

# PROGRESS

A Newsletter Serving Dayton, Harrison Township, Huber Heights, Riverside, Vandalia, & WPAFB

FALL 2015

## CITY OF DAYTON'S SOURCE WATER PROTECTION PROGRAM

The City of Dayton implemented its comprehensive Source Water Protection Program in 1985 through a Memorandum of Understanding with the Ohio EPA. The Program is designed to identify and mitigate risk to the sustainability of the region's sole source aquifer system which serves as the City's and region's drinking water source. The Source Water Protection Program is a multi-jurisdictional program including six regional governmental partners in the protection efforts.

The Program is a national and international model of innovative water resource management and protective strategies.

The Ohio EPA continues to reference it as one of the most significant case studies on how to develop and implement a comprehensive and successful source water protection program.

The information in this issue of PROGRESS News pertains to the City of Dayton SWPP ordinance changes. The SWPP Multi-Jurisdictional partners, and businesses located in these jurisdictions, will continue to follow their jurisdiction's current zoning ordinances until updates are approved by the jurisdictions' governing body.

In 2013, the City initiated an update to its Source Water Protection Program to ensure the program remains current. On July 29, 2015, the City adopted new Source Water Protection Program Zoning and Water Protection Ordinance Amendments incorporating many technological and administrative enhancements learned using science and 26-years of experience.

As an outcome of this process, the program has been strengthened. We continue with our multi-barrier/multi-faceted Source Water Protection Program.



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# A SMART PLAN THAT PROTECTS AND SUSTAINS WATER QUALITY WITH BUSINESS GROWTH FLEXIBILITY

## THE FOUNDATION OF DAYTON'S SOURCE WATER PROTECTION PROGRAM REMAINS:

1. Source Water Protection Boundary
2. Land Use Zoning
  - a) Permissible Uses
  - b) Prohibitions
  - c) Variances required to increase TMDI
3. Compliance Program
  - a) Characterize Site Risk
  - b) Capped Chemical Inventory
  - c) Chemical Reporting
  - d) Site Inspections
4. Education/Awareness
  - a) Businesses
  - b) Citizens/Community Groups
  - c) Educational Institutions
5. Emergency Preparedness
  - a) Early Warning Network
  - b) Emergency Response Contract
6. Financial Incentive Programs
  - a) Risk Reduction Loans/Grants
  - b) Risk Point Buy Down Program

## THE CITY OF DAYTON'S SOURCE WATER PROTECTION PROGRAM IS:

Comprehensive...  
Protective...  
Sustainable...

- A Strong Model for Source Water Protection
- A Highly Effective Use of Multiple Protective Strategies
- A Broadened and Enhanced Perspective on Risk Management

## BENEFITS

The Source Water Protection Program (SWPP) directly benefits all City of Dayton water customers; residential, commercial, and industrial. The benefits are realized when there is continued access to a high quality and affordable potable water supply. SWPP protective strategies ensure the benefits are understood, valued, and accomplished.

- 1 Increase in prohibited uses restricts and/or eliminates high risk activities from occurring within the most sensitive area.
- 2 Prohibit variances in the Water Operations District (WO) that eliminates the growth of regulated substances in the area immediately adjacent to the City's well fields.
- 3 Impose a higher standard for variances in the Water Protection District (WP), with specific criteria to assess risk potential.
- 4 Increase in the groundwater monitoring network and real time analysis provides earlier warning of potential contaminants, allowing staff time to intercept and implement clean-up strategies sooner.
- 5 Increase in fines for violations of SWPP reinforces the City's resolve to pursue and prosecute those who improperly manage chemicals and unnecessarily increase risk to groundwater.
- 6 Increase in technical staff ensures resources are available to implement established SWPP strategies, develop and implement new risk management strategies, and further augment existing technical expertise.
- 7 Allows the City to work with businesses that need to expand in a manner that enhances the reduction of risk, based on best management practices and risk reduction strategies employed onsite.
- 8 Broaden the protective area.
- 9 Gain greater understanding of risk in the Water Resource Area (WR).
- 10 Use of the Well Field Protection Fund for protective strategies in the WR.
- 11 Use of the Well Field Protection Fund in the WR.

## THE #1 PRIORITY OF THE REVISION IS:

to further strengthen Dayton's protection of its valued water resources. To achieve this goal Dayton's program must continue to be evolutionary and adaptive in its approach to risk management:

- Ensures Program Relevancy
- Uses Best Management Practices
- Relies on Recent Modeling

## WHY WERE THE ZONING MAP BOUNDARIES FOR THE CITY OF DAYTON UPDATED?

- Every five years, Ohio EPA requires water suppliers to review their Source Water Protection Programs relative to actual or potential future changes in the boundaries based on changes in water supply operations or pumping demand.
- Ohio EPA also requires that water suppliers update their delineation model if there have been significant changes in pumping demand and operations.
- Significant changes in water operations have occurred at the well fields.
- Water demand has decreased significantly (over 25%) in just seven years because of a reduced customer base.
- The City of Dayton zoning map boundaries for the Well Head Operation (WO) and Water Protection (WP) zoning districts more accurately represent the most critical areas that need protection.
- The City of Dayton zoning map boundaries represent a far more accurate protection area founded on the latest geological information and best available science.
- As a companion to updating the zoning map boundaries, proposed protective strategies are to be implemented in a large area called the Water Resource area (WR) to provide increased early warning capabilities for releases or spills, before they enter the well fields.

RECENT MODEL	1986 & 1987 MODELS
5-Layer Model, 3-Layer Aquifer	3-Layer Model, 2-Layer Aquifer
Modeled Combined Well Fields	Modeled Well Fields Separately
Geology based on over 800 wells or borings throughout entire source water protection area	Geology based on 160 wells or borings (78 for 1986 Study and 82 for 1987 Study)
Over 2,500 Hydrogeological Data Points including all 3 aquifers and numerous points identifying bedrock	Very few data points outside of well fields. Little information representing lower aquifer or bedrock
Modeled scenarios based on Water Efficiency Master Plan's water demand projections which are almost double the current pumping rates	Modeled scenarios based on treatment plant capacities in lieu of water demand projections from the 1984 Ten-Year Master Plan

## QUICK LOOK SUMMARY TABLE OF SWPP ZONING CODE TEXT AMENDMENTS

ITEM	NEW / CURRENT	PREVIOUS
Prohibited land uses in the Source Water Protection Program (SWPP) zoning districts	26 prohibited categories	8 prohibited categories
Fines for violating SWPP zoning code provisions	\$1,000/day, \$50,000 total	\$50/day, \$500 total
Variances allowed to increase Total Maximum Daily Inventory (TMDI) of Regulated Substances	No in WO and Miami Well Field, Yes in WP	Yes in WO and WP
Application procedures and Board of Zoning Appeals decision making standards are tailored specifically for TMDI variance applications.	Yes	No

## WHILE **ALLOWING BUSINESS GROWTH FLEXIBILITY** THE LAND USE ZONING CRITERIA FOR PROTECTION REMAINS ONE OF **THE PROGRAM'S FOUNDATIONS**.

**PROHIBITED USES IN THE WELL FIELD OPERATION DISTRICT (WO) AND THE WATER PROTECTION DISTRICT (WP) HAVE INCREASED FROM**

**8 to 26**

1. Dry wells
2. Grade and fill sites
3. Underground storage tank
4. Construction and demolition waste facility
5. Sanitary waste facility and/or sanitary waste processing facility
6. Hazardous waste facility and/or hazardous waste processing facility
7. The manufacturing of acetylene, cement, gypsum or plaster of Paris, chlorine, corrosive acid or fertilizer, insecticides, poisons, explosives, paper and pulp, paint, lacquer, petroleum products except the molding of plastic into goods, coal products, and radioactive materials
8. Smelting, animal slaughtering, and oil refining
9. Any use of chlorinated and/or perfluorinated compounds (e.g. dry cleaners)
10. Any prohibited uses as identified in state or federal law (e.g., ash monofill)
11. Bulk fuels storage facility
12. Class I, II, III, IV, & VI underground injection wells
13. Concentrated animal feeding facility
14. Hazardous liquid pipeline facility
15. Junkyards, including vehicle crushing
16. Manufacturing, chemical
17. Manufacturing, extraction, mixing, or warehousing of Pharmaceuticals and Personal Care Products (PPCP)
18. Manure storage and/or treatment facility
19. Plating
20. Recycling collection facility — both large and small collection facilities
21. Recycling processing facility, indoor
22. Recycling processing facility, outdoor
23. Salt piles unless stored inside structures with an impermeable floor
24. Sand, limestone, shale, clay, and gravel operations
25. Self-storage facility, indoor
26. Vehicle fueling stations

# CITY OF DAYTON, APPLICATION FOR A VARIANCE TO INCREASE TOTAL MAXIMUM DAILY INVENTORY (TMDI)

## What must a business consider prior to seeking a variance?

- Substantiated growth
- Need for expansion
- Just-in-Time practices
- Use of additional shifts
- Off-site chemical storage
- Relocation
- Increasing production efficiency

## Who is prohibited from increasing the site's TMDI?

- Sites located within the Well Head Operation (WO) District and/or the Miami Well Field
- Sites with Conservation Easements that were purchased by the Source Water Protection Fund
- Variances to increase TMDI in connection with a prohibited use as enumerated in the Zoning Code

## How does a business initiate the variance process?

The City of Dayton highly recommends that applicants schedule a pre-application meeting to discuss the application, how to complete the application, criteria, and the Spill Prevention & Response Plan. To arrange a pre-application meeting, call (937) 333-3725.

## What protection criteria will be evaluated for business expansion?

- Site Specific Land Use
- Actual Need for Increase is Demonstrated
- Incorporation of Engineering Controls
- Use of Industry Best Management Practices

## What additional information is requested ?

- Provide current and requested TMDI
- Provide a Safety Data Sheet for each Regulated Substance for the requested increase in TMDI
- Describe the nature and the changes in the business that require an increase in TMDI
- Describe what Best Management Practices will be implemented to accommodate the requested increase in TMDI
- Provide the compliance history of the site where the additional TMDI will be used and of any affiliates or subsidiaries
- Include a Spill Prevention & Response Plan

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*NOTE: The Variance information pertains to the City of Dayton SWPP only. Businesses located in other jurisdictions will continue to follow the zoning codes of that jurisdiction.*

## THE SPILL PREVENTION & RESPONSE PLAN

The Spill Prevention & Response Plan must describe how the business will prevent and/or respond to a spill or release and the additional safeguards and pollution prevention/spill response measures that will be implemented to offset the risk of groundwater contamination as a result of increasing the TMDI.

The Spill Prevention & Response Plan includes but is not limited to descriptions of practices related to:

- Site plan of the zoning lot including the location where the additional TMDI will be used/located
- Spill response supplies
- Emergency contact information
- Employee training
- Best Management Practices
- Engineering controls
- Secondary containment
- Equipment maintenance
- Chemical storage
- Waste disposal

## FOR MORE INFORMATION:

[www.daytonwater.org](http://www.daytonwater.org), click on **Source Water Protection**,

**SWP Links and Map**, see left side column,

Call **937-333-3725** or any of the contacts listed on the back of this newsletter.



MULTI-JURISDICTIONAL  
**SOURCE  
WATER  
PROTECTION**

Well Field Protection Board  
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Dayton, Ohio 45402

[www.daytonohio.gov](http://www.daytonohio.gov)

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**Wright Patterson Air Force Base**

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