

DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

REPLY TO
ATTENTION OF:

December 7, 2001

Regulatory Branch

SUBJECT: Transmittal of PROVISIONAL Department of the Army
Permit No. 2000-02170(1)

Mr. Robert W. Barnes
Barnes Nursery, Incorporated
3511 Cleveland Road West
Huron, Ohio 44839

Dear Mr. Barnes:

This pertains to your request for authorization to maintain your existing irrigation channel and earthen berm with proposed modifications, along the southern shoreline of East Sandusky Bay, adjacent to, and south of, Sheldon Marsh State Nature Preserve, in Huron Township, near the City of Huron, in Erie County, Ohio.

Enclosed is a "Provisional Department of the Army Permit." **The provisional permit is NOT VALID and does not authorize you to do your work.** The provisional permit describes the work that will be authorized, and the General and Special Conditions which will be placed on your final Department of the Army (DA) permit if the State of Ohio requirements are satisfied as described below. **No work is to be performed in the waterway or any wetlands until you have received a validated copy of the DA permit.**

By Federal law no Department of the Army permit can be issued until a Section 401 Water Quality Certification (WQC), or waiver thereof, has been issued by the Ohio Environmental Protection Agency, and a Coastal Zone Management (CZM) Federal consistency determination has been issued by the Ohio Department of Natural Resources.

As of December 7, 2001, neither Water Quality Certification, nor waiver thereof, have been issued for your project. If the State fails or refuses to act by May 11, 2002 on the Water Quality Certification, the Water Quality Certification requirement will be waived.

As of June 11, 2001, the Coastal Zone Management Federal consistency was denied. On July 10, 2001, you filed with the

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United States Department of Commerce (USDOC) a notice of appeal. On September 10, 2001, the State of Ohio, Department of Natural Resources (ODNR), and you jointly filed a request with the USDOC for an extension of time for submission of initial briefs and supporting materials. The USDOC granted an extension of time for filing briefs until December 21, 2001 for ODNR, and November 21, 2001 for you. As of November 20, 2001, ODNR and you have agreed to enter into discussions which may have an impact on this appeal and jointly filed a request with the USDOC for an extension of time for submission of initial briefs and supporting materials. The USDOC has granted an extension of time for filing briefs until March 27, 2002 for ODNR, and February 27, 2002 for you.

Conditions contained in the Water Quality Certification and Coastal Zone Management consistency determination will be incorporated into the final DA permit. Should the State's action preclude validation of the provisional permit in its current form, a modification to the provisional permit will be evaluated and you will be notified as appropriate. Substantial changes may require a new permit evaluation process, including issuing a new public notice.

When you have obtained a Water Quality Certification (WQC) and Coastal Zone Management consistency concurrence determination (CZM), please return this copy of the Provisional DA permit, a copy of the WQC and CZM and, if appropriate, a list of any inconsistencies you note between the WQC and CZM and the provisional DA permit and any objections you have to the terms and conditions of the permit.

In the event that the State fails or refuses to act by May 11, 2002 on the WQC, please return this copy of the provisional DA permit and an outline of any objections to the terms and conditions of the permit.

If the State denies the required Water Quality Certification and/or you fail to reach a settlement in your negotiations with regard to Coastal Zone Management consistency, then your DA

permit may be denied without prejudice Should you

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permit may be denied without prejudice. Should you subsequently obtain the Water Quality Certification and Coastal Zone Management consistency, you should contact this office to determine how to proceed with your permit application.

If you have any questions concerning your State requirements, please contact:

Ms. Laura Fay
Section 401 Reviewer
Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, Ohio 43216-1049
(614) 644-2148

and

Ms. Kim Baker
Ohio Department of Natural Resources
Fountain Square, Building C-2
1952 Belcher Drive
Columbus, Ohio 43224-1386
(614) 265-6411

Questions pertaining to this matter should be directed to Michael G. Montone, who may be contacted by calling (716) 879-4435, by writing to the following address: U.S. Army Corps of Engineers, 1776 Niagara Street, Buffalo, New York 14207-3199, or by e-mail at: michael.g.montone@usace.army.mil

Sincerely,



Glen R. DeWillie
Lieutenant Colonel, U.S. Army
District Engineer

Enclosures

PERMITTEE: BARNES NURSERY, INCORPORATED

PERMIT NUMBER: 2000-02170(1

EFFECTIVE DATE: _____

NOTE: The term you and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below. (and continue on page 5)

PROJECT DESCRIPTION: BARNES NURSERY, INCORPORATED, 3511 CLEVELAND ROAD WEST, HURON, OHIO 44839, IS HEREBY AUTHORIZED BY THE SECRETARY OF THE ARMY TO: MAINTAIN THE EXISTING IRRIGATION CHANNEL AT A WIDTH OF APPROXIMATELY 55 FEET, A LENGTH OF APPROXIMATELY 1,800 FEET, AND A DEPTH OF APPROXIMATELY 5 FEET; DISCHARGE DREDGE MATERIALS TO REHABILITATE THE SIDES OF THE IRRIGATION CHANNEL TO A 2:1 (RUN TO RISE) SLOPE; RESHAPE THE EXISTING EARTHEN BERM INTO 5 ISLANDS, APPROXIMATELY 55 FEET IN WIDTH, 300 FEET IN LENGTH, 7 FEET IN HEIGHT AND THE DISTANCE BETWEEN THE ISLANDS WILL BE APPROXIMATELY 50 FEET; REHABILITATE THE NORTHERN SIDE OF THE ISLANDS TO A 4:1 (RUN TO RISE) SLOPE AND THE SOUTHERN SIDE OF THE ISLANDS TO A 2:1 SLOPE; CONSTRUCT A FEEDER CHANNEL APPROXIMATELY 500 FEET IN LENGTH, 3 FEET IN WIDTH, AND 1.5 FEET IN DEPTH. ALL WORK SHALL BE IN ACCORDANCE WITH THE GENERAL AND SPECIAL CONDITIONS, AND THE PLANS AND DRAWINGS AND ANY ADDITIONAL SPECIAL CONDITIONS ATTACHED HERETO WHICH ARE INCORPORATED IN AND MADE A PART OF THIS PERMIT.

PROJECT LOCATION: THE PROJECT IS LOCATED ALONG THE SOUTHERN SHORELINE OF EAST SANDUSKY BAY, ADJACENT TO, AND SOUTH OF, SHELDON MARSH STATE NATURE PRESERVE, IN HURON TOWNSHIP, NEAR THE CITY OF HURON, IN ERIE COUNTY, OHIO.

Your signatures below, as permittees, indicate you accept and agree to comply with the terms and conditions of this permit.

(PER)
PROVISIONAL PERMIT

(DATE)
**DO NOT SIGN OR YOU WAIVE
YOUR RIGHT TO APPEAL**

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

(DISTRICT COMMANDER)

(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE)

(DATE)

SPECIAL CONDITIONS:

- 1 The permittee shall assume all responsibility for complying with all Special Conditions.
2. That prior to commencing the authorized work you must notify the District Commander of the dates you intend to commence the project. You must also provide notification of the date of completion.
3. That you are responsible for ensuring that the contractor and/or workers executing the activity(s) authorized by this permit have knowledge of the terms and conditions of the authorization and that a copy of the permit document is at the project site throughout the period the work is underway.
4. That this permit does not authorize the discharge of dredged or fill material into East Sandusky Bay, for the purpose of creating temporary structures that include but are not limited to groins, cofferdams, work pads, laydown areas, and access roads.
5. That no in-water work will be performed between April 15 and August 15 to preclude adverse impacts on the spawning, nursery, and feeding activities of indigenous fish species without first obtaining Department of the Army authorization.
6. That no mechanized work will be performed between June 15 and October 31 to preclude adverse impacts on the activities of fledgling bald eagles (*Haliaeetus leucocephalus*). A visual survey for fledgling eagles shall be performed prior to any mechanized operations. Mr. Charles Herdendorf (or a qualified designated agent) will conduct these surveys daily while mechanized operations are ongoing. All activities shall immediately be halted if any fledgling eagles are observed and you should contact Ms. Megan Sullivan of the U.S. Fish and Wildlife Service at 614-469-6923 for further direction.
7. Sheldon Marsh has been proposed as critical habitat for the piping plover (*Charadrius melodus*), a Federally listed endangered species. Activities disturbing the natural behavior of piping plovers may constitute a "take" under the Endangered Species Act. Therefore, a visual survey for piping plovers shall be performed prior to any excavating and grading operations. Mr. Charles Herdendorf (or a qualified designated agent) will conduct these surveys daily while excavating and grading operations are ongoing. All activities shall immediately be halted if any piping plovers are observed and you should contact Ms. Megan Sullivan of the U.S. Fish and Wildlife Service at 614-469-6923 for further direction.
8. That any dredged or excavated material (not used as backfill) removed from East Sandusky Bay shall be properly disposed of on an upland site and maintained to prevent erosion and other non-point sources of pollution. All excess dredged or excavated material shall be disposed of at an upland disposal site approved by the Corps of Engineers.

SPECIAL CONDITIONS CONTINUED:

9. That prior to any excavating, grading, or plowing in waters of the United States as authorized by this permit, you shall install and maintain erosion and sedimentation controls between the project area and the undisturbed areas of mudflat and/or open water habitat to prevent sedimentation into the mudflat and/or open water habitat.

10. All erosion and sediment control practices shall be checked daily to ensure they are not damaged and that they are functioning properly. If damaged, repairs will be completed by the next day. All sediment and erosion control practices shall remain in place until construction is completed and the area is stabilized.

11. Disturbance to the bed and banks of the channel shall be kept to the minimum necessary to complete the project.

12. Dredging operations shall be strictly controlled to minimize spillage and re-suspension of bottom sediment.

13. That as partial mitigation for the loss of waters of the United States, including the permanent loss of approximately 0.02 acre of wetlands, the temporary loss of approximately 0.5 acre of wetlands, and the permanent loss of approximately 4.2 acres of open water and mudflat habitat, you have agreed to create approximately 0.5 acre of wetland fringe habitat on 5 islands (as shown on the attached drawings). This area is designated as the Creation Area. You have agreed to use soil bioengineering techniques to stabilize the Creation Area. A soil bioengineering plan must be submitted and approved by the Corps prior to commencement of any construction activities.

14. That as partial mitigation for the loss of waters of the United States, including the permanent loss of approximately 0.02 acre of wetlands, the temporary loss of approximately 0.5 acre of wetlands, and the permanent loss of approximately 4.2 acres of open water and mudflat habitat, you have agreed to preserve approximately 34 acres of Federal wetlands and associated upland buffer in a Conservation Easement to be held by a third party (as shown on the attached drawings). This area is designated as the Preservation Area. The conservation easement shall be subject to the following conditions:

a. The conservation easement shall contain language that specifies the acreage of the Conservation Area, and protects and preserves the Conservation Area as perpetual, undeveloped wetlands and upland buffer. The easement shall specifically state that neither the wetland areas nor any upland buffer areas within the easement may be encroached upon by residential or other buildings, roadways, bridges or other structures.

b. The permittee shall designate a third party to hold and enforce the Conservation Easement, subject to written approval from the U.S. Army Corps of Engineers.

SPECIAL CONDITIONS CONTINUED:

c. A draft copy of the Conservation Easement must be submitted to this office within 180 days after validation of this permit. A copy of the executed conservation easement must be submitted within 180 days of commencing construction activities.

15. That as partial mitigation for the loss of waters of the United States including the permanent loss of approximately 0.02 acre of wetlands, the temporary loss of approximately 0.5 acre of wetlands, and the permanent loss of approximately 4.2 acres of open water and mudflat habitat, you have agreed to **enhance all habitat within the Preservation Area by substantially reducing the presence of *Phragmites spp.* to established criteria over a ten year period.**

16. That as partial mitigation for the loss of waters of the United States including the permanent loss of approximately 0.02 acre of wetlands, the temporary loss of approximately 0.5 acre of wetlands, and the permanent loss of approximately 4.2 acres of open water and mudflat habitat, you have agreed to **restore approximately 0.5 acre of Federal wetlands that were impacted by the placement of fill and achieve the performance criteria described below (Special Condition Nos. 26-28). You completed activities to return this area to pre-construction grade on April 18, 2001. This area is designated as the Restoration Area.**

17. That the Creation, Restoration and Preservation Areas are collectively designated as the Mitigation Area.

18. There shall be no construction or placing of buildings, camping accommodations or mobile homes, fences, signs, billboards or other advertising material, or other structures within the limits of the designated Mitigation Area without first obtaining Department of the Army authorization.

19. The permittee shall take all appropriate and reasonable measures to ensure that there shall be no filling, excavating, dredging, mining or drilling, removal of topsoil, sand, gravel, rock, minerals, or other materials, nor any building of roads or change in the topography of the land in any manner within the designated Mitigation Area without first obtaining Department of the Army authorization.

20. The permittee shall take all appropriate and reasonable measures to ensure that there shall be no removal, destruction, or cutting of non-invasive, native vegetation, spraying with herbicides, grazing of domestic animals, or disturbance or manipulation of the designated Mitigation Area without first obtaining Department of the Army authorization.

21. That at the request of an authorized representative of the Buffalo District, U.S. Army Corps of Engineers, you shall ensure access to the project site and the mitigation parcels to determine compliance with the conditions of this permit.

SPECIAL CONDITIONS CONTINUED:

22. That you shall monitor the success of plant management within the designated Mitigation Area twice annually (April 15 - May 15 and September 1 - September 30), so as to characterize the dominant vegetation in the designated Mitigation Area at different times, and under different hydrological

conditions, during the growing season.

23 That you shall monitor the sedimentation and erosion of the project site (islands and channels) once annually, with at least 6 months in between each sampling, so as to characterize the erosion and sedimentation in these areas. Monitoring reports shall include plan view drawings of the islands and channels drawn to scale, and a series of photographs showing all islands and the area landward (south) of the channel. Photographs must be taken from the same location each year. Monitoring reports shall also include typical profile drawings of:

- a. the islands and channel taken at the midpoint of each island.
- b. the channel taken between the islands.
- c. the feeder channel taken near each end point and the midpoint.

24. That Monitoring Reports for the creation, restoration and project areas shall be forwarded to the Buffalo District, U.S. Army Corps of Engineers, according to the following protocol:

a. Baseline Report: Due on or before December 31 in the year of completion of all construction activities. The Baseline report must include an "as-built" topographic and hydrographic survey of the project area (feeder channel, main channel, and islands). [Note: for purposes of Special Condition No. 24, "all construction activities" means all activities associated with site preparation, excavation, plowing, grading, soil bioengineering, and the removal of any existing structures and/or fills.]

b. First Year Report: Due on or before December 31 in the year of the first anniversary of completion of all construction activities. The first year report must include the data collected from annual monitoring required in Special Condition Nos. 22 and 23, and a report documenting the plant management techniques used to reduce the presence of Phragmites within the designated Mitigation Area.

c. Mid-term Reports: Due on or before December 31 in the year of the third, fifth, and seventh anniversary of completion of all mitigation construction activities. The Mid-term Reports must include the data collected from annual monitoring required in Special Condition Nos. 22 and 23, and a report documenting the plant management techniques used to reduce

SPECIAL CONDITIONS CONTINUED:

the presence of Phragmites within the designated Mitigation Area. The mid-term reports must also describe any potential problems with achieving the performance criteria described below (Special Condition Nos. 26-28), and any and all corrective actions taken. Corrective actions may include, but are not limited to: re-grading to achieve necessary hydrology or slope, planting of hydrophytic

vegetation, and control of invasive plant species.

d. Final Report: Due on or before December 31 in the year of the tenth anniversary of completion of all construction activities. The Final Report must include the data collected from annual monitoring required in Special Condition Nos. 22 and 23, and a report documenting the plant management techniques used to reduce the presence of Phragmites within the designated Mitigation Area. The Final Report must include a discussion of whether the performance criteria were achieved and any further recommendations for remedial measures, if necessary.

25. If the mitigation monitoring reports and/or Conservation Easement draft and/or copy of the executed conservation easement required under these conditions are not submitted by the specified dates, unless a time extension is approved in writing by the Corps of Engineers, the permittee shall pay stipulated penalties in the amount of \$100.00 per day for each day past the submittal date. Such funds shall be submitted by check made payable to "The Finance and Accounting Officer," and forwarded directly to the Office of Counsel, U.S. Army Corps of Engineers, Buffalo District, 1776 Niagara Street, Buffalo, New York 14207-3199.

26. That the following species shall be excluded from all project planting and landscaping within 100 feet of the project area and preservation area:

-Herbs:

Alliaria petiolata
Glyceria maxima
Lythrum salicaria
Phalaris arundinacea
Phragmites spp.
Polygonum cuspidatum
Typha latifolia, T. angustifolia, T. x glauca
Echinochloa crusgalli

-Woody Plants:

Eleagnus angustifolia
Lonicera tatarica, L. morrowii, L. xylosteum
Populus alba
Rhamnus cathartica, R. frangula
Rosa multiflora
Solanum dulcamera

SPECIAL CONDITIONS CONTINUED:

27. That corrective measures shall be implemented to preclude the growth of the following invasive plant species should they appear within the wetland mitigation areas: *Alliaria petiolata, Phalaris arundinacea, Phragmites spp., Solanum dulcamera, Rhamnus spp., Rosa multiflora, Polygonum cuspidatum, Lythrum salicaria, Typha angustifolia* and *Typha x glauca*.

28. That at the end of the tenth year post completion of all construction activities, the designated Mitigation Area shall be vegetated with a minimum of 80% areal cover of hydrophytic vegetation, excluding *Myriophyllum spicatum*. In addition, less than 15% areal cover of the mitigation area shall be vegetated with the following invasive species: *Lythrum salicaria*, *Phragmites spp.*, *Phalaris arundinacea*, *Solanum dulcamera*, *Rhamnus frangula*, *Typha angustifolia*, and *Typha x glauca*. In the event that these criteria are not met, the applicant shall undertake remedial actions identified by the District Commander. These actions may include, but are not limited to, corrective actions described above, or an alternative wetland mitigation plan to be implemented on the same or an alternate site

29. That you shall install an impermeable weir structure or an alternative device to ensure that a minimal water level of 2 feet is maintained in the main channel. Placement of a weir structure or design of an alternative device is subject to written approval from the U.S. Army Corps of Engineers. The weir structure or alternative device must be installed prior to any excavating and grading activities.

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND
REQUEST FOR APPEAL

Applicant: Barnes Nursery, Incorporated		File Number: 2000-02170(1)	Date:
Attached is:		See Section below	
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)		A
	PROFFERED PERMIT (Standard Permit or Letter of permission)		B
	PERMIT DENIAL		C
	APPROVED JURISDICTIONAL DETERMINATION		D
	PRELIMINARY JURISDICTIONAL DETERMINATION		E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://usace.army.mil/inet/functions/cw/cecw/reg> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

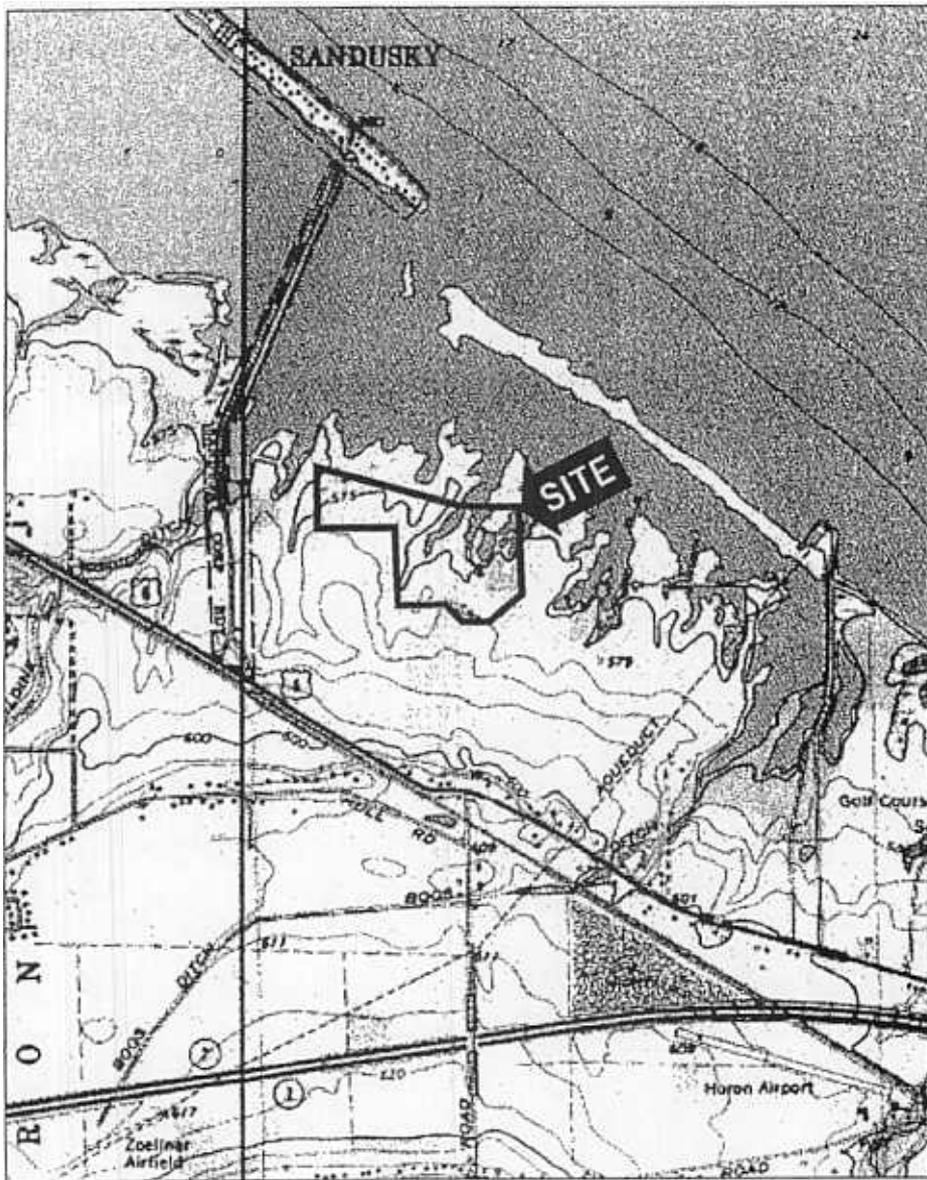
REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

Ms. Suzanne Chubb
U.S. Army Corps of Engineers
Great Lakes and Ohio River Division
550 Main Street
Cincinnati, OH 45201-1159
(513) 684-7261
suzanne.l.chubb@lrdor.usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

	Date:	Telephone number:
Signature of appellant or agent.		



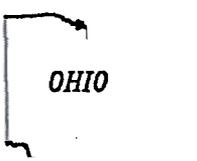
U.S.G.S. MAP FIGURE 1

PROJECT: BARNES NURSERY
LOCATION: HURON, OHIO

CHAGRIN VALLEY
ENGINEERING, LTD.



BARNES NURSERY INC.
D/A Processing No. 2000-02170(1)
Erie County, Ohio Quad: HURON
Sheet 1 of 5



OHIO
QUADRANGLE LOCATION

HURON QUADRANGLE
OHIO - ERIE
7.5 MINUTE SERIES (TOPOGRAPHIC)

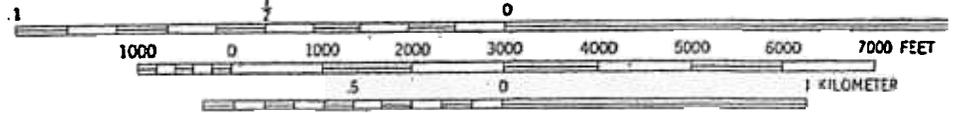
PROJECT

DEPARTMENT OF THE IN
GEOLOGICAL SURVEY

HURON QUADRANG
OHIO—ERIE CO.

7.5 MINUTE SERIES (TOPOG

SCALE 1:24 000



CONTOUR INTERVAL 5 FEET

NATIONAL GEODETIC VERTICAL DATUM OF 1929

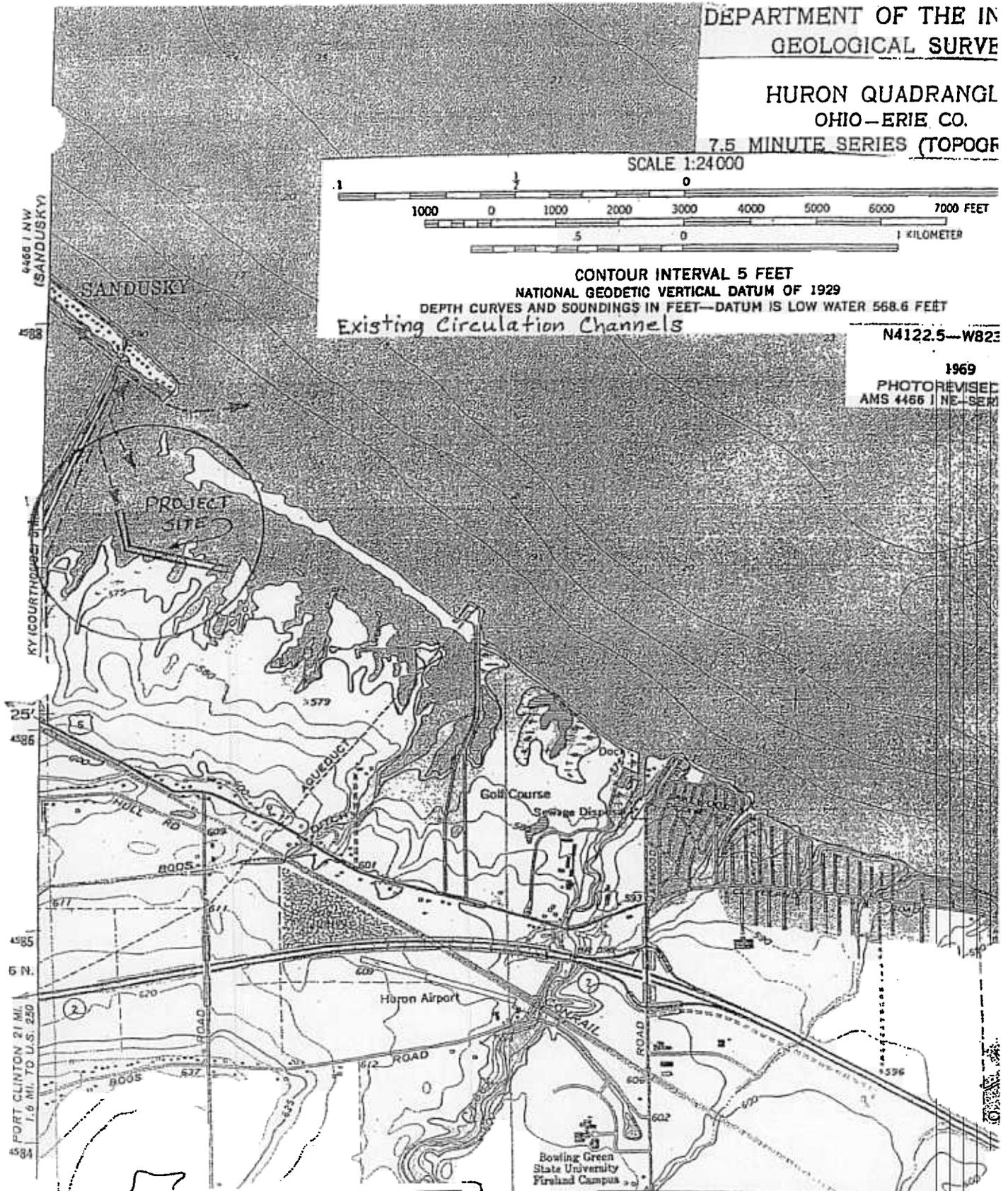
DEPTH CURVES AND SOUNDINGS IN FEET—DATUM IS LOW WATER 568.6 FEET

Existing Circulation Channels

N4122.5—W823

1969

PHOTOREVISED
AMS 4466 | NE—SERI

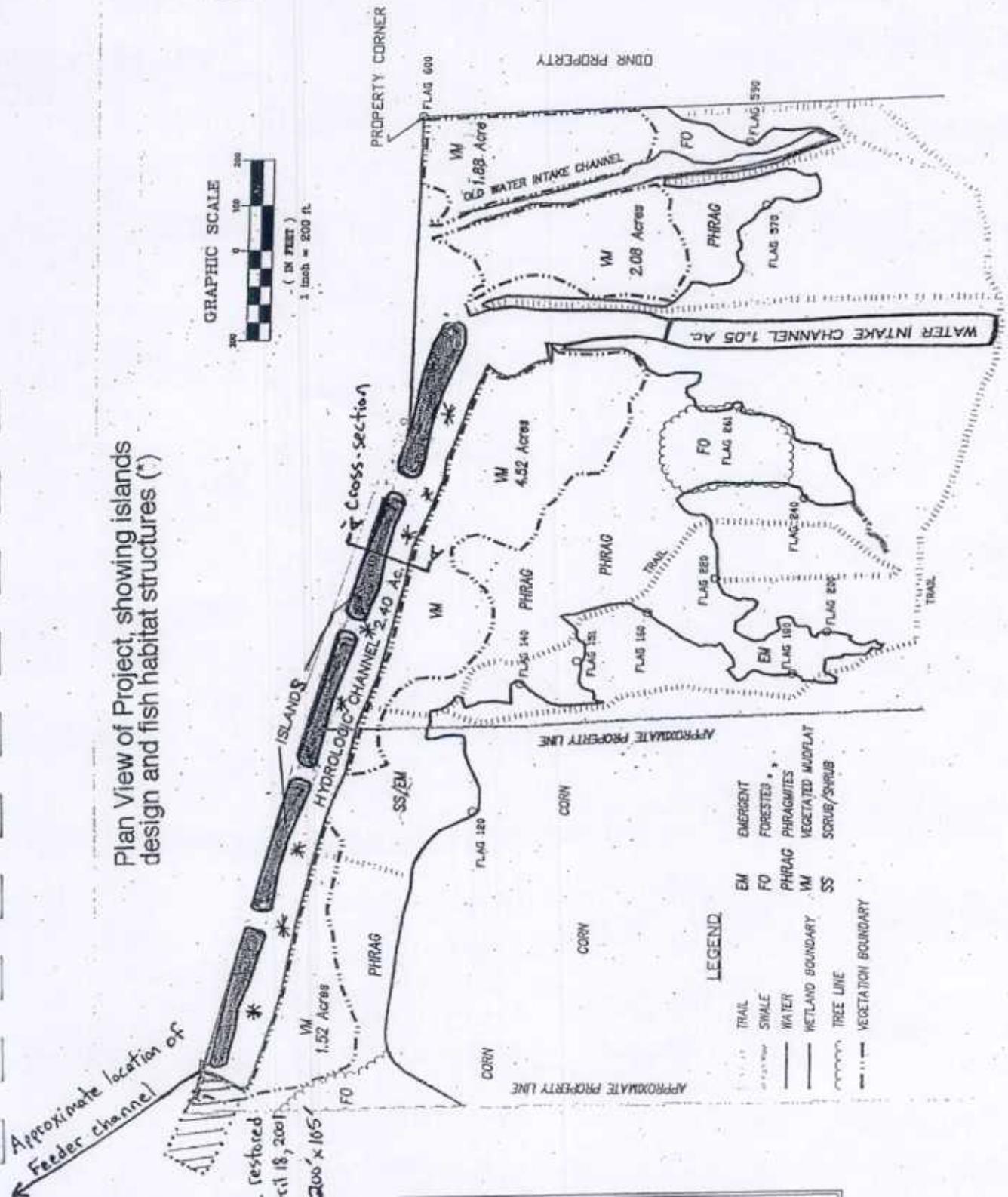


BARNES NURSERY INC.
D/A Processing No. 2000-02170(1)
Erie County, Ohio Quad: HURON
Sheet 2 of 5

East Sandusky Bay Hydrology Restoration Pro
Application No. 2000-02170 Barnes Nursery, Ir

Figure 1. Project Location Map

Plan View of Project, showing islands design and fish habitat structures (*)



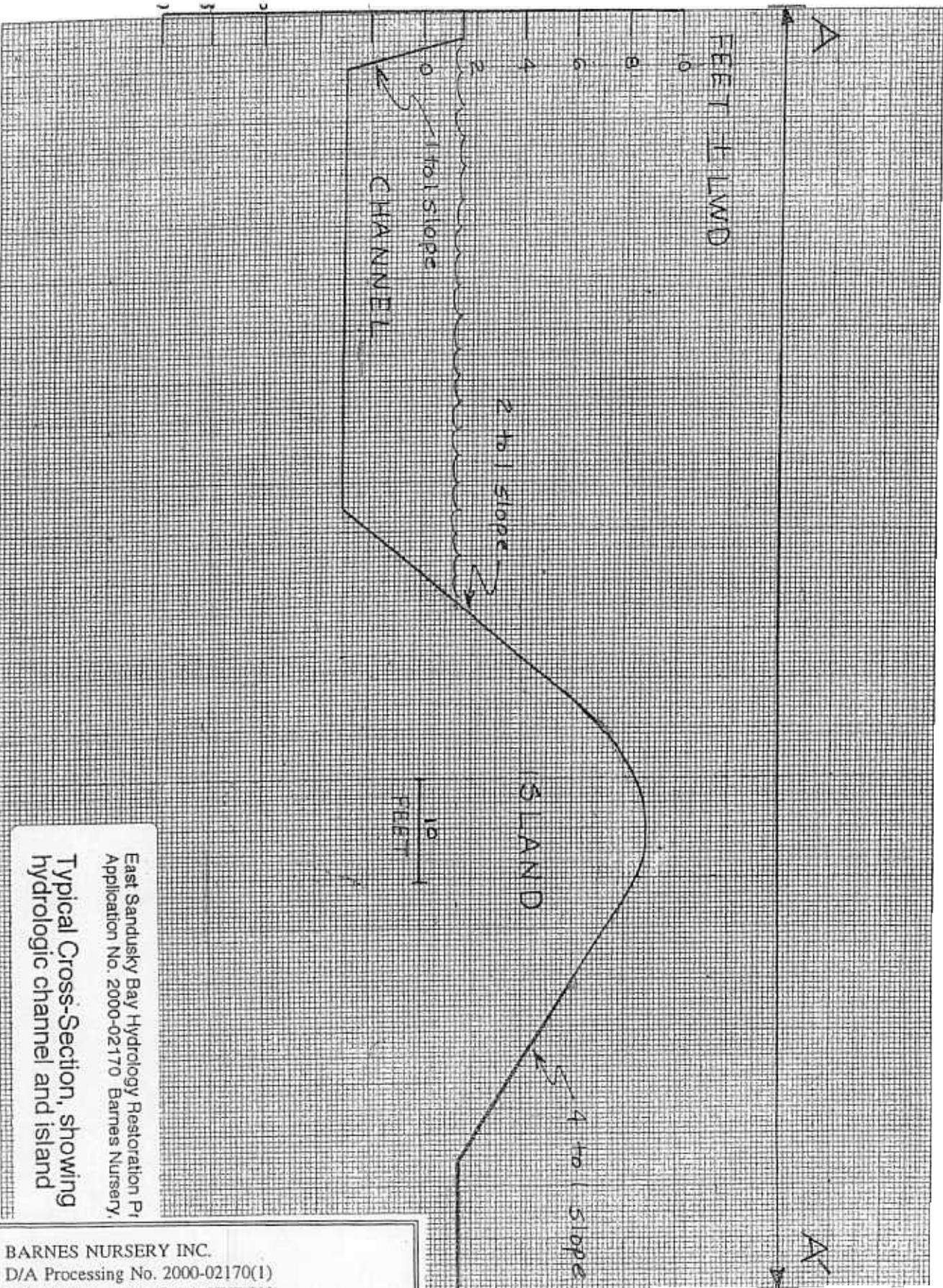
Approximate location of Feeder channel

Area restored on April 18, 2001
 Approximately 200' x 105'

BARNES NURSERY INC.
 D/A Processing No. 2000-02170(1)
 Erie County, Ohio Quad: HURON
 Sheet 3 of 5

- LEGEND
- TRAIL
 - SWALE
 - WATER
 - WETLAND BOUNDARY
 - TREE LINE
 - VEGETATION BOUNDARY
 - EM EMERGENT
 - FO FORESTED
 - PHRAG PHRAGMITES
 - VM VEGETATED MUDFLAT
 - SS SCRUB/SHRUB

Project Plan View
 November 2001



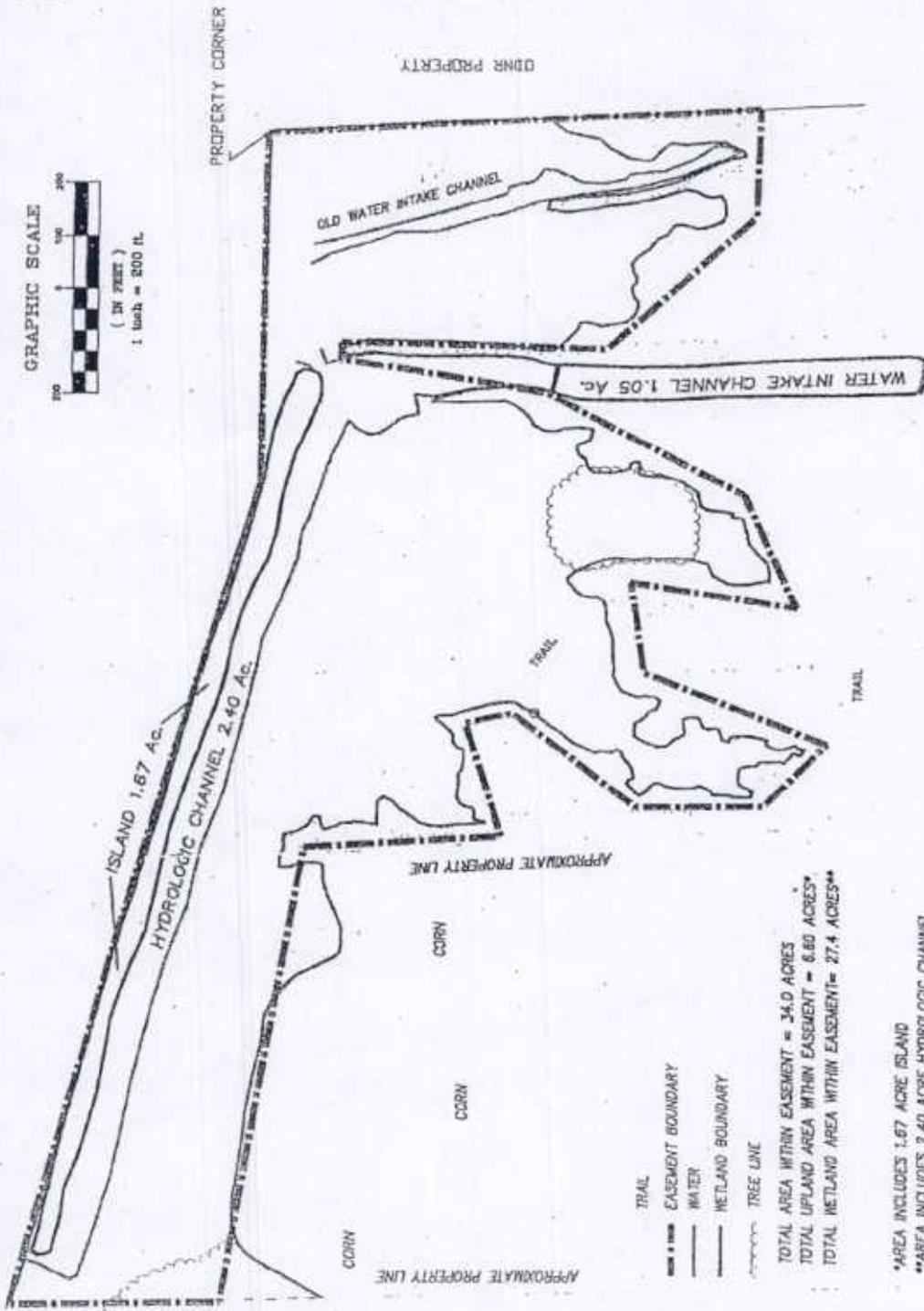
Typical Cross-Section, showing hydrologic channel and island

East Sandusky Bay Hydrology Restoration Project
 Application No. 2000-02170 Barnes Nursery,

BARNES NURSERY INC.
 D/A Processing No. 2000-02170(1)
 Erie County, Ohio Quad: HURON
 Sheet 4 of 5

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TOTAL AREA WITHIN EASEMENT = 34.0 ACRES
TOTAL UPLAND AREA WITHIN EASEMENT = 6.60 ACRES*
TOTAL WETLAND AREA WITHIN EASEMENT = 27.4 ACRES**

*AREA INCLUDES 1.67 ACRE ISLAND
**AREA INCLUDES 2.40 ACRE HYDROLOGIC CHANNEL

01 NOV 29 PM 2:37

BARNES NURSERY INC.
D/A Processing No. 2000-02170(1)
Erie County, Ohio Quad: HURON
Sheet 5 of 5