TCEQ GENERAL INFORMATION
Remediation Division
GI-326 ● Revised February 2013

Municipal Setting Designations: A Guide for Cities

INTRODUCTION

In 2003, the 78th Texas Legislature passed a Municipal Setting Designations (MSDs) law, effective September 1, 2003, that relates to the potability of groundwater and the requirements for removing contaminants from groundwater. The law authorized the Texas Commission on Environmental Quality (TCEQ) to receive, process and certify MSD applications for properties with contaminated groundwater that are located in cities or their extraterritorial jurisdiction. The TCEQ can certify an application **only** if there is local city support. The city has the choice to either support or not support an MSD application. Because of this need for city support, city officials can expect to be contacted by persons who wish to pursue state certification of an MSD. Cities can also pursue MSDs for their own use.

The MSD law provides a new alternative to persons addressing the groundwater contamination they are responsible for causing, as well as to persons who "volunteer" to address groundwater contamination. The MSD law sets conditions for MSD properties that limit requirements for contaminated groundwater to be investigated and remediated (cleaned up or controlled) to make the groundwater suitable for use as potable water, when that groundwater is not used for potable water and will not be used for potable water in the future.

This document is provided as reference material to city governments regarding MSDs. This document explains:

- what an MSD is,
- the purpose behind the law, and
- identifies potential considerations when the city is deciding its position on MSD certification.

Further information on MSDs can be accessed from the MSD Web page: <www.tceq.texas.gov/remediation/msd.html>.

Or contact the TCEQ Remediation Division directly at 512-239-2200 and ask to speak with a staff member knowledgeable about MSDs.

MSD OVERVIEW

An MSD is an official designation given to property within a municipality or its extraterritorial jurisdiction that certifies that designated groundwater at the property is not used as potable water, and is prohibited from future use as potable water because that groundwater is contaminated in excess of the applicable potable-water protective concentration level. The prohibition must be in the form of a city ordinance, or a restrictive covenant that is

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enforceable by the city and filed in the property records. The MSD property can be a single property, multi-property, or a portion of property.

Definitions:

Groundwater - The water present below ground surface.

Potable Water - The statute defines potable water as water that is used for drinking, showering, bathing, cooking purposes, or for irrigating crops intended for human consumption.

Potable-Water Protective Concentration Level - A maximum concentration of a contaminant in groundwater that is protective for people using the groundwater for potable purposes. Potable-water protective concentration levels are specific to each contaminant and are reported in units of milligrams of contaminant per liter of water (mg/l).

BACKGROUND AND PURPOSE OF THE MSD

The purpose of the MSD law is to provide a less expensive and faster alternative to the existing state environmental regulations governing the investigation and cleanup of contaminated groundwater. The statute substitutes a municipal ordinance or restrictive covenant in lieu of TCEQ regulations to protect the public against exposure to the contaminated groundwater.

In many cities, some of the chemicals spilled onto the ground by commercial or industrial activities have seeped through the soil and into groundwater. Because groundwater is frequently a source of potable water for people, the state regulations typically require the investigation and remediation of the contaminated groundwater to support potable water use. In almost every case, potable water use of groundwater is the most protective basis the state uses to regulate the cleanup of contaminated groundwater.

In some city locations, however, no one is using groundwater as potable water in the vicinity of the contaminated groundwater zone, and there is no plan to use that groundwater as potable water in the future because a public water supply that relies on another source of water is available. For such instances, the MSD law provides an alternative to the standard TCEQ regulatory requirements. Instead of restoring or controlling the contaminated groundwater zone so it can be used as potable water, a prohibition is placed on the designated groundwater beneath the MSD property to prevent people from using the contaminated groundwater as potable water, as the means to protect the public.

However, if there is a potable-use water well within one-half mile of the MSD property boundary, then the extent of any groundwater contamination beyond the MSD boundary does have to be determined and remediated in accordance with the statute. If there is no such well, then the contamination would not be assessed or remediated for potable purposes, but assessment could be required for other purposes.

Because people, animals, fish and plants (ecological receptors) can potentially be exposed to the contamination in other ways, the law allows the TCEQ to require the contamination to be investigated and remediated for other concerns unrelated to potable water use. For example, the inhalation of vapors originating from the groundwater contaminants, or the discharge of

groundwater contaminants to lakes or streams can be a concern.

By providing this alternative way to address contaminated groundwater that will not be used as potable water, persons may be more inclined to develop and redevelop properties in municipal areas that have contaminated groundwater.

AUTHORITY TO ESTABLISH AN MSD

The 78th Texas Legislature passed House Bill 3152, and subsequently that legislation was codified in the Texas Solid Waste Disposal Act (Texas Health and Safety Code, Chapter 361, Subchapter W, Sections 361.801-808). The legislation provided new authority for cities to support MSDs [see Local Government Code, Section 211.003, Subsection (a), and Local Government Code, Section 212.003, Subsection (a), and Local Government Code, Section 401.005]. The Texas Health and Safety Code was subsequently modified by House Bill 2018, of the 80th Legislature and by House Bill 2826, 82nd Legislature. The statutes can be downloaded from <www.statutes.legis.state.tx.us>.

ELIGIBILITY CRITERIA

The statute specifies two eligibility requirements:

1. The proposed MSD property must be within the corporate limits or extraterritorial jurisdiction of a municipality authorized by statute, and
2. There must be a public water supply system that meets state requirements that "supplies or is capable of supplying drinking water" to the MSD property and all properties within one-half mile of the MSD property.

ALLOWABLE APPLICANTS

Any person, including a local government, can apply for an MSD. "Person" is defined as an individual, corporation, organization, government or governmental subdivision or agency, or business trust, partnership, association or any other legal entity [see Texas Health and Safety Code, Section 361.003(23)].

This means that cities can also apply for an MSD. An MSD can be used to address groundwater contamination the applicant is responsible for, or for any other property where there is groundwater contamination, provided the eligibility criteria are met.

STATUTORY NOTIFICATION REQUIREMENTS

The MSD statute requires the applicant to provide a letter to notify the parties identified below that an MSD application is to be submitted to the TCEQ. The notice must be completed in advance of or at the same time an application is submitted to the TCEQ. Specifically, the notice letter must be provided to:

- Each municipality:
  - In which the MSD property is located;
  - With a boundary located within one-half mile from the MSD property boundary; or
  - That owns or operates a groundwater supply well located within five miles from the MSD property boundary;

- Each owner of a "private water well registered with the commission"[1] that is located within five miles from the MSD property boundary; AND

- Each retail public utility[2] that owns or operates a groundwater supply well located within five miles of the MSD property boundary.

The applicant is required in the notice letter to:

- Identify the location of the proposed MSD property,
- State the reason for the MSD certification,
- State that municipalities and retail public utilities can provide comments to the TCEQ,
- Identify the type of groundwater contaminants
- Name the party responsible for the contamination, if known
- State the eligibility criteria, and
- State the time period for the TCEQ Executive Director to certify or deny the MSD or to request additional information.

For proposed MSDs located in a municipality with a population of two million or more, a statement must be included in the notice letter that the notified municipality or retail public utility has 120 days from receipt of the notice to pass a resolution opposing the application for an MSD.

Notified parties have up to 60 days after they receive the notice letter to file comments with the TCEQ, if they choose to do so. The TCEQ cannot take action to deny or certify the application until 60 days after those notices are received. Where the proposed MSD is located in a municipality with a population of two million or more, then the TCEQ cannot take action to deny or certify the application until 120 days after municipalities and retail public utilities have received their notices.

THE CITY ROLE

The city is not required by statute to accept, process or support MSD applications. However, for an MSD to be certified by TCEQ, municipal support for the application is paramount. Therefore, MSD certification is significantly controlled by the city. For a city where the proposed MSD property is located and the city has a population of less than two million, the statute allows an MSD application to be certified only if the city council supports the application with a resolution and either:

- Adopts an ordinance to prohibit potable use of the designated groundwater from beneath the MSD property and to appropriately restrict other uses of and contact with the designated groundwater, OR
- The MSD property is subject to a restrictive covenant that is enforceable by the municipality to prohibit potable use of designated groundwater from beneath the MSD property and to appropriately restrict other uses of and contact with the designated groundwater.

[1] Statutory language refers to the TCEQ, but the Texas Water Development Board and the Texas Department of Licensing and Regulation must also be consulted.

[2] Retail public utility as defined by Texas Water Code Section 13.002.

The statute also defines a role for cities that border the proposed MSD within one-half mile of the proposed MSD boundary or who own or operate a groundwater supply well located within 5 miles of the proposed MSD boundary. In these cases, the applicant must also provide a notice to that city of their intent to file an MSD application with the TCEQ. Further, for a proposed MSD located in a municipality with a population less than two million, the statute allows an application to be certified in such situations only if the city council of that bordering city also adopts a resolution in support of the MSD application. Where the proposed MSD is located in a municipality with a population of two million or more, a city notified of the MSD application is not required to pass a resolution of support, however, if the city opposes the MSD, it must pass a resolution opposing the MSD within 120 days of receiving notice.

As stated earlier, no municipality is under statutory obligation to support an MSD application, but without municipal support, the TCEQ is statutorily required to deny the application because it is incomplete. An application is not complete until the resolution and ordinance or restrictive covenant, as applicable, are adopted by the city where the proposed MSD is located, and by the other cities, if applicable. However, in accordance with the statute, the ordinance restrictive covenant, and documentation of a resolution supporting the MSD or documentation of no resolution opposing the MSD (in cities of a population of two million or more) can be submitted to the TCEQ after the TCEQ processes and "precertifies" the application.

In all cases, the TCEQ will need assurance that applicants have the firm support of each required city before submitting an application to the TCEQ.

Therefore, it is up to the city to decide what is in its best interest regarding each MSD property that is proposed to be located within its border or within a bordering city. The statute does not prohibit a city from imposing additional application procedures and requirements on the applicant.

Outside of providing support for the application, the municipality also needs to confirm the status of public water availability for the TCEQ when the city owns or operates a public drinking water supply system that serves the MSD area. Specifically, the TCEQ must have verification that a public drinking water supply system exists that "supplies or is capable of supplying drinking water" to the MSD property and all surrounding properties within one-half mile of the MSD property. The applicant must provide this information in the application, but the TCEQ also prefers to directly verify this with the public drinking water supplier. A city letter signed by an appropriate city official verifying the availability, or the extent of public drinking water service they provide to the proposed MSD area, is sufficient.

If a city does not support an MSD, it should directly inform the applicant of this fact. Additionally, it can also document this conclusion in a letter submitted to the TCEQ.

MSDs Located in a City with a Population of 2 million or More:

For a MSD located within a municipality with a population of two million or more, in order for the MSD application to be certified, any Retail Public Utility that owns or operates a groundwater supply well within 5 miles of the MSD property or a city with a boundary located within one-half mile of the proposed MSD boundary, or that owns or operates a groundwater supply well within 5 miles of the MSD property, is not required to pass a resolution of support. If no resolution opposing the MSD is adopted by any such municipality or retail public utility within 120 days of receiving their notice, the applicant would be considered to have complied with the MSD eligibility requirements.

THE RETAIL PUBLIC UTILITY ROLE

By statute, retail public utilities (RPUs) have a role in certain instances. The applicant is required to identify every RPU, if any, that owns or operates a groundwater supply well located within five miles of the MSD property and provide notice to each identified RPU of the applicant's intent to submit an MSD application to the TCEQ.

For a proposed MSD located in a municipality with a population less than two million, if an RPU owns or operates a groundwater supply well located within 5 miles of the proposed MSD boundary, then for the MSD application to be certified, the applicant must provide a copy of a resolution in support of the MSD application from the governing body of each applicable RPU. For a proposed MSD located in a municipality with a population of two million or more, an RPU notified of the MSD application is not required to pass a resolution of support. However, if the RPU opposes the MSD application, then it must pass a resolution opposing the MSD within 120 days of receiving notice. As is the case for a municipality, the RPU is under no statutory obligation to support an MSD application. The TCEQ is also directing applicants to obtain firm support of each RPU before submitting an application to the TCEQ.

An RPU is also asked to support the TCEQ in processing the application by confirming to what extent its system supplies or is capable of supplying water to the MSD property and all properties within one-half mile of the MSD property. This information is needed for the application. A letter from each RPU signed by an appropriate official with the RPU verifying the extent of its public drinking water service to the proposed MSD area is sufficient.

City and Retail Public Utility Support

The applicant is not to submit an MSD application to the TCEQ until they have "firm" municipal and RPU support for the application. Firm support can be demonstrated by providing the TCEQ with a direct indication from an individual within the municipality or RPU who has authority to advise the city council or governing body that they will recommend that the required resolutions or ordinance be adopted.

THE TCEQ ROLE

As with cities and RPUs, the TCEQ's role is established by statute. The TCEQ is to receive and process applications, verify proposed MSD properties meet statutory eligibility requirements, and verify that applications are administratively complete. If the MSD property is statutorily eligible and the application is complete, then the TCEQ will certify the application.

The TCEQ has statutory authority to deny an application when:

- The eligibility requirements are not met,

- The application is incomplete or inaccurate, or
- Based on comments or information from applicant-notified parties or other information, the TCEQ determines the MSD would negatively impact the current and future regional water resource needs or obligations of a municipality, a RPU, or a private well owner.

If the application is certified, the TCEQ is required to provide a copy of the certification to parties who received notice from the applicant, as well as to all parties who provided comment during the 60-day comment period on the application and to anyone else who requested a copy. The TCEQ will also be available to help municipalities obtain an understanding of the MSD statute and program.

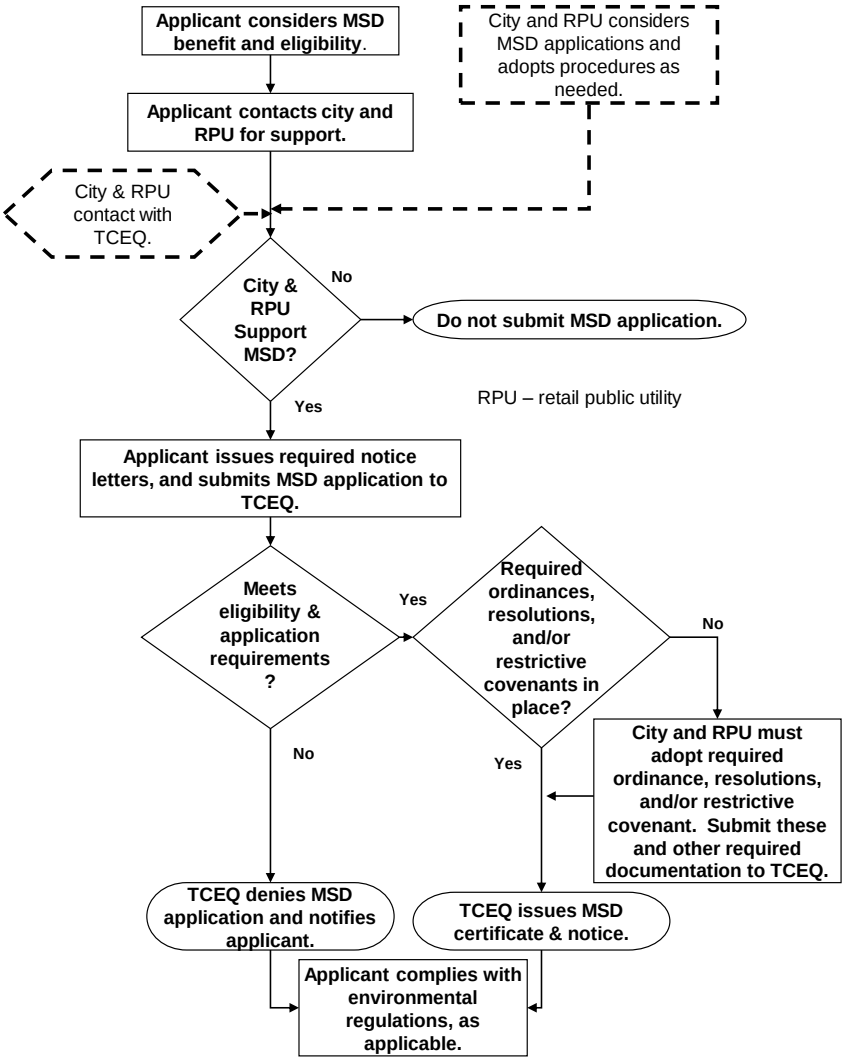
The TCEQ's responsibilities subsequent to MSD certification are determined under the statute, i.e., Texas Health & Safety Code Section 361.808 (Investigation and Response Action Requirements).

CERTIFICATION PROCESS

In general, an applicant must provide notice to parties identified by statute that an MSD application will be submitted to the TCEQ, and subsequently submit an MSD application for TCEQ consideration. However, as indicated in Figure 1 the process also involves city and RPU support. Note that there are action steps for the applicant, notified cities, RPUs, and the TCEQ. The TCEQ must certify, deny or request additional information within 90 days of receiving the application.

If the city anticipates there will be local interest in applying for an MSD and if the city is in general willing to support MSDs, then as indicated in Figure 1, the city may choose to establish procedures for an applicant to follow when seeking city support. The City of Fort Worth is an example of a city that has adopted procedural ordinances for MSD applicants to follow.

Figure 1. MSD application process. (Dashed lines denote optional actions.)



CONSIDERATIONS IN SUPPORTING MSDS

The practical outcome of an MSD is that the requirement to investigate and remediate existing contaminated groundwater for potable water use purposes will be lessened or eliminated. Instead of the TCEQ regulations, public protection is provided through the MSD potable water use prohibition.

The following considerations are presented to aid cities unfamiliar with MSDs and that are unsure of factors that may need to be considered.

WATER RESOURCE CONSIDERATIONS

Current and future dependence on groundwater for potable water

Consider what the source of your current or future potable water supply is and whether existing contaminated groundwater in the MSD area threatens a potable groundwater supply the city or its citizens rely on, or will rely on in the future. An MSD is authorization to take that contaminated groundwater zone within the MSD boundary out of use for potable water, indefinitely. Figures 2 and 3 illustrate the location of the major and minor groundwater aquifers in the state. These aquifers are relied on for potable water in many areas of the state

In considering whether to support MSDs in general, if the city relies on surface water or groundwater located far from the MSD area for potable water, then the existing groundwater contamination within the city might not be a particularly important consideration. However, if groundwater beneath the city is relied on for potable water by the city or its citizens, then the groundwater contamination may pose a threat to the potable water supply.

Relevant factors to consider when evaluating if there is any such threat to the potable groundwater supply may include the following, as well as other potential factors:

- what groundwater zone(s) are used for potable water,
- what groundwater zones are contaminated and what is the level of understanding of the degree and extent of the groundwater contamination,
- the degree of any natural or anthropogenic hydraulic connection between the potable groundwater supply and the contaminated groundwater,
- the degree of knowledge of existing local water well locations;
- relative proximity of existing and planned potable-water wells to the groundwater contamination,
- the design of those potable-water wells and integrity of those wells against being contaminated by the contaminated groundwater,
- potential for future water well installations outside the MSD potable water use prohibition,
- the local hydrogeology and possibly the regional hydrogeology (aquifer recharge, groundwater flow, aquifer interconnectivity, etc.), and
- the nature and chemical/physical properties of the groundwater contaminants.

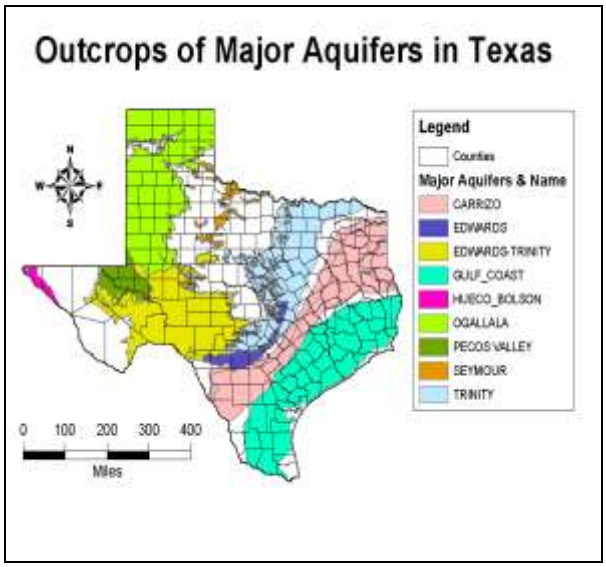


Figure 2. Outcrops of major aquifers in Texas.

Considering these factors, it may become apparent MSDs can be appropriately sited anywhere within the city, or only within certain areas of the city, if at all. There may be ways to shore up any uncertainties in the appropriateness of MSDs by placing particular information or action requirements on the applicants.

Irrigation and Industrial water sources

If the groundwater is used for "non-potable water" purposes in the vicinity of the MSD property, the TCEQ is not prohibited by statute from requiring the person to investigate and remediate the groundwater to address those non-potable considerations. Examples of non-potable groundwater use include irrigation of lawns, watering pets and livestock, and industrial process or cooling water. Historically, the TCEQ has typically applied its potable-water protective concentration levels to such instances of non-potable use of groundwater.

Additionally, pumping of groundwater for non-potable use can spread the existing groundwater contamination. The frequency of non-potable groundwater use in the area might give an indication of whether the municipality might prefer the MSD to cover the full extent of groundwater contamination, or provide the necessary insight into the appropriate scope and scale of a municipal groundwater use prohibition ordinance, or restrictive covenant.

MSD MANAGEMENT CONSIDERATIONS

MSDs frequently bring up management questions, some of which might not be unique to or a true consequence of an MSD.

The city goals

Depending on the goals for the city, MSDs might be an important alternative. The restrictive covenant or ordinance used to prohibit potable water use must at least cover the entire MSD property. Additionally, the city may want to place such limits outside the MSD boundary as a safeguard against future potable water use in the MSD area, or in anticipation of other MSDs.

If the city supports use of MSDs and is also contemplating or is already undertaking a significant Brownfield redevelopment or revitalization project for a city sector, then MSD scale is important. A multi-property or "regional" MSD or a "regional" ordinance that prohibits the use of the designated groundwater as potable water might be advantageous. An MSD applies to all contamination in the designated groundwater **within** the MSD boundary, even if it extends across multiple real estate tracts that have their different sources of contamination within the MSD property.

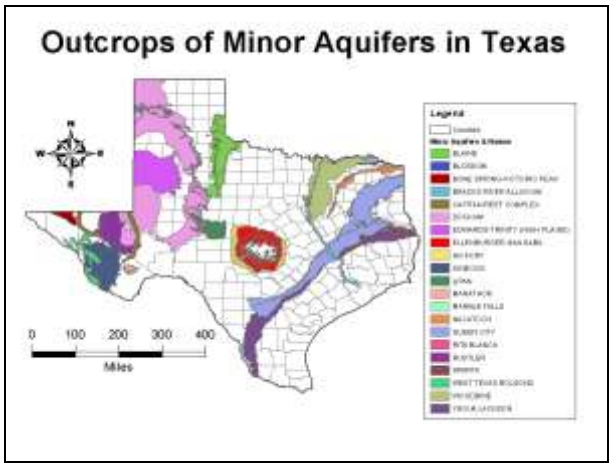


Figure 3. Outcrops of minor aquifers in Texas.

A regional groundwater ordinance could support subsequent MSD applications filed on a property-by-property basis for the different tracts of land within the physical limits of that ordinance. This would allow applications to be filed as additional properties with groundwater contamination are discovered. The ordinance does need to stipulate that the reason for the potable water use prohibition is that the groundwater is contaminated.

Be aware that the statute requires notices to and resolutions from different parties within certain radial distances from the **boundary** of the MSD property. Moreover, the regulatory flexibility a certified MSD provides is tied to whether there are potable-water wells located within one-half mile of the MSD boundary. As the size of the proposed MSD property is increased, the radial distances commensurately reach farther out and can shift notification and MSD support requirements as well as relative proximity to potable water wells, depending on what falls within those radial distances.

Repeal of ordinance

The MSD certificate is predicated on the ordinance or restrictive covenant remaining in effect. Therefore, if the city changes its support for the MSD by withdrawing the ordinance, there would be no prohibition against the use of the contaminated groundwater for potable water within the MSD. Accordingly, the TCEQ and the city need to be in communication if the city withdraws or revokes the MSD ordinance. As a courtesy, the TCEQ requests that the city notify it at least 60 days in advance of making any such change.

Coverage of the potable water use prohibition and potable-water well installation

The MSD statute requires only that the designated groundwater **within** the MSD boundary be prohibited from potable use. The MSD prohibition **is not required** to extend beyond the boundary of the MSD or to cover the extent of contaminated groundwater that may extend beyond the MSD boundary, currently or in the future. There may be no other natural or legal controls or safeguards outside the boundary of the MSD that prevents installation of a potable-water well within one-half mile of the MSD property, subsequent to MSD certification.

If the TCEQ becomes aware of such a situation, then the person responsible for the MSD groundwater contamination will have to assess and remediate for potable purposes in accordance with Texas Health & Safety Code Section 361.808. Unfortunately, the TCEQ may not be made aware of new wells in the vicinity of the MSD.

If future potable use of groundwater in the vicinity of the MSD property is a concern, then local initiatives to monitor and report water well installation in the vicinity of existing MSDs may have

merit. Some cities may already have other ordinances or controls that prohibit water wells or require a city permit to be obtained before a water well can be installed. Such controls are not typically sufficient to satisfy the MSD ordinance requirements, but can effectively provide an added measure of protection.

Alternatively, the city may also consider notification of the MSD to local citizens as a means to safeguard against future potable water use in the MSD area.

Technical expertise and technical information

When evaluating the appropriateness of MSDs, a city may encounter some complex legal and technical matters. A consideration is what city department(s) should evaluate MSD proposals; what problems, if any, are anticipated in arriving at a conclusion; and what information is needed to support a good decision on the matter. The MSD statute requires the applicant to provide the specific information listed in the statute, but the city might have a need to be provided other, additional information. If so, the city might consider defining procedures for MSD applicants.

CONTAMINANT CONSIDERATIONS

The appropriateness of a particular MSD in some instances can be dependent on the nature of the contaminants and the expected behavior of the groundwater contaminants over time. Detailed contaminant behavior information is not required at the time of submitting an MSD application. Therefore, the MSD application may be prepared and submitted to the TCEQ at the "front end" of a remediation project. This may result in the TCEQ having little to no technical information regarding contaminant conditions at the property at the time of processing an MSD application.

Further, once an application is certified, the requirements of Texas Health and Safety Code Section 361.808 take effect. As discussed previously, depending on the presence or absence of local potable-water wells, the applicability of other exposure concerns in the MSD property and surrounding area, there may not be a requirement to define the nature and extent of groundwater contamination, or to evaluate the potential for the contamination to spread further (laterally, or to deeper groundwater zones).

Also, the groundwater contamination at an MSD property may have a potentially short or long legacy, depending on the nature of the contaminant and site conditions. Some groundwater contaminants, such as benzene, are less persistent in the environment than others. This means that once the contaminant source is mitigated, the dissolved groundwater contaminant commonly degrades or naturally reduces in concentration due to bacterial, chemical and/or physical processes in the environment.

Other contaminants, such as some chlorinated solvents, are not as readily amenable to natural degradation and may be more persistent in the environment. Additionally, some contaminants degrade to a more toxic groundwater contaminant. For example, tetrachloroethylene, also known as perchloroethylene or "perc," a commonly used dry cleaning chemical, degrades through several intermediate chemicals to the more toxic chemical, vinyl chloride.

All other factors being equal, the longer legacy contaminants might naturally warrant more concern than short legacy contaminants. Unfortunately, in many instances the longer legacy contaminants are also among the most difficult and therefore among the most expensive to cleanup.

Public Awareness Considerations

The statutory notice requirements were presented earlier in the **Statutory Notification Requirements** section of this document. Recipients of the notice have 60 days from the date it is received to file comments with the TCEQ. The city might consider whether it prefers that additional parties, such as landowners or other potential stakeholders, are notified of the proposed MSD.

An MSD Example

Figure 4 illustrates an example MSD. The figure is of a three-dimensional cross-section of a slice into the ground beneath property in a city. In the cross-section, three different groundwater zones are depicted. The "box" labeled "MSD Property" depicts the lateral and vertical boundaries of the MSD (MSD property).

In this example, only Groundwater Zone 1 is contaminated. An MSD can only be applied to existing contaminated groundwater zones, not to clean or uncontaminated groundwater zones. Therefore, as indicated by the vertical boundary of the box, only Groundwater Zone 1 is included in the MSD. The portion of Groundwater Zone 1 that is within the MSD boundary is deemed the "designated groundwater" for the MSD and as such **prohibited** from current and future use as potable water.

Groundwater Zones 2 and 3 are not contaminated, and therefore, they are not eligible to be included in the MSD. In this example, only Groundwater Zone 1 is prohibited as a potable water supply. Unless there is a potable-water well within one-half mile of that MSD boundary, the groundwater contamination will not be investigated or remediated for potable water use.

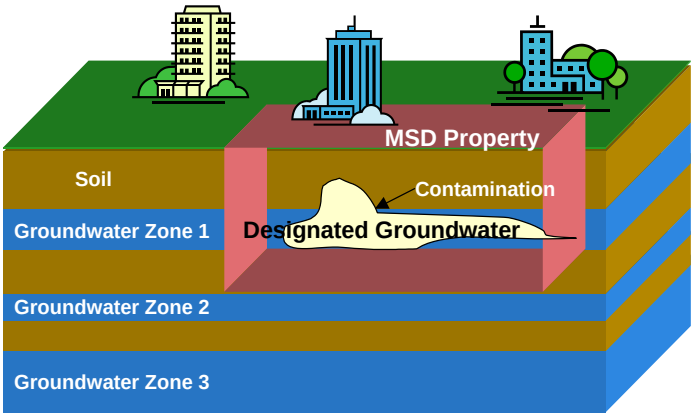


Figure 4. Three-dimensional cross-section of an MSD property and the designated groundwater zone.