Table 1: Well Construction Details

Well ID/Boring or Test Pit (TP) ID	Stick-up (ft)	Screen Length (ft)	Groundwater level (ft bgs) 3/22/05 - 3/25/05	Boring Depth (ft bgs)	Depth to Top of Well Screen (ft bgs)	Depth to Well Screen Bottom (ft bgs)	Sample Test Zone	Perm. Test Interval (ft)	Test Run	Falling Head Test-Hydraulic Conductivity (cm/sec)	Falling head Test-Hydraulic Conductivity (ft/day)	Sieve Sample Interval (ft)	Hydaulic Conductivity based on Grain Size Kozeny-Carmen (cm/sec)	Hydaulic Conductivity based on Grain Size Kozeny-Carmen (ft/day)
Wetherbee St: (wells)														
W-1	0.5	10	13.88'	52	17	27	S-3	NA	NA	NA	NA	10-10.5	1.68×10^{-3}	4.75
							S-4	15-16	Run 1	3.13×10^{-3}	8.87	15-17	5.91×10^{-2}	167.59
							S-4	15-16	Run 2	2.90×10^{-3}	8.22			
							S-7	31-32	Run 1	7.75×10^{-4}	2.25	30-32	3.52×10^{-2}	99.68
							S-7	31-32	Run 2	7.85×10^{-4}	2.27			
W-2	1.7	10	5.88'	22	10	20	S-3	8-9	Run 1	1.97×10^{-4}	0.572	none	none	none
								8-9	Run 2	1.96×10^{-4}	0.57			
W-3	1.6	10	1.8'	17 (Spoon Refusal)	5	15	none	none	none	NA	NA	none	none	none
W-4	1.9	10	7.31'	47	15	25	S-3	11-12	Run 1	4.73×10^{-4}	1.34	10-12	9.43×10^{-2}	267.4
							S-3	11-12	Run 2	5.72×10^{-4}	1.61			
							S-6	none	none			25-27	4.92×10^{-2}	139.48
							S-8	36-37	Run 1	3.55×10^{-4}	1.01	35-36.5	6.55×10^{-2}	185.69
							S-8	36-37	Run 2	1.19×10^{-5}	1.03			
USGS MA-ACW 158	Groundwater level (40 year high) = 14.98 bgs													
Adams St: (borings & well)														
A-1	no well installed	NA	not encountered	47	NA	NA	none	none	none	NA	NA	15-17	3.22×10^{-2}	91.20
A-2	2.78	10	12.92'	32	21	31	S-4	16-17	Run 1	6.49×10^{-4}	1.88	15-17	3.22×10^{-2}	91.2
								16-17	Run 2	6.15×10^{-4}	1.78			
North Acton: (borings & well)														
NA-1	2.7	10	19.35'	23 (Refusal)	13	23	S-5	21-22	Run 1	3.04×10^{-4}	0.884	20 -21.5	5.50×10^{-2}	156.03
NA-2	no well installed	NA	not encountered	15.5 (Bedrock)	NA	NA	none			NA		none		none
High Street: Wells			**Groundwater Level (NGVD) (8/2002)[3]**	**Boring Depth (ft bgs)**		**Bottom of Screen Elevation[3]**								**Hydraulic Conductivity - Pumping Test**
Assabet 1			108.09'	68[2]		71								150[6]
PT-01			120.56'	50[5]		120								
Assabet 2A			123.77	34		98								570[7]
Assabet 2				54										110[6]
B-06			122.98	90[4]		90								

Notes: 1) Not Applicable

2) Boring depth obtained from Plan 2-5: GeoTrans, Potentiometric Section C-C', August 2002.

3) Groundwater elevation and bottom of screen elevation obtained from Plan 2-10: Geotrans Unconsolidated Deposits: Potentiometric Map. November 2001.

4) Boring depth is approximately 10 ft into bedrock.

5) Overburden thickness on cross-section extends 7.5' beneath bottom of boring.

6) Goldberg Zoino Dunnicliff & Associates, Inc. Geotechnical Consultants; p. 43-Table, "Pumping Test Analysis"

7) Based on 48 hour pumping test (5/3/00- 5/4/00).

Table 2: Test Pit Construction Details

Test Pit (TP) ID	Groundwater level (ft bgs) 3/21/05 and-3/23/05	Test Pit Depth (ft bgs)	Sample Test Zone	Sieve Sample Interval (ft)	Hydraulic Conductivity based on Grain Size Kozeny-Carmen (cm/sec)	Hydraulic Conductivity based on Grain Size Kozeny-Carmen (ft/day)
Wetherbee Site: (test pits)						
TP-32105-1	17' (estimated seasonal high water) Groundwater not observed	17	S-1	15-17	7.22×10^{-2}	204.73
TP-32105-2	14.58' (estimated seasonal high water) Groundwater not observed	15	S-1	14-15	6.63×10^{-2}	188.01
TP-32105-3	1.0' (estimated seasonal high water) 6.0' (observed)	10	none			
TP-32105-4	3.0' (estimated seasonal high water) 5.0' (observed); At ' 3.0 groundwater weeping into pit	11.5	none			
TP-32105-5	5.5' (estimated seasonal high water) 8.5' (observed)	9	S-2	6-9	0.114	321.92
TP-32105-6	13' (estimated seasonal high water) 13' (observed)	13	S-2	5-13	4.55×10^{-2}	128.95
North Acton Site: (test pits)						
TP-32305-1	11.0' (estimated seasonal high water) Groundwater not observed	11	none			
TP-32305-2	8.0' (estimated seasonal high water) Groundwater not observed	8	none			
TP-32305-3	5.17' (observed) 5.17' (estimated seasonal high water)	7	none			

Table 3: Wetherbee Site - Groundwater Levels and Hydraulic Conductivities

Well or Test Pit	Groundwater level (ft bgs) 3/22/05 - 3/25/05	Groundwater level (ft bgs) 4/25/05	Groundwater level (ft bgs) 5/5/05	Groundwater level (ft bgs) 6/1/05 - 6/2/05	Groundwater level (ft bgs) 7/6/05	Depth (ft bgs)	Sample Test Zone	Perm. Test Interval (ft)	Falling Head Test- Hydraulic Conductivity (cm/sec)	Falling head Test- Hydraulic Conductivity (ft/day)	Sieve Sample Interval (ft)	Hydraulic Conductivity based on Grain Size Kozeny-Carmen (cm/sec)	Hydraulic Conductivity based on Grain Size Kozeny-Carmen (ft/day)
Wetherbee Site: (wells)													
W-1	13.88'	none				52	S-4	15-16 (R1)	3.13×10^{-3}	8.87	10-10.5	1.68×10^{-3}	4.75
							S-4	15-16 (R2)	2.90×10^{-3}	8.22	15-17	5.91×10^{-2}	167.59
							S-7	31-32 (R1)	7.75×10^{-4}	2.25	30-32	3.52×10^{-2}	99.68
							S-7	31-32 (R2)	7.85×10^{-4}	2.27			
W-2	5.88'	none				22	S-3	8-9 (R1)	1.97×10^{-4}	0.572	none		
							S-3	8-9 (R2)	1.96×10^{-4}	0.570			
W-3	1.8'	1.5'	1.10'	1.0'	7.67'	17 (Spoon Refusal)		none			none		
W-4	7.31'	6.75'	6.5'	6.33'	7.0'	47	S-3	11-12 (R1)	4.73×10^{-4}	1.34	10-12	9.43×10^{-2}	267.40
							S-3	11-12 (R2)	5.72×10^{-4}	1.61			
							S-6	none			25-27	4.92×10^{-2}	139.48
							S-8	36-37 (R1)	3.55×10^{-4}	1.01	35-36.5	6.55×10^{-2}	185.69
							S-8	36-37 (R2)	1.19×10^{-5}	1.03			
Wetherbee Site: (test pits)													
TP-32105-1	17' (estimated seasonal high water)	none				17'		none	NA		15-17	7.22×10^{-2}	204.73
	Groundwater not observed												
TP-32105-2	14.58' (estimated seasonal high water)	none				15'		none	NA		14-15	6.63×10^{-2}	188.01
	Groundwater not observed												
TP-32105-3	1.0' (estimated seasonal high water)	none				10'		none	NA		none		
	6.0' (observed)												
TP-32105-4	3.0' (estimated seasonal high water)	none				11.5'		none	NA		none		
	5.0' (observed); At ' 3.0 groundwater weeping into pit												
TP-32105-5	5.5' (estimated seasonal high water)	none				9'		none	NA		6-9	0.114	321.92
	8.5' (observed)												
TP-32105-6	13' (estimated seasonal high water)	none				13'		none	NA		5-13'	4.55×10^{-2}	128.95
	13' (observed)												
USGS MA-ACW 158	Groundwater level (40 year high) = 14.98 bgs												

Notes:
NA= Not Applicable

Table 4: North Acton Site - Groundwater levels and Hydraulic Conductivities

Well ID/Boring or Test Pit (TP) ID	Groundwater level (ft bgs) 3/22/05 - 3/25/05	Groundwater level (ft bgs) 4/25/05	Groundwater level (ft bgs) 7/7/05	Boring or Test Pit Depth (ft bgs)	Sample Test Zone	Perm. Test Interval (ft)	Test Run	Falling Head Test- Hydraulic Conductivity (cm/sec)	Falling head Test- Hydraulic Conductivity (ft/day)	Sieve Sample Interval (ft)	Hydraulic Conductivity based on Grain Size Kozeny-Carmen (cm/sec)	Hydraulic Conductivity based on Grain Size Kozeny-Carmen (ft/day)
North Acton Site: (borings & well)										20 -21.5	5.50×10^{-2}	156.03
NA-1 (well)	19.35'	18.25'	Dry	23 (Refusal)	S-5	21-22	Run 1	3.04×10^{-4}	0.884			
NA-2 (boring)	not encountered	NA		15.5 (Bedrock)	none			NA		none		
North Acton Site: (test pits)												
TP-32305-1	11.0' (estimated seasonal high water)	NA		11								
	Groundwater not observed											
TP-32305-2	8.0' (estimated seasonal high water)	NA		8								
	Groundwater not observed											
TP-32305-3	5.17' (observed)	NA		7								
	5.17' (estimated seasonal high water)											
Notes: NA= not applicable												

Table 5: Adams Street Site - Groundwater Levels and Hydraulic Conductivities

Well ID/Boring or Test Pit (TP) ID	Groundwater level (ft bgs) 3/22/05 - 3/25/05	Groundwater level (ft bgs) 4/25/05	Groundwater level (ft bgs) 6/2/05	Groundwater level (ft bgs) 7/6/05	Boring Depth (ft bgs)	Sample Test Zone	Perm. Test Interval (ft)	Test Run	Falling Head Test- Hydraulic Conductivity (cm/sec)	Falling head Test- Hydraulic Conductivity (ft/day)	Sieve Sample Interval (ft)	Hydraulic Conductivity based on Grain Size Kozeny-Carmen (cm/sec)	Hydraulic Conductivity based on Grain Size Kozeny-Carmen (ft/day)
Adams Street Site:													
A-1 (boring)	not encountered	NA			47	none			none		15-17	3.22×10^{-2}	91.20
A-2 (well)	12.92	11.75	11.25	17.17	32	S-4	16-17 16-17	Run 1 Run 2	6.49×10^{-4} 6.15×10^{-4}	1.88 1.78	15-17	3.22×10^{-2}	91.20

Notes: NA = Not Applicable

Table 6: High Street Site - Groundwater Levels and Hydraulic Conductivities

Well ID	Groundwater Level (NGVD)[2)]	Bottom of Screen Elevation[2)]	Boring[1)] Depth (ft)	Hydraulic Conductivity (ft/day)
Assabet 1	108.09	71	68	150[5)]
PT-01	120.56	120	50[4)]	NA
Assabet 2A	123.77	98	54	570[6)]
Assabet 2	NA	NA	NA	110[5)]
B-06	122.98	90[3)]	90	NA

Notes:

1) Boring depth obtained from Plan 2-5: GeoTrans, Potentiometric Section C-C', August 2002.
2) Groundwater elevation and bottom of screen elevation obtained from Plan 2-10: Geotrans Unconsolidated Deposits: Potentiometric Map. November 2001.
3) Boring depth is approximately 10 ft into bedrock.
4) Overburden thickness on cross-section extends 7.5' beneath bottom of boring.
5) Goldberg Zoino Dunnicliff & Associates, Inc. Geotechnical Consultants; p. 43- Table, "Pumping Test Analysis"
6) Based on 48 hour pumping test 5/3/00 - 5/4/00

NA = Not Available

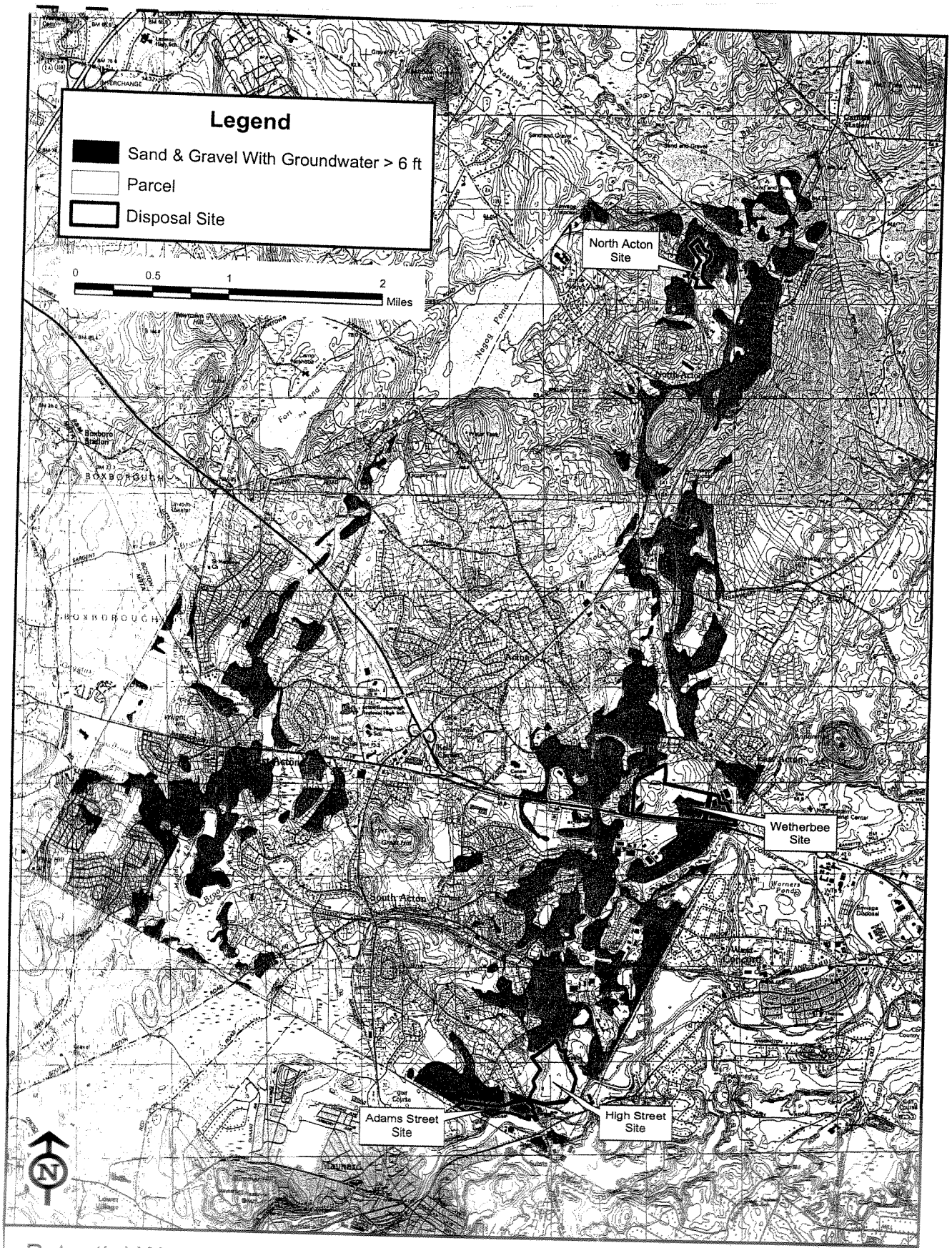
TABLE 7: Summary - Grain Size Estimates of Hydraulic Conductivity

Borings/Test Pits
Hydraulic Conductivity Estimates based upon wash sieve analyses and Kozeny-Carmen Equation calculations.

						Kozeny- Carmen Hydraulic Conductivity			Uniformity Coefficient	**Hazen-Williams Method** Assume C = 100				**K-C/Haz**
Borings Test Pits (TP)	Sample No.	Sample Type	Depth (ft)	Field Texture	% Fines (< #200)	$K^{(4,5,6)}$ (cm/s)	K (m/d)	K (ft/d)	Cu (D_{60}/D_{10})	D_{10} (cm)	D_{10}^2	K (cm/s)	K (ft/d)	
A-1	S-4	split-spoon	15-17	poorly graded sand	4.1	3.22E-02	27.80	91.20	2.60	0.014	0.000196	1.96E-02	55.56	1.6
A-2	S-4	split-spoon	15-17	poorly graded sand	4.3	3.22E-02	27.80	91.20	2.13	0.016	0.000256	2.56E-02	72.57	1.3
NA-1	S-5	split-spoon	20-21.5	poorly graded sand with gravel	2.6	5.50E-02	47.56	156.03	5.12	0.0299	0.000894	8.94E-02	253.42	0.6
W-1	S-3	split-spoon	10-10.5	Silty sand with gravel	16.5	3.33E-03	2.87	9.43	5.00	0.0042	1.76E-05	1.76E-03	5.00	1.9
W-1	S-4	split-spoon	15-17	poorly graded sand	1.3	5.91E-02	51.08	167.59	2.46	0.0415	0.001722	1.72E-01	488.20	0.3
W-1	S-7	split-spoon	30-32	poorly graded sand	4.4	3.52E-02	30.38	99.68	2.28	0.0154	0.000237	2.37E-02	67.23	1.5
W-4	S-3	split-spoon	10-12'	Poorly graded sand	2.1	9.43E-02	81.50	267.40	3.62	0.0428	0.001832	1.83E-01	519.26	0.5
W-4	S-6	split-spoon	25-27	Poorly graded sand with gravel	1.4	4.92E-02	42.51	139.48	2.33	0.0398	0.001584	1.58E-01	449.02	0.3
W-4	S-8	split-spoon	35-36.5	Poorly graded sand	1.4	6.55E-02	56.60	185.69	4.22	0.0341	0.001163	1.16E-01	329.62	0.6
TP-32105-1	S-1	grab	15-17	Poorly graded sand with gravel	0.7	7.22E-02	62.40	204.73	4.99	0.0385	0.001482	1.48E-01	420.17	0.5
TP-32105-2	S-1	grab	14-15	Poorly graded sand with gravel	1.4	6.63E-02	57.30	188.01	8.60	0.0522	0.002725	2.72E-01	772.40	0.2
TP-32105-5	S-2	grab	6-9'	Poorly graded sand	2.6	1.14E-01	98.12	321.92	3.16	0.0491	0.002411	2.41E-01	683.38	0.5
TP-32105-6	S-2	grab	5-13'	Poorly graded sand	1.3	4.55E-02	39.30	128.95	1.95	0.0392	0.001537	1.54E-01	435.58	0.3

NOTES:

1. D_{25} interpreted from grain size curves
2. $D_m = D_{25}$ *: 0.5 (if fines>50%), 0.8 (if 50%>fines>20%), 1 (if 20%>fines>10%), and 1.25 (if fines<10%)
3. n values typical for materials present
4. Water density = 1,000
5. Fluid viscosity = 0.0013
6. Gravity constant = 9.81
7. Sample Type: A = auger cuttings grab sample; SS = split spoon sample
8. Sample considered unreliable/unrepresentative

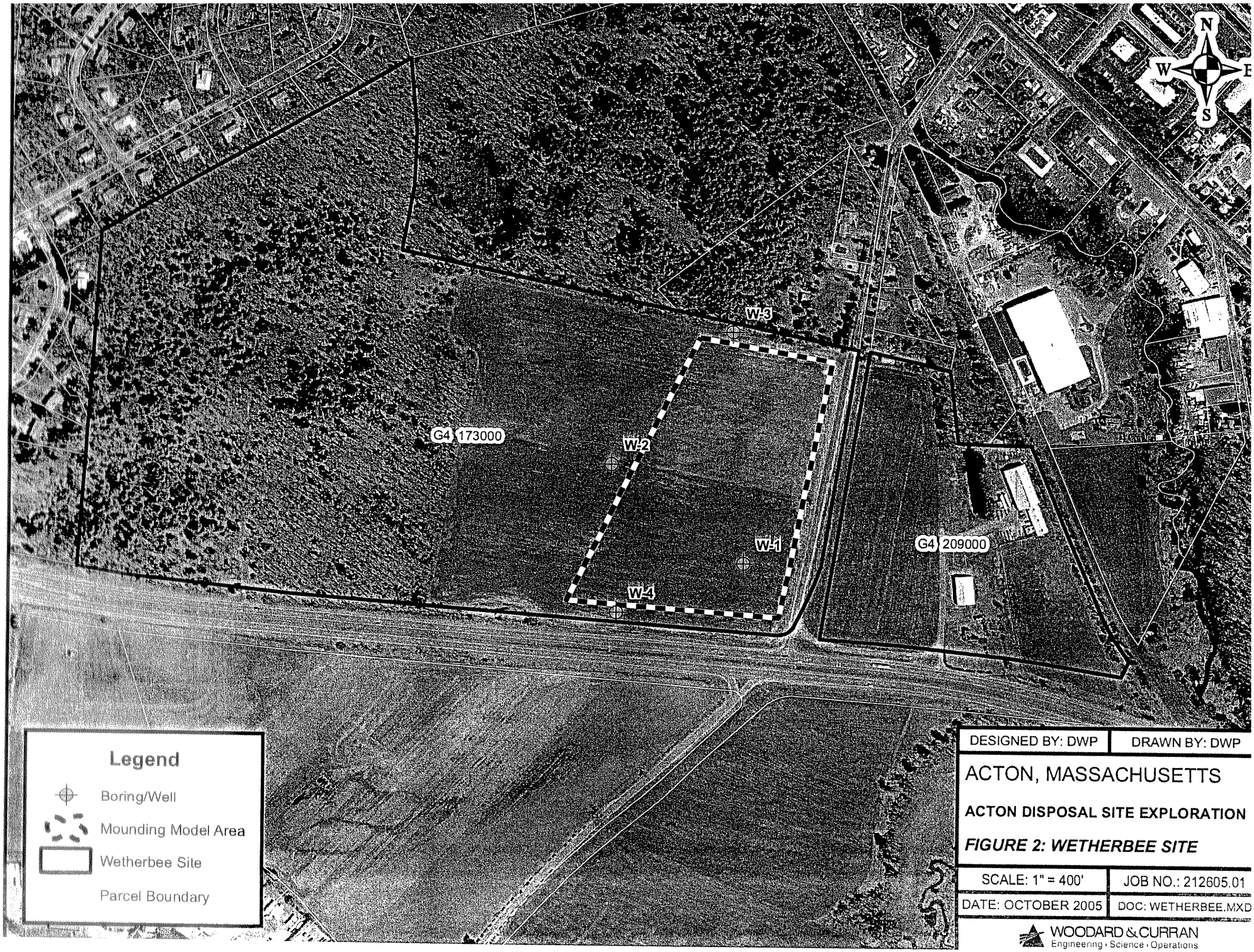


Potential Wastewater Disposal Sites
Comprehensive Water Resource Management Plan
Acton, Massachusetts

Figure 1
November 2005

Source: MassGIS, Town of Acton, Woodard & Curran, Inc., Lombardo Associates, Inc.

WOODARD & CURRAN
Engineering | Science | Operations
LOMBARDO ASSOCIATES, INC.



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ACTON, MASSACHUSETTS

ACTON DISPOSAL SITE EXPLORATION

FIGURE 2: WETHERBEE SITE

SCALE: 1" = 400'	JOB NO.: 212605.01
DATE: OCTOBER 2005	DOC: WETHERBEE.MXD

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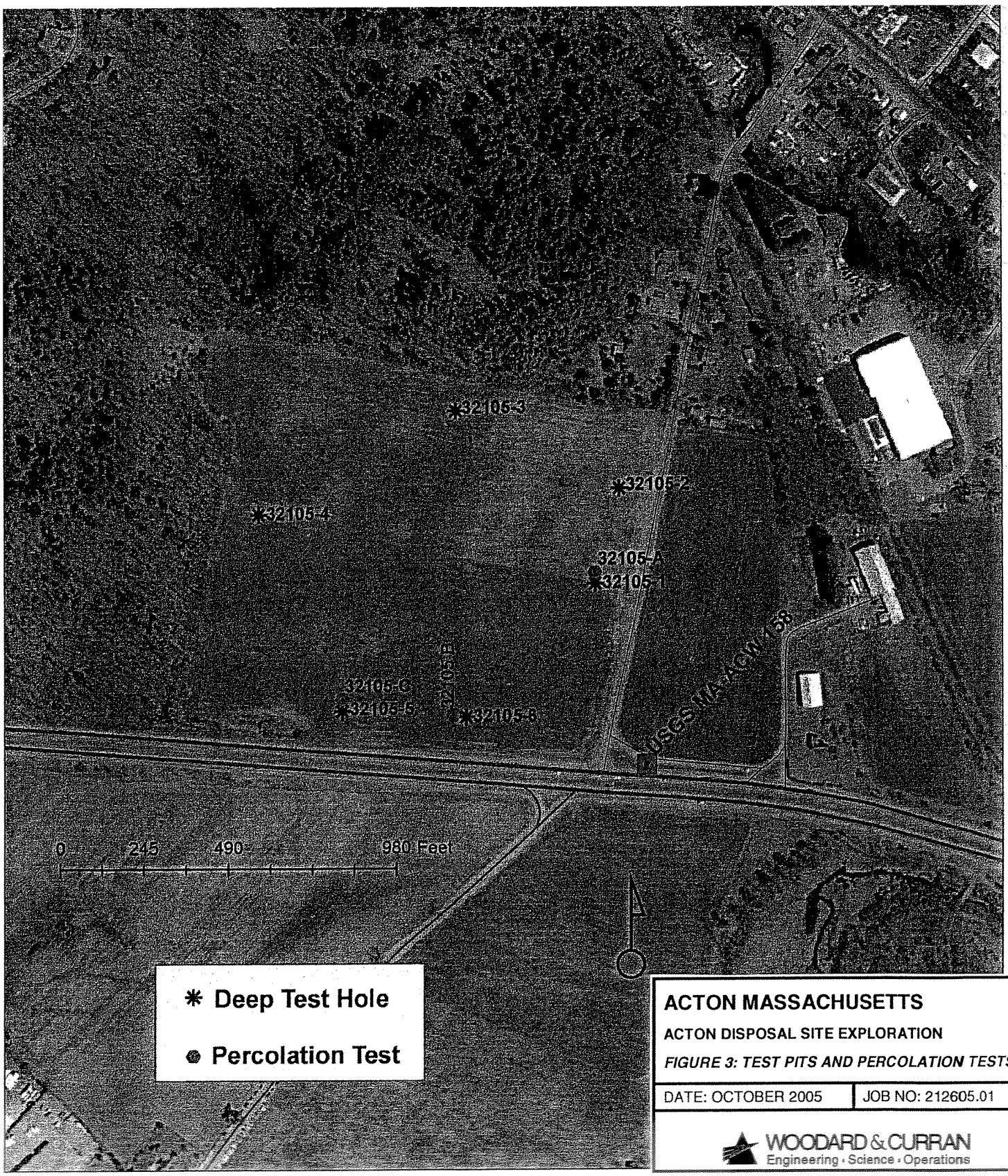

ACTON MASSACHUSETTS

ACTON DISPOSAL SITE EXPLORATION

FIGURE 3: TEST PITS AND PERCOLATION TESTS

DATE: OCTOBER 2005	JOB NO: 212605.01

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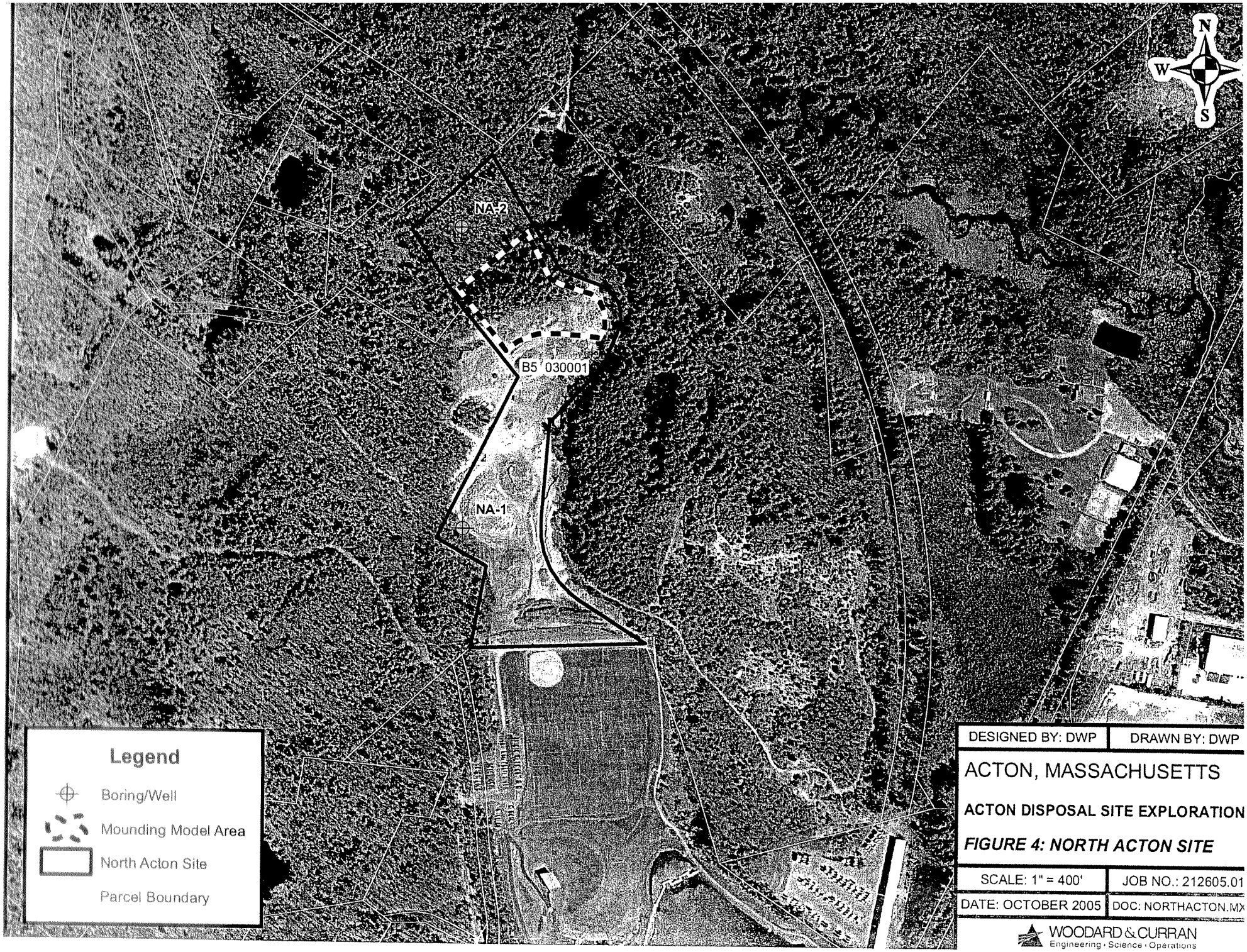
Deep Test Hole Percolation Test Locations

Town of Acton Wetherbee Street 3/21/2005



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ACTON DISPOSAL SITE EXPLORATION

FIGURE 4: NORTH ACTON SITE

SCALE: 1" = 400'	JOB NO.: 212605.01
DATE: OCTOBER 2005	DOC: NORTHACTON.MX

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ACTON DISPOSAL SITE EXPLORATION

FIGURE 5: TEST PIT LOCATIONS

DATE: OCTOBER 2005	JOB NO: 212605.01

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Deep Test Hole Locations

0 100 200 400 Feet

Quarry Road
3/23/2005
Acton, MA

Legend

- Boring/Well
- Mounding Model Area
- Adams Street Site
- Parcel Boundary

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ACTON DISPOSAL SITE EXPLORATION

FIGURE 6: ADAMS STREET SITE

SCALE: 1" = 400'	JOB NO.: 212605.01
DATE: OCTOBER 2005	DOC: ADAMS.MXD

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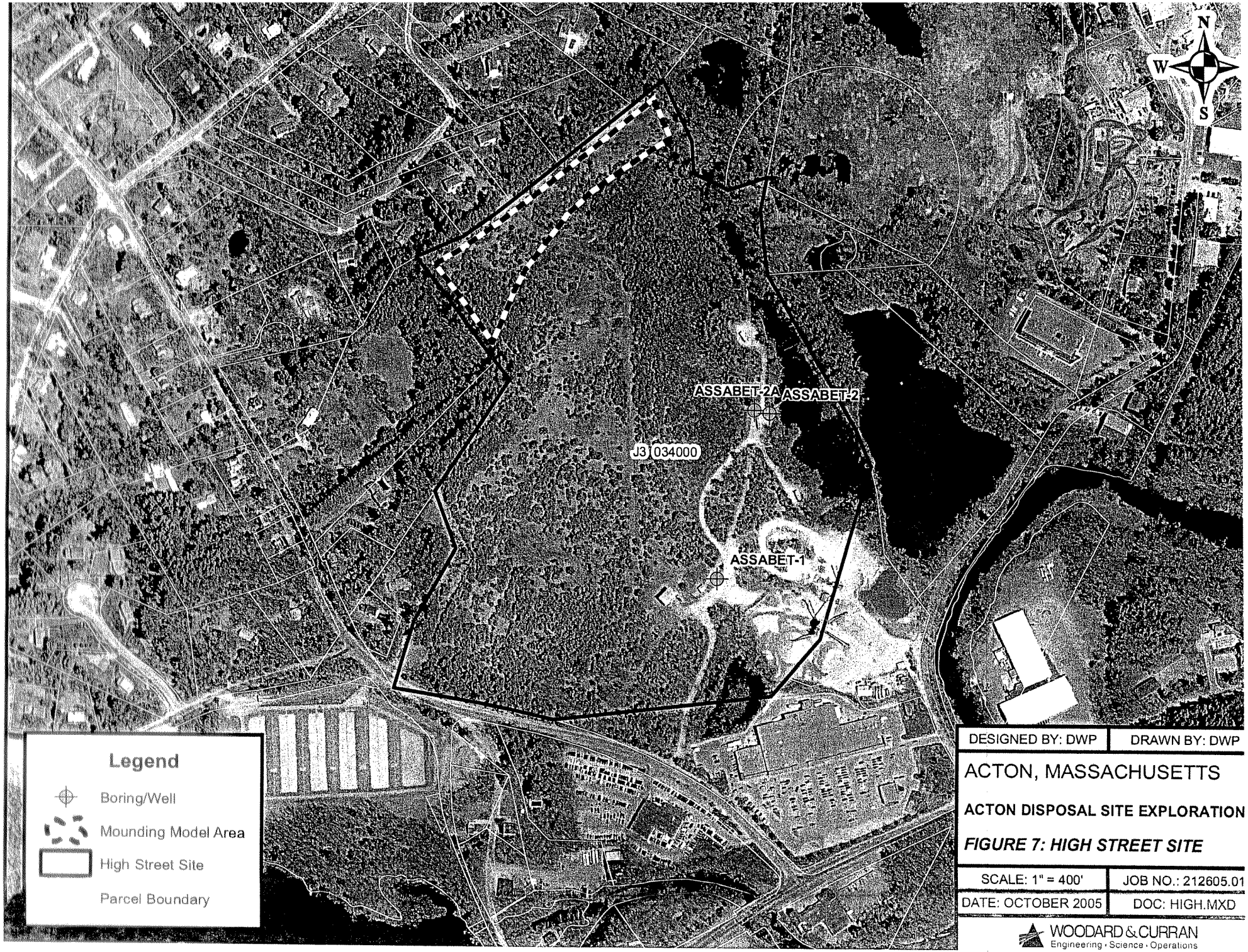

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ACTON DISPOSAL SITE EXPLORATION

FIGURE 7: HIGH STREET SITE

SCALE: 1" = 400'	JOB NO.: 212605.01
DATE: OCTOBER 2005	DOC: HIGH.MXD

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