

IV. WELLHEAD PROTECTION AREA MANAGEMENT

The goal of this element is to provide mechanisms which will prevent existing and potential sources of contamination from reaching the area's municipal water supply wells. Existing regulatory controls that can easily be adapted as WHP management methods have been reviewed and additional management methods were developed by the Wellhead Protection Team.

In developing the management strategy, it was acknowledged that it is highly improbable that all risks in the WHPA can be eliminated, but by applying one or more management tools the likelihood of groundwater contamination impacting the municipal water supply in the future can be reduced.

While some of the proposed management options refer to existing regulatory programs, it was recognized that protection of the WHPA can best be accomplished by developing partnerships with local business, industry, and private property owners and focusing on education/training and pollution prevention concepts. Additionally, it was recognized that the City's WHPP will require regular review and updates to evaluate the effectiveness and appropriateness of the selected management options.

A. EXISTING REGULATORY PROGRAMS

The City's use of the following existing regulatory programs in the Wellhead Protection Program Plan are detailed in the next section.

Part 22 of PA 451, Michigan Natural Resources and Environmental Protection Act

Part 22 requires certain notifications be made for groundwater discharges located within a MDEQ approved wellhead protection area. Part 22 also specifies certain isolation distances from water supply wells. This program provides the Local Unit of Government notification of permitted groundwater discharges.

In the future, when a Part 22 related transmittal is received, the City will contact MDEQ or the City's Environmental Consultant to determine what action, if any, should be taken.

Part 213 of PA 451, Michigan Natural Resources and Environmental Protection Act

Part 213 requires notification be made to the Local Unit of Government if land use restrictions are being implemented as part of a leaking petroleum underground storage tank cleanup. This program will provide the Local Unit of Government notification of petroleum contaminated sites.

Use of this existing program as part of the City's WHPP is discussed later in this Section.

B. REVIEW OF MANAGEMENT STRATEGY OPTIONS

Review of the management options was completed by the Wellhead Protection Team. Table 3 outlines the options reviewed and lists the advantages and limitations of each option. The City Manager was assigned the lead responsibility to recommend what specific WHPA management options should be presented to the City of Harbor Springs Council for further consideration.

TABLE 3
WELLHEAD PROTECTION AREA MANAGEMENT OPTIONS

Regulatory: Zoning	Advantages	Limitations
Overlay GW Protection Districts	<ul style="list-style-type: none"> • <i>Similar</i> to other overlay zoning methods familiar to planning commissions. • Targeted to specific wellhead protection areas. • Restricts certain high risk land uses in wellhead protection areas. • WHPAs are identified on practical base/zoning map. 	<ul style="list-style-type: none"> • Requires staff to develop overlay map. • Requires modifying existing zoning ordinance. • Inherent nature of zoning provides "grandfather" protection to pre-existing uses and structures.
Site Plan Review	<ul style="list-style-type: none"> • Requires developers to design facilities for groundwater protection • Assurance/consistency with County and State permits • Proactive-places community in process of protecting groundwater 	<ul style="list-style-type: none"> • Requires qualified staff or consultants • Administrative cost higher
Permits Checklist	<ul style="list-style-type: none"> • Alerts businesses to environmental permit requirements • Helps community monitor environmental risks 	<ul style="list-style-type: none"> • Requires staff to develop system
Prohibition of Various Land Uses	<ul style="list-style-type: none"> • Used within mapped WHPAs to prohibit known groundwater contaminants and processes that generate contaminants. 	<ul style="list-style-type: none"> • Requires amendment to zoning ordinance. • Requires enforcement by both visual inspection and on-site investigations.
Special Permitting	<ul style="list-style-type: none"> • Used to restrict contaminant uses within WHPAs that may cause groundwater contamination. • Community adopts special permit "thresholds" for various uses and structures within WHPAs. Community grants special permits for "threshold" uses only if groundwater quality will not be compromised 	<ul style="list-style-type: none"> • Requires detailed understanding of WHPAs sensitivity by local permit granting authority. • Requires enforcement of special permit requirements and on-site investigations. • Requires case-by-case analysis to ensure equal treatment of applicants.
Transfer of Development Rights	<ul style="list-style-type: none"> • Used to transfer development from WHPAs to locations outside WHPAs. 	<ul style="list-style-type: none"> • Cumbersome administrative requirements. • Not well-suited for small communities without significant administrative resources.
Cluster/PUD Design	<ul style="list-style-type: none"> • Allows for "point source" discharges that are more easily monitored by guiding residential development outside of WHPAs. 	<ul style="list-style-type: none"> • Slightly more complicated to administer than traditional "grid" subdivision. • Enforcement/inspection requirements are similar to "grid" subdivision.
Growth Controls/Timing	<ul style="list-style-type: none"> • Community imposes growth controls in the form of building caps, subdivision phasing or other limitation tied to planning concerns which allows the community an opportunity to plan WHPA protection. 	<ul style="list-style-type: none"> • Generally complicated administrative process. • Requires administrative staff to issue permits and enforce growth control ordinances.

**TABLE 3 (cont.)
WELLHEAD PROTECTION AREA MANAGEMENT OPTIONS**

Regulatory: Health Regulations	Advantages	Limitations
Compliance with existing regulations	<ul style="list-style-type: none"> • Inexpensive/easy to enact and administer • Places burden on applicants to obtain permits/approvals 	<ul style="list-style-type: none"> • Local groundwater may be vulnerable if other permit agencies fail to enforce compliance
Regulating or prohibiting Underground Fuel Storage Systems	<ul style="list-style-type: none"> • Monitors or eliminates underground fuel storage systems (UST) within WHPAs. 	<ul style="list-style-type: none"> • Prohibition of USTs require little administrative support. • Regulating USTs require moderate amounts of administrative support for inspection follow-up and enforcement.
Privately Owned Wastewater Treatment Plants (Small Sewage Treatment Plants)	<ul style="list-style-type: none"> • Prohibit Small Sewage Treatment Plants (SSTP) within WHPAs. 	<ul style="list-style-type: none"> • Prohibition of SSTPs require little administrative support. • Regulating SSTPs require moderate amount of administrative support for inspection follow up and enforcement.
Prohibit Septic Cleaners Containing Solvent Compounds	<ul style="list-style-type: none"> • Prohibits the application of certain solvent septic cleaners within WHPAs. 	<ul style="list-style-type: none"> • Difficult regulation to enforce even with sufficient administrative support.
Septic System Upgrades	<ul style="list-style-type: none"> • Requires periodic inspection and upgrading of septic systems. 	<ul style="list-style-type: none"> • Significant administrative resources required for this option to be successful.
Toxic and Hazardous Material Handling Regulations	<ul style="list-style-type: none"> • Promotes proper handling and disposal of toxic materials/waste. • Community knows what is being used and where • Hazardous substance users may have incentive to reduce or eliminate use 	<ul style="list-style-type: none"> • Requires administrative support and on-site inspections.
Regulatory: Subdivision Control		
Drainage Requirements	<ul style="list-style-type: none"> • Uses advanced engineering designs of subdivision roads within WHPAs to ensure that road drainage is directed outside of WHPAs. 	<ul style="list-style-type: none"> • Requires moderate level of inspection and enforcement by administrative staff.

**TABLE 3 (cont.)
WELLHEAD PROTECTION AREA MANAGEMENT OPTIONS**

Nonregulatory: Land Transfer and Voluntary Restrictions	Advantages	Limitations
Sale/Donation	<ul style="list-style-type: none"> • Provides broad protection to the groundwater supply. 	<ul style="list-style-type: none"> • There are few administrative requirements involved in accepting donations or sales of land from the private sector. • Administrative requirements for maintenance of land accepted or purchased may be substantial, particularly if the community does not have a program for open space maintenance. • Legal consequences of accepting land for donation or sale from the private sector, mostly involving liability.
Monitoring	<ul style="list-style-type: none"> • Monitors groundwater quality within WHPAs. 	<ul style="list-style-type: none"> • Requires moderate administrative staffing to ensure routine sampling and response if sampling indicates contamination.
Contingency Plans	<ul style="list-style-type: none"> • Provides appropriate response in cases of contaminant release or other emergencies within WHPAs. 	<ul style="list-style-type: none"> • Requires significant up-front planning to anticipate and be prepared for emergencies.
Hazardous Waste Collection	<ul style="list-style-type: none"> • Reduces the accumulation of hazardous materials within WHPAs and the community at large. 	<ul style="list-style-type: none"> • Hazardous waste collection programs are generally sponsored by government agencies, but administered by a private contractor.
Public Education	<ul style="list-style-type: none"> • Informs community residents of the connection between land use within WHPAs and drinking water quality. 	<ul style="list-style-type: none"> • Requires some degree of administrative support for programs, such as brochure mailing, to more intensive support for seminars and hazardous waste collection days.
Legislative:		
Regional WHPA Districts	<ul style="list-style-type: none"> • Protects regional aquifer systems by establishing new legislative districts that often transcend existing corporate boundaries. • Provides for protection of areas outside an individual community • Involves many stakeholders. • Efficient use of technical and administrative resources by reducing duplication of tasks. • Increases coordination between communities. 	<ul style="list-style-type: none"> • Difficult to develop due to several planning/governmental bodies. • May be perceived as reducing local control on land use/zoning issues.
Land Banking	<ul style="list-style-type: none"> • Acquires and protects land within WHPAs. 	<ul style="list-style-type: none"> • Land banks require significant administrative support if they are to function effectively.

C. SELECTED MANAGEMENT STRATEGIES

After review and discussions of WHPA management options, the Wellhead Protection Team recommended that several options be formally recommended to the City Planning office for implementation. The Wellhead Protection Team determined that some options were too complex and administratively expensive to administer or were otherwise not appropriate for the local area. Other regional options were perceived to be difficult due to the required coordination of activities between communities, especially in light of the differences in existing land use and zoning administration between Harbor Springs and the neighboring Townships.

These management strategies reflect current concepts, thoughts and experiences from other communities. Since ideas may change as new information becomes available, these management strategies will be regularly reviewed and revised as appropriate.

The following options have been recommended by the Wellhead Protection Team.

1) PUBLIC EDUCATION/AWARENESS AND WHPP PLAN MAINTENANCE

It is recognized that public education, awareness and regular maintenance of the WHPP Plan will be a key element of the long-term success of the WHPP. Specific current and future actions include:

- ✓ Installation of “Wellhead Protection Area” road signs at the edge of the City’s WHPA.
- ✓ Distribution of an informational wellhead protection brochure.
- ✓ Provide City Offices with a copy of the Wellhead Protection Plan for public review.
- ✓ Use the annual Consumer Confidence Reports to initially introduce the concept of wellhead protection. This will continue in the future and will provide detailed information on various aspects of WHP (i.e. household hazardous waste disposal, water conservation, abandoned wells, etc.).
- ✓ Develop a website to provide the public with information and to increase awareness of the Wellhead Protection Area and efforts being conducted by the City for water quality protection.
- ✓ Conduct meetings with adjacent municipalities and property owners to solicit participation with land use planning for the wellhead protection area.
- ✓ Identify and publicize used oil recycling centers.

2) ABANDONED WELL PROGRAM

The City will consider developing an abandoned well program to identify and plug unknown abandoned wells.

If developed, the City will actively solicit property owners to identify abandoned wells. If reported, the City will record the well location and owner. The City will annually attempt to identify funding sources (County Groundwater Stewardship Program, MDEQ Abandoned Well Management Program) to have the wells properly abandoned.

The City will also consider confirming that on-site wells be addressed when demolition permits are issued. The intent is to ensure abandoned wells are properly plugged prior to demolition activities occurring, since after demolition activities it is difficult, at best, to locate old wells.

3) LINKING THE WHPP TO OTHER CITY PLANS

The City recognizes that the long-term success of the Wellhead Program will depend, in part, on a large cross-section of individuals and groups understanding and recognizing the value in the

program's goals. One way to accomplish this is to link the Wellhead Protection Program Plan to other City plans (e.g. Master Plans, Policy Plans, Strategic Plans, Single-Issue Plans).

Future updates to the City's Water Supply Master Plan will include consideration of the Wellhead Protection Program Plan. Specifically, the Water Supply Master Plan may be used to budget for long-term Wellhead Protection activities (e.g. public awareness, contaminant source inventory maintenance, contingency plans updates).

4) COUNTY PARTNERSHIP

The City will deliver a copy of the MDEQ approved delineated Wellhead Protection Area to the Emmet County Health Department, Environmental Health Division.

The County is responsible for issuing on-site septic and water well permits. The City will request that the County consider the WHPA in future permitting decisions, as appropriate. This will include on-site septic inspections during property transactions. The City will periodically contact the County to confirm that the Health Department inspector is aware of the location of the City's WHPA. The intent of staying in contact is to minimize potential disruptions in WHPA inspections as the result of County personnel changes.

The City will also consider a partnership with the County, adjacent Townships and the City of Harbor Springs on future public education efforts (i.e. abandoned wells, small business pollution prevention or waste reduction). The combined City/Township/County efforts to inform small business owners could have a long-term positive impact on groundwater quality.

5) CITY COORDINATION OF CONTAMINATED SITE CLEANUPS

Cleanup at leaking underground storage tank properties or other sites of contamination in Michigan is regulated under Part 213 and Part 201 of Michigan's Natural Resource and Environmental Protection Act. Part 213 and Part 201 allow environmental cleanups that leave certain concentrations of contaminants in soil and groundwater. Future land use at the contaminated site is restricted when this approach is taken. Additionally, this approach includes filing a "Notice to Local Unit of Government of Land Use Restrictions" form with the municipality where the restricted land use is being proposed. Various similar notifications are also required of responsible parties if contaminants migrate off of the source site of contamination and impact off-site properties.

If these forms are filed for a property located within City of Harbor Springs's portion of the WHPA, the City (or their representative) will contact MDEQ to review the proposed cleanup approach. However, since the WHPA extends into the surrounding Townships, the City will need to work with West Traverse, Little Traverse, Pleasantview and Friendship Townships to develop a mechanism to inform Harbor Springs if a notification is received for property located within or near the adjacent City's portions of the WHPA.

The City and Townships will consider development of a system to notify Harbor Springs if a "Local Unit of Government" notification of land use restriction is being implemented as part of a contaminated site cleanup, or if another form of contaminant migration notification is received.

If received, City of Harbor Springs will contact the MDEQ Cadillac District office to inform that the contaminated property is located in a Delineated Wellhead Protection Area. The City will request that the MDEQ strongly consider the Wellhead Protection Area when reviewing proposed corrective action activities at the contaminated site.

Copies of the "Notice to Local Unit of Government of Land Use Restrictions" form and other required contaminant notification forms are included in Attachment C.

6) ENVIRONMENTAL PERMIT CHECKLIST

In considering the use of an Environmental Permit Checklist, the Wellhead Protection Team intent was to safeguard the public health, safety and welfare of citizens and institutions that are customers of the City Water System, by monitoring land development in and around the WHPA. Additionally, the intent of the Permit Checklist is to assist developers in complying with various state and county environmental permit requirements.

A copy of an Environmental Permit Checklist for use in the City is included in Attachment C.