# 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:2002-01041-YS
Issue Date: April 12, 2006
Expiration Date: May 12, 2006

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 404 of the Clean Water Act (33 U.S.C. 1344).

APPLICANT: State of New York Department of Transportation
44 Hawley Street
Binghamton, NY 13901-4432

ACTIVITY: Discharge of fill material into approximately 2.208 acres of waters of the United States in association with the reconstruction of approximately 2.9 miles of New York State Route 17 in the vicinity of the Hamlet of Parksville.

WATERWAY: Little Beaver Kill (Delaware River Basin)

LOCATION: Town of Liberty, Sullivan 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 benefit 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, historic properties, fish and wildlife values, flood hazards, 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, considerations 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. In a letter dated January 23, 2006, the U.S. Fish and Wildlife Service stated that, except for occasional transient individuals, no Federally-listed or proposed endangered or threatened species under their jurisdiction are known to exist within the project impact area.

By a Memorandum of Agreement (MOA) signed by the New York State Office of Parks, Recreation and Historic Preservation on March 12, 2005, and the Federal Highway Administration on February 2, 2006, it was determined that the project would have an Adverse Effect upon seven cabins within a bungalow colony located south of Main Street. The cabins are considered to be eligible for listing on the National Register of Historic Places. The MOA outlines measures that will be taken to mitigate project effects upon these historic properties.

Reviews of activities pursuant to Section 404 of the Clean Water Act will 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 the applicant will obtain a water quality certificate or waiver from the appropriate state agency in accordance with Section 401 of the Clean Water Act prior to a permit decision.

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 (917) 790-8413 and ask for Brian A. Orzel.

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

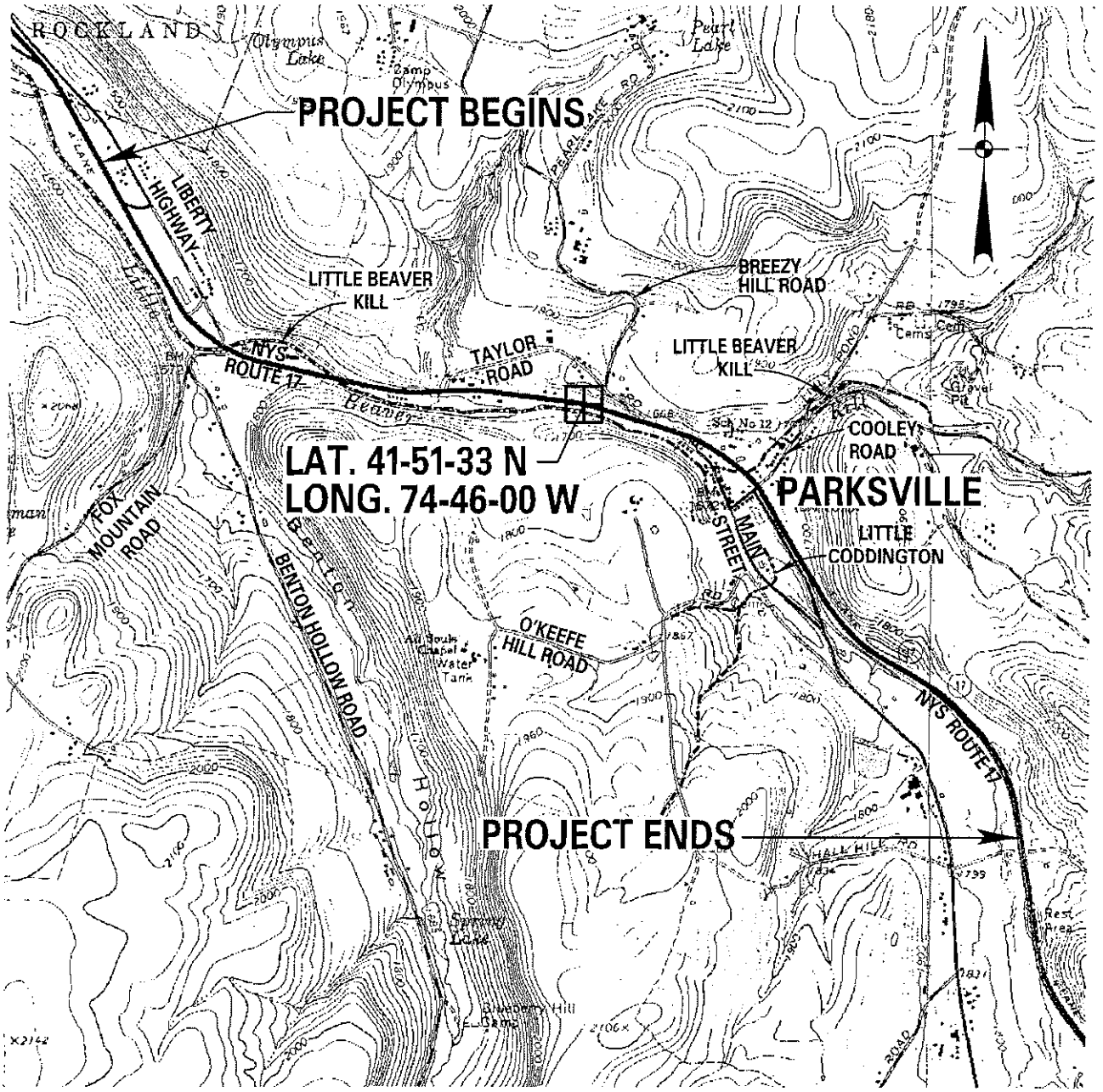
## WORK DESCRIPTION

The applicant, the New York State Department of Transportation, has requested Department of the Army authorization for the discharge of fill material into waters of the United States in association with the reconstruction of approximately 2.9 miles of New York State Route 17 in the vicinity of the Hamlet of Parksville. The project site is located in the Town of Liberty, Sullivan County, New York.

The new road would be located to the south of the current road, resulting in the discharge of fill material into a total of approximately 2.208 acres of waters of the United States, including approximately 1.236 acres of jurisdictional wetlands and approximately 0.972 acres of jurisdictional streams.

The applicant proposes a wetland mitigation plan which includes the establishment of approximately 3.85 acres of wetlands.

The stated purpose of the work is to bring Route 17 up to interstate standards, so that the road can be redesignated as Interstate Route 86 (I-86).




NOTE:

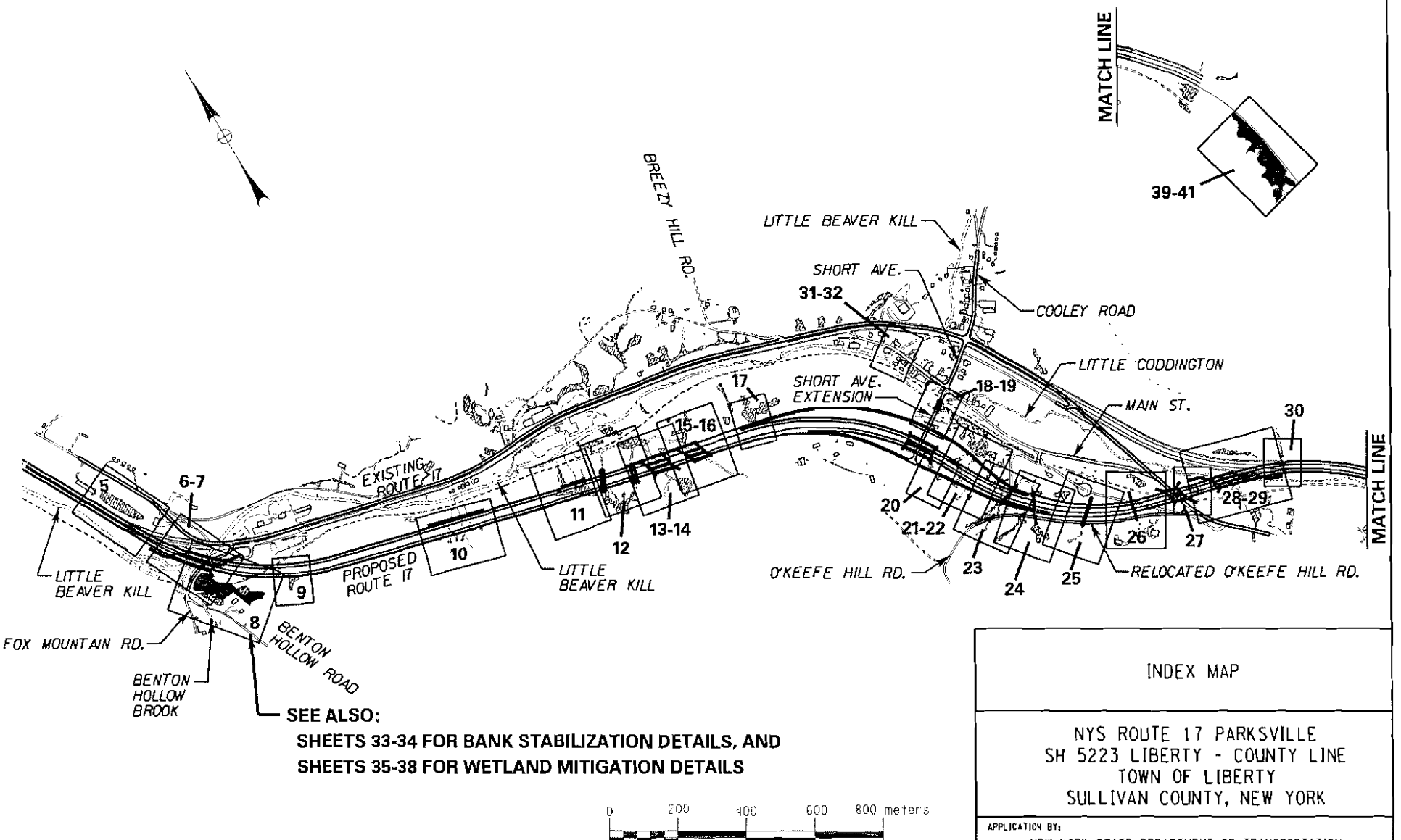
PROJECT VICINITY MAP DEVELOPED FROM USGS QUADRANGLE MAPS LIBERTY WEST AND LIBERTY EAST

PROJECT VICINITY MAP

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 1 OF 43 | SCALE NTS | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|




**SEE ALSO:**
**SHEETS 33-34 FOR BANK STABILIZATION DETAILS, AND**
**SHEETS 35-38 FOR WETLAND MITIGATION DETAILS**

INDEX MAP

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 2 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|

# LEGEND

| | |
|---|---|
| | CENTERLINE OF IMPROVEMENT |
| | FILL GRADING LIMIT |
| | CUT GRADING LIMIT |
| | ORDINARY HIGH WATER MARK |
| FW FW | FEDERAL WETLAND |
| S-XX OR N-XX | WETLAND IDENTIFICATION NUMBER |
| | UNVEGETATED CHANNEL |
| | WETLAND MITIGATION |
| | 100 YEAR FLOOD BOUNDARY |
| | R.O.W. ACQUISITION |
| | JURISDICTIONAL IMPACT |
| | ISOLATED IMPACT |
| | CHANNEL IMPACT |

WETLAND LEGEND

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 3 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|

PERMITLEGEND_PN.DGN

| Table 1. Alternative A4 Impacts to Wetlands and Unvegetated Channels | | | | | | | |
|---|---|---|---|---|---|---|---|
| Wetland Complex | Wetland Classification (USFWS) | Wetland Impacts (acres) | | Unvegetated Channel Impacts | | | |
| | | ACOE-Jurisdictional | Non-jurisdictional | ACOE-Jurisdictional | | Non-Jurisdictional | |
| | | | | Acres | $YD^3$ | Acres | $YD^3$ |
| S-3 | Palustrine emergent and scrub-shrub | N/A | 0.099 | N/A | N/A | 0 | 0 |
| S-5 | Palustrine emergent | N/A | 0.112 | N/A | N/A | 0 | 0 |
| S-6 | Palustrine emergent | N/A | 0.005 | N/A | N/A | 0 | 0 |
| **S-7** | **Palustrine emergent; Riverine streambed** | **0.066** | N/A | **0.131** | **209.3** | N/A | N/A |
| **S-11** | **Palustrine emergent; Riverine streambed** | **0.005** | N/A | **0** | **0** | N/A | N/A |
| **S-13** | **Palustrine emergent; Riverine streambed** | **0.481** | N/A | **0.041** | **65.79** | N/A | N/A |
| **S-14** | **Palustrine emergent; Riverine rock and unconsolidated bottom** | **0** | N/A | **0.139** | **53.0** | N/A | N/A |
| S-15 | Palustrine emergent | N/A | 0.023 | N/A | N/A | 0 | 0 |
| S-23 | Palustrine forested and scrub-shrub | N/A | 0.030 | N/A | N/A | 0 | 0 |
| **S-24** | **Palustrine emergent and scrub-shrub** | **0.068** | N/A | **0** | **0** | N/A | N/A |
| **S-28** | **Palustrine emergent; Riverine streambed** | **0.213** | N/A | **0.175** | **185.34** | N/A | N/A |
| S-29 | Palustrine emergent | N/A | 0.032 | N/A | N/A | 0 | 0 |
| S-30 | Palustrine emergent | N/A | 0.037 | N/A | N/A | 0 | 0 |
| S-31 | Riverine streambed | N/A | 0 | N/A | N/A | 0.030 | 23.67 |
| S-32 | Palustrine emergent | N/A | 0.044 | N/A | N/A | 0 | 0 |
| **S-33** | **Palustrine emergent; Riverine streambed** | **0.299** | N/A | **0.201** | **850.07** | N/A | N/A |
| S-34 | Palustrine scrub-shrub | N/A | 0.051 | N/A | N/A | 0 | 0 |
| **S-35** | **Riverine unconsolidated bottom** | **0** | N/A | **0.162** | **257.55** | N/A | N/A |
| **S-36** | **Riverine unconsolidated bottom, Palustrine emergent and scrub-shrub** | **0** | N/A | **0.084** | **200.37** | N/A | N/A |
| **S-37** | **Palustrine emergent and scrub-shrub** | **0.095** | N/A | **0** | **0** | N/A | N/A |
| **S-38** | **Riverine unconsolidated bottom; Palustrine emergent and scrub-shrub** | **0** | N/A | **0** | **0** | N/A | N/A |
| N-1 | Palustrine unconsolidated bottom, emergent and scrub-shrub | N/A | 0.071 | N/A | N/A | 0 | 0 |
| **N-3** | **Palustrine emergent and scrub-shrub** | **0** | N/A | **0** | **0** | N/A | N/A |
| **N-4** | **Palustrine emergent** | **0** | N/A | **0** | **0** | N/A | N/A |
| **N-20** | **Palustrine emergent; Riverine streambed** | **0.009** | N/A | **0** | **0** | N/A | N/A |
| **Little Beaver Kill Near Benton Hollow** | **Riverine unconsolidated bottom** | **0** | N/A | **0.008** | **20.0** | N/A | N/A |
| **Little Coddington Br.** | **Riverine unconsolidated bottom** | **0** | N/A | **0.002** | **13.08** | N/A | N/A |
| **Benton Hollow Br.** | **Riverine unconsolidated bottom** | **0** | N/A | **0** | **0** | N/A | N/A |
| **Trib.P-306** | **Riverine unconsolidated bottom** | **0** | N/A | **0** | **0** | N/A | N/A |
| **Little Beaver Kill at Main St.** | **Riverine unconsolidated bottom** | **0** | N/A | **0.029** | **0** | N/A | N/A |
| **Totals** | N/A | **1.236** | 0.504 | **0.972** | **1854.5** | 0.030 | 23.67 |

**Note: Wetlands and channels shown in bold are subject to jurisdiction of the Army Corps of Engineers. All other wetlands/channels have been determined to be "isolated" and are not subject to ACOE jurisdiction.**

**Proposed Wetland Mitigation = 3.85 Acres**

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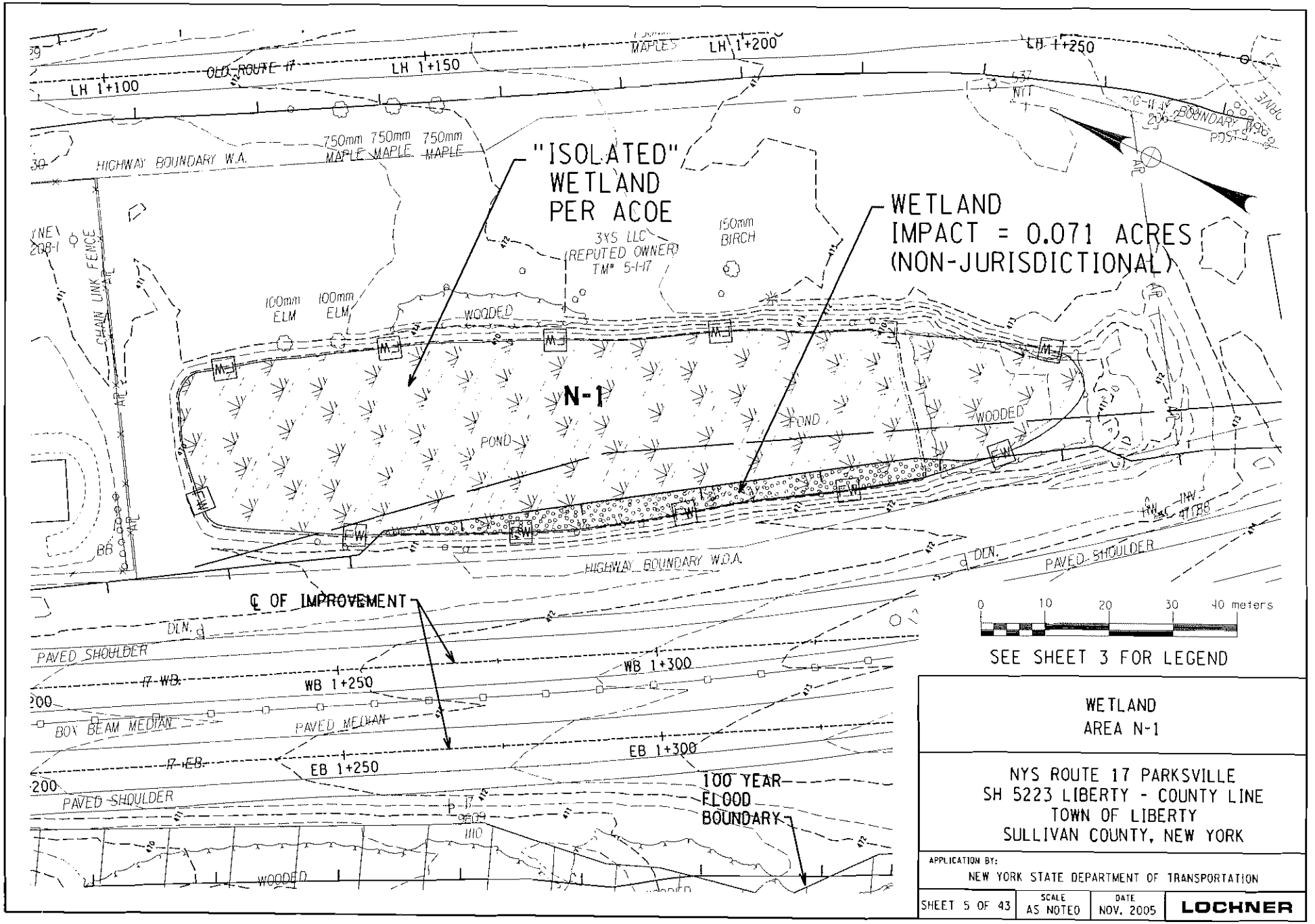


WETLAND
AREA N-1

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 5 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|

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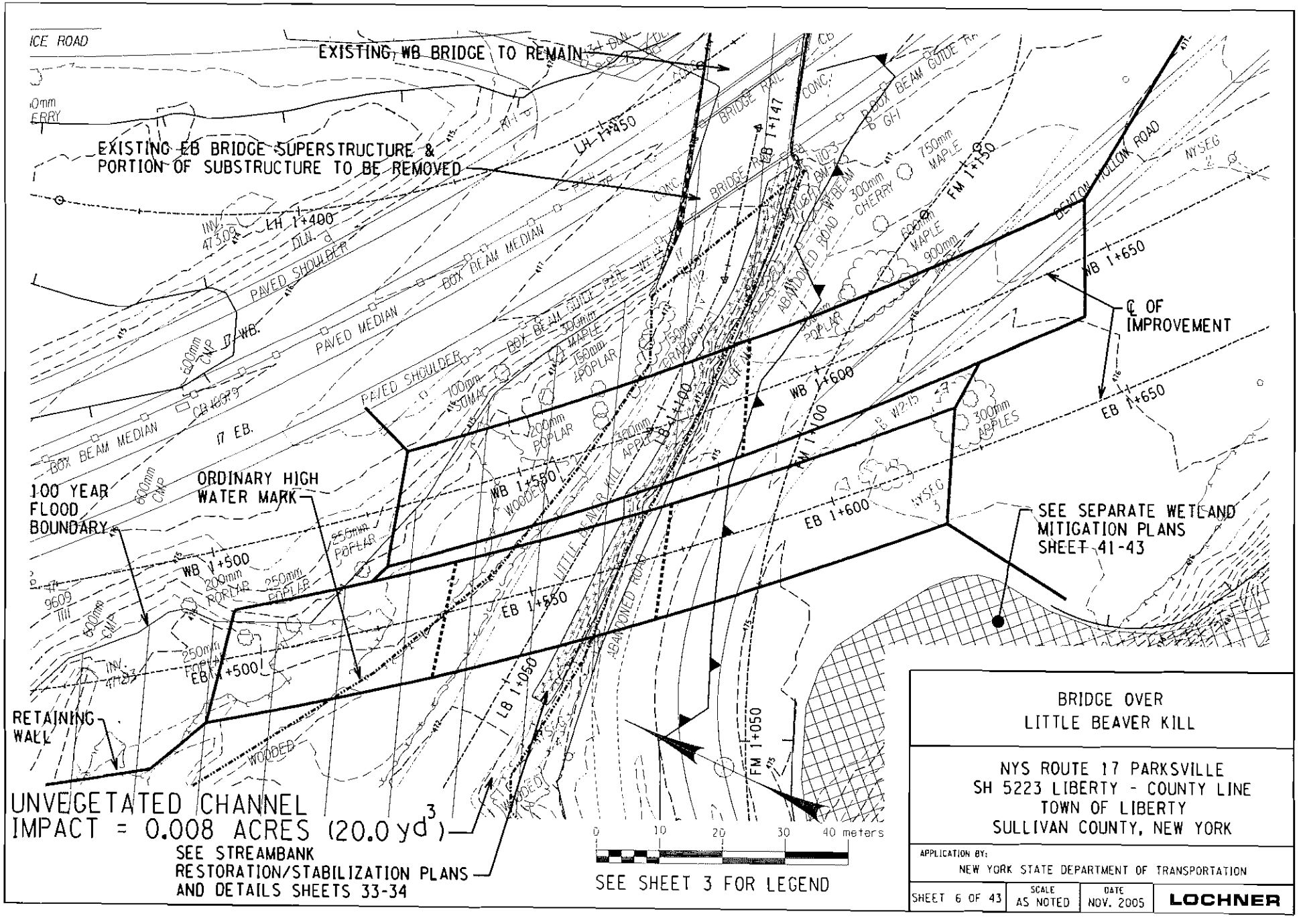
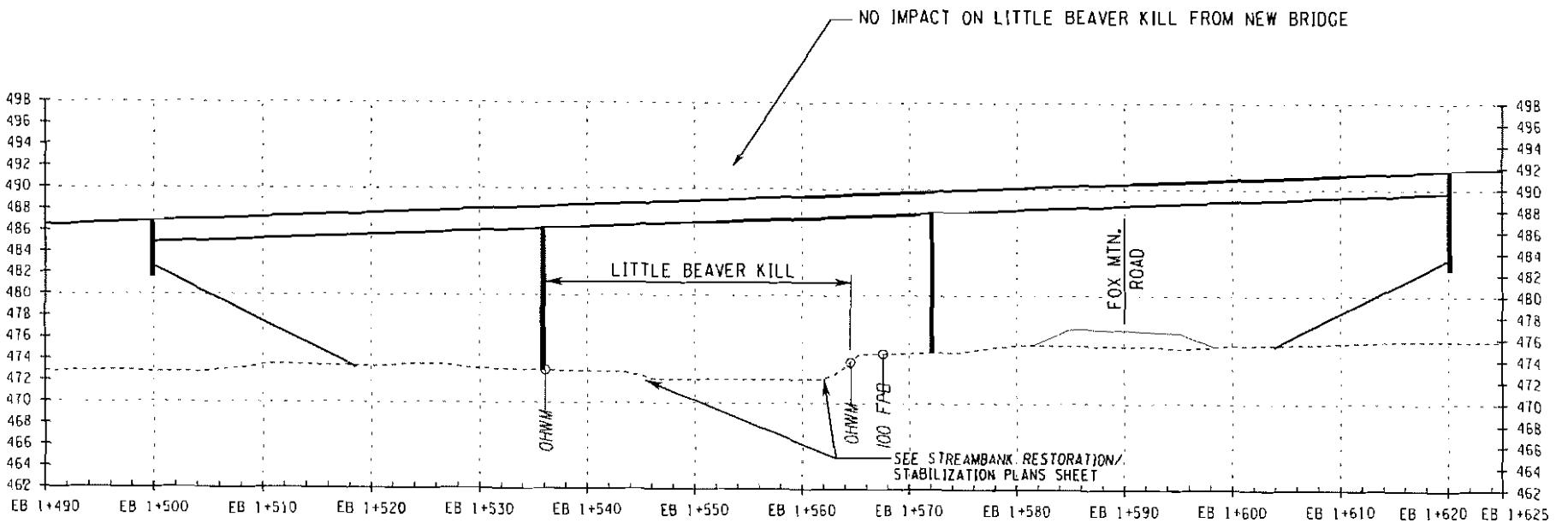



BRIDGE OVER
LITTLE BEAVER KILL

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 6 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|




ELEVATION

LEGEND

| | |
|---|---|
| *MHB* | EXISTING HIGHWAY BOUNDARY |
| MFA | PROPOSED RIGHT OF WAY |
| MEPA | PROPOSED PERMANENT EASEMENT |
| *EWF* | EXISTING FEDERAL WETLAND |
| *OHWM* | ORDINARY HIGH WATER MARK |
| *100 FPB* | 100 YEAR FLOODPLAIN BOUNDARY |
| EWM | PROPOSED WETLAND MITIGATION AREA |
| S# OR N# | EXISTING WETLAND IDENTIFICATION NUMBER |

0 5 10 15 20 meters

BRIDGE OVER
LITTLE BEAVER KILL

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 7 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
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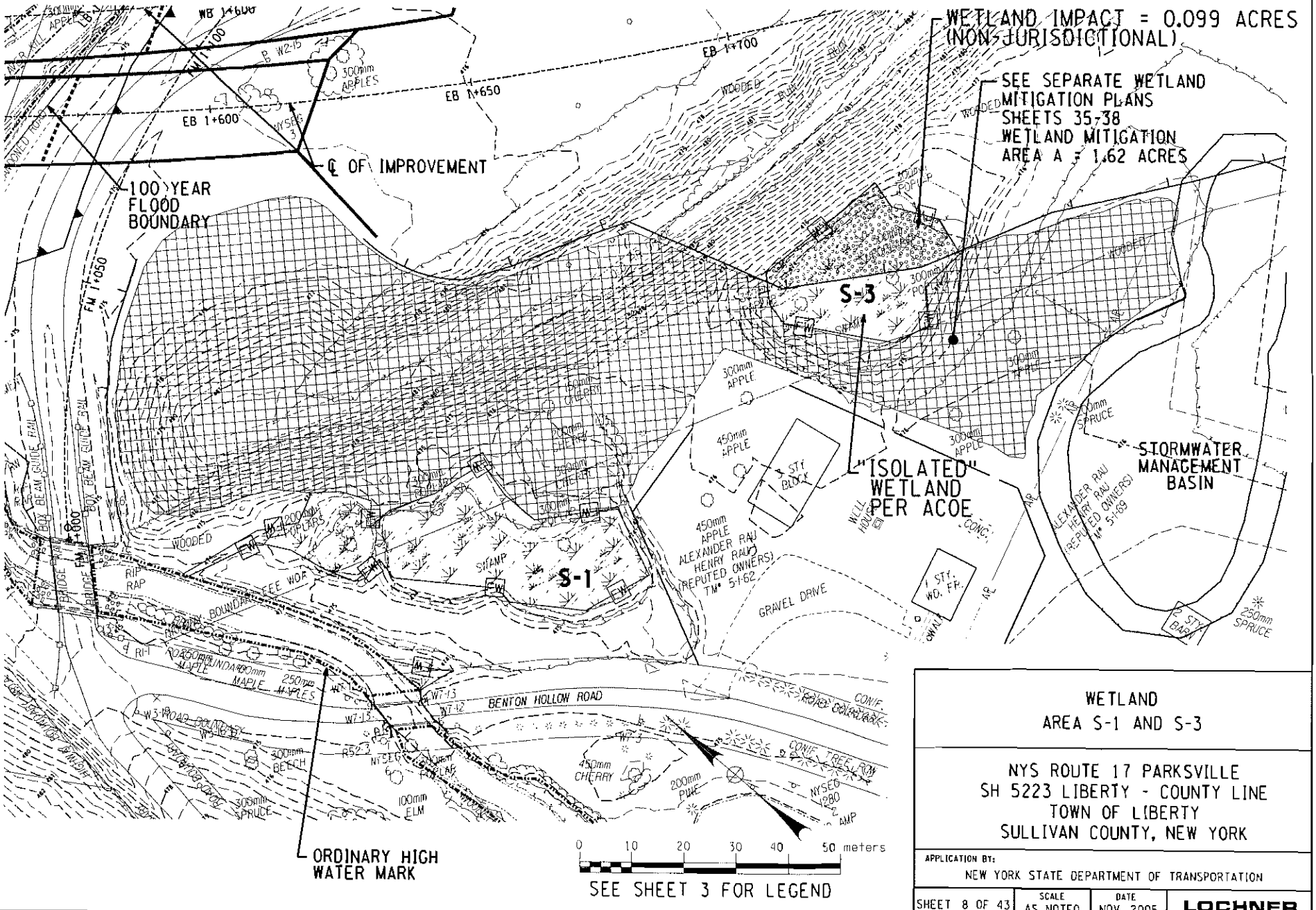
PERMIT_4PN.DGN




WETLAND
AREA S-1 AND S-3

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 8 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
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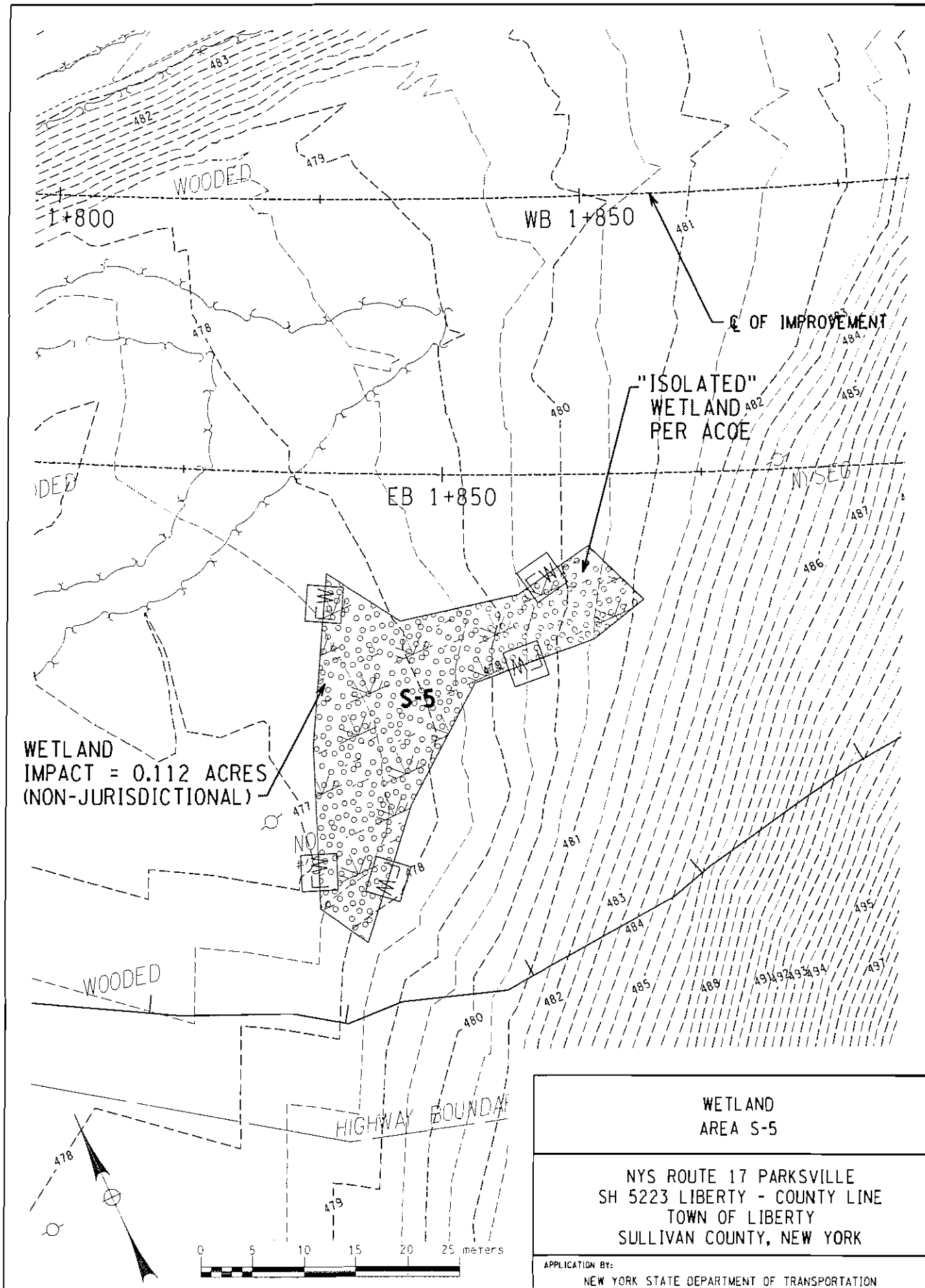


SEE SHEET 3 FOR LEGEND

WETLAND
AREA S-5

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 9 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
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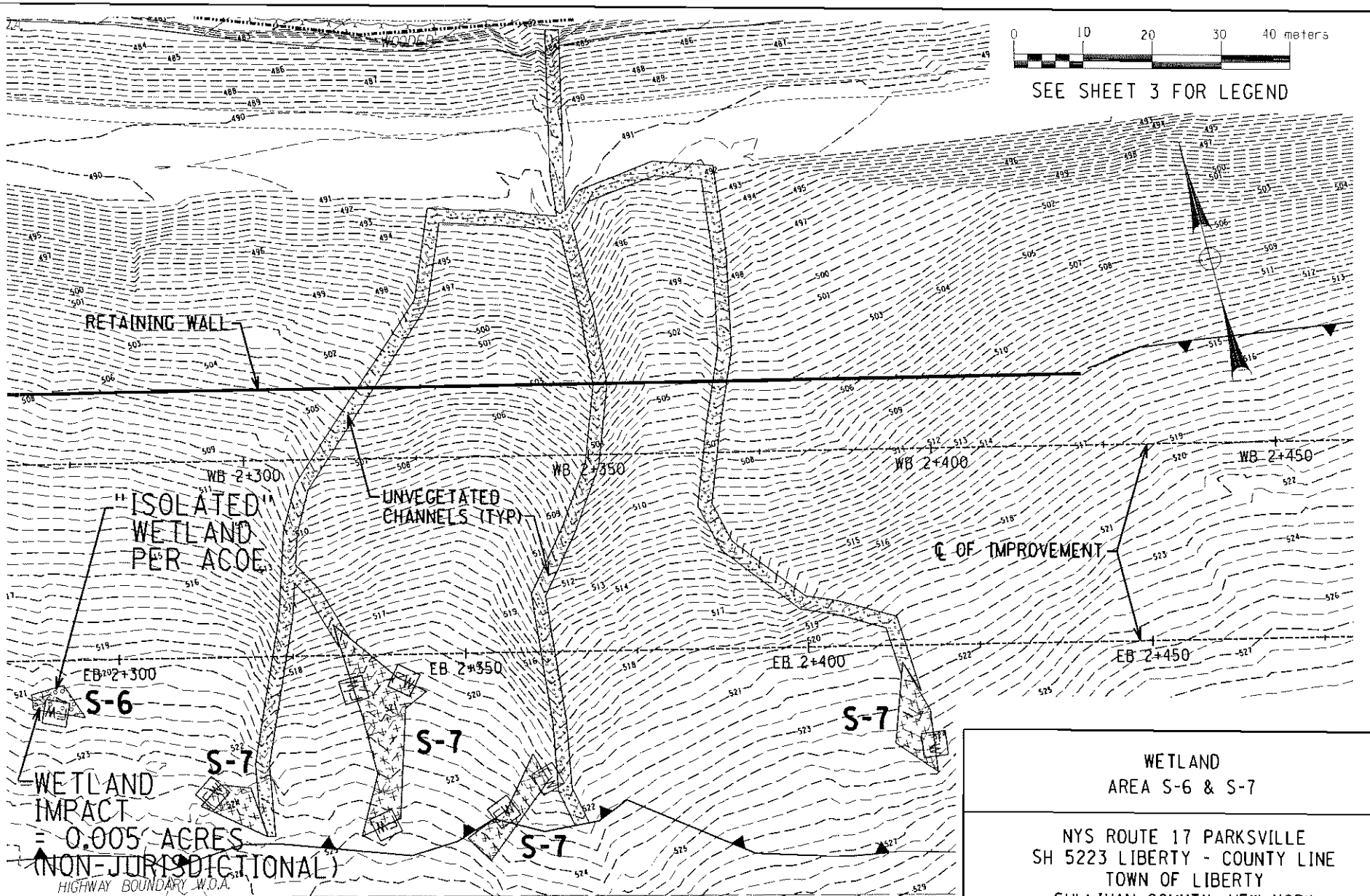
PERMIT_SPN.DGN

PERMIT_6PN.DGN




S-7 TOTAL WETLAND IMPACT = 0.066 ACRES

S-7 TOTAL UNVEGETATED CHANNEL IMPACT = 0.131 AC. (209.3 $yd^3$)

WETLAND
AREA S-6 & S-7

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 10 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
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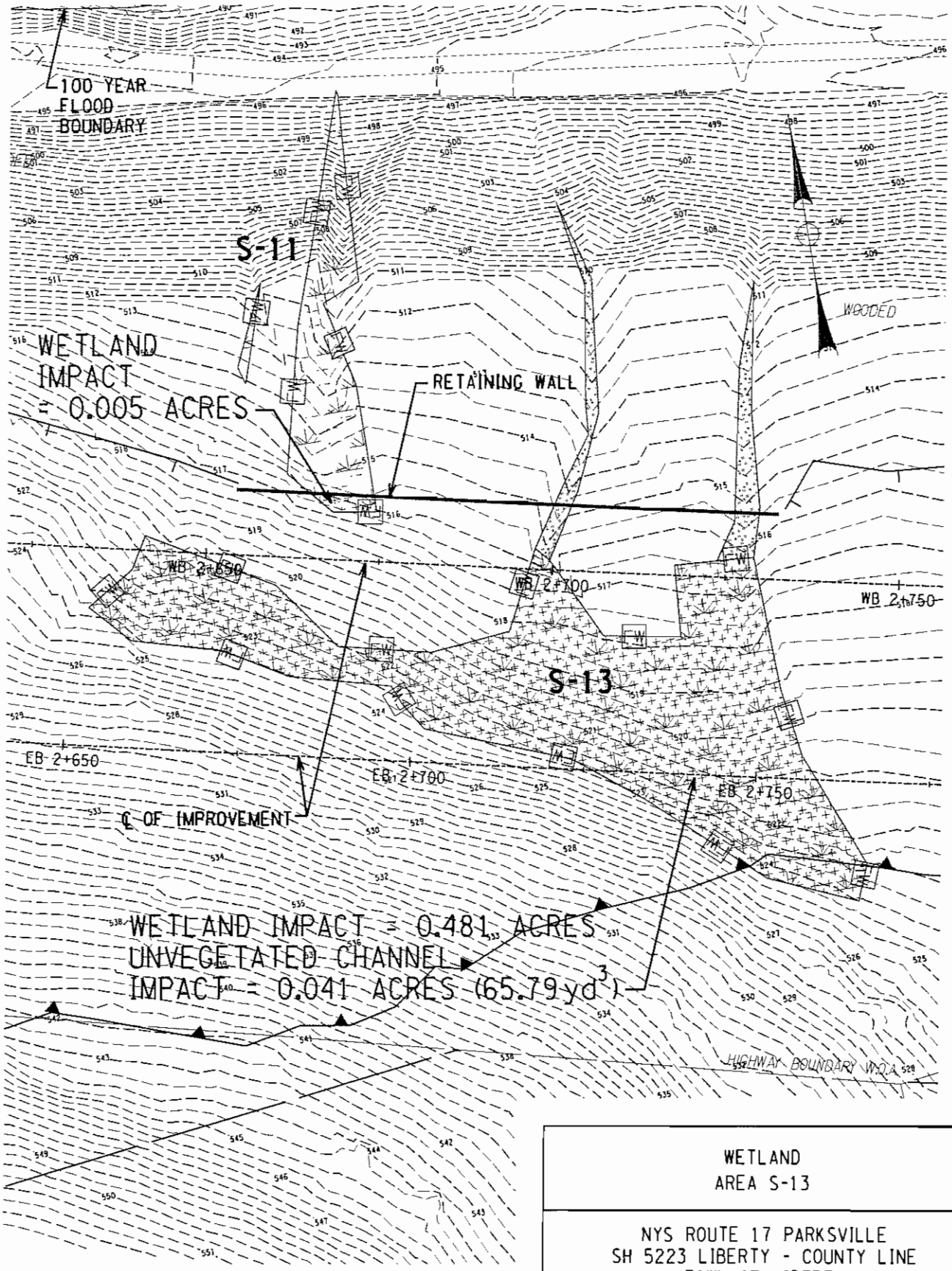


0 10 20 30 40 meters

SEE SHEET 3 FOR LEGEND

WETLAND
AREA S-13

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 11 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
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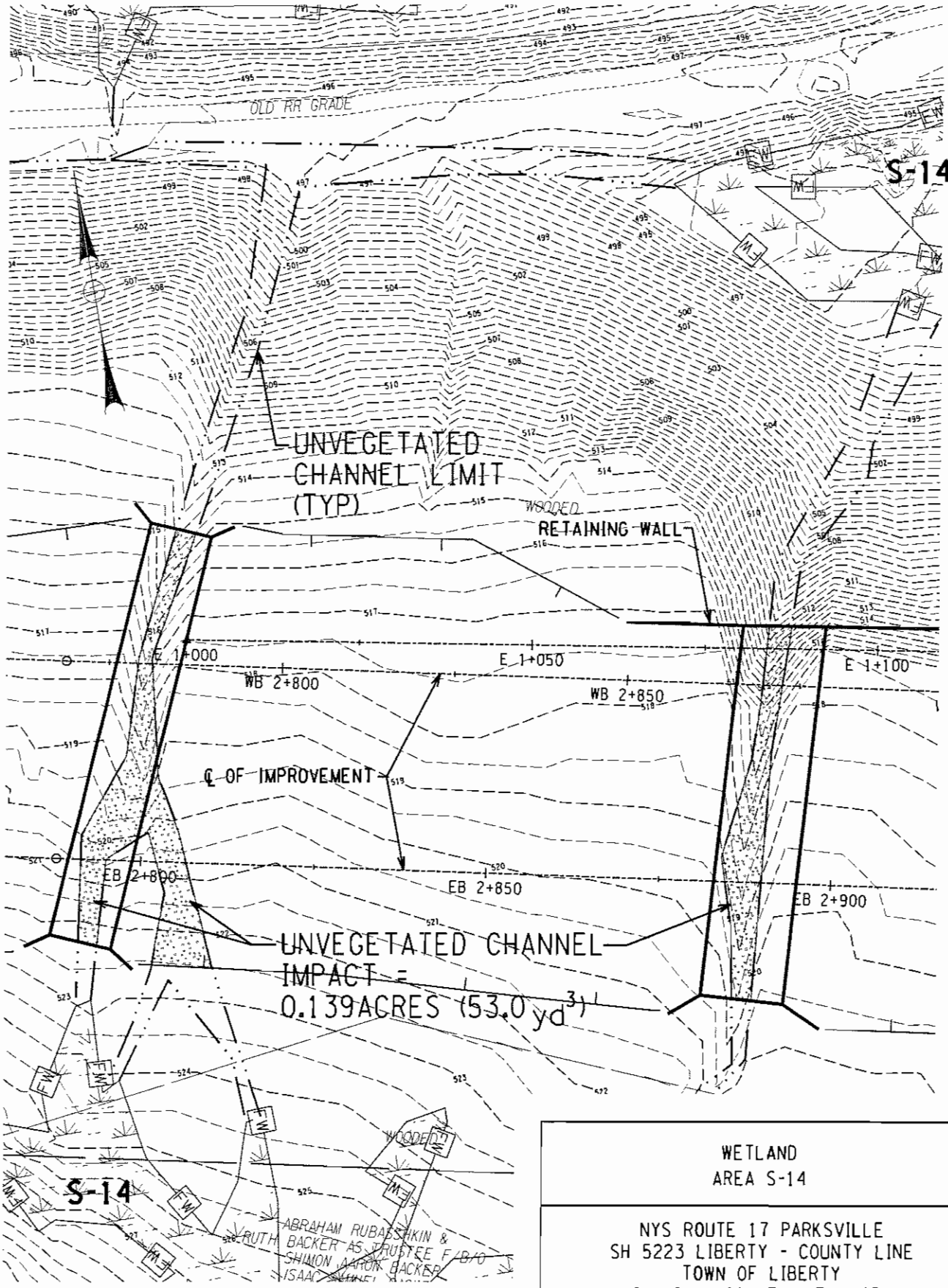


SEE SHEET 3 FOR LEGEND

WETLAND
AREA S-14

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 12 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
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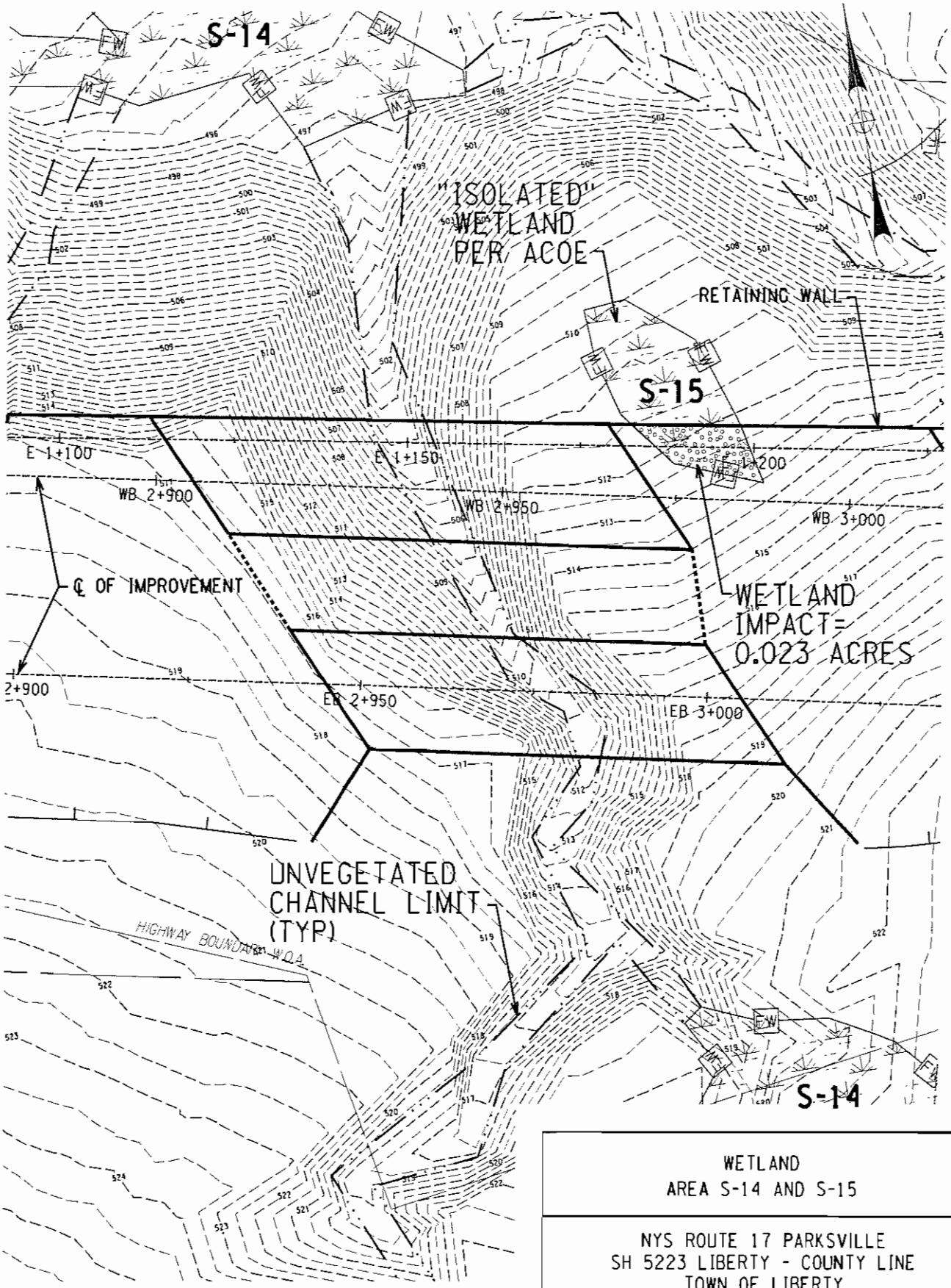


0 10 20 30 40 meters

SEE SHEET 3 FOR LEGEND

WETLAND
AREA S-14 AND S-15

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 13 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
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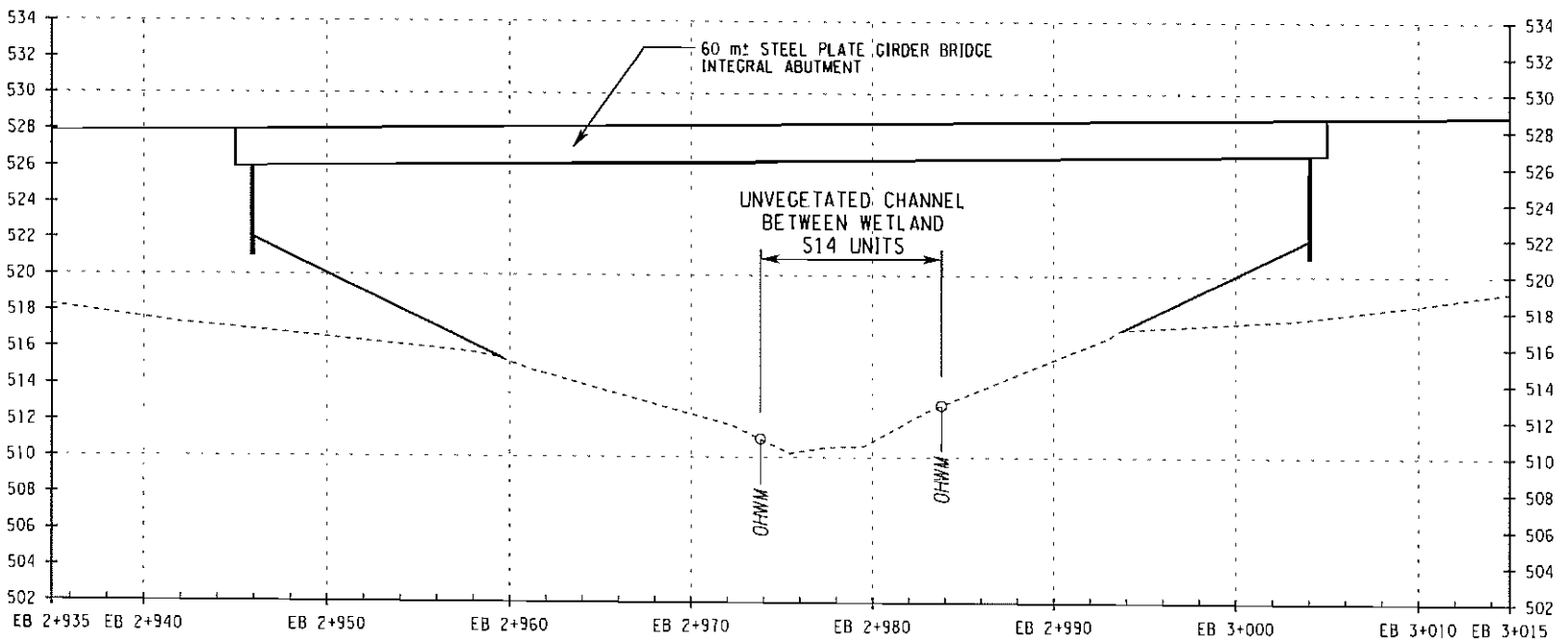


ELEVATION

## LEGEND

| | |
|---|---|
| *MHB* | EXISTING HIGHWAY BOUNDARY |
| MFA | PROPOSED RIGHT OF WAY |
| MEPA | PROPOSED PERMANENT EASEMENT |
| *EWF* | EXISTING FEDERAL WETLAND |
| *OHWM* | ORDINARY HIGH WATER MARK |
| *100 FPB* | 100 YEAR FLOODPLAIN BOUNDARY |
| EWM | PROPOSED WETLAND MITIGATION AREA |
| S# OR N# | EXISTING WETLAND IDENTIFICATION NUMBER |

BRIDGE OVER
WETLAND AREA S-14

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
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| SHEET 14 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
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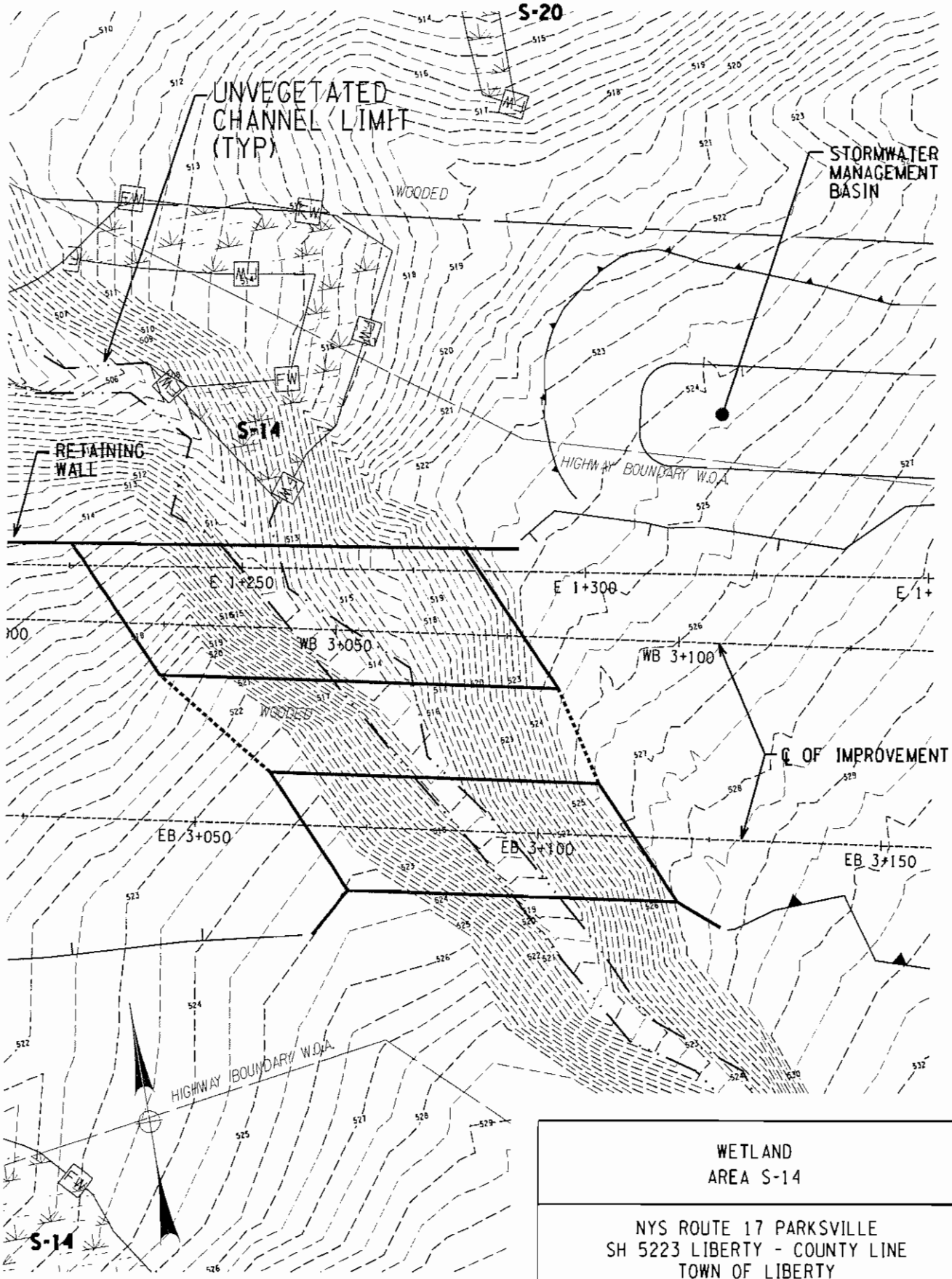


0 10 20 30 40 meters

SEE SHEET 3 FOR LEGEND

WETLAND
AREA S-14

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

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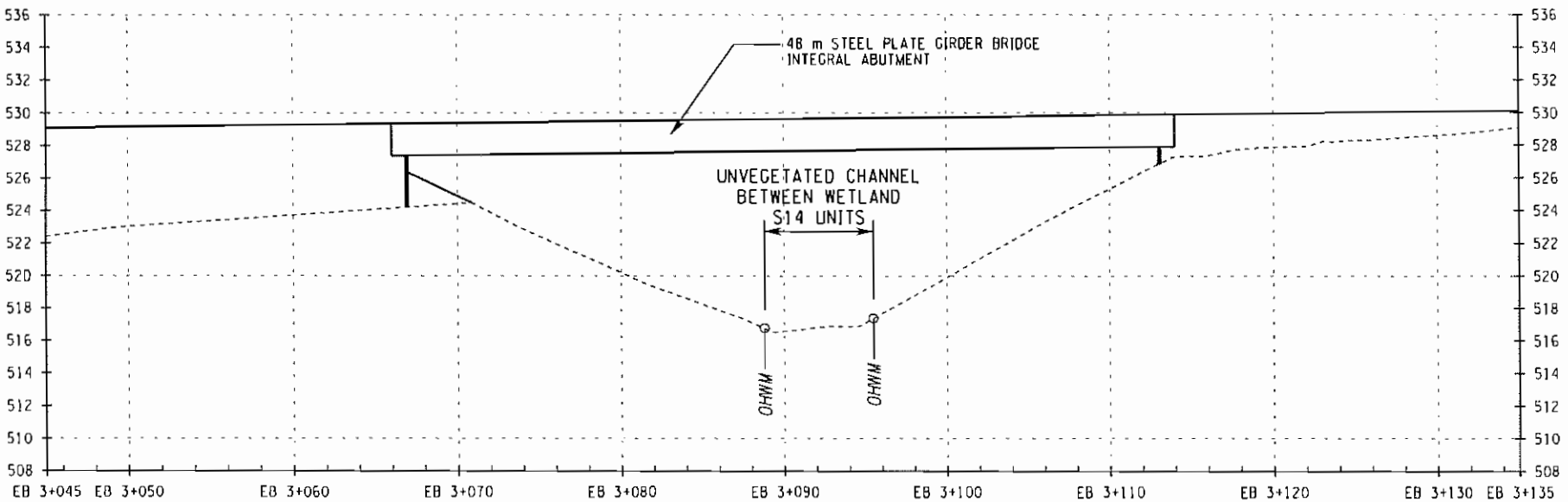


ELEVATION

## LEGEND

| | |
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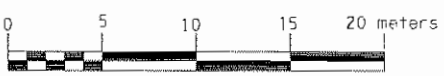


BRIDGE OVER
WETLAND AREA S-14

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
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| SHEET 16 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
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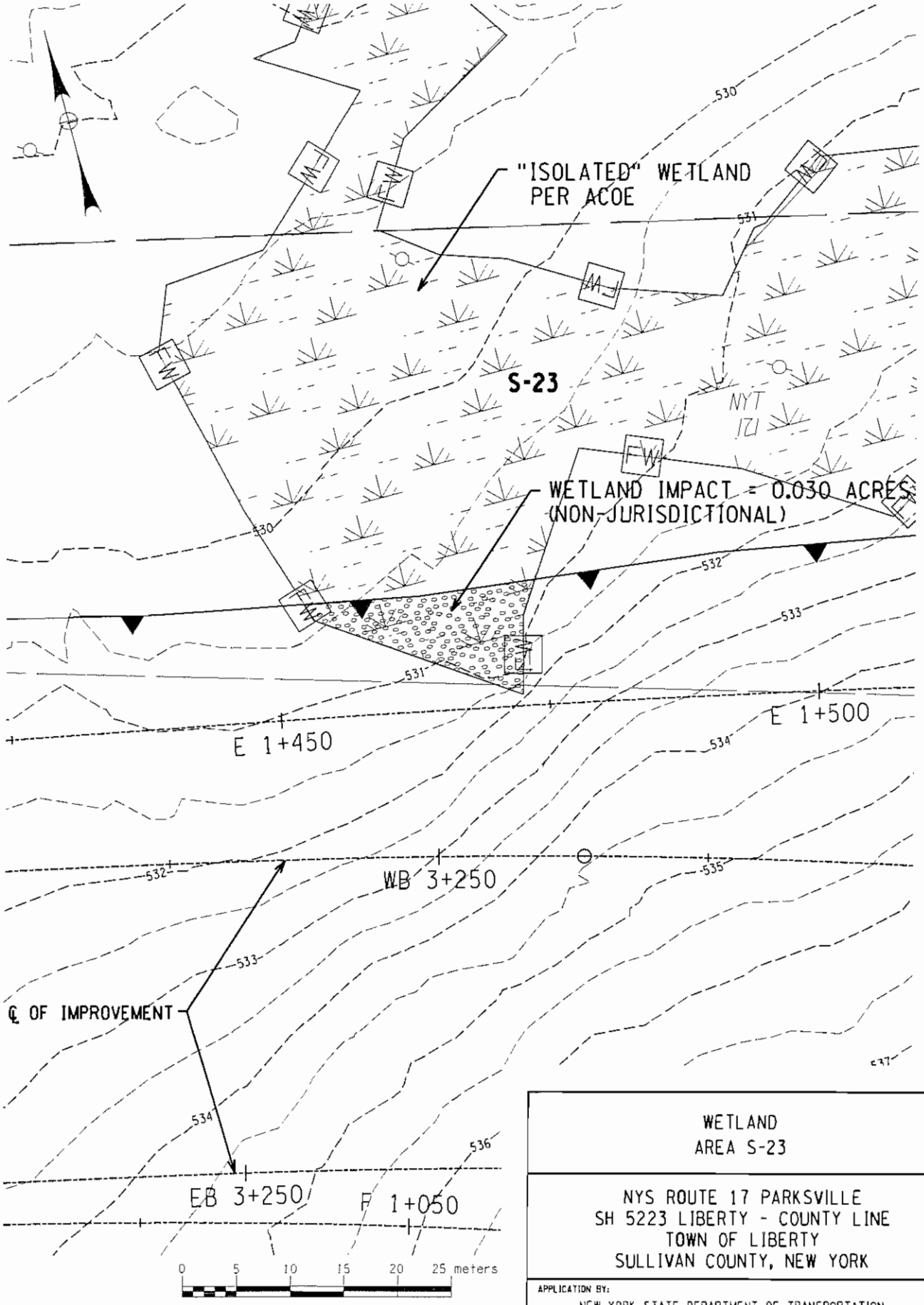


SEE SHEET 3 FOR LEGEND

WETLAND
AREA S-23

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 17 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
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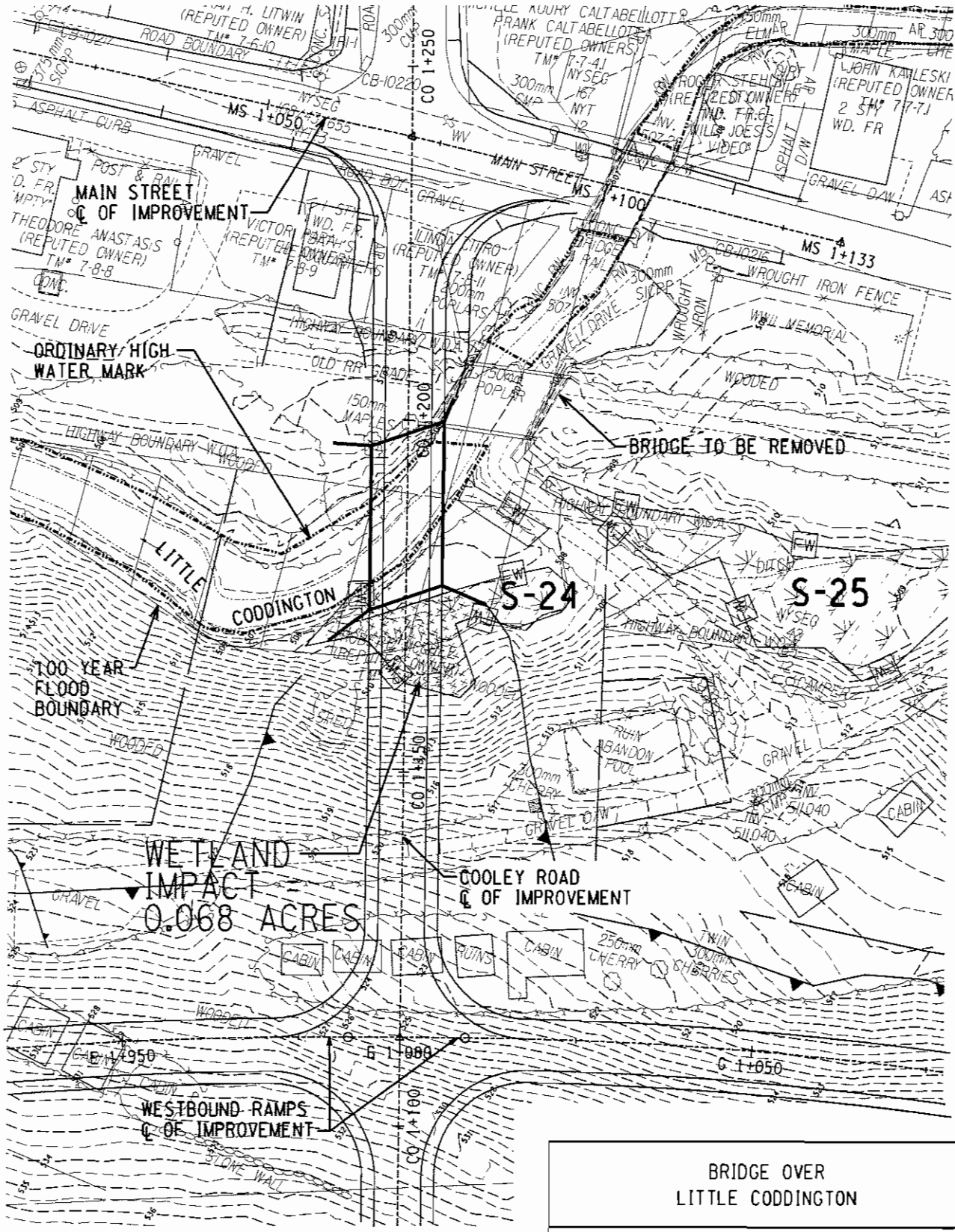
PERMIT_11PN.DGN




0 10 20 30 40 meters

SEE SHEET 3 FOR LEGEND

BRIDGE OVER
LITTLE CODDINGTON

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 18 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
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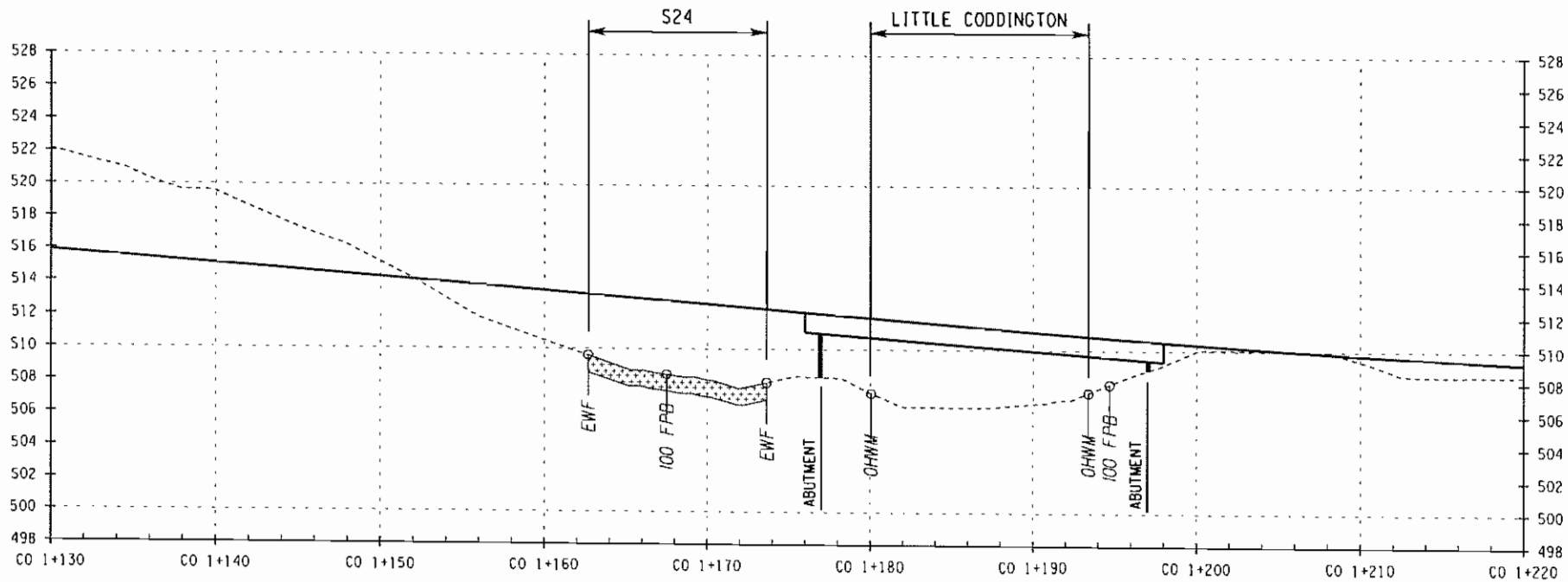
PERMIT_12PN.DGN




ELEVATION

## LEGEND

| | |
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| *100 FPB* | 100 YEAR FLOODPLAIN BOUNDARY |
| EWM | PROPOSED WETLAND MITIGATION AREA |
| S# DR N# | EXISTING WETLAND IDENTIFICATION NUMBER |

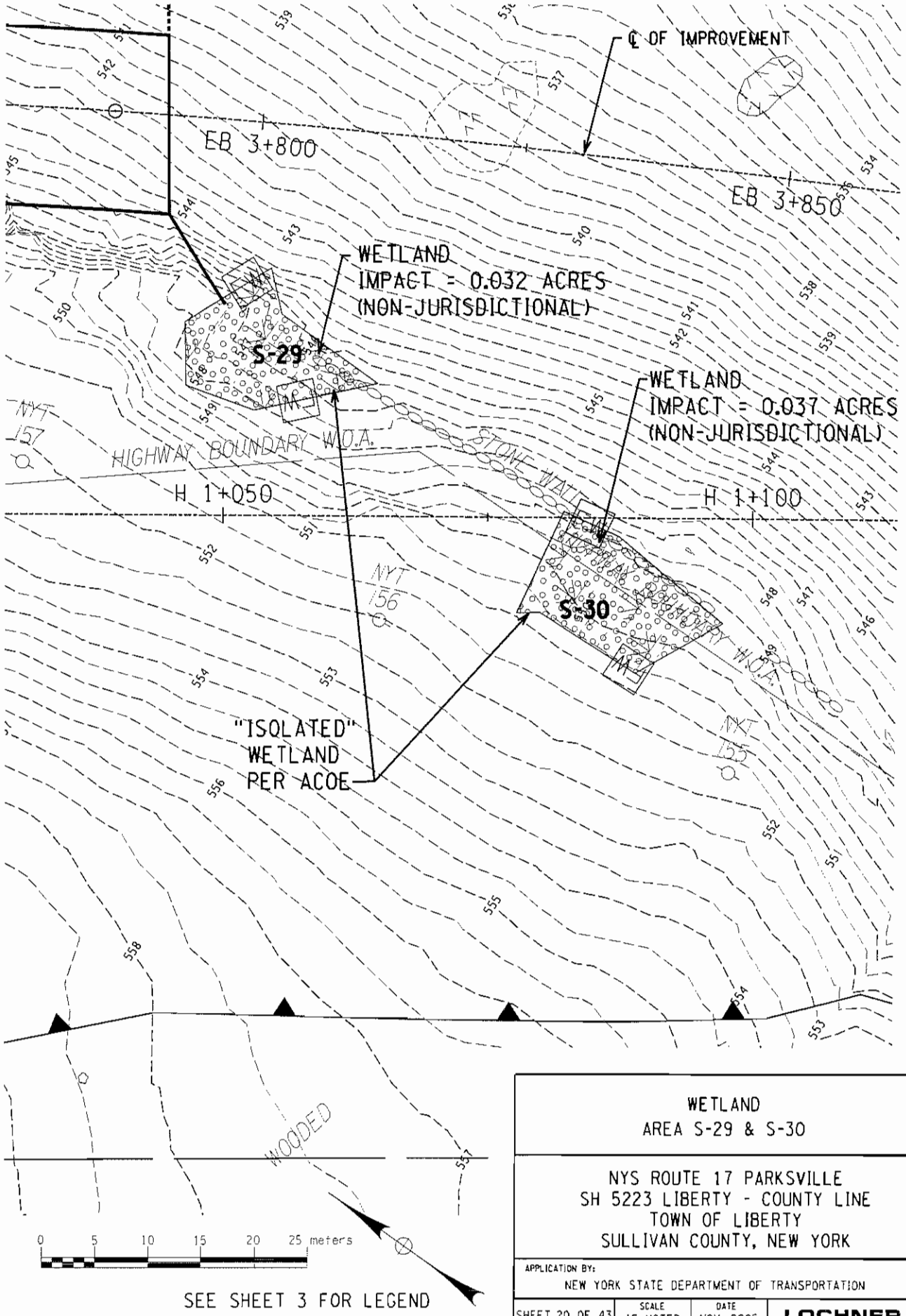
0 5 10 15 20 meters

BRIDGE OVER
LITTLE CODDINGTON

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 19 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|



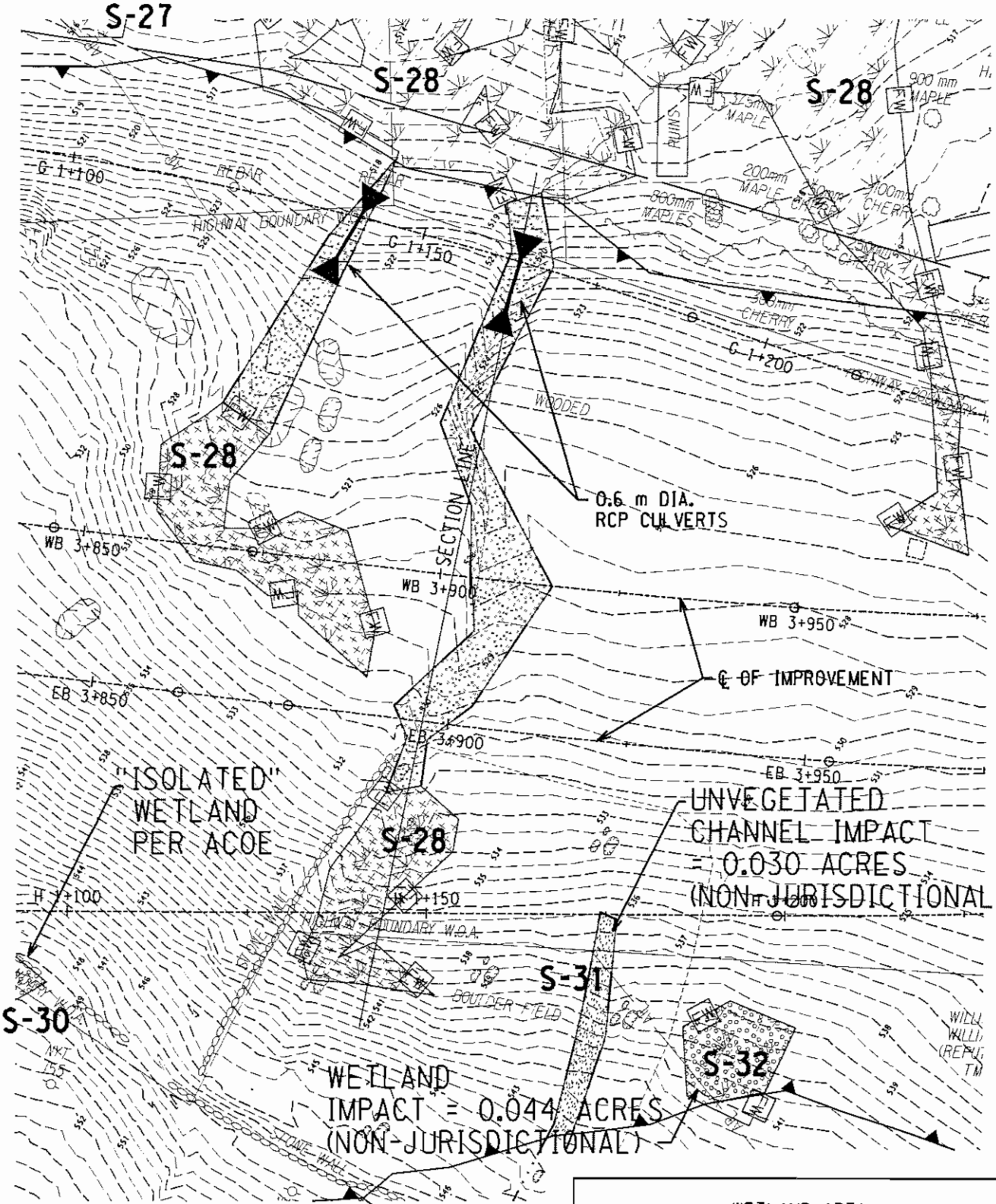

WETLAND
AREA S-29 & S-30

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 20 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|

PERMIT_12APN.DGN




S-28 TOTAL WETLAND
IMPACT = 0.213 ACRES
S-28 TOTAL UNVEGETATED
CHANNEL IMPACT = 0.175 ACRES
(185.34 $yd^3$ CUT)

0 10 20 30 40 meters

SEE SHEET 3 FOR LEGEND

WETLAND AREA
S-28, S-31 & S-32

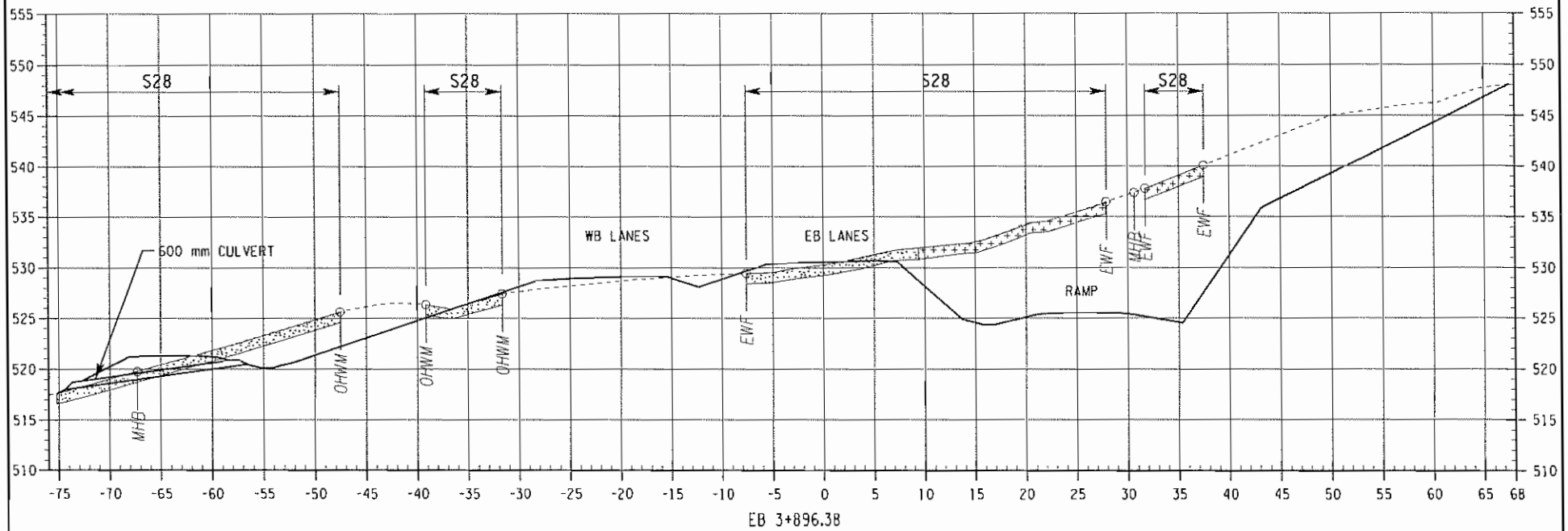
NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 21 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|

PERMIT_13PN.DGN

PERMITXSEC_PN.DGN - SITE 13




## LEGEND

| | |
|---|---|
| *MHB* | EXISTING HIGHWAY BOUNDARY |
| MFA | PROPOSED RIGHT OF WAY |
| MEPA | PROPOSED PERMANENT EASEMENT |
| *EWF* | EXISTING FEDERAL WETLAND |
| *OHWM* | ORDINARY HIGH WATER MARK |
| *100 FPB* | 100 YEAR FLOODPLAIN BOUNDARY |
| EWM | PROPOSED WETLAND MITIGATION AREA |
| S# OR N# | EXISTING WETLAND IDENTIFICATION NUMBER |

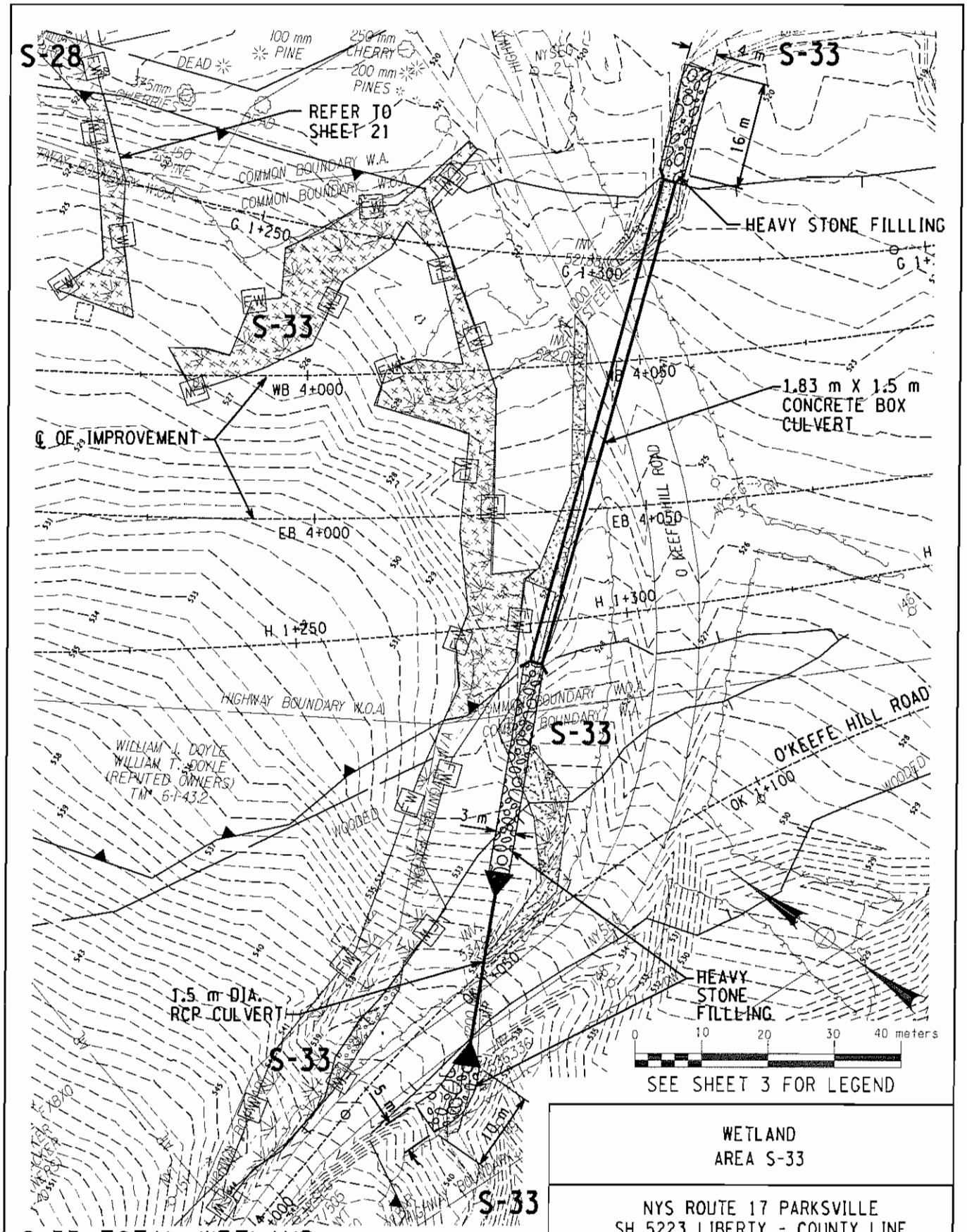
0 5 10 15 20 meters

WETLAND
AREA S-28

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 22 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|




S-33 TOTAL WETLAND IMPACT = 0.299 ACRES

S-33 TOTAL UNVEGETATED CHANNEL IMPACT = 0.201 ACRES (850.07 $yd^3$)

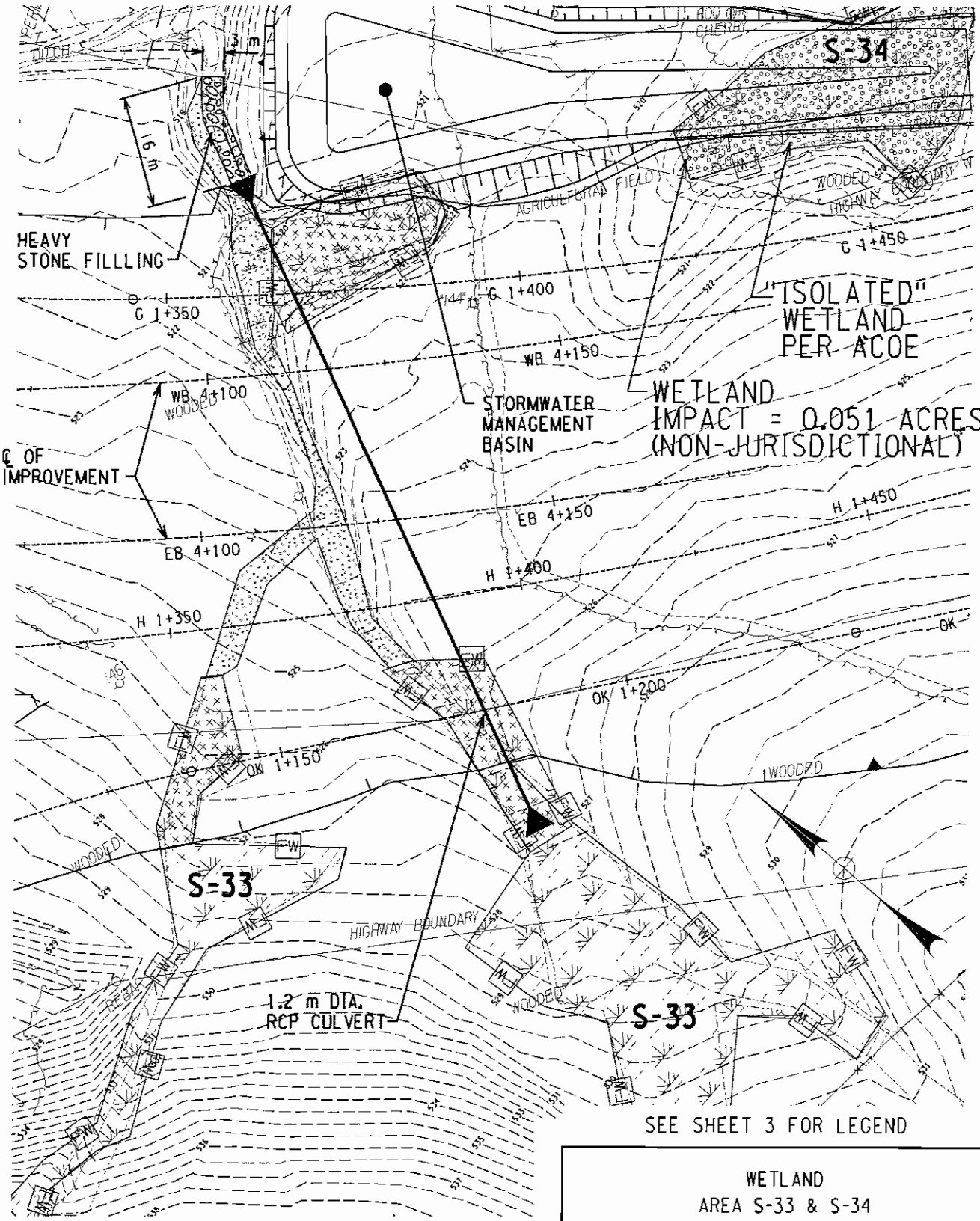
WETLAND AREA S-33

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 23 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|

PERMIT_14PN.DGN




SEE SHEET 3 FOR LEGEND

S-33 TOTAL WETLAND
IMPACT = 0.299 ACRES
S-33 TOTAL UNVEGETATED CHANNEL
IMPACT = 0.201 ACRES (850.07 $yd^3$)

0 10 20 30 40 meters

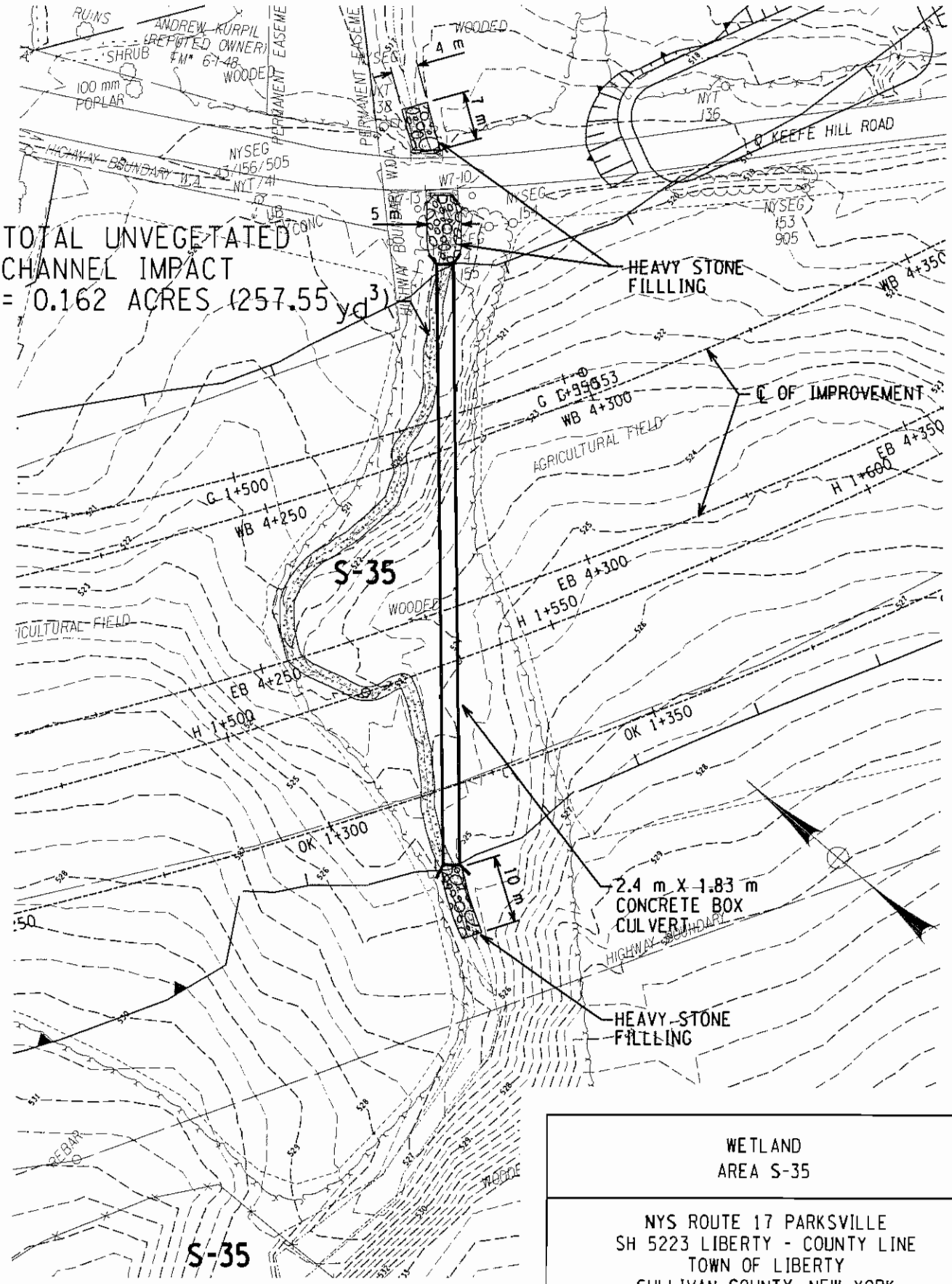
WETLAND
AREA S-33 & S-34

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 24 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|

PERMIT.15PN.DGN




SEE SHEET 3 FOR LEGEND

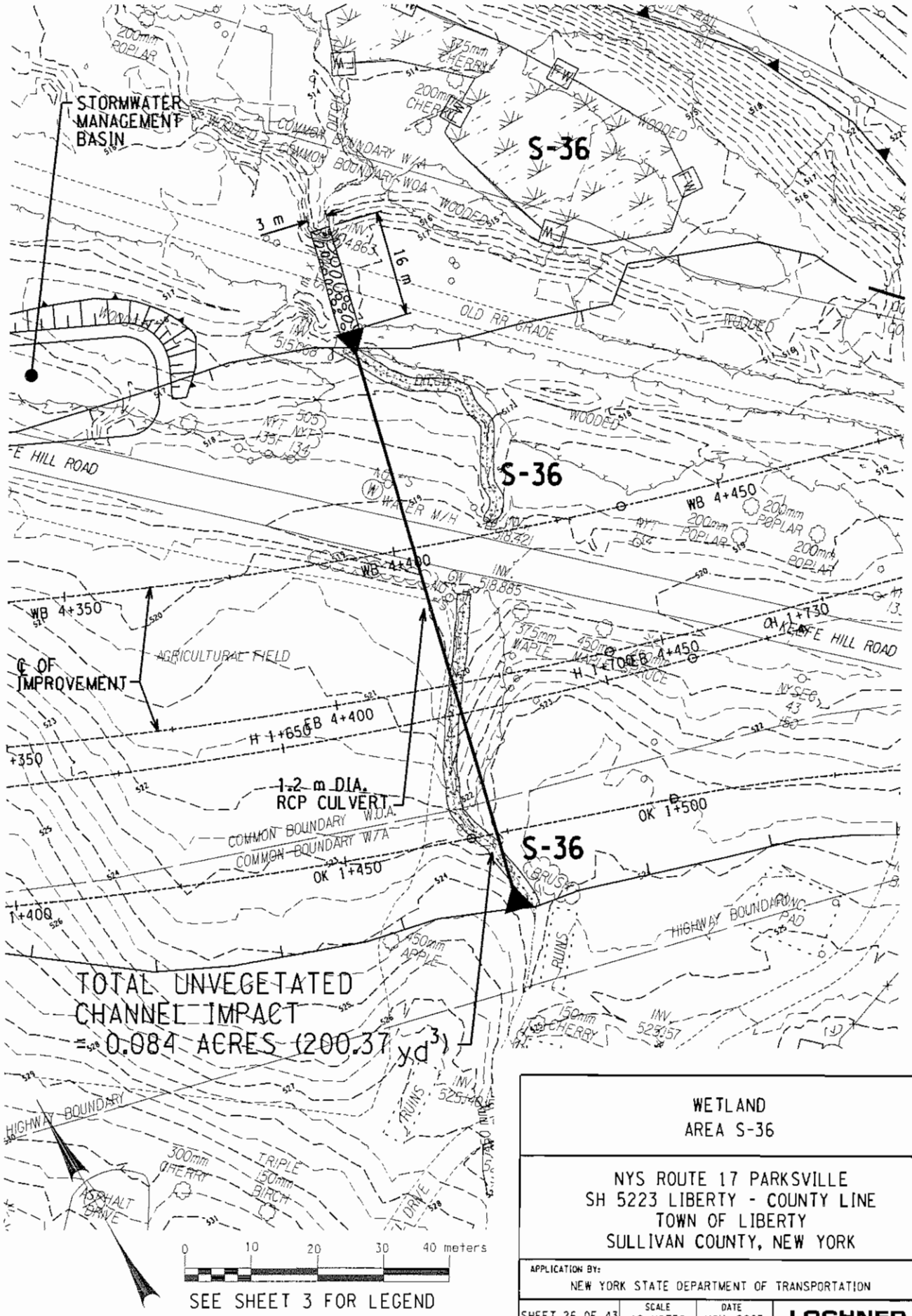
WETLAND
AREA S-35

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 25 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|

PERMIT_16PN.DGN



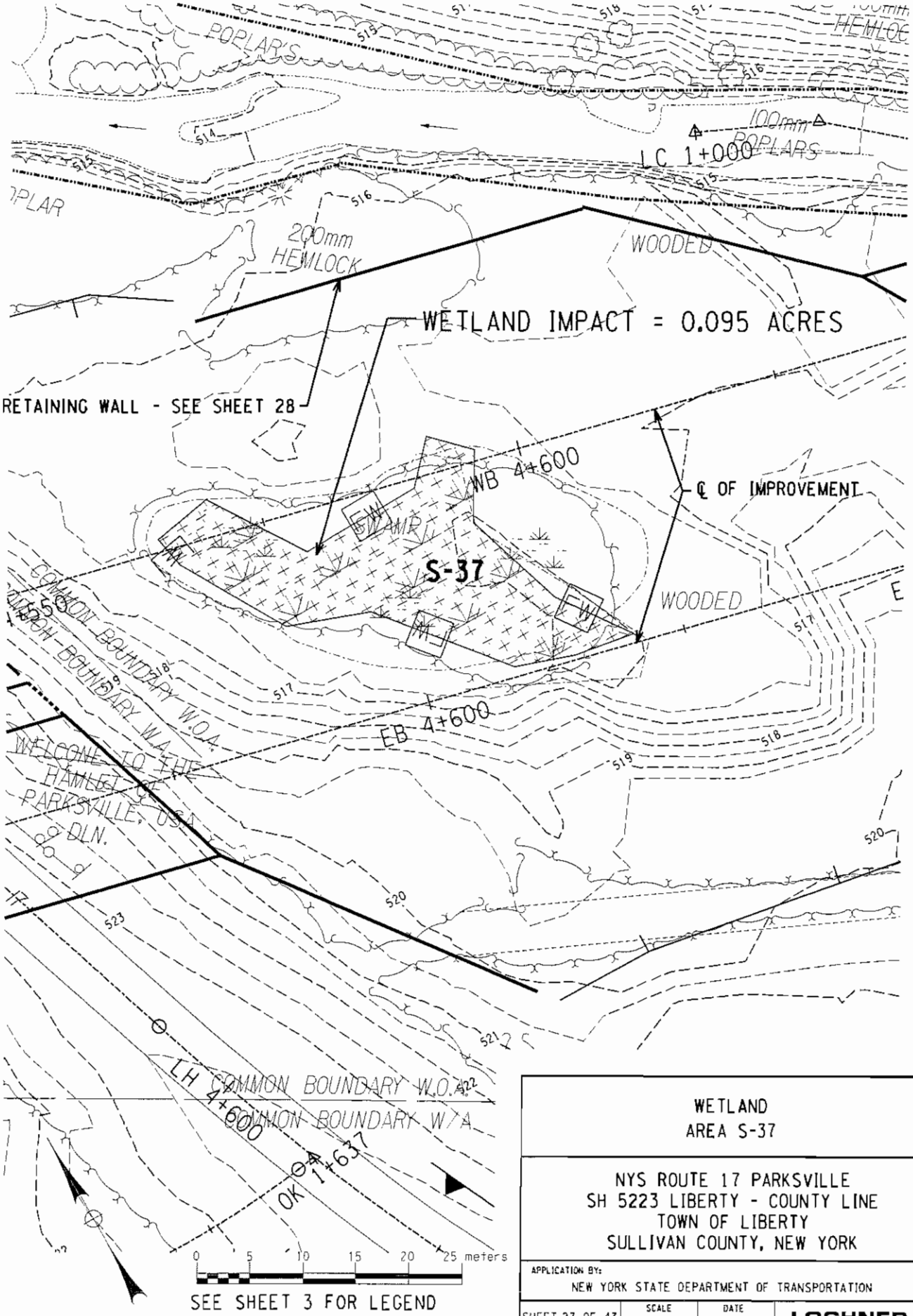

WETLAND
AREA S-36

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 26 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|

PERMIT_17PN.DGN




WETLAND
AREA S-37

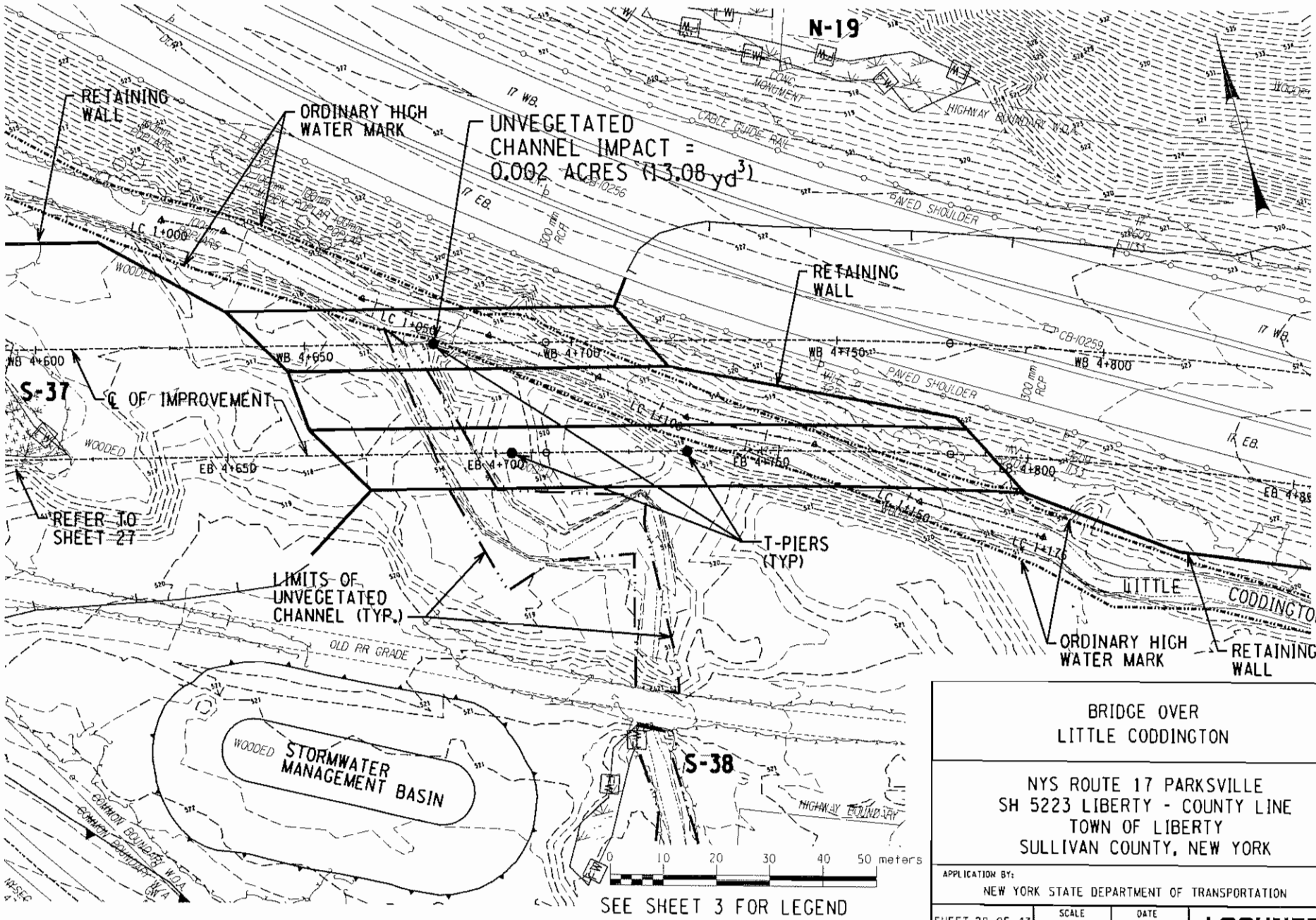
NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 27 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|

PERMIT_18PN.DGN

PERMIT_19PN.DGN

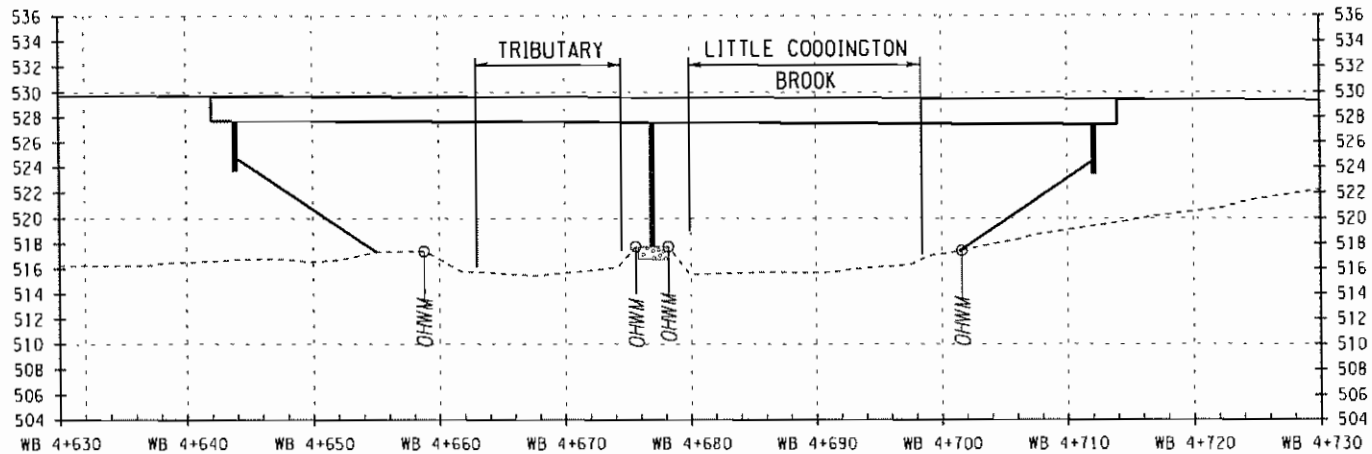


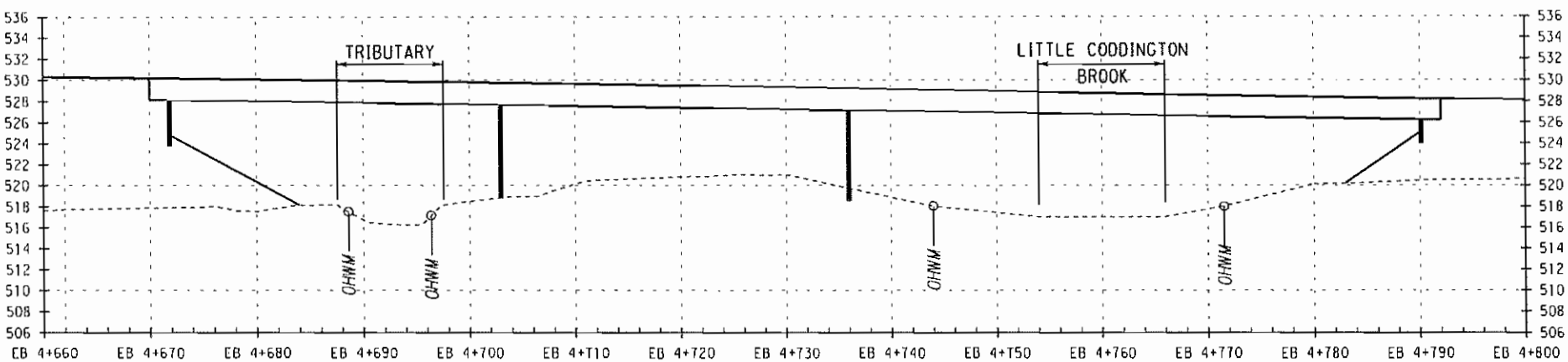

BRIDGE OVER
LITTLE CODDINGTON

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 28 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|




## LEGEND

| | |
|---|---|
| *MHB* | EXISTING HIGHWAY BOUNDARY |
| MFA | PROPOSED RIGHT OF WAY |
| MEPA | PROPOSED PERMANENT EASEMENT |
| *EWF* | EXISTING FEDERAL WETLAND |
| *OHWM* | ORDINARY HIGH WATER MARK |
| *100 FPB* | 100 YEAR FLOODPLAIN BOUNDARY |
| EWM | PROPOSED WETLAND MITIGATION AREA |
| S# OR N# | EXISTING WETLAND IDENTIFICATION NUMBER |

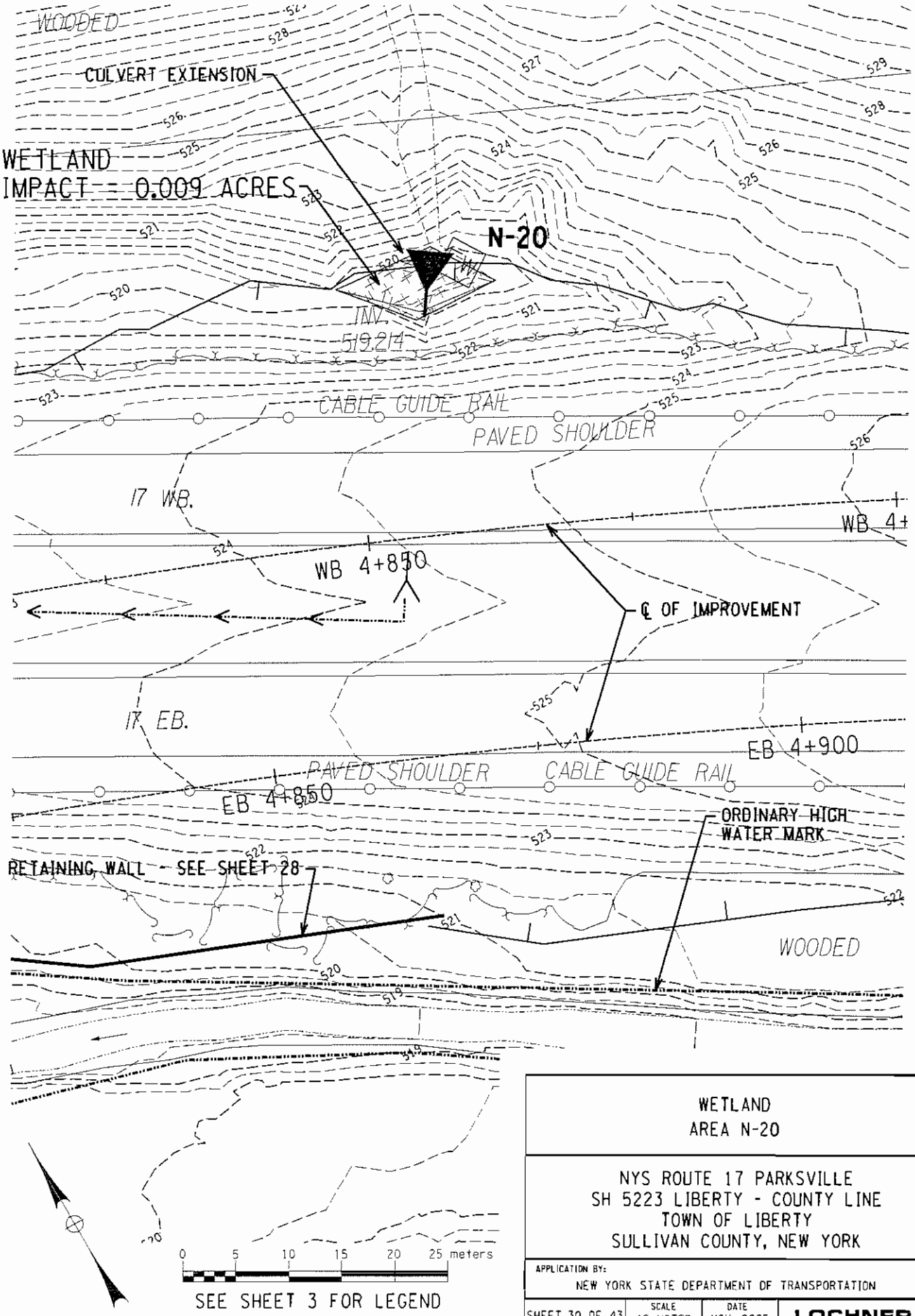
0 5 10 15 20 meters

BRIDGES OVER
LITTLE CODDINGTON

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 29 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|



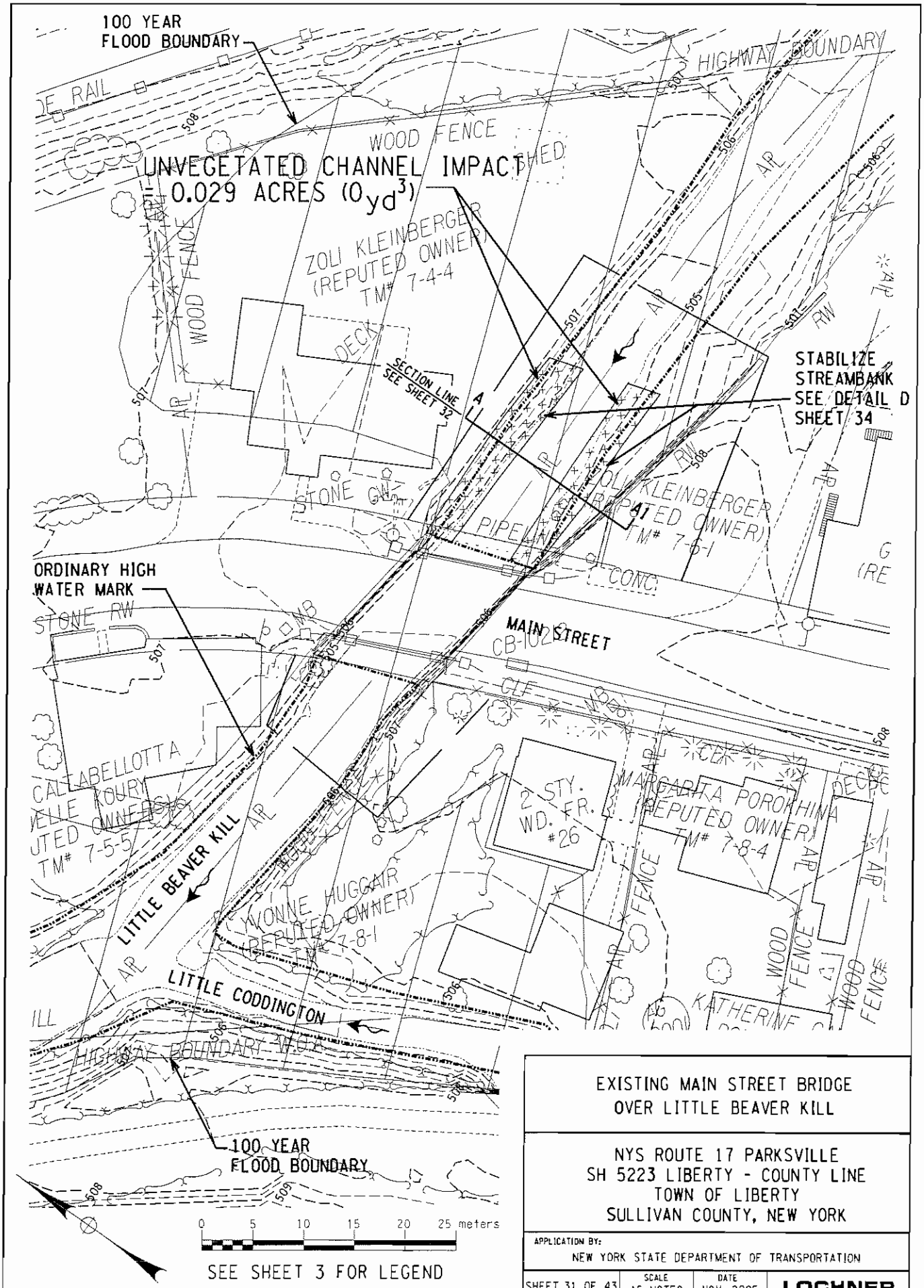

WETLAND
AREA N-20

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 30 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|

PERMIT_20PN.DGN



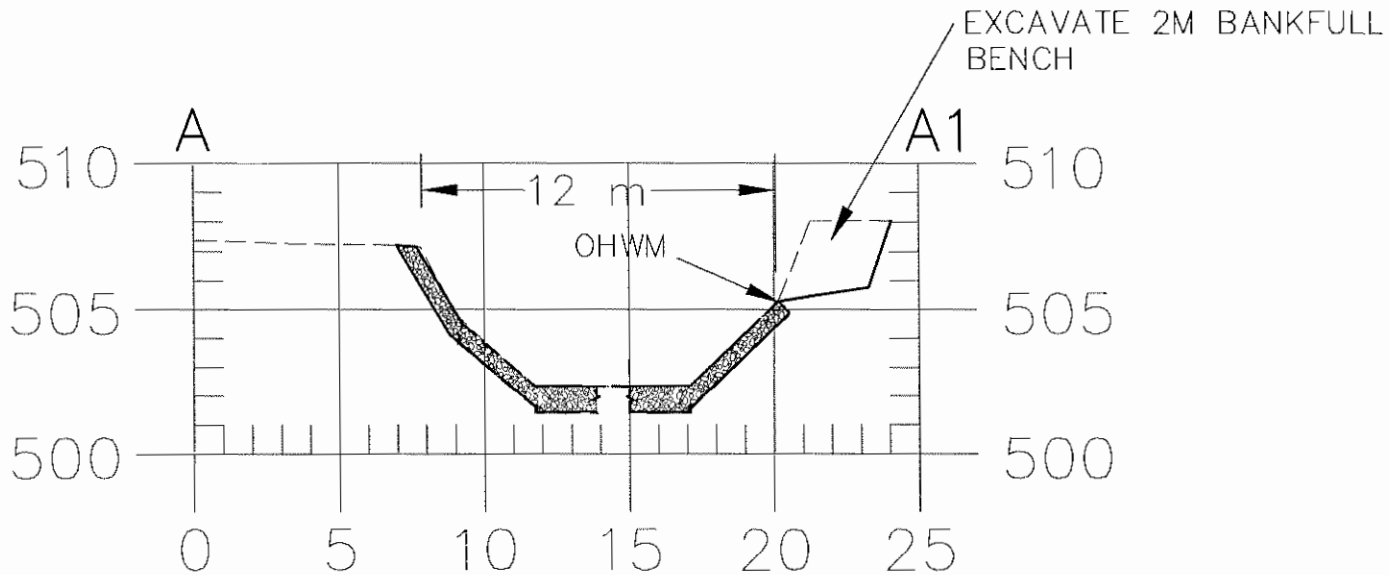

EXISTING MAIN STREET BRIDGE
OVER LITTLE BEAVER KILL

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 31 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|

PERMIT_11APN.DGN




# SECTION A–A1, VIEW UPSTREAM (EAST)

CHANNEL IMPACT

70 LINEAR FEET
0.029 ACRES
NET FILL = 0.0 CUBIC YARDS

SCALE
0 5 10
METER

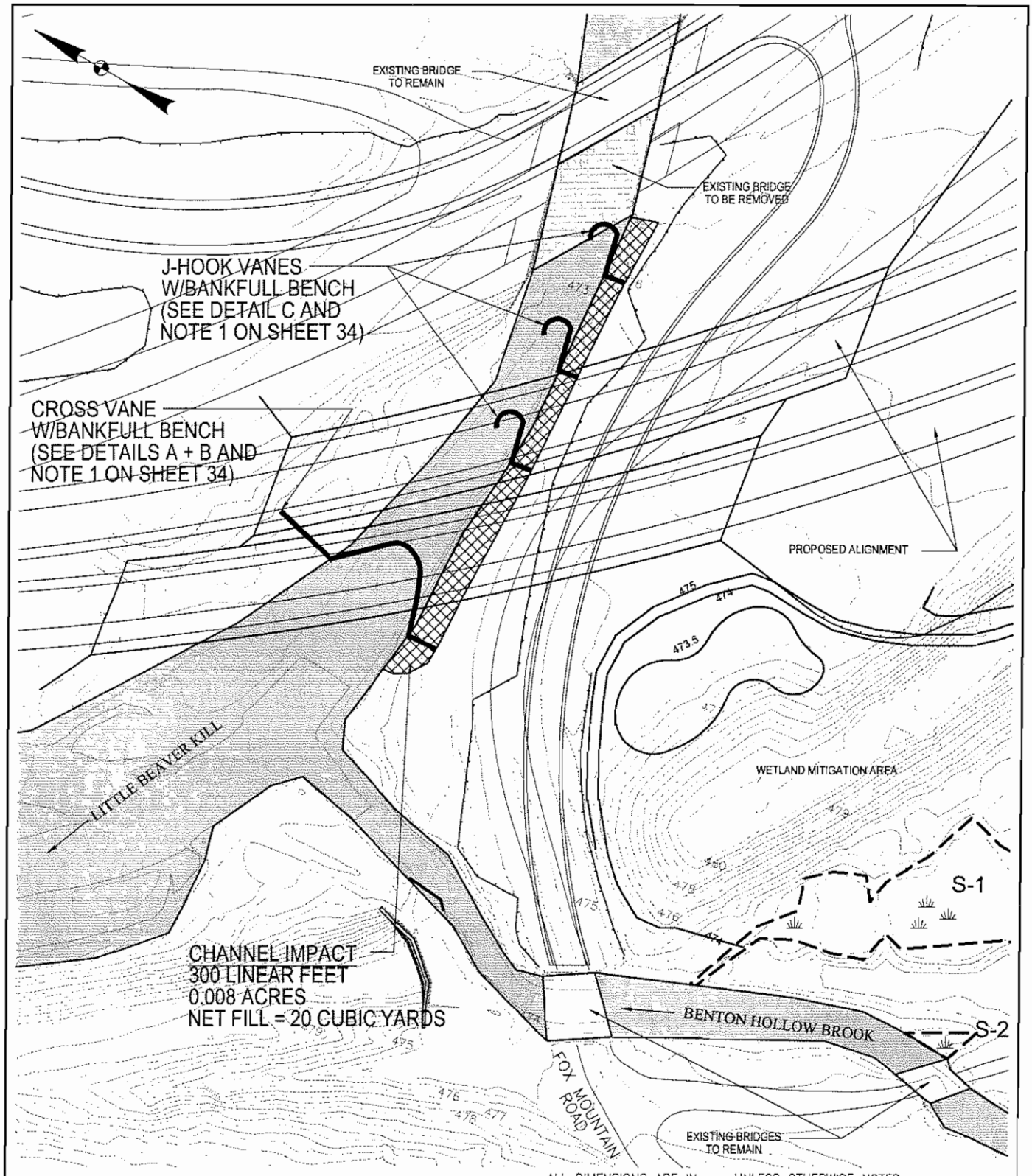
ALL DIMENSIONS ARE IN m. UNLESS OTHERWISE NOTED

PIN 906674
NYS ROUTE 17 PARKSVILLE
EXISTING MAIN STREET BRIDGE
OVER LITTLE BEAVER KILL

McFARLAND-JOHNSON, INC.
BINGHAMTON, N.Y.

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

| FILENAME | REGION | DATE | SHEET |
|---|---|---|---|
| | 9 | FEBRUARY 2006 | 32 OF 43 |




ALL DIMENSIONS ARE IN m_ UNLESS OTHERWISE NOTED

EXISTING WETLAND BOUNDARY

3 m WIDE BANKFULL BENCH

NET FILL BELOW ORDINARY HIGH WATER = 20 CY

SCALE

0 20 40

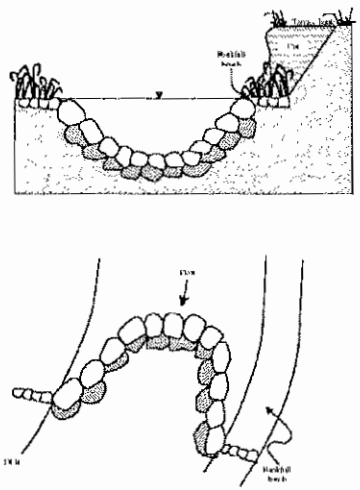
METER

PIN 906674
NYS ROUTE 17 PARKSVILLE
BANK STABILIZATION
LITTLE BEAVER KILL

McFARLAND-JOHNSON, INC.
BINGHAMTON, N.Y.

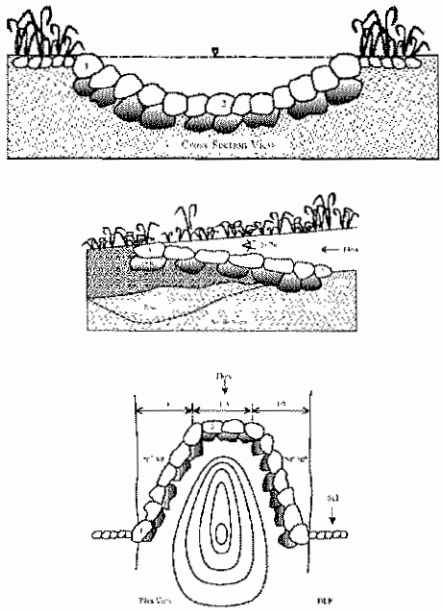
STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

| FILENAME | REGION | DATE | SHEET |
|---|---|---|---|
| | 9 | FEBRUARY 2006 | 33 OF 43 |



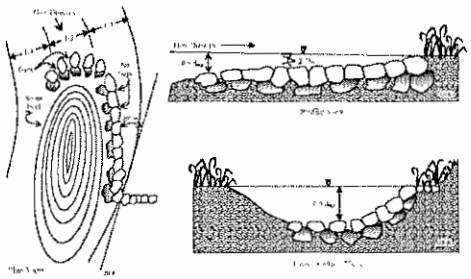
*Example of a boulder Cross-Vane and constructed bankfull bench*

## DETAIL A



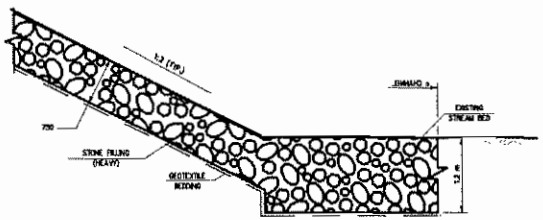
*Cross section, profile and plan view of a Cross-Vane*

## DETAIL B



*Plan, profile and section view of the J-Hook Vane*

## DETAIL C




*BANK PROTECTION DETAIL*
*LITTLE BEAVER KILL AT MAIN STREET*

## DETAIL D

NOTE 1: CROSS- AND J-HOOK VANES ARE INSTREAM STRUCTURES DESIGNED TO PREVENT BANK EROSION BY REDUCING WATER VELOCITY AND SHEAR STRESS IN THE NEAR-BANK AREA. VANES ALSO FUNCTION AS HABITAT IMPROVEMENT STRUCTURES.

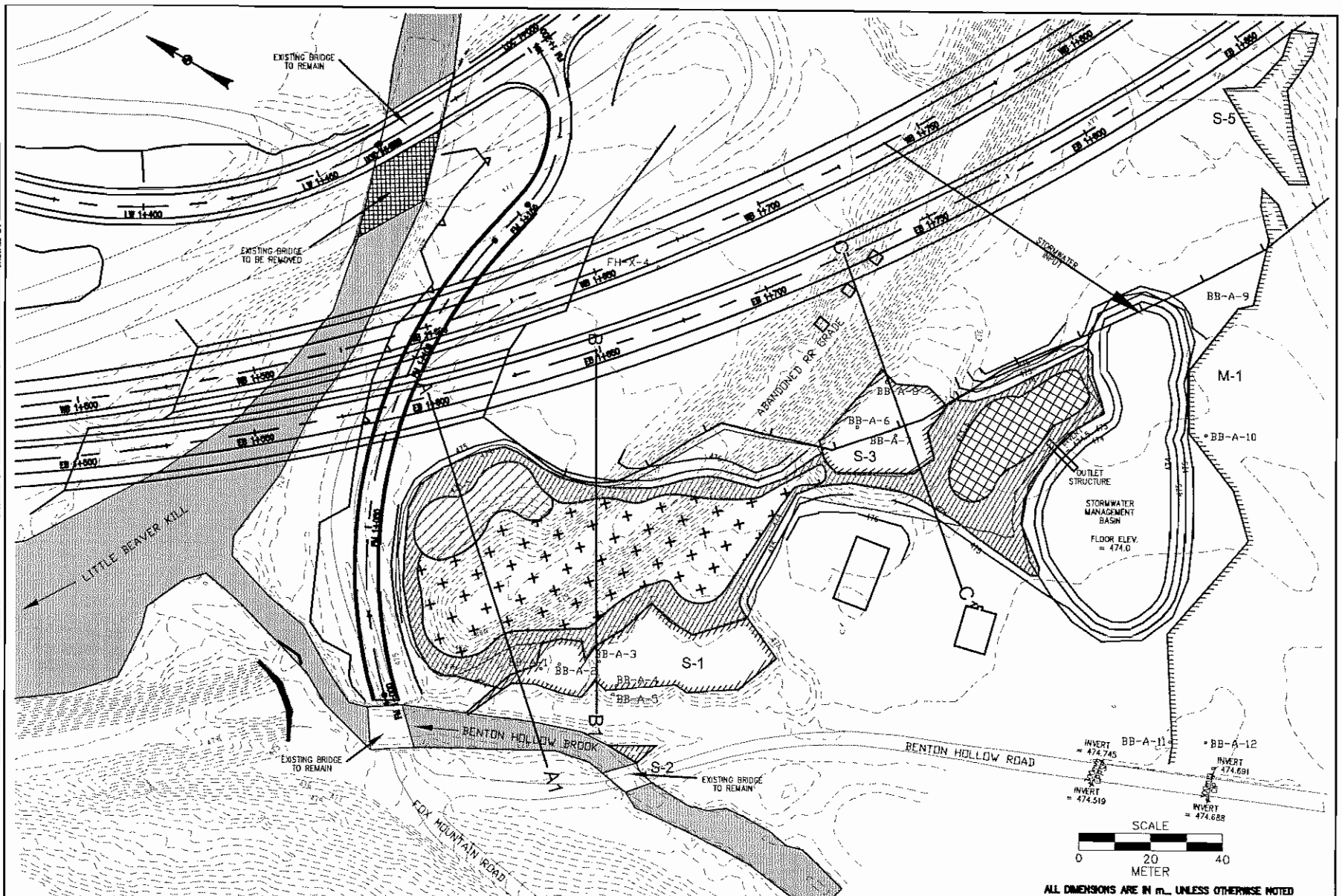
ALL DIMENSIONS ARE IN m., UNLESS OTHERWISE NOTED

PIN 906674
NYS ROUTE 17 PARKSVILLE
STREAM RESTORATION/
BANK STABILIZATION DETAILS

McFARLAND-JOHNSON, INC.
BINGHAMTON, N.Y.

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

| FILENAME | REGION | DATE | SHEET |
|---|---|---|---|
| | 9 | FEBRUARY 2005 | 34 of 43 |




ALL DIMENSIONS ARE IN m., UNLESS OTHERWISE NOTED

**LEGEND**

- PFO – PALUSTRINE FOREST W/ HUMMOCKS – 0.13 ACRES
- PEM/SS – PALUSTRINE EMERGENT W/ SCATTERED SHRUBS – 0.70 ACRES
- PSS – PALUSTRINE SCRUB-SHRUB – 0.62 ACRES
- PEM – PALUSTRINE EMERGENT – 0.17 ACRES
- TOTAL MITIGATION AREA = 1.62 ACRES

SEE SECTIONS A-A1, B-B1, AND C-C1 ON SHEETS 36 AND 37

A–A1 X-SECTION LINE

EXISTING CONTOUR (0.5 m INTERVAL)

PROPOSED CONTOUR (0.5 m INTERVAL)

EXISTING WETLAND BOUNDARY

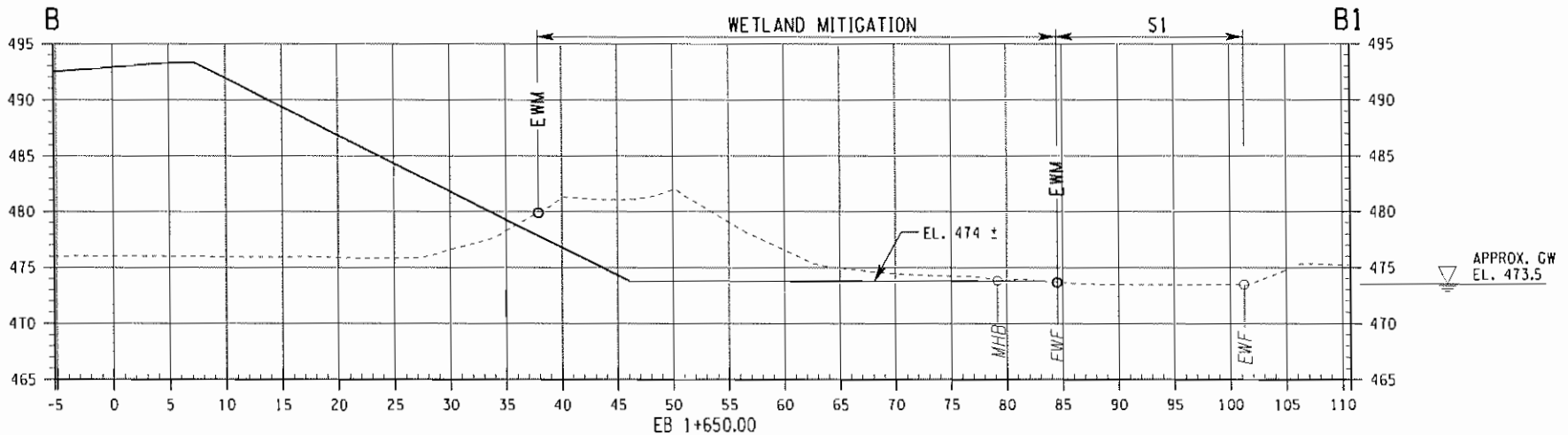
PIN 908674
NYS ROUTE 17 PARKSVILLE
WETLAND MITIGATION AREA A
WETLAND GRADING/ZONATION PLAN

McFARLAND-JOHNSON, INC.
BINGHAMTON, N.Y.

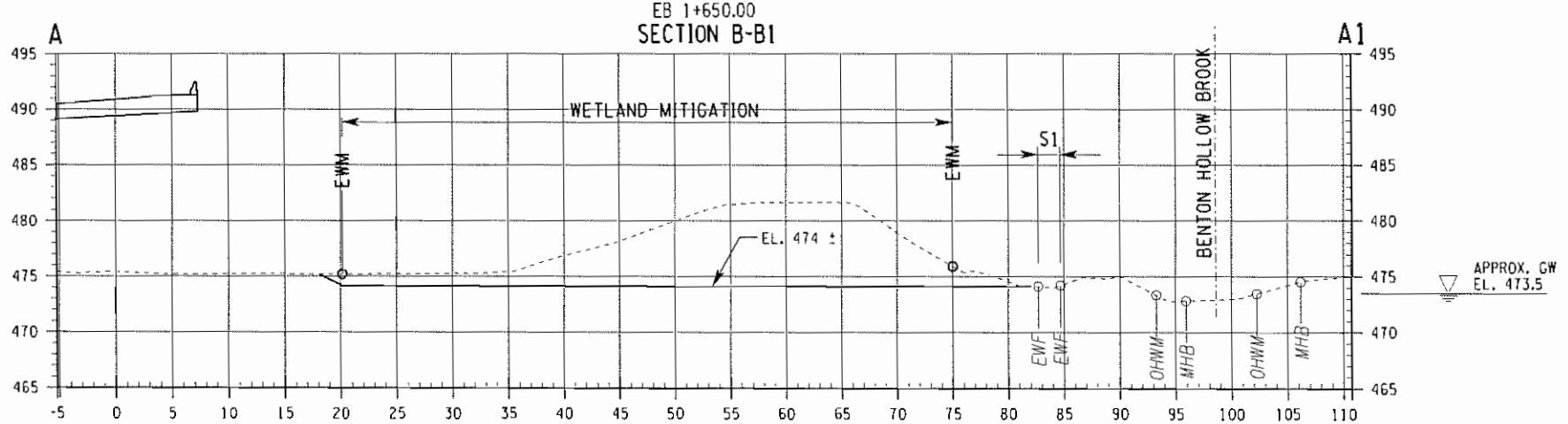
STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

| FILENAME | REGION | DATE | SHEET |
|---|---|---|---|
| | 9 | FEBRUARY 2006 | 35 OF 43 |

DESIGN SUPERVISOR ____ JOB MANAGER ____ DESIGNED BY ____ CHECKED BY ____ ESTIMATED BY ____ DRAFTED BY ____ CHECKED BY ____




EB 1+650.00
SECTION B-B1




EB 1+600.00
SECTION A-A1

## LEGEND

| | |
|---|---|
| *MHB* | EXISTING HIGHWAY BOUNDARY |
| MFA | PROPOSED RIGHT OF WAY |
| MEPA | PROPOSED PERMANENT EASEMENT |
| *EWF* | EXISTING FEDERAL WETLAND |
| *OHWM* | ORDINARY HIGH WATER MARK |
| *100 FPB* | 100 YEAR FLOODPLAIN BOUNDARY |
| EWM | PROPOSED WETLAND MITIGATION AREA |
| S# OR N# | EXISTING WETLAND IDENTIFICATION NUMBER |

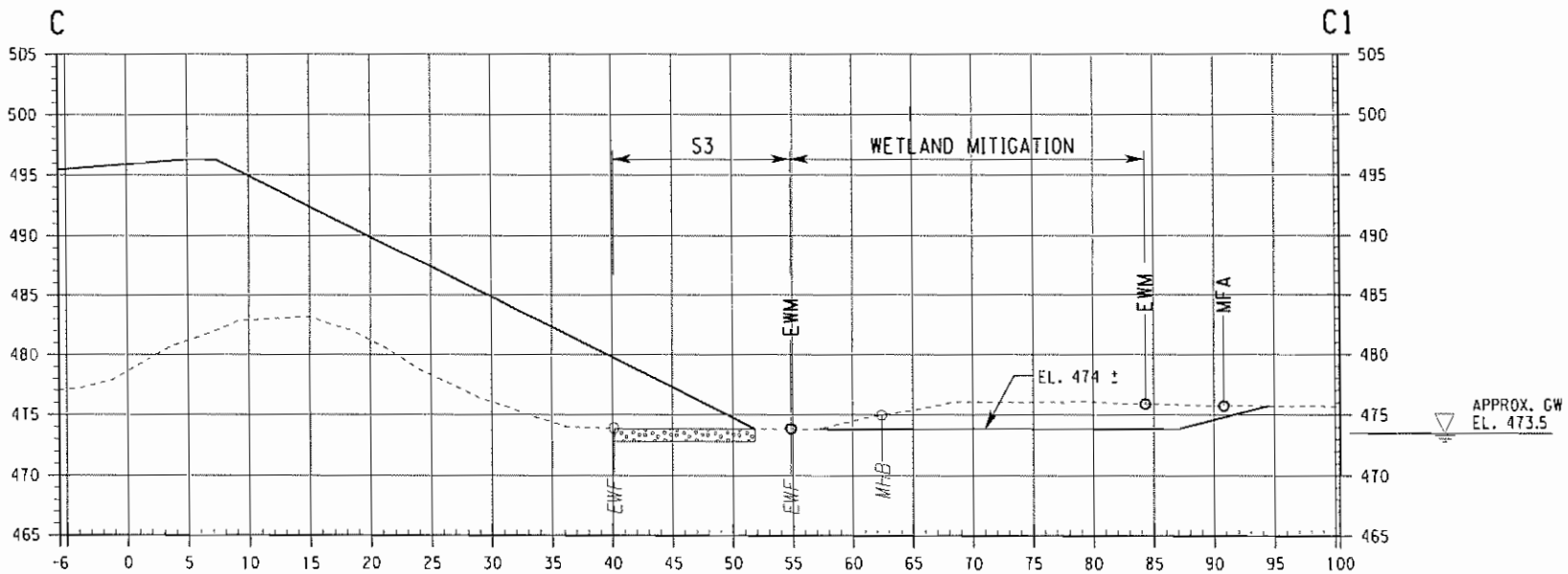
0 5 10 15 20 meters

WETLAND
MITIGATION AREA A

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 36 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|




EB 1+725.00
SECTION C-C1

LEGEND

| | |
|---|---|
| *MHB* | EXISTING HIGHWAY BOUNDARY |
| MFA | PROPOSED RIGHT OF WAY |
| MEPA | PROPOSED PERMANENT EASEMENT |
| *EWF* | EXISTING FEDERAL WETLAND |
| *OHWM* | ORDINARY HIGH WATER MARK |
| *100 FPB* | 100 YEAR FLOODPLAIN BOUNDARY |
| EWM | PROPOSED WETLAND MITIGATION AREA |
| S# OR N# | EXISTING WETLAND IDENTIFICATION NUMBER |

0 5 10 15 20 meters

WETLAND
MITIGATION AREA A

NYS ROUTE 17 PARKSVILLE
SH 5223 LIBERTY - COUNTY LINE
TOWN OF LIBERTY
SULLIVAN COUNTY, NEW YORK

APPLICATION BY:
NEW YORK STATE DEPARTMENT OF TRANSPORTATION

| SHEET 37 OF 43 | SCALE AS NOTED | DATE NOV. 2005 | LOCHNER |
|---|---|---|---|

## Mitigation Area A-Background Information

***General Information*** - Mitigation Area A is located in the western part of the project area, along Benton Hollow Road and is 1.62 acres in size.. There are two existing wetlands (Wetlands S-1 and S-3) in the area. Both existing wetlands clearly developed in man-made excavations. Since no stream channels enter either of the wetlands, the existing hydrology is based on groundwater. Both wetlands have been classified as palustrine emergent and palustrine scrub/shrub. There are also a few trees (red maple and green ash) in Wetland S-1. Both wetlands contain some standing water during at least part of the year. Part of Wetland S-3 will be impacted by the project; Wetland S-1 will not.

The stormwater management plan for the project includes a detention pond adjacent to proposed Mitigation Area A. The pond will receive a substantial amount of highway runoff from the western portion of the alignment, and will provide both water quality improvement and quantity control. The basis for proposing Area A for wetland mitigation is that it can be coupled with the discharge from the stormwater detention basin. The basin discharge will provide a reliable source of surface water to maintain wetland hydrology, and the wetland mitigation area will provide additional water quality improvement and flow-attenuation benefits. Based on the presence of several existing wetlands nearby with groundwater-dependent hydrology, the site would be suitable even without surface water input.

Surface water will enter Mitigation Area A from the outlet structure of the stormwater detention pond. The mitigation area will connect with existing wetland S-3, a seasonally-flooded, scrub-shrub and emergent wetland. Construction of the project will result in partial filling of Wetland S-3. The mitigation area will also be contiguous with existing Wetland S-1, which discharges to Benton Hollow Brook. Some degree of stormwater retention (i.e., groundwater recharge) is expected to occur, both from the stormwater pond and the wetland mitigation area. As Wetland S-1 and the adjoining area contains some shade-providing trees, the combination of shade and expected retention should assist in mitigating thermal impacts of highway runoff, which is a major environmental goal for the project. Upland shrubs and trees will also be planted adjacent to the mitigation area, in order to provide additional shade in the future.

***Hydrology*** – The hydrology of the existing wetlands and proposed mitigation wetland has been described above. Groundwater elevations from a nearby observation well have been monitored. During the monitoring period, the maximum groundwater elevation was 473.6m MSL, the minimum elevation was 472.7m MSL, and the average groundwater elevation was 473.2m MSL. Grades within the mitigation area have been set between 473 and 474 meters.

***Soils*** – Based on the boring log from the nearby observation well, silty gravel is present at the proposed excavation depth. Although vegetation can be established in mineral soils, a minimum of 4 inches of topsoil/organic material will be placed. There are two potential sources of this material: 1) topsoil from several wetlands to be impacted by the project will be removed and reserved for wetland mitigation purposes (none of these wetlands contain invasive species such as purple loosestrife or common reed), and 2) if there is insufficient topsoil available from impacted wetlands, topsoil/organic material (possibly including compost approved for agricultural use) will be acquired from another source.

***Planting Plan*** – Vegetation establishment in the mitigation area will include a combination of planting of established plants, seeding, and natural colonization. Tentatively, it is proposed to utilize several different wetland seed mixes available from Southern Tier Consulting, Inc. If these mixes are not available at the time of construction, similar mixes will be specified. A summary of the planting plan for Mitigation Area A follows below.

<u>Palustrine Forest with hummocks</u> – Three tree species-red maple, green ash and pin oak-will be planted on hummocks on approximately 20-foot centers (total of 15 trees). A seed mix termed *Northeast Wetland Forest Herb Mix*, a mix of 29 species (see Sheet 39), will also be utilized. This mix is applied at the rate of 3 lbs/acre. Annual rye, at the rate of 2 lbs/acre, will also be added.

<u>Palustrine Scrub-Shrub</u> – Based on the composition of existing wetlands in the project area, Spirea alba, Cornus stolonifera, Cornus amomum and Viburnum recognitum will be planted on 10-foot centers (total of 300 shrubs). A seed mix termed *Northeast Wetland Grass/Forb Mix*, a mix of 15 species (see Sheet 39), will also be utilized. This is seeded at the rate of 6 lbs/acre. Annual rye, at the rate of 2 lbs/acre, will also be added.

<u>Palustrine Emergent with scattered shrubs</u> – Spirea alba, Cornus stolonifera, and speckled alder will be planted on 15-foot centers (total of 30 shrubs). The *Northeast Wetland Grass/Forb Mix* (see Sheet 39), along with annual rye, will also be utilized.

<u>Palustrine Emergent</u> – This zone will be seeded only, using a *Northeast Wetland Diversity Mix*, which contains 40 species (see Sheet 40). This mix is applied at the rate of 2 lbs/acre.

## Northeast Wetland Forest Herb Mix

| Percent by No. of seeds (not weight) | Scientific Name | Common Name |
|---|---|---|
| 25.96% | Scirpus atrovirens | Green Bulrush |
| 25.41% | Scirpus cyperinus | Wool Grass |
| 8.33% | Carex vulpinoidea | Fox Sedge |
| 7.68% | Glyceria canadensis | Canada Mannagrass |
| 7.63% | Verbena hastata | Blue Vervain |
| 6.02% | Glyceria grandis | Reed Meadowgrass |
| 5.70% | Glyceria striata | Fowl Mannagrass |
| 2.12% | Panicum clandestinum | Deertongue |
| 1.53% | Verbena urticifolia | White Vervain |
| 1.51% | Glyceria melicaria | Melic Mannagrass |
| 0.94% | Boehmeria cylindrica | False Nettle |
| 0.94% | Urtica dioica | Stinging Nettle |
| 0.85% | Solidago gigantea | Giant Goldenrod |
| 0.85% | Solidago rugosa | Wrinkled Goldenrod |
| 0.75% | Cinna arundinacea | Wood Reed |
| 0.62% | Leersia virginica | Whitegrass |
| 0.57% | Cephalanthus occidentalis | Buttonbush |
| 0.45% | Elymus canadensis | Wild Rye |
| 0.38% | Sium suave | Water Parsnip |
| 0.32% | Elymus virginicus | Virginia Wild Rye |
| 0.29% | Polygonum pensylvanicum | Pennsylvania Smartweed |
| 0.24% | Geum macrophyllum | Large-Leaf Avens |
| 0.22% | Elymus riparius | Riverbank Wild Rye |
| 0.19% | Rumex verticillatus | Water Dock |
| 0.16% | Asclepias incarnata | Swamp Milkweed |
| 0.09% | Carex lurida | Shallow Sedge |
| 0.09% | Lilium superbum | Turk's Cap Lily |
| 0.09% | Rubus allegheniensis | Blackberry |
| 0.07% | Carex lupulina | Hop Sedge |

**Seed at rate of 3 lbs/acre**

## Northeast Wetland Grass/Forb Mix

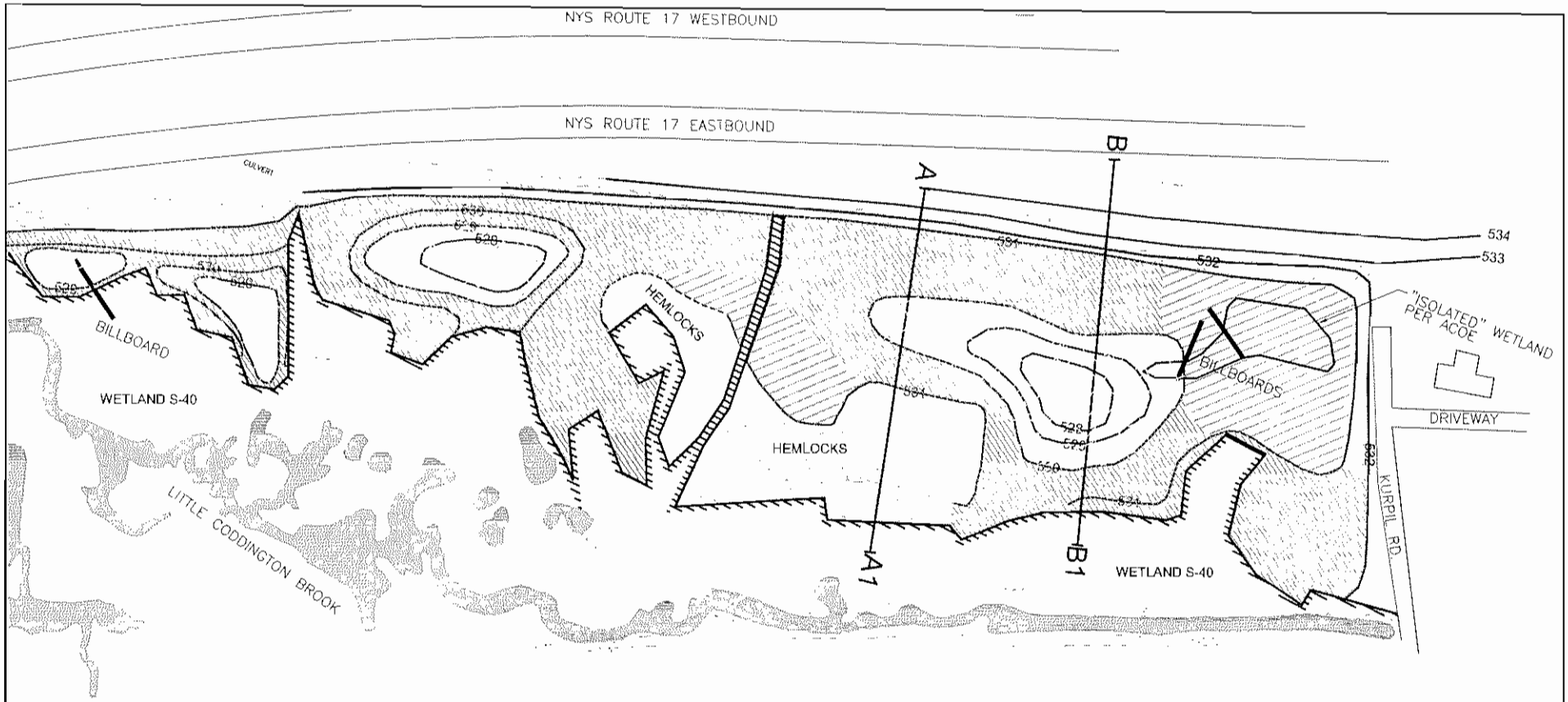
| Percent by No. of seeds (not weight) | Scientific Name | Common Name |
|---|---|---|
| 37.3% | Glyceria canadensis | Canada Mannagrass |
| 29.3% | Glyceria grandis | Reed Meadowgrass |
| 7.5% | Calamagrostis canadensis | Blue Joint |
| 7.3% | Panicum dichotomiflorum | Smooth Panic-Grass |
| 4.9% | Leersia oryzoides | Rice Cut Grass |
| 3.9% | Echinochloa crusgalli | Japanese Millet |
| 3.0% | Verbena hastata | Blue Vervain |
| 1.7% | Elymus canadensis | Canada Wild Rye |
| 1.5% | Alisma plantago-aquatica | Water Plantain |
| 0.9% | Polygonum pensylvanicum | Pennsylvania Smartweed |
| 0.8% | Bidens cernua | Nodding Bur-Marigold |
| 0.7% | Cicuta maculata | Spotted Water Hemlock |
| 0.7% | Cinna arundinacea | Stout Wood-Reedgrass |
| 0.3% | Bidens frondosa | Beggar-Ticks |
| 0.2% | Rumex verticillatus | Swamp Dock |

**Seed at rate of 6 lbs/acre**

## Northeast Wetland Diversity Mix

| Percent by No. of seeds (not weight) | Scientific Name | Common Name |
|---|---|---|
| 28.82% | Scirpus atrovirens | Green Bulrush |
| 13.05% | Juncus effusus | Soft Rush |
| 12.01% | Mimulus ringens | Monkey Flower |
| 8.35% | Carex vulpinoidea | Fox Sedge |
| 7.83% | Penthorum sedoides | Ditch Stone Crop |
| 6.68% | Glyceria grandis | Reed Meadowgrass |
| 5.22% | Scirpus cyperinus | Wool Grass |
| 4.18% | Verbena hastata | Blue Vervain |
| 2.09% | Eupatorium perfoliatum | Boneset |
| 1.57% | Leersia oryzoides | Rice Cut Grass |
| 1.48% | Helenium autumnale | Common Sneezeweed |
| 1.36% | Glyceria canadensis | Canada Mannagrass |
| 0.89% | Eupatorium maculatum | Joe Pye Weed |
| 0.73% | Aster novae-angliae | New England Aster |
| 0.52% | Alisma plantago-aquatica | Water Plantain |
| 0.47% | Euthamia graminifolia | Grassleaf Goldenrod |
| 0.47% | Solidago rugosa | Wrinkled Goldenrod |
| 0.47% | Cyperus strigosus | Straw Colored Flatsedge |
| 0.42% | Aster puniceus | Purple Stemmed Aster |
| 0.38% | Cephalanthus occidentalis | Buttonbush |
| 0.36% | Scirpus tabernaemontanii | Soft Stem Bulrush |
| 0.35% | Aster umbellatus | Flat-Top White Aster |
| 0.31% | Carex comosa | Bearded Sedge |
| 0.26% | Carex crinita | Fringed Sedge |
| 0.24% | Solidago gigantea | Giant Goldenrod |
| 0.24% | Panicum clandestinum | Deertongue |
| 0.22% | Bidens cernua | Nodding Beggar-Ticks |
| 0.21% | Sium suave | Water Parsnip |
| 0.18% | Scirpus microcarpus | Small Fruited Bulrush |
| 0.16% | Cicuta maculata | Water Hemlock |
| 0.10% | Elymus canadensis | Wild Rye |
| 0.08% | Bidens frondosa | Devil's Beggar-Ticks |
| 0.06% | Angelica atropurpurea | Purple-Stem Angelica |
| 0.05% | Rumex verticillatus | Water Dock |
| 0.05% | Carex lurida | Shallow Sedge |
| 0.04% | Polygonum pensylvanicum | Pennsylvania Smartweed |
| 0.04% | Asclepias incarnata | Swamp Milkweed |
| 0.03% | Elymus riparius | Riverbank Wild Rye |
| 0.02% | Carex lupulina | Hop Sedge |
| 0.01% | Iris versieolor | Blue Flag |

**Seed at rate of 2 lbs/acre**




SCALE

0 20 40

METER

LEGEND

A–A1 X–SECTION LINES

EXISTING CONTOUR

PROPOSED CONTOUR

EXISTING WETLAND BOUNDARY

UFO – EXISTING HEMLOCK STAND TO REMAIN – 0.42 ACRES

USS – UPLAND SCRUB–SHRUB – 0.40 ACRES

WETLAND MITIGATION

PEM – PALUSTRINE EMERGENT – 0.20 ACRES

PFO – PALUSTRINE FOREST W/ HUMMOCKS – 0.42 ACRES

PSS – PALUSTRINE SCRUB–SHRUB – 1.33 ACRES

POW – PALUSTRINE OPEN WATER – 0.28 ACRES

TOTAL MITIGATION AREA=2.23 ACRES

SEE SECTIONS A-A1, B-B1 ON SHEET 42

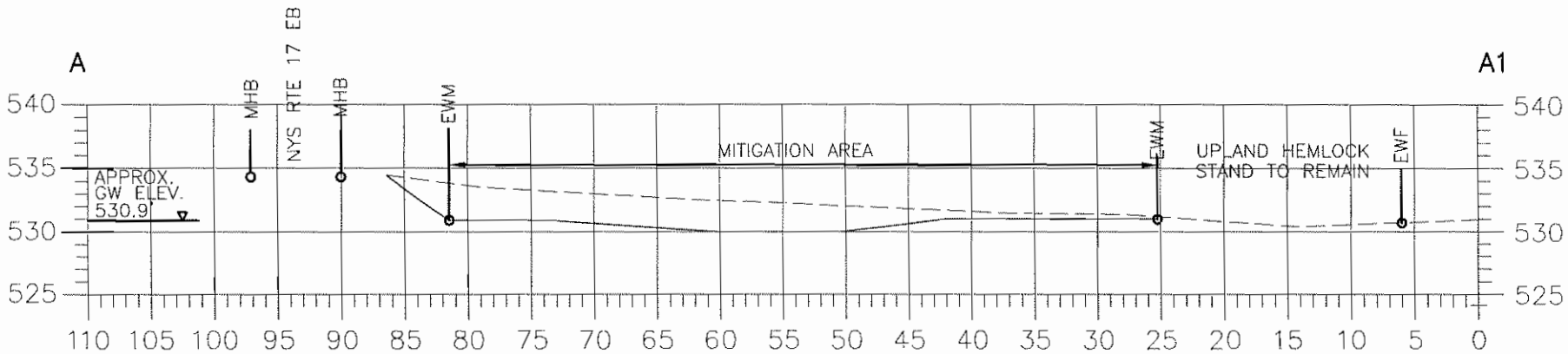
ALL DIMENSIONS ARE IN m UNLESS OTHERWISE NOTED

PIN 906674
NYS ROUTE 17 PARKSVILLE
WETLAND MITIGATION AREA B
WETLAND GRADING/ZONATION PLAN
McFARLAND-JOHNSON, INC.
BINGHAMTON, N.Y.

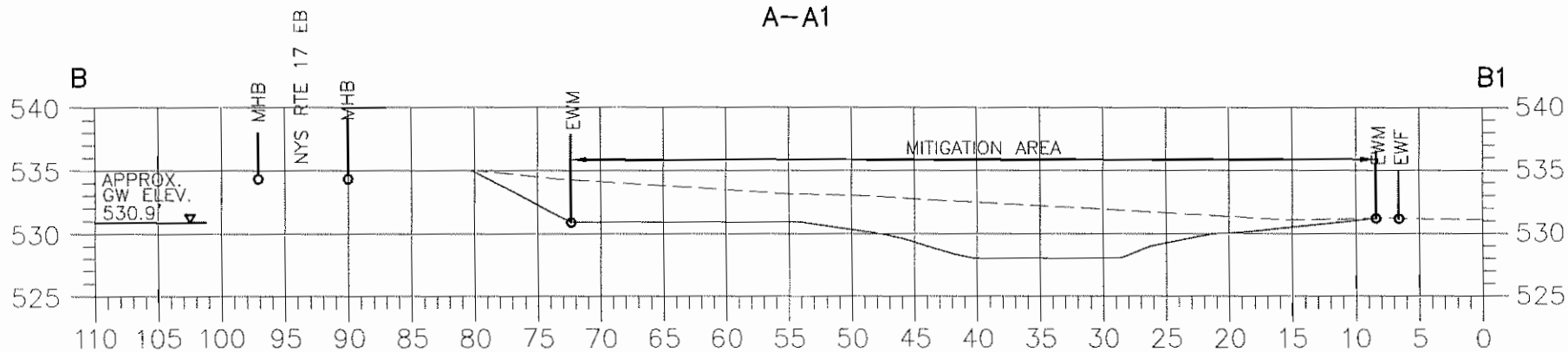
STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

9 | FEBRUARY 2005 | 41 OF 43

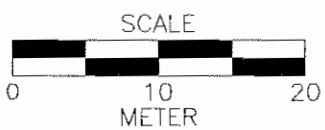
DESIGN SUPERVISOR | JOB MANAGER | DESIGNED BY | CHECKED BY | ESTIMATED BY | CHECKED BY | DRAFTED BY | CHECKED BY




A–A1




B–B1




| | |
|---|---|
| MHB | EXISTING HIGHWAY BOUNDARY |
| MFA | PROPOSED RIGHT OF WAY |
| MEPA | PROPOSED PERMANENT EASEMENT |
| EWF | EXISTING FEDERAL WETLAND |
| OHWM | ORDINARY HIGH WATER MARK |
| 100 FPB | 100 YEAR FLOODPLAIN BOUNDARY |
| EWM | PROPOSED WETLAND MITIGATION AREA |
| S OR N | EXISTING WETLAND IDENTIFICATION NUMBER |

ALL DIMENSIONS ARE IN m_ UNLESS OTHERWISE NOTED

PIN 906674
NYS ROUTE 17 PARKSVILLE
WETLAND MITIGATION AREA B
CROSS SECTIONS

McFARLAND-JOHNSON, INC.
BINGHAMTON, N.Y.

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

| FILENAME | REGION | DATE | SHEET |
|---|---|---|---|
| | 9 | FEBRUARY 2006 | 42 OF 43 |

## Mitigation Area B-Background Information

***General Information*** - Site B is located on the south side of existing NYS Route 17, slightly east of the eastern project limits. The site abuts an existing wetland, Wetland S-40, which is the largest wetland in the immediate project area. Little Coddington Brook flows through the wetland complex, and wetlands border the stream on both the north and south sides. The existing wetland consists primarily of emergent (rushes, sedges, cattails, and duckweed) and scrub-shrub (primarily Cornus spp. and Spirea sp.) wetlands and open water areas. The hydrology of the existing wetland includes both surface and ground water components. Little Coddington Brook runs through the wetland, and several small tributaries and overland flow enter from the southwest. Several Route 17 cross-culverts convey some surface water to the wetland from small tributaries located on the eastern side of the roadway. Those parts of the existing wetland that are not permanently inundated are at elevations close to the bankfull elevation of Little Coddington Brook. Thus, most of the wetland floods on an approximately annual basis.

Based on visual inspection of the proposed mitigation area, and the characteristics of slopes at the existing wetland boundary, it appears that much of the area proposed for wetland mitigation was previously filled. Many small spoil areas were created adjacent to the highway when existing NYS Route 17 was constructed, and this may be the origin of the suspected fill in Mitigation Area B. Thus, wetland mitigation at this site is expected to consist partly of wetland restoration. The proposed mitigation site is 2.24 acres in size.

***Hydrology*** – The basis of wetland hydrology for the mitigation area is the same as the adjacent existing wetland. Three observation wells are located within the boundaries of the proposed mitigation site. The average groundwater elevation is in the range of 530m MSL. Grades within the mitigation area have been set between 528 and 531 meters.

***Soils*** – Based on the boring log from the nearby observation wells, brown silt or brown silty gravel is present at approximate elevation 530m. This may represent the original ground surface/soil prior to the suspected filling. The original soils, which are anticipated to be wetland soils, will be utilized in the mitigation area. If no soil with organic material is encountered during construction, a minimum of 4 inches of topsoil/organic material will be placed. There are two potential sources of this material: 1) topsoil from several wetlands to be impacted by the project will be removed and reserved for wetland mitigation purposes (none of these wetlands contain invasive species such as purple loosestrife or common reed), and 2) if there is insufficient topsoil available from impacted wetlands, topsoil/organic material (possibly including compost approved for agricultural use) will be acquired from another source.

***Planting Plan*** – Vegetation establishment in the mitigation area will include a combination of planting of established plants, seeding, and natural colonization. Tentatively, it is proposed to utilize several different wetland seed mixes available from Southern Tier Consulting, Inc. If these mixes are not available at the time of construction, similar mixes will be specified. A summary of the planting plan for Mitigation Area A follows below.

Palustrine Forest with hummocks – Three tree species-red maple, green ash and pin oak-will be planted on hummocks on approximately 20-foot centers (total of 50 trees). A seed mix termed *Northeast Wetland Forest Herb Mix*, a mix of 29 species (see Sheet 39), will also be utilized. This mix is applied at the rate of 3 lbs/acre. Annual rye, at the rate of 2 lbs/acre, will also be added.

Palustrine Scrub-Shrub – Based on the composition of existing wetlands in the project area, Spirea alba, Cornus stolonifera, Cornus amomum and Viburnum recognitum will be planted on 10-foot centers (total of 650 shrubs). A seed mix termed *Northeast Wetland Grass/Forb Mix*, a mix of 15 species (see Sheet 39), will also be utilized. This is seeded at the rate of 6 lbs/acre. Annual rye, at the rate of 2 lbs/acre, will also be added.

Palustrine Emergent – This zone will be seeded only, using a *Northeast Wetland Diversity Mix*, which contains 40 species (see Sheet 40). This mix is applied at the rate of 2 lbs/acre.

Palustrine Open Water – Three open-water areas are proposed. There will be no plantings in the open-water areas.