

## On-site Sewage Facility Implementation Strategies

An on-site sewage facility (OSSF — a term which encompasses all septic and aerobic systems) does not send waste through a system of pipes to be treated elsewhere. Instead, it uses a combination of physical and chemical methods to treat the waste at the owner’s location. Estimates based on OSSF permit records suggest the Project area has at least 19,000 systems. However, the actual number and distribution of OSSFs in the region is unknown, and inventories of OSSFs are piecemeal.

Enforcement varies throughout the region and, depending on jurisdiction, is handled by several authorized agents — the Tarrant County Public Health Department, cities of Arlington and Grand Prairie, and the TCEQ Region 4 Office. A distribution map of OSSFs can be found in Figure 13. Furthermore, enforcement efforts can be ineffective if owners of failing OSSFs do not have the resources to repair or replace their systems or to pay fines associated with violations. Because properly functioning and maintained OSSFs contribute little to no bacteria to waterways, this I-Plan primarily focuses on OSSFs that are in danger of — or already are — unpermitted, failing, or poorly maintained. The following implementation activities are intended to address these systems.

### Implementation Strategy 5.0: Funding for failing OSSFs

As explained in Table 37, stakeholders and NCTCOG will seek funding to address failing OSSFs, through income-qualified programs to subsidize OSSF repair or connection to sanitary sewer systems. Possible funding sources may include American Dream Downpayment Initiative; USDA Home Repair Grant; Specially Adapted Housing Grants; USDA Rural Development Housing and Community Facilities Programs; the Rural Housing Insurance Fund grants; and TCEQ SEP-directed funds.

**Table 1. Implementation Strategy 5.0 Summary — Funding for failing OSSFs**

<b>Targeted Source(s)</b>	Failing OSSFs
<b>Estimated Potential Load Reduction</b>	IS 5.0 may reduce the potential for bacteria loading from failing OSSFs by 2% reduction over 25 years
<b>Technical and Financial Assistance Needed</b>	<u>Technical</u> : some technical assistance may be necessary regarding identifying failing OSSFs and potential repairs  <u>Financial</u> : grants, loans, SEPs and existing funding as appropriate
<b>Education Component</b>	Authorized agents and NCTCOG will collect and distribute information on funding availability
<b>Schedule of Implementation</b>	As resources are available, the implementation of this activity will begin immediately and will continue for the entire implementation process
<b>Interim, Measurable Milestone</b>	Grants and other funding sources sought
<b>Progress Indicators</b>	Number of OSSF repaired, replaced, or eliminated due to connections with sanitary sewer systems
<b>Monitoring Component</b>	NCTCOG will collect reports from authorized agents

<b>Responsible Entity</b>	<p>NCTCOG and authorized agents will collect and distribute funding information as appropriate for their organization</p> <p>NCTCOG will collect information on funding availability and report to Wastewater technical subcommittee and Coordination Committee</p>
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**Implementation Strategy 5.1: Aerobic treatment unit maintenance**

According to the National Environmental Services Center of the West Virginia University Research Corporation, aerobic treatment units (ATUs) are similar to septic systems in that they both use natural processes to treat wastewater. But unlike septic systems, which use anaerobic processes, the aerobic treatment process requires oxygen. ATUs use a mechanism to inject and circulate dissolved oxygen inside the treatment tank. This mechanism requires electricity to operate. As a result, the basic unit tends to be more expensive to own and operate than a septic tank and requires more maintenance. The solids must be pumped out at much more frequent intervals, and the electrical-mechanical parts must be maintained (NESC, 2005). Most ATUs are sold with a two-year service contract, covering inspections and maintenance; however, manufacturers recommend that such a contract be extended for the life of the unit. The added complexity and need for homeowner attentiveness help make ATUs more likely to malfunction and impact bacteria loading in nearby waterways.

The TCEQ, Tarrant County, and the cities of Arlington and Grand Prairie are encouraged to develop policies to increase maintenance of ATUs, including mandatory lifetime maintenance contracts, more inspections on systems, and increased monitoring in areas with high concentrations of ATUs. The strategies for ATUs are detailed in Table 38.

**5.1.1: Request to TCEQ for enforcement**

TCEQ’s role as a state regulator makes the agency a significant partner in this I-Plan’s OSSF efforts. The TCEQ is encouraged to suspend or revoke licenses and registrations of poorly performing installers and maintenance providers.

**5.1.2: Continuing education opportunities**

As resources are available, NCTCOG and other stakeholders will work to develop outreach efforts and continuing education opportunities specific to district attorneys and justices of the peace with the goal of increasing prosecution of OSSF violations. Such efforts will focus on the impact of OSSF violations on water quality.

**5.1.3: Sample ordinance development**

As resources are available, NCTCOG will provide sample ordinances for municipal authorized agents wishing to mandate OSSF maintenance and make the information available on the BMP Library.

**5.1.4: Standardized service maintenance contract and inspection form**

Although TCEQ is already required by 30 TAC 285.10 to provide a model order, ordinance, and resolution that can be used by authorized agents to meet the minimum requirements of OSSF laws and rules, that requirement does not address service maintenance contracts or inspection forms.

The Coordination Committee encourages TCEQ to develop a standardized service maintenance contract and inspection forms to serve as guidelines for authorized agents and municipalities.

**Table 2. Implementation Strategy 5.1 Summary — Aerobic treatment unit maintenance**

<b>Targeted Source(s)</b>	Aerobic treatment units (ATU)
<b>Estimated Potential Load Reduction</b>	IS 5.1 -5.1.4 may reduce the potential for bacteria loading from failing ATUs by 2% reduction over 25 years
<b>Technical and Financial Assistance Needed</b>	Technical: technical assistance may be necessary  Financial: grant funding and existing program funding
<b>Education Component</b>	Public education efforts for ATU owners regarding maintenance contract requirements  Educational efforts geared toward district attorneys and justices of the peace regarding environmental impact of malfunctioning OSSFs
<b>Schedule of Implementation</b>	As resources are available, the implementation of this activity will begin immediately and will continue for the entire implementation process
<b>Interim, Measurable Milestone</b>	Maintenance contracts for ATUs mandated as feasible by Authorized Agents  Educational materials developed or modified for enforcement decision makers  Sample ordinance development for Authorized Agents
<b>Progress Indicators</b>	Maintenance contract requirements in the majority of Authorized Agent jurisdictions  Number of educational opportunities for justices of the peace and district attorneys
<b>Monitoring Component</b>	NCTCOG will report on progress of contract requirements and educational opportunities
<b>Responsible Entity</b>	Wastewater technical subcommittee and NCTCOG will develop or modify appropriate educational materials, and create or modify a model ordinance that addresses service maintenance contracts and instruction forms  NCTCOG will report progress to the Coordination Committee NCTCOG will coordinate with TCEQ to explore options for developing standardized service maintenance contract and inspection forms if feasible, to improve OSSF management and monitoring

## Implementation Strategy 5.2: OSSF education efforts for real estate agents, property inspectors, and homeowners

Further detailed in Table 39, NCTCOG, Authorized Agents, and other entities will, as resources are available, provide education opportunities to real estate agents, property inspectors, and consumers about identifying failing OSSFs and the consequences of inadequate maintenance and failure of OSSFs.

### 5.2.1: H-GAC curriculum

As resources are available, NCTCOG will pursue an agreement with the Houston-Galveston Area Council of Governments (H-GAC) regarding the use of H-GAC's Texas Real Estate Commission (TREC) approved curriculum for OSSF inspector training.

### 5.2.2: Training module evaluation and regional availability

By 2014, the OSSF Subcommittee will investigate potential training modules, including those available from H-GAC and other sources, with the goal of ensuring the regional availability of OSSF inspector training for property inspectors.

**Table 3. Implementation Strategy 5.2 Summary — OSSF education efforts for real estate agents, property inspectors, and homeowners**

<b>Targeted Source(s)</b>	OSSFs
<b>Estimated Potential Load Reduction</b>	IS 5.2 – 5.2.2 may reduce the potential for bacteria loading from failing OSSFs due to poor homeowner, realtor, and inspector education by 2% reduction over 25 years
<b>Technical and Financial Assistance Needed</b>	<u>Technical</u> : technical assistance from H-GAC will be sought  <u>Financial</u> : grant funding and existing program funding
<b>Education Component</b>	NCTCOG, authorized agents, and other entities will, as resources are available, provide education opportunities to real estate agents, property inspectors, and consumers about identifying failing OSSFs and the consequences of inadequate maintenance and failure of OSSFs
<b>Schedule of Implementation</b>	As resources are available, NCTCOG will immediately pursue an agreement with the H-GAC regarding the use of HGAC's Texas Real Estate Commission (TREC) approved curriculum for OSSF inspector training  By 2014, the OSSF technical subcommittee will investigate potential training modules with the goal of ensuring the regional availability of OSSF inspector training
<b>Interim, Measurable Milestone</b>	NCTCOG agreement with H-GAC  Potential training modules investigated

<b>Progress Indicators</b>	H-GAC curriculum in use in NCTCOG region  Other training modules used if appropriate
<b>Monitoring Component</b>	NCTCOG will report progress on obtaining the H-GAC curriculum and its use as well as use of other curricula
<b>Responsible Entity</b>	NCTCOG and Authorized Agents will provide educational opportunities for those involved in real estate transactions  Wastewater technical subcommittee will investigate potential training modules  NCTCOG will pursue agreement with H-GAC to use their curriculum

**Implementation Strategy 5.3: Property inspections and document review**

Pre-sale real estate inspections should include a complete review of OSSF maintenance documents and system history. These documents are typically available through the homeowner and Authorized Agent and that information should be provided to the prospective home buyer. The prospective home buyer should also be made aware of the absence of OSSF maintenance documents. TREC requires property inspections at the time of sale, specifies education and certification requirements for licensed real estate salespersons and inspectors, and develops forms for use during sales and inspections. The Coordination Committee requests that the TREC use these forms to their full potential and modify each to provide additional resources for homeowners related to their OSSFs. To aid in home buyer education, materials selected and/or modified by the OSSF technical subcommittee will be made available online by NCTCOG. Expanded detail on property inspection and document review can be found in Table 40.

**Table 4. Implementation Strategy 5.3 Summary — Property inspections and document review**

<b>Targeted Source(s)</b>	OSSFs
<b>Estimated Potential Load Reduction</b>	IS 5.3 may reduce the potential for bacteria loading from failing OSSFs due to homeowner ignorance or inexperience by 2% reduction over 25 years
<b>Technical and Financial Assistance Needed</b>	<u>Technical</u> : technical assistance may be necessary  <u>Financial</u> : grant funding and existing program funding
<b>Education Component</b>	Development or modification of homebuyer educational materials including where to find OSSF maintenance documents and system history, and the potential consequences of the absence of OSSF maintenance documents  Outreach to TREC regarding pre-sale inspections and OSSFs
<b>Schedule of Implementation</b>	As resources are available, the implementation of this activity will begin immediately and will continue for the entire implementation process

<b>Interim, Measurable Milestone</b>	Creation or modification of homebuyer education materials
<b>Progress Indicators</b>	Availability of education material through BMP Library (see IS 8.0)
<b>Monitoring Component</b>	NCTCOG will report on the progress of educational material creation and web availability
<b>Responsible Entity</b>	<p>Wastewater technical subcommittee and NCTCOG will develop or modify appropriate educational materials and ensure their availability online</p> <p>Wastewater technical subcommittee and NCTCOG will determine the best approach for outreach to TREC and implement</p> <p>NCTCOG will report progress to Coordination Committee</p>

**Implementation Strategy 5.4: Services to annexed areas**

The expansion of city boundaries frequently provides municipalities and homeowners alike with the opportunity to enjoy the benefits of sanitary sewer systems and wastewater treatment facilities. Detailed in Table 41, the Coordination Committee encourages municipalities to meet stated timelines for providing services when areas are annexed, especially regarding connection with sanitary sewer systems.

**Table 5. Implementation Strategy 5.4 Summary — Services to annexed areas**

<b>Targeted Source(s)</b>	OSSFs
<b>Estimated Potential Load Reduction</b>	IS 5.4 may reduce the potential for bacteria loading from failing OSSFs by 1% reduction over 25 years
<b>Technical and Financial Assistance Needed</b>	<p><u>Technical</u>: technical and engineering assistance may be necessary</p> <p><u>Financial</u>: grant funding and existing program funding</p>
<b>Education Component</b>	Outreach to municipal MS4s regarding providing services to annexed areas
<b>Schedule of Implementation</b>	As resources are available, expanding sanitary sewer service to annexed areas within stated timelines will begin immediately and will continue throughout the entire implementation process
<b>Interim, Measurable Milestone</b>	Municipalities contacted
<b>Progress Indicators</b>	Annexed areas transitioning from OSSFs to sanitary sewer lines
<b>Monitoring Component</b>	Progress indicators reported to NCTCOG

<b>Responsible Entity</b>	Municipalities with annexed areas on OSSFs will transition to sanitary sewer systems as required and report progress to NCTCOG
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### Implementation Strategy 5.5: Replacement and conversion of poorly functioning OSSFs

MS4s with their own aging OSSFs are encouraged to convert any that are poorly functioning, including vault toilets associated with park and recreational facilities, to sanitary sewer, grinder pump systems, or upgraded OSSFs. Table 42 expands on the implementation strategy for replacing and converting poorly functioning OSSFs.

**Table 6. Implementation Strategy 5.5 Summary — Replacement and conversion of poorly functioning OSSFs**

<b>Targeted Source(s)</b>	OSSFs
<b>Estimated Potential Load Reduction</b>	IS 5.5 may reduce the potential for bacteria loading from failing OSSFs by 1% reduction over 25 years
<b>Technical and Financial Assistance Needed</b>	<u>Technical</u> : technical assistance may be necessary  <u>Financial</u> : grant funding and existing program funding
<b>Education Component</b>	Outreach to municipal MS4s regarding replacement or conversion of poorly functioning OSSFs
<b>Schedule of Implementation</b>	As resources are available, the implementation of this activity will begin immediately and will continue for the entire implementation process
<b>Interim, Measurable Milestone</b>	Municipalities contacted
<b>Progress Indicators</b>	Number of OSSFs replaced or converted
<b>Monitoring Component</b>	Number of OSSFs replaced or converted reported to NCTCOG
<b>Responsible Entity</b>	MS4s with their own aging OSSFs will replace or convert those systems as feasible and report those results to NCTCOG

Figure 1. OSSF Distribution Map with Impaired Segments

