



# **ENVIRONMENTAL UPDATE**

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# Overview

- **Water Quality Developments**
  - TMDL
  - Chesapeake Bay
- **Storm Water Issues**
- **Water Planning (Act 220)**
- **Sustainable Infrastructure**
- **Wetlands**

# Water Quality

- **Total Maximum Daily Loads (“TMDLs”)**
- **Section 303(d) of federal Clean Water Act (“CWA”) requires states to:**
  - Identify and prioritize “impaired” waters – waters that do not meet water quality standards necessary to sustain designated uses
  - Identify the pollutant(s) causing the impairment and the sources of the pollutant(s)
  - Develop TMDLs for each impaired stream

# Water Quality

- **A TMDL represents the maximum amount of a pollutant that a waterbody can receive from all sources and assimilate without exceeding water quality standards (i.e., pollutant budget)**
- **Allowable loadings are allocated between point sources and nonpoint sources, building in a Margin of Safety and seasonal variation**
- **Allocation to nonpoint sources is known as the Load Allocation (“LA”); allocations to point sources are known as Waste Load Allocations (“WLAs”)**

# Water Quality

- **TMDL = LA + WLA + MOS**
- **TMDL is always less than existing loadings – TMDL represents a reduction**
- **Nonpoint sources are required to meet LA through implementation of BMPs**
- **Point sources meet WLAs through water quality based effluent limits (i.e., lower discharge limits)**

# Water Quality

- **First Pennsylvania TMDLs – 1999**
- **TMDLs continue to be developed, and streams continue to be evaluated**
- **Nutrients and silt are two of the leading causes of impairment**
- **Agricultural runoff and urban/suburban runoff are significant causes**
- **Silt from earthmoving, stream erosion, legacy issues**

# Water Quality

- **TMDLs come in different shapes and forms**
- **Some set forth the expected permit limits for point-source discharges, or water quality-based effluent limits ("WQBELs")**
- **Others provide the WLA without establishing permit limits**
- **Manner in which the TMDL is written may impact when an appeal is ripe**

# Water Quality

- **Number of cases challenging TMDLs nationally and PA**
- **Several PA challenges resulted in withdrawal of TMDLs**
- **When is an appeal is ripe/when does appeal period begin**
  - When a TMDL is published?
  - Upon implementation in a permit?
  - What if TMDL provides specific limits?
  - Who has jurisdiction? EPA developed TMDL?

# Water Quality

- **Jurisdictional hearing expected in TMDL appeals before EHB**
- **No final court or EHB decision on substance of a TMDL challenge in Pennsylvania**
- **Pending EHB appeals: Paxton Creek, Indian Creek, and Goose Creek TMDLs**

# Water Quality

- **Impacts of TMDLs on permitting**
- **Federal regulations (40 CFR §122.4)**
  - No permit may be issued to a new source or discharger if the discharge will cause or contribute to violation of water quality standards.
  - Applicant must show that there are sufficient remaining load allocations for its discharge and that existing dischargers are subject to a compliance schedule to meet water quality standards.

# Water Quality

- ***Friends of Pinto Creek v. U.S.*, 504 F.3d 1007 (9<sup>th</sup> Cir. 2007), cert. denied, 19 S. Ct. 896 (2009).**
  - NPDES permit for discharge from a copper mine into a creek impaired by copper overturned for failure to comply with 40 CFR §122.4
  - Contained offset of partial remediation, but still insufficient under regulation

# Water Quality

- **For TMDL purposes, storm water discharges under NPDES permit are point sources and are subject to WLAs**
- **Non-point and/or non-regulated storm water discharges subject to LAs**
- **Distinction makes considerable difference for TMDL consideration since most TMDLs allocate all available wasteloads**

# Water Quality

- **Nutrient TMDL may impact sewer dischargers**
- **Future development of nutrient criteria**
- **May impact ability to develop properties that discharge into an impaired stream**
  - Earth disturbance permit
  - Post-construction storm water controls
  - Ability to add new dischargers to an impaired stream (including storm water)
  - MS4s that discharge to impaired streams

# Water Quality

- **Question raised regarding whether NPDES permit for construction activity can be issued where discharge stream is impaired by silt**
- **DEP – permits can be issued that include BMPs for controlling storm water runoff if establish that project will not contribute to impairment**
- **DEP applies general water quality criteria, 25 Pa. Code §93.6, to discharge of silt**
- **Pre-construction/post-construction analysis (including location and duration of discharge) to demonstrate no violation of criteria**

# Water Quality

- **Not clear how TMDLs will be implemented**
  - No permitted discharge of silt?
  - Controls that will ensure no silt discharge for a particular size storm?
  - Post-construction infiltration of largest storms?

# Water Quality

- **Where impaired stream involved, can expect**
  - E&S plan and post-construction storm water management plan will receive particular scrutiny
  - DEP may require very stringent BMPs to ensure the site does not contribute to the stream impairment
  - Frequent inspections
  - Severe enforcement

# Chesapeake Bay Issues

- **Chesapeake Bay Tributary Strategy**
  - Bay is an “impaired water” under federal Clean Water Act
  - Agricultural runoff and other non-point sources contribute up to 88% of nutrient loadings and 70% of sediment loadings in PA
    - Remainder contributed by point sources – sewage treatment plants (public/private), industrial operations, municipal storm water systems

# Chesapeake Bay Issues

- **Chesapeake Bay 2000 Agreement – goals for restoring the bay**
  - PA “required” to reduce loadings – 22% nutrients, 14% sediment
  - Goal: prior to 2011
  - All watersheds in basin – includes all or portions of 33 counties in PA

# Chesapeake Bay Issues

- **Chesapeake Bay Tributary Strategy**
  - *DEP Chesapeake Bay Tributary Strategy (12/2004)*
    - Establishes DEP's plan for achieving the reductions
    - Initially impacts 186 sewage treatment plants (phased)
      - Phase I-Compliance 10/1/2010
      - Phase II-Compliance 10/1/2012
      - Phase III-Compliance 10/1/2013
  - Establishes nutrient waste loads based on:
    - Design capacity
    - 6mp/1 TN, 0.8 mg/1 TP

# Chesapeake Bay Issues

- **Chesapeake Bay Tributary Strategy (cont.)**
  - **Zero Discharge**
    - Strategy allocated all available loading to existing users
    - No allocation reserved for new or expanded sewer discharges
    - New discharges will be required to meet a zero limit
      - No-discharge alternatives
      - Credit trading

# Chesapeake Bay Issues

- **Chesapeake Bay Tributary Strategy (cont.)**
  - **Credit Trading Program**
    - *Nutrient and Sediment Reduction Credits- Trading of Policy and Guidelines*, published 12/30/2006
  - **Credits created when environmental performance levels of discharger exceed regulatory requirements**
    - Examples
      - Discharge below allocated loads from a point source
      - Implementation of agricultural BMPs
  - **Credits good for 1 year**

# Chesapeake Bay Issues

- **Chesapeake Bay Tributary Strategy (cont.)**
  - **DEP responsible for maintaining and conducting the trading program**
    - Determines credit eligibility and perform certification and verification of credits, enforcement, and compliance monitoring
  - **Over 1.5 million credits certified, but only 5 trades**
  - **Credit program yet to really get off ground. Questions re viability**

# Chesapeake Bay Issues

- **Most facilities upgrading or challenging, and not trading**
- **Litigation in response to Tributary Strategy**
- ***Borough of Bedford v. DEP*, U.S. District Court for the Middle District of Pennsylvania (Docket No. 160 MD. 2008)**
- **Multiple permit appeals at EHB challenging permit limits and the timeframes for implementation**

# Chesapeake Bay Issues

- **Status**
  - PA will not meet 2010 deadline
  - EPA developing TMDL
  - Impact on municipalities and developers
  - Uncertainty regarding sewer availability
  - Some large facilities w/ existing capacity stopped approving connections b/c exceed future loading limits

# Chesapeake Bay Issues

- **Concerns regarding apparent need for long-term credits for new/expanded discharges without an established, viable credit trading program**
- **As of August 2005, Act 537 sewer planning approvals for new/expanded WWTP conditioned on purchase of credits before NPDES permit issued**

# Storm Water

- **Storm water program spread across various statutes and regulations**
  - PA Storm Water Management Act (“Act 167”)
  - NPDES Permitting
  - PA Clean Streams Law
- **Act 167**
  - Requires counties to prepare storm water management plans for every watershed in the county
  - Requires municipalities to implement through ordinance any DEP-approved county watershed storm water plans

# Storm Water

- **DEP Comprehensive Storm Water Management Policy**
  - Key Components:
    - Pulls Various statutes together
    - NPDES permit required for small construction projects discharging to a surface water
    - Post-construction Storm Water Management Plan required in all NPDES applications
      - Permanent, post-construction controls previously reviewed only by municipality
      - DEP now to review post-construction controls as part of NPDES permit process
      - “Recommends” pre- and post-construction storm water management analysis

# Storm Water

- **Storm Water Management Policy (cont.)**
  - PA Stormwater Best Management Practices (12/30/06)
  - Requires utilization of infiltration BMPs
  - Non-special protection watersheds
    - Infiltration “should” be evaluated to manage net construction change in storm water generated or replicate pre-construction conditions
    - Utilize water quality treatment controls as necessary
    - Manage volume and rate of storm water to prevent physical degradation of receiving waters

# Storm Water

- **Storm Water Management Policy (cont.)**
  - **Special protection watersheds (HQ and EV)**
    - Utilize infiltration to “maximum extent possible”
    - To extent not possible to infiltrate to pre-construction, must mitigate
  - **Pennsylvania Stormwater Best Management Practices Manual- December 30, 2006**
    - Sets forth post-construction BMPs

# Storm Water

- **Storm Water Management Policy (cont.)**
  - Implications of Policy
    - Review of permanent, post-construction controls by DEP where previously left to municipalities
      - DEP reviews and determines BMPs
      - Sometimes requires deed restrictions
      - Details regarding operation and maintenance of post-construction controls required in application for construction NPDES permit
      - Post-construction enforcement left to municipalities?
      - DEP developing regulations

# Storm Water

- **Storm Water Management Policy (cont.)**
  - County watershed planning under Act 167 at core of integration of all programs
    - 356 watersheds in state
    - Planning/implementation largely uncompleted
    - DEP strongly encouraging watershed planning
  - Push for comprehensive planning heightened w/ Funding and small MS4s

# Storm Water

- **Act 167 and NPDES MS4 permitting requirements have caused confusion**
- **While DEP provides guidance documents and model ordinances, municipalities have found the process to be onerous and overly complex**
- **Process requires considerable coordination and cooperation between county and municipal governments**
- **The Phase II regulations have caused a scramble for completion of Act 167 planning and MS4 permitting in many parts of the state**

# Storm Water – Recent Developments

- **DEP currently working on revisions to Chapter 102, to include**
  - Phase II NPDES storm water construction requirements
  - Oil and gas construction general permit
  - Codification of post-construction storm water requirements
  - Mandatory riparian forest buffer for earth disturbances adjacent to EV, plus construction and maintenance requirements
  - Low impact/riparian buffer permit-by-rule for certain sites

# Storm Water

- **MS4s**
  - Large and medium MS4s have been subject to NPDES permit since implementation of the Phase I NPDES program
  - Phase II NPDES storm water regulations added small MS4s
  - Individual permits for discharges to EV or HQ
  - General permit (PAG-13) for all others

# Storm Water

- **MS4s**

- PAG-13 implemented through BMPs and watershed-based storm water program that incorporates six "minimum control measures" ("MCM"):
  - MCM #1: Public education programs
  - MCM #2: Public involvement/participation in decision making
  - MCM #3: Illicit discharge detection and elimination
  - MSM #4: Erosion and sedimentation controls for construction activities
  - MSM #5: Requiring BMPs for post-construction storm water management for all new developments and redevelopment projects
  - MSM #6: Good housekeeping/pollution prevention for municipal operations.

# Storm Water

- **MS4s**

- Majority of MS4 permit requirements may be met through implementation of Act 167
- Act 167 plans developed/approved prior to August 2001 did not include water quality-based components to meet MS4 requirements
- If no up-to-date Act 167 plan, municipality must adopt ordinance to meet MS4 requirements

# Storm Water

- **MS4s**
  - PAG-13 general permit was to expire on March 9, 2009; extended until March 9, 2010
  - PAG-13 automatically extended without need to file an application for extension
  - Individual Phase II MS4 permits were required to submit an application for a renewal or extension

# Storm Water

- **MS4s Recent Developments**
  - Draft revised PAG-13 (published April 4, 2009)
  - Preparing to publish draft revised MS4/Act 167 model ordinance
  - Highlights of revised PAG-13
    - New requirements for small MS4s discharging into waters subject to TMDL
    - MS4s will be required to implement Construction Site Runoff Control to meet MCM#4

# Storm Water

- **MS4s Recent Developments**
  - New requirements for TMDL discharges
    - Required to implement at least two additional control measures
      - **Such as – disconnecting impervious areas, planting trees, constructing recharge/infiltration facilities, retrofitting storm water basins, restoring stream banks, establishing new stream buffers, and installing green infrastructure**
    - Obtain pollutant reductions consistent with the TMDL
      - **What is "consistent" with TMDL?**

# Storm Water Cases and Trends

- **DEP Post-Construction Requirements Conflicted With Municipal Land Development Plan**
  - DEP required revisions to a Post Construction Stormwater Management Plan (“PCSMP”) to prevent overloading in an infiltration basin
  - DEP review subsequent to township subdivision approval
  - Storm water design approved by township inconsistent with DEP approach
  - Revision to the PCSMP accomplished without revision to the final subdivision plan

# Storm Water Cases and Trends

- **Post-Construction Controls and Extended NPDES Permit**
  - DEP for first time included post-construction requirements in individual NPDES construction permit for discharge into an EV stream
  - In PCSMP, DEP required significant controls – including post-construction flows equal to pre-construction flows for a 2 year/24 hr. storm event (includes 90% of rainfall events)
  - For first time, NPDES permit survived completion of the earthmoving activity for 5 years

# Water Planning

- **Water Resources Planning Act (Act 220)**
- **Enacted in 2002**
- **Statewide Water Resources Committee**
- **6 Regional Water Resources Committees**
- **Initially required**
  - Registration of industrial/commercial withdrawals exceeding 10,000 gpd
  - Registration of water suppliers and hydroelectric plants

# Water Planning

- **Recent Developments**
  - Regulations published 11/15/08
    - Adds new Chapter 110 to Pa. Code Title 25
    - Adds requirement to register all users obtaining over 100,000 gpd for any 30 day period from interconnections
    - Metering accurate to 5%
    - If  $\geq 50,000$  gpd withdrawal or  $> 100,000$  gpd from public water, calculate consumptive use accurate to 10%
    - Reporting of operational information

# Water Planning

- **Recent Developments**
  - State Water Plan-published 3/28/2009
    - Priorities
    - Legislative priorities
    - Critical Water Planning Areas
  
- **Priorities of State Water Plan**
  - Continuing efforts to collect/interpret water resources info
  - Encouraging integrated approach to managing water resources
  - Suggests PA adopt policies encouraging technological advances to conserve and enhance water resources

# Water Planning

- **State Water Plan**
  - Legislative Priorities
    - Legislation to link local land use decisions with water resources planning and management
    - Authorize by legislation, regulation, or policy creation of local authorities, utilities, or management districts to enable collection and generation of fees and revenues dedicated to planning, construction, maintaining, etc. public and private storm water management infrastructure.

# Water Planning

- **State Water Plan**

- Identified initial short list of Critical Water Planning Areas (CWPAs)
  - Areas where existing or future water demands exceed or threaten to exceed the safe yield of available water resources.
- Act 220 authorizes development of Critical Area Resource Plans ("CARPs") for any watershed(s) within a CWPA.
- Final Guidelines for Identifying Critical Water Planning Areas – published September 30, 2006
  - Includes consideration of not just water quantity, but consideration of impacts to aquatic resources, endangered species, recreational uses, etc.

# Water Planning

- **State Water Plan**
  - Process for determining CWPAs
    - Stage 1: Nominations
    - Stage 2: Screening for identification of CWPAs
    - Stage 3: Data verification
    - Stage 4: Review and recommendation by Regional Committees (including public hearings)
    - Stage 5: Review and recommendations by Statewide Committee, final designation by DEP

# Water Planning

- **State Water Plan**
  - State Water Plan identifies 32 watersheds under consideration for designation CWPAs
    - Through Stages 1-2, and in Stage 3 data verification
  - CARPs will likely be developed for designated CWPAs
    - Regional Critical Area Advisory Committee to assist DEP in developing CARPs
    - CARPs will then become part of the State Water Plan

# Water Planning

- **Recent Developments**
  - Potential impacts of CWPA designation
    - Water use restrictions during certain times?
    - Restrictions or mitigation of consumptive use?
    - Development restrictions?
    - Need to keep apprised of regional and state water planning board activity
  - No Mechanism within Act 220 to regulate water use or withdrawal

# Sustainable Infrastructure Task Force

- **February 2008 executive order establishing task force to evaluate needs to sustain water and wastewater infrastructure in Pennsylvania considering the reduction in federal funding**
- **Task force asked to identify major assets that require replacement in the next 20 years, estimate cost of replacement, identify O&M costs, and determine the financial need for the all of those items (the "gap")**
- **The Task Force issued report on November 1, 2008**

# Sustainable Infrastructure Task Force

- **Across state over the next 20 years - total need \$113.6 billion**
  - Combined capital needs for existing drinking water and wastewater facilities - \$36.5 billion
  - Combined O&M, replacement/repair, and debt retirement - \$77.1 billion
- **Analysis indicated that user rates throughout the state are too low and could be increased to "more closely reflect the true cost of service" without imposing hardships on consumers**
- **Funding will likely require increased user rates as well as increases in federal and state funding.**
- **Gap analysis shows projected funding gap of \$43.8 billion narrows to \$6.8 billion if communities increase water and wastewater rates up to 1.5 percent of the community's median household income**

# Marcellus Shale Issues

- **Marcellus Shale gas exploration has impacts on property values, water supply, wastewater processing, and road and other infrastructure needs**
- **Producers use horizontal drilling and hydraulic fracturing (or "fracing") techniques to increase the recoverable gas**
- **Uses large quantities of water (millions of gallons per well); requires corresponding disposal, treatment, or reuse of water of produced water**

# Marcellus Shale Issues

- **Water Supply**
  - Generally manageable – SRBC, DRBC, and DEP
  - Water from surface withdrawal and public suppliers
  - Typically involves trucking – 3 million gallon frac job is approx 750 truck trips

# Marcellus Shale Issues

- **Wastewater Issues**
  - Most common "treatment" has been disposal at POTWs w/ dilution
    - Not equipped to treat total dissolved solids (TDS)
  - Brine Treatment facilities – also dilution, with some reuse of concentrated brine for winter pretreatment
  - 10/2008 very high TDS in Monongahela River – 9 POTWs ordered to reduce the volume of gas well wastewater to 1% of daily flow
  - DEP ordered POTWs to stop accepting brine without permit modification

# Marcellus Shale Issues

- **Land use decisions – 2 PA Supreme Court decision on 2/19/2009**
  - Huntley & Huntley, Inc. v. Borough of Oakmont, 964 A.2d 855 (2009)
    - Held Oil and Gas Act did not preempt proper local zoning
    - Found gas well to be an available conditional use relying on MPC for definition of "minerals"
  - Range Resources-Appalachia, LLC v. Salem Township, 964 A.2d 869 (2009)
    - Oil and Gas Act preempted local SALDO
    - SALDO included permitting procedures for oil and gas wells, bonding requirements, wellhead regulation, site restoration requirements, wastewater processing, and pipeline requirements.
    - SALDO went far beyond regulating where wells could be located

# Marcellus Shale

- **Municipalities can regulate the "where," but not the "how" with respect to oil and gas wells**
- **Two S.Ct. cases were fairly clear cut issues – one clearly applicable to all land uses and one clearly designed to regulate oil and gas activity**
- **Not clear how courts will rule in the more grey areas**

# Wetlands

- **Rapanos v. U.S. and Carabell v. U.S., 126 S. Ct. 2208 (2006)**
  - Question of whether CWA jurisdiction attaches to certain waters that are not "traditionally navigable waters"
  - Court held that jurisdiction may be extended to waters that are not TNWs of the U.S. if met one of two standards
    1. Plurality opinion – Non-navigable tributaries of TNWs that are "relatively permanent" (flow year round or continuous flow seasonally) and wetlands with a surface connection (directly abut) to those waters
    2. Concurring opinion – considers whether there is a "significant nexus" for non-relatively permanent tributaries and adjacent wetlands that have characteristics that may significantly affect TNWs

# Wetlands

- **EPA published revised guidance (December 2, 2008) implementing Rapanos decision, and will regulate:**
  - TNWs
  - Wetlands adjacent to TNWs
  - Relatively permanent waters that flow directly or indirectly into TNWs
  - Wetlands that directly abut those relatively permanent waters
- **Where there is a "significant nexus," jurisdiction may also attach to:**
  - Non-relatively permanent waters that flow directly or indirectly into TNWs
  - Wetlands adjacent to but not directly abutting relatively permanent waters that flow into TNWs
  - Wetlands adjacent to non-relatively permanent waters that flow into TNWs
  - Isolated waters, including isolated wetlands