

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

Sheet 1  
Recorder Doug George  
Date 04/15/00

Guernsey                      County  
Section 14.352  
Br. No. Gue-77-14 899 L  
Location 1-77 over Leatherwood  
Creek

**PILING RECORD** Rear Abutment **FOOTING**

Type of Pile: 300mm Cast-in-Place Reinforced Concrete Pile  
Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F= 25866 Joules  
Capacity formula: "R" = (334DF)/S+2.54 Required "R" = 773000 Newtons

Elev of top of pile (cut-off elev.): 242.6  
Elev. of nominal point of zero penetration: 242

Pile No.	Pay Length (m)	Indicated "R" (N)	Remarks	Misc.
1	19.355 ✓	783352		
2	19.253	1131509	<i>19.263</i>	
3	19.202 ✓	880063		
4	19.073	898551	<i>19.111</i>	

Total = *76.931*  
76,885 meters

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATIONPile No. 1  
Rear Abut. Abut / Pier  
Date Driven 06/09/00Guernsey                      County  
Bridge No GUE-77-14 899 L  
Location I-77 over Leatherwood  
Creek

## PILE DRIVING LOG

Type of Pile: 300mm Cast-In-Place Reinforced Concrete PileHammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 25866 ✓ Joules  
Capacity formula: "R" = (334DF)/S+2.54 Required "R" 773000 NewtonsElev. of top of pile (cut-off elev.) 242.6  
Elev. of nominal point of zero penetration: 242  
Elev. of pile point at final penetration: 223.245  
Length of pile in leads 12.192 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	1	304.80	28054	
0.610	3	101.60	82793	
0.914	3	101.60	82793	
1.219	3	101.60	82793	
1.524	3	101.60	82793	
1.829	3	101.60	82793	
2.134	3	101.60	82793	
2.438	3	101.60	82793	
2.743	3	101.60	82793	
3.048	3	101.60	82793	
3.353	7	43.54	187100	
3.658	7	43.54	187100	
3.962	7	43.54	187100	
4.267	7	43.54	187100	
4.572	8	38.10	212158	
4.877	7	43.54	187100	
5.182	8	38.10	212158	
5.486	8	38.10	212158	
5.791	8	38.10	212158	
6.096	8	38.10	212158	
6.401	9	33.87	236827	
6.706	9	33.87	236827	
7.010	9	33.87	236827	
7.315	9	33.87	236827	
7.620	9	33.87	236827	
7.925	9	33.87	236827	
8.230	9	33.87	236827	
8.534	9	33.87	236827	
8.839	10	30.48	261117	
9.144	10	30.48	261117	
9.449	10	30.48	261117	
9.754	11	27.71	285037	
10.058	11	27.71	285037	
10.363	11	27.71	285037	
10.668	11	27.71	285037	
10.973	11	27.71	285037	
11.278	11	27.71	285037	
11.582	12	25.40	308593	
11.887	12	25.40	308593	
12.192	12	25.40	308593	Splice #1, vis. insp. shows no sign of bent pile.
12.497	14	21.77	354652	
12.802	14	21.77	354652	
13.106	13	23.45	331796	
13.411	13	23.45	331796	
13.716	14	21.77	354652	
14.021	17	17.93	421219	
14.326	15	20.32	377170	
14.630	15	20.32	377170	
14.935	15	20.32	377170	
15.240	17	17.93	421219	
15.545	18	16.93	442764	
15.850	18	16.93	442764	
16.154	19	16.04	464000	
16.459	18	16.93	442764	
16.764	19	16.04	464000	
17.069	21	14.51	505568	
17.374	19	16.04	464000	
17.678	20	15.24	484932	
17.983	19	16.04	464000	
18.288	19	16.04	464000	
18.593	21	14.51	505568	
18.898	22	13.85	525913	
19.202	36	8.47	783352	Bearing obtained. No penetration after 305mm.

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION
 Pile No. 2  
 Rear Abut. \_\_\_\_\_ Abut / Pier  
 Date Driven 03/30/00

 Guernsey \_\_\_\_\_ County  
 Bridge No GUE-77-14 899 L  
 Location I-77 over Leatherwood  
Creek

## PILE DRIVING LOG

Type of Pile: 300mm Cast-In-Place Reinforced Concrete Pile
 Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 25866 Joules  
 Capacity formula: "R" = (334DF)/S+2.54 Required "R" = 773000 Newtons  
 Elev. of top of pile (cut-off elev.) 242.6  
 Elev. of nominal point of zero penetration: 242  
 Elev. of pile point at final penetration: 223.347  
 Length of pile in leads 12.192 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	1	304.80	28054	
0.610	1	304.80	28054	
0.914	1	304.80	28054	
1.219	1	304.80	28054	
1.524	1	304.80	28054	
1.829	1	304.80	28054	
2.134	1	304.80	28054	
2.438	1	304.80	28054	
2.743	1	304.80	28054	
3.048	1	304.80	28054	
3.353	2	152.40	55648	
3.658	2	152.40	55648	
3.962	2	152.40	55648	
4.267	2	152.40	55648	
4.572	2	152.40	55648	
4.877	2	152.40	55648	
5.182	2	152.40	55648	
5.486	2	152.40	55648	
5.791	2	152.40	55648	
6.096	2	152.40	55648	
6.401	3	101.60	82793	
6.706	3	101.60	82793	
7.010	4	76.20	109501	
7.315	4	76.20	109501	
7.620	4	76.20	109501	
7.925	5	60.96	135781	
8.230	5	60.96	135781	
8.534	5	60.96	135781	
8.839	5	60.96	135781	
9.144	5	60.96	135781	
9.449	5	60.96	135781	
9.754	5	60.96	135781	
10.058	5	60.96	135781	
10.363	10	30.48	261117	
10.668	11	27.71	285037	
10.973	10	30.48	261117	
11.278	9	33.87	236827	
11.582	7	43.54	187100	
11.887	7	43.54	187100	
12.192	8	38.10	212158	Splice #1, vis. insp. shows no sign of bent pile.
12.497	8	38.10	212158	
12.802	8	38.10	212158	
13.106	8	38.10	212158	
13.411	11	27.71	285037	
13.716	12	25.40	308593	
14.021	12	25.40	308593	
14.326	14	21.77	354652	
14.630	15	20.32	377170	
14.935	14	21.77	354652	
15.240	16	19.05	399356	
15.545	17	17.93	421219	
15.850	18	16.93	442764	
16.154	16	19.05	399356	
16.459	19	16.04	464000	
16.764	18	16.93	442764	
17.069	18	16.93	442764	
17.374	19	16.04	464000	
17.678	18	16.93	442764	
17.983	20	15.24	484932	
18.288	22	13.85	525913	
18.593	26	11.72	604505	
18.898	31	9.83	696890	
19.076	35	5.08	1131509	Bearing obtained. No penetration after 178mm.

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

Pile No. 3  
Rear Abut. Abut / Pier  
Date Driven 03/30/00

Guernsey                      County  
Bridge No GUE-77-14 899 L  
Location I-77 over Leatherwood  
Creek

**PILE DRIVING LOG**

Type of Pile: 300mm Cast-In-Place Reinforced Concrete Pile

Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 25866 Joules  
Capacity formula: "R" = (334DF)/S+2.54 Required "R" = 773000 Newtons  
Elev. of top of pile (cut-off elev.) 242.6  
Elev. of nominal point of zero penetration: 242  
Elev. of pile point at final penetration: 223.398  
Length of pile in leads 12.192 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	4	76.20	109501	
0.610	4	76.20	109501	
0.914	5	60.96	135781	
1.219	5	60.96	135781	
1.524	5	60.96	135781	
1.829	5	60.96	135781	
2.134	5	60.96	135781	
2.438	5	60.96	135781	
2.743	5	60.96	135781	
3.048	5	60.96	135781	
3.353	5	60.96	135781	
3.658	5	60.96	135781	
3.962	5	60.96	135781	
4.267	5	60.96	135781	
4.572	5	60.96	135781	
4.877	5	60.96	135781	
5.182	5	60.96	135781	
5.486	5	60.96	135781	
5.791	5	60.96	135781	
6.096	5	60.96	135781	
6.401	5	60.96	135781	
6.706	5	60.96	135781	
7.010	5	60.96	135781	
7.315	5	60.96	135781	
7.620	5	60.96	135781	
7.925	5	60.96	135781	
8.230	5	60.96	135781	
8.534	5	60.96	135781	
8.839	5	60.96	135781	
9.144	5	60.96	135781	
9.449	5	60.96	135781	
9.754	5	60.96	135781	
10.058	5	60.96	135781	
10.363	5	60.96	135781	
10.668	5	60.96	135781	
10.973	5	60.96	135781	
11.278	5	60.96	135781	
11.582	5	60.96	135781	
11.887	5	60.96	135781	
12.192	5	60.96	135781	Splice #1, vis. insp. shows no sign of bent pile.
12.497	14	21.77	354652	
12.802	12	25.40	308593	
13.106	14	21.77	354652	
13.411	14	21.77	354652	
13.716	12	25.40	308593	
14.021	16	19.05	399356	
14.326	16	19.05	399356	
14.630	16	19.05	399356	
14.935	19	16.04	464000	
15.240	18	16.93	442764	
15.545	21	14.51	505568	
15.850	21	14.51	505568	
16.154	18	16.93	442764	
16.459	23	13.25	545973	
16.764	19	16.04	464000	
17.069	21	14.51	505568	
17.374	21	14.51	505568	
17.678	22	13.85	525913	
17.983	22	13.85	525913	
18.288	24	12.70	565755	
18.593	29	10.51	660680	
18.847	35	7.26	880063	Bearing obtained. No penetration after 254mm.

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATIONPile No. 4  
Rear Abut. Abut / Pier  
Date Driven 03/30/00Guernsey County  
Bridge No GUE-77-14 899 L  
Location I-77 over Leatherwood  
Creek

## PILE DRIVING LOG

Type of Pile: 300mm Cast-in-Place Reinforced Concrete PileHammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 25866 Joules  
Capacity formula: "R" = (334DF)/S+2.54 Required "R" = 773000 Newtons  
Elev. of top of pile (cut-off elev.) 242.6  
Elev. of nominal point of zero penetration: 242  
Elev. of pile point at final penetration: 223.525  
Length of pile in leads 12.192 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	3	101.60	82793	
0.610	4	76.20	109501	
0.914	5	60.96	135781	
1.219	5	60.96	135781	
1.524	5	60.96	135781	
1.829	5	60.96	135781	
2.134	5	60.96	135781	
2.438	5	60.96	135781	
2.743	5	60.96	135781	
3.048	5	60.96	135781	
3.353	5	60.96	135781	
3.658	5	60.96	135781	
3.962	5	60.96	135781	
4.267	5	60.96	135781	
4.572	5	60.96	135781	
4.877	5	60.96	135781	
5.182	5	60.96	135781	
5.486	5	60.96	135781	
5.791	5	60.96	135781	
6.096	5	60.96	135781	
6.401	5	60.96	135781	
6.706	5	60.96	135781	
7.010	5	60.96	135781	
7.315	5	60.96	135781	
7.620	5	60.96	135781	
7.925	5	60.96	135781	
8.230	5	60.96	135781	
8.534	5	60.96	135781	
8.839	5	60.96	135781	
9.144	5	60.96	135781	
9.449	5	60.96	135781	
9.754	5	60.96	135781	
10.058	5	60.96	135781	
10.363	5	60.96	135781	
10.668	5	60.96	135781	
10.973	5	60.96	135781	
11.278	5	60.96	135781	
11.582	5	60.96	135781	
11.887	5	60.96	135781	
12.192	5	60.96	135781	Splice #1, vis. insp. shows no sign of bent pile.
12.497	13	23.45	331796	
12.802	13	23.45	331796	
13.106	12	25.40	308593	
13.411	13	23.45	331796	
13.716	13	23.45	331796	
14.021	15	20.32	377170	
14.326	14	21.77	354652	
14.630	14	21.77	354652	
14.935	8	38.10	212158	
15.240	8	38.10	212158	
15.545	16	19.05	399356	
15.850	20	15.24	484932	
16.154	20	15.24	484932	
16.459	19	16.04	464000	
16.764	23	13.25	545973	
17.069	21	14.51	505568	
17.374	22	13.85	525913	
17.678	22	13.85	525913	
17.983	21	14.51	505568	
18.288	24	12.70	565755	
18.593	23	13.25	545973	
18.898	22	13.85	525913	
19.202	25	12.19	585263	

19.507	26	11.72	604505	
19.812	30	10.16	678905	
20.066	36	7.06	898551	Bearing obtained. No penetration after 254mm.

Sheet 1  
Recorder Doug George  
Date 04/15/00

Guernsey County  
Section 14.352  
Br. No. Gue-77-14 899 L  
Location 1-77 over Leatherwood  
Creek

**PILING RECORD**

Forward Abutment

**FOOTING**

Type of Pile: 300mm Cast-in-Place Reinforced Concrete Pile

Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer

WH or F= 25866 Joules

Capacity formula: "R" = (334DF)/S+2.54

Required "R" = 773000 Newtons

Elev of top of pile (cut-off elev.): 242.036

Elev. of nominal point of zero penetration: 241.436

Pile No.	Pay Length (m)	Indicated "R" (N)	Remarks	Misc.
5	18.075 ✓	819369		
6	18.075 ✓	898551		
7	17.831 ✓	837007		
8	18.136 ✓	880063		

Total = 72.117 meters

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

Pile No. 5  
Fwd. Abut. \_\_\_\_\_ Abut / Pier  
Date Driven 03/28/00

Guernsey \_\_\_\_\_ County  
Bridge No GUE-77-14 899 L  
Location I-77 over Leatherwood  
Creek

PILE DRIVING LOG

Type of Pile: 300mm Cast-In-Place Reinforced Concrete Pile

Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 25866 Joules  
Capacity formula: "R" = (334DF)/S+2.54 Required "R" = 773000 Newtons  
Elev. of top of pile (cut-off elev.) 242.036  
Elev. of nominal point of zero penetration: 241.436  
Elev. of pile point at final penetration: 223.961  
Length of pile in leads 13.72 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	2	152.40	55648	
0.610	3	101.60	82793	
0.914	3	101.60	82793	
1.219	3	101.60	82793	
1.524	3	101.60	82793	
1.829	3	101.60	82793	
2.134	3	101.60	82793	
2.438	3	101.60	82793	
2.743	3	101.60	82793	
3.048	3	101.60	82793	
3.353	5	60.96	135781	
3.658	5	60.96	135781	
3.962	6	50.80	161644	
4.267	6	50.80	161644	
4.572	6	50.80	161644	
4.877	7	43.54	187100	
5.182	7	43.54	187100	
5.486	7	43.54	187100	
5.791	8	38.10	212158	
6.096	8	38.10	212158	
6.401	8	38.10	212158	
6.706	8	38.10	212158	
7.010	9	33.87	236827	
7.315	9	33.87	236827	
7.620	9	33.87	236827	
7.925	9	33.87	236827	
8.230	9	33.87	236827	
8.534	9	33.87	236827	
8.839	9	33.87	236827	
9.144	9	33.87	236827	
9.449	10	30.48	261117	
9.754	10	30.48	261117	
10.058	10	30.48	261117	
10.363	11	27.71	285037	
10.668	11	27.71	285037	
10.973	12	25.40	308593	
11.278	12	25.40	308593	
11.582	12	25.40	308593	
11.887	12	25.40	308593	
12.192	12	25.40	308593	
12.497	14	21.77	354652	
12.802	10	30.48	261117	
13.106	14	21.77	354652	
13.411	14	21.77	354652	
13.716	15	20.32	377170	Splice #1, vis. insp. shows no sign of bent pile.
14.021	15	20.32	377170	
14.326	13	23.45	331796	
14.630	20	15.24	484932	
14.935	18	16.93	442764	
15.240	19	16.04	464000	
15.545	19	16.04	464000	
15.850	19	16.04	464000	
16.154	19	16.04	464000	
16.459	20	15.24	484932	
16.764	20	15.24	484932	
17.069	20	15.24	484932	
17.374	21	14.51	505568	
17.678	25	12.19	585263	
17.983	25	12.19	585263	
18.262	35	7.98	819369	Bearing obtained. No penetration after 279mm.



STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION
 File No. 6  
 Fwd. Abut.          Abut / Pier  
 Date Driven 03/28/00

 Guernsey          County  
 Bridge No GUE-77-14 899 L  
 Location I-77 over Leatherwood  
Creek

## PILE DRIVING LOG

Type of Pile: 300mm Cast-In-Place Reinforced Concrete Pile
 Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 25866 Joules  
 Capacity formula: "R" = (334DF)/S+2.54 Required "R" = 773000 Newtons  
 Elev. of top of pile (cut-off elev.) 242.036  
 Elev. of nominal point of zero penetration: 241.436  
 Elev. of pile point at final penetration: 223.961  
 Length of pile in leads 13.72 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	3	101.60	82793	
0.610	3	101.60	82793	
0.914	3	101.60	82793	
1.219	4	76.20	109501	
1.524	4	76.20	109501	
1.829	4	76.20	109501	
2.134	4	76.20	109501	
2.438	4	76.20	109501	
2.743	4	76.20	109501	
3.048	4	76.20	109501	
3.353	4	76.20	109501	
3.658	4	76.20	109501	
3.962	4	76.20	109501	
4.267	4	76.20	109501	
4.572	4	76.20	109501	
4.877	4	76.20	109501	
5.182	4	76.20	109501	
5.486	4	76.20	109501	
5.791	4	76.20	109501	
6.096	4	76.20	109501	
6.401	7	43.54	187100	
6.706	7	43.54	187100	
7.010	7	43.54	187100	
7.315	7	43.54	187100	
7.620	8	38.10	212158	
7.925	9	33.87	236827	
8.230	10	30.48	261117	
8.534	10	30.48	261117	
8.839	10	30.48	261117	
9.144	10	30.48	261117	
9.449	11	27.71	285037	
9.754	12	25.40	308593	
10.058	12	25.40	308593	
10.363	12	25.40	308593	
10.668	12	25.40	308593	
10.973	13	23.45	331796	
11.278	13	23.45	331796	
11.582	13	23.45	331796	
11.887	13	23.45	331796	
12.192	13	23.45	331796	
12.497	13	23.45	331796	
12.802	13	23.45	331796	
13.106	13	23.45	331796	
13.411	13	23.45	331796	
13.716	14	21.77	354652	Splice #1, vis. insp. shows no sign of bent pile.
14.021	14	21.77	354652	
14.326	16	19.05	399356	
14.630	16	19.05	399356	
14.935	19	16.04	464000	
15.240	18	16.93	442764	
15.545	19	16.04	464000	
15.850	20	15.24	484932	
16.154	19	16.04	464000	
16.459	21	14.51	505568	
16.764	22	13.85	525913	
17.069	22	13.85	525913	
17.374	20	15.24	484932	
17.678	25	12.19	585263	
17.983	28	10.89	642208	
18.237	36	7.06	898551	Bearing obtained. No penetration after 254mm.

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION
 Pile No. 7  
 Fwd. Abut. Abut / Pier  
 Date Driven 03/28/00

 Guernsey                      County  
 Bridge No GUE-77-14 899 L  
 Location I-77 over Leatherwood  
Creek

## PILE DRIVING LOG

 Type of Pile: 300mm Cast-In-Place Reinforced Concrete Pile  
 Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 25866 Joules  
 Capacity formula: "R" = (334DF)/S+2.54 Required "R" 773000 Newtons  
 Elev. of top of pile (cut-off elev.) 242.036  
 Elev. of nominal point of zero penetration: 241.436  
 Elev. of pile point at final penetration: 224.205  
 Length of pile in leads 13.72 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	2	152.40	55648	
0.610	2	152.40	55648	
0.914	2	152.40	55648	
1.219	3	101.60	82793	
1.524	3	101.60	82793	
1.829	3	101.60	82793	
2.134	3	101.60	82793	
2.438	3	101.60	82793	
2.743	3	101.60	82793	
3.048	3	101.60	82793	
3.353	5	60.96	135781	
3.658	5	60.96	135781	
3.962	5	60.96	135781	
4.267	6	50.80	161644	
4.572	6	50.80	161644	
4.877	6	50.80	161644	
5.182	6	50.80	161644	
5.486	6	50.80	161644	
5.791	6	50.80	161644	
6.096	6	50.80	161644	
6.401	6	50.80	161644	
6.706	7	43.54	187100	
7.010	7	43.54	187100	
7.315	7	43.54	187100	
7.620	7	43.54	187100	
7.925	8	38.10	212158	
8.230	8	38.10	212158	
8.534	9	33.87	236827	
8.839	9	33.87	236827	
9.144	9	33.87	236827	
9.449	9	33.87	236827	
9.754	9	33.87	236827	
10.058	9	33.87	236827	
10.363	10	30.48	261117	
10.668	10	30.48	261117	
10.973	12	25.40	308593	
11.278	12	25.40	308593	
11.582	12	25.40	308593	
11.887	12	25.40	308593	
12.192	12	25.40	308593	
12.497	12	25.40	308593	
12.802	12	25.40	308593	
13.106	12	25.40	308593	
13.411	12	25.40	308593	
13.716	12	25.40	308593	Splice #1, vis. insp. shows no sign of bent pile.
14.021	14	21.77	354652	
14.326	14	21.77	354652	
14.630	16	19.05	399356	
14.935	16	19.05	399356	
15.240	18	16.93	442764	
15.545	17	17.93	421219	
15.850	17	17.93	421219	
16.154	18	16.93	442764	
16.459	20	15.24	484932	
16.764	18	16.93	442764	
17.069	19	16.04	464000	
17.374	18	16.93	442764	
17.678	23	13.25	545973	
17.957	36	7.76	837007	Bearing obtained. No penetration after 279mm.

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATIONPile No. 8

Guernsey County

Fwd. Abut. \_\_\_\_\_ Abut / Pier

Bridge No GUE-77-14 899 LDate Driven 06/09/00

## PILE DRIVING LOG

Location I-77 over LeatherwoodCreekType of Pile: 300mm Cast-In-Place Reinforced Concrete PileHammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 25866 JoulesCapacity formula: "R" = (334DF)/S+2.54 Required "R" 773000 NewtonsElev. of top of pile (cut-off elev.) 242.036Elev. of nominal point of zero penetration: 241.436Elev. of pile point at final penetration: 223.9Length of pile in leads 12.192 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305				
0.610				
0.914				
1.219				
1.524				
1.829				
2.134				
2.438				
2.743				
3.048				
3.353				
3.658				
3.962				
4.267				
4.572				
4.877				
5.182				
5.486				
5.791				
6.096				
6.401				
6.706				
7.010				
7.315				
7.620				
7.925				
8.230				
8.534				
8.839				
9.144				
9.449				
9.754				
10.058				
10.363				
10.668	14	21.77	354652	
10.973	16	19.05	399356	
11.278	16	19.05	399356	
11.582	17	17.93	421219	
11.887	16	19.05	399356	
12.192	18	16.93	442764	Splice #1, vis. insp. shows no sign of bent pile.
12.497	18	16.93	442764	
12.802	17	17.93	421219	
13.106	20	15.24	484932	
13.411	17	17.93	421219	
13.716	17	17.93	421219	
14.021	17	17.93	421219	
14.326	18	16.93	442764	
14.630	20	15.24	484932	
14.935	18	16.93	442764	
15.240	20	15.24	484932	
15.545	21	14.51	505568	
15.850	21	14.51	505568	
16.154	20	15.24	484932	
16.459	22	13.85	525913	
16.764	24	12.70	565755	
17.069	23	13.25	545973	
17.374	23	13.25	545973	
17.678	23	13.25	545973	
17.983	27	11.29	623485	
18.237	35	7.26	880063	Bearing obtained. No penetration after 254mm.

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

Sheet 1  
Recorder Doug George  
Date 03/30/00

Guernsey                      County  
Section 14.352  
Br. No. Gue-77-14 899 L  
Location 1-77 over Leatherwood  
Creek

**PILING RECORD**

Rear Pier

**FOOTING**

Type of Pile: 300mm Cast-in-Place Reinforced Concrete Pile  
Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F= 33973 Joules  
Capacity formula: "R" = (334DF)/S+2.54 Required "R" = 1005000 Newtons

Elev of top of pile (cut-off elev.): 243.504  
Elev. of nominal point of zero penetration: 239.004

Pile No.	Pay Length (m)	Indicated "R" (N)	Remarks	Misc.
3	19.837 ✓	1155918		
4	16.612 ✓	1155918		

Total = 36.449 meters

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATIONPile No. 3  
Rear Pier \_\_\_\_\_ Abut / Pier \_\_\_\_\_  
Date Driven 03/30/00Guernsey \_\_\_\_\_ County \_\_\_\_\_  
Bridge No GUE-77-14 899 L  
Location I-77 over Leatherwood  
Creek

## PILE DRIVING LOG

Type of Pile: 300mm Cast-In-Place Reinforced Concrete PileHammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 33973 Joules  
Capacity formula: "R" = (334DF)/S+2.54 Required "R" = 1005000 NewtonsElev. of top of pile (cut-off elev.) 243.504  
Elev. of nominal point of zero penetration: 239.004  
Elev. of pile point at final penetration: 223.667  
Length of pile in leads 13.716 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	0	0.00	0	
0.610	0	0.00	0	
0.914	0	0.00	0	
1.219	0	0.00	0	
1.524	0	0.00	0	
1.829	0	0.00	0	
2.134	0	0.00	0	
2.438	0	0.00	0	
2.743	0	0.00	0	
3.048	0	0.00	0	
3.353	0	0.00	0	
3.658	0	0.00	0	
3.962	0	0.00	0	
4.267	0	0.00	0	
4.572	1	304.80	36847	
4.877	0	0.00	0	
5.182	0	0.00	0	
5.486	1	304.80	36847	
5.791	2	152.40	73091	
6.096	2	152.40	73091	
6.401	1	304.80	36847	
6.706	1	304.80	36847	
7.010	1	304.80	36847	
7.315	1	304.80	36847	
7.620	1	304.80	36847	
7.925	1	304.80	36847	
8.230	2	152.40	73091	
8.534	2	152.40	73091	
8.839	2	152.40	73091	
9.144	2	152.40	73091	
9.449	4	76.20	143824	
9.754	4	76.20	143824	
10.058	5	60.96	178342	
10.363	5	60.96	178342	
10.668	5	60.96	178342	
10.973	5	60.96	178342	
11.278	6	50.80	212312	
11.582	6	50.80	212312	
11.887	6	50.80	212312	
12.192	6	50.80	212312	
12.497	8	38.10	278659	
12.802	8	38.10	278659	
13.106	8	38.10	278659	
13.411	9	33.87	311061	
13.716	9	33.87	311061	Splice #1, vis. insp. shows no sign of bent pile.
14.021	8	38.10	278659	
14.326	8	38.10	278659	
14.630	8	38.10	278659	
14.935	9	33.87	311061	
15.240	9	33.87	311061	
15.545	14	21.77	465818	
15.850	13	23.45	435797	
16.154	18	16.93	581549	
16.459	21	14.51	664038	
16.713	35	7.26	1155918	Bearing obtained. No penetration after 254mm.

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATIONPile No. 4

Rear Pier \_\_\_\_\_ Abut / Pier \_\_\_\_\_

Date Driven 03/29/00

Guernsey \_\_\_\_\_ County \_\_\_\_\_

Bridge No GUE-77-14 899 LLocation I-77 over LeatherwoodCreek

## PILE DRIVING LOG

Type of Pile: 300mm Cast-In-Place Reinforced Concrete PileHammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 33973 JoulesCapacity formula: "R" = (334DF)/S+2.54 Required "R" = 1005000 NewtonsElev. of top of pile (cut-off elev.) 243.504Elev. of nominal point of zero penetration: 239.004Elev. of pile point at final penetration: 226.892Length of pile in leads 13.716 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	0	0.00	0	
0.610	0	0.00	0	
0.914	0	0.00	0	
1.219	0	0.00	0	
1.524	0	0.00	0	
1.829	0	0.00	0	
2.134	0	0.00	0	
2.438	0	0.00	0	
2.743	0	0.00	0	
3.048	0	0.00	0	
3.353	0	0.00	0	
3.658	0	0.00	0	
3.962	0	0.00	0	
4.267	0	0.00	0	
4.572	2	152.40	73091	
4.877	1	304.80	36847	
5.182	1	304.80	36847	
5.486	1	304.80	36847	
5.791	1	304.80	36847	
6.096	1	304.80	36847	
6.401	2	152.40	73091	
6.706	2	152.40	73091	
7.010	2	152.40	73091	
7.315	2	152.40	73091	
7.620	2	152.40	73091	
7.925	2	152.40	73091	
8.230	2	152.40	73091	
8.534	2	152.40	73091	
8.839	2	152.40	73091	
9.144	2	152.40	73091	
9.449	4	76.20	143824	
9.754	5	60.96	178342	
10.058	5	60.96	178342	
10.363	5	60.96	178342	
10.668	5	60.96	178342	
10.973	7	43.54	245746	
11.278	8	38.10	278659	
11.582	8	38.10	278659	
11.887	8	38.10	278659	
12.192	8	38.10	278659	
12.497	8	38.10	278659	
12.802	9	33.87	311061	
13.106	9	33.87	311061	
13.411	9	33.87	311061	
13.716	9	33.87	311061	Splice #1, vis. insp. shows no sign of bent pile.
14.021	19	16.04	609441	
14.326	20	15.24	636935	
14.630	18	16.93	581549	
14.935	19	16.04	609441	
15.240	21	14.51	664038	
15.545	24	12.70	743090	
15.799	35	7.26	1155918	Bearing obtained. No penetration after 254mm.

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

Sheet 1  
Recorder Doug George  
Date 03/30/00

Guernsey                      County  
Section 14.352  
Br. No. Gue-77-14 899 L  
Location 1-77 over Leatherwood  
Creek

**PILING RECORD** Fwd. Pier **FOOTING**

Type of Pile: 300mm Cast-in-Place Reinforced Concrete Pile  
Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F= 33973 Joules  
Capacity formula: "R" = (334DF)/S+2.54 Required "R" = 1005000 Newtons

Elev of top of pile (cut-off elev.): 243.206  
Elev. of nominal point of zero penetration: 240.463

Pile No.	Pay Length (m)	Indicated "R" (N)	Remarks	Misc.
1	19.406	1409966	19.407	
2	19.253	1273869	19.254	

Total = 38.659 meters ✓  
38.661

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

Pile No. 1  
 Fwd. Pier Abut / Pier  
 Date Driven 03/28/00

Guernsey County  
 Bridge No GUE-77-14 899 L  
 Location I-77 over Leatherwood  
Creek

## PILE DRIVING LOG

Type of Pile: 300mm Cast-In-Place Reinforced Concrete Pile

Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 33973 Joules  
 Capacity formula: "R" = (334DF)/S+2.54 Required "R" 1005000 Newtons

Elev. of top of pile (cut-off elev.) 243.206  
 Elev. of nominal point of zero penetration: 240.463  
 Elev. of pile point at final penetration: 223.8  
 Length of pile in leads 15.24 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	1	304.80	36847	
0.610	1	304.80	36847	
0.914	1	304.80	36847	
1.219	2	152.40	73091	
1.524	2	152.40	73091	
1.829	2	152.40	73091	
2.134	2	152.40	73091	
2.438	2	152.40	73091	
2.743	2	152.40	73091	
3.048	2	152.40	73091	
3.353	2	152.40	73091	
3.658	2	152.40	73091	
3.962	2	152.40	73091	
4.267	2	152.40	73091	
4.572	2	152.40	73091	
4.877	4	76.20	143824	
5.182	4	76.20	143824	
5.486	4	76.20	143824	
5.791	4	76.20	143824	
6.096	4	76.20	143824	
6.401	5	60.96	178342	
6.706	5	60.96	178342	
7.010	5	60.96	178342	
7.315	5	60.96	178342	
7.620	5	60.96	178342	
7.925	6	50.80	212312	
8.230	7	43.54	245746	
8.534	7	43.54	245746	
8.839	7	43.54	245746	
9.144	8	38.10	278659	
9.449	7	43.54	245746	
9.754	8	38.10	278659	
10.058	9	33.87	311061	
10.363	9	33.87	311061	
10.668	10	30.48	342965	
10.973	9	33.87	311061	
11.278	8	38.10	278659	
11.582	11	27.71	374381	
11.887	12	25.40	405322	
12.192	10	30.48	342965	
12.497	13	23.45	435797	
12.802	12	25.40	405322	
13.106	13	23.45	435797	
13.411	11	27.71	374381	
13.716	15	20.32	495394	
14.021	12	25.40	405322	
14.326	15	20.32	495394	
14.630	17	17.93	553250	
14.935	25	12.19	768714	
15.240	26	11.72	793987	
15.443	37	5.49	1409966	Bearing obtained. No penetration after 203mm.



STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

Pile No. 2  
Fwd. Pier \_\_\_\_\_ Abut / Pier \_\_\_\_\_  
Date Driven 03/29/00

Guernsey \_\_\_\_\_ County \_\_\_\_\_  
Bridge No GUE-77-14 899 L  
Location I-77 over Leatherwood  
Creek

PILE DRIVING LOG

Type of Pile: 300mm Cast-In-Place Reinforced Concrete Pile

Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 33973 Joules  
Capacity formula: "R" = (334DF)/S+2.54 Required "R" 1005000 Newtons  
Elev. of top of pile (cut-off elev.) 243.206  
Elev. of nominal point of zero penetration: 240.463  
Elev. of pile point at final penetration: 223.953  
Length of pile in leads 13.72 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	0	0.00	0	
0.610	0	0.00	0	
0.914	0	0.00	0	
1.219	0	0.00	0	
1.524	2	152.40	73091	
1.829	2	152.40	73091	
2.134	2	152.40	73091	
2.438	2	152.40	73091	
2.743	2	152.40	73091	
3.048	2	152.40	73091	
3.353	2	152.40	73091	
3.658	3	101.60	108745	
3.962	3	101.60	108745	
4.267	3	101.60	108745	
4.572	3	101.60	108745	
4.877	3	101.60	108745	
5.182	3	101.60	108745	
5.486	3	101.60	108745	
5.791	4	76.20	143824	
6.096	4	76.20	143824	
6.401	4	76.20	143824	
6.706	4	76.20	143824	
7.010	4	76.20	143824	
7.315	5	60.96	178342	
7.620	5	60.96	178342	
7.925	5	60.96	178342	
8.230	5	60.96	178342	
8.534	5	60.96	178342	
8.839	5	60.96	178342	
9.144	6	50.80	212312	
9.449	6	50.80	212312	
9.754	6	50.80	212312	
10.058	6	50.80	212312	
10.363	6	50.80	212312	
10.668	7	43.54	245746	
10.973	9	33.87	311061	
11.278	9	33.87	311061	
11.582	9	33.87	311061	
11.887	9	33.87	311061	
12.192	10	30.48	342965	
12.497	12	25.40	405322	
12.802	11	27.71	374381	
13.106	11	27.71	374381	
13.411	12	25.40	405322	
13.716	12	25.40	405322	Splice #1, vis. insp. shows no sign of bent pile.
14.021	13	23.45	435797	
14.326	20	15.24	636935	
14.630	18	16.93	581549	
14.935	19	16.04	609441	
15.240	20	15.24	636935	
15.545	27	11.29	818916	
15.774	36	6.35	1273869	Bearing obtained. No penetration after 229mm.

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

Sheet 1  
Recorder Doug George  
Date 04/15/00

Guernsey                      County  
Section 14.352  
Br. No. Gue-77-14 899 L  
Location 1-77 over Leatherwood  
Creek

**PILING RECORD**      Rear Abutment      **FOOTING**

Type of Pile: 300mm Cast-in-Place Reinforced Concrete Pile  
Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer      WH or F= 25866 Joules  
Capacity formula: "R" = (334DF)/S+2.54      Required "R" = 773000 Newtons

Elev of top of pile (cut-off elev.): 242.6  
Elev. of nominal point of zero penetration: 242

Pile No.	Pay Length (m)	Indicated "R" (N)	Remarks	Misc.
1	19.355 ✓	783352		
2	19.253	1131509	<i>19.263</i>	
3	19.202 ✓	880063		
4	19.073	898551	<i>19.111</i>	

Total = *76.931*  
76,885 meters

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION
 Pile No. 1  
 Rear Abut. Abut / Pier  
 Date Driven 06/09/00

 Guernsey County  
 Bridge No GUE-77-14 899 L  
 Location I-77 over Leatherwood  
Creek

## PILE DRIVING LOG

Type of Pile: 300mm Cast-In-Place Reinforced Concrete Pile

 Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 25866 <sup>✓</sup> Joules  
 Capacity formula: "R" = (334DF)/S+2.54 Required "R" 773000 Newtons  
 Elev. of top of pile (cut-off elev.) 242.6  
 Elev. of nominal point of zero penetration: 242  
 Elev. of pile point at final penetration: 223.245  
 Length of pile in leads 12.192 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	1	304.80	28054	
0.610	3	101.60	82793	
0.914	3	101.60	82793	
1.219	3	101.60	82793	
1.524	3	101.60	82793	
1.829	3	101.60	82793	
2.134	3	101.60	82793	
2.438	3	101.60	82793	
2.743	3	101.60	82793	
3.048	3	101.60	82793	
3.353	7	43.54	187100	
3.658	7	43.54	187100	
3.962	7	43.54	187100	
4.267	7	43.54	187100	
4.572	8	38.10	212158	
4.877	7	43.54	187100	
5.182	8	38.10	212158	
5.486	8	38.10	212158	
5.791	8	38.10	212158	
6.096	8	38.10	212158	
6.401	9	33.87	236827	
6.706	9	33.87	236827	
7.010	9	33.87	236827	
7.315	9	33.87	236827	
7.620	9	33.87	236827	
7.925	9	33.87	236827	
8.230	9	33.87	236827	
8.534	9	33.87	236827	
8.839	10	30.48	261117	
9.144	10	30.48	261117	
9.449	10	30.48	261117	
9.754	11	27.71	285037	
10.058	11	27.71	285037	
10.363	11	27.71	285037	
10.668	11	27.71	285037	
10.973	11	27.71	285037	
11.278	11	27.71	285037	
11.582	12	25.40	308593	
11.887	12	25.40	308593	
12.192	12	25.40	308593	Splice #1, vis. insp. shows no sign of bent pile.
12.497	14	21.77	354652	
12.802	14	21.77	354652	
13.106	13	23.45	331796	
13.411	13	23.45	331796	
13.716	14	21.77	354652	
14.021	17	17.93	421219	
14.326	15	20.32	377170	
14.630	15	20.32	377170	
14.935	15	20.32	377170	
15.240	17	17.93	421219	
15.545	18	16.93	442764	
15.850	18	16.93	442764	
16.154	19	16.04	464000	
16.459	18	16.93	442764	
16.764	19	16.04	464000	
17.069	21	14.51	505568	
17.374	19	16.04	464000	
17.678	20	15.24	484932	
17.983	19	16.04	464000	
18.288	19	16.04	464000	
18.593	21	14.51	505568	
18.898	22	13.85	525913	
19.202	36	8.47	783352	Bearing obtained. No penetration after 305mm.

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION
 Pile No. 4  
 Rear Abut. \_\_\_\_\_ Abut / Pier \_\_\_\_\_  
 Date Driven 03/30/00

 Guernsey \_\_\_\_\_ County \_\_\_\_\_  
 Bridge No GUE-77-14 899 L  
 Location I-77 over Leatherwood  
Creek

## PILE DRIVING LOG

Type of Pile: 300mm Cast-In-Place Reinforced Concrete Pile
 Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 25866 Joules  
 Capacity formula: "R" = (334DF)/S+2.54 Required "R" = 773000 Newtons

 Elev. of top of pile (cut-off elev.) 242.6  
 Elev. of nominal point of zero penetration: 242  
 Elev. of pile point at final penetration: 223.525  
 Length of pile in leads 12.192 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	3	101.60	82793	
0.610	4	76.20	109501	
0.914	5	60.96	135781	
1.219	5	60.96	135781	
1.524	5	60.96	135781	
1.829	5	60.96	135781	
2.134	5	60.96	135781	
2.438	5	60.96	135781	
2.743	5	60.96	135781	
3.048	5	60.96	135781	
3.353	5	60.96	135781	
3.658	5	60.96	135781	
3.962	5	60.96	135781	
4.267	5	60.96	135781	
4.572	5	60.96	135781	
4.877	5	60.96	135781	
5.182	5	60.96	135781	
5.486	5	60.96	135781	
5.791	5	60.96	135781	
6.096	5	60.96	135781	
6.401	5	60.96	135781	
6.706	5	60.96	135781	
7.010	5	60.96	135781	
7.315	5	60.96	135781	
7.620	5	60.96	135781	
7.925	5	60.96	135781	
8.230	5	60.96	135781	
8.534	5	60.96	135781	
8.839	5	60.96	135781	
9.144	5	60.96	135781	
9.449	5	60.96	135781	
9.754	5	60.96	135781	
10.058	5	60.96	135781	
10.363	5	60.96	135781	
10.668	5	60.96	135781	
10.973	5	60.96	135781	
11.278	5	60.96	135781	
11.582	5	60.96	135781	
11.887	5	60.96	135781	
12.192	5	60.96	135781	Splice #1, vis. insp. shows no sign of bent pile.
12.497	13	23.45	331796	
12.802	13	23.45	331796	
13.106	12	25.40	308593	
13.411	13	23.45	331796	
13.716	13	23.45	331796	
14.021	15	20.32	377170	
14.326	14	21.77	354652	
14.630	14	21.77	354652	
14.935	8	38.10	212158	
15.240	8	38.10	212158	
15.545	16	19.05	399356	
15.850	20	15.24	484932	
16.154	20	15.24	484932	
16.459	19	16.04	464000	
16.764	23	13.25	545973	
17.069	21	14.51	505568	
17.374	22	13.85	525913	
17.678	22	13.85	525913	
17.983	21	14.51	505568	
18.288	24	12.70	565755	
18.593	23	13.25	545973	
18.898	22	13.85	525913	
19.202	25	12.19	585263	

19.507	26	11.72	604505	
19.812	30	10.16	678905	
20.066	36	7.06	898551	Bearing obtained. No penetration after 254mm.

Sheet 1  
 Recorder Doug George  
 Date 04/15/00

Guernsey                      County  
 Section 14.352  
 Br. No. Gue-77-14 899 L  
 Location 1-77 over Leatherwood  
Creek

**PILING RECORD**

Forward Abutment

**FOOTING**

Type of Pile: 300mm Cast-in-Place Reinforced Concrete Pile

Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer

WH or F= 25866 Joules

Capacity formula: "R" = (334DF)/S+2.54

Required "R" = 773000 Newtons

Elev of top of pile (cut-off elev.): 242.036

Elev. of nominal point of zero penetration: 241.436

Pile No.	Pay Length (m)	Indicated "R" (N)	Remarks	Misc.
5	18.075 ✓	819369		
6	18.075 ✓	898551		
7	17.831 ✓	837007		
8	18.136 ✓	880063		

Total = 72.117 meters

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION
 Pile No. 5  
 Fwd. Abut. Abut / Pier  
 Date Driven 03/28/00

 Guernsey County  
 Bridge No GUE-77-14 899 L  
 Location I-77 over Leatherwood  
Creek

## PILE DRIVING LOG

Type of Pile: 300mm Cast-In-Place Reinforced Concrete Pile
 Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 25866 Joules  
 Capacity formula: "R" = (334DF)/S+2.54 Required "R" = 773000 Newtons  
 Elev. of top of pile (cut-off elev.) 242.036  
 Elev. of nominal point of zero penetration: 241.436  
 Elev. of pile point at final penetration: 223.961  
 Length of pile in leads 13.72 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	2	152.40	55648	
0.610	3	101.60	82793	
0.914	3	101.60	82793	
1.219	3	101.60	82793	
1.524	3	101.60	82793	
1.829	3	101.60	82793	
2.134	3	101.60	82793	
2.438	3	101.60	82793	
2.743	3	101.60	82793	
3.048	3	101.60	82793	
3.353	5	60.96	135781	
3.658	5	60.96	135781	
3.962	6	50.80	161644	
4.267	6	50.80	161644	
4.572	6	50.80	161644	
4.877	7	43.54	187100	
5.182	7	43.54	187100	
5.486	7	43.54	187100	
5.791	8	38.10	212158	
6.096	8	38.10	212158	
6.401	8	38.10	212158	
6.706	8	38.10	212158	
7.010	9	33.87	236827	
7.315	9	33.87	236827	
7.620	9	33.87	236827	
7.925	9	33.87	236827	
8.230	9	33.87	236827	
8.534	9	33.87	236827	
8.839	9	33.87	236827	
9.144	9	33.87	236827	
9.449	10	30.48	261117	
9.754	10	30.48	261117	
10.058	10	30.48	261117	
10.363	11	27.71	285037	
10.668	11	27.71	285037	
10.973	12	25.40	308593	
11.278	12	25.40	308593	
11.582	12	25.40	308593	
11.887	12	25.40	308593	
12.192	12	25.40	308593	
12.497	14	21.77	354652	
12.802	10	30.48	261117	
13.106	14	21.77	354652	
13.411	14	21.77	354652	
13.716	15	20.32	377170	Splice #1, vis. insp. shows no sign of bent pile.
14.021	15	20.32	377170	
14.326	13	23.45	331796	
14.630	20	15.24	484932	
14.935	18	16.93	442764	
15.240	19	16.04	464000	
15.545	19	16.04	464000	
15.850	19	16.04	464000	
16.154	19	16.04	464000	
16.459	20	15.24	484932	
16.764	20	15.24	484932	
17.069	20	15.24	484932	
17.374	21	14.51	505568	
17.678	25	12.19	585263	
17.983	25	12.19	585263	
18.262	35	7.98	819369	Bearing obtained. No penetration after 279mm.

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

Pile No. 8  
Fwd. Abut. \_\_\_\_\_ Abut / Pier  
Date Driven 06/09/00

Guernsey \_\_\_\_\_ County  
Bridge No GUE-77-14 899 L  
Location I-77 over Leatherwood  
Creek

PILE DRIVING LOG

Type of Pile: 300mm Cast-In-Place Reinforced Concrete Pile

Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 25866 Joules

Capacity formula: "R" = (334DF)/S+2.54 Required "R" 773000 Newtons

Elev. of top of pile (cut-off elev.) 242.036

Elev. of nominal point of zero penetration: 241.436

Elev. of pile point at final penetration: 223.9

Length of pile in leads 12.192 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305				
0.610				
0.914				
1.219				
1.524				
1.829				
2.134				
2.438				
2.743				
3.048				
3.353				
3.658				
3.962				
4.267				
4.572				
4.877				
5.182				
5.486				
5.791				
6.096				
6.401				
6.706				
7.010				
7.315				
7.620				
7.925				
8.230				
8.534				
8.839				
9.144				
9.449				
9.754				
10.058				
10.363				
10.668	14	21.77	354652	
10.973	16	19.05	399356	
11.278	16	19.05	399356	
11.582	17	17.93	421219	
11.887	16	19.05	399356	
12.192	18	16.93	442764	Splice #1, vis. insp. shows no sign of bent pile.
12.497	18	16.93	442764	
12.802	17	17.93	421219	
13.106	20	15.24	484932	
13.411	17	17.93	421219	
13.716	17	17.93	421219	
14.021	17	17.93	421219	
14.326	18	16.93	442764	
14.630	20	15.24	484932	
14.935	18	16.93	442764	
15.240	20	15.24	484932	
15.545	21	14.51	505568	
15.850	21	14.51	505568	
16.154	20	15.24	484932	
16.459	22	13.85	525913	
16.764	24	12.70	565755	
17.069	23	13.25	545973	
17.374	23	13.25	545973	
17.678	23	13.25	545973	
17.983	27	11.29	623485	
18.237	35	7.26	880063	Bearing obtained. No penetration after 254mm.



STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

Sheet 1  
Recorder Doug George  
Date 03/30/00

Guemsey \_\_\_\_\_ County  
Section 14.352  
Br. No. Gue-77-14 899 L  
Location 1-77 over Leatherwood  
Creek

**PILING RECORD**

Rear Pier

**FOOTING**

Type of Pile: 300mm Cast-in-Place Reinforced Concrete Pile

Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer

WH or F= 33973 Joules

Capacity formula: "R" = (334DF)/S+2.54

Required "R" = 1005000 Newtons

Elev of top of pile (cut-off elev.): 243.504

Elev. of nominal point of zero penetration: 239.004

Pile No.	Pay Length (m)	Indicated "R" (N)	Remarks	Misc.
3	19.837 ✓	1155918		
4	16.612 ✓	1155918		

Total = 36.449 meters

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION
 Pile No. 3  
 Rear Pier Abut / Pier  
 Date Driven 03/30/00

 Guernsey County  
 Bridge No GUE-77-14 899 L  
 Location I-77 over Leatherwood  
Creek

## PILE DRIVING LOG

Type of Pile: 300mm Cast-In-Place Reinforced Concrete Pile
 Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 33973 Joules  
 Capacity formula: "R" = (334DF)/S+2.54 Required "R" = 1005000 Newtons

 Elev. of top of pile (cut-off elev.) 243.504  
 Elev. of nominal point of zero penetration: 239.004  
 Elev. of pile point at final penetration: 223.667  
 Length of pile in leads 13.716 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	0	0.00	0	
0.610	0	0.00	0	
0.914	0	0.00	0	
1.219	0	0.00	0	
1.524	0	0.00	0	
1.829	0	0.00	0	
2.134	0	0.00	0	
2.438	0	0.00	0	
2.743	0	0.00	0	
3.048	0	0.00	0	
3.353	0	0.00	0	
3.658	0	0.00	0	
3.962	0	0.00	0	
4.267	0	0.00	0	
4.572	1	304.80	36847	
4.877	0	0.00	0	
5.182	0	0.00	0	
5.486	1	304.80	36847	
5.791	2	152.40	73091	
6.096	2	152.40	73091	
6.401	1	304.80	36847	
6.706	1	304.80	36847	
7.010	1	304.80	36847	
7.315	1	304.80	36847	
7.620	1	304.80	36847	
7.925	1	304.80	36847	
8.230	2	152.40	73091	
8.534	2	152.40	73091	
8.839	2	152.40	73091	
9.144	2	152.40	73091	
9.449	4	76.20	143824	
9.754	4	76.20	143824	
10.058	5	60.96	178342	
10.363	5	60.96	178342	
10.668	5	60.96	178342	
10.973	5	60.96	178342	
11.278	6	50.80	212312	
11.582	6	50.80	212312	
11.887	6	50.80	212312	
12.192	6	50.80	212312	
12.497	8	38.10	278659	
12.802	8	38.10	278659	
13.106	8	38.10	278659	
13.411	9	33.87	311061	
13.716	9	33.87	311061	Splice #1, vis. insp. shows no sign of bent pile.
14.021	8	38.10	278659	
14.326	8	38.10	278659	
14.630	8	38.10	278659	
14.935	9	33.87	311061	
15.240	9	33.87	311061	
15.545	14	21.77	465818	
15.850	13	23.45	435797	
16.154	18	16.93	581549	
16.459	21	14.51	664038	
16.713	35	7.26	1155918	Bearing obtained. No penetration after 254mm.

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATIONPile No. 4

Rear Pier \_\_\_\_\_ Abut / Pier \_\_\_\_\_

Date Driven 03/29/00

Guernsey \_\_\_\_\_ County \_\_\_\_\_

Bridge No GUE-77-14 899 LLocation I-77 over LeatherwoodCreek

## PILE DRIVING LOG

Type of Pile: 300mm Cast-In-Place Reinforced Concrete PileHammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 33973 JoulesCapacity formula: "R" = (334DF)/S+2.54 Required "R" = 1005000 NewtonsElev. of top of pile (cut-off elev.) 243.504Elev. of nominal point of zero penetration: 239.004Elev. of pile point at final penetration: 226.892Length of pile in leads 13.716 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	0	0.00	0	
0.610	0	0.00	0	
0.914	0	0.00	0	
1.219	0	0.00	0	
1.524	0	0.00	0	
1.829	0	0.00	0	
2.134	0	0.00	0	
2.438	0	0.00	0	
2.743	0	0.00	0	
3.048	0	0.00	0	
3.353	0	0.00	0	
3.658	0	0.00	0	
3.962	0	0.00	0	
4.267	0	0.00	0	
4.572	2	152.40	73091	
4.877	1	304.80	36847	
5.182	1	304.80	36847	
5.486	1	304.80	36847	
5.791	1	304.80	36847	
6.096	1	304.80	36847	
6.401	2	152.40	73091	
6.706	2	152.40	73091	
7.010	2	152.40	73091	
7.315	2	152.40	73091	
7.620	2	152.40	73091	
7.925	2	152.40	73091	
8.230	2	152.40	73091	
8.534	2	152.40	73091	
8.839	2	152.40	73091	
9.144	2	152.40	73091	
9.449	4	76.20	143824	
9.754	5	60.96	178342	
10.058	5	60.96	178342	
10.363	5	60.96	178342	
10.668	5	60.96	178342	
10.973	7	43.54	245746	
11.278	8	38.10	278659	
11.582	8	38.10	278659	
11.887	8	38.10	278659	
12.192	8	38.10	278659	
12.497	8	38.10	278659	
12.802	9	33.87	311061	
13.106	9	33.87	311061	
13.411	9	33.87	311061	
13.716	9	33.87	311061	Splice #1, vis. insp. shows no sign of bent pile.
14.021	19	16.04	609441	
14.326	20	15.24	636935	
14.630	18	16.93	581549	
14.935	19	16.04	609441	
15.240	21	14.51	664038	
15.545	24	12.70	743090	
15.799	35	7.26	1155918	Bearing obtained. No penetration after 254mm.

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

Sheet 1  
Recorder Doug George  
Date 03/30/00

Guernsey                      County  
Section 14.352  
Br. No. Gue-77-14 899 L  
Location 1-77 over Leatherwood  
Creek

**PILING RECORD** Fwd. Pier **FOOTING**

Type of Pile: 300mm Cast-in-Place Reinforced Concrete Pile  
Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F= 33973 Joules  
Capacity formula: "R" = (334DF)/S+2.54 Required "R" = 1005000 Newtons

Elev of top of pile (cut-off elev.): 243.206  
Elev. of nominal point of zero penetration: 240.463

Pile No.	Pay Length (m)	Indicated "R" (N)	Remarks	Misc.
1	19.406	1409966	19.407	
2	19.253	1273869	19.254	

Total = 38.659 meters  
38.661

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

Pile No. 1  
 Fwd. Pier Abut / Pier  
 Date Driven 03/28/00

## PILE DRIVING LOG

Guernsey                      County  
 Bridge No GUE-77-14 899 L  
 Location I-77 over Leatherwood  
Creek

Type of Pile: 300mm Cast-In-Place Reinforced Concrete PileHammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 33973 JoulesCapacity formula: "R" = (334DF)/S+2.54 Required "R" 1005000 NewtonsElev. of top of pile (cut-off elev.) 243.206Elev. of nominal point of zero penetration: 240.463Elev. of pile point at final penetration: 223.8Length of pile in leads 15.24 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	1	304.80	36847	
0.610	1	304.80	36847	
0.914	1	304.80	36847	
1.219	2	152.40	73091	
1.524	2	152.40	73091	
1.829	2	152.40	73091	
2.134	2	152.40	73091	
2.438	2	152.40	73091	
2.743	2	152.40	73091	
3.048	2	152.40	73091	
3.353	2	152.40	73091	
3.658	2	152.40	73091	
3.962	2	152.40	73091	
4.267	2	152.40	73091	
4.572	2	152.40	73091	
4.877	4	76.20	143824	
5.182	4	76.20	143824	
5.486	4	76.20	143824	
5.791	4	76.20	143824	
6.096	4	76.20	143824	
6.401	5	60.96	178342	
6.706	5	60.96	178342	
7.010	5	60.96	178342	
7.315	5	60.96	178342	
7.620	5	60.96	178342	
7.925	6	50.80	212312	
8.230	7	43.54	245746	
8.534	7	43.54	245746	
8.839	7	43.54	245746	
9.144	8	38.10	278659	
9.449	7	43.54	245746	
9.754	8	38.10	278659	
10.058	9	33.87	311061	
10.363	9	33.87	311061	
10.668	10	30.48	342965	
10.973	9	33.87	311061	
11.278	8	38.10	278659	
11.582	11	27.71	374381	
11.887	12	25.40	405322	
12.192	10	30.48	342965	
12.497	13	23.45	435797	
12.802	12	25.40	405322	
13.106	13	23.45	435797	
13.411	11	27.71	374381	
13.716	15	20.32	495394	
14.021	12	25.40	405322	
14.326	15	20.32	495394	
14.630	17	17.93	553250	
14.935	25	12.19	768714	
15.240	26	11.72	793987	
15.443	37	5.49	1409966	Bearing obtained. No penetration after 203mm.

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

Pile No. 2  
Fwd. Pier \_\_\_\_\_ Abut / Pier \_\_\_\_\_  
Date Driven 03/29/00

Guernsey \_\_\_\_\_ County \_\_\_\_\_  
Bridge No GUE-77-14 899 L  
Location I-77 over Leatherwood  
Creek

PILE DRIVING LOG

Type of Pile: 300mm Cast-In-Place Reinforced Concrete Pile

Hammer: F.E.C. APE Model D1.9-32 Single Acting Impact Hammer WH or F = 33973 Joules  
Capacity formula: "R" = (334DF)/S+2.54 Required "R" 1005000 Newtons  
Elev. of top of pile (cut-off elev.) 243.206  
Elev. of nominal point of zero penetration: 240.463  
Elev. of pile point at final penetration: 223.953  
Length of pile in leads 13.72 Meters

Penetration (meter)	Blows	"S" (mm)	Indicated "R" (Newtons)	Remarks
0.305	0	0.00	0	
0.610	0	0.00	0	
0.914	0	0.00	0	
1.219	0	0.00	0	
1.524	2	152.40	73091	
1.829	2	152.40	73091	
2.134	2	152.40	73091	
2.438	2	152.40	73091	
2.743	2	152.40	73091	
3.048	2	152.40	73091	
3.353	2	152.40	73091	
3.658	3	101.60	108745	
3.962	3	101.60	108745	
4.267	3	101.60	108745	
4.572	3	101.60	108745	
4.877	3	101.60	108745	
5.182	3	101.60	108745	
5.486	3	101.60	108745	
5.791	4	76.20	143824	
6.096	4	76.20	143824	
6.401	4	76.20	143824	
6.706	4	76.20	143824	
7.010	4	76.20	143824	
7.315	5	60.96	178342	
7.620	5	60.96	178342	
7.925	5	60.96	178342	
8.230	5	60.96	178342	
8.534	5	60.96	178342	
8.839	5	60.96	178342	
9.144	6	50.80	212312	
9.449	6	50.80	212312	
9.754	6	50.80	212312	
10.058	6	50.80	212312	
10.363	6	50.80	212312	
10.668	7	43.54	245746	
10.973	9	33.87	311061	
11.278	9	33.87	311061	
11.582	9	33.87	311061	
11.887	9	33.87	311061	
12.192	10	30.48	342965	
12.497	12	25.40	405322	
12.802	11	27.71	374381	
13.106	11	27.71	374381	
13.411	12	25.40	405322	
13.716	12	25.40	405322	Splice #1, vis. insp. shows no sign of bent pile.
14.021	13	23.45	435797	
14.326	20	15.24	636935	
14.630	18	16.93	581549	
14.935	19	16.04	609441	
15.240	20	15.24	636935	
15.545	27	11.29	818916	
15.774	36	6.35	1273869	Bearing obtained. No penetration after 229mm.

Guk-77-14899 LT (926-LT)

REFERENCE: 135

507M00600



BRIDGE LIMITS - 44493

13560 C/C BEARING

16764 C/C BEARING

13560 C/C BEARING

CREEK

No. 4 19.075 Meter

No. 3 19.202 Meter

No. 2 19.253 Meter

No. 3P 19.837

No. 4P 16.612

No. 1P 19.466

No. 2P 19.253

No. 5

18.075 Meter

18.075 Meter

No. 6

17.831 Meter

No. 7

No. 8

18.136 Meter

DESIGN PILE LOADS:

ABUTMENT : 773 KN

PIERS : 1005 KN

PAY LENGTH SUMMARY

FWD ABT. — 72.117 ✓

REAR ABT. — 76.885 ✓

FWD PIER — 38.639 ✓

REAR PIER — 36.449 ✓

Total 926-LT : 224.110 METER

ESTIMATED PAY LENGTH:

ABUTMENTS : 12 METERS ✓

PIERS : 15 METERS ✓

LEATHERWOOD

€ PIER 1

STA. 16+208.389

€ PIER 2

STA. 16+225.159

€ BRG. FWD. ABUTMENT

STA. 16+238.719

BEGIN APPR. SLAB

STA. 16+239.018

16+200

16+210

16+220

16+230

16+240

€ SURVEY I.R. 77

PLAN

END APPR. SLAB  
STA. 16+194.525

P.I. STA. 16+215.380

-2.96X

-0.56X

Piles : 350 mm C.I.P.

PLAN - 156 METER

FM - 224.110 METER

PAY - 224.110 METER