- AN 629-07 Turner Marina Site Plan Other

-

51829-6413

Martin O'Malley Governor

Anthony G. Brown Lt. Governor



Margaret G. McHale Chair

> Ren Serey Executive Director

STATE OF MARYLAND CRITICAL AREA COMMISSION CHESAPEAKE AND ATLANTIC COASTAL BAYS

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

November 6, 2008

Sally Nash City of Annapolis Department of Planning and Zoning 145 Gorman Street, 3rd Floor Annapolis, Maryland 21401

Re: Turner Marina Site Plan

Dear Ms. Nash:

Thank you for providing revised information on the above referenced project. The applicant plans to redevelop an existing lot that is designated as an Intensely Developed Area (IDA) and a Buffer Exemption Area (BEA). The property is currently developed with a dwelling, marina and parking lot and the proposed development is construction of a new commercial building, marina office and parking lot.

As you are aware, this office confirmed in my November 21, 2007 and April 18, 2008 comment letters that the applicant has addressed all of this office's previously submitted comments on this project. It does not appear that any new Critical Area issues have been raised by the most recent changes to the plans. Therefore, this office has no further comments on the project at this time.

Thank you for the opportunity to provide comments. If you have any questions, please feel free to call 410-260-3481.

Sincerely,

Amber Widmayer Natural Resource Planner AN 629-07 AN 607-07

Martin O'Malley Governor

Anthony G. Brown Lt. Governor



Margaret G. McHale Chair

> Ren Serey Executive Director

STATE OF MARYLAND CRITICAL AREA COMMISSION CHESAPEAKE AND ATLANTIC COASTAL BAYS

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

April 18, 2008

Sally Nash City of Annapolis Department of Planning and Zoning 145 Gorman Street, 3rd Floor Annapolis, Maryland 21401

Re: Turner Marina Site Plan

Dear Ms. Nash:

Thank you for providing revised information on the above referenced project. The applicant plans to redevelop an existing lot that is designated as an Intensely Developed Area (IDA) and a Buffer Exemption Area (BEA). The property is currently developed with a dwelling, marina and parking lot and the proposed development is construction of a new commercial building, marina office and parking lot.

As you are aware, this office confirmed in my November 21, 2007 comment letter that the applicant has addressed all of this office's previously submitted comments on this project. It does not appear that any new Critical Area issues have been raised by the most recent changes to the plans. Therefore, this office has no further comments on the project at this time.

Thank you for the opportunity to provide comments. If you have any questions, please feel free to call 410-260-3481.

Sincerely,

Amber Widmayer Natural Resource Planner AN 629-07 AN 607-07

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

November 21, 2007

Sally Nash City of Annapolis Department of Planning and Zoning 145 Gorman Street, 3rd Floor Annapolis, Maryland 21401

Re: Turner Marina Site Plan

Dear Ms. Nash:

Thank you for providing information on the above referenced site plan. The applicant plans to redevelop an existing lot that is designated as an Intensely Developed Area (IDA) and a Buffer Exemption Area (BEA). The property is currently developed with a dwelling, marina and parking lot and the proposed development is construction of a new commercial building, marina office and parking lot.

It appears that the applicant has revised the plans such that both the 10% pollutant reduction requirement and the 2:1 BEA mitigation requirement for the proposed project have been addressed. The applicant has addressed the 10% removal requirement of 0.158 pounds of phosphorous per year through an offset of plantings onsite and on the adjacent City owned property. The applicant has addressed the 2:1 BEA mitigation requirement through a combination of plantings onsite, removal of impervious surface, and through payment into the City's fee in lieu of planting fund. Therefore, the applicant has addressed this office's concerns as stated in our meeting with the applicant on October 24, 2007, and this office has no remaining comments on this project.

Thank you for the opportunity to provide comments. If you have any questions, please feel free to call 410-260-3481.

Sincerely,

Amber Widmayer Natural Resource Planner AN 629-07

607-07



2

City of Annapolis DEPARTMENT OF PLANNING AND ZONING

Chartered 1708 Municipal Building, 145 Gorman Street, Annapolis, Maryland 21401 Annapolis 410-263-7961 • FAX 410-263-1129 • TDD 410-263-7943

JON ARASON, AICP DIRECTOR

September 11, 2007

Chesapeake Bay Critical Area Commission Attn: Ms.Amber Widmayer 1804 West Street, Suite 100 Annapolis, MD 21401

RE: Variance Question

Dear Amber:

This is the project I was asking you about. Do you think this SWM would require a variance? It's IDA/BEA. Thanks so much for looking at it for me.

If you have any questions, please feel free to call me at 410-263-7961 or email me at snash@annapolis.gov.

Sincercly,

Sally her

Sally Nash, Ph.D. Land Use and Development Planner Department of Planning and Zoning City of Annapolis 145 Gorman St. Annapolis, MD 21401





AREA TABULATION

SITE ZONING						WME
SITE AREA	15,781	SQUARE	FEET	OR	0.36	ACRES
LOT COVERAGE PARKING AREA SIDEWALK BUILDING (NOT DIRECTL	8,406 6,799 536 Y OVER	SQUARE SQUARE SQUARE PARKING	FEET FEET FEET	OR OR OR A)	0.19 0.16 0.01	ACRES ACRES ACRES
	1,071	SQUARE	FEET	ÓR	0.02	ACRES
LOT COVERAGE PERCENTA BUILDING COVERAGE	GE					53 % 6%
MAXIMUM BUILDING HEIGH	т					35'
FLOOR AREA RATIO REQU FLOOR AREA RATIO PROV TOTAL FLOOR AREA FIRST FLOOR SECOND FLOOR THIRD FLOOR	ired Ided				8,8 9 3,4 4,5	1 <1 72 S.F. 45 S.F. 04 S.F. 23 S.F.
PARKING SPACES REQUIRI COMMERCIAL (3404 / RESIDENTIAL (1 PER UN MARINA (1 PER SLIP) HANDICAP (1 PER 25)	ED 300) VIT)				21 S 12 S 2 S 7 S 1 S	SPACES SPACES SPACES SPACES SPACES SPACES
PARKING PROVIDED REGULAR HANDICAP					21 s 20 s 1 s	SPACES SPACES SPACES
DISTURBED AREA	15,725	SQUARE	FEET	OR	0.36	ACRES
VEGETATIVE STABILIZATION	N				0.16	ACRES
STRUCTURAL STABILIZATIO	DN				0.20	ACRES

STANDARD RESPONSIBILITY NOTES

i(We) certify that: 1. a. Ali development and canstruction will be dane in accordance with this sediment and eroeion control pian, and further, authorize the right of entry for periodic on-site evaluation by the Anne Arundei Soli Conservation District Board of Supervisors or their authorized

b. Any respansible persannel invalved in the construction project will have a certificate of attendance from the Maryland Department of the Environment's appraved training pragram for the ocntrai of eediment and erosion before beginning the project. Respansible personnel on site:

c. The appropriate enclasure will be constructed and maintained on sediment basin(s) included in this plan. Such structure(s) will be in campliance with Article 21, Section 2-304 of the Anne Arundei

- County Code. The developer is responsible for the acquisition of all easements, rights, and/or rights-of-way, that may be required for the sediment and erosion control practices, stormwater management practices and the discharge of stormwater onto or across odjacent ar downstream properties included in this pian. He is also responeible for the acquisitian of all easements, rights and/ar rights-of-way that may be required for grading and/ar work on adjacent properties included in this plan.
- . Following initial sail disturbance or redisturbance, permanent or temparary stabilizatian shail be completed within eeven calendar days for the surface of all perimeter controis, dikes, ewales, ditches, perimeter siopes, and all slopes greater than 3 harizontal ta 1 vertical (3:1) and
- faurteen days far ail other disturbed ar graded areas on the project The sediment control approvais on this plan extend only to areas and practices identified as proposed work. 5. The approval of this plan for sediment and erosion control does not relieve the developer/consultant from complying with any Federal/State/
- County requirements appertaining to environmental issuee. . The developer must request that the Department of Inspections and Permits apprave wark completed in accordance with the appraved erosian and sediment cantral plan, the grading ar building permit, and the
- Ail materiai shall be taken to the site with an approved sediment and erosion cantrol pian
- 8. On ali sites with disturbed areas in excess of 2 acree, approval of the Department of Inspectians and Permite ehail be required on completian o installation of perimeter erosian and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection appravais may not be authorized until the initial approvai by the Department of Inspections and Permits is given. 9. Approvai ehali be requested on finai stabilizatian of all sites with listurbed areas in excess of 2 acres befar remaveai of controls.
- 10. Existing topagraphy must be field verified by respansibl personnel o the satisfaction of the eediment cantral inspector priar to commencing work.

Signature (s) af Develaper/Owner Print: Name: _____Antoinette Riddlck far Tumer Marina, LLC Address: 5251 Al Jones Dr., Shady Side, MD 20764

Telephone: (301) 261-5818

	SHEET INDEX
1.	COVER SHEET
 2.	GRADING PLAN (1"=20')
2.	LANDSCAPE PLAN (1"=20")

ANNE ARUNDEL SOIL CONSERVATION DISTRICT DETAILS AND SPECIFICATIONS FOR VEGETATIVE ESTABLISHMENT When soil disturbances occur and the natural vegetation is removed, the extent and duration of exposure should be minimized. Plan the phases or stages of and duration of exposure should be minimized. Find the phases of stages of development so that only the areas which are actively being developed are exposed. All other areas ehould have a gaod cover of temporary or permanent vegetation or muich. Grading ehouid be completed as eoon as possible after it is initiated. Ae cut slopes are made, and ae fill slopes are brought up ta grade, these areas must be etabilized ae the work progresses. This is known as etoged eeeding or etabilization.

- Permanent Seeding:

 A. Soil Teste: Lime and fertilizer will be applied per soil tests results for sites greater than 5 acres. Soil tests will be done at completion of rough grading. Rates and analyses will be provided to the grading inspector as well as the contractor.

 Occurrence of acid suifate soils (grayish black color) will require covering with a minimum capping of top soil. No etockpiling of material is allowed. If needed, soil tests should be done before and after a 6 week incubation periad to allow oxidation of suifates.
 - The minimum coil conditione required for permanent vegetative establishment are: a. Soil PH shaii be between 6.0 and 7.0. b. Soiubie salts shail be less than 500 parts per million
 - c. The soil ehail contain leee than 40 grained materiai (>30% eilt plue clay) to provide the capacity to haid a moderate amount of moisture. An exception ie if lovegroee or serecia iespedeza is to te
 - planted, than a sandy eoil (<30% eilt plue clay) would be d. Soil ehail contain 1.5% minimum organic matter by weight.
 - e. Soil must contain sufficient pore epace to permit adequate root penetration. f. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil or amendments made as
- recommended by a certified agronamist. B. Seedbed Preparatian: Area to be eeeded ehall be loose and friable ta a depth of at least 3 inches. The tap layer shall be laasened by raking, dleking or ather acceptable means before eeeding accurs. For sites less than 5 acres, apply 100 paunds of dolomitic limestone and 21 pounds of 10-10-10 fertilizer per
- 1,000 equare feet. Harrow or disk lime and fertilizer into the coll to a depth of at least 3 inches on siapes flatter than 3:1 c. Seeding: Apply 5-6 pounds per 1,000 equare feet of tail fescue between February 1, and April 30 or between August 15 and October 31. Apply seed uniformly on a moist firm eeedbed with a cylcane eeeded drill, cuitipacker seeder ar hydra eeeder (siurry includes eeeds and fertilizer, recommended for steep elopes only). Maximum eeed depth ehouid be 1/4 inch in clayey eoile and 1/2 inch in eandy eoils when using other than the hydroeseder method. irrigate If soil maisture is deficient to support adequate gorwth until vegetatian is firmiy established. If ather seed mixes are to be used, select from Table 25, entitled
- "Permanent Seeding for Low Maintenance Areas" from the 1994 Standards and Specifications for Sail Erosion and Sediment Control. Mixes suitable for this area are 1, 3 and 5-7. Mixes 5-7 are suitable in non-mowable eituatians. Muiching: Mulch ehail be applied to all seeded areae immediately after eceding. During the time period when eceding ie not permitted, mulch chall be applied immediately after
- grading. Mulch shall be unratted, unchapped, small grain straw applied at a rate of 2 tons per acre or 90 pounde per 1,000 square feet (2 bales). If a mulch anchoring tool is used, apply 2.5 tons per acre. Mulch materials shall be relatively free of all kinds af weeds and shail be completely free of prohibited noxious weeds Spread muich uniformiy, mechanically or by hand, to a depth of 1-2 inches. % clay but enough fine
- Standards and Specifications for Soil Erosion and Sediment Controi. Mixes suitable for this area are 1, 3 and 5-7. Mixes 5-7 are suitable in non-mowable situatians. E. Securing Straw Mulch: Straw mulch shail be secured immediatlely following mulch application to minimize movement by wind ar
- water. The foilowing methods are permitted: (i). Use a mulch anchoring tool which is desinged to punch and anchor mulch into the soil surface to a minimum depth of 2 inches. This is the most effective method for securing muich, however, It is limited to relatively flat areas where equipment can operate
- (ii). Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight af 750 pounds per ocre. If mixed with water, use 50 paunds of waad cellulose fiber per 100 gallons of water. (ili). Liquid binders may be used and applied heavier at the edges where wind catches mulch, such as in valleys and on crests of siopes. The remainder of the area should appear uniform after binder application. Binders listed in the 1994 Standards and Specifications far Soil Erosion and Sediment Control of approved equal shall be applied at rotes recommended by the manufacturere.
- (iv). Lightweight plastic netting may be used to secure mulch. The netting will be stapied to the ground accarding to manufacturer's recommendations. 2. Temporary Seeding: 100 paunds of dolomitic limestane per 1,000 square feet.
- Lime: Fertilizer: Seed: 15 pounds af 10-10-10 per 1,000 square feet. Perenniai rye - 0.92 pounds per 1,000 square feet. (February 1 through April 30 ar August 15 through Hovember 1). Millet - 0.92 paunds per 1,000 square feet (May 1 thraugh August 15).

Mulch: To prevent eroeion of freshiy graded eites: -During the time periode when eeeding is nat permitted, muich shall be appiled immediately after grading. —Muich shali be unrotted, unchopped, smail grain straw appiled at a rate of 2 tons per acre (90 pounde per 1,000 square feet (2 baies)). If a mulch-anchoring tooi is used, appiy 2.5 tons per acre. Mulch materiale shall be relatively free of all kinds of weeds and ehail be completely free of prohibited noxious weeds. Spread mulch uniformiy, mechanically or by hand, to a depth of 1-2 inches.

Securing Straw Muich: Straw mulch shall be secured immediately fallowing mulch application to minimize movement by wind or water. The following methode are permitted:

—Uee a muich—anchoring tooi which ie designed to punch and anchor mulch into the soil surface to a minimum depth of 2 inches. This is much into the soli surface to a minimum depth of 2 miches. This is the most effective method for eecuring mulch; however, it is limited to relatively flat areas where equipment can operate safely. —Wood deiluiase fiber may be used far anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. If mixed with water, use 50 pounds of waod ceiluiose fiber per 100 gallons of water. -Liquid bindere may be used. Apply at higher rates at the edgee where wind catches muich, euch as in valleys and on creets af slopes. The remainder of the area should appear uniform after binder application. Binders listed in the 1994 Standards and Specifications for Sali Erosion and Sediment Control ar approved equal shall be applied at rates recommended by the manufacturers. -Lightweight plastic netting may be used to secure mulch. The netting will be stapied to the ground occording to the manufacturer's

No fills may be placed on frozen ground. All fill to be placed in approximately horizontal layers, each layer having a loose thickness of not more than 8 inches. All fill in roadways and parking areas is to be classified Type 2 ae per Anne Arundel County Code - Article 21, Section2-308, and campacted to 90% density, campaction to be determined by ASTM D-1557-66T (Madified Practar). Any fill within the building area is to be compacted to a minimum of 95% as determined by methods previously mentioned. Fills for pond embankments shail be compacted as per MD-378 Construction Specifications. All other fills shall be compacted sufficiently eo as to be stable and prevent erosion and slippage. Permanent Sod:

Installation of sod should follow permanent seeding dates. Permanent sod is ta be tall fescue, state approved sod; lime and fertilizer per permanent seeding specifications and lightly irrigate soil prior to laying sod. Sad is to be laid on the contour with all ends tightly abutting. Joints are to be staggered between raws. Water and rol! or tamp sod to insure poeitive root contact with the soil. Ail siopes steeper that 3:1, ae shown, are to be permanently sodded or protected with an approved erosion contrai netting. Additional watering for eetablishment may be required. Sad is not to be applied on frozen ground. Sod shall not be harveeted or transplanted when moisture content (dry or wet) and/or extreme temperature may adversely affect its survival. In the absence of adequate rainfall, irrigation should be performed to incure established sod. 5. Mining Operatione:

Sediment control plane for mining operations must include the following seeding dates and mixtures: For seeding dates of

February 1 through April 30 and August 15 through October 31, use seed mixture of tali fescue at the rate of 2 pounds per 1,000 square feet and eericea lespedeza at the minimum rate of 0.5 pounds per 1,000 square feet.

6. Topsoil shall be applied as per the Standard and Specifications for Topsoil from the current Maryland Standards and Specificatiane for Soil Eroeion and Sediment Contral.

NOTE: Use of this infarmation does nat preciude meeting of all the current Maryland Standarde and Specifications for Soil Erosion and Sediment Controi.

NOTE: Projects within 4 miles of the BWI Airport will need to adhere to Maryland Aviation Administration's seeding specification reetrictions.

SOILS TABLE

MAP SYMBOL	K-VALUE	MAPPING UNIT	HYDRIC	GROUP NO.	
AuB	0.28	ANNAPOLIS-URBAN LAND COMPLEX	Ň	С	
DuB	0.43	DONLONTON-URBAND LAND COMPLEX	N	C	

LEGEND

DENOTES EX. TREE LINE - - - DENOTES EXISTING SHORELINE ----DENOTES 30' SHORELINE BUFFER DENOTES EXISTING CONTOURS DENOTES PROPOSED CONTOURS DENOTES PROPOSED SUPER SILT FENCE DENOTES LIMIT OF DISTURBANCE DENOTES SOIL BOUNDARY

12

-

SSF

-

1 BURNER

DENOTES PROPOSED CURBING

CONSULTANT'S CERTIFICATION

silt and erosion on the property covered by the pian. I certify that this pian of erosion ond eediment control represente a practicol and workable plan based on my personal knowledge of this site, and was prepared in accardance with the requirements of the Anne Arundei Soil Conservation District Pian Submittai Guidelines and the current Maryland Standard and Specifications for Sediment and Erosion Control. I have reviewed this erosion and sediment control plan with the Owner/Developer.' ianature

MD Land Surveyor License:

Name: (Print) ROLAND G. JOUN Firm Name: WILKERSON & ASSOCIATES, INC. Address: 7650 BINNACLE LANE, OWINGS, MARYLAND 20736 Telephone: <u>(301) 855–8272</u>

> GENERAL NOTES: 1. Any partian af the fill area nat being actively warked an shall be seeded and mulched ar atherwise stabilized within 14

2. Priar ta beginning af grading, ail sediment cantral devices are ta be installed and maintained by the cantractar as per these plans with iacatian adjustments to be made as necessary.

days priar ta start af grading aperatians. 4. The cantractar shall inspect all Sail Erasian Cantrai devices

5. Na slapes ta be greater than 2:1. 6. Additional measures to control velocities and/or erasion

be installed in the field as directed by the inspectar.

7. Existing trees and graund caver are ta remain undisturb beyond slapes. Natural drainage ways are ta remain undisturbed except when necessary ta install drainage & erasian cantral structures as shawn herean.

8. All temparary structures such as sediment traps, straw bales, etc. shall be remaved, regraded, and seeded as saan as ali disturbed area has been stabilized.

9. As canstructian praceeds additional measures may be empiayed, if canditians warrant, ta insure effective retentian af silt and sediment an the site.

10. Ali excess materiai (if any) shall be remaved ta a site appraved by the Anne Arundei Caunty Sail Canservatian District.





CHANNE	PROTECTION STC	RAGE VOLUN	IE I	PRE-TREA	IMENT STO	RAGE VO	UME	
	Aa	Da	Do(inches)		IMP.	RÉQ.	PROV.	
PDAT	0.0047	0.0774	1 1	PDA1	0.20	73	-	
PDA1	0.0009	0.0335	ō	PDA1	0.09	33	-	

FLOW .

21-2" DIAMETER GALVANIZED OR

ALUMINUM POSTS

33" MINIMUM-POST AND 2 LAYER FILTER CLOTH

STANDARD SYMBOL

SSF -----



BUILDING FOOTPRINT SCALE 1'' = 20'

	STANDARDS & SPECIFICATION per 1994 md. standards and spece cantral canstructian and material tapsall salvaged fram the existing standards as set farth in these sy salvaged far a given sall type c section in the sall survey published agricultural experimental station. tapsall she fallowing: i. tapsall shall be a laam, clay fa laamy sand. ather salls may be agranamist ar sall scientist and appraval autharity. regardless, fa cantrasting textured subsalls an valume af cinders, stanes, slag raats, trash, ar ather materials ii. tapsall must be free af plants bermuda grass, quackgrass, ja paisan ivy, thistie, ar athers as iii. where the subsall is either high clays, graund limestane shall be tans/acre (200-400 paunds pe placement af tapsall. lime shall designated areas and warked tillage aperations as described far sites having disturbed areas ur i. place tapsail (if required) and a stabilization - section i - vega far sites having disturbed area ave i. an sall meeting tapsail specifica amendments required ta bring a.ph far tapsail shall be betwee demanstrates a ph of less th prescribed ta raise the ph ta b.arganic cantent af tapsail sho c. tapsail having soluble salt car million shall nat be used. d. na sad ar seed shall be place with sail sterilants ar chemica sufficient time has elapsed (1 af phyta-taxic materials. nate: tapsail substitutes ar ar qualified agranamist ar sail sc autharity, may be used in lieu ii. place tapsail (if required) and a specified in 20.0 vegatative stab lization shall nat be used. d. na sad ar seed shall be place with sail sterilants ar chemica sufficient time has elapsed (1 af phyta-taxic materials. nate: tapsail substitutes ar ar qualified agranamist ar sail sc autharity, may be used in lieu ii. place tapsail (if required) and a vegatative stabilization methads topsail application i when tapsailing, maintain neede practices such as diversians, gr dikes, slape silt fence and sedii in grades an the areas ta be taps established, shail be maintained in tapsail shall be unifarmly distrit camp	S FOR TOPSOIL ificatians far sails erasian and a specificatians site may be used pravided that be faund in the representati d by usda-scs in caaperatian used as tapsall must am, silt laam, sandy ciay iaam, aused if recammended by an d appraved by the apprapriate apparated by the apprapriate appraved by the apprapriate appraved by the apprapriate appraved by the apprapriate apparated by the apprapriate appraved at the assent ar plant parts such as hnsangrass, nutsedge, specified. Ily acidic ar campased of heavy e spread at the rate of 4-8 r 1,000 square feet) prior to the be distributed unifarmiy aver into the sail in canjuctian with in the failawing pracedures. ander 5 acres: apply sail amendments as speci- atative stabilizatian methads and ar 5 acres: atians, abtain test results dicta- the sail into campilance with the on 6.0 and 7.5. if the tested sc an 6.0, sufficient lime shall be 6.5 ar higher. all be nat less than 1.5 percent attent greater than 500 parts por ed an sail which has been treat as used far weed cantral until 4 days min.) ta permit dissipation mendments, as recammended by lentist and appraved by the applicent and appraved applicent and appraved applicent applicent and appraved applicent applicent and appraved applicent applicent and applicent applicent applicent and applicent a	sediment it meets the of topsaii to be ve saii profile with maryland ar f y ss, - f f y ss, - ne fied in 20.0 vegatative d materiais. ting fertilizer and lime e fallawing: ill by weight. er ed an y a prapriate with hy tian. ghtly eed h of	SITE DEVELOPMENT PLAN	REDEVELOPMENT AT TURNER MARINA	319 CHESTER AVENUE, ANNAPOLIS, MARYLAND 21403
I. c	 depressians ar water packets. iv. tapsail shail nat be placed while ar muddy canditian, when the s canditian that may atherwise be seedbed preparatlan. vi. alternative far permanent seedir amaunts af lime and cammero amendments may be applied as i. campasted sludge material far having disturbed areas aver 5 of amendments, and far sites havi shail canfarm ta the failawing r a. campasted sludge shall be sup ar persans that are permitted campast) by the maryland de camar 26.04.06. b. campasted sludge shall cantai percent phaspharus, and 0.2 p 7.0 ta 8.0. if campast daes n apprapriate canstituents must priar ta use. c. campasted sludge shail be app tan/1,000 square feet. ampasted sludge shail be applied at the rate af 4 ib per 1,000 the narmai lime application rate. 	e the tapsail or subsail is in a subsail is excessively wet ar in a e detrimental ta proper grading ing — instead af applying the fu- ial fertilizer, campasted sludge specified belaw: use as a sall canditlaner far slt fores shail be tested ta prescrib ing disturbed areas under 5 acr equirements: pplied by, ar ariginate fram, a p (at the time af acquisitian af partment af the enviranment ur in at least 1 percent nitragen, 1 percent patassium and have a p at meet these requirements, th be added ta meet the requiren plied at a rate af 1 with a patassium fertilizer 10 square feet, and 1/3	frozen and and and es be es bersan the ider .5 bh af e nents	WII KERCON	& ASSOCIATES INC.	Box 17 Dunkirk, Maryland (410)257-3332, (301)855-8272
	SEQUENCE OF CONSTRUCTION STAGE ONE 1. CONTRACTOR/DEVELOPER IS TO HOURS PRIOR TO COMMENCING W 2. CLEAR FOR AND INSTALL STABI ENTRANCE AND SUPER SILT FENC 3. OBTAIN PHASE ONE APPROVAL STAGE TWO 4. CLEAR AND GRUB THE SITE. NOTE: ITEMS 5 THROUGH 8 MAY E INSPECTOR'S APPROVAL. 5. ROUGH GRADE THE SITE AS SH COMPLETION OF GRADING, IMMED TEMPORARY STABILIZATION.	D NOTIFY THE CITY 48 /ORK. LIZED CONSTRUCTION E. FROM INSPECTOR. RE DONE CONCURRENTLY, WITH TH OWN ON THE PLANS. UPON DIATELY STABILIZE WITH	DURATION 1 WEEK 1 DAY 1 WEEK 2 WEEKS		SHEET 1 OF 3	COVER SHEET
	 (BLOCKING DOWNSPOUT PIPES UP OF SITE), SEWER HOUSE CONNECTION. 7. CONSTRUCT CURB AND GUTTE WEEKS 8. CONSTRUCT BUILDING AND SIE 9. FINE GRADE AND STABILIZE SIT 10. WITH THE INSPECTOR'S APPROSEDIMENT CONTROL DEVICES. 11. FINE GRADE AND STABILIZE AN 	NTIL FINAL STABILIZATION TION, AND WATER HOUSE R AND PAVEMENT. DEWALKS. E. DVAL, FINE GRADE AND NY REMAINING DISTURBED AREAS.	2 WEEKS 3 2 MONTHS 2 WEEKS 3 DAYS 2 DAYS	NDISIN		Date D-1-2
	/ S D 	ANNE AKUNDEL SOIL CONS SEDIMENT AND EROSION C istrict Official ASCD# SMALL Reviewed far technical Ac USDA, Naturai Resaurces Can	DERVATION DISTRICT ONTROL APPROVAL Date POND # dequacy by servatian Service	DATE DATE RE DCT.,2008 DATE RE SCALE	1" = 40' DRAWN BY MDB DRAVING # AA1022CS	TLE # A1022 JDB # 07-16372



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LEGEND DENOTES EX. TREE LINE DENOTES EX. FENCE LINE DENOTES EXISTING SHORELINE DENOTES PROPOSED 30' SHORELINE BUFFER DENOTES PROPOSED 30' SHORELINE BUFFER DENOTES EXISTING CONTOURS DENOTES EXISTING CONTOURS DENOTES PROPOSED CONTOURS DENOTES PROPOSED SUPER SILT FENCE DENOTES LIMIT OF DISTURBANCE DENOTES SOIL BOUNDARY

FOURTH 45R

REE

10% RULE SWM CONCEPT/STATEMENT

AS SHOWN, THE 10% RULE COMPUTATIONS INDICATE THE NEED TO PROVIDE A STORMWATER MANAGEMENT BMP IN ORDER TO REMOVE 0.158 LBS./YEAR OF POLLUTANTS. AS IS NECESSARY, DEVICES WERE REVIEWED FOR THEIR FEASIBILITY WITH PLACEMENT ONSITE AS A FIRST PRIORITY. IT WAS DETERMINED THAT ANY DEVICE IMPLEMENTED WOULD REQUIRE A CRITICAL AREA VARIANCE DUE TO THE FACT THAT THE DEVICE(S) WOULD BE LOCATED WITHIN THE 100' CRITICAL AREA BUFFER, AND MOST WOULD BE LOCATED WITHIN THE 25' SHORELINE BUFFER. OFFSITE IMPROVEMENTS TO EXISTING DEVICES WERE DETERMINED NOT TO BE FEASIBLE DUE TO THE FACT THAT NONE ARE LOCATED WITHIN THE SAME DRAINAGE AREA.

THEREFORE, IT WAS DETERMINED BY THE CRITICAL AREA COMMISSION AND THE CITY OF ANNAPOLIS REPRESENTATIVES THAT AN OFFSET WOULD BE ALLOWED FOR THIS PARTICULAR SITE DUE TO ITS SPECIFIC DESIGN CONSTRAINTS. THAT OFFSET IS THE PROVISION OF PLANTINGS AT A RATE OF 400 TREES PER ACRE TO REMOVE 2 POUNDS OF POLLUTANTS. THE REQUIRED PLANTING OF 32 TREES TO REMOVED 0.16 LBS/YEAR ARE SHOWN ON SHEET 3 OF 3.





endon and Open Channels	areas are excavated using a loader, the contractor should use wide track or marsh track equipment,	Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and		Table B.3.2 Ma	terials Speci
	rubber tires with large lugs or high pressure tires will cause excessive compaction resulting in	legume plugs shall be planted following the non-grass ground cover planting specifications.			
	reduced infiltration rates and is not accentable. Compaction will significantly contribute to design	The tensoil englifications provide engage organic unterial to adequately supply supply from	Material	Specification	Size
	failure.	The topsoil specifications provide chough organic material to adequately supply huttents from	Plantings	see Appendix A, Table A.4	n/a
		Adding fertilizers defeats or at a minimum immedes this goal. Only add fertilizer if wood ching.	planting soil	sand 35-60%	n/a
tailed in Table B.3.2.	Compaction can be alleviated at the base of the bioretention facility by nsing a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the	or mulch are used to amend the soil. Rototill urea fertilizer at a rate of 2 pounds per 1000 square feet.	[2.5' lo 4' deep]	clay 10 - 25%	
	soil profile through the 12 inch compaction zone. Substitute methods must be approved by the		mulch	shredded hardwood	
or other similar objects larger than	engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.	6. Underdrains	pea gravel diaphragm and curtain drain	pea gravel: ASTM-D-448	pea gravel: N stone: 2
or dumped within the bioretention		Underdrains are to be placed on a 3'-0" wide section of filter cloth. Pipe is placed next, followed		cobbles	
ice to the planting or maintenance uackgrass, Johnson grass, or other	Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.	by the gravel bedding. The ends of underdrain pipes not terminating in an observation well shall be capped.	geotextile	Class "C" - apparent opening size (ASTM-D-4751), grab	n/a
	When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand,	The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%.	ت م الله ال	tensile strength (ASTM-D- 4632), puncture resistance	
criteria:	then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to	Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square	underdroin grovel	AASHTO M.43	0 375" to 0 7
	final grade.	feet of surface area).	underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid 40 PVC or St
(by weight)	When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of	7. Miscellaneous	poured in place concrete (if required)	MSHA Mix No. 3; f'e = 3500 psi @ 28 days, normal weight,	n/a
	the basin to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.	The bioretention facility may not be constructed until all contributing drainage area has been stabilized		air-entrained; reinforcing to meet ASTM-615-60	
eed 500 ppm		JUDDALEANA.			
	4. Plant Material		0.00		
Each test shall consist of both the			A 6 8		1
itional tests of organic matter, and	Recommended plant material for bioretention areas can be found in Appendix A, Section A.2.3.		sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04
stockpiled topsoil. If topsoil is			[1' deep]		
the location where the top soil was	5. Plant Installation				
- Il section comite shall come from	Mulch should be placed to a uniform thickness of 2" to 3". Shredded hardwood mulch is the only				.L
y, an testing results shall come nom	accepted mulch. Fine mulch and wood chips will hoat and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged				
	(6 to 12 months) for acceptance.				
lified (higher) with lime or (lower)					
	Root stock of the plant material shall be kept moist during transport and on-site storage. The plant				
	root ball should be planted so 1/8th of the ball is above final grade surface. The diameter of the				
	planting pit shall be at least six inches larger than the diameter of the planting ball. Set and				
	maintain the plant straight during the entire planting process. Thoroughly water ground bed cover				
se of the bioretention area and the	after installation.				
love original soil. It bioresention					
	Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season				

5	NOTES: 1. ALL RADII 5' UNLESS OTHERWISE NOTES. 2. ALL SPOT ELEVATION REFER TO FLOW LINE UNLESS OTHERWISE NOTED. 3. ALL STORM DRAIN PIPE TO BE PVC UNLESS OTHERWISE APPROVED BY THE CITY OF ANNAPOLIS. 4. ALL EXISTING STRUCTURES ARE TO BE REMOVED UNLESS OTHERWISE NOTED.	DEVELOPMENT PLAN	EDEVELOPMENT TURNER MARINA , ANNAPOLIS, MARYLAND 21403	
/		SITE L	RI AT 319 CHESTER AVENUE	
		WUSDSON	& ASSOCIATES INC. & ASSOCIATES INC. ENGINEERS & SURVEYORS Box 17 Dunkirk, Maryland (410)257-3332, (301)855-8272	
ifications f	or Bloretention		SHEET 2 OF 3 GRADING PLAN	
No. 6 2" to 5" 75" d schedule DR35 4"	USDA soil types loamy sand, aandy loam or loam aged 6 months, minimum for use as necessary beneath underdrains only 3/8" perf. @ 6" on center, 4 holes per row: minimum of 3" of graval over pipes; aoi necessary underneath pipes on-site testing of poures-lisple concrete required: 28 day strength and simp test; all concrete design (cast-hylaec or pice-sai) on aufing previously genored State or local standardy requires design drawings sealed and approved by o professional structural engineer Housed on the State of Maryland - design to include meeting. ACI Code 300,R99; verical loading pressures, and analysis of potential concluse and Graystone 4/0 are not acceptable. No calchum cathomated or dolomile stand substitutions are as coeptable. No "rock dast" can be used for sand.	DATE REVISION ORDERSTATE	BOLING BOLING	
		DATE DA OCT., 2007	DRAWN BY DRAWN BY MDB MDB AA1022FDP AA1022FDP AA1022 DIB # 07-16372	

LEGEND



DENOTES EX. TREE LINE DENOTES EX. FENCE LINE DENOTES EXISTING SHORELINE DENOTES 30' SHORELINE BUFFER DENOTES EX. STEEP SLOPES AND PROP. 25' BUFFER DENOTES EXISTING CONTOURS DENOTES PROPOSED CONTOURS DENOTES PROPOSED SUPER SILT FENCE DENOTES LIMIT OF DISTURBANCE DENOTES SOIL BOUNDARY

DENOTES PROPOSED CURBING

CRITICAL AREA BUFFER MANAGEMENT TABULATION

DISTURBED AREA WITHIN BUFFER: 12.058 SQUARE FEET BEA MITIGATION RATIO: 2:1 MITIGATION AREA REQUIRED: 24,116 SQUARE FEET LESS AREA WHICH IS BEING IMPROVED: 1,057 SQUARE FEET REMAINING BUFFER EXEMPTION AREA: 23,059 SQUARE FEET

PLANTING PROVIDED ON-SITE:

32 SHRUBS X 50 SQUARE FEET = 1,600 SQUARE FEET

REMAINING REQUIREMENT= 21,459 SQUARE FEET

REQUIRED ADDITONAL PLANTING:

1 TREE + 3 SHRUBS: 53 X 400 SQUARE FEET = 21,200 SQUARE FEET 1 TREE: 2 X 100 SQUARE FEET = 200 SQUARE FEET 1 SHRUB: 2 X 50 SQUARE FEET: 100 SQUARE FEET TOTAL ADDITIONAL PLANTING REQUIREMENT: 21,500 SQUARE FEET

FEE IN LIEU AMOUNT: \$ 9,880 (SEE ATTACHED LANDSCAPE COST ESTIMATE)



		SI	TE PLANTIN	IG SCHEDU	LE	
ABBREV.	SYSMBOL	QUAN.	BOTANICAL NAME	COMMON NAME	TYPE	SIZE/SPACING
Qc	0	5	Quercus coccinea	Scarlet Oak	B & B	2" – 2.5" Cal.
Qs	G	3	Quercus stellata	Post Oak	B & B	2" – 2.5" Cal.
Bn	Est	1	Betula nigra	River Birch	B & B	2" – 2.5" Cal.
Cc		3	Cercis canadensis	Redbud	B & B	2" – 2.5" Cal.
То		10	Thuja occidentalis	American Arborvitae	B & B	4-5 Feet
Мр	۲	11	Myrica pennsylvanica	Northern Bayberry	Container	3—4 Gallon
lg	•	17	llex glabra	Inkberry	Container	3—4 Gallon
Cv		4	Chionanthus virginicus	White Fringtree	Container	3—4 Gallon

FINAL LOCATION OF THESE PLANTINGS TO TO BE DETERMINED BY THE CITY

FOURTH



	SHOR	ELIN	E BUFFER F	PLANTING	SCHE	DULE
ABBREV.	SYSMBOL	QUAN.	BOTANICAL NAME	COMMON NAME	TYPE	SIZE/SPACING
Ar	\odot	5	Acer rubrum	Red Maple	B & B	2" – 2.5" Cal.
Td	×	4	Taxodium distichum	Bald Cypress	B & B	2" — 2.5" Cal.
Ac	Ac	7	Amelanchier canadensis	Shadblow	Container	3 Gallon
Mv	袋	5	Magnolia virginiana	Sweetbay Magnolia	Container	3 Gallon
П	*	2	llex laevigata	Winterberry	Container	3 Gallon
Ra	\odot	12	Rhododendron atlanticum	Dwarf Azalea	Container	1 Gallon
Sa	\odot	12	Spirea alba	Narrow–leafed Meadow–sweet	Container	1 Gallon
Pa	\odot	6	Polystichum acrestichoides	Christmas fern	Container	3 1/2" Cal.
Ca	\odot	6	Clethra alnifolia	Sweet Pepperbush	Container	1 Gallon
Co	\odot	12	Cephalanthus occidentalis	Button Bush	Container	1 Gallon
Cs	0	8	Carex stricta	Tussock Sedge	Container	1 Quart
At	ο	8	Asclepias tuberosa	Butterflyweed	Container	1 Quart
An	o	8	Aster novae—angliae	New England Aster	Container	1 Quart
lv	0	8	Iris versicolor	Blue Flag	Container	1 Quart
Lc	ο	8	Lobelia cardinalis	Cardinal Flower	Container	1 Quart
Sb	0	8	Solidago bicolor	Silver Rod Goldenrod	Container	1 Quart
Rh	0	16	Rudbeckia hirta	Black—eyed Susan	Container	1 Quart

