

# HOLDEN

Engineering &  
Surveying, Inc.

P.O. Box 480  
19 Triangle Park Drive  
Concord, N.H. 03302-0249  
603-225-6449

## TEST PIT & PERCOLATION DATA

9 Constitution Drive  
Bedford, N.H. 03102  
603-472-2078

PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 1 V

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/25/2014

EVALUATOR \_\_\_\_\_ FIELD SHEET 1 OF 18

EXCAVATION EQUIPMENT Make John Deer Model 720 Reach 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-10"	10 yr /2/2, Fine loamy sand, weak granular, friable, roots common	E	5% cobbles	
B	10"-26"	10 yr /6/8, Loamy sand, weak granular, friable, roots common	E	5% cobbles	
C	26"-36"	10 yr /5/8, Loamy sand, granular, friable, roots few	E	5% cobbles	
C	36"-40"	2.5 yr /6/2, Sand, granular, firm, roots few	M	5% cobbles	
C	40"-96"	2.5 yr /6/1, Sand, granular, firm, roots none	M	1% stones	

REMARKS:

SH <sub>2</sub> O @ <u>40"-7.5 yr /5/8</u>	LEGEND:	BOULDER COUNT	LETTER	BOULDER QTY. CLASS	TEST PLAN	EXCAVATION EFFORT
LEDGE ENC. @ <u>none</u>	SIZE RANGE	DESIGNATION	TRACE (TR)	0-10%	↓	E ..... EASY
OTHER IMP. MAT. <u>none</u>	CLASSIFICATION		FEW (F)	10-20%	↑	M ..... MODERATE
GROUND H <sub>2</sub> O ENC. @ <u>none</u>	6"-18"	A	COMMON (C)	20-35%	↔	D ..... DIFFICULT
DATE OF PERC TEST <u>11/25/14</u>	18"-38"	B	MANY (M)	more than 35%		
DEPTH OF PERC TEST <u>26 inch</u>	38" AND LARGER	C				
PERC RATE <u>12 min/inch</u>						

## TEST PIT & PERCOLATION DATA

PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TESTPITNO: P1-B

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 5/7/2015

EVALUATOR Tom Dugas FIELD SHEET 4 OF 7

EXCAVATION EQUIPMENT Make John Deere Model  Reach 9'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-5"	10YR/3/4, fine loamy sand, weak granular, friable, roots common	E	5% Gravel	
B	5"-10"	10YR/5/8, loamy sand, granular, friable, roots common	E	5% Gravel	
C	10"-21"	10YR/5/6, sand, granular, friable, roots few	E	5% Gravel	
C	21"-96"	2.5YR/7/3, sand, granular, firm, roots very few	M	5% Gravel	

REMARKS:

SH <sub>2</sub> O @ <u>51" 5YR/5/8</u>	LEGEND:		TEST PLAN	EXCAVATION EFFORT
LEDGE ENC. @ <u>none</u>	BOULDER COUNT			
OTHER IMP. MAT. <u>none</u>	SIZE RANGE	LETTER		
GROUND H <sub>2</sub> O ENC. @ <u>none</u>	CLASSIFICATION	DESIGNATION	BOULDER QTY. CLASS	
DATE OF PERC TEST <u>5/7/2015</u>	6"-18"	A	0-10%	E.....EASY
DEPTH OF PERC TEST <u>21"</u>	18"-38"	B	10-20%	M.....MODERATE
PERC RATE <u>10 min/inch</u>	38" AND LARGER	C	20-35%	D.....DIFFICULT
			MANY (M)	more than 35%

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## TEST PIT & PERCOLATION DATA

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PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 2 ✓

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/25/2014

EVALUATOR \_\_\_\_\_ FIELD SHEET 2 OF 18

EXCAVATION EQUIPMENT Make John Deer Model 720 Reach 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-11"	10 yr /3/3, Fine loamy sand, weak granular, friable, roots common	E	5% cobbles	
B	11"-26"	10 yr /6/8, Loamy sand, friable, roots common	E	5% cobbles	
C	26"-43"	10 yr /6/3, Sand, granular, firm, roots few	M	5% cobbles	
C	43"-50"	2.5 y /6/2, Sand, granular, firm, roots few	M	10% stones	
C	50"-96"	2.5 y /6/1, Sand, granular, firm, roots none	D	10% stones	

REMARKS:					
SH <sub>2</sub> O @ <u>43" 7.5 yr /5/8</u> LEDGE ENC. @ <u>none</u> OTHER IMP. MAT. <u>none</u> GROUND H <sub>2</sub> O ENC. @ <u>none</u> DATE OF PERC TEST <u>11/25/14</u> DEPTH OF PERC TEST <u>26 inch</u> PERC RATE <u>15 min/inch</u>	LEGEND: BOULDER COUNT SIZE RANGE CLASSIFICATION 6"-18"	LETTER DESIGNATION A	BOULDER QTY. CLASS TRACE (TR) FEW (F)	TEST PLAN ↓   ↑	EXCAVATION EFFORT E.....EASY M.....MODERATE D.....DIFFICULT
18"-38" 38" AND LARGER	B C	COMMON (C) MANY (M)	0-10% 10-20% 20-35% more than 35%	 ↔	

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## TEST PIT & PERCOLATION DATA

PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TESTPITNO: 2A ✓

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 5/7/2015

EVALUATOR Tom Dugas FIELD SHEET 3 OF 7

EXCAVATION EQUIPMENT Make John Deere Model  Reach 9'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-5"	10YR/3/4, fine loamy sand, weak granular, friable, roots common	E	20% Gravel	
B	5"-10"	7.5YR/4/6, loamy sand, weak granular, friable, roots common	E	20% Gravel	
C	10"-21"	10YR/5/6, sand, granular, very friable, roots few	E	10% Cobbles	
C	21"-50"	2.5YR/6/8, coarse sand, granular, very friable, roots none	E	10% Cobbles	
C	50"-90"	2.5YR/5/4, coarse sand, granular, very friable, roots none	E	2% Cobbles	

REMARKS:

SH <sub>2</sub> O @	49" 10YR/6/8	LEGEND:	BOULDER QTY. CLASS	TEST PLAN	EXCAVATION EFFORT
LEDGE ENC. @	none	BOULDER COUNT			
OTHER IMP. MAT.	none	SIZE RANGE			
GROUND H <sub>2</sub> O ENC. @	none	LETTER CLASSIFICATION			
DATE OF PERC TEST	5/7/2015	DESIGNATION	TRACE (TR)		
DEPTH OF PERC TEST	21"	6"=18"	A	0-10%	E.....EASY
PERC RATE	5 min/inch	18"=38"	B	10-20%	M.....MODERATE
		38" AND LARGER	C	20-35%	D.....DIFFICULT
				more than 35%	

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## TEST PIT & PERCOLATION DATA

PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TESTPITNO: P2A

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 5/7/2015

EVALUATOR Tom Dugas FIELD SHEET 2 OF 7

EXCAVATION EQUIPMENT Make John Deere Model  Reach 9'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-10"	10YR/3/4, fine loamy sand, weak granular, friable, roots common	E	15% Cobbles	
B	10"-17"	7.5YR/6/8, loamy sand, weak granular, friable, roots common	E	15% Cobbles	
C	17"-20"	7.5YR/4/6, loamy sand, weak granular, friable, roots common	E	15% Cobbles	
C	20"-32"	10YR/6/6, sand, granular, friable, roots few	E	20% Stones	
C	32"-84"	10YR/6/2, sand, granular, friable, roots none	E	20% Stones	

REMARKS:
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SH <sub>2</sub> O @ <u>20" 7.5YR/5/8</u>	LEGEND:	BOULDER COUNT	TEST PLAN	EXCAVATION EFFORT
LEDGE ENC. @ <u>none</u>	BOULDER COUNT			E..... EASY
OTHER IMP. MAT. <u>none</u>	SIZE RANGE			M..... MODERATE
GROUND H <sub>2</sub> O ENC. @ <u>none</u>	LETTER CLASSIFICATION	DESIGNATION		D..... DIFFICULT
DATE OF PERC TEST <u>5/7/2015</u>	6"-18"	A	0-10%	
DEPTH OF PERC TEST <u>20"</u>	18"-38"	B	10-20%	
PERC RATE <u>15 min/inch</u>	38" AND LARGER	C	20-35%	
			more than 35%	

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## TEST PIT & PERCOLATION DATA

PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 3

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/25/2014

EVALUATOR \_\_\_\_\_ FIELD SHEET 3 OF 18

EXCAVATION EQUIPMENT Make John Deer Model 720 Reach 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0- 9"	7.5 yr /3/1, Fine loamy sand, weak granular, friable, roots common	E	10% cobbles	
B	9"-21"	7.5 yr /4/6, Loamy sand, weak granular, roots common	E	10% cobbles	
C	21"-27"	7.5 yr /6/3, Loamy sand, granular, firm, roots few	M	10% cobbles	
C	27"-42"	10 yr /6/2, Sand, granular, firm, roots few	M	5% stones	
C	42"-96"	10 yr /6/1, Sand, granular, very firm	D	5% stones	

REMARKS:

SH <sub>2</sub> O @ <u>42"</u> 7.5 yr /5/8	LEGEND:		BOULDER QTY. CLASS	TEST PLAN	EXCAVATION EFFORT			
LEDGE ENC. @ <u>none</u>	BOULDER COUNT							
OTHER IMP. MAT. <u>96" large boulders</u>	SIZE RANGE	LETTER						
GROUND H <sub>2</sub> O ENC. @ <u>none</u>	CLASSIFICATION	DESIGNATION	TRACE (TR)	0-10%	E.....EASY			
DATE OF PERC TEST <u>11/25/14</u>	6"-18"	A	FEW (F)	10-20%	M.....MODERATE			
DEPTH OF PERC TEST <u>21 inches</u>	18"-38"	B	COMMON (C)	20-35%	D.....DIFFICULT			
PERC RATE <u>15min/inch</u>	38" AND LARGER	C	MANY (M)	more than 35%				

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## TEST PIT & PERCOLATION DATA

PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 4

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/25/2014

EVALUATOR \_\_\_\_\_ FIELD SHEET 4 OF 18

EXCAVATION EQUIPMENT Make John Deer Model 720 Reach 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0- 9"	10 yr /2/2 Fine loamy sand, weak granular, friable, roots common	E	5% cobbles	
B	9"-18"	10 yr /6/4 Loamy sand, weak granular, friable, roots common	E	5% cobbles	
C	18"-27"	10 yr /4/6, Sand, granular, friable, roots few	E	5% stones	
C	27"-51"	2.5 yr /6/2, Sand, granular, firm, roots few	M	5% stones	
C	51"-96"	2.5 yr /6/3, Sand, granular, firm, roots none	M	5% stones	

REMARKS:

SH <sub>2</sub> O @ <u>50° 5 yr /5/3</u>	LEGEND:		TEST PLAN	EXCAVATION EFFORT
LEDGE ENC. @ <u>none</u>	BOULDER COUNT	LETTER		
OTHER IMP. MAT. <u>none</u>	SIZE RANGE	CLASSIFICATION	TRACE (TR)	E..... EASY
GROUND H <sub>2</sub> O ENC. @ <u>none</u>	6"-18"	A	FEW (F)	M..... MODERATE
DATE OF PERC TEST <u>11/25/14</u>	18"-38"	B	COMMON (C)	D..... DIFFICULT
DEPTH OF PERC TEST <u>27 inches</u>	38" AND LARGER	C	MANY (M)	
PERC RATE <u>15min/inch</u>			0-10% 10-20% 20-35% more than 35%	

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## TEST PIT & PERCOLATION DATA

PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 5

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/25/2014

EVALUATOR \_\_\_\_\_ FIELD SHEET 5 OF 18

EXCAVATION EQUIPMENT Make John Deer Model 720 Reach 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-11"	7.5 yr /2.5/2, Fine loamy sand, weak granular, friable, roots common	E	10% cobbles	
B	11"-20"	7.5 yr /4/6, Loamy sand, granular, friable, Roots common	E	10% cobbles	
C	20"-29"	10 yr /5/8, Sand, granular, friable, roots few	E	10% cobbles	
C	29"-36"	10 yr /5/6, Sand, granular, firm, roots few	E	10% cobbles	
C	36"-96"	10 yr /6/3, Sand, granular, firm, roots none	E	10% cobbles	

REMARKS:

SH <sub>2</sub> O @ <u>32° 7.5 yr /6/8</u>	LEDGE ENC. @ <u>none</u>	LEGEND: BOULDER COUNT	TEST PLAN	EXCAVATION EFFORT
OTHER IMP. MAT. <u>96" large boulders</u>	SIZE RANGE	LETTER		E..... EASY
GROUND H <sub>2</sub> O ENC. @ <u>none</u>	CLASSIFICATION	DESIGNATION		M..... MODERATE
DATE OF PERC TEST <u>11/25/14</u>	6"-18"	A		D..... DIFFICULT
DEPTH OF PERC TEST <u>29 inches</u>	18"-38"	B		
PERC RATE <u>15min/inch</u>	38" AND LARGER	C		
			↓	
			↑	
			←	
			→	

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**TEST PIT & PERCOLATION DATA**

PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 6

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/25/2014

EVALUATOR \_\_\_\_\_ FIELD SHEET 6 OF 18

EXCAVATION EQUIPMENT Make John Deer Model 720 Reach 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-9"	7.5 yr /3/1, Fine loamy sand, weak granular, friable, roots common	E	10% cobbles	
B	9"-22"	7.5 yr /5/8, Loamy sand, weak granular, friable, roots common	E	10% cobbles	
C	22"-50"	10 yr /6/4, Coarse sand, granular, friable, roots few	E	10% cobbles	
C	50"-96"	10 yr /7/2, Loamy sand, granular, firm, roots none	M	10% cobbles	

REMARKS:

SH <sub>2</sub> O @ <u>50"</u> 5 yr /5/8	LEDGE ENC. @ <u>none</u>	LEGEND:	BOULDER QTY. CLASS	TEST PLAN	EXCAVATION EFFORT
OTHER IMP. MAT. <u>none</u>	BOULDER COUNT				E..... EASY
GROUND H <sub>2</sub> O ENC. @ <u>none</u>	SIZE RANGE				M..... MODERATE
DATE OF PERC TEST <u>11/25/14</u>	LETTER				D..... DIFFICULT
DEPTH OF PERC TEST <u>22 inches</u>	CLASSIFICATION	DESIGNATION	TRACE (TR)	0-10%	
PERC RATE <u>8 min/inch</u>	6"-18"	A	FEW (F)	10-20%	
	18"-38"	B	COMMON (C)	20-35%	
	38" AND LARGER	C	MANY (M)	more than 35%	

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## TEST PIT & PERCOLATION DATA

PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 7 ✓

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/25/2014

EVALUATOR \_\_\_\_\_ FIELD SHEET 7 OF 18

EXCAVATION EQUIPMENT Make John Deer Model 720 Reach 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
Fill	0-42"	10 yr /6/3, loamy sand, weak granular, friable, roots common	E	10% cobbles	
A	42"-46"	10 yr /3/2, fine loamy sand, weak granular, friable, roots few	E	5% cobbles	
B	46"-55"	10 yr /5/3, loamy sand, weak granular, friable, roots few	E	5% cobbles	
C	55"-64"	10 yr /6/2, Sand, granular, friable, roots few	E	5% stones	
C	64"-96"	2.5 yr /6/3, Coarse sand, granular, friable, roots none	E	5% stones	

REMARKS:

SH <sub>2</sub> O @ <u>50°</u> 7.5 yr /6/8	LEDGE ENC. @ <u>none</u>	LEGEND:	TEST PLAN	EXCAVATION EFFORT
LEDGE ENC. @ <u>none</u>	BOULDER COUNT			E.....EASY
OTHER IMP. MAT. <u>none</u>	SIZE RANGE	LETTER		M.....MODERATE
GROUND H <sub>2</sub> O ENC. @ <u>none</u>	CLASSIFICATION	DESIGNATION	BOULDER QTY. CLASS	D.....DIFFICULT
DATE OF PERC TEST <u>11 / 25 /</u> <u>14</u>	6"-18"	A	TRACE (TR)	0-10%
DEPTH OF PERC TEST <u>64 inches</u>	18"-38"	B	FEW (F)	10-20%
PERC RATE <u>15 min / inch</u>	38" AND LARGER	C	COMMON (C)	20-35%
			MANY (M)	more than 35%

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## TEST PIT & PERCOLATION DATA

PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 7A ✓

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/25/2014

EVALUATOR \_\_\_\_\_ FIELD SHEET 7A OF 18

EXCAVATION EQUIPMENT Make John Deer Model 720 Reach 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-10"	7.5 yr /2.5/2, Fine loamy sand, weak granular, friable, roots common	E	15% cobbles	
B	10"-19"	7.5 yr /5/8, Loamy sand, weak granular, friable, roots common	E	15% cobbles	
C	19"-31"	10 yr /5/6, Sand, granular, friable, roots few	E	15% cobbles	
C	31"-48"	10 yr /6/4, Sand, granular, firm, roots few	M	5% stones	
C	48"-96"	2.5 yr /6/4, Coarse sand, granular, firm, roots none	M	5% stones	

REMARKS:

SH2O @ <u>40°</u> 7.5 yr /6/8	LEGEND:			TEST PLAN	EXCAVATION EFFORT
LEDGE ENC. @ <u>none</u>	BOULDER COUNT				E.....EASY
OTHER IMP. MAT. <u>none</u>	SIZE RANGE	LETTER	BOULDER QTY. CLASS		M.....MODERATE
GROUND H2O ENC. @ <u>none</u>	CLASSIFICATION	DESIGNATION	TRACE (TR)		D.....DIFFICULT
DATE OF PERC TEST <u>11/25/14</u>	6"-18"	A	FEW (F)	0-10%	
DEPTH OF PERC TEST <u>31 inches</u>	18"-38"	B	COMMON (C)	10-20%	
PERC RATE <u>12min/inch</u>	38" AND LARGER	C	MANY (M)	20-35%	
				more than 35%	

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## TEST PIT & PERCOLATION DATA

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PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 8 <sup>1</sup>

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/25/2014

EVALUATOR \_\_\_\_\_ FIELD SHEET 8 OF 18

EXCAVATION EQUIPMENT Make John Deer Model 720 Reach 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-10"	7.5 yr /2.5/2, Loamy fine sand, weak granular, friable, roots common	E	2% gravel	
B	10"-28"	10 yr /6/8, Loamy sand, weak granular, friable, roots common	E	2% gravel	
C	28"-42"	10 yr /6/3, Sandy, loamy, granular, friable, roots few	E	2% gravel	
C	42"-54"	5 yr /5/3, Fine sandy loam, weak granular, friable, roots few	E	2% gravel	
C	54"-96"	5 yr /6/2, Fine sandy loam, weak granular, roots none	E	2% gravel	

REMARKS:

SH:0 @ <u>44"</u> 7.5 yr /6/8	LEGEND:		TEST PLAN	EXCAVATION EFFORT
LEDGE ENC. @ <u>none</u>	BOULDER COUNT			E..... EASY
OTHER IMP. MAT. <u>none</u>	SIZE RANGE			M..... MODERATE
GROUND H <sub>2</sub> O ENC. @ <u>72" H<sub>2</sub>O</u>	CLASSIFICATION	LETTER DESIGNATION	BOULDER QTY. CLASS	D..... DIFFICULT
DATE OF PERC TEST <u>11/25/14</u>	6"-18"	A	TRACE (TR)	
DEPTH OF PERC TEST <u>28 inches</u>	18"-38"	B	FEW (F)	
PERC RATE <u>15 min/ inch</u>	38" AND LARGER	C	COMMON (C)	
			MANY (M)	
			0-10%	
			10-20%	
			20-35%	
			more than 35%	

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## TEST PIT & PERCOLATION DATA

PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 9

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/24/2014

EVALUATOR \_\_\_\_\_ FIELD SHEET 9 OF 18

EXCAVATION EQUIPMENT Make John Deer Model 720 Reach. 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-10"	10 yr /2/1, Fine loamy sand, weak granular, friable, roots common	E	20% cobbles	
B	10"-34"	10 yr /6/8, Loamy sand, weak granular, friable, roots common	E	20% cobbles	
C	34"-50"	10 yr /6/3, Coarse sand, granular, friable, roots few	E	20% cobbles	
C	50"-96"	2.5 yr /6/3, Loamy sand, granular, firm, roots few	M	10% stones	

REMARKS:

SH <sub>20</sub> @ <u>55" 10 yr /6/8</u>	LEGEND:		TEST PLAN	EXCAVATION EFFORT
LEDGE ENC. @ <u>none</u>	BOULDER COUNT			E.....EASY
OTHER IMP. MAT. <u>none</u>	SIZE RANGE	LETTER		M.....MODERATE
GROUND H <sub>20</sub> ENC. @ <u>none</u>	CLASSIFICATION	DESIGNATION	BOULDER QTY. CLASS	D.....DIFFICULT
DATE OF PERC TEST <u>11/24/14</u>	6"-18"	A	TRACE (TR)	
DEPTH OF PERC TEST <u>34 inches</u>	18"-38"	B	FEW (F)	
PERC RATE <u>8 min/inch</u>	38" AND LARGER	C	COMMON (C)	
			MANY (M)	
			0-10%	
			10-20%	
			20-35%	
			more than 35%	

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## TEST PIT & PERCOLATION DATA

PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TESTPITNO: 9A ✓  
 PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 5/7/2015  
 EVALUATOR Tom Dugas FIELD SHEET 1 OF 7  
 EXCAVATION EQUIPMENT Make John Deere Model  Reach 9'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-7"	10YR/3/3, fine loamy sand, weak granular, friable, roots common	E	8% Cobbles	
B	7"-15"	10YR/5/8, loamy sand, granular, friable, roots common	E	8% Cobbles	
C	15"-25"	10YR/6/8, sand, granular, very friable, roots common	E	8% Cobbles	
C	25"-48"	10YR/6/3, sand, granular, very friable, roots few	E	5% Cobbles	
C	48"-96"	2.5YR/6/3, sand, granular, firm, roots none	M	5% Cobbles	

REMARKS:

SH <sub>2</sub> O @ <u>48" 7.5YR/6/8</u>	LEDGE ENC. @ <u>none</u>	LEGEND:	BOULDER COUNT	TEST PLAN	EXCAVATION EFFORT
OTHER IMP. MAT. <u>none</u>	GROUND H <sub>2</sub> O ENC. @ <u>none</u>	SIZE RANGE	LETTER	BOULDER QTY. CLASS	E.....EASY
DATE OF PERC TEST <u>5/7/2015</u>	DEPTH OF PERC TEST <u>15"</u>	CLASSIFICATION	DESIGNATION	TRACE (TR) FEW (F) COMMON (C) MANY (M)	M.....MODERATE
PERC RATE <u>8 min/inch</u>		6"-18"	A	0-10%	D.....DIFFICULT
		18"-38"	B	10-20%	
		38" AND LARGER	C	20-35%	
				more than 35%	

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## TEST PIT & PERCOLATION DATA

9 Constitution Drive  
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PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 10 ✓

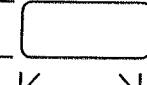
PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/24/2014

EVALUATOR \_\_\_\_\_ FIELD SHEET 10 OF 18

EXCAVATION EQUIPMENT Make John Deer Model 720 Reach 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-9"	7.5 yr /5/8, Loamy fine sand, weak granular, friable, roots common	E	20% stones	
B	9"-27"	7.5 yr /5/6, Loamy sand, weak granular, friable, roots common	E	20% stones	
C	27"-42"	10 yr /6/2, Sand, granular, friable, roots few	E	20% stones	
C	42"-96"	7.5 yr /6/1, Coarse sand, granular, friable, roots few	E	20% stones	

REMARKS:

SH <sub>2</sub> O @ <u>50' 5 yr /5/8</u> LEDGE ENC. @ <u>none</u> OTHER IMP. MAT. <u>none</u> GROUND H <sub>2</sub> O ENC. @ <u>none</u> DATE OF PERC TEST <u>11/24/14</u> DEPTH OF PERC TEST <u>27 inches</u> PERC RATE <u>12 min/inch</u>	<b>LEGEND:</b> BOULDER COUNT SIZE RANGE CLASSIFICATION 6"=18" 18"=38" 38" AND LARGER	LETTER DESIGNATION A B C	BOULDER QTY. CLASS TRACE (TR) FEW (F) COMMON (C) MANY (M)	0-10% 10-20% 20-35% more than 35%	   	TEST PLAN 	EXCAVATION EFFORT E..... EASY M..... MODERATE D..... DIFFICULT
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## TEST PIT & PERCOLATION DATA

PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 11

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/24/2014

EVALUATOR \_\_\_\_\_ FIELD SHEET 11 OF 18

EXCAVATION EQUIPMENT Make John Deer Model 720 Reach 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-9"	7.5 yr /3/2, Fine loamy sand, weak granular, friable, roots common	E	8% cobbles	
B	9"-19"	10 yr /6/6, Loamy sand, weak granular, friable, roots common	E	8% cobbles	
C	19"-31"	2.5 yr /5/6, Sand, granular, friable, roots few	E	8% cobbles	
C	31"-49"	2.5 yr /5/2, Coarse sand, granular, firm, roots none	M	5% stones	
C	49"-96"	5 yr /5/2, Sand, granular, firm	M	5% stones	

REMARKS:

SH <sub>2</sub> O @ <u>60° 5 yr/5/4</u>	LEDGE ENC. @ <u>none</u>	LEGEND:	TEST PLAN	EXCAVATION EFFORT
OTHER IMP. MAT. <u>none</u>	BOULDER COUNT			E..... EASY
GROUND H <sub>2</sub> O ENC. @ <u>none</u>	SIZE RANGE	LETTER		M..... MODERATE
DATE OF PERC TEST <u>11/24/14</u>	CLASSIFICATION	DESIGNATION	BOULDER QTY. CLASS	D..... DIFFICULT
DEPTH OF PERC TEST <u>31 inches</u>	6"-18"	A	TRACE (TR)	0-10%
PERC RATE <u>10 min/Inch</u>	18"-38"	B	FEW (F)	10-20%
	38" AND LARGER	C	COMMON (C)	20-35%
			MANY (M)	more than 35%

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## TEST PIT & PERCOLATION DATA

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PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 12

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/24/2014

EVALUATOR \_\_\_\_\_ FIELD SHEET 12 OF 18

EXCAVATION EQUIPMENT Make John Deer Model 720 Reach 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-9"	10 yr /2/2, Fine loamy sand, weak granular, roots common	E	2% gravel	
B	9"-28"	10 yr /5/6, Loamy sand, weak granular, friable, roots common	E	2% gravel	
C	28"-34"	10 yr /5/4, Loamy sand, granular, friable, roots few	E	5% cobbles	
C	34"-44"	2.5 yr /6/3, Sand, granular, friable, roots few	E	5% cobbles	
C	44"-49"	2.5 yr /6/2, Sand, granular, firm, roots none	M	2% stones	
C	49"-96"	2.5 yr /6/3 Sand, granular, firm, roots none	M	2% stones	

REMARKS:

SH <sub>2</sub> O @ <u>55" 5 yr /5/3</u>	LEGEND:	BOULDER COUNT	BOULDER QTY. CLASS	TEST PLAN	EXCAVATION EFFORT
LEDGE ENC. @ <u>none</u>	SIZE RANGE	LETTER			
OTHER IMP. MAT. <u>none</u>	CLASSIFICATION	DESIGNATION	TRACE (TR)		
GROUND H <sub>2</sub> O ENC. @ <u>none</u>	6"=18"	A	FEW (F)	0-10%	E.....EASY
DATE OF PERC TEST <u>11/24/14</u>	18"=38"	B	COMMON (C)	10-20%	M.....MODERATE
DEPTH OF PERC TEST <u>34 inches</u>	38" AND LARGER	C	MANY (M)	20-35%	D.....DIFFICULT
PERC RATE <u>8 min/ inch</u>				more than 35%	

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## TEST PIT & PERCOLATION DATA

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PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TESTPITNO: 13A ✓

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 5/7/2015

EVALUATOR Tom Dugas FIELD SHEET 7 OF 7

EXCAVATION EQUIPMENT Make John Deere Model  Reach 9'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-8"	10YR/3/4, fine loamy sand, weak granular, friable, roots common	E	2% Cobbles	
B	8"-14"	7.5YR/4/6, loamy sand, weak granular, friable, roots common	E	2% Cobbles	
C	14"-24"	10YR/4/4, sand, granular, friable, roots few	E	2% Cobbles	
C	24"-50"	10YR/5/3, coarse sand, granular, friable, roots few	E	2% Stones	
C	50"-108"	10YR/5/4, coarse sand, friable, roots none	E	2% Stones	

REMARKS:

SH <sub>2</sub> O @ <u>49° 7.5YR/5/8</u> LEDGE ENC. @ <u>none</u> OTHER IMP. MAT. <u>none</u> GROUND H <sub>2</sub> O ENC. @ <u>none</u> DATE OF PERC TEST <u>5/7/2015</u> DEPTH OF PERC TEST <u>14"</u> PERC RATE <u>12 min/inch</u>	LEGEND: BOULDER COUNT SIZE RANGE CLASSIFICATION 6"=18" 18"=38" 38" AND LARGER	LETTER DESIGNATION A B C	BOULDER QTY. CLASS TRACE (TR) FEW (F) COMMON (C) MANY (M)	TEST PLAN	EXCAVATION EFFORT E ..... EASY M ..... MODERATE D ..... DIFFICULT
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**TEST PIT & PERCOLATION DATA**

PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 14

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/24/2014

EVALUATOR \_\_\_\_\_ FIELD SHEET 14 OF 18

EXCAVATION EQUIPMENT Make John Deer Model 720 Reach 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-9"	10 yr /2/2, Fine loamy sand, weak granular, friable, roots common	E	20% cobbles	
B	9"-20"	10 yr /5/6, Loamy sand, weak granular, friable, roots common	E	20% cobbles	
C	20"-30"	10 yr /6/4, Coarse sand, granular, friable, roots few	E	20% cobbles	
C	30"-40"	2.5 yr /5/2, Coarse sand, granular, firm, roots none	M	10% stones	
C	40"-96"	2.5 yr /6/3, Coarse sand, granular, firm, roots none	M	10% stones	

REMARKS:					
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SH <sub>2</sub> O @ <u>55" 5 yr /5/3</u> LEDGE ENC. @ <u>none</u> OTHER IMP. MAT. <u>96" large boulders</u> GROUND H <sub>2</sub> O ENC. @ <u>none</u> DATE OF PERC TEST <u>11/24/14</u> DEPTH OF PERC TEST <u>30 inches</u> PERC RATE <u>10min/inch</u>	LEGEND: BOULDER COUNT SIZE RANGE CLASSIFICATION	LETTER DESIGNATION	BOULDER QTY. CLASS	TEST PLAN	EXCAVATION EFFORT
	6"=18" 18"=38" 38" AND LARGER	A B C	TRACE (TR) FEW (F) COMMON (C) MANY (M)	0-10% 10-20% 20-35% more than 35%	E.....EASY M.....MODERATE D.....DIFFICULT

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## TEST PIT & PERCOLATION DATA

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PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 15 ✓

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/24/2014

EVALUATOR \_\_\_\_\_ FIELD SHEET 15 OF 18

EXCAVATION EQUIPMENT Make John Deer Model 720 Reach 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-9"	10 yr /2/2, Fine loamy sand, weak granular, friable, roots common	E	10% cobbles	
B	9"-17"	10 yr /5/6, Loamy sand, weak granular, roots common	E	10% cobbles	
C	17"-27"	2.5 yr /6/3, Coarse sand, granular, roots few	E	10% cobbles	
C	27"-52"	2.5 yr /6/2, Coarse sand, granular, friable, roots none	E	5% stones	
C	52"-68"	5 yr /6/2, Coarse sand, granular, firm, roots none	M	5% stones	
C	68"-96"	5 yr /6/1 Coarse sand, granular, firm, roots none	M	5% stones	

REMARKS:

SH:0 @ <u>60" 5 yr /5/3</u>	LEGEND:				EXCAVATION EFFORT
LEDGE ENC. @ <u>none</u>	BOULDER COUNT				E..... EASY
OTHER IMP. MAT. <u>96" large boulders</u>	SIZE RANGE	LETTER	BOULDER QTY. CLASS		M..... MODERATE
GROUND H2O ENC. @ <u>none</u>	CLASSIFICATION	DESIGNATION	TRACE (TR) FEW (F) COMMON (C) MANY (M)	0-10% 10-20% 20-35% more than 35%	D..... DIFFICULT
DATE OF PERC TEST <u>11/24/14</u>	6"=18"	A			
DEPTH OF PERC TEST <u>27 inches</u>	18"=38"	B			
PERC RATE <u>8 min/inch</u>	38" AND LARGER	C			

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**TEST PIT & PERCOLATION DATA**
 9 Constitution Drive  
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 603-472-2078
PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 16 ✓PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/24/2014EVALUATOR \_\_\_\_\_ FIELD SHEET 16 OF 18EXCAVATION EQUIPMENT Make John Deer Model 720 Reach 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-6"	2.5 yr /2.5/1, Fine loamy sand, weak granular, friable, roots common	E	2% gravel	
B	6"-13"	7.5 yr /5/6, Loamy sand, weak granular, friable, roots common	E	2% gravel	
C	13"-36"	2.5 yr /6/6, Loamy sand, weak granular, friable, roots few	E	2% gravel	
C	36"-40"	2.5 yr /5/4, Sand, granular, firm, roots few	M	10% cobbles	
C	40"-70"	2.5 yr /5/2, Coarse sand, granular, friable, roots none	M	10% cobbles	
C	70"-96"	2.5 yr /6/2 Sand, granular, friable, roots none	M	10% cobbles	

REMARKS:

SH <sub>2</sub> O @ <u>40" 10 yr /6/8</u>	LEGEND:		TEST PLAN	EXCAVATION EFFORT
LEDGE ENC. @ <u>none</u>	BOULDER COUNT	SIZE RANGE		
OTHER IMP. MAT. <u>none</u>	LETTER	CLASSIFICATION	TRACE (TR)	E..... EASY
GROUND H <sub>2</sub> O ENC. @ <u>none</u>	DESIGNATION		BOULDER QTY. CLASS	M..... MODERATE
DATE OF PERC TEST <u>11/24/14</u>	A	6"-18"	0-10%	D..... DIFFICULT
DEPTH OF PERC TEST <u>36 inches</u>	B	18"-38"	10-20%	
PERC RATE <u>12 min/ inch</u>	C	38" AND LARGER	20-35%	
			MANY (M)	
			more than 35%	

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## TEST PIT & PERCOLATION DATA

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PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 17

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/24/2014

EVALUATOR \_\_\_\_\_ FIELD SHEET 17 OF 18

EXCAVATION EQUIPMENT Make John Deer Model 720 Reach 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-9"	10 yr /2/2, Loamy fine sand, weak granular, friable, roots common	E	2% gravel	
B	9"-36"	10 yr /5/8, Loamy fine sand, weak granular, friable, roots common	E	2% gravel	
C	36"-50"	10 yr /6/3, Fine sand, granular, friable, roots few	E	2% gravel	
C	50"-60"	10 yr /6/2, Sand, granular, firm, roots few	M	5% cobbles	
C	60"-96"	2.5 yr /5/3, Sand, granular, very firm	D	5% stones	

REMARKS:

SH <sub>2</sub> O @ <u>50° 5 yr /5/4</u> LEDGE ENC. @ <u>84" ledge</u> OTHER IMP. MAT. <u>none</u> GROUND H <sub>2</sub> O ENC. @ <u>none</u> DATE OF PERC TEST <u>11/24/14</u> DEPTH OF PERC TEST <u>36 inches</u> PERC RATE <u>12 min/ inch</u>	LEGEND: BOULDER COUNT SIZE RANGE CLASSIFICATION	LETTER DESIGNATION	TRACE (TR) FEW (F) COMMON (C) MANY (M)	BOULDER QTY. CLASS	TEST PLAN	EXCAVATION EFFORT
				0-10% 10-20% 20-35% more than 35%		E.....EASY M.....MODERATE D.....DIFFICULT

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## TEST PIT & PERCOLATION DATA

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PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TEST PIT NO: 18 ✓

JOB NO. 1020162 TEST PIT NO: 18 ✓

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 11/24/2014

DATE 11/24/2014

EVALUATOR \_\_\_\_\_ FIELD SHEET 18 OF 18

FIELD SHEET 18 OF 18

EXCAVATION EQUIPMENT Make John Deer Model 720 Reach 15'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-4"	10 yr /2/2, Loamy fine sand, weak granular, friable, roots common	E	2% cobbles	
B	4"-16"	2.5 yr /6/6, Fine sand, weak granular, friable, roots common	E	2% cobbles	
C	16"-37"	2.5 yr /6/2, Fine sand, granular, friable, roots few	E	5% stones	
C	37"-96"	10 yr /4/2, Loamy fine sand, weak granular, firm, roots none	M	5% stones	

**REMARKS:**

SH20 @ 28" 7.5 yr 6/B	LEDGE ENC. @ none	LEGEND:	BOULDER COUNT	BOULDER QTY. CLASS	TEST PLAN	EXCAVATION EFFORT
OTHER IMP. MAT. none		SIZE RANGE	LETTER			E..... EASY
GROUND H <sub>2</sub> O ENC. @ none		CLASSIFICATION	DESIGNATION	TRACE (TR)	0-10%	M..... MODERATE
DATE OF PERC TEST 11/24/14		6"=18"	A	FEW (F)	10-20%	D..... DIFFICULT
DEPTH OF PERC TEST 37 inches		18"=38"	B	COMMON (C)	20-35%	
PERC RATE 10 min/inch		38" AND LARGER	C	MANY (M)	more than 35%	

## TEST PIT & PERCOLATION DATA

PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TESTPITNO: P20

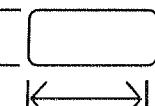
PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 5/7/2015

EVALUATOR Tom Dugas FIELD SHEET 5 OF 7

EXCAVATION EQUIPMENT Make John Deere Model  Reach 9'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-10"	7.5YR/2.5/2, loamy sand, weak granular, friable, roots common	E	5%	
B	10"-17"	5YR/4/6, fine loamy sand, weak granular, friable, roots common	E	5%	Gravel
C	17"-30"	10YR/5/6, sand, granular, friable, roots few	E	5%	Gravel
C	30"-108"	2.5YR/6/4, coarse sand, granular, friable, roots none	E	5%	Gravel Cobbles

REMARKS:

SH <sub>2</sub> O @ <u>55" 5YR/5/8</u>	LEGEND:				EXCAVATION EFFORT
LEDGE ENC. @ <u>none</u>	BOULDER COUNT				E..... EASY
OTHER IMP. MAT. <u>none</u>	SIZE RANGE	LETTER			M..... MODERATE
GROUND H <sub>2</sub> O ENC. @ <u>none</u>	CLASSIFICATION	DESIGNATION	BOULDER QTY. CLASS		D..... DIFFICULT
DATE OF PERC TEST <u>5/7/2015</u>	6"-18"	A	TRACE (TR)	0-10%	
DEPTH OF PERC TEST <u>17"</u>	18"-38"	B	FEW (F)	10-20%	
PERC RATE <u>8 min/inch</u>	38" AND LARGER	C	COMMON (C)	20-35%	
			MANY (M)	more than 35%	
					TEST PLAN
					
					   

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## TEST PIT & PERCOLATION DATA

PROJECT NAME Manchester Sand & Gravel JOB NO. 1020162 TESTPITNO: 21 ✓

PROJECT LOCATION Village Corner Road, Wolfeboro, NH DATE 5/7/2015

EVALUATOR Tom Dugas FIELD SHEET 6 OF 7

EXCAVATION EQUIPMENT Make John Deere Model \_\_\_\_\_ Reach 9'

HORIZON	DEPTH	SOIL DESCRIPTION	EXCAV. EFFORT	BOULDER COUNT QTY. CLASS	REMARK NO.
A	0-10"	10YR/2/2, fine loamy sand, weak granular, friable, roots common	E	25%	
B	10"-18"	10YR/5/6, sand, granular, friable, roots common	E	25%	Cobbles
C	18"-43"	2.5YR/6/6, sand, granular, very friable, roots few	E	25%	Cobbles
C	43"-108"	2.5YR/6/7, sand, granular, very friable, roots none	E	2%	Gravel

REMARKS:

SH <sub>2</sub> O @ <u>43" 7.5YR/5/8</u>	LEGEND:		BOULDER QTY. CLASS	TEST PLAN	EXCAVATION EFFORT			
LEDGE ENC. @ <u>none</u>	BOULDER COUNT							
OTHER IMP. MAT. <u>none</u>	SIZE RANGE	LETTER						
GROUND H <sub>2</sub> O ENC. @ <u>none</u>	CLASSIFICATION	DESIGNATION						
DATE OF PERC TEST <u>5/7/2015</u>	6"-18"	A	TRACE (TR)	0-10%	E.....EASY			
DEPTH OF PERC TEST <u>18"</u>	18"-38"	B	FEW (F)	10-20%	M.....MODERATE			
PERC RATE <u>10 min/inch</u>	38" AND LARGER	C	COMMON (C)	20-35%	D.....DIFFICULT			
			MANY (M)	more than 35%				