

# ***Innovative Engineering***

**110 Chapin Greene Dr.  
Ludlow, MA 01056  
Phone : 413/583-7930 FAX : 413/583-8771**

15-Jul-02

**Health Department  
Town of Amherst  
70 Boltwood Walk  
Amherst, MA 01002**

**Re: 401 Shays Street  
Amherst, MA  
Project #020603**

**Gentlemen,**

**Enclosed, please find a copy of a Title 5 inspection report for the above referenced property performed for Mr. Douglas Wood. As you can see, we are certifying that the sewage disposal system at this address has passed the requirements of 310 CMR 15.000. Please see additional concerns on page one under "Notes and Comments".**

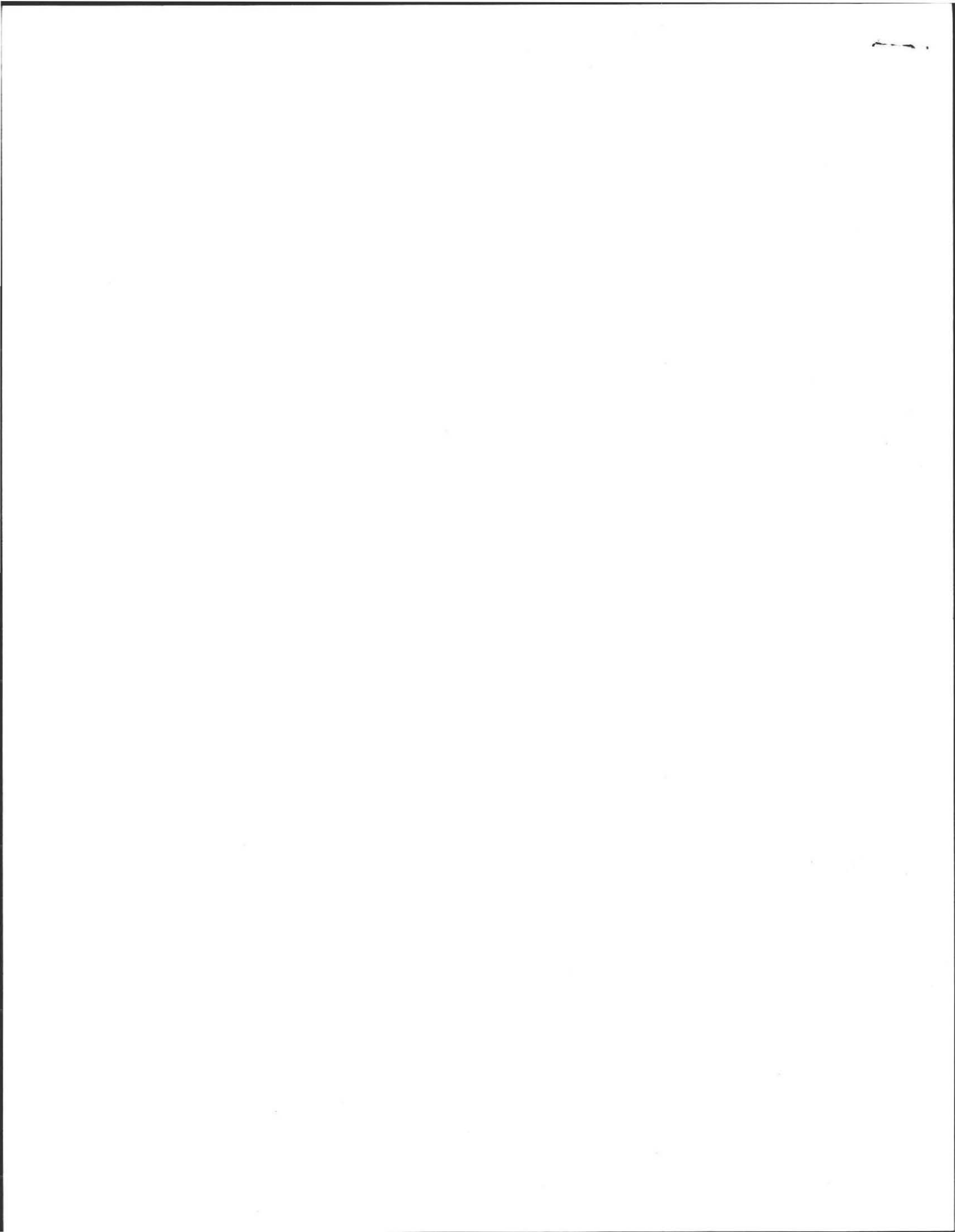
**If you should have any questions or require any additional information, please feel free to contact our office.**

**Very truly yours,**



**John A. Kopinsky, P.E.  
Innovative Engineering**

**cc: Mr. Douglas Wood**





COMMONWEALTH OF MASSACHUSETTS  
 EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 ONE WINTER STREET, BOSTON MA 02108 (617) 222-8600

TITLE 5  
 OFFICIAL INSPECTION FORM - NOT FOR VOLUNTARY ASSESSMENTS  
 SUBSURFACE SEWAGE DISPOSAL SYSTEM FORM  
 PART A  
 CERTIFICATION

Property Address: 401 Shays St.  
Amherst, MA 01002  
 Owner's Name : Douglas Wood  
 Owner's Address : 401 Shays St.  
Amherst, MA 01002  
 Date of Inspection: 26-Jun-02  
 Name of Inspector: (Please print) John A. Kopinsky, P.E.  
 Company Name: Innovative Engineering  
 Mailing Address: 110 Chapin Greene Dr., Ludlow, MA 01056  
 Telephone Number: 413/583-7930

**CERTIFICATION STATEMENT**

I certify that I have personally inspected the sewage disposal system at this address and that the information reported below is true, accurate and complete as of the time of inspection. The inspection was performed based on my training and experience in the proper function and maintenance of on site disposal systems. I am a DEP approved system inspector pursuant to Section 15.340 of Title 5 (310 CMR 15.000). The system :

- Passes
- Conditionally Passes
- Needs Further Evaluation By the Approving Authority
- Fails

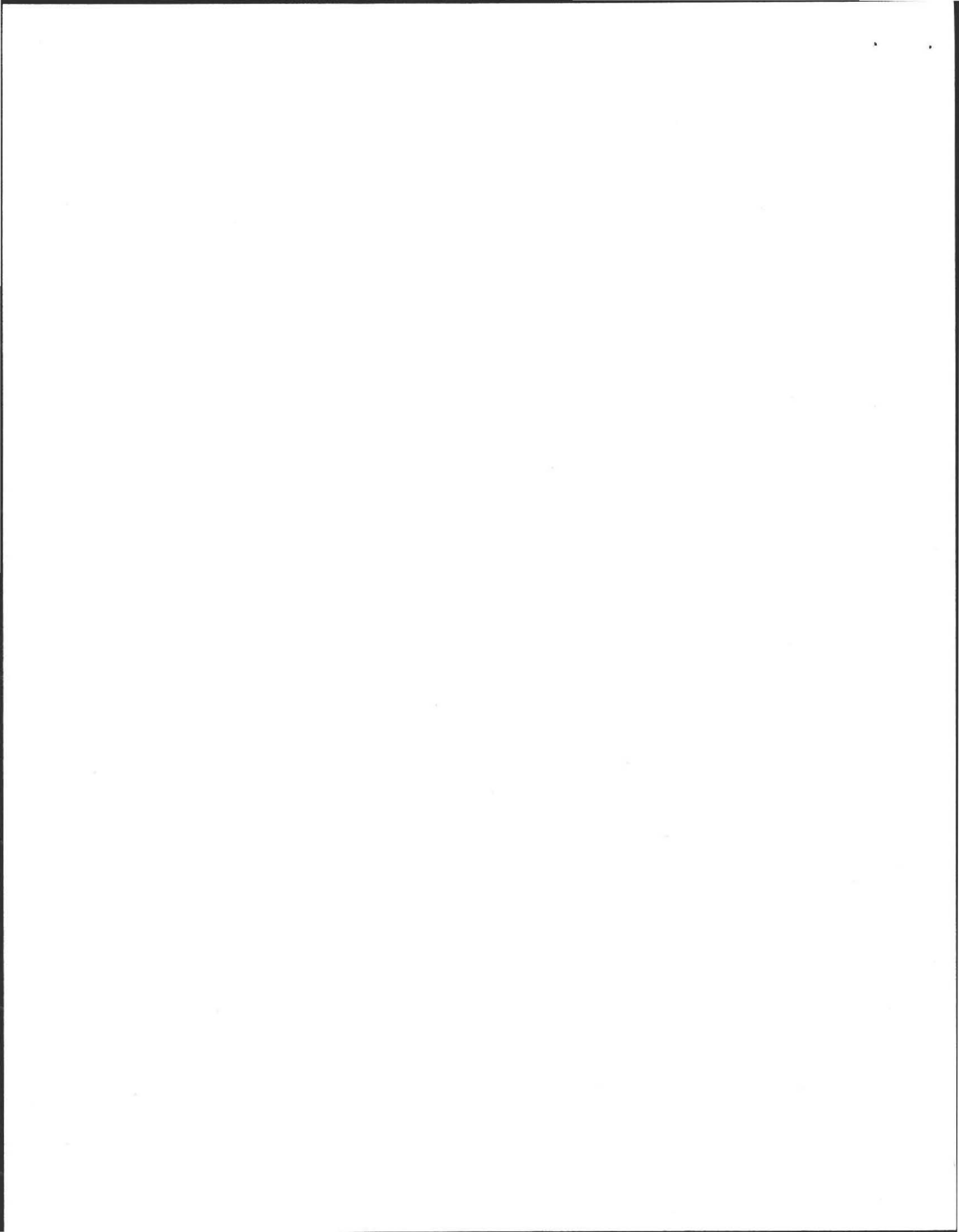
Inspector's Signature: *John A. Kopinsky* Date: 13-Jul-02

The System Inspector shall submit a copy of this inspection report to the Approving Authority (Board of Health or DEP) within 30 days of completing this inspection. If the system is a shared system or has a design flow of 10,000 gpd or greater, the inspector and the system owner shall submit the report to the appropriate regional office of the DEP. The original should be sent to the system owner and copies sent to the buyer, if applicable, and the approving authority.

Notes and Comments

*It should be noted that, while none of the failure criteria specified in the Title 5 Code have been triggered, there exist several concerns with the proper functioning of this system in the future with increased loading. First, the existing septic tank is grossly undersized for the current 3 bedrooms with a garbage grinder. Regular pumping must be maintained, depending on the number of occupants, perhaps twice per year. Secondly, while the leach field was observed to be functioning properly, the system does not have a d-box and the piping is "Orangeberg" which is located in a heavily wooded area and tends to become very brittle with age.*

\*\*\*\*This report only describes conditions at the time of inspection and under the conditions of use at that time. This inspection does not address how the system will perform in the future under the same or different conditions of use.



OFFICIAL INSPECTION FORM - NOT FOR VOLUNTARY ASSESSMENTS  
SUBSURFACE SEWAGE DISPOSAL SYSTEM INSPECTION FORM  
PART A  
CERTIFICATION (continued)

Property Address: 401 Shays St.  
Amherst, MA 01002  
Owner: Douglas Wood  
Date of Inspection: 26-Jun-02

INSPECTION SUMMARY: Check A, B, C, D, or E / ALWAYS complete all of Section D

A. System passes:

I have not found any information which indicates that any of the failure criteria described in 310 CMR 15.303 or in 310 CMR 15.304 exist. Any failure criteria not evaluated are indicated below.

Comments:

B. System Conditionally Passes:

One or more system components as described in the "Conditional Pass" section need to be replaced or repaired. The system, upon completion of the replacement or repair, as approved by the Board of Health, will pass.

Answer yes, no, or not determined (Y, N, ND) in the following  for the following statements. If "not determined", please explain.

The septic tank is metal and over 20 years old\* or the septic tank (whether metal or not) is structurally unsound, exhibits substantial infiltration or exfiltration, or tank failure is imminent. System will pass inspection if the existing septic tank is replaced with a complying septic tank as approved by the Board of Health.

\* A metal septic tank will pass inspection if it is structurally sound, not leaking and if a Certificate of Compliance

ND explain :

Observation of sewage backup or breakout or high static water level in the distribution box due to broken or obstructed pipe(s) or due to a broken, settled or uneven distribution box. System will pass inspection if (with approval of Board of Health):

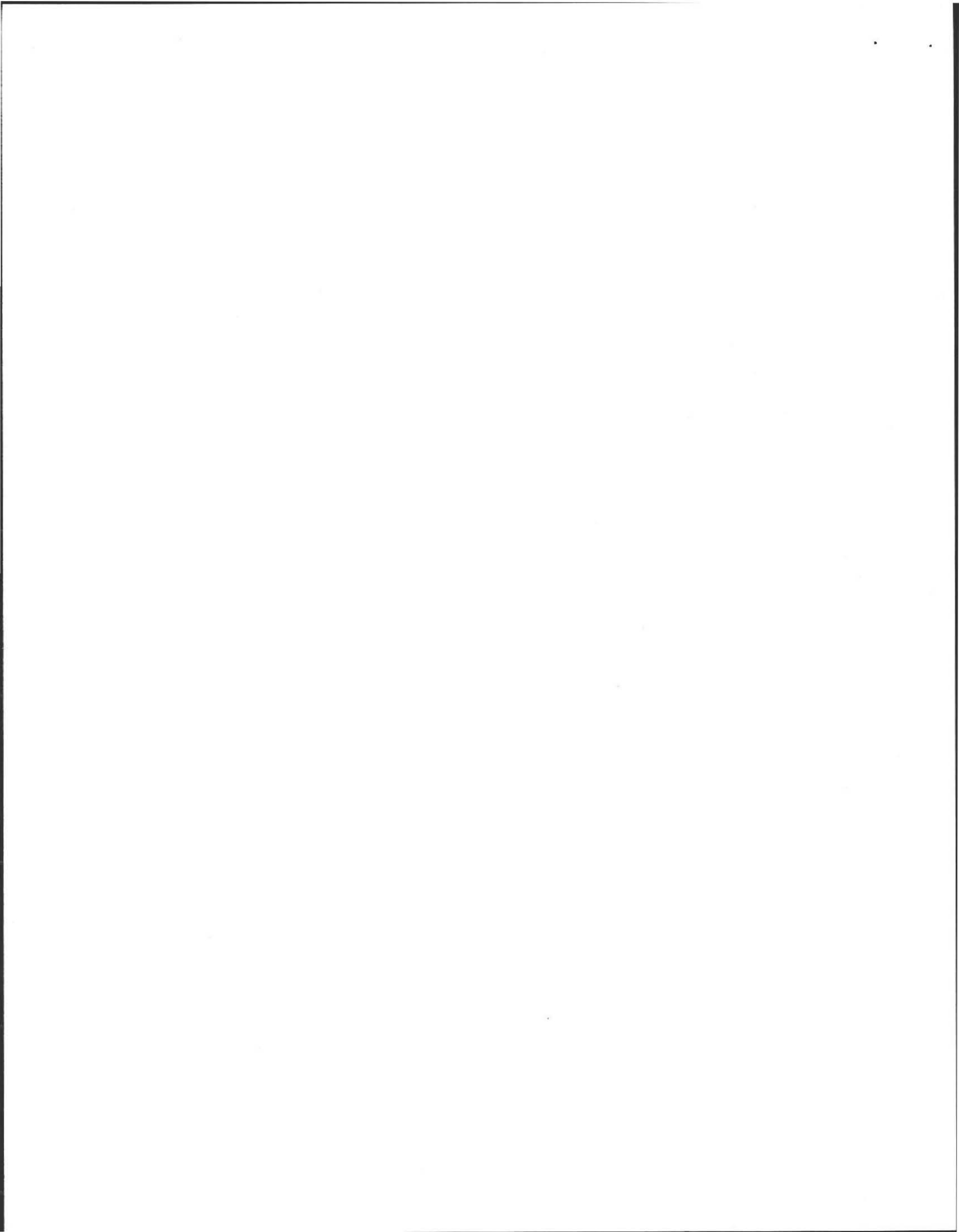
- broken pipe(s) are replaced
- obstruction is removed
- distribution box is levelled or replaced

ND explain :

The system required pumping more than 4 times a year due to broken or obstructed pipe(s). The system will pass inspection if (with approval of the Board of Health):

- broken pipe(s) are replaced
- obstruction is removed

ND explain :



OFFICIAL INSPECTION FORM - NOT FOR VOLUNTARY ASSESSMENTS  
SUBSURFACE SEWAGE DISPOSAL SYSTEM INSPECTION FORM  
PART A  
CERTIFICATION (continued)

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Amherst, MA 01002  
Owner: Douglas Wood  
Date of Inspection: 26-Jun-02

C. FURTHER EVALUATION IS REQUIRED BY THE BOARD OF HEALTH

Conditions exist which require further evaluation by the Board of Health in order to determine if the system is failing to protect public health, safety or the environment.

1) System will pass unless Board of Health determines in accordance with 310 CMR 15.303(1)(b) that the system is not functioning in a manner which will protect public health, safety and the environment:

- Cesspool or privy is within 50 feet of surface water
- Cesspool or privy is within 50 feet of a bordering vegetated wetland or a salt marsh

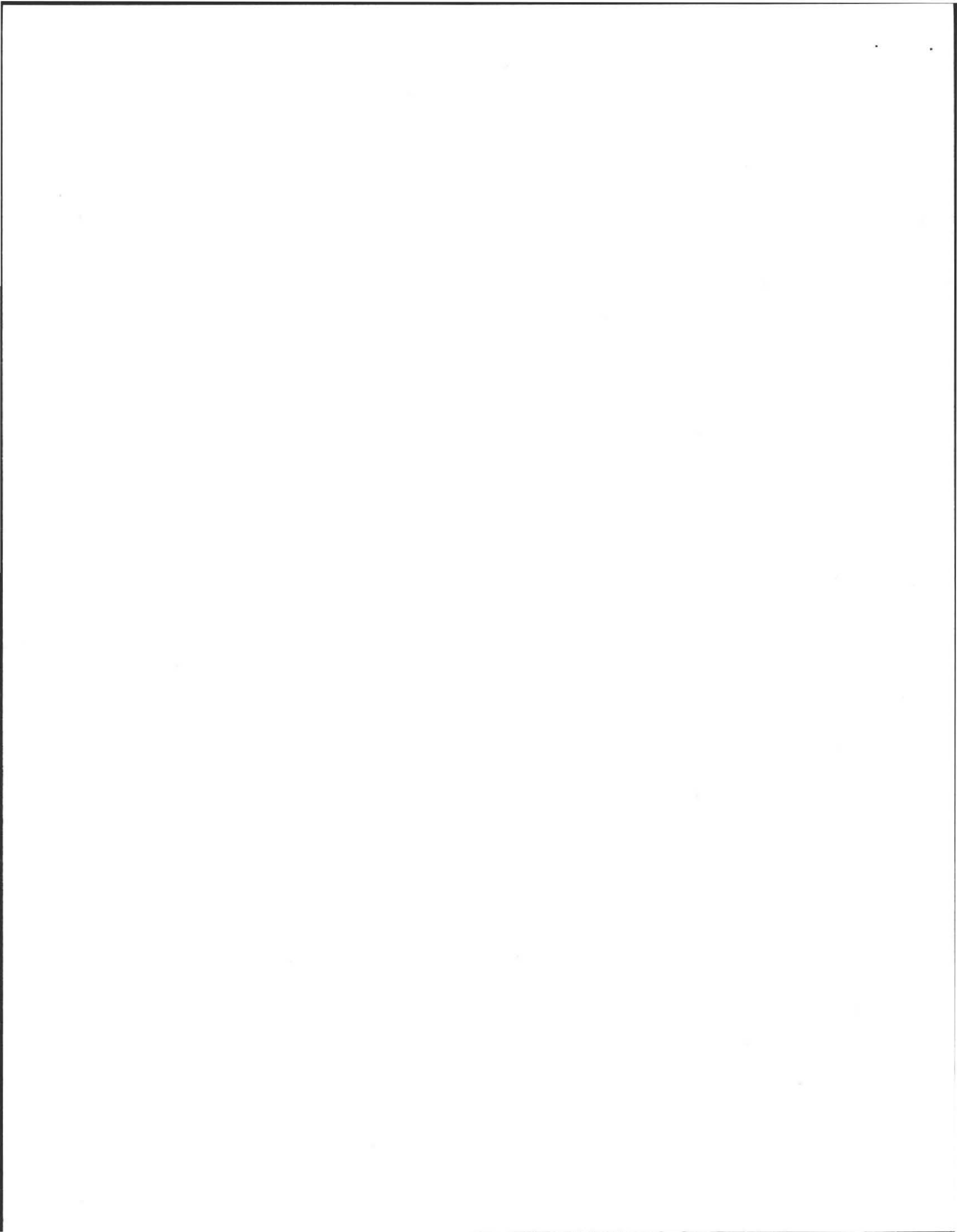
2) System will fail unless the Board of Health (and Public Water Supplier, if any) determines that the system is functioning in a manner that protects the public health, safety and environment:

- The system has a septic tank and a soil absorption system (SAS) and the SAS is within 100 feet of a surface water supply or tributary to a surface water supply.
- The system has a septic tank and SAS and the SAS is within a Zone 1 of a public water supply well.
- The system has a septic tank and SAS and the SAS is within 50 feet of a private water supply well.
- The system has a septic tank and SAS and the SAS is less than 100 feet but 50 feet or more from a private water supply well\*\*. Method used to determine distance \_\_\_\_\_.

\*\*This system passes if the well water analysis, performed at a DEP certified laboratory, for coliform bacteria and volatile organic compounds indicates that the well is free from pollution from that facility and the presence of ammonia nitrogen and nitrate nitrogen is equal to or less than 5 ppm, provided that no other failure criteria are triggered. A copy of the analysis must be attached to this form.

3) OTHER

\_\_\_\_\_





**OFFICIAL INSPECTION FORM - NOT FOR VOLUNTARY ASSESSMENTS  
SUBSURFACE SEWAGE DISPOSAL SYSTEM INSPECTION FORM  
PART A  
CERTIFICATION (continued)**

**Property Address:** 401 Shays St.  
Amherst, MA 01002  
**Owner:** Douglas Wood  
**Date of Inspection:** 26-Jun-02

**D. System Failure Criteria applicable to all systems:**

You **must** indicate "yes" or "no" to each of the following for **all** inspections:

- | YES                      | NO                                  |  |
|--------------------------|-------------------------------------|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Backup of sewage into facility or system component due to overloaded or clogged SAS or cesspool  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Discharge or ponding of effluent to the surface of the ground or surface waters due to an overloaded or clogged SAS or cesspool  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Static liquid level in the distribution box above outlet invert due to an overloaded or clogged SAS or cesspool  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Liquid depth in cesspool is less than 6" below invert or available volume is less than 1/2 day flow  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Required pumping more than 4 times in the last year <b>NOT</b> due to clogged or obstructed pipe(s). Number of times pumped _____  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Any portion of the SAS, cesspool or privy is below high groundwater elevation.   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Any portion of cesspool or privy is within 100 feet of a surface water supply or tributary to a surface water supply   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Any portion of a cesspool or privy is within a Zone 1 of a public well.  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Any portion of a cesspool or privy is within 50 feet of a private water supply well.   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Any portion of a cesspool or privy is less than 100 feet but greater than 50 feet from a private water supply well with no acceptable water quality analysis. <b>[This system passes if the well water analysis, performed at a DEP certified laboratory, for coliform bacteria and volatile organic compounds indicates that the well is free from pollution from that facility and the presence of ammonia nitrogen and nitrate nitrogen is equal to or less than 5 ppm, provided that no other failure criteria are triggered. A copy of the analysis must be attached to this form.]</b> |

no (Yes/No) **The system fails.** I have determined that one or more of the above failure criteria exist as described in 310 CMR 15.303, therefore the system fails. The system owner should contact the Board of Health to determine what will be necessary to correct the failure.

**E. Large Systems:**

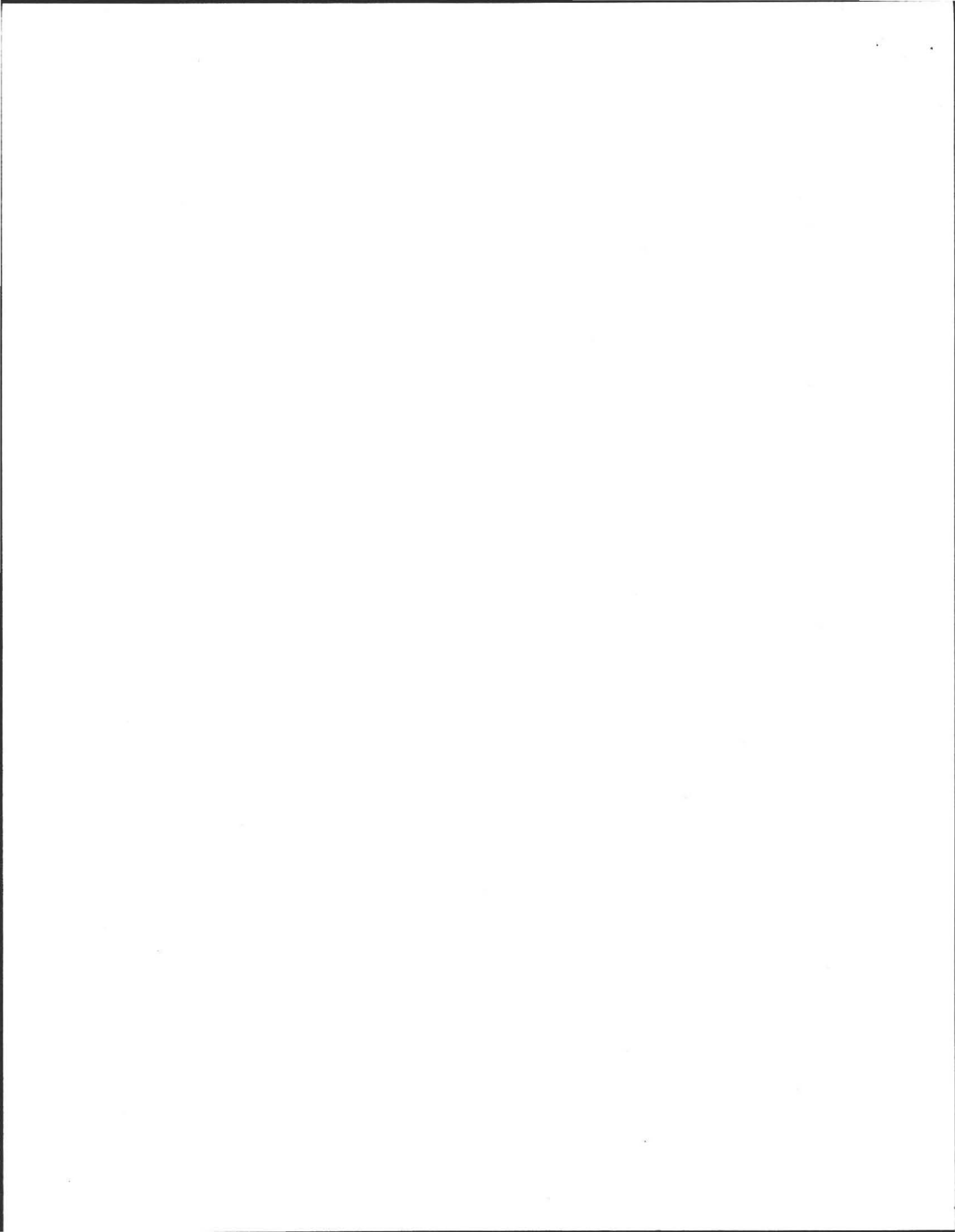
**To be considered a large system the system must serve a facility with a design flow of 10,000 gpd to 15,000 gpd.**

You must indicate either "yes" or "no" to each of the following:

(The following criteria apply to large systems in addition to the criteria above)

- | yes                      | no                       |  |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | the system is within 400 feet of a surface drinking water supply   |
| <input type="checkbox"/> | <input type="checkbox"/> | the system is within 200 feet of a tributary to a surface drinking water supply  |
| <input type="checkbox"/> | <input type="checkbox"/> | the system is located in a nitrogen sensitive area (Interim Wellhead Protection Area - IWPA) or a mapped Zone II of a public water supply well |

If you answered "yes" to any question in Section E the system is considered a significant threat, or answered "yes" in Section D above the large system has failed. The owner or operator of any large system considered a significant threat under Section E or failed under Section D shall upgrade the system in accordance with 310 CMR 15.304. The system owner should contact the appropriate regional office of the Department.



OFFICIAL INSPECTION FORM - NOT FOR VOLUNTARY ASSESSMENTS  
SUBSURFACE SEWAGE DISPOSAL SYSTEM INSPECTION FORM  
PART B  
CHECKLIST

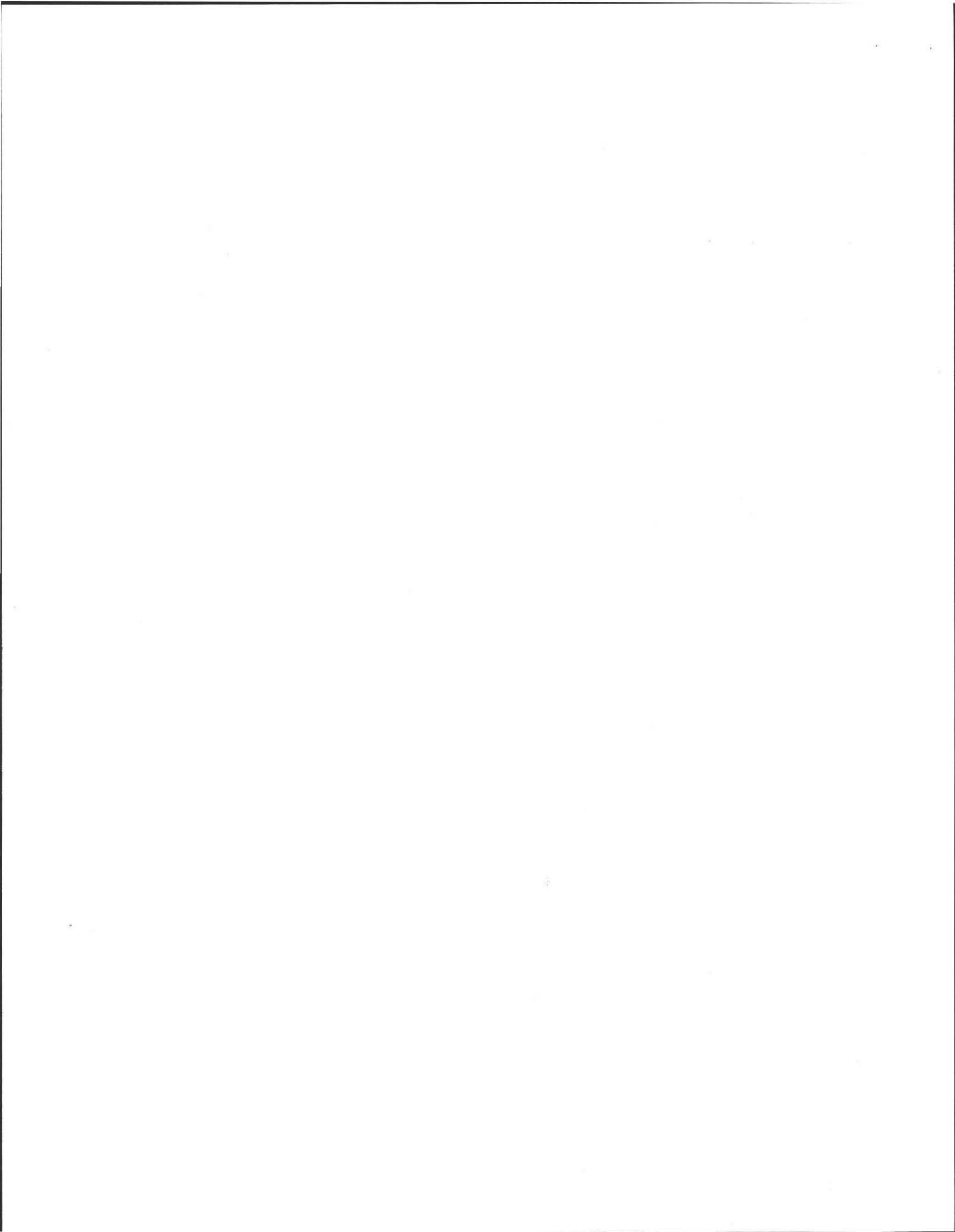
Property Address: 401 Shays St.  
Amherst, MA 01002  
Owner: Douglas Wood  
Date of Inspection: 26-Jun-02

Check if the following have been done: You **must** indicate "yes" or "no" as to each of the following: \_\_\_\_\_

- | YES                                 | NO                                  |   |
|-------------------------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Pumping information was provided by the owner, occupant, or Board of Health   |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Were any of the system components pumped out in the previous two weeks ?  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Has the system received normal flows in the previous two week period ?  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Have large volumes of water been introduced to the system recently or as part of this inspection ?  |
| <input type="checkbox"/>            | <u>n/a</u>                          | Were as built plans of the system obtained and examined? (If they were not available note as N/A)   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Was the facility or dwelling inspected for signs of sewage back-up ?  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Was the site inspected for signs of breakout ?  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Were all system components, excluding the SAS, located on site ?  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Were the septic tank manholes uncovered, opened, and the interior of the tank inspected for the condition of the baffles or tees, material of construction, dimensions, depth of liquid, depth of sludge and depth of scum? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Was the facility owner (and occupants, if different from owner) provided with information on the proper maintenance of subsurface sewage disposal systems ?   |

The **size and location of the Soil Absorption System (SAS)** on the site has been determined based on :

- | YES                                 | NO                                  |   |
|-------------------------------------|-------------------------------------|---|
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Existing information. For example, a plan at the Board of Health.   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Determined in the field (if any of the failure criteria related to Part C is at issue approximation of distance is unacceptable) [310 CMR 15.302(3)(b)] |



OFFICIAL INSPECTION FORM - NOT FOR VOLUNTARY ASSESSMENTS  
SUBSURFACE SEWAGE DISPOSAL SYSTEM INSPECTION FORM  
PART C  
SYSTEM INFORMATION

Property Address: 401 Shays St.  
Amherst, MA 01002  
Owner: Douglas Wood  
Date of Inspection: 26-Jun-02

FLOW CONDITIONS

**RESIDENTIAL**

Design flow: 110 g.p.d./bedroom  
Number of bedrooms (design): 3 Number of bedrooms (actual): 3  
DESIGN flow based on 310 CMR 15.203(for example: 110 gpd x # of bedrooms): 330 gpd  
Number of current residents: 2  
Does residence have a garbage grinder (yes or no): yes  
Is laundry on a separate sewage system (yes or no): no [if yes separate inspection required]  
Laundry system inspected (yes or no): \_\_\_\_\_  
Seasonal use (yes or no): no  
Water meter readings, if available (last two year's usage-gpd): 1500  
Sump pump (yes or no): no  
Last date of occupancy: current

**COMMERCIAL/INDUSTRIAL**

Type of establishment: \_\_\_\_\_  
Design flow (based on 310 CMR 15.203): \_\_\_\_\_ gpd  
Basis of design flow (seats/persons/sq ft, etc.): \_\_\_\_\_  
Grease trap present: (yes or no) \_\_\_\_\_  
Industrial Waste Holding Tank present (yes or no): \_\_\_\_\_  
Non-sanitary waste discharge to the Title 5 system (yes or no): \_\_\_\_\_  
Water meter readings, if available: \_\_\_\_\_  
Last date of occupancy/use: \_\_\_\_\_

OTHER: (Describe) \_\_\_\_\_

GENERAL INFORMATION

Pumping Records Last pumped 1 years ago. Pumper - Karl's Excavating  
Source of information: Owner  
Was system pumped as part of inspection:(yes or no): no  
If yes, volume pumped: \_\_\_\_\_ gallons -- How was quantity pumped determined? \_\_\_\_\_  
Reason for pumping: \_\_\_\_\_

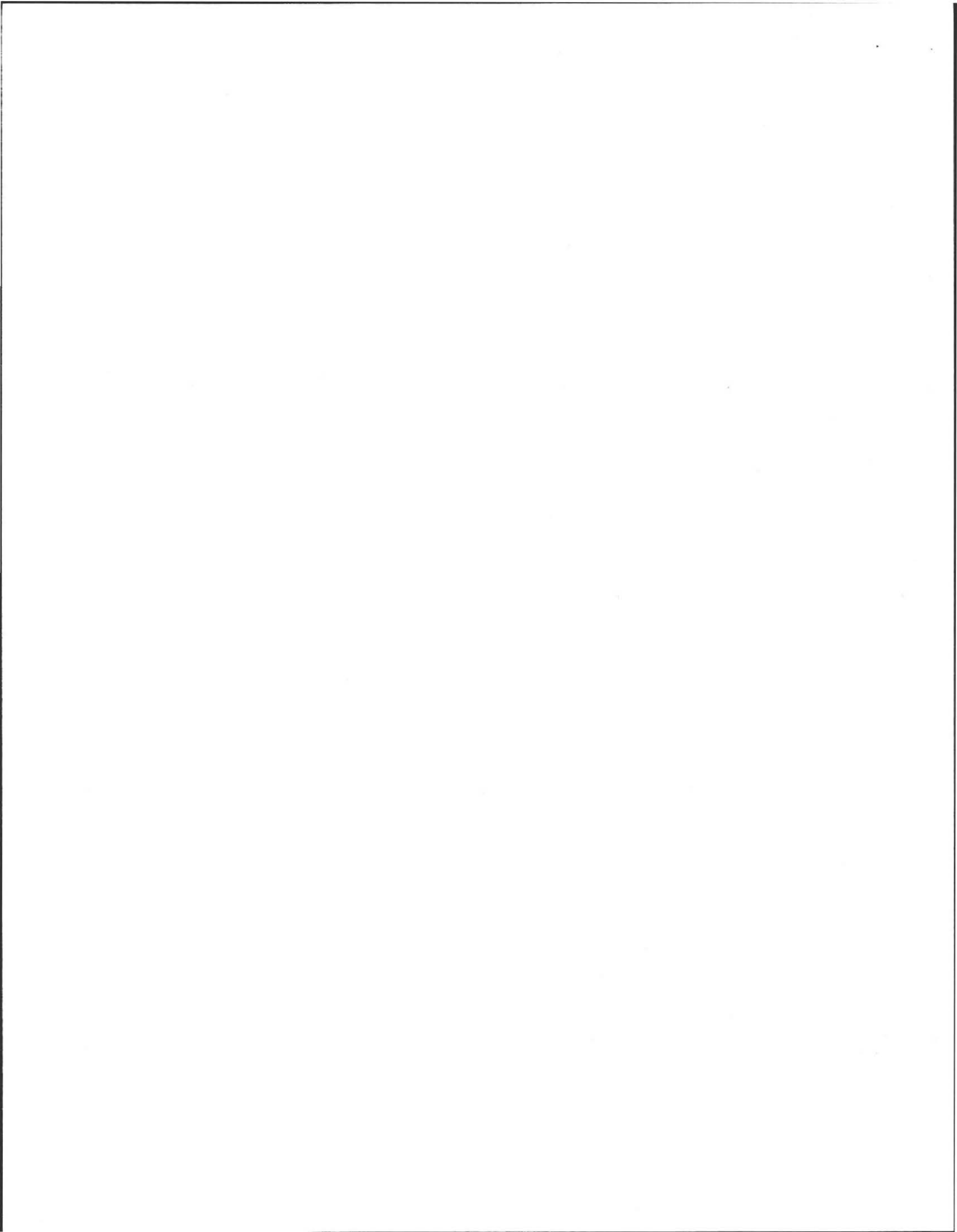
**TYPE OF SYSTEM**

- Septic tank, distribution box, soil absorption system
- Single cesspool
- Overflow cesspool
- Privy
- Shared system (yes or no)(if yes, attach previous inspection records, if any)
- Innovative/Alternative Technology. Attach a copy of the current operation and maintenance contract (to be obtained from system owner)
- Tight Tank \_\_\_\_\_ Attach a copy of the DEP approval
- Other (describe) Tank, SAS (no D-box)

Approximate age of all components, date installed (if known) and source of information:

Installed 1940 per Owner

Were sewage odors detected when arriving at the site:(yes or no) no



OFFICIAL INSPECTION FORM - NOT FOR VOLUNTARY ASSESSMENTS  
SUBSURFACE SEWAGE DISPOSAL SYSTEM INSPECTION FORM  
PART C  
SYSTEM INFORMATION (continued)

Property Address: 401 Shays St.  
Amherst, MA 01002  
Owner: Douglas Wood  
Date of Inspection: 26-Jun-02

**BUILDING SEWER:** (locate on site plan)

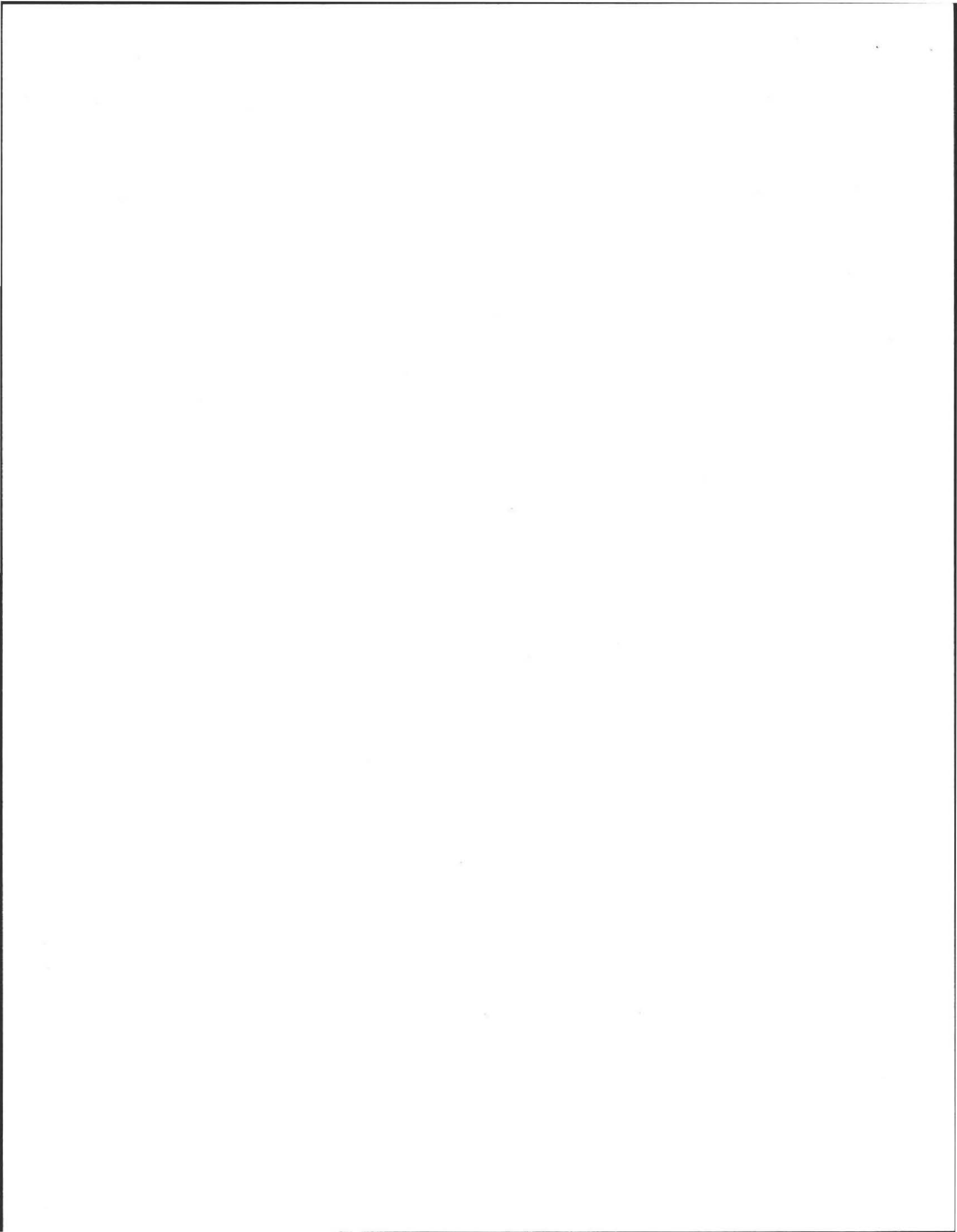
Depth below grade: 24"  
Materials of construction:  cast iron  40 PVC  other (explain)  
Distance from private water supply well or suction line: n/a  
Comments: (condition of joints, venting, evidence of leakage, etc.)  
tight joints with no signs of leakage

**SEPTIC TANK:**  (locate on site plan)

Depth below grade: 23"  
Material of construction:  concrete  metal  fiberglass  polyethylene  
 other(explain) \_\_\_\_\_  
If tank is metal, list age: \_\_\_\_\_ Is age confirmed by a Certificate of Compliance (yes or no): \_\_\_\_\_ (attach a copy of certificate)  
Dimensions: 8.5'L x 4.0'W x 3.0'D  
Sludge depth: 15"  
Distance from top of sludge to bottom of outlet tee or baffle: 2"  
Scum thickness: 1"  
Distance from top of scum to top of outlet tee or baffle: 4"  
Distance from bottom of scum to bottom of outlet tee or baffle: 16"  
How dimensions were determined: field measured with a probe  
Comments (on pumping recommendations, inlet and outlet tee or baffle condition, structural integrity, liquid levels as related to outlet invert, evidence of leakage, etc.)  
Tank and baffles are in fair condition. Flow line is at invert of outlet pipe. Sludge levels are high.

**GREASE TRAP:** \_\_\_\_\_ (locate on site plan)

Depth below grade: \_\_\_\_\_  
Material of construction: \_\_\_\_\_ concrete  metal  fiberglass  polyethylene  
 other(explain) \_\_\_\_\_  
Dimensions: \_\_\_\_\_  
Scum thickness: \_\_\_\_\_  
Distance from top of scum to bottom of outlet tee or baffle: \_\_\_\_\_  
Distance from bottom of scum to bottom of outlet tee or baffle: \_\_\_\_\_  
Date of last pumping: \_\_\_\_\_  
Comments (on pumping recommendations, inlet and outlet tee or baffle condition, structural integrity, liquid levels as related to outlet invert, evidence of leakage, etc.)  
\_\_\_\_\_





OFFICIAL INSPECTION FORM - NOT FOR VOLUNTARY ASSESSMENTS  
SUBSURFACE SEWAGE DISPOSAL SYSTEM INSPECTION FORM  
PART C  
SYSTEM INFORMATION (continued)

Property Address: 401 Shays St.  
Amherst, MA 01002  
Owner: Douglas Wood  
Date of Inspection: 26-Jun-02

TIGHT OR HOLDING TANK:  (Tank must be pumped prior to, or at time of, inspection)(locate on site plan)

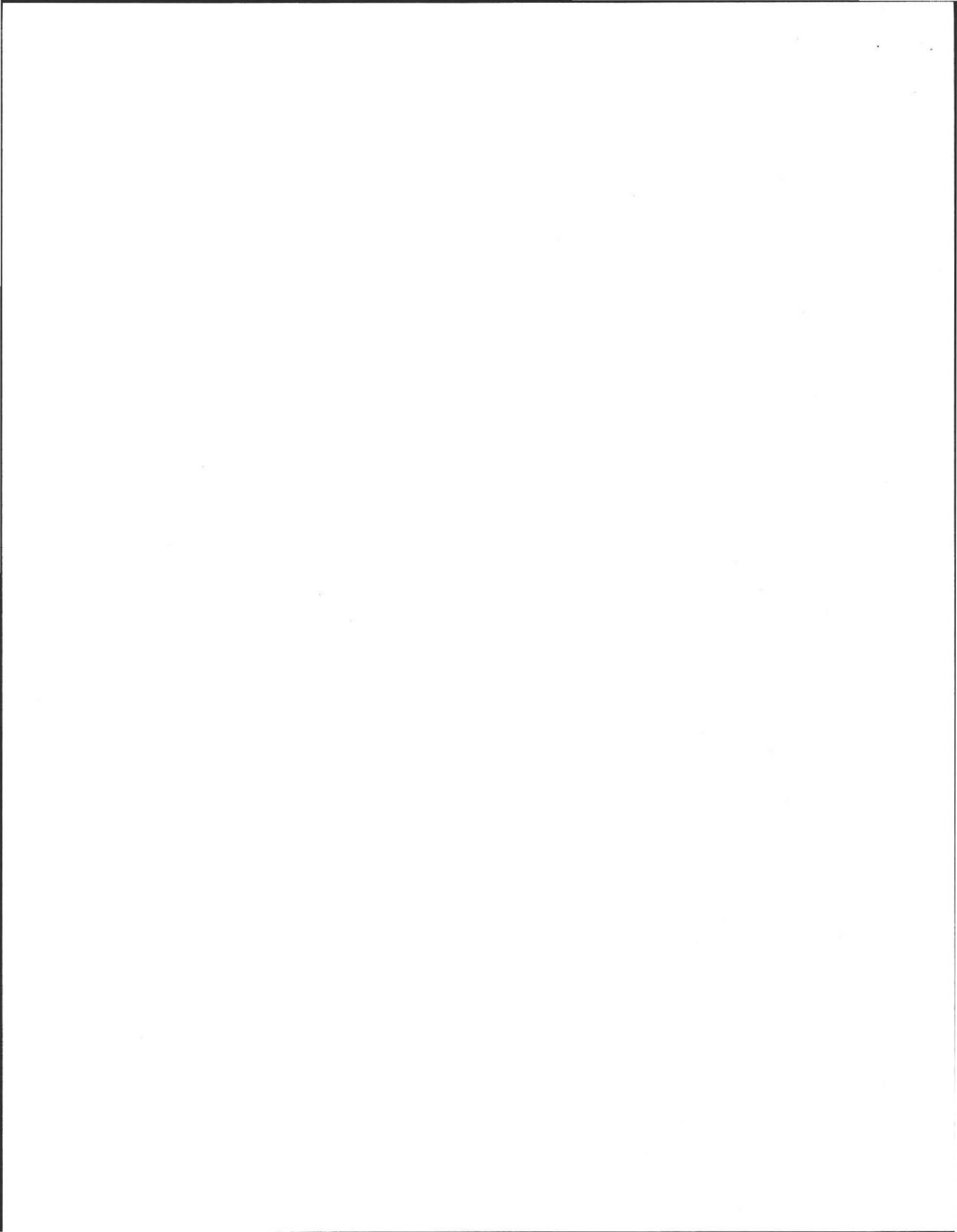
Depth below grade: \_\_\_\_\_  
Material of construction:  concrete  metal  fiberglass  polyethylene  
 other(explain) \_\_\_\_\_  
Dimensions: \_\_\_\_\_  
Capacity: \_\_\_\_\_ gallons  
Design flow: \_\_\_\_\_ gallons/day  
Alarm present (yes or no): \_\_\_\_\_  
Alarm level: \_\_\_\_\_ Alarm in working order: (yes/no): \_\_\_\_\_  
Date of previous pumping: \_\_\_\_\_  
Comments (condition of alarm and float switches, etc.):  
\_\_\_\_\_

DISTRIBUTION BOX:  (if present must be opened)(locate on site plan)

Depth of liquid level above outlet invert: \_\_\_\_\_  
Comments (note if box is level and distribution to outlets is equal, any evidence of solids carryover, any evidence of leakage into or out of box, etc.)  
\_\_\_\_\_

PUMP CHAMBER:  (locate on site plan)

Pumps in working order (yes or no): \_\_\_\_\_  
Alarms in working order (yes or no): \_\_\_\_\_  
Comments (note condition of pump chamber, condition of pumps and appurtenances, etc.):  
\_\_\_\_\_



OFFICIAL INSPECTION FORM - NOT FOR VOLUNTARY ASSESSMENTS  
SUBSURFACE SEWAGE DISPOSAL SYSTEM INSPECTION FORM  
PART C  
SYSTEM INFORMATION (continued)

Property Address: 401 Shays St.  
Amherst, MA 01002  
Owner: Douglas Wood  
Date of Inspection: 26-Jun-02

SOIL ABSORPTION SYSTEM (SAS):  (locate on site plan, excavation not required)

If SAS not located, explain why:

Type

- leaching pits, number: \_\_\_\_\_
- leaching chambers, number: \_\_\_\_\_
- leaching galleries, number: \_\_\_\_\_
- leaching trenches, number, length: 2 @ 25'
- leaching fields, number, dimensions: \_\_\_\_\_
- overflow cesspool, number: \_\_\_\_\_
- innovative/alternative system Type/name of technology: \_\_\_\_\_

Comments: (note condition of soil, signs of hydraulic failure, level of ponding, damp soil, condition of vegetation, etc.):

*Soil was dry, uniform vegetation with no signs of breakout or ponding*

CESSPOOLS:  (cesspool must be pumped as part of inspection)(locate on site plan)

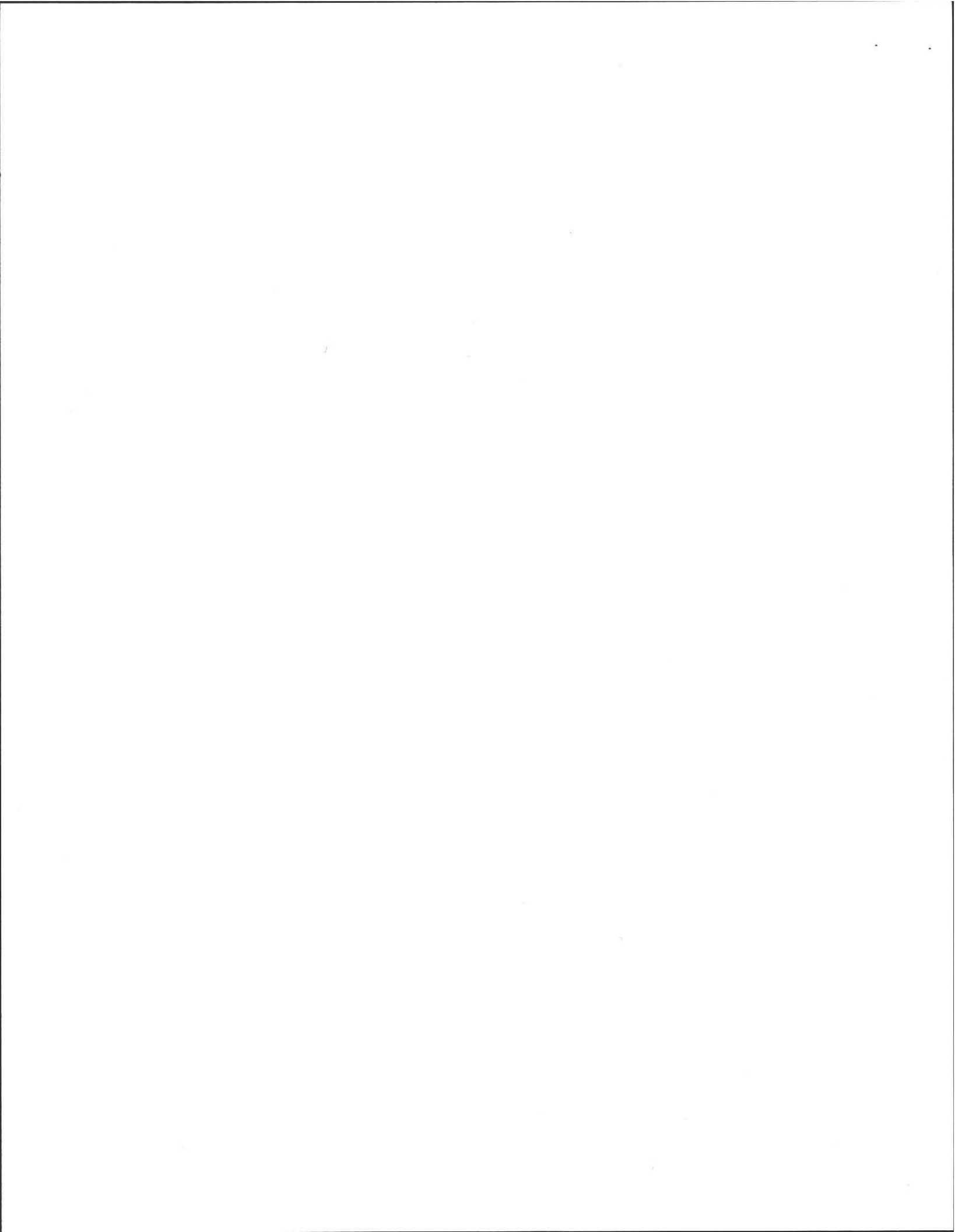
- Number and configuration: \_\_\_\_\_
- Depth-top of liquid to inlet invert: \_\_\_\_\_
- Depth of solids layer: \_\_\_\_\_
- Depth of scum layer: \_\_\_\_\_
- Dimensions of cesspool: \_\_\_\_\_
- Materials of construction: \_\_\_\_\_
- Indication of groundwater inflow (yes or no): \_\_\_\_\_

Comments (note condition of soil, signs of hydraulic failure, level of ponding, condition of vegetation, etc.):

PRIVY:  (locate on site plan)

- Materials of construction: \_\_\_\_\_
- Dimensions: \_\_\_\_\_
- Depth of solids: \_\_\_\_\_

Comments (note condition of soil, signs of hydraulic failure, level of ponding, condition of vegetation, etc.):



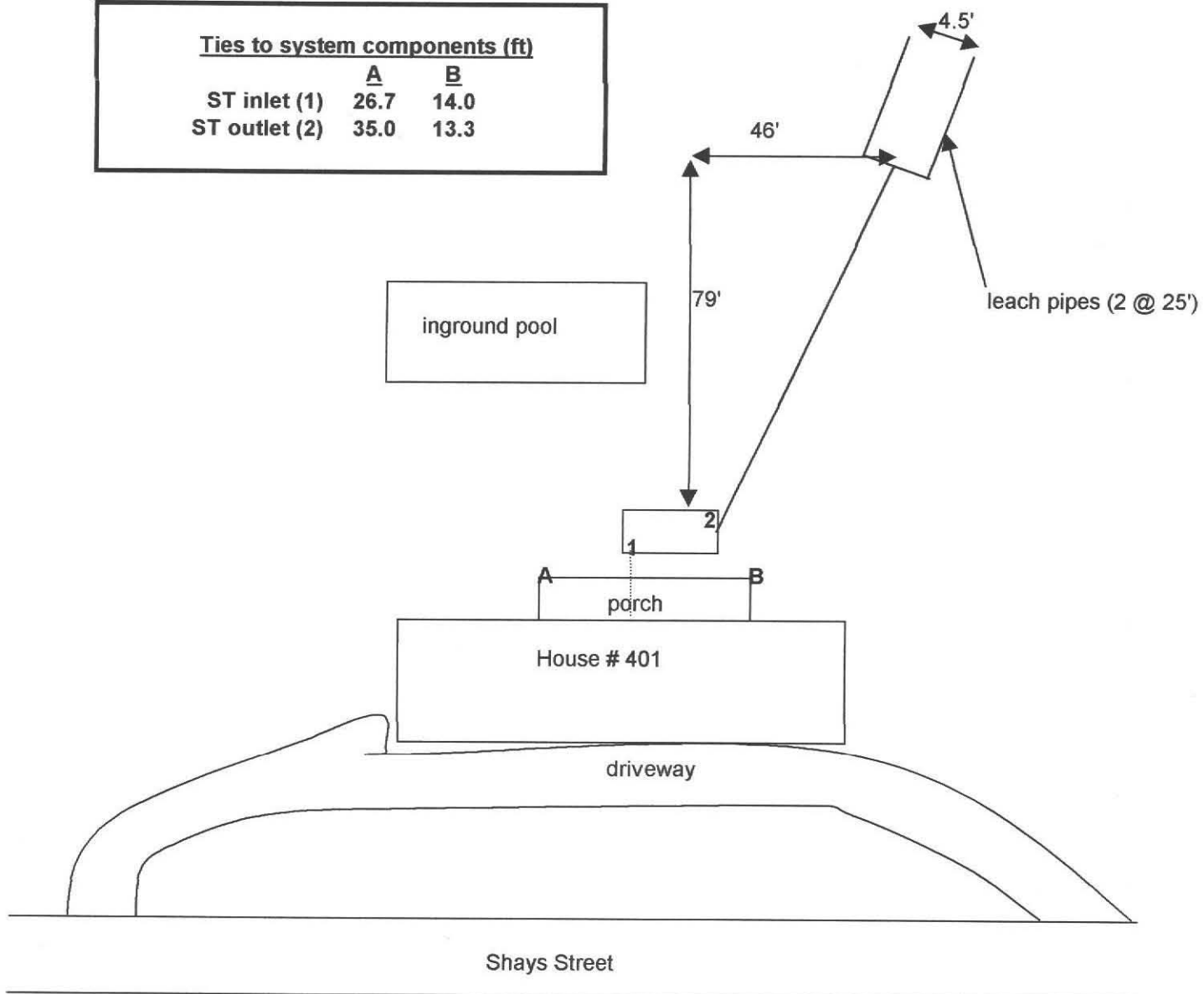
**OFFICIAL INSPECTION FORM - NOT FOR VOLUNTARY ASSESSMENTS**  
**SUBSURFACE SEWAGE DISPOSAL SYSTEM INSPECTION FORM**  
**PART C**  
**SYSTEM INFORMATION (continued)**

Property Address: 401 Shays St.  
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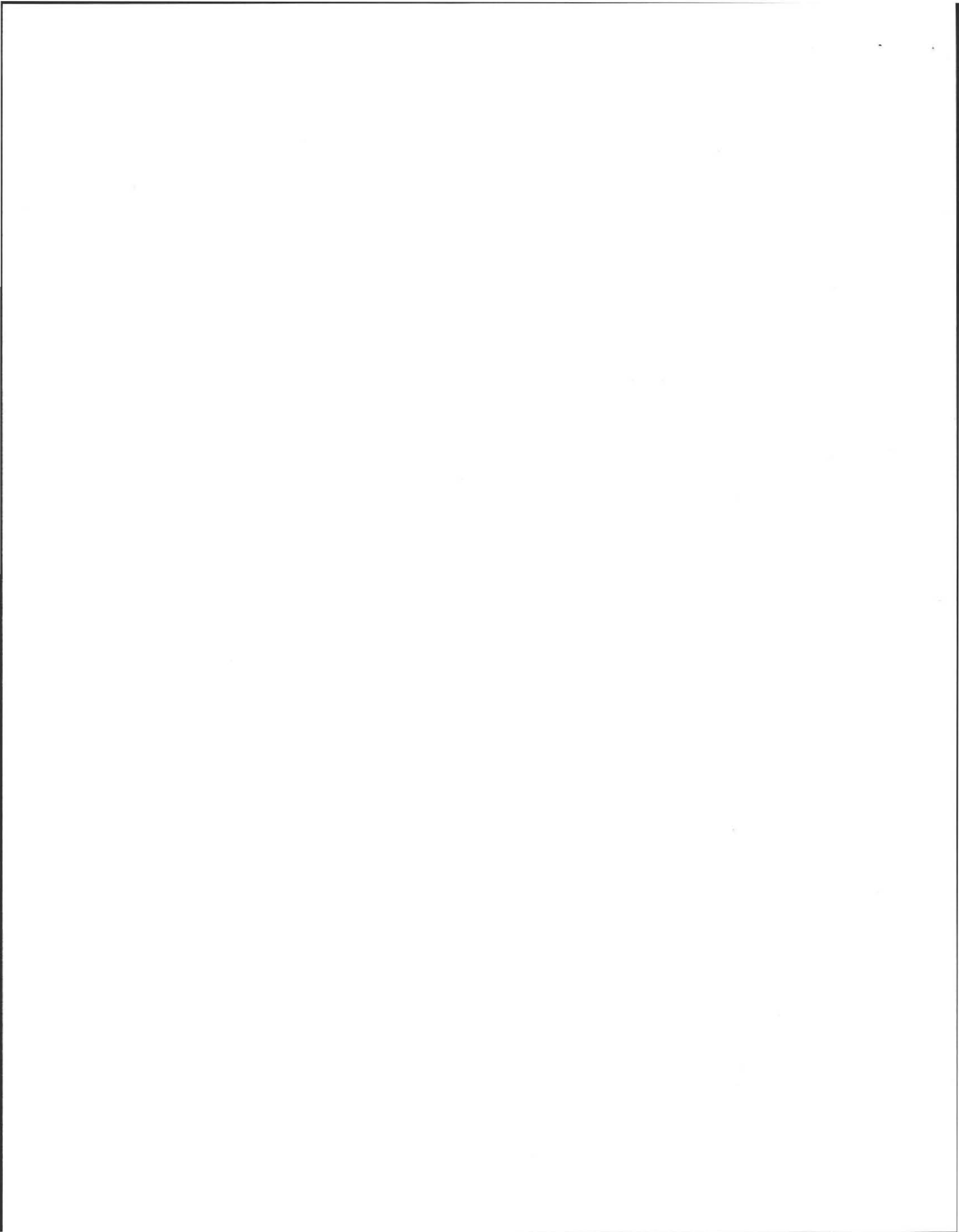
**SKETCH OF SEWAGE DISPOSAL SYSTEM:**

Provide a sketch of the sewage disposal system including ties to at least two permanent reference landmarks or benchmarks. Locate all wells within 100 feet. Locate where public water supply enters the building.

<u>Ties to system components (ft)</u>		
	<u>A</u>	<u>B</u>
ST inlet (1)	26.7	14.0
ST outlet (2)	35.0	13.3



NO SCALE



OFFICIAL INSPECTION FORM - NOT FOR VOLUNTARY ASSESSMENTS  
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PART C  
SYSTEM INFORMATION (continued)

Property Address: 401 Shays St.  
Amherst, MA 01002  
Owner: Douglas Wood  
Date of Inspection: 26-Jun-02

SITE EXAM

Slope 2.0%  
Surface water none  
Check Cellar dry  
Shallow wells none

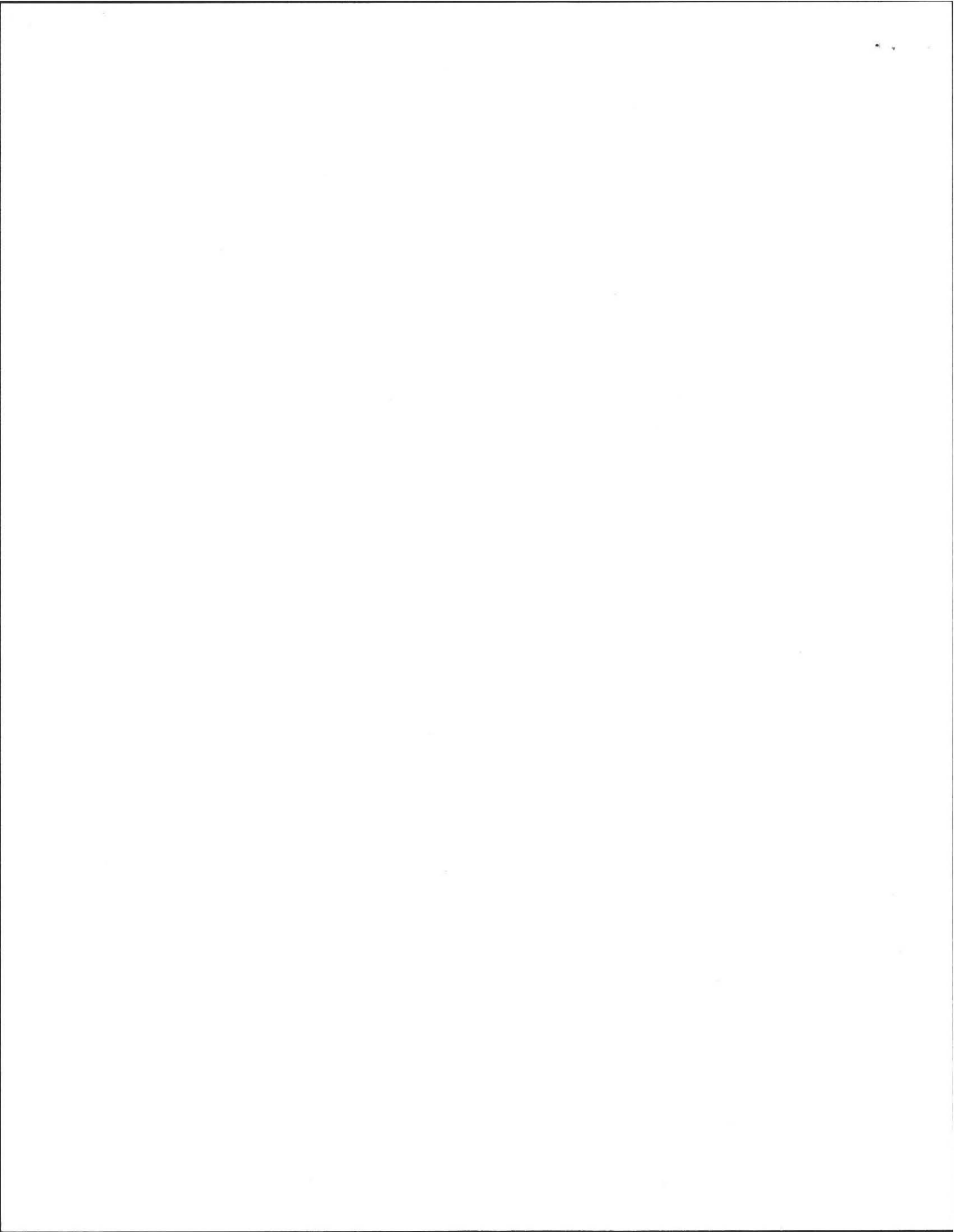
Estimated Depth to Groundwater >6' Feet

Please indicate (check) all methods used to determine the high ground water elevation:

- Obtained from system design plans on record - If checked, date of design plan reviewed: \_\_\_\_\_
- Observed Site (abutting property/observation hole within 150 feet of SAS)
- Checked with local Board of Health - explain: \_\_\_\_\_
- Checked with local excavators, installers - (attach documentation)
- Accessed USGS database - explain: Soil type CrE

You **must** describe how you established the **high ground water elevation**:

Checked soil maps and observed site. There exists an extreme drop-off within 150' of the existing leach field with no signs of water.



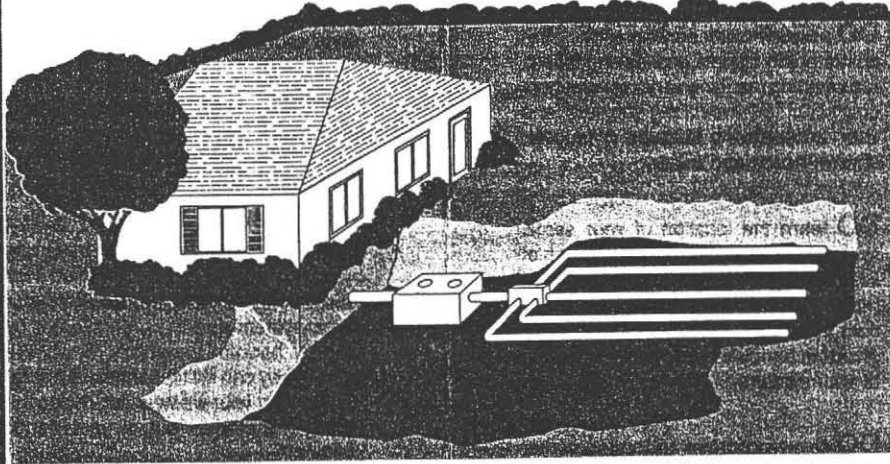


## Septic Systems Explained

Septic systems are individual wastewater treatment systems that use the soil to treat small wastewater flows, usually from individual homes. They are typically used in rural or large lot settings where centralized wastewater treatment is impractical.

There are many types of septic systems in use today. While all septic systems are individually designed for each site, most septic systems are based on the same principles.

### A Conventional Septic System



A septic system consists of a septic tank, a distribution box and a drainfield, all connected by pipes, called conveyance lines.

Your septic system treats your household wastewater by temporarily holding it in the septic tank where heavy solids and lighter scum are allowed to separate from the wastewater. This separation process is known as **primary treatment**. The solids stored in the tank are decomposed by bacteria and later removed, along with the lighter scum, by a professional septic tank pumper.

After the partially treated wastewater leaves the tank, it flows into a **distribution box**, which separates this flow evenly into a network of **drainfield trenches**. Drainage holes at the bottom of each line allow the wastewater to drain into gravel trenches for temporary storage. This effluent then slowly seeps into the subsurface soil where it is further treated and purified (**secondary treatment**). A properly functioning septic system does not pollute the groundwater.

### Record of Service

Date	Work Done	Contractor

### For More Information

A videotape version of this brochure, also entitled "Your Septic System: A Guide for Homeowners," is available through the EPA Small Flows Clearinghouse. Call 1-800-624-8301.

For more information about maintenance or inspection of your septic system, contact your local board of health or the Department of Environmental Protection:

Central Regional Office:  
(508) 792-7650

Northeast Regional Office:  
(617) 932-7600

Southeast Regional Office:  
(508) 946-2700

Western Regional Office:  
(413) 784-1100

Boston Office:  
(617) 292-5673

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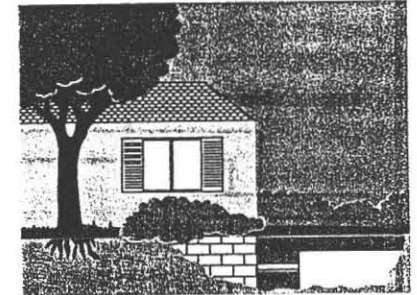
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## A Reference Guide

# YOUR SEPTIC SYSTEM

for Homeowners



COMMONWEALTH OF MASSACHUSETTS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

## Caring for Your Septic System

The accumulated solids in the bottom of the septic tank should be pumped out **every three to five years** to prolong the life of your system. Septic systems must be maintained regularly to stay working.

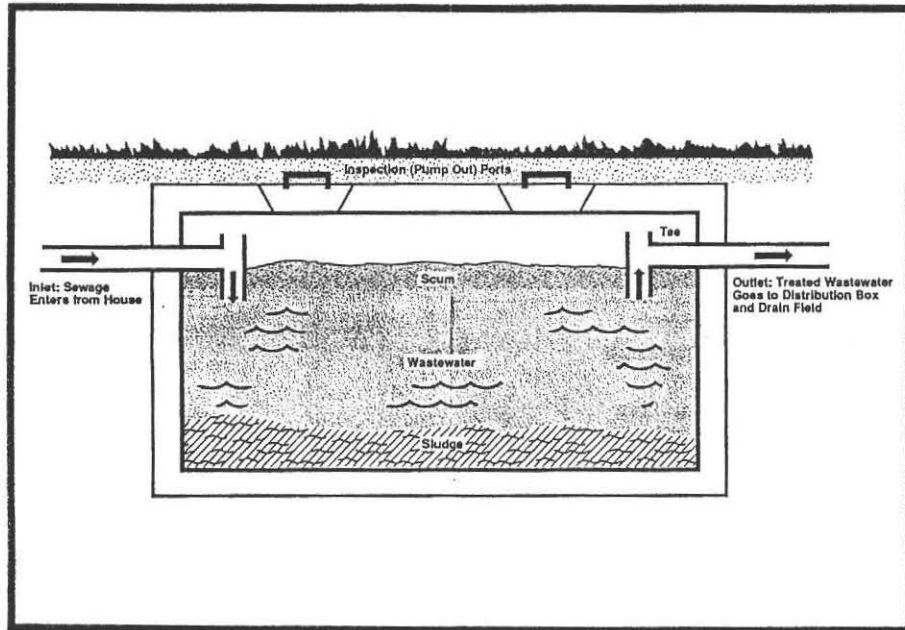
Neglect or abuse of your septic system can cause it to fail. Failing septic systems can

- cause a serious health threat to your family and neighbors,
- degrade the environment, especially lakes, streams and groundwater,
- reduce the value of your property,

- be very expensive to repair,
- and, put thousands of water supply users at risk if you live in a public water supply watershed and fail to maintain your system.

Be alert to these warning signs of a failing system:

- sewage surfacing over the drainfield (especially after storms),
- sewage back-ups in the house,
- lush, green growth over the drainfield,
- slow draining toilets or drains,
- sewage odors.



## Tips to Avoid Trouble

- **DO** have your tank pumped out and system inspected every 3 to 5 years by a licensed septic contractor (listed in the yellow pages).
- **DO** keep a record of pumping, inspections, and other maintenance. Use the back page of this brochure to record maintenance dates.
- **DO** practice water conservation. Repair dripping faucets and leaking toilets, run washing machines and dishwashers only when full, avoid long showers, and use water-saving features in faucets, shower heads and toilets.
- **DO** learn the location of your septic system and drainfield. Keep a sketch of it handy for service visits. If your system has a flow diversion valve, learn its location, and turn it once a year. Flow diverters can add many years to the life of your system.
- **DO** divert roof drains and surface water from driveways and hillsides away from the septic system. Keep sump pumps and house footing drains away from the septic system as well.
- **DO** take leftover hazardous household chemicals to your approved hazardous waste collection center for disposal. Use bleach, disinfectants, and drain and toilet bowl cleaners sparingly and in accordance with product labels.
- **DON'T** allow anyone to drive or park over any part of the system. The area over the drainfield should be left undisturbed with only a mowed grass cover. Roots from nearby trees or shrubs may clog and damage your drain lines.
- **DON'T** make or allow repairs to your septic system without obtaining the required health department permit. Use professional licensed septic contractors when needed.
- **DON'T** use commercial septic tank additives. These products usually do not help and some may hurt your system in the long run.
- **DON'T** use your toilet as a trash can by dumping nondegradables down your toilet or drains. Also, don't poison your septic system and the groundwater by pouring harmful chemicals down the drain. They can kill the beneficial bacteria that treat your wastewater. Keep the following materials out of your septic system:

