PUBLIC NOTICE

US Army Corps
of Engineers
New York District
Jacob K. Javits Federal Building
New York, N.Y. 10278-0090
ATTN: Regulatory Branch

In replying refer to:
Public Notice Number: 2003-00402-Y3
Issue Date: 21 May 2004
Expiration Date: 21 June 2004

To Whom It May Concern:

The New York District, Corps of Engineers has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344).

APPLICANT: Verdant Power
4640 13th Street, North
Arlington, VA 22207-2102

ACTIVITY: Install six underwater turbines on piles, associated transmission lines and discharge fill material.

WATERWAY: East River

LOCATION: Borough of Manhattan, New York County, New York

A detailed description and plans of the applicant's activity are enclosed to assist in your review.

The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to 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, historical properties, fish and wildlife values, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership 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 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.

ALL COMMENTS REGARDING THE PERMIT APPLICATION MUST BE PREPARED IN WRITING AND MAILED TO REACH THIS OFFICE BEFORE THE EXPIRATION DATE OF THIS NOTICE, otherwise, it will be presumed that there are no objections to the activity.

Any person may request, in writing, before this public notice expires, that a public hearing be held to

collect information necessary to consider this application. Requests for public hearings shall state, with particularity, the reasons why a public hearing should be held. It should be noted that information submitted by mail is considered just as carefully in the permit decision process and bears the same weight as that furnished at a public hearing.

Our preliminary determination is that the activity for which authorization is sought herein is not likely to affect any Federally endangered or threatened species or their critical habitat. However, pursuant to Section 7 of the Endangered Species Act (16 U.S.C. 1531), the District Engineer is consulting with the appropriate Federal agency to determine the presence of and potential impacts to listed species in the project area or their critical habitat.

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to consult with the National Marine Fisheries Service (NMFS) on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). A complete description of the project is given in the attached Work Description. The District Engineer has made the preliminary determination that the site-specific adverse effects are not likely to be substantial. Further consultation with NMFS regarding EFH impacts and conservation recommendations is being conducted and will be concluded prior to the final decision.

Based upon a review of the latest published version of the National Register of Historic Places, there are no known sites eligible for, or included in, the Register within the permit area. Presently unknown archeological, scientific, prehistorical, or historical data may be lost by work accomplished under the required permit.

Pursuant to Section 307 (c) of the Coastal Zone Management Act of 1972 as amended [16 U.S.C. 1456 (c)], for activities under consideration that are located within the coastal zone of a state which has a federally approved coastal zone management program, the applicant has certified in the permit application that the activity complies with, and will be conducted in a manner that is consistent with, the approved state coastal zone management program. By this public notice, we are requesting the state's concurrence with, objection to, or waiver of the applicant's certification. No permit decision will be made until one of these actions occur. For activities within the coastal zone of New York State, the applicant's certification and accompanying information is available from the Consistency Coordinator, New York State Department of State, Division of Coastal Resources and Waterfront Revitalization, Coastal Zone Management Program, 41 State Street, Albany, New York 12231, Telephone (518) 474-6000. Comments regarding the applicant's certification, and copies of any letters to this office commenting upon this proposal, should be so addressed.

In addition to any required water quality certificate and coastal zone management program concurrence, the applicant has obtained or requested the following governmental authorization for the activity under consideration:

Federal Energy Regulatory Commission
New York City Department of Environmental Protection
New York State Department of Environmental Conservation

It is requested that you communicate the foregoing information concerning the activity to any persons known by you to be interested and who did not receive a copy of this notice. If you have any questions concerning this application, you may contact this office at (212) 264-3564 and ask for Mike Vissichelli.

For more information on New York District Corps of Engineers programs, visit our website at http://www.nan.usace.army.mil

For Richard L. Tomer
Chief, Regulatory Branch

Enclosures

WORK DESCRIPTION

The applicant, Verdant Power, has requested Department of the Army authorization for installation of six pile mounted turbines, electric transmission cables and to discharge fill material in the East River, Borough of Manhattan, New York County, New York.

The six proposed turbines are anticipated to generate approximately 100 to 150 kilowatts of electricity through kinetic hydro power which would be produced by underwater turbines as they rotate with the ebb and flow of the tide.

The turbine field would encompass an area approximately 225 feet wide (east to west) and 170 feet long (north to south) or approximately 0.88 acres. The turbines would be spaced approximately 50 to 60 feet apart in water depths of approximately 30 feet. The exact location as depicted on the attached plans (see sheet 1) is in the east channel of the East River just north of the Roosevelt Island Bridge adjacent to Roosevelt Island.

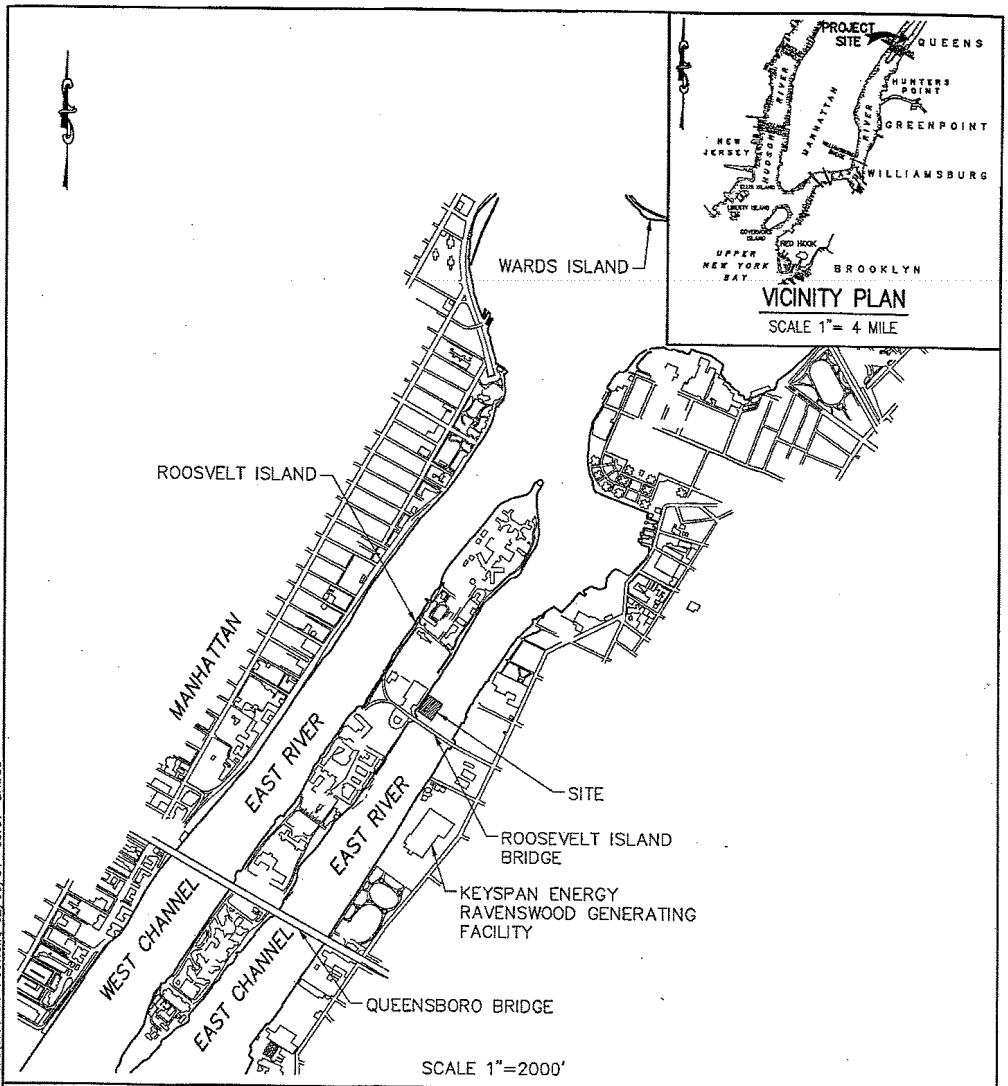
The six piles would be 18 to 24 inch diameter steel that would be driven from a barge to a tight seal in the bedrock. After a tight seal in the bedrock is obtained the pile would be used as a drill casing to prevent soil disturbance or contamination during drilling (see sheet 8). Drilling fluid will be recycled to minimize environmental impacts from spoil/cuttings and will be disposed of at an approved upland location. After the pile is drilled to the required depth, the sealed pile would be filled with grout and left to dry. After the grout has cured, the piles would be cut off to the required elevations, approximately 6 feet above the river bottom. All piles should be constructed in less than three days.

Once the piles are in place, turbines would be brought in by barge and mounted on top of each of the six piles. The blade of each proposed turbine has a five meter diameter. The turbine would sit on a rotor that would rotate approximately 346 degrees to maximize the amount of energy generated by each turbine. The rotor is located at the end of a nacelle (top portion of the turbine where blades connect to the turbine) that is approximately 30 inches in diameter and approximately seven feet long. The turbines would be located in approximately 30 feet of water at mean low water (MLW). There would be approximately 8 feet of water under the turbine at all times and 6 feet above the turbine at MLW (see sheet 7).

Each of the under water turbines would be connected to a land based electric grid system. Each turbine would have a separate cable running from the turbine to the shore. The cables would lay on the river bottom and would be held in place by concrete blocks (see sheet 9).

A floating port security barrier will be installed around the fields periphery. The barrier will be sized small enough to be inconspicuous from shore, while still large enough to be visible to keep boaters on the waterway from encroaching into the system array area. The area would be marked accordingly with buoys and markers in compliance with United States Coast Guard regulations, to restrict navigation in this area.

The stated purpose of this project is to construct a demonstration project of six underwater turbines to assess the efficiency of the turbines relative to their position in the water as well as the effects of the turbines on the surrounding environment and marine life. The demonstration project is intended to gather baseline information to be used in future permitting of a large scale under water turbine field. Any future expansion of the turbine field would be the subject of a separate Public Notice.



PURPOSE:
INSTALLATION OF MONOPILES AND UNDERWATER TURBINES

PREPARED BY

HAN-PADRON ASSOCIATES, LLP
NEW YORK, NY

VICINITY MAP

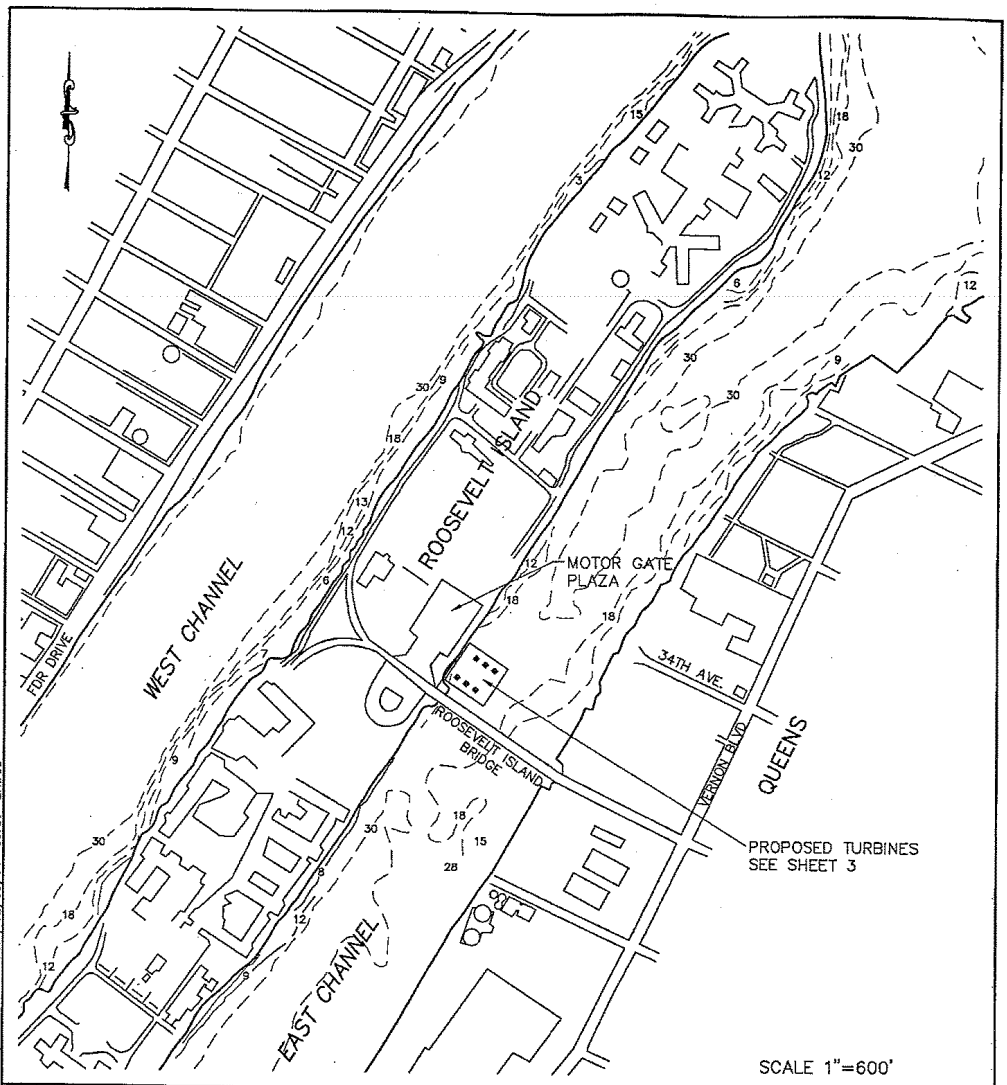
VERDANT POWER
EAST RIVER TIDAL ENERGY PROJECT

PROPOSED: MONOPILE INSTALLATION

CITY: NEW YORK
COUNTY: QUEENS COUNTY
APPLICANT: VERDANT POWER

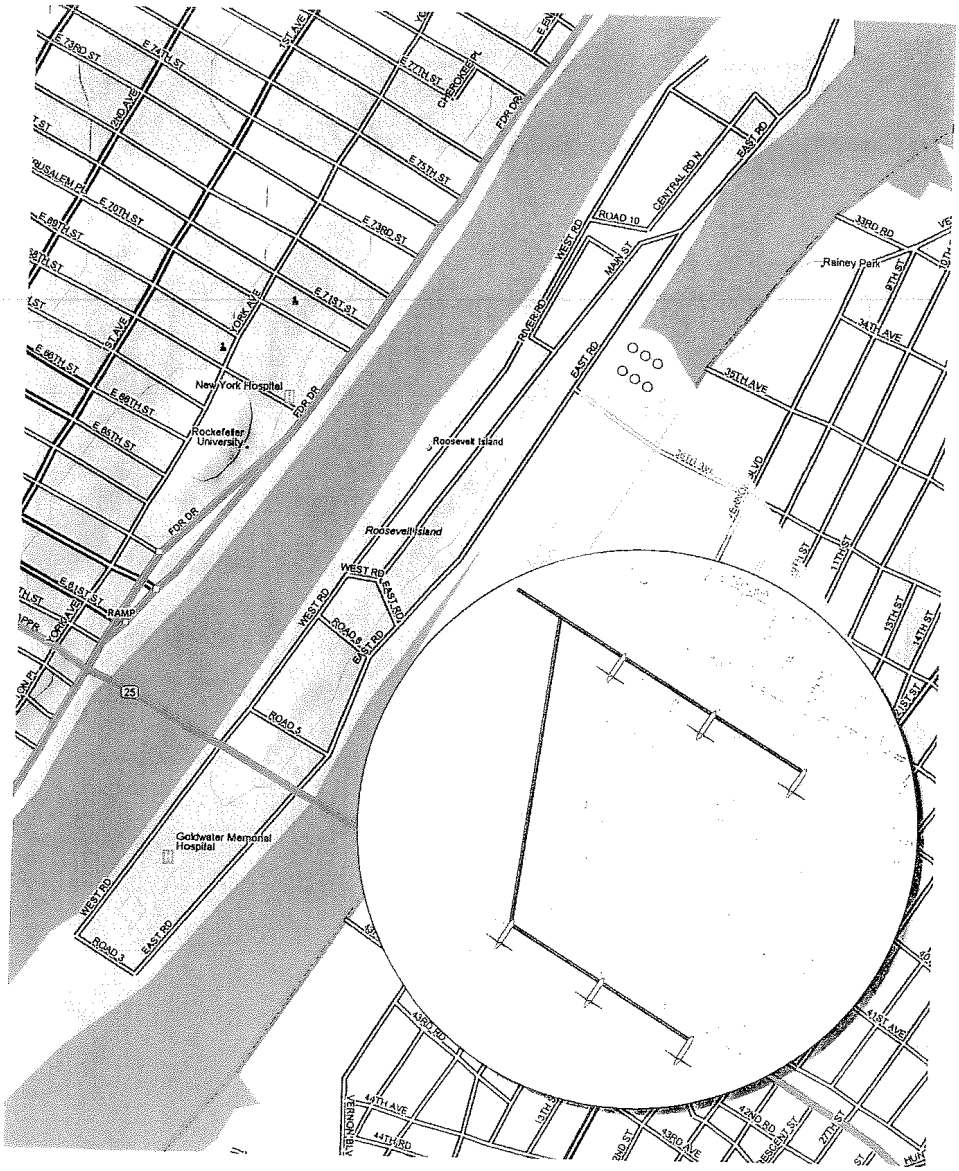
SHEET 1 OF 9 DATE: –

S:\1100s\1165-01a\Figure\Permit\1165-01-P001.dwg 02/03/04 09:31 Elviras

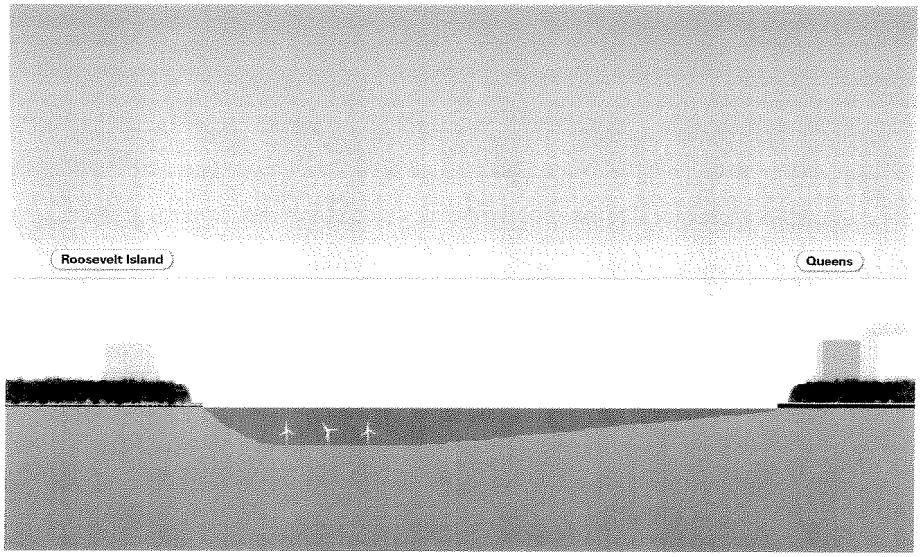


S:\1100s\1165-01a\Figure\Permit\1165-01-P002.dwg 02/03/04 09:31 ElviraG

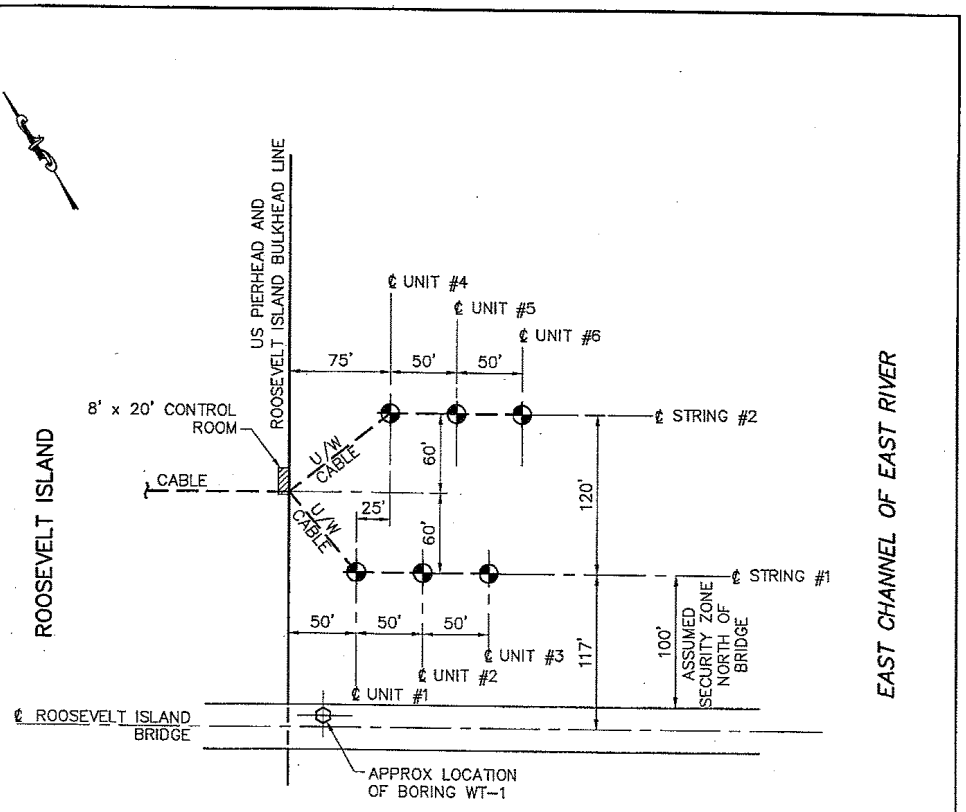
PURPOSE: INSTALLATION OF MONOPILES AND UNDERWATER TURBINES PREPARED BY HAN-PADRON ASSOCIATES, LLP NEW YORK, NY	ENLARGED VICINITY MAP VERDANT POWER EAST RIVER TIDAL ENERGY PROJECT	PROPOSED: MONOPILE INSTALLATION CITY: NEW YORK COUNTY: QUEENS COUNTY APPLICANT: VERDANT POWER SHEET 2 OF 9 DATE: -



PHASE II MULTI-TURBINE ("SIX-PACK") SITE MAP



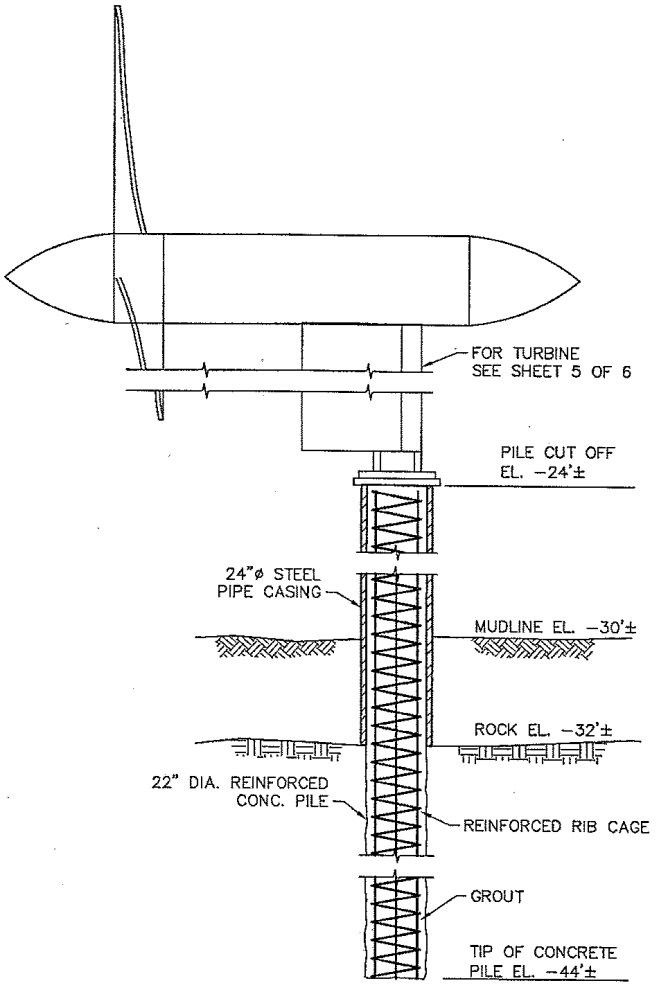
Cross Section for Deployment of Six "Study" Units



SCALE 1"=100'

S:\1100s\1165-01a\Figure\Permit\1165-01-P003.dwg 02/04/04 11:25 ElvIrnG

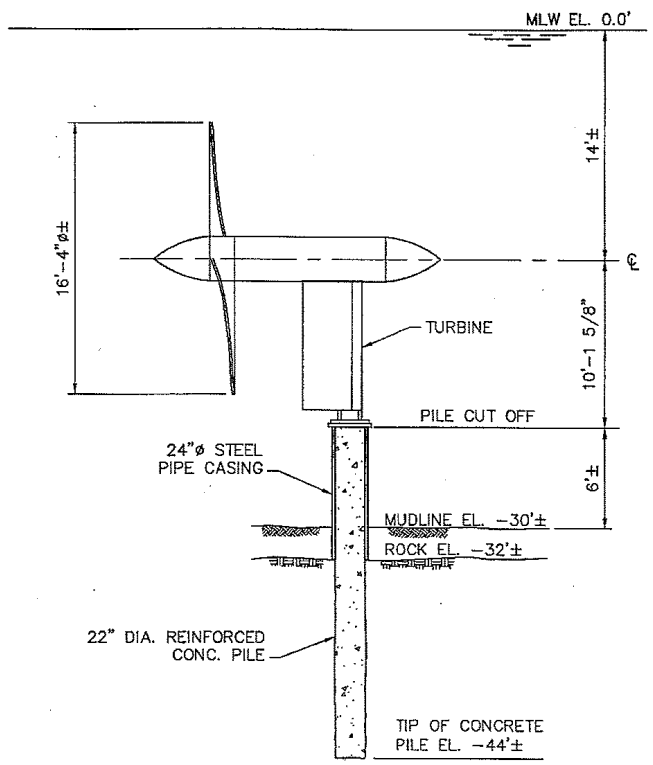
PURPOSE: INSTALLATION OF MONOPILES AND UNDERWATER TURBINES PREPARED BY HAN-PADRON ASSOCIATES, LLP NEW YORK, NY	SITE PLAN VERDANT POWER EAST RIVER TIDAL ENERGY PROJECT	PROPOSED: MONOPILE INSTALLATION CITY: NEW YORK COUNTY: QUEENS COUNTY APPLICANT: VERDANT POWER SHEET 5 OF 9 DATE: –



SCALE 1/4"=1'−0"

PURPOSE: INSTALLATION OF MONOPILES AND UNDERWATER TURBINES PREPARED BY HAN−PADRON ASSOCIATES, LLP NEW YORK, NY	TYPICAL MONOPILE SECTION VERDANT POWER EAST RIVER TIDAL ENERGY PROJECT	PROPOSED: MONOPILE INSTALLATION CITY: NEW YORK COUNTY: QUEENS COUNTY APPLICANT: VERDANT POWER SHEET 6 OF 9 DATE: −

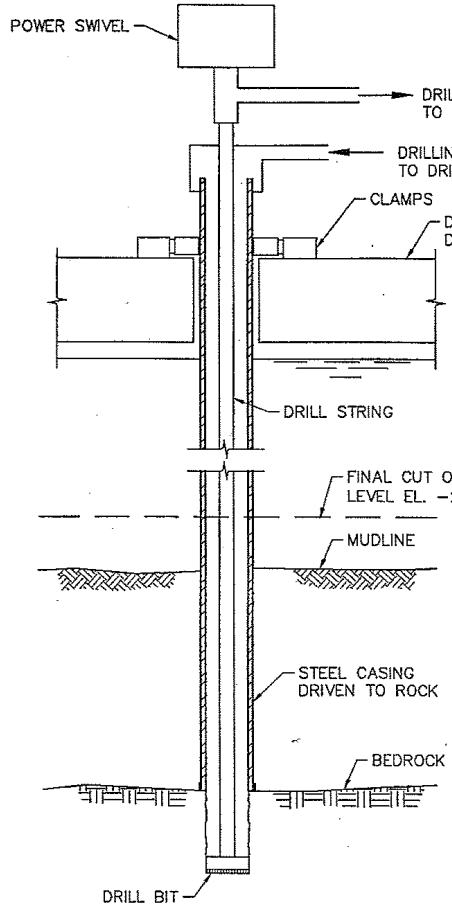
S:\1100s\1165-01a\Figure\Permit\1165-01-P004.dwg 02/04/04 11:32 ElviraG



SCALE 1/8"=1'-0"

PURPOSE: INSTALLATION OF MONOPILES AND UNDERWATER TURBINES PREPARED BY HAN-PADRON ASSOCIATES, LLP NEW YORK, NY	OVERALL MONOPILE SECTION VERDANT POWER EAST RIVER TIDAL ENERGY PROJECT	PROPOSED: MONOPILE INSTALLATION CITY: NEW YORK COUNTY: QUEENS COUNTY APPLICANT: VERDANT POWER SHEET 7 OF 9 DATE: -

S:\1100s\1165-01a\Figure\Permit\1165-01-P005.dwg 02/04/04 11:39 EnviroG



NOT TO SCALE

NOTES:

1. PIPE PILE IS DRIVEN TO TIGHT SEAL IN BEDROCK AND USED AS DRILL CASING, PREVENTING SOIL DISTURBANCE OR CONTAMINATION DURING DRILLING.
2. DRILLING RIG NOT SHOWN FOR CLARITY.
3. DRILLING FLUID IS RECYCLED TO MINIMIZE ENVIRONMENTAL IMPACT FROM SPOIL/CUTTINGS.

MONOPILE CONSTRUCTION SEQUENCE:

1. POSITION BARGE OVER TARGET LOCATION.
2. INSTALL DRILL PIPE/PERMANENT CASING TO ROCK LEVEL.
3. DRILL ROCK SOCKET THROUGH BASE OF DRILL PIPE. DRILL FLUID IS RECYCLED AND CUTTINGS ARE REMOVED FROM SITE FOR DISPOSAL PER SPECIFICATION REQUIREMENTS.
4. INSTALL REINFORCING CAGE IN BASE OF ROCK SOCKET.
5. TREMIE GROUT TO CUT OFF LEVEL.
6. CUT OFF MOMNOPILE AT REQUIRED ELEVATION

PURPOSE:
INSTALLATION OF MONOPILES AND UNDERWATER TURBINES

PREPARED BY
HAN-PADRON ASSOCIATES, LLP
NEW YORK, NY

SCHEMATIC ARRANGEMENT OF DRILLING PROCESS

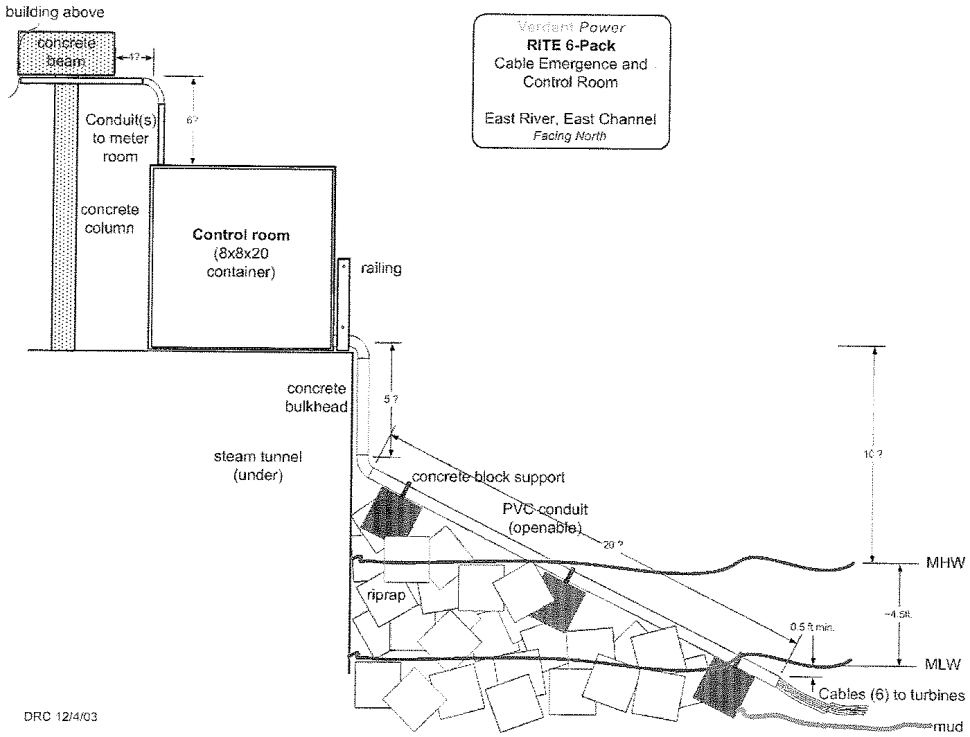
VERDANT POWER
EAST RIVER TIDAL
ENERGY PROJECT

PROPOSED: MONOPILE INSTALLATION

CITY: NEW YORK
COUNTY: QUEENS COUNTY
APPLICANT: VERDANT POWER

SHEET 8 OF 9 DATE:

S:\1100s\1165-01a\Figure\Permit\1165-01-P006.dwg 02/10/04 11:15 ElviraG



Connection of Six Units to Control Room
(No shoreline disturbance – Control Room located on existing pavement)