CLICK ANYWHERE on THIS PAGE to return to U.S. SEPTIC AUTHORITIES & DESIGN SPECIFICATIONS at InspectApedia.com

The PDEQ* Virtual Septic Inspection

* Pima County Department of Environmental Quality

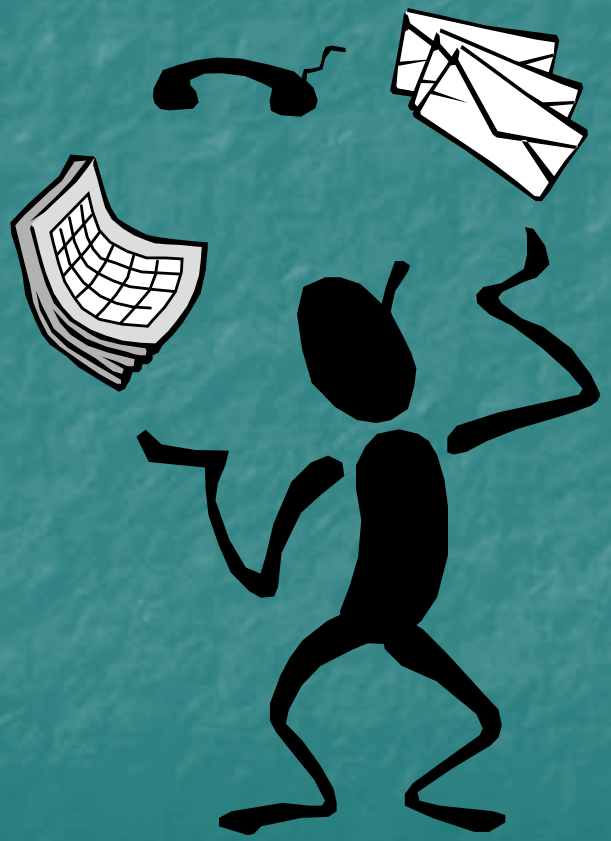
- Use this step-by-step guide to learn what PDEQ inspectors are looking for
- Inspection criteria are highlighted so you know what to expect
- Additional questions?

  Call and ask to speak with an inspector:

  520-724-7400

The following slides will illustrate how to:

- Schedule your inspection
- Help the inspector find your jobsite
- Ensure you provide the correct paperwork



To Schedule An Inspection For Non-remote Areas

- Use the Interactive Voice Response (IVR) System (see phone number below)
- Call 520-724-6970 by 4:00 pm for an inspection the following business day
- Have the 10-digit activity number available
- The 5-digit septic inspection code is 03060

To Schedule An Inspection For A Remote Area

- Remote areas include: Ajo, Why, Lukeville, Arivaca, Sasabe, Redington and Mt. Lemmon
- Call PDEQ at least 48 hours in advance to schedule inspection

  520-724-7400

Post the address at the jobsite

- Put the paperwork in a location that is easy for the inspector to find

What Paperwork Should Be At The Jobsite?

- **Many** inspections are rejected because the necessary paperwork is not at the jobsite
- Continue with the Virtual Inspection to find out what paperwork must be provided at the time of your requested inspection

- Required Paperwork 1 of 4
- POST AT JOB SITE Checklist

Provide the required paperwork in a visible location at the jobsite

INSPECTION WILL BE REJECTED IF NOT POSTED*
***$10.00 fee for replacement paperwork**

PER CODE, ALL ADDRESSES MUST BE POSTED PRIOR TO INSPECTION

Residential	RV/Mobile Home
<50 feet from the curb requires 3" numbers displayed on the building. >50 feet from the curb requires 3" numbers displayed a minimum of 36" above the ground at the primary access point.	Entrance numbers shall be 12" Building numbers shall be 6" Space numbers Shall be 3"

Septic System Final Inspection

Property Address:_____

Date of Inspection:_____ Project Number_____

Septic Tank and Distribution Box: R18-9-A.314
____System Located according to site plan and correctly oriented
____Liquid Capacity is equal to or more than approved tank size Size (g)_____ Material_____
____Tank Level
____Two compartments or tanks with 2/3 to 1/3 ratio
____Fly-ash/Bituminous coating at least 4" below liquid surface
____Two access openings at least 20" wide
a. One over inlet, one over outlet
b. If inlet compartment is over 12 feet long, 3rd opening provided over baffle
____Access is within 6 inches of finished grade
____Inlet/outlet openings and vertical leg=4" or size of connecting sewer
a. Extends at min. 12" below and min. 4" above liquid surface
b. Inlet invert shall be 2" above outlet invert
____Appropriate baffle, solid durable material, extends 4" above liquid surface
a. Adequate vent area (size of connecting sewer)
b. Opening is at least the same area of the inlet and is located in the middle of the baffle
____"Inlet" & "Outlet" properly marked on top of tank
____Manufacture, tank size, max. depth of cover, and date of manufacture marked on top of tank
____Effluent filter installed
____Tank leak tested, if required
____Pipe between septic tank and distribution box placed on undisturbed soil or compacted fill
____Distribution Box level, inlet at least 1" above outlet, on stable surface
____Plumbing and distribution piping is appropriate size/material, and connections tight

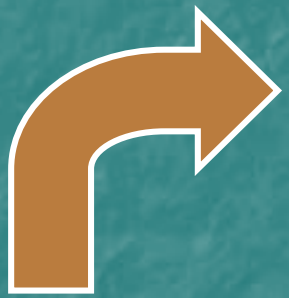
Trenches: R18-9-E.302
____Trenches located according to site plan Number of Trenches=_____
____Trenches appropriate depth and length per approval Dimensions L=_____ W=_____
____Trenches follow contour and distribution piping level T.D.= _____ E.D.=_____
____Aggregate between 3/4" and 2 ½" and free of fine materials
____2" of aggregate over pipe
____Geotextile filter material over aggregate (no newspaper or straw)
____Distribution piping ends are capped
____Distribution pipe spacing Distance=_____
____Observation port installed
____Proper drainage on property to minimize damage to flooding

Verification of General Permit Conformance: R18-9-A.309.C
____Accurate "As-Built" site plan signed by the field inspector

Recommend Approval_____Rejected_____Signature_____
Comments:_____

- Required Paperwork 2 of 4

- Certificate of Watertightness (must be completely filled out PRIOR to inspection)



Certificate of Watertightness of an Installed Septic Tank

Determined by Field Watertightness Testing
Under Arizona Administrative Code R18-9-A309(C) (1)

Project Information

Property Address: _____

File Number: _____

Watertightness Tester

Name: _____

Company: _____

Address: _____

_____

Septic Tank Information

Manufacturer: _____

Material / Model: _____

Design Liquid Capacity: _____ gallons

Was a Manufacturer's Certificate of Conformance stating that tank meets the requirements of R18-9-A314 received from manufacturer? Yes ☐ No ☐

Watertightness Test Information

	Date	Time
1. Start 24-hour presoak with clean water	_____	_____
2. Start of field watertightness test	_____	_____
3. End of field watertightness test	_____	_____

☐ Passed watertightness test without repair
(no water drop over 1-hour period per A.A.C. R18-9-A314(5)(d)(ii))
☐ Passed watertightness test following repair
Indicate Repairs Made: _____
_____

Certification

I have tested the installed septic tank for the above-named project in accordance with the watertightness testing requirements specified in Arizona Administrative Code R18-9-A314(5)(d) and certify that the septic tank passed the watertightness test.

Signature of Tester: _____

Date of Certification: _____

Note: Not required for projects with a Notice of Intent dated 11-12-05 or before

- To help you correctly fill out the Certificate of Watertightness, follow the instructions to the right
- If you still have questions, contact an inspector (see slide #2 for phone number)

How to conduct a watertightness test:
(Arizona Administrative Code R18-9-A314.5.d)

Fill the septic tank to the outlet.

Once filled, note the date and time on the Certificate of Watertightness on line 1 (see example below).

Allow the tank to soak for 24 hours.

After 24 hours has passed, refill the tank to the outlet and make a note of the water level. Fill in the date and time on line 2 (see example). This is the start of the field watertightness test.

After 1 hour has elapsed, look at the water level again. Fill in the date and time on line 3 (see example). This is the end of the field watertightness test.

Check the appropriate box indicating whether the tank passed the watertightness test without repair or if it passed the watertightness test following repair. NOTE: The tank passes if the water level does not drop over the one-hour period.

Be sure the rest of the information, including the signature of the tester, is filled in on the Certificate of Watertightness of an Installed Septic Tank.

EXAMPLE:
Watertightness Test Information

	Date	Time
1. Start 24-hour presoak with clean water	2-10-07	9:00am
2. Start of field watertightness test	2-11-07	9:00am
3. End of field watertightness test	2-11-07	10:00am

☐ Passed watertightness test without repair
(no water drop over 1-hour period per A.A.C. R18-9-A314(5)(d)(ii))

☐ Passed watertightness test following repair

Indicate Repairs Made:

_____

_____

- Required Paperwork 3 of 4
- Construction Authorization (Form C) – needs to be the original copy provided in the inspection packet

PIMA COUNTY DEPARTMENT OF ENVIRONMENTAL QUALITY
CONSTRUCTION AUTHORIZATION
FOR AN ONSITE WASTEWATER TREATMENT FACILITY
TYPE 4.02 THROUGH 4.22 GENERAL PERMITS

Property Address: 1234 N. EASY ST.

Applicant Information: Name: JOHN Q. PUBLIC Address: 54321 E. PARK ST. TUCSON, AZ 85777	**File Number: P07CP00000** **Permitted Design Flow:** **600** Gallons Per Day ☐ Manufactured/mobile ☐ Site built (SFR) Number of Bedrooms 3 Number of Fixture Units 37
Name and Address of Facility (if different from above):	County: Pima Parcel No: 000-00-000R
Characteristics of the Wastewater Source(s): √ Typical sewage from a single family residence ☐ Typical sewage from multiple residences ☐ Sewage source(s) other than residential:	**T** 00S **R** 00E **S** 00 SW ¼ (000) SE ¼ (00) SW ¼ (00) Latitude: 00° 00' 17" N Longitude: 000° 00' 00" W
Design Documents That Are The Basis For The Authorization: √ Notice of Intent, dated 3/1/07 √ Site Investigation, dated 1/1/07 √ Site plan, dated 1/1/07 √ List of Materials, dated 1/1/07 √ Design plan, dated 1/1/07 √ Soil Evaluation results, dated 1/1/07 ☐ Operation and Maintenance Plan, dated ☐ Other document(s) √ Appropriate Fee	**Construction is Authorized Under the Following General Permits:** √ General Permit 4.02 ☐ General Permit ☐ General Permit

Construction Authorization Stipulations: This Construction Authorization is issued in accordance with the Arizona Administrative Code Title 18, Chapter 9, Article 3. The applicant is authorized to construct the facility at the location specified herein based on the listed design documents under the terms and conditions of the checked General Permit number(s) and the requirements of Arizona Revised Statutes Title 49, Chapter 2. The Applicant has two years from the approval date of this document to complete construction and submit the Request for Discharge Authorization form and any additional required documents specified in A.A.C. R18-9-A309(C) or the checked General Permits. Construction shall conform to the approved design documents. A County Inspector shall perform the final inspection of the system and submit the results to Development Services for issuance of a Discharge Authorization.

Signature Title Date

Design Criteria

Tank Size Required: **1250** Gals. Distribution Boxes: **1** Permanent Inspection Pipes: **2**

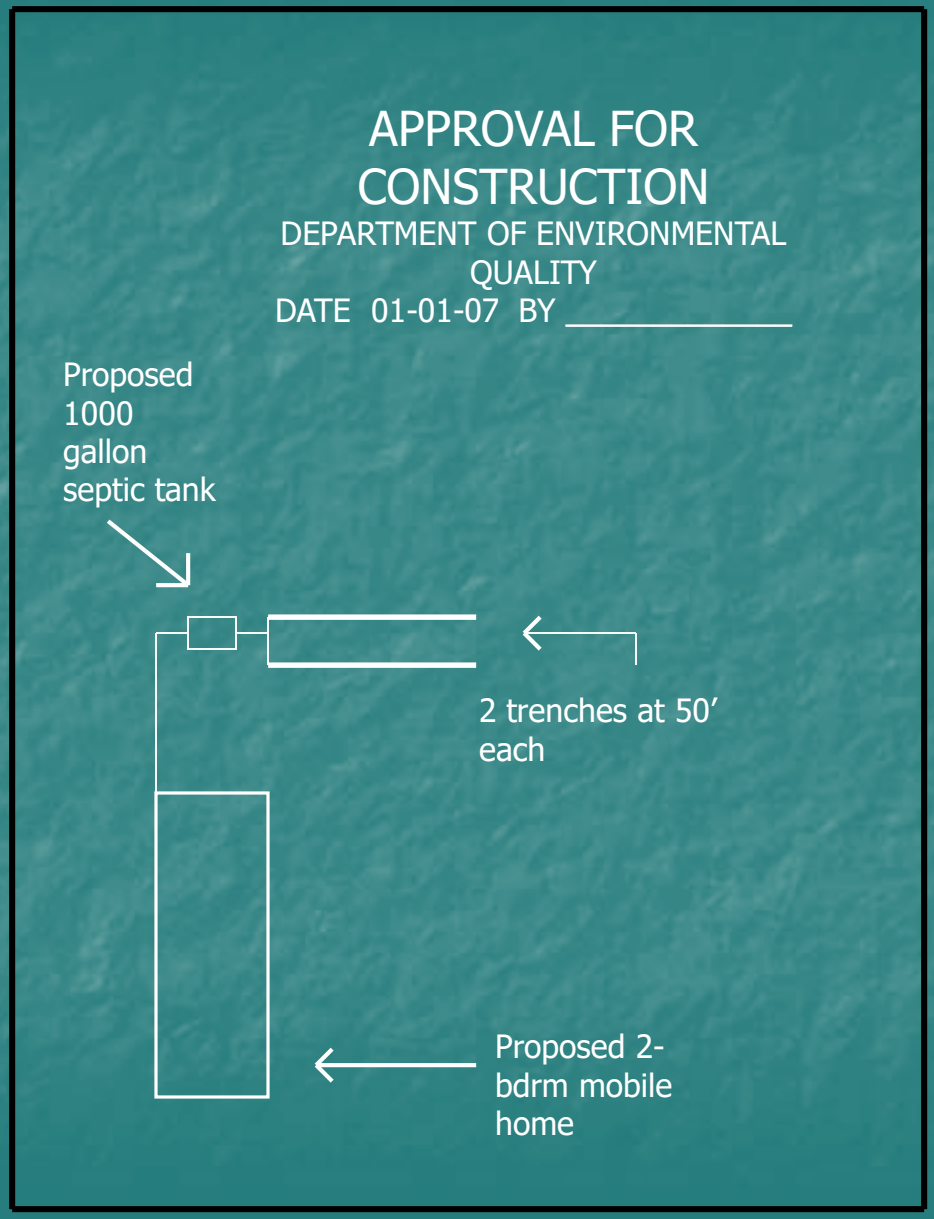
Soil Absorption Rate (SAR): **0.67**gpd/Sq.Ft. Absorption Area per Linear Foot: **7** Sq.Ft.

Number of Trenches: **2** Trench Length**: 64'** Trench Depth: **11'MAX** Trench Width: **12"**

Effective Absorption Area Required: **895.52** Sq. Ft. Depth Below Pipe: **36"**

- Required Paperwork 4 of 4

- Site Plan - needs to be the original plan with any As-built changes noted



As-built Plan

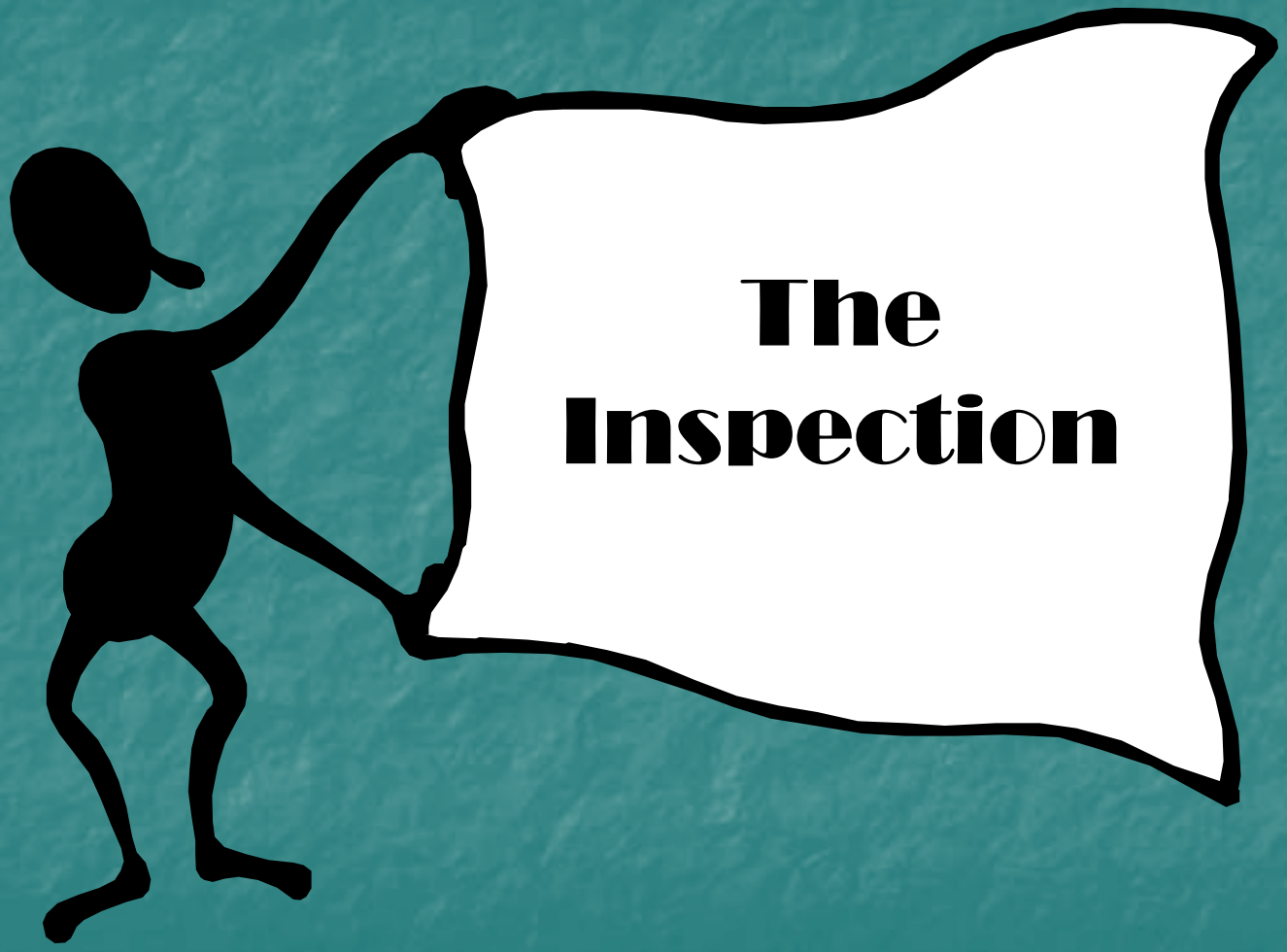
- The As-built Plan should be an accurate reflection of what the installed system looks like.
- **Major** changes, such as relocating the trenches, require a revision through Development Services PRIOR TO INSPECTION.
- Even minor changes (i.e. the leach lines exit the D-box on the middle and left sides instead of on the right and left) should be drawn in.
- What inspectors see in the ground must be reflected on the As-built Plan.

Construction Authorization

- Look on the Construction Authorization (Form C) for important design and installation criteria
  - Tank size
  - Number of trenches
  - Trench length
  - Trench width
  - Trench depth (Form C often sets minimum and maximum depths – stay within limits or contact the designer AND Development Services for a revision)
  - Depth below pipe (also know as effective depth)

Get A Revision From Development Services If…

- You install a chamber system when an aggregate/trench (perforated pipe) system is called for on the Construction Authorization


The
Inspection

Effective 10/01/2007 Conventional Septic Inspections will cost $130 (per inspection)

- The fee for the first inspection is included when you pay for your Permit at Development Services.
- All additional inspections will cost $130 each, including partials.
- Remember, this may affect your final cost.

The Septic Tank

- Clean off the top of the tank so that tank specs can be seen:
  - Manufacturer's name
  - Tank size
  - Date of manufacture
  - Maximum depth of cover
  - "Inlet" and "Outlet" (marked on the top or sides)

Septic Tank

- Leave BOTH access openings/manholes open for inspection

The Septic Tank

- Ensure that the septic tank is level

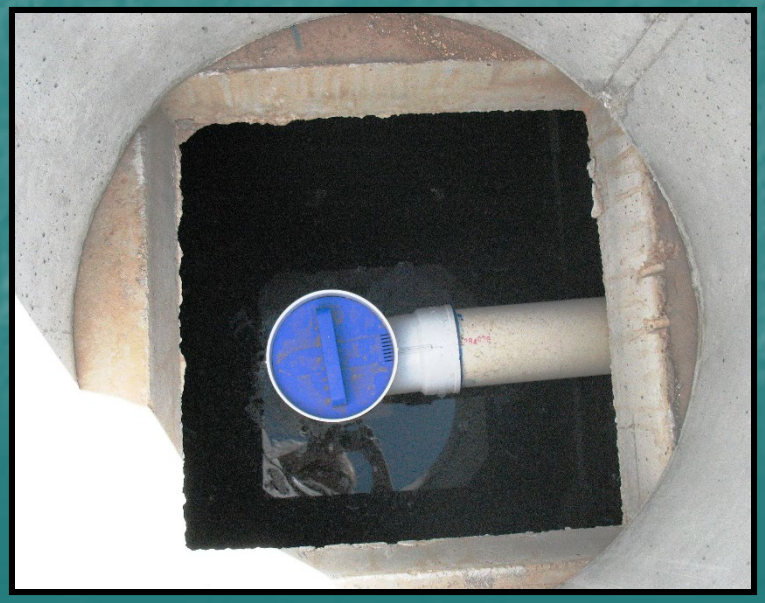
The Septic Tank

- Inlet:

  The sanitary 'T' needs to extend 4 inches above and 12 inches below the water surface; should be accessible from the manhole

- Outlet:

  An effluent filter (with the arrow pointing toward the outlet) must be installed; should be accessible from the manhole



The Septic Tank

- Access to the manholes needs to be within 6 inches of finished grade. Install risers if necessary to make this possible.

The Septic Tank

- Ensure the pipe between the tank and the D-box is supported by natural ground or compacted fill

The D-box/junction box

- Ensure the D-box/junction box:
  - is level
  - is on a stable surface
  - is installed so that the inlet is at least 1 inch above the outlet(s)

Trenches - Temporary Inspection Pipes

- Put temporary inspection pipes every 10’ in the trenches
- Inspectors will pull out the temporary inspection pipes to check the effective depth (depth below the perforated pipe)

Trenches - Spacing

- Needs to be 2X the effective depth (the distance between the bottom of the disposal pipe and the bottom of the trench bed) or 5 feet, whichever is greater

  (i.e. effective depth is 4 feet, therefore trenches must be spaced at least 8 feet apart)
- Measured between nearest sidewalls

Trenches

- Must be located according to the site plan (note **minor** changes on the As-Built Plan; initial and date the change)
- Need to follow the contour of the land
- Distribution pipes must be level

Trenches – Depth of Cover

- There must be at least 9 inches of cover over the aggregate surrounding the disposal pipe
- Thin-walled pipe may be installed if there is LESS than 2 feet of cover over the aggregate surrounding the disposal pipe

Photo shows thin-walled pipes

Trenches – Depth of Cover

- SDR 35 or equivalent pipe MUST be installed if there is MORE than 2 feet of cover over the aggregate surrounding the disposal pipe

Photos show SDR 35 pipes

Aggregate

- There needs to be 2 inches of aggregate over the distribution pipes
- Aggregate should be free of fine materials (i.e. dirt)
- Aggregate should be between ¾” and 2 ½” in size

Geotextile Filter Material

- Covers aggregate
- Needs to cover the entire width and length of trench

Distribution Pipes

- Expose ends of distribution pipes for inspection
- Ends of distribution pipes need to be capped

Observation Ports

- Need to be capped
- Ensure there are no perforations (holes) above grade
- Stabilize ports when backfilling to ensure they are straight

Common Installation Mistakes

- The following slides show mistakes that PDEQ inspectors commonly see in the field

Avoid This Common Installation Mistake

- Pipes in the distribution/ junction box overlap
- This prevents effluent from being evenly distributed

Avoid This Common Installation Mistake

- The pipe from the tank to the

  D-box is not supported by soil
- The pipe could collapse when backfilled

Avoid This Common Installation Mistake

- Tank lids are not removed for the inspection
- Inspectors cannot verify the presence of the sanitary 'T', the effluent filter and the baffle

Avoid This Common Installation Mistake

- Tank is not filled and the watertightness paperwork is not completed at the time of the inspection

Avoid This Common Installation Mistake

- Perforations (holes) in the observation port are present above grade
- This can contribute to disease-carrying organisms

Avoid This Common Installation Mistake

- Observation ports are not capped

- This can contribute to disease-carrying organisms

Online

https://webcms.pima.gov/government/environmental_quality/

- What's new?
- Forms
- Regulations
- Checklists
- Links
- Contact information

Contact

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https://webcms.pima.gov/government/environmental_quality/