

ATTACHMENT C

CT DEEP NATURAL DIVERSITY DATABASE REVIEW CONSULTATION

CT DEEP Natural Diversity Data Base (NDDB)
Consultations and Correspondence

On October 28, 2020, revised materials reflecting the current Project design and schedule (East Face berthing alignment) were provided to the CT NDDB¹. These plans and select agency correspondence from July 2019 (Peregrine Falcon Protection Plan Materials) are included in Attachment C.

Plans and text previously provided to this agency have been superseded by the current Project design. See Attachment P1 for the initial CT NDDB consultation documentation, including these older SPII design plans (South Face berthing alignment).

¹ Materials sent to NDDB on October 28, 2020 detail the current design, as documented in the enclosed JPA Revision (Rev. 2). Plans reflecting the East Berth arrangement were previously sent to CT DEEP NDDB on April 20, 2020 (JPA Revision 1); however, those April 2020 plans are superseded by content herein.

Van Naerssen, Kris

From: Van Naerssen, Kris
Sent: Wednesday, October 28, 2020 2:04 PM
To: Dawn.mckay@ct.gov
Cc: Grzywinski, Micheal; Salvatore, Joseph R.; Lowry, Dennis; Garbolski, Michael
Subject: State Pier Infrastructure Improvements - Anticipated Project Updates. NDDDB File # 201901490
Attachments: NDDDB_Project_Updates-10282020.pdf

Good afternoon Ms. McKay –

Hope you are doing well.

Please find the attached letter documenting changes to the State Pier Infrastructure Improvements (SPII / Project) proposed by the Connecticut Port Authority (CPA) in New London.

As part of ongoing CT DEEP permitting processes, your office had previously reviewed Project NDDDB application materials. We are submitting the attached letter to update you on the current Project work scope, which has changed somewhat since your last review. Changes include altered (deeper) in-water dredging footprints at the State Facility Pier and clarifications regarding dredging sideslopes. Additional detail on the Project revisions and associated plans are included herein. Previously noted species protection guidance (i.e. Peregrine Falcon Protection Plan; in-water work windows as recommended by DEEP fisheries and others) will be followed.

Please let us know if you have any questions or comments regarding the attached or if we can provide further information. Thank you for your assistance.

Best,

Kris van Naerssen, PWS
Aquatic Ecologist / Project Manager
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October 28, 2020

Dawn M. McKay
Environmental Analyst 3
CT Department of Energy and Environmental Protection (DEEP)
Natural Diversity Data Base (NDDB) Program
79 Elm Street
Hartford, CT 06106-5127

NDDB Determination No.: 201901490
State Pier Infrastructure Improvements Project
Proposed State Pier Design Modifications - Revised JPA Resubmittal
200 State Pier Road in New London, Connecticut

Dear Ms. McKay,

On behalf of the Connecticut Port Authority (CPA), AECOM is contacting the CT DEEP NDDB to provide an update to the State Pier Infrastructure Improvements (SPII or Project) work scope. In-water activities proposed at the State Pier Facility (New London, CT), specifically the proposed dredging configurations, have been slightly amended since your last review of Project materials.

CPA's consultants submitted an initial Joint Permit Application (JPA) to the CT DEEP and the United States Army Corps of Engineers (USACE) on May 6, 2019 for the proposed SPII. In response to feedback received from other harbor users, the Project design was amended in late 2019/early 2020. A Revised JPA was submitted to the agencies on May 8, 2020 to capture these design changes. We consulted with your office during the initial JPA submittal and subsequent resubmittal processes and will continue to do so as necessary.

The Project work scope has been slightly amended since the May 2020 Revised JPA was submitted, as the design has progressed and been further refined this year. Consequently, AECOM is preparing a second Revision to the JPA to capture related scope changes and associated application edits. A summary of notable changes since the May 2020 Revised JPA materials follows. Select updated plan set sheets from the forthcoming Revised JPA (Rev. 2) are also included for your review.

Prior Consultations

As part of the initial JPA application process, the Project submitted a State-Listed Species Review to the CT NDDB Program on January 29, 2019, and NDDB issued Determination No. 201901490 on March 19, 2019. On July 2, 2019 AECOM submitted a Peregrine Protection Plan to NDDB on behalf of CPA, to which NDDB responded on July 22, 2019. AECOM contacted your office on April 20, 2020 as part of the Revised JPA submittal process and described the scope changes anticipated at that time.

AECOM is contacting the NDDB again in order to provide an update on the SPII work scope - which has been amended since your last review. These changes are primarily alterations to the in-water work scope. Please note that we are continuing to consult with the CT DEEP Division of Fisheries, as well as federal agencies, regarding the Project and potential impacts to protected species.

Project Changes

The JPA is being revised to capture the following dredging and seabed preparation approach, including approach, including:

- Vessel Berth Dredging and Seabed Preparation:
 - A tiered berthing pocket design with deeper proposed dredge depths (eastern portions of the berth pockets dredged to -65' MLLW), rock pad areas and associated side-slope alterations.
 - Northeast (Delivery Vessel) Berth:
 - Dredging of ~70,000 SF and ~98,000 CY for berthing areas without rock pad placement.
 - Dredging of ~170,000 SF and ~124,000 CY in support of rock pad installation areas.
 - Installation of ~107,000 CY of crushed stone within the jack-up pad / rock pad area.
 - East (Installation Vessel) Berth:
 - Dredging of ~210,000 SF and ~122,000 CY of dredging in support of rock pad installation.
 - Installation of ~107,000 CY of crushed stone within the jack-up pad / rock pad area.
- Turning Basin Dredging:
 - Accounting for adjacent sideslope alterations, the turning basin dredging has decreased to approximately 55,000 CY of material from an approximately 241,000 SF subset of the turning basin.

Please see the accompanying plan set sheets for additional detail. While the design elements noted above will be updated in the forthcoming JPA Revision, the majority of the other Project elements previously described remain unchanged. Please note that the work described above remains within the Project's previously identified berth pocket and turning basin limits.

An anticipated construction schedule, which includes seasonal work restrictions, will be included in the Revised JPA (Revision 2). At current, the Project schedule remains consistent with that presented in the May 2020 Revised JPA. The final Project schedule will be determined by multiple factors, including regulatory approval receipts, contracting and other variables. Regardless of potential schedule changes, if any are in fact required, the Project anticipates adhering to time of year restrictions described therein, including associated permit conditions related to the Peregrine Falcon Protection Plan as well as restrictions regarding timing for dredging or other unconfined in-water activities.

Thank you for your continued assistance with this Project. If you have any questions or comments regarding the design revisions detailed herein, or if additional coordination or information is required, please do not hesitate to contact us.

Kind regards,



Kris van Naerssen, PWS
AECOM
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M: 484-678-1876
E: Kris.VanNaerssen@aecom.com

Enclosure: Revised Project Permitting Plans – Select Sheets
Revised Executive Summary

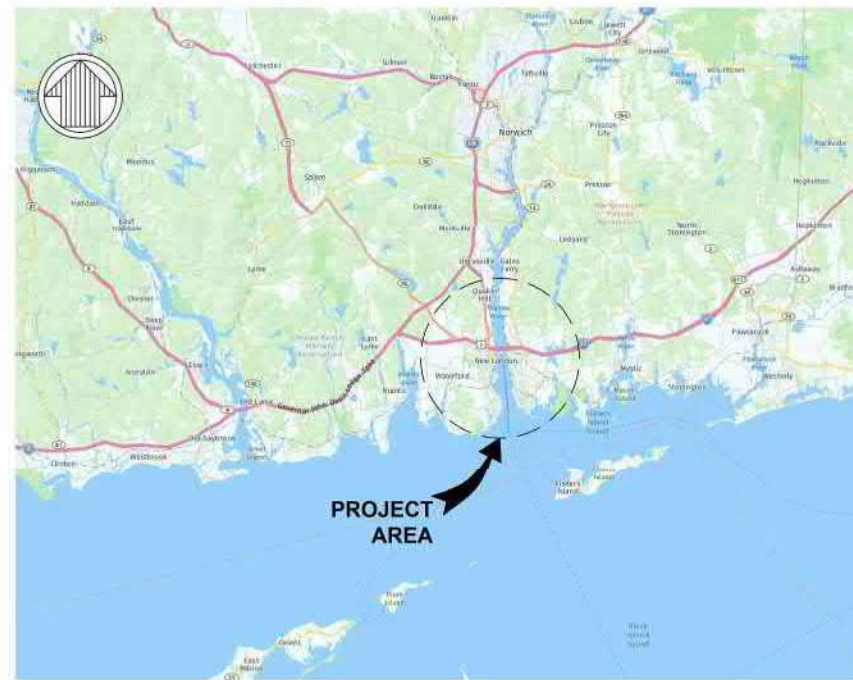
Revised Project Permitting Plans

STATE PIER INFRASTRUCTURE IMPROVEMENTS

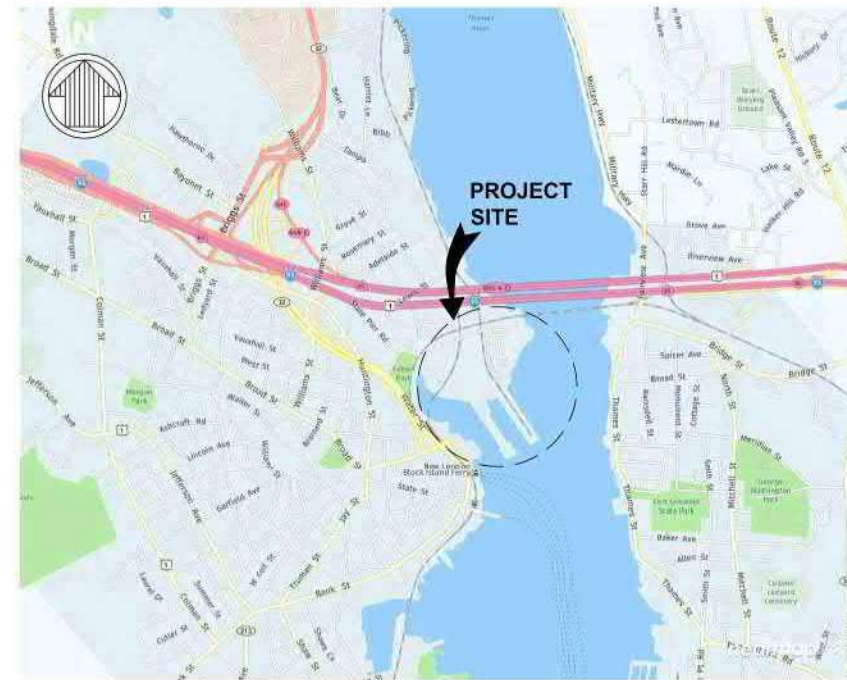
STATE PIER FACILITY

NEW LONDON, CONNECTICUT

Select plan sheets identified below were forwarded to agency on 10/28/20. Omitted here to reduce document size. See Attachment I for corresponding plan sheets.



AREA MAP



LOCATION MAP

DRAWING INDEX	
SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	NOTES - 1 OF 2
3	NOTES - 2 OF 2
4	EROSION AND SEDIMENT CONTROL NOTES - 1 OF 3
5	EROSION AND SEDIMENT CONTROL NOTES - 2 OF 3
6	EROSION AND SEDIMENT CONTROL NOTES - 3 OF 3
7	EROSION AND SEDIMENT CONTROL PLAN
8	EXISTING TOPOGRAPHIC AND HYDROGRAPHIC PLAN
9	EXISTING CONDITIONS PLAN
10	DEMOLITION AND REMOVAL PLAN
11	EXISTING STATE PIER PILE SUPPORTED PLATFORM
12	PROPOSED PLAN
13	PROPOSED DREDGING PLAN
14	GRADING AND DRAINAGE PLAN
15	PHASING PLAN
16	WORK COVERED UNDER CERTIFICATE OF PERMISSION AND CT GP PERMITS
17	OFFICE AND PARKING PLAN
18	FACILITY USE AND LOGISTICS PLAN
19	FEDERAL CHANNEL MAP PLAN
20	INSTALL VESSEL NAVIGATION PLAN (INBOUND)
21	INSTALL VESSEL NAVIGATION PLAN (OUTBOUND)
22	NORTHEAST BULKHEAD SECTIONS
23	PROPOSED EAST STATE PIER PILE SUPPORTED PLATFORM
24	KING PILE WALL CLOSURE BETWEEN CVRR AND STATE PIER
25	CVRR BULKHEAD SECTIONS
26	MOORING PLATFORM SECTION
27	BUOY ANCHORAGE AND MOORING DOLPHIN DETAILS
28	DRAINAGE STRUCTURE DETAILS - 1 OF 2
29	DRAINAGE STRUCTURE DETAILS - 2 OF 2
30	OUTFALL DETAILS
31	DUCTBANK DETAILS
32	PROPOSED DREDGE ALIGNMENT PLAN
33	NORTHEAST BERTH DREDGE SECTIONS
34	EAST BERTH DREDGE SECTIONS
35	DREDGE SECTIONS FOR INSTALL VESSEL JACK-UP LEGS

Revised Executive Summary

Revised Executive Summary

On October 28, 2020, a copy of JPA *Attachment A – Executive Summary* was forwarded to the agency. To limit document size, this attachment is excluded here. See Attachment A for details.



Connecticut Department of

**ENERGY &
ENVIRONMENTAL
PROTECTION**

July 22, 2019

Richard E. Couch
Martinez Couch & Associates, LLC
1084 Cromwell Avenue
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couchre@martinezcouch.com

Project: Proposed Demolition of Various Upland Buildings, Installation of New Structures Including Storm Water Retention & Treatment System, Addition of Administrative Offices with Parking and Maintenance Dredging at the State Pier at 200 State Pier Road in New London, Connecticut
NDDB Determination No.: 201901490 (REVISED)

Dear Richard Couch,

I have reviewed Natural Diversity Data Base maps and files regarding the area delineated on the map provided for the Proposed Demolition of Various Upland Buildings, Installation of New Structures Including Storm Water Retention & Treatment System, Addition of Administrative Offices with Parking and Maintenance Dredging at the State Pier at 200 State Pier Road in New London, Connecticut. We have known extant records for State Threatened *Falco Peregrinus* (peregrine falcon) and State Special Concern blueback herring that occur in close proximity to your project boundaries.

Please be advised that a DEEP Fisheries Biologist will review the permit applications you may submit to DEEP regulatory programs to determine if your project could adversely affect blueback herring. DEEP Fisheries Biologists are routinely involved in pre-application consultations with regulatory staff and applicants in order to identify potential fisheries issues and work with applicants to mitigate negative effects, including to endangered species. If you have not already talked with a Fisheries Biologist about your project, you may contact the Permit Analyst assigned to process your application for further information, including the contact information for the Fisheries Biologist assigned to review your application

Peregrine Falcon (*Falco peregrinus*) Protection Status: Threatened Species

The peregrine falcon is a state threatened species which has adapted to life in urban settings. The peregrine falcon is associated with bridges for nesting and brood rearing purposes. Peregrines will actively and aggressively defend the nest, whether a nest box or natural nest, up to and sometimes past 75 yards. The peregrine will attack anyone or anything that comes within the area of its nest. Peregrine falcons are Connecticut's largest falcon and can measure up to 20 inches. Adults are slate gray above and pale underneath with fine bars and spots of black; they have long pointed wings with a narrow tail. Young falcons have the same composite but are darker underneath and browner all over. The peregrine falcon nesting season occurs between the months of April and June. For this reason, special conditions regarding the timing of work on the structure must be applied. In order to protect this species, the proposed construction activities should be completed during non-nesting season months (July – March). No construction activities should occur between April 1st and June 30th.

Protection Recommendation:

In order to protect this species, the proposed construction activities should be completed during non-nesting season months (July – March). No construction activities should occur between April 1st and June 30th. If work needs to be conducted during the breeding season (April 1st to June 30th) then I recommend hiring an ornithologist (bird expert) to evaluate and prepare a protection plan for the birds. All work on this project must maintain a minimum buffer of 300' from the nest. If a nest is identified by workers all work should stop immediately and this information should be reported to our program for further assistance and guidance to complete the work safely. I concur with the Peregrine Falcon Protection Plan that was submitted to our program on July 2, 2019 by Timothy O'Sullivan of

AECOM. If the Peregrine Falcon Protection Plan is followed it will minimize adverse impacts on the Peregrine Falcon.

Please re-submit an NDDDB Request for Review if the scope of work changes or if work has not begun on this project by July 22, 2021.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits.

Please contact me if you have further questions at (860) 424-3592, or dawn.mckay@ct.gov . Thank you for consulting the Natural Diversity Data Base.

Sincerely,

Dawn M. McKay
Environmental Analyst 3



Peregrine Falcon Protection Plan

State Pier Infrastructure Improvements
New London, Connecticut

July 2, 2019

Quality information

<u>Prepared by</u>	<u>Checked by</u>	<u>Verified by</u>	<u>Approved by</u>
Timothy O'Sullivan Wetland and Wildlife Biologist	Patrick Fellion Environmental Scientist		

Revision History

<u>Revision</u>	<u>Revision date</u>	<u>Details</u>	<u>Authorized</u>	<u>Name</u>	<u>Position</u>

Distribution List

<u># Hard Copies</u>	<u>PDF Required</u>	<u>Association / Company Name</u>

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Photos by NYS Thruway Authority

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Attachment A State Pier Facility, Site Locus

Attachment B CT DEEP/NDDB March 19, 2019 Response Letter

Attachment C Peregrine Falcon Fact Sheet

Attachment D Peregrine Falcon Monitoring Report, Hudson River Crossing Project

Attachment E Construction Monitoring Report Form

1.0 Introduction and Project Description

The existing State Pier Facility in New London Connecticut (Attachment A) encompasses nearly 30 acres and has three general operational areas: the piers (State Pier and Central Vermont Railroad), near dock shoreline areas, and offsite areas. The offsite areas comprise about one-fourth of the overall acreage and are situated north of and separated from the main port facility by State Pier Road and Amtrak's rail corridor embankment. The property generally consists of unpaved, gravel surfaces that are uneven or contain small depressions that pond water during storm events. The offsite areas are segmented by the rail siding to State Pier and bisected by the bridge piers for I-95's Gold Star Memorial Bridge. The property is bounded to the west by the New England Central Railroad (NECR) tracks and to the east by the Thames River.

The near-dock shoreline areas are south of State Pier Road and accommodate most of the port's cargo intermodal activity. This area contains two heavy load warehouse buildings totaling 102,000 square feet with railcar and truck loading docks, two 3,200-square-foot equipment/forklift maintenance buildings and an administration building. The area located at the head of the two piers is largely paved to facilitate forklift and tractor trailer movements. The shore edge consists of a combination of sheet piling, pile-supported docks, and stone block quay walls. The western portion of the site adjoining the NECR siding yard is largely unpaved areas, with irregular topography.

The work currently proposed by the Connecticut Port Authority (CPA), known as the State Pier Infrastructure Improvements (SPII or the Project), is anticipated to occur in two phases. Phase One "Upland Area" will occur primarily within upland portions of the site and will include the following actions:

- x Demolition of various buildings and roads and rails,
- x Site grading and installation of stormwater collection and treatment systems,
- x Installation of potable and fire suppression water systems,
- x Installation of perimeter fencing and associated lighting and security systems,
- x Installation of electrical infrastructure to meet site requirements,
- x Installation of dense graded aggregate top surface,
- x Demolition of existing pile supported platform at western end of Northeast Bulkhead (NE BH),
- x Installation of anchored combination wall bulkhead directly outshore of existing NE BH,
- x Installation of energy absorbing fenders and bollards at NE BH,
- x Demolition of four existing mooring dolphins in Thames River, and
- x Installation of steel sheet pile wall directly outshore of existing Northwest Bulkhead granite block retaining wall.

Phase Two, "Waterfront Works" will consist of water based work, accomplished either from onshore or from barges, depending on the location and requirements of the task. This work will occur outshore of the upland NE BH, bulkheads on the State and CVRR Piers and the area between these two piers and will consist of the following actions:

- x Dredging at NE BH to accommodate import and installation vessels,
- x Selective demolition of SW corner of State Pier and SE corner of CVRR pier to accommodate the king pile wall,

- x Installation of anchored king pile combination bulkhead between State and CVRR Piers,
- x Placement of seven acres of fill between the CVRR and State Piers to match elevation of State Pier,
- x Raising elevation of remaining horizontal surface of the CVRR Pier to match that of the State Pier,
- x Installation of dense graded aggregate top surface,
- x Installation of energy absorbing fenders and bollards,
- x Dredging to south of king pile wall between State and CVRR Piers for jack-up installation vessel, and
- x Seabed preparation for jack-up installation vessel.

Upland Area construction is anticipated to start in November 2019, and Waterfront Works construction is anticipated to start in October 2020. The entire project is expected to be completed over a 3 year period and construction is anticipated to be finished by April 2022.

A request for a Natural Diversity Database (NDDDB) state-listed species review was initiated for the Project in January 2019. In a response dated March 19, 2019 (Attachment B), NDDDB indicated the Connecticut Department of Energy and Environmental Protection (CT DEEP) had records for the state-threatened Peregrine Falcon [*Falco peregrinus*] or (falcon)] nesting on the Gold Star Memorial Bridge. To protect nesting falcons, the CT DEEP recommended construction be completed outside of the nesting season from July 1 through March 31 and that no construction activities should occur during the nesting season between April 1 and June 30. In this same letter, CT DEEP indicated that if construction needs to be completed during the stated nesting period of April 1 through June 30, CPA should hire an ornithologist to evaluate proposed activities and prepare a Peregrine Falcon Protection Plan. CT DEEP has further directed that all work associated with the Project maintain a minimum buffer of 600' from an active falcon nest site and that should a falcon nest be observed proximal to active Project construction work, all work should cease and the nest site should be reported to CT DEEP/NDDDB for further assistance and guidance.

2.0 Peregrine Falcon Physical Description and Habitat

Weighing up to 3.5 pounds, measuring up to 20 inches in length and with a wingspan of up to 43 inches, the Peregrine Falcon is Connecticut's largest falcon species. Adults are slate blue/gray above and pale underneath with barred underparts and a dark head with thick sideburns. As with all falcons, peregrines exhibit long pointed wings and a long, rounded tail with narrow, black bands ending with a broad, dark band tipped with white narrow fringe. The feet are yellow.

Peregrine Falcons will utilize a wide variety of habitats, from open country, such as coastal lowlands, as well as along rivers, to highly developed urban locations. In Connecticut, this species has adapted to life in urban settings and often nests on manmade structures such as high rise buildings and bridges. Such structures provide protection from land-based predators and a vantage point from which to hunt for prey such as pigeons, waterfowl and other small to medium sized birds, while expending minimal energy.

2.1 Life History

Nest sites, known as eyries, are a hollow, unlined scrape on a cliff, ledge, or rocky outcrop. Abandoned raven or hawk nests in suitable locations are also occasionally used. The most publicized nesting areas have been on roofs and ledges of city buildings, as well as bridges. Pairs mate for life and may use the same nest site for many years. Male peregrines arrive at the nest site first (as early as February/March) to reestablish territories and to attract the females to the site utilizing aerial displays.

According to the CT DEEP, typically three to four cream or buff-colored eggs, covered with red-brown markings, are laid in late April and into May at intervals of two to three days. Incubation, primarily done by the female but with some help from the male, begins with the second or third egg and lasts 28 to 29 days for each egg. The hatchlings are closely brooded by the female for the first 14 days. The male typically brings food for all to the nest and the female feeds the young. The young begin to fledge at 35 to 42 days but remain dependent on the adults for another two months. For additional information on the species, please refer to the Peregrine Falcon Fact Sheet located in Attachment C.

3.0 Peregrine Falcon Protection Provisions

During the construction period for the Project, the following measures are proposed:

- x Construction Phase Contractor Awareness Program;
- x Construction Phase Survey and Monitoring Plan;
- x Coordination with CT DEEP; and,
- x Reporting.

The measures are described separately below.

3.1 Construction Phase Contractor Awareness Program

A contractor awareness program will be implemented to ensure all personnel working on the Project are aware of the potential presence of an active Peregrine Falcon nest site on or proximal to the site. As part of site specific training, all personnel will be given a copy of the Peregrine Falcon fact sheet, produced by the CT DEEP (Attachment C of this document) and will be directed to stop work if activity is occurring within 600 feet of any suspected falcon nest site. Construction personnel would be further instructed to notify CPA's on-site environmental personnel of the suspected observation. Work would not resume until a determination has been made by a qualified wildlife biologist/ornithologist regarding the reported observation.

3.2 Construction Phase Survey and Monitoring Plan

In all years with active construction scheduled to occur within the identified nesting period (April 1 through June 30), CPA will make reasonable efforts, through on-site surveys by a qualified wildlife biologist/ornithologist and in coordination with CT DEEP, to determine if falcons are nesting on or proximal to the site and/or within 600 feet of planned and/or active construction. For the purposes of this plan, "pass through" construction vehicle traffic shall not be considered active construction.

Peregrine Falcons nesting in urban settings and/or areas with significant human presence/activities have become habituated and acclimated to these disturbances. The exposure and habituation of the falcons nesting on the Gold Star Bridge to high levels of baseline noise consisting of I-95 vehicular traffic, periodic maintenance activities on the bridge, high noise levels associated with wind passing through and around the bridge, passage of trains on the adjacent active railroad track and vessel traffic on the Thames River below has likely resulted in a high disturbance threshold for the individuals nesting on the bridge. Additionally, the difference in elevation between a potential bridge nest site and the elevation of the work itself is significant, further reducing the potential impact of construction related noise disturbance.

Peregrine Falcon studies conducted for the Hudson River Crossing Project have determined that bridge nesting Peregrine Falcons have a very high tolerance of human disturbance and are not easily impacted by human activity, including construction activity associated with heavy equipment in a maritime environment (Attachment D). Behavioral observations of the resident Peregrine Falcons on the Tappan Zee Bridge crossing of the Hudson River, carried out before and during implementation of a Pile Installation Demonstration Program, determined there was no observable difference in falcon behavior as a result of construction activity and anecdotally, there was no evidence to suggest the breeding pair was in any way disturbed.

Therefore, in the event an active falcon nest is confirmed proximal to active construction, under the full time supervision of a qualified wildlife biologist/ornithologist, CPA proposes to allow construction activities to proceed to within 300 feet of any active Peregrine Falcon nest site. If it is determined by the biologist,

through observation of falcon behavior, that construction activity may be negatively impacting the birds in any way, the full 600 feet of buffer will automatically go into effect, with the previously noted exception of “pass through” construction vehicle traffic.

3.3 Coordination with CT DEEP

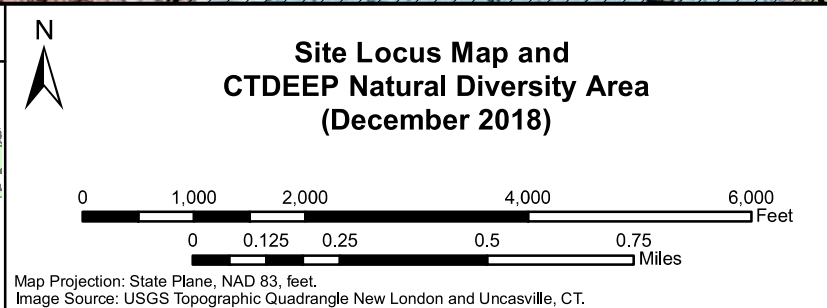
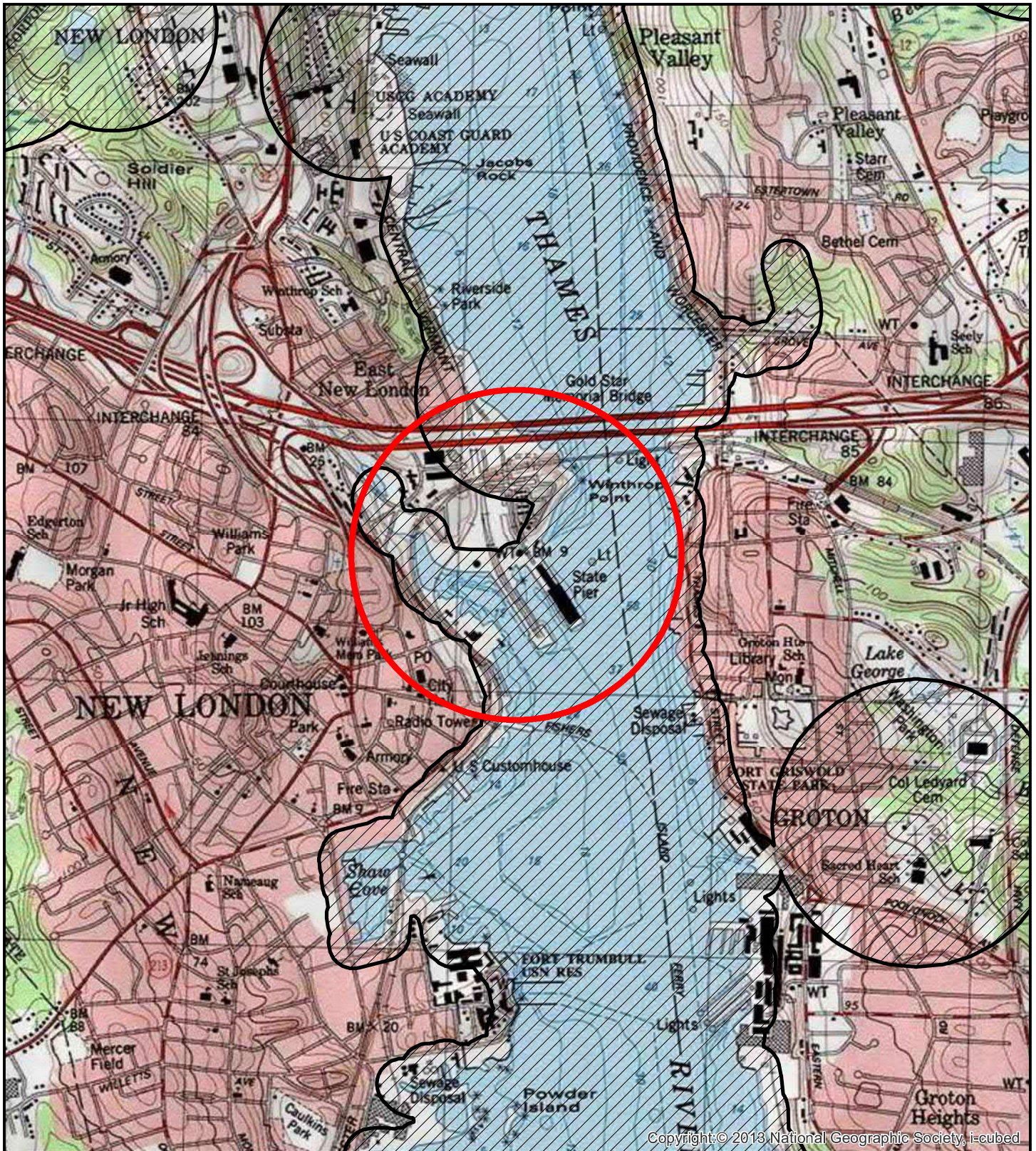
In the event that an active peregrine falcon nest site is discovered proximal to the Project, CPA will immediately contact the CT DEEP NDDDB Program. The NDDDB will be provided with relevant nest site details such as location, distance to active and/or proposed construction, observed falcon behavior/activity, and photographic evidence, if possible. CPA will coordinate closely with the CT DEEP in order to seek guidance to perform the work safely and specify monitoring requirements.

3.4 Reporting Requirements

Immediately after conducting daily falcon monitoring, the monitor shall complete a Daily Construction Monitoring Report (Attachment E). After completion, the report shall be placed in a designated area. All Daily Construction Monitoring Reports shall be compiled and included in a final Peregrine Falcon Monitoring Report and submitted to the CT DEEP/NDDDB before the end of the calendar year. Since CPA does not anticipate the need to handle falcons at any time, no Scientific Collection Permit is anticipated for the monitoring work.

Attachment A

State Pier Facility, Site Locus



AECOM

Figure 1-1

3/6/2019

Proj. #: 60548556.3.3

Attachment B

CT DEEP/NDDDB March 19, 2019 Response Letter



Connecticut Department of

**ENERGY &
ENVIRONMENTAL
PROTECTION**

March 19, 2019

Richard E. Couch
Martinez Couch & Associates, LLC
1084 Cromwell Avenue
Rocky Hill, CT 06067
couchre@martinezcouch.com

Project: Proposed Demolition of Various Upland Buildings, Installation of New Structures Including Storm Water Retention & Treatment System, Addition of Administrative Offices with Parking and Maintenance Dredging at the State Pier at 200 State Pier Road in New London, Connecticut
NDDDB Determination No.: 201901490

Dear Richard Couch,

I have reviewed Natural Diversity Data Base maps and files regarding the area delineated on the map provided for the Proposed Demolition of Various Upland Buildings, Installation of New Structures Including Storm Water Retention & Treatment System, Addition of Administrative Offices with Parking and Maintenance Dredging at the State Pier at 200 State Pier Road in New London, Connecticut. We have known extant records for State Threatened *Falco Peregrinus* (peregrine falcon) and State Special Concern blueback herring that occur in close proximity to your project boundaries.

Please be advised that a DEEP Fisheries Biologist will review the permit applications you may submit to DEEP regulatory programs to determine if your project could adversely affect blueback herring. DEEP Fisheries Biologists are routinely involved in pre-application consultations with regulatory staff and applicants in order to identify potential fisheries issues and work with applicants to mitigate negative effects, including to endangered species. If you have not already talked with a Fisheries Biologist about your project, you may contact the Permit Analyst assigned to process your application for further information, including the contact information for the Fisheries Biologist assigned to review your application

Peregrine Falcon (*Falco peregrinus*) Protection Status: Threatened Species

The peregrine falcon is a state threatened species which has adapted to life in urban settings. The peregrine falcon is associated with bridges for nesting and brood rearing purposes. Peregrines will actively and aggressively defend the nest, whether a nest box or natural nest, up to and sometimes past 75 yards. The peregrine will attack anyone or anything that comes within the area of its nest. Peregrine falcons are Connecticut's largest falcon and can measure up to 20 inches. Adults are slate gray above and pale underneath with fine bars and spots of black; they

have long pointed wings with a narrow tail. Young falcons have the same composite but are darker underneath and browner all over. The peregrine falcon nesting season occurs between the months of April and June. For this reason, special conditions regarding the timing of work on the structure must be applied. In order to protect this species, the proposed construction activities should be completed during non-nesting season months (July – March). No construction activities should occur between April 1st and June 30th.

Protection Recommendation:

In order to protect this species, the proposed construction activities should be completed during non-nesting season months (July – March). No construction activities should occur between April 1st and June 30th. If work needs to be conducted during the breeding season (April 1st to June 30th) then I recommend hiring an ornithologist (bird expert) to evaluate and prepare a protection plan for the birds. All work on this project must maintain a minimum buffer of 600' from the nest. If a nest is identified by workers all work should stop immediately and this information should be reported to our program for further assistance and guidance to complete the work safely.

Please re-submit an NDDDB Request for Review if the scope of work changes or if work has not begun on this project by March 19, 2021.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits.

Please contact me if you have further questions at (860) 424-3592, or dawn.mckay@ct.gov . Thank you for consulting the Natural Diversity Data Base.

Sincerely,

Dawn M. McKay
Environmental Analyst 3

Attachment C

Peregrine Falcon Fact Sheet

Connecticut Department of Energy & Environmental Protection

Peregrine Falcon

Falco peregrinus

State Threatened Species



Background: The peregrine falcon was a regular nester in Connecticut from the 1860s through the early 1900s. Prior to the Migratory Bird Treaty Act of 1918 and the strengthening of collection regulations, hundreds of peregrine eggs and many adult specimens were collected in Connecticut and Massachusetts. Some live birds and eggs were collected for use in falconry. Many more eggs and specimens were added to private collections as part of a popular late 19th century hobby. Peregrine nesting activity in Connecticut declined through the 1920s and 1930s, and the last documented nesting occurred on the Travelers Tower in Hartford in the late 1940s. Peregrines remained absent from Connecticut until 1997 when a pair successfully nested once again on the Travelers Tower. The peregrine falcon was listed in 1992 as an endangered species on Connecticut's Endangered Species List. It was reclassified as a threatened species in 2010.

Peregrine falcon populations declined rapidly between 1950 and 1965 throughout the United States and parts of Europe. By 1975, the entire population of peregrines in the eastern United States was considered to be extirpated (disappeared from that region). This decline is directly attributed to the effect of organochlorine pesticides, such as DDT, on breeding populations. The speed and global scale of this species' decline makes it one of the most remarkable events in recent environmental history.



Due to the population crash, the peregrine falcon was declared a federally endangered species, and extensive efforts were made to reestablish birds in the eastern United States. Successful reintroduction programs, using captive-bred birds, helped restore

small breeding populations along the East Coast. The Peregrine Fund, a non-profit organization dedicated to restoring peregrine populations, conducted the large captive breeding program. The reestablishment effort, coupled with restrictions placed on the use of organochlorine pesticides in the United States (DDT was banned in 1972), resulted in the recovery of the peregrine falcon population. The peregrine was removed from the federal endangered species list in 1999.

While Connecticut did not participate in any reintroduction programs, the state benefited from our neighboring states' efforts. In 1997, a peregrine pair successfully produced 3 chicks on the Travelers Tower. Leg bands revealed that the female of the pair had come from a 1994 reintroduction project in Greece, New York, sponsored by Rochester Gas & Electric, in cooperation with the New York Department of Environmental Conservation. In the years since peregrine falcons began nesting again in Connecticut, additional pairs have successfully produced young at locations in several towns. Every year, a number of dedicated volunteers and Wildlife Division staff monitor the nests throughout the nesting and fledging seasons. Division biologists also attempt to visit the nests (if they are accessible) to place identifying leg bands on the young before they fledge. This is an important management tool for monitoring this state threatened species.

Description: The peregrine falcon is a long-winged, medium-sized bird of prey. Adults have long, pointed wings and a long, rounded tail with narrow, black bands ending with a broad, dark band tipped with white. The barred upper parts are blue-gray, while the underparts are white to light buff and cross-banded with brown. The black crown and nape extend to the cheeks, forming a distinct black helmet. The feet are yellow.

Immature peregrines are similar, but the back and underparts are brown and the throat is heavily streaked with brown. Both adult and immature peregrines have a bold, dark, vertical whisker-like mark (mustache mark) on the sides of the head.

Range: The peregrine falcon is one of the most widespread birds in the world. It is found on all continents except Antarctica, and on many oceanic islands. Although widely distributed, the peregrine is common in only a few places.

Habitat and Diet: A wide variety of habitats are used by peregrine falcons. The birds are found in open country, such as coastal lowlands, as well as along rivers and in urban locations.

Pigeons, waterfowl, crows, jays, starlings, shorebirds, and other medium to small birds are the main prey items of the peregrine. In urban areas, pigeons and starlings comprise most of the diet. Beetles, dragonflies, and migrating monarch butterflies are eaten occasionally.

Life History: Nest sites, known as eyries, are located above an open area so the falcons can launch their aerodynamic hunts. The nest is a hollow, unlined scrape on a cliff, ledge, or rocky outcrop. Abandoned raven or hawk nests in similarly high locations are occasionally used. The most publicized nesting areas have been on roofs and ledges of city buildings. Pairs may use the same nest site for many years. Male peregrines arrive at the nest site first and go through a series



of aerial displays to attract the females to the site. Territories are usually reestablished by late March.

Three to 4 cream or buff-colored eggs, covered with red-brown markings, are laid in late April and May at intervals of 2 to 3 days. Incubation, primarily done by the female, begins with the second or third egg and lasts 28 to 29 days for each egg. The hatchlings are closely brooded by the female for the first 14 days. The male typically brings food for all to the nest and the female feeds the young. The young begin flying at 35 to 42 days but remain dependent on the adults for another 2 months.

Peregrine falcons reach sexual maturity at age 3, and they may reach 17-20 years of age.

Interesting Facts: The peregrine falcon is probably best known for its spectacular method of capturing prey in mid-air. It flies faster than most other birds and, when hunting, it increases its speed by making aerial dives with the wings partially or fully pulled in. The peregrine plunges at speeds up to 175 miles per hour (mph) to attack its prey, which is killed instantly. This hunting dive is called a "stoop." Normal flight speed can range between 28 to 60 mph.

Because of its habit of preying on waterfowl, the peregrine falcon has historically been referred to as the duck hawk.

Peregrines can be preyed upon by great horned owls, gyrfalcons, and other peregrines.

Peregrine falcons have adapted to living in cities. Cities offer tall buildings with ledges for nesting, water sources, large populations of pigeons and starlings for food, and have few natural predators.

The scientific name comes from the Latin words *falco*, meaning "hook-shaped," possibly referring to the beak or claws, and *peregrinus*, meaning "to wander."

As part of the reintroduction effort, The Peregrine Fund released more than 4,000 captive-reared peregrines in 28 states over a 25-year period.

What You Can Do: Respect locations of peregrine nest sites and do not disturb nesting birds.

North American peregrine falcon populations continue to be threatened by the use of DDT in the tropics where some spend the winter. Support for the advancement of alternative methods of pest control in developing nations will help not only the peregrine, but ospreys and countless species of songbirds that nest in the United States and Canada and winter in Central and South America.



The production of this Endangered and Threatened Species Fact Sheet Series is made possible by donations to the [Endangered Species/Wildlife Income Tax Checkoff Fund](#).

Content last updated on March 27, 2012.

Attachment D

Peregrine Falcon Monitoring Report, Hudson River Crossing Project

Tappan Zee Hudson River Crossing Project Peregrine Falcon Monitoring Report

JUNE 2012

1-1 EXECUTIVE SUMMARY

A monitoring plan approved by the New York State Department of Environmental Conservation (NYSDEC) was implemented to document any disturbance from the Pile Installation and Demonstration Program (PIDP) to the resident pair of peregrine falcons on the Tappan Zee Hudson River Crossing. Scan sampling was used to measure and compare peregrine falcon time budgets before and during a range of PIDP activities that were categorized by their expected potential to cause disturbance. Low disturbance activities included preliminary set-up work, such as towing cranes and other heavy equipment to the test pile locations, assembling vibration and impact hammers, installing bubble curtains, and similar in-water actions leading up to the driving of test piles. Activities of moderate disturbance potential included the construction of falsework and framing (temporary wooden or metal framework built to support a structure under construction) and the vibration of lower pile segments. Impact hammering, which was the loudest PIDP activity, was categorized as having high potential for disturbance. A total of 45 hours of observation on 15 separate days provided no indication that the birds' behavior was altered by the PIDP activities occurring at the time. The falcons were most often observed perched, and usually in the same distinct locations, independent of the PIDP work simultaneously occurring in the river below. There was no observation of any PIDP activity, including impact hammering, causing the birds to flush or otherwise respond. The birds were observed engaging in typical behaviors such as sharing food, provisioning young, and preening, which also suggests the birds were not in duress. The exposure and habituation of the peregrine falcons to extensive baseline levels of noise and other activity on the bridge under normal conditions has likely led to a high disturbance threshold in these individuals, possibly explaining why they did not appear to have any negative reaction to the PIDP. Further, the high noise levels on the bridge from traffic, maintenance operations, and wind likely masked much of the noise produced by PIDP work in the river below, including impact hammering. Impact hammering could not be heard by the peregrine falcon monitors from the observation point on the main span, and it is possible the impact hammering was inaudible to the birds as well. Bridge-nesting peregrine falcons inherently have a high tolerance of human disturbances, and on the basis of the monitoring summarized in this report, the resident pair on the Tappan Zee Hudson River Crossing does not appear to be sensitive to in-water construction activities such as those undertaken for the PIDP.

1-2 INTRODUCTION

Behavioral observations of the Tappan Zee Hudson River Crossing's resident pair of peregrine falcons were made before and during the Pile Installation Demonstration Program (PIDP) to investigate potential disturbance caused by the in-water construction

activity. The methodology and schedule for the peregrine falcon monitoring were reviewed and approved by NYSDEC in advance. The PIDP took place at four locations within the river, referred to as PLT1-PLT4, during the spring of 2012. A total of seven test piles were driven among these four locations (two piles in each of three locations and one pile in the fourth location). PLT1 and PLT2 were located within the Rockland County side of the project area, well west of the peregrine falcon nest box on the existing bridge's main span, whereas PLT3 and PLT4 were in closer proximity to the nest box location on the Westchester County side of the project area (**Figure 1**).

Initial site preparation included activities such as towing cranes and other heavy equipment to the test pile locations, assembling vibration and impact hammers, installing bubble curtains, and similar in-water actions leading up to the driving of test piles. Subsequent work included the installation of falsework piles (ancillary piles to support load frames) and framing (temporary wooden or metal framework built to support a structure under construction). Next, a low-noise, vibratory hammer was used to install the lower segment of each test pile. The upper segment was welded to the bottom segment, and then driven deeper into the riverbed by hydraulic impact hammering. Peregrine falcon monitoring spanned the range of these different PIDP activities, and included pre-PIDP observations as well as observations after all test piles had been installed. This report quantifies and compares the peregrine falcon behaviors observed during these periods.

1-3 METHODS

Observations were made from a closed lane on the bridge's main span road deck, which offered the best accessible vantage point. Lane closure schedules, however, greatly constrained the dates and times during which monitoring could occur. Generally, peregrine falcon monitoring was limited to weekdays, between approximately 9:30am and 12:00pm. For this reason, the peregrine falcons could not be comprehensively monitored throughout the full range of PIDP activities. However, dates and times of peregrine falcon monitoring were able to coincide with pile driving and other significant PIDP activities on at least one occasion. Observation dates and times, and the corresponding PIDP activities, are shown in **Table 1**.

Behavioral data were collected using an instantaneous scan sampling method (Gaibani and Csermely 2007), whereby the location and behavior of the birds were recorded at five minute intervals during the observation period and coded according to the ethogram in **Table 2** (adapted from Walter 1983). The sex of the birds could not be directly determined because peregrine falcons are not sexually dimorphic, aside from subtle differences in body size. Birds were seldom in close enough proximity to each other for size differences to be apparent. Instead, sex was presumed on the basis of the birds' behavior and all behavioral data are herein analyzed as such. For example, one bird often remained perched in front of the nest while the other bird flew long distances up- or down-river, or was otherwise out of view for extended periods of time. The bird that remained near the nest box was presumed to be female and the bird that would be absent for long periods was presumed to be male. Similarly, one bird often remained in (or near) the nest box while the other was perched on the top of the main span's north tower. The former was presumed to be female and the latter was presumed to be male. Even though male peregrine falcons contribute to incubation and nest attendance, the female performs these duties the majority of the time (White et al. 2002).

Often the birds (particularly the male) were not observable due to the limited range of visibility from the road deck. The male frequently perched somewhere out of view on or below the bridge, and often flew long distances down-river from the bridge until it could no longer be seen. Consequently, bird behaviors often had to be recorded as “unknown” during scan sampling. Also, the inside of the nest box could not be seen from the observation point, and a bird was only recorded as being inside the nest box if it had been seen entering or exiting the box at some point during the observation period.

Table #1
Peregrine Falcon Monitoring Schedule

Date	Monitoring time (EST)	Major PIDP activity	Location	Estimated breeding stage
5-Mar	10:00-11:40	None	N/A	Courtship
7-Mar	9:45-11:55	None	N/A	Courtship
8-Mar	10:10-12:10	None	N/A	Courtship
13-Mar	9:55-13:55	Equipment set-up	N/A	Courtship
19-Mar	9:50-11:50	Falsework / framing	PLT2	Courtship
2-Apr*	9:30-11:00	Falsework / framing	PLT3	Incubation
24-Apr	9:40-11:40	Equipment set-up	PLT4	Incubation
25-Apr	10:35-12:35	Equipment set-up	PLT3	Incubation
26-Apr	9:50-13:50	Equipment set-up	PLT3	Incubation
7-May	9:30-14:30	None- postponed	N/A	Chick rearing
8-May	9:35-12:45	Impact	PLT3	Chick rearing
14-May	10:00-13:00	Impact	PLT4	Chick rearing
16-May*	11:05-13:25	Impact*	PLT2	Chick rearing
18-May	9:40-13:20	Vibration & impact**	PLT3	Chick rearing
30-May	9:30-11:30	None***	N/A	Chick rearing

Notes:

*No birds were seen during Apr 2 and May 16 monitoring.

**Impact hammering occurred after the monitoring period ended.

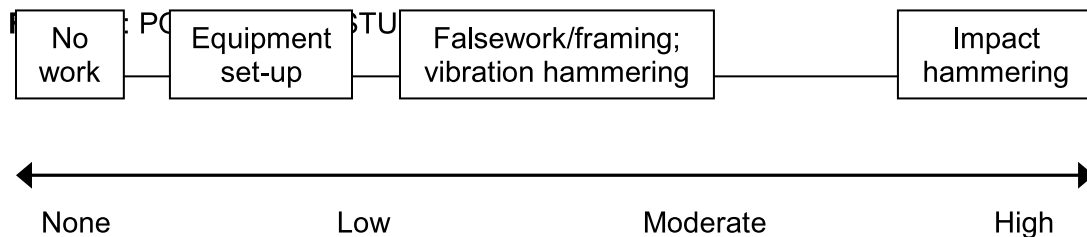
***Re-driving of piles 2A and 2B occurred over a span of approximately 8 minutes at 9:00; otherwise no major PIDP activity with potential to disturb the peregrine falcons occurred. The May 30 monitoring period is therefore considered a post-impact-hammering follow-up visit.

Table #2		
Peregrine Falcon Ethogram¹		
Behavioral Classification	Identification	Defining Action
Physical Status	P1	perched
	P2	in flight, but not in pursuit of prey or sexual display
	P3	lying down
	P4	hopping, walking
	P5	other
Feeding and Body Care	F1	feeding self
	F2	drinking
	F3	asleep
	F4	panting
	F5	preening, cleaning
	F6	scratching
	F7	shaking feathers, sunning
	F8	pellet extraction/defecating
	F9	other
Hunting	H1	prey chase, pursuit , stoop flight
	H2	prey capture, in possession of prey
	H3	prey transport
	H4	other
Agnostic Behavior and Human Impact	A1	physically harassing, attacking bird or other animal
	A2	physically harassing, attacking human
	A3	threat display towards animal (e.g., gaping, wings open)
	A4	threat display towards human
	A5	fleeing from human disturbance
	A6	other
Sexual Behavior	S1	display from perch (e.g., bowing)
	S2	aerial display
	S3	allopreening, billing, other contact
	S4	offering food
	S5	receiving food
	S6	copulation
	S7	other
Nest-Related Behavior	N1	inside nest box
	N2	feeding young
Vocalization	V1	vocalizing directed at mate
	V2	vocalizing at other conspecific
	V3	undirected vocalization
	V4	other
	-	(threat vocalization under a3 and a4)
Notes: ¹ a descriptive list of the known behaviors of a given species that is used to study animal behavior.		

The behavioral data collected from instantaneous scan sampling were used to calculate time budgets of the birds (i.e., proportion of the observation time that birds were

engaged in a given behavior). Time budgets were then compared among different phases of the PIDP that were categorized by their expected potential to cause disturbance to peregrine falcons (**Figure 2**). “No disturbance” periods include the pre-PIDP monitoring conducted on March 5, 7, and 8, and monitoring conducted on May 7 when equipment failure caused a suspension of the scheduled work. “Low disturbance potential” events include heavy equipment mobilization, set-up, and assembly at test pile locations during monitoring periods on March 13, April 24, 25, 26, and May 16. “Moderate disturbance potential” periods include the falsework and framing work performed on March 19 and the vibration hammering on May 18. “High disturbance potential” includes impact hammering on May 8 (at PLT3, the closest test location to the falcons’ nest site). On May 14, impact hammering (at PLT4) began prior to the morning lane closure and was completed approximately 0.5 hr after peregrine falcon monitoring was able to begin. Observation data collected during the 0.5 hr overlap of impact hammering at PLT4 and peregrine falcon monitoring were included in the analysis of “high disturbance potential” data. Observation data from the hour after impact hammering on May 14 had ended were also included to capture the birds’ behavior following the potential disturbance of impact hammering. All other impact hammering occurred on dates and at times when no lane was closed on the bridge and peregrine falcon monitoring was not feasible.

No birds were seen during the peregrine falcon monitoring conducted on April 2, and on May 16, only one bird was observed briefly (flying east from the bridge). On March 5 and May 18, only the female was seen. Overall, the male was not seen nearly as often as the female, and as such, sample sizes of behavioral data for the male are small.



PIDP work activities were categorized by their expected potential to cause disturbance to peregrine falcons. “Equipment set-up” included activities such as towing cranes and other heavy equipment to the test pile locations, assembling vibration and impact hammers, installing bubble curtains, and similar in-water actions leading up to the driving of test piles that were considered to have low potential to cause disturbance. Constructing falsework and framing, and vibrating lower pile segments were considered to have moderate potential to disturb peregrine falcons. Impact hammering was the loudest PIDP activity and considered to have the highest potential to cause disturbance.

1-4 RESULTS

Peregrine falcon monitoring was conducted for a total of approximately 45 hours over 15 different days. Behaviors of the female that were recorded by scan sampling included perching, nest attendance, receiving food, and feeding young (i.e., entering the next box with food at a time when the nest was expected to contain nestlings). Male

behaviors included perching, nest attendance, flying, offering food, and preening (**Table 3**).

In March and April, prior to egg laying, one bird (presumably female) would often be seen for the majority of the monitoring period, usually near the nest box, whereas the other bird (presumably male) would only be seen intermittently and would be absent for extended periods of time. Later in the season, when the pair was expected to have eggs, the presumed female was often in the nest box while the presumed male was often either perched on the top of the main span's north tower or was out of view for long periods of time.

As discussed above, monitoring effort differed among different phases of the PIDP and often could not be conducted during primary PIDP activities because of lane closure schedules, construction delays, and other logistical constraints. Further, birds were often unseen during the monitoring periods and their behavior could not be recorded. Sample sizes of behavioral data were particularly small for the male. Because of these disparities, the unevenness of the monitoring effort across PIDP phases, and the small sample sizes, data were not analyzed statistically. Qualitatively, there were no noticeable trends in the birds' behaviors during phases of the PIDP with different expected levels of potential disturbance (**Table 3**). Time budgets in the days preceding initiation of the PIDP were similar to those measured during the PIDP, including periods of impact hammering. Anecdotally, there was also no evidence to suggest that the peregrine falcons were in any way disturbed by the PIDP.

Table #3								
Time budgets (expressed as percentages) of peregrine falcons on the Tappan Zee Hudson River Crossing before and during PIDP stages categorized by their potential to cause disturbance								
Expected Disturbance Level	Number*	Behavior (% of scan samples)						
		Perched	In Nest Box	In Flight	Offering Food	Receiving Food	Feeding Young	Preening
Female								
None	108	19	79				2	
Low	124	20	78			2		
Medium	38	97	3					
High	47	11	87			2		
Follow-up**	24	100						
Male								
None	22	86	9	5				
Low	19	68	5	16				11
Medium	17	94		6				
High	3	1 of 3		1 of 3	1 of 3			
Follow-up**	14	86						14

Notes: See Table 1 and Figure 1 for corresponding dates and PIDP activities.

*Number of scan samples during which the bird was seen and behavior could be determined.

**Follow-up monitoring on May 30 after driving of all test piles had concluded.

1-5 DISCUSSION

In New York City and many other metropolitan areas, peregrine falcons nest on bridges, high-rise buildings, and other tall artificial structures amidst the high levels of noise and human activity associated with an urban environment, thus demonstrating a high tolerance of disturbance and an ability to exploit resources in human-dominated landscapes (Cade et al. 1996, White et al. 2002). Peregrine falcons began nesting on the Tappan Zee Bridge in the 1980's (Mildner 1988, Frank 1994) and continue to do so to this day.

Existing conditions for peregrine falcons nesting on the Tappan Zee Bridge are characterized by consistent and extensive levels of human activity. Vehicular traffic and strong winds create a remarkably noisy environment. The resident pair of peregrine falcons' selection of the nest site inherently indicates a tolerance of these conditions, and based on the direct observations of the birds throughout the monitoring program, it is apparent that the birds are indifferent to the human activity around them. In addition to the high traffic volume passing below their nest site, painters and other bridge maintenance/repair crews were highly active in close proximity to the nest location throughout the monitoring period. At no point did the birds appear to react to the crews or work vehicles operating below them.

A comparison of the peregrine falcons' time budgets before and during PIDP activities indicates that the birds' behavior was unaffected. Birds were most often observed perched, and usually in the same distinct locations, independent of the concomitant PIDP work occurring in the river below. The presumed female was almost always inside the nest box or perched on the supporting cross beam within approximately 20 feet of the nest. The male most commonly perched on the top of the main span's north tower, over the southbound traffic lanes. For both sexes, the proportion of time perched was comparable between the periods with no in-water work and the PIDP activities that ranged from low to high disturbance potential. There was no indication that any PIDP activity, including impact hammering, caused the birds to flush or otherwise respond. The birds engaged in other typical behaviors during the PIDP as well, including sharing food, provisioning young, and preening, which also suggests the birds were not in duress. On May 8, the female remained inside the nest box throughout the impact hammering of test pile 3A (the closest test pile location to the nest) that occurred from 10:05am to 11:30am. Birds usually flush from their nest when approached or otherwise disturbed. At no point did the female peregrine falcon appear to flush from the nest box or otherwise flee the area in panic flight.

The exposure and habituation of the peregrine falcons to the extensive baseline levels of noise and other activity on the bridge has likely led to a high disturbance threshold in these individuals and likely explains why they did not appear to have any negative reaction to the PIDP. Further, the high noise levels on the bridge from traffic, maintenance operations, and wind likely masked the majority of the noise produced by the PIDP work in the river below, including impact hammering. Neither of the two peregrine falcon monitors that were on the bridge on May 8 and 14 heard the impact hammering of test piles 3A and 4A that took place during the monitoring period. Both monitors were unaware that the impact hammering had occurred until they were later informed by the engineer in charge. The impact hammering (and other PIDP activities) may have been inaudible to the peregrine falcons above the high ambient noise levels around their nest site and other areas of frequent occurrence on the bridge.

In conclusion, 45 hours of observations provided no evidence that peregrine falcons nesting on the Tappan Zee Hudson River Crossing were affected by the PIDP, including the impact hammering of test piles in close proximity to the nest site. No signs of disturbance or altered behavior, such as avoidance of the nest site, repeated displacement from typical areas of occurrence, threat displays (erect feathers on head, back, and/or breast), or open-mouth breathing, were observed. The birds, particularly the female, continued to engage in typical behaviors throughout the various stages of in-water activity. Nest attendance did not appear to be altered in any way. As impact hammering of test pile 4A was in progress relatively close to the nest, the male was observed delivering prey to the female at the nest, which suggests both birds were indifferent to any noise or visual disturbance generated by the pile driving. These overall findings are consistent with observations of peregrine falcons successfully nesting on the San Francisco-Oakland Bay Bridge during the bridge's earthquake retrofitting project in the early 2000's and the current, ongoing construction of its replacement bridge (Stewart 2011). Bridge-nesting peregrine falcons inherently have a high tolerance of human disturbances, and on the basis of the monitoring summarized in this report, the resident pair on the Tappan Zee Hudson River Crossing is not sensitive to in-water construction activities such as those undertaken for the PIDP. Similarly, future construction of a replacement bridge is not expected to cause nest-site abandonment or otherwise negatively impact peregrine falcons nesting on the existing bridge.

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Attachment E

Construction Monitoring Report Form

DAILY CONSTRUCTION MONITORING REPORT

**State Pier Infrastructure Improvements
New London, CT**

Project Number: _____

Project Manager:

Date:

On-Site personnel:

WEATHER CONDITIONS:

WORK COMPLETED:

OBSERVATIONS / RECOMMENDATIONS:

SAFETY ISSUES:

OTHER COMMENTS: