OC 249-06 Ocean Plaza ~~Redevelopment~~ 94th Street
Site Plan 06-18100005

MSA.S.1829-5862

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/

February 28, 2007

Mr. Blaine Smith, Zoning Administrator
Town of Ocean City
P.O. Box 158
Ocean City, Maryland

RE: Site Plan – 94th Street Ocean Plaza Redevelopment
File #06-181005
OC 249-06

Dear Mr. Smith:

The Critical Area Commission has received correspondence from John Canoles of Eco-Science Professionals, Inc. regarding the referenced project. A survey of the project site has been conducted to determine if the State-listed endangered Beach plum (Prunus maritima) was present on the site. Mr. Canoles concluded that there was no evidence or the presence of Beach plum on the project site; therefore, no specific protection measures for this species will be required.

I have reviewed Chris Clark's letter to you, dated August 7, 2006, and there appear to be a few outstanding comments. Have these comments been addressed? Please provide me with an update on the status of the project. If you have any questions, please call me at (410) 260-3480.

Sincerely,

Mary R. Owens

Mary R. Owens, Chief
Program Implementation Division

STATE OF MARYLAND
CRITICAL AREA COMMISSION
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August 7, 2006

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

VIA FACSIMILE AND US MAIL

RE: Site Plan – 94th Street Ocean Plaza Redevelopment – File #06-1810005

Dear Mr. Smith:

Thank you for the submission of the documents related to the above referenced project. The site plans provided propose for the redevelopment of a 17.7± acre parcel. The parcel is IDA Buffer Exempt and is not waterfront. The applicant is proposing to construct 11 new condominium buildings, one containing a parking garage, a new grocery store, a bank, and retail pad space. The project will progress in five phases. The overall post site development will result in a net decrease of impervious surface from 661,498 square feet to 592,226 square feet; a reduction of 69,398 square feet. This is a result of an increase in plantable area and pervious paver systems proposed on the site. The main concerns include stormwater management and 110% rule compliance, habitat protection, and afforestation\landscaping requirements. Information regarding the Critical Area requirements has been supplied to the Commission and staff has the following comments:

1. Section 3.0 of the Critical Areas Report regarding forest cover states "There are several large mature trees at the rear of the property that will not be affected or touched per this redevelopment. Most of the trees reside on the adjacent property and all will remain in place. There is approximately 7,500 sf of forest cover at the rear of the property." Is it our understanding that all of the 7,500 square feet of forest is to be removed except for several mature trees? The existing tree line is consistent on all of the Critical Area Site Plans.

2. This area of forest is contiguous with lands owned by the Department of Natural Resources. It was noted through the supplied documentation from the Maryland DNR Wildlife and Heritage Service that there was a record of the endangered Beach Plum located on the site. Section 10.0 of the Critical Area Report indicates that the applicant does not propose to remove or impact any vegetation

on the project site and if there are any Beach Plums "it is believed that they would be in the areas that will not be directly affected by our proposed development." The Commission is requesting that the applicant consult with experts in this field to provide written documentation of the presence or absence of this endangered species as required by Section 30-555.(c)(3) of the Town of Ocean City's Critical Area Ordinance.

3. It appears that the 10% compliance will be achieved through a reduction impervious surface and the installation of a pervious paver system. This reduction in impervious surface will meet the rule in all phases except for Phase one (1). This is the area where the Commission would hope the applicant could be more proactive in capturing and treating the stormwater since it is adjacent to potential sensitive habitat. It seems as though additional BMP's could be incorporated into the design rather than rely on the fee-in-lieu. The proposed treatment efficiency may also need to be reevaluated and a 50% reduction in design capacity may be appropriate. The existing stormwater basin is not located on any of the site plans provided.

4. Section 8.0 of the Critical Area Report discusses a disturbance of 18.4± acres. The site plans indicate the total of 17.70 acres. Please clarify.

5. The landscaping plans appear adequate over all phases.

The Commission would ask the applicant to provide updated and detailed information for review as it becomes available. The Commission would require the review of each additional phase if the site plans varies from the information submitted.

Thank you for the opportunity to comment on this project. If you have any questions or concerns, please contact me directly at 410-260-3476.

Sincerely,

Chris Clark
Natural Resources Planner

cc: OC 249-06

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/

June 26, 2006

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

RE: Site Plan – Ocean Plaza Redevelopment

Dear Mr. Smith:

I wanted to follow-up regarding the plans for the Ocean Plaza Redevelopment Project we briefly discussed during our last meeting. I understand you have completed your first technical review meeting with the applicant - Becker Morgan Group.

The Commission would ask the applicant to provide updated and detailed information for review. The information supplied is not sufficient to conduct our required review of a project with such a significant scope. The Commission would like to review a Critical Area Site Plan for each phase and a comprehensive plan as well as a Critical Area Report for the project. There is conflicting information related to the project's proximity to the 100-foot Buffer and the 10 percent calculations provided.

Once this information is provided, the Commission can continue its review.

Thank you for the opportunity to comment on this project. If you have any questions or concerns, please contact me directly at 410-260-3476.

Sincerely,

Chris Clark
Natural Resources Planner

cc: OC 249-06

Eco-Science Professionals, Inc.

CONSULTING ECOLOGISTS

January 4, 2007

Mr. Chris Clark
Natural Resources Planner
Maryland Critical Area Commission
Chesapeake and Atlantic Coastal Bays
1804 West Street, Suite 100
Annapolis, Maryland 21401

RE: Site Plan - 94th Street Ocean Plaza Redevelopment
File # 06-1810005

Dear Mr. Clark,

On behalf of our client, OCTC Holdings, LLC, Eco-Science Professionals, Inc. has completed further review and assessment of the referenced project. The purpose of our review was to address the Critical Area Commission's comments which were provided in your August 7, 2006 letter to the Town of Ocean City. Specifically, our goal was to address comment 2 regarding the presence/absence of beach plum (*Prunus maritima*) on the property. In association with this field review we investigated the forest conditions along the perimeter of the property and the quality and function of the stormwater management facility currently serving the site.

A field investigation was performed on November 2, 2006 for the purpose of determining the status of the beach plum. The weather on the day of the investigation was clear, temperature in the mid 60's. As has been previously reported, the subject property is primarily paved with limited natural vegetation occurring along the western edge of the site and the northwestern corner. The balance of the site and the adjacent properties are paved.

Natural vegetation is present on the State lands that occur west of the site and within the undeveloped section of the 99th street right of way. The upland vegetation is dominated by loblolly pine, black cherry, red maple, winged sumac, multiflora rose, broomsedge and greenbriar. A natural, nontidal wetland occurs on the adjacent property. This area occurs along a notable swale that drains away from the property. The area is dominated by loblolly pine, bayberry, common reed, elderberry, royal fern, red maple and sweet bay magnolia. The upland interface occurs along the topographic transition.

In addition, a stormwater management facility is present on the adjacent property at the southwestern corner of the site. Stone inlets along the edge of parking lot appear to convey water to the facility from the site. The facility has been recently mowed but is dominated by common reed. The facility has developed wetland characteristics and was moist to saturated at the time of our field review.

Detailed field review was performed along the perimeter of the naturally vegetated portions of the site and to the common reed dominated tidal wetlands to the west of the site. Beach plum is a multi-stemmed shrub generally 4-8 feet in height with straggly growth habit. The plant has oblong leaves that are finely teethed and hairy beneath. Twigs are slender, reddish brown and new growth has a pubescent covering. The bark of the plum is reddish and smooth with horizontal lenticels when young, becoming dark and rough with age. Beach plums occur naturally on sandy soils near the coast and on ocean dunes. The field review found no evidence or the presence of beach plum. Black cherry is commonly noted on the property and a single ornamental *Malus* was observed. Due to some similarity in appearance between the plum and the *Malus*, the generic identification of the Malus was confirmed by Mr. Charles Davis. Specific identification of the *Malus* was not performed due to the ornamental nature of its origin.

In addition, the field review has determined that the tree cover that encroaches onto the site is comprised of young loblolly pine, black cherry, red maple and winged sumac. The trees along the edges of the site are generally young. Forest on the adjacent parcel is better developed though it is heavily influenced by green briar and common reed colonization.

It is our understanding that the stormwater management facility on the adjacent property was originally developed to address the stormwater runoff from the site. As is typically the case, the facility was dedicated to the City after construction. The SWM facility is currently heavily vegetated by an almost homogenous common reed stand. At the time of our investigation, the reed stand had been recently mowed. The vegetation within the facility provides excellent sediment interception and nutrient uptake. It is our further understanding the Town of Ocean City may propose to redevelop the SWM facility into an upland use.

The facility has developed a wetland vegetative community and evidence of hydric soil conditions and active hydrology were noted. Fish were present within the standing water at the mouth of the outfall structure. The SWM facility was constructed within Plummer series soils. These soils are poorly to very poorly drained and are listed on the State's hydric soil list. Given that the facility was constructed in hydric soils and currently exhibits wetland characteristics, the Maryland Department of the Environment and the U.S. Army Corps of Engineers could regulate any impacts to this area. We would recommend that the facility be maintained in its current condition to continue to address the SWM needs of the impervious surfaces on the subject property.

Thank you for allowing Eco-Science Professionals, Inc. the opportunity to assist you in this matter. Please do not hesitate to contact me if you have any further questions.

Sincerely,

John Canoles

cc: Mr. R. Blaine Smith
Zoning Administrator
Department of Planning and Community Development
Town of Ocean City
P.O. Box 158
Ocean City, Maryland 21843

Ms. Gail Blazer
Environmental Engineer
Engineering Department
Town of Ocean City
P.O. Box 158
Ocean City, Maryland

Mr. Jim Flannery
Continental Realty Corporation
1427 Clarkview Road, Suite 500
Baltimore, Maryland 21209

249-06

TOWN OF OCEAN CITY

The White Marlin Capital of the World

Reply to: Planning and Community Development
P.O. Box 158
Ocean City, MD 21843
410-289-8855

July 28, 2006

Mr. Chris Clark
State of Maryland Critical Area Commission
1804 West Street, Suite 100
Annapolis, MD 21401

Dear Chris:

The following project is being forwarded for your review and comments.

1. 9701 Coastal Highway – Ocean Plaza Redevelopment. File #06-18100005.

If you need further explanation, please contact me at 410-289-8855.

Sincerely,

Blaine/m

R. Blaine Smith
Zoning Administrator

/m
Encl.
cc: File 1501.13.2
Correspondence '06
File #06-18100005

Ocean City, MD
All-America City
2001

CRITICAL AREAS REPORT

FOR

OCEAN PLAZA REDEVELOPMENT

OCEAN CITY, MARYLAND

07.17.06

BECKER MORGAN GROUP

ARCHITECTURE
ENGINEERING

WILMINGTON, DELAWARE
302-888-2600

SALISBURY, MARYLAND
410-546-9100

DOVER, DELAWARE
302-734-7950

Prepared by:

Becker Morgan Group, Inc.
312 West Main Street, Suite 300
Salisbury, Maryland 21801

2004167.01

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1.0 INTRODUCTION

This report is prepared to provide supporting critical areas documentation for the proposed Ocean Plaza Redevelopment project on 94th Street. The report will demonstrate that the site design is in compliance with the Town of Ocean City's regulatory guidelines and the Maryland Department of the Environment's Critical Areas requirements.

2.0 GENERAL SITE INFORMATION

EXISTING 661,498

2.1 Existing Site Condition

The existing site consists of the Ocean Plaza Mall, a few small buildings at the front of the site and the associated parking lot. The impervious coverage of the site is 661,498 sf, or 85.8% of the 770,945 sf. Site. The area is made up of the mall building, with Super Fresh and Rose's on either end, two fast food restaurants and a bank, along with a bituminous parking lot in front and in the rear. The soil type for the site, as determined by the US Department of Agriculture, is dominated by Urban Land (Ur) HSG = C, with most of the rear of the site behind the existing mall consisting of Urdorthents (Uz) HSG = C. The existing site area contains no wetlands.

2.2 Proposed Site Condition

The site will be redeveloped with 11 condominium buildings, one containing a parking garage, a new Super Fresh building, a new bank and a small future pad site. Nearly the entire site as it is now will be affected by the redevelopment. Many areas that are currently (or once were) parking will be covered by buildings with some additional green space throughout the site. The overall proposed impervious area is 592,226 sf., a reduction of 69,398 sf (1.59 ac.) The proposed development meets the current Ocean City parking requirements for each aspect of the site, including a two-story parking garage on the roof of the Super Fresh. There will be an east-west drive to the central circular feature, as well as a north-south one.

Reduction of 69,398 ft² Proposed 592,226 ft²

3.0 FOREST COVER

There are a several large mature pine trees at the rear of the property that will not be affected or touched per this redevelopment. Most of the trees reside on the adjacent property and all will remain in place. There is approximately 7,500 sf of forest cover at the rear of the property.

4.0 SHORELINE CONDITIONS

There is no shoreline on this project. From the aerial photos and information in the Ocean City Engineering Department, the 1972 shoreline is over 140' from our rear property line. The site is not located within 100' of the shoreline or tidal wetlands line.

5.0 STORMWATER MANAGEMENT

The proposed site has been designed in accordance with the Town of Ocean City development regulations using Best Management Practices (BMPs) listed in the Town's Stormwater Design Guidelines. The quality control requirement of a 20% reduction in site imperviousness for redevelopment projects will not be met for this project. There will be at least a 20% reduction in the amount of impervious area on Phases 2A, 2B and 3B. Phases 1 and 3A (Commercial) will need to install pervious pavers to handle the quality control volume to meet the 20% reduction. Over the entire site the amount of impervious area will be decreased from 85.8% to 76.8%.

Since the site will be reduced by 9.0%, only 11.0% of the site will be required to be treated for quality. This will be handled in pervious pavers under the buildings at the rear and open to the sky in Phase 1 and the Commercial Phase. The buildings will drain to downspouts that will drain to the perimeter of the parking areas where the pavers will be located. The 11.0% of the site equates to 62,927 sf. This means a quality volume of 5,244 cubic feet is required to be treated. The effective area (removing the footings under the pavers) for Phase 1 is 20,675 sf., which amounts to 5,540 cubic feet of storage for quality purposes. The effective area for the Super Fresh quad is 6,800 sf., which amounts to 1,822 cubic feet of storage for quality purposes. See the attached Critical Areas application and 10% rule worksheets for each Phase for further information.

6.0 TOPOGRAPHY

The majority of the site is covered in pavement or building at the current time. There does not seem to be any major issues on the site as far as drainage is concerned. Catch basins are located in both 94th and 99th Streets and Coastal Highway. The wetlands located beyond the rear of the site also provide drainage. An existing stormwater management basin is tucked behind the site, and was originally designed to treat a minimal portion of the site. It is believed that the outfall structure is still in good working order. The basin itself is overgrown. There will be minimal drainage going to the basin after the redevelopment.

7.0 GRADING

Almost the entire lot will be regarded per this redevelopment plan. The existing mall building will be removed along with the parking areas. They will be covered partially with buildings, partially with new parking areas, partially with new green space. In order to promote positive drainage from the site, most areas will be affected. The central circle feature will serve as the general high point of the site, draining in all directions. There are catch basins in all 3 surrounding streets to provide drainage. No clearing will be done on the site. All disturbances will be above the mean high water line, and all impervious surfaces will be out of the 25' buffer. There should not be any excavation on the site, and will most likely require a small amount of fill for positive drainage purposes.

8.0 PROPOSED DEVELOPMENT

The redevelopment will consist of 11 5-story buildings, a new Super Fresh grocery store, a new bank, and a small future retail pad site. In total, there will be 382 residential units and 53,612 square feet of retail space. As previously stated, the amount of impervious coverage of the entire site will actually be reduced with the redevelopment. There will be planting areas and green-space interspersed throughout the site where there is minimal area now. The new residential units will be serviced with public water loop connected in 94th Street and Coastal Highway. The sanitary sewer will connect in 99th Street. With all areas that need to be removed, cleared, built upon, or cut into, there will be approximately 800,000 square feet (just under 18.4 acres) of disturbed area. This is planned to be accomplished over 5 phases.

9.0 PROPOSED IMPACT

The existing site was designed to provide a minimal amount of stormwater management for the runoff from the parking lot to the rear of the existing Super Fresh store. The remainder of the site either flows off-site, or gets captured in the on-site catch basins and discharged to the north in a ditch that drains to the Sinepuxent Bay. There is minimal to green space that the runoff travels over prior to leaving the site in most cases. In the redevelopment plan, there will be a landscape buffer surrounding the entire site. In the rear, there will be a minimum of a 25' setback to the property line. Beyond the line lies the wetlands that lie adjacent to the Sinepuxent Bay. The majority of the runoff headed in this direction or from the building adjacent to the 25' setback will drain over/through pervious pavers prior to leaving the site. There will be additional paver areas in the southeast corner (commercial quad) that will provide additional stormwater management/quality treatments prior to the runoff leaving the site.

In Phase 1, the rear of the site, the amount of impervious area is increasing due to the condition of the existing pavement and it being unable to be counted as impervious. The quality volume required is 4,645 cubic feet. The pavers will provide approximately 5,540 cubic feet of storage/treatment volume. In phases 2A, 2B, and 3B, the amount of imperviousness is being reduced by more than the required 20% for redevelopment. In the commercial phase, the amount

of imperviousness is being decreased from 94.3% to 83.2%, leaving a required treatment amount of 1,470 cubic feet. The paver areas provided will supply a volume of 1,822 cubic feet of storage/treatment. The pavers have been placed along the perimeter to ensure that most of the runoff leaving the site will need to drain across the pavers. This ensures that more than just the rooftop drainage will have the opportunity to enter the BMP for the site.

In addition to the quality control volume treatment, the 10% rule worksheets for each phase must also be completed. The worksheets with this information are attached to the report. The predevelopment/existing conditions phosphorous pollution load is 35.56 lbs per year. The post-development load is 32.06 lbs per year. The difference between the 10% reduction and the post-development amount will be handled with the pavers installed. As it is shown now, there will be a small fee-in-lieu amount to be paid for Phase 1.

10.0 ENVIRONMENTAL REVIEW

The letter from the Maryland DNR Wildlife and Heritage Service is attached. It states that in 1984, there was a record of the endangered Beach Plum located on the site. Given the site layout and what is proposed, we do not feel this will affect our proposed development. There is a small stand of trees and growth west of our property line, between the existing mall and the Sinepuxent Bay. Most of this area is wetlands, and it is believed to be owned by the State. As can be seen on the plans and by visiting the site, the site is nearly 100% impervious with either pavement or building. All proposed development will occur outside where there are current herbaceous species, including the trees and outside the 25' non-tidal wetlands buffer. If any Beach Plums exist around our site, it is believed that it would be in the areas that will not be directly affected by our proposed development.

Attachments:

-Project summary report
-DNR heritage letter.
-Ocean City Critical Areas 10% Rule Worksheet for each phase, as well as a total site.
-Ocean City Critical Areas Project Application, including planting and mitigation requirements for each phase, as well as total site.
-Set of civil plans for the Ocean Plaza Redevelopment.
-Plantable area schematic for each phase.
-Critical Area Plan for each phase, which shows the grading, stormwater (if required,) plantable area schematic, and planting with landscaping table.

BECKER MORGAN GROUP

ARCHITECTURE
ENGINEERING

OCEAN PLAZA REDEVELOPMENT PLAN

OCTC Holdings, LLC is planning on redeveloping the vacant Ocean Plaza Mall site located between 94th and 99th Streets along Coastal Highway, Bayside. The plan calls for demolition of the buildings on the existing site and rebuild the site in 5 phases. There are 382 units with a mix of 2 and 3-bedroom units proposed, in addition to the new Super Fresh building, a new Susquehanna Bank and an additional pad of less than 2,000 sf.

The plans call for all structures on-site to be ultimately demolished. In addition, the utility infrastructure on the site will be replaced and upgraded to better serve this plan's layout and remove the services from under the existing and/or proposed buildings. The Phase 1 plan will be able to stand on its own after being subdivided from the remainder of the property. The stormwater, density and landscaping requirements have been met for this phase, as well as all subsequent phases. Also, Phase 1 will have its own water meter for service and sanitary sewer main run to the existing stub in 99th Street. There is an existing erosion and sediment control plan approved for the demolition of the existing mall structure, excluding the Rose's and Super Fresh stores. It also includes removal of the parking area which includes all of Phase 1. This demolition is planned to take place in the not too distant future to provide a clean slate for Phase 1 as well as a head start for Phase 2A.

The allowable density is 768 units for the 770,945 sf site. This plan proposes a density of 382 units, just fewer than 50%. Additionally, there will be a 48,112 sf Super Fresh store, 3,500 sf Susquehanna Bank and 1,910 sf future pad site. There will be 2 levels of parking above the Super Fresh store as well as the at grade parking for the entire commercial phase. All phases are under the allowable density for their area, and meet the current Ocean City parking requirements by phase.

The existing main entrance will be upgraded in almost the identical location. The other entrance off Coastal Highway located near the existing Rose's store will be closed. The main drive will be divided by a small landscape strip down the center, creating 2 lanes 16' wide each. This will provide access to the commercial phase, phase 2B and the traffic circle located at the center of the project. From the circle, phase 2A and 3B is

directly accessible, and a drive aisle connects back to phase 1. Two additional entrances will be located in approximately the same location on 94th Street. There will be 2 entrances on 99th Street, one at the end of the street, serving phase 1 directly and phase 2A, with another entering between phases 2A and 2B. Currently there are 3 access points on 99th Street. All-in-all, there will be 2 entrances closed, 3 upgraded, and a new one in a more suitable location.

The new Superfresh store is required to have a minimum finished floor of 11.00. This will require fill for the front portion of the site. This area, along with the traffic circle area will become the high points of the site, with drainage graded to the streets and rear. Two new catch basins will be located at the entrance off 99th Street and tied into the existing system. In addition, the existing stormwater main running under the existing building will be rerouted around the proposed building in phase 2B. This will continue the drainage path from the catch basins along Coastal Highway.

There will be a new water service loop provided, with new connections to the existing water main in 94th Street and the newly installed main in 99th Street. The existing water mains will be capped and abandoned. The existing water easement will be abandoned, and a new one created for the service loop. There will be 3 water meters on the site, one for Phase 1, one for Phases 2A, 2B & 3B and one for the commercial area. All lines will be 8" mains. Each building will have water and fire service lines run to the buildings. There will also be 8 hydrants installed on-site.

The existing sanitary sewer main will be removed and disposed with new mains run in a more suitable location. The existing connection to the manhole in 99th Street will be utilized for all phases except Phase 1, which will connect a new main to the stub heading west in 99th Street from the same manhole. Each building will have its own lateral to the new main.

Phase 1 will consist of 88 3-bedroom units in 3 buildings. As previously stated, this phase will be subdivided to make a separate lot. The phase contains 143,195 sf (3.29 acres) which allows a density of 141 units. The parking requirement of 220 spaces is met with 221 spaces proposed, including 10 handicap spaces. There will be an increase in the amount of impervious area due the decrepit condition of the parking lot at the rear of the mall site. The stormwater will be handled by installing pervious pavers under the buildings as well as in the head-to-head parking area. Fifteen percent of the site for planting would require 21,480 sf of equivalent planting; 26,900 sf is proposed. There will not be any trees cut for this phase, or any others for that matter.

Phase 2A will be located approximately where the current mall building resides. It will consist of 24 2-bedroom units and 72 3-bedroom units, totaling 96 units in 3 buildings. The allowable density is 149 units for the 151,174 sf phase. The parking requirement of 228 spaces is met with 228 spaces, including 10 handicap spaces. Fifteen percent of the site for planting would require 22,676 sf of equivalent planting; 30,375 sf is proposed.

Phase 2B will be located approximately where the existing Rose's building and parking is currently. It will consist of 72 2-bedroom units and 78 3-bedroom units, totaling 150 units in 3 buildings. The allowable density is 174 units for the 176, 536 sf phase. The parking requirement of 339 spaces is met with 339 spaces, including 14 handicap spaces. There will be a 3 level parking garage with 2 levels of units above in building #9. Fifteen percent of the site for planting would require 26,479 sf of equivalent planting; 46,025 sf is proposed.

Phase 3B will be located approximately where the existing Super Fresh building is currently. It will consist of 48 3-bedroom units in 2 buildings. The allowable density is 71 units for the 73, 497 sf phase. The parking requirement of 120 spaces is met with 120 spaces, including 6 handicap spaces. Fifteen percent of the site for planting would require 11,025 sf of equivalent planting; 11,900 sf is proposed.

The commercial phase will consist of 3 buildings; the new Super Fresh, bank and future pad site. There will be 2 levels of parking above the Super Fresh store in order to meet the parking requirements in the code. The at-grade parking will have a 5' landscape strip between the head-to-head spaces in order to provide additional landscaping and meet the requirement of islands and 5% planting area. 15% of the commercial phase would require 33,982 sf of equivalent planting. There is 47,675 sf of planting proposed, not including low ground cover and flowering plants.

200416701ag-sitedesc

MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

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

FAX: one page only
Attn: Mr. Brent Jett
FAX # 410 546 5824
from: L. Byrne @ DNR
phone # 410 260 8573

July 14, 2006

Mr. Brent R. Jett
Becker Morgan Group, Inc.
Port Exchange, Suite 300
312 West Main Street
Salisbury, MD 21801

RE: Environmental Review for Ocean Plaza Mall Subdivision, Bayside between 94th and 99th Street, Ocean City, Worcester County, Maryland.

Dear Mr. Jett:

The Wildlife and Heritage Service has determined that there is a record for the state-listed endangered Beach Plum (*Prunus maritima*) known to occur on the project site, in 1984. Since the population of this native plant has declined historically we would encourage efforts to help conserve it across the state. Feel free to contact us if you would like technical assistance regarding the conservation of this important species.

Please note also that the utilization of state funds, the need to obtain a state-authorized permit, or changes to the plan might warrant additional evaluations that could lead to protection or survey recommendations by the Wildlife and Heritage Service. Please contact us again for further coordination if this project falls into one of those categories.

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

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

ER #2006.1318.wo
cc: S.A. Smith, DNR
R. Esslinger, CAC

Clean Streets Clean Waters
Working Together To Protect Our Beaches & Bays

Date _____

Permit# _____

Project Name _____

Address _____

Ocean City Critical Area 10% Rule Worksheet

Standard Application Process

Calculating Pollutant Removal Requirements

Step 1: Calculating Existing and Proposed Site Impervious

A. Calculate Percent Imperviousness **PHASE 1**

Site Area within the Critical Area IDA, A= 143,195 (sf)

B. Site Impervious Surface Area, Existing and Proposed, (See Table 4.1 for detail)

	(1) Existing (sf)	(2) Proposed (sf)
Roads		
Parking Lots	55,000	48,319
Sidewalks/Paths	1,625	4,139
Rooftops		47,819
Decks		
Swimming pools/ponds		
Other		624 TRASH/144 ELEC
Impervious surface area (sf)	56,625	101,045

C. Non-Structural BMP's Applied to the Site

Non-Structural	Disconnected Impervious Area (sf)
a.	
b.	
c.	

Total Disconnected Impervious Area (sf) _____

D. Adjusted Proposed Impervious surface Step B (2) minus total of Step C 101,045

E. Impervious (I) calculations

Existing Impervious – Ipre = Impervious surface/Site Area
= 39.5 %

Proposed Impervious - Ipost =Adjusted Proposed Impervious/Site Area
= 70.6 %

Define development category (circle)

1. ***Redevelopment:*** Existing Imperviousness greater than 15% I (Go to step 2A)
2. **New Development:** Existing Imperviousness less than 15% I (Go to step 2B)
3. **Single Lot Residential:** Single lot being developed single family residential and more than 250 sf disturbed should submit a Standard SWM plan or Residential Water Quality management plan.

Step 2: Calculated the Predevelopment Phosphorous Pollution Load (Lpre)

A. Redevelopment

Lpre = (Rv) (C) (A) (.000187)

Rv = .05 + .009 (Ipre) **Rv = .05 + .009 (__39.5__)= __0.4055__**

Lpre = (Rv 0.4055) x (C.3) x (A __143,195__ sf) (.000187) = __3.26__

= __3.26__ lbs/year of total phosphorus

Where:

Lpre = Average annual load of total phosphorus exported from the site prior to development (lb/year)
Rv = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff.

Ipre = Predevelopment (existing) site imperviousness
C = Flow-weighted mean concentration of the pollutant (total phosphorous in urban runoff (mg/1) = .3 mg/1xphosphorus
A = Area of site within the IDA (sf)
(.000187) = Includes regional constants and unit conversion factors

B. New Development

Lpre=(0.5) (A/43560) **(0.5) (_____/43560) = _____**

= _____ lbs/year of total phosphorous

Where:

Lpre = 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 (sf)

Step 3: Calculate the Post-Development Load

A. New Development and Re-Development:

Lpost = (Rv) (C) (A) (.000187)

Rv = .05+.009 (Ipost) **Rv = .05 + .009 (__70.6__) = __0.685__**

Lpost = (Rv__0.685__) x (C.3) x (A__143,195__sf) (.000187) =__5.50__

= __5.50__ lbs/year of total phosphorus

Where:

Lpost = Average annual load of total phosphorus exported from the site prior to development (lb/year)
Rv = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff.
Ipost = Predevelopment (existing) site imperviousness
C = Flow-weighted mean concentration of the pollutant (total phosphorous in urban runoff (mg/1) = .3 mg/1=phosphorus
A = Area of site within the IDA (sf)
(0000187) = Includes regional constants and unit conversion factors

Step 4: Calculate the Pollutant Removal Requirements (RR)

10% Reduction = 09 x (Lpre) = **(0.9) X 3.26 = 2.93**

RR = Lpost – 10% reduction = 5.50-2.93

= 2.57 lbs/year of total phosphorus

Where:

RR = Pollutant removal requirements (lbs/year of total phosphorus)
Lpost = Average annual load of total phosphorus exported from the post-development site (lbs/year)
Lpre = Average annual 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.

to be verified at BP stage

BMP type	(Lpost)	X	(BMPre)	X	% Site served =	LR	
PAVERS	2.57	X	0.60	X	70	= 2.31	lbs/year
		X	.3	X		=	lbs/year
		X		X		=	lbs/year

Load Removed/LR (total) = 2.31 lbs/year

Pollutant Removal Requirement RR (from Step 4) = 2.57 lbs/year

If the load removed is equal to or greater than the Pollutant Removal Requirements computed in Step 4, than the on-site BMP complies with the 10% Rule…else, and more BMPs or Fee-in-Lieu as followed:

RR minus LR = 0.26 lbs/year, Fee-In-lieu at ($20,000 lb per year)

$20,000 x 0.26 = $ 5,200 Fee-In-Lieu owed may be higher

Where:

Load Removed	=	Annual total phosphorus load removed by the proposed BMP (lbs/year)
Lpost	=	Average annual load of total phosphorus export from the post-development site 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)
(i)	=	Pollutant load not removed by BMP (lb/year)
Fee-in-Lieu	=	$20,000 per (lb)

Critical Area Project Application
Town of Ocean City

Date: ___ July 11, 2006_____ **File#**_____

Project Name:__**OCEAN PLAZA MALL REDEVELOPMENT** ***PHASE 1***

Project Address____**9401 COASTAL HIGHWAY**_____

Tax Map: _115_ **Parcel:**_1870A **Block:**_10_**Lot#**_13B **Zoning** ___**SC-1**_____

Property Owner_**OCTC HOLDINGS, LLC**____ **Phone** ___**410-296-4800**_____

Property Owner Address____**1427 CLARKVIEW ROAD, B'MORE, MD 21209**__

Parcel size (SF):____**143,195**_____ ***PHASE 1***

I. Project Description

In the 100 foot buffer? Yes _____ **No**___**X**__ *(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) __**56,625**___ **% of site impervious:** ___**39.5%**___

Impervious surface within the 100-foot buffer (SF): _____**0**_____

Proposed Conditions

Impervious surface (SF):__**101,045**__ **% of site impervious:** __**70.56%**_____

Total SF of disturbed area:__**+/-130,000**_____

Impervious surface within the 100-foot buffer (SF):_____**0**_____

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 " " "
Herbaceous plants = 2 square feet of mitigation per plant

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 = 21,480 SF. ok
(This SF area must be plantable and planted with the following number of plants)
b. Landscaping provided (use Landscaping Conversion Chart)

Large trees	**# 111**	**x 200 SF =**	**22,200**	**SF** ✓
Small trees	**# 47**	**x 100 SF =**	**4,700**	**SF** ✓
Large shrubs #		**x 75 SF =**		**SF**
Small shrubs #		**x 50 SF =**		**SF**
Herbaceous Plants		**x 2 SF =**		**SF**

TOTAL VALUE OF LANDSCAPING PROVIDED: 26,900 SF

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

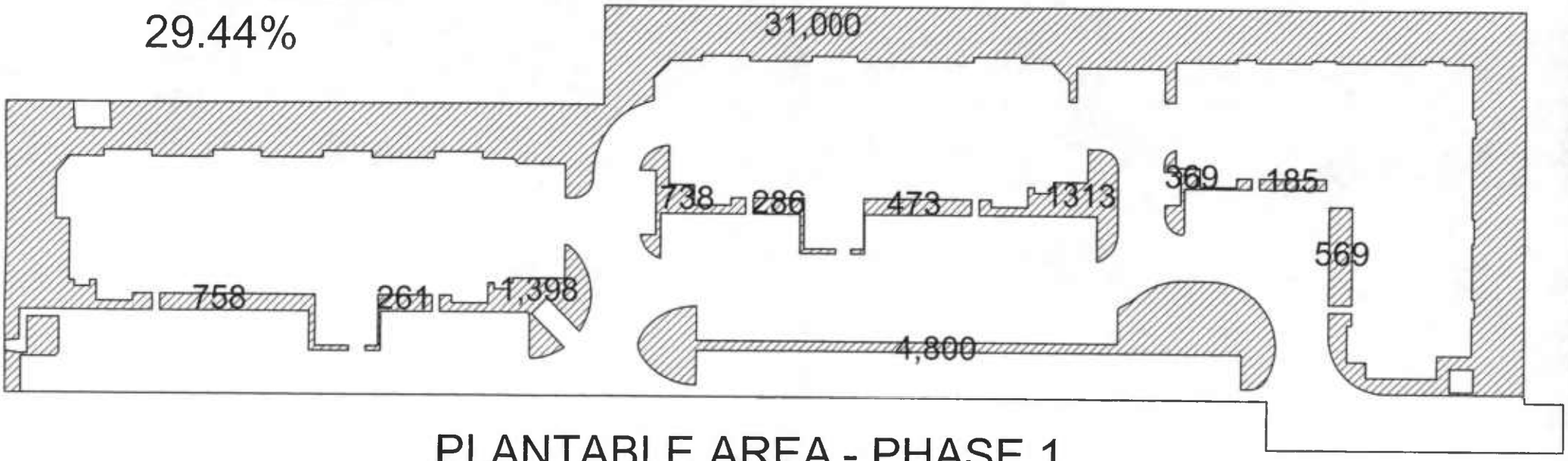
1. Single family development subject to stormwater management requirements that use the "Standard Stormwater Management Plan" automatically meet the 10% Rule.

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. ✓

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

143,195 SF TOTAL
42,150 SF PROP
PLANTABLE
29.44%



PLANTABLE AREA - PHASE 1

LANDSCAPE PLANT LIST - PHASE 1

KEY	QUANTITY	BOTANICAL NAME/COMMON NAME	SIZE	ROOT	TOTAL SF
PS	89	PRUNUS SERRULATA 'KWANZAN'/ KWANZAN CHERRY	2-2 1/2" CAL.	B&B	17,800 (200 SF/ EA)
PC	22	PYRUS C. 'CHANTICLEER'/ CHANTICLEER PEAR	2-2 1/2" CAL.	B&B	4,400 (200 SF/ EA)
AC	33	AMELANCHIER CANADENSIS/ SERVICEBERRY	2-2 1/2" CAL.	B&B	3,300 (100 SF/ EA)
LI	14	LAGERSTOEMIA INDICA 'DYNAMITE'/ CRAPE MYRTLE	5-6'	CONT.	1,400 (100 SF/ EA)
PF		PIERIS 'FOREST FLAME'/ JAPANESE PIERIS	2-4'	CONT.	
BT		BERBERIS THUNBERGII/ JAPANESE BARBERRY	30-36"	CONT.	
				TOTAL (PROVIDED)	26,900 SF

15% OF SITE = 143,195 x 0.15 = 21,480 SF REQUIRED

ADDITIONAL GROUND COVER AND ORNAMENTAL PLANTINGS TO BE PROVIDED, AS DESIRED.

SOIL TYPES: URBAN LAND (Ur) - HSG TYPE C
UDORTHENTS (Uz) - HSG TYPE C

PHASE 1

TOTAL PHASE 1 AREA SF	143,195 SF
TOTAL PHASE 1 AREA ACRES	3.29 Ac
IN CRITICAL AREA?	YES
IN 100' BUFFER?	NO
EXISTING IMPERVIOUS AREA	56,625 SF
EX BLDG	0 SF
EX PARKING LOT	55,000 SF
EX SIDEWALK	1,625 SF
EXISTING % IMPERVIOUS	39.5%
*PROPOSED IMPERVIOUS AREA	101,045 SF
BLDG	47,819 SF
PAVEMENT	48,319 SF
DUMPSTER PAD	624 SF
SIDEWALK	4,139 SF
TRANS PAD	144 SF
PROPOSED % IMPERVIOUS	70.6%
INCREASE IN IMPERVIOUS	44,420 SF
% INCREASE (POST-PRE)	31.1%
20% AREA REQUIRED	11,325 SF
TOTAL AREA NEEDED FOR SWM	55,745 SF
**QUALITY VOLUME REQUIRED	4,645 CF
AREA OF PERVIOUS PAVERS	20,675 SF
VOLUME AVAILABLE IN PAVERS	5,540 CF
IMPERVIOUS AREA DRAINING TO PAVERS	+/-70,000 SF

*PROPOSED IMPERVIOUS AREA INCLUDES PERVIOUS PAVERS FOR STORMWATER PURPOSES, AND IS NOT COUNTED AS PERVIOUS OPEN-TO-THE-SKY. THEY ARE USED TO TREAT THE 1" QUALITY AMOUNT REQUIRED AND PROVIDE TREAMENT AT THE PERIMETER BEFORE THE RUNOFF LEAVES THE SITE.

Clean Streets Clean Waters
Working Together To Protect Our Beaches & Bays

Date _____
Permit# _____
Project Name _____
Address _____

Ocean City Critical Area 10% Rule Worksheet
Standard Application Process

Calculating Pollutant Removal Requirements

Step 1: Calculating Existing and Proposed Site Impervious

A. Calculate Percent Imperviousness — **PHASE 2A**

Site Area within the Critical Area IDA, A= 151,174 (sf)

B. Site Impervious Surface Area, Existing and Proposed, (See Table 4.1 for detail)

	(1) Existing (sf)	(2) Proposed (sf)
Roads		
Parking Lots	71,100	50,142
Sidewalks/Paths	3,025	9,878
Rooftops	74,781	50,457
Decks		
Swimming pools/ponds		7,686
Other		624 TRASH/144 ELEC
Impervious surface area (sf)	148,906	118,931

C. Non-Structural BMP's Applied to the Site

Non-Structural	Disconnected Impervious Area (sf)
a.	
b.	
c.	

Total Disconnected Impervious Area (sf) _____

D. Adjusted Proposed Impervious surface Step B (2) minus total of Step C 118,370

E. Impervious (I) calculations

Existing Impervious – Ipre = Impervious surface/Site Area
= ~~98.5~~ %

Proposed Impervious - Ipost =Adjusted Proposed Impervious/Site Area
= 78.7 %

Define development category (circle)

1. ***Redevelopment:*** Existing Imperviousness greater than 15% I (Go to step 2A)
2. New Development: Existing Imperviousness less than 15% I (Go to step 2B)
3. Single Lot Residential: Single lot being developed single family residential and more than 250 sf disturbed should submit a Standard SWM plan or Residential Water Quality management plan.

Step 2: Calculated the Predevelopment Phosphorous Pollution Load (Lpre)

A. Redevelopment

Lpre = (Rv) (C) (A) (.000187)

Rv = .05 + .009 (Ipre) **Rv = .05 + .009 (__98.5__)= __0.9365**

Lpre = (Rv 0.9365) x (C.3) x (A __151,174__ sf) (.000187) = __7.77

= __7.77__ lbs/year of total phosphorus

Where:

Lpre = Average annual load of total phosphorus exported from the site prior to development (lb/year)
Rv = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff.

Ipre = Predevelopment (existing) site imperviousness
C = Flow-weighted mean concentration of the pollutant (total phosphorous in urban runoff (mg/1) = .3 mg/1xphosphorus
A = Area of site within the IDA (sf)
(.000187) = Includes regional constants and unit conversion factors

B. New Development

Lpre=(0.5) (A/43560) **(0.5) (__/43560) = __**

= __ lbs/year of total phosphorous

Where:

Lpre = 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 (sf)

Step 3: Calculate the Post-Development Load

A. New Development and Re-Development:

Lpost = (Rv) (C) (A) (.000187)

Rv = .05+.009 (Ipost) **Rv = .05 + .009 (__78.7__) = __0.7583**

Lpost = (Rv__0.7583__) x (C.3) x (A__151,174__sf) (.000187) = __6.43

= __6.43__ lbs/year of total phosphorus

Where:

Lpost = Average annual load of total phosphorus exported from the site prior to development (lb/year)
Rv = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff.
Ipost = Predevelopment (existing) site imperviousness
C = Flow-weighted mean concentration of the pollutant (total phosphorous in urban runoff (mg/1) = .3 mg/1=phosphorus
A = Area of site within the IDA (sf)
(0000187) = Includes regional constants and unit conversion factors

Step 4: Calculate the Pollutant Removal Requirements (RR)

10% Reduction = 09 x (Lpre) = **(0.9) X 7.77 = 6.99**

RR = Lpost – 10% reduction = **6.43 – 6.99**

= -0.56 lbs/year of total phosphorus

Reducing Impervious

Where:

RR = Pollutant removal requirements (lbs/year of total phosphorus)
Lpost = Average annual load of total phosphorus exported from the post-development site (lbs/year)
Lpre = Average annual 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	(Lpost)	X	(BMPre) X	% Site served =	LR	
_____	_____	X	_____ X	_____ =	_____	lbs/year
_____	_____	X	_____ X	_____ =	_____	lbs/year
_____	_____	X	_____ X	_____ =	_____	lbs/year

Load Removed/LR (total) = _____ lbs/year

Pollutant Removal Requirement RR (from Step 4) = _____ lbs/year

If the load removed is equal to or greater than the Pollutant Removal Requirements computed in Step 4, than the on-site BMP complies with the 10% Rule…else, and more BMPs or Fee-in-Lieu as followed:

RR minus LR = _____ lbs/year, Fee-In-lieu at ($20,000 lb per year)

$20,000 x _____ = $_____ Fee-In-Lieu owed

Where:

Load Removed	=	Annual total phosphorus load removed by the proposed BMP (lbs/year)
Lpost	=	Average annual load of total phosphorus export from the post-development site 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)
(i)	=	Pollutant load not removed by BMP (lb/year)
Fee-in-Lieu	=	$20,000 per (lb)

Critical Area Project Application
Town of Ocean City

Date: ___ July 11, 2006_____ **File#**_____

Project Name:__**OCEAN PLAZA MALL REDEVELOPMENT** ***PHASE 2A***

Project Address____**9401 COASTAL HIGHWAY**_____

Tax Map: _115_ **Parcel:**_1870A **Block:**_10_**Lot#**_13B **Zoning** ___**SC-1**_____

Property Owner_**OCTC HOLDINGS, LLC**____ **Phone** ___**410-296-4800**_____

Property Owner Address____**1427 CLARKVIEW ROAD, B'MORE, MD 21209**__

Parcel size (SF):____**151,174**_____ ***PHASE 2A***

I. Project Description

In the 100 foot buffer? Yes _____ **No**___**X**__ *(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) __**148,906**___ **% of site impervious:** ___**98.5%**___

Impervious surface within the 100-foot buffer (SF): _____**0**_____

Proposed Conditions

Impervious surface (SF):__**118,931**__ **% of site impervious:** __**78.7%**_____

Total SF of disturbed area:__**+/-160,000**_____

Impervious surface within the 100-foot buffer (SF):_____**0**_____

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 " " "
Herbaceous plants = 2 square feet of mitigation per plant

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 = 22,676 SF.
(This SF area must be plantable and planted with the following number of plants)
b. Landscaping provided (use Landscaping Conversion Chart)

Large trees	**# 59**	**x 200 SF =**	**11,800**	**SF**
Small trees	**# 101**	**x 100 SF =**	**10,100**	**SF**
Large shrubs	**# 113**	**x 75 SF =**	**8,475**	**SF**
Small shrubs	**#**	**x 50 SF =**		**SF**
Herbaceous Plants		**x 2 SF =**		**SF**

TOTAL VALUE OF LANDSCAPING PROVIDED: 30,375 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.

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.

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:

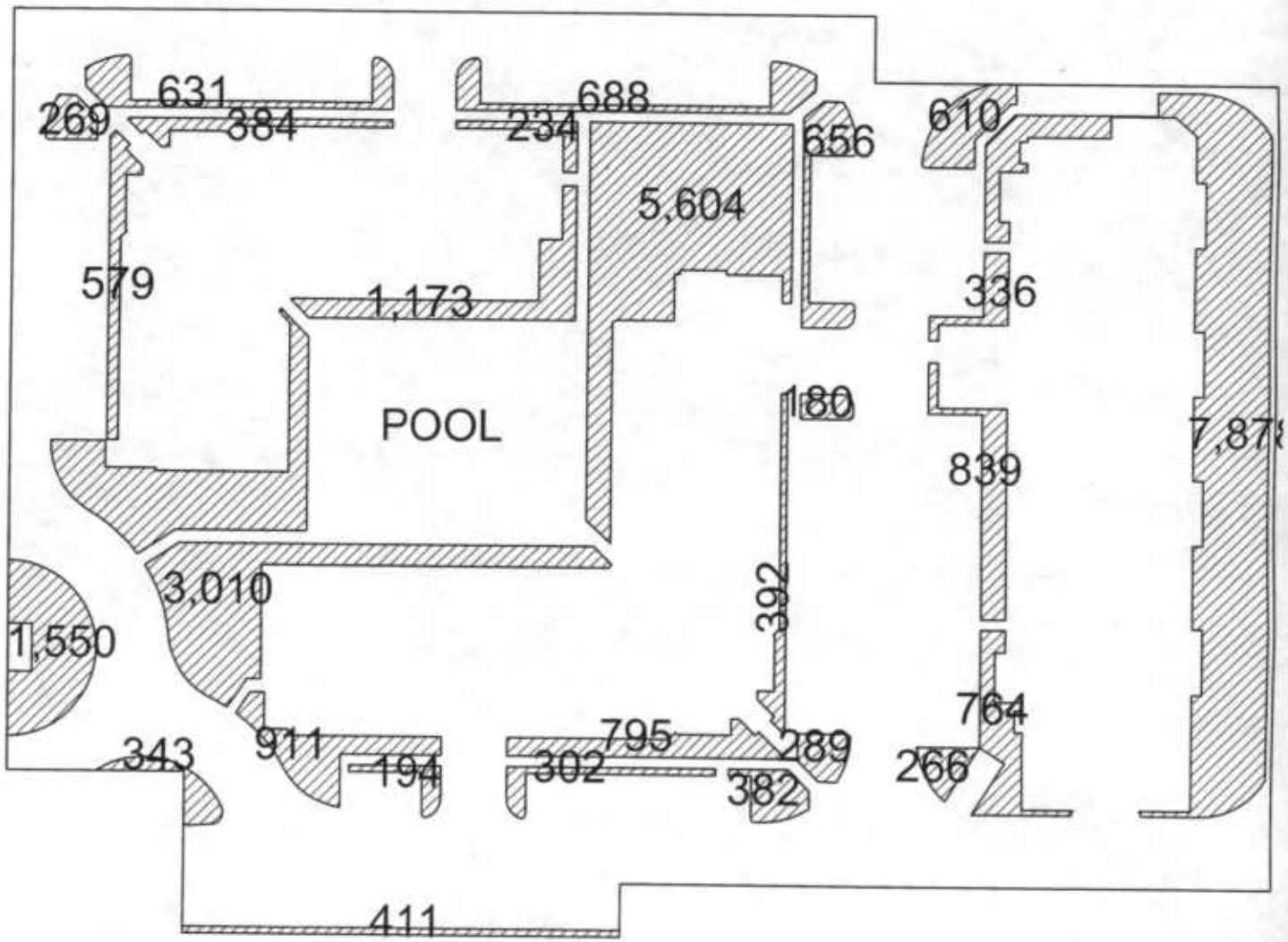
1. **Topography**
2. **Mean high water line**
3. **Delineation of private and State tidal wetlands**
4. **Delineation of non-tidal wetlands**
5. **Soil Types**
6. **Tree cover (show location of individual trees or a tree line defining wooded areas).**
7. **Landscaping plan with required plants and plantable 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 7/27/06

Site Plan Review Only

151,174 SF TOTAL
31,539 SF PROP
PLANTABLE
20.9%



PLANTABLE AREA - PHASE 2A

LANDSCAPE PLANT LIST - PHASE 2A

KEY	QUANTITY	BOTANICAL NAME/COMMON NAME	SIZE	ROOT	TOTAL SF
PS	24	PRUNUS SERRULATA 'KWANZAN'/ KWANZAN CHERRY	2-2 1/2" CAL.	B&B	4,800 (200 SF/ EA)
PC	35 ~~59~~	PYRUS C. 'CHANTICLEER'/ CHANTICLEER PEAR	2-2 1/2" CAL.	B&B	7,000 (200 SF/ EA)
AC	19	AMELANCHIER CANADENSIS/ SERVICEBERRY	2-2 1/2" CAL.	B&B	1,900 (100 SF/ EA)
LI	~~82~~ 101	LAGERSTOEMIA INDICA 'DYNAMITE'/ CRAPE MYRTLE	5-6'	CONT.	8,200 (100 SF/ EA)
PF	113	PIERIS 'FOREST FLAME'/ JAPANESE PIERIS	2-4'	CONT.	8,475 (75 SF/ EA)
BT		BERBERIS THUNBERGII/ JAPANESE BARBERRY	30-36"	CONT.	

15% OF PHASE = 151,174 x 0.15 = 22,676 SF REQUIRED

TOTAL (PROVIDED) 30,375 SF

ADDITIONAL GROUND COVER AND ORNAMENTAL PLANTINGS TO BE PROVIDED, AS DESIRED.

SOIL TYPES: URBAN LAND (Ur) - HSG TYPE C
UDORTHENTS (Uz) - HSG TYPE C

PHASE 2A

TOTAL PHASE 2A AREA SF	151,174 SF
TOTAL PHASE 2A AREA ACRES	3.43 Ac
IN CRITICAL AREA?	YES
IN 100' BUFFER?	NO
EXISTING IMPERVIOUS AREA	148,906 SF
EX BLDG	74,781 SF
EX PARKING LOT	71,100 SF
EX SIDEWALK	3,025 SF
EXISTING % IMPERVIOUS	98.5%
*PROPOSED IMPERVIOUS AREA	118,931 SF
BLDG	50,457 SF
PAVEMENT	50,142 SF
DUMPSTER PAD	624 SF
SIDEWALK	9,878 SF
TRANS PAD	144 SF
POOL	7,686 SF
PROPOSED % IMPERVIOUS	78.7%
DECREASE IN IMPERVIOUS	29,975 SF
% DECREASE (PRE-POST)	29.8%
PERVIOUS PAVERS AT PERIMETER	704 SF

*PAVERS AT THE PERIMETER OF THE SITE ARE NOT INCLUDED IN THE IMPERVIOUS AREAS, NOR ARE THEY INCLUDED IN THE PLANTABLE AREA. THEY ARE SIMPLY CONSIDERED PERVIOUS, UNPLATABLE AREAS, WHICH ACCOUNTS FOR THE DIFFERENCE BETWEEN IMPERVIOUS AND PLANTABLE.

Clean Streets Clean Waters
Working Together To Protect Our Beaches & Bays

Date _____
Permit# _____
Project Name _____
Address _____

Ocean City Critical Area 10% Rule Worksheet
Standard Application Process

Calculating Pollutant Removal Requirements

Step 1: Calculating Existing and Proposed Site Impervious

A. Calculate Percent Imperviousness **PHASE 2B**

Site Area within the Critical Area IDA, A= 176,526 (sf)

B. Site Impervious Surface Area, Existing and Proposed, (See Table 4.1 for detail)

	(1) Existing (sf)	(2) Proposed (sf)
Roads		
Parking Lots	111,407	33,103
Sidewalks/Paths	4,970	9,885
Rooftops	54,591	86,740
Decks		
Swimming pools/ponds		
Other		624 TRASH/144 ELEC
Impervious surface area (sf)	170,968	130,496 Reducing

C. Non-Structural BMP's Applied to the Site

Non-Structural	Disconnected Impervious Area (sf)
a.	
b.	
c.	

Total Disconnected Impervious Area (sf) _____

D. Adjusted Proposed Impervious surface Step B (2) minus total of Step C 130,496

E. Impervious (I) calculations

Existing Impervious – Ipre = Impervious surface/Site Area
= 97.0 %

Proposed Impervious - Ipost =Adjusted Proposed Impervious/Site Area
= 73.9 %

Define development category (circle)

1. ***Redevelopment:*** Existing Imperviousness greater than 15% I (Go to step 2A)
2. New Development: Existing Imperviousness less than 15% I (Go to step 2B)
3. Single Lot Residential: Single lot being developed single family residential and more than 250 sf disturbed should submit a Standard SWM plan or Residential Water Quality management plan.

Step 2: Calculated the Predevelopment Phosphorous Pollution Load (Lpre)

A. Redevelopment

Lpre = (Rv) (C) (A) (.000187)

Rv = .05 + .009 (Ipre) **Rv = .05 + .009 (__97.0__)= __0.923**

Lpre = (Rv 0.923) x (C.3) x (A __176,526__ sf) (.000187) = __9.14

= __9.14__ lbs/year of total phosphorus

Where:

Lpre = Average annual load of total phosphorus exported from the site prior to development (lb/year)
Rv = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff.

Ipre = Predevelopment (existing) site imperviousness
C = Flow-weighted mean concentration of the pollutant (total phosphorous in urban runoff (mg/1) = .3 mg/1xphosphorus
A = Area of site within the IDA (sf)
(.000187) = Includes regional constants and unit conversion factors

B. New Development

Lpre=(0.5) (A/43560) **(0.5) (_____/43560) = _____**

= _____ lbs/year of total phosphorous

Where:

Lpre = 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 (sf)

Step 3: Calculate the Post-Development Load

A. New Development and Re-Development:

Lpost = (Rv) (C) (A) (.000187)

Rv = .05+.009 (Ipost) **Rv = .05 + .009 (__73.9__) = __0.7151**

Lpost = (Rv__0.7151__) x (C.3) x (A__176,526__sf) (.000187) = __7.08__

= __7.08__ lbs/year of total phosphorus

Where:

Lpost = Average annual load of total phosphorus exported from the site prior to development (lb/year)
Rv = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff.
Ipost = Predevelopment (existing) site imperviousness
C = Flow-weighted mean concentration of the pollutant (total phosphorous in urban runoff (mg/1) = .3 mg/1=phosphorus
A = Area of site within the IDA (sf)
(0000187) = Includes regional constants and unit conversion factors

Step 4: Calculate the Pollutant Removal Requirements (RR)

10% Reduction = 09 x (Lpre) = **(0.9) X 9.14 = 8.23**

RR = Lpost – 10% reduction = **7.08 - 8.23** ✓ OK

= -1.15 lbs/year of total phosphorus

Where:

RR = Pollutant removal requirements (lbs/year of total phosphorus)
Lpost = Average annual load of total phosphorus exported from the post-development site (lbs/year)
Lpre = Average annual 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	**(Lpost)**	**X**	**(BMPre) X**	**% Site served =**	**LR**	
_____	_____	X	_____	X _____ =	_____	lbs/year
_____	_____	X	_____	X _____ =	_____	lbs/year
_____	_____	X	_____	X _____ =	_____	lbs/year

Load Removed/LR (total) = _____ lbs/year

Pollutant Removal Requirement RR (from Step 4) = _____ lbs/year

If the load removed is equal to or greater than the Pollutant Removal Requirements computed in Step 4, than the on-site BMP complies with the 10% Rule…else, and more BMPs or Fee-in-Lieu as followed:

RR minus LR = _____ lbs/year, Fee-In-lieu at ($20,000 lb per year)

$20,000 x _____ = $_____ Fee-In-Lieu owed

Where:

Load Removed	=	Annual total phosphorus load removed by the proposed BMP (lbs/year)
Lpost	=	Average annual load of total phosphorus export from the post-development site 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)
(i)	=	Pollutant load not removed by BMP (lb/year)
Fee-in-Lieu	=	$20,000 per (lb)

Critical Area Project Application
Town of Ocean City

Date: ___ July 11, 2006_____ **File#**_____

Project Name:__**OCEAN PLAZA MALL REDEVELOPMENT** ***PHASE 2B***

Project Address____**9401 COASTAL HIGHWAY**_____

Tax Map: _115_ **Parcel:**_1870A **Block:**_10_**Lot#**_13B **Zoning** ___**SC-1**_____

Property Owner_**OCTC HOLDINGS, LLC**____ **Phone** ___**410-296-4800**_____

Property Owner Address____**1427 CLARKVIEW ROAD, B'MORE, MD 21209**__

Parcel size (SF):____**176,526**_____ ***PHASE 2B***

I. Project Description

In the 100 foot buffer? Yes _____ **No**___**X**__ *(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) __**170,968**___ **% of site impervious:** ___**97.0%**___

Impervious surface within the 100-foot buffer (SF): _____**0**_____

Proposed Conditions

Impervious surface (SF):__**130,496**__ **% of site impervious:** __**73.9%**_____

Total SF of disturbed area:__**+/-190,000**_____

Impervious surface within the 100-foot buffer (SF):_____**0**_____

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 " " "
Herbaceous plants = 2 square feet of mitigation per plant

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 = 26,479 SF.
(This SF area must be plantable and planted with the following number of plants)
b. Landscaping provided (use Landscaping Conversion Chart)

Matches site plan

Large trees	**# 104**	**x 200 SF =**	**20,800**	**SF**
Small trees	**# 163**	**x 100 SF =**	**16,300**	**SF**
Large shrubs	**# 119**	**x 75 SF =**	**8,925**	**SF**
Small shrubs	**#**	**x 50 SF =**		**SF**
Herbaceous Plants		**x 2 SF =**		**SF**

TOTAL VALUE OF LANDSCAPING PROVIDED: 46,025 SF

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

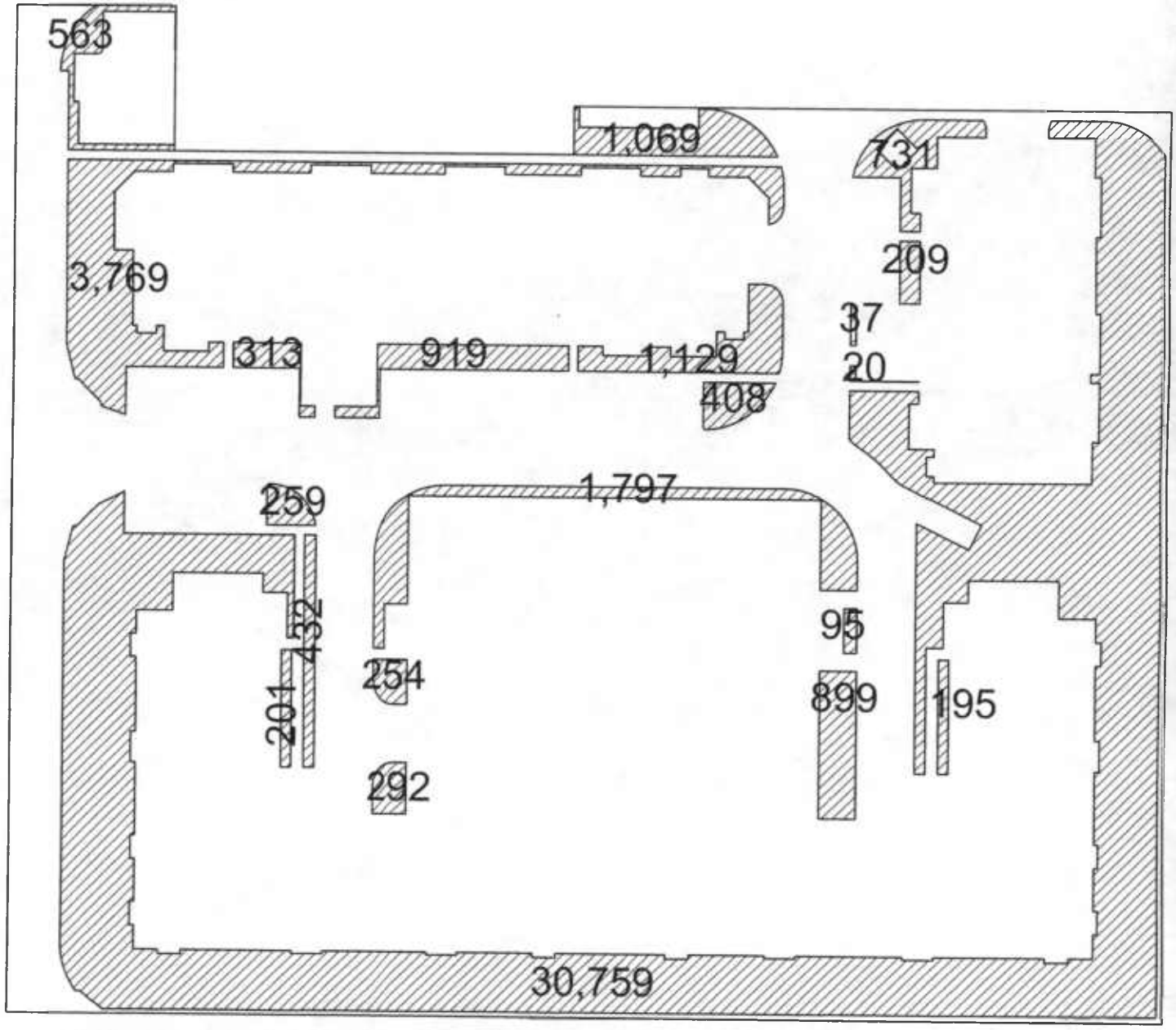
1. Single family development subject to stormwater management requirements that use the "Standard Stormwater Management Plan" automatically meet the 10% Rule.

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.

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.

176,526 SF TOTAL
44,350 SF PROP
PLANTABLE
25.12%



PLANTABLE AREA - PHASE 2B

LANDSCAPE PLANT LIST - PHASE 2B

KEY	QUANTITY	BOTANICAL NAME/COMMON NAME	SIZE	ROOT	TOTAL SF
PS	35	PRUNUS SERRULATA 'KWANZAN'/ KWANZAN CHERRY	2-2 1/2" CAL.	B&B	7,000 (200 SF/ EA)
PC	69 163	PYRUS C. 'CHANTICLEER'/ CHANTICLEER PEAR	2-2 1/2" CAL.	B&B	13,800 (200 SF/ EA)
AC	97	AMELANCHIER CANADENSIS/ SERVICEBERRY	2-2 1/2" CAL.	B&B	9,700 (100 SF/ EA)
LI	66 163	LAGERSTOEMIA INDICA 'DYNAMITE'/ CRAPE MYRTLE	5-6'	CONT.	6,600 (100 SF/ EA)
PF	119	PIERIS 'FOREST FLAME'/ JAPANESE PIERIS	2-4'	CONT.	8,925 (75 SF/ EA)
BT		BERBERIS THUNBERGII/ JAPANESE BARBERRY	30-36"	CONT.	
				TOTAL (PROVIDED)	46,025 SF

15% OF SITE = 176,526 x 0.15 = 26,479 SF REQUIRED

ADDITIONAL GROUND COVER AND ORNAMENTAL PLANTINGS TO BE PROVIDED, AS DESIRED.

SOIL TYPES: URBAN LAND (Ur) - HSG TYPE C
UDORTHENTS (Uz) - HSG TYPE C

PHASE 2B

TOTAL PHASE 2B AREA SF	176,526 SF
TOTAL PHASE 2B AREA ACRES	4.05 Ac
IN CRITICAL AREA?	YES
IN 100' BUFFER?	NO
EXISTING IMPERVIOUS AREA	170,968 SF
EX BLDG	54,591 SF
EX PARKING LOT	111,407 SF
EX SIDEWALK	4,970 SF
EXISTING % IMPERVIOUS	97.0%
*PROPOSED IMPERVIOUS AREA	130,496 SF
BLDG	86,740 SF
PAVEMENT	33,103 SF
DUMPSTER PAD	624 SF
SIDEWALK	9,885 SF
TRANS PAD	144 SF
PROPOSED % IMPERVIOUS	73.9%
DECREASE IN IMPERVIOUS	40,472 SF
% DECREASE (PRE-POST)	23.1%
PERVIOUS PAVERS AT PERIMETER	1,680 SF

Clean Streets Clean Waters
Working Together To Protect Our Beaches & Bays

Date _____
Permit# _____
Project Name _____
Address _____

Ocean City Critical Area 10% Rule Worksheet
Standard Application Process

Calculating Pollutant Removal Requirements

Step 1: Calculating Existing and Proposed Site Impervious

A. Calculate Percent Imperviousness — **PHASE 3B**

Site Area within the Critical Area IDA, A= 73,497 (sf)

B. Site Impervious Surface Area, Existing and Proposed, (See Table 4.1 for detail)

	(1) Existing (sf)	(2) Proposed (sf)
Roads		
Parking Lots	29,547	21,279
Sidewalks/Paths	8,000	4,582
Rooftops	33,920	26,876
Decks		
Swimming pools/ponds		
Other		256 TRASH/144 ELEC
Impervious surface area (sf)	71,467	53,137

C. Non-Structural BMP's Applied to the Site

Non-Structural	Disconnected Impervious Area (sf)
a.	
b.	
c.	

Total Disconnected Impervious Area (sf) _____

D. Adjusted Proposed Impervious surface Step B (2) minus total of Step C 53,137

E. Impervious (I) calculations

Existing Impervious – Ipre = Impervious surface/Site Area
= 97.2 %

Proposed Impervious - Ipost =Adjusted Proposed Impervious/Site Area
= 72.3 %

Define development category (circle)

1. ***Redevelopment:*** Existing Imperviousness greater than 15% I (Go to step 2A)
2. New Development: Existing Imperviousness less than 15% I (Go to step 2B)
3. Single Lot Residential: Single lot being developed single family residential and more than 250 sf disturbed should submit a Standard SWM plan or Residential Water Quality management plan.

Step 2: Calculated the Predevelopment Phosphorous Pollution Load (Lpre)

A. Redevelopment

Lpre = (Rv) (C) (A) (.000187)

Rv = .05 + .009 (Ipre) **Rv = .05 + .009 (__97.2__)= __0.9248**

Lpre = (Rv 0.9248) x (C.3) x (A _73,497_ sf) (.000187) = __3.81

= __3.81__ lbs/year of total phosphorus

Where:

Lpre = Average annual load of total phosphorus exported from the site prior to development (lb/year)
Rv = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff.

Ipre = Predevelopment (existing) site imperviousness
C = Flow-weighted mean concentration of the pollutant (total phosphorous in urban runoff (mg/1) = .3 mg/1xphosphorus
A = Area of site within the IDA (sf)
(.000187) = Includes regional constants and unit conversion factors

B. New Development

Lpre=(0.5) (A/43560) **(0.5) (_____/43560) = _____**

= _____ lbs/year of total phosphorous

Where:

Lpre = 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 (sf)

Step 3: Calculate the Post-Development Load

A. New Development and Re-Development:

Lpost = (Rv) (C) (A) (.000187)

Rv = .05+.009 (Ipost) **Rv = .05 + .009 (_72.3__) = __0.7007**

Lpost = (Rv_0.7007_) x (C.3) x (A__73,497___sf) (.000187) = ___2.89__

= __2.89__ lbs/year of total phosphorus

Where:

Lpost = Average annual load of total phosphorus exported from the site prior to development (lb/year)
Rv = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff.
Ipost = Predevelopment (existing) site imperviousness
C = Flow-weighted mean concentration of the pollutant (total phosphorous in urban runoff (mg/1) = .3 mg/1=phosphorus
A = Area of site within the IDA (sf)
(0000187) = Includes regional constants and unit conversion factors

Step 4: Calculate the Pollutant Removal Requirements (RR)

10% Reduction = 09 x (Lpre) = **(0.9) X 3.81 = 3.43**

RR = Lpost – 10% reduction = **2.89 - 3.43**

= -0.54 lbs/year of total phosphorus

OK Reductions

Where:

RR = Pollutant removal requirements (lbs/year of total phosphorus)
Lpost = Average annual load of total phosphorus exported from the post-development site (lbs/year)
Lpre = Average annual 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	**(Lpost)**	**X**	**(BMPre) X**	**% Site served =**	**LR**	
_____	_____	X	_____ X	_____	= _____	lbs/year
_____	_____	X	_____ X	_____	= _____	lbs/year
_____	_____	X	_____ X	_____	= _____	lbs/year

Load Removed/LR (total) = _____ lbs/year

Pollutant Removal Requirement RR (from Step 4) = _____ lbs/year

If the load removed is equal to or greater than the Pollutant Removal Requirements computed in Step 4, than the on-site BMP complies with the 10% Rule…else, and more BMPs or Fee-in-Lieu as followed:

RR minus LR = _____ lbs/year, Fee-In-lieu at ($20,000 lb per year)

$20,000 x _____ = $_____ Fee-In-Lieu owed

Where:

Load Removed	=	Annual total phosphorus load removed by the proposed BMP (lbs/year)
Lpost	=	Average annual load of total phosphorus export from the post-development site 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)
(i)	=	Pollutant load not removed by BMP (lb/year)
Fee-in-Lieu	=	$20,000 per (lb)

Critical Area Project Application
Town of Ocean City

Date: ___ July 11, 2006_____ **File#**_____

Project Name:__**OCEAN PLAZA MALL REDEVELOPMENT** ***PHASE 3B***

Project Address____**9401 COASTAL HIGHWAY**_____

Tax Map: _115_ **Parcel:**_1870A **Block:**_10_**Lot#**_13B **Zoning** ___**SC-1**_____

Property Owner_**OCTC HOLDINGS, LLC**____ **Phone** ___**410-296-4800**_____

Property Owner Address____**1427 CLARKVIEW ROAD, B'MORE, MD 21209**__

Parcel size (SF):____**73,497**_____ ***PHASE 3B***

I. <u>Project Description</u>

In the 100 foot buffer? Yes _____ **No**___**X**__ *(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.)

<u>Existing Conditions</u>

Impervious surface (SF) __**71,467**___ **% of site impervious:** ___**97.2%**___

Impervious surface within the 100-foot buffer (SF): _____**0**_____

<u>Proposed Conditions</u>

Impervious surface (SF):__**53,137**__ **% of site impervious:** __**72.3%**_____

Total SF of disturbed area:__**+/-80,000**_____

Impervious surface within the 100-foot buffer (SF):_____**0**_____

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 " " "
Herbaceous plants = 2 square feet of mitigation per plant

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 = 11,025 SF.
(This SF area must be plantable and planted with the following number of plants)
b. Landscaping provided (use Landscaping Conversion Chart)

Large trees	**# 39 x**	**200 SF =**	**7,800**	**SF**
Small trees	**# 41 x**	**100 SF =**	**4,100**	**SF**
Large shrubs #	**x**	**75 SF =**		**SF**
Small shrubs #	**x**	**50 SF =**		**SF**
Herbaceous Plants	**x**	**2 SF =**		**SF**

TOTAL VALUE OF LANDSCAPING PROVIDED: 11,900 SF

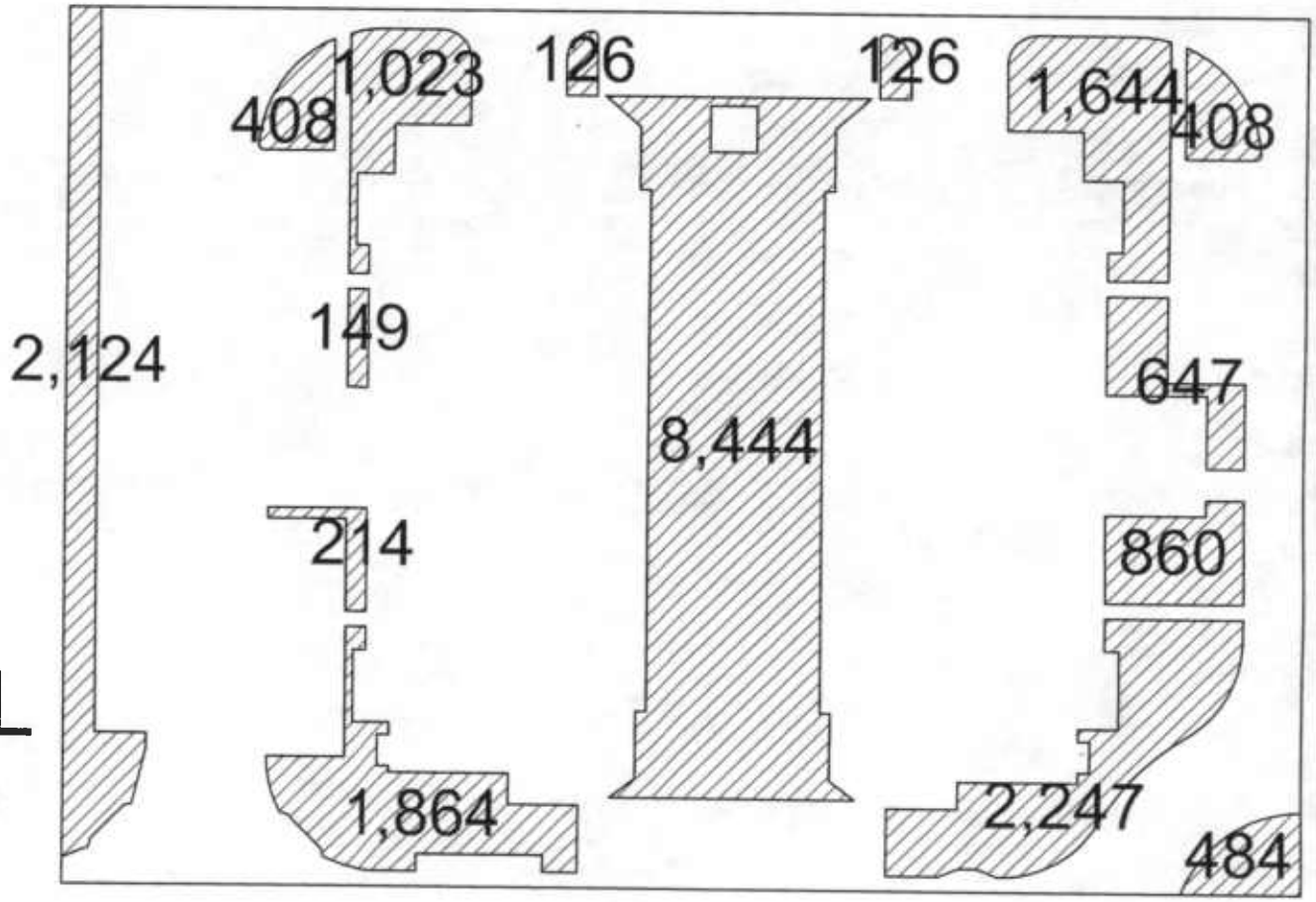
IV. **Stormwater management and the 10% rule - Pollutant reduction requirement for all disturbances over 250 SF in the 1000 foot Critical Area.**

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.

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.



73,497 SF TOTAL
20,360 SF PROP
PLANTABLE
27.7%

PLANTABLE AREA - PHASE 3B

LANDSCAPE PLANT LIST - PHASE 3B

KEY	QUANTITY	BOTANICAL NAME/COMMON NAME	SIZE	ROOT	TOTAL SF
PS	27	PRUNUS SERRULATA 'KWANZAN'/ KWANZAN CHERRY	2-2 1/2" CAL.	B&B	5,400 (200 SF/ EA)
PC	12 29	PYRUS C. 'CHANTICLEER'/ CHANTICLEER PEAR	2-2 1/2" CAL.	B&B	2,400 (200 SF/ EA)
AC	19	AMELANCHIER CANADENSIS/ SERVICEBERRY	2-2 1/2" CAL.	B&B	1,900 (100 SF/ EA)
LI	22 41	LAGERSTOEMIA INDICA 'DYNAMITE'/ CRAPE MYRTLE	5-6'	CONT.	2,200 (100 SF/ EA)
PF		PIERIS 'FOREST FLAME'/ JAPANESE PIERIS	2-4'	CONT.	
BT		BERBERIS THUNBERGII/ JAPANESE BARBERRY	30-36"	CONT.	
				TOTAL (PROVIDED)	11,900 SF

15% OF SITE = 73,497 x 0.15 = 11,025 SF REQUIRED

ADDITIONAL GROUND COVER AND ORNAMENTAL PLANTINGS TO BE PROVIDED, AS DESIRED.

SOIL TYPES: URBAN LAND (Ur) - HSG TYPE C
UDORTHENTS (Uz) - HSG TYPE C

PHASE 3B

TOTAL PHASE 3 AREA SF	73,497 SF
TOTAL PHASE 3 AREA ACRES	1.69 Ac
IN CRITICAL AREA?	YES
IN 100' BUFFER?	NO
EXISTING IMPERVIOUS AREA	71,467 SF
EX BLDG	33,920 SF
EX PARKING LOT	29,547 SF
EX CONCRETE	8,000 SF
EXISTING % IMPERVIOUS	97.2%
*PROPOSED IMPERVIOUS AREA	53,137 SF
BLDG	26,876 SF
PAVEMENT	21,279 SF
DUMPSTER PAD	256 SF
SIDEWALK	4,582 SF
TRANS PAD	144 SF
PROPOSED % IMPERVIOUS	72.3%
DECREASE IN IMPERVIOUS	18,330 SF
% DECREASE (PRE-POST)	24.9%

Clean Streets Clean Waters
Working Together To Protect Our Beaches & Bays

Date _____
Permit# _____
Project Name _____
Address _____

Ocean City Critical Area 10% Rule Worksheet
Standard Application Process

Calculating Pollutant Removal Requirements

Step 1: Calculating Existing and Proposed Site Impervious

A. Calculate Percent Imperviousness — **PHASE - COMMERCIAL**

Site Area within the Critical Area IDA, A= 226,553 (sf)

B. Site Impervious Surface Area, Existing and Proposed, (See Table 4.1 for detail)

	(1) Existing (sf)	(2) Proposed (sf)
Roads		
Parking Lots	201,650	125,546
Sidewalks/Paths	2,532	7,620
Rooftops	9,350	54,652
Decks		
Swimming pools/ponds		
Other		500 TRASH/144 ELEC
Impervious surface area (sf)	213,532	188,462

C. Non-Structural BMP's Applied to the Site

Non-Structural	Disconnected Impervious Area (sf)
a.	
b.	
c.	

Total Disconnected Impervious Area (sf) _____

D. Adjusted Proposed Impervious surface Step B (2) minus total of Step C 188,462

E. Impervious (I) calculations

Existing Impervious – Ipre = Impervious surface/Site Area
= ~~94.3~~ ~~%~~

Proposed Impervious - Ipost =Adjusted Proposed Impervious/Site Area
= 83.2 %

Define development category (circle)

1. ***Redevelopment:*** Existing Imperviousness greater than 15% I (Go to step 2A)
2. New Development: Existing Imperviousness less than 15% I (Go to step 2B)
3. Single Lot Residential: Single lot being developed single family residential and more than 250 sf disturbed should submit a Standard SWM plan or Residential Water Quality management plan.

Step 2: Calculated the Predevelopment Phosphorous Pollution Load (Lpre)

A. Redevelopment

Lpre = (Rv) (C) (A) (.000187)

Rv = .05 + .009 (Ipre) **Rv = .05 + .009 (__94.3__)= __0.8987**

Lpre = (Rv 0.9248) x (C.3) x (A __226,553__ sf) (.000187) = __11.42

= __11.42__ lbs/year of total phosphorus

Where:

Lpre = Average annual load of total phosphorus exported from the site prior to development (lb/year)
Rv = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff.

Ipre = Predevelopment (existing) site imperviousness
C = Flow-weighted mean concentration of the pollutant (total phosphorous in urban runoff (mg/l) = .3 mg/1xphosphorus
A = Area of site within the IDA (sf)
(.000187) = Includes regional constants and unit conversion factors

B. New Development

Lpre=(0.5) (A/43560) **(0.5) (_____/43560) = _____**

= _____ lbs/year of total phosphorous

Where:

Lpre = 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 (sf)

Step 3: Calculate the Post-Development Load

A. New Development and Re-Development:

Lpost = (Rv) (C) (A) (.000187)

Rv = .05+.009 (Ipost) **Rv = .05 + .009 (__83.2__) =__0.7988**

Lpost = (Rv__0.7988__) x (C.3) x (A__226,553__sf) (.000187) =__10.15

= __10.15__ lbs/year of total phosphorus

Where:

Lpost = Average annual load of total phosphorus exported from the site prior to development (lb/year)
Rv = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff.
Ipost = Predevelopment (existing) site imperviousness
C = Flow-weighted mean concentration of the pollutant (total phosphorous in urban runoff (mg/l) = .3 mg/1=phosphorus
A = Area of site within the IDA (sf)
(0000187) = Includes regional constants and unit conversion factors

Step 4: Calculate the Pollutant Removal Requirements (RR)

10% Reduction = 09 x (Lpre) = **(0.9) X 11.42 = 10.28**

RR = Lpost – 10% reduction = **10.15 – 10.28**

= -0.13 lbs/year of total phosphorus

reduction + BMP

Where:

RR = Pollutant removal requirements (lbs/year of total phosphorus)
Lpost = Average annual load of total phosphorus exported from the post-development site (lbs/year)
Lpre = Average annual 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	**(Lpost)**	**X**	**(BMPre) X**	**% Site served =**	**LR**	
_____	_____	X	_____	X _____ =	_____	lbs/year
_____	_____	X	_____	X _____ =	_____	lbs/year
_____	_____	X	_____	X _____ =	_____	lbs/year

Load Removed/LR (total) = _____ lbs/year

Pollutant Removal Requirement RR (from Step 4) = _____ lbs/year

If the load removed is equal to or greater than the Pollutant Removal Requirements computed in Step 4, than the on-site BMP complies with the 10% Rule…else, and more BMPs or Fee-in-Lieu as followed:

RR minus LR = _____ lbs/year, Fee-In-lieu at ($20,000 lb per year)

$20,000 x _____ = $_____ Fee-In-Lieu owed

Where:

Load Removed	=	Annual total phosphorus load removed by the proposed BMP (lbs/year)
Lpost	=	Average annual load of total phosphorus export from the post-development site 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)
(i)	=	Pollutant load not removed by BMP (lb/year)
Fee-in-Lieu	=	$20,000 per (lb)

Critical Area Project Application
Town of Ocean City

Date: ___ July 11, 2006_____ **File#**_____

Project Name:__**OCEAN PLAZA MALL REDEVELOPMENT** ***PHASE-COMMERCIAL***

Project Address____**9401 COASTAL HIGHWAY**_____

Tax Map: _115_ **Parcel:**_1870A **Block:**_10_**Lot#**_13B **Zoning** ___**SC-1**_____

Property Owner_**OCTC HOLDINGS, LLC**____ **Phone** ___**410-296-4800**_____

Property Owner Address____**1427 CLARKVIEW ROAD, B'MORE, MD 21209**__

Parcel size (SF):____**226,553**_____ ***PHASE COMMERCIAL***

I. <u>Project Description</u>

In the 100 foot buffer? Yes _____ **No**___**X**__ *(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.)

<u>Existing Conditions</u>

Impervious surface (SF) __**213,532**___ **% of site impervious:** ___**94.3%**___

Impervious surface within the 100-foot buffer (SF): _____**0**_____

<u>Proposed Conditions</u>

Impervious surface (SF):__**188,462**__ **% of site impervious:** __**83.2%**_____

Total SF of disturbed area:__**+/-250,000**_____

Impervious surface within the 100-foot buffer (SF):_____**0**_____

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 " " "
Herbaceous plants = 2 square feet of mitigation per plant

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 = ___33,982_____SF.
(This SF area must be plantable and planted with the following number of plants)
b. Landscaping provided (use Landscaping Conversion Chart)

Large trees #___101__ x 200 SF = ___20,200____SF
Small trees #___104___ x 100 SF = ___10,400____SF
Large shrubs #___65____ x 75 SF = ____4,875_____SF
Small shrubs #___244___ x 50 SF = ____12,200____ SF
Herbaceous Plants _____x 2 SF = _____ SF

LOF

TOTAL VALUE OF LANDSCAPING PROVIDED: ____47,675____SF

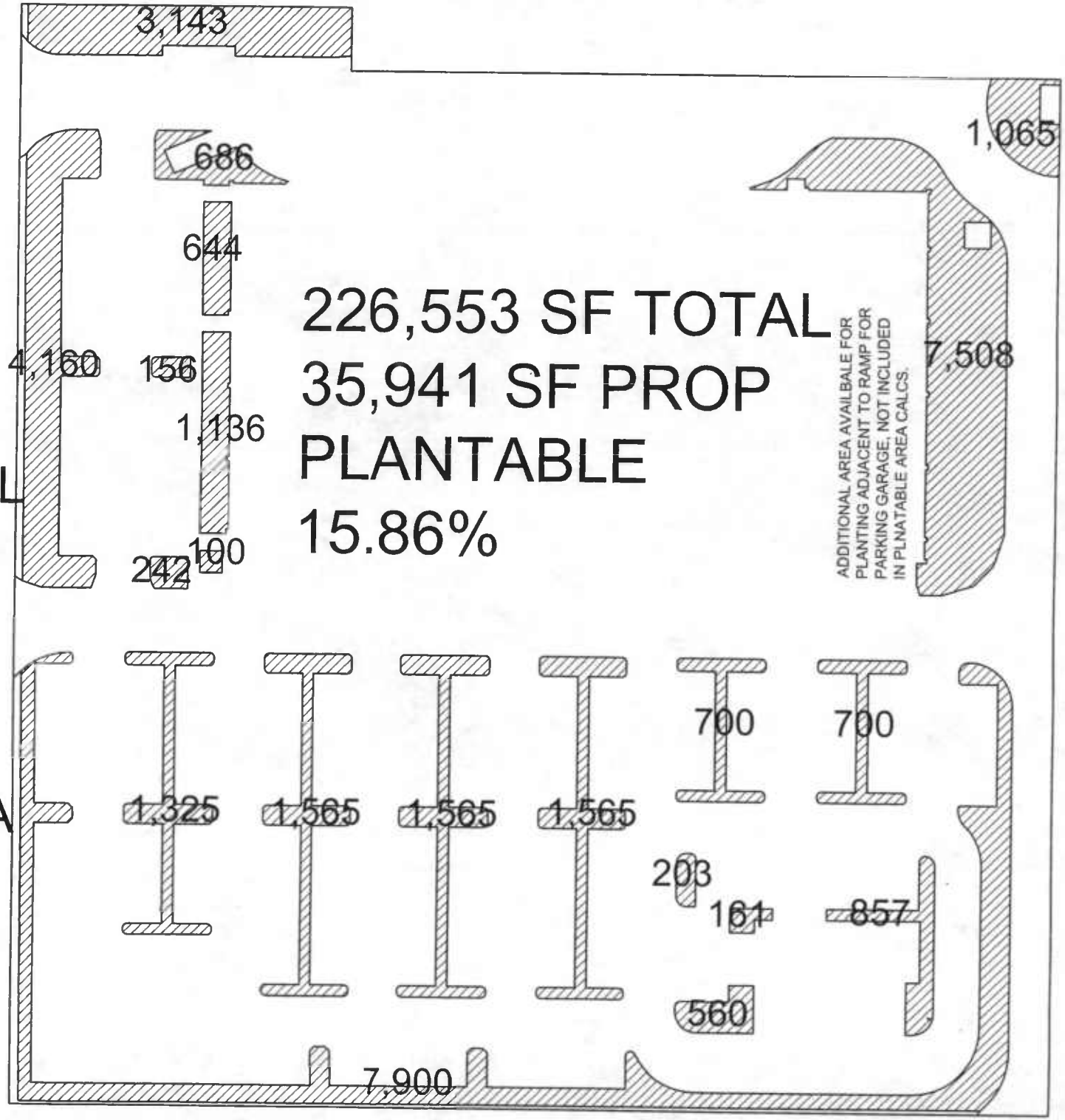
IV. **Stormwater management and the 10% rule - Pollutant reduction requirement for all disturbances over 250 SF in the 1000 foot Critical Area.**

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.

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.



226,553 SF TOTAL
35,941 SF PROP
PLANTABLE
15.86%

PLANTABLE AREA
- PHASE 3A -
COMMERCIAL

LANDSCAPE PLANT LIST - PHASE 3A (COMMERCIAL AREA)

KEY	QUANTITY	BOTANICAL NAME/COMMON NAME	SIZE	ROOT	TOTAL SF
PS	46	PRUNUS SERRULATA 'KWANZAN'/ KWANZAN CHERRY	2-2 1/2" CAL.	B&B	9,200 (200 SF/ EA)
PC	55 101	PYRUS C. 'CHANTICLEER'/ CHANTICLEER PEAR	2-2 1/2" CAL.	B&B	11,000 (200 SF/ EA)
AC	20	AMELANCHIER CANADENSIS/ SERVICEBERRY	2-2 1/2" CAL.	B&B	2,000 (100 SF/ EA)
LI	84 104	LAGERSTOEMIA INDICA 'DYNAMITE'/ CRAPE MYRTLE	5-6'	CONT.	8,400 (100 SF/ EA)
PF	65	PIERIS 'FOREST FLAME'/ JAPANESE PIERIS	2-4'	CONT.	4,875 (75 SF/ EA)
BT	244	BERBERIS THUNBERGII/ JAPANESE BARBERRY	30-36"	CONT.	12,200 (50 SF/ EA)
				TOTAL (PROVIDED)	47,675 SF

15% OF SITE = 226,553 x 0.15 = 33,982 SF REQUIRED

ADDITIONAL GROUND COVER AND ORNAMENTAL PLANTINGS TO BE PROVIDED, AS DESIRED.

5% GROUND COVER REQUIREMENT FOR COMMERCIAL PHASE:
171, 171 SF VEHICULAR USE AREA/PAVEMENT IN PHASE
5% = 8,559 SF REQUIRED
INTERIOR LANDSCAPING = 9,200 SF (ISLANDS AND STRIP ADJACENT TO BLDG)
TOTAL COMMERCIAL PHASE PLANTABLE AREA = 35,941 SF

SOIL TYPES: URBAN LAND (Ur) - HSG TYPE C
UDORTHENTS (Uz) - HSG TYPE C

PHASE 3A-COMMERCIAL

TOTAL PHASE 1 AREA SF	226,553 SF
TOTAL PHASE 1 AREA ACRES	5.20 Ac
IN CRITICAL AREA?	YES
IN 100' BUFFER?	NO
EXISTING IMPERVIOUS AREA	213,532 SF
EX BLDG	9,350 SF
EX PARKING LOT	201,650 SF
EX SIDEWALK	2,532 SF
EXISTING % IMPERVIOUS	94.3%
*PROPOSED IMPERVIOUS AREA	188,462 SF
BLDG	54,652 SF
PAVEMENT	125,546 SF
DUMPSTER PAD	500 SF
SIDEWALK	7,620 SF
TRANS PAD	144 SF
PROPOSED % IMPERVIOUS	83.2%
DECREASE IN IMPERVIOUS	25,070 SF
% DECREASE (PRE-POST)	11.1%
20% AREA REQUIRED	42,706 SF
TOTAL AREA NEEDED FOR SWM	17,636 SF
**QUALITY VOLUME REQUIRED	1,470 CF
AREA OF PERVIOUS PAVERS	6,800 SF
VOLUME AVAILABLE IN PAVERS	1,822 CF
IMPERVIOUS AREA DRAINING TO PAVERS	+/-70,000 SF
PERVIOUS PAVERS AT PERIMETER	2,150 SF

*PROPOSED IMPERVIOUS AREA INCLUDES PERVIOUS PAVERS FOR STORMWATER PURPOSES, AND IS NOT COUNTED AS PERVIOUS OPEN-TO-THE-SKY. THEY ARE USED TO TREAT THE 1" QUALITY AMOUNT REQUIRED AND PROVIDE TREAMENT AT THE PERIMETER BEFORE THE RUNOFF LEAVES THE SITE.

*PAVERS AT THE PERIMETER OF THE SITE ARE NOT INCLUDED IN THE IMPERVIOUS AREAS, NOR ARE THEY INCLUDED IN THE PLANTABLE AREA. THEY ARE SIMPLY CONSIDERED PERVIOUS, UNPLATABLE AREAS, WHICH ACCOUNTS FOR THE DIFFERENCE BETWEEN IMPERVIOUS AND PLANTABLE.

Clean Streets Clean Waters
Working Together To Protect Our Beaches & Bays

Date _____

Permit# _____

Project Name _____

Address _____

Ocean City Critical Area 10% Rule Worksheet

Standard Application Process

Calculating Pollutant Removal Requirements

Step 1: Calculating Existing and Proposed Site Impervious

A. Calculate Percent Imperviousness

Site Area within the Critical Area IDA, A= TOTAL SITE 770,945 (sf)

B. Site Impervious Surface Area, Existing and Proposed, (See Table 4.1 for detail)

	(1) Existing (sf)	(2) Proposed (sf)
Roads		
Parking Lots	468,704	278,389
Sidewalks/Paths	20,152	36,104
Rooftops	172,642	266,544
Decks		
Swimming pools/ponds		7,686
Other		2628 TRASH/720 ELEC
Impervious surface area (sf)	661,498	592,226

C. Non-Structural BMP's Applied to the Site

Non-Structural	Disconnected Impervious Area (sf)
a.	
b.	
c.	

Total Disconnected Impervious Area (sf) _____

D. Adjusted Proposed Impervious surface Step B (2) minus total of Step C 592,226

E. Impervious (I) calculations

Existing Impervious – Ipre = Impervious surface/Site Area
= 85.8 %

Proposed Impervious - Ipost =Adjusted Proposed Impervious/Site Area
= 76.8 %

Define development category (circle)

1. ***Redevelopment:*** Existing Imperviousness greater than 15% I (Go to step 2A)
2. New Development: Existing Imperviousness less than 15% I (Go to step 2B)
3. Single Lot Residential: Single lot being developed single family residential and more than 250 sf disturbed should submit a Standard SWM plan or Residential Water Quality management plan.

Step 2: Calculated the Predevelopment Phosphorous Pollution Load (Lpre)

A. Redevelopment

Lpre = (Rv) (C) (A) (.000187)

Rv = .05 + .009 (Ipre) **Rv = .05 + .009 (__85.8__)= __0.8222**

Lpre = (Rv 0.8222) x (C.3) x (A _770,945_ sf) (.000187) = _35.56

= __35.56__ lbs/year of total phosphorus

Where:

Lpre = Average annual load of total phosphorus exported from the site prior to development (lb/year)
Rv = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff.

Ipre = Predevelopment (existing) site imperviousness
C = Flow-weighted mean concentration of the pollutant (total phosphorous in urban runoff (mg/1) = .3 mg/1xphosphorus
A = Area of site within the IDA (sf)
(.000187) = Includes regional constants and unit conversion factors

B. New Development

Lpre=(0.5) (A/43560) **(0.5) (_____/43560) = _____**

= _____ lbs/year of total phosphorous

Where:

Lpre = 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 (sf)

Step 3: Calculate the Post-Development Load

A. New Development and Re-Development:

Lpost = (Rv) (C) (A) (.000187)

Rv = .05+.009 (Ipost) **Rv = .05 + .009 (_76.8_) = _0.7412**

Lpost = (Rv_0.7412_) x (C.3) x (A_770,945_sf) (.000187) = _32.06

= __32.06__ lbs/year of total phosphorus

Where:

Lpost = Average annual load of total phosphorus exported from the site prior to development (lb/year)
Rv = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff.
Ipost = Predevelopment (existing) site imperviousness
C = Flow-weighted mean concentration of the pollutant (total phosphorous in urban runoff (mg/1) = .3 mg/1=phosphorus
A = Area of site within the IDA (sf)
(0000187) = Includes regional constants and unit conversion factors

Step 4: Calculate the Pollutant Removal Requirements (RR)

10% Reduction = 09 x (Lpre) = **(0.9) X 35.56 = 32.004**

RR = Lpost – 10% reduction = **32.06 – 32.004**

= 0.056 lbs/year of total phosphorus

Where:

RR = Pollutant removal requirements (lbs/year of total phosphorus)
Lpost = Average annual load of total phosphorus exported from the post-development site (lbs/year)
Lpre = Average annual 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	(Lpost)	X	(BMPre)	X	% Site served =	LR	
PAVERS	32.06	X	65	X	18	= 3.78	lbs/year
		X		X		=	lbs/year
		X		X		=	lbs/year

Load Removed/LR (total) = 3.78 lbs/year

Pollutant Removal Requirement RR (from Step 4) = 0.056 lbs/year

If the load removed is equal to or greater than the Pollutant Removal Requirements computed in Step 4, than the on-site BMP complies with the 10% Rule…else, and more BMPs or Fee-in-Lieu as followed:

RR minus LR = _____ lbs/year, Fee-In-lieu at ($20,000 lb per year)

$20,000 x _____ = $_____ Fee-In-Lieu owed

Where:

Load Removed	=	Annual total phosphorus load removed by the proposed BMP (lbs/year)
Lpost	=	Average annual load of total phosphorus export from the post-development site 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)
(i)	=	Pollutant load not removed by BMP (lb/year)
Fee-in-Lieu	=	$20,000 per (lb)

Critical Area Project Application
Town of Ocean City

Date: ___ July 11, 2006_____ **File#**_____

Project Name:__**OCEAN PLAZA MALL REDEVELOPMENT** ***OVERALL***

Project Address____**9401 COASTAL HIGHWAY**_____

Tax Map: _115_ **Parcel:**_1870A **Block:**_10_**Lot#**_13B **Zoning** ___**SC-1**_____

Property Owner_**OCTC HOLDINGS, LLC**____ **Phone** ___**410-296-4800**_____

Property Owner Address____**1427 CLARKVIEW ROAD, B'MORE, MD 21209**__

Parcel size (SF):____**770,945**_____ ***OVERALL***

I. Project Description

In the 100 foot buffer? Yes _____ **No**___**X**__ *(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) __**661,498**___ **% of site impervious:** ___**85.8%**___

Impervious surface within the 100-foot buffer (SF): _____**0**_____

Proposed Conditions

Impervious surface (SF):__**592,226**__ **% of site impervious:** __**76.8%**_____

Total SF of disturbed area:__**+/-800,000**_____

Impervious surface within the 100-foot buffer (SF):_____**0**_____

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 " " "
Herbaceous plants = 2 square feet of mitigation per plant

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 = ___115,642_____SF.
(This SF area must be plantable and planted with the following number of plants)
b. Landscaping provided (use Landscaping Conversion Chart)

Large trees # ___414 __ x 200 SF = ___ 82,800____SF
Small trees # ___456___ x 100 SF = ___45,600____SF
Large shrubs # ___297___ x 75 SF = ____22,275_____SF
Small shrubs # ___244___ x 50 SF = ____12,200____ SF
Herbaceous Plants _____x 2 SF = _____ SF

TOTAL VALUE OF LANDSCAPING PROVIDED: ____162,875____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.

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.

OVERALL LANDSCAPE PLANT LIST

KEY	QUANTITY	BOTANICAL NAME/COMMON NAME	SIZE	ROOT	TOTAL SF
PS	221	PRUNUS SERRULATA 'KWANZAN'/ KWANZAN CHERRY	2-2 1/2" CAL.	B&B	44,200 (200 SF/ EA)
PC	193	PYRUS C. 'CHANTICLEER'/ CHANTICLEER PEAR	2-2 1/2" CAL.	B&B	38,600 (200 SF/ EA)
AC	188	AMELANCHIER CANADENSIS/ SERVICEBERRY	2-2 1/2" CAL.	B&B	18,800 (100 SF/ EA)
LI	268	LAGERSTOEMIA INDICA 'DYNAMITE'/ CRAPE MYRTLE	5-6'	CONT.	26,800 (100 SF/ EA)
PF	297	PIERIS 'FOREST FLAME'/ JAPANESE PIERIS	2-4'	CONT.	22,275 (75 SF/ EA)
BT	244	BERBERIS THUNBERGII/ JAPANESE BARBERRY	30-36"	CONT.	12,200 (50 SF/ EA)
				TOTAL (PROVIDED)	162,875 SF

15% OF SITE = 770,925 x 0.15 = 115,640 SF REQUIRED

ADDITIONAL GROUND COVER AND ORNAMENTAL PLANTINGS TO BE PROVIDED, AS DESIRED.

5% GROUND COVER REQUIREMENT FOR COMMERCIAL PHASE:
171, 171 SF VEHICULAR USE AREA/PAVEMENT IN PHASE
5% = 8,559 SF REQUIRED
INTERIOR LANDSCAPING = 9,200 SF (ISLANDS AND STRIP ADJACENT TO BLDG)
TOTAL COMMERCIAL PHASE PLANTABLE AREA = 35,941 SF

OVERALL SWM

TOTAL SITE AREA SF	770,945 SF
TOTAL SITE AREA ACRES	17.7 Ac
IN CRITICAL AREA?	YES
IN 100' BUFFER?	NO
EXISTING IMPERVIOUS AREA	661,498 SF
EX BLDG	172,642 SF
EX PARKING LOT	468,704 SF
EX CONCRETE	20,152 SF
EXISTING % IMPERVIOUS	85.8%
*PROPOSED IMPERVIOUS AREA	592,226 SF
BLDG	266,544 SF
PAVEMENT	278,389 SF
DUMPSTER PAD	2,628 SF
SIDEWALK	36,104 SF
TRANS PAD	720 SF
POOL	7,686 SF
PROPOSED % IMPERVIOUS	76.8%
DECREASE IN IMPERVIOUS	69,398 SF
% DECREASE (PRE-POST)	9.0%
20% AREA REQUIRED	132,325 SF
TOTAL AREA NEEDED FOR SWM	62,927 SF
**QUALITY VOLUME REQUIRED	5,244 CF
AREA OF PERVIOUS PAVERS	27,475 SF
VOLUME AVAILABLE IN PAVERS	7,363 CF
IMPERVIOUS AREA DRAINING TO PAVERS	+/-140,000 SF

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 " " "
Herbaceous plants = 2 square feet of mitigation per plant

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

1. **Multi-Family and Commercial 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 = 115,640 SF.

   b. Landscaping provided (use Landscaping Conversion Chart)

Large trees	**#** 388	**x**	**200 SF =** 77,600	**SF**
Small trees	**#** 362	**x**	**100 SF =** 36,200	**SF**
Large shrubs	**#** 68	**x**	**75 SF =** 5,100	**SF**
Small shrubs	**#** 244	**x**	**50 SF =** 12,200	**SF**

TOTAL VALUE OF LANDSCAPING PROVIDED: 131,100 **SF**

2. **Detached Single Family Dwellings**

   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.)

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.

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.

VI. **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. **100-foot Buffer and applicable setback**
8. **Habitat protection areas (if applicable)**
9. **All impervious surfaces labeled as existing or proposed.**
10. **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 _____)

Form Revised 12/19/03

20041167.01

Ocean City Critical Area 10% Rule Worksheet
Standard Application Process

Calculating Pollutant Removal Requirements

Permit #	
Project Name	
Address	

Step 1: Calculating Existing and Proposed Site Impervious

A. Calculate Percent Imperviousness
Site Area within the Critical Area IDA, A= 770,925 **(sf)**

B. Site Impervious Surface Area, Existing and Proposed, (See Table 4.1 for detail)

	(1) Existing (sf)	(2) Proposed (sf)
Roads		
Parking Lots	469,967	257,082
Sidewalks/Paths/conc.	20,272	37,080
Rooftops	171,385	296,652
Decks		
Swimming pools/ponds		INC IN SIDEWALK/CONC
Other		1800 PUMP/ 500 TRAN
Impervious surface area (sf)	661,624	593,114

C. Non-Structural BMP's Applied to the Site

Non-Structural	Disconnected Impervious Area (sf)
a.	
b.	
c.	

Disconnected Impervious Area (sf) _____

D. Adjusted Proposed Impervious surface Step B(2) –total of Step C
76.94% (sf) impervious

E. Impervious (I) calculations

Existing Impervious - Ipre = Impervious surface/Site Area
= 85.8 %

Proposed Impervious - Ipost =Adjusted Proposed Impervious/Site area
= 76.94 %

Define development category (circle)

1. **Redevelopment:** Existing Imperviousness greater than 15% I (Go to step 2A)
2. **New Development:** Existing Imperviousness less than 15% I (Go to step 2B)
3. **Single Lot Residential:** Single lot being developed single family residential and more than 250 sf disturbed should submit a Standard SWM plan or Residential Water Quality management plan

Step 2: Calculated the Predevelopment Phosphorous Pollution Load (Lpre)

A. Redevelopment

Lpre = (Rv)(C)(A)(.000179)

Rv = .05 + .009(Ipre) **Rv = .05 + .009(85.8) = ~~.82~~**

Lpre = (Rv 0.82) x (C .3) x (A 770,925) (.000187) =

= 35.56 lbs/year of total phosphorus

Where:

Lpre = Average annual load of total phosphorus exported from the site prior to development (lb/year)

Rv = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff.

Ipre = Predevelopment (existing) site imperviousness

C = Flow-weighted mean concentration of the pollutant (total phosphorous in urban runoff (mg/l) = .3 mg/l + phosphorus

A = Area of site within the IDA (sf)

(.000187) = Includes regional constants and unit conversion factors

B. New Development

Lpre= (0.5)(A/43560) **(0.5)(~~47~~ /43560) = _____**

= _____ lbs/year of total phosphorous

Where:

Lpre = 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 (sf)

Step 3: Calculate the Post-Development Load

A. New Development and Re-Development:

Lpost = (Rv)(C)(A)(.000187)

Rv = .05 + .009(Ipost) **Rv = .05 + .009(76.94) = 0.74**

Lpost = (Rv 0.74) x (C .3) x (A 77,925) (.000179) =

= 30.74 lbs/year of total phosphorus

Where:

Lpost = Average annual load of total phosphorus exported from the site prior to development (lb/year)

Rv = Runoff coefficient, which expresses the fraction of rainfall which is converted into runoff.

Ipost = Predevelopment (existing) site imperviousness

C = Flow-weighted mean concentration of the pollutant (total phosphorous in urban runoff (mg/l) = .3 mg/l + phosphorus

A = Area of site within the IDA (sf)

(.000187) = Includes regional constants and unit conversion factors

Step 4: Calculate the Pollutant Removal Requirements (RR)

10% Reduction = .9 x **(Lpre) =** 35.56 32.00

RR = Lpost – 10% reduction = 30.74-32.00

= _____ **lbs/year of total phosphorus**

-1.26

Where:

RR = Pollutant removal requirements (lbs/year of total phosphorus
Lpost = Average annual load of total phosphorus exported from the post-development site (lbs/year)
Lpre = 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 provide in the Chapter 4 of the 2000 Maryland Stormwater Design Manual. Calculate the load removed for each option

BMP type	(Lpost)	x	(BMPRe)	x	% DA served =	LR
_____	_____	x	_____	x	_____	=_____ lbs/year
_____	_____	x	_____	x	_____	=_____ lbs/year
_____	_____	x	_____	x	_____	=_____ lbs/year
					Load Removed (total)=	_____ lbs/year
					Pollutant Removal Requirement **RR** (from Step 4) =	_____ lbs/year

If the load removed is equal to or greater than the Pollutant Removal Requirement computed in Step 4, than the on-site BMP complies with the10% Rule….else, add more BMP's or Fee-in-Lieu as followed:

RR – Load Removed = _____(i)_lbs/year, Fee In lieu at ($20,000lb per year)

$20,0000 x ____(i)_____ = $ _____

Where:

Load Removed = annual total phosphorus load removed by the proposed BMP (lbs/year)
Lpost = Average annual load of total phosphorus export 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)
(i) = Pollutant load not removed by BMP (lb/year)
Fee-in-Lieu = $20,000 per (lb)

OC249-06

MEMORANDUM

TO: Departmental Representatives and Other Public Agencies

FROM: Planning and Community Development

DATE: May 24, 2006

SUBJECT: OCEAN CITY TOWN CENTER – Consisting of 11 Multi-Family Buildings including 382 units; 3 Commercial Units totaling 53,522 sq. ft. located on Parcel 1870A, Lot 13B, Map 115 and known locally as 9701 Coastal Highway, Ocean City, Md. File #06-18100005

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An application has been made for the above referenced project requiring your review.

The staff review meeting for this project is scheduled for **Thursday, June 22, 2006**, at 10:30 a.m. in the downstairs conference room of City Hall. The applicant and all agencies are encouraged to attend. Your input is vital to the overall approval process.

Should you have any questions, please call Blaine Smith at 410-289-8855.

Applicant: OCTC Holdings, LLC
1427 Clarkview road, Suite 500
Baltimore, Md. 21209
410-296-4800

cc: M.B. Richardson, Chief Building Official
Terry McGean, Engineering
Sam Villani, Fire Marshal
Woodrow Shockley, Solid Waste
Allen Absher, Verizon
Paul Skorobatsch, Conectiv
Perry Linz, Water Department
Charles Felin, Wastewater Department
Nelson Kelly, Wastewater Department
Bob Small, State Highway Administration
Dean Dashiell, Public Works
Jimmy Jarman, Comcast, 8301 Coastal Hwy, Ocean City, Md.
Jesse C. Houston, Director of P & D
Karen Zera, GIS
Gail Weldin, Information Technology
Chris Clark, Critical Area Commission
File P&Z 06-18100005
Correspondence '06

94th Street Redevelopment

Legend

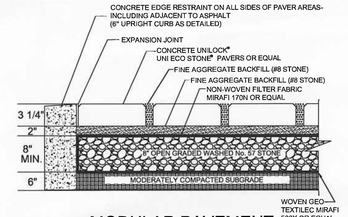
- Estuarine, Tidal
- Palustrine, Tidal
- Riverine, Tidal
- Lacustrine, Non-Tidal
- Palustrine, Non-Tidal
- Riverine, Non-Tidal

100 50 0 100 200 300 400 500 600 700

Feet

OVERALL SWM

TOTAL SITE AREA SF	770,945 SF
TOTAL SITE AREA ACRES	17.7 Ac
IN CRITICAL AREA?	YES
IN 100' BUFFER?	NO
EXISTING IMPERVIOUS AREA	661,498 SF
EX BLDG	172,642 SF
EX PARKING LOT	468,704 SF
EX CONCRETE	20,152 SF
EXISTING % IMPERVIOUS	85.8%
*PROPOSED IMPERVIOUS AREA	592,226 SF
BLDG	266,544 SF
PAVEMENT	278,389 SF
DUMPSTER PAD	2,628 SF
SIDEWALK	36,104 SF
TRANS PAD	720 SF
POOL	7,686 SF
PROPOSED % IMPERVIOUS	76.8%
DECREASE IN IMPERVIOUS	69,398 SF
% DECREASE (PRE-POST)	9.0%
20% AREA REQUIRED	132,325 SF
TOTAL AREA NEEDED FOR SWM	62,927 SF
**QUALITY VOLUME REQUIRED	5,244 CF
AREA OF PERVIOUS PAVERS	27,475 SF
VOLUME AVAILABLE IN PAVERS	7,363 CF
IMPERVIOUS AREA DRAINING TO PAVERS	+/-140,000 SF



MODULAR PAVEMENT

NO SCALE

BOTTOM OF #57 STONE TO BE LAID FLAT, WITH MINIMUM OF 15" THICKNESS, USING 40% VOID RATIO FOR SWM QUALITY CALCULATIONS

MODULAR PAVEMENT NOTES

CONSTRUCTION

1. THE DEVELOPER SHALL NOTIFY THE TOWN OF OCEAN CITY AT LEAST 48 HOURS BEFORE COMMENCING ANY WORK IN CONJUNCTION WITH THE STORMWATER MANAGEMENT PLAN AND UPON COMPLETION OF THE PROJECT WHEN A FINAL INSPECTION WILL BE CONDUCTED.

2. INSPECTIONS SHALL BE CONDUCTED BY THE TOWN OF OCEAN CITY, ITS AUTHORIZED REPRESENTATIVE, OR CERTIFIED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE. WRITTEN INSPECTION REPORTS SHALL BE MADE OF THE PERIODIC INSPECTIONS NECESSARY DURING CONSTRUCTION OF STORMWATER MANAGEMENT SYSTEM TO ENSURE COMPLIANCE WITH THE APPROVED PLANS.

3. WRITTEN INSPECTION REPORTS SHALL INCLUDE:
(A) THE DATE AND LOCATION OF THE INSPECTION;
(B) WHETHER CONSTRUCTION WAS IN COMPLIANCE WITH THE APPROVED STORMWATER MANAGEMENT PLAN;
(C) ANY VARIATIONS FROM THE APPROVED CONSTRUCTION SPECIFICATIONS; AND
(D) ANY VIOLATIONS THAT EXIST.

4. FOLLOW MANUFACTURES SPECIFICATIONS FOR MODULAR PAVEMENT INSTALLATIONS. SKILLED LABOR IS REQUIRED UNLESS MECHANICAL VIBRATORS ARE USED FOR LEVELING UNEVEN SURFACE.

5. REFER TO TOWN OF OCEAN CITY'S SPECIFICATIONS FOR ADDITIONAL INSTALLATION REQUIREMENTS AND RESTRICTIONS.

6. PLACEMENT OF PAVEMENT CANNOT BE DONE UNTIL ENTIRE DRAINAGE AREA IS STABILIZED.

7. CLEARLY MARK PLANNED AREA FOR MODULAR PAVEMENT TO KEEP HEAVY EQUIPMENT FROM COMPACTING UNDERLYING SOIL.

MAINTENANCE SCHEDULE

1. MODULAR PAVEMENTS SHOULD BE INSPECTED SEVERAL TIMES IN THE FIRST FEW MONTHS AFTER CONSTRUCTION TO ASSURE THAT THEY ARE WORKING CORRECTLY AND WERE INSTALLED PROPERLY. INSPECTION SHOULD BE CONDUCTED AFTER STORMS TO CHECK FOR LONG DURATION SURFACE PONDING THAT MAY INDICATE LOCAL OR WIDESPREAD CLOGGING.

2. MAINTENANCE RESPONSIBILITY FOR BMP SHALL BE VESTED WITH THE RESPONSIBLE PARTY BY MEANS OF A LEGALLY BINDING AND ENFORCEABLE MAINTENANCE.

3. THE OWNER OF THE PROPERTY SHALL MAINTAIN IN GOOD CONDITION AND PROMPTLY REPAIR AND RESTORE ALL GRADE SURFACES, WALLS, DRAINS, DAMS AND STRUCTURES, VEGETATION, EROSION AND SEDIMENT CONTROL MEASURES AND OTHER PROTECTIVE DEVICES.

4. ANNUAL INSPECTION REQUIRED WITH WRITTEN INSPECTION REPORT.

MAINTENANCE CRITERIA

1. GOOD HOUSEKEEPING PRACTICES BY THE USERS TO MINIMIZE THE PRODUCTION OF AND TRANSPORT OF PARTICULATES ONTO THE MODULAR PAVEMENT.

2. REPLACEMENT OF BASE AND UNDERLYING SOILS IF THEY BECOME CLOGGED AND WATER PONDING PERSISTS.

3. WHEN TURF IS INCORPORATED INTO THE INSTALLATION, NORMAL TURF MAINTENANCE WILL BE NECESSARY.

SITE GRADING NOTES

1. THE EARTHWORK FOR ALL BUILDING FOUNDATIONS AND SLABS SHALL BE IN ACCORDANCE WITH STRUCTURAL BUILDING PLANS AND SPECIFICATIONS.

2. ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.

3. STORMDRAIN PIPE SHALL BE RCP, CLASS III PER ASTM C-76, WITH GASKETED JOINTS; OR HIGH DENSITY POLYETHYLENE PIPE (HDPE) AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS (ADS N-12) OR APPROVED EQUAL, USE WATERTIGHT COUPLINGS.

4. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.

5. EXISTING DRAINAGE STRUCTURES SHALL BE INSPECTED AND REPAIRED AS NEEDED. CLEAN EXISTING PIPES TO REMOVE ALL SILT AND DEBRIS.

6. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH TRANSITION AND CONTINUOUS GRADE.

7. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING LIDS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER".

8. GRADE TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL LANDSCAPED AND PAVED AREAS.

9. ALL DISTURBED AREAS NOT COVERED BY BUILDING OR PAVEMENT SHALL RECEIVE A MINIMUM OF 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. PROVIDE LANDSCAPING OR TOPSOIL, SEED & MULCH PER SEDIMENT & EROSION CONTROL NOTES.

10. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITIES AND NOTIFYING THE APPROPRIATE UTILITY COMPANY PRIOR TO BEGINNING CONSTRUCTION.

11. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING STORM SEWER STRUCTURES, PIPES, AND ALL UTILITIES PRIOR TO CONSTRUCTION.

12. ALL CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH OF 3000 psi UNLESS NOTED OTHERWISE.

BECKER MORGAN GROUP

ARCHITECTURE
ENGINEERING

Dover
309 South Governors Ave
Dover, DE 19904
302.734.7950

Salisbury
312 West Main St, Suite 300
Salisbury, MD 21801
410.546.9100

Wilmington
307 A Street
Wilmington, DE 19801
302.888.2600

www.beckermorgan.com

PROJECT TITLE

OCEAN PLAZA REDEVELOPMENT

94th ST TO 99th ST
& COASTAL HIGHWAY
BAYSIDE
OCEAN CITY, MD

SHEET TITLE

OVERALL SWM & GRADING PLAN

P.C. SUBMISSION

ISSUE BLOCK		
	07.11	P.C. SUBMISSION
MARK	DATE	DESCRIPTION

PROJECT NO.:	2004167.01
DATE:	07.17.06
SCALE:	1" = 40'
DRAWN BY: BRJ	PROJ MGR: BRJ

SHEET
C110

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OVERALL LANDSCAPE PLANT LIST

KEY	QUANTITY	BOTANICAL NAME/COMMON NAME	SIZE	ROOT	TOTAL SF
PS	221	PRUNUS SERRULATA 'KWANZAN'/ KWANZAN CHERRY	2-2 1/2" CAL.	B&B	44,200 (200 SF/ EA)
PC	193	PYRUS C. 'CHANTICLEER'/ CHANTICLEER PEAR	2-2 1/2" CAL.	B&B	38,600 (200 SF/ EA)
AC	188	AMELANCHIER CANADENSIS/ SERVICEBERRY	2-2 1/2" CAL.	B&B	18,800 (100 SF/ EA)
LI	268	LAGERSTOEMIA INDICA 'DYNAMITE'/ CRAPE MYRTLE	5-6'	CONT.	26,800 (100 SF/ EA)
PF	297	PIERIS 'FOREST FLAME'/ JAPANESE PIERIS	2-4'	CONT.	22,275 (75 SF/ EA)
BT	244	BERBERIS THUNBERGII/ JAPANESE BARBERRY	30-36"	CONT.	12,200 (50 SF/ EA)
			TOTAL (PROVIDED)		162,875 SF

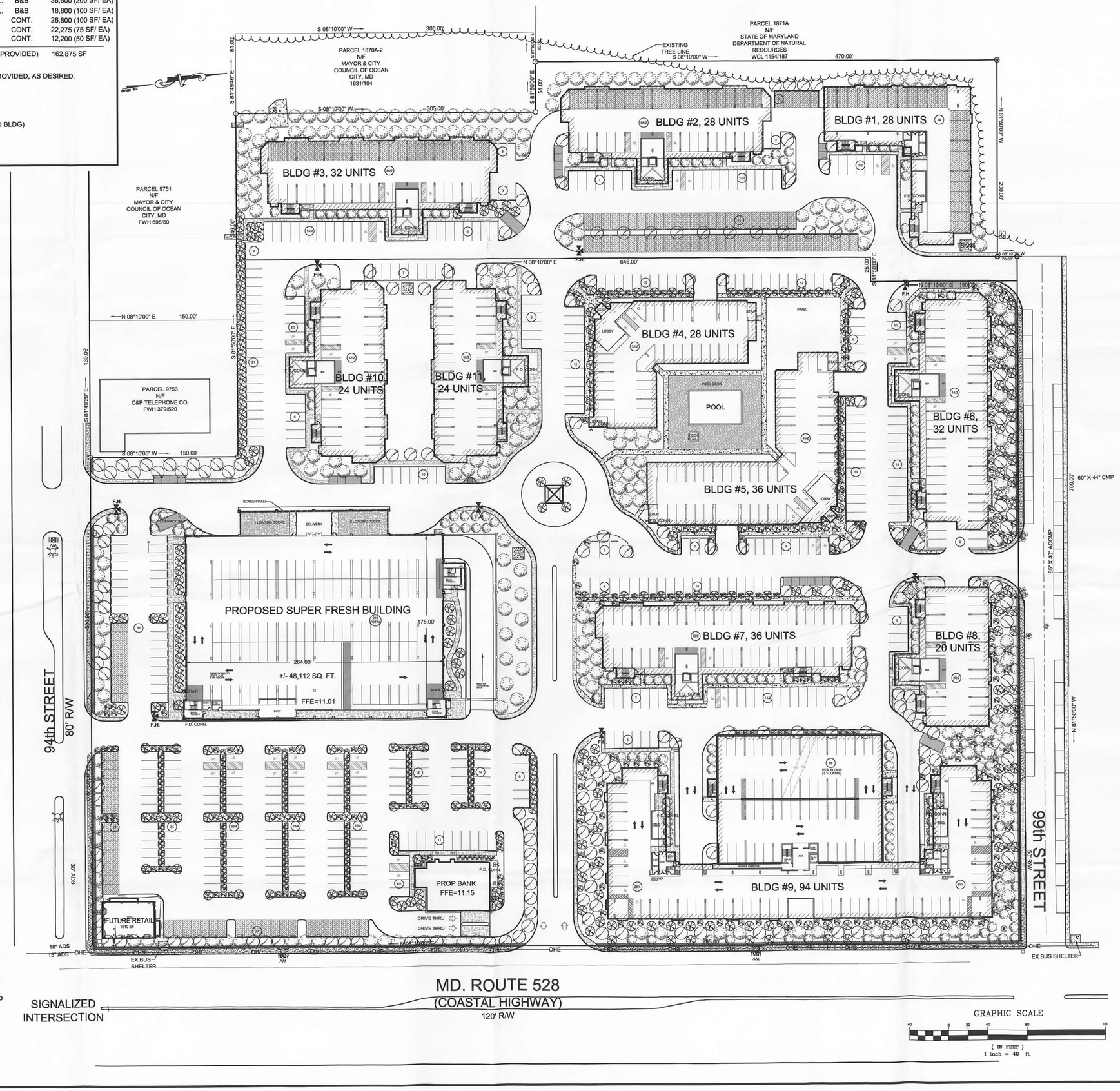
15% OF SITE = 770,925 x 0.15 = 115,640 SF REQUIRED

ADDITIONAL GROUND COVER AND ORNAMENTAL PLANTINGS TO BE PROVIDED, AS DESIRED.

5% GROUND COVER REQUIREMENT FOR COMMERCIAL PHASE:
171, 171 SF VEHICULAR USE AREA/PAVEMENT IN PHASE
5% = 8,559 SF REQUIRED
INTERIOR LANDSCAPING = 9,200 SF (ISLANDS AND STRIP ADJACENT TO BLDG)
TOTAL COMMERCIAL PHASE PLANTABLE AREA = 35,941 SF

LANDSCAPE LEGEND

PS PC LI AC PF BT



GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

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C113

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