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In The Main

DEP Division of Water Supply
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Boston, MA 02108-4746

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■ Statutes, continued from page 2

water district has determined are no longer needed for protection of the water supply. No land which has been acquired by eminent domain by a municipality or water district within the limits of another municipality or water district may be sold or exchanged pursuant to §15 B unless that land is offered to the municipality in which the land is located.

In addition to requirements under Chapt. 40 §15B, Article 97 of the Massachusetts Constitution requires a two-thirds vote of both houses of the legislature before a municipality or water district can dispose of or change the use of lands or easements acquired for water supply protection.

The Massachusetts Safe Drinking Water Regulations 310 CMR 22.24, also stipulate that a water supplier may not sell, lease, assign or otherwise dispose of or change the use of lands used for water supply purposes without prior written approval of the Department.

Aside from regulatory requirements,

it is in the best interest of a community or district to notify DEP regional offices when considering acquiring or disposing of water supply protection parcels or easements. The Division of Water Supply staff have expertise in evaluating the suitability of a parcel for water supply protection and the staff can assist with the wording of conservation restrictions and in the requisite processing of the restrictions through EOE. DEP review of requests for change of use is necessary to ensure that the proposed use will not adversely affect the water supply.

Please contact your regional office DWS staff for assistance in any of these matters. □

■ **Salutes, continued from page 5**
representatives for cooperative planning and commitment to strengthening their existing regulations.

For more information on the Circuit Rider Protection Program, contact Jude Hutchinson at 617/292-5931. □

■ **Cross Connections, continued from page 4**
abilities in performing surveys, and testing, are the main points of the audit.

Program Plan for Compliance

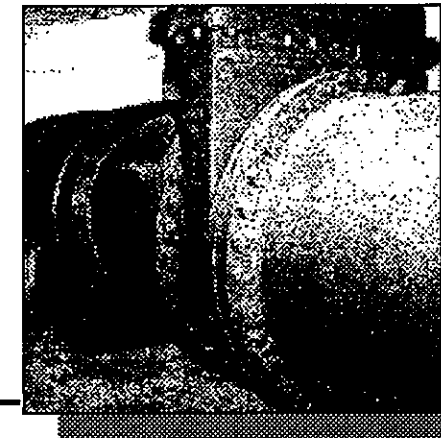
To date 310 CMR 22.22 requires that 258 PWSs have a DEP-approved cross connection program. At this time, only 152 PWSs have an approved program. Ninety-six PWSs are in a non-compliance status with the regulations. DEP regional offices have received 25 PWSs' program plans pending DEP approval. Over this fiscal year, the Regions will be providing assistance in getting all PWSs with a population of over 2,500 into an approved program. □

In The Main.

The Technical Assistance
Newsletter for Public
Drinking Water Professionals

Volume 5, Number 3

Fall 1992



Division of Water
Supply
Department of
Environmental Protection
Executive Office of
Environmental Affairs
Commonwealth of
Massachusetts

DEP Seeks Waiver of Costly Monitoring for Selected Pesticides

Tara Gallagher

DEP submitted a statewide waiver request to the U.S. EPA for selected pesticides covered by the Phase II (SOC/IOC) Rule.

This Rule would require four quarterly samples in the initial year of compliance for a number of pesticides whose use patterns or environmental fate and transport characteristics make this sampling unnecessary in Massachusetts. Massachusetts was joined in this waiver request by Maine, New Hampshire, and Rhode Island. Connecticut and Vermont are following similar approaches.

The Phase II Rule, scheduled to go into effect in January 1993, allows states to propose area-wide waivers for certain pesticides. The pesticides covered by DEP's waiver request and the source type waived are illustrated in the table above.

See related article:
"Pesticide Survey Available for Phase II
Waivers", Page 2

The cost savings per water source in the initial year of compliance would be \$6,600 for groundwater sources and \$8,000 for surface water sources. Massachusetts has also developed a procedure for granting waivers from some of the other Phase II compounds for individual water sources. □

Pesticide Compound	Source Type	Cost Per Sample*	Total Cost Per Year
Glyphosate	Ground/Surface	\$250.00	\$1,000.00
Diquat	Ground/Surface	\$200.00	\$800.00
Dioxin	Ground/Surface	\$1,200.00	\$4,800.00
Endothall	Surface	\$250.00	\$1,000.00
EDB/DBCP	Surface	\$100.00	\$400.00

*Based on cost estimates by the U.S. EPA

Lead and Copper First Round Sampling

Chuck Larson

Presented at the annual meeting of the
New England Water Works Association
Bolton Landing, NY September 23, 1992

The Massachusetts Department of Environmental Protection (DEP) began implementing the U.S. EPA Lead and Copper Rule soon after it was published in the *Federal Register* on June 7, 1991, and at the same time started the process of adopting the rule as part of the Massachusetts drinking water regula-

tions. This regulation has been through the review process and is ready to be published in the Massachusetts Register.

To help utilities prepare for their responsibilities under the Rule, a series of informational seminars took place in each state region and an information packet, complete with forms to be submitted, was sent to the 22 water suppliers that serve more than 50,000 persons. In addition, it was sent to 17 communities in the

Continued on Page 6



Rural Water Issues Series Held for Bankers and Realtors

Lynn Rubinstein
Resource Planner, Franklin County Commission

The Franklin County Commission, through a 604(b) grant from DEP, recently held a four-part luncheon series for bankers, realtors, lawyers, appraisers, and other business people on rural water resources issues. The series featured panelists on hydrogeology, private wells, water testing, septic systems, underground storage tanks, liability, state and local laws, and the future of state and local regulations.

The series was well attended, with approximately 40 business people attending the four one-and-a-half-hour luncheon meetings. Before the meetings, the water resource videos recently produced by the Franklin County Commission through another 604(b) grant were shown. Each participant received a three-ring binder of materials which included information on private wells, septic systems, and underground storage tanks, the water resource issues

that they present, how to prevent problems, and samples of local by-laws and regulations.

The workshop series was co-sponsored with the Franklin County Chamber of Commerce and the Greenfield Cooperative Bank. The meetings were held at the Chamber of Commerce.

The idea behind the workshops was to convince bankers and realtors that they have an active role in protecting water resources. By requiring water testing, septic system pumping and inspection, underground storage tank testing or removal, they can help to eliminate threats to the community, decrease their

liability, and lessen the need for local regulation. Many of the participants indicated that they hadn't realized the liability that private wells, septic systems, and residential underground storage tanks presented and suggested that they would be reconsidering how they approach the sale of rural real estate.

Another benefit of the workshop was meeting and working with an important part of the community which normally is not involved in town-based water resource protection planning. Many bankers, realtors and lawyers now call the Regional Planning Office for advice and assistance, and encourage us to hold future workshops on similar issues. □

Pesticide Survey Available for Phase II Waivers

George Zoto

The Division of Water Supply would like to inform its public water suppliers about a University of Massachusetts study that may be of interest to them as they prepare to apply for a waiver of the monitoring requirements of the Phase II Rule for pesticides use.

This study, conducted by Dr. Allen Barker of the Plant and Soil Sciences Department for DEP from May 1984 to November 1985, provides the only detailed inventory of agricultural activities, town-by-town, in Massachusetts, including:

- ❖ leaching characteristics of agricultural pesticides,
- ❖ listing of crops, by town, with information on soil type and drainage characteristics,
- ❖ listing of commonly used pesticides by crop (listed in order of most frequent usage), and
- ❖ field maps for each inventoried community identify all parcels dedicated to crop cover.

This may be the only source that is

available which could assist our system operators/owners in identifying historical information on the use of pesticides within their watersheds and zones of contribution. Listed uses include, but are not limited to, the following: golf courses, orchards, pasture, hay, blueberry, corn, nursery, greenhouses, grapes, squash, alfalfa, mixed vegetables, and cranberry.

The University of Massachusetts will charge \$15.00 to cover its costs of providing this information to our public water systems. Suppliers who are also interested in locating the farm parcels within their water supply recharge areas may call The Environmental Institute for an appointment to review the field maps for this study.

For more information, please contact:

Ms. Judy Field
The Environmental Institute
Blaisdell House
University of Massachusetts
Amherst, MA 01003
(413) 545-2842 □

Community	# of Samples	90th Percentile Lead (mg/L)	# of Samples > 15 µg/L	Range (mg/L)
1	30	0.069	14	0.000 - 0.073
2	59	0.032	22	0.000 - 0.057
3	104	0.039	37	0.000 - 0.145
4	60	0.100	40	0.002 - 0.172
5	100	0.051	39	0.000 - 0.228
6	60	0.023	9	0.000 - 0.064

successful using that method, but many had to get out and knock on doors to sell the program. Potential samplers thought the caller was trying to sell a home treatment device or that they would be required to change their plumbing if they failed.

For DEP, the next difficulty encountered was data submission. Of the 39 communities sampling during the first monitoring period, 18 reported their data by the deadline of July 10, 1992. The disappointing statistic is that after going through the consecutive system waiver process and getting a reduction in the number of sampling sites for the MWRA communities, only six of 25 systems reported their data on time. (Four serve more than 50,000 and two serve under 50,000.) Some did not take the samples before the June 30, 1992 deadline, and one community still has not submitted any data.

Other problems that occurred during and after the first monitoring were:

- ◆ Two laboratories used a 10 µg/L detection limit for lead instead of the 1 µg/L in the method.
- ◆ Some utilities submitted only one set of water quality analyses instead of the required two. Many forgot to do their source water.
- ◆ One supplier sampled only schools and had to do another sampling plan.
- ◆ The only MWRA community that did not exceed the lead action level

took only eight samples. They are collecting additional samples. It was also discovered that the community was feeding polyphosphate into the supply.

- ◆ Sampling of schools was confused with compliance sampling and some suppliers used schools in their sampling pool. These suppliers sampled prior to getting their plan approved.
- ◆ One sample that showed 2.98 mg/L of lead was found to be from an outside faucet at a home where access was denied.

Community	# of Samples	90th Percentile Lead (mg/L)	# of Samples > 15 µg/L	Range (mg/L)
1	62	<0.01	2	0.000 - 0.028
2	60	0.010	2	0.000 - 0.029
3	63	0.013	4	0.000 - 0.023
4	80	0.004	4	0.002 - 0.840
5	64	0.003	1	0.000 - 0.019
6	57	0.013	6	0.000 - 0.280
7	102	<0.01	1	0.000 - 0.023
8	60	<0.01	0	0.000 - 0.010

- ◆ One school reported a lead value from a bubbler of 1.98 mg/L and it was determined the bubbler had not been in use for six months.

Data Review and Conclusions

The table on page 6 summarizes the lead results from the MWRA cities and towns. In many cases more than half of the lead results were greater than 15 µg/L and the maximum values were over 100 µg/L.

The water quality data suggests that pH adjustment has helped in reducing the copper levels and other studies have shown that lead levels dropped once the pH was raised. It was not surprising to find that two communities with similar water quality that have not adjusted their pH exceeded both the lead and copper action levels. The number of samples that exceeded 15 µg/L is much greater in the systems that exceeded the action level. One difficulty we are going to have is interpreting the results of the systems serving less than 50,000 persons that meet the action levels because they then do not have to collect the water quality parameter samples.

The other interesting development in the second round of sampling is the number of systems that have exceeded the copper action level but not the lead action level. We do not have any water quality information yet from which to draw any conclusions. □

In The Main

One Winter Street
Boston, MA 02108

Commonwealth of Massachusetts
William F. Weld, Governor

Executive Office of Environmental Affairs
Susan F. Tierney, Secretary

Department of Environmental Protection
Daniel S. Greenbaum, Commissioner

Division of Water Supply
David Y. Terry, Director
Anthony B. Abruzese, Editor

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■ Lead Sampling continued from page 1

MWRA system that serve fewer than 50,000. This was done as part of a consecutive system agreement the Massachusetts DEP worked out with the MWRA and the 25 member communities that receive fully treated water. The total sampling pool was reduced from 1500 sites to 375 sites. The MWRA agreed to collect and analyze the water quality samples.

The information packet contained a step-by-step plan to select the sampling sites for lead and copper as designated by the rule and the sites to do water quality parameters. The first item that had to be considered by utilities was whether or not they were a consecutive system. If they believed they qualified, they could submit a request for a reduction in the number of sampling sites required by their population served.

The next item was to select the targeted sampling sites for lead and copper as required by the rule. A table of codes was provided to indicate what sites fit into Tier 1, 2, or 3. The sites were to be listed on the appropriate form and the codes were used to identify what kind of sites were chosen. The form was then submitted to the regional office for approval.

This has not been an easy process, and an example of the frustration we have dealt with is the record of the Northeast Region, where they have reviewed 80 plans and only one was complete when submitted. The other regions have experienced a similar level of frustration. The problem appears to be a combination of inadequate instruction and utilities not reading what was sent to them. Before mailing packets to the systems serving less than 3,300, DEP is going to improve the material and provide a checklist to be completed before submission of the sampling plans.

To help with the sampling plan preparation process, workshops were held during the spring of 1992 in each of the four regions of the state. They were designed to inform the utilities of the requirements of the rule, and walk them through the things they needed to do. These workshops seemed to be more successful than the seminars held in the fall of 1991.

Implementing the Rule

The program for implementing the rule is in place, but actual implementation of the rule has proved to be more difficult than expected. Recruiting volunteers to do the sampling was one of the first obstacles the water suppliers faced. Response to mailed requests for participation was very poor. For example, Boston got an eight percent response to 120 letters and ended up using their cross-connection inspectors evenings and

weekends to recruit samplers. Springfield got a 19 percent response from customers in Springfield and 14 percent from Ludlow customers. However, some utilities have reported highly successful mail responses. One utility used a public relations firm and made volunteering seem like something they could not refuse because the free analysis was such a good deal. Telephone calling was the next step for utilities and many were

continued on next page

MWRA Community	Number of Samples	90th percentile Lead (mg/L)	# samples > 15 µg/L	Range mg/L
1	15	0.055	8	0.000 - 0.066
2	15	0.052	6	0.002 - 0.150
3	15	0.25	4	0.001 - 0.068
4	15	0.061	8	0.000 - 0.152
5	15	0.079	11	0.006 - 0.171
6	8	0.006	0	0.000 - 0.006
7	15	0.088	5	0.001 - 0.180
8	15	0.065	5	0.001 - 0.125
9	15	0.071	12	0.002 - 0.197
10	8	0.027	2	0.001 - 0.031
11	0			
12	15	0.036	4	0.001 - 0.058
13	15	0.071	9	0.002 - 0.130
14	15	0.066	8	0.002 - 2.980
15	15	0.067	10	0.000 - 0.194
16	15	0.069	10	0.021 - 0.215
17	16	0.045	10	0.004 - 0.130
18	25	0.048	10	0.000 - 0.078
19	15	0.062	11	0.000 - 0.153
20	15	0.071	12	0.012 - 0.124
21	15	0.070	9	0.000 - 0.297
22	15	0.163	5	0.001 - 0.265
23	15	0.052	5	0.001 - 0.078
24	15	0.084	9	0.000 - 0.125
25	15	0.066	10	0.009 - 0.114

Water Supply Land Acquisition Protection Statutes

Joan Pierce

Many local officials and water suppliers recently have asked about two statutes governing the acquisition, sale, exchange or change in use of land or easements acquired for water supply protection. M.G.L. Chapter 40A, §41 addresses acquisition of land or easements for the protection of water supply. Under this statute all such acquisitions, whether by purchase, taking by eminent domain, or other method, are subject to DEP approval, and DEP is required to hold a public hearing to receive comments regarding the suitability of the parcel for water supply protection. All lands and easements acquired pursuant to this section shall be under the control of the board of water commissioners and shall be managed in the best interest of the town or district.

A municipality or water district in the process of acquiring such property or easements, should contact the appropriate DEP regional office near the conclusion of negotiations to request a public hearing date. The regional office must allow two weeks for public comment following the close of the hearing. After that period, if the regional office determines that the acquisition is justified for the purpose of water supply protection, the parties may proceed with the closing.

If your town or water district is considering selling, exchanging or changing the use of land or easements acquired for water supply protection, you need to be aware of the requirements of M.G.L. Chapter 40A, §15B. This statute requires a municipality or water district to obtain approval from DEP prior to selling, exchanging or changing the use of any land or easements which the municipality or

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New Service To Small Community Public Water Systems

George Zoto



The Division of Water Supply has made arrangements with the National Drinking Water Clearing House (NDWC) to provide

its quarterly newsletter free of charge to our small community public water systems and the Selectmen of these communities.

The NDWC was established in 1991 at West Virginia University and funded by the Farmers Home Administration. Its mission is to develop and maintain services and information related to small and rural community drinking water systems.

The NDWC provides several free services for small communities and those interested in rural drinking water issues:

- ◆ a free quarterly newsletter;
- ◆ free telephone consultation technical assistance, and referrals;
- ◆ three databases storing information about technologies, regulations, and other issues important to small water systems;
- ◆ a free computer bulletin board; and
- ◆ free or low-cost educational products.

First distributed in March 1992, the newsletter *On Tap* provides drinking water news for America's small communities. It includes regulatory updates, health and educational information, hints about financial resources, and a calendar of events. About 7,000 people receive the newsletter already.

An engineer and two technical assistants are available at NDWC to answer questions about drinking water regulations, finances, and technological issues. If they cannot answer a question, they will refer the caller to an appropriate organization. For free consultation and referral services, call 1-800-624-8301.

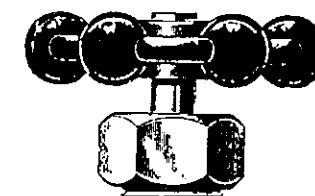
You can access information in three

databases by calling the NDWC's technical assistance number. In the future, some of these may be available through a modem. These databases include:

- ◆ the U.S. EPA National Primary Drinking Water Regulations database;
- ◆ a small systems facilities database for information about low-cost water treatment systems; and
- ◆ a bibliography (with abstracts) of research documents and products for small water systems.

The computer bulletin board system and the Drinking Water Information Exchange will help NDWC users discuss small water system concerns. You can use the bulletin board to ask and answer questions on drinking water issues. You can also post news items and receive information such as *On Tap* articles and its calendar of events. To use the bulletin board, you'll need a computer, a 300-2,400 baud modem, and communications software (no parity, 1 stop bit, 8 data bits). You can call the toll-free number 24 hours a day from anywhere in the United States: 1-800-932-7459.

Brochures, videotapes, government publications, and other free or low-cost educational products are available from the NDWC. Topics range from drinking water regulations to technologies to children's educational literature. □



CROSS CONNECTION UPDATE

1991 Annual Report Results

Bob Shaughnessy

Annual Reports were requested from all public water suppliers (PWS) serving more than 5,000 people, and/or any PWS's with a DEP-approved cross connection program.

Ninety-five out of the 237 suppliers did not respond to the informational packages sent to them in May 1992 and a reminder letter is being sent because they must comply by October 30, 1992 or enforcement actions will commence. (The accompanying table summarizes the results of 142 PWS reporting on their Cross Connection Programs).

As part of the annual report, each PWS was asked to assist DEP in reconciling the data from DEP's Cross Connection Database. With only 142 suppliers responding to date, 4,000 new devices were added since last year. DEP will be sending the corrected device database, by town, shortly. This listing will assist the PWSs in planning for scheduled inspections and testing. DEP wants to thank all suppliers who assisted in this effort.

Data Management Issues

In order to streamline data entry and keep DEP's database current, DEP-Boston is requesting that each PWS presort all inspection and testing reports into one of four categories and submit them in a batch to DEP-Boston on a quarterly basis, or when you complete a round of testing, whichever comes first. DEP will require that all DEP cross connection identification numbers be clearly marked on the semi-annual inspections. DEP-Boston will update the Cross Connection Database and return to the PWS an updated listing when all additions and modifications are completed. The four categories are: (1) Initial inspections, (2) Modifications to database, (3) Failed semi-annual inspections, and (4) Passed semi-annual inspections. By grouping

these inspections this way, DEP-Boston data management personnel will be able to keep the database current and return to the PWS a periodic up-to-date device listing.

Audits

Each DEP Regional Office is required to perform eight audits of Public Water Suppliers' cross connection programs per fiscal year. The Boston Office has prepared a list of Public Water

Suppliers which, in the opinion of the Boston Office, should be considered for an audit. This list was assembled from information from the annual report, complaints, or the lack of information which should be coming in from listed PWSs.

An audit of a PWS's cross connection program consists of a meeting with the PWS's cross connection personnel. Audits are performed on delegated (118) or approved (34) programs. The audit consists of a review of: the original and/or approved DEP-revised program plan; all annual reports; survey of completed listing violations found and corrected; and the results of testing of all DEP-permitted devices. Records management, review and accuracy of field inspectors'

Continued on page 8

Reports Received by Aug. 1992	Total State
Public Water Suppliers Reporting	142
Program Status	
▪ Delegated	116
▪ Approved	32
▪ Pending Approval	27
▪ No Program/Unknown Status	62
Survey Status	
▪ Town Surveys > 50% Complete	47
▪ Town Surveys < 50% Complete	96
▪ Towns Not Reporting Status	94
Total Permitted Backflow Preventers	18,964
Permitted Local Devices	5,237
Systems Charging Fees	
Facility Survey Fee - Average	\$47.00/hour
Systems Testing Devices	
Testing Fee - Average Per Device	\$54.00
Systems Retesting Devices	
Retesting Fee - Average Per Device	\$55.00

Circuit Rider Northeast...

Salute to Communities



Jude Hutchinson

The Circuit Rider staff are currently working with selected municipalities in DEP's Northeast Region. Twenty-four cities and towns were selected to participate based on their history of contamination, lack of alternative sources, inadequate protection controls and proximity of sources to hazardous waste sites.

DEP's Water Supply Section Chief, Chester Masel, Steve Johnson of the Bureau of Waste Site Cleanup, and their staff worked closely with DWS-Boston in selecting towns that could benefit from these services. Thank you to Kellie O'Keefe, DWS/Northeast, for acting as Regional Liaison for this program!

Norfolk

Salutes to Norfolk's Jim Martin, Superintendent of the Water Department, Sally Dewey and Peter Bukunt of the Zoning Bylaw Committee, and Gerald Hughes, Building Inspector, for their participation on August 19th. They met with Mary Wheeler and Kellie O'Keefe to discuss amendments to their zoning bylaws and controls on septic systems. We applaud and encourage their efforts to bring an improved Aquifer Protection

District Bylaw to their Fall Town Meeting.

Reading and North Reading

Salutes to Reading and North Reading for their participation in a cooperative meeting to discuss water supply protection planning. Ted McIntire, DPW, Jonathan Edwards, Planner, and Don Nadeau, Conservation Administrator, represented Reading; Robert Rogers, Town Planner, represented North Reading. Discussion focused on sewerage of an industrial park and inspecting commercial facilities. Thank you to all involved!

Weymouth

Salutes to Weymouth's John Buckley, Superintendent of the DPW, Helena Murray, and William Neal, both on the DPW's Board of Directors, for their participation on September 9th. The consultation focused on Zone II delineations, wellhead protection requirements for Water Management Act Permits, and Weymouth's new general bylaw which requires commercial and residential tie-in to public sewers within 5 years. Hats off to Weymouth!

Walpole

A salute to Walpole's Health Agent, Robin Chapell, for her interest in seeing commercial businesses comply with the new regulations for floor drains, and her participation on September 16th. The Massachusetts Underground Injection Control (UIC) regulations prohibit discharges of hazardous materials to the ground through floor drains. Jacob Moss, Circuit Rider consultant and UIC specialist, will work with Ms. Chapell to inspect commercial facilities within the Zone IIs of Walpole's wells.

Medfield

Medfield's Kenneth Feeney and Lee Beverage and Dave Jacobsen, Amory Engineers, met with Jude Hutchinson to discuss amendments to existing zoning regulations in order to meet the wellhead protection mandate for their Water Management Permit for Well # 6. Zone I control issues and conservation easements were also discussed. We salute all participants!

Sherborn

Salutes to Sherborn's Susan Adler, Town Administrator, and Michael Pakstis, DPW Director, for meeting with both Jim Persky and Jude Hutchinson to discuss past contamination incidents of small non-community systems and possible sources and long term planning for a public source which serves residents. Good luck in exploring options!

Sudbury

Members of Sudbury's Planning Board, Michael Meixsell and Ursula Lyons, Town Planner Jody Kablick, and Bob Sheldon, Water Commissioner, met with us to discuss amendments to their Water Resource Protection Bylaw and controls on risky land uses. Sudbury has several wells, some of which are subject to the wellhead protection requirements for Water Management Permits. We applaud the Water District and town

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Are you concerned about construction practices in your watershed?

The Division of Water Supply recently obtained an excellent videotape entitled "Keeping Soil on Construction Sites: Best Management Practices."

This 50-minute training program covers topics including erosion prevention, soil stabilization, phased construction, silt fence installation, and retention basins. It is available for \$20.00 from the Ohio Federation of Soil and Water Conservation Districts, Building E-2, Fountain Square, Columbus, OH 43224 (614-265-6610) and comes with 10 student workbooks and 1 instructor's manual. DWS has one copy to lend out. If you are interested in borrowing it, please contact Mary Wheeler at 617-292-5929.

The Executive Office of Communities and Development recently issued requests for proposals for the FY'93 Municipal Incentive Grant Program. Grants under this program have been used in the past to do water supply protection studies. If your town is interested in the program, contact Mark Siegenthaler at EOCD, 617-727-3197. □