

ROBERT W. STOVER

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FORM 11 - SOIL EVALUATOR FORM

Page 1 of 3

Date: 6/15/04

Commonwealth of Massachusetts
Amherst, Massachusetts
Soil Suitability Assessment for On-site Sewage Disposal

Performed By: Robert Stover Date: 6/15/04
Witnessed By: David Zarozinski

Location Address or Lot # <u>Lot 43 Station Rd. Map 24B, Lot 43</u>	Owner's Name, Address, and Telephone # <u>Electra Petropoulos 471 Station Rd., Amherst Kent W. Faerber 11 McIntosh Dr Amherst, MA 01002 (413) 253 7931</u>
New Construction <input type="checkbox"/> Repair <input checked="" type="checkbox"/>	

Office Review

Published Soil Survey Available: No Yes
Year Published 12/1981 Publication Scale 1:15840 Soil Map Unit HgB
Drainage Class A Soil Limitations poor filter

Surficial Geologic Report Available: No Yes

Year Published _____ Publication Scale _____

Geologic Material (Map Unit) _____

Landform _____

Flood Insurance Rate Map:

Above 500 year flood boundary No Yes

Within 500 year flood boundary No Yes

Within 100 year flood boundary No Yes

Wetland Area:

National Wetland Inventory Map (map unit) _____

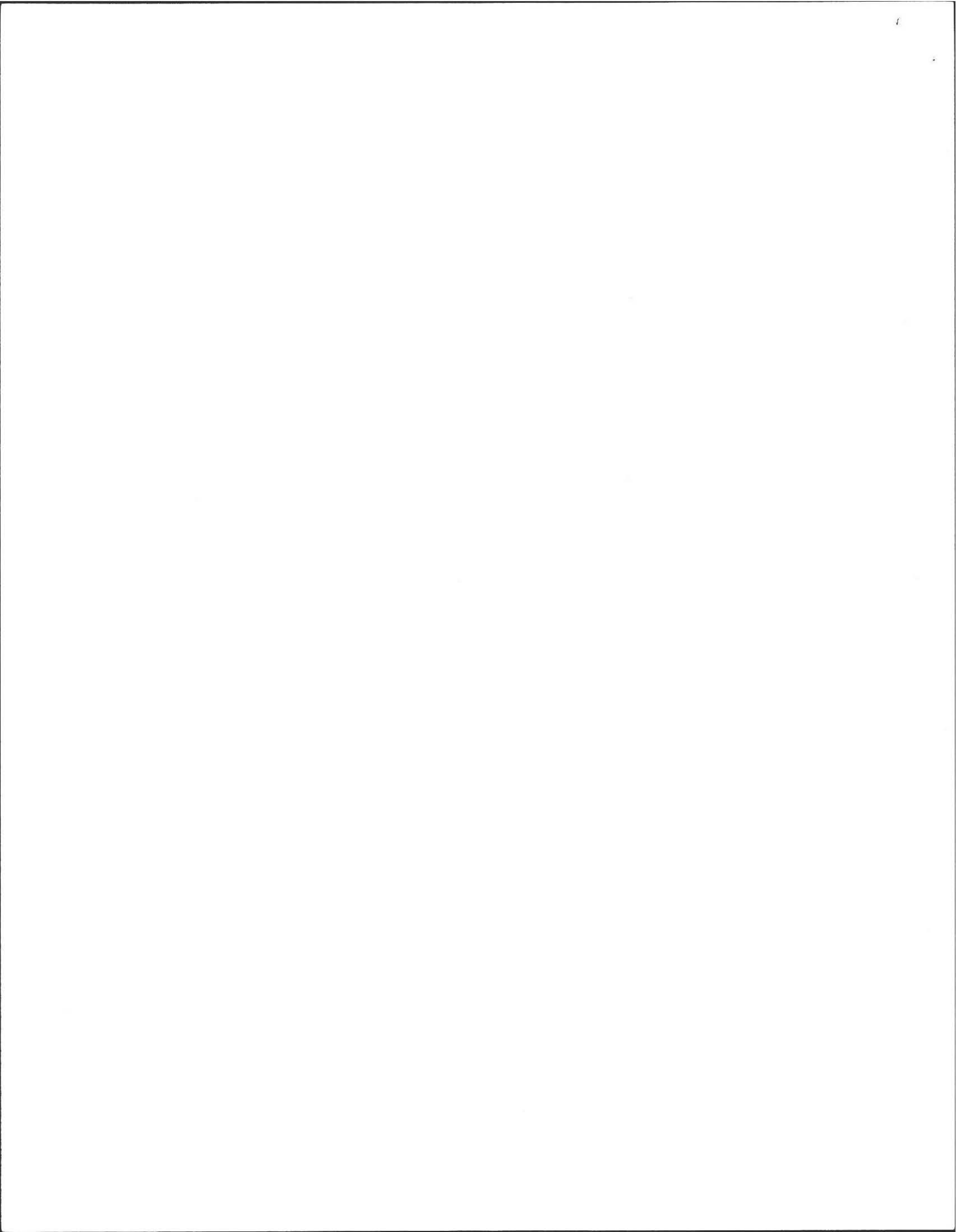
Wetlands Conservancy Program Map (map unit) _____

Current Water Resource Conditions (USGS): Month

Range :Above Normal Normal Below Normal May-June 2004

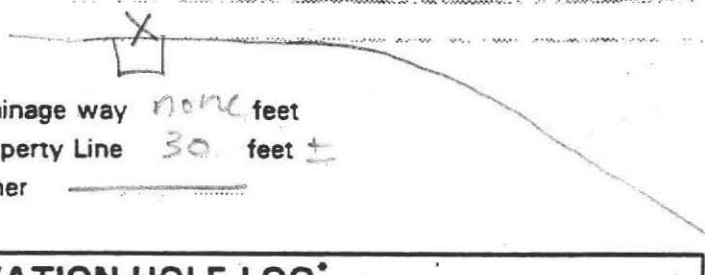
Other References Reviewed: _____





Location Address or Lot No. Lot 43 Station Rd
Amherst

On-site Review

Deep Hole Number 1 Date: 6/15/04 Time: 9:00 AM Weather mostly clear 80°
 Location (identify on site plan) see sketch
 Land Use residential Slope (%) 0 Surface Stones none
 Vegetation staghorn sumac, poplars, upland herbs
 Landform Kame terrace
 Position on landscape (sketch on the back) 
 Distances from:
 Open Water Body 200 feet + Drainage way none feet
 Possible Wet Area 100 feet + Property Line 30 feet ±
 Drinking Water Well town water Other _____

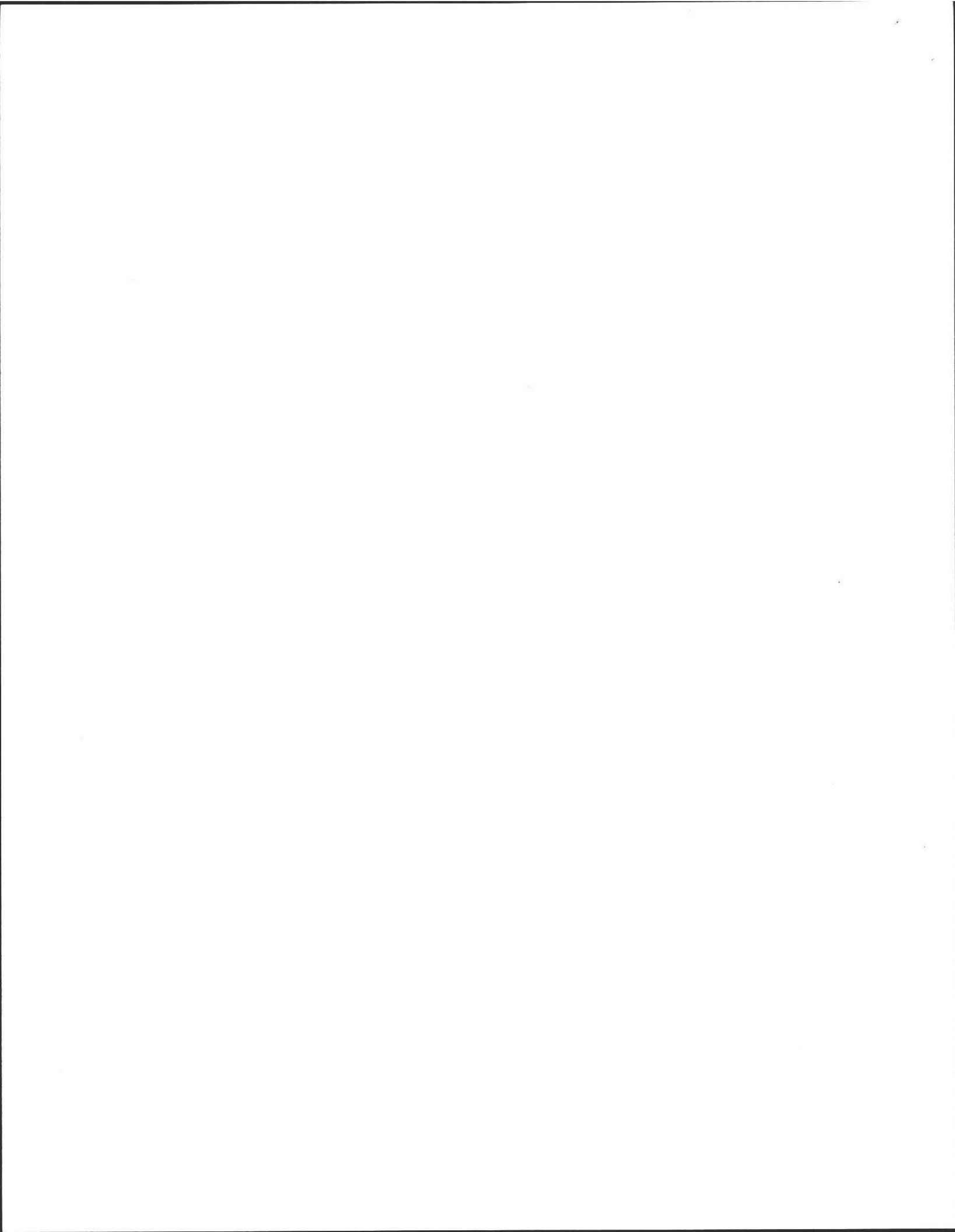
DEEP OBSERVATION HOLE LOG*

Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-9	Ap	FSL	10YR3/4	none	friable to slightly firm < 5% med. gravel
9-23	Bw	FSL	10YR5/8	none	Friable - structure less
23-120	C	ms	10YR5/6	none observed	loose stratified occasional stratas of fine to medium gravel

* MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

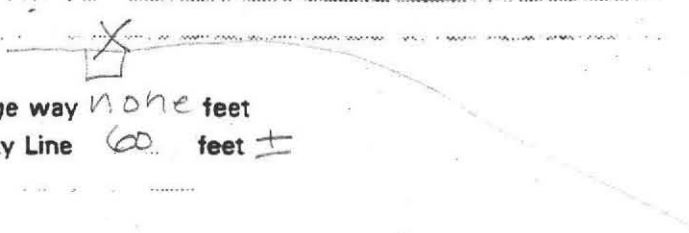
Parent Material (geologic) outwash-stratified drift Depth to Bedrock: >120"
 Depth to Groundwater: Standing Water in the Hole: none Weeping from Pit Face: none
 Estimated Seasonal High Ground Water: 120"





Location Address or Lot No. Lot 43 Station Rd
Amherst

On-site Review

Deep Hole Number 2 Date: 6/15/04 Time: 9:00AM Weather mostly clear
 Location (identify on site plan) see sketch
 Land Use residential Slope (%) 0 Surface Stones none
 Vegetation staghorn sumac, poplars, wild herbs
 Landform Kame terrace
 Position on landscape (sketch on the back) 
 Distances from:
 Open Water Body 200 feet Drainage way none feet
 Possible Wet Area 100 feet Property Line 60 feet ±
 Drinking Water Well town water Other

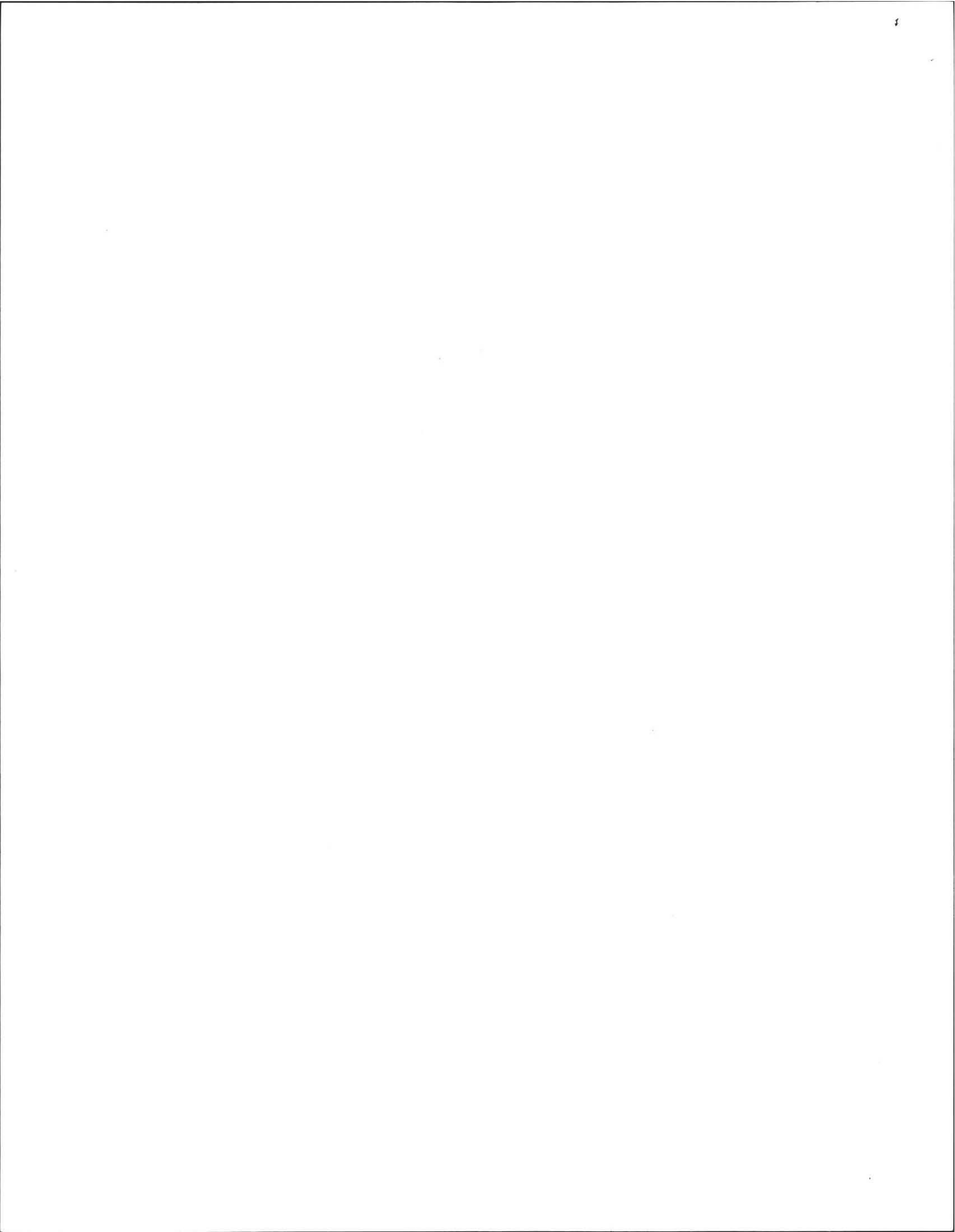
DEEP OBSERVATION HOLE LOG*

Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-8	Ap	FSL	10YR3/4	none	Friable to slightly firm ≤ 5% med. gravel
8-22	Bw	FSL	10YR5/6	none	Friable - structureless
22-120	C	MS	10YR6/6	none observed	loose stratified occasional strata of med gravel

* MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic) outwash-stratified drift Depth to Bedrock: >120
 Depth to Groundwater: Standing Water in the Hole: none Weeping from Pit Face: none
 Estimated Seasonal High Ground Water: 120"





FORM 12 - PERCOLATION TEST

Location Address or Lot No. Lot 43 Station Rd

COMMONWEALTH OF MASSACHUSETTS

Amherst, Massachusetts

Percolation Test*		
Date: <u>6/15/04</u>		Time: <u>9:28</u>
Observation Hole #	<u>1</u>	<u>2</u>
Depth of Perc	<u>45"</u>	<u>48"</u>
Start Pre-soak	<u>9:28</u>	<u>9:38</u>
End Pre-soak		
Time at 12"		
Time at 9"		
Time at 6"		
Time (9"-6")		
Rate Min./Inch	<u>< 2</u>	<u>< 2</u>

* Minimum of 1 percolation test must be performed in both the primary area AND reserve area.

Site Passed

Site Failed

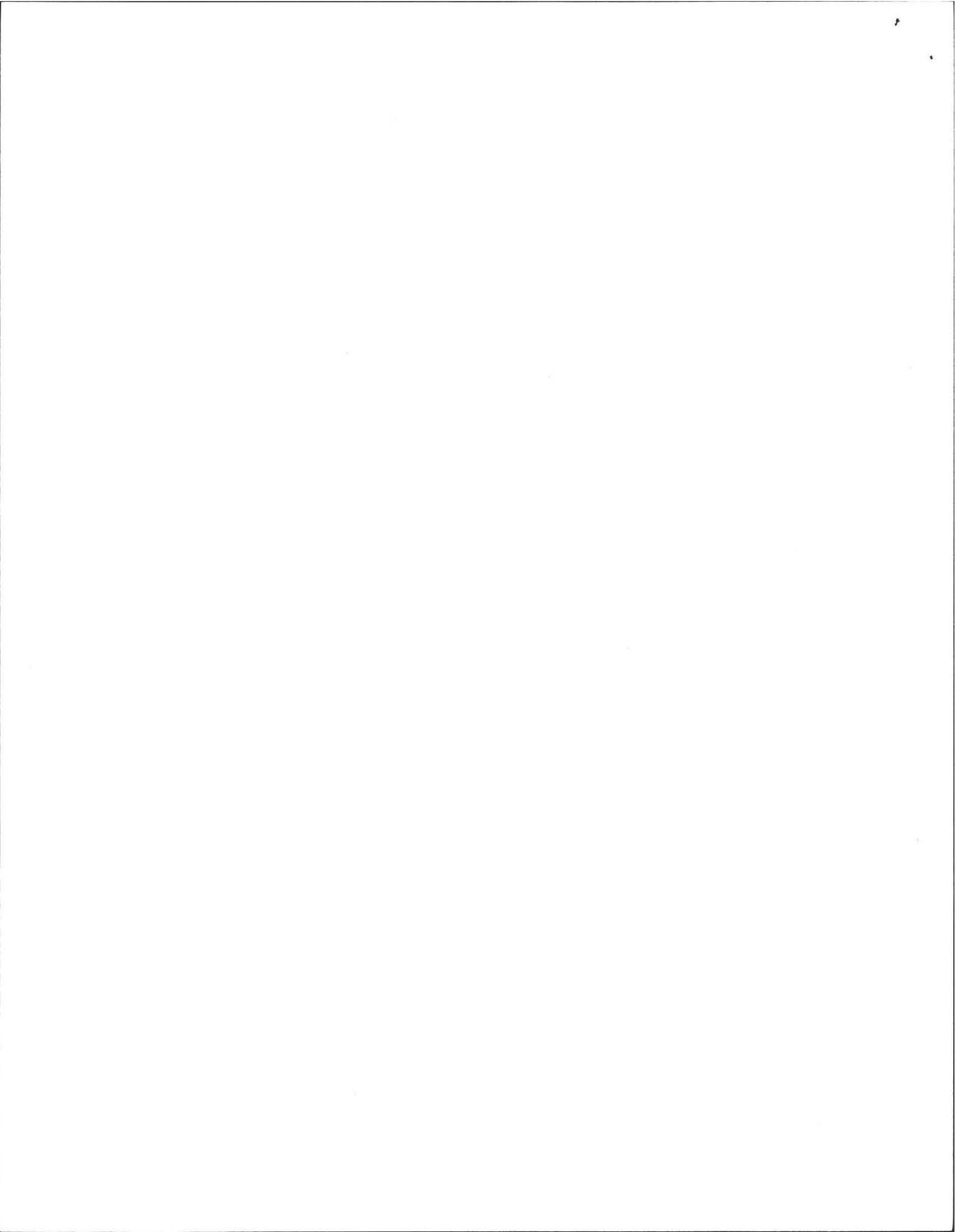
25 gals poured into each hole
not possible to maintain water levels.

Performed By: Robert Stover

Witnessed By: David Zarozinski

Comments: 5' water table separation required





Location Address or Lot No. Lot 43, Station Rd
Amherst

Determination for Seasonal High Water Table

Method Used:

- Depth observed standing in observation hole inches
- Depth weeping from side of observation hole inches
- Depth to soil mottles >120" inches >120"
- Ground water adjustment feet

Index Well Number Reading Date Index well level

Adjustment factor Adjusted ground water level

Depth of Naturally Occurring Pervious Material

Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system? yes

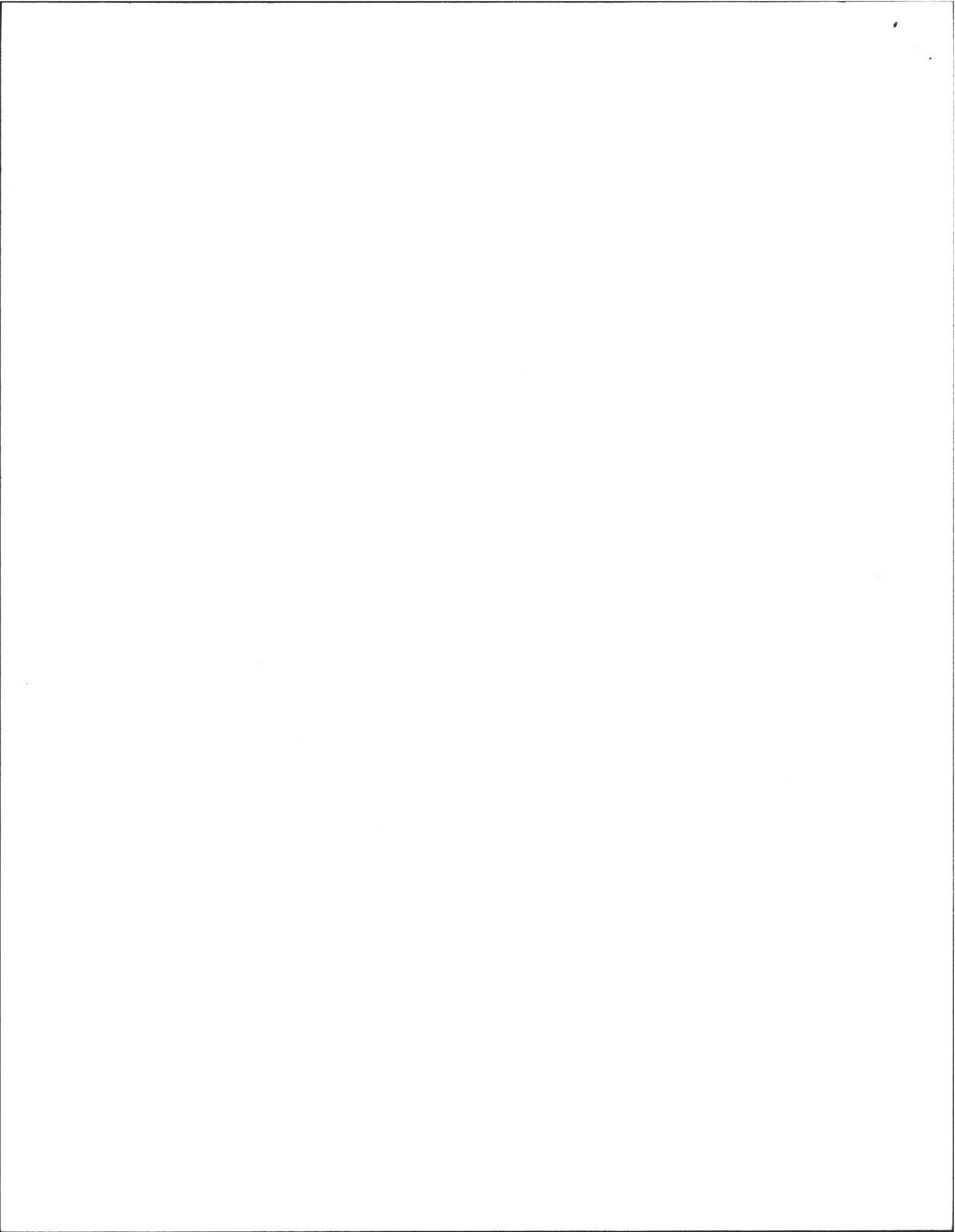
If not, what is the depth of naturally occurring pervious material? _____

Certification

I certify that on 6/1993 (date) I have passed the soil evaluator examination approved by the Department of Environmental Protection and that the above analysis was performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017.

Signature Robert Stover Date 6/15/04





Commonwealth of Massachusetts

Town of _____

Soil Suitability Assessment : On-Site Sewage Disposal

Performed By: Bob Stover Date: 6/15/04
Witnessed By: David Zurovich

Location Address of: Lot #	Owner's Name: <u>Kent Forber</u> <u>BUYER</u> Address of: <u>471 STATTAR RD</u> Telephone: <u>481 STATION RD</u> <u>NEXT TO:</u>
New Construction <input checked="" type="checkbox"/> Repair <input type="checkbox"/>	<u>LOT 43</u>

Office Review

Published Soil Survey Available? No Yes
Year Published 12/1981 Publication Scale 1:15,000 Soil Map Unit HgB
Drainage Class A Soil Limitations _____

Surficial Geologic Report Available? No Yes
Year Published _____ Publication Scale _____
Geologic Material (map unit) _____
Landform _____

Flood Insurance Rate Map:
Above 500 year flood boundary? No Yes
Within 500 year flood boundary? No Yes
Within 100 year flood boundary? No Yes

Wetland Area:
National Wetland Inventory Map (map unit) _____
Wetlands Conservancy Program Map (map unit) _____

Current Water Resource Conditions (usgs): month _____
Range: Above Normal Normal Below Normal

Other Reference Reviewed: MAY - June 2004

Kent Forber ✓ ck 820
11 McIntosh Dr.
REC. 11/29

Determination: Seasonal High Water Table

Methods Used:

- Depth observed standing in observation hole _____ inches
- Depth weeping from side of observation hole _____ inches
- Depth to soil mottles _____ inches
- Ground water adjustment _____ feet

Index Well No. _____ Reading Date _____ Index Well Level _____
Adjustment factor _____ Adjusted ground water level _____

Depth of Naturally Occurring Previous Material

Does at least four feet of naturally occurring previous materials exist in all areas observed throughout the area proposed for this soil absorption system? _____

If not, what is the depth of naturally occurring previous material?

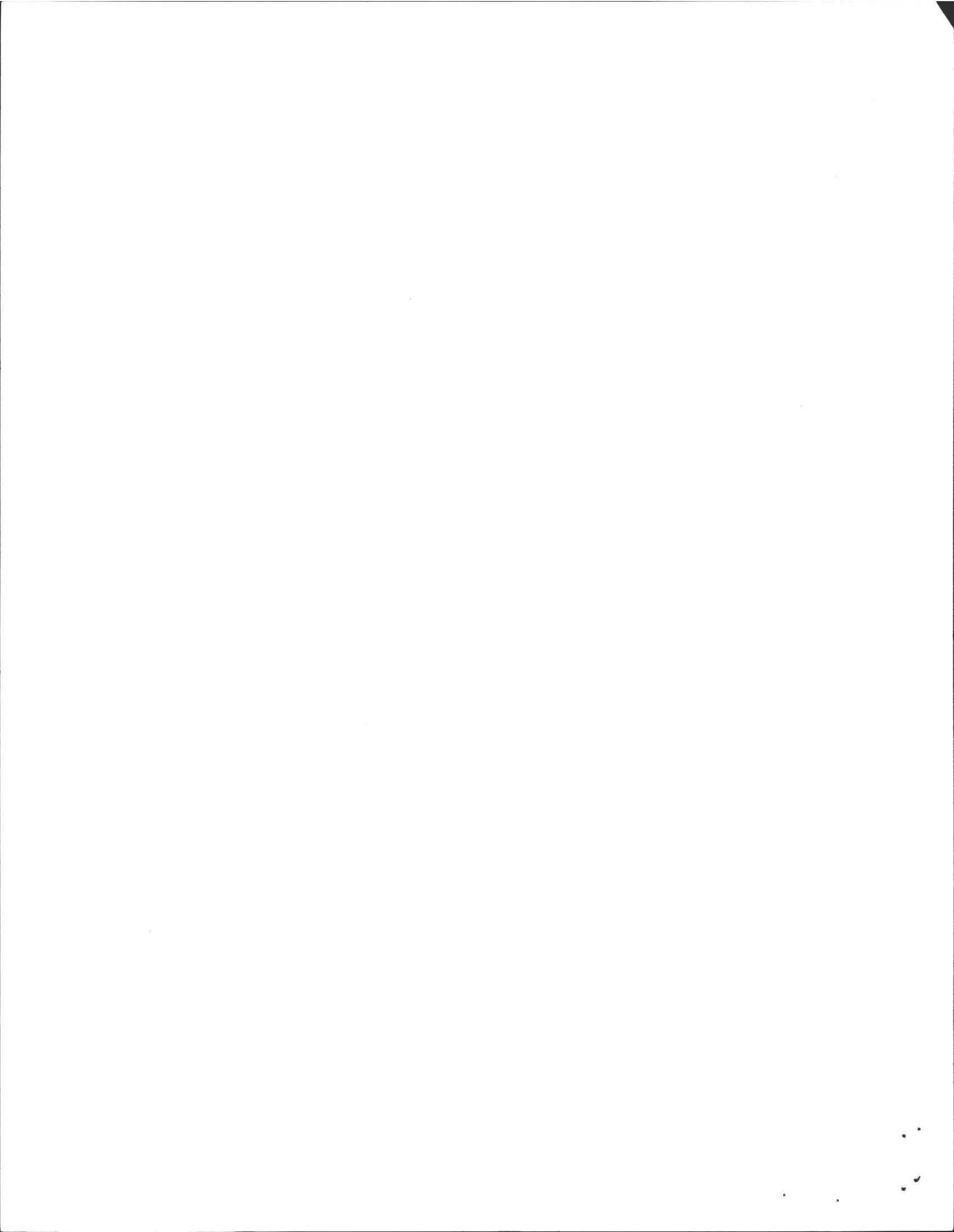
Certification

I certify that on _____ (date) I have passed the soil evaluator examination approved by the Department of Environmental Protection and that the above analysis was performed by me consistent with the required training, expertise, and experience described in 310 CMR 15.017.

Signature _____
Date _____

OWNER ELECTRA PETROPOULIS
471 STATTAR RD

ENTER INTO
OB LOG.



On-Site Review

Deep Hole Number ① Date: 6/15/04 Time 9 AM
 Weather Sunny 70°
 Location (identify on site plan) _____
 Land Use Residential Slope (%) 0
 Surface Stone None
 Vegetation: Jimac
Pop lars upland herbs

Landform: YAKU Terrace

Position on Landscape (sketch on back) _____

Distances from:

Open Water Body 200 feet Drainageway — feet
 Possible Wet Area 100 feet Property Line 30 feet
 Drinking Water Well _____ feet Other _____

TOWN WATER

DEEP OBSERVATION HOLE LOG

depth from surface (inches)	soil horizon	soil texture (USDA)	soil color (Munsell)	soil mottling	other (structure, stones, boulders) Consistency, % gravel
9	A _p	FSL	10YR 3/4	—	Friable to Slightly
23	B _w	FSL	10YR 5/8	—	Firm 5% med gravel
120-	C ₁	med sand	10YR 5/6	—	Friable structure loose granular

Parent Material (geologic) outwash STAIRS TO FINE TO MED
 Depth to Bedrock _____
 Depth to Groundwater: 120
 Standing Water in the Hole _____
 Weeping from Pit Face _____
 Estimated Seasonal High Water 120

LOT 43
 Next to
 471 STRA... Rd

On-Site Review

Deep Hole Number _____ Date: _____ Time _____
 Weather _____
 Location (identify on site plan) _____
 Land Use _____ Slope (%) _____
 Surface Stone _____
 Vegetation: _____

Landform: _____

Position on Landscape (sketch on back) _____

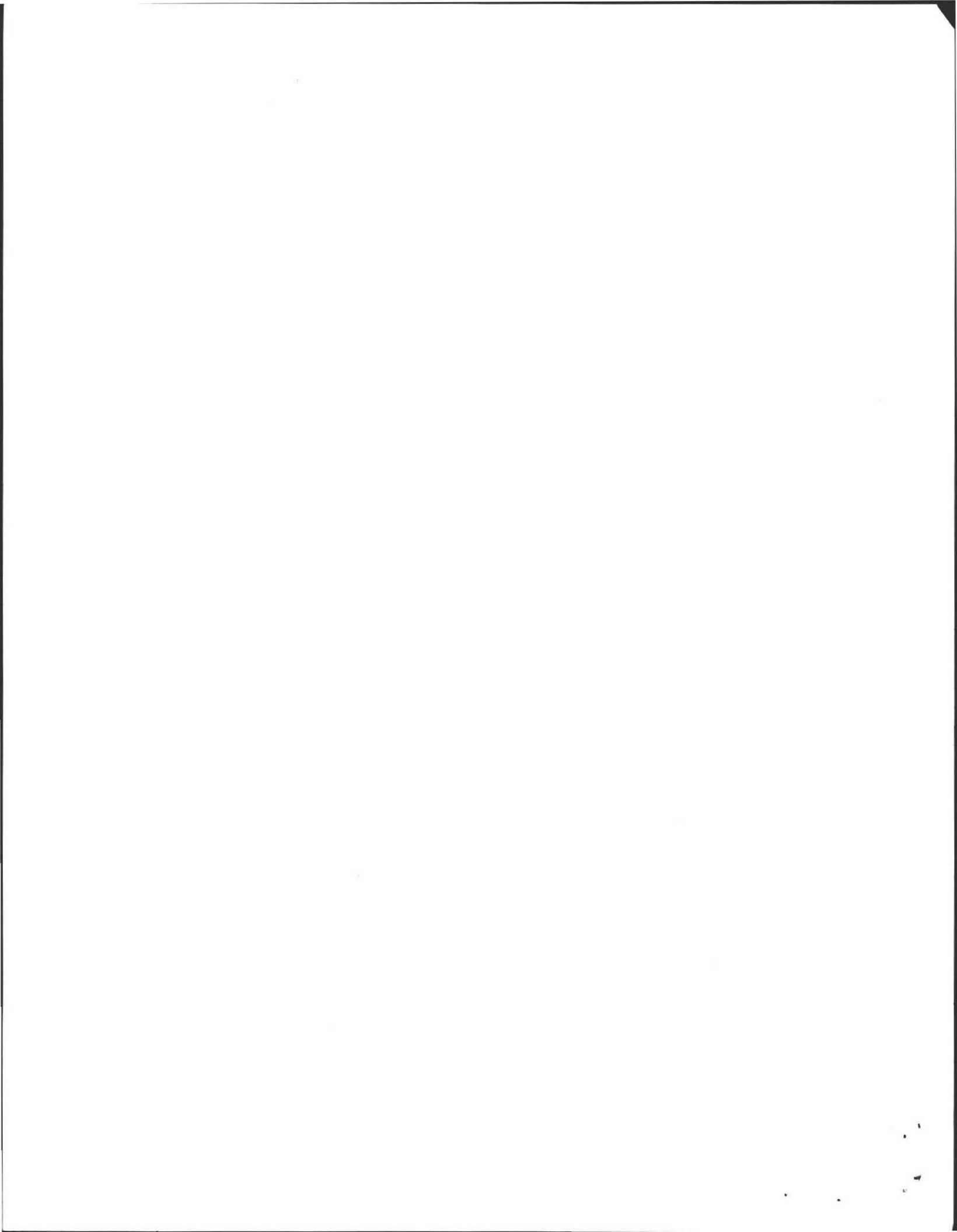
Distances from:

Open Water Body _____ feet Drainageway _____ feet
 Possible Wet Area _____ feet Property Line _____ feet
 Drinking Water Well _____ feet Other _____

DEEP OBSERVATION HOLE LOG

depth from surface (inches)	soil horizon	soil texture (USDA)	soil color (Munsell)	soil mottling	other (structure, stones, boulders) Consistency, % gravel
8	A _p	FSL	10YR 3/4		
22	B _w	FSL	10YR 5/4		
120	C	MS	10YR 5/6		

Parent Material (geologic) outwash
 Depth to Bedrock 120
 Depth to Groundwater: _____
 Standing Water in the Hole _____
 Weeping from Pit Face _____
 Estimated Seasonal High Water 120



FORM 12: Percolation Test
 Location Address or Lot #

Sheet 471
 471 STATION RD

Commonwealth of Massachusetts
 Town of Amherst

PERCOLATION TEST *		
DATE:	6/15/04	TIME: 9 AM
Observation Hole #	(1)	(2)
Depth of Perc		
Start Pre-soak		
End Pre-soak		
Time at 12"	Soak	25 min
Time at 9"		
Time at 6"		
Time (9"-6")		
Rate Min./Inch		

*Minimum of one percolation test must be performed in both the primary area and reserve area.

Site Passed Site failed

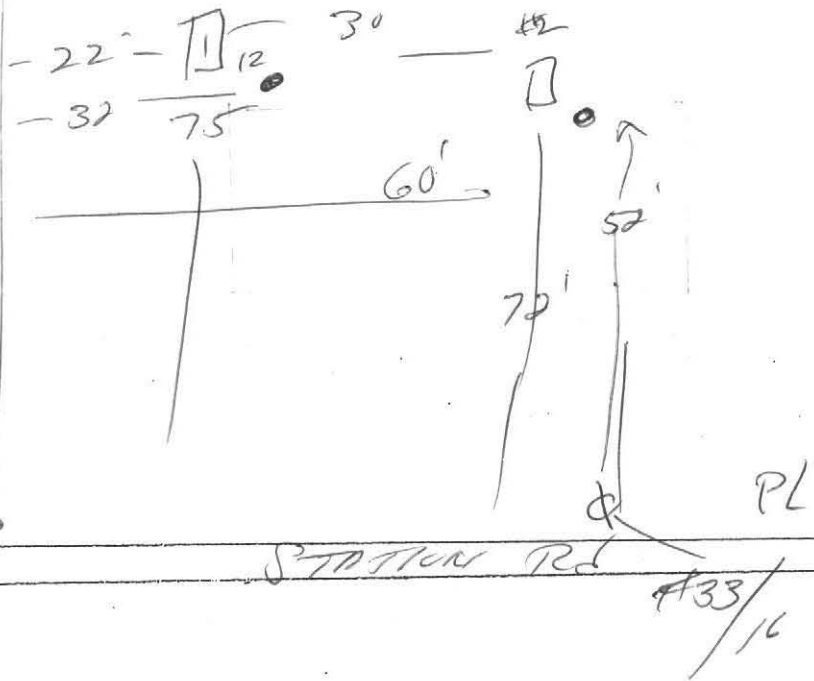
Performed by

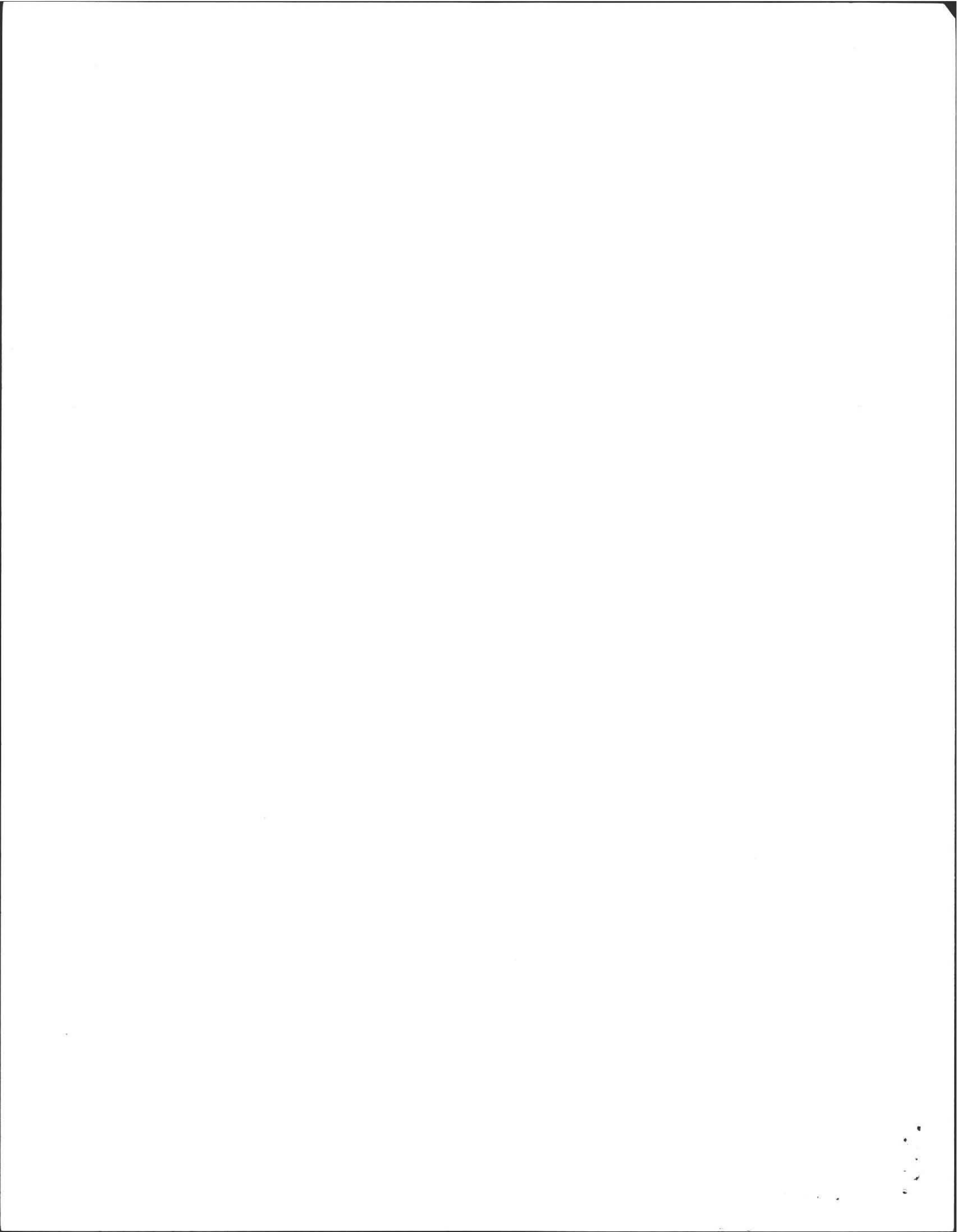
Robert Stevens

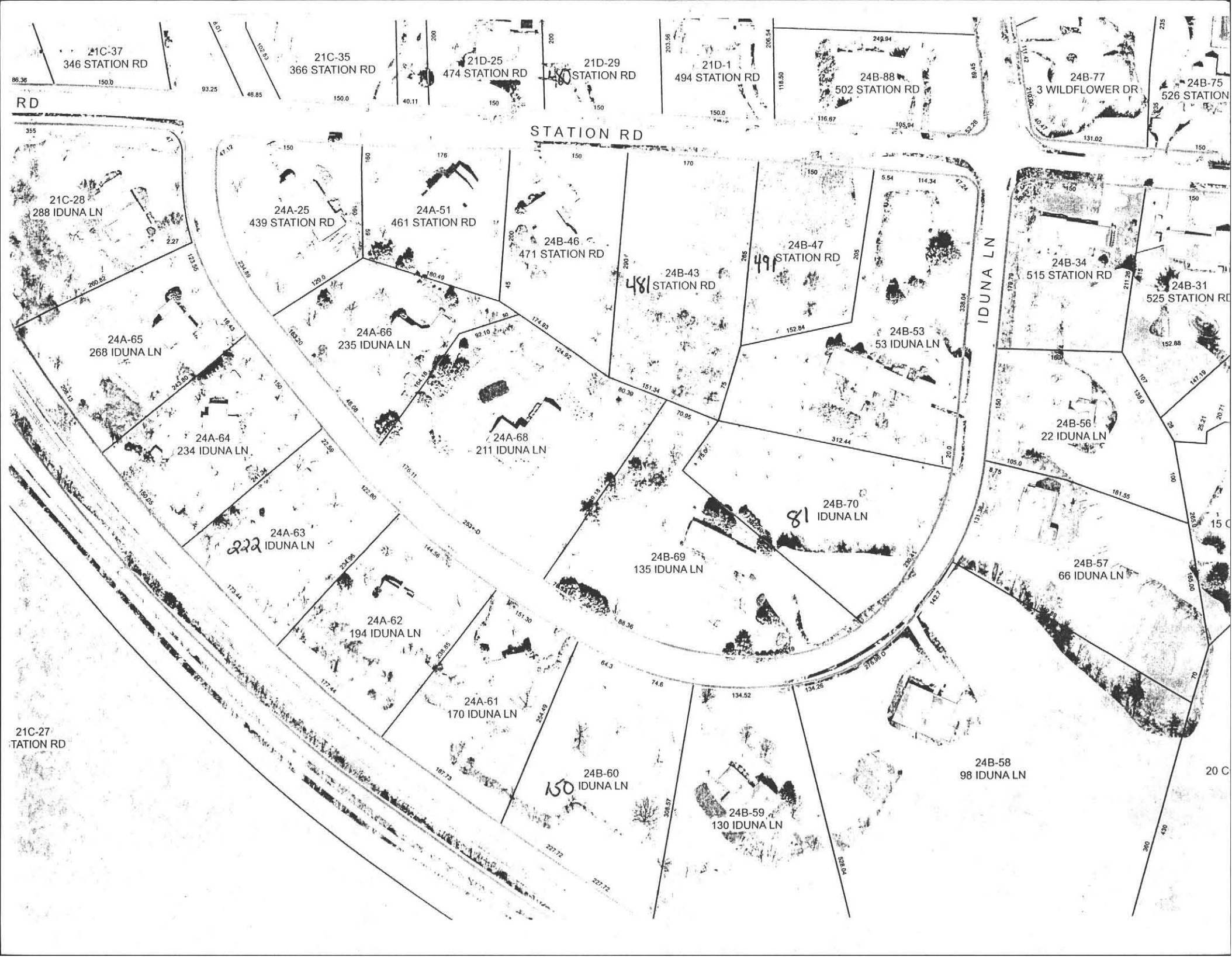
Witnessed by

David [Signature]

Comments:







21C-37
346 STATION RD

21C-35
366 STATION RD

21D-25
474 STATION RD

21D-29
480 STATION RD

21D-1
494 STATION RD

24B-88
502 STATION RD

24B-77
3 WILDFLOWER DR

24B-75
526 STATION

RD

STATION RD

IDUNA LN

21C-28
288 IDUNA LN

24A-25
439 STATION RD

24A-51
461 STATION RD

24B-46
471 STATION RD

24B-43
481 STATION RD

24B-47
491 STATION RD

24B-34
515 STATION RD

24B-31
525 STATION RD

24A-65
268 IDUNA LN

24A-66
235 IDUNA LN

24A-68
211 IDUNA LN

24B-53
53 IDUNA LN

24B-56
22 IDUNA LN

222
24A-63
IDUNA LN

24A-62
194 IDUNA LN

24B-69
135 IDUNA LN

81
24B-70
IDUNA LN

24B-57
66 IDUNA LN

21C-27
TATION RD

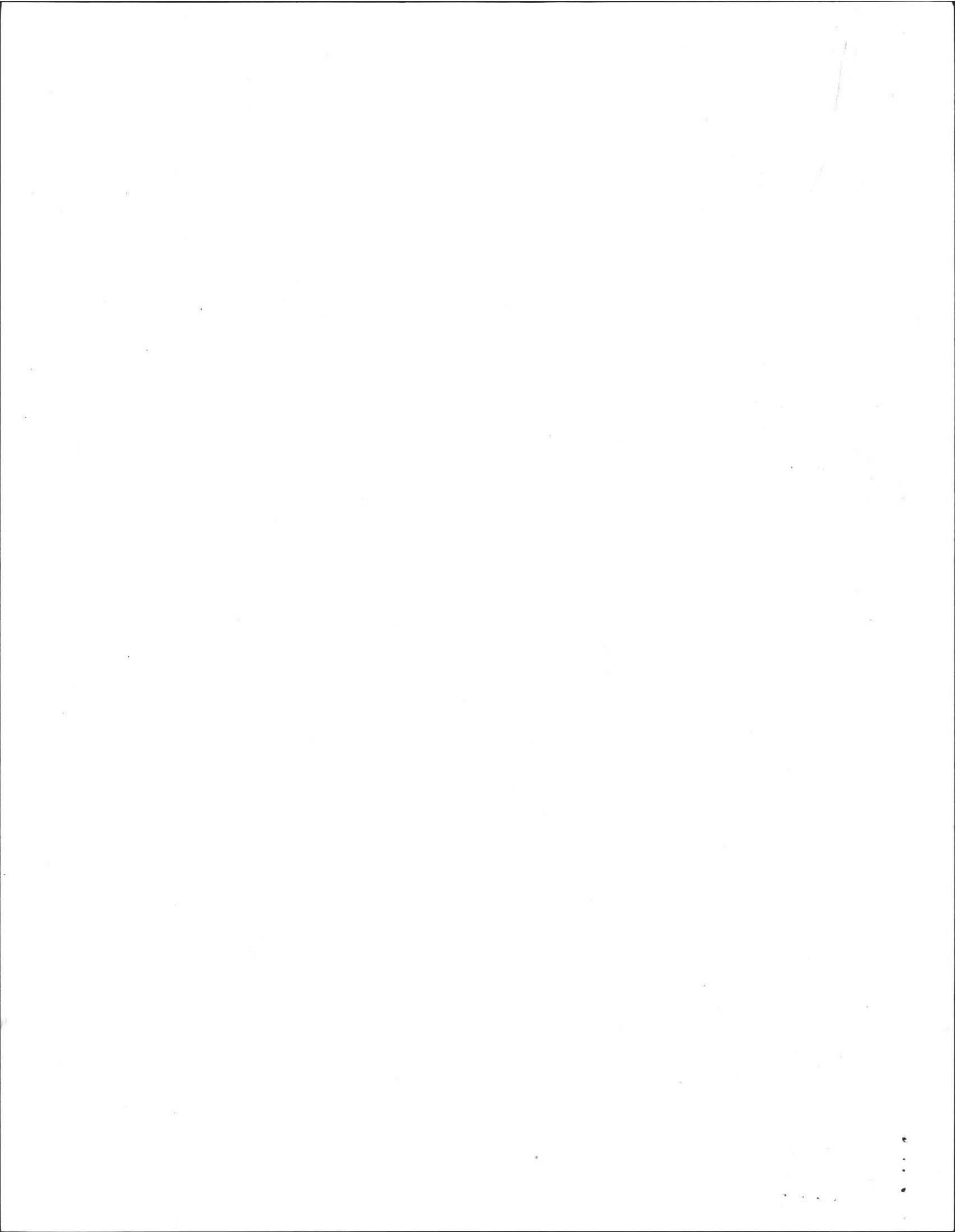
24A-61
170 IDUNA LN

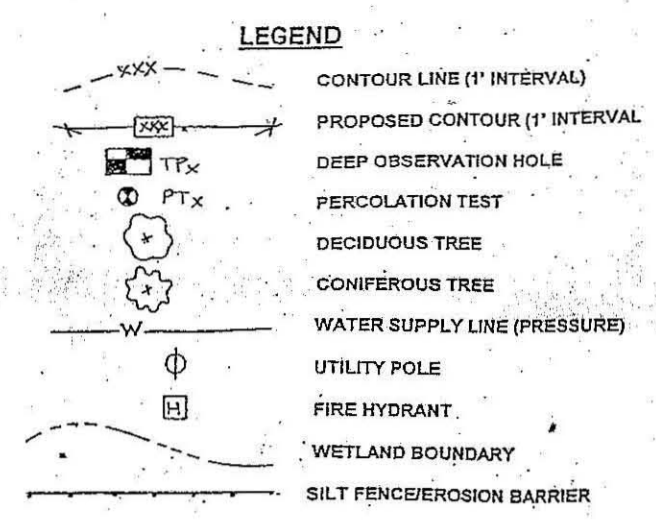
150
24B-60
IDUNA LN

24B-59
130 IDUNA LN

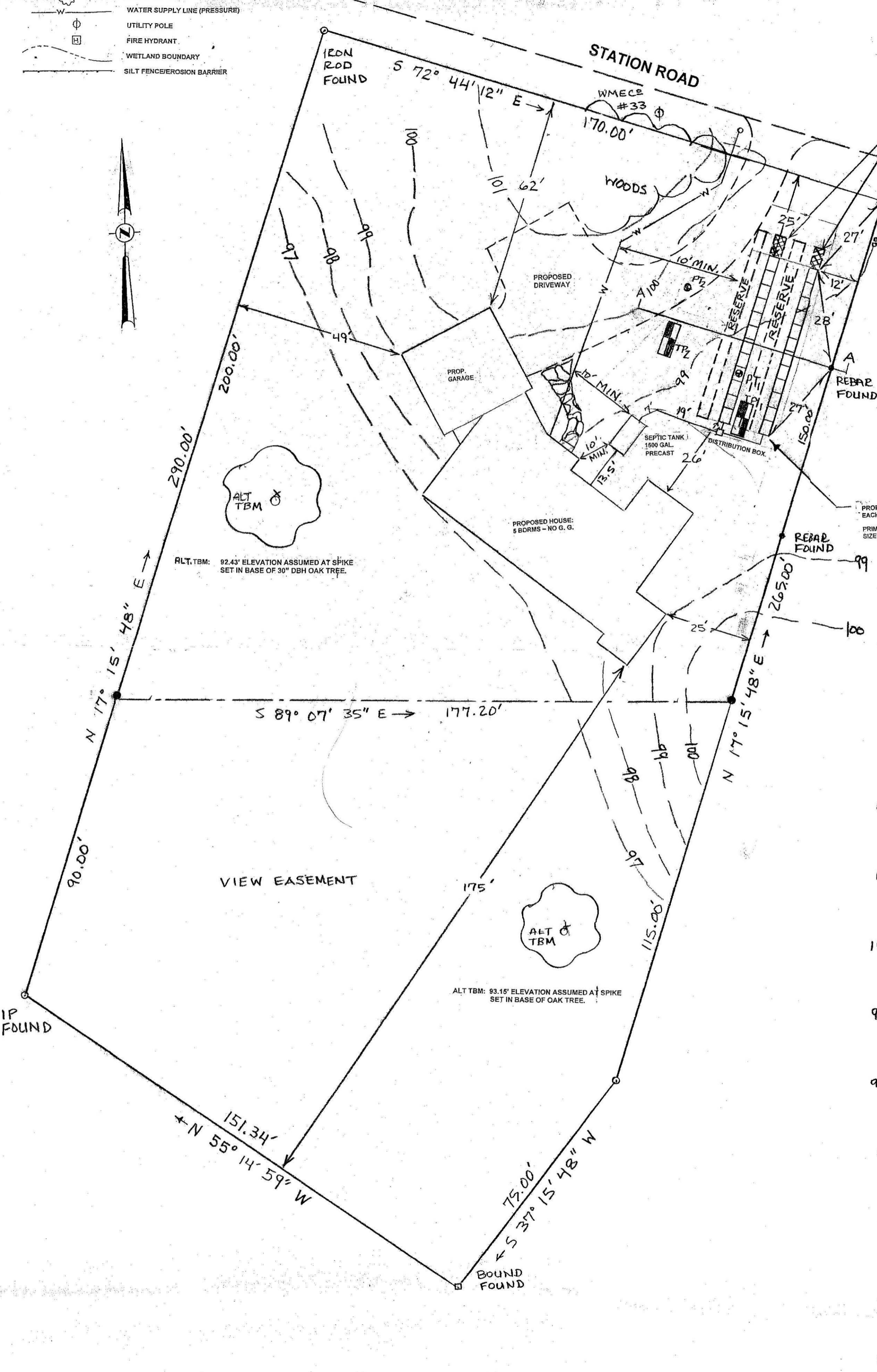
24B-58
98 IDUNA LN

20 C



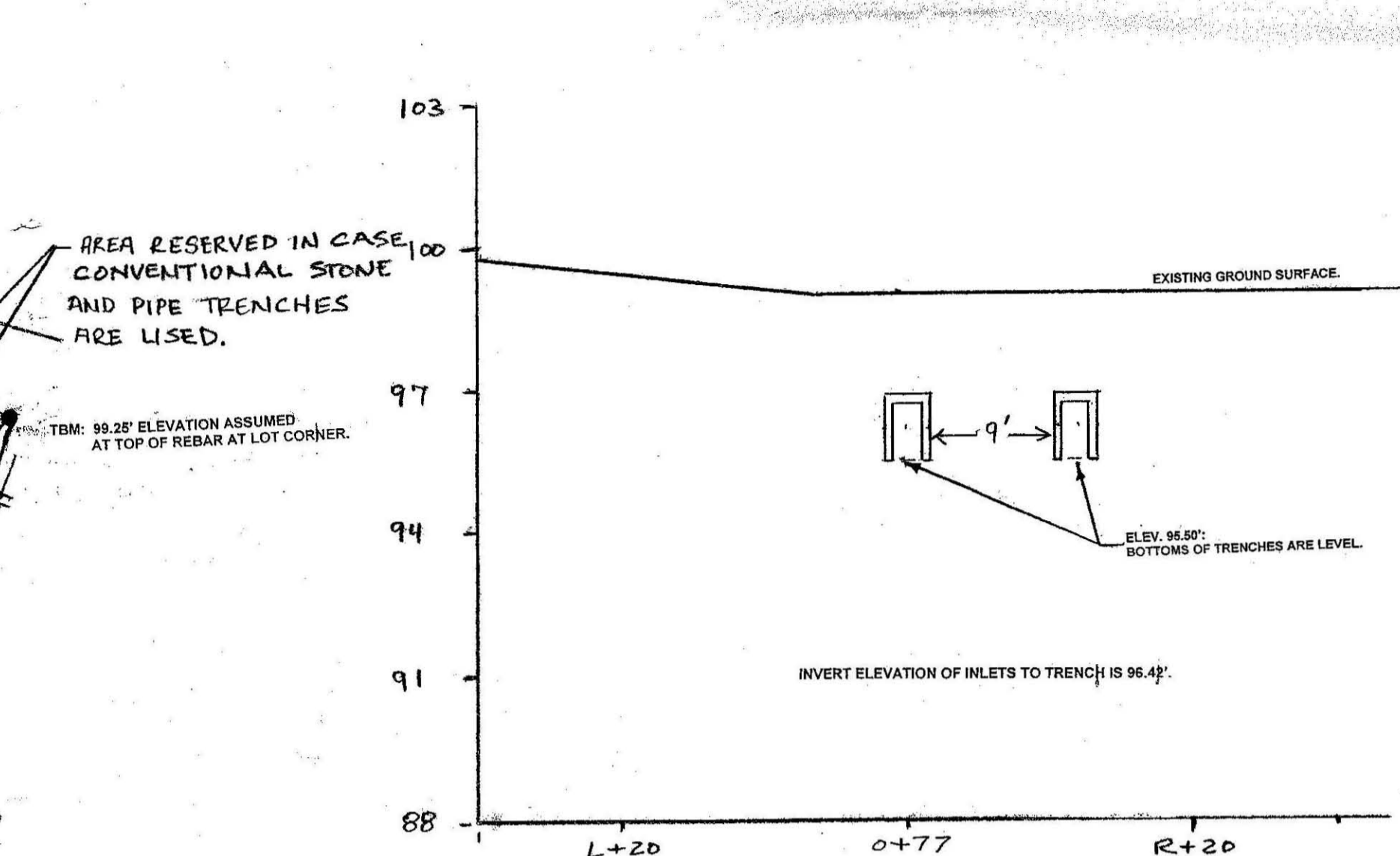


NOTE: THERE ARE NO PRIVATE WATER SUPPLY WELLS WITHIN 200' OF THE PROPOSED SYSTEM LOCATION. THERE ARE NO SURFACE WATER SUPPLIES OR GRAVEL/PACKED PUBLIC WATER SUPPLY WELLS WITHIN 400' OF THE PROPOSED SYSTEM LOCATION. THERE ARE NO TUBULAR WATER SUPPLY WELLS WITHIN 200' OF THE PROPOSED SYSTEM LOCATION. THERE ARE NO THURIBARIES TO SURFACE WATER SUPPLIES OR TRIBUTARIES TO SURFACE WATER SUPPLIES WITHIN 100' OF THE PROPOSED SYSTEM LOCATION. THERE ARE NO OTHER WETLANDS OR WATER BODIES WITHIN 60' OF THE PROPOSED SYSTEM LOCATION.

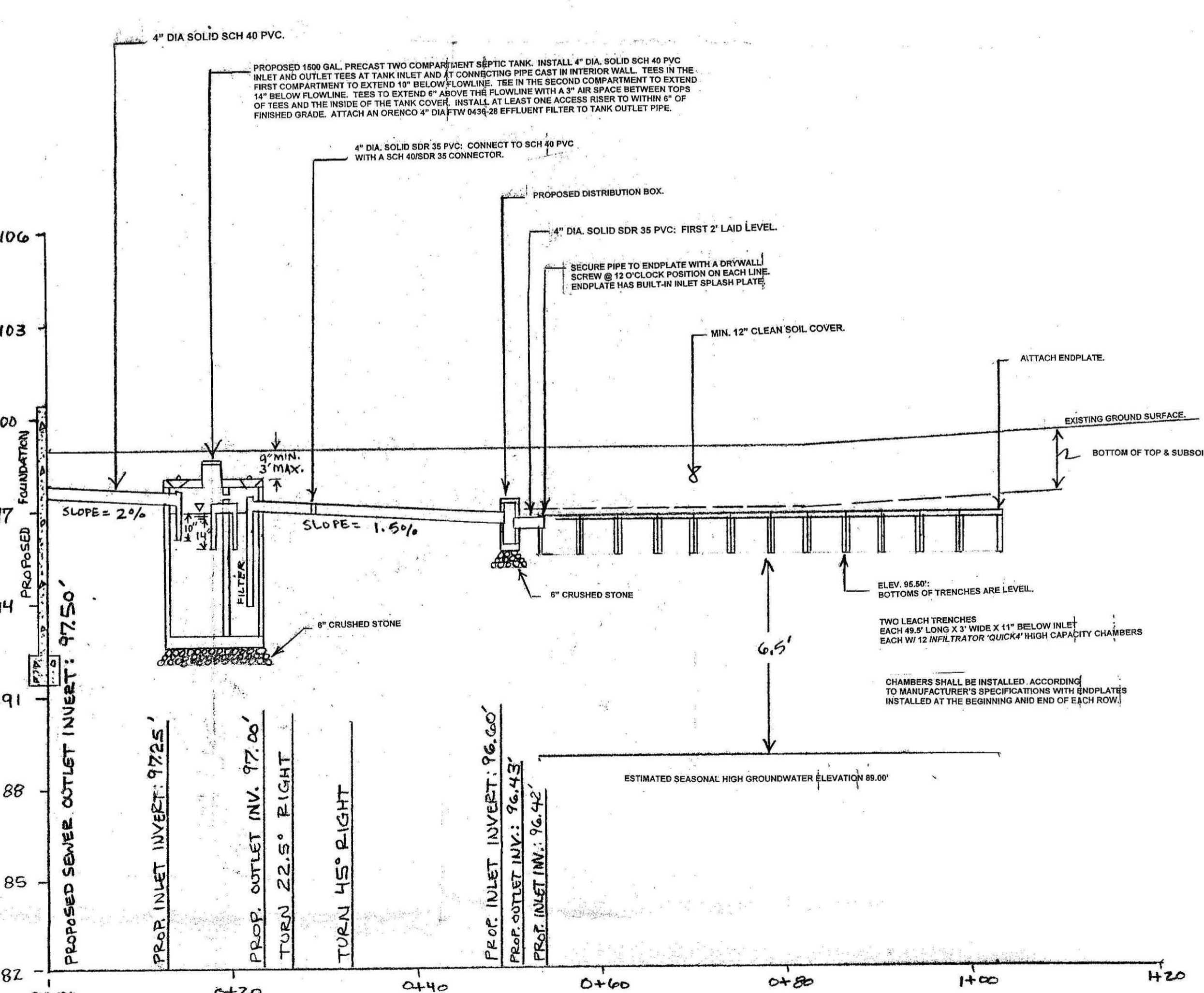


PLANVIEW
SCALE: 1" = 20'

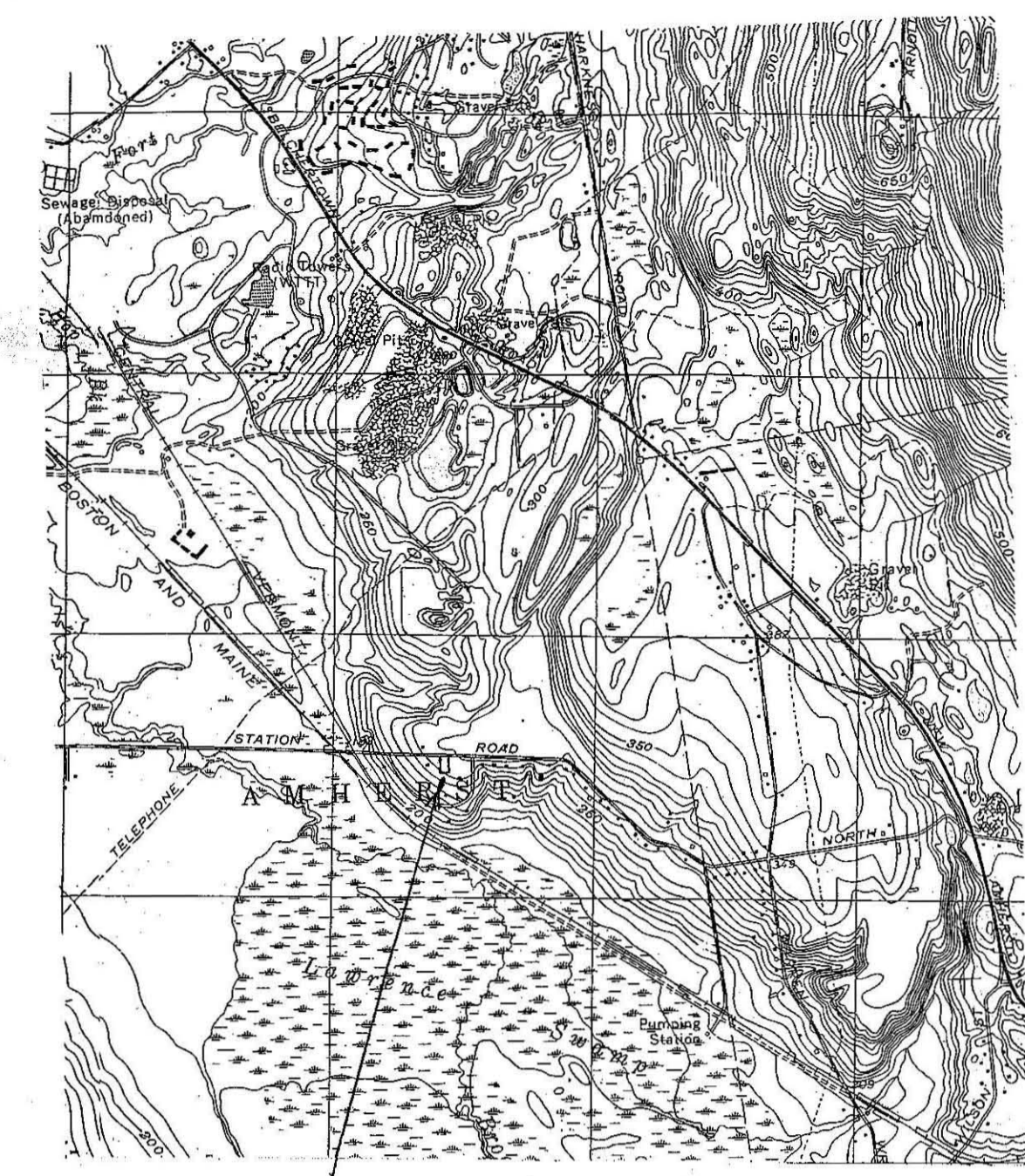
PROPERTY LINE INFORMATION FROM "PLAN OF LAND IN AMHERST, MASSACHUSETTS" SURVEYED FOR JOHN A. AND ELECTRA PETROPOULOS BY HUNTLEY ASSOCIATES, P.C. 04/16/04



SECTION OF LEACH TRENCHES
SCALE: H: 1" = 10' V: 1" = 3'



PROFILE OF SYSTEM
SCALE: H: 1" = 10' V: 1" = 3'



PROJECT LOCATION
USGS BELCHERTOWN, MASS. QUADRANGLE
SCALE: 1: 25 000

SOIL EVALUATION

Depth	Soil Horizon	Soil Texture	Soil Color	Mottling	Other
0-9"	Ap	FSL	10YR3/4	None	friable, 5% med gravel
9-23"	Bw	FSL	10YR5/6	None	friable, no structure
23-120"	C	Med Sand	10YR5/6	None	loose, stratified occasional strata of fine to medium gravel

Parent Material (Geologic): glacial outwash/stratified drift
Standing Water in the Hole: none Weeping from Pit: none
Estimated Seasonal High Ground Water: 120"
Comment: perc rate = less than 2 min./in.

Depth	Soil Horizon	Soil Texture	Soil Color	Mottling	Other
0-4"	Ap	FSL	10YR3/4	None	friable, 5% med gravel
4-22"	Bw	FSL	10YR5/6	None	friable, no structure
22-120"	C	Med Sand	10YR5/6	None	loose, stratified occasional strata of medium gravel

Parent Material (Geologic): glacial outwash/stratified drift
Standing Water in the Hole: none Weeping from Pit: none
Estimated Seasonal High Ground Water: 120"
Comment: perc rate = less than 2 min./in.

DESIGN CRITERIA
Design flow is for a 5-bedroom house without a garbage grinder

DESIGN CALCULATION

Design flow: 5-bedrooms, no garbage grinder: = 550 gpd.
Proposed septic tank: 1500 gallons, two compartments.
Effluent Loading Rate: Percolation Rate = 2 minutes per inch Class 1 soils.
Effluent loading rate = 0.74 gpd/ft.

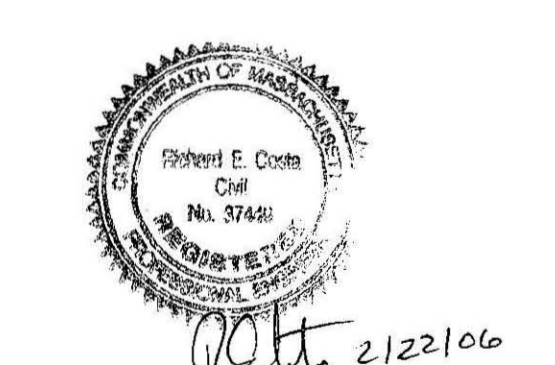
Soil Absorption System: two leach trenches.
Each 48.5' long x 3' wide x 11' below inlet.
Each with 12 "Infiltrator" "Quick" high capacity chambers (24 total) each chamber has an effective length of 4 ft.

Each high capacity chamber (trench configuration): = 7.93 SF/ft.
24 chambers each 4.00 LF (48' effective length): = 96.00 LF
96.00 LF x 7.93 SF/ft.: = 761.28 SF.
Total Required Design Flow: = 550 gpd.
Calculated Design Flow: 761.28 SF x 0.74 GPD/SF: = 563 gpd.
Total Required Design Flow: = 550 gpd (OK)

Primary & Reserve Area sized for Conventional Stone & Pipe Trenches:

2 conventional trenches:
Each 48.5' Long x 3' Wide
By 2.0' Below Dist Lines
= 336 SF
Sidewall Area: (56' x 2.0') x 2: = 448 SF
Total leaching area = 784 SF
Calculated Reserve Design Flow: 784 SF x 0.74 GPD/SF: = 580 GPD
Total Required Reserve Design Flow: = 550 GPD (OK)

- GENERAL CONDITIONS**
- This septic system design plan is prepared in accordance with Title 5, 310 CMR 15.00. Construction shall conform to these regulations.
 - Installer shall be certified by the manufacturer to install infiltrator chambers.
 - The installer shall inform the designer of any unusual conditions and shall not modify the plan without the written consent of the designer.
 - All debris in the site area shall be removed and disposed of in accordance with the law.
 - There is no guarantee expressed or implied to any user of a system installed pursuant to this plan.
 - The installer shall notify the designer when the system excavation is complete and prior to the placement of the cover material for final inspection. Notification shall be 48 hours prior to the time of inspection.
 - The septic tank shall be pumped and inspected as necessary and at least once every three years.
- CONSTRUCTION NOTES**
- Any topsoil, subsoil, old fill, stumps, stones, debris or other impervious materials encountered during excavation shall be removed from the area of the soil absorption system, from five feet around the soil absorption system and from wherever fill is to be placed. Any fill placed under or adjacent to the soil absorption system shall be a clean, granular sand and conform to the specifications of Title 5, 310 CMR 15.25(5).
 - Pipes exiting the distribution box shall have the same invert elevation as the laid level for a minimum first two feet.
 - The finished grade above the soil absorption system shall have a minimum two percent slope to shed surface runoff away from the system.
 - Disturbed areas shall be loamed, seeded and mulched until stable vegetation is established.



PLAN OF SEWAGE DISPOSAL SYSTEM
ASSESSORS MAP 24B, LOT 43, STATION RD., AMHERST, MASS.

KENT W. & LORENA B. FAERBER
11 MCINTOSH, AMHERST, MA 01002

SCALE: AS SHOWN DATE: 2/22/06 APPROVED BY: [Signature] DRAWN BY: RWS

AMHERST CIVIL ENGINEERING
RICHARD COSTA, P.E. / ROBERT STOVER
P.O. BOX 3312, AMHERST, MA 01004-3312
(413)256-3400 DRAWING NUMBER