impact (Foundations) SF	Permanent Impact (Foundations) CY	Secondary Impacts (Vegetative Clearing)
1	8,510	0.0	-	15,397
2	0	0.0	-	5,254
3	26,761	100.6	167.6	49,623
6	0	0.0	0.0	3,127
7	0	0.0	0.0	0
8	0	0.0	0.0	12,933
9	22,192	100.6	167.6	17,324
10	3,183	0.0	0.0	13,885
11	0	0.0	0.0	2,708
12	0	0.0	0.0	907
13	0	0.0	0.0	4,566
14	0	0.0	0.0	2,750
15	2,968	0.0	0.0	5,218
17	1,791	0.0	0.0	13,271
18	475	0.0	0.0	1,358
19/1B	44,895	553.3	921.8	146,244
1A	5,072	100.6	167.6	87,050
20	0	0.0	0.0	803
23	902	0.0	0.0	964
24	0	0.0	0.0	3,958
25	0	0.0	0.0	8,014
26	0	0.0	0.0	1,137
27	0	0.0	0.0	11,387
28	0	0.0	0.0	1,877
29	5,260	0.0	0.0	12,727
30	4,672	50.3	83.8	4,597
32	8,913	100.6	167.6	35,475
34	33,232	352.1	586.6	178,811
35	0	0.0	0.0	14,578
36	24,194	150.9	251.4	56,680
Total (SF)	193,020	1,509	2,514	712,623
Total (Acres)	4.4	0.03		16.4

SF = Square feet
 CY = Cubic yards