

ONSITE SYSTEM (WELL/SEPTIC) SURVEYS

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This procedure is presented in three sections:

- Establishing a Survey Area (starting immediately below)
- [Collecting Information for a Survey Area](#)
- [Evaluating & Reporting for a Survey Area](#)

ESTABLISHING A SURVEY AREA

Onsite system surveys are typically established at the request of property owners who raise concerns with the Department of Environmental Protection (DEP) and/or the Department of Permitting Services (DPS) about their onsite systems, most often, septic systems. A request for a survey in a specific area may originate from one or more owners.

Single Owner Requests

A request for a survey from a single owner is different from a request from that owner for assistance with a problem with just the owner's onsite system. In a survey request, the owners look for consideration of properties in the area in addition to the their own.

Multiple Owner Requests

Requests for a survey from two or more property owners are generally expected to fall into a common geographic area. These requests are sometimes coordinated between the owners requesting a survey.

Establishing a Survey Area

DEP receives property owner (applicant) requests for a septic survey. DEP staff review comments from an owner or owners about onsite systems concerns and try to identify common themes. The age of an onsite system, prior problems, poor soils, and lack of suitable repair/replacement area are common concerns.

Under the revised survey policy adopted in the 2018 update of the Water and Sewer Plan, a survey may proceed only on the condition that:

“At least one property owner requesting a survey must demonstrate that the existing onsite system has failed, as verified by DPS. DPS must also find that the onsite system failure cannot reasonably be resolved by an onsite repair or permitted replacement of that system. This determination may require an onsite system inspection by DPS and a qualified contractor. A previous inspection may also satisfy this requirement, if acceptable to DPS.” (2018 CWSP, Chapter 1, Section II.G.2.c: Establishing Onsite Systems Survey Areas)

After receiving the applicants' requests for a survey, DEP will coordinate with DPS Well & Septic to check existing onsite system records for existing or prior failures. If DPS permit records indicate an existing failure, then DPS will need to determine whether an onsite replacement is feasible.

If no qualifying property is found, then DEP will send out a letter to notify the applicants about the preceding survey condition. The letter will advise them that in order to proceed with the requested onsite systems survey they will need to schedule inspections of their onsite system with DPS Well & Septic staff and with a private contractor. DEP will also request that applicants supply contact information such as phone numbers or email addresses.

DEP and DPS staff will review the results of onsite system inspections done by the applicants to determine if any of the applicants' properties satisfies the preceding survey requirements.

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There are two possible tracks that the survey may take at this point:

First Option

If no properties qualify, *or if none of the applicants will conduct an onsite system inspection*, DEP will notify the applicants and will provide a status notice to the County Executive and County Council. The notice will advise that DEP and DPS have discontinued the onsite system survey requested by property owners due to the lack of identified onsite system failures.

Second Option

If DEP and DPS find one or more qualifying properties, then DEP will map the applicants' properties to identify the extent of the area that will need to be addressed. An issue identified at this point is whether the applicants' properties fall within a generally common area where they can all be addressed by a single septic survey. If not, DEP will determine whether more than one survey area will be needed.

Assuming a single survey area, DEP staff will review the following to help identify the extent of the survey area:

- For the Glen Hills Study Area, identify properties similarly affected by review areas established for the study. (This will generally address soil problems, stream setbacks, steep slopes, and lots not suitable for septic systems based on DPS testing.) It may be helpful to look at individual constraint layers.
- If the site is outside of the Glen Hills Study Area, some of the required information will need to be developed for the proposed survey area.
- Properties with onsite systems of a similar type and age. (Age is, for the time being, judged by the construction date of the house on the lot. This can be updated once DPS permit information is retrieved.)
- Availability of public service versus onsite systems.
- For the Glen Hills Study Area, review the conceptual sewer extension alignments from the Glen Hills study.
- If outside the Glen Hills study area, DEP may need to develop an initial extension concept, and then coordinate a review with the Washington Suburban Sanitary Commission (WSSC). The issue is, if the survey shows a need for future public sewer service, is there a reasonable way to provide new main extensions?

DEP's end purpose is to identify a single, cohesive survey area. This may mean including some lots that—at least at this stage—do not appear to be significantly constrained from future onsite well or septic system use. This is also a point at which it may become evident that more than one survey area is needed.

DEP will coordinate the draft survey area with DPS Well & Septic and request that DPS assemble permit information and any other comments for the selected survey properties. DPS "boots-on-the-ground" experience with the onsite systems in the survey area can add important information beyond just the testing results and permit. DEP works to account for any changes to the survey area that DPS recommends.

DEP staff will review the draft survey area with their manager. If the survey is within the Glen Hills Study Area, the formal establishment of the survey area will start the 90-day clock to bring the survey results to the CE and then on to the Council.

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DEP will provide written notices to all property owners in the survey area. The notice will:

- Identify the survey area, typically by providing a map.
- Explain the reason for the survey and the survey process.
- Explain, if needed, why DEP has included properties other than the applicants within the survey area.
- Provide a calendar for the survey that addresses:
 - The survey start date.
 - The date of DEP's survey notification to the property owners.
 - The date upon which DEP and/or DPS staff will start to contact owners for permission to visit their properties.
 - The date when DEP/DPS field visits are expected to start.
 - The estimated date for a public meeting for DEP and DPS to present the survey results.
 - The estimated date for a DEP/DPS meeting with the County Executive to present the survey results and recommendations.
- Advise owners that DPS will contact them about setting up a site visit.
- Provide background on the County's policies for special sewer service areas and on potential outcomes from the Council's consideration of the survey results and recommendations provided by the CE.
- Explain options for any property owners that do not want to allow a site visit and/or participate in the survey.
- Provide contact information for DEP and DPS staff. Also, request that owners of properties added to the survey area provide email addresses and/or telephone numbers.

Property owners may not want to allow a site visit and/or not participate in the survey at any level. DEP staff will consider feedback from owners that do not want to allow a site visit or express a desire to not otherwise participate in the survey process.

COLLECTING INFORMATION FOR A SURVEY AREA

The following is focused on surveys for onsite septic systems.

[The State Department of Assessments and Taxation \(SDAT\) Property Database](#) provides basic information on the properties in the survey (online at)

- Property (premises) address.
- Identification (lot, block, subdivision or parcel) and tax. acct. no.
- Confirm ownership (Does the owner reside on the property or not?)
- Property size and zoning. (Zoning for a survey area is likely to be uniform. Property size will set the stage for the area available for future septic system use. Typically, the RE-1 standard of 40,000 sq. ft. is a minimum lot size needed to accommodate a well and a septic system on a lot.)
- Building construction date. (Lacking specific septic system permitting information, this date may need to substitute for in system installation date.)
- Date the owners acquired the property. (This may not be available for all properties.)

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- Note which properties belong to survey applicants vs. those properties added by DEP.

Some, although not all, of the preceding information is also available using the County's Department of Technology Services (DTS) property layer.

DPS Well and Septic System Permits: DEP staff will provide listing of survey properties to the Department of Permitting Services (DPS) to obtain well and septic system permit records. In the Glen Hills study area, permit information pulled from DPS files by the DEP's contractor for the Glen Hills Sanitary Study can provide information, although this will start to become outdated the further the calendar moves away from 2012. DEP will request that DPS provides updates for this information.

Information available from septic system permits:

- Type of septic system - trench, seepage pit, lagoon, mound, shallow drip, holding tank
- Location of system – often a sketch with the location of the septic tank and discharge feature (pits, trenches) shown with a distance relative to a point of reference on the lot (often the house)
- Specifications and details – no. of pits, length of fields, no. of bedrooms, reserve areas, repairs or replacements, installation date, percolation test rate

DEP's Well and Septic System GIS Shapefiles (circa 2005) are a bit more outdated than the Glen Hills study permit data. Well type (potable, irrigation, etc.) and permit no. are generally available. Field visits have shown shapefile locations are not always accurate, due possibly to relocations, data transfer errors, etc. Septic system information seems to identify the location of a septic tank rather than the discharge location.

Field Visits can serve to either confirm or correct information available from GIS files and permit records. DEP and DPS staff find it helpful to visit a property when the owner is available to meet with them. There is an opportunity for education on both sides. DPS/DEP staff can gain a better understanding of the property's history and how the existing system is functioning. The owner can gain insight from DPS/DEP staff about how to use and maintain the onsite septic system. In addition, seeing the layout of the lot can provide insights not necessarily available from feature mapping or aerial photography.

Mapping the Survey Area will use information from a variety of sources.

- **U.S. Department of Agriculture (USDA) Soil Maps for Montgomery County**: The focus here is typically on soils identified with "severe" limitations for septic system use. These are often soils associated with stream buffers and wetlands, those with high water tables and poor percolation rates.

The maps will also show soils that have "moderate" and "slight" limitations for septic system use. Areas with soils having moderate limitations appear to be the most common in the county and will often support septic systems that satisfy current permitting requirements. Note that this is a generalization; moderate limitation soils are not guaranteed to support septic systems in every case.

- **County Geographic Information System (GIS) Base Map Layers**: These layers will provide locations for features such as streams, wetlands, topography and slopes, and buildings. Septic system permitting regulations establish setbacks that will constrain the use septic system on parts of a lot. Apply the following buffers to each related feature:
 - Streams and wetlands: 100 feet
In many areas, County and Federal emergency management Agency (FEMA) 100-

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year floodplains will lie within 200-foot stream buffers. Floodplains can also be mapped (see DTS Environmental Features Layers), although DPS advises that septic can be located within floodplains if needed. Note that not all streams will have established regulatory floodplain information.

- Steep slopes (> 25 %): 25 feet
Steep slopes may need to be established first from topographic data via geoprocessing in ArcMap.
- Buildings: 20 feet
- **Onsite System Information GIS Layers:** The most significant setback for replacement septic systems, other than for streams and wetlands, is from existing wells. Regulations provide for lesser setbacks for replacement septic systems from existing seepage pits and trenches. Before establishing setbacks in GIS, staff will adjust well and septic system locations as found from site visits.
 - Wells: 100 feet
Well setbacks are the most likely constraint to affect one lot from another lot. Well setbacks can extend beyond the boundaries of the properties they serve.
 - Septic seepage pits and trenches: 10 feet.
An area on a lot used for an existing or abandoned septic system cannot be used again for a replacement system.
- **Woodlands/Forest Areas:** This information is also in the DTS Environment Feature Layers. Trees and forested areas are not regulatory constraints on septic system locations. However, some property owners will cite possible tree loss as a concern with regard to establishing septic repair or replacement areas.

DEP staff will lay out the preceding potential constraints within the survey area. Then they will estimate for each lot, the percentage of area not affected by potential constraints, then determine the square footage of that area for each lot.

This is done to estimate the available unconstrained area for each property where a septic system replacement might be located. A full replacement system will usually require at least 10,000 sq. ft. A repair system might need only a third to half that area, although repairs are usually for only one field and can place constraints on the use of the property in terms of expanding or replacing the existing structure, ancillary features (pools, decks) and impervious surfaces.

EVALUATING AND REPORTING FOR A SURVEY AREA

The following is focused on surveys for onsite septic systems.

In the preceding standard procedure, the conditions and constraints affecting a survey area were collected and established.

On a specific lot, an area of a minimum 10,000 sq. ft. free of apparent septic system constraints is an indicator that some onsite repair or replacement system may be feasible. However, it is not always a guarantee.

Full Replacement system: A deep or shallow trench system or sand mound system meeting permit requirements and having the required number of replacement systems for a septic reserve area. For lots with an existing house and septic system, two replacement systems are typically required.

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Partial Replacement System: A trench or sand mound system that can be permitted for only one field, not satisfying permit requirements for a septic reserve area. A shallow drip system may also be considered for a single repair. Repair systems that require an innovative or alternative system will require an agreement between the County and the owner that will limit improvements to the existing house and property.

DEP and DPS staff will also consider additional issues:

- Is the system replacement area accessible to the equipment needed for that work?
- Is the system replacement area downgrade or upgrade from the well on the property? Ideally, a septic system should be downgrade from the well serving the same property, although exceptions may be allowed. Wells on other lots can be allowed downgrade of a septic system. DPS will determine an adequate separation between septic systems and downgrade well on other properties.
(Note: it may be possible to relocate a well, although again you need to consider the accessibility issue. Or, it may be possible to provide public water service to a property currently using a well.)
- Is only a partial replacement system feasible? This is usually a stopgap measure, good for the time being, but not necessarily as a permanent solution.

DEP and DPS will generally use the following criteria for evaluating the suitability of each property within the survey area for the ongoing use of an onsite septic system:

- Severely constrained – Less than 5,000 sq. ft. of potential repair/replacement area. Confirmed by DPS to have no repair/replacement area.
- Somewhat constrained – 5,000 or more sq. ft. of potential repair/replacement area. Relocation of the existing well or conversion to public water service (if reasonably available) could create 5,000 or more sq. ft. of potential repair/replacement area. Confirmed by DPS to have only one repair area available.
- Slightly constrained or unconstrained – 10,000 or more sq. ft. of potential repair/replacement area. Few constraint areas other than for a well setback. Confirmed by DPS to have area sufficient or permitted for a full replacement septic system.

A “special sewer service area” (SSSA) is intended to be a grouping of properties focused on those that have severe potential constraints for future septic system use. A contiguous area, to the extent reasonable, and not a scattering of individual lots, is best. These properties may not all have frontage on the same street, depending on the extent and arrangement of lots in the survey area. In some cases, properties that are somewhat constrained or unconstrained may be scattered in among the severely constrained lots. DEP and DPS staff need to consider the proximity of lots with severe potential constraints to others less affected, especially where lots lack specific permit information. DEP and DPS will minimize, if possible, the inclusion of slightly constrained and unconstrained properties in recommended SSSAs. ¹

For survey areas outside the planned public sewer envelope, a recommendation to include a property within an SSSA must include a restriction for a single sewer service connection/hookup only. The provision of public service resulting from a septic system survey is not intended to promote the creation of new lots within the special sewer service area.

If a special sewer service area will be recommended, then it must be at least technically feasible to provide public sewer service. (In the Glen Hills area, the Glen Hills study provides conceptual sewer main extensions directed at providing sewer service to properties located within most

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Review Areas.) This will require some coordination with WSSC Development Services to ensure that a sewer extension concept for the area is technically feasible and consistent with WSSC extension requirements. Sewer main extensions should avoid streams crossings and stream buffer areas to the maximum extent reasonable. This may require the use of low-pressure/pump systems in areas that might otherwise be logically served by a gravity system.

Sewer extension alignments may pass by properties that are not recommended for inclusion in an SSSA. The possible availability of sewer service is not a stand-alone cause for including abutting properties in the SSSA. If the owners of such properties desire a connection to public sewer service, that consideration can be made via the abutting mains policy.

An area that DEP and WSSC determine is not reasonably accessible to existing or proposed public sewerage systems should not be recommended for inclusion in an SSSA.

Recommendations, if needed, for an SSSA are to be made in two presentations:

- A table that identifies all the properties in the survey area along with recommendations for or against inclusion in the SSSA. The table should also identify the recommended sewer service category and, if possible, the length of sewer main needed to provide service.
- A map showing the properties included in the SSSA and the recommended sewer category for each lot. If available, the sewerage system needed to bring service to these lots should also be shown.

DEP will use the general format of reports for preceding survey areas to guide the development of reports for new survey areas.

The presentations and accompanying reports and technical appendices will be reviewed with the Division Chief and then with the DEP Director. Following any changes required by the Director, WWPG staff will arrange with the Director's senior aide setting up a meeting with the County Executive to review the survey and resulting recommendations. DEP staff will coordinate with Council staff so that they are aware that a survey amendment is forthcoming. The County Council's consideration of the Executive's recommendation follows the standard procedures for hearings, work sessions, action, and State consideration used for Water and Sewer Plan amendments.

If the DEP staff recommendation is to not establish an SSSA for any of the properties in the survey area, it will still be necessary to present the survey's findings in a report to the County Executive and then the County Council. If the Executive concurs with a no-SSSA recommendation, then the Council needs the opportunity to review the findings and gather testimony in a public hearing. In some cases, situations involving individual properties with onsite system failures and/or severe septic system constraints may be addressed by the Water and Sewer Plan's policies for addressing individual for the relief of onsite systems concerns.

¹ *The issue facing these properties involves an eventual requirement that they connect to public service when the existing system fails. Water and Sewer Plan policies would require a connection to public service even if an onsite replacement is possible. This would occur if they are part of the SSSA and if public sewer is available. A possible fix for this potential problem is not to exclude these lots from SSSAs, but to revise the connection requirement so that the owner has the option to replace or connect. If done, this should apply only to those areas outside the planned public service envelope.*