DTE Energy
One Energy Plaza, Detroit, MI 48226-1279

DTE Energy®

NPF-95, Appendix B, Section 3.0

February 7, 2017
NRC3-17-0001

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

References: 1) Fermi 3
NRC Docket No. 52-033
NRC License No. NPF-95

Subject: DTE Electric Company (DTE) Submittal of the Renewed Fermi 3 Michigan Department of Environmental Quality (MDEQ) Wetland Permit (WRP005458 v.1)

On February 03, 2017, the MDEQ approved renewal of the DTE Fermi 3 MDEQ Wetland Permit (Number WRP005458 v.1). The purpose of this letter is to transmit the enclosed copy of the subject permit, as required by Section 3.0 of the Fermi 3 Environmental Protection Plan.

If you have any questions, or need additional information, please contact me at (313) 235-0443.

Sincerely,

Michael K. Brandon, Manager
Nuclear Development – Licensing
DTE Electric Company

Enclosure: MDEQ Wetland Permit No. WRP005458 v.1

IE25
DD95
NRD

cc: Adrian Muniz, NRC Fermi 3 Project Manager (w/o Enclosure)
Mallecia Sutton, NRC Fermi 3 Environmental Project Manager (w/o Enclosure)
Fermi 2 Resident Inspector (w/o Enclosure)
NRC Region III Regional Administrator (w/o Enclosure)
NRC Region II Regional Administrator (w/o Enclosure)
Supervisor, Electric Operators, Michigan Public Service Commission (w/o Enclosure)
Michigan Department of Environmental Quality
OWMRP, Radiological Protection Section (w/o Enclosure)
Regina A. Borsh, Dominion Energy, Inc. (w/o Enclosure)
Patricia L. Campbell, General Electric (w/o Enclosure)
Scott M. Head, Nuclear Innovation North America (w/o Enclosure)

Enclosure to
NRC3-17-0001

Enclosure

NRC3-17-0001

Copy of MDEQ Wetland Permit
(Number WRP005458 v.1)
(69 pages following cover page)

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER RESOURCES DIVISION
PERMIT

Issued To:

DTE Energy Company
One Energy Plaza
Room 509 G.O.
Detroit, Michigan 48226

Permit No: WRP005458 v.1
Submission No.: 2DD-AAAK-T1A9
Site Name: DECO-Fermi 3 Power Plt
Issued: February 3, 2017
Revised:
Expires: February 3, 2022

This permit is being issued by the Michigan Department of Environmental Quality (MDEQ), Water Resources Division, under the provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); specifically:

- ☒ **Part 301, Inland Lakes and Streams**
- ☒ **Part 303, Wetlands Protection**
- ☐ **Part 315, Dam Safety**
- ☐ **Part 323, Shorelands Protection and Management**
- ☒ **Part 325, Great Lakes Submerged Lands**
- ☐ **Part 353, Sand Dunes Protection and Management**
- ☐ **Part 31, Water Resources Protection (Floodplain Regulatory Authority)**

Permission is hereby granted, based on permittee assurance of adherence to State of Michigan requirements and permit conditions, to:

Authorized Activity:

Activities to be performed below the Ordinary High Water Mark of Lake Erie: Dredge approximately 19,793 cubic yards of material. Place approximately 2,700 cubic yards of stone or riprap fill and approximately 39 cubic yards of dredge spoils. Install a total of 540 linear feet of steel sheet pile shore protection. Place 280 linear feet of temporary coffer dam with 1,100 cubic yards of temporary fill material both of which shall be removed upon completion of water intake construction. Place 1,340 linear feet of a 48-inch diameter discharge pipe at an invert elevation of 558 feet IGLD 85. Place 120 linear feet of 24-inch diameter fish return pipe at an invert elevation of 572 feet IGLD 85.

Activities to be performed within 37.83 acres of regulated wetlands: Dredge approximately 156,347 cubic yards of material. Place approximately 272,359 cubic yards of fill. Place two 24 feet by 6 feet arched concrete culverts to convey water through 880 linear feet of emergent wetland in the South Canal. Place four 24-inch diameter RCP culverts, four 60-inch diameter RCP culverts and one 24 feet by 6 feet arched concrete culvert to convey water through filled portions of wetlands C, H, and U. Replace an existing bridge with a 22 feet by 7 feet box culvert, 50 feet long. Place four 12-inch diameter equalization culverts and five sediment traps. Construct eight transmission towers within wetland C. Construct 107.31 acres of wetland mitigation.

All work is to facilitate construction of a nuclear electric generating facility. All work shall be completed in accordance with the approved plans dated December 14, 2016 and the specifications of this permit.

Water Course Affected: Lake Erie, wetlands
Property Location: Monroe County, Frenchtown Township, Town 06S, Range 10E Sections 28 and 29

Authority granted by this permit is subject to the following limitations:

A. Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all terms and conditions of this permit.

B. The permittee, in exercising the authority granted by this permit, shall not cause unlawful pollution as defined by Part 31 of the NREPA.

C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.

D. All work shall be completed in accordance with the approved plans and specifications submitted with the application and/or plans and specifications attached to this permit.

E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved herein except as otherwise necessary to comply with State and Federal requirements.

F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with 2013 PA 174 (Act 174) and comply with each of the requirements of Act 174.

G. This permit does not convey property rights in either real estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits, or complying with other state statutes.

H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.

I. Permittee shall notify the MDEQ within one week after the completion of the activity authorized by this permit by completing and forwarding the attached preaddressed postcard to the office addressed thereon.

J. This permit shall not be assigned or transferred without the written approval of the MDEQ.

K. Failure to comply with conditions of this permit may subject the permittee to revocation of permit and criminal and/or civil action as cited by the specific state act, federal act, and/or rule under which this permit is granted.

L. All dredged or excavated materials shall be disposed of in an upland site (outside of floodplains, unless exempt under Part 31 of the NREPA, and wetlands).

M. In issuing this permit, the MDEQ has relied on the information and data that the permittee has provided in connection with the submitted application for permit. If, subsequent to the issuance of a permit, such information and data prove to be false, incomplete, or inaccurate, the MDEQ may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.

N. The permittee shall indemnify and hold harmless the State of Michigan and its departments, agencies, officials, employees, agents, and representatives for any and all claims or causes of action arising from acts or omissions of the permittee, or employees, agents, or representative of the permittee, undertaken in connection with this permit. The permittee's obligation to indemnify the State of Michigan applies only if the state: (1) provides the permittee or its designated representative written notice of the claim or cause of action within 30 days after it is received by the state, and (2) consents to the permittee's participation in the proceeding on the claim or cause of action. It does not apply to contested case proceedings under the Administrative Procedures Act, 1969 PA 306, as amended, challenging the permit. This permit shall not be construed as an indemnity by the State of Michigan for the benefit of the permittee or any other person.

O. Noncompliance with these terms and conditions and/or the initiation of other regulated activities not specifically authorized shall be cause for the modification, suspension, or revocation of this permit, in whole or in part. Further, the MDEQ may initiate criminal and/or civil proceedings as may be deemed necessary to correct project deficiencies, protect natural resource values, and secure compliance with statutes.

P. If any change or deviation from the permitted activity becomes necessary, the permittee shall request, in writing, a revision of the permitted activity from the MDEQ. Such revision request shall include complete documentation supporting the modification and revised plans detailing the proposed modification. Proposed modifications must be approved, in writing, by the MDEQ prior to being implemented.

Q. This permit may be transferred to another person upon written approval of the MDEQ. The permittee must submit a written request to the MDEQ to transfer the permit to the new owner. The new owner must also submit a written request to the MDEQ to accept transfer. The new owner must agree, in writing, to accept all conditions of the permit. A single letter signed by both parties that includes all of the above information may be provided to the MDEQ. The MDEQ will review the request and, if approved, will provide written notification to the new owner.

R. Prior to initiating permitted construction, the permittee is required to provide a copy of the permit to the contractor(s) for review. The property owner, contractor(s), and any agent involved in exercising the permit are held responsible to ensure that the project is constructed in accordance with all drawings and specifications. The contractor is required to provide a copy of the permit to all subcontractors doing work authorized by the permit.

S. Construction must be undertaken and completed during the dry period of the wetland. If the area does not dry out, construction shall be done on equipment mats to prevent compaction of the soil.

T. Authority granted by this permit does not waive permit requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA, or the need to acquire applicable permits from the County Enforcing Agent (CEA).

U. Authority granted by this permit does not waive permit requirements under the authority of Part 305, Natural Rivers, of the NREPA. A Natural Rivers Zoning Permit may be required for construction, land alteration, streambank stabilization, or vegetation removal along or near a natural river.
V. The permittee is cautioned that grade changes resulting in increased runoff onto adjacent property is subject to civil damage litigation.
W. Unless specifically stated in this permit, construction pads, haul roads, temporary structures, or other structural appurtenances to be placed in a wetland or on bottomland of the water body are not authorized and shall not be constructed unless authorized by a separate permit or permit revision granted in accordance with the applicable law.
X. For projects with potential impacts to fish spawning or migration, no work shall occur within fish spawning or migration timelines (i.e., windows) unless otherwise approved in writing by the Michigan Department of Natural Resources, Fisheries Division.
Y. Work to be done under authority of this permit is further subject to the following special instructions and specifications:

1) **A United States Army Corps of Engineers permit is required before this work can be conducted.**

Decision to Construct

2) Activities authorized under this permit shall not commence until DTE Energy Board of Directors makes the Decision to Construct Fermi 3. DTE may choose to construct the mitigation site prior to the Decision to Construct Fermi 3, at DTE's discretion. DTE shall notify the MDEQ in writing within 30 days after the Decision to Construct. Within six months after the Decision to Construct, the following documents must be prepared and submitted to the MDEQ:
   a) Financial Assurance described in Paragraph 33 c.
   b) Conservation Easement described in Paragraph 33 d.

Construction Conditions

3) Authority granted by this permit does not waive any jurisdiction of the United States Army Corps of Engineers (USACE) or the need for a federal permit, if required. For information on USACE jurisdiction, please contact Ms. Colette Luff at 313-226-7485.

4) A storm water discharge permit may be required under the Federal Clean Water Act for construction activities that disturb one or more acres of land and discharge to surface waters. For sites five (5) or more acres, the permit coverage may be obtained by a Part 91, Soil Erosion and Sedimentation Control (SESC) permit and filing a "Notice of Coverage" form to the MDEQ's Water Resources Division. Information on the storm water discharge permit is available from the Water Resource Division's Storm Water Permit Program at www.michigan.gov/deqwater. Select "wastewater", then "surface water" and then "storm water." You may also contact Mr. Ken Mroczkowski at 517-780-7693 or mroczkowskik@michigan.gov.

Threatened or Endangered Species

5) The proposed project is within the range of several federally listed species, including the endangered Indiana bat *(Myotis sodalist),* Northern long-eared bat *(Myotis Septentrionalis*), and Eastern Massasauga Rattlesnake, *(Sistrurus catenatus).* In addition, there are Bald Eagles *(Haliaetus leucocephalus)* that regularly nest near the proposed project area. Please be advised that any activity that would cause harm to these species may require a federal permit under the Endangered Species Act or other federal regulations. The permittee shall continue Endangered Species Act Consultation with the U.S. Fish and Wildlife Service, 2651 Coolidge Road, East Lansing, Michigan 48829.

6) The following State threatened or endangered species are known to occur on or near this project site and may be impacted by your activities: Eastern Fox Snake *(Pantherophis gloydi).* Issuance of this permit does not obviate the need to obtain approval under Part 365, Endangered Species, of the NREPA, from the Michigan Department of Natural Resources' (MDNR) Natural Heritage Program prior to commencement of construction activity. Please contact Mr. Chris Hoving, Wildlife Division, MDNR, P.O. Box 30180, Lansing, Michigan 48909-7944, at 517-373-3337.

Pre-Construction Meetings

7) Prior to initiation of construction authorized by this permit, a pre-construction meeting shall be held with the contractor, permittee or her/his representative(s), and representatives of the MDEQ. Prior to initiation of wetland mitigation construction and annually before each construction season a meeting shall be held with the contractor, permittee or his/her representative(s), and representatives of the MDEQ. To schedule the required meetings, please contact Ms. Katherine David, MDEQ, Jackson District Office, 301 East Louis Glick Highway, Jackson, Michigan 49201, or by telephone at 517-780-7021.

Site Isolation

8) Prior to the initiation of any permitted construction activities, a siltation barrier shall be constructed immediately down gradient of the construction site. Siltation barriers shall be specifically designed to handle the sediment type, load, water depth, and flow conditions of each construction site throughout the anticipated time of construction and unstable site conditions. The siltation barrier shall be maintained in good working order throughout the duration of the project. Upon project completion, the accumulated materials shall be removed and disposed of at an upland (non-wetland, non-floodplain) site. The siltation barrier shall then be removed in its entirety and the area restored to its original configuration and cover.

9) Prior to the initiation of any permitted construction activity, a silt fence shall be installed along the entire route of the disturbed wetland area and maintained in good working order until permanent stabilization and re-vegetation of all disturbed areas has occurred. The silt fence shall be removed after re-vegetation. All excess soil material shall be placed on an upland location and then seeded and mulched to prevent erosion into waters, floodplain, or wetlands.

10) IDENTIFICATION OF NON-WORK WETLAND AREAS
Prior to the start of construction, all non-work wetland areas shall be bounded by properly trenched filter fabric fence and orange construction fencing to prevent sediment from entering the wetland and to prohibit construction personnel from entering or performing work in these areas. Fence shall be maintained daily throughout the construction process. Upon project completion, the accumulated materials shall be removed and disposed of at an upland site. The erosion barrier shall then be removed in its entirety and the area restored to its original configuration and cover.

Wetland Activities

11) Permittee shall employ appropriate Best Management Practices to areas of wetland impacts that are slated for restoration upon completion of the construction phase of Fermi 3. These BMPs shall be selected to minimize impacts to the wetland during construction and to aid restoration efforts upon completion of construction.

12) Excess soil materials from the project shall not be deposited in wetlands or surface water without first securing a permit under Part 303, Wetlands Protection, of the NREPA or other applicable statute.

13) No fill, excess soil, or other material shall be placed in any wetland or surface water area not specifically authorized by this permit, its plans, and specifications.

14) All fill shall consist of clean, washed rock or other clean inert material that will not cause siltation nor contain soluble chemicals, organic matter, pollutants, or contaminants. All fill shall be CONTAINED in such a manner so as not to erode into any surface water, floodplain, or wetland. All raw areas associated with the permitted activity shall be STABILIZED with sod and/or seed and mulch, riprap, or other technically effective methods as necessary to prevent erosion.

15) Equipment bog mats shall be utilized to provide access through wetland for construction of on-site transmission line towers. Upon completion of tower construction, bog mats shall be removed and the site restored to pre-construction grade with original soils and reseeded with appropriate native wetland seed mix.

Culverts

16) The culverts shall be installed to line up with the direction of flow at both the inlet and outlet ends, and must be bottomless or recessed 6 to 12 inches, unless otherwise indicated in the conditions of this permit.

17) Road fill side slopes shall not be steeper than 1-on-2 (one (1) vertical to two (2) horizontal) except where headwalls of reinforced concrete, mortar masonry, dry masonry, or other acceptable methods are used.

18) Road fill side slopes and any raw banks resulting from this construction shall be riprapped to three (3) feet above the ordinary high water mark. All other raw areas draining directly to the wetland shall be protected with riprap over geotextile filter fabric, sod, and/or seed and mulch as necessary to provide effective erosion protection.

New Culverts

19) The placement of the new culvert and the initial placement of fill in the wetland shall be done in the dry or in such a manner that all flow is immediately passed through the culvert. The major placement of fill shall be done in the dry or in still water where erosion and siltation will be minimized. The fill material used in this initial placement shall be washed gravel, coarse aggregate, or rock and shall be placed at both ends of the culvert above normal water level before backfill material is placed.

Replacement Culverts

20) The existing structure shall be kept open to pass flow during removal of the existing road fill.

21) During removal of the existing structure, every precaution shall be taken to prevent debris from entering any watercourse. Any debris reaching the watercourse during the removal and/or reconstruction of the structure shall be immediately retrieved from the water. All material shall be disposed of in an acceptable manner consistent with local, state, and federal regulations.

22) The placement of the new culvert and the initial placement of fill in the wetland shall be done immediately after removal of the existing culvert. The placement shall be conducted in such a manner that all flow is immediately passed through the new culverts, allowing the major placement of fill to be done in the dry or in still water where erosion and siltation will be minimized. The fill material used in this initial placement shall be washed gravel, coarse aggregate, or rock and shall be placed at both ends of the culvert to a level above normal water level before backfill material is placed.

Lake Erie Activities

Dredging

23) Prior to commencement of any dredging authorized by this permit, the entire dredged area shall be enclosed with a filter fabric sediment curtain to prevent off-site siltation. The sediment curtain shall be installed to extend from the bed of the waterbody to a point above the existing water's surface. The sediment curtain shall be maintained for the duration of the project and shall be left in place after completion of dredging until all disturbed sediments have settled.

24) All dredge/excavated spoils including organic and inorganic soils, vegetation, and other material removed may be used as backfill as indicated in the attached plans. Excess dredge spoils shall be placed in the on-site dredge spoils area or on upland (non-wetland, non-floodplain or non-bottomland), prepared for stabilization, and stabilized with sod and/or seed and mulch in such a manner to prevent and ensure against erosion of any material into any waterbody, wetland, or floodplain.

25) Placement of dredge/excavated material into open water, onto ice, or onto exposed bottomland is not authorized by this permit.

26) Side casting of spoils into open water of Lake Erie is not authorized by this permit.

Cofferdam

27) Prior to construction of the water intake structure, cofferdams of steel sheet piling shall be installed to isolate all construction activities from Lake Erie and the area between the existing groins. The cofferdam shall be maintained in good working order throughout the duration of the project. Upon project completion, the accumulated materials shall be removed and disposed of at an upland site. The cofferdam shall then be removed in its entirety.

28) All slurry resulting from any dewatering operation may be discharged into the area between the existing groins provided a silt curtain is placed to retain the sediment between the groins, or shall be discharged through a filter bag or pumped to a sump located away from wetlands and surface waters and allowed to filter through natural upland vegetation, gravel filters, or other engineered devices for a sufficient distance and/or period of time necessary to remove sediment or suspended particles.

29) Discharge of slurry into open water of Lake Erie is not authorized by this permit.

Bulkhead and Riprap

30) Unless authorized by the attached plans the bulkhead or revetment structure shall be placed at or above (landward of) the Ordinary High Water Mark in the location shown on the attached approved plans. Any variation from the approved location must be authorized in writing by the Water Resources Division prior to the initiation of these activities.

31) On a project requiring backfilling, the seawall shall be in place prior to placing any fill.

32) The riprap shall consist of clean stone or rock (free of paint, soil or other fines, asphalt, soluble chemicals, or organic material). The riprap shall be of appropriate weight and dimension necessary to achieve the intended shore protection.

Wetland Mitigation

33) The permittee shall, as a primary condition of this permit, mitigate the loss of 35.55 acres of wetland, consisting of 10.90 acres of Great Lakes Marsh, 3.15 acres of Southern Hardwood Swamp, 0.80 acre of coastal emergent, 4.89 acres of forested, 3.91 acres of coastal southern shrub carr, 1.37 acres scrub shrub, and 10.53 acres of emergent wetland. The authorization granted by this permit is contingent upon the completion of mitigation as follows:

   a. A new 107.31 acre wetland area shall be created in accordance with final mitigation plans detailed in The Fermi 3 Aquatic Resource Mitigation Strategy and Final Design dated December 2014 and its parts and attachments. If the permit conditions modify the mitigation plan, the permit conditions shall take precedence over the mitigation plan.

   b. The mitigation grading, planting, and introduction of hydrology shall be constructed prior to or concurrent with initiating any other permitted activities.

c. The permittee shall provide a bond or letter of credit to the MDEQ in a form identical to the financial assurance models on the MDEQ's website at www.michigan.gov/deqwetlands in the amount of $12,000,000 to ensure that the replacement wetland is constructed, the conservation easement is recorded, monitoring is completed, and corrective actions are performed as required to comply with the mitigation requirements and conditions of this permit. The financial assurance document shall be provided to and accepted by the MDEQ within six (6) months after the Decision to Construct as specified in Paragraph 2 a of this permit.

Prior to the transfer of this permit to another person, the new person must obtain and provide a financial instrument acceptable to the MDEQ in the name of the new person and in the amount required by this permit.

Upon request of the permittee and with the submittal of adequate proofs, the MDEQ may release portions of the financial instrument in accordance with the following guidelines:

50 percent of the financial instrument may be released after the MDEQ concurs that the mitigation grading and planting have been completed, and that proper hydrology has been established for a minimum of 2 years after construction of the mitigation wetland.

The remaining 50 percent of the financial instrument will be released upon all of the following:
i. Submittal of all the required monitoring reports,
ii. Substantial compliance with the performance standards as outlined in this permit, and
iii. Final approval by the MDEQ as described in Paragraph 39.

d. The permittee shall execute a conservation easement over the mitigation area as shown on the permit plans in a form identical to the conservation easement model on the MDEQ's website at www.michigan.gov/deqwetlands. The original executed conservation easement and associated exhibits must be sent to the MDEQ for review and recording within six (6) months of the Decision to Construct as specified in Paragraph 2 b of this permit. Send to: Conservation Easement Coordinator, MDEQ, Water Resources Division, P.O. Box 30458, Lansing, Michigan, 48909, with a copy of the executed easement mailed to Ms. Katherine David, MDEQ, Water Resources Division, Jackson District Office, 301 East Louis Glick Highway, Jackson, Michigan 49201

An acceptable executed conservation easement must be submitted to the MDEQ by the permittee prior to commencement of any permitted work within regulated areas.

The conservation easement boundary shall be demarcated by the placement of signs along the perimeter. The signs shall be placed at an adequate frequency, visibility, and height for viewing, made of a suitable material to withstand climatic conditions, and should be replaced as needed. The signs shall include the following language:

WETLAND CONSERVATION EASEMENT
NO CONSTRUCTION OR PLACEMENT OF STRUCTURES ALLOWED.
NO MOWING, CUTTING, FILLING, DREDGING OR
APPLICATION OF CHEMICALS ALLOWED.
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

Except as otherwise provided by this permit or approved in writing by the MDEQ, the following activities are prohibited in perpetuity within the mitigation area: alteration of topography, creation of paths, trails, or roads; placement of fill, dredging, or excavation; drainage of surface or groundwater; construction or placement of any structure; plowing, tilling, or cultivating the soils or vegetation; cutting, removal, or alteration of vegetation; including the planting of non-native plant species; construction of unauthorized utility or petroleum lines; storage or disposal of garbage, trash, debris, abandoned equipment; accumulation of machinery or other waste materials; use or

storage of off-road vehicles; placement of billboards or signs; or the use of the wetland for the dumping of storm water (except as otherwise allowed in this permit).

e. The permittee shall submit a Long Term Management Plan for the mitigation site for MDEQ approval with the ninth year mitigation monitoring report. The Long Term Management Plan shall provide for stewardship agreements and endowments for the entire wetland mitigation site and shall also include:

   i. Documentation of baseline conditions to include: background information on the site; documentation of existing site conditions using detailed maps, aerial photography, soil and topographic maps, wetland boundaries, and photo documentation; adjacent land uses; invasive species; community types; and rare and imperiled communities or species occurrences on the site.
   ii. Identification of immediate and long-term threats to the site (may include invasive species, habitat fragmentation, etc.)
   iii. List and prioritize management actions to address the threats.
   iv. Identify existing and proposed human uses and recreation activities of the site, and address the associated management issues.
   v. Proposed plan for long-term monitoring and periodic updates to the management plan.
   vi. Any other planned site-specific management practices.

f. The permittee shall submit an Invasive Species Management Plan for the mitigation site for MDEQ approval. Invasive species shall not dominate the vegetation in any extensive area of the mitigation wetland. The Invasive Species Management Plan must include a list of the invasive plant species present or expected, an outline of control measures, and propose a minimum percent cover of invasive species that can be achieved.

g. The mitigation site shall not be fine graded, but shall be left in a rough grade state (allowing for the establishment of micro-topography). Any planting or seeding of the mitigation site must consist of native Michigan plant materials.

h. The permittee shall notify the MDEQ's District Office, in writing and within 20 days of completion of each of the following items:

   i. Final grading.
   ii. Seeding and plant installation.

i. In the event the permitted activity is begun but not completed, the permittee or owner of record shall remain responsible for completion of the mitigation wetland and associated conditions, as determined by the MDEQ. Such determinations shall be based upon the extent of the disturbance to the existing wetlands.

j. Should the mitigation wetland fail to become established after two complete growing seasons, or fail to progress satisfactorily towards a self-sustaining wetland system as required by this permit, the permittee shall:

   i. Assess the problem and its probable causes;
   ii. Develop reasonable and necessary corrective measures as a revision to original plans;
   iii. Submit proposed corrective measures to the MDEQ for confirmation and approval within 60 days of identification of the problem; and
   iv. Upon MDEQ approval, implement corrective measures.

   Additional mitigation monitoring may be required to evaluate the success of the corrective measures.

Wetland Mitigation Performance Standards

34) The following performance standards will be used to evaluate the mitigation wetland:

a) Construction has been completed in accordance with the MDEQ's approved plans and specifications included in the permit and mitigation plan.

b) The mitigation wetland is characterized by the presence of water at a frequency and duration sufficient to support a predominance of wetland vegetation and the wetland types specified at the end of the monitoring period.

c) A layer of high-quality topsoil, from the A horizon of an organic or loamy surface texture soil, is placed (or exists) over the entire wetland mitigation area at a minimum thickness of six (6) inches.

d) The mitigation wetland shall be free of oil, grease, debris, and all other contaminants.

e) A minimum of six (6) habitat structures, consisting of at least three (3) types, have been placed per acre of mitigation wetland. At least 50 percent of each structure shall extend above the normal water level. This standard shall apply to all areas of the mitigation wetland with a grade of 570 feet or higher. The types of acceptable wildlife habitat structures are:

i. Tree stumps laid horizontally within the wetland area. Acceptable stumps shall be a minimum of 6 feet long (log and root ball combined) and 12 inches in diameter.
ii. Logs laid horizontally within the wetland area. Acceptable logs shall be a minimum of 10 feet long and 6 inches in diameter.
iii. Whole trees laid horizontally within the wetland area. Acceptable whole trees shall have all of their fine structure left intact (i.e., not trimmed down to major branches for installation), be a minimum of 20 feet long (tree and root ball), and a minimum of 12 inches in diameter at breast height (DBH).
iv. Snags which include whole trees left standing that are dead or dying, or live trees that will be flooded and die, or whole trees installed upright into the wetland. A variety of tree species should be used for the creation of snag habitat. Acceptable snags shall be a minimum of 20 feet tall (above the ground surface) and a minimum of 12 inches DBH. Snags should be grouped together to provide mutual functional support as nesting, feeding, and perching sites.
v. Sand mounds at least 18 inches in depth and placed so that they are surrounded by a minimum of 30 feet of water measuring at least 18 inches in depth. The sand mound shall have at least a 200 square foot area that is 18 inches above the projected high water level and oriented to receive maximum sunlight.

f) At the end of the monitoring period the mean percent cover of native wetland species west of the berm and of wetland species east of the berm in the herbaceous layer is not less than:

60 percent for emergent wetland.
80 percent for scrub-shrub wetland.
80 percent for wet meadow wetland.
80 percent for forested wetland.

The total percent cover of wetland species in each plot shall be averaged for plots taken in the same wetland type to obtain a mean percent cover value for each wetland type. Plots within identified extensive open water and submergent areas, bare soil areas, and areas without a predominance of wetland vegetation shall not be included in this average. Wetland species refers to species listed as facultative and wetter (FAC, FACW, OBL) on the US Army Corps of Engineers, *The National Wetland Plant List*: 2016 wetland ratings for the northcentral and northeast region.

Extensive open water and submergent vegetation areas having no emergent and/or floating vegetation shall not exceed 20 percent of the mitigation wetland area west of the berm and 40 percent east of the berm.

Extensive areas of bare soil shall not exceed five percent of the mitigation wetland area. For the purposes of these performance standards, extensive refers to areas greater than 0.01 acre (436 square feet) in size.

g. The mitigation wetland supports a predominance of wetland vegetation (as defined in the "MDEQ Wetland Identification Manual") in each vegetative layer, represented by a minimum number of native wetland species, at the end of the monitoring period. The minimum number of native wetland species per wetland type shall not be less than:

15 species within the emergent wetland.
15 species within the scrub-shrub wetland.
20 species within the wet meadow wetland.
15 species within the forested wetland.

The total number of native wetland plant species shall be determined by a sum of all species identified in sample plots of the same wetland type.

h. At the end of the monitoring period, the mitigation wetland supports a minimum of:

i. Three hundred (300) individual surviving, established, and free-to-grow trees per acre in the forested wetland that are classified as native wetland species and consisting of at least three different plant species.
ii. Three hundred (300) individual surviving, established, and free-to-grow shrubs per acre in the scrub-shrub wetland that are classified as native wetland species and consisting of at least four different plant species.
iii. Eight (8) native wetland species of grasses, sedges, or rushes in the wet meadow wetland.

i. The mean percent cover of invasive species including, but not limited to, *Phragmites australis* (Common Reed), *Lythrum salicaria* (Purple Loosestrife), and *Phalaris arundinacea* (Reed Canary Grass) shall in combination be limited to no more than ten (10) percent within each wetland type. Invasive species shall not dominate the vegetation in any extensive area of the mitigation wetland.

If the mean percent cover of invasive species is more than ten (10) percent within any wetland type or if there are extensive areas of the mitigation wetland in which an invasive species is one of the dominant plant species, the permittee shall submit an evaluation of the problem to the MDEQ. If the permittee determines that it is infeasible to reduce the cover of invasive species to meet the above performance standard, the permittee must submit an assessment of the problem, a control plan, and the projected percent cover that can be achieved for review by the MDEQ. Based on this information, the MDEQ may approve an alternative invasive species standard. Any alternative invasive species standard must be approved in writing by the MDEQ.

35) If the mitigation wetland does not satisfactorily meet the approved performance standards by the end of the monitoring period, or is not satisfactorily progressing during the monitoring period, the permittee will be required to take steps described in Paragraph 33 j to develop corrective measures.

This mitigation project was designed in large part to replace functions and values of Great Lakes marsh, a rare and imperiled wetland type characterized by fluctuating water levels that may dramatically alter vegetation zones and their placement on the landscape. Per the Michigan Natural Features Inventory, Natural Communities of Michigan: Classification and Description, "Seiches, storms, and water level cycles strikingly change vegetation over short periods by destroying some

vegetation zones, creating others, and forcing all zones to shift lakeward or landward to accommodate water levels." The DEQ shall consider the variable nature of this wetland type when requiring corrective actions and determining compliance with performance standards.

Wetland Mitigation Monitoring

36) The permittee shall monitor the wetland mitigation for a minimum of ten (10) years following grading, planting, and introduction of hydrology for all wetland types. A monitoring report, which compiles and summarizes all data collected during the monitoring period, shall be submitted annually by the permittee. Monitoring reports shall cover the period of January 1 through December 31 and be submitted to the MDEQ prior to January 31 of the following year. The permittee shall submit with the ninth year monitoring report a Long Term Management Plan as described in Paragraph 33e. The permittee shall conduct the following activities and provide the information collected in the monitoring reports:

a. Measure inundation and saturation at all staff gauges, monitoring wells, and other stationary points shown in the mitigation plan monthly during the growing season. Hydrology data shall be measured and provided at sufficient sample points to accurately depict the water regime of each wetland type.

b. Sample herbaceous vegetation in plots located along transects shown in the mitigation plan once between July 15 and August 31. Woody vegetation sampling may be conducted prior to July 15 to allow identification of woody species that may be obscured by herbaceous plant growth later in the season. The number of sample plots necessary within each wetland type shall be determined by use of a species-area curve or other approach approved by the MDEQ. The minimum number of sample plots for each wetland type shall be no fewer than five (5). Sample plots shall be located on the sample transect at evenly spaced intervals or by another approach acceptable to the MDEQ. If additional or alternative sample transects are needed to sufficiently evaluate each wetland type, they must be approved in advance in writing by the MDEQ.

   The herbaceous layer (all non-woody plants and woody plants less than 3.2 feet in height) shall be sampled using a 3.28 foot by 3.28 foot (one square meter) sample plot. The shrub and tree layer shall be sampled using a 30-foot radius sample plot. The data recorded for each herbaceous layer sample plot shall include a list of all living plant species, and an estimate of percent cover in five (5) percent intervals for each species recorded, bare soil areas, and open water relative to the total area of the plot. The number and species of surviving, established, and free-to-grow trees and surviving, established, and free-to-grow shrubs shall be recorded for each 30-foot radius plot.

   Provide plot data and a list of all the plant species identified in the plots and otherwise observed during monitoring. Data for each plant species must include common name, scientific name, wetland indicator category from the US Army Corps of Engineers, *The National Wetland Plant List*: 2016 wetland ratings for the northcentral and northeast region, and whether the species is considered native according to the Michigan Floristic Quality Assessment (Michigan Department of Natural Resources, 2001). Nomenclature shall follow Voss (1972, 1985, and 1996) or Gleason and Cronquist (1991).

   The location of sample transects and plots shall be identified in the monitoring report on a plan view showing the location of wetland types. Each transect shall be permanently staked at a frequency sufficient to locate the transect in the field.

c. Delineate any extensive (greater than 0.01 acre in size) open water areas, bare soil areas, areas dominated by invasive species, and areas without a predominance of wetland vegetation, and provide their location on a plan view.

d. Document any sightings or evidence of wading birds, songbirds, waterfowl, amphibians, reptiles, and other animal use (lodges, nests, tracks, scat, etc.) within the wetland noted during monitoring. Note the number, type, date, and hour of the sightings and evidence.
e. Inspect the site, during all monitoring visits and inspections, for oil, grease, man-made debris, and all other contaminants and report findings. Rate (e.g., poor, fair, good, excellent) and describe the water clarity in the mitigation wetland.

f. Provide annual photographic documentation of the development of the mitigation wetland during vegetation sampling from permanent photo stations located within the mitigation wetland. At a minimum, photo stations shall be located at both ends of each transect. Photos must be labeled with the location, date photographed, and direction.

g. Provide one-time photographic documentation during construction of the placement of at least six (6) inches of high quality soil, from the A horizon of an organic or loamy surface texture soil, across the site.

h. Provide a description of the type of habitat rehabilitation mechanism or structure and representative photographs of each.

i. Provide a written summary of data from previous monitoring periods and a discussion of changes or trends based on all monitoring results. This summary shall include a calculation of the acres of each wetland type established, a plan view drawing depicting each ecological type, and identification of all performance standards and whether each standard has been met.

j. Provide a written summary of all the problem areas that have been identified and potential corrective measures to address them.

37) A qualified individual able to identify plants to genus and species must conduct the wetland monitoring. The MDEQ reserves the right to reject reports with substandard monitoring data.

38) The MDEQ will determine if the performance standards have been met. If the performance standards have not been met, the permittee shall take corrective measures, and the MDEQ may require subsequent annual monitoring until final approval from the MDEQ can be granted.

39) Prior to final written approval of the mitigation by the MDEQ, the permittee shall complete all monitoring requirements including the submittal of all required monitoring reports and submit the following:

a. A written statement that the mitigation is complete and request for final approval of the mitigation.

b. A copy of the permit.

c. "As-built" plans and specifications signed and sealed by a registered surveyor or licensed engineer.

d. A surveyed boundary of the established wetland within the mitigation area, including the total acreage of the mitigation wetland and the acreage of each type of wetland created.

e. An adequate stewardship agreement with a land conservancy or other long-term management organization and the MDEQ, which is in compliance with the MDEQ approved long-term management plan, shall be established and recorded for the mitigation site. The Stewardship Agreement shall include the following:

i. Establish the agency responsible for stewardship obligations.
ii. Establish monitoring time periods, report criteria and reporting schedule.
iii. Long-term vegetation and invasive species management goals and actions.
iv. Long-term signage and fencing management plans.

v. Identify the financing mechanism secured to fund Steward to ensure long-term protection and management of the site, in accordance with the goals of the Conservation Easement.

General Conditions

40) The authority to conduct the activity as authorized by this permit is granted solely under the provisions of the governing act as identified above. This permit does not convey, provide, or otherwise imply approval of any other governing act, ordinance, or regulation, nor does it waive the permittee's obligation to acquire any local, county, state or federal approval or authorization, necessary to conduct the activity.

41) This permit is being issued for the maximum time allowed under Part 303, Wetlands Protection, and Part 325, Great Lakes Submerged Lands, of the Natural Resources and Environmental Protection Act, PA 451 of 1994, as amended, including all permit extensions allowed under the administrative rules R 281.923 and R322.1011(f) as determined by the MDEQ. Therefore, no extensions of this permit will be granted. Initiation of the construction work authorized by this permit indicates the permittee's acceptance of this condition. The permit, when signed by the MDEQ, will be for a five-year period beginning at the date of issuance.

This permit shall become effective on the date of the MDEQ representative's signature. Upon signing by the permittee named herein, this permit must be returned to the MDEQ's Water Resources Division, Jackson District Office, 301 East Louis Glick Highway, Jackson, Michigan 49201 for final execution.

Permittee hereby accepts and agrees to comply with the terms and conditions of this permit.

X Michael K Brandon 2/3/17
Permittee Date

X Michael K Brandon DTE Fermi 3 Licensing Manager
Printed Name and Title of Permittee

By: Katherine David
Katherine David
Water Resources Division
Jackson District Office
517-780-7021

cc: Frenchtown Township Clerk (via e-mail)
Monroe Charter Township Clerk (via e-mail)
Monroe County Drain Commissioner (via e-mail)
Monroe County SESC Officer (via e-mail)
Ms. Colette Luff, USACE (via e-mail)
Ms. Melanie Burdick, USEPA (via e-mail)
Ms. Lisa Kaulfersch, USFWS (via e-mail)
Mr. Bruce Olson, USNRC (via e-mail)
Mr. Chris Hoving, MDNR (via e-mail)
Ms. Colleen O'Keefe, MDEQ (via e-mail)

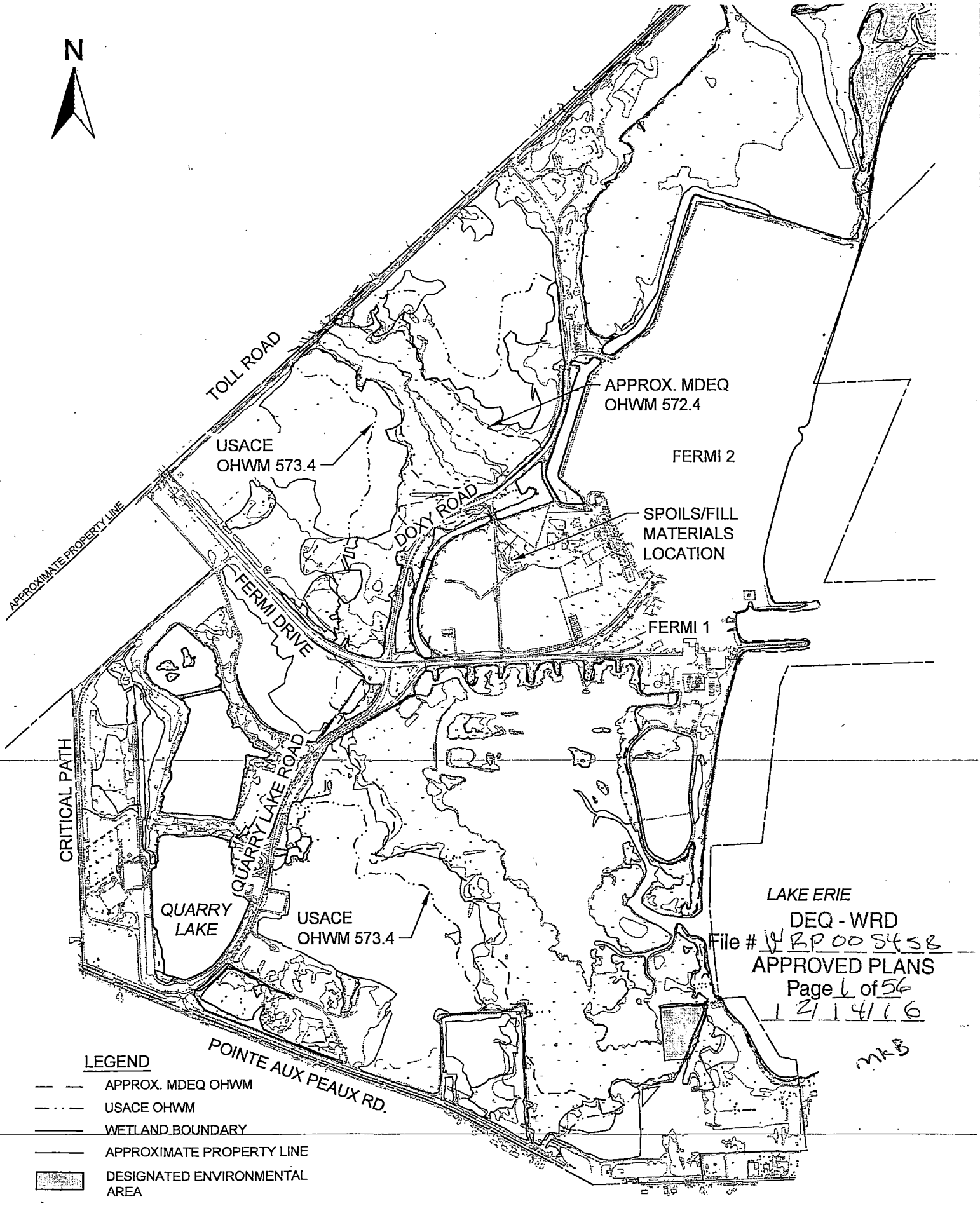

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FIGURE 2-1 EXISTING SITE CONDITIONS

SCALE: 1"=1000'

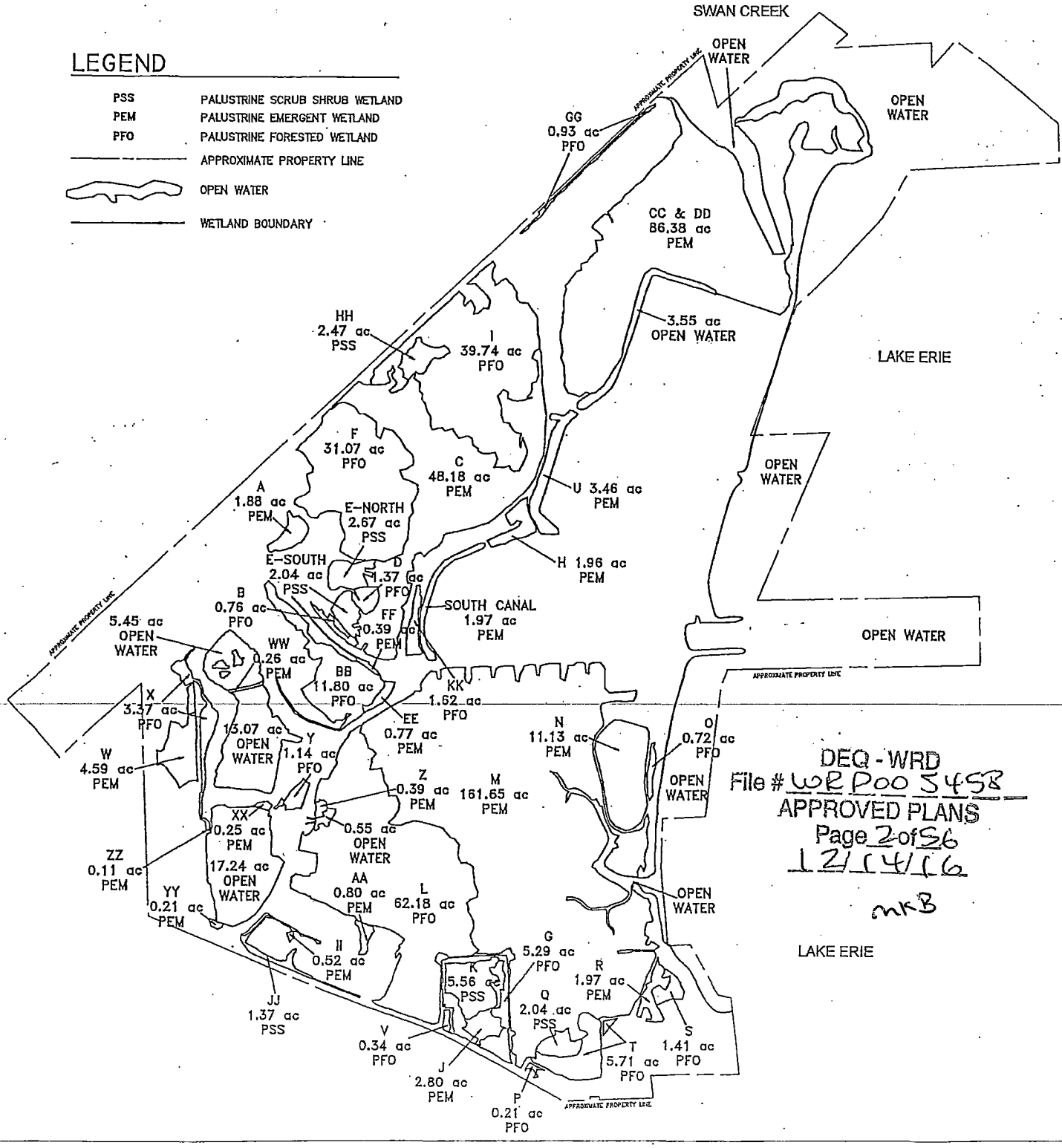

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FIGURE 2-2 WETLAND DELINEATION MAP

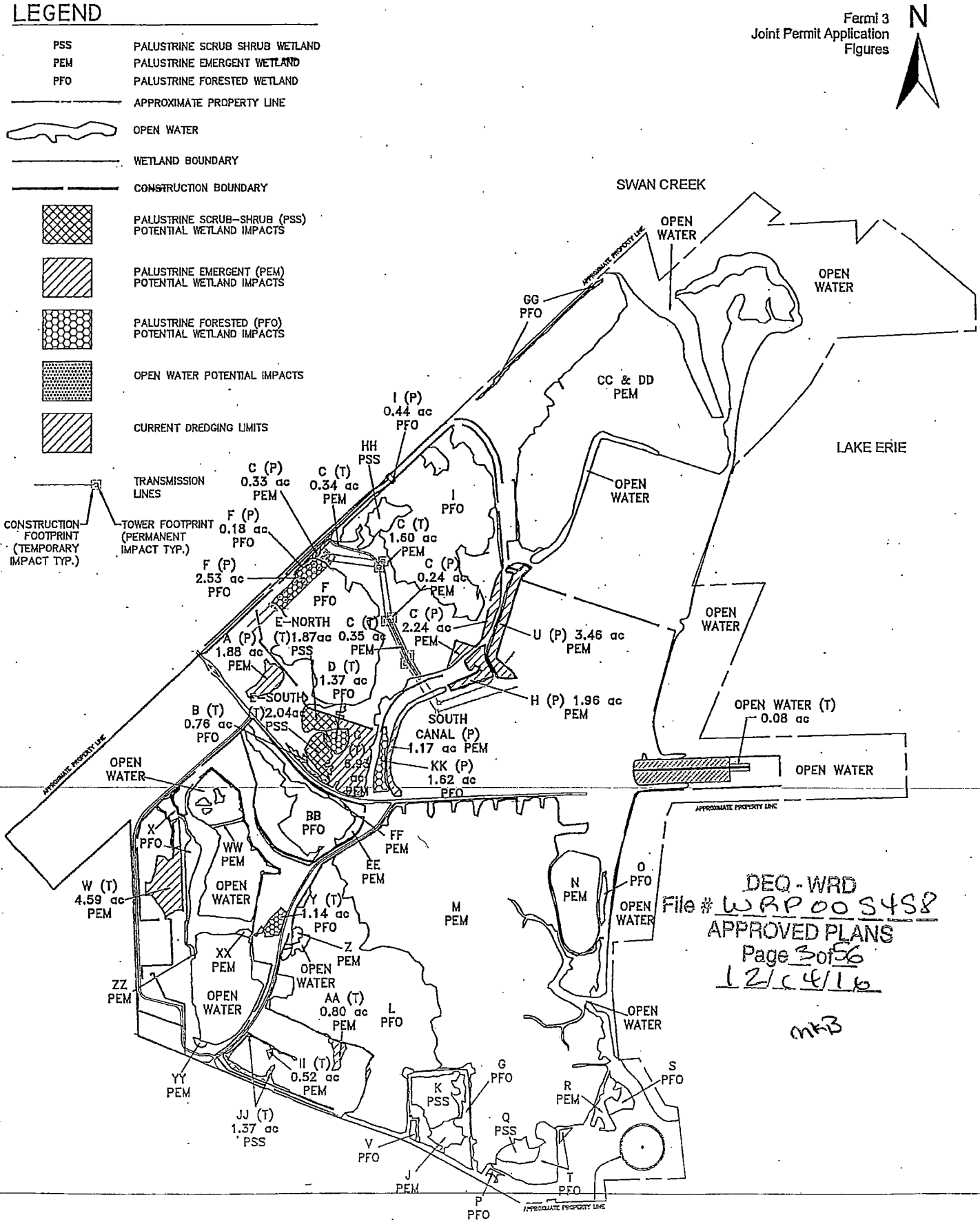

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FIGURE 2-3 WETLAND IMPACT MAP

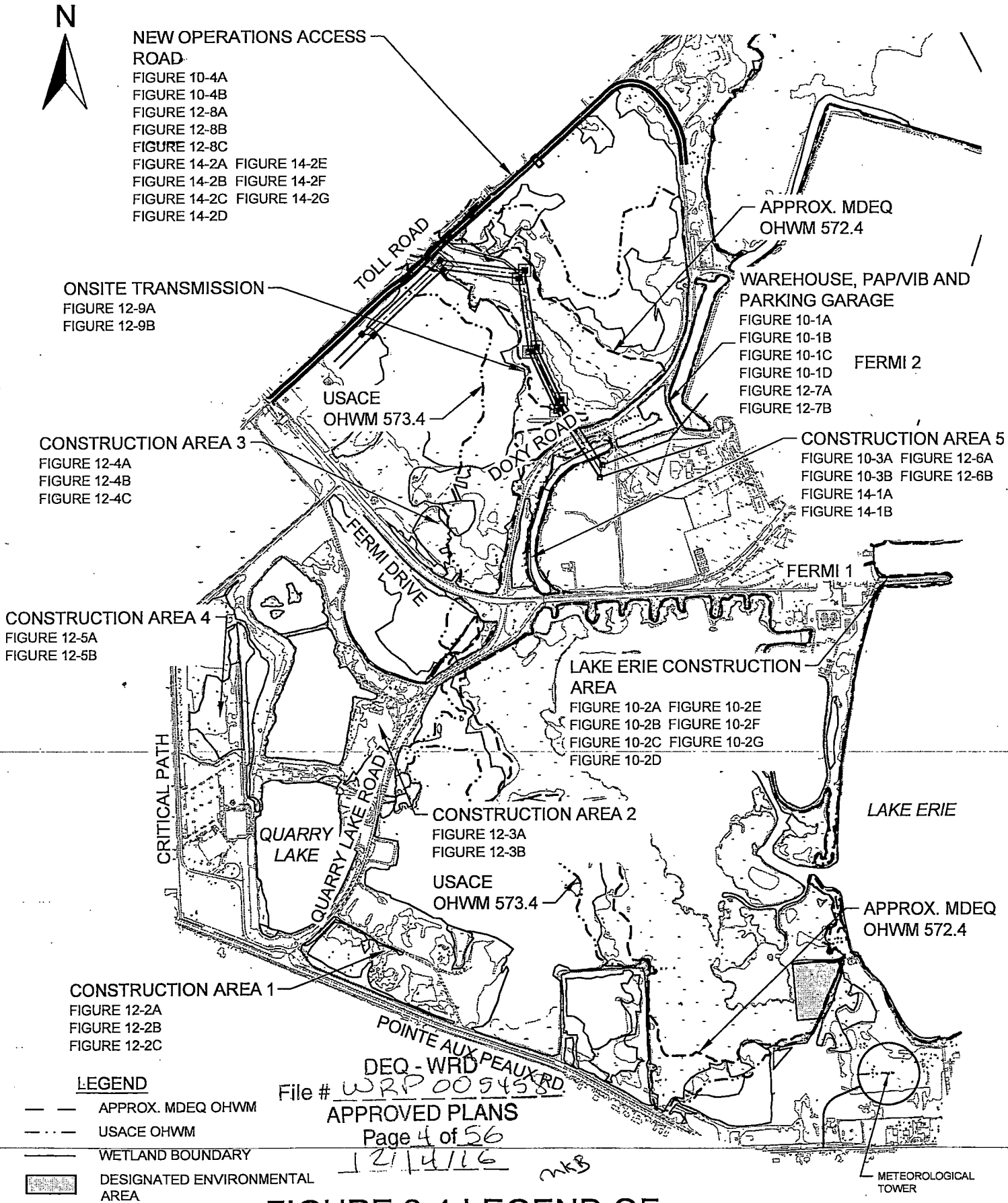

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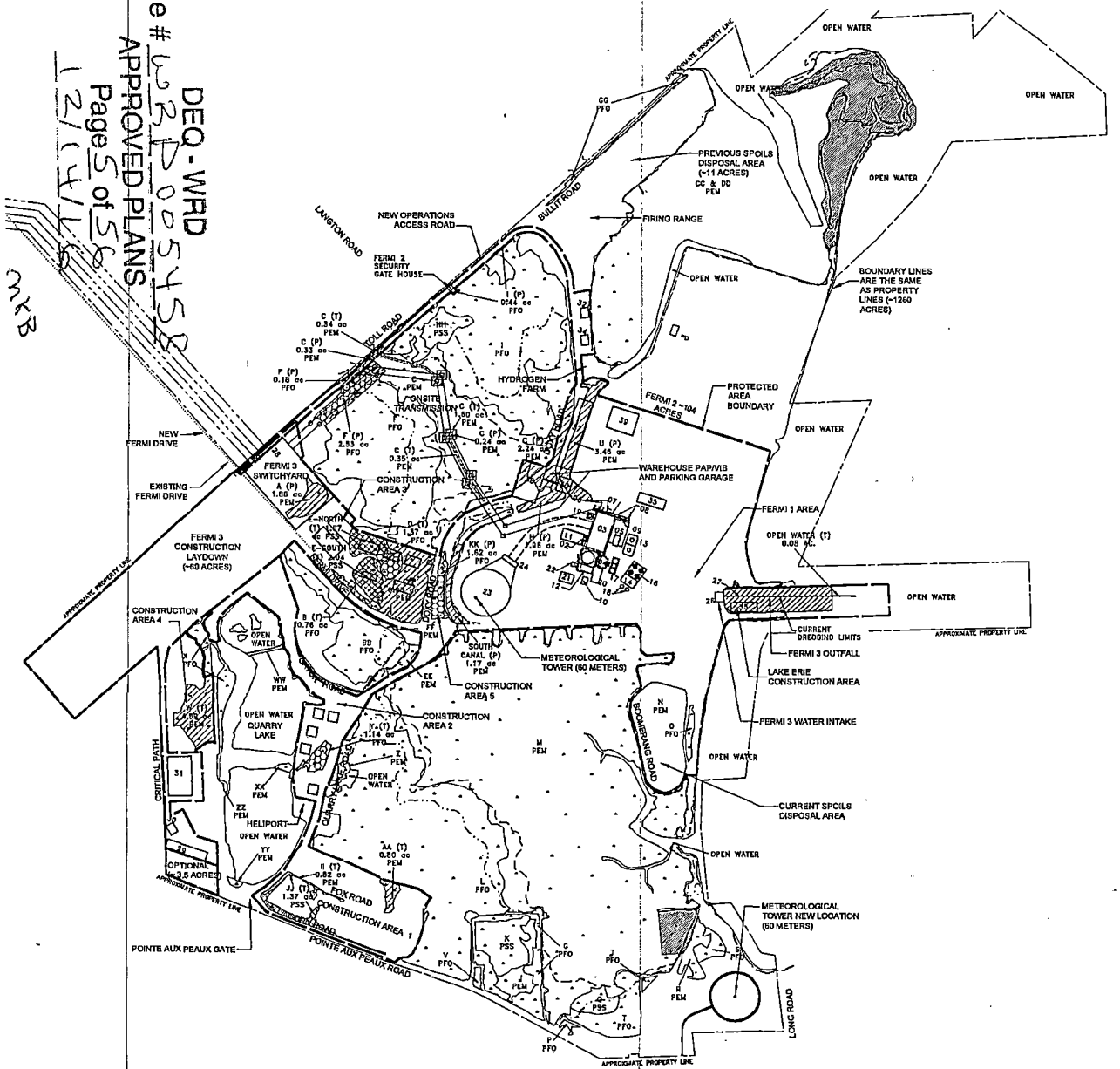
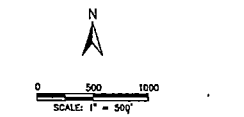
FIGURE 2-4 LEGEND OF CONSTRUCTION AREA LOCATIONS

SCALE: 1"=1000'





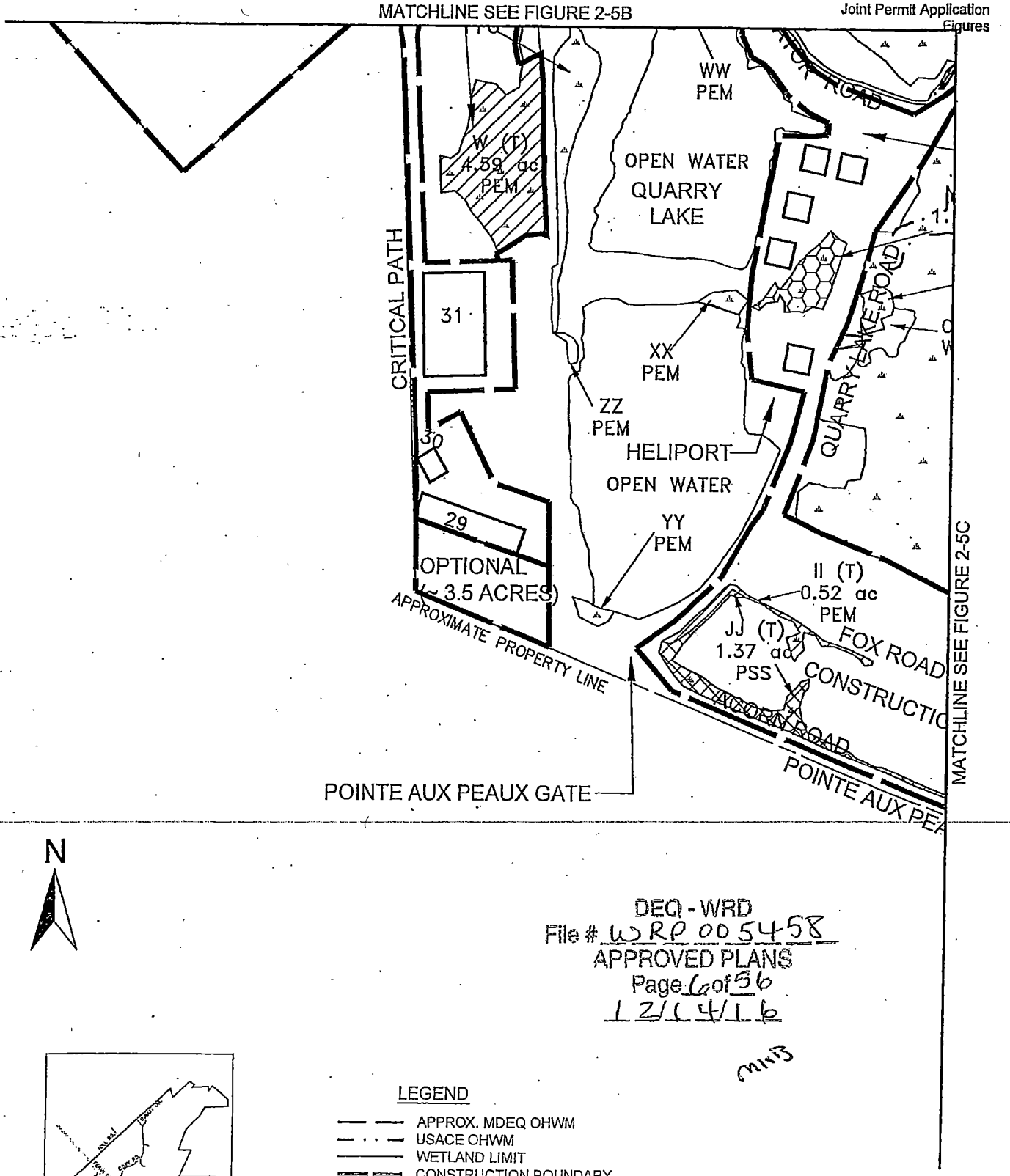
LEGEND

- PSS — PALUSTRINE SCRUB SHRUB WETLAND
- PEM — PALUSTRINE EMERGENT WETLAND
- PFO — PALUSTRINE FORESTED WETLAND
- APPROXIMATE PROPERTY LINE
- OPEN WATER
- WETLAND BOUNDARY
- HORIZONTAL & VERTICAL CONTROL
- CONSTRUCTION BOUNDARY
- USACE OHWM
- APPROX. MDEQ OHWM
- PALUSTRINE SCRUB-SHRUB (PSS) POTENTIAL WETLAND IMPACTS
- PALUSTRINE EMERGENT (PEM) POTENTIAL WETLAND IMPACTS
- PALUSTRINE FORESTED (PFO) POTENTIAL WETLAND IMPACTS
- OPEN WATER POTENTIAL IMPACTS
- DESIGNATED ENVIRONMENTAL AREA

	FACILITY LEGEND
01	REACTOR BUILDING
02	AUXILIARY BOILER
03	TURBINE BUILDING
04	CONTROL ROOM
05	ELECTRICAL SUBSTATION SUPPORT CENTER
06	MAIN TRANSFORMERS
07	UNIT AUXILIARY TRANSFORMER
08	RESERVE AUXILIARY TRANSFORMER
09	SPARE TRANSFORMER
10	ADB
11	RADWASTE BUILDING
12	FUEL BUILDING
13	DIESEL FUEL OIL STORAGE TANK
14	WATER TREATMENT/SERVICE WATER BLDG
15	SERVICE WATER COOLING TOWER
17	FIRE WATER TANK AND PUMPS
18	WATER STORAGE TANKS
19	DEMINERALIZE STORAGE TANK
20	SERVICE BUILDING/OPERATION SUPPORT CENTER
21	HOT MACHINE SHOP AND STORAGE
22	WASH DOWN BAYS
23	MAIN COOLING TOWER
24	PUMPHOUSE
26	STATION WATER INTAKE
27	CIRC WATER OUTFALL
28	FERMI 3 SWITCHYARD
29	FERMI 2/FERMI 3 ADMIN BUILDING
30	FERMI 3 BARRATOR
31	PARKING GARAGE
32	FERMI 2/FERMI 3 HAZARDOUS WASTE WAREHOUSE
33	BARGE SLIP
34	RAD MATERIAL WAREHOUSE
36	FERMI 2/FERMI 3 MAINTENANCE SHOPS
37	FERMI 2/FERMI 3 COMMON WAREHOUSE
38	PARKING GARAGE AND FERMI 3 SHOPS
39	UFSI
40	PAPM

FIGURE 2-5 SITE PLAN

NO SCALE



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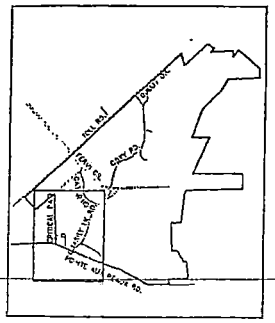
LEGEND

- APPROX. MDEQ OHWM
- USACE OHWM
- WETLAND LIMIT
- CONSTRUCTION BOUNDARY



LOCATION MAP

FIGURE 2-5A SITE PLAN

SCALE: 1"=500'

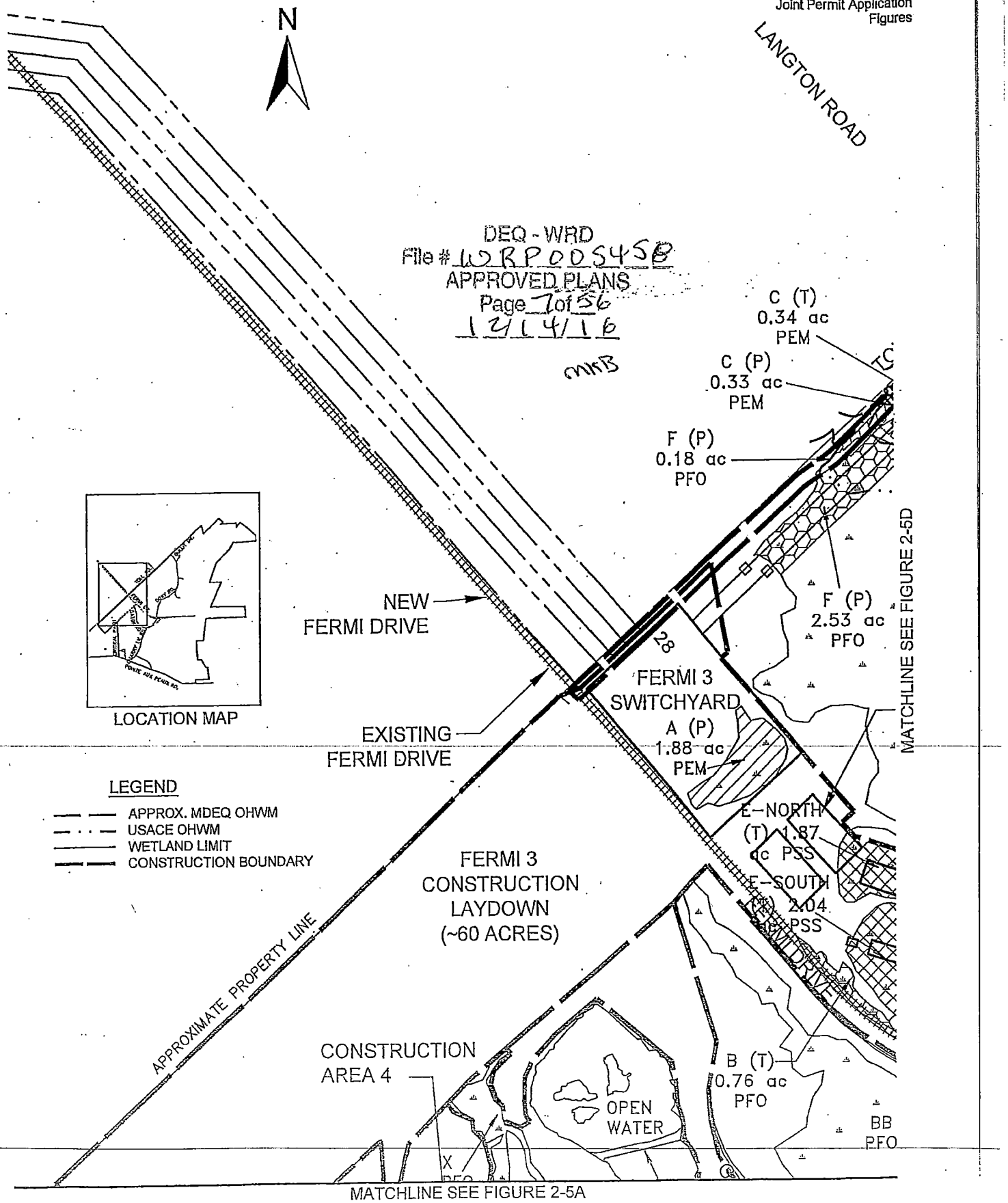


FIGURE 2-5B SITE PLAN

SCALE: 1"=500'

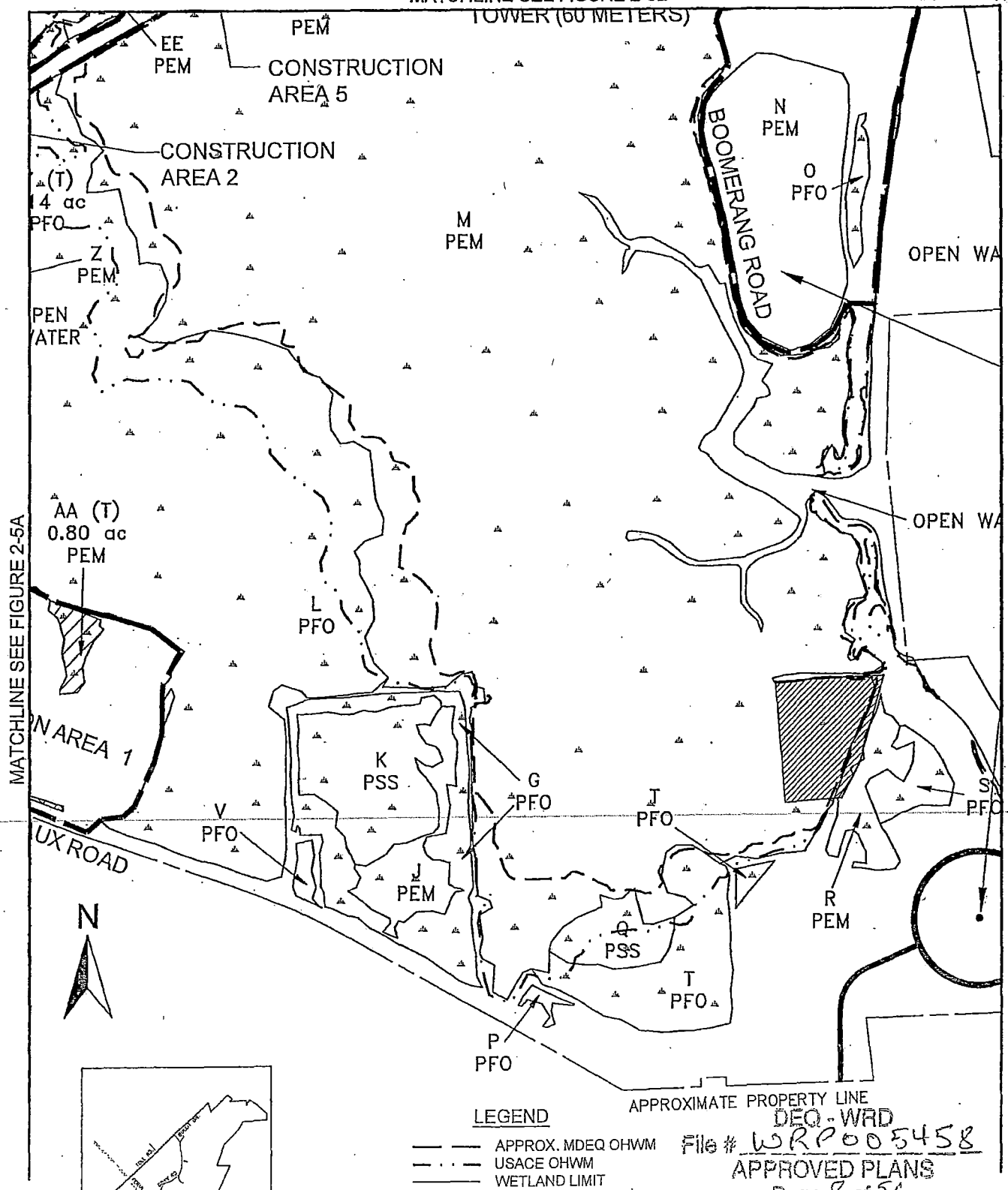


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FIGURE 2-5C SITE PLAN

SCALE: 1"=500'

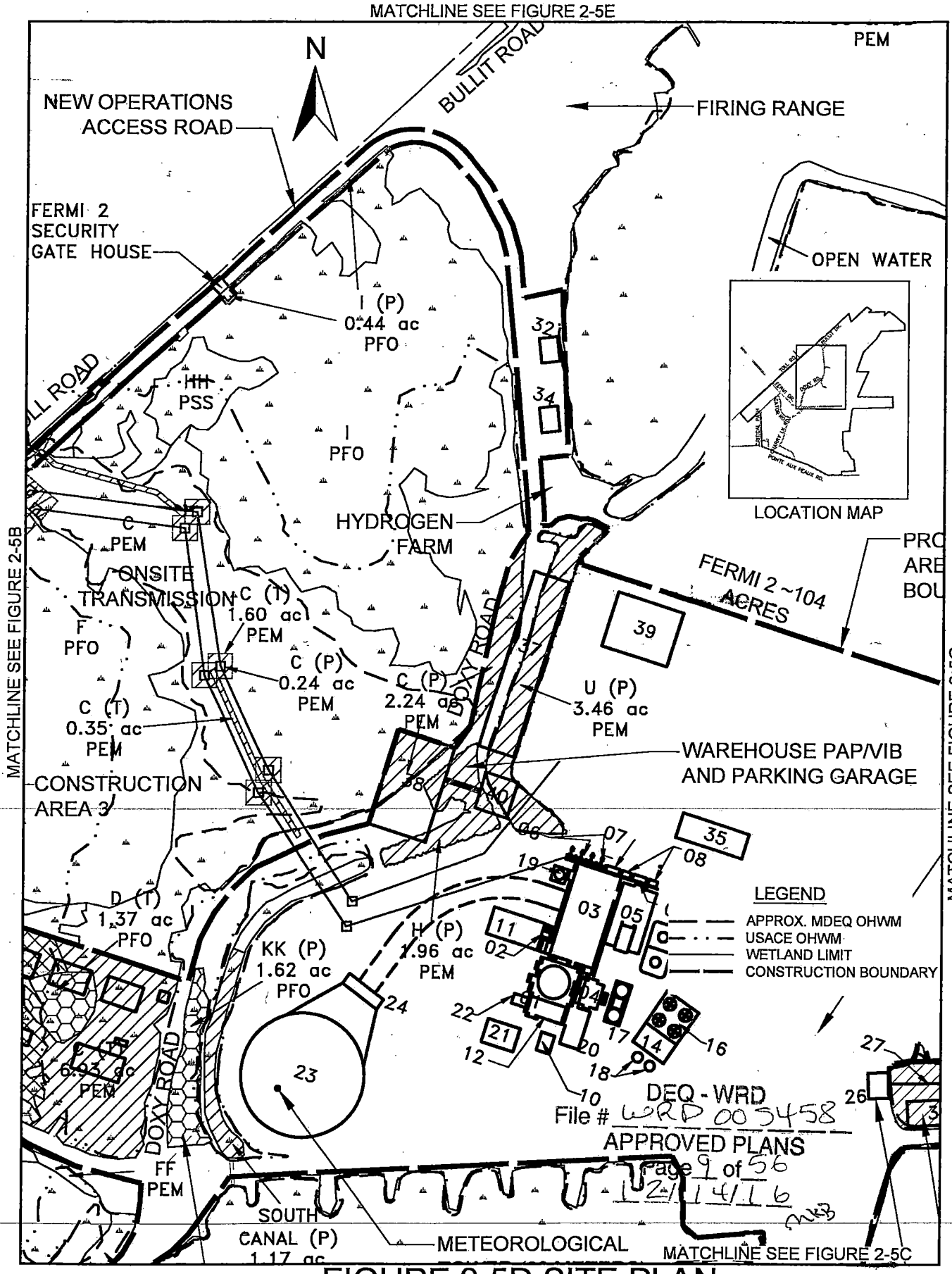
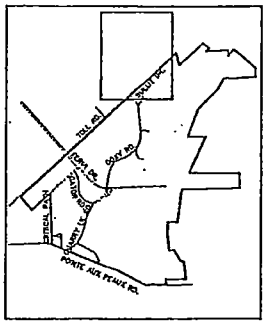


FIGURE 2-5D SITE PLAN

SCALE: 1"=500'

N



LOCATION MAP

LEGEND

- APPROX. MDEQ OHWM
- USACE OHWM
- WETLAND LIMIT
- CONSTRUCTION BOUNDARY

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MATCHLINE SEE FIGURE 2-5H

APPROXIMATE PROPERTY LINE

OP

GG
PFO

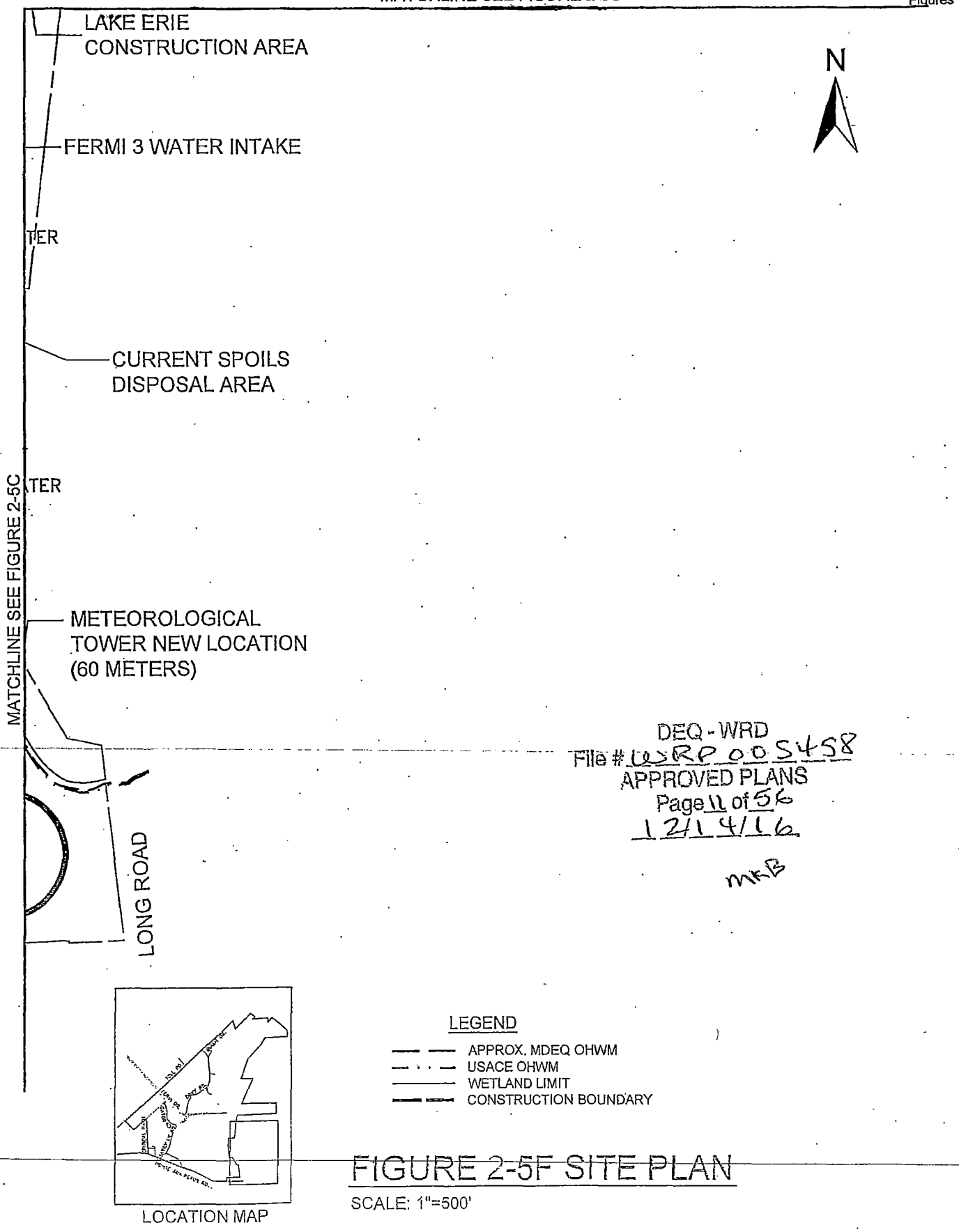
PREVIOUS
DISPOSAL
(~11 ACRES

CC & DD

MATCHLINE SEE FIGURE 2-5D

FIGURE 2-5E SITE PLAN

SCALE: 1"=500'



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LOCATION MAP

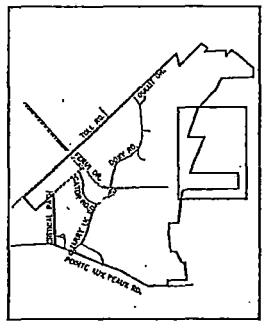
FIGURE 2-5F SITE PLAN

SCALE: 1"=500'

MATCHLINE SEE FIGURE 2-5H

N

BOUNDARY LINES ARE THE SAME AS PROPERTY LINES (~1260 ACRES)



LOCATION MAP

LEGEND

- APPROX. MDEQ OHWM
- USACE OHWM
- WETLAND LIMIT
- CONSTRUCTION BOUNDARY
- DESIGNATED ENVIRONMENTAL AREA

MATCHLINE SEE FIGURE 2-5D

TECTED
A
NDARY

OPEN WATER

FERMI 1 AREA

OPEN WATER (T)
0.08 AC.

OPEN WATER

CURRENT
DREDGING LIMITS

APPROXIMATE PROPERTY LINE

FERMI 3 OUTFALL

MATCHLINE SEE FIGURE 2-5F

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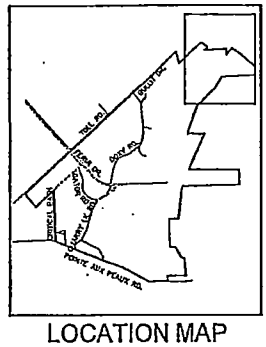
FIGURE 2-5G SITE PLAN

SCALE: 1"=500'



LOCATION MAP

LEGEND

- APPROX. MDEQ OHWM
- USACE OHWM
- WETLAND LIMIT
- CONSTRUCTION BOUNDARY
- DESIGNATED ENVIRONMENTAL AREA

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MATCHLINE SEE FIGURE 2-5E

OPEN WATER

EN WATER

OPEN WATER

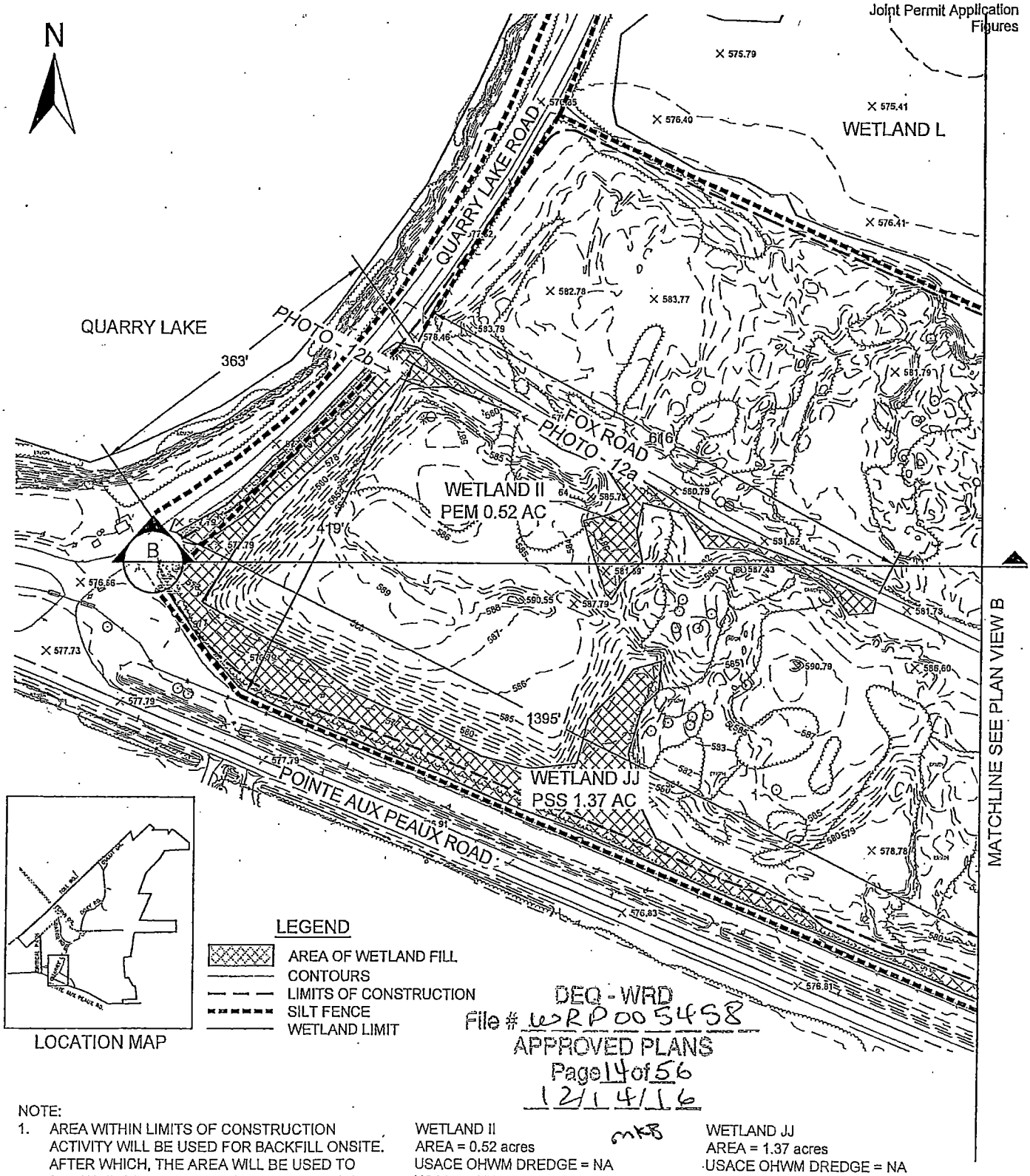
SPOILS
AREA
S)

OPEN WATER

MATCHLINE SEE FIGURE 2-5G

FIGURE 2-5H SITE PLAN

SCALE: 1"=500'



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NOTE:
1. AREA WITHIN LIMITS OF CONSTRUCTION ACTIVITY WILL BE USED FOR BACKFILL ONSITE. AFTER WHICH, THE AREA WILL BE USED TO STOCKPILE SPOILS FROM LOCATIONS ONSITE.
2. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.

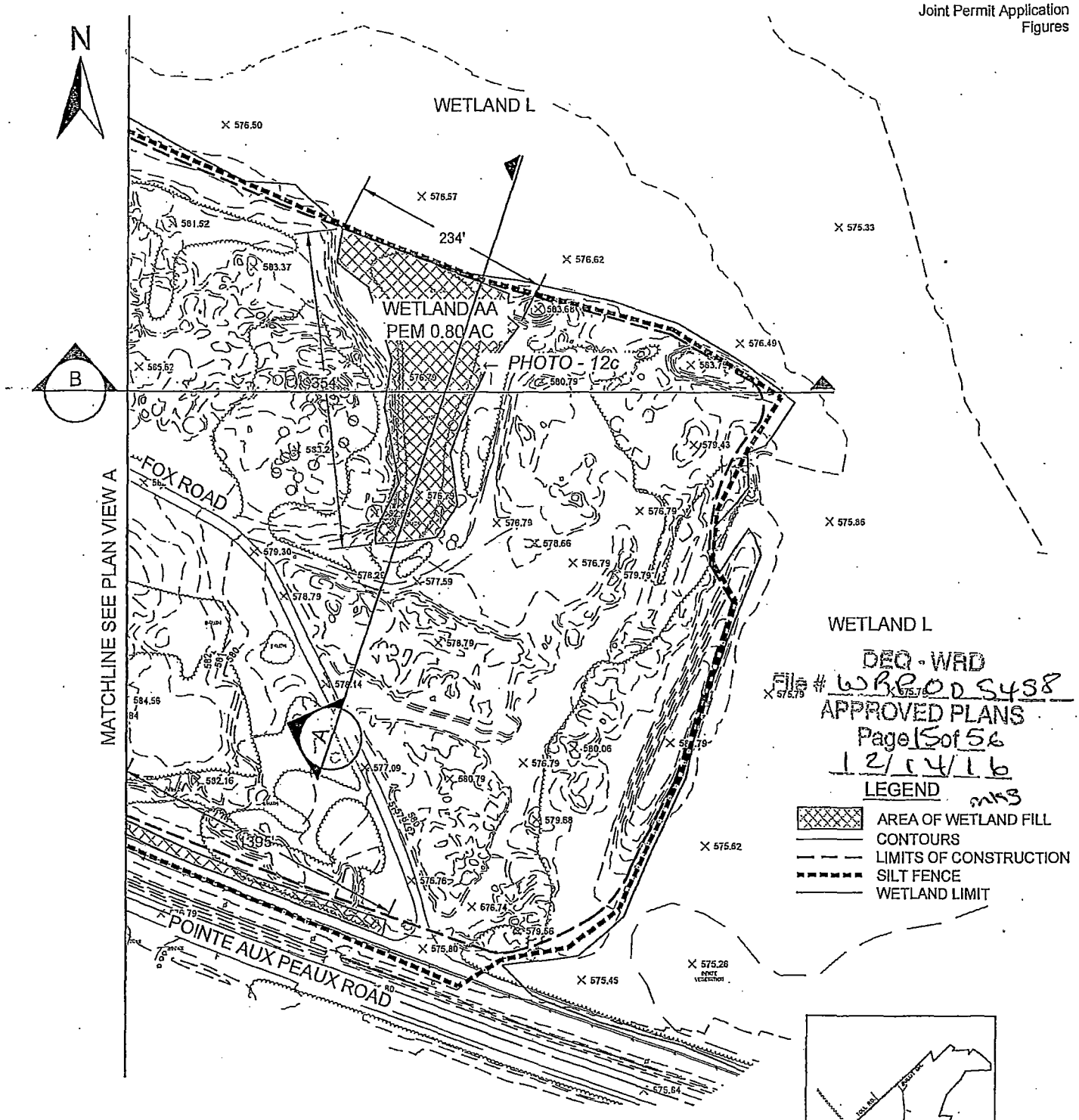
WETLAND II
AREA = 0.52 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = 1,675 CY
WETLAND EXCAVATION = 1,675 CY
WETLAND FILL = 1,746 CY

mkb

WETLAND JJ
AREA = 1.37 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = 4,437 CY
WETLAND EXCAVATION = 4,437 CY
WETLAND FILL = 5,784 CY

FIGURE 12-2A CONSTRUCTION AREA 1 PLAN VIEW A

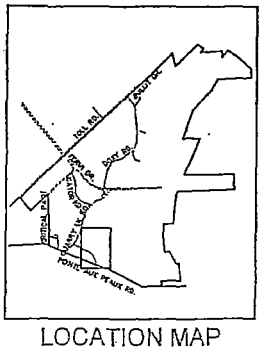
SCALE: 1"=150'



NOTE:

1. AREA WITHIN LIMITS OF CONSTRUCTION ACTIVITY WILL BE USED FOR BACKFILL ONSITE, AFTER WHICH, THE AREA WILL BE USED TO STOCKPILE SPOILS FROM LOCATIONS ONSITE.
2. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.

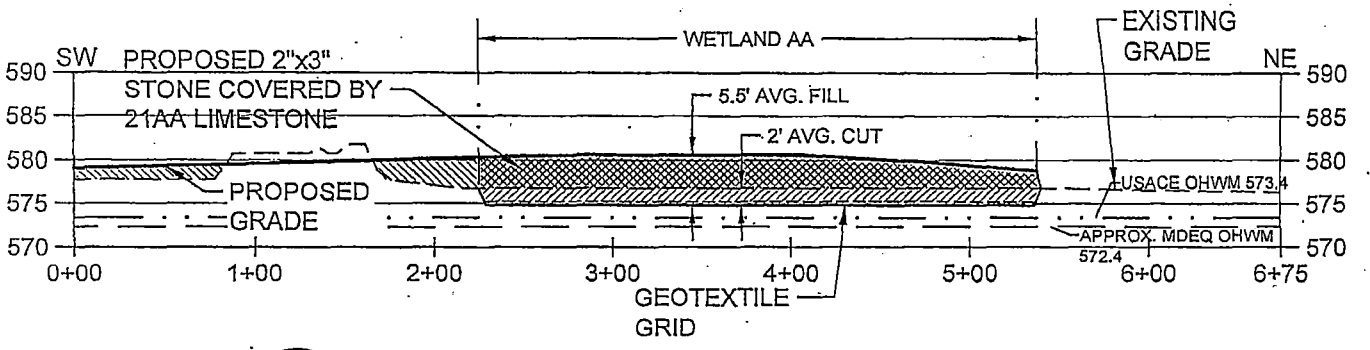
WETLAND AA
AREA = 0.80 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = 2,568 CY
WETLAND EXCAVATION = 2,568 CY
WETLAND FILL = 6,593 CY



LOCATION MAP

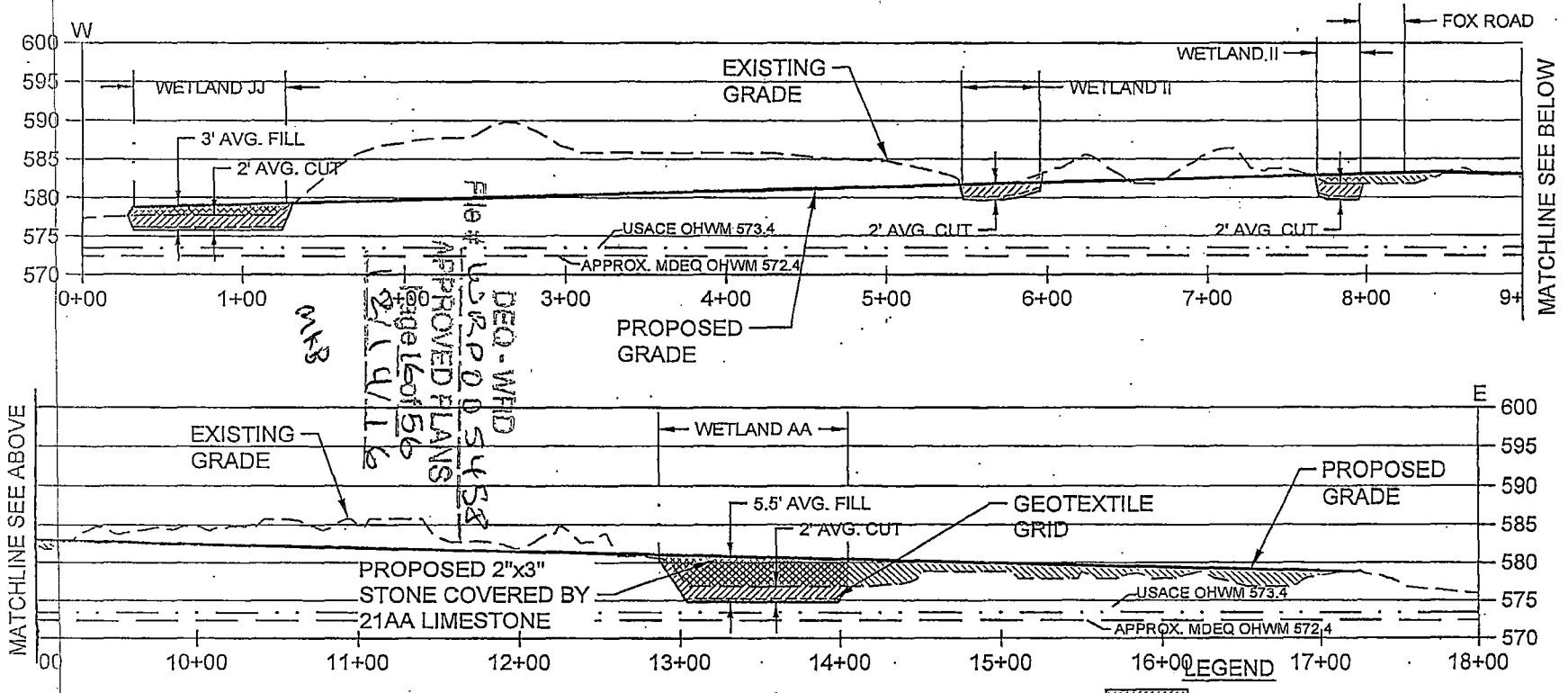
FIGURE 12-2B CONSTRUCTION AREA 1 PLAN VIEW B

SCALE: 1"=150'
Revision 1



A CONSTRUCTION AREA 1 SECTION

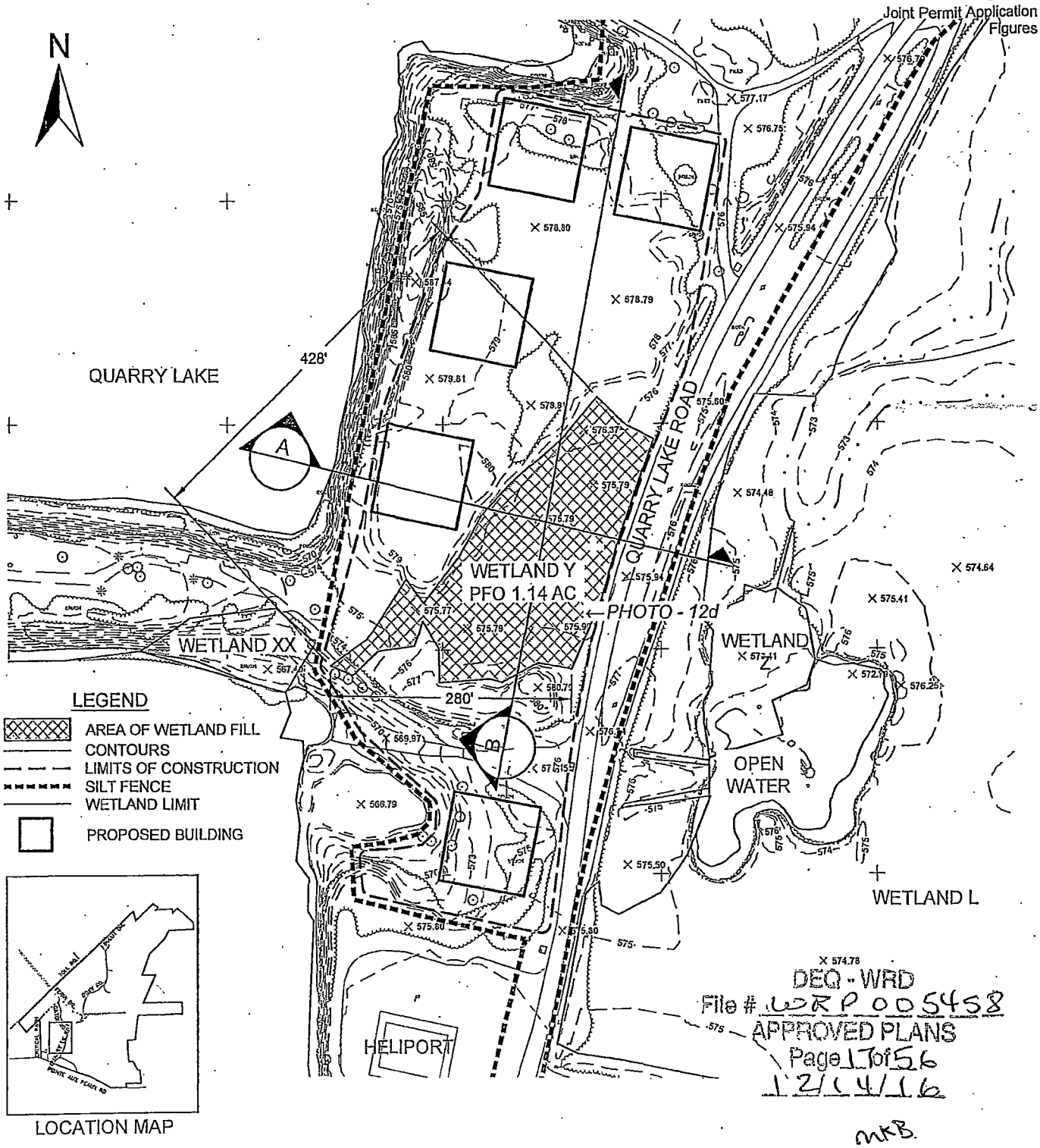
SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)



B CONSTRUCTION AREA 1 SECTION

SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)

FIGURE 12-2C CONSTRUCTION AREA 1 SECTION DETAILS



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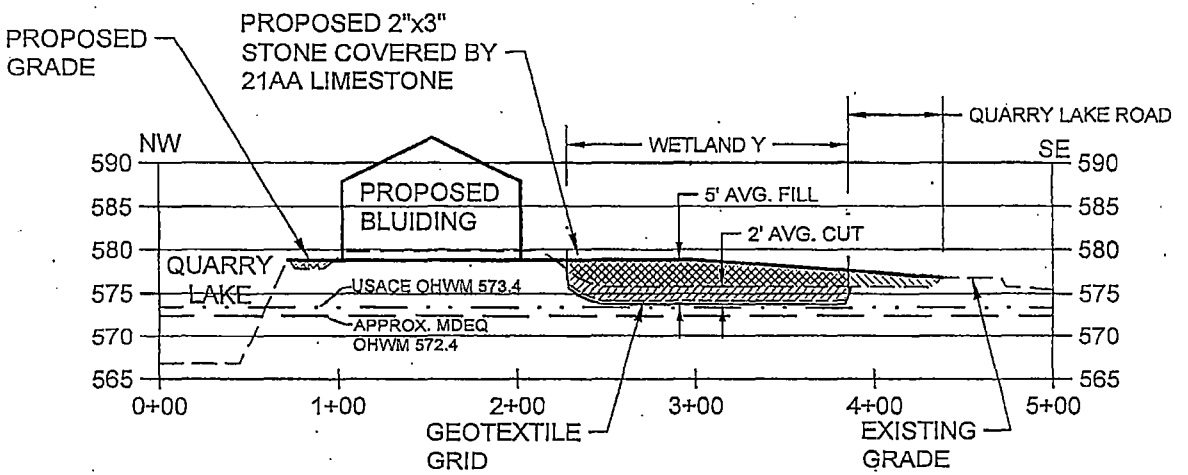
NOTE:
1. AREA WITHIN LIMITS OF CONSTRUCTION ACTIVITIES WILL BE USED FOR SUBCONTRACTOR BUILDINGS AND GRAVEL PARKING.
2. UTILITIES SHALL BE PLACED IN UPLAND AREAS.
3. SPOILS FROM EXCAVATION WILL BE PLACED IN CONSTRUCTION AREA 1.
4. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.

WETLAND Y
AREA = 1.14 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = 3,570 CY
WETLAND EXCAVATION = 3,570 CY
WETLAND FILL = 7,905 CY

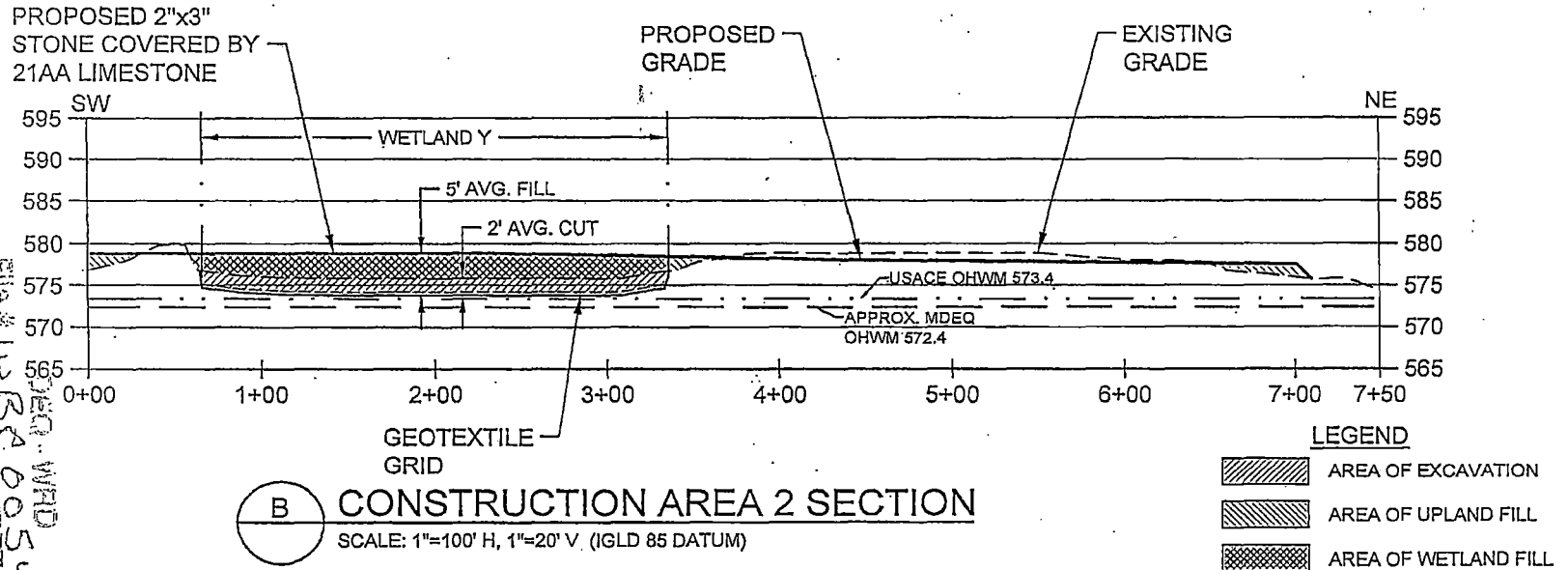
FIGURE 12-3A CONSTRUCTION AREA 2 PLAN VIEW

SCALE: 1"=150'



A CONSTRUCTION AREA 2 SECTION

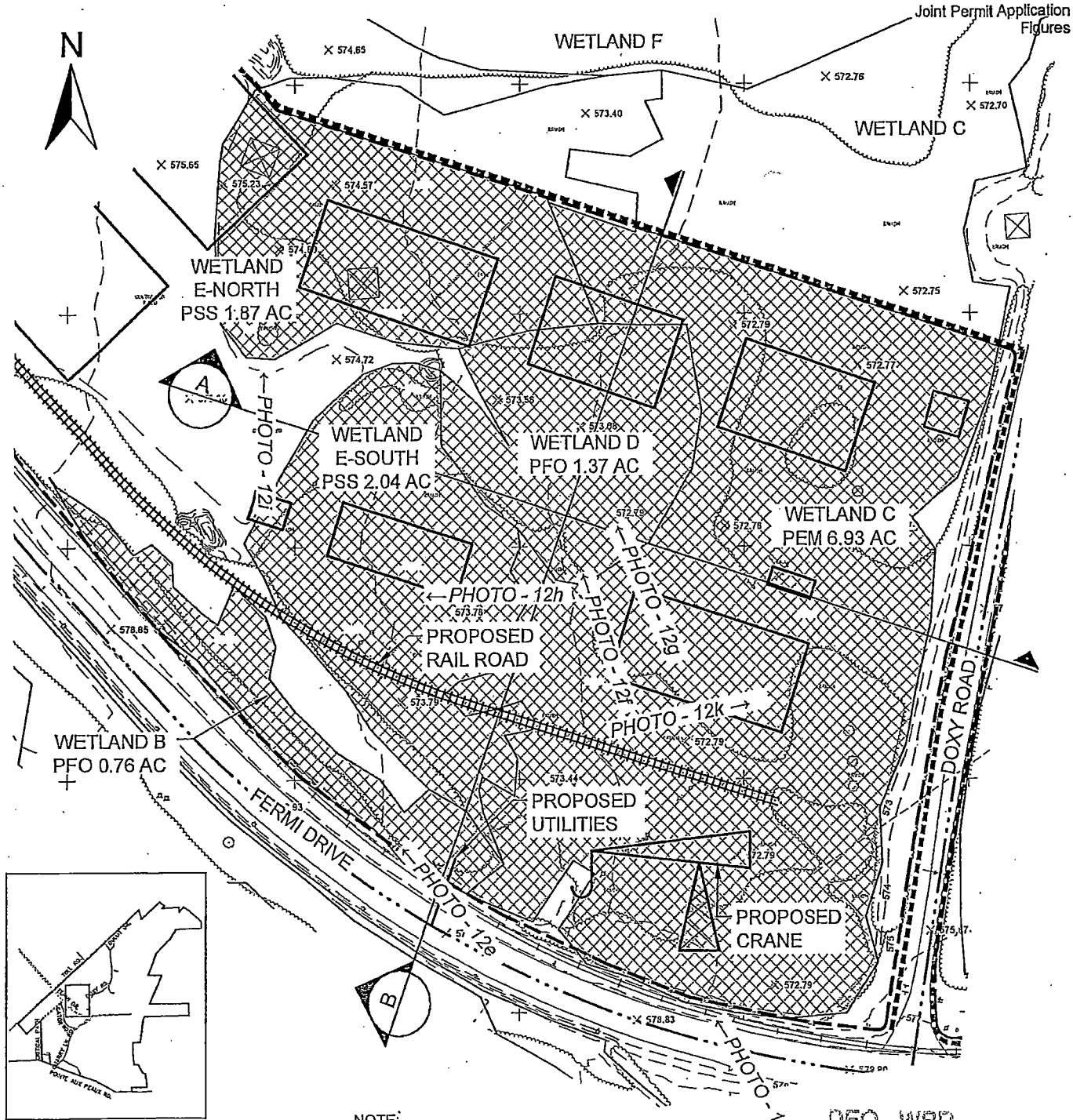
SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)



B CONSTRUCTION AREA 2 SECTION

SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)

FIGURE 12-3B CONSTRUCTION AREA 2 SECTION DETAILS



LOCATION MAP

LEGEND

- AREA OF WETLAND FILL
- CONTOURS
- LIMITS OF CONSTRUCTION
- SILT FENCE
- WETLAND LIMIT
- PROPOSED BUILDING

NOTE:

1. AREA WITHIN LIMITS OF CONSTRUCTION ACTIVITY WILL BE USED FOR SUBCONTRACTOR BUILDINGS AND GRAVEL PARKING.
2. SPOILS FROM EXCAVATION WILL BE PLACED IN CONSTRUCTION AREA 1.
3. UTILITIES SHALL BE PLACED WITHIN EXISTING IMPACT AREAS.
4. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.
5. BUILDINGS WILL HAVE 8" THICK CONCRETE SLAB BASE.

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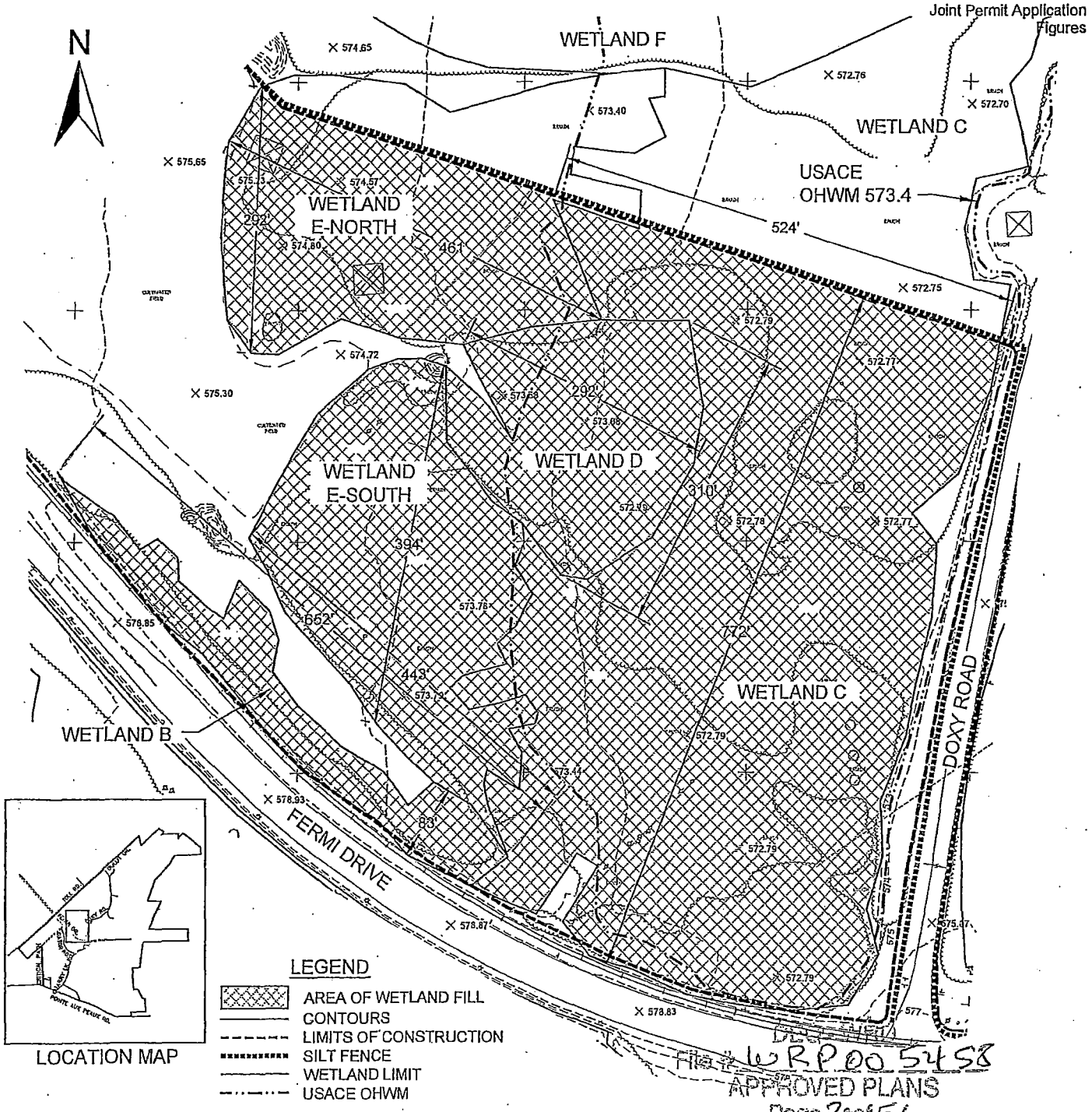
FIGURE 12-4A CONSTRUCTION AREA 3 PLAN VIEW A

SCALE: 1"=150'
Revision 1



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WETLAND B
AREA = 0.76 acres
USACE OHWM DREDGE = 4,276 CY
USACE OHWM EXCAVATION = 1,855 CY
WETLAND EXCAVATION = 6,131 CY
WETLAND FILL = 5,805 CY

WETLAND C
AREA = 6.93 acres
USACE OHWM DREDGE = 55,772 CY
USACE OHWM EXCAVATION = NA
WETLAND EXCAVATION = 55,772 CY
WETLAND FILL = 71,226 CY

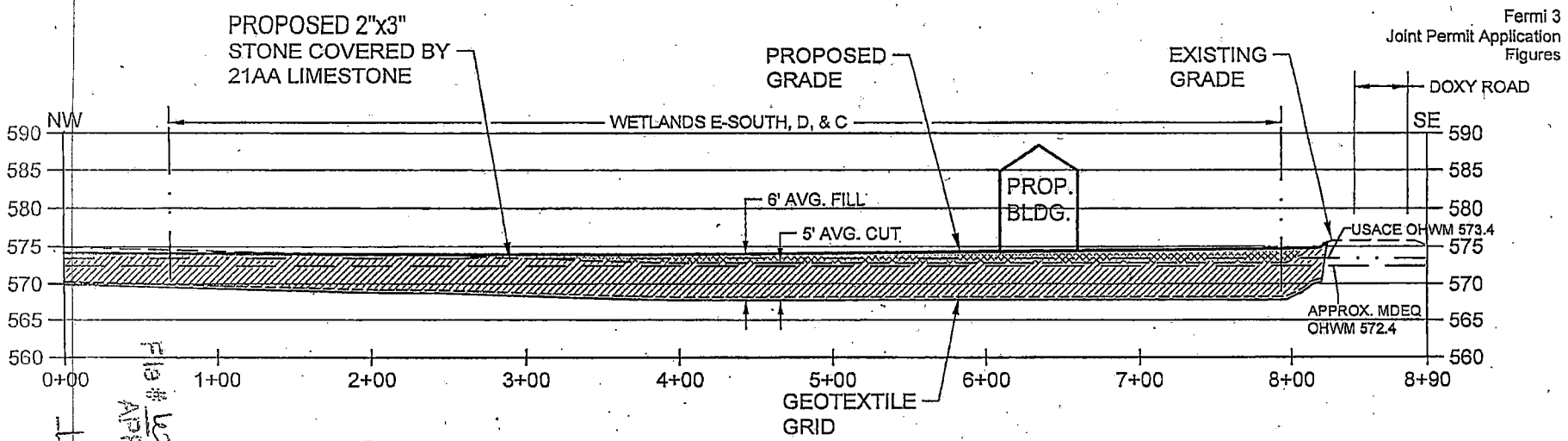
WETLAND D.
AREA = 1.37 acres
USACE OHWM DREDGE = 11,039 CY
USACE OHWM EXCAVATION = NA
WETLAND EXCAVATION = 11,039 CY
WETLAND FILL = 12,341 CY

WETLAND E-NORTH
AREA = 1.87 acres
USACE OHWM DREDGE = 12,193 CY
USACE OHWM EXCAVATION = 2,885 CY
WETLAND EXCAVATION = 15,078 CY
WETLAND FILL = 15,465 CY

WETLAND E-SOUTH
AREA = 2.04 acres
USACE OHWM DREDGE = 14,361 CY
USACE OHWM EXCAVATION = 2,083 CY
WETLAND EXCAVATION = 16,444 CY
WETLAND FILL = 17,043 CY

FIGURE 12-4B CONSTRUCTION AREA 3 PLAN VIEW B

SCALE: 1"=150'



A CONSTRUCTION AREA 3 SECTION

SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM).

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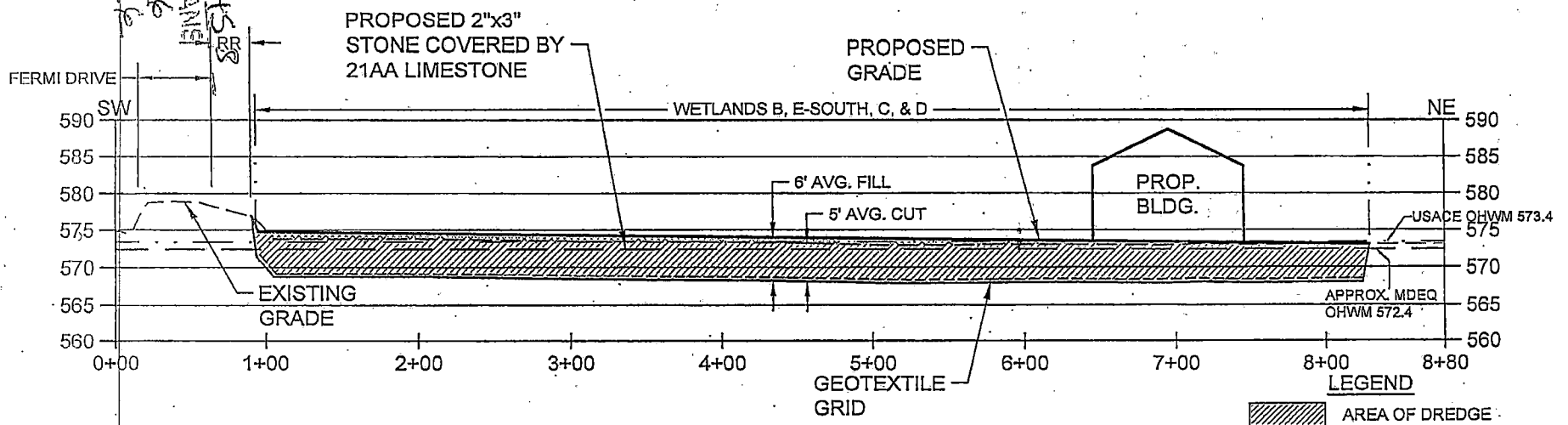


B CONSTRUCTION AREA 3 SECTION

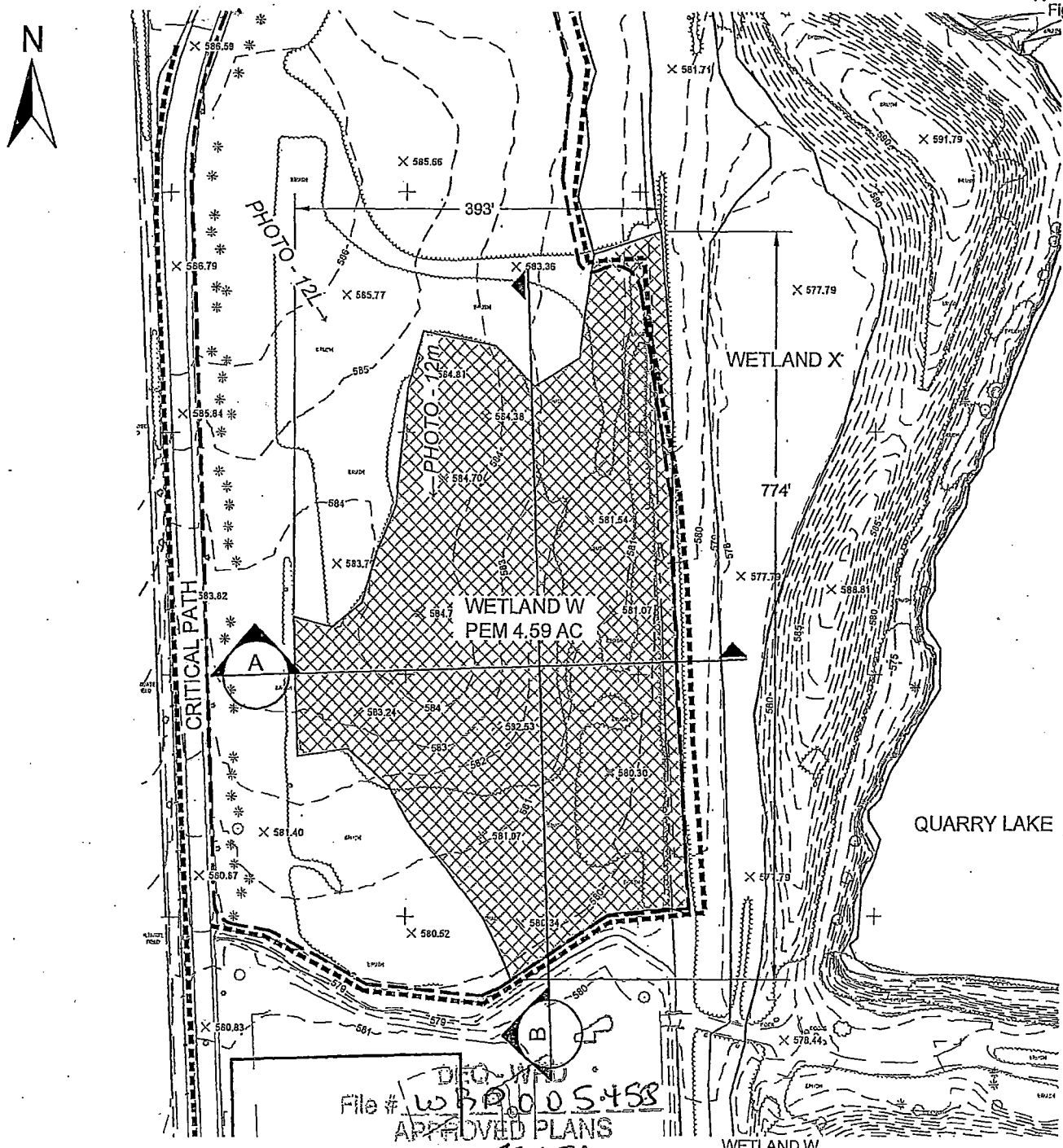
SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)

LEGEND

- AREA OF DREDGE
- AREA OF UPLAND FILL
- AREA OF WETLAND FILL
- USACE OHWM
- APPROX. MDEQ OHWM

NOTE: UTILITIES WILL BE ABOVE GEOTEXTILE FABRIC

FIGURE 12-4C CONSTRUCTION AREA 3 SECTION DETAILS



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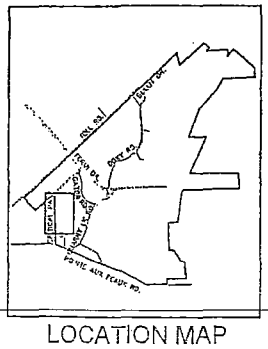


LOCATION MAP

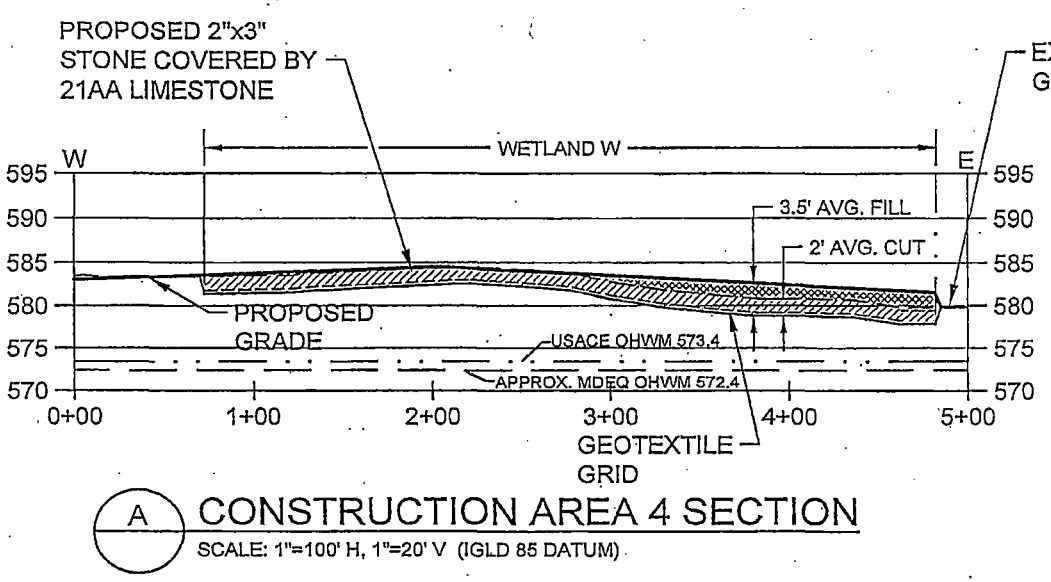
NOTE:
1. AREA WITHIN LIMITS OF CONSTRUCTION ACTIVITY WILL BE USED FOR SUBCONTRACTOR GRAVEL PARKING.
2. UTILITIES SHALL BE PLACED IN UPLAND AREAS.
3. SPOILS FROM EXCAVATION WILL BE PLACED IN CONSTRUCTION AREA 1.
4. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.

WETLAND W
AREA = 4.59 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = 15,211 CY
WETLAND EXCAVATION = 15,211 CY
WETLAND FILL = 20,989 CY

LEGEND
- AREA OF WETLAND FILL
- CONTOURS
- LIMITS OF CONSTRUCTION.
- SILT FENCE
- WETLAND LIMIT
- PROPOSED BUILDING

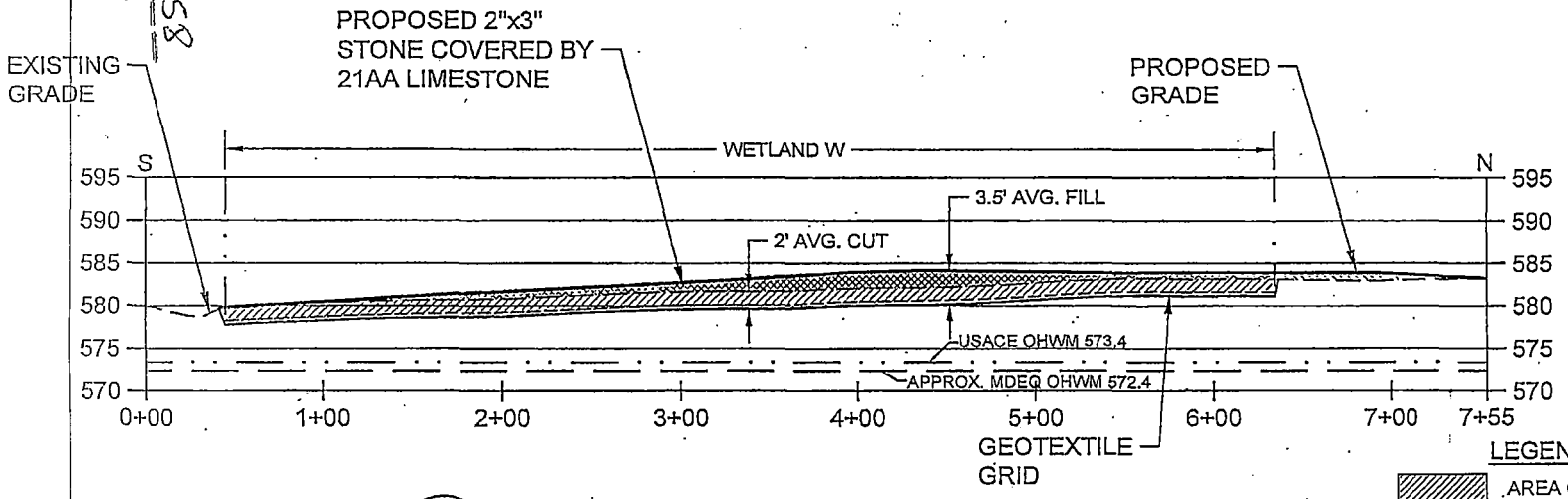
FIGURE 12-5A CONSTRUCTION AREA 4 PLAN VIEW

SCALE: 1"=150'



A CONSTRUCTION AREA 4 SECTION

SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)



B CONSTRUCTION AREA 4 SECTION

SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)

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FIGURE 12-5B CONSTRUCTION AREA 4 SECTION DETAILS

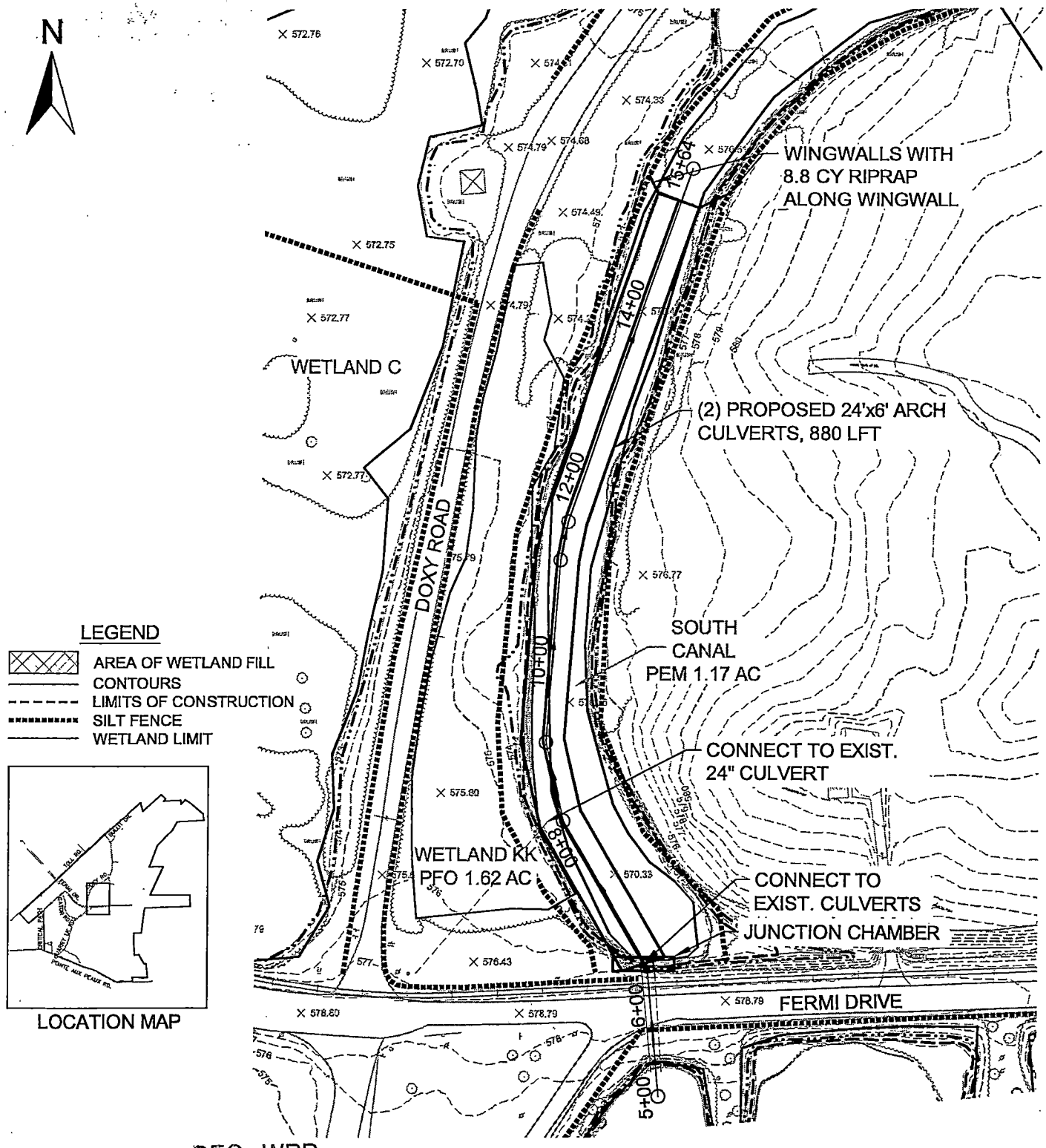

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FIGURE 10-3A CONSTRUCTION AREA 5 PLAN VIEW

SCALE: 1"=150'

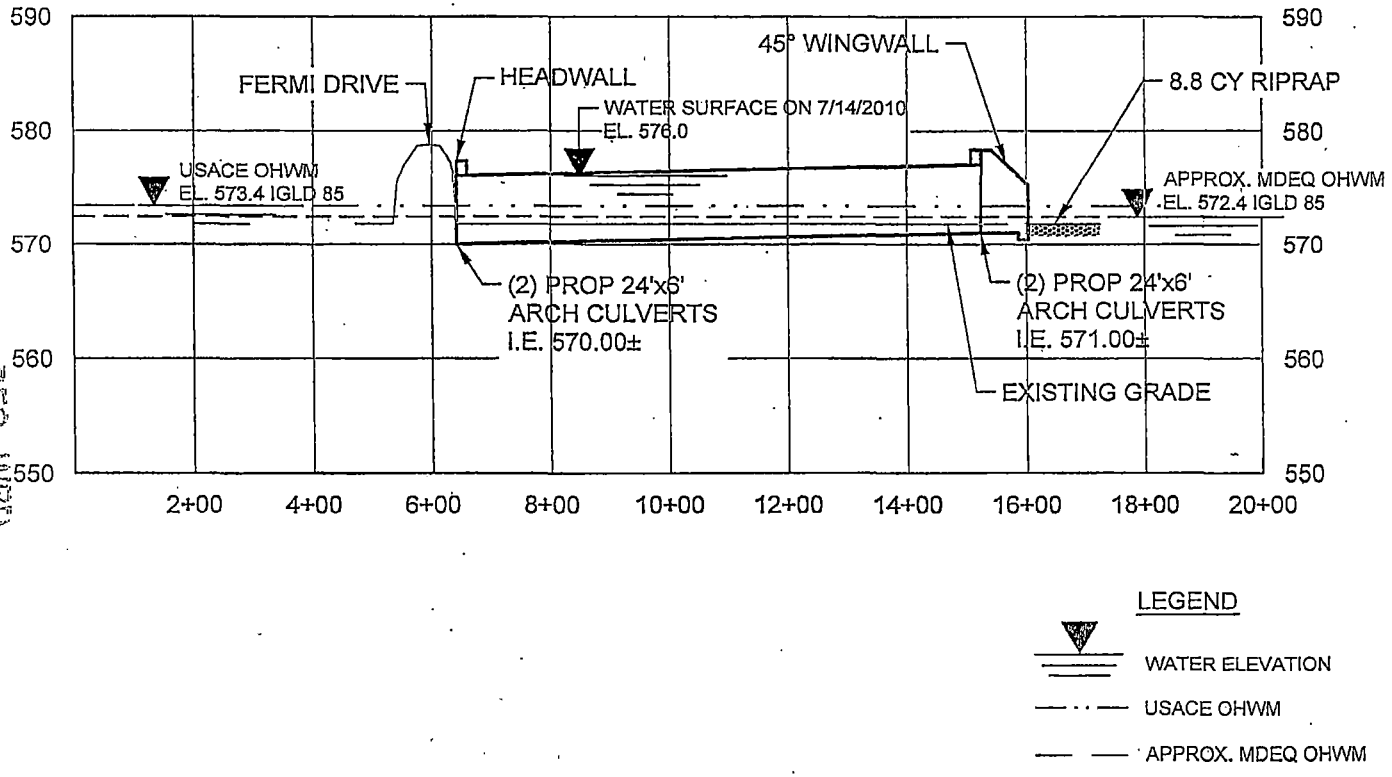

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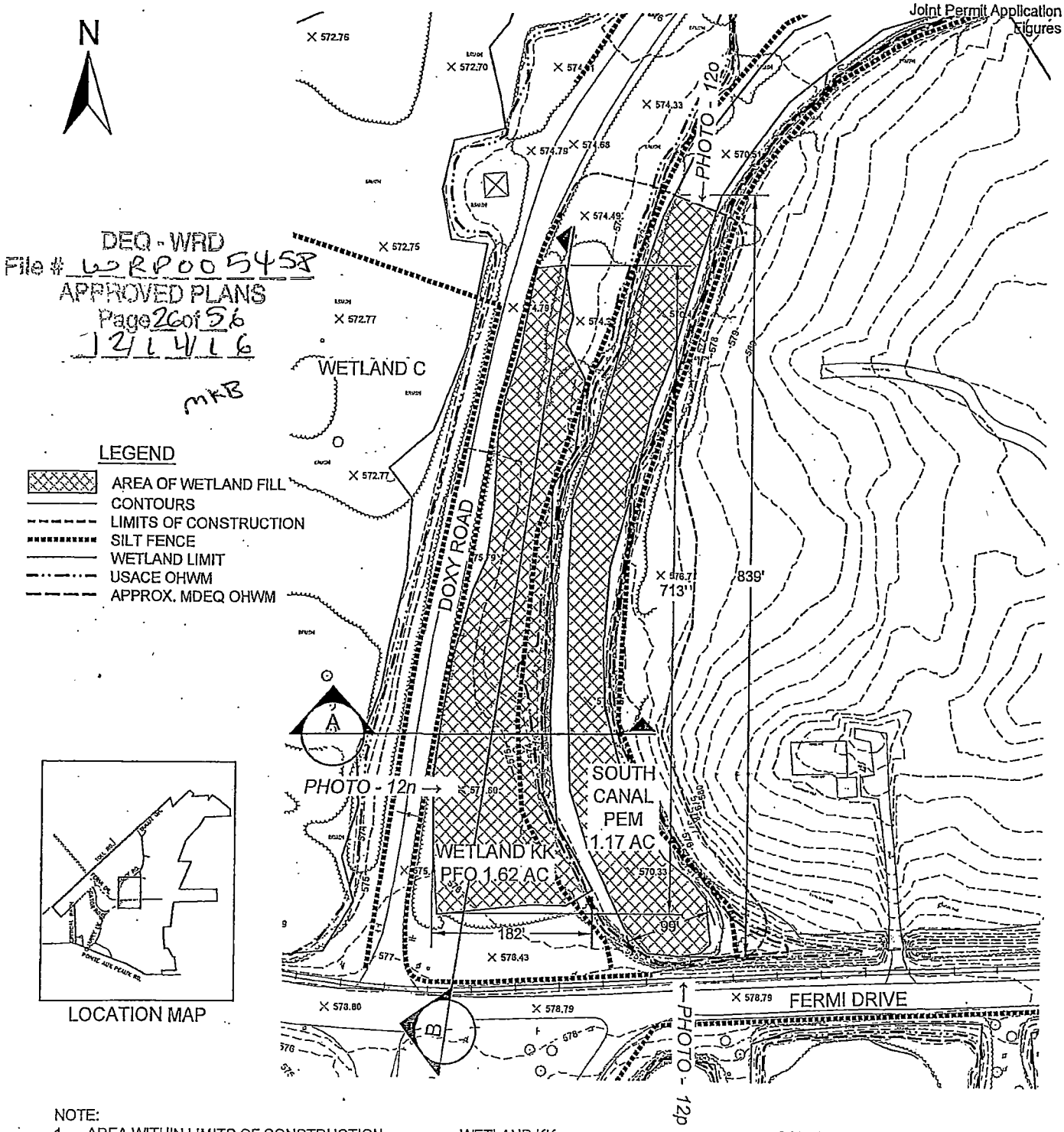
FIGURE 10-3B
CONSTRUCTION AREA 5 PROFILE OF PROPOSED SOUTH CANAL CULVERTS

SCALE: 1"=300' HORZ.; 1"=20' VERT. (IGLD 85 DATUM)



NOTE:

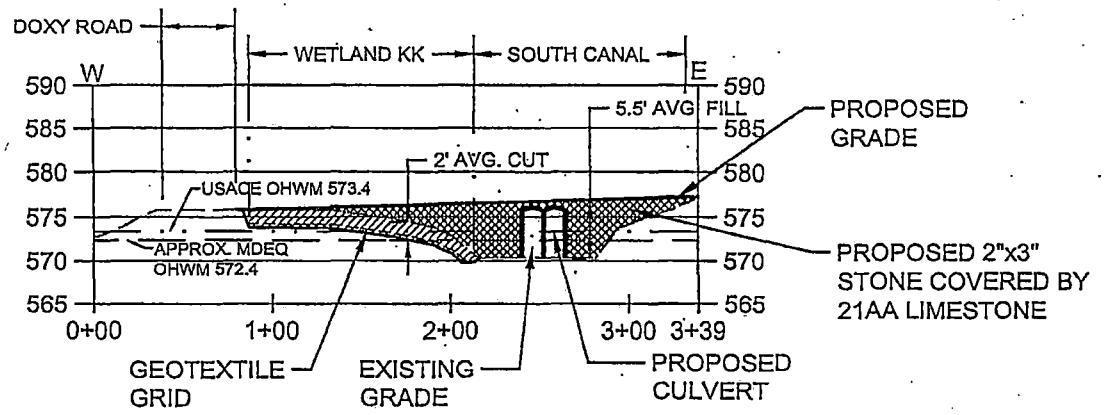
1. AREA WITHIN LIMITS OF CONSTRUCTION ACTIVITY WILL BE USED FOR LAYDOWN.
2. SPOILS FROM EXCAVATION WILL BE PLACED IN CONSTRUCTION AREA 1.
3. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.

WETLAND KK
AREA = 1.62 acres
USACE OHWM DREDGE = 2,065 CY
USACE OHWM EXCAVATION = 3,120 CY
WETLAND EXCAVATION = 5,185 CY
WETLAND FILL = 8,884 CY

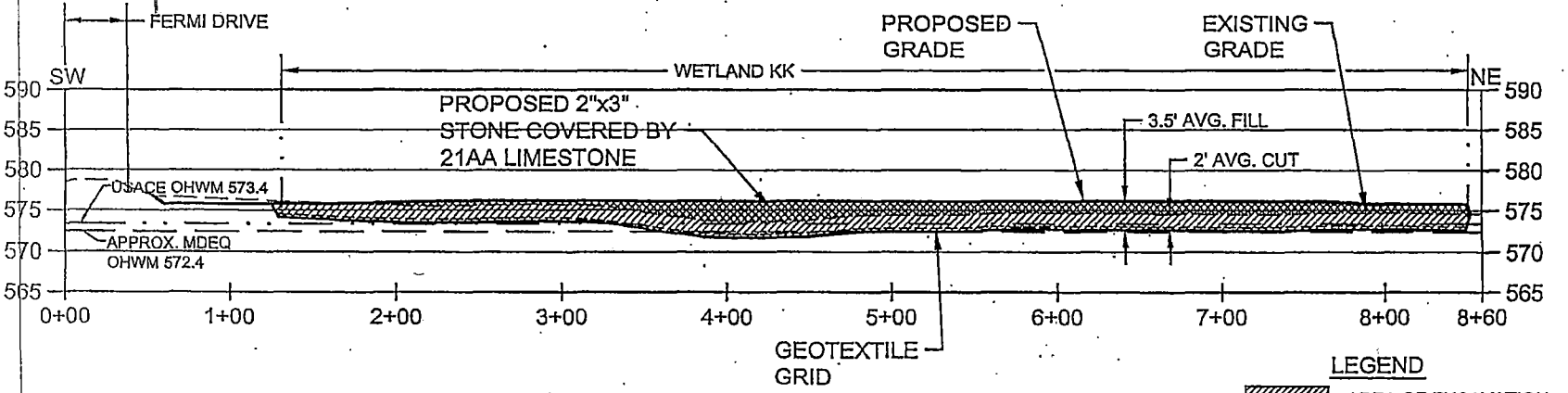
SOUTH CANAL
AREA = 1.17 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = NA
WETLAND EXCAVATION = NA
WETLAND FILL = 11,342 CY

FIGURE 12-6A CONSTRUCTION AREA 5 PLAN VIEW

SCALE: 1"=150'



A CONSTRUCTION AREA 5 SECTION
SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)



B CONSTRUCTION AREA 5 SECTION
SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)

LEGEND
- AREA OF EXCAVATION
- AREA OF UPLAND FILL
- AREA OF WETLAND FILL
- USACE OHWM
- APPROX. MDEQ OHWM

FIGURE 12-6B CONSTRUCTION AREA 5 SECTION DETAILS

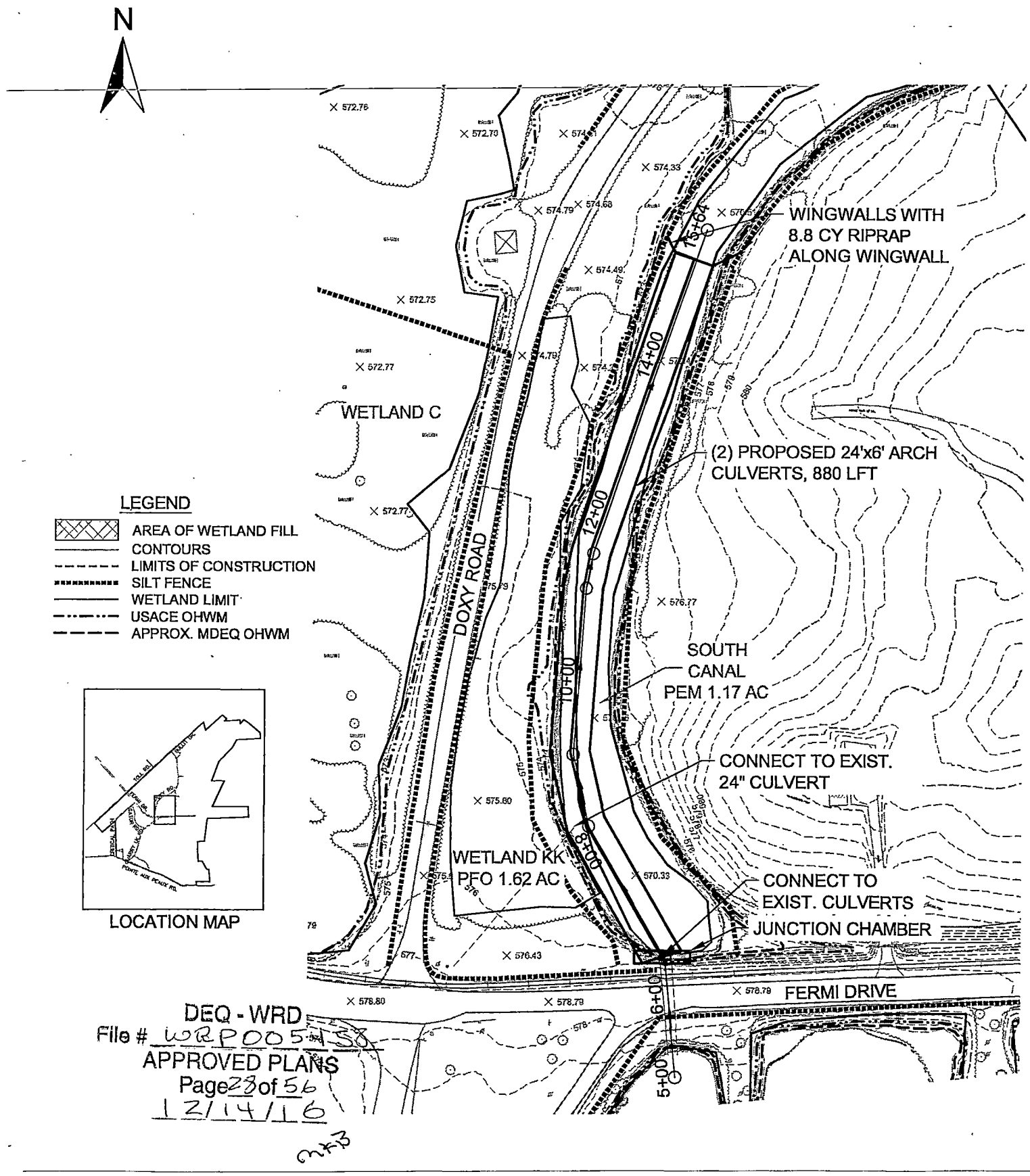


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FIGURE 14-1A CONSTRUCTION AREA 5 PLAN VIEW

SCALE: 1"=150'

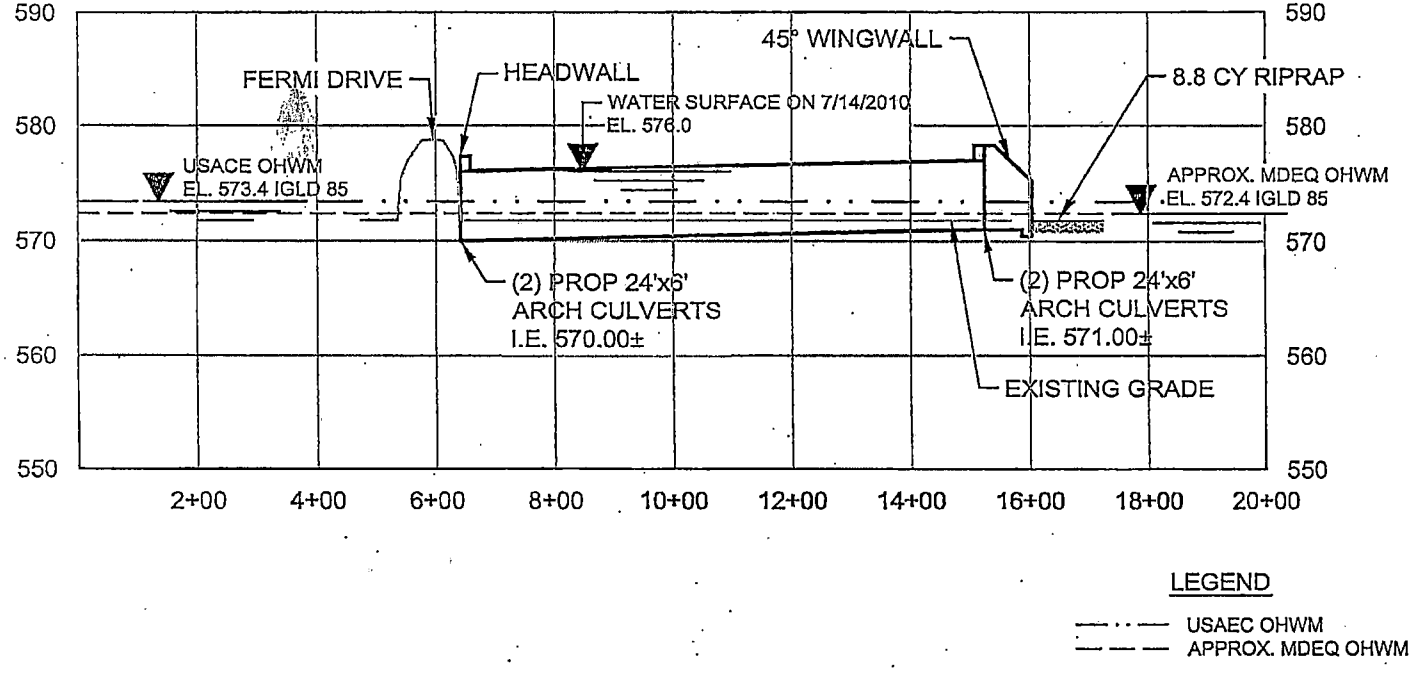

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FIGURE 14-1B
CONSTRUCTION AREA 5 PROFILE OF PROPOSED SOUTH CANAL CULVERTS

SCALE: 1"=300' HORZ.; 1"=20' VERT. (IGLD 85 DATUM)

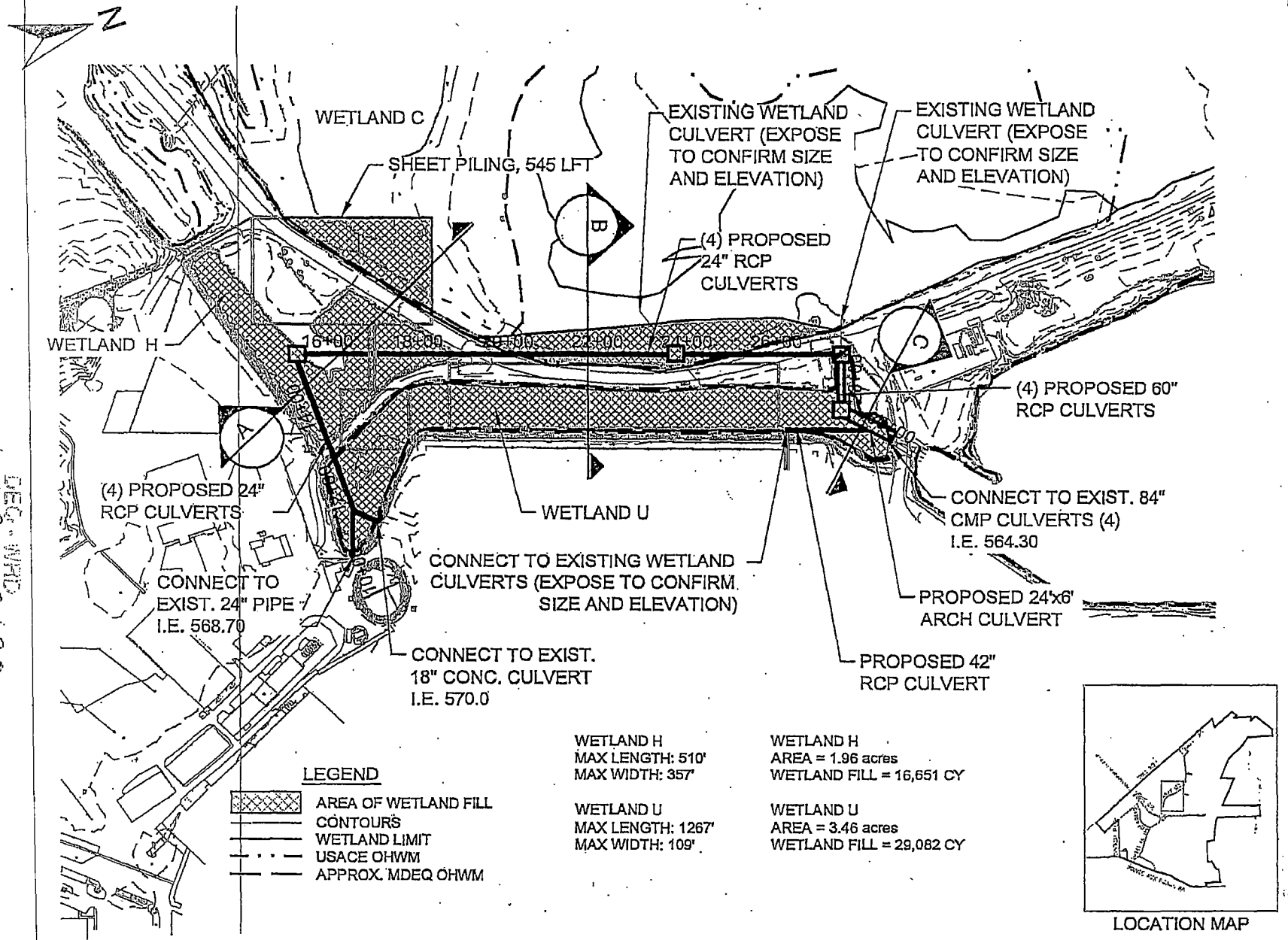

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FIGURE 10-1A
WAREHOUSE, PAP/VIB PARKING GARAGE PLAN VIEW OF CULVERTS AT DOXY ROAD

SCALE: 1"=300'

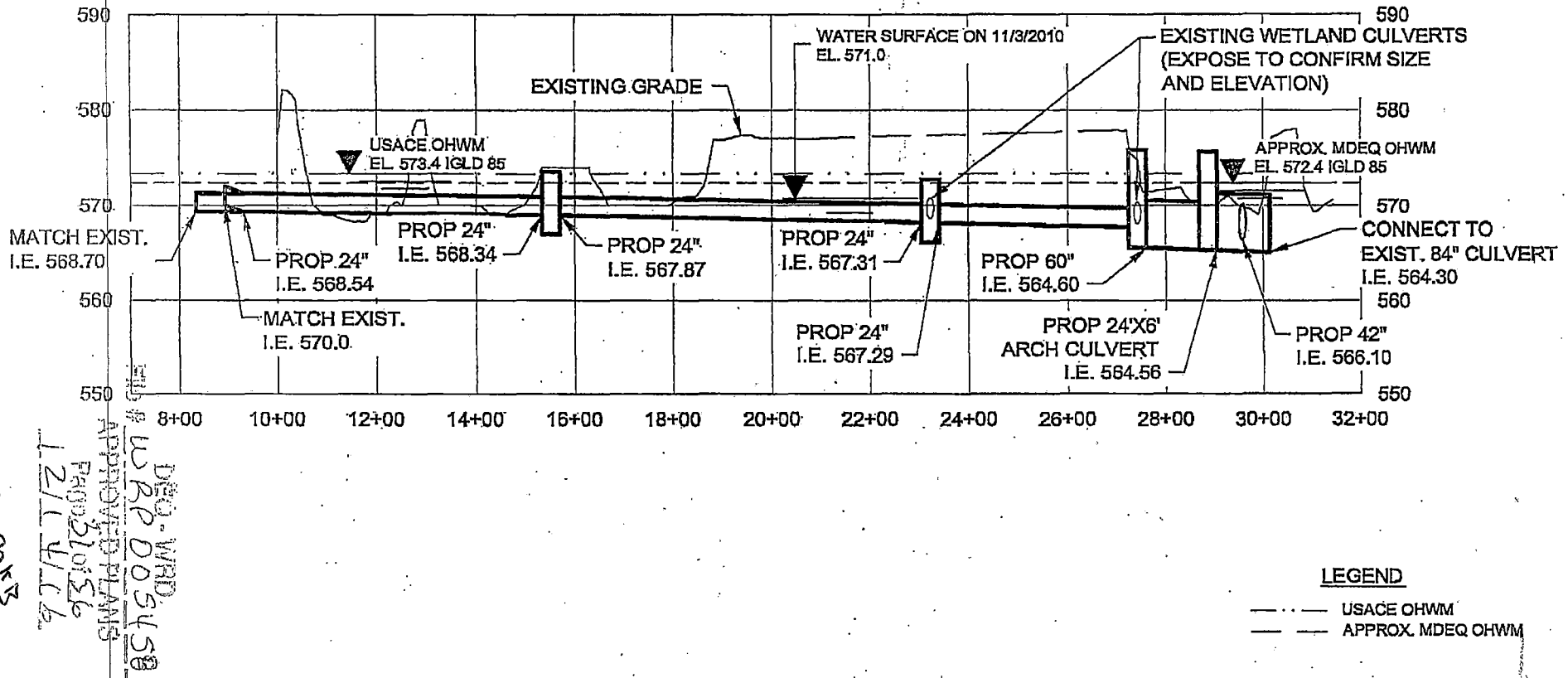
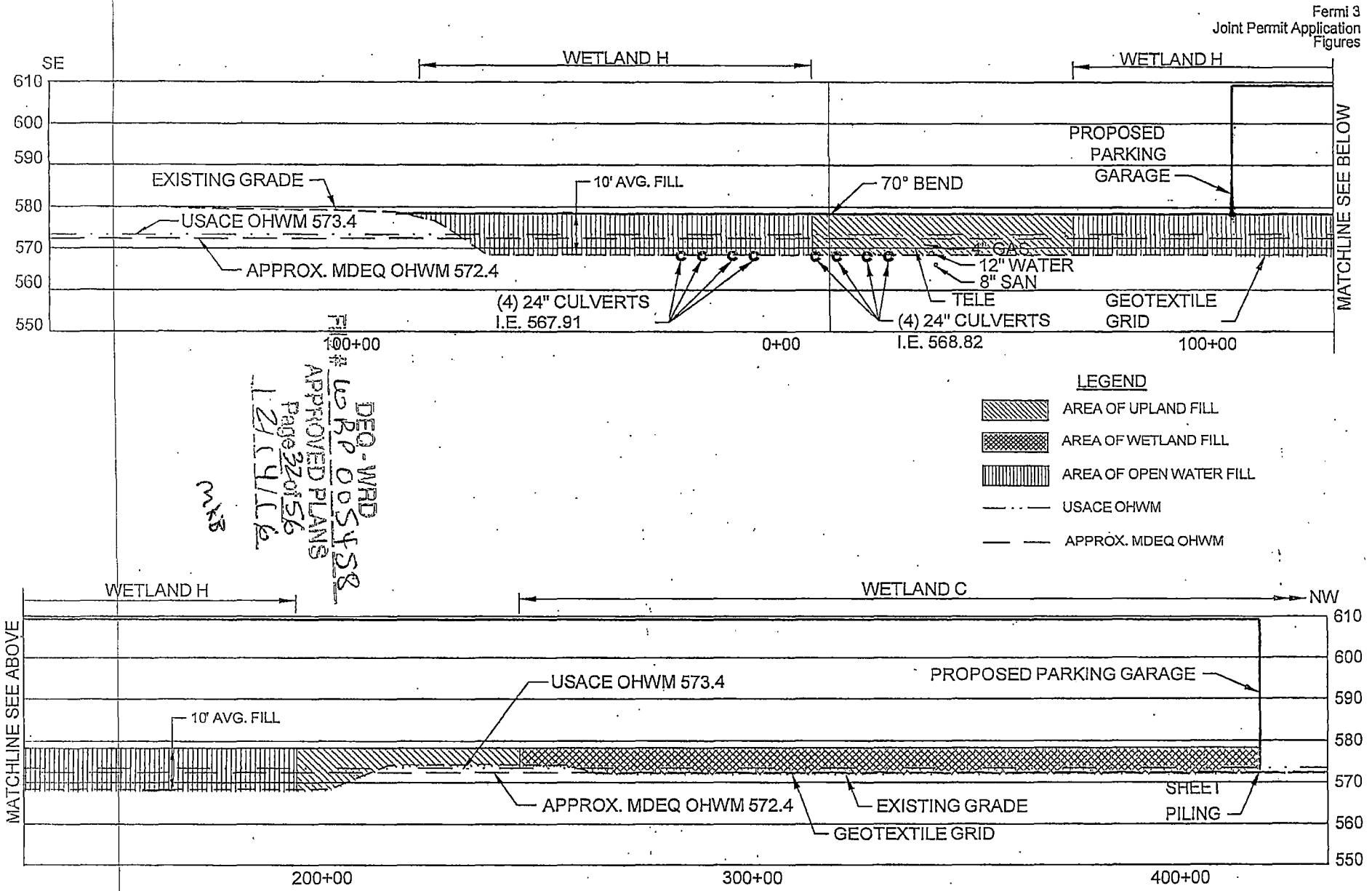


FIGURE 10-1B
WAREHOUSE, PAP/VIB PARKING GARAGE PROFILE OF PROPOSED CULVERTS AT DOXY ROAD

SCALE: 1"=300' HORZ.;1"=20' VERT. (IGLD 85 DATUM)



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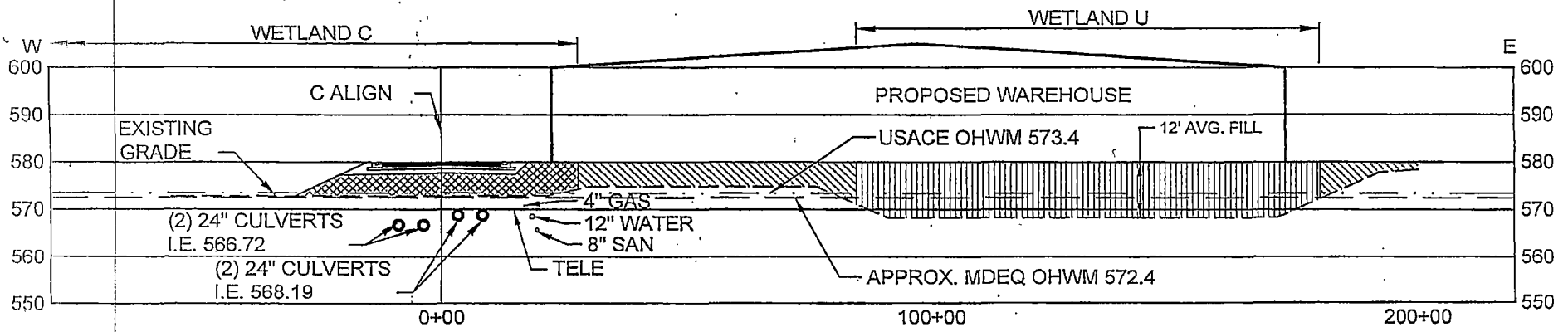
A CROSS SECTION OF PROPOSED (4) 24" CULVERTS AT DOXY ROAD STA 14+97.87
SCALE: 1"=30' (IGLD 85 DATUM)

FIGURE 10-1C WAREHOUSE, PAP/VIB PARKING GARAGE SECTION 'A' DETAILS



B CROSS SECTION OF PROPOSED (4) 24" CULVERTS AT DOXY ROAD STA 22+00

SCALE: 1"=30' (IGLD 85 DATUM)

LEGEND
- AREA OF UPLAND FILL
- AREA OF WETLAND FILL
- AREA OF OPEN WATER FILL
- USACE OHWM
- APPROX. MDEQ OHWM

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FIGURE 10-1D WAREHOUSE, PAP/VIB PARKING GARAGE SECTION 'B' DETAILS

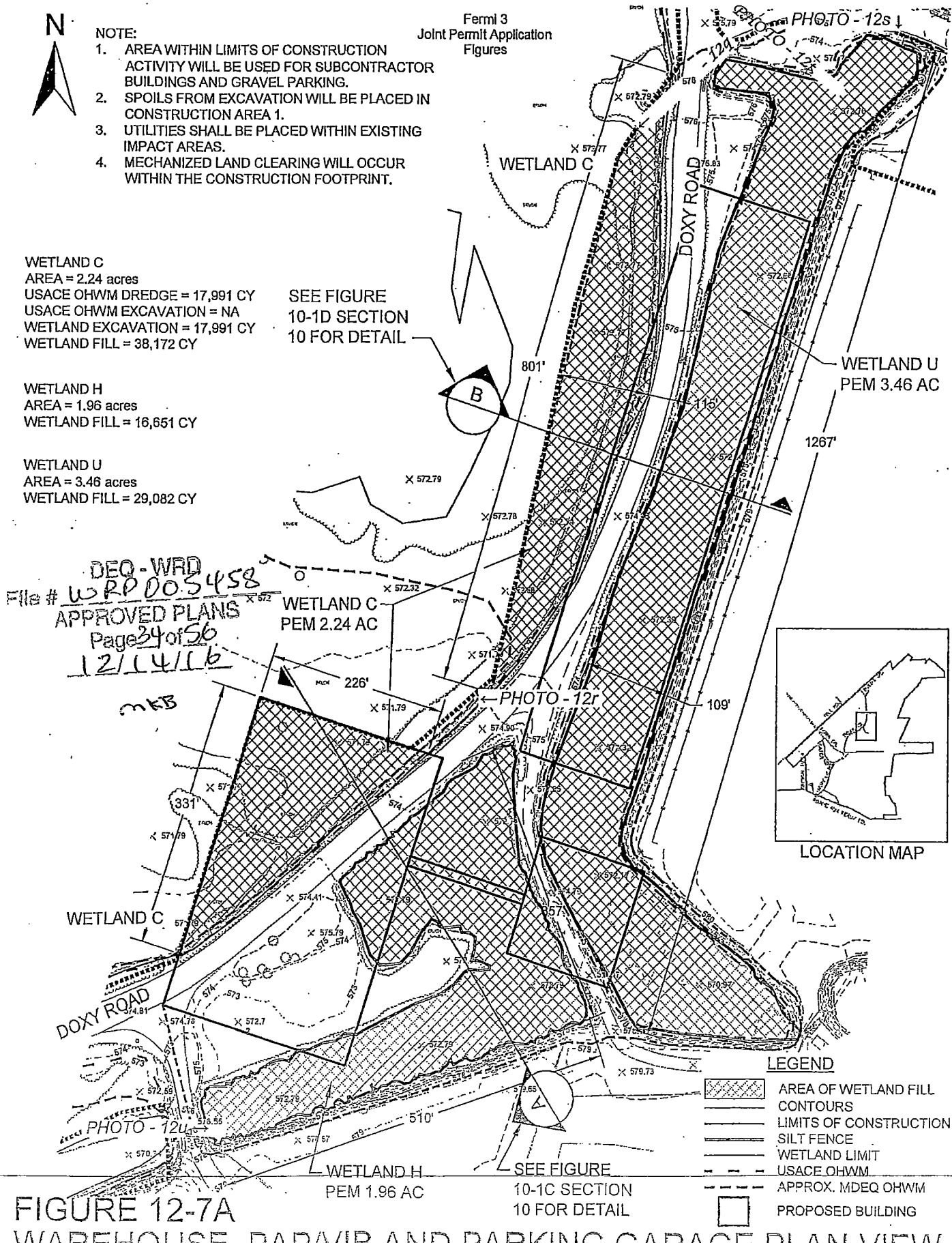

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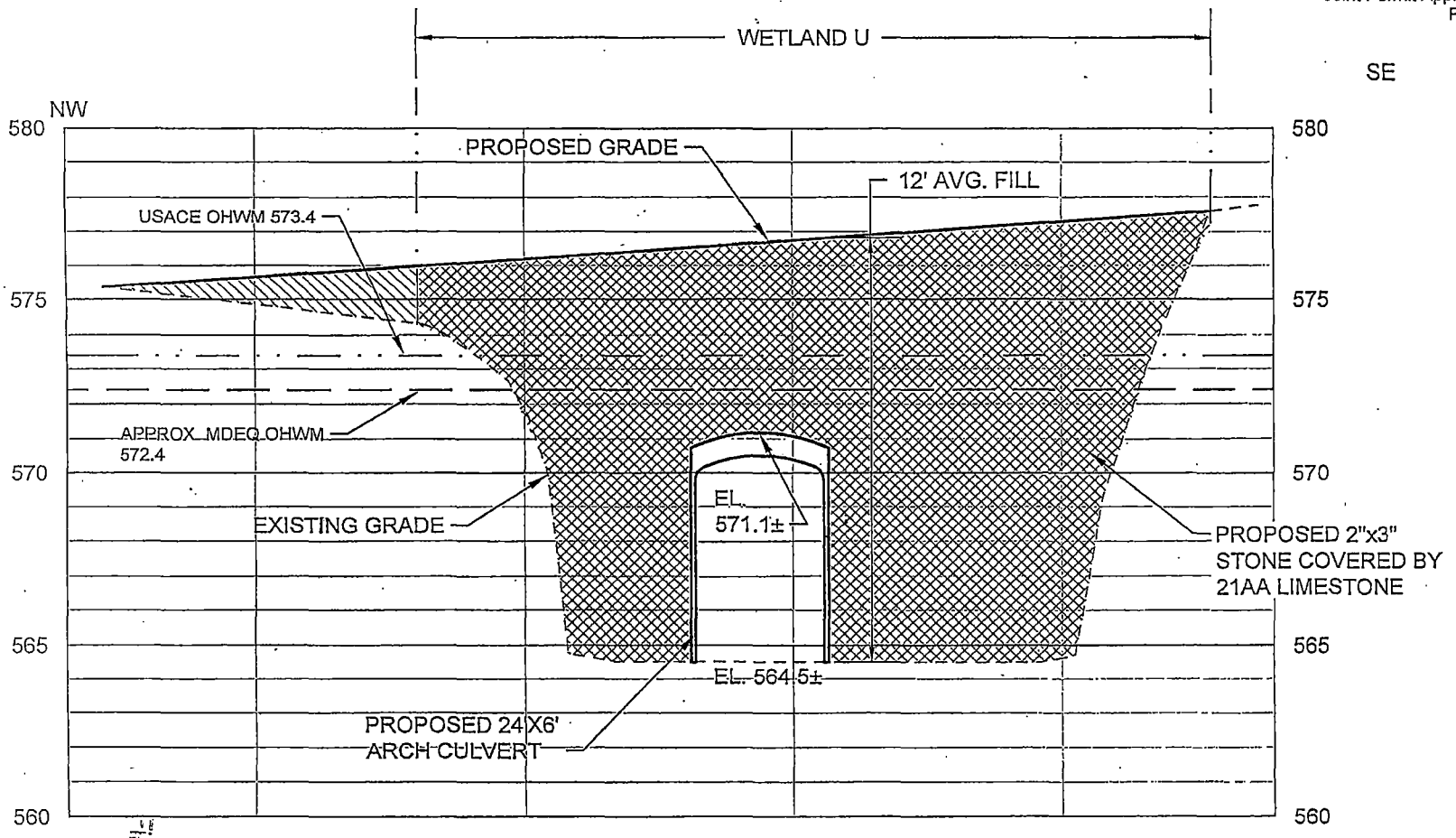
FIGURE 12-7A
WAREHOUSE, PAP/VIB AND PARKING GARAGE PLAN VIEW

SCALE: 1"=150'
Revision 1

August 2011



C

CROSS SECTION OF PROPOSED 24'X6' CULVERT AT DOXY ROAD STA 29+75

SCALE: 1"=30' HORZ. 1"=3' VERT. (IGLD 85 DATUM)

LEGEND

- AREA OF EXCAVATION
- AREA OF UPLAND FILL
- AREA OF WETLAND FILL
- USACE OHWM
- APPROX. MDEQ OHWM

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FIGURE 12-7B WAREHOUSE, PAP/VIB PARKING GARAGE SECTION 'C' DETAILS

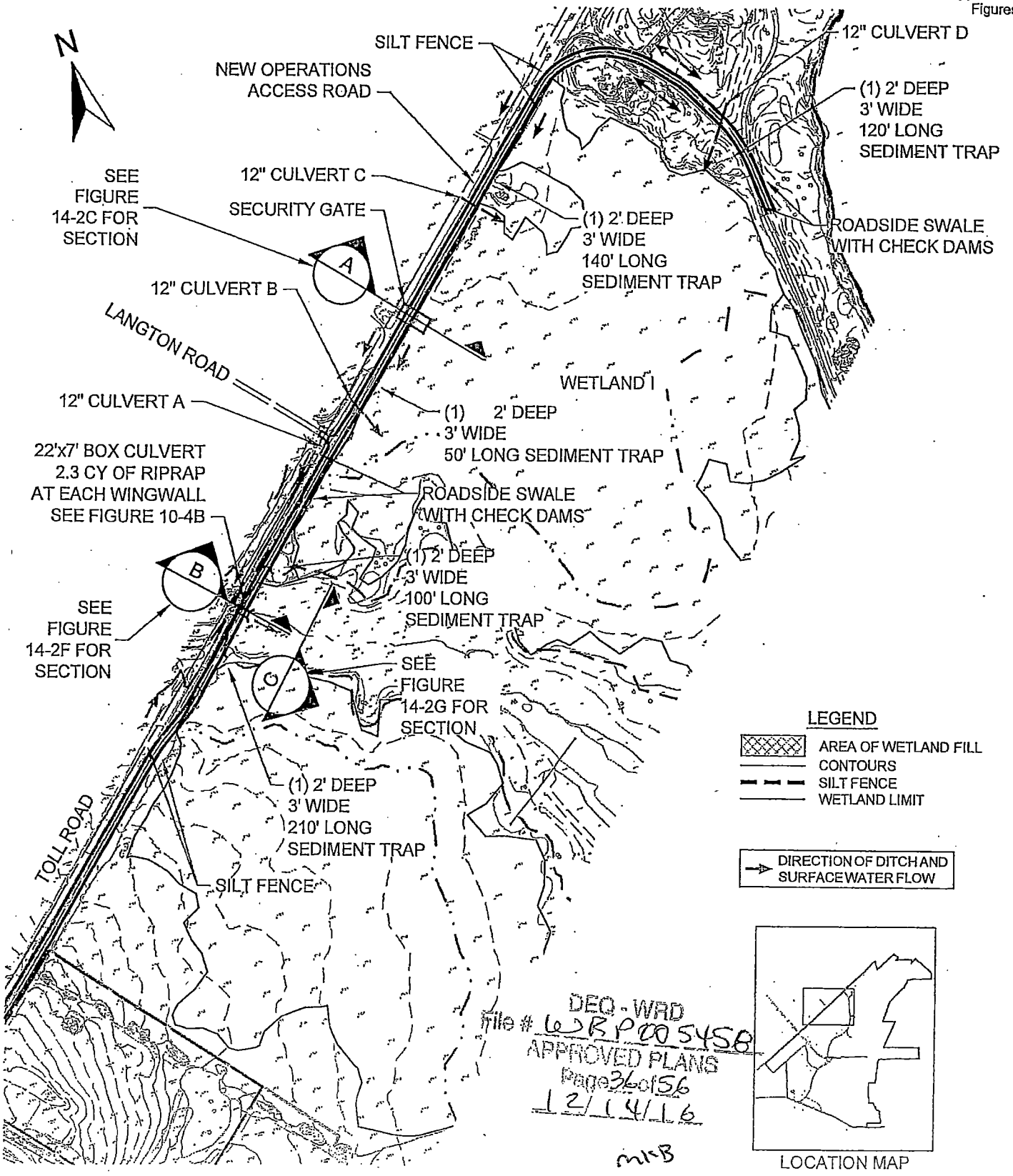

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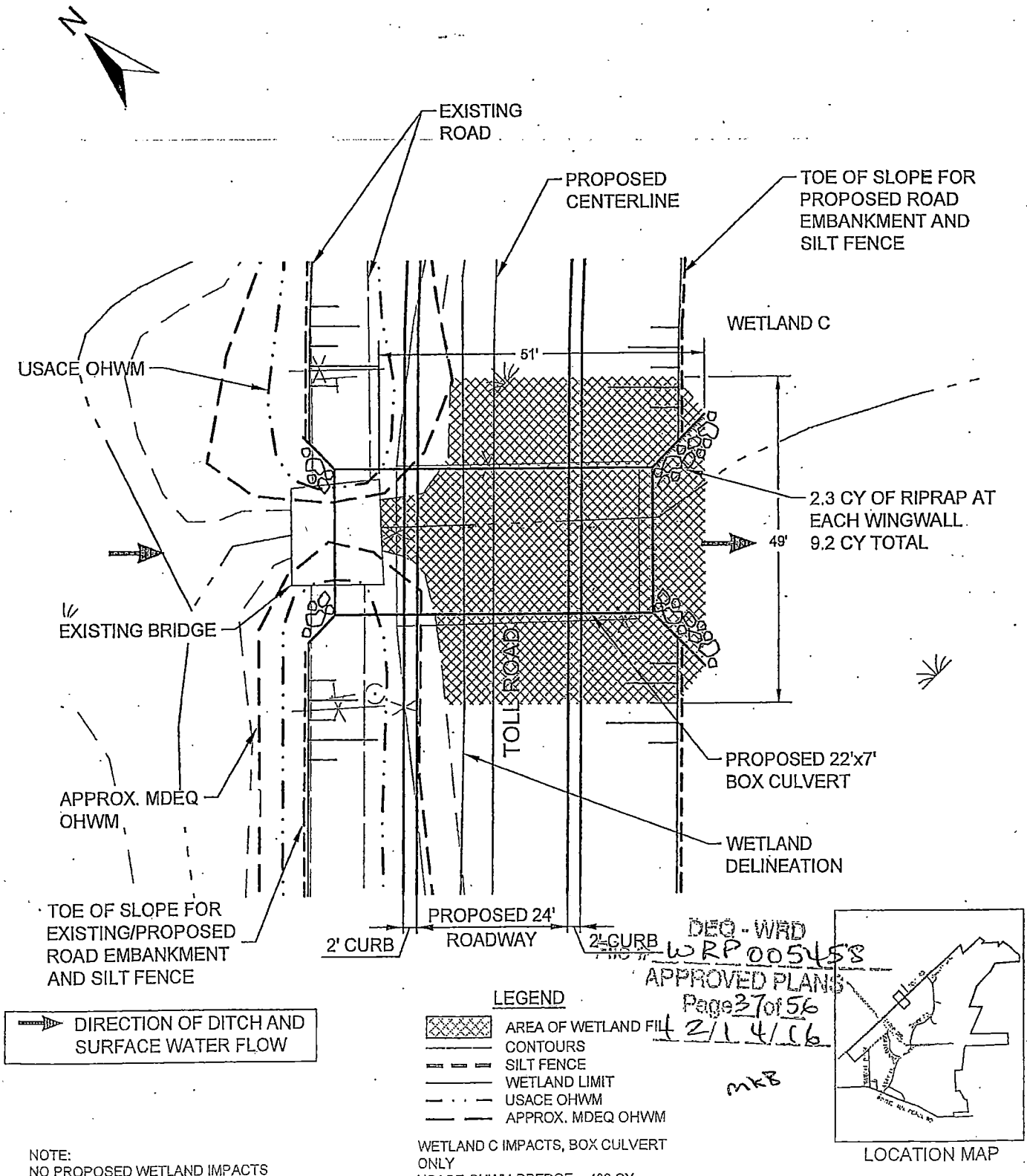
FIGURE 10-4A NEW OPERATIONS ACCESS ROAD PLAN VIEW

SCALE: 1"=500'



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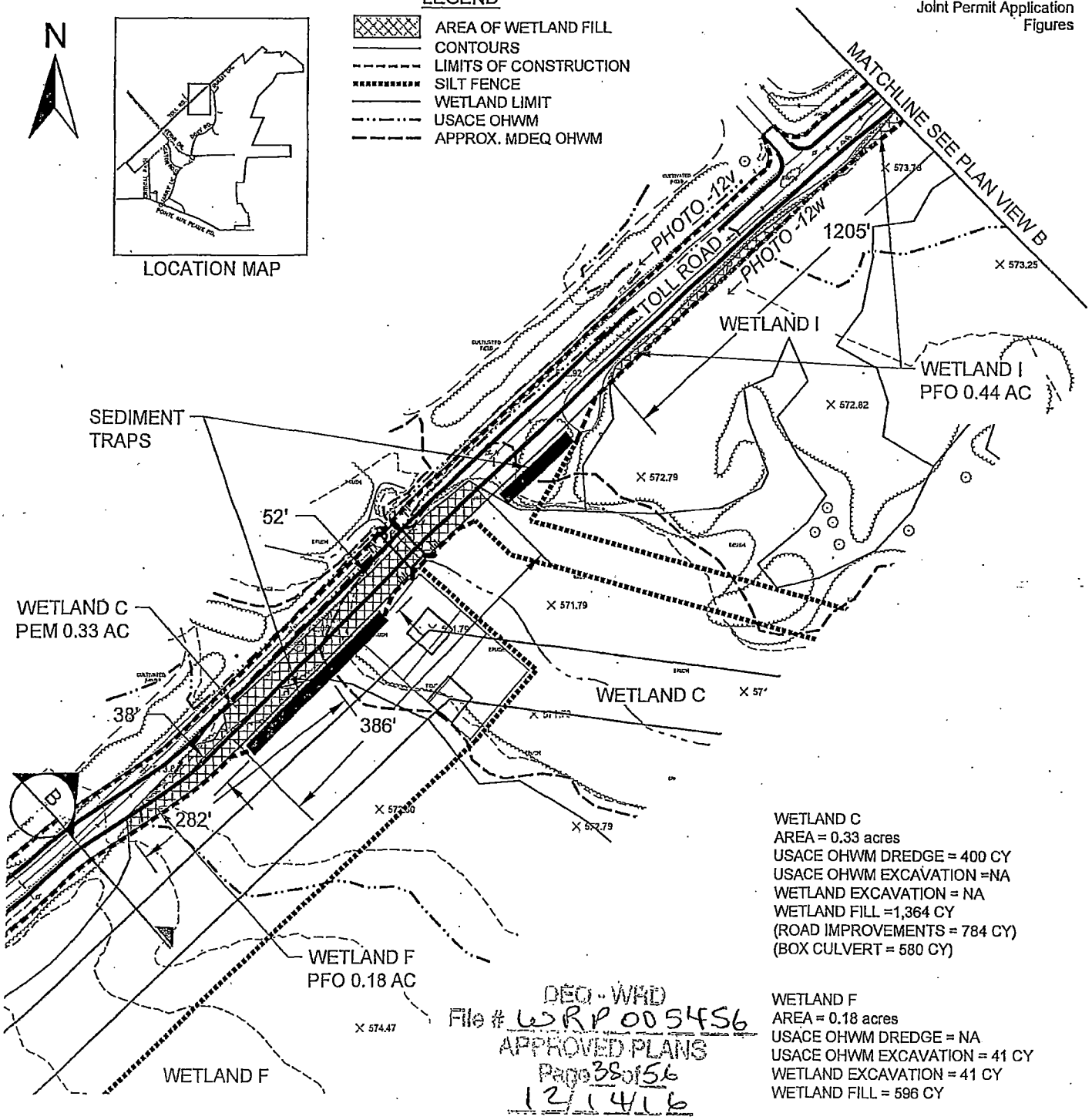
NOTE:
NO PROPOSED WETLAND IMPACTS ALONG NORTHWESTERLY EDGE OF ROAD.

WETLAND C IMPACTS, BOX CULVERT ONLY
USACE OHWM DREDGE = 400 CY
USACE WETLAND FILL = 580 CY
APPROX. MDEQ OHWM DREDGE = 340 CY
APPROX. MDEQ OHWM FILL = 580 CY

FIGURE 10-4B
NEW OPERATIONS ACCESS ROAD 22'x7' BOX CULVERT PLAN VIEW

SCALE: 1"=20'



WETLAND C
AREA = 0.33 acres
USACE OHWM DREDGE = 400 CY
USACE OHWM EXCAVATION =NA
WETLAND EXCAVATION = NA
WETLAND FILL =1,364 CY
(ROAD IMPROVEMENTS = 784 CY)
(BOX CULVERT = 580 CY)

WETLAND F
AREA = 0.18 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = 41 CY
WETLAND EXCAVATION = 41 CY
WETLAND FILL = 596 CY

WETLAND I
AREA = 0.44 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = 37 CY
WETLAND EXCAVATION = 37 CY
WETLAND FILL = 603 CY

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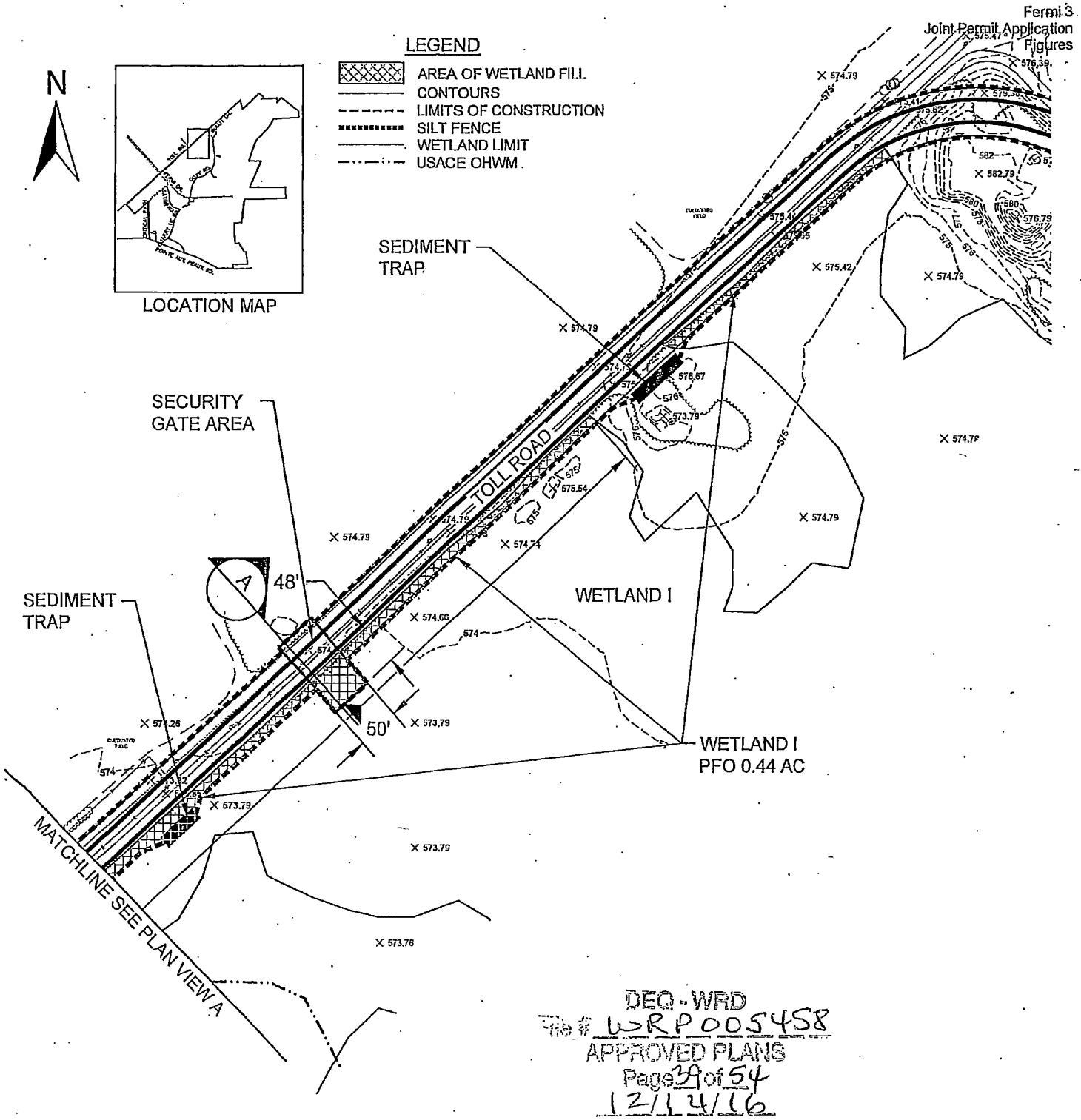
NOTE:
1. SPOILS FROM EXCAVATION WILL BE PLACED IN CONSTRUCTION AREA 1.
2. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.
3. WETLAND C IMPACTS ARE FROM THE ROAD IMPROVEMENTS AND BOX CULVERT. (FIGURE 14-2E)

FIGURE 12-8A NEW OPERATIONS ACCESS ROAD PLAN VIEW A

SCALE: 1"=150'



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NOTE:
1. SPOILS FROM EXCAVATION WILL BE PLACED IN CONSTRUCTION AREA 1.
2. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.

WETLAND I
AREA = 0.44 acres
USACE OHWM DREDGE = NA
USACE OHWM EXCAVATION = 37 CY
WETLAND EXCAVATION = 37 CY
WETLAND FILL = 603 CY

FIGURE 12-8B NEW OPERATIONS ACCESS ROAD PLAN VIEW B

SCALE: 1"=150'

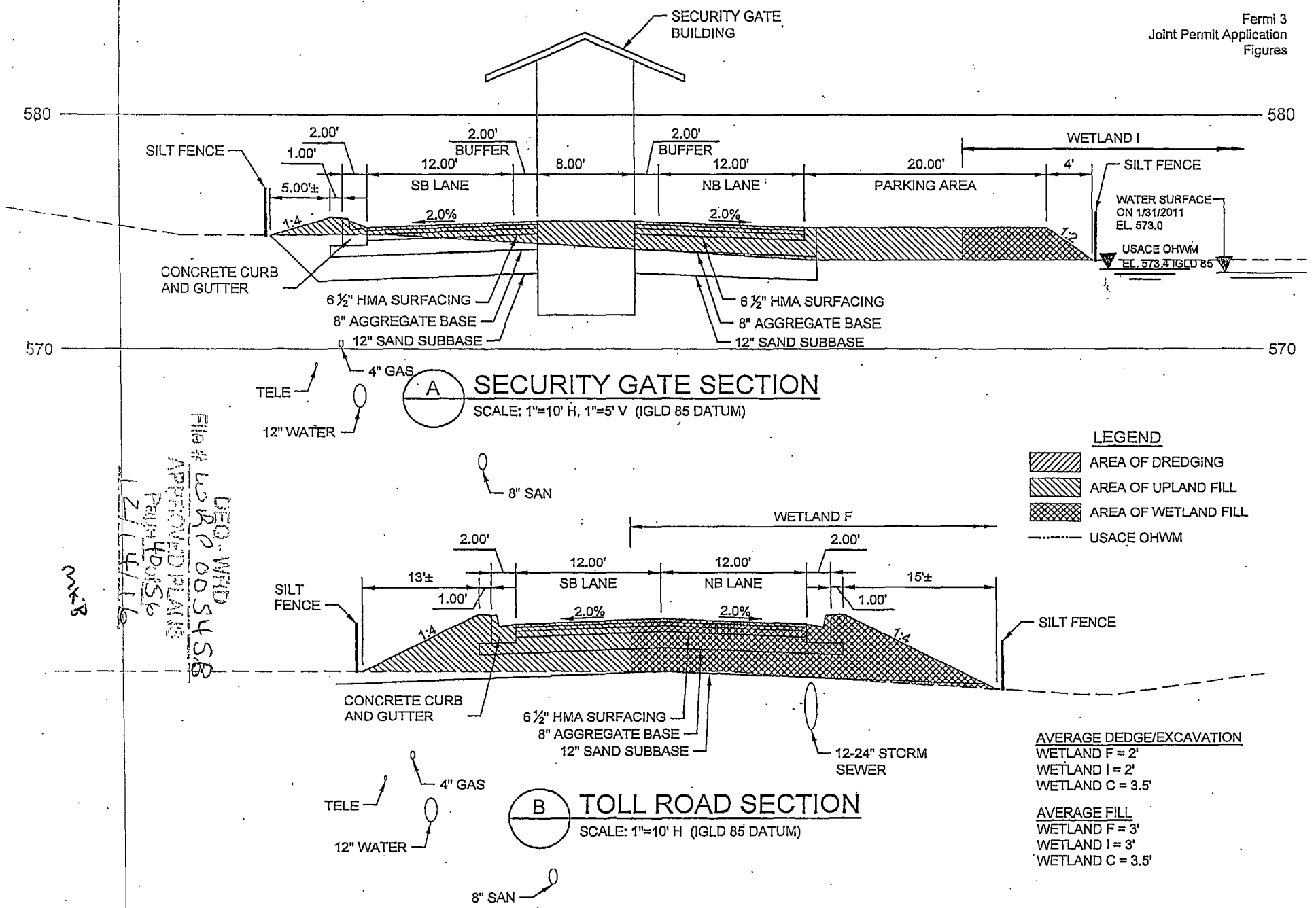

FIGURE 12-8C NEW OPERATIONS ACCESS ROAD SECTION DETAILS

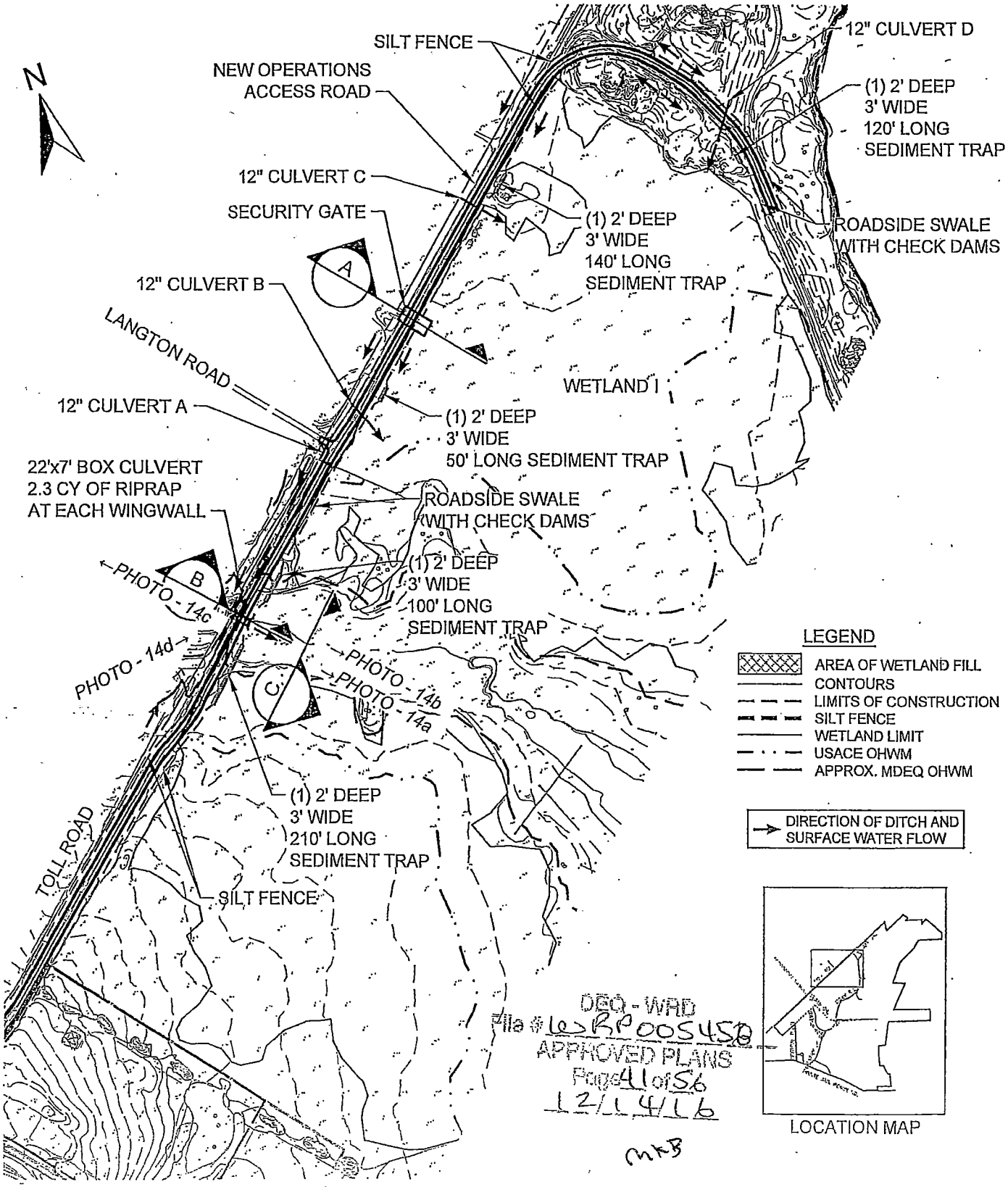

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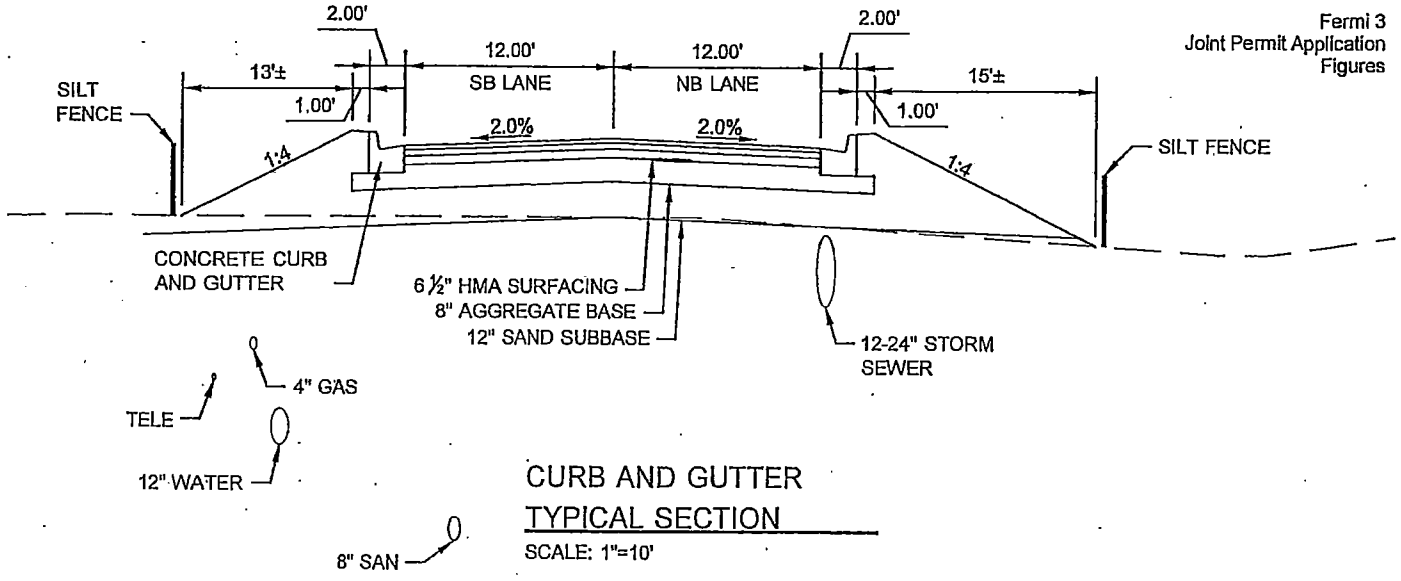
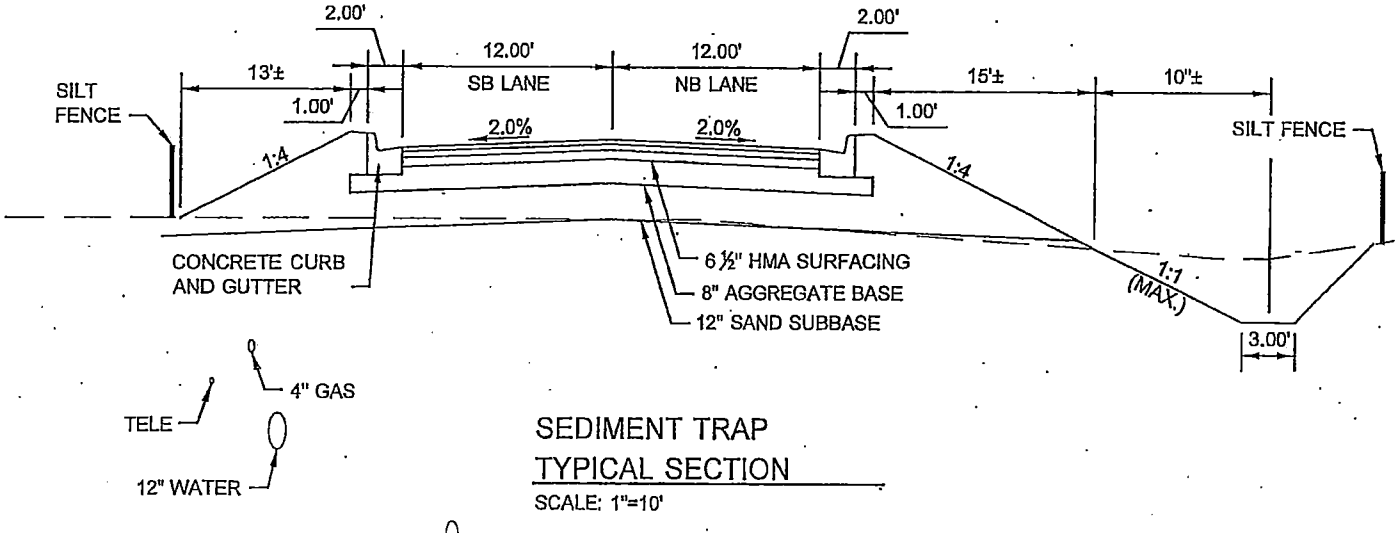
FIGURE 14-2A NEW OPERATIONS ACCESS ROAD PLAN VIEW

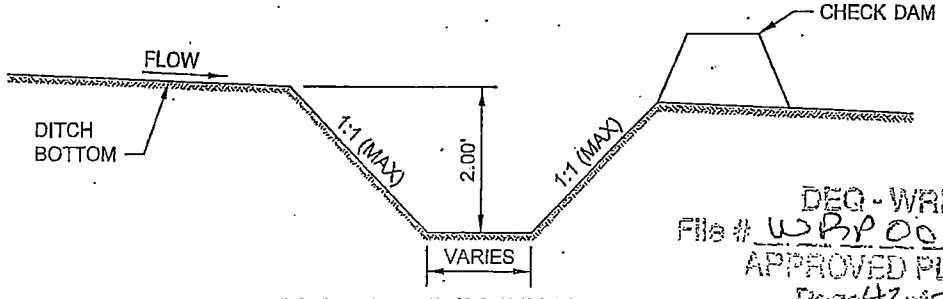
SCALE: 1"=500'



CURB AND GUTTER
TYPICAL SECTION
SCALE: 1"=10'



SEDIMENT TRAP
TYPICAL SECTION
SCALE: 1"=10'



TYPICAL SEDIMENT TRAP
DETAIL PROFILE
SCALE: 1"=5'

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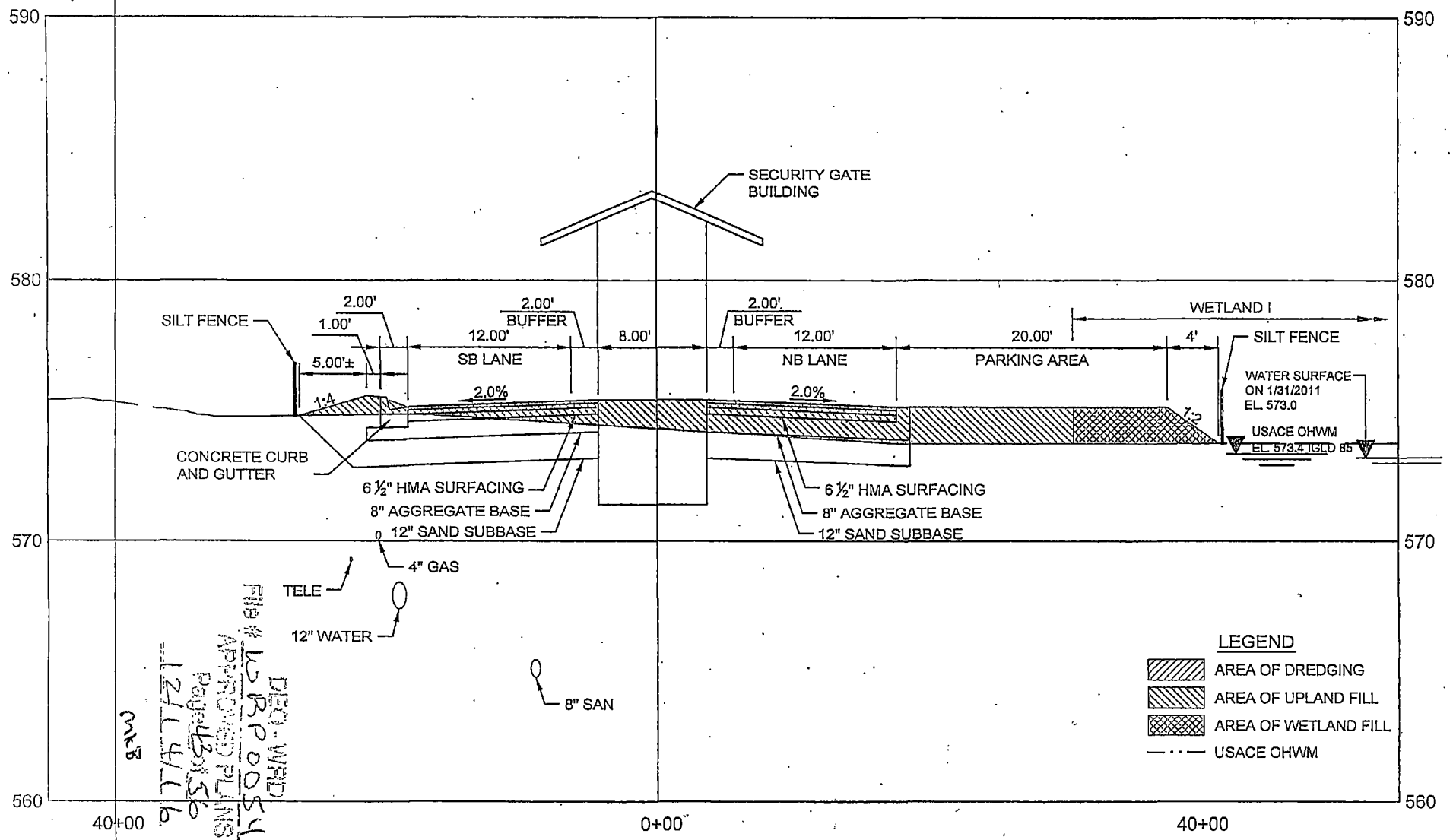
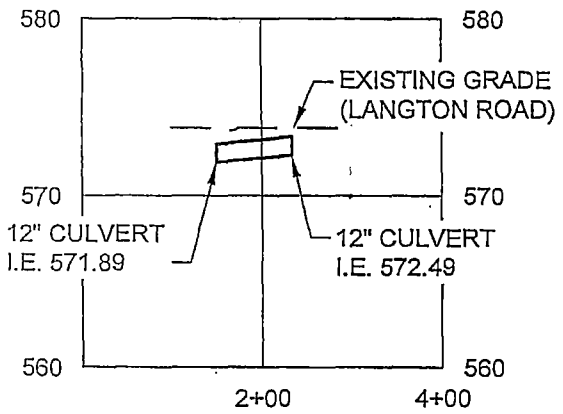
FIGURE 14-2B NEW OPERATIONS ACCESS ROAD
TYPICAL SECTION FOR CURB AND GUTTER
TYPICAL SECTION AND DETAIL PROFILE SEDIMENT TRAP



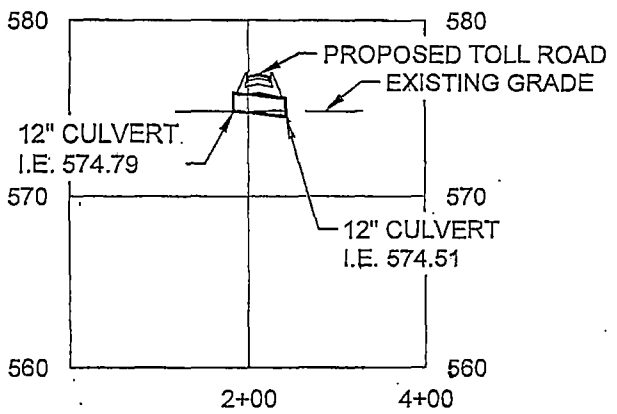
A SECURITY GATE SECTION
SCALE: 1"=10' HORZ.; 1"=5' VERT. (IGLD 85 DATUM)

FIGURE 14-2C NEW OPERATIONS ACCESS ROAD SECURITY GATE SECTION 'A' DETAILS



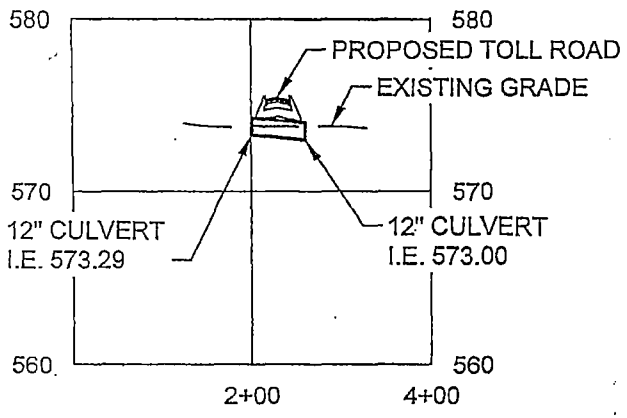
PROFILE OF PROPOSED CULVERT A
(LOOKING NORTHWEST)

SCALE: 1"=200' HORZ.;1"=20' VERT. (IGLD 85 DATUM)



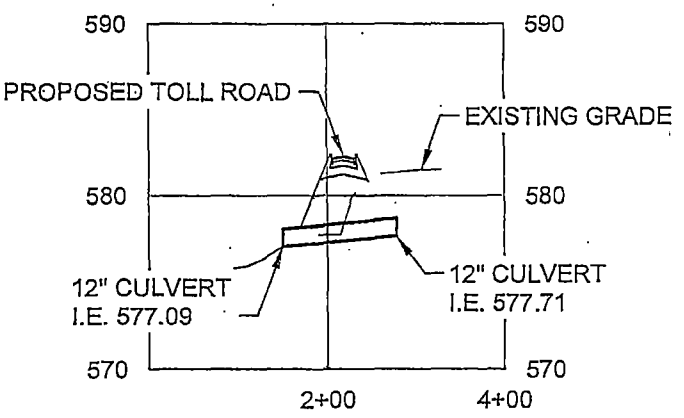
PROFILE OF PROPOSED CULVERT C
(LOOKING EAST)

SCALE: 1"=200' HORZ.;1"=20' VERT. (IGLD 85 DATUM)



PROFILE OF PROPOSED CULVERT B
(LOOKING EAST)

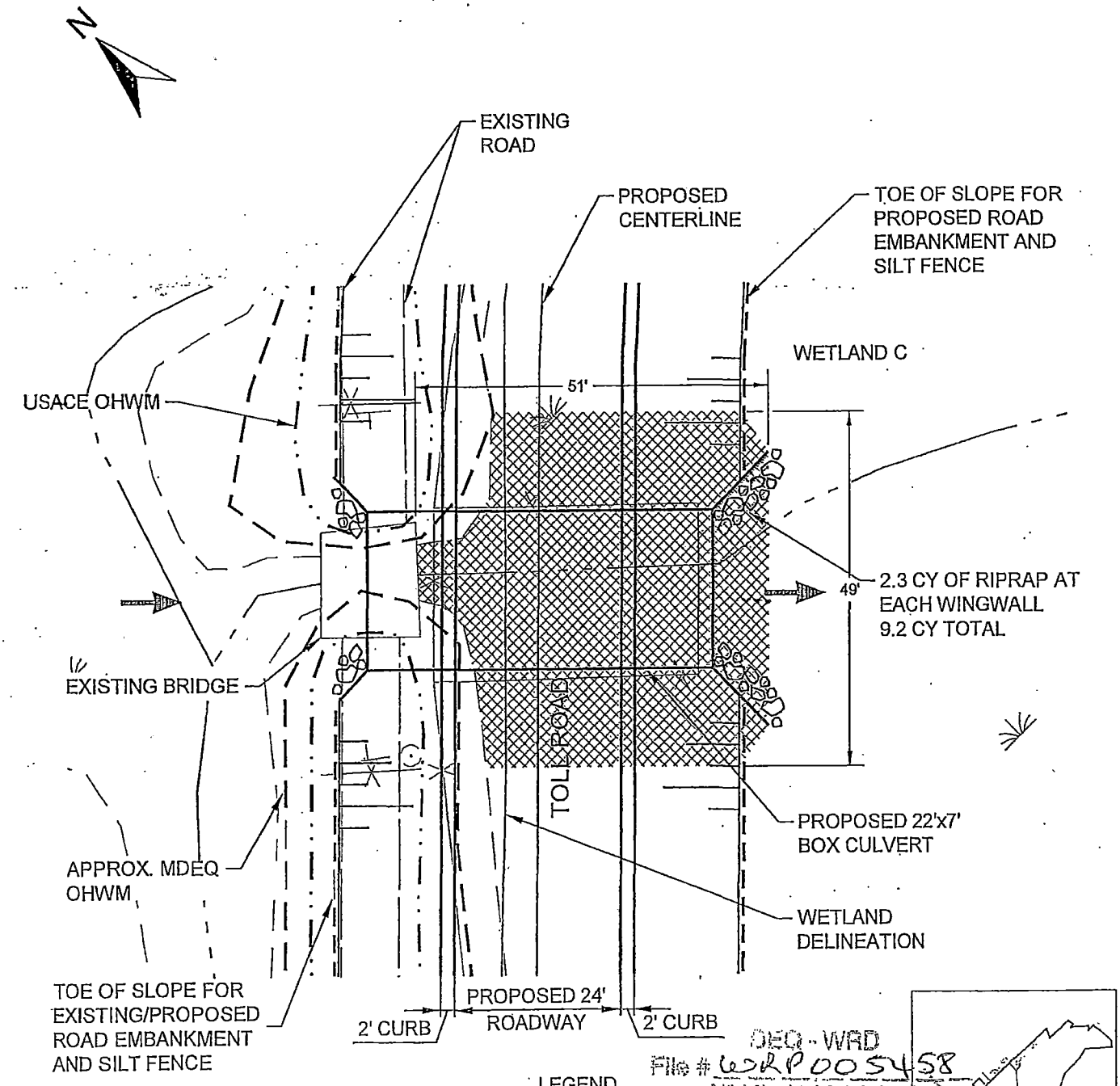
SCALE: 1"=200' HORZ.;1"=20' VERT. (IGLD 85 DATUM)



PROFILE OF PROPOSED CULVERT D
(LOOKING NORTHWEST)

SCALE: 1"=200' HORZ.;1"=20' VERT. (IGLD 85 DATUM)

FIGURE 14-2D NEW OPERATIONS ACCESS ROAD PROFILE OF PROPOSED CULVERTS A - D



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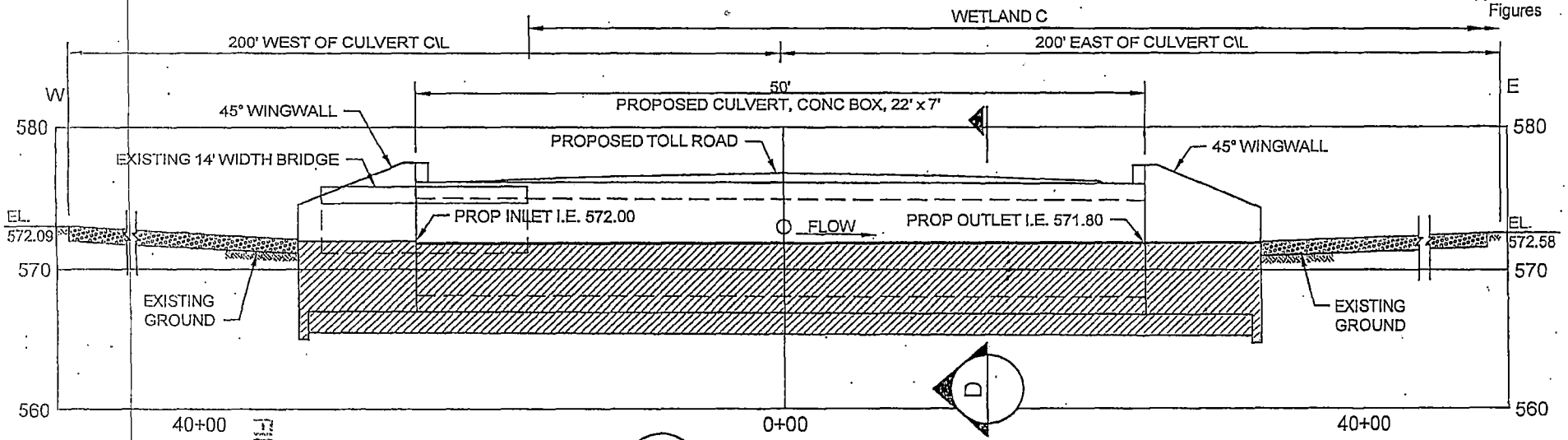
NOTE:
NO PROPOSED WETLAND IMPACTS ALONG NORTHWESTERLY EDGE OF ROAD.

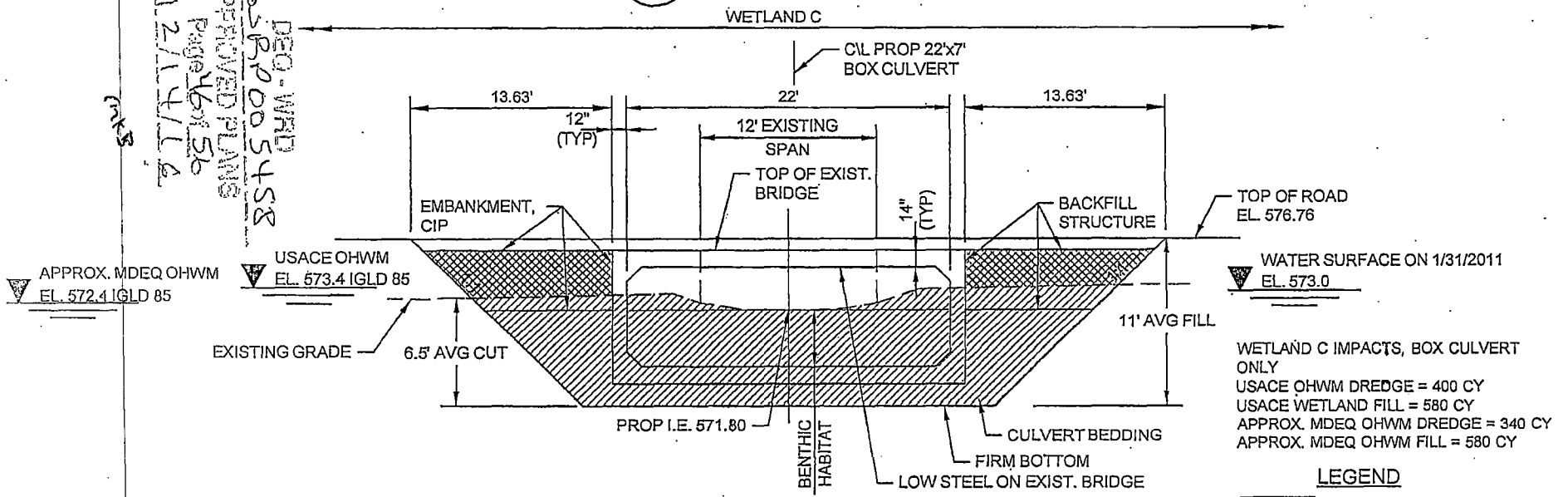
WETLAND C IMPACTS, BOX CULVERT ONLY
USACE OHWM DREDGE = 400 CY
USACE WETLAND FILL = 580 CY
APPROX. MDEQ OHWM DREDGE = 340 CY
APPROX. MDEQ OHWM FILL = 580 CY

FIGURE 14-2E
NEW OPERATIONS ACCESS ROAD 22'x7' BOX CULVERT PLAN VIEW

SCALE: 1"=20'
Revision 1



B ELEVATION
SCALE: 1"=10' (IGLD 85 DATUM)

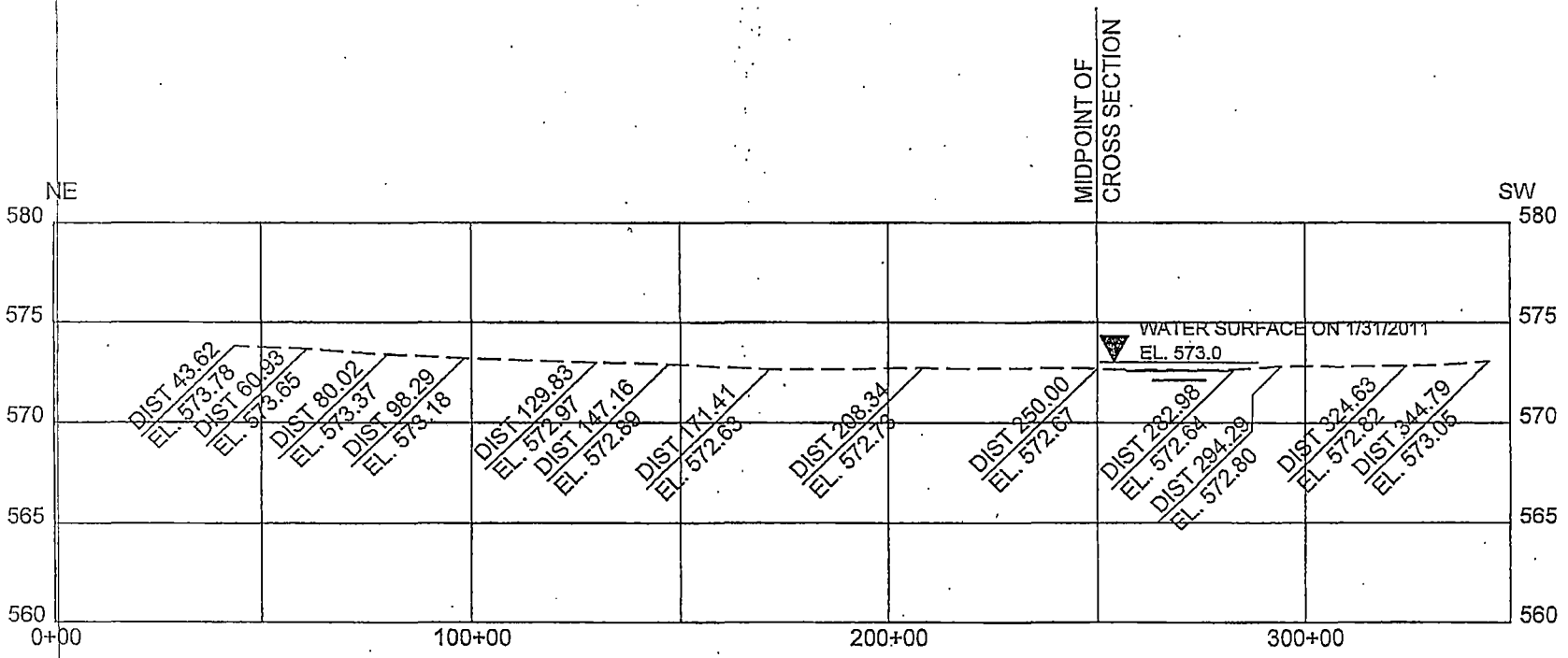


WETLAND C IMPACTS, BOX CULVERT ONLY
USACE OHWM DREDGE = 400 CY
USACE WETLAND FILL = 580 CY
APPROX. MDEQ OHWM DREDGE = 340 CY
APPROX. MDEQ OHWM FILL = 580 CY

LEGEND
AREA OF DREDGE
AREA OF WETLAND FILL

D SECTION VIEW (LOOKING WEST)
SCALE: 1"=10' (IGLD 85 DATUM)

FIGURE 14-2F NEW OPERATIONS ACCESS ROAD ELEVATION 'B' AND SECTION 'D' DETAILS

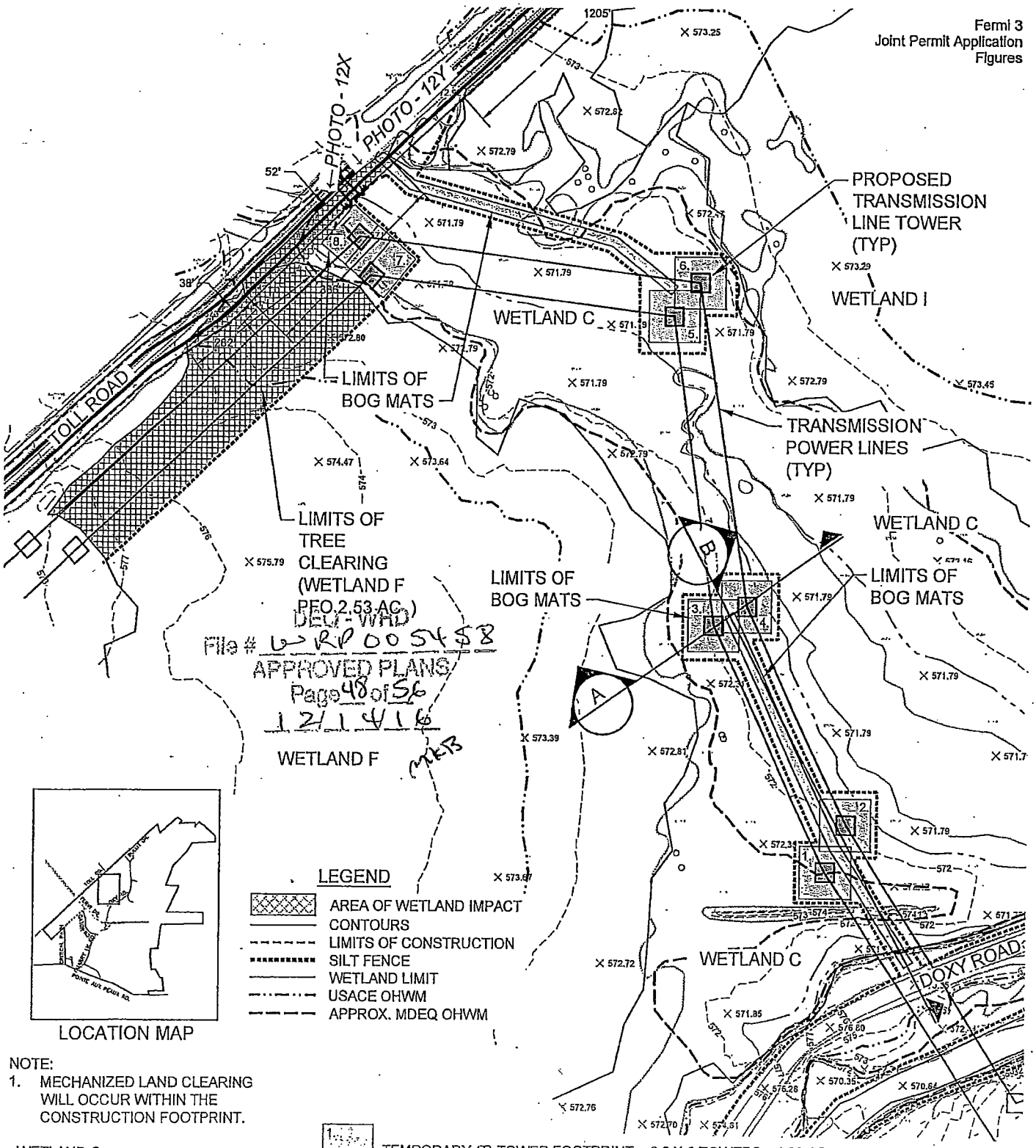


STREAM CROSS SECTION
200 FEET DOWNSTREAM OF PROPOSED TOLL ROAD (LOOKING DOWNSTREAM)

C

SCALE: 1"=40' HORZ.; 1"=5' VERT. (IGLD 85 DATUM)

FIGURE 14-2G NEW OPERATIONS ACCESS ROAD SECTION 'C' DETAILS



NOTE:
1. MECHANIZED LAND CLEARING WILL OCCUR WITHIN THE CONSTRUCTION FOOTPRINT.

WETLAND C
AREA = 0.24 acres
USACE OHWM DREDGE = 768 CY
USACE OHWM EXCAVATION = NA
WETLAND EXCAVATION = 768 CY
WETLAND FILL = 768 CY

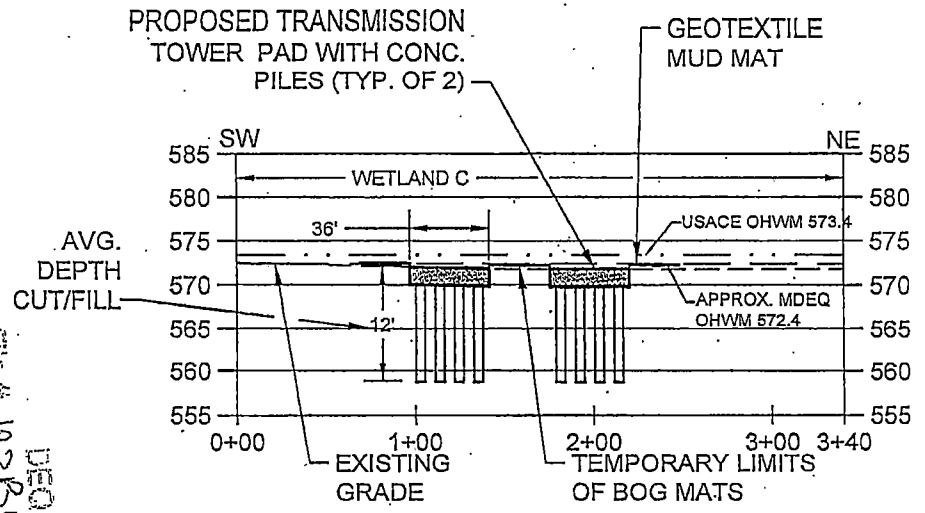
TEMPORARY (T) TOWER FOOTPRINT = 0.2 X 8 TOWERS = 1.60 ACRES
(T) LIMITS OF BOG MATS FOOTPRINT = 0.34 ACRES
(T) LIMITS OF BOG MATS FOOTPRINT = 0.35 ACRES
TOTAL TEMPORARY IMPACTS = 2.29 ACRES

PERMANENT (P) TOWER FOOTPRINT = 0.03 X 8 TOWERS = 0.24 ACRES
(P) OVERHEAD TRANSMISSION LINE CLEARANCE FOOTPRINT = 2.53 ACRES

N

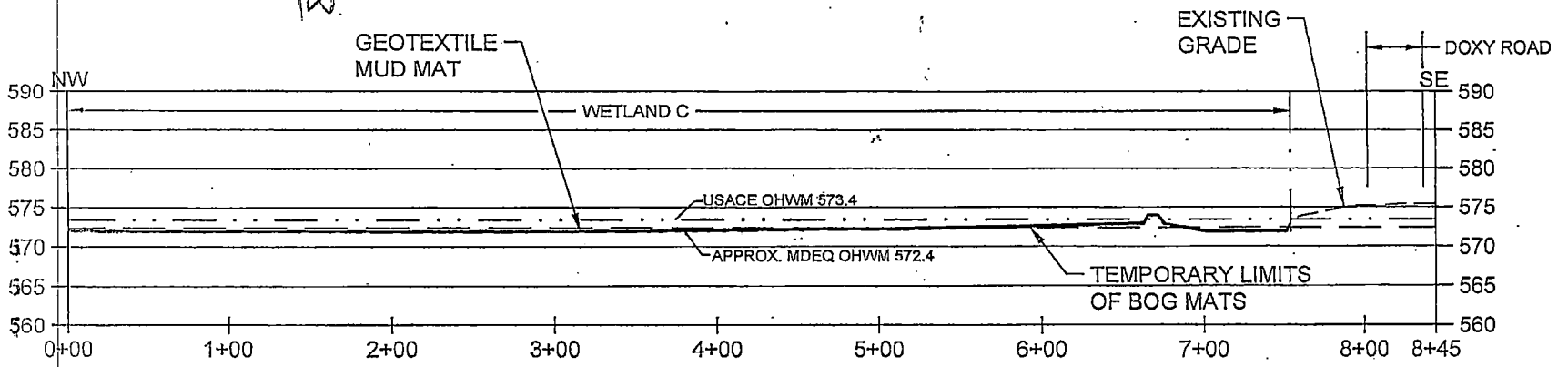
FIGURE 12-9A ONSITE TRANSMISSION PLAN VIEW

SCALE: 1"=250'



A ONSITE TRANSMISSION SECTION

SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)



B ONSITE TRANSMISSION SECTION

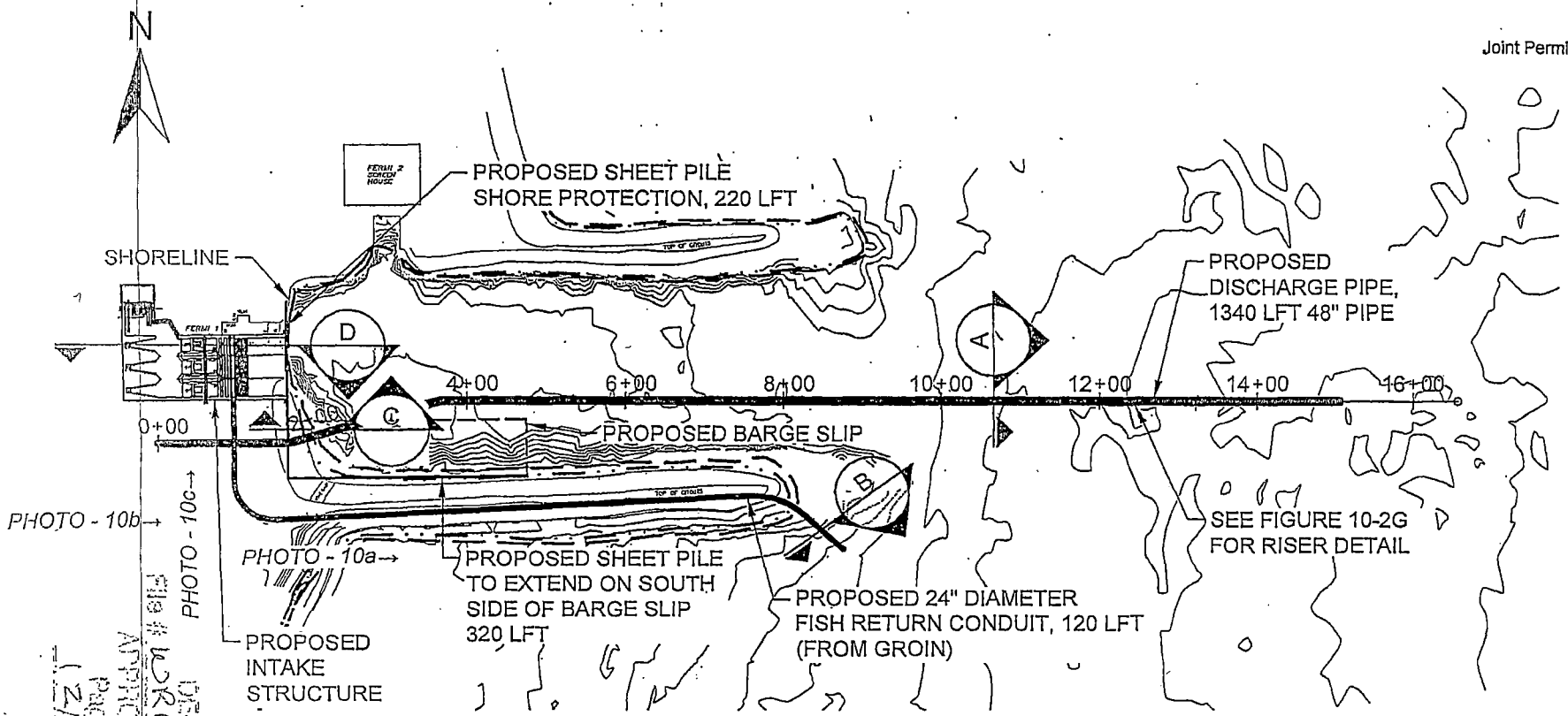
SCALE: 1"=100' H, 1"=20' V (IGLD 85 DATUM)

LEGEND

USACE OHWM

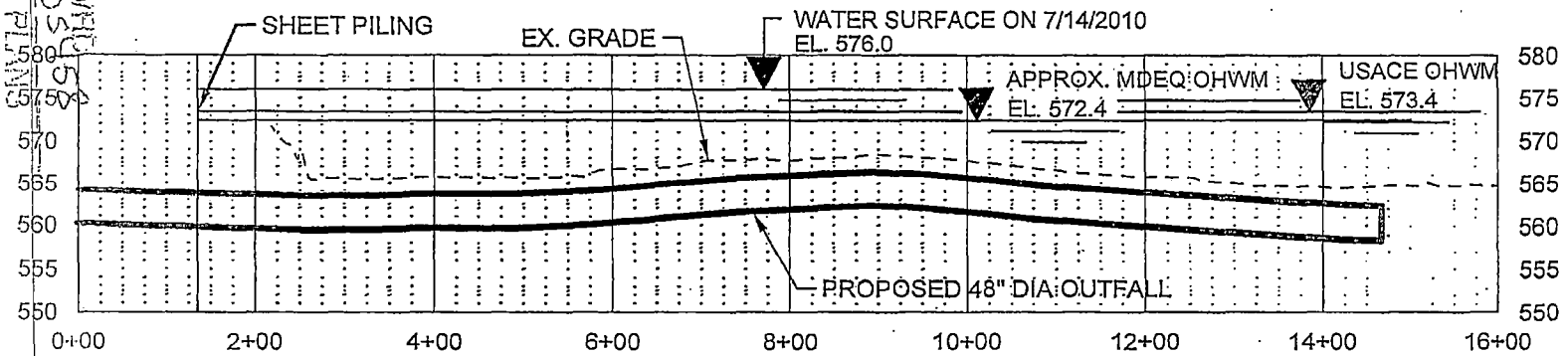
APPROX. MDEQ OHWM

FIGURE 12-9B ONSITE TRANSMISSION SECTION DETAILS



PLAN OF PROPOSED DISCHARGE PIPE

SCALE: 1"=200'



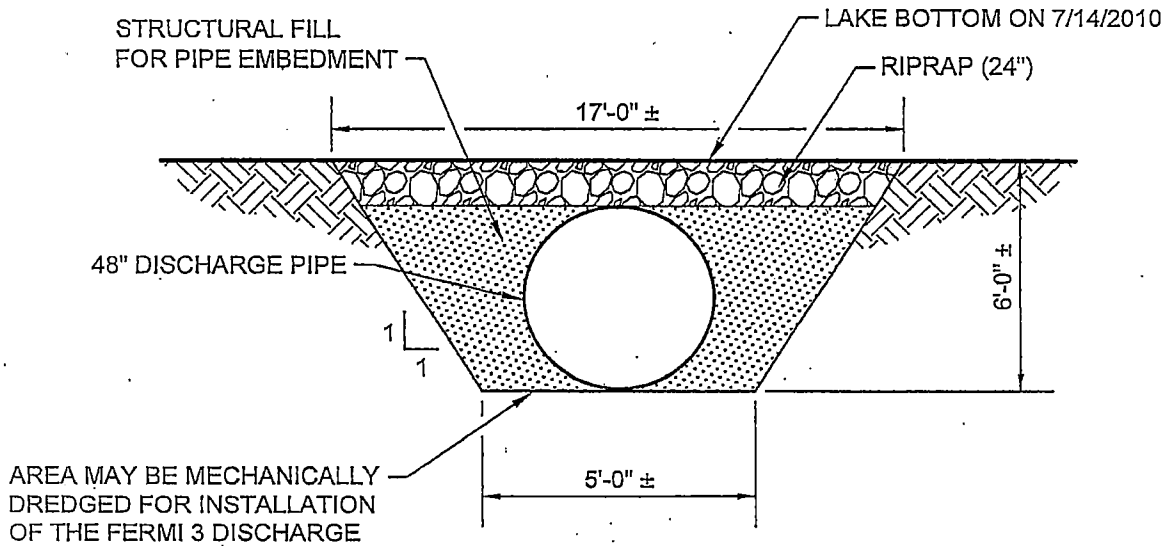
PROFILE OF PROPOSED FERMI 3 DISCHARGE PIPE

SCALE: 1"=200' HORZ.; 1"=20' VERT. (IGLD 85 DATUM)

LEGEND

- USACE OHWM
- APPROX. MDEQ OHWM
- PROPOSED BARGE SLIP LIMITS

FIGURE 10-2A LAKE ERIE CONSTRUCTION AREA PLAN AND PROFILE OF PROPOSED DISCHARGE PIPE



DREDGE VOLUME:	3,300 CY
SIDECAST VOLUME:	3,300 CY
STONE BACKFILL VOLUME:	970 CY
RIPRAP VOLUME:	1,690 CY
PIPE LENGTH:	1,340 LFT

NOTE:
1. ONLY OUTSIDE MATERIALS WILL BE THE PIPE, RIPRAP AND STONE.
2. ALL WORK BELOW MDEQ AND USACE OHWM.

A DISCHARGE PIPE DREDGING CROSS SECTION
SCALE: NONE

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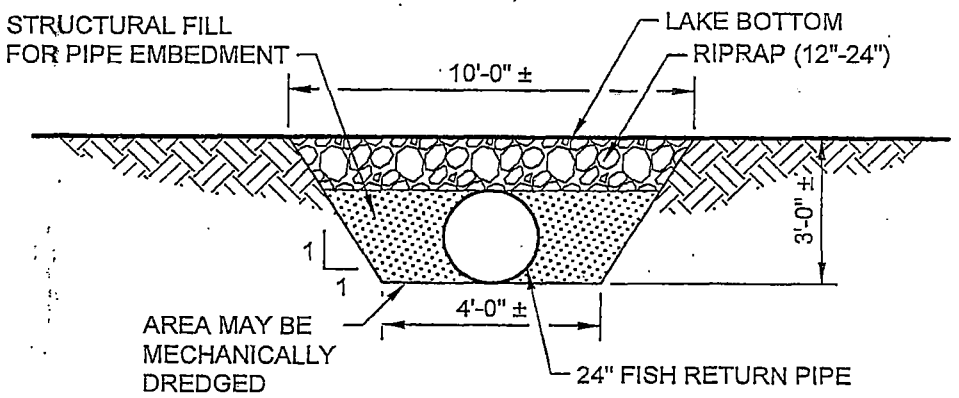
FIGURE 10-2B LAKE ERIE CONSTRUCTION AREA DISCHARGE PIPE DREDGING SECTION 'A' DETAILS



LEGEND
- RIPRAP
- UNDISTURBED EARTH
- STRUCTURAL FILL

DREDGE VOLUME: 93 CY
SIDECAST VOLUME: 93 CY (39 CY TO BE USED TO BACKFILL TRENCH)
RIPRAP VOLUME: 40 CY
PIPE LENGTH: 120 LFT

NOTE:
1. ONLY OUTSIDE MATERIALS WILL BE THE PIPE AND RIPRAP.
2. ALL WORK BELOW APPROX. MDEQ AND USACE OHWM.

B PIPE DREDGING CROSS SECTION (AT FISH RETURN LOCATION)
SCALE: NONE

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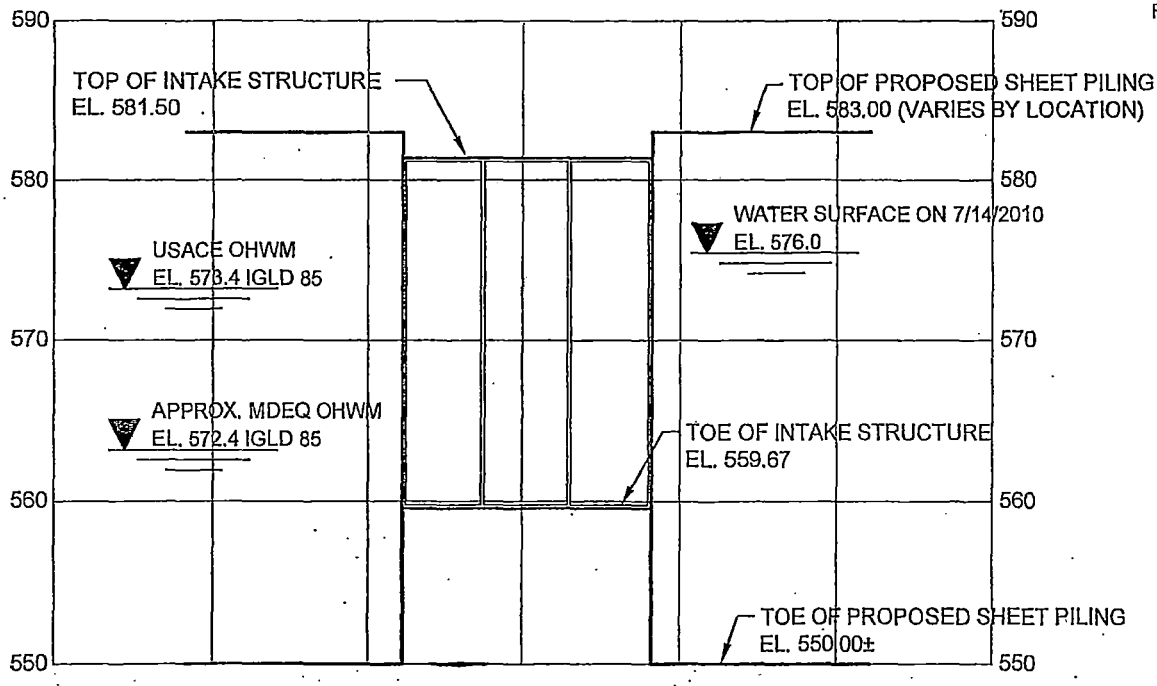
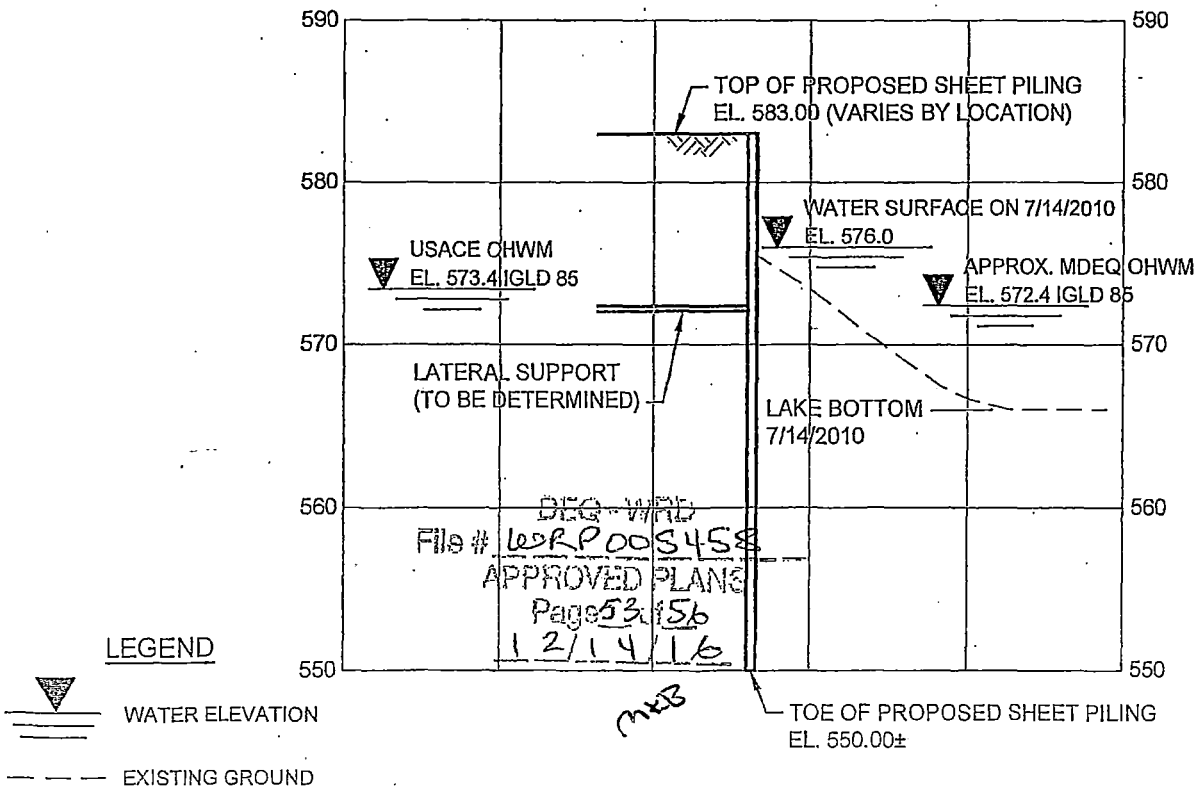
FIGURE 10-2C LAKE ERIE CONSTRUCTION AREA PIPE DREDGING SECTION 'B' DETAILS



INTAKE CROSS SECTION ALONG SHORELINE

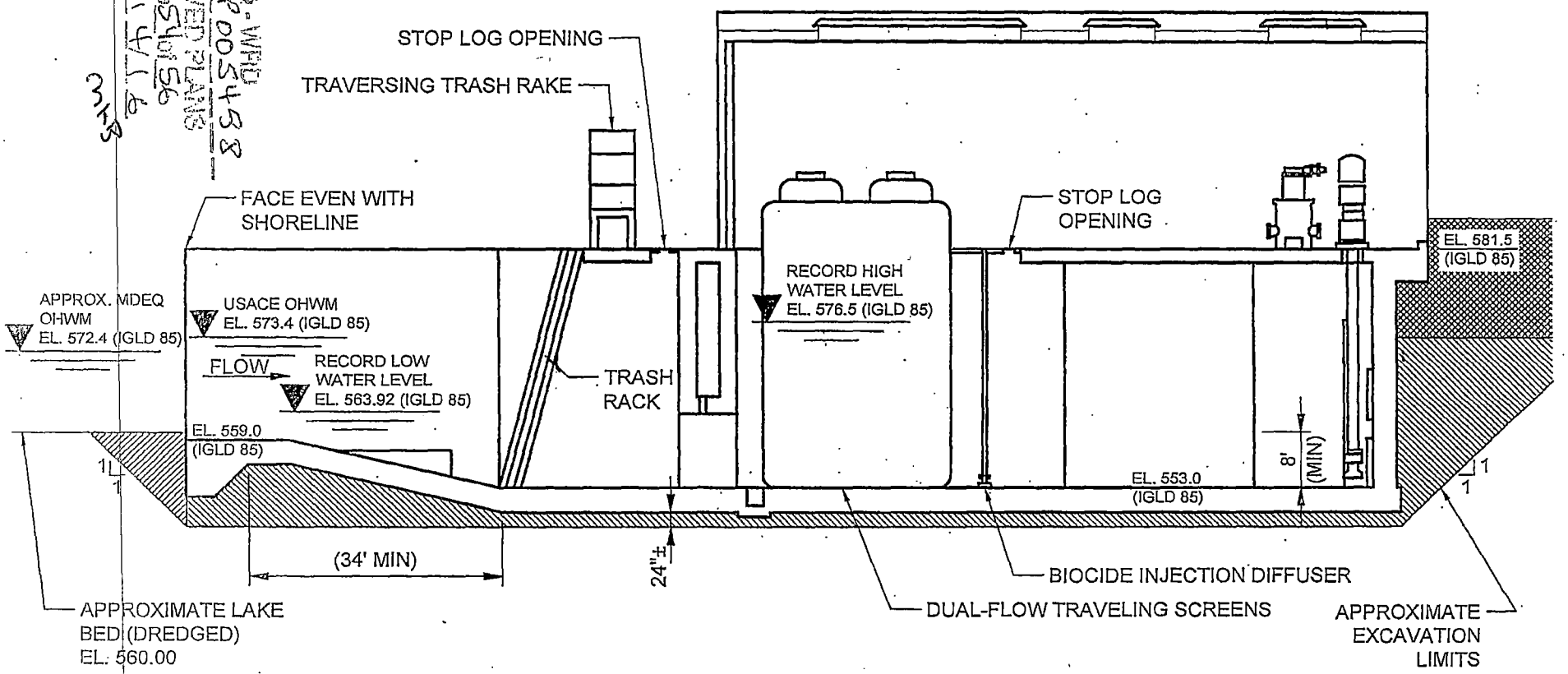
SCALE: 1"=60' HORZ.; 1"=10' VERT. (IGLD 85 DATUM)



C CROSS SECTION OF PROPOSED SHEET PILING

SCALE: 1"=10' VERT. (IGLD 85 DATUM)

FIGURE 10-2D LAKE ERIE CONSTRUCTION AREA INTAKE AND PROPOSED SHEET PILING SECTION DETAILS



LEGEND

- LAKE AREA DREDGE
- DREDGE
- UPLAND BACKFILL

D

PROPOSED INTAKE STRUCTURE (LOOKING SOUTH)

SCALE: 1"=20' (IGLD 85 DATUM)

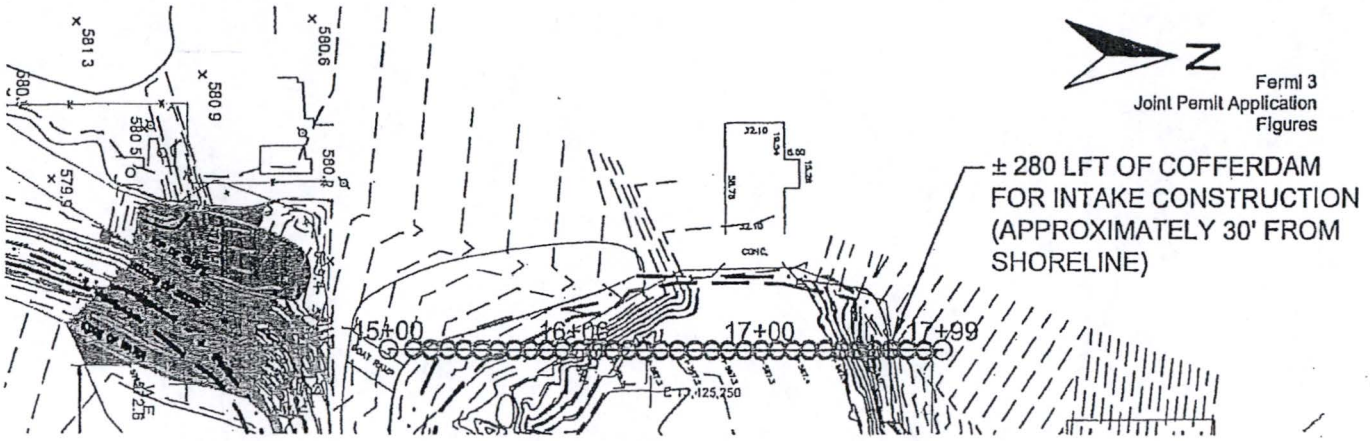
VOLUMES BELOW APPROX. MDEQ OHWM

DREDGE VOLUME:	16,100 CY
LAKE AREA DREDGE VOLUME:	300 CY
STRUCTURE VOLUME:	10,900 CY
BACKFILL VOLUME:	5,500 CY

VOLUMES BELOW USACE OHWM

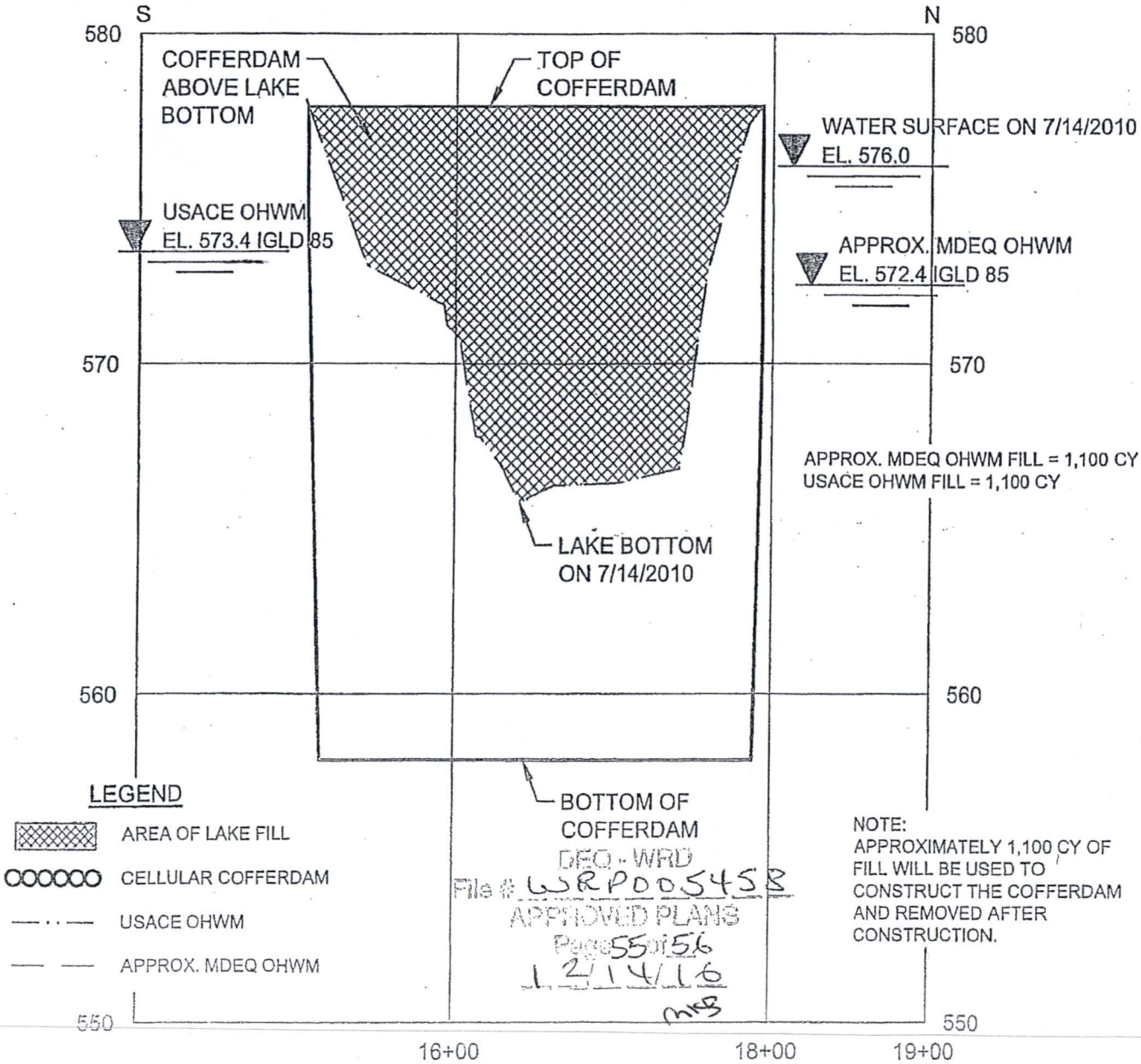
DREDGE VOLUME:	16,600 CY
LAKE AREA DREDGE VOLUME:	300 CY
STRUCTURE VOLUME:	11,300 CY
BACKFILL VOLUME:	5,600 CY

FIGURE 10-2E LAKE ERIE CONSTRUCTION AREA PROPOSED INTAKE STRUCTURE SECTION 'D' DETAILS



PROPOSED TEMPORARY COFFERDAM AT INTAKE STRUCTURE

SCALE: 1"=100'



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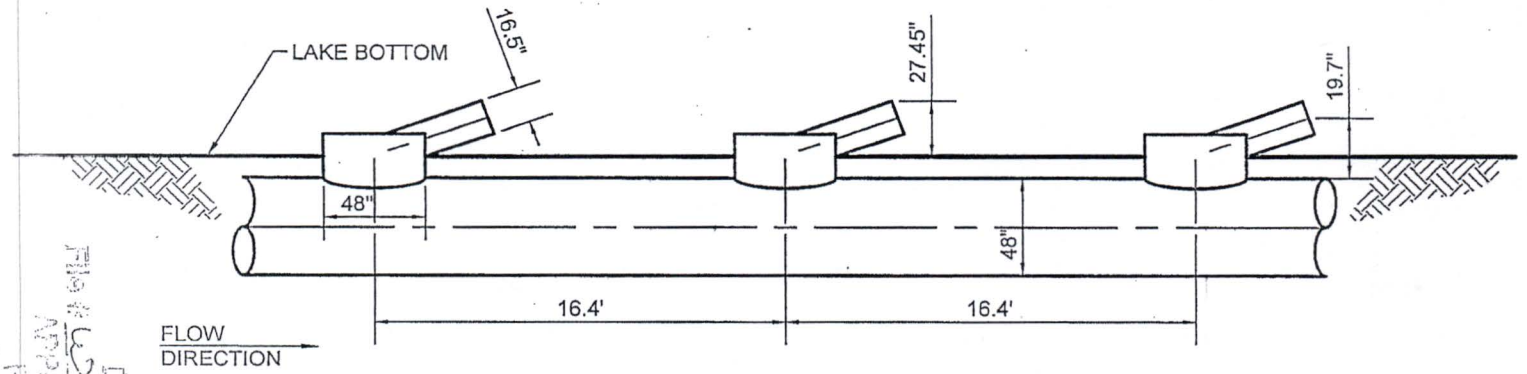
PROFILE OF TEMPORARY COFFERDAM

SCALE: 1"=100' HORZ.; 1"=5' VERT. (IGLD 85 DATUM)

FIGURE 10-2F LAKE ERIE CONSTRUCTION AREA PROPOSED COFFERDAM



NOTE:
TYPICAL RISER DETAIL ALONG DISCHARGE PIPE

10-2G LAKE ERIE CONSTRUCTION AREA PROPOSED DISCHARGE PIPE RISER DETAIL

SCALE: NONE