Concept	Alt #1	Alt #2	Alt #3
I. Applicability – THRESHOLD			
A. Triggers -- What types of activities are subject to the offset policy unless they fall below the threshold or are specifically exempted – THRESHOLD			
1. Construction that causes a change in land use from the land use category of forest, agriculture, or other undeveloped land (e.g., barren) to developed land (urban and suburban) – low priority			
2. The alteration of land, or construction or alteration of a structure that creates a disturbed area equal to or above the threshold limit and (1) increases the waste water load, or (2) increases the nonpoint source pollution coming from the parcel	✔	✔	✔
3. Exclude most agricultural activities in particular changes in crops and acreage tilled year to year – MDA response needed			
4. Exclude agricultural activities unless the new category has a higher loading rate (e.g., crop) than the previous category (e.g., pasture) – MDA response needed			
B. Thresholds – what size of development has so little impact that it should be excluded for coverage by the policy – THRESHOLD			
1. No threshold, but provide a simplified payment in lieu for projects less than one acre			
2. 1 acre (43,000 square feet) of disturbed land	✔		✔
3. 20,000 square feet of disturbed land			
4. 5,000 square feet of disturbed land		✔	
5. Any new construction that adds an additional dwelling unit or commercial structure to the property			
C. Exceptions – what kinds of beneficial projects should be excluded from coverage by the offset policy – THRESHOLD			
1. General rule for exceptions	✔		✔
2. Case-by-case exception process administered by MDE - eliminate			
3. Installation of BMPs – stormwater	✔		✔
4. Upgrading or maintenance of BMPs – stormwater	✔		✔
5. Stream Restoration – stormwater	✔		✔
6. Upgrading WWTPs without increase in hydraulic capacity – waste water			
7. Upgrading WWTPs simultaneously with increasing hydraulic capacity – waste water			
8. Exceptional public benefits projects that further social, economic and environmental sustainability, e.g., a park, community center, library			
9. Broad exemption for public works projects, conceivably including transportation projects (define or create a list of the types of public works projects, both local and state-level, that would be exempt)			
10. Create appeals process based on criteria for hardship, public benefit, public works, etc. -	✔		✔

Concept	Alt #1	Alt #2	Alt #3
11. No exemption ~~Any project involved in restoration – Subco saw as redundant to trigger def.~~ Certain projects will be identified as exempt, including installation of stormwater BMPs, upgrading or maintenance of stormwater BMPs, and stream restoration. Projects can request exemptions based on specific criteria, to be set forth in the regulations.		✔	
II. Effective Date / Transitioning – When will the regulations take effect and to what extent will they apply to projects in development – THRESHOLD			
1. January 1, 2014		✔	
2. December 31, 2014			✔
3. December 31, 2015 – dependent on other grandfathering	✔		
III. Fee-in-Lieu – THRESHOLD			
A. Available or not, under what circumstances – THRESHOLD			
1. No fee-in-lieu – NOT VIABLE OPTION			
2. No fee in lieu except for projects affecting less than 1 acre			
3. Fee in lieu only established (subject to these provisions) if private nutrient credit market has not generated purchase opportunities. - Fee-in-lieu can only be made available if adequate capacity to implement offset BMP within a defined period of time (1 year?) is not available in the watershed. - Fee-in-lieu funds only be spent on BMP implementation (with a defined limit on administrative costs). - MDE implements BMP to offset load within a defined period (1 year).			
4. Fee-in-lieu available for N and P, payable to the BRF, based on a conservative cost estimate (including O&M for a set time frame) of an urban BMP at a 2 to 1 ratio.			
5. Fee-in-lieu available for N and P, payable to the BRF, - Based on a conservative cost estimate (including O&M for a set time frame) of an urban BMP at a 2 to 1 ratio. -Developer must meet hardship criteria demonstrating that: minimization and on-site mitigation have been exhausted to the maximum extent possible; credits from the private market are unavailable. -Projects are completed in advance using developer-sponsored bond that is repaid through FIL contributions. - FIL is statutorily required to sunset after a period of three years. FIL shall represent a specified declining share of all offset transactions between program initiation and sunset.			
6. Establish a fee-in-lieu for N, payable to the BRF for septic upgrades			
7. Fee in lieu with a 5-year sunset, with the possibility of renewal upon demonstration of program success		✔	
8. Fee-in-Lieu is permanent option	✔		✔
B. Payable to whom, and for what purposes – Dependent			
1. Establish a fee-in-lieu for N, payable to the BRF for septic upgrades			

Concept	Alt #1	Alt #2	Alt #3
2. Fee-in-lieu available for N and P, payable to the BRF for projects that reduce N and P			
3. Establish a fee-in-lieu for N and P with first right of refusal to local governments based on set of criteria on how/when funds are used	✔	✔	✔
4. Fee goes to a dedicated County or Municipality fund for projects that reduce nutrients and sediment			
C. Setting the cost of the Fee-in-Lieu – Dependent			
1. Base fee on the average fully loaded cost (including the cost of design, contract administration, O&M for a set time frame, etc.) of an urban BMP. The fee is likely to be considerably higher than the average nutrient market price and thus is unlikely to impede the development of a nutrient trading market.	✔	✔	✔
2. Base on weighted average cost, including O&M for a set time frame) of a range of BMPs			
IV. Which Pollutants – THRESHOLD; Sets the scope of program			
1. Nitrogen, phosphorus and sediment statewide		✔	
2. Nitrogen and phosphorus statewide			
3. Nitrogen statewide and phosphorus if in a watershed with a local phosphorus TMDL	✔		
4. Nitrogen statewide and phosphorus and/or sediment if in a watershed with a local phosphorus and/or sediment TMDL			✔
V. Calculating the Post-Development Load – Dependent			
A. Stormwater			
i. Stormwater Loading Factors – Scale, EOS and Delivered Loads			
1. Use statewide average loading rates for Delivered Load			
2. Use statewide weighted average loading rates for Delivered Load			
3. Use 5 basin loading rates for Edge of Stream and Delivered Load			
4. Use 5 basin EOS loading factors for locally-impaired watersheds. Use 5 basin EOS loading factors, followed by 8-digit watershed Delivery factors in all other sub-watersheds.			
5. Use 5 basin EOS loading factors, followed by 8-digit watershed Delivery factors			
6. Use 5 basin EOS loading factors, followed by Land River Delivery factors			✔
7. 8-digit watershed weighted average EOS loading factors			
8. Use Edge of Stream Loads		✔	
9. Use Edge of Stream Loads where there is a locally impaired segment (TMDL)			✔
ii. Stormwater Loading Factors – Adjustments for on-site stormwater BMPs			
1. Default – 50% reduction of nitrogen and 60% reduction of P for ESD to the MEP	✔	✔	✔
2. Recognize additional reduction if developer opts to demonstrate the use of more effective BMPs, using EPA's efficiencies	✔	✔	✔

Concept	Alt #1	Alt #2	Alt #3
3. Use Expert Panel on performance standards for new development or default	✔	✔	✔
B. On-Site Disposal Systems (OSDS)			
i. OSDS Loading Factors – Location			
1. Use statewide average EOS (edge of stream) loading rate of 42.5%			
2. Use area specific EOS loading rate based on 3 zones (80% in CA, 50% within 1,000 feet of a stream but not in CA, 30% for all others)	✔	✔	✔
ii. OSDS Loading Factors Adjustments for efficiency of Nitrogen removal at Edge of Field			
1. Default – 50% nitrogen reduction			
2. Use MDE, field verified nitrogen reduction credits based on type of BAT system installed.	✔	✔	✔
3. Use landscape position of OSDS to determine the amount of nitrogen that may be delivered to the stream system			
iii. Wastewater going to WWTP			
1. If ENR WWTP has capacity within its allocation, no offset needed		✔	
2. If ENR WWTP has no capacity within its allocation, calculate loading at the N and P limits in the WWTP's permit (would require modification of WWTP's NPDES Permit)			
3. If ENR or BNR (took out non-ENR) WWTP with capacity within its allocation, no offset required.			
4. If BNR and/or Tertiary Treatment, some offset needed			
5. If BNR, ENR and/or Tertiary Treatment with capacity, no offset needed - NEEDS MORE INFO (MDE) Consideration for Alt.3	✔		✔
iv. Atmospheric Deposition			
1. Default – use census tract population density to calculate increase in load by household			
2. Eliminate Atmospheric Deposition calculations from the calculations	✔	✔	✔
3. Use data on historic increases in VMT due to development to estimate increase in load per household			
VI. What Allocation, if any, should be given to the Post-Development Load (The difference between the Post-Development Load and the Allocation for the Post-Development Load equals the Offset Needed) – THRESHOLD			
A. Stormwater			
1. Zero Allocation		✔	
2. Forest Load Allocation			
3. The lower of the Bay TMDL or Local TMDL allocation for the pre-development land use	✔		
4. Pre-development land use load using 2010 Progress Run			✔
5. The lower of the Bay TMDL or Local TMDL allocation for the post-development land use			
6. The lower of the post-development TMDL load or the predevelopment load			
7. Bay TMDL pre-development load or actual pre-development land use load, whichever is more restrictive			

Concept	Alt #1	Alt #2	Alt #3
B. On-Site Disposal Systems (OSDS)			
1. Default is zero			
2. Allocation should equal the load from any existing OSDS, adjusted as if they had been upgraded to BAT	✔	✔	✔
C. Atmospheric Deposition			
1. Zero Baseline Load			
2. Existing Atmospheric Deposition			
3. Do not require offsets for Atmospheric Deposition (concession by ENGOs)	✔	✔	✔
VII. How can the Post-Development Load be permanently offset –THRESHOLD			
1. Offsets must be definably permanent and O&M for offset must be guaranteed in perpetuity		✔	✔
2.Offsets to last for a minimum of 30 years; broker or aggregator can guarantee the term with approval of MDE with financial and other assurances			
3. Offsets to last for a minimum of 30 years; broker or aggregator can guarantee the term with approval of MDE with financial and other assurances; during 30 years, the development could be exempt from or receive credit toward the local jurisdiction's stormwater utility fee. After 30 years, the development pays the utility fee and the local jurisdiction, which assumes the responsibility for the offsets. Local government would have to have a stormwater utility fee in place.			
4. Offsets to last for a minimum of 30 years; broker or aggregator can guarantee the term with approval of MDE with financial and other assurances; during 30 years, the development could be exempt from or receive credit toward the local jurisdiction's stormwater utility fee. After 30 years, the development pays the utility fee and the state, which assumes the responsibility for the offsets.			
5. Offsets to last for a minimum of 30 years; broker or aggregator can guarantee the term with approval of MDE with financial and other assurances; *with option* of local gov't to take over responsibility; with some solution of who takes over responsibility for the load if the local govt declines	✔		
VIII. Post-Development Load – Dependent			
A. When do the Post-Development load offsets have to be in place - Dependent			
1. Require that all the offsets be in place before construction of the development begins			
2.Require that all the offsets (gap b/t what the developer is able to mitigate onsite and off-site credit acquisition) be in place for defined phases of the development before construction of that phase can begin	✔	✔	✔
B. When do the Post-Development load offsets have to made public - Dependent			
1. At an early stage in the process (TBD), the developer must propose the amount of offsets needed.	✔	✔	✔
IX. Encouraging Sustainable Development Patterns – Dependent			
A. Definitions			

Concept	Alt #1	Alt #2	Alt #3
1. Define redevelopment as pre-development parcel having at least 40% Impervious cover			
2. Include in redevelopment parcels having pre-development impervious cover of between 20% and 40%, and provide a sliding scale of amount of offset needed	✔		✔
3. Definition of infill - NEEDS MORE DISCUSSION AND DEFINITION			
4. Certain size developments within PFAs would shift responsibility of load to county if the county chooses to pick up load			
B. Exemptions			
1. No exemptions (based on triggers)		✔	
2. Exempt redevelopment from any stormwater offset			
3. Exempt infill from any stormwater offset			
4. Provide no exemptions but set target load for redevelopment at existing site condition.			
C. Recognize other impacts of sprawl development – Using ratios to reflect the overall impact			
1. Require multiples of offset requirement for less sustainable patterns			
X. Trading and Offset Reduction – THRESHOLD			
A. Credit Generation -			
i. On-site Credit Management			
1.Enhanced site design reduction practices, such as, fingerprinting of layout			
2. Preservation of forest practices beyond the requirements of the Forest Conservation Act.			
3. Reforestation/afforestation practices beyond the requirements the Forest Conservation or local riparian buffer requirements			
4. Credit for on site stream restoration. Would need to be approved by local jurisdiction to assure that it fits in with local policy and restoration efforts			
5. Refer to section V (Expert Panel)			
6. List of acceptable on-site credits with process for adding additional ones			
7. Approval process that streamlines additional/new BMPs for credit generation, including 1-6; extension of stormwater manual (by reference); provision for BMP practices as used in Bay Model (MDE's accounting for stormwater document	✔	✔	✔
ii. Off-Site Credit Management			
1. Credit for capturing offsite drainage and providing treatment (retrofit). Credit based on loading to the new facility and the type of facility installed using the CBP document on stormwater retrofitting credits			
2. Expand and convert a SWM facility that is immediately adjacent to the project, would need land on the project to achieve the expansion			
3. Conversion of existing stormwater facilities for greater pollutant removal. This would need to be approved by local jurisdictions, but would probably involve the conversion to privately owned facilities			

Concept	Alt #1	Alt #2	Alt #3
4. Installation of denitrifying OSDS systems. Need to be sure it does not conflict with local TMDL requirements. Have owners register their systems as available for installation			
5. Possibility for a variety of offsite reforestation offsets			
6. Generate credits through exceeding the requirements for redevelopment by installing greater SWM or planting. Maybe not available for revitalization projects			
7. Other project identified by a local jurisdiction for urban credit options (connection of package treatment plant to WWTP with ENR, installation of spray irrigation for land application of treated wastewater, etc.)			
8. Refer to section V (Expert Panel)			
9. List of acceptable on-site credits with process for adding additional ones			
10. Approval process that streamlines additional/new BMPs for credit generation, including 1-9; extension of stormwater manual (by reference); provision for BMP practices as used in Bay Model (MDE accounting for stormwater document)	✔	✔	✔
B. Credit Certification, Verification and Transparency			
1. Establish independent audit controls (that are qualified, knowledgeable and truly independent); additional checks and balances to avoid conflict of interest	✔	✔	✔
2. Use existing MDA verification policies	✔	✔	✔
3. All trades to be in a publicly accessible, on-line database established by State (MDE and MDA) and used to calculate progress.	✔	✔	✔
4. MDE is ultimately responsible for verification, enforcement and transparency of permitting process and market trading program. MDA is responsible for certification verification of ag credits. MDE is responsible for certification verification of urban credits.	✔	✔	✔
C. Regulation of Brokers and Aggregators			
1. None			
2. Third party review	✔	✔	✔
3. Qualifications and best practices (bonding, certified, percentage of reserve and more); do more research on what other state's do	✔	✔	✔
D. Restrictions on Trading Geographies			
1. Interstate	✔		
2. Statewide	✔		
3. Interstate, but limited to trading within the basin			
4. 3 regions			
5. 5 major basins			
6. County-wide			
7. Limit trading to within the local jurisdiction, unless the development occurs on nutrient impaired local segment, then offsets must come within this smaller watershed			

Concept	Alt #1	Alt #2	Alt #3
8. Limit trading to within the Maryland basin, unless the development occurs on a nutrient impaired local segment, then offsets must come within this smaller watershed (segment)		✔	
9. Use a hierarchical trading geography local first expanding ultimately to State or even inter-state			
10. Within impaired watershed			
11. Limit trading to statewide, unless the development occurs on a nutrient impaired local segment, then county has option to offset at basin (or modified basin) level			✔
E. Credit Stacking			
1. Allow/encourage the "stacking" of additional (e.g., forest conservation, wetlands mitigation, carbon sequestration credits, etc.) for BMPs			
2. Need more information	✔	✔	✔
F. Cross-sector Trading for TMDL Compliance			
1. Allow any sector (primarily urban sector/local jurisdictions) to trade with another sector (primarily agricultural sector) to more cost effectively meet their TMDL load allocation within trading jurisdictions	✔		
2. Allow any sector (primarily urban sector/local jurisdictions) to trade in time with another sector (primarily agricultural sector) to provide more time for planning and funding			
3. Allow any sector (primarily urban sector/local jurisdictions) to trade with another sector (primarily agricultural sector) to more cost effectively meet their TMDL load allocation within the county		✔	
4. Allow any sector (primarily urban sector/local jurisdictions) to trade with another sector (primarily agricultural sector) to more cost effectively meet their TMDL load allocation within trading jurisdictions with county option			✔
XI. Ratios to increase margin of safety and accelerate Bay restoration – Dependent			
1. Require that the load be offset at a 1.1:1 ratio, with a 10% retirement ratio.	✔	if permanency	✔
2. Require a retirement ratio of 10% to 15% for all trades			
3. Require that the load be offset at a higher than 1.1 ratio to provide for a margin of safety (1.5: 1, or 2:1)			
4. Require a higher ratio (3:1, or 4:1) if the Bay TMDL is not achieved by 2025			
5. Allow for innovation in the type of BMPs/ practices eligible to participate			
6. Require a higher ratio for non-approved Bay Program BMPs (oysters, etc.)	✔	✔	✔
7. Require that the load be offset at a 1:1 ratio, with a 10% retirement ratio			