DRINKING WATER SOURCE PROTECTION PLAN

for

the Village of PIERCETON

PWS ID# 1234567

December 18, 2014

Prepared by:
Midwest Water Resources
120 N. Kensington Place
Springfield, OH 45504
740-408-4742

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1.0 INTRODUCTION

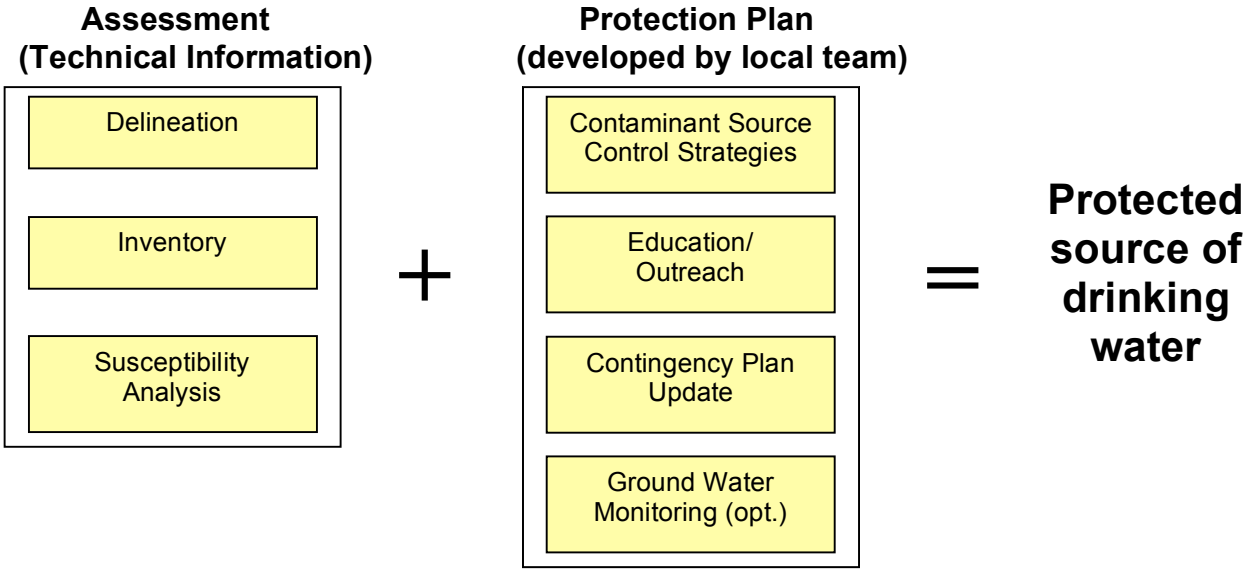
The Village of Pierceton has developed a Source Water Protection Plan ("Protection Plan") to document the strategies we will implement to protect the aquifer that supplies our drinking water from land-based contamination. Components of the Protection Plan include: contaminant source control strategies, education and outreach strategies, and contingency plan update.

This Protection Plan builds on the Source Water Assessment Report that was completed for Village of Pierceton by Ohio EPA. This assessment (see Appendix A) includes delineation of the one year and five year time of travel areas, a potential contaminant source inventory and a susceptibility analysis. The potential contaminant source inventory was updated in November 2014 by Midwest Water Resources, to ensure the protective strategies documented here are based on currently existing contaminant sources.

1.1 BENEFITS OF A PROTECTION PLAN

A Protection Plan:

- Helps the Village of Pierceton provide the safest and highest quality drinking water to its customers at the lowest possible cost;
- Helps to plan for future expansion, development, zoning and emergency response issues; and
- Can provide more opportunities for funding in order to improve infrastructure, purchase land in the protection area, and other improvements to the wellfield.



1.2 SUMMARY OF PIERCETON'S SOURCE WATER ASSESSMENT

Pierceton operates 4 wells that pump approximately 0.4M gallons of water per day from a confined sand and gravel aquifer (water-rich zone) within the St. Joseph River Valley aquifer.

The drinking water source protection area for the Village of Pierceton's wells are illustrated in the Drinking Water Source Assessment report prepared by Ohio EPA . The source water protection area includes two zones, one inside the other. The "inner protection zone" is the area that provides ground water to the wells within one year of pumping. The "outer protection zone" is the area that contributes water when the wells are pumped for five years.

Although the wells provide water to Pierceton the wellfield is located in German Township as well as in Pierceton's municipal boundary.

Based on relevant databases and a field inspection of the area, 13 potential sources of contamination were identified within the protection area. These include county roads, farms, and underground storage tanks.

The Village of Pierceton susceptibility to contamination is low due to a confining layer of clay.

2.0 FORMING A PROTECTION TEAM

The Source Water Protection Plan was developed by a local team made up of Pierceton staff and a member of the public.

2.1 BUY-IN BY DECISION MAKERS

The Village of Pierceton held a source water protection planning meeting attended by 7 individuals on July 3, 2014.

2.2 PROTECTION TEAM MEMBERS

Date Protection Team was formed: May 15, 2014

Table 2-1. List of Protection Team Members

Name (E-mail address)	Title	Organization	Phone Number
John Anderson water@northbend.oh.us	Water Plant Operator	North Bend	123-456-7895
Maisie Rose	Mayor	North Bend	123-456-9853
Reed Ara	Citizen	General Public	123-456-3258

3.0 STRATEGIES FOR CONTAMINANT SOURCES

The goal of this section is to develop protective strategies for the potential contaminant sources in the Village of Pierceton's protection area. The potential contaminant sources listed in the Source Water Assessment Report (see Appendix A) were evaluated. The Village of Pierceton developed specific protective strategies the community will use to protect its drinking water from the types of potential contaminant sources identified. A listing of the potential contaminant sources in the Village of Pierceton's protection area and the protective strategies selected to address them is presented in the following table.

Table 3-1. Strategies to Reduce Risk of Specific Contaminant Sources

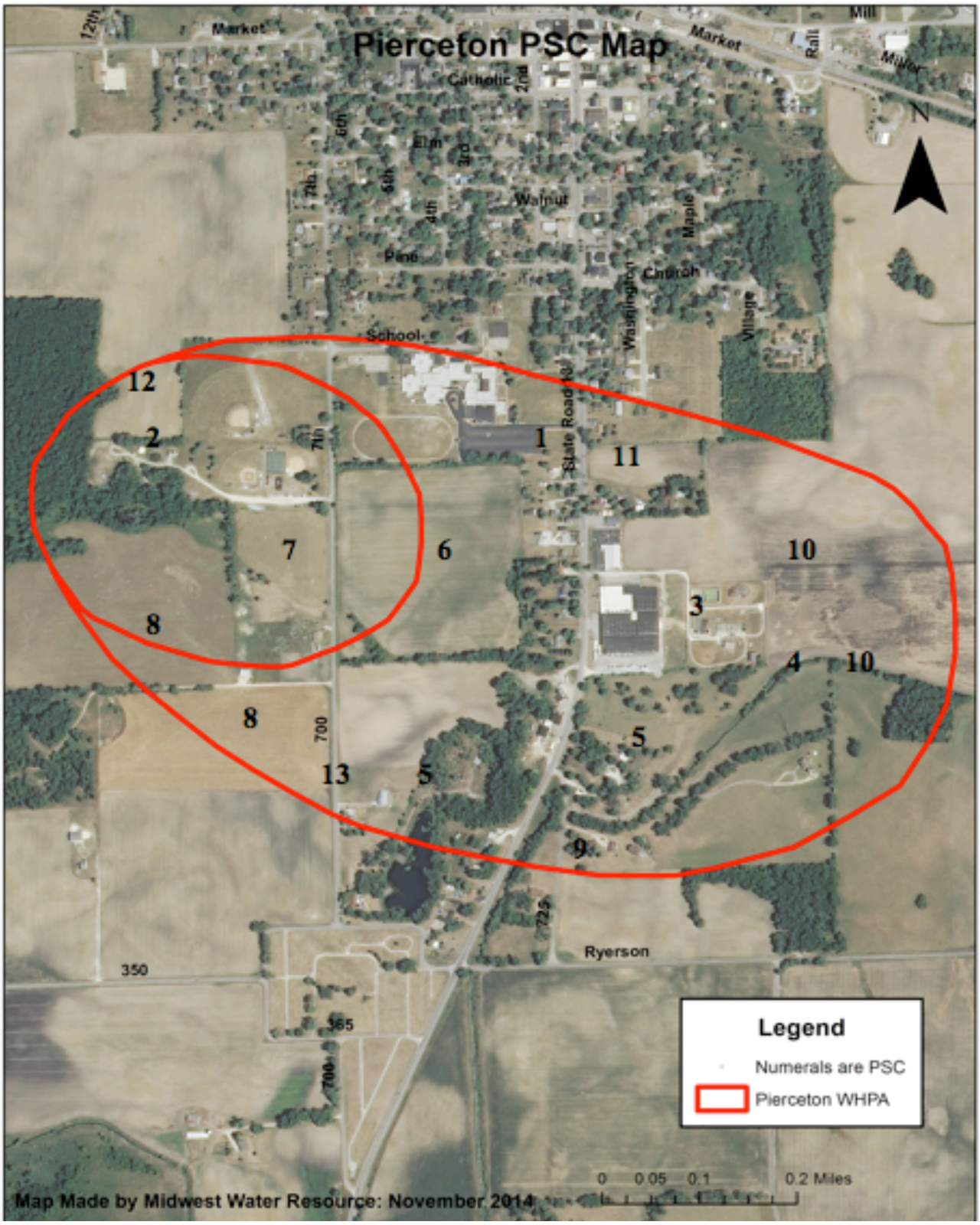
Map ID	Agency ID	Owner Address	Potential Contaminant Source	Priority/ Level of Threat	Protective Strategies	Timeline for Imple-mentation	Who Will Implement? [Name/Title]
1	**LUST OEPA 9036**	Whitko Community School Corp. 432 S. First St Pierceton, OH 46562	Leaking Underground Storage Tank and two above ground tanks with no 2nd containment	1	Send PSC letter detailing recommended strategies Research funding for 2nd containment	December 2014 June 2015	Midwest Water Resources Village Operator
2	**NPDES OH00484 11**	Pierceton Water Department 508 S 7th St Pierceton, OH 46562	Water Treatment Plant Outfall tested for iron, pH, and suspended solids—these parameters do not threaten the groundwater	3	Send PSC letter detailing recommended strategies Continue to monitor per NPDES Permit	December 2014 Ongoing	Midwest Water Resources Village Operator

3	**NPDES OH00205 41**	Pierceton WWTP 529 S 1st St Pierceton, OH	Waste Water Treatment Plant and sbove ground storage tank with 2nd containment Possible surface water contamination from bacteria and nutrients. Possible petro spills	3	Send PSC letter detailing recommended strategies Continue to monitor per NPDES Permit	December 2014 Ongoing	Midwest Water Resources Village Operator
4	**NPDES OH00309 96**	Whitley Products 493 S Circle Dr W, Pierceton, OH 46580	NPDES Outfall Discharges associated with stamping, plating, soldering, and painting industrial tubing systems	3	Send PSC letter detailing recommended strategies Continue to monitor per NPDES Permit	December 2014 Ongoing	Midwest Water Resources Owner
5	**SG43010**	Collier 3282 S 725 E Pierceton, OH 46562	Abandoned sand and gravel pit and Row Crops and Farm Operation Possible agricultural chemical release and septics (nitrates and e. coli)	1	Send PSC letter detailing recommended strategies Visit landowner to talk about pit maintenance and safety	December 2014 2015	Midwest Water Resources Village Operator and Mayor
6	**None**	Downs 512 S First St Pierceton, OH 46562	Row Crops and Farm Operation Possible agricultural chemical release and septics (nitrates and e. coli)	2	Send PSC letter detailing recommended strategies	December 2014	Midwest Water Resources

7	**None**	Harvest Community Ministries Inc PO Box 93 Pierceton, OH 46562	Row Crops and Farm Operation Possible agricultural chemical release and septics (nitrates and e. coli)	2	Send PSC letter detailing recommended strategies	December 2014	Midwest Water Resources
8	**None**	Collier 8527 S 400 E Claypool, IN 46510	Row Crops and Farm Operation Possible agricultural chemical release and septics (nitrates and e. coli)	2	Send PSC letter detailing recommended strategies	December 2014	Midwest Water Resources
9	**None**	Linn 3415 S 725 E Pierceton, OH 46562	Row Crops and Farm Operation Possible agricultural chemical release and septics (nitrates and e. coli)	2	Send PSC letter detailing recommended strategies	December 2014	Midwest Water Resources
10	**None**	Town Of Pierceton Clerk Treasurer PO Box 496 Pierceton, OH 46562	Row Crops and Farm Operation Possible agricultural chemical release and septics (nitrates and e. coli)	2	Send PSC letter detailing recommended strategies	December 2014	Midwest Water Resources
11	**None**	Krull 40 EMS T13f Ln Leesburg, IN 46538	Row Crops and Farm Operation Possible agricultural chemical release and septics (nitrates and e. coli)	2	Send PSC letter detailing recommended strategies	December 2014	Midwest Water Resources

12	**None**	Robinson 2526 E Old Road 30 Pierceton, OH 46582	Row Crops and Farm Operation Possible agricultural chemical release and septics (nitrates and e. coli)	2	Send PSC letter detailing recommended strategies	December 2014	Midwest Water Resources
13	**None**	Kosciousko County HWY Department 2936 E Old Road 30 Pierceton, OH 46582	County Roads Possible petro and chemical spills	1	Send PSC letter detailing recommended strategies Install SWPA Road Signs	December 2014 2015	Midwest Water Resources ODOT and Village

Map of Potential Sources of Contamination



4.0 EDUCATION AND OUTREACH

The purpose of the Protection Team's education and outreach efforts is to inform people who live and work in Village of Pierceton's drinking water source protection area about where their drinking water comes from and why it is important to protect this valuable resource. Education and outreach efforts will also inform the community how their activities can potentially impact groundwater and what they can do to prevent contamination.

Table 4-1. Educational Strategies

Education and Outreach Strategies	Target Audience	Time line for Implementation	Who (name and title) will implement this strategy?
Consumer Confidence Report – include information about actions residents can take to protect source water quality*	Water customers	Distribute annually, in March	PWS operator
Notify Potential Sources of Contamination of voluntary steps they can take to protect the aquifer.	PSC Owners	Done	Midwest Water Resources: consultant
Post WHPA Boundary Markers	Public	Before 2016	Village and ODOT
Provide property owners in the WHPA information about proper well abandonment and septic maintenance	Landowners	Before 2017	PWS Operator

*

Proposed CCR Language

In Pierceton, our drinking water comes from groundwater. Help us protect our wells from contamination. Never dump any oil or chemical on the ground! Information on disposal of household hazardous wastes is available from the Chandonay County Solid Waste District: 574-372-2965 www.kcrecycling.com Anyone interested in viewing Pierceton's Drinking Water Protection Plan should call Andy Duphrane at 123-456-8127.

5.0 UPDATE OF CONTINGENCY PLAN

A well-formulated contingency plan enables a utility to prepare for, respond to, and recover from crisis conditions without wasting time on futile or unnecessary efforts or spending funds unnecessarily. The plan defines the duties, responsibilities, and functions of all Pierceton personnel with respect to each specific emergency condition. The Village of Pierceton has developed procedures to address specific situations that can be expected to arise, and these are documented in the Village of Pierceton's water plant contingency plan.

The following are issues that are specific to drinking water source protection. This information has been included in the water plant contingency plan.

5.1 DRINKING WATER SHORTAGE – SHORT TERM LOSS OF SOURCE

If the Village of Pierceton experiences a short-term loss of its drinking water source (such as through a short-lived emergency on the wellfield, collapse of a well, etc.), it will coordinate with the county Emergency Management Coordinator to have State resources provide water trucks.
The Village of Pierceton can provide water from existing storage for up to _2_ days, provided it is not necessary to flush out the entire distribution.

Current storage in gallons **/** (# of customers x 100 gal/day) = **# of days of storage**

5.2 DRINKING WATER SHORTAGE – LONG-TERM LOSS OF SOURCE

In the event of complete loss of the current wellfield, the Village of Pierceton would most likely investigate tying in with another nearby system, such as East Bend. Current water treatment capacity of East Bend is _____20 M_ gallons/day, and its average daily pumpage for its own customers is 15 M gallons/day.

5.3 FUNDING FOR WATER EMERGENCIES

The Village of Pierceton currently has $10,000 budgeted for emergency use. Only the Village Council can authorize the expenditures from this account under the advice of staff. If additional monies are required the Village of Pierceton would have to consider issuing bonds or borrowing money in some other fashion. See page _22_ of the Contingency Plan for more details.

5.4 PLANNING FOR THE FUTURE

A. Current average daily pumpage = 400000 gallons per day (as of 10.31.14
B. Current daily Pierceton design capacity) = ____700000___ gallons per day (as of 10.31.14)
C. Wellfield capacity (the maximum amount the wells can pump, based on the capacity of the pumps) is 770000 gallons per day.

The Village of Pierceton currently is pumping about 57% (A/B) of its design capacity and 52% (A/C) of its wellfield capacity

Census figures indicate that the village has maintained a steady population since 1980. Currently no significant growth or decline of population is anticipated. Due to the depth of the aquifer, ground water levels in the vicinity have remained fairly steady even during major drought years. Also, at this time the village is not aggressively developing and does not anticipate a sudden spike in industrial use of the water.

Based on this, Pierceton does not anticipate the need to expand the wellfield or significantly increase pumpage within the next 5-10 years.

5.5 EMERGENCY RESPONSE TO A TOXIC SPILL/RELEASE IN PROTECTION AREA

The Village of Pierceton contingency plan addresses accidental chemical spills and releases in the protection area. A copy of this information is shown on the following page:

Accidental Chemical Spill or Release within the Protection Area

1. ( ) Determine the following information:
   Who made the first observation? What is their phone number and location?
   When did it happen?
   What is it?
   Where is it? Is it isolated to one area or is it wide spread?
   Has the spill been reported to Ohio EPA?
   Has the fire department or hazardous materials response team been notified?
   Has the property owner been notified?

2. ( ) If no notifications have been made, immediately contact emergency personnel and agencies (i.e. fire dept., Ohio EPA, etc.) using the phone number(s) found in Appendix A of the Contingency Plan. Notify them of the situation.

3. ( ) Contact the following work personnel, city officials, and contractors using the phone number(s) found in Appendix A of the Contingency Plan

Operator: 123-456-9127
Mayor: 123-456-1658
Peerless Pumping (contractors): 987-254-1659

4. ( ) If it is safe to do so visit the scene to make contact with on-scene emergency personnel and agencies. The local fire department is generally the lead response agency.

5. ( ) Complete the following activities as soon as possible:

   a. ( ) Perform a physical check on the wellheads and its structural integrity (check wells for damage, etc.).
   b. ( ) If it is determined that the spill resulted in the probable introduction of contaminants into the wells, proper precautions must be taken during sampling to prevent exposure to the contaminant and/or daughter products.
   c. ( ) If repairs are needed, coordinate with the lead response agency and Ohio EPA to ensure the safety of the repair crew. Proper precautions must be taken to prevent exposure to the contaminant and/or daughter products.
   d. ( ) If the water plant needs to be temporarily shut down as a result of the spill, the procedures can be found on page __12_ of the contingency plan. Plans for short term loss of source can be found on page __10_ of the contingency plan.

6. ( ) If the wells are secure, coordinate with the lead response agency and Ohio EPA on actions being taken to mitigate the spill. At a minimum, obtain the following information:

   Who is responsible for the cleanup? What is their phone number and other contact information?
   What contractors or consultants have been sent by the responsible party?
   What actions have they taken?
   How long is clean-up expected to take? How long must water use be stopped or reduced? (If greater than one week, options for long-term loss of source may be initiated. See pages _15_ of Contingency Plan.)

7. ( ) Follow-up with the on-scene responders and contractors to determine if additional, long-term actions (such as ground water treatment and/or additional raw water monitoring) are required or recommended. If so, determine:

   - What kind of monitoring is needed, at what frequency
   - What levels will trigger return to normal operations
   - What kind of additional treatment may be needed

6.0 Ground Water Monitoring

The Pierceton source water protection team has decided not to incorporate ground water monitoring in its Source Water Protection Plan. The source water protection area is not highly susceptible to contamination and it is believed that ongoing visual monitoring and inspection of activities within the source water area will serve as a substitute for the chemical warning given by a ground water monitoring program. Also, since the establishment of the well field, no historical contamination has been detected. No local plume within the capture zone of the well field is believed to be present. If such contamination became known or highly suspected, we would re-consider the option of a ground water monitoring program.

7.0 Periodic Review

A protection plan is not a static document. Over time many issues related to protection planning will change- wells will be added or removed from the wellfield, existing potential contaminant sources will close, new education and outreach opportunities will become available, new partners in protecting the drinking water source will be identified. The protection plan needs to plan for these and other events.

The Village of Pierceton commits to reviewing the Drinking Water Source Protection Plan every __2_ years, beginning with _January 2017.

7.1 Updating the SWAP Assessment

Delineation Updates

- Has the amount of pumping increased or decreased since the date Ohio EPA provided the Drinking Water Source Assessment report?
- Have any wells been added or removed?
- Has a new wellfield been added or are there any plans for a new wellfield?
- Is there new hydrogeologic data to refine the delineation model (e.g., flow direction, pump tests, new well logs etc.)?

If the answer to any of the above questions is yes, the Village of Pierceton will contact Ohio EPA's Source Water Assessment and Protection Program staff in the SW district office to determine whether the protection area should be re-delineated.

Potential Contaminant Source Inventory

- Has the extent of the protection area changed?
- Has the community developed rapidly?
- Have land uses in and around the protection area changed?
- Has management of businesses in the protection area changed?

If the answer to any of the above questions is yes, the Village of Pierceton will update the inventory or conduct a new inventory. The Village of Pierceton may contact Ohio EPA's SWAP staff in the district office for guidance or assistance in conducting the inventory.

Other

- Is the list of Protection Team members and contact numbers current?

7.2 Evaluating the Effectiveness of the Protective Strategies

In order to evaluate if the protective strategies in this Source Water Protection Plan are achieving the desired outcomes, the Village of Pierceton will consider the following types of questions and write any changes into the Protection Plan.

- *[If local protection area ordinances are in place]:* Has the ordinance achieved its purpose? (If not, why not?) Should it be revised to be more effective?

- *[If local protection area ordinances are <u>not</u> in place]:* Do we have reason to be concerned about how the drinking water source protection area may be used in the future? Should we consider trying to better protect it through a local ordinance? Would such an ordinance need to be enacted and implemented by another jurisdiction?

<u>Pollution Source Control Strategies:</u>

- Have we followed our own schedule of implementation/timeline (Section 2, Table 2-1) for each of the pollution source control strategies?
- Are there new potential contaminant sources that need to be addressed with new pollution source control strategies?
- Have we implemented any new protective strategies that are not documented here?
- Did any of our strategies result in removal or elimination of a potential source?
- Did any of our strategies result in business owners or individuals modifying practices to decrease the risk of contaminating the drinking water source?
- Did our coordination with other groups (SWCDs, county EMAs, local health dept., local watershed group, etc.) contribute to the implementation of protective strategies?
- Have the partnerships developed during plan implementation been productive?

<u>Education and Outreach:</u>

- Have we followed our own schedule of implementation/timeline (Section 3, Table 3-1) for each of the educational strategies?
- Are there any new groups in the population that we need to target with education and outreach strategies?
- Have we implemented any new educational strategies that are not already documented here?
- Has education and outreach targeting any specific group resulted in actions that reduced or could potentially reduce the risk of contaminating the drinking water source (e.g., septic owners conducting regular maintenance, farmers using best management practices, properly sealing abandoned wells)?
- Have we received additional funding to continue any particular education and outreach strategy?
- Have we received any accolades, awards or recognition from outside entities or organizations for our educational efforts?
- Have we had any unsolicited requests for SWAP-related education (such as requests for plant tours, requests for presenters/speakers at events, etc.)?
- Did our coordination with other groups (SWCDs, SWEET Team, local health dept., local watershed group, etc.) contribute to the successful development and dissemination of SWAP-related information?

- Did we have sufficient staff and resources to complete all the planned educational efforts?
- Have educational efforts been cost effective? Efficient? (Consider level of attendance, attentiveness and participation by audience, comments received, etc., vs. the cost to facilitate the event) Should the frequency of the outreach be increased, decreased, or remain the same?
- Have the partnerships developed during plan implementation been productive?
- Have any of the target groups contacted Pierceton for additional information about something they saw or heard about through these activities?

Drinking Water Shortage/Emergency Response:

- Are there any updates to the Drinking Water Shortage/Emergency Response Plan?
- Did our coordination with emergency responders at the local and county level result in better communication and handling of spill incidents that could impact our drinking water?

Ground Water Monitoring:

For systems that are monitoring raw ground water quality:

- Have we followed our ground water monitoring plan (i.e., sampled at the specific frequency, analyzed for the appropriate parameters, etc.)?
- Have there been any significant changes to our water quality?
- Do we have sufficient water quality data or other reasons (e.g., the source was removed) to conclude that ground water monitoring can be cut back or is no longer needed?
- Are there new water quality, potential contaminant source or land use issues that would influence the need to expand our ground water monitoring network?
- Does our ground water monitoring plan need to be updated for any reason?

For systems that are NOT monitoring raw ground water quality:

- Have there been any significant changes to our water quality?
- Are there new water quality, potential contaminant source or land use issues that may make it necessary to develop and implement a ground water monitoring program?

7.3 Revising the Plan

Upon review, if any revisions of the SWAP Assessment Report are needed, the Village of Pierceton will contact Ohio EPA's SW office for guidance. Also, if the local planning team makes any substantial changes to the Protection Plan, a copy will be forwarded to Ohio EPA for concurrence. The revision will be documented on the front cover by adding "Revised [date]" beneath the date at the bottom of the page.