



## DEPARTMENT OF PERMITTING SERVICES

Douglas M. Duncan  
County Executive

June 6, 2004

Robert C. Hubbard  
Director

Mr. Steve Wilde  
Macris, Hendricks, and Glascock, P.A.  
9220 Wightman Road  
Montgomery Village, MD 20886

Re: **ADDENDUM TO** Preliminary/Final Water Quality  
Plan and Stormwater Management Concept for  
Clarksburg Area High School  
SM Filo #: 211453

**ADDENDUM TO THE APPROVED FINAL WATER QUALITY PLAN**

Dear Mr. Wilde.

Based on a review by the Department of Permitting Services, the submitted site plan revision showing the addition of a second lower retaining wall, should make it possible to keep temporary sediment control traps or basins outside of the Stream Valley Buffer as discussed in Sediment Control condition 1, of the Final water Quality Plan approval. However, this statement is predicated on the following conditions:

1. The proposed second (lower) wall is located as close to the proposed location as possible.
2. There may still be a need to install silt fence and/or silt fence inside the stream buffer.

NOTE: All silt fence installations will have a requirement to avoid the root zones of the mature trees wherever possible; and that it must be completely removed as soon as the Sediment Control Inspector deems it no longer necessary.

Any divergence from the information provided to this office; or additional information received during the development process; or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended Water Quality Plan requirements.

If you have any questions regarding these actions, please feel free to contact Richard Gee at (240) 777-6333.

Sincerely,

Richard R. Brush, Manager  
Water Resources Section  
Division of Land Development Services

RRB: dpm: CN211453

cc: R. Woaver (MNCPPC-DR)  
M. Pfefferle (MNCPPC-ED)  
L. Galanko  
SM Filo # 211453





DEPARTMENT OF PERMITTING SERVICES

June 2, 2004

Douglas M. Duncan  
County Executive

Robert C. Hubbard  
Director

Mr. Steve Wilde  
Macris, Hendricks, and Glascock, P.A.  
9220 Wightman Road  
Montgomery Village, MD 20886

Re: The Preliminary/Final Water Quality Plan and  
Stormwater Management Concept for  
Clarksburg Area High School  
SM File #: 211453  
Tract Size/Zone: 62.7 Acres/R200  
Developed Area: 38.1 Acres  
Impervious Area: 15.1 Acres  
Tax Plate: EV 42  
Liber/Folio: 3931/520  
Montg. Co. Grid: 9E6,4 and 8  
Watershed: Little Seneca Creek/Cabin Branch

**SPECIAL PROTECTION AREA**

Dear Mr. Wilde:

Based on a review by the Department of Permitting Services (DPS), the Preliminary/Final Water Quality Plan (PWQP) and the stormwater management concept for the above mentioned site is conditionally approved. This approval is for the elements of the Preliminary/Final Water Quality Plan of which DPS has lead agency responsibility, and does not include limits on imperviousness or stream buffer encroachments.

**Site Description:** The site is located on the North West corner of by Maryland Route 355 and Wims Road. This proposal is for the reconstruction and expansion of the existing Rocky Hill Middle School into a new high school. The proposed site development appears to be about 40% impervious, not including the stream valley buffer.

**Stormwater Management:** Channel protection measures for this site will be provided via retrofitting of the existing dry pond, construction of one new extended detention dry pond and an underground detention system. These structures will provide channel protection volume for the one-year storm with a maximum detention time of 12 hours per state standards. Quality control will be provided via a treatment train that consists of infiltration trenches, recharge structures, surface sand filters in series, separator sand filters, dry swales, structural water quality inlets, and vegetated buffer filtering. This will be done by sizing and/or retrofitting all structures to treat their entire drainage areas to current SPA Standards. Areas intended for vehicular use are will be pretreated prior to entering any water quality filtration or infiltration structure. Recharge where possible, is to be provided below the outlet pipe of all of the proposed (non-structural) water quality structures.

**Note:** There appears to be some minor structure sizing discrepancies in the Stormwater Management Computations which were not reviewed in depth. Additional CPV storage volume, and/or additional water quality/recharge volume maybe required at final Stormwater Management plan design submission.



**Sediment Control:** Redundant sediment control structures are required throughout the site. These are to include upland sediment traps which drain to secondary traps down grade, or when this is not feasible sediment traps with forebays will be acceptable. The total storage volume is to be 125% to 150% of the normally required volume.

All sediment trapping structures are to be equipped with dewatering devices. Also, due to the sensitive nature of the watershed the use of flocculants, compost material or other measures to increase the effectiveness of sediment removal may be required at the detailed sediment control plan stage. The following features are to be incorporated into the detailed sediment control plan:

1. Regardless of outcome of the Field Meeting discussion on April 23, 2004, construction of the stadium and baseball field may still require a large sediment control basin to be placed in the Stream Valley Buffer. The basin will need to be far enough away from the proposed wall, to provide sediment control safely for the construction of the wall and the subsequent filling operations.
2. Earth dikes that feed the sediment traps and basins are to be constructed using trapezoidal channels to reduce flow rates.
3. The site grading shall be phased whenever possible to limit disturbance and immediate stabilization is to be emphasized. The details of the phasing sequence will be finalized during the detailed plan review.
4. Silt fence alone will not be allowed as a perimeter control. The use of super silt fence will be acceptable for very small areas of disturbance.

**Performance Goals:** The performance goals that were established at the pre-application meeting are to be met as specified in the Final Water Quality Plan. They are as follows:

1. Protect the streams and aquatic habitat.
2. Maintain the natural on-site stream channels.
3. Minimize storm flow run off increases.
4. Identify and protect stream banks prone to erosion and slumping.
5. Minimize increases to ambient water temperatures.
6. Minimize sediment loading.
7. Maintain stream base flows.
8. Protect springs, seeps, and wetlands.
9. Minimize nutrient loading.
10. Control insecticides, pesticides and toxic substances.

**Monitoring:** The monitoring must be in accordance with the BMP monitoring protocols which have been established by the Department of Permitting Services (DPS) and Department of Environmental Protection (DEP). The pre-construction monitoring requirements that were established at the pre-application meeting and further described in the Water Quality Plan are still applicable. The construction and post construction monitoring requirements will be determined upon the finalization of the actual stormwater management structure locations. **The DEP Monitoring Memorandum is attached.**

**Conditions of Approval:** The following conditions must be addressed in the submission of the Stormwater Management/Sediment Control plan. This list may not be all inclusive and may change based on available information at the time of the subsequent plan reviews:

1. All elevations and volumes for the existing stormwater pond and infiltration trench need to be verified prior to final design.
2. Water Quality must be provided for all existing and new developed areas of the site.
3. The existing infiltration trench is to be protected during construction. The volume of the trench will be counted towards the required water quality and recharge volumes for the site.
4. All maximum allowable CPV release rates will be strictly adhered to. The minimum size release orifice that may be used is three (3) inches diameter for surface ponds, and two (2) inches diameter for underground detention.
5. Ground water recharge structures are not permitted in fill slopes.
6. The proposed dry swales are to have under drains that tie into the proposed stormdrain structures.
7. A geotechnical report is required to verify infiltration rates at any proposed infiltration structure locations.
8. The untreated drainage areas to the proposed surface sand filters must not exceed three (3) acres. Additionally, the storage depth over surface sand filters is not to exceed two feet without hazard signage or four feet with hazard signage.
9. Water quality structures that are to be used for sediment control must have a minimum undisturbed buffer of two feet from the bottom of the sediment trap to the bottom of the stormwater structure.
10. The final plan should provide additional recharge volume over and above minimum MDE requirements to offset other site impacts (e.g. large cut/fill areas). **Note:** In Special Protection Areas the recharge volumes are not subtracted from the required water quality volumes.
11. Provide level spreaders and/or plunge pools at all of the quantity pond outfalls. Also, pond outfalls are to be located at non-erosive (down slope) areas. This may require additional stream valley buffer encroachment.
12. An Integrated Pest Management Plan to minimize the use of insecticides and fertilizers is required. The final document is to be submitted to and approved by DPS during the review of the detailed sediment control/stormwater management plan approval.

Steve L. Wilde  
June 2, 2004  
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13. Prior to permanent vegetative stabilization, all disturbed areas must be topsoiled per the latest Montgomery County Standards and Specifications for Topsoiling.
14. 4Ball fields and other open areas that are to be maintained as grass must provide water quality control per MDE requirements.

MCDPS reserves the right to require the developer to provide full-time, third-party, on-site, sediment control inspection if the department decides the goals of the Water Quality Plan are not being met.

Any divergence from the information provided to this office; or additional information received during the development process; or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended Water Quality Plan requirements.

If you have any questions regarding these actions, please feel free to contact Richard Gee at (240) 777-6333.

Sincerely,



Richard R. Brush, Manager  
Water Resources Section  
Division of Land Development Services

RRB: dpm: CN211453

cc: R. Weaver (MNCPPC-DR)  
M. Pfefferle (MNCPPC-ED)  
D. Marshall (MCDEP)  
L. Galanko  
SM File # 211453

QN: on-site 29.6 ac  
QL: on-site 29.6 ac.  
Recharge: on-site 29.6 ac.



DEPARTMENT OF ENVIRONMENTAL PROTECTION

Douglas M. Duncan  
*County Executive*

James A. Caldwell  
*Director*

**Attachment to the Final Water Quality Plan for the Clarksburg Area High School  
Description of BMP Monitoring Requirements**

SM # 211453  
Date: May 26, 2004

The purpose of this attachment is to add specificity to the standard monitoring requirements and procedures contained in the BMP monitoring protocols. Some supplemental QA/QC, data analysis, reporting and record keeping tasks will be explained in this attachment.

This BMP monitoring is being done to assess the effectiveness of BMP's in reducing impacts to receiving streams. Monitoring efforts and reports must employ scientific methods. Monitoring is to be done according to DEP BMP Monitoring Protocols. However, these monitoring protocols are intended to provide a framework only. Prior to initiation of monitoring, consultants must contact DEP to review procedures and requirements. Thorough and careful analysis of data is required. Method(s) of data analysis may vary depending on the results obtained. Methods and assumptions should be detailed. DEP BMP Monitoring Protocols are available at <http://www.co.mo.md.us/services/dep/Publications/pdf%20files/bmpprotocols.pdf>

**Monitoring Requirements**

1. BMP monitoring reports must include a table with dates of all major construction activities which take place on the site. (Groundbreaking, clearing, grading, BMP construction, BMP conversion, pond maintenance, etc.)
2. Five (5) stream channel cross sections are to be established and surveyed once per year. One year of data on these cross sections is required before construction. The cross sections will continue to be surveyed annually during construction and for five years after the completion of the project. These cross sections are intended to evaluate the stability of stream channels and areas subject to erosion. Data will be plotted to scale. Reports will evaluate the effectiveness of site design and BMPs in minimizing erosion and maintaining stream channel stability.
3. Total Suspended Solids (TSS) will be measured quarterly at the largest sediment control structure on the site throughout construction. Automated composite samples of entire storm events will be collected at the inflow and outflow points of the cells of the structure (e.g. forebay inlets, main pond inlets, outfall from main pond). Exact sampling locations will be determined in consultation with DEP. Storms should have at least one half inch



**Watershed Management Division**

of rainfall in a 24 hour period to be counted towards this requirement. Storms sampled should also be characterized for duration and total rainfall. Storm frequency (return interval) should be reported as described in Technical Paper #40 of the USDOC Weather Bureau (<http://www.erh.noaa.gov/er/hq/Tp40s.htm>). Results must be examined and conclusions reached regarding the efficiency of the structure in removing suspended solids from runoff and minimizing stream sediment loadings. Data should be compared to past periods and published results for similar structures. Graphs should be provided to support conclusions.

4. Pollutant removal efficiency of one redundant water quality treatment system is to be monitored four times per year to evaluate BMP design and effectiveness. Samples will be collected using automated equipment at the inflow and outflow of each cell in the treatment train. Exact sampling locations will be determined in consultation with DEP. Pollutants to be analyzed are listed in Table 1. Qualifying storm events will be between one half (0.5) inch and two (2) inches of rain in a twenty-four hour period. Analysis will evaluate whether pollutant removal efficiency changes over time, and compare efficiencies with published results. Drainage area, site design, storm characteristics and BMP design are to be considered in the analysis. Monitoring will be conducted during the first, third and fifth years after completion of the structures.

**Table 1. Pollutant parameters, lab methods and detection limits**

| Parameter              | Method    | Detection Limit |
|------------------------|-----------|-----------------|
| Nitrate                | EPA 353.2 | 0.05 mg/L as N  |
| Nitrite                | EPA 354.1 | 0.02 mg/L as N  |
| TKN                    | EPA 351.3 | 0.2 mg/L as N   |
| Orthophosphorus        | EPA 365.3 | 0.01 mg/L       |
| Total Phosphorus       | EPA 365.3 | 0.05 mg/L       |
| Total Suspended Solids | EPA 160.2 | 1.0 mg/L        |
| Total Cadmium          | EPA 213.2 | 0.6 µg/L        |
| Total Copper           | EPA 220.2 | 1.2 µg/L        |
| Total Lead             | EPA 239.2 | 0.4 µg/L        |
| Total Zinc             | EPA 289.2 | 3.4 µg/L        |

A draft report on the one year of required pre-construction monitoring must be provided and a final report must be approved by DEP prior to the commencement of construction. DEP must be notified prior to commencement of construction monitoring. Draft annual reports on during-construction and post-construction BMP monitoring are due to DEP by **October 31** of each year. The final annual report is due by **December 31** of each year. County code requires that reports and data submissions be submitted quarterly. These quarterly reports may be incorporated in the annual report. This should be reflected in the title of the document. A short progress report

should be sent to DEP quarterly to ensure timely completion of the monitoring tasks. The progress report simply should state what monitoring was accomplished for the quarter and whether any problems were encountered. BMP monitoring reports are to be delivered with all data in an electronic format to Mark Sommerfield at Montgomery County DEP and also to Leo Galanko at Montgomery County DPS. All information submitted to DEP will be public information that DEP may freely copy and distribute. Questions on the monitoring requirements and procedures may be directed to the following personnel.

Mark Sommerfield  
(240) 777-7737  
[mark.sommerfield@montgomerycountymd.gov](mailto:mark.sommerfield@montgomerycountymd.gov)

Doug Marshall  
(240) 777-7740  
[Doug.Marshall@montgomerycountymd.gov](mailto:Doug.Marshall@montgomerycountymd.gov)

Leo Galanko  
(240) 777-6242  
[Leo.Galanko@montgomerycountymd.gov](mailto:Leo.Galanko@montgomerycountymd.gov)



# CLARKSBURG AREA HIGH SCHOOL (231NW13)



Map compiled on May 05, 2004 at 11:05 AM | Site located on base sheet no - 231NW13

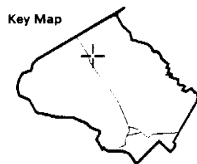
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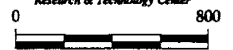
Key Map



N



Research & Technology Center



1 inch = 800 feet  
1 : 9600