

OC 658-06 Cropper's Landing
Site Plan

MSA. S. 1829-5874

Martin O'Malley
Governor

Anthony G. Brown
Lt. Governor



Margaret G. McHale
Chair

Ren Serey
Executive Director

**STATE OF MARYLAND
CRITICAL AREA COMMISSION
CHESAPEAKE AND ATLANTIC COASTAL BAYS**

1804 West Street, Suite 100, Annapolis, Maryland 21401
(410) 260-3460 Fax: (410) 974-5338
www.dnr.state.md.us/criticalarea/

July 25, 2007

Mr. Blaine Smith, Zoning Administrator
Town of Ocean City
PO Box 158
Ocean City, MD 21843

Re: Cropper's Landing
Site Plan

Dear Mr. Smith:

Thank you for providing information on the above referenced application. Subsequent to my phone conversation with Ms. Gail Blazer, it is my understanding that the applicant has withdrawn this application. However, at Ms. Blazer's request, I have provided our comments below.

The applicant is proposing to build a condominium development, which consists of 43 bedroom units, and 54 townhouses. The area of the site is 3.896 acres and is located in an Intensely Developed Area (IDA). The site currently contains the Cropper Concrete Plant and pervious surface covers 2.80 acres (72%) of the site. Existing vegetation is limited to areas on the southern property line. Approximately 1,650 square feet of vegetated area is found within the 25-foot setback, and 3,540 of square feet is located outside the setback but within the 100-foot Buffer.

Proposed construction on the site will result in 2.37 acres (60.76%) of impervious surface, given that pervious pavers are considered to be 100% pervious. Critical Area issues for this site include stormwater management, pollutant removal, and afforestation.

The Commission has the following comments based upon the information provided:

1. The Maryland State Highway Administration is proposing renovations and a possible re-alignment of the Route 50 Bridge that will potentially impact this site. Is the applicant aware of this project and have any steps been taken to adjust this site plan for this?

2. The infiltration trench diagram on the site plan does not comply with what is allowed as a best management practice (BMP) for 10% use. From the figure, it is unclear if filtering or fabric is used at both the base of the trench as well as covering it, if an overflow berm is used, and what material will be used to fill the trench. Please refer to the Critical Area 10% Rule Guidance Manual (http://www.dnr.state.md.us/criticalarea/guidancepubs/10percent_rule.html) or the 2000 Maryland Stormwater Design Manual for more details on an acceptable version of an infiltration trench.
3. The plantable area plan provided with this application does not match where the plantings are located on the site plan. Please have the applicant correct the site plan to show the accurate planting areas.
4. Please have the applicant provide detailed profiles and plans of the proposed decks.
5. A boardwalk is shown parallel to the Bay on the Critical Area 100' Buffer overlay, but not on the site plan. Please have the applicant provide a detailed profile and plan of the proposed boardwalk.

Please be aware that pervious walkways in the Buffer are addressed in Section IV (d) (4) of the Town of Ocean City Atlantic Coastal Bays Critical Area Program. This section states that walkways are allowed, provided that the walkway is attached to a primary structure and is running perpendicular to the shoreline through the Buffer. The general intent is to allow waterfront access while simultaneously limiting impacts to the Buffer. In the summer of 2005, Commission Staff met with Town Staff from Ocean City to discuss, among other issues, the possibility of revising the Town's Critical Area Program to include a comprehensive Bay-side boardwalk element. We have continued to discuss Critical Area Program revisions with Town Staff over the past several months. At this point, until the City Code is clarified and amended to specifically address walkways within the 25-foot Buffer, this feature of the project cannot be approved. We remain available to assist the Town in designing appropriate provisions that will address this issue in the Town's Program.

Thank you for the opportunity to comment on this project. If you have any questions or concerns, please contact me directly at 410-260-3483.

Sincerely,



Nick Kelly
Natural Resource Planner
cc: OC 180-07 658-06



ARCHITECTS
ENGINEERS

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SALISBURY
BALTIMORE
SEAFORD
LEWES
YORK
DOVER

www.gmbnet.com

DATE: October 6, 2006
RE: Croppers Landings
GMB Job No. 2006.277

MINUTES OF MEETING

MEETING DATE: October 5, 2006

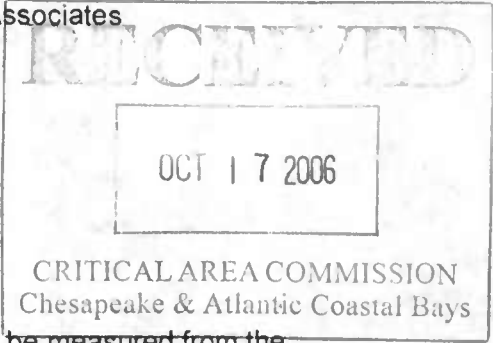
LOCATION: Cropper Concrete Site, Ocean City, MD

ATTENDEE

Gail Blazer
LeeAnne Chandler
Chris Clark
Joseph Kinkaid
Terry McGean
Blaine Smith
Dolden Moore
Woody Francis
Josh Mastrangelo
Ed Launay
Steve Soule'
Larry Whitlock
Randolph Rollman
Dane Bauer
Melissa Schmid
Neil Hallowell
Dave Rovansek

REPRESENTING

Town of Ocean City
CAC/MDE
CAC/MDE
MDE
Ocean City Engineering
Planning and Zoning
BPW
Army Corps
Centex
ERI
Soule' & Associates
Whitlock & Associates
GMB
GMB
GMB
GMB
GMB



Critical Areas

- It was agreed by all that the critical area line will be measured from the channelward side of the casting bed.
- At the north-end where casting bed stops, the line will be drawn from the channelward side of the casting bed to the corner of the existing bulkhead.
- At the south-end where casting bed stops, the line will go from the corner of the chain link fence along a field marked line to the channelward side of the casting bed.

JAMES R. THOMAS, JR., PE
PETER A. BOZICK, JR., PE
JUDY A. SCHWARTZ, PE
CHARLES M. O'DONNELL, PE
JOHN E. BURFISWORTH, PE
W. BRUCE FORDWELL, PE
JAMES H. WALLEY, JR., PE

A. REGOR MARINER, JR., PE
MICHAEL D. MCCARTHER, AIA
DANE S. BAUER
MICHAEL G. KOBIAN, PE
JAMES C. HOARESON, PE
STEPHEN L. MARSH, PE
ANAVONIA H. FELLEMAN, PE
MARTIN D. DUGHERY

JERRY KOTLA
RODOLFO L. NOBLE
C. RICHARD ROHM

- Soule to provide survey of the line that was delineated in the field.
- Shore cleanup and stabilization will be required.
- All impervious area within the 25-foot setback must be removed, including the casting bed.

MDE – Tidal wetlands (Joe Kincaid) stated that:

- The site can be considered re-development, therefore, stormwater discharges from the site must be treated in accordance with the Critical Areas "10% Rule" for pollutant reduction.
- The discharge can go no more than 10-foot channelward. If greater than 10-foot, a public hearing process will be a condition of permit issuance.

Stormwater Management

- The existing site will be considered as an industrial land use resulting in 72% imperviousness. This is in accordance with MDE guidelines and was agreed to by the State Critical Areas Commission.

Boardwalk

- The details of the boardwalk will be worked out between the Town and the Developer. Variances and permits will be sought jointly as required.
- The boardwalk will be placed in a dedicated easement to the Town of Ocean City.

*** End of Meeting ***

Anyone taking exception to any of the above items should advise this writer within ten (10) calendar days of receipt.

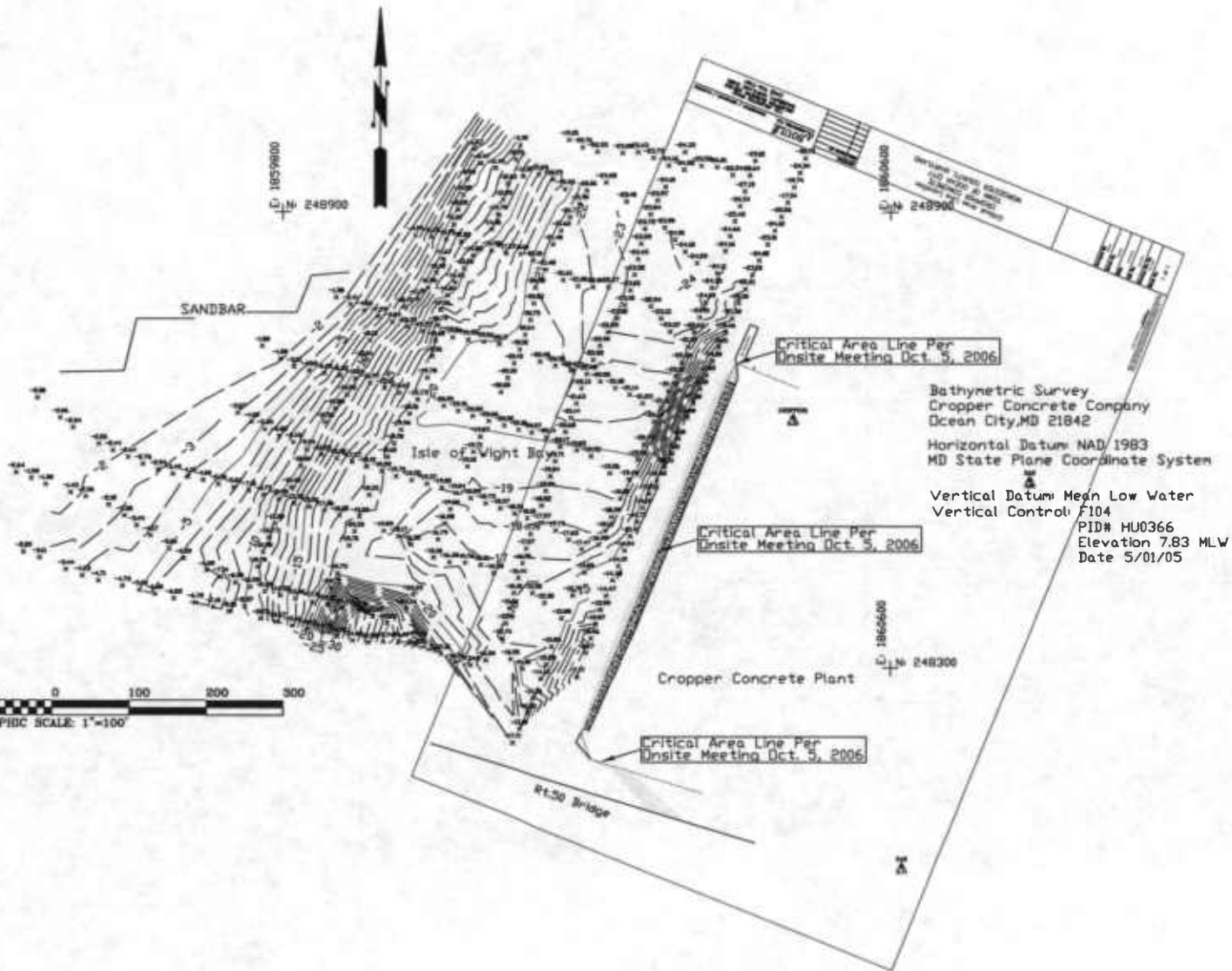
Respectfully Submitted,



Randolph T. Rollman, P.E.
Project Manager

RTR/sb

cc: All Attendees



658-06



♦ ♦ ♦ ♦

ARCHITECTS
ENGINEERS

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♦ ♦ ♦ ♦

September 28, 2006

State of Maryland Critical Areas Commission
1804 West Street, Suite 100
Annapolis, MD 21401

Attn: Mr. Christopher Clark
Natural Resources Planner

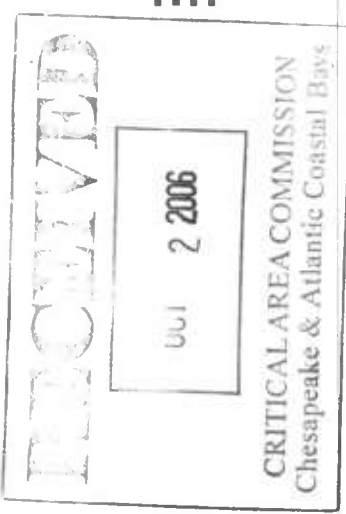
Re: Cropper's Landing
GMB No: 2006277.A

Dear Chris:

This is to confirm our discussion today regarding the site visit with federal/state and local agencies to review information that will allow a critical areas baseline to be established for the project.

As we discussed I am including a project overview as that may be helpful to all attending the meeting:

1. The property consists of 3.896 acres as per property survey conducted by Soule and Associates.
2. Ocean City Code allows for a downtown overlay district which would allow for higher density (previous contract purchaser had argued for 187 EDU's). Centex Homes is only seeking ninety-four (94) units per underlying zoning with one forty (40) unit condo building and fifty-four (54) townhouses.
3. The property is zoned M-1 (manufacturing). It is the only property with this zoning in Ocean City. This property has been used specifically as a concrete mixing site since 1946 and as such has a high degree of compaction.
4. Hardin Kight conducted the geotechnical report. They concluded that the site is mostly impervious. They tried to run the MDE field test for determining infiltration rates on the site for SWM purposes and encountered refusal with every hand auger test. They concluded the surface to be encrusted due to concrete residue and heavy truck traffic over the years. Hardin Kight also concluded that per Code, as a rubble fill four (4) to six (6) feet below the surface standard storm water infiltration systems will not work. GMB is currently looking into various sand filter design approaches.
5. Regarding the shoreline, Soule has also done a channel word survey which also shows the state wetlands line per 1972 mapping. We have estimated that the property owner may have lost land due to erosion but that the 1972 wetlands line is generally consistent with the current mean high water line. We have also determined that to preserve the shoreline that concrete was used to keep material from falling channel ward. The shoreline is a very unstable and high energy area. Historically Ocean City property in this area has encountered considerable scouring and erosion along the shoreline.



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W. BRUCE FOXWELL, PE
JAMES H. WILLEY, JR. PE

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DANE S. BAUER
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JAMES C. HOAGESON, PE
STEPHEN L. MARSH, PE
AMANDA H. POLLACK, PE
MARTIN D. DUSBIBER

JERRY KOTRA
RONALD L. NOBLE
C. RICHARD ROKIM

6. Without using the mean high water line as the Critical Areas baseline the public access easement/boardwalk will be difficult to implement. The only option would be to construct a new bulkhead channel ward which would create significant engineering and environmental challenges.
7. We feel that using the mean high water table as the critical areas base line will be most protective for the environment considering the site specific project location and in light of the navigation channel depths, etc. in proximity to the currents.
8. Both Larry Whitlock and Ed Launay are consultants on this project and agree to this approach. They will be at the onsite meeting on the October 5, 2006 and can lend more information that support this position.

We will have the survey information, geotechnical report, and copy of the preliminary site plan for your information and use. Paul Till from Hardin Kight will also be available along with Steve Soule to expand and clarify any comments, recommendations/findings, and answer any questions you may have.

In summary:

We are looking for a solution that meets the intent of the Critical Areas Law yet allows for continued stabilization of the shoreline and allows the project to proceed.

We are confident that the team we have in place will meet the environmental objectives of the project.

It is our current engineering opinion that removing any of the existing shoreline stabilization will involve unacceptable risks lending to further shoreline and environmental degradation.

Sincerely,



Dane S. Bauer, Associate
Project Director

DSB/mas

Cc: Centex Homes
Attn: Mr. Joshua Mastrangelo

■ ■ ■ ■

CROPPER'S LANDING
ATLANTIC COASTAL BAYS CRITICAL
AREA REPORT

PREPARED FOR:
CENTEX HOMES
3448 ROYAL BOULEVARD
DAGSBORO, DE 19939

OCTOBER 4, 2006
Revised March 9, 2007

GMB FILE NO. 2006277.A0

GMB

GEORGE, MILES & BUHR, LLC

ARCHITECTS/ENGINEERS

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SALISBURY/BALTIMORE/SEAFORD/LEWES/YORK/DOVER

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EXHIBITS

<i>Exhibit 1: Existing Conditions Exhibit.....</i>	<i>EX-1</i>
<i>Exhibit 2: Proposed Conditions/Critical Area Exhibit.....</i>	<i>EX-2</i>
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**ENVIRONMENTAL REPORT
CROPPER'S LANDING
North 1st Street, Ocean City, MD**

INTRODUCTION

The enclosed report details the stormwater management system for the proposed Cropper's Landing Development. Centex Homes proposes to re-develop the existing Cropper Concrete Plant property located bay front on North 1st Street Ocean City, Maryland. The re-development will involve demolition of the entire concrete plant and construction of a 40-unit condominium building and 54-unit townhouse community along with provisions for vehicular and pedestrian access.

The proposed stormwater management system has been designed in accordance with criteria presented in the 2000 Maryland Stormwater Management Design Manual, the Town of Ocean City's Stormwater Management Ordinance, Atlantic Coastal Bays Critical Areas Laws, and MDE – Tidal Wetlands Division/Army Corps of Engineers joint permit requirements.

EXISTING SITE CONDITIONS

General

The 169,713 square feet (3.896 acres) site currently contains the Cropper Concrete Plant. The site is located on the western side of Philadelphia Avenue (MD Route 528) on the block between the Route 50 Bridge (North Division Street) and North 1st Street in Ocean City, Maryland and is bounded to the west by the Isle of Wight Bay. Due to land use, direct measurement of impervious area was impractical; therefore, the impervious area has been estimated in accordance with NRCS guidelines for Urban Industrial Districts. This assumption results in 72.0% of the site, or 2.80 acres, of impervious area being used for all computations.

Existing vegetation on the site is limited to areas at the southern property line. Vegetation inside the 25-foot setback is limited to 15-foot wide X 110-foot long area within the setback totaling 1,650 square feet. Vegetation outside the setback, but within the 100-foot buffer, was computed to be 3,540 square feet.

Shoreline Condition

A revetment area mixed with random concrete and riprap stabilize the shoreline adjacent to the Isle of Wight Bay. The revetment, which cantilevers over the Bay, is attached to a concrete casting bed which may serve to anchor the revetment. The extent of this condition has not yet been determined. The Atlantic Coastal Bay's

Critical Area boundary was determined based on field investigation on October 5, 2006. All regulatory agencies present agreed that the critical area line would be defined as the eastern edge of the revetment, which is also the western edge of the casting bed. Minutes from the meeting are provided in Appendix A2.3. A detailed delineation of the critical area line is provided in Exhibit EX-1 and EX-2.

Stormwater Management/Drainage

Existing stormwater runoff either infiltrates or ponds and remains on site. Runoff leaving the site is directed to the town's collection system and eventually discharged into the Isle of Wight Bay without quality treatment. The site has no existing stormwater management facilities.

Soils and Topography

Excluding stockpile areas, the site is generally flat with elevation changes of approximately one (1) foot. Groundwater was found to be at a depth of 6' to 8' as determined by a Hardin-Kight Associates, Inc. field investigation. The water table has been assumed to be at the mean high water level for design purposes to ensure a conservative design.

The United States Department of Agriculture (USDA) classifies the soil on the site as Urban-land Askecksy complex. Erosion of the revetment and surrounding soils has been recorded by the Town engineering staff.

PROPOSED DEVELOPMENT

General

All structures will be demolished and the entire site will be cleared to allow for proposed construction of the Cropper's Landing Development which will consist of forty (40) three-bedroom units and fifty-four (54) townhouses. Proposed construction will result in 2.37 acres (103,270 SF) of impervious area, or approximately 60.76% of the site. The level of impervious area is computed assuming that use of pervious pavers will be regarded as 100% pervious.

Public sewer and water service will be provided by connection to the existing Town of Ocean City facilities.

Shoreline Condition

Shoreline stabilization will be required along the water's edge of the existing revetment area. Details of the shoreline stabilization will be coordinated with, and

subject to approval by Federal, State, and Local regulatory authorities. The existing casting bed will be removed from the twenty-five (25) foot setback and the existing revetment will be stabilized under proposed conditions as discussed at the October 5, 2006 field meeting.

A new stormwater outfall will be installed near the middle of the proposed site's shoreline protection and will discharge directly to the Isle of Wight Bay. This outfall will serve as the outfall of the proposed stormwater management system. Discharges to the Bay will be subject to issuance of a MDE – Tidal Wetlands Division/Army Corps of Engineers joint permit and Town of Ocean City Board of Port Warden approval. The MDE/Corps permit requires a 10% reduction in pollutant load from existing conditions for runoff discharging directly to the Bay.

Stormwater Management Measures

Under proposed conditions, the majority of runoff will no longer drain to the town's stormwater system. Instead the runoff will be directed from both impervious and pervious areas to inlets which will be connected to underground infiltration trenches. The forty (40) unit condominium will have roof drains directly connected into the underground infiltration trench perforated pipe network, with over flow risers at grade level.

All underground perforated HDPE piping will be installed in an underground infiltration trench consisting of #57 stone which will be wrapped in filter fabric. This system will serve as both a stormwater overflow conveyance and a water quality treatment device. The trenches will be either 3' X 3' with 24" diameter pipe or 2.5' X 2.5' with 15" diameter pipe.

The trench will provide pollutant removal by allowing runoff to infiltrate through the soil into groundwater. Once the trenches reach an over flow point they will discharge directly into the Bay. The infiltration trench provides all required water quality treatment for the site and meets the Atlantic Coastal Bays Pollutant Reduction requirements (10% Rule).

Landscaping

The proposed landscaping will be comprised of Willow Oak (*Quercus phellos*), Fringe Tree (*Chionanthus virginicus*), Natchez Crepe Myrtle (*Lagerstroemia indica* x. *fauriei* 'Natchez'), Karl Foerster Feather Reed Grass (*Calamagrostis* x. *acutifolia* 'Karl Foerster'), Inkberry Holly (*Ilex glabra*), Sod (turf type tall fescue), and Mulch (decorative stone mulch) smooth river rock. A detailed landscape plan is included on Sheet L1.1 of the Preliminary Site Plan Submittal.

ATLANTIC COASTAL BAYS CRITICAL AREAS REQUIREMENTS

General

In accordance with the Town of Ocean City Atlantic Coastal Bays Critical Area Regulations, requirements for the project relating to afforestation, 100-foot buffer landscape mitigation, setbacks, overall site pollutant reduction, and habitat protection will apply. The 25-foot setback, 100-foot buffer, and 1,000-foot critical area setback have been measured from the mean high water line.

Afforestation Requirement

The requirements dictate that development within the 1,000-foot Critical Area zone must be planted in woody vegetation in an amount of 15% of the total site area. The proposed site will contain 14.98% or 25,420 SF of area available for landscaping, which will not meet the requirement of 25,457 SF. The remainder of the requirement (37 SF) will be met by a fee-in-lieu of payment which is allowable in Downtown District in accordance with Town of Ocean City Ordinance.

The landscape plan (Sheet L1.1) and Critical Area Project Application (Appendix 2) show that a mixture of large and small trees and shrubs will satisfy the total planting credit required to adequately serve the area provided. A total landscaping credit value of 67,025 SF will be provided. It should be noted that large ornamental grasses were considered to be small shrubs for the mitigation credit computation.

In accordance with the Town of Ocean City standard practice, pervious pavers used for sidewalk widening strip along 1st Street were included in the total landscape area computation. The landscaping plan is also in accordance with Chapter 98, Article II, and Landscaping of the Code of the Town of Ocean City.

Landscape Buffer Mitigation Requirements

Providing required landscaping within the 100-foot buffer is intended to offset re-development activity and removal of existing vegetation. Specific criteria for this requirement are detailed on the Town of Ocean City Critical Areas Application Form in Appendix 1.

The 67,025 SF of landscaping mitigation value provided on the site will meet the mitigation requirement of 63,562 SF resulting from redevelopment within the 100' buffer area.

A total of 8,095.92 SF of landscape area has been provided within the twenty-five (25) foot setback which exceeds the 25% (or 3,955 SF) of the setback area which is required to be planted.

All existing vegetation in the setback and buffer will be removed during development.

Setback Requirements

Because the proposed project site is greater than 40,000 square feet, the Critical Area setback is measured as twenty-five (25) feet from the Critical Area line for the entire site. No additional proposed impervious surfaces or cantilevered impervious surfaces will be constructed within this setback.

Stormwater Management 10% Pollutant Reduction Requirement

Impacts of the proposed development will be alleviated by meeting the *Stormwater Management 10% Pollutant Reduction Requirement*.

A 10% pollutant reduction is required for all development within the 1000-foot Critical Area in order to limit the impacts of development. Worksheet A "10% Rule Worksheet" provided in Appendix 1 shows that through use of infiltration trenches and overall post-development reduction in impervious area a 2.01 lb or 30.18% reduction in Phosphorus loading from existing conditions can be expected following development. This pollutant reduction exceeds the treatment requirement.

Pervious pavers have been computed as 100% pervious in the enclosed computations and significantly contribute as a non-structural BMP to the overall reduction in site imperviousness.

A pollutant removal rate of 32.5% has been used for the infiltration trench due to the potential for less than a two (2) foot separation from groundwater in some areas. This lack of separation from groundwater would be an isolated condition, the extent of which will be determined upon completion of final grading. Therefore, the removal rate is considered to be a conservative assumption.

Habitat Protection

Due to the size of the project (> 40,000 square feet), consultation with the Maryland Department of Natural Resources (DNR) was required to determine the possible existence of any Habitat Protection Areas that may be affected by the proposed development. A letter from DNR has been received which indicates that no Federal or State records of rare, threatened, or endangered species exist within the site's boundaries. However, the site is located within a waterbird colony protection zone which will limit on-site construction activities during specified times of the year. Details of the recommended construction restrictions are provided in the letter from DNR provided in Appendix A2.4 - A2.6 of this report.

**Critical Area Project Application
Town of Ocean City**

Date: 03/19/07 (Revised) File# 06-18100013

Project Name: Cropper's Landing

Project Address: N. 1st Street, Ocean City, MD

Tax Map: 110 Parcel: 3968 Block: 39 Lot# 1-7, 11-13, 17-31 Zoning M-1

Property Owner: Mrs. Jacqueline Insley Phone: 410-289-6201
(Estate Representative for George B. Cropper)

Property Owner Address: 601 Tony Tank Lane, Salisbury, MD 21801

Parcel size (SF): 169,713 SR or 3.89 AC

I. Project Description

In the 100 foot buffer? Yes X No _____ (If yes, continue with Sec. I)
(If no, skip to Sec. III)

Parcels 40,000 SF or more: Critical Area setback is 25 feet. No impervious surface or cantilevering permitted within 25 feet of the shoreline/wetlands. ("Pervious" decks are permitted 10' into setback, per construction standards.)

Parcels less than 40,000 SF: Critical Area set back is equal to the zoning setback (____ feet): No impervious surfaces permitted within the setback. ("Pervious" decks at ground level are permitted in the setback, per construction standards.)

Existing Conditions

Impervious surface (SF) 72.00 % of site impervious: 122,193 SF

Impervious surface within the 100-foot buffer (SF): 46,328 SF

Proposed Conditions

Impervious surface (SF): 60.85% of site impervious: 103,271 SF

Total SF of disturbed area: 169,713 SF

Impervious surface within the 100-foot buffer (SF): 34,370 SF

Form Revised 12/1/04

II. Mitigation Worksheet in the 100-foot Buffer

1. Detached Single Family Dwellings - *Not Applicable*

Value of Construction: \$ _____

- a. Landscaping required in the amount of 2% of the cost of construction
(Value of construction x .02 = \$ _____)
- b. Total landscaping provided. Attach cost values and plant schedule. (Must equal or exceed "Means" book value.)
\$ _____
- c. Mitigation requirement (if a - b > 0) = Fee in Lieu of landscaping.
\$ _____ (To be paid prior to issuance of Certificate of Occupancy.)

2. Multi-Family and Commercial Mitigation worksheet (within the 100' buffer)
- If not in 100-foot buffer skip to Section III below.
- All SF values determined from "Landscaping Conversion Table" below.

Activity Description (Complete all that apply):

- a. Trees or shrubs removed from buffer (outside of setback):

$$\frac{3,540 \text{ SF} \times 1 = 3,540 \text{ SF}}$$
- b. Trees or shrubs removed from setback

$$\frac{1,650 \times 2 \text{ SF} = 3,300 \text{ SF}}$$
- c. Pervious to impervious _____ SF x 2 = _____ SF
- d. Improved pervious to improved pervious 18,017 SF x 1 = 18,017 SF
- e. Undisturbed surface disturbed but remaining pervious

$$\text{_____ SF} \times 1 = \text{_____ SF}$$
- f. Impervious to impervious 34,373 SF x 1 = 34,373 SF
- g. Impervious to pervious 11,955 SF x 0 = 0 SF
- h. Construction of decks in setback 2,166 SF x 2 = 4,332 SF
- i. TOTAL MITIGATION REQUIRED (sum of a through h) = 63,562 SF
- j. TOTAL LANDSCAPING PROVIDED (Refer to "Landscaping Conversion Chart" below)

	Number	Value	Total
Large trees	44	x 200 SF	8,800 SF
Small trees	46	x 100 SF	4,600 SF
Large shrubs	133	x 75 SF	9,975 SF
Small shrubs	873	x 50 SF	43,650 SF
TOTAL VALUE OF LANDSCAPING PROVIDED			67,025 SF

(Must provide this SF of plantable area not only the plants listed above)

FEE-IN-LIEU OF LANDSCAPING (OFFSET) = i - j x \$1.20 \$ 0

(To be paid prior to issuance of Certificate of Occupancy)

- k. Setback from water/wetlands 15,819 SF x .25 = 3,955 SF
(Landscape to be provided in setback area)

LANDSCAPING CONVERSION CHART

Large tree = 200 square feet of mitigation
 Small tree = 100 square feet " " "
 Large shrub = 75 square feet " " "
 Small shrub = 50 square feet " " "

III. Afforestation (Landscaping) Requirements Outside the 100-foot Buffer

1. All Development within the 1000' Critical Area (but outside the 100' buffer) every development or redevelopment must be planted in woody vegetation in an amount of 15% of the site area.

a. Total landscaping required: Parcel size x .15 = 25,457 SF.

(This SF area must be plantable and planted with the following number of plants)

b. Landscaping provided (use Landscaping Conversion Chart)

Large trees	44	x	200 SF		8,800 SF
Small trees	46	x	100 SF		4,600 SF
Large shrubs	133	x	75 SF		9,975 SF
Small shrubs	873	x	50 SF		43,650 SF

TOTAL VALUE OF LANDSCAPING PROVIDED 67,025 SF

IV. Stormwater management and the 10% rule - Pollutant reduction requirement for all disturbances over 250 SF in the 1000 foot Critical Area.

1. Single family development subject to stormwater management requirements that use the "Standard Stormwater Management Plan" automatically meet the 10% Rule.

2. Single family development not subject to stormwater management regulations can meet the intent of the 10% Rule by submitting a Water Quality Management Plan.

3. Commercial and multi-family development must submit the 10% Rule Worksheet. (See attached computations.)

V. Habitat Protection (skip if it is less than 40,000 SF)

For lots of 40,000 square feet or greater, the applicant must consult with the Maryland Department of Natural Resources to determine the existence of any Habitat Protection Areas that may be affected by the proposed development. (A letter from DNR, dated 11-17-06, is enclosed in Appendix 2 of this report.)

VI. Landscape Plan

ALL VEGETATION SHALL BE PROVIDED IN ACCORDANCE WITH CHAPTER 98, ARTICLE II, LANDSCAPING, OF THE CODE.

VII. Site plan requirements

Critical Area site plan is required and it must include the following information:

- 1. Topography**
- 2. Mean high water line**
- 3. Delineation of private and State tidal wetlands**
- 4. Delineation of non-tidal wetlands**
- 5. Soil Types**
- 6. Tree cover (show location of individual trees or a tree line defining wooded areas).**
- 7. Landscaping plan with required plants and plantable area**
- 8. 100-foot Buffer and applicable setback**
- 9. Habitat protection areas (if applicable)**
- 10. All impervious surfaces labeled as existing or proposed.**
- 11. All proposed clearing, grading and disturbance.**
- 11. Computation of total existing and proposed impervious surfaces, existing forest cover and proposed clearing and total area of disturbance.**
- 12. Proposed landscaping/mitigation plan.**

Reviewed by: _____ Zoning Administrator (Date _____)

_____ Environmental Engineer (Date _____)

Worksheet A: Standard Application Process

Calculating Pollutant Removal Requirements¹

Step 1: Calculate Existing and Proposed Site Imperviousness
--

A. Calculate Percent Imperviousness

1) Site Area within the Critical Area IDA, A = 3.90 acres

2) Site Impervious Surface Area, Existing and Proposed, (See Table 4.1 for details)

	(a) Existing (acres)	(b) Proposed (acres)
Roads		0.59
Parking lots		
Driveways		0.62
Sidewalks/paths		0.25
Rooftops		1.46
Decks		
Swimming pools/ponds		0.05
Other	2.81	0.02
Impervious Surface Area	2.81	2.99

3) Non-Structural BMPs Applied to the Site

Non-Structural BMP	Disconnected Impervious Area, Proposed (acres)
↘ Pervious Paver	0.62 Acres
Disconnected Impervious Area	0.62

↘ Pervious Paver

0.62 Acres

Disconnected Impervious Area 0.62

4) Adjusted Proposed Impervious Surface Area

$$\begin{aligned}
 &= \text{Proposed Impervious Surface Area} - \text{Disconnected Impervious Area} \\
 &= (\text{Step 2b}) - (\text{Step 3}) \\
 &= (\underline{2.99}) - (\underline{0.62}) \\
 &= \underline{2.37} \text{ acres}
 \end{aligned}$$

¹ NOTE: All acreage used in this worksheet refers to areas within the IDA of the Critical Area only.

5) Imperviousness (I)

$$\begin{aligned} \text{Existing Imperviousness, } I_{pre} &= \text{Impervious Surface Area / Site Area} \\ &= (\text{Step 2a}) / (\text{Step 1}) \\ &= \frac{(2.81)}{72} / \frac{(3.90)}{72} \\ &= \underline{\hspace{2cm}} \% \end{aligned}$$

$$\begin{aligned} \text{Proposed Imperviousness, } I_{post} &= \text{Impervious Surface Area / Site Area} \\ &= (\text{Step 4}) / (\text{Step 1}) \\ &= \frac{(2.37)}{72} / \frac{(3.90)}{72} \\ &= \underline{60.77} \% \end{aligned}$$

C. Define Development Category (circle)

- ✓ 1) **Redevelopment:** Existing imperviousness greater than 15% | (Go to Step 2A)
- 2) **New Development:** Existing imperviousness less than 15% | (Go to Step 2B)
- 3) **Single Lot Residential:** Single lot being developed or improved; single family residential; and more than 250 square feet being disturbed (Go to Section 5, Residential Approach, for detailed criteria and requirements.)

Step 2: Calculate the Predevelopment Load (L_{pre})

A. Redevelopment

$$\begin{aligned} L_{pre} &= (R_v) (C) (A) (8.16) \\ R_v &= 0.05 + 0.009 (I_{pre}) \\ &= 0.05 + 0.009 (\underline{72}) = \underline{0.70} \\ L_{pre} &= (\underline{0.70}) (\underline{0.30}) (\underline{3.90}) (8.16) \\ &= \underline{6.66} \text{ lbs/year of total phosphorus} \end{aligned}$$

Where:

- L_{pre} = Average annual load of total phosphorus exported from the site prior to development (lbs/year)
- R_v = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff
- I_{pre} = Predevelopment (existing) site imperviousness (i.e., $I = 75$ if site is 75% impervious)
- C = Flow-weighted mean concentration of the pollutant (total phosphorus) in urban runoff (mg/l)
= 0.30 mg/l
- A = Area of the site within the Critical Area IDA (acres)
- 8.16 = Includes regional constants and unit conversion factors

B. New Development [Not Applicable]

$$\begin{aligned} L_{ps} &= (0.5) (A) \\ &= (0.5) (\quad) \\ &= \quad \text{lbs /year of total phosphorus} \end{aligned}$$

Where:

- L_{ps} = Average annual load of total phosphorus exported from the site prior to development (lbs/year)
- 0.5 = Annual total phosphorus load from undeveloped lands (lbs/acre/year)
- A = Area of the site within the Critical Area IDA (acres)

Step 3: Calculate the Post-Development Load (L_{post})

A. New Development and Redevelopment:

$$\begin{aligned} L_{post} &= (R_v) (C) (A) (8.15) \\ R_v &= 0.05 + 0.009 (I_{post}) \\ &= 0.05 + 0.009 (\quad 60.78 \quad) = \quad 0.60 \\ L_{post} &= (\quad 0.60 \quad) (\quad 0.30 \quad) (\quad 3.90 \quad) (8.16) \\ &= \quad 5.69 \quad \text{lbs/year of total phosphorus} \end{aligned}$$

Where:

- L_{post} = Average annual load of total phosphorus exported from the post-development site (lbs/year)
- R_v = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff
- I_{post} = Post-development (proposed) site imperviousness (i.e., 75 if site is 75% impervious)
- C = Flow-weighted mean concentration of the pollutant (total phosphorus) in urban runoff (mg/l)
= 0.30 mg/l
- A = Area of the site within the Critical Area IDA (acres)
- 8.16 = Includes regional constants and unit conversion factors

?

8

Step 4: Calculate the Pollutant Removal Requirement (RR)

$$\begin{aligned}
 RR &= L_{post} - (0.9) (L_{pre}) \\
 &= \underline{5.69} - (0.9) (\underline{6.66}) \\
 &= \underline{-0.30} \text{ lbs/year of total phosphorus}
 \end{aligned}$$

Where:

- RR = Pollutant removal requirement (lbs/year)
- L_{post} = Average annual load of total phosphorus exported from the post-development site (lbs/year)
- L_{pre} = Average annual load of total phosphorus exported from the site prior to development (lbs/year)

Step 5: Identify Feasible BMP(s)

Select BMP Options using the screening matrices provided in the Chapter 4 of the 2000 Maryland Stormwater Design Manual. Calculate the load removed for each option.

BMP Type	(L_{post})	x	(BMP_{RE})	x	(% DA Served)	=	LR
Infiltration Trench	5.69	x	32.5%	x	56%	=	1.04 lbs/year
		x		x		=	lbs/year
		x		x		=	lbs/year
		x		x		=	lbs/year
Load Removed (total) =							1.04 lbs/year
Pollutant Removal Requirement (from Step 4) =							-0.30 lbs/year

Where:

- Load Removed = Annual total phosphorus load removed by the proposed BMP (lbs/year)
- L_{post} = Average annual load of total phosphorus exported from the post-development site prior to development (lbs/year)
- BMP_{RE} = BMP removal efficiency for total phosphorus, Table 4.8 (%)
- % DA Served = Fraction of the drainage area served by the BMP (%)
- RR = Pollutant removal requirement (lbs/year)

If the Load Removed is equal to or greater than the Pollutant Removal Requirement computed in Step 4, then the on-site BMP complies with the 10% Rule.

Has the RR (pollutant removal requirement) been met? Yes No

STORMWATER MANAGEMENT COMPUTATIONS
GMB Project #2006277.A0

MARYLAND STORMWATER SIZING CRITERIA

(Based on Total Site Area)

Total Area (A):	3.896 ac	169,713 ft ²	
Existing Impervious (A _e):	2.805 ac	122,193 ft ²	
Percent Impervious (existing):	72.00 %		(Based on classification as Industrial Land Use (TR-55))
Proposed Impervious (A):	2.996 ac	130,487 ft ²	(Reduction in impervious area due to Pervious Pavers not included)
Percent Impervious (Proposed):	76.89 %		(Not including Reduction due to Pervious Pavers)

WATER QUALITY REQUIREMENT

Per Town of Ocean City Stormwater Management Ordinance Section 30-143(d)(2)
Redevelopment Criteria:

- WQ_v:** a). Reduce existing site impervious area by at least 20%.
b). Where site conditions prevent reduction of impervious area, provide qualitative control for 20% of impervious area of existing site.
c). When a combination of impervious area reduction and stormwater management practice implementation is used, the combined area shall equal or exceed 20% of the site.

20% of Existing Impervious Area (A _i):	0.561 ac	24,439 ft ²	
Change in site Impervious Area:	0.190 ac	8,294 ft ²	(Additional Imp.) 691 ft ³
Percent Change:	6.79 %		Impervious area added not including pervious paver reduction
Area which must be treated to meet WQ _v Requirement (20% of existing Impervious area + impervious area increase):	0.751 ac	32,732 ft ²	2,728 ft ³
Percent of Total Area to be treated by Additional BMP's :	19.29 %		(Assuming all treated area is impervious)

Water Quality Volume Required to be treated by BMP (WQ_v)

P=	1.0	
R _v =	0.950	
A=	0.751 ac	32,732 ft ²

% Impervious (Drainage Area) = 100.00 % (Assumed)
Note: P=1.0 for Delmarva Peninsula

WQ _v required =	$(P)(R_v)(A)$
	12

WQ_v required = 0.0595 ac-ft

Pervious Pavers (WQ_v Provided) = 0.614 ac 26,747 ft²
Revised Impervious Area to be treated = 0.137 ac 5,985 ft²

Revised WQ_v Parameters Based on Use of Pervious Pavers

P=	1.0	
R _v =	0.950	
A=	0.137 ac	5,985 ft ²

% Impervious (Drainage Area) = 100.00 % (Assumed)
Note: P=1.0 for Delmarva Peninsula

WQ_v required (Revised) = 2,591 ft³ (Revised value includes pervious paver reduction)

Water Quality Volume Provided to by BMP (WQ_v)

WQ_v provided by Infiltration Trench = 0.1286 ac-ft 5,600 ft³

5,600 CF > 3,278 CF therefore requirement is met

NOTES

Provided in network of perforated pipes within gravel trenches.
Approx. Value dependent on Final Design.

QUANTITY REQUIREMENT

A quantity management waiver is requested due to direct discharge of stormwater into tidal waters in accordance with Section 30-143 C9c)(2) A. of the Town of Ocean City Stormwater Management Ordinance.

INFILTRATION TRENCH COMPUTATIONS
GMB Project #2006277.A0

INFILTRATION TRENCH SYSTEM - Design Computations

AREA

Contributing Area:	121,631 ft ²
Pervious Paver Area Contributing:	26,746 ft ²
Contributing Impervious Area:	94885 ft ²
	2.18 acres

Volume Storage per Foot of Trench

Volume provided by 24" perforated pipe

Diameter	24 in
Cross Area	3.14 ft ²
Volume	3.14 ft ³ /ft

Volume provided by gravel fill

Width	3.0 ft
Depth	3.0 ft
Pipe Cross Section	3.142 ft ²
Gravel Cross Section	5.858 ft ²
Porosity	0.4
Volume	2.34 ft ³ /ft

TOTAL STORAGE PER FOOT 5.48 ft³/ft

Storage for Infiltration Trench System

Total storage per foot	5.48 ft ³ /ft
Total length of piping	248 ft

Total Storage Provided (18" Trench) 1360 ft³

INFILTRATION TRENCH VOLUME COMPUTATION

Volume Storage per Foot of Trench

Volume provided by 15" perforated pipe

Diameter	15 in
Cross Area	1.23 ft ²
Volume	1.23 ft ³ /ft

Volume provided by gravel fill

Width	2.5 ft
Depth	2.5 ft
Pipe Cross Section	1.227 ft ²
Gravel Cross Section	5.023 ft ²
Porosity	0.4
Volume	2.01 ft ³ /ft

TOTAL STORAGE PER FOOT 3.24 ft³/ft

Storage for Infiltration Trench System

Total storage per foot	3.24 ft ³ /ft
Total length of piping	1310 ft

Total Storage Provided (15" Trench) 4240 ft³

Total Volume Provided 5600 ft³ ²

Total Storage Required to serve contributing drainage area 0.1724 acre-ft ¹
7512 ft³

CONCLUSIONS:

- ¹ The volume of runoff contributing to the infiltration trench exceeds the capacity of the trench
- ² The capacity of the infiltration trench exceeds required water quality volume
- ³ In large storm events, the runoff in excess on 5600 ft³ will be conveyed to the outfall

ARCHITECTS
 ENGINEERS

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 PF: 888 455 4402
 FAX: 410 329 5881

2006
 2005
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DATE: October 6, 2006
RE: Croppers Landings
 GMB Job No. 2006.277

MINUTES OF MEETING

MEETING DATE: October 5, 2006
LOCATION: Cropper Concrete Site, Ocean City, MD

ATTENDEE

REPRESENTING

Gail Blazer	Town of Ocean City
LeeAnne Chandler	CAC/MDE
Chris Clark	CAC/MDE
Joseph Kinkaid	MDE
Terry McGean	Ocean City Engineering
Blaine Smith	Planning and Zoning
Dolden Moore	BPW
Woody Francis	Army Corps
Josh Mastrangelo	Centex
Ed Launay	ERI
Steve Soule	Soule & Associates
Larry Whitlock	Whitlock & Associates
Randolph Rollman	GMB
Dane Bauer	GMB
Melissa Schmid	GMB
Neil Hallowell	GMB
Dave Rovansek	GMB

Critical Areas

- It was agreed by all that the critical area line will be measured from the channelward side of the casting bed.
- At the north-end where casting bed stops, the line will be drawn from the channelward side of the casting bed to the corner of the existing bulkhead.
- At the south-end where casting bed stops, the line will go from the corner of the chain link fence along a field marked line to the channelward side of the casting bed.

2006
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- Soule to provide survey of the line that was delineated in the field.
- Shore cleanup and stabilization will be required.
- All impervious area within the 25-foot setback must be removed, including the casting bed.

MDE – Tidal wetlands (Joe Kincaid) stated that:

- The site can be considered re-development, therefore, stormwater discharges from the site must be treated in accordance with the Critical Areas "10% Rule" for pollutant reduction.
- The discharge can go no more than 10-foot channelward. If greater than 10-foot, a public hearing process will be a condition of permit issuance.

Stormwater Management

- The existing site will be considered as an industrial land use resulting in 72% imperviousness. This is in accordance with MDE guidelines and was agreed to by the State Critical Areas Commission.

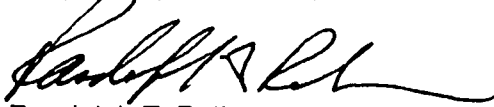
Boardwalk

- The details of the boardwalk will be worked out between the Town and the Developer. Variances and permits will be sought jointly as required.
- The boardwalk will be placed in a dedicated easement to the Town of Ocean City.

*** End of Meeting ***

Anyone taking exception to any of the above items should advise this writer within ten (10) calendar days of receipt.

Respectfully Submitted,



Randolph T. Rollman, P.E.
Project Manager

RTR/sb

cc: All Attendees

DJR



Robert L. Ehrlich, Jr., Governor
Michael S. Steele, Lt. Governor
C. Ronald Franks, Secretary

November 17, 2006

Mr. David J. Rovanseck
George, Miles & Buhr, LLC
206 West Main Street
Salisbury, MD 21801

RECEIVED
SALISBURY
DEC 4 2006
GEORGE
Arch

RE: Environmental Review for Cropper's Landing on North First Street, Tax Map 110, Parcel 3968, Lots 1-7, 11-13 and 17-31, Ocean City, Island of Wight Bay, Worcester County, Maryland.

Dear Mr. Rovanseck:

The Wildlife and Heritage Service has determined that there are no State or Federal records for rare, threatened or endangered species within the boundaries of the project site as delineated. This statement should not be interpreted however as meaning that rare, threatened or endangered species are not in fact present. If appropriate habitat is available, certain species could be present without documentation because adequate surveys have not been conducted.

There is a waterbird colony located on Skimmer Island within ¼ mile of the property. The approximate location of the colony site is indicated on the attached map. Waterbird colonies are a rare resource that should be protected. Conservation of waterbird colonies that are located in the Chesapeake Bay Critical Area is required by state law. Significant mortality of chicks or eggs resulting from disturbance of the colony during the breeding season is a violation of the U.S. Migratory Bird Treaty Act. Disturbance includes actions such as cutting nest trees, cutting nearby trees or nearby construction that causes abandonment of chicks by the adults.

Waterbirds establish nesting colonies in wetland areas that are relatively predator and disturbance free. Colony sites are usually islands and tidal wetlands. Colony sites are rare; all of Maryland's 20,000 pairs of waterbirds nest at fewer than 125 locations. As Maryland continues to grow and develop, secure nest sites for waterbirds will become scarcer. Whenever possible waterbird colony sites should be conserved as part of responsible land stewardship.

To protect waterbird colonies we use the following guidelines:

1. Establish a protection area of ¼ mile radius from the colony's outer boundary. Within this area establish three zones of protection: Zone 1 extends from the outer boundary of the colony to a radius of 330 feet, Zone 2 extends from 330 feet to 660 feet in radius, and Zone 3 extends from 660 feet to ¼ mile (1320 feet).

Tawes State Office Building • 580 Taylor Avenue • Annapolis, Maryland 21401

410.260.8DNR or toll free in Maryland 877.620.8DNR • www.dnr.maryland.gov • TTY users call via Maryland Relay

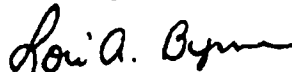
Page 2
November 22, 2006

2. During the breeding season, all human entry into Zone 1 should be restricted to only that essential for protection of the colony. Human disturbance of colony sites that results in significant mortality of eggs and/or chicks is considered a prohibited taking under various state and federal regulations.
3. No land use changes, including development or timber harvesting, should occur in Zone 1.
4. Construction activities, including clearing, grading, building, etc., should not occur within Zones 1 and 2.
5. Selective timber harvesting may occur in Zone 2, but clearcutting should be avoided.
6. No construction or timber harvesting activities should occur within the ¼ mile protection area during the breeding season. The breeding season varies for each different waterbird species, but is generally from 15 March through 15 August.

The Department of Natural Resources' Wildlife and Heritage Service provides assistance to those interested in protecting this resource. The above guidelines are usually suitable for protection of most waterbird colonies. Specific protection measures depend upon the species inhabiting the colony, site conditions, planned activities, colony site type and history, and other factors. For more specific technical advice regarding your project and waterbird protection, please contact the WHS.

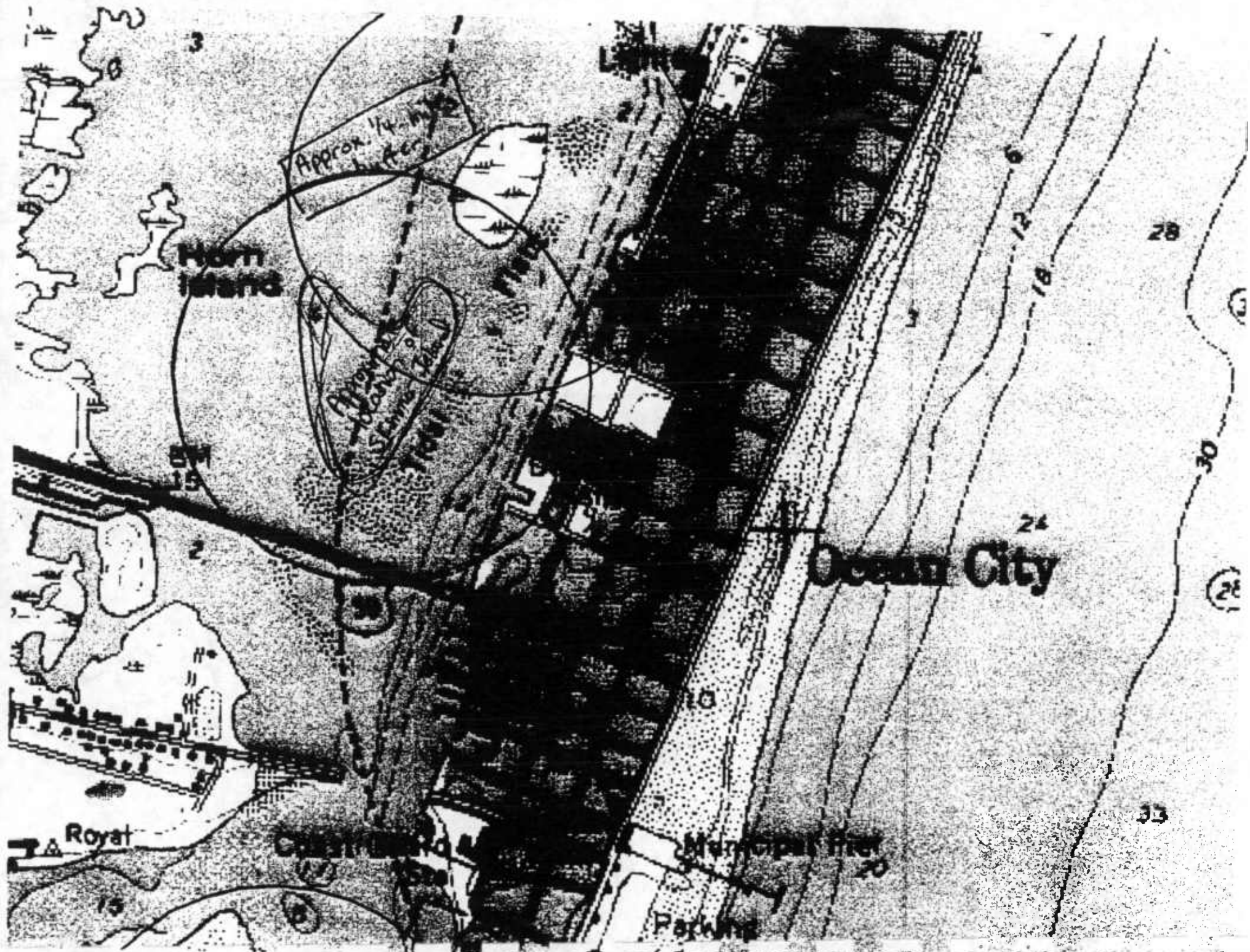
Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

Sincerely,



Lori A. Byrne,
Environmental Review Coordinator
Wildlife and Heritage Service
MD Dept. of Natural Resources

ER #2006.2483.wo
cc: S.A. Smith, DNR
L. Hoerger, CAC
Attachment



Horn Island

Approx. 1/4 mi buffer

Approx. 1/2 mile buffer

Ocean City

Rogat

Municipal Pier

Patrol

28

24

30

32

26

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2

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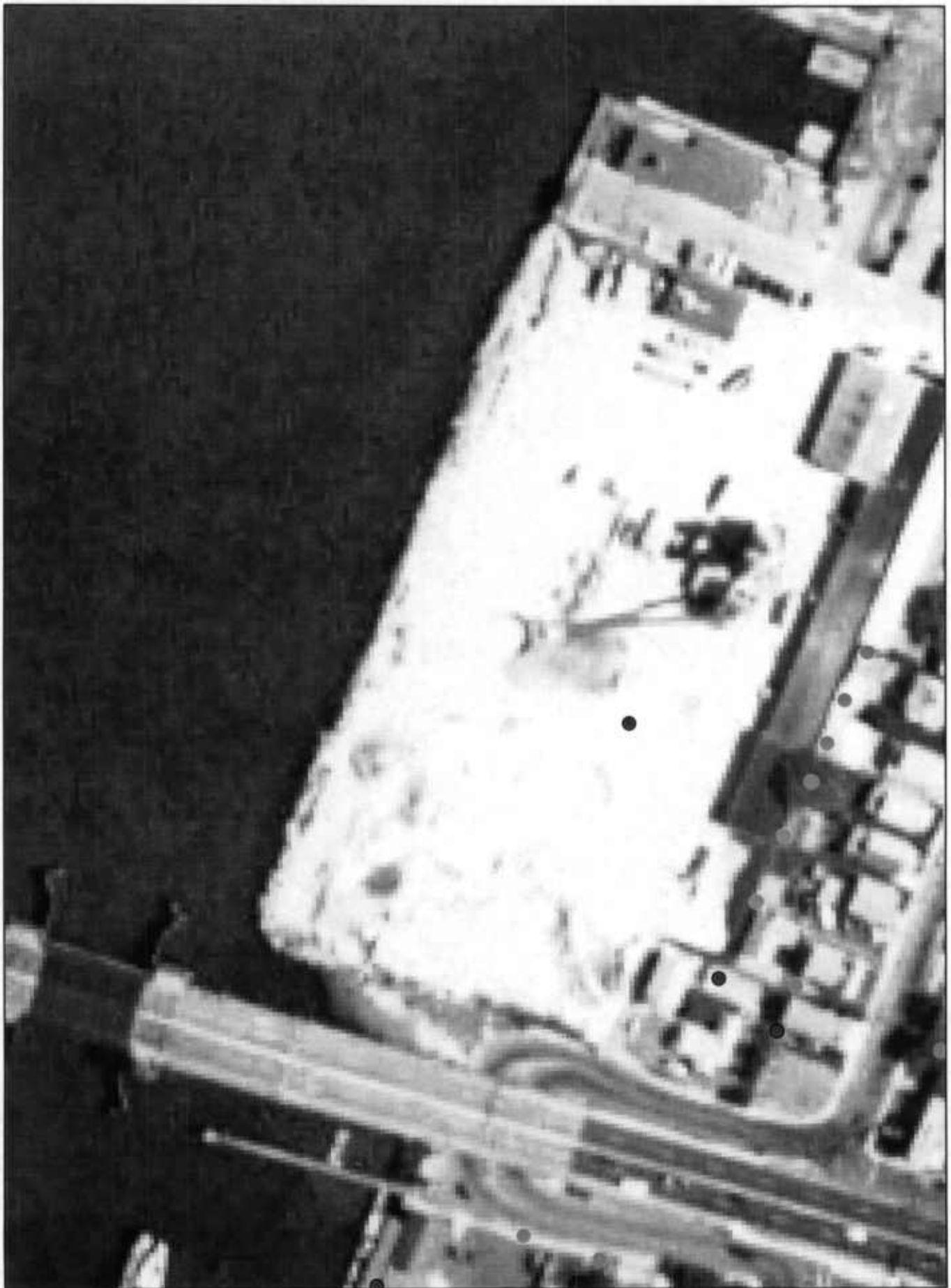
48

54

60

66

Worcester County



1 inch equals 96.159 feet





FAX

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FAX: 410.329.5881

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TO: Chris Clark DATE: 9/28/06
 ATTN: _____ RE: Copper Concrete
 FAX NO: 410.974.5338 GMB NO: 2006277-A
 FROM: Jane Bauer PAGES: 3 total

- Urgent For Review Please Reply Please File

COMMENTS:

Here is the background letter for Copper Concrete. We will have Whitlock, Lauray, Seale, Hardin Knight and project engineers on site Oct 5th at 10³⁰ am to answer questions and discuss the project approach.

Jane Bauer

*original to follow via US mail.

IF YOU DID NOT RECEIVE ALL OF THIS TRANSMISSION, OR HAVE QUESTIONS, PLEASE CALL AND NOTIFY US AT 410.329.5005. THANK YOU.



....

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PETER A BOZOK, JR., PE
JUDY A. SCHWARTZ, PE
CHARLES M. O'DONNELL, PE
JOHN E. BURNINGWORTH, PE
W. BRUCE FORDWELL, PE
JAMES H. WILLEY, JR., PE

A. REGGIE MARINER, JR., PE
MICHAEL D. MCARTHUR, AIA
DANE S. BAUER
MICHAEL G. KOBIN, PE
JAMES C. HOAGESON, PE
STEPHEN L. MARSH, PE
AMANDA H. POLLACK, PE
MARTIN D. DUBBER

JERRY KOTRA
RONALD L. NOBLE
C. RICHARD ROHM

September 28, 2006

State of Maryland Critical Areas Commission
1804 West Street, Suite 100
Annapolis, MD 21401

Attn: Mr. Christopher Clark
Natural Resources Planner

Re: Cropper's Landing
GMB No: 2006277.A

Dear Chris:

This is to confirm our discussion today regarding the site visit with federal/state and local agencies to review information that will allow a critical areas baseline to be established for the project.

As we discussed I am including a project overview as that may be helpful to all attending the meeting:

1. The property consists of 3.896 acres as per property survey conducted by Soule and Associates.
2. Ocean City Code allows for a downtown overlay district which would allow for higher density (previous contract purchaser had argued for 187 EDU's). Centex Homes is only seeking ninety-four (94) units per underlying zoning with one forty (40) unit condo building and fifty-four (54) townhouses.
3. The property is zoned M-1 (manufacturing). It is the only property with this zoning in Ocean City. This property has been used specifically as a concrete mixing site since 1946 and as such has a high degree of compaction.
4. Hardin Kight conducted the geotechnical report. They concluded that the site is mostly impervious. They tried to run the MDE field test for determining infiltration rates on the site for SWM purposes and encountered refusal with every hand auger test. They concluded the surface to be encrusted due to concrete residue and heavy truck traffic over the years. Hardin Kight also concluded that per Code, as a rubble fill four (4) to six (6) feet below the surface standard storm water infiltration systems will not work. GMB is currently looking into various sand filter design approaches.
5. Regarding the shoreline, Soule has also done a channel word survey which also shows the state wetlands line per 1972 mapping. We have estimated that the property owner may have lost land due to erosion but that the 1972 wetlands line is generally consistent with the current mean high water line. We have also determined that to preserve the shoreline that concrete was used to keep material from falling channel ward. The shoreline is a very unstable and high energy area. Historically Ocean City property in this area has encountered considerable scouring and erosion along the shoreline.



Mr. Christopher Clark
September 28, 2006
Page 2

- 6. Without using the mean high water line as the Critical Areas baseline the public access easement/boardwalk will be difficult to implement. The only option would be to construct a new bulkhead channel ward which would create significant engineering and environmental challenges.
- 7. We feel that using the mean high water table as the critical areas base line will be most protective for the environment considering the site specific project location and in light of the navigation channel depths, etc. in proximity to the currents.
- 8. Both Larry Whitlock and Ed Launay are consultants on this project and agree to this approach. They will be at the onsite meeting on the October 5, 2006 and can lend more information that support this position.

We will have the survey information, geotechnical report, and copy of the preliminary site plan for your information and use. Paul Till from Hardin Kight will also be available along with Steve Soule to expand and clarify any comments, recommendations/findings, and answer any questions you may have.

In summary:

We are looking for a solution that meets the intent of the Critical Areas Law yet allows for continued stabilization of the shoreline and allows the project to proceed.

We are confident that the team we have in place will meet the environmental objectives of the project.

It is our current engineering opinion that removing any of the existing shoreline stabilization will involve unacceptable risks lending to further shoreline and environmental degradation.

Sincerely,

Dane S. Bauer, Associate
Project Director

DSB/mas

Cc: Centex Homes
Attn: Mr. Joshua Mastrangelo

• • • •
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STEPHEN L. MARSH, PE
AMANDA H. POLLACK, PE
MARTIN D. DUSBIER

JERRY KOTRA
RONALD L. NOBLE
C. RICHARD ROHM

September 29, 2006

Wildlife and Heritage Service
Maryland Department of Natural Resources
580 Taylor Avenue
Annapolis, Maryland 21401

Attn: Lori A. Byrne, Environmental Review Coordinator

Re: Cropper's Landing
Ocean City, MD
GMB No. 2006277.A0

Dear Ms. Byrne:

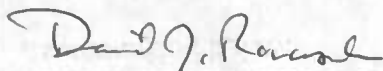
The purpose of this letter is to inquire whether a proposed development site is within an Endangered Species Habitat Protection Area. The existing 3.896 acre site currently occupied by the Cropper Concrete Plant is located on North First Street, Ocean City, Maryland, fronting on the Isle of Wight Bay. The entire site is located within the Atlantic Coastal Bays Critical Area. Details of the property information are summarized below.

Property Owner/Developer: Mrs. Insley
Tax Map: 110
Grid: 9
Parcel: 3968
Lot's: 1-7, 11-13, and 17-31
Deed Reference: CWM/21/216 & FWH/689/392
Critical Area Setback: 25-ft

Proposed development includes demolition of all existing structures and construction of a 40 unit condominium building and 54 townhouse units.

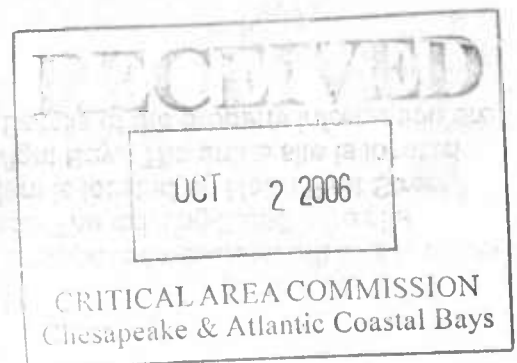
Please respond in writing when a determination has been made. Feel free to contact me at (410) 742-3115 with any questions or comments.

Thank you,



David J. Rovanseck

DJR/mam/nwh



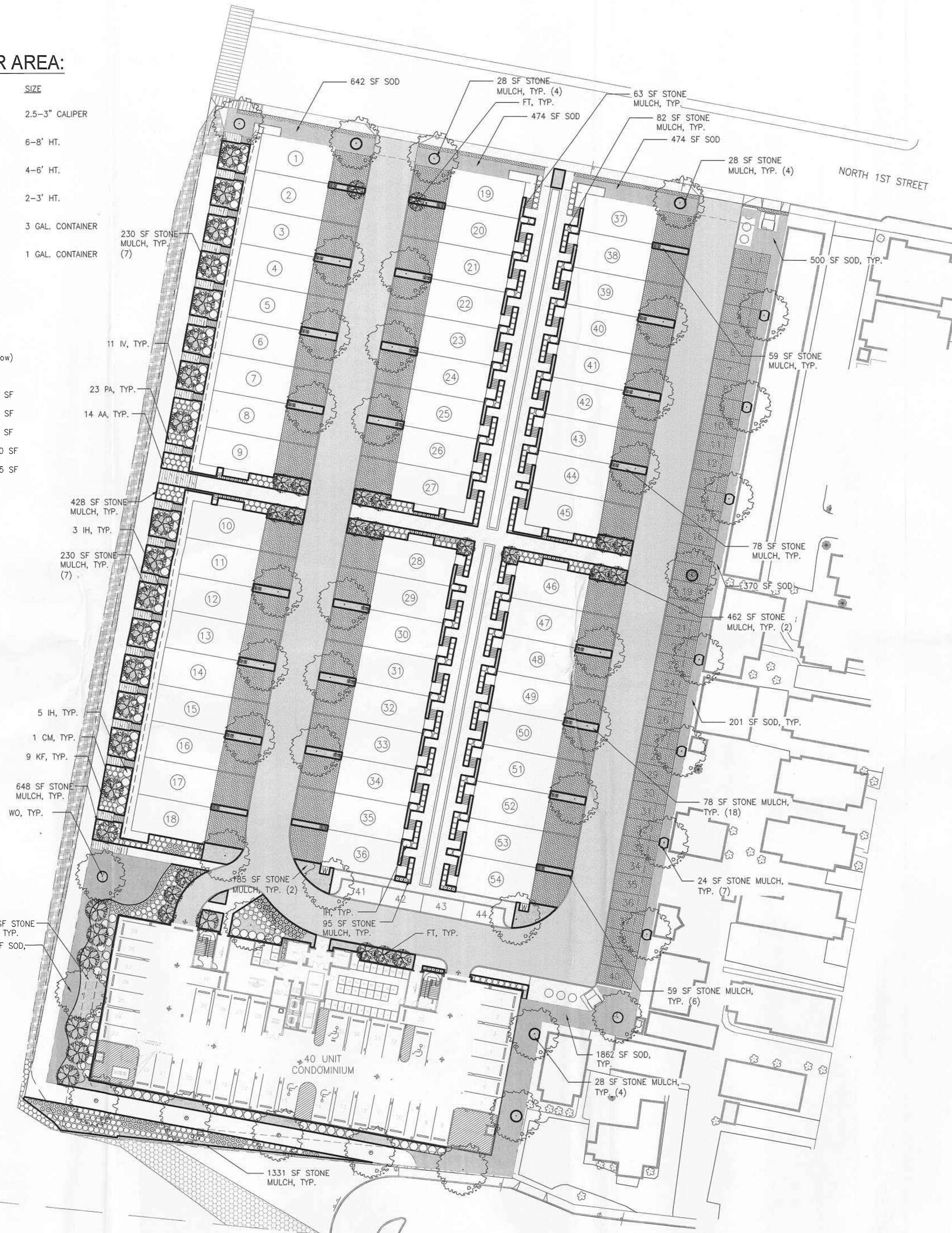
cc: Centex Homes
 Attn: Josh Mastrangelo
Town of Ocean City Engineering Department
 Attn: Gail Blazer
State of Maryland Critical Areas Commission
 Attn: K. Christopher Clark
GMB - Sparks
 Attn: Dane Bauer

PLANT SCHEDULE BERM / BUFFER AREA:

SYM.	QTY.	COMMON NAME	BOTANICAL NAME	SIZE
WO	44	WILLOW OAK	QUERCUS PHELLOS	2.5-3" CALIPER
CM	24	CREPE MYRTLE	LAGERSTROEMIA INDICA X. FAURIEI 'NATCHEZ'	6-8' HT.
FT	22	FRINGE TREE	CHIONANTHUS VIRGINICUS	4-6' HT.
IH	133	INKBERRY HOLLY	ILEX GLABRA	2-3' HT.
AA	606	RED CHOKEBERRY	ARONIA ARBUTIFOLIA	3 GAL. CONTAINER
PA	267	COASTAL PANIC GRASS	PANICUM AMARUM	1 GAL. CONTAINER
SOD				
	7,650 SF	SOD	TURF-TYPE TALL FESCUE	
MULCH				
	17,250 SF	MULCH	DECORATIVE STONE MULCH	

Total landscaping provided (Refer to "Landscaping Conversion Chart" below)

Number	Value	Total
Large trees	44 x 200 SF	8,800 SF
Small trees	46 x 100 SF	4,600 SF
Large shrubs	133 x 75 SF	9,975 SF
Small shrubs	873 x 50 SF	43,650 SF
Total value of Landscaping provided		67,025 SF



NOTES:

- PLANTS SHALL CONFORM TO CURRENT "AMERICAN STANDARDS FOR NURSERY STOCK" BY AMERICAN ASSOCIATION OF NURSERYMEN (AAN), PARTICULARLY WITH REGARDS TO SITE, GROWTH AND SIZE OF BALL AND DENSITY OF BRANCH STRUCTURE.
- CONTRACTOR IS TO ENSURE CONFORMANCE TO NATIONAL AND LOCAL BUILDING CODES AND ORDINANCES.
- ALL PLANTS (B&B OR CONTAINER) SHALL BE PROPERLY IDENTIFIED BY WEATHERPROOF LABELS SECURELY ATTACHED HERETO BEFORE DELIVERY TO THE PROJECT SITE. LABELS SHALL IDENTIFY PLANTS BY NAME, SPECIES, AND SIZE. LABELS SHALL NOT BE REMOVED UNTIL THE FINAL INSPECTION BY THE OWNER'S REPRESENTATIVE.
- ANY MATERIAL AND/OR WORK MAY BE REJECTED BY THE OWNER'S REPRESENTATIVE IF IT DOES NOT MEET THE REQUIREMENTS OF THE SPECIFICATIONS. THE CONTRACTOR SHALL REMOVE ALL REJECTED MATERIAL FROM THE SITE.
- THE CONTRACTOR SHALL FURNISH ALL PLANTS IN QUANTITIES AND SIZES TO COMPLETE THE WORK AS SPECIFIED IN THE PLANT SCHEDULE. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL PLANT QUANTITIES ON THE PLANS PRIOR TO THE COMMENCEMENT OF WORK. QUANTITIES IN THE PLANT SCHEDULE ARE FOR THE CONTRACTOR'S CONVENIENCE ONLY AND DO NOT CONSTITUTE THE FINAL COUNT.
- SUBSTITUTION IN PLANT SPECIES OR SIZE SHALL NOT BE PERMITTED EXCEPT WITH THE WRITTEN APPROVAL OF THE OWNER OR THE OWNER'S REPRESENTATIVE.
- PLANTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS AND BY SCALING OR AS DESIGNED IN THE FIELD BY THE OWNER OR THE OWNER'S REPRESENTATIVE. ALL LOCATIONS ARE TO BE APPROVED BY THE OWNER OR THE OWNER'S REPRESENTATIVE BEFORE EXCAVATION.
- CONTRACTOR SHALL LOCATE AND MARK ALL UNDERGROUND UTILITY LINES AND IRRIGATION SYSTEMS PRIOR TO EXCAVATING PLANT BEDS OR PITS. ALL UTILITY EASEMENT AREAS WHERE NO PLANTING SHALL TAKE PLACE SHALL ALSO BE MARKED ON THE SITE PRIOR TO LOCATING AND DIGGING THE TREE PITS. IF UTILITY LINES ARE ENCOUNTERED IN EXCAVATION OF TREE PITS OTHER LOCATIONS FOR THE TREES SHALL BE SELECTED BY THE OWNER OR THE OWNER'S REPRESENTATIVE. SUCH CHANGE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COMPENSATION. NO CHANGES OF LOCATION SHALL BE MADE WITHOUT THE APPROVAL OF THE OWNER OR THE OWNER'S REPRESENTATIVE.
- ALL EQUIPMENT AND TOOLS SHALL BE PLACED SO AS NOT TO INTERFERE OR HINDER THE PEDESTRIAN AND VEHICULAR TRAFFIC FLOW.
- DURING PLANTING OPERATIONS, EXCESS AND WASTE MATERIALS SHALL BE PROMPTLY AND FREQUENTLY REMOVED FROM THIS SITE.
- ALL PLANTED SHRUB BEDS ARE TO BE DUG TO A MINIMUM OF 12" DEEP AND ALL EXISTING SOIL, CONSTRUCTION DEBRIS, ROOT AND OTHER FOREIGN MATERIALS ARE TO BE REMOVED AND DISCARDED OFF SITE. ALL PLANTED SHRUB BEDS ARE TO BE EXCAVATED TO THE WIDTH SHOWN ON THE PLANS.
- ALL TREE PITS ARE TO BE EXCAVATED TO A MINIMUM DEPTH TO ALLOW THE TREE ROOT BALL TO BE A MINIMUM OF 4" HIGHER THAN FINISHED GRADE. THE TREE ROOT BALL IS TO REST ON UNDISTURBED SOIL, OR A COMPACTED BED MUST BE PREPARED FOR THE TREE ROOT BALL TO REST ON AND WHICH WILL NOT SUBSIDE CAUSING THE TREE TO SINK BELOW FINISHED GRADE. ALL TREE PITS ARE TO BE A MINIMUM OF 12" LARGER ON EVERY SIDE OF THE TREE ROOT BALL.
- THE PLANTER BEDS ARE TO BE ENTIRELY CLEANED OUT TO THE UNDISTURBED SOIL LEVEL. ALL EXISTING SOIL, CONSTRUCTION DEBRIS, ROOTS AND OTHER FOREIGN MATERIAL ARE TO BE REMOVED AND DISCARDED OFF SITE.
- THE TOP SOIL TO BE USED TO FILL THE TREE PITS, SHRUB BEDS AND PLANTERS IS TO BE PLANT SPECIFIC. THE TOPSOIL FOR TREES, SHRUBS AND PLANTERS SHALL CONSIST OF A MAXIMUM OF 2/3 EXISTING TOPSOIL FROM THE SITE, WHICH IS CLEANED AND FREE OF CLAY, A MINIMUM OF 1/3 PEAT MOSS, OR OTHER APPROVED ORGANIC MATERIALS OR IMPORTED NEW LOAMY TOPSOIL AND 10% COW MANURE. ALL OF THESE MATERIALS ARE TO BE MIXED PRIOR TO PLACING IN THE PLANTER OR BACKFILLING WHEN PLANTING.
- THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL TREE PITS, SHRUB BEDS AND PLANTERS ARE WELL DRAINED. THE LANDSCAPE CONTRACTOR WILL REPLACE ALL PLANT MATERIAL WHICH IS AFFECTED BY POOR DRAINAGE, AT NO CHARGE TO THE OWNER.
- ALL LAWN AREAS ARE TO BE TILLED TO A DEPTH OF 6" AND ALL FOREIGN MATERIAL REMOVED WHICH WILL INHIBIT THE HEALTHY GROWTH OF THE LAWN. ALL OLD GRASS AND GRASS ROOTS ARE TO BE REMOVED FROM THE SITE. NEW TOPSOIL OF A MINIMUM 4" IS TO BE PLACED OVER THE AREA TO BE SODDED. THE GRASS AREAS ARE TO BE FINE GRADED TO ENSURE THAT NO UNDULATIONS OCCUR IN THE LAWN. THE LAWNS ARE TO BE GRADED IN SUCH A WAY AS TO APPEAR PERFECTLY WELL TAILORED AND EVEN. THE LAWN TOPSOIL IS TO BE ROLLED AND LIGHTLY IRRIGATED PRIOR TO PLACING THE SOD. THE SOD IS NOT TO BE LAID ON FROZEN OR SOAKED SOIL.
- THE EXISTING TREES ARE TO BE PROTECTED DURING THE PREPARATION OF LAWN AREAS. THE ROOTS OF THE TREES ARE TO BE UNDISTURBED DURING THE CLEANING OF THE TOPSOIL.
- THE TREES AND SHRUBS ARE TO BE HANDLED WITH THE BEST CARE AND ATTENTION TO ENSURE THAT THE PLANTS ARE NOT BRUISED, BROKEN, TORN, DAMAGED IN ANY WAY WHICH WILL AFFECT THE PLANTS GENERAL APPEARANCE AND WELL BEING.
- THE TREES MUST BE STAKED IN ACCORDANCE WITH ACCEPTABLE NURSERY PRACTICES TO ENSURE THAT THEY ARE SECURE IN THE GROUND AND WILL GROW STRAIGHT AND UNIFORM. THE TREES ARE TO BE WRAPPED IF THE CONTRACTOR DEEMS IT NECESSARY TO PROTECT THE TREES FROM SUN SCALD OR INSECT ATTACK.
- THE LANDSCAPE CONTRACTOR IS TO PROVIDE A ONE YEAR WARRANTY FOR ALL PLANT MATERIAL AND OTHER WORK DONE ON SITE. THIS WARRANTY WILL BEGIN AT EITHER SUBSTANTIAL COMPLETION OR AT FINAL ACCEPTANCE AS DETERMINED BY THE OWNER.
- LARGE GROWING PLANTS ARE NOT TO BE PLANTED IN FRONT OF WINDOWS, UNDER BUILDING OVERHANGS, OR IN DRAINAGE SWALES. SHRUBS PLANTED NEAR H.V.A.C. UNITS TO BE LOCATED SO THAT SHRUBS AT MATURITY WILL MAINTAIN 1' AIR SPACE BETWEEN THE UNIT AND THE PLANT.
- THE CONTRACTOR IS TO SLIGHTLY ADJUST PLANT LOCATIONS IN THE FIELD AS NECESSARY TO BE CLEAR OF DRAINAGE SWALES AND UTILITIES. FINISHED PLANTING BEDS SHALL BE GRADED SO AS NOT TO IMPEDE DRAINAGE AWAY FROM BUILDINGS.
- GROUPS OF SHRUBS SHALL BE PLACED IN A CONTINUOUS RAISED MULCH BED WITH SMOOTH CONTINUOUS LINES. ALL MULCH BED EDGES SHALL BE CURVILINEAR IN SHAPE FOLLOWING THE CONTOUR OF THE PLANT MASS. TREES LOCATED WITHIN 4' OF SHRUB BEDS SHALL SHARE SAME MULCH BED.
- TRANSPLANT TREES INDICATED ON THE DRAWINGS WILL BE SELECTED BY OWNER OR OWNER'S REPRESENTATIVE FROM THE EXISTING SITE TREES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

PRELIMINARY PLANS

DATE	
REVISIONS	
NO.	

GMB
 GEORGE, MILES & BUHR, LLC
 ARCHITECTS & ENGINEERS
 SALESBURG - BALTIMORE - LEWES - SEAFORD - YORK
 www.gmbnet.com

CROPPER'S LANDING
 OCEAN CITY, MARYLAND
 WORCESTER COUNTY, MARYLAND

LANDSCAPE PLAN

SCALE : 1" = 30'
 DESIGN BY : LM
 DRAWN BY : LM
 CHECKED BY: RTR
 GMB FILE : 2006.277
 DATE : FEBRUARY 2007

SHEET NO.
L1.0

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