

EROSION CONTROL NOTES

- THE PRINCE GEORGE COUNTY PLANNING OFFICE SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF ANY PLANS TO BEGIN CLEARING AND GRADING OPERATIONS.
- 2. THE PLANNING DEPARTMENT AND OTHER INTERESTED COUNTY AGENCIES SHALL MAKE A CONTINUING REVIEW AND EVALUATION OF THE METHOD USED AND THE OVERALL EFFECTIVENESS OF THE EROSION AND SEDIMENT CONTROL PROGRAM. AN APPROVED EROSION AND SEDIMENT CONTROL PLAN MAY BE AMENDED BY THE PLAN APPROVING AUTHORITY IF ON-SITE INSPECTIONS INDICATE THAT THE APPROVED CONTROL MEASURES ARE NOT EFFECTIVE IN CONTROLLING EROSION AND SEDIMENT OR, IF BECAUSE OF CHANGED CIRCUMSTANCES, THE APPROVED PLAN CANNOT BE CARRIED OUT.
- 3. EROSION CONTROL STRUCTURES SHALL REMAIN IN PLACE UNTIL GRASS HAS BEEN ESTABLISHED ON THE EXPOSED SOIL SURFACES. STRUCTURES SHALL BE PLACED PRIOR TO CLEARING
- AND GRADING. 4. CONTRACTOR SHALL INSTALL, MAINTAIN AND REMOVE ALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE CRITERIA AND SPECIFICATIONS CONTAINED
- IN THE CURRENT EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. 5. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEAN UP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
- 6. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
- 7. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT AND SEDIMENTATION AS DETERMINED BY THE ENVIRONMENTAL ENGINEERING DEPARTMENT.
- 8. ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATION VR 625-02-00.

EROSION CONTROL SEQUENCE OF EVENTS 1. NOTIFY THE PRINCE GEORGE COUNTY PLANNING DEPARTMENT AT (804) 733-2608 AND VDOT AT (804) 863-4009 FOR A PRE-

CONSTRUCTION MEETING AND ON-SITE VISIT ONE WEEK PRIOR

- TO BEGINNING CONSTRUCTION. 2. INSTALL CONSTRUCTION ENTRANCES AND SILT FENCE AS PER PLAN. 3. INSTALL DIVERSION DITCHES, CHECK DAMS, SEDIMENT TRAPS AND SEDIMENT BASINS AS PER PLAN. INSTALL STORM SEWER STRUCTURES 9,
- 4. BEGIN CLEARING AND GRUBBING OPERATIONS. STABILIZE THE SITE WITH VEGETATION AND STRAW MULCH ACCORDING TO STATE
- 5. INSTALL PAVED CULVERT TIE-INS.
- 6. INSTALL STORM SEWER, DRAINAGE DITCHES, AND UTILITIES AS PER PLAN.
- 7. INSTALL INLET & CULVERT INLET PROTECTION AS PER PLAN. 8. INSTALL BASE STONE AND PAVE ROADS.
- 9. FINISH ROAD CONSTRUCTION AS SHOWN ON PLANS:
- 0. SEED DENUDED AREAS AS SOON AS POSSIBLE AND MULCH ALL
- CONVERT SEDIMENT BASIN 3 INTO A PERMANENT STORM MANAGEMENT
- BASIN AS PER PLANS. CERTIFICATION BY THE SITE ENGINEER INDICATING THAT PERMANENT BASINS ARE PER PLAN WILL BE REQUIRED BEFORE INFRASTRUCTURE SURETY IS RELEASED. CONTINUING MAINTENANCE PRACTICES SHALL BE PERFORMED TO
- ENSURE PROTECTION OF DOWNSTREAM PROPERTIES. NO EROSION CONTROL DEVICE SHALL BE REMOVED UNTIL AN ADEQUATE STAND OF GRASS HAS BEEN OBTAINED.
- NOTE: ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLAN ARE TO BE CONSTRUCTED, MAINTAINED. AND REMOVED IN ACCORDANCE WITH THE CURRENT EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATION VR 625-02-00.

EROSION CONTROL NARRATIVE:

- THE SITE IS LOCATED ON THE NORTH SIDE OF MIDDLE ROAD (S.R. 646) BETWEEN TAKACH ROAD AND BRANCHESTER PARKWAY IN PRINCE GEORGE COUNTY, VIRGINIA OCCUPYING 109± ACRES. PROJECT DESCRIPTION:
- THE PURPOSE OF THIS PROJECT IS TO CONSTRUCT A RESIDENTIAL SUBDIVISION CONSISTING OF 78 RESIDENTIAL LOTS WITH ASSOCIATED ROAD INFRASTRUCTURE, STORM SEWER, AND UTILITIES. APPROXIMATELY 15± ACRES OF THE SITE WILL BE DISTURBED DURING CONSTRUCTION.
- EXISTING SITE CONDITIONS: THE PROPOSED SITE IS MOSTLY WOODED WITH MINOR AREAS OF WETLANDS, GRADES ON THE SITE GENERALLY SLOPE DOWN FROM THREE DIFFERENT KNOLES RANGING IN ELEVATION OF 118' TO 120' SLOPING TO VARIOUS RAVINES THAT OUTFALL OFF OF THE SITE AS LOW AS APPROXIMATELY 45'
- IN ELEVATION. THE WETLANDS ON THIS SITE ARE LOCATED AT THIS RELEASE POINTS BUT WILL NOT BE IMPACTED. <u>ADJACENT AREAS:</u> SITE IS IMEDIATELY ADJACENT AND NORTH OF MIDDLE ROAD (S.R. 646) WITH AN EXISTING RESIDENTIAL
- SUBDIVISION (CEDAR CREEK) BORDERING THE SITE ON THE WESTERN PROPERTY LINE AND UNDEVELOPED PROPERTIES BORDERING THE EAST AND SOUTH PROPERTY LINES.
- OFF-SITE LAND DISTURBANCE: NO OFFSITE LAND DISTURBING ACTIVITIES ARE ANTICIPATED WITH THIS DEVELOPMENT.
- SOILS IN THIS AREA ARE MADE UP OF A COMBINATION OF MONTROSS SILT LOAM, AYCOCK SILT LOAM, ACKWATER SILT LOAM, AND EMPORIA FINE SANDY LOAM. CRITICAL AREAS:

NO CRITICAL AREAS ARE DEEMED TO EXIST ON THIS SITE.

EROSION AND SEDIMENT CONTROL MEASURES:

- TO PRIMARILY INCLUDE THE FOLLOWING: 1. SILT FENCE IN COMBINATION WITH DIVERSION BERMS DRAINING TO INDIVIDUAL SEDIMENT TRAPS AND BASINS. 4. INLET PROTECTION ON ALL DROP INLET STRUCTURES.
- 3. CULVERT INLET PROTECTION AT ALL CULVERT ROAD CROSSINGS.
- 4. A CONSTRUCTION ENTRANCE LOCATED AT THE EXISTING DIRT ROAD WHICH WILL BE USED AS ACCESS POINT TO SITE.

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. THESE MINIMUMS WILL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE.

PERMANENT STABILIZATION:

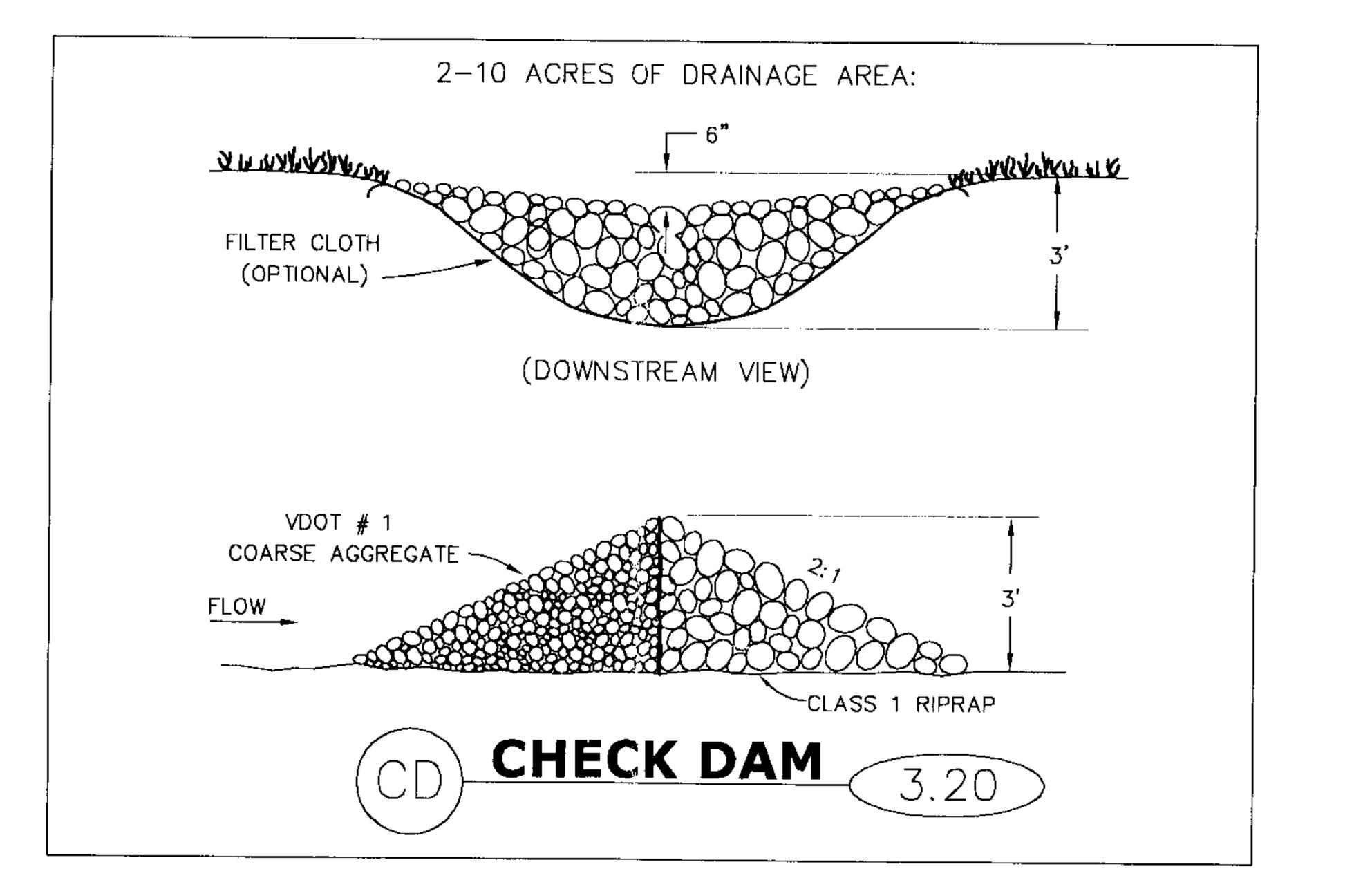
SOILS:

PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN THIRTY (30) DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE (1) YEAR.

STORMWATER RUNOFF CONSIDERATIONS:

MS-19 STANDARDS FOR CHANNEL ADEQUACY DURING A TWO YEAR STORM EVENT HAS BEEN VERIFIED TO THE FINAL POINT OF ANALYSIS WHERE THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IS AT 1.00 %

DITCH AND STORM SEWER CALCULATIONS HAVE BEEN SUBMITTED TO THE COUNTY ENGINEER OF PRINCE GEORGE SUPPORTING THE DESIGN OF ALL PROPOSED AND EXISTING DRAINAGE STRUCTURES AND RECEIVING CHANNELS.



4VAC50-30-40. MINIMUM STANDARDS

to remove sediment.

- n erosion and sediment control program adopted by a district or locality must be consistent with the following criteria, techniques and methods: Permanent or temporary soi: stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 30 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year. . During construction of the project, soil stock piles and borrow areas shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as horrow areas and soil intentionally transported from the
- A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, 19. Properties and waterways downstream from development sites shall be protected from sediment deposition, mature enough to survive and will inhibit erosion. Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap
- sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place. Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.
- . Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin. A) The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres. B) Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or

equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment

- basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a 25-year storm of 24-hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized.
- . Out and fill slopes shall be designed and constructed in a monner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permonent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected. . Concentrated runoff shall not flow down out or fill slopes unless contained within an adequate temporary or
- permanent channel, flume or slope drain structure. Whenever water seeps from a slope face, adequate drainage or other protection shall be providea. (0. All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated
- .. Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel. 2. When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction.
- Nonerodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by nonerodible cover materials. 3. When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.
- 14. All applicable federal, state and local chapters pertaining to working in or crossing live watercourses shall 15. The bed and bunks of a watercourse shall be stabilized immediately after wark in the watercourse is
- 16. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria: A) No more than 500 linear feet of trench may be opened at one time.
- B) Excavated material shall be placed on the uphili side of trenches. C) Effluent trom dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site
- D) Material used for backfilling trenches shall be properly compacted in order to minimize crosion and E) Restabilization shall be accomplished in accordance with this chapter. F) Applicable safety chapters shall be complied with.

- . Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Stroet washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land-aisturbing
- 18. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the local program authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stapilized to prevent further erosion and sedimentation. erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24—hour duration in accordance with the following standards and criteria: A) Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-mode receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed. .) Adequacy of all channels and pipes shall be verified in the following manner:
- (1) The applicant shall demonstrate that the total droinage area to the point of analysis within the channe: is one hundred times greater than the contributing drainage area of the project in question; or (2) (a) Natural channels shall be analyzed by the use of a two—year storm to verify that
- stormwater will not overtop channel banks nor cause erosion of channel bed or banks. (b) All previously constructed man-mode channels shall be analyzed by the use of a ten—year storm to verify that stormwater will not overtop its banks and by the use of a Two-year storm to demanstrate that stormwater will not cause erosion of channel bed or banks; and
- (c) Pipes and storm sewer systems shall be analyzed by the use of a ten—year storm to verify that stormwater will be contained within the pipe or system. C) if existing notural receiving channels or previously constructed man—made channels or pipes are not adequate, the applicant shall:
- (1) Improve the channels to a condition where a ten—year storm will not overtop the banks and a two-year storm will not cause erosion to channel the bed or banks; or (2) Improve the pipe or pipe system to a condition where the ten year storm is contained within the appurtenances;
- (3) Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a ten-year storm to increase when runoff outfalls into a man-made channel; or (4) Provide a combination of channel improvement, stormwater detention or other measures
- which is satisfactory to the plan approving authority to prevent downstream erosion. B) The applicant shall provide evidence of permission to make the improvements. E) All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project.
- F) If the applicant chooses an option that includes stormwater detention, he shall obtain approval from the locality of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.
- G) Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transistion from the facility to the receiving channel. H) A# on—site channels must be verified to be adequate.
- i) Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility. J) In applying these stormwater management criteria, individual lots or parcels in a

streams and other waters of the state.

residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations. K) All measures used to protect properties and waterways shall be employed in a mariner which minimizes impacts on the physical, chemical and biological integrity of rivers,



07-10-2003

DRAWN BY **DESIGNED BY** D. JOHNSON

CHECKED BY D. JOHNSON SCALE

AS SHOWN

SHEET NO.