AGENDA

1. Welcome/Introductions

2. Announcements

3. Update on Local Groundwater Management Efforts
   Jim Fox, Tim McLelland, Dave Weihrauch, Tom Yeager

4. Recent Activity on Proposed Ohio Senate Bill 191 and Proposed House Bill 400

5. The Impact of Gravel Mining Levees on Riverbanks:
   The Whitewater River Example
   Alan Schlindwein, FMSM Consultants

6. Ohio EPA’s Revised Proposal for the Operator Certification Rules
   Andy Barienbrock, Ohio EPA

7. Other Business

ADJOURNMENT

* SEE the MAP and DIRECTIONS on the REVERSE HARD COPY
  (or in separate attachment to email)
Adverse Impacts of Gravel Mining Levees on Floodplain Functions: The Whitewater River Example

Alan Schlindwein, PE, D.WRE, AICP
Presentation Outline:

- Riverbank Erosion Problem
- Site Assessment
- Floodplain Theory
- Proposed Solution
- Restored Floodplain Functions
- Questions / Answers
2002 Stabilization
7 Days Later
Floodplain Considerations
Hydraulics Research, Wallingford
Figure 5.26 Velocity vectors for flow in a trapezoidal meandering channel with overbank flow and straight floodplain alignment with \((H - h)/H = 0.25\)

Figure 5.27 Velocity vectors for flow in a rectangular meandering channel with overbank flow and curved floodplain alignment with \((H - h)/H = 0.25\)
Floodplain Studies

Figure 5.7  Hydraulic parameters associated with overbank flow (after Shiono and Knight, 1991)
Floodplain Studies

Inbank flow, $H = 140\text{mm}$

Overbank flow, $H = 200\text{mm}$

Figure 5.21 Secondary flow vectors at the apex of a bend in a $110^\circ$ meander channel with natural cross-sections (inbank and overbank flows, FCF studies)
Quasi-straight compound channel system

Sinuous channel in non-compliant floodplain

Figure 8.34  Schematic channel layouts
Natural Floodplain Processes Solution
Natural Floodplain Processes Solution
Other Benefits

- Introduce River Water onto the Floodplain
  - Infiltration
  - Water Quality
  - Flood Reduction
  - Base Flow Augmentation

- Habitat Improvements
  - Flood Refugia
  - Rearing Habitat
  - Increase # Species
  - Increase # Individual within a Species
Conclusion

- Natural Floodplain Functions can be used in design for Riverbank Stability.
- We can get beyond classical riverbank stabilization methods.
- Natural Ecosystems and Groundwater Hydrology Re-established
Operator Certification Rules Update

Andrew Barienbrock
Ohio’s New Operator Certification Rules

- Final filing on December 11, 2006
- Proposed Effective Date
  - December 21, 2006
Ohio’s New Operator Certification Rules

- Definitions of operating experience
- Definition of one year (2080 hours)
- Operator in responsible charge changed to operator of record (ORC)
Ohio’s New Operator Certification Rules

- Notification of changes in ORC must be reported to the director within 3 days.
- Technical supervision provisions have been eliminated.
Ohio’s New Operator Certification Rules

- Effective July 1, 2009 or upon substantial revision, whichever comes first, Public Water Systems will be reclassified in accordance with the new rules and required to meet the minimum staffing requirements of the rules.
  - The holder of the License To Operate may request reclassification immediately if they wish. Minimum staffing requirements would apply to the reclassification.
Ohio’s New Operator Certification Rules

- Minimum staffing times
  - Class A (no treatment) a minimum of 30 minutes per week
  - Class A – 2 days per week for a minimum of 1 hour per week
  - Class I - 3 days per week for a minimum of 1.5 hours per week.
  - Class II – 5 days per week for a minimum of 20 hours per week.
  - Class III & IV – 5 days per week for a minimum of 40 hours per week.
Ohio’s New Operator Certification Rules

• Effective December 21, 2008 and upon renewal of the NPDES Permit, wastewater treatment facilities will be reclassified in accordance with the new rules and required to meet the minimum staffing requirements of the rules.

• The NPDES permittee may request reclassification immediately, if they wish. Minimum staffing requirements would apply to the reclassification.
Ohio’s New Operator Certification Rules

- Creation of a Class A Wastewater treatment plant classification (<25,000 GPD)
- Minimum Staffing
  - Class A – 2 days per week for a minimum of 1 hour per week
  - Class I – 3 days per week for a minimum of 1.5 hours per week.
  - Class II – 5 days per week for a minimum of 20 hours per week.
  - Class III & IV – 5 days per week for a minimum of 40 hours per week.
Ohio’s New Operator Certification Rules

- Reductions to minimum staffing times
  - Up to 30 consecutive days with an operator of 1 classification less than the facility (no notice required)
  - >30 consecutive days with Ohio EPA approval
Ohio’s New Operator Certification Rules

• Reductions to minimum staffing times (continued)
  – May submit an operating plan documenting additional staffing and degree of automation for reductions of up to 30 hrs/wk (Class III or IV) and 10 hrs/wk (Class II) of the minimum staffing requirement.
Ohio's New Operator Certification Rules

- Exam applicants shall not:
  - have pled guilty or been convicted of criminal charges involving falsification, fraud or terrorism.
  - have a certification in another state revoked or under suspension.
Ohio’s New Operator Certification Rules

• Exam applicants shall have the ability to:
  – Read and understand section 6109 and 6111 of ORC
  – Perform mathematical calculations
  – Complete and maintain records and regulatory reporting forms
Ohio’s New Operator Certification Rules

- Higher education used for substitution as experience credit must be acquired in the fields of environmental, chemical or civil engineering or a physical or natural science.
Ohio’s New Operator Certification Rules

• Semi-sequential certification
  – After July 1, 2007, an applicant must document 1 year of experience as a Class II operator in the same field to take the Class III examination.
Ohio’s New Operator Certification Rules

• Class IV Criteria
  – Beginning on the effective date of the rule an applicant for Class IV certification shall document 3 years experience as a Class III operator with 2 of those years consisting of management experience at a Class III or IV facility
Ohio’s New Operator Certification Rules

- Operators currently with an OIT status must complete their experience requirement within 3 years of the effective date of the rule.
- Beginning with the May 2007 exam cycle applicants taking examinations as an OIT will have 4 years from the date of the examination to complete their experience requirements.
- Beginning on July 1, 2007 applicants will not be able to take the Class III examination as operators in training (OIT)
Ohio’s New Operator Certification Rules

• Beginning upon the effective date of the rules operators may submit an application to be grandfathered as a limited Class A wastewater operator. Applications must be submitted within 2 years of the effective date of the rule.
Ohio’s New Operator Certification Rules

• Beginning on the effective date of the rules owners and operators shall cause to be maintained operation and maintenance records. These records shall:
  – Be protected from the weather
  – Guarantee authenticity and accuracy
  – Be accessible onsite for 24 hr inspection
Ohio’s New Operator Certification Rules

• Records shall include:
  – Identification of the facility
  – Date and time of arrival and departure for the ORC and any other operator required by the rules
  – Specific O & M activities that affect quality or quantity
  – Results of tests performed and samples taken, unless documented on laboratory sheet
  – Performance of preventative maintenance and repairs or requests for repairs that affect quality or quantity.
  – Identification of the persons making entry
Ohio’s New Operator Certification Rules

• Duties of a certified operator
  – Perform in a responsible and professional manner consistent with SOPs and BMPs
  – Operate and maintain so as not to endanger the health and safety of the employees, public and environment due to negligence or incompetence.
  – Report all instances of noncompliance with applicable regulations to the ORC or facility supervisor
Ohio’s New Operator Certification Rules

• Duties of an ORC:
  – Everything required of a certified operator.
  – Responsible and effective on site management and supervision of the technical operation
  – Immediately notifying the permittee or owner and ensuring the agency and any local regulatory agencies are notified of items that require notification in accordance with sections 6109 and 6111 of the ORC or the facilities NPDES permit.
Ohio’s New Operator Certification Rules

• All operators should document their efforts to rectify problems that are within their area of responsibility, but beyond their ability to address (e.g. budgetary constraints)
Ohio’s New Operator Certification Rules

• Name of the Advisory Board changed to Advisory Council
  – Member from the Division of Surface Water added.
• Council duties have been clarified
Ohio’s New Operator Certification Rules

- Cases dealing with fraudulent or falsified information will result in action being taken on all certificates held
- Indictment in a criminal case for a crime related to the field of certification shall result in a suspension until such time as the criminal case is resolved
- Conviction of the above referenced crimes shall result in revocation
- Revocation shall be permanent
Ohio’s New Operator Certification Rules

- Prohibition on Class IV reciprocity has been removed.
- Operators who held Ohio certificates within the 10 years prior to application for reciprocity may be given back their Ohio certificate provided they have maintained a certification in the same field in another state and met that state’s continuing education requirements.
Ohio’s New Operator Certification Rules

- Beginning upon the effective date of the rules operators with multiple certificates shall have the number of contact hours required reduced by 25%.
- Beginning with certificates which expire on 12-31-08 at least 50% of the contact hours shall be O & M related.
Ohio’s New Operator Certification Rules

• Approval of training providers
  – Must have provided courses for a minimum of 3 yrs
  – Must have been previously approved to provided at least 12 contact hours
  – Assign each class a unique number that identifies the provider, class number and subject
  – Maintain course records for 3 yrs following training
  – Provide the director a list of scheduled training by the first day of the month for each month that training is offered.
  – Be capable of providing a record of student training upon request
Ohio’s New Operator Certification Rules
Ohio’s New Operator Certification Rules

• Class IV exams can not be written or edited by individuals other than the applicant. However, they may be proofread for minor spelling and grammatical errors.
Toll Free Hotline

1-866-411-OPCT (6728)

http://www.epa.state.oh.us/ddagw/opcert.html
OKI GROUNDWATER COMMITTEE MEETING SUMMARY
Wednesday, December 6, 2006
OKI Board Room – 10:00 am

Attendees:
Jim Fox, Chair Village of Indian Hill
Dave Weihrauch, Vice Chair City of Oxford
Andy Barrienbrock Ohio EPA – Central Office
Milovan Beljin M.S.B. & Associates
Brian Bohl Hamilton County Soil and Water Conservation District
Chris Brayton Paramount’s Kings Island
Ken Broberg Fernald, S.M. Stoller
Dan Cloyd Ohio EPA – Southwest District
Peggy Collins League of Woman Voters, Fairfield
J. Dwight Culbertson City of Fairfield
Scott Deaton FMSM
Jason Denlinger The Source Group
Frank Divo Southwestern Ohio Water Company
Marlo Frank Hamilton to New Baltimore Groundwater Consortium
Carl Gatton Warren County
Bill Gollnitz Clermont County Water & Sewer
Daniel Jelinek The Source Group
Scott Kirk Western Water Company
James Koch Clermont County Water
Jim Lauver Glendale
Mike Lippert City of Wyoming
Mary Lynn Lodor Butler County DES
Robert Marsh Southwest Regional Water District
Tim McLelland Hamilton to New Baltimore Groundwater Consortium
Craig McConkey Clermont County Health Department
Dean Niemeyer Hamilton County Regional Planning Commission
Greg Petredis City of Hamilton
Bruce Pletsch Miami Conservancy District
Mike Proffitt Ohio EPA – Southwest District
Jeffrey Schick Leggette, Brashears & Graham
Alan Schindwein FMSM
Tom Schumann U.S. Geological Survey
Ken Shearwood Village of New Richmond
Cliff Shrive R. D. Zande
Raymond Snider Felicity Water
Greg Stanley Tate Monroe Water Association
Welcome and Introductions
Mr. Jim Fox called the meeting to order at 10:05 a.m. Everyone introduced themselves and their affiliations.

Announcements
Mr. Jim Fox announced that he will be leaving Indian Hill for a job with the private sector, with R.D. Zande and Associates, on the first of the year. Mr. Dave Weihrauch will become the Chairman of the Groundwater Committee and Bruce Whitteberry will be Vice Chairman starting with the first meeting in 2007. Jim explained that Bruce Whitteberry was not at this meeting because he is in Columbus testifying before the House Agriculture and Natural Resources Committee, about the mining legislation that has been of such concern to the committee.

Jane Wittke then thanked Jim for his years of service on behalf of OKI, and presented him with a framed certificate of appreciation. The committee joined in a round of applause to show their appreciation.

Jim noted that the next meeting of the Groundwater Committee will be either February 21 or 28, 2007 at 10:00 a.m. When the next meeting date is firm, notice will be sent to the committee.

Tom Schumann announced that this would be the last meeting he could attend, as he is transferring to a different area of the U.S.G.S., and his replacement will be here for the next meeting.

Updates on Local Groundwater Management Efforts
Mr. Jim Fox, Indian Hill, reported that the village has had some interesting history with wellhead protection in the last few years because of a gravel mining operation in the Little Miami River Valley that ceased operations and wanted to sell property to a developer. The developer wanted to place a housing development around the lakes created by the gravel mining. The development would have been within the five-year time-of-travel zone of Indian Hill’s wellfield. There were issues with pesticides, insecticides and herbicides being potentially used within the development that could have washed into the lakes. The 50-foot deep lakes created a more direct conduit to the aquifer.
Negotiations with the developer resulted in Indian Hill buying the land and developing it as a park that is open only to Indian Hill residents and water customers, because the purchase was partially financed with water funds to protect the aquifer. There is also a shooting range in the area and monitoring is being done with plans available if lead detections warrant remediation.

Tim McLelland, Hamilton to New Baltimore Groundwater Consortium, reported that the Great Miami River Days event on September 9 and 10 in Hamilton was attended by about 5,000 people, and helped to raise awareness about the need for protecting water resources in the region.

The Butler County Children’s Water Festival on October 13 was also successful. It involved 80 volunteers to staff the event and 1,000 children attending. Many sponsors were also important to the festival’s success. Among them are: Miami University, Hamilton Campus, which for the 8th straight year offered the campus at no cost; the members of the groundwater consortium who offered either volunteers or financial contributions, including the City of Hamilton; the City of Fairfield; City of Cincinnati; Southwest Regional Water District; Southwestern Ohio Water Company; Miller Brewing Company and the Butler County Department of Environmental Services; and the Butler County Storm Water District and the Miami Conservancy District.

For the 10th consecutive year the Groundwater Consortium received the National Groundwater Guardian Foundation Award for excellence in education, groundwater awareness and protection activities. The Groundwater Consortium will be meeting with the Ohio EPA to discuss industrial waste rules that are being developed. There is a concern about the permanent disposal of lime residuals within a sole source aquifer or drinking water protection areas.

Dave Weihrauch, City of Oxford obtained permission to operate City of Oxford Well #2 from the Ohio EPA. Use of the well had previously been discontinued due to its configuration as a radial collector well in immediate proximity to a stream channel. In order for the well to receive designation as a groundwater source from the Ohio EPA, Oxford had it reengineered, reconfigured and monitored. The well was also predated, because of the regulation for a 300 foot isolation radius to bring it back on line. That necessitated negotiations for an isolation easement with the adjacent private property owner.

Well #2 is an important facility for the City of Oxford because of the lack of groundwater resources in western Butler County, and it provides for legitimate isolation between two distinct hydro-geological features in the valley. There are two well fields that will support the daily average needs in the city.
Tom Yeager, Clermont County, reviewed the background of Clermont County operating a single distribution system, noting that they have three sources of water supply: two of the sources are groundwater and one is a surface water source. With three very different sources of water, the county has a unique perspective on how the management and protection of source water is carried out. Basically, the county recognizes the importance of protecting surface water whether it is a direct influence or not a direct influence on their drinking water supplies.

For example, Clermont is either the first or one of the first systems in the State of Ohio to submit a Source Water Protection Plan for a surface water source, the BMW water treatment facility which includes Harsha Lake, East Fork Reservoir. There are some amendments that will be included over time, but the plan came out of a combined effort from the surface water people dealing with water quality management for the East Fork of the Little Miami River and how it interrelates to overall source water protection initiatives. The plan shows the need to work closely with people responsible for surface water, wastewater treatment, drinking water treatment and the Office of Environmental Quality in Clermont County.

In terms of the PUB water treatment plant and its ground water source along the Ohio River, the county succeeded in getting an overlay ordinance with Pierce Township to declare recreational zoning in the immediate protection area of the aquifer. That ordinance was very instrumental in helping Clermont County stave off commercial activity such as the installation of a new gas station and underground storage tanks in that area. The zoning overlay is a success story in the protection of the aquifer.

Clermont County also has a Mod-Flo groundwater model to demonstrate and analyze the effects of spills and water movement within that area of the aquifer. There are both direct and indirect influences from surface water sources on groundwater; most of the focus in the past along the Ohio River Valley has been on the influence of the Ohio River. There will now be a greater focus on Ten Mile Creek which flows to the Ohio River and actually traverses through the aquifer at the PUB location, and on the watershed that feeds the creek.

Onsite septic systems are a major risk factor for any groundwater system, especially in a river valley that has lots of sand and gravel deposits. Much closer attention is being paid not only to the existing onsite systems in the aquifer protection area, but also to potential future installations. The county is working with a developer on a site in the Ten Mile Creek watershed, and has agreed to accept a public wastewater treatment facility for a subdivision, given that it will also provide an opportunity to sewer some other areas in the watershed. It is a better option to have some level of control in the upstream area over what may be discharged into a creek that ultimately has some potential influence on the aquifer. Clermont County, Ohio EPA and the developer are trying to make the best of the situation to protect the drinking water source.
The MGS groundwater treatment facility is next to the Little Miami River in the Miamiville area, upstream from Milford and Indian Hill’s wellfields, so close cooperation is the goal. There will be extra funds in 2007 to update and upgrade the wellhead protection plan for this area. The original delineation was done in 1991 with Bennett & Williams as a consultant. At that time plans for the MGS facility were uncertain, because of its size (2 MGD or 2 million gallons per day) and the fact that plans for a new 10 MGD plant were already established for Harsha Lake. Because the source of supply in the northern part of the county is very viable, the intention now is to keep using the MGS wells. Accordingly, the need to update the Wellhead Protection Plan became clear, along with the desire to have a better analysis of groundwater flow and to deal with the onsite systems that are in the immediate vicinity of the 1 and 5 year time-of-travel zones.

One of the protection efforts has been to expand an existing wastewater treatment facility so that onsite septic tank systems can be decommissioned. The permit to install has been issued, and part of the consideration for that facility discussed with the Ohio EPA was the agreement to do a more in-depth analysis of the aquifer area. That will begin January, 2007 with the new budget.

The capacity increase for the Wards Corner wastewater treatment plant is from 135,000 gallons per day to 2 million gallons per day. That will provide wastewater capacity to sewer the area within the 1 and 5 year time-of-travel zones for the aquifer protection area of the MGS water treatment facility. Significantly, during the original source water protection investigation in 1991, the onsite septic systems in that area were identified as the highest potential risk to the aquifer.

Tom concluded by saying that the enhanced wellhead protection initiative is one of the assignments given to his newest employee, Bill Gollnitz, who brings tremendous knowledge, information and resources to the task.

**Discussion of Committee Members’ Response to Proposed Ohio Senate Bill 191 and Proposed House Bill 400**

Jane Wittke kicked off the discussion with an update about the status of these bills. S 191, HB 400 and a coal mining bill are being folded into an omnibus bill, substitute bill or SB 443, which includes funding for the Ohio Department of Natural Resources (ODNR). Because of a wave of protest from many individuals and groups, including the Ohio Township Association, soil and water conservation districts, environmental groups, local governments, several county engineers, and many water suppliers, the provision of greatest concern to the Groundwater Committee has been removed. That provision generally required county and township zoning to allow industrial minerals mining and activities related to making finished aggregate products, and to designate them as a permitted use or a conditional use in any district or zone established under the zoning laws.
At the same time, it appears that Sub. H.B. 443 still contains two provisions that could restrict local zoning authorities and concern those interested in source water protection. (Amendments on the bill were being taken up until noon on December 5.) Bruce Whitteberry, next Vice-chair of this committee, is in Columbus testifying to the House Agriculture and Natural Resources Committee because the hearing on the SB 443 is happening concurrently with this Groundwater Committee meeting. These provisions are being identified in testimony as follows:

"...One remaining concern we have with the legislation is the unclear language in Sections 303.141 (A) and 519.141 (A). Section 303.141 (A) states: "If a county board of zoning appeals considers conditional zoning certificates for activities that are permitted and regulated under Chapter 1514 of the Revised Code or activities that are related to making finished aggregate products, the board shall not consider or base its determination on matters that are regulated by any federal, state, or local agency."

We do not know what is meant by "...the board shall not consider or base its determination on matters that are regulated by any federal, state, or local agency." Does this mean that the board could not consider or base its determination on source water protection, which can involve local agencies setting regulations to meet state programs and federal law? Similar language in Section 519.141 is also unclear, but both sections suggest restrictions on local boards of zoning appeals that could interfere with their work. We request that this language be removed..."

In addition to testimony by Bruce Whitteberry, many other members of the Groundwater Committee have been involved in expressing concerns to legislators. Holly Utrata-Halcomb and Brian Bohl have done a great job of sharing information statewide with all the county soil and water conservation districts, and communicating with the County Commissioners Association, local county engineers, the Ohio Township Association and various legislators.

Brian thanked everyone for their collaboration. He explained that he and Holly worked to draft a letter from the Hamilton County SWCD Board of Supervisors that was sent out to all the Soil and Water Conservation Districts across Ohio and all the legislators about the zoning provisions of the bill.

Mary Lynn Lodor explained that she had spoken with State Representative Shawn Webster back in August along with several water suppliers, and Rep. Webster had promised to investigate further. She had also spoken with the Butler County Planning Commission, who already enacted a wellhead protection ordinance and who are ready to face legal challenges.

Tom Yeager said that he had a conversation with Senator Tom Niehaus concerning the bills and concerns about source water protection issues, and had clarified to him that federal sole source aquifer designation would provide only limited protection to certain
areas and where federally funded projects are concerned. Tom Yeager then stated that he had emphasized to Senator Niehaus that local zoning control is critical for source water protection, and Ken Shearwood said that he had also talked with the senator about this in the summer.

Milovan Beljin also spoke with Senator Niehaus’s office recently and was told about the new version of the bill (SB 443). He commented that while Ohio EPA is urging everyone to develop a wellhead protection zone, the ODNR appears only too willing to issue permits for sand and gravel mining within the same zone. More information from Ohio EPA about their position on the legislation would be helpful.

Jane Wittke explained that the Ohio EPA had sent Barb Lubberger to listen to the presentations at the last Groundwater Committee meeting. As a result Ms. Lubberger prepared a white paper for the Division of Drinking and Ground Waters. From a recent conversation with DDAGW head Mike Baker, Jane understood that Ohio EPA’s legislative liaison was going to follow up with legislators about the division’s concerns.

Dave Weihrauch stated that is very rare when a mayor in a community sends word down through the channels to watch a bill and find out what is going on with it, and that this was the first time in his history with Oxford that this has happened. The City of Oxford is grateful for all the people who have sorted through the legislation text and stayed on top of it.

Jim Fox noted that the legislators had received a pretty significant barrage of letters and emails concerning this legislation, based on the responses he had received to his communications, and that obviously made all the difference.

**The Impact of Gravel Mining Levees on Riverbanks: The Whitewater River Example**

Alan Schlindwein, FMSM, gave a presentation on his experiences with the failure of gravel mining levees along riverbanks, focusing on an example along the Whitewater River. He referred to recent hydraulics research and described the functionality of natural floodplains. He emphasized that the impact of gravel mining levees on rivers, riverbanks, and floodplains affects much more than groundwater and creates multiple concerns: for source water protection; for flooding and associated damages to property; and for the functioning and water quality of the stream. For more detail, a copy of Mr. Schlindwein’s PowerPoint presentation is attached.

**Ohio EPA’s Revised Proposal for the Operator Certification Rules**

Andy Barienbrock, Ohio EPA, gave a presentation on the new requirements for water plant operator certification which are effective on December 21, 2006. He provided definitions of minimum operating experience, discussed the need for and duties of an “operator of record,” and described minimum staffing times.
He also talked about the reclassification of public water systems according to the new certification rules, the requirement for semi-sequential certification, and the degree of record-keeping associated with the rules. A question and answer session followed his presentation. More detail may be found in Mr. Barienbrock’s PowerPoint presentation, which is attached, and he offered to take additional questions by telephone at (614) 728-1216.

Adjournment
Jim Fox reminded everyone that the next meeting will be either February 21 or 28 at OKI, with confirmation to follow. The meeting was adjourned at 12:15 pm.