

PROJECT: Grand Lincoln Park Myrtle Beach, SC S&ME Project No. 1463-17-018		BORING LOG B-1A	
DATE DRILLED: 6/8/17	ELEVATION:	NOTES: Elevation unknown	
DRILL RIG: ATV	BORING DEPTH: 60.0 ft		
DRILLER: G. Eister	WATER LEVEL: 9.75' ATD, 8.75' 24 hr		
HAMMER TYPE: Auto	LOGGED BY: K. Fugate		
SAMPLING METHOD: Split Spoon		NORTHING:	EASTING:
DRILLING METHOD: 2 1/4" H.S.A.			

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft)				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RGD	/ REMARKS				
										10	20	30	60 80	
0-3		TOPSOIL - Approximately 3 inches.												
3-5		CLAYEY SAND (SC) - Mostly fine to medium sand, some low to medium plasticity fines, grey and orange, moist to dry, medium dense.			1	2	5	6						11
5-10		SANDY LEAN CLAY (CL) - Mostly low to medium plasticity fines, some fine to medium sand, grey and orange, moist, soft.			2	1	2	2						4
10-15		SANDY FAT CLAY (CH) - Mostly high plasticity clay, some fine to medium sand, grey and orange, moist, firm to soft.			3	2	2	3						5
15-20		POORLY GRADED SAND WITH CLAY (SP-SC) - Mostly fine to medium sand, few high plasticity fines, dark grey, wet, very loose.			4	1	2	2						4
20-40		FAT CLAY (CH) - Mostly high plasticity fines, contains trace shell, dark grey, wet, very soft.			5	1	1	1						2
40-45		FAT CLAY (CH) - Mostly high plasticity fines, contains trace shell, dark grey, wet, very soft. --- Trace fine sand			6	WOH	WOH	WOH						WOH
45-50					7	WOH	WOH	WOH						WOH
50-55					8	WOH	WOH	WOH						WOH
55-60					9	WOH	WOH	WOH						WOH
60-65					10	WOH	WOH	1						1
65-70					11	WOH	1	1						2
70-75					12	WOH	WOH	WOH						WOH

- NOTES:**
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 - BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
 - STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
 - WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.



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PROJECT: Grand Linear Park Myrtle Beach, SC S&ME Project No. 1463-17-018	BORING LOG B-1A		
DATE DRILLED: 6/8/17	ELEVATION:	NOTES: Elevation unknown	
DRILL RIG: ATV	BORING DEPTH: 60.0 ft		
DRILLER: G. Eister	WATER LEVEL: 9.75' ATD, 8.75' 24 hr		
HAMMER TYPE: Auto	LOGGED BY: K. Fugate		
SAMPLING METHOD: Split Spoon		NORTHING:	EASTING:
DRILLING METHOD: 2¼" H.S.A.			

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft)				N VALUE	
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / ROD	/ REMARKS					
							10	20	30	60	80				
55		FAT CLAY (CH) - Mostly high plasticity fines, contains trace shell, dark grey, wet, very soft. <i>(continued)</i>													
55 - 60		POORLY GRADED SAND (SP) - Mostly fine to medium sand, grey, wet, medium dense.													
60		Boring terminated at 60 ft													
					13	WOH	WOH	1							1
					14	6	7	10							17

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PROJECT: Grand Linear Park Myrtle Beach, SC S&ME Project No. 1463-17-018		BORING LOG B-1B	
DATE DRILLED: 6/7/17	ELEVATION:	NOTES: Elevation unknown	
DRILL RIG: ATV	BORING DEPTH: 70.0 ft		
DRILLER: G. Eister	WATER LEVEL: 11' ATD, 10.4' 24 hr		
HAMMER TYPE: Auto	LOGGED BY: K. Fugate		
SAMPLING METHOD: Split Spoon		NORTHING:	EASTING:
DRILLING METHOD: 2 1/4" H.S.A.			

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft)				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RGD	/ REMARKS				
										10	20	30	60 80	
0 - 3		TOPSOIL - Approximately 3 inches.												
3 - 5		SILTY SAND (SM) - Mostly fine to medium sand, some fines, grey, orange and brown, moist, medium dense.			1	2	5	6						11
5 - 10		CLAYEY SAND (SC) - Mostly fine to medium sand, some low to medium plasticity fines, light grey, moist to wet, very loose to loose.			2	1	3	3						6
10 - 15		POORLY GRADED SAND WITH SILT (SP-SM) - Mostly fine to medium sand, few fines, dark grey, wet, very loose.			3	1	1	3						4
15 - 20		FAT CLAY (CH) - Mostly high plasticity fines, trace shell, dark grey, wet, very soft.			4	WOH	2	2						4
20 - 25					5	3	1	1						2
25 - 30					6	WOH	WOH	WOH						WOH
30 - 35					7	WOH	WOH	WOH						WOH
35 - 40					8	WOH	WOH	WOH						WOH
40 - 45					9	WOH	WOH	WOH						WOH
45 - 50					10	WOH	WOH	WOH						WOH
50 - 55					11	WOH	WOH	WOH						WOH
55 - 60					12	WOH	WOH	WOH						WOH

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PROJECT: Grand Linear Park Myrtle Beach, SC S&ME Project No. 1463-17-018		BORING LOG B-1B	
DATE DRILLED: 6/7/17	ELEVATION:	NOTES: Elevation unknown	
DRILL RIG: ATV	BORING DEPTH: 70.0 ft		
DRILLER: G. Eister	WATER LEVEL: 11' ATD, 10.4' 24 hr		
HAMMER TYPE: Auto	LOGGED BY: K. Fugate		
SAMPLING METHOD: Split Spoon		NORTHING:	EASTING:

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft)				N VALUE	
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RGD	/REMARKS					
										10	20	30	6080		
55		FAT CLAY (CH) - Mostly high plasticity fines, trace shell, dark grey, wet, very soft. <i>(continued)</i> ----- Soft consistency ----- Some lenses of very fine sand at 64 feet. POORLY GRADED SAND (SP) - Mostly fine to coarse sand, grey, wet, medium dense.													
60															
65															
70															
		Boring terminated at 70 ft													

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DATE DRILLED: 6/8/17	ELEVATION:	NOTES: Elevation unknown
DRILL RIG: ATV	BORING DEPTH: 45.0 ft	
DRILLER: G. Eister	WATER LEVEL: 7' ATD, 6.25' 24 hr	
HAMMER TYPE: Auto	LOGGED BY: K. Fugate	
SAMPLING METHOD: Split Spoon		NORTHING:
DRILLING METHOD: 2 1/4" H.S.A.		EASTING:

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft)				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / ROD	/REMARKS				
										10	20	30	60.80	
0-4		TOPSOIL - Approximately 4 inches.												
4-5		CLAYEY SAND (SC) - Mostly fine to medium sand, some low to medium plasticity fines, tan and dark grey, wet, loose.		1		2	4	3						7
5-6				2		4	3	3						6
6-10		SANDY LEAN CLAY (CL) - Mostly low to medium plasticity fines, some fine to medium sand, trace organics (wood), grey and orange, moist, firm.	▽	3		2	2	2						4
10-15		POORLY GRADED SAND (SP) - Mostly fine to coarse sand, tan, saturated, very loose.		4		WOH	WOH	WOH						WOH
15-20		CLAYEY SAND (SC) - Mostly fine to medium sand, some high plasticity fines, tan and dark grey, wet, very loose.		5		WOH	WOH	WOH						WOH
20-25		FAT CLAY - Mostly high plasticity fines, trace shell, dark grey, wet, very soft.		6		WOH	WOH	WOH						WOH
25-30				7		WOH	WOH	WOH						WOH
30-35				8		WOH	WOH	WOH						WOH
35-40		CLAYEY SAND (SC) - Mostly fine to medium sand, some low to medium plasticity fines, trace organics, dark brown, wet, loose.		9		WOH	WOH	WOH						WOH
40-45		POORLY GRADED SAND (SP) - Mostly medium sand, trace fines, light grey, saturated, loose to medium dense.		10		4	3	7						10
45		Boring terminated at 45 ft		11		15	16	14						30

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DATE DRILLED: 6/9/17	ELEVATION:	NOTES: Elevation unknown
DRILL RIG: ATV	BORING DEPTH: 40.0 ft	
DRILLER: G. Eister	WATER LEVEL: 10' ATD, 7' 24 hr	
HAMMER TYPE: Auto	LOGGED BY: K. Fugate	
SAMPLING METHOD: Split Spoon		NORTHING:
DRILLING METHOD: 2 1/4" H.S.A.		EASTING:

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft)				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	/ REMARKS				
										10	20	30	6080	
0-5		TOPSOIL - Approximately 5 inches.												
5-10		CLAYEY SAND (SC) - Mostly fine to medium sand, some low to medium plasticity fines, light grey, moist, loose to medium dense.			1	Δ	2	2	4					6
10-15		POORLY GRADED SAND WITH SILT (SP-SM) - Mostly fine to medium sand, few fines, light grey, wet, loose.	▽		2	Δ	1	5	7					12
15-20		POORLY GRADED SAND (SP) - Mostly fine to medium sand, trace fines, dark grey, wet, loose.	▽		3	Δ	1	3	3					6
20-25		FAT CLAY (CH) - Mostly high plasticity fines, dark grey, wet, very soft.			4	Δ	2	4	2					6
25-30		FAT CLAY (CH) - Mostly high plasticity fines, dark grey, wet, very soft.			5	Δ	WOH	WOH	WOH					WOH
30-35		FAT CLAY (CH) - Mostly high plasticity fines, trace of fine sand, dark grey, saturated, very soft.			6	Δ	WOH	WOH	1					1
35-40		CLAYEY SAND (SC) - Mostly fine to medium sand, some high plasticity fines, dark grey, wet, very loose.			7	Δ	WOH	WOH	WOH					WOH
40-45		FAT CLAY (CH) - Mostly high plasticity fines, trace of fine sand, dark grey, saturated, very soft.			8	Δ	WOH	WOH	WOH					WOH
45-50		FAT CLAY (CH) - Mostly high plasticity fines, trace of fine sand, dark grey, saturated, very soft.			9	Δ	WOH	WOH	WOH					WOH
50-55		SILTY SAND (SM) - Mostly fine to medium sand, some fines, some organics, dark grey and brown, saturated, dense.			10	Δ	6	16	17					33
55-60		Boring terminated at 40 ft												

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PROJECT: Grand Lir Park Myrtle Beach, SC S&ME Project No. 1463-17-018		BORING LOG B-3	
DATE DRILLED: 6/8/17	ELEVATION:	NOTES: Elevation unknown	
DRILL RIG: ATV	BORING DEPTH: 45.0 ft		
DRILLER: G. Eister	WATER LEVEL: 6' ATD, 6.25' 24 hr		
HAMMER TYPE: Auto	LOGGED BY: K. Fugate		
SAMPLING METHOD: Split Spoon		NORTHING:	EASTING:

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft)				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	/ REMARKS				
										10	20	30	60 80	
0-5		TOPSOIL - Approximately 5 inches.												
5-7		CLAYEY SAND (SC) - Mostly fine to medium sand, some low to medium plasticity fines, orange and grey, moist, loose.			1	3	4	3						7
7-8		SANDY FAT CLAY (CH) - Mostly high plasticity fines, trace fine sand, orange and grey, moist, soft to firm.			2	3	2	3						5
8-9		FAT CLAY (CH) - Mostly high plasticity fines, dark grey, wet, very soft.			3	WOH	2	1						3
9-10					4	WOH	WOH	WOH						WOH
10-15					5	WOH	WOH	WOH						WOH
15-20					6	WOH	WOH	WOH						WOH
20-25					7	WOH	WOH	WOH						WOH
25-30					8	WOH	WOH	WOH						WOH
30-35					9	WOH	WOH	WOH						WOH
35-40		POORLY GRADED SAND (SP) - Mostly fine to medium sand, trace organic (wood), dark grey to light grey, wet, very loose to medium dense.			10	1	3	9						12
40-45					11	8	10	12						22
45		Boring terminated at 45 ft												

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DATE DRILLED: 6/8/17	ELEVATION:	NOTES: Elevation unknown
DRILL RIG: ATV	BORING DEPTH: 45.0 ft	
DRILLER: G. Eister	WATER LEVEL: 8' ATD, 7.5' 24 hr	
HAMMER TYPE: Auto	LOGGED BY: K. Fugate	
SAMPLING METHOD: Split Spoon	NORTHING:	

DRILLING METHOD: **2 1/4" H.S.A.**

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft)				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	/ REMARKS				
										10	20	30	60.80	
0 - 5		TOPSOIL - Approximately 5 inches.												
5 - 7		SANDY LEAN CLAY (CL) - Mostly fine to medium sand, some low to medium plasticity fines, orange and grey, moist, firm.			1	CL	3	3	4					7
7 - 9		FAT CLAY (CH) - Mostly high plasticity fines, grey and orange, wet, very soft to soft.			2	CL	1	2	1					3
9 - 10		CLAYEY SAND (SC) - Mostly fine to medium sand, some low to medium plasticity fines, light grey, wet, very loose.			3	CL	1	1	1					2
10 - 15		FAT CLAY (CH) - Mostly high plasticity fines, trace shell, trace fine sand, dark grey, wet, very soft.			4	CL	1	2	2					4
15 - 20					5	CL	1	1	1					2
20 - 25					6	WOH	WOH	WOH	WOH					WOH
25 - 30					7	WOH	WOH	WOH	1					1
30 - 35					8	WOH	WOH	WOH	WOH					WOH
35 - 40					9	WOH	WOH	WOH	WOH					WOH
40 - 45		POORLY GRADED SAND (SP) - Mostly fine to medium sand, trace fines, grey, wet, loose to medium dense.			10	SP	3	5	2					7
45		Boring terminated at 45 ft			11	SP	2	11	10					21

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DATE DRILLED: 6/8/17	ELEVATION:	NOTES: Elevation unknown
DRILL RIG: ATV	BORING DEPTH: 35.0 ft	
DRILLER: G. Eister	WATER LEVEL: 8' ATD, 7.5' 24 hr	
HAMMER TYPE: Auto	LOGGED BY: K. Fugate	
SAMPLING METHOD: Split Spoon		NORTHING: EASTING:

DRILLING METHOD: 2 1/4" H.S.A.

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft)				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	/ REMARKS				
										10	20	30	60/80	
0 - 1		TOPSOIL - Approximately 1 inch.					3	4	3					7
1 - 5		SANDY LEAN CLAY (CL) - Mostly low to medium plasticity fines, some fine to medium sand, trace organics (wood), grey and orange, moist to wet, firm to soft.					1	2	2					4
5 - 10		CLAYEY SAND (SC) - Mostly fine to medium sand, some low to medium plasticity fines, dark grey, wet, loose.	14.5'				3	2	5					7
10 - 15		POORLY GRADED SAND (SP) - Mostly fine to medium sand, trace fines, grey, wet, loose.					4	4	3					7
15 - 30		FAT CLAY (CH) - Mostly high plasticity fines, dark grey, wet, very soft.					WOH	WOH	WOH					WOH
30 - 35		CLAYEY SAND (SC) - Mostly fine to medium sand, some low to medium plasticity fines, some organic (wood), dark grey, wet, loose.					WOH	WOH	WOH					WOH
35		Boring terminated at 35 ft					1	5	5					10

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PROJECT: Grand Linn Park Myrtle Beach, SC S&ME Project No. 1463-17-018		BORING LOG R-3	
DATE DRILLED: 6/9/17	ELEVATION:	NOTES: Elevation unknown	
DRILL RIG: ATV	BORING DEPTH: 35.0 ft		
DRILLER: G. Eister	WATER LEVEL: 8.5' ATD, 5.3' 24 hr		
HAMMER TYPE: Auto	LOGGED BY: K. Fugate		
SAMPLING METHOD: Split Spoon		NORTHING:	EASTING:

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft)				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / ROD	/REMARKS				
										10	20	30	6080	
0-4		TOPSOIL - Approximately 4 inches.												
4-5		SANDY LEAN CLAY (CL) - Mostly low to medium plasticity fines, some fine to medium sand, grey and orange, moist, stiff.												
5-10		CLAYEY SAND (SC) - Mostly fine to medium sand, some low to medium plasticity fines, light grey, wet, loose.												
10-15		POORLY GRADED SAND (SP) - Mostly fine to medium sand, light grey to dark grey, wet, medium dense to loose.												
15-35		FAT CLAY (CH) - Mostly high plasticity fines, trace shell, dark grey, wet, very soft.												
35		POORLY GRADED SAND (SP) - Mostly fine to medium sand, trace fines, dark grey, saturated, medium dense. Boring terminated at 35 ft												

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DATE DRILLED: 6/7/17	ELEVATION:	NOTES: Elevation unknown
DRILL RIG: ATV	BORING DEPTH: 5.0 ft	
DRILLER: G. Eister	WATER LEVEL: Not Encountered	
HAMMER TYPE: Auto	LOGGED BY: K. Fugate	

SAMPLING METHOD: Split Spoon	NORTHING:	EASTING:
DRILLING METHOD: Mud Rotary		

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft)				N VALUE	
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	/ REMARKS					
										10	20	30	60	80	
		TOPSOIL - Approximately 3 inches.													
1		SANDY FAT CLAY (CH) - Mostly high plasticity fines, some fine to medium sand, mottled grey and orange, dry, firm.		1	4	2	4								6
2		SANDY LEAN CLAY (CL) - Mostly low to medium plasticity fines, some fine to medium sand, mottled grey and orange, moist, stiff.		2	3	5	5								10
5		Boring terminated at 5 ft													

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Page 1 of 1



DATE DRILLED: 6/7/17	ELEVATION:	NOTES: Elevation unknown
DRILL RIG: ATV	BORING DEPTH: 5.0 ft	
DRILLER: G. Eister	WATER LEVEL: Not Encountered	
HAMMER TYPE: Auto	LOGGED BY: K. Fugate	
SAMPLING METHOD: Split Spoon		NORTHING:
DRILLING METHOD: Mud Rotary		EASTING:

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS	N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RGD		
	[Dotted Pattern]	TOPSOIL - Approximately 1 inch.									
	[Dotted Pattern]	POORLY GRADED SAND (SP) - Mostly fine to medium sand, few fines, orange, tan, and grey, dry, medium dense.		1	1	[Sand Symbol]	6	6	7		13
5	[Diagonal Lines]	SANDY FAT CLAY (CH) - Mostly high plasticity fines, some fine to medium sand, contains trace organic (wood), orange to grey, moist, firm.		2	2	[Clay Symbol]	3	2	6		8
		Boring terminated at 5 ft									

S&ME BORING LOG SPT.GPJ LIBRARY 2011.06.28.GDT 6/15/17

NOTES:

1. THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.
2. BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.
3. STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.
4. WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.



PROJECT: **Grand Lin Park**
Myrtle Beach, SC
 S&ME Project No. 1463-17-018

BORING LOG T-3

DATE DRILLED: **6/8/17** ELEVATION: _____ NOTES: **Elevation unknown**
 DRILL RIG: **ATV** BORING DEPTH: **5.0 ft**
 DRILLER: **G. Eister** WATER LEVEL: **Not Encountered**
 HAMMER TYPE: **Auto** LOGGED BY: **K. Fugate**
 SAMPLING METHOD: **Split Spoon** NORTHING: _____ EASTING: _____
 DRILLING METHOD: **2 1/4" H.S.A.**

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS	N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD		
		TOPSOIL - Approximately 5 inches.									
		CLAYEY SAND (SC) - Mostly fine to medium sand, some low plasticity fines, orange to grey, dry to moist, medium dense.		1			3	5	6		11
		SILTY SAND (SM) - Mostly fine to medium sand, some silty fines, contains trace organics, black to tan, moist, loose.		2			4	2	5		7
5		Boring terminated at 5 ft									

S&ME BORING LOG SPT.GPJ LIBRARY 2011.06.28.GDT 6/15/17

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DATE DRILLED: 6/8/17	ELEVATION:	NOTES: Elevation unknown
DRILL RIG: ATV	BORING DEPTH: 5.0 ft	
DRILLER: G. Eister	WATER LEVEL: Not Encountered	
HAMMER TYPE: Auto	LOGGED BY: K. Fugate	

SAMPLING METHOD: Split Spoon	NORTHING:	EASTING:
DRILLING METHOD: 2 1/4" H.S.A.		

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft)				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	/ REMARKS				
										10	20	30	6080	
		TOPSOIL - Approximately 3 inches.												
		SANDY LEAN CLAY (CL) - Mostly fine to medium sand, some low to medium plasticity fines, contains trace organics, dark grey to orange, moist, firm.		1		2	2	4						6
		CLAYEY SAND (SC) - Mostly fine to medium sand, some high plasticity fines, light grey, moist, very loose.		2		2	3	1						4
5		Boring terminated at 5 ft												

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S&ME BORING LOG SPT.GPJ LIBRARY 2011.06.28.GDT 6/15/17

DATE DRILLED: 6/8/17	ELEVATION:	NOTES: Elevation unknown
DRILL RIG: ATV	BORING DEPTH: 5.0 ft	
DRILLER: G. Eister	WATER LEVEL: Not Encountered	
HAMMER TYPE: Auto	LOGGED BY: K. Fugate	
SAMPLING METHOD: Split Spoon		NORTHING: EASTING:

DRILLING METHOD: **2 1/4" H.S.A.**

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft)				N VALUE	
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / ROD	/REMARKS					
											10	20	30	60 80	
		TOPSOIL - Approximately 3 inches.													
		SANDY LEAN CLAY (CL) - Mostly low to medium plasticity fines, some fine to medium sand, dark grey to orange, moist, firm.		1	1	CL	2	4	3						7
		POORLY GRADED SAND (SP) - Mostly fine to medium sand, trace of fines, light grey to orange, moist, loose.		2	2	SP	3	4	6						10
5		Boring terminated at 5 ft													

S&ME BORING LOG. SPT.GPJ. LIBRARY 2011_06_28.GDT 6/15/17

NOTES:

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4. WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.



DATE DRILLED: 6/8/17	ELEVATION:	NOTES: Elevation unknown
DRILL RIG: ATV	BORING DEPTH: 5.0 ft	
DRILLER: G. Eister	WATER LEVEL: Not Encountered	
HAMMER TYPE: Auto	LOGGED BY: K. Fugate	
SAMPLING METHOD: Split Spoon		NORTHING:
DRILLING METHOD: 2 1/4" H.S.A.		EASTING:

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft)				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / ROD	/ REMARKS				
										10	20	30	6080	
		TOPSOIL - Approximately 5 inches.												
		SANDY LEAN CLAY (CL) - Mostly low plasticity fines, some fine to medium sand, mottled orange and light grey, moist, firm.		1		☒	2	3	2					5
		SANDY FAT CLAY (CH) - Mostly high plasticity fines, some fine to medium sand, light grey, moist, firm.		2		☒	2	2	5					7
5		Boring terminated at 5 ft												

NOTES:

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S&ME BORING LOG SPT.GPJ LIBRARY 2011.06.28.GDT 6/15/17

PROJECT: **Grand Linn Park**
Myrtle Beach, SC
 S&ME Project No. 1463-17-018

BORING LOG T-7

DATE DRILLED: 6/8/17 ELEVATION: NOTES: Elevation unknown
 DRILL RIG: ATV BORING DEPTH: 5.0 ft
 DRILLER: G. Eister WATER LEVEL: Not Encountered
 HAMMER TYPE: Auto LOGGED BY: K. Fugate
 SAMPLING METHOD: Split Spoon NORTHING: EASTING:
 DRILLING METHOD: 2 1/4" H.S.A.





DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft) /REMARKS				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / ROD	10	20	30	60/80	
0 - 3		SANDY FAT CLAY (CH) - Mostly high plasticity fines, some fine to medium sand, mottled grey, orange and brown, moist, soft.		1	1	CH	2	1	2					3
3 - 5		SANDY LEAN CLAY (CL) - Mostly low to medium plasticity fines, some fine to medium sand, mottled light grey, orange and dark grey, moist, firm. Boring terminated at 5 ft		2	2	CL	2	3	5					8

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S&ME BORING LOG SPT.GPJ LIBRARY 2011_06_28.GDT 6/15/17

PROJECT: Grand Linn Park Myrtle Beach, SC S&ME Project No. 1463-17-018		BORING LOG T-8												
DATE DRILLED: 6/8/17		ELEVATION:		NOTES: Elevation unknown										
DRILL RIG: ATV		BORING DEPTH: 5.0 ft												
DRILLER: G. Eister		WATER LEVEL: Not Encountered												
HAMMER TYPE: Auto		LOGGED BY: K. Fugate												
SAMPLING METHOD: Split Spoon				NORTHING:	EASTING:									
DRILLING METHOD: 2 1/4" H.S.A.														
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft)				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RGD	/REMARKS				
		TOPSOIL - Approximately 3 inches.												
		SANDY FAT CLAY (CH) - mostly high plasticity fines, some fine to medium sand, mottled grey, orange, and brown, moist, firm.		1			2	2	3					5
		POORLY GRADED SAND WITH CLAY (SP-SC) - Mostly fine to medium sand, few low plasticity fines, light grey, moist, loose.		2			2	3	5					8
5		Boring terminated at 5 ft												

S&ME BORING LOG SPT.GPJ LIBRARY 2011_06 28.GDT 6/15/17

NOTES:

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4. WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.



DATE DRILLED: 6/8/17	ELEVATION:	NOTES: Elevation unknown
DRILL RIG: ATV	BORING DEPTH: 5.0 ft	
DRILLER: G. Eister	WATER LEVEL: Not encountered	
HAMMER TYPE: Auto	LOGGED BY: K. Fugate	
SAMPLING METHOD: Split Spoon		NORTHING: EASTING:

DRILLING METHOD: **2 1/4" H.S.A.**

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft)				N VALUE	
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	/ REMARKS					
											10	20	30	60 80	
		TOPSOIL - Approximately 1 inch.													
		SILT (ML) - Mostly low plasticity fines, some organics (wood), trace fine sand, black, moist, firm.			1	WOH	1	6							7
		FAT CLAY (CH) - Mostly high plasticity fines, trace fines sands, some organics (wood), grey and orange, moist, soft.			2	2	3	1							4
5		Boring terminated at 5 ft													

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S&ME BORING LOG_SPT.GPJ LIBRARY 2011_06_28.GDT 6/15/17

PROJECT: Grand Line Park Myrtle Beach, SC S&ME Project No. 1463-17-018		BORING LOG T-10												
DATE DRILLED: 6/9/17	ELEVATION:	NOTES: Elevation unknown												
DRILL RIG: ATV	BORING DEPTH: 5.0 ft													
DRILLER: G. Eister	WATER LEVEL: Not Encountered													
HAMMER TYPE: Auto	LOGGED BY: K. Fugate													
SAMPLING METHOD: Split Spoon		NORTHING:	EASTING:											
DRILLING METHOD: 2 1/4" H.S.A.														
DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA			STANDARD PENETRATION TEST DATA (blows/ft)				N VALUE
							1st 6in / RUN #	2nd 6in / REC	3rd 6in / RGD	/ REMARKS				
		TOPSOIL - Approximately 3 inches.												
		CLAYEY SAND (SC) - Mostly fine to medium sand, some low to medium plasticity, contains trace gravel, orange to light grey, moist, medium dense.		1			5	8	5					13
		SANDY FAT CLAY (CH) - Mostly high plasticity fines, some fine to medium sand, grey, moist, soft.		2			2	1	2					3
5		Boring terminated at 5 ft												

S&ME BORING LOG SPT.GPJ LIBRARY 2011_06_28.GDT 6/15/17

NOTES:

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Appendix III

Summary of Laboratory Procedures

Laboratory Test Results

❖ Summary of Laboratory Procedures

Examination of Recovered Soil Samples

Soil and rock samples and field boring records were reviewed in the laboratory by the geotechnical professional. Soils were classified in general accordance with the visual-manual method described in ASTM D 2488, "*Standard Practice for Description and Identification of Soils (Visual-Manual Method)*". Representative soil samples were selected for classification testing to provide grain size and plasticity data to allow classification of the samples in general accordance with the AASHTO Classification method described in ASTM D 3282, "*Standard Practice for Classification of Soils and Soil Aggregate Mixtures for Highway Construction Purposes*". The geotechnical professional also prepared the final boring records enclosed with this report.

Moisture Content Testing of Soil Samples by Oven Drying

Moisture content was determined in general conformance with the methods outlined in ASTM D 2216, "*Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil or Rock by Mass*." This method is limited in scope to Group B, C, or D samples of earth materials which do not contain appreciable amounts of organic material, soluble solids such as salt or reactive solids such as cement. This method is also limited to samples which do not contain contamination.

A representative portion of the soil was divided from the sample using one of the methods described in Section 9 of ASTM D 2216. The split portion was then placed in a drying oven and heated to approximately 110 degrees C overnight or until a constant mass was achieved after repetitive weighing. The moisture content of the soil was then computed as the mass of water removed from the sample by drying, divided by the mass of the sample dry, times 100 percent. No attempt was made to exclude any particular particle size from the portion split from the sample.

Liquid and Plastic Limits Testing

Atterberg limits of the soils was determined generally following the methods described by ASTM D 4318, "*Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils*." Albert Atterberg originally defined "limits of consistency" of fine grained soils in terms of their relative ease of deformation at various moisture contents. In current engineering usage, the *liquid limit* of a soil is defined as the moisture content, in percent, marking the upper limit of viscous flow and the boundary with a semi-liquid state. The *plastic limit* defines the lower limit of plastic behavior, above which a soil behaves plastically below which it retains its shape upon drying. The *plasticity index* (PI) is the range of water content over which a soil behaves plastically. Numerically, the PI is the difference between liquid limit and plastic limit values.

Representative portions of fine grained Group A, B, C, or D samples were prepared using the wet method described in Section 10.1 of ASTM D 4318. The liquid limit of each sample was determined using the multipoint method (Method A) described in Section 11. The liquid limit is by definition the moisture content where 25 drops of a hand operated liquid limit device are required to close a standard width groove cut in a soil sample placed in the device. After each test, the moisture content of the sample was adjusted and the sample replaced in the device. The

test was repeated to provide a minimum of three widely spaced combinations of N versus moisture content. When plotted on semi-log paper, the liquid limit moisture content was determined by straight line interpolation between the data points at N equals 25 blows.

The plastic limit was determined using the procedure described in Section 17 of ASTM D 4318. A selected portion of the soil used in the liquid limit test was kneaded and rolled by hand until it could no longer be rolled to a 3.2 mm thread on a glass plate. This procedure was repeated until at least 6 grams of material was accumulated, at which point the moisture content was determined using the methods described in ASTM D 2216.

Percent Fines Determination of Samples

A selected specimen of soils was washed over a No. 200 sieve after being thoroughly mixed and dried. This test was conducted in general accordance with ASTM D 1140, "*Standard Test Method for Amount of Material Finer Than the No. 200 Sieve.*" Method A, using water to wash the sample through the sieve without soaking the sample for a prescribed period of time, was used and the percentage by weight of material washing through the sieve was deemed the "percent fines" or percent clay and silt fraction.

Compaction Tests of Soils Using Modified Effort

Soil placed as engineering fill is compacted to a dense state to obtain satisfactory engineering properties. Laboratory compaction tests provide the basis for determining the percent compaction and water content needed to achieve the required engineering properties, and for controlling construction to assure the required compaction and water contents are achieved. Test procedures generally followed those described by ASTM D 1557, "*Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 lbf/ft³).*"

The relationship between water content and the dry unit weight is determined for soils compacted in either 4 or 6 inch diameter molds with a 10 lbf rammer dropped from a height of 18 inches, producing a compactive effort of 56,000 lbf/ft³. ASTM D 1557 provides three alternative procedures depending on material gradation:

Method A

- All material passes No. 4 sieve size
- 4 inch diameter mold
- Shall be used if 20 percent or less by weight is retained on No. 4 sieve
- Soil in 5 layers with 25 blows per layer

Method B

- All material passes 3/8 inch sieve
- 4 inch diameter mold
- Shall be used if 20 percent by weight is retained on the No. 4 sieve and 20 percent or less by weight is retained on the 3/8 Inch sieve.
- Soil in 5 layers with 25 blows per layer

Method C

- All material passes 3/4 inch sieve
- 6-inch diameter mold
- Shall be used if more than 20 percent by weight is retained on the 3/8 inch sieve and less than 30 percent is retained on the 3/4 inch sieve.
- Soil in 5 layers with 56 blows per layer

Soil was compacted in the mold in five layers of approximately equal thickness, each compacted with either 25 or 56 blows of the rammer. After compaction of the sample in the mold, the resulting dry density and moisture content was determined and the procedure repeated. Separate soils were used for each sample point, adjusting the moisture content of the soil as described in Section 10.2 (Moist Preparation Method). The procedure was repeated for a sufficient number of water content values to allow the dry density vs. water content values to be plotted and the *maximum dry density* and *optimum moisture content* to be determined from the resulting curvilinear relationship.

Laboratory California Bearing Ratio Tests of Compacted Samples

This method is used to evaluate the potential strength of subgrade, subbase, and base course material, including recycled materials, for use in road and airfield pavements. Laboratory CBR tests were run in general accordance with the procedures laid out in ASTM D 1883, "*Standard Test Method for CBR (California Bearing Ratio) of Laboratory Compacted Soils.*" Specimens were prepared in standard molds using two different levels of compactive effort within plus or minus 0.5 percent of the optimum moisture content value. While embedded in the compaction mold, each sample was inundated for a minimum period of 96 hours to achieve saturation. During inundation the specimen was surcharged by a weight approximating the anticipated weight of the pavement and base course layers. After removing the sample from the soaking bath, the soil was then sheared by jacking a piston having a cross sectional area of 3 square inches into the end surface of the specimen. The piston was jacked 0.5 inches into the specimen at a constant rate of 0.05 inches per minute.

The CBR is defined as the load required to penetrate a material to a predetermined depth, compared to the load required to penetrate a standard sample of crushed stone to the same depth. The CBR value was usually based on the load ratio for a penetration of 0.10 inches, after correcting the load-deflection curves for surface irregularities or upward concavity. However, where the calculated CBR for a penetration of 0.20 inches was greater than the result obtained for a penetration of 0.10 inches, the test was repeated by reversing the specimen and shearing the opposite end surface. Where the second test indicated a greater CBR at 0.20 inches penetration, the CBR for 0.20 inches penetration was used.

Form No: TR-D2216-T265-1

Revision No. 0

Revision Date: 02/22/08

Laboratory Determination of Water Content



ASTM D 2216

AASHTO T 265

Quality Assurance

S&ME, Inc. Myrtle Beach 1330 Highway 501 Business; Conway, SC 29526

Project #:	1463-17-018	Lab #:	3994	Report Date:	6/15/2017
Project Name:	Grand Linear Park			Test Date(s):	6/10/2017
Client Name:	Thomas & Hutton				
Client Address:	611 Burroughs & Chapin Blvd, Ste,202; Myrtle Beach, SC 29577				
Sample by:	K. Fugate	Sample Date(s):	6/8/2017		

Method:		A (1%) <input type="checkbox"/>	B (0.1%) <input checked="" type="checkbox"/>	Balance ID.	18739	Calibration Date:	7/5/16		
Boring No.	Sample No.	Sample Depth	Tare #	Tare Weight	Tare Wt.+ Wet Wt	Tare Wt. + Dry Wt	Water Weight	Percent Moisture	Note
		ft. or m.		grams	grams	grams	grams	%	
T-3	Bulk-1	0'-5'	LLL	82.70	292.10	281.00	11.10	5.6%	
T-6	Bulk-2	0'-5'	KKK	83.30	262.10	239.60	22.50	14.4%	
T-7	Bulk-2	0'-5'	N	85.30	140.40	131.10	9.30	20.3%	

Notes / Deviations / References

ASTM D 2216: Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

<u>Ron Forest, P.E.</u> Technical Responsibility	 Signature	<u>Senior Reviewer</u> Position	<u>6/16/17</u> Date
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Form No: TR-D1140-1
 Revision 0
 Revision Date: 03/29/07



Material Finer than the #200 Sieve

ASTM D1140

Quality Assurance

S&ME, Myrtle Beach; 1330 Highway 501 Business, Conway, SC 29526

Project #: 1463-17-018 Lab #: 3994 Report Date: 6/15/2017
 Project Name: Grand Linear Park Test Date(s): 6/10/2017
 Client Name: Thomas & Hutton
 Client Address: 611 Burroughs & Chapin Blvd, Ste.202; Myrtle Beach, SC 29577
 Sample by: K. Fugate Sample Dates: 6/8/2017
 Balance ID: 18739 Calibration Date: 6/25/16

Boring #	Sample #	Sample Depth	Tare #	Tare Weight	Tare Wt.+ Wet Wt	Tare Wt. + Dry Wt	Tare Wt. + Dry Wt. after Wash	% Passing #200
		ft. or m.		grams	grams	grams	grams	%
T-3	Bulk-1	0'-5'	LLL	82.70	292.10	281.00	248.90	16.2%
T-6	Bulk-2	0'-5'	KKK	83.30	262.10	239.60	183.00	36.2%
T-7	Bulk-3	0'-5'	N	85.30	140.40	131.10	102.50	62.4%

Ron Forest, P.E.
 Technical Responsibility

[Handwritten Signature]
 Signature

Senior Reviewer
 Position

6/16/17
 Date

Liquid Limit, Plastic Limit, and Plastic Index



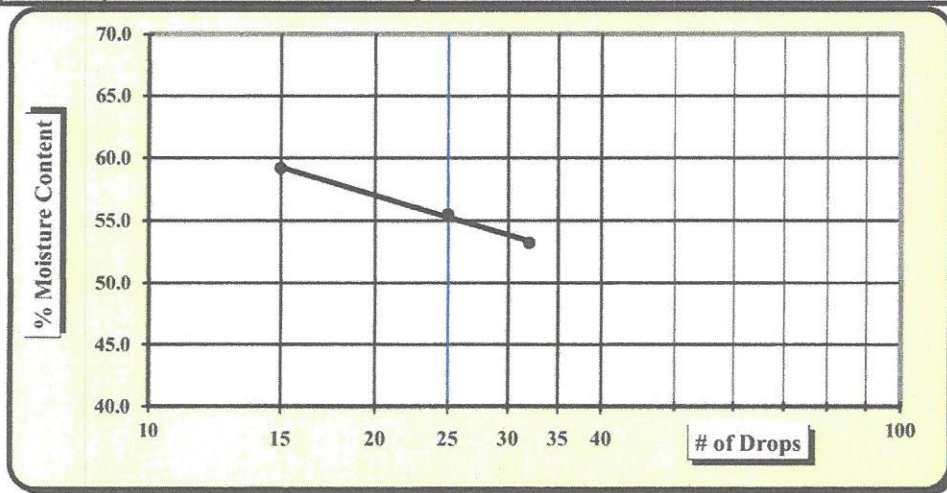
ASTM D 4318 AASHTO T 89 AASHTO T 90

Quality Assurance

S&ME, Inc. Myrtle Beach 1330 Highway 501 Business; Conway, SC 29526

Project #: 1463-17-018	Report Date:
Project Name: Grand Linear Park	Test Date(s) 6/14/2017
Client Name: Thomas & Hutton	
Client Address: 611 Burroughs & Chapin Blvd, Ste.202; Myrtle Beach, SC 29577	
Boring #: B1-B	Sample #: S-9
Sample Date: 6/8/2017	
Location: Walking Trail	Lab #: 3994
Depth: 33.5'-35.0'	
Sample Description: Gray Fat Clay (CH)	
<i>Type and Specification</i>	<i>S&ME ID #</i>
<i>Cal Date:</i>	<i>Type and Specification</i>
<i>S&ME ID #</i>	<i>Cal Date:</i>
Balance (0.01 g) 00401	2/18/2016
LL Apparatus 18801	5/1/2016
Oven 17745	5/6/2016

Pan #	Tare #:	Liquid Limit					Plastic Limit			
		14	56	33	4	5	6	74	87	9
A	Tare Weight	14.55	14.38	14.87				14.77	14.96	
B	Wet Soil Weight + A	31.25	31.36	31.44				21.57	21.69	
C	Dry Soil Weight + A	25.45	25.30	25.28				20.65	20.77	
D	Water Weight (B-C)	5.80	6.06	6.16				0.92	0.92	
E	Dry Soil Weight (C-A)	10.90	10.92	10.41				5.88	5.81	
F	% Moisture (D/E)*100	53.2%	55.5%	59.2%				15.6%	15.8%	
N	# OF DROPS	32	25	15				Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR									
Ave.	Average							15.7%		



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic
 Liquid Limit **55**
 Plastic Limit **16**
 Plastic Index **39**
 Group Symbol **CH**

Multipoint Method
 One-point Method

Wet Preparation Dry Preparation Air Dried

Notes / Deviations / References:

Ron Forest, P.E.
 Technical Responsibility

[Signature]
 Signature

Senior Reviewer
 Position

6/16/17
 Date

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Liquid Limit, Plastic Limit, and Plastic Index



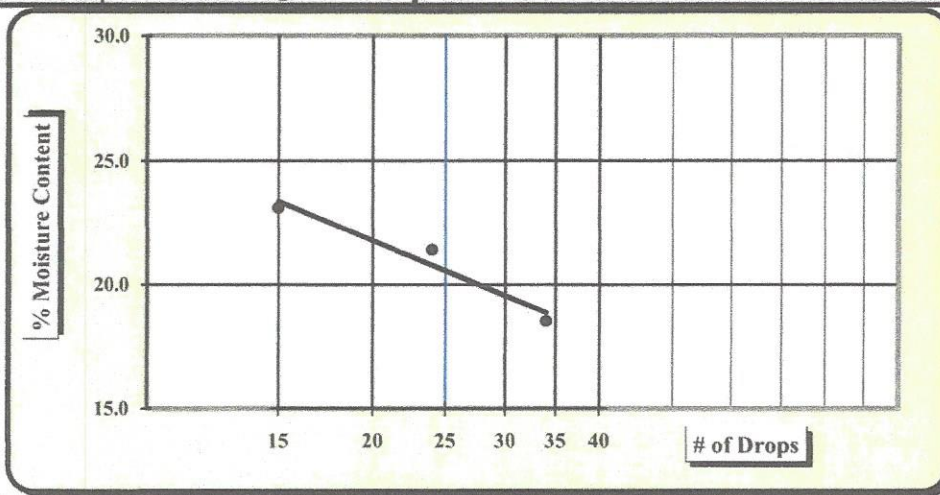
ASTM D 4318 AASHTO T 89 AASHTO T 90

Quality Assurance

S&ME, Inc. Myrtle Beach 1330 Highway 501 Business; Conway, SC 29526

Project #: 1463-17-018 **Report Date:** 6/15/2017
Project Name: Grand Linear Park **Test Date(s):** 6/14/2017
Client Name: Thomas & Hutton
Client Address: 611 Burroughs & Chapin Blvd, Ste,202; Myrtle Beach, SC 29577
Boring #: T-3 **Sample #:** Bulk-1 **Sample Date:** 6/8/2017
Location: Walking Trail **Lab #:** 3994 **Depth:** 0'-5'
Sample Description: Brown Clayey Sand (SC)
Type and Specification *S&ME ID #* *Cal Date:* *Type and Specification* *S&ME ID #* *Cal Date:*
Balance (0.01 g) 00401 2/18/2016 **Grooving tool** 11368 5/1/2016
LL Apparatus 18801 5/1/2016
Oven 17745 5/6/2016

Pan #	Tare #:	Liquid Limit					Plastic Limit			
		25	36	87	4	5	6	74	112	9
A	Tare Weight	14.88	14.96	14.76				14.68	14.72	
B	Wet Soil Weight + A	31.87	31.69	31.84				21.61	21.42	
C	Dry Soil Weight + A	29.22	28.74	28.63				20.87	20.73	
D	Water Weight (B-C)	2.65	2.95	3.21				0.74	0.69	
E	Dry Soil Weight (C-A)	14.34	13.78	13.87				6.19	6.01	
F	% Moisture (D/E)*100	18.5%	21.4%	23.1%				12.0%	11.5%	
N	# OF DROPS	34	24	15				Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR									
Ave.	Average							11.8%		



N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic

Liquid Limit 21

Plastic Limit 12

Plastic Index 9

Group Symbol SC

Multipoint Method

One-point Method

Wet Preparation Dry Preparation Air Dried

Notes / Deviations / References:

Ron Forest, P.E.
Technical Responsibility

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Liquid Limit, Plastic Limit, and Plastic Index



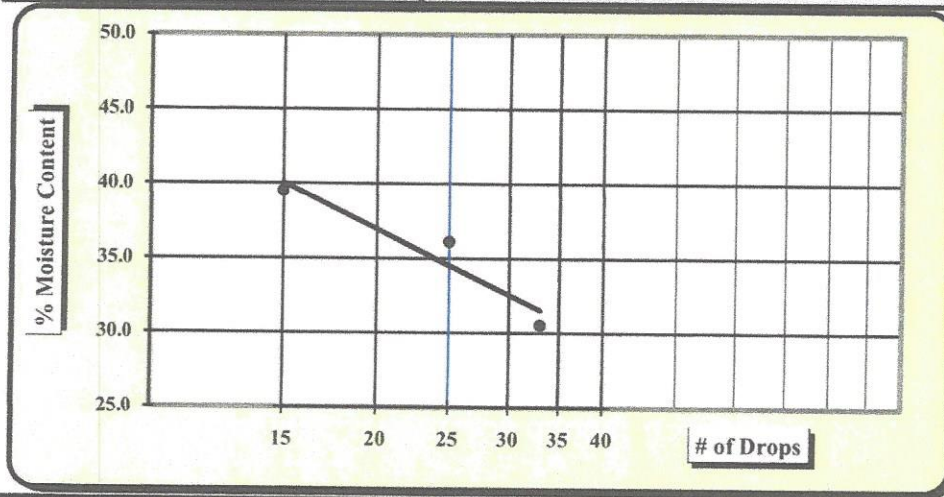
ASTM D 4318 AASHTO T 89 AASHTO T 90

Quality Assurance

S&ME, Inc. Myrtle Beach 1330 Highway 501 Business; Conway, SC 29526

Project #:	1463-17-018	Report Date:	6/15/2017
Project Name:	Grand Linear Park	Test Date(s)	6/14/2017
Client Name:	Thomas & Hutton		
Client Address:	611 Burroughs & Chapin Blvd, Ste.202; Myrtle Beach, SC 29577		
Boring #:	T-6	Sample #:	Bulk-2
Location:	Walking Trail	Lab #:	3994
Sample Description:	Brown Clayey Sand (SC)		
Type and Specification	S&ME ID #	Cal Date:	Type and Specification
Balance (0.01 g)	00401	2/18/2017	Grooving tool
LL Apparatus	18801	5/1/2017	S&ME ID #
Oven	17745	5/6/2017	11368

Pan #	Tare #:	Liquid Limit					Plastic Limit			
		114	119	66	4	5	6	82	51	9
A	Tare Weight	14.77	14.36	14.54				14.74	14.79	
B	Wet Soil Weight + A	31.22	31.35	31.41				21.47	21.52	
C	Dry Soil Weight + A	27.38	26.84	26.63				20.62	20.64	
D	Water Weight (B-C)	3.84	4.51	4.78				0.85	0.88	
E	Dry Soil Weight (C-A)	12.61	12.48	12.09				5.88	5.85	
F	% Moisture (D/E)*100	30.5%	36.1%	39.5%				14.5%	15.0%	
N	# OF DROPS	33	25	15				Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR									
Ave.	Average							14.8%		



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic

Liquid Limit **36**

Plastic Limit **15**

Plastic Index **21**

Group Symbol **SC**

Multipoint Method

One-point Method

Wet Preparation Dry Preparation Air Dried

Notes / Deviations / References:

Ron Forest, P.E.
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Liquid Limit, Plastic Limit, and Plastic Index



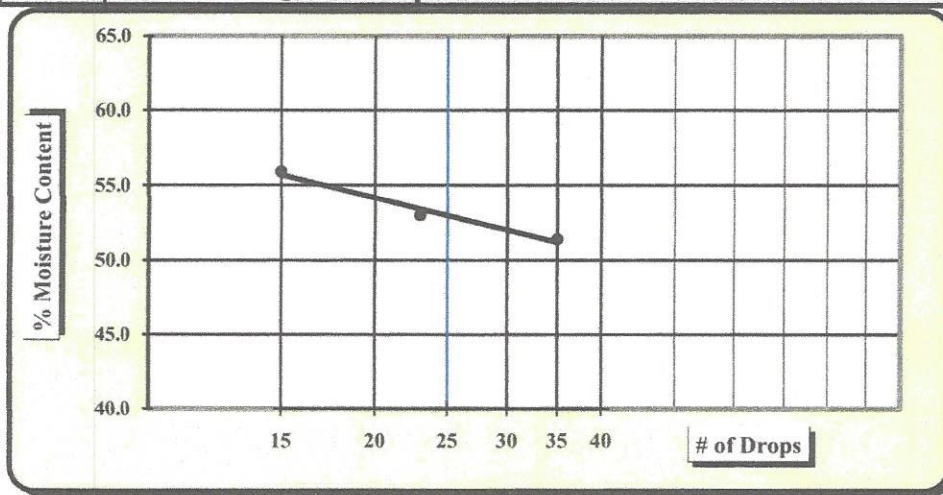
ASTM D 4318 AASHTO T 89 AASHTO T 90

Quality Assurance

S&ME, Inc. Myrtle Beach 1330 Highway 501 Business; Conway, SC 29526

Project #:	1463-17-018	Report Date:	6/15/2017
Project Name:	Grand Linear Park	Test Date(s)	6/14/2017
Client Name:	Thomas & Hutton		
Client Address:	611 Burroughs & Chapin Blvd, Ste.202; Myrtle Beach, SC 29577		
Boring #:	T-7	Sample #:	Bulk-3
Location:	Walking Trail	Lab #:	3994
Sample Description:	Brown Sandy Fat Clay (CH)		
Type and Specification	S&ME ID #	Cal Date:	Type and Specification
Balance (0.01 g)	00401	2/18/2017	Grooving tool
LL Apparatus	18801	5/1/2017	S&ME ID #
Oven	17745	5/6/2017	Cal Date:
			11368
			5/1/2017

Pan #	Tare #:	Liquid Limit					Plastic Limit			
		36	41	95	4	5	6	32	58	9
A	Tare Weight	14.25	14.63	14.87				14.74	14.96	
B	Wet Soil Weight + A	31.84	31.96	32.05				21.47	21.39	
C	Dry Soil Weight + A	25.87	25.96	25.89				20.22	20.19	
D	Water Weight (B-C)	5.97	6.00	6.16				1.25	1.20	
E	Dry Soil Weight (C-A)	11.62	11.33	11.02				5.48	5.23	
F	% Moisture (D/E)*100	51.4%	53.0%	55.9%				22.8%	22.9%	
N	# OF DROPS	35	23	15				Moisture Contents determined by ASTM D 2216		
LL	LL = F * FACTOR									
Ave.	Average							22.9%		



One Point Liquid Limit			
N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic

Liquid Limit **53**

Plastic Limit **23**

Plastic Index **30**

Group Symbol **CH**

Multipoint Method

One-point Method

Wet Preparation Dry Preparation Air Dried

Notes / Deviations / References:

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Moisture - Density Report



ASTM D1557- D698

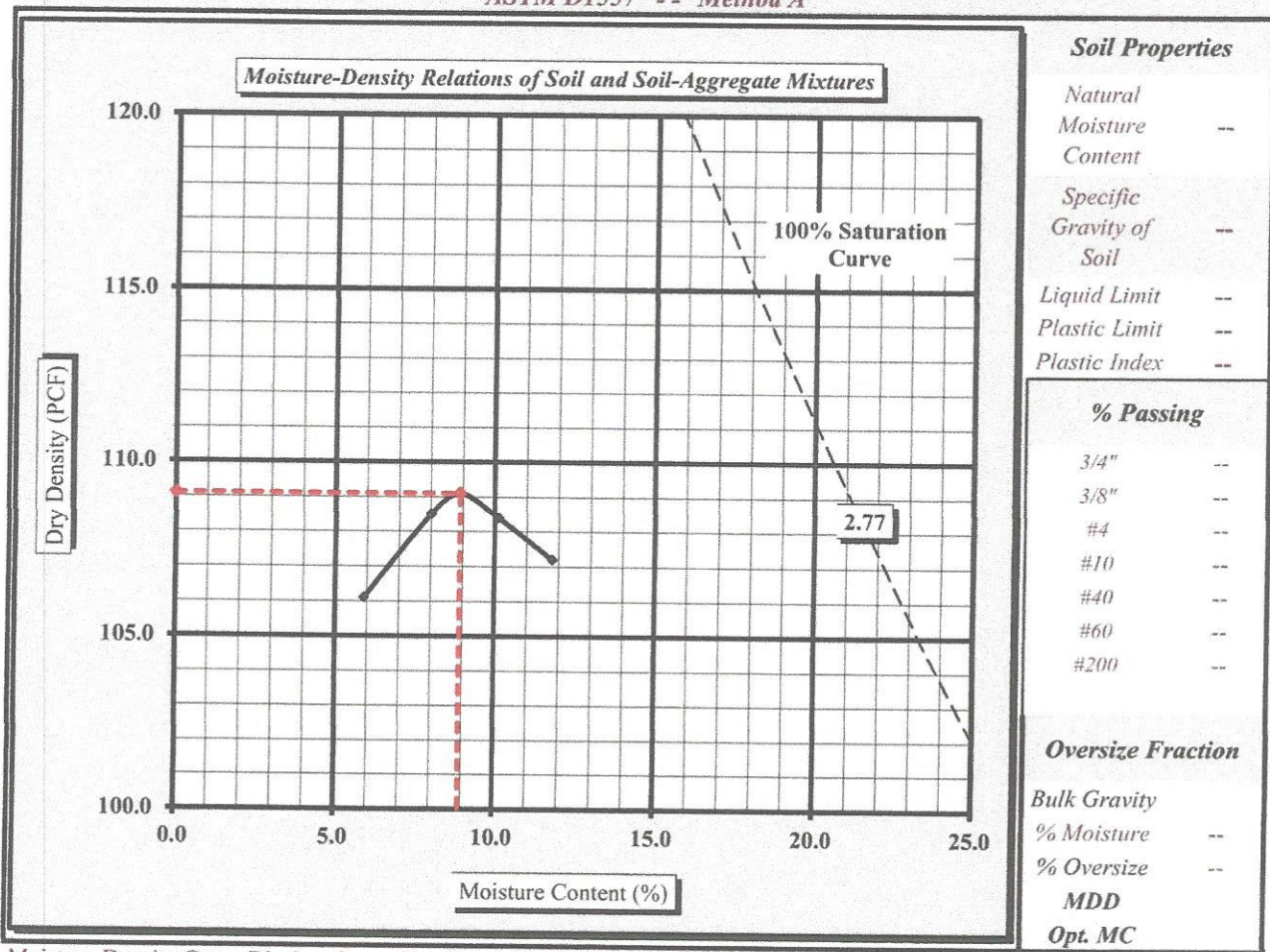
Quality Assurance

S&ME, Inc.- Myrtle Beach 1330 Highway 501 Business; Conway, SC 29526

S&ME Project #:	1463-17-018	Report Date:	
Project Name:	Grand Linear Park	Test Date(s):	6/12/2017
Client Name:	Thomas & Hutton		
Client Address:	611 Burroughs & Chapin Blvd, Ste,202; Myrtle Beach, SC		
Boring #:	T-3	Sample #:	Bulk-1
		Sample Date:	6/8/2017
Location:	Walking Trail	Lab #:	3994
		Depth:	0'-5'
Sample Description:			

Maximum Dry Density 109.1 PCF. Optimum Moisture Content 8.9%

ASTM D1557 -- Method A



Moisture-Density Curve Displayed: Fine Fraction Corrected for Oversize Fraction (ASTM D 4718)
 Sieve Size used to separate the Oversize Fraction: #4 Sieve 3/8 inch Sieve 3/4 inch Sieve
 Mechanical Rammer Manual Rammer Moist Preparation Dry Preparation

References / Comments / Deviations:

- ASTM D 2216: Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
- ASTM D 1557: Laboratory Compaction Characteristics of Soil Using Modified Effort

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Moisture - Density Report



ASTM D1557- D698

Quality Assurance

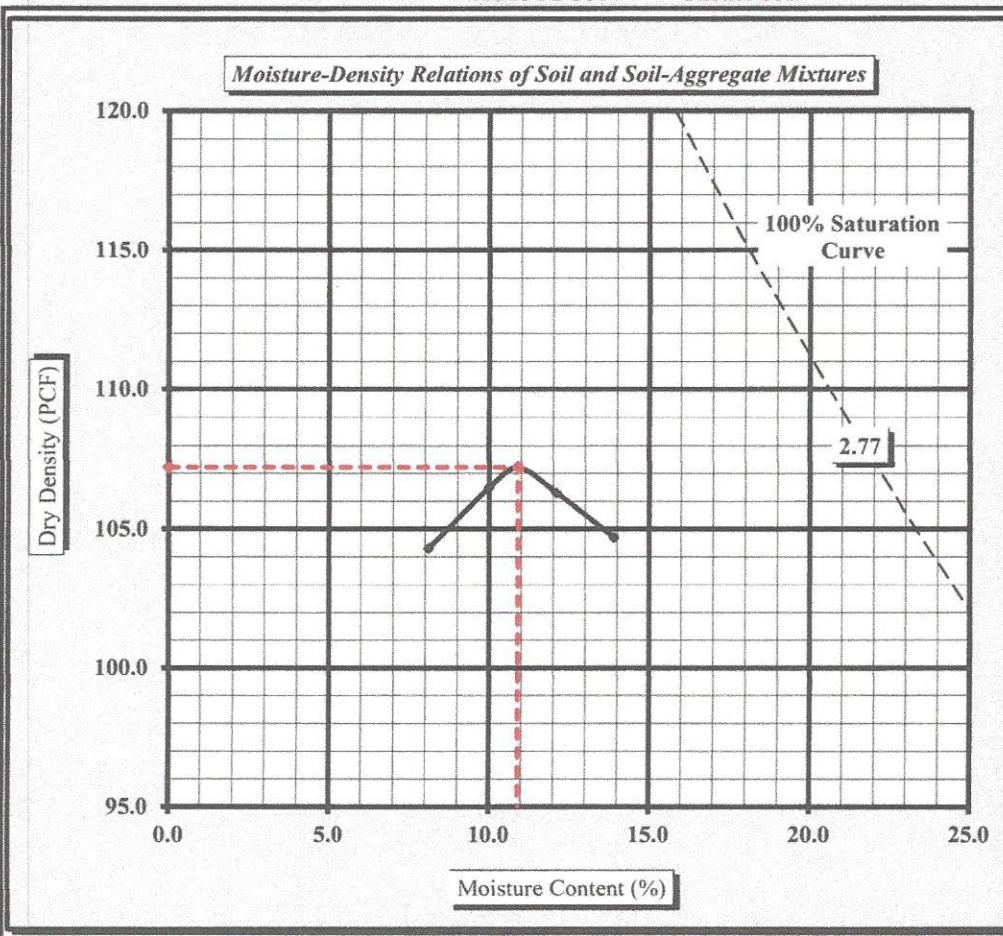
S&ME, Inc.- Myrtle Beach 1330 Highway 501 Business; Conway, SC 29526

S&ME Project #:	1463-17-018	Report Date:	
Project Name:	Grand Linear Park	Test Date(s):	6/12/2017
Client Name:	Thomas & Hutton		
Client Address:	611 Burroughs & Chapin Blvd, Ste,202; Myrtle Beach, SC		
Boring #:	T-6	Sample #:	Bulk-2
		Sample Date:	6/8/2017
Location:	Walking Trail	Lab #:	3994
		Depth:	0'-5'
Sample Description:			

Maximum Dry Density 107.2 PCF.

Optimum Moisture Content 10.9%

ASTM D1557 -- Method A



Soil Properties

Natural Moisture Content	--
Specific Gravity of Soil	--
Liquid Limit	--
Plastic Limit	--
Plastic Index	--

% Passing

3/4"	--
3/8"	--
#4	--
#10	--
#40	--
#60	--
#200	--

Oversize Fraction

Bulk Gravity	--
% Moisture	--
% Oversize	--
MDD	
Opt. MC	

Moisture-Density Curve Displayed: Fine Fraction Corrected for Oversize Fraction (ASTM D 4718)
 Sieve Size used to separate the Oversize Fraction: #4 Sieve 3/8 inch Sieve 3/4 inch Sieve
 Mechanical Rammer Manual Rammer Moist Preparation Dry Preparation

References / Comments / Deviations:

ASTM D 2216: Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

ASTM D 1557: Laboratory Compaction Characteristics of Soil Using Modified Effort

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Moisture - Density Report



ASTM D1557- D698

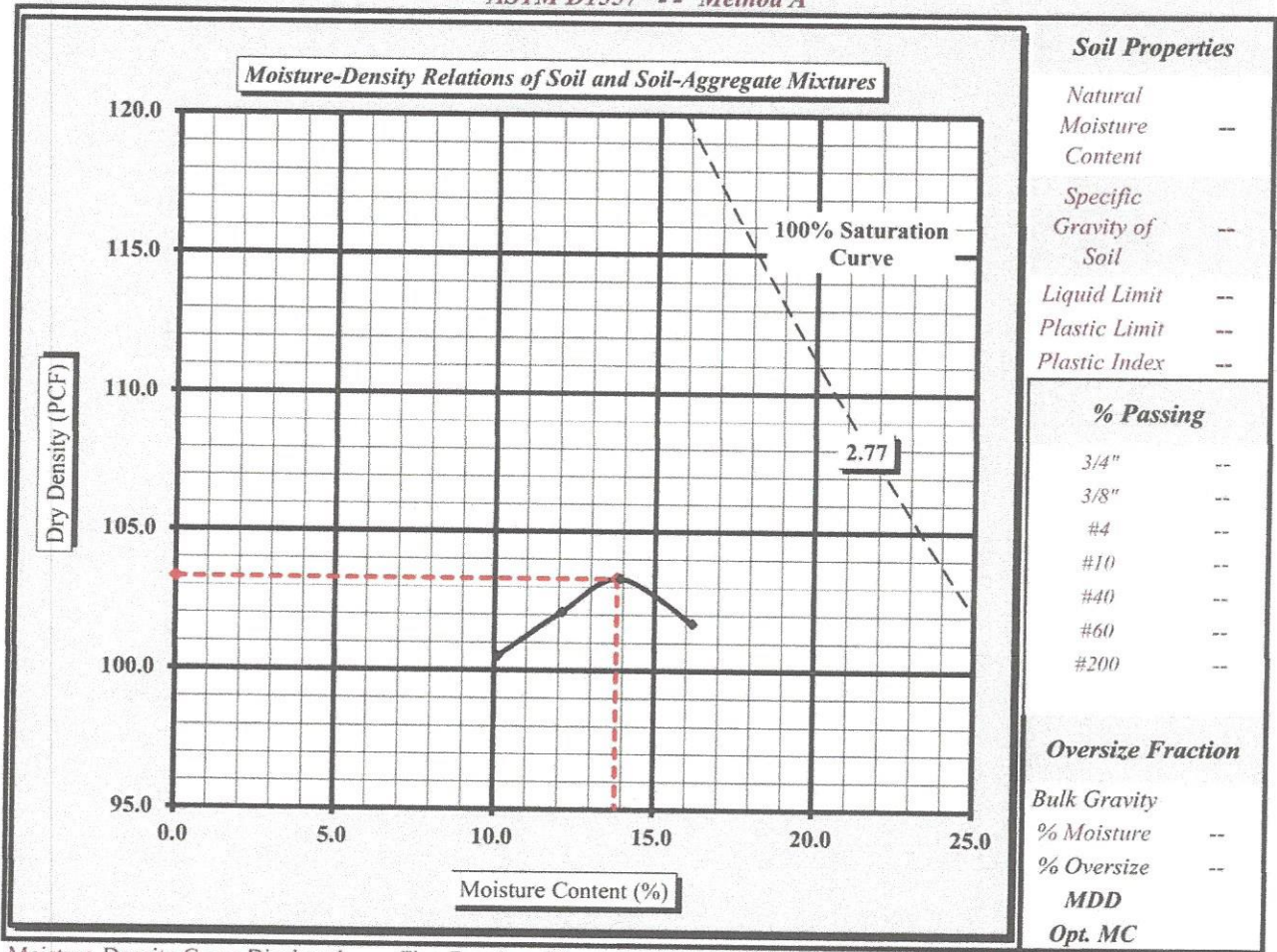
Quality Assurance

S&ME, Inc.- Myrtle Beach 1330 Highway 501 Business; Conway, SC 29526

S&ME Project #:	1463-17-018	Report Date:	
Project Name:	Grand Linear Park	Test Date(s):	6/12/2017
Client Name:	Thomas & Hutton		
Client Address:	611 Burroughs & Chapin Blvd, Ste.202; Myrtle Beach, SC		
Boring #:	T-7	Sample #:	Bulk-3
		Sample Date:	6/8/2017
Location:	Walking Trail	Lab #:	3994
		Depth:	0'-5'
Sample Description:			

Maximum Dry Density 103.3 PCF. Optimum Moisture Content 13.8%

ASTM D1557 -- Method A



Moisture-Density Curve Displayed: Fine Fraction Corrected for Oversize Fraction (ASTM D 4718)
 Sieve Size used to separate the Oversize Fraction: #4 Sieve 3/8 inch Sieve 3/4 inch Sieve
 Mechanical Rammer Manual Rammer Moist Preparation Dry Preparation

References / Comments / Deviations:

ASTM D 2216: Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

ASTM D 1557: Laboratory Compaction Characteristics of Soil Using Modified Effort

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Technical Responsibility

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Position

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**CBR (California Bearing Ratio) of Laboratory
Compacted Soil**

ASTM D 1883

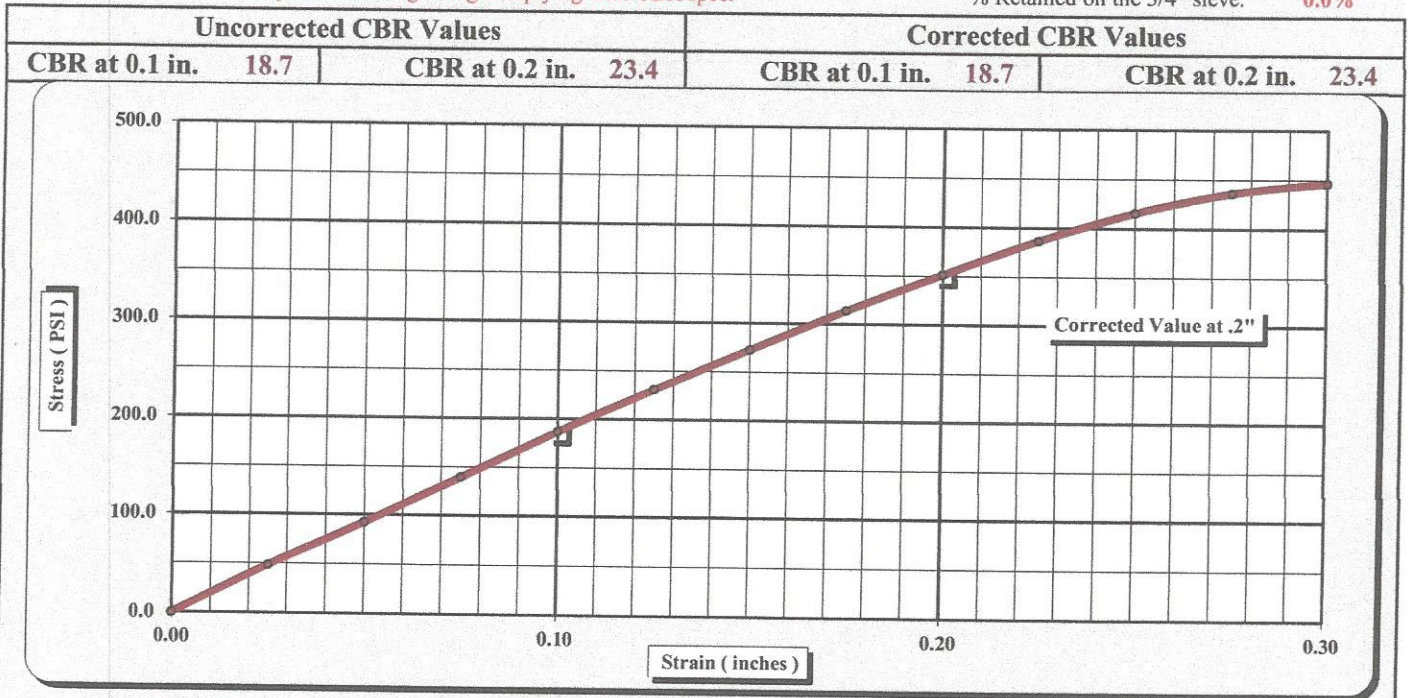


Quality Assurance

S&ME, Inc. Myrtle Beach 1330 Highway 501 Business; Conway, SC 29526

Project #: 1463-17-018	Report Date: 6/15/2017
Project Name: Grand Linear Park	Test Date(s): 6/12/2017
Client Name: Thomas & Hutton	
Client Address: 611 Burroughs & Chapin Blvd, Ste.202; Myrtle Beach, SC 29577	
Boring #: T-3	Sample #: Bulk-1
	Sample Date: 6/8/2017
Location: Walking Trail	Lab # 3994
	Depth: 0'-5'
Sample Description: Brown Clayey Sand (SC)	

ASTM D1557 Method A Maximum Dry Density: **109.1 PCF** Optimum Moisture Content: **8.9%**
 Compaction Test performed on grading complying with CBR spec. % Retained on the 3/4" sieve: **0.0%**



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with ASTM D1883, Section 6.1.1

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	25	Final Dry Density (PCF)	98.5
Initial Dry Density (PCF)	103.6	Average Final Moisture Content	14.3%
Moisture Content of the Compacted Specimen	9.0%	Moisture Content (top 1" after soaking)	14.9%
Percent Compaction	94.9%	Percent Swell	0.3%

Soak Time: 72 Hrs.	Surcharge Weight: 20.0	Surcharge Wt. per sq. Ft.: 102.0
Liquid Limit: 21	Plastic Index: 9	Apparent Relative Density: --

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Classification: ASTM D 2487

Ron Forest, P.E.
Technical Responsibility

Signature

Senior Reviewer
Position

6/16/17
Date

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**CBR (California Bearing Ratio) of Laboratory
Compacted Soil**

ASTM D 1883

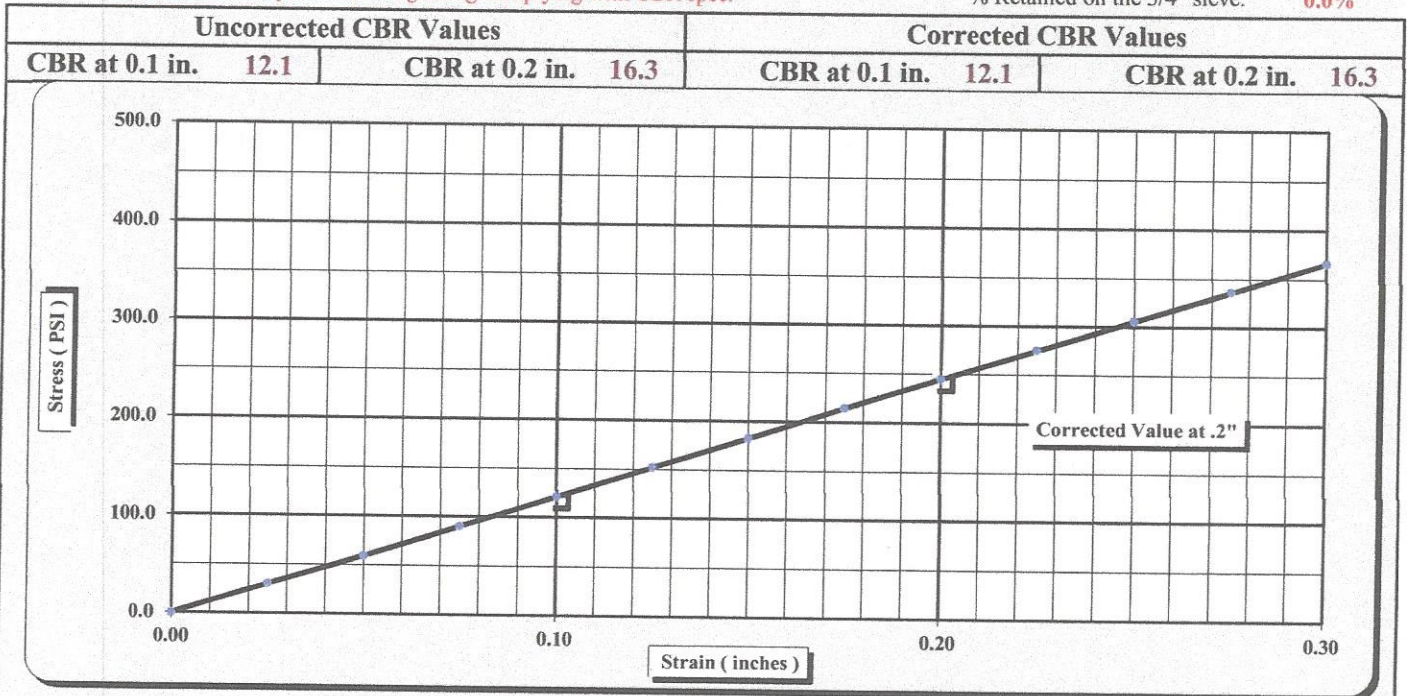


Quality Assurance

S&ME, Inc. Myrtle Beach 1330 Highway 501 Business; Conway, SC 29526

Project #: 1463-17-018	Report Date: 6/15/2017
Project Name: Grand Linear Park	Test Date(s): 6/12/2017
Client Name: Thomas & Hutton	
Client Address: 611 Burroughs & Chapin Blvd, Ste.202; Myrtle Beach, SC 29577	
Boring #: T-6	Sample #: Bulk-2
	Sample Date: 6/8/2017
Location: Walking Trail	Lab # 3994
	Depth: 0'-5'
Sample Description: Brown Clayey Sand (SC)	

ASTM D1557 Method A Maximum Dry Density: **107.5 PCF** Optimum Moisture Content: **10.9%**
 Compaction Test performed on grading complying with CBR spec. % Retained on the 3/4" sieve: **0.0%**



CBR Sample Preparation: *Performed on the fine fraction*
The entire gradation was used and compacted in a 6" CBR mold in accordance with ASTM D1883, Section 6.1.1

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	25	Final Dry Density (PCF)	101.3
Initial Dry Density (PCF)	102.3	Average Final Moisture Content	11.5%
Moisture Content of the Compacted Specimen	10.9%	Moisture Content (top 1" after soaking)	13.1%
Percent Compaction	95.1%	Percent Swell	0.4%

Soak Time: 72 Hrs.	Surcharge Weight: 20.0	Surcharge Wt. per sq. Ft.: 102.0
Liquid Limit: 36	Plastic Index: 21	Apparent Relative Density: --

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Classification: ASTM D 2487

Ron Forest, P.E.
Technical Responsibility

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Senior Reviewer
Position

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**CBR (California Bearing Ratio) of Laboratory
Compacted Soil**

ASTM D 1883

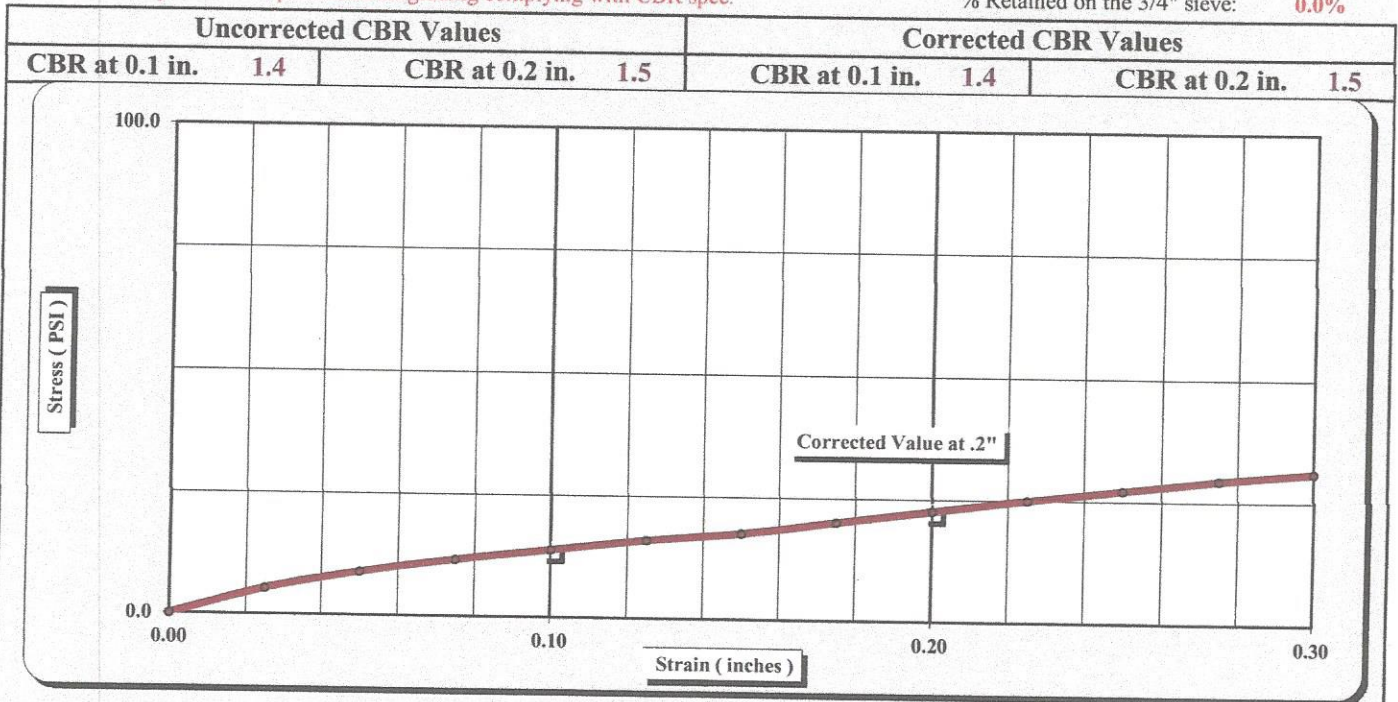


Quality Assurance

S&ME, Inc. Myrtle Beach 1330 Highway 501 Business; Conway, SC 29526

Project #: 1463-17-018	Report Date: 6/15/2017
Project Name: Grand Linear Park	Test Date(s): 6/12/2017
Client Name: Thomas & Hutton	
Client Address: 611 Burroughs & Chapin Blvd, Ste.202; Myrtle Beach, SC 29577	
Boring #: T-7	Sample #: Bulk-3
	Sample Date: 6/8/2017
Location: Walking Trail	Lab #: 3994
	Depth: 0'-5'
Sample Description: Brown Sandy Fat Clay (CH)	

ASTM D1557 Method A Maximum Dry Density: **103.3 PCF** Optimum Moisture Content: **13.8%**
 Compaction Test performed on grading complying with CBR spec. % Retained on the 3/4" sieve: **0.0%**



CBR Sample Preparation:

The entire gradation was used and compacted in a 6" CBR mold in accordance with ASTM D1883, Section 6.1.1

Before Soaking		After Soaking	
Compactive Effort (Blows per Layer)	25	Final Dry Density (PCF)	96.7
Initial Dry Density (PCF)	98.3	Average Final Moisture Content	14.5%
Moisture Content of the Compacted Specimen	13.8%	Moisture Content (top 1" after soaking)	15.5%
Percent Compaction	95.1%	Percent Swell	1.0%

Soak Time: 72 Hrs.	Surcharge Weight: 20.0	Surcharge Wt. per sq. Ft.: 102.0
Liquid Limit: 53	Plastic Index: 30	Apparent Relative Density: ---

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Specific Gravity: ASTM D 854, Classification: ASTM D 2487

Ron Forest, P.E.
Technical Responsibility

Signature

Senior Reviewer
Position

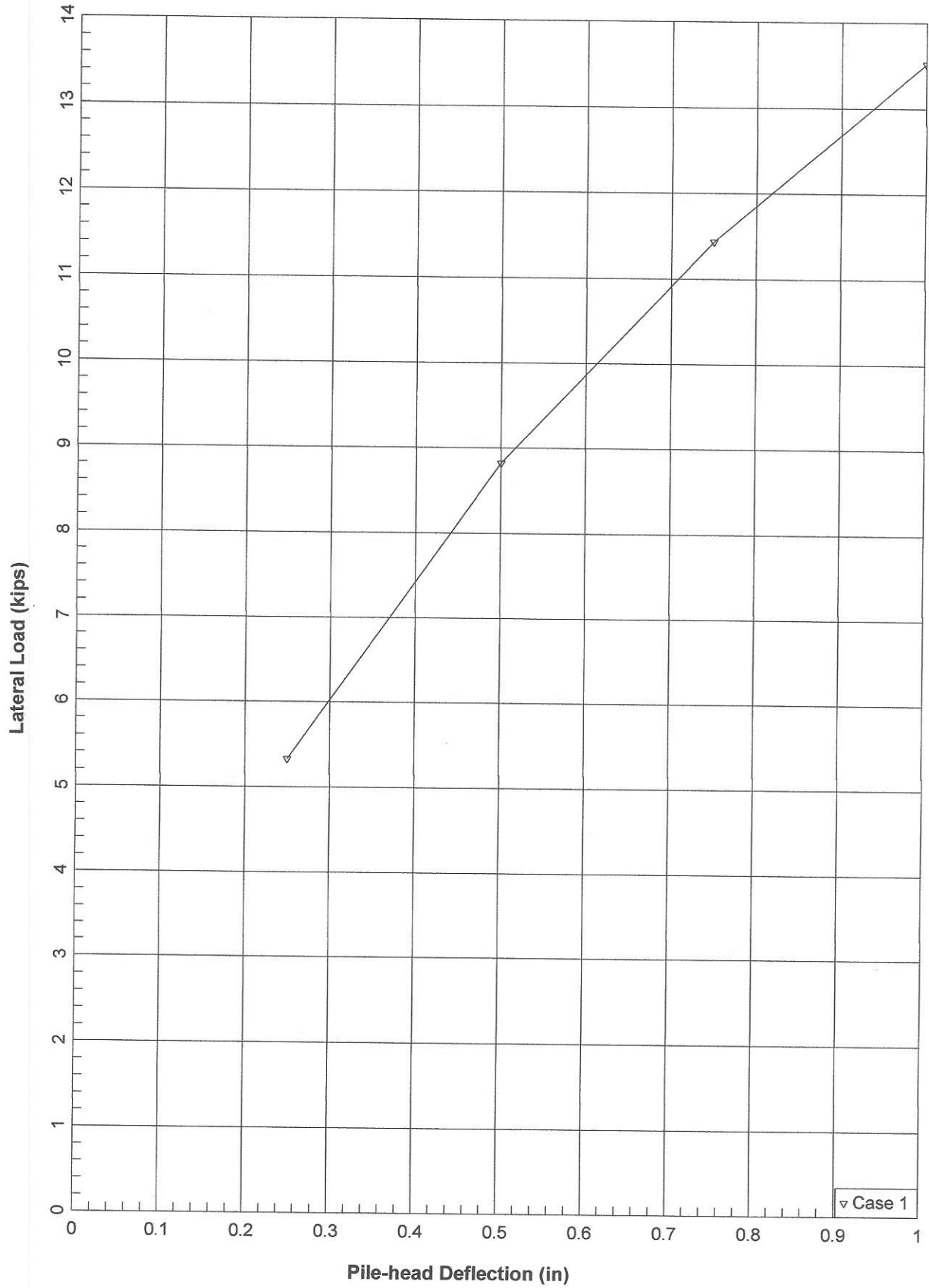
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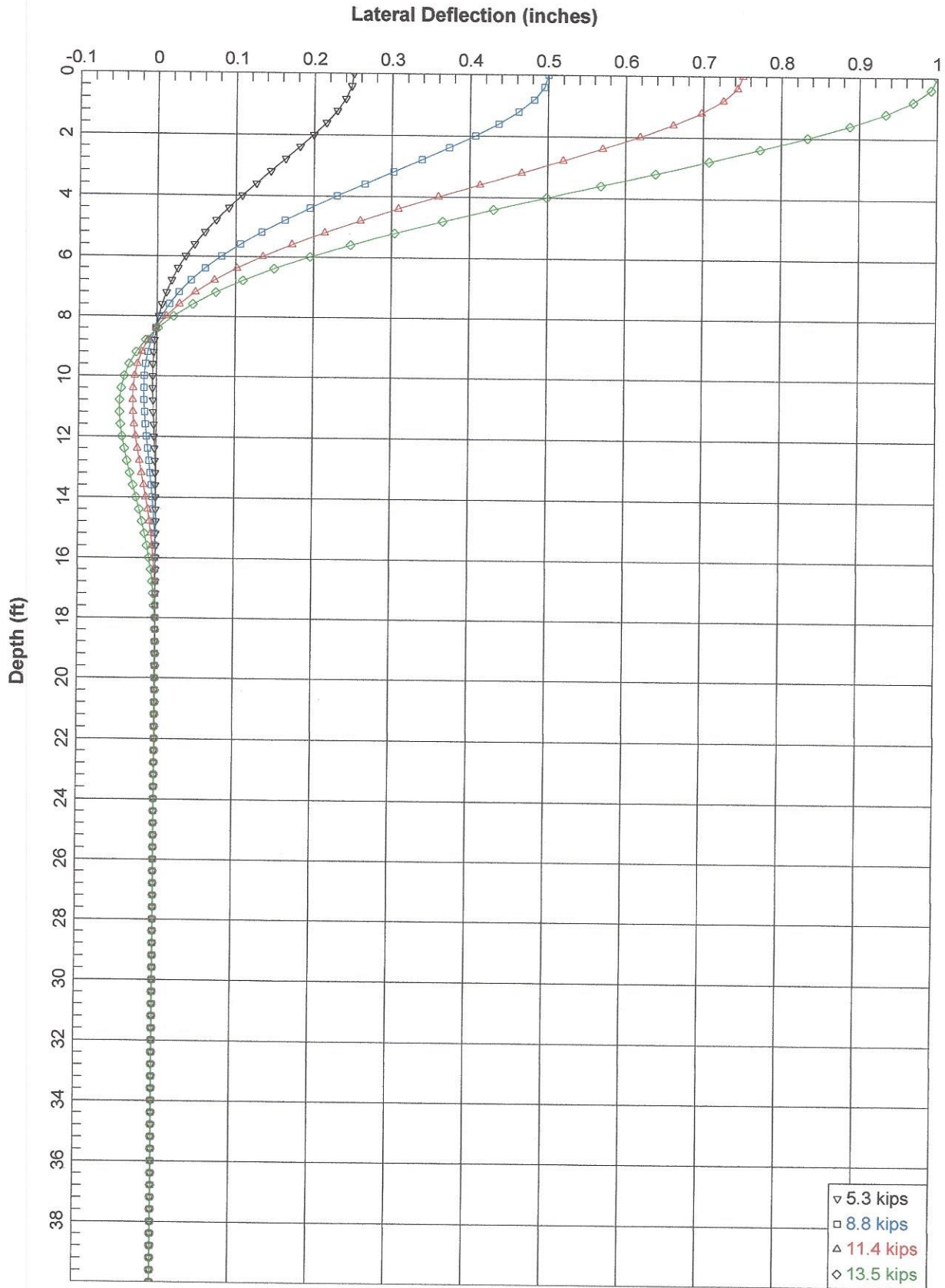
Appendix IV

L-Pile Results

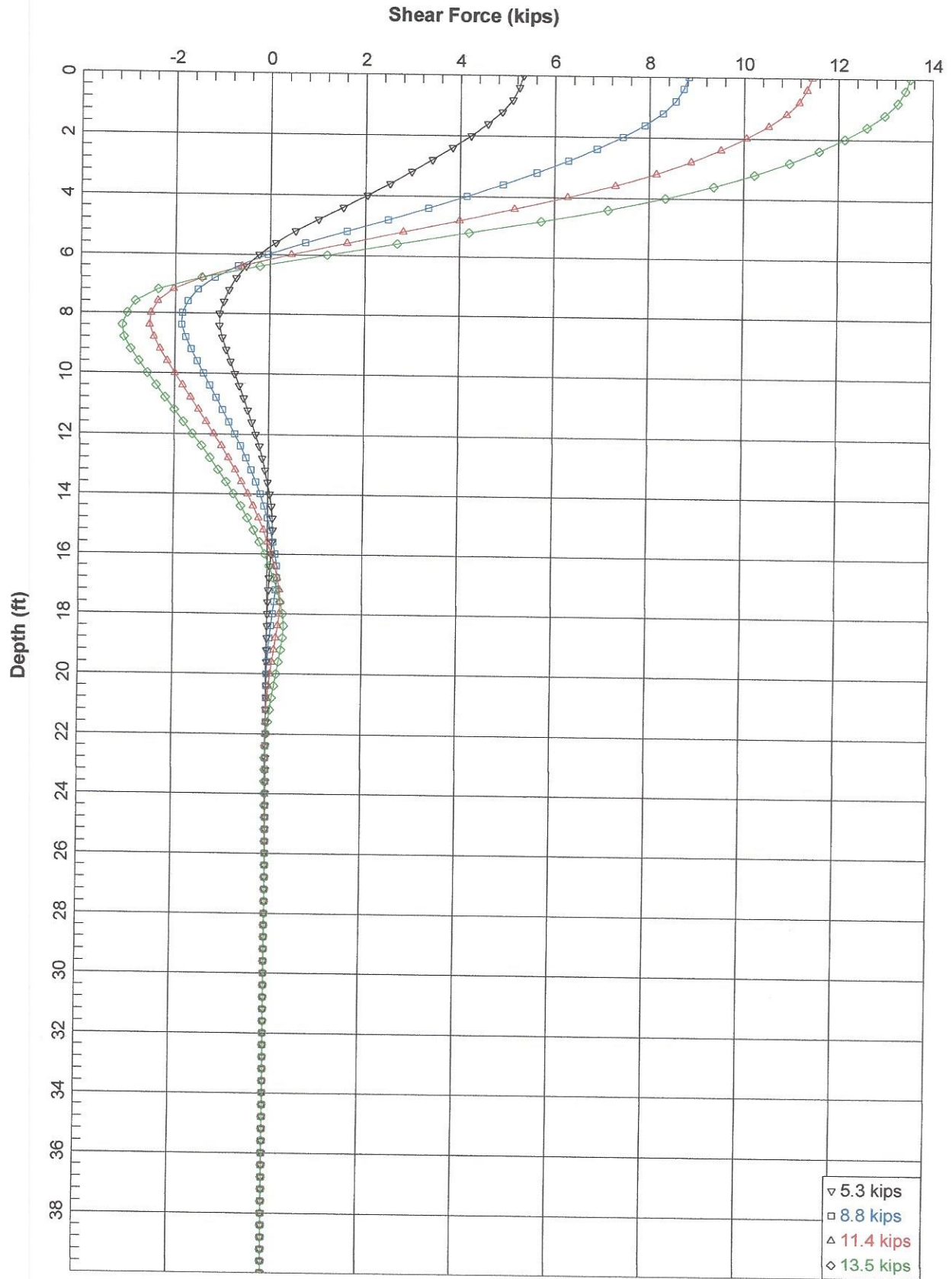
Load - Deflection Relationship for 40 Foot Driven Timber Piles



Lateral Deflection - Depth Relationship for 40 Foot Driven Timber Piles



Shear - Depth Relationship for 40 Foot Driven Timber Piles



Moment - Depth Relationship for 40 Foot Driven Timber Piles

