ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
1						WALL TYPE I											
2																	
3 △	[illegible]	7	9-6	2R701	STR												
4																	
5																	
6	31	6	9-11	1R601	STR												
7	31	6	10-2	1R602	STR												
8	62	6	10-0	1R603	STR												
9	62	6	10-1	1R604	STR												
10	31	6	9-10	1R605	STR												
11	31	6	12-1	1R606	STR												
12	31	6	10-5	1R607	STR												
13																	
14																	
15	66	5	31-6	1R501	STR												
16	62	5	21-2	1R502	STR												
17	142	5	29-6	1R503	STR												
18	62	5	4-3	1R504	STR												
19	62	5	3-1	1R505	STR												
20	33	5	4-0	1R506	TR												
21	31	5	4-6	1R507	STR												
22	31	5	3-2	1R508	STR												
23	31	5	9-11	1R509	STR												
24	62	5	10-1	1R510	STR												
25	31	5	10-3	1R511	STR												
26	31	5	10-3	1R512	STR												
27	31	5	9-10	1R513	STR												
28	31	5	10-0	1R514	STR												
29	31	5	12-1	1R515	STR												
30	31	5	10-5	1R516	STR												
31	6	5	9-6	1R517	STR												
32	96	5	32-0	1R518	STR												
33	22	5	34-6	1R519	STR												
34	24	6	8-9 3/4	1R605	13		4-3 1/4	0-3 3/4	4-2 3/4						0-4 1/4	0-2 1/4	4-5
35	93	6	8-1 3/4	1R609	13		3-11 1/4	0-3 3/4	3-10 3/4						0-4 1/4	0-2 1/4	4-1
36	31	6	9-1 3/4	1R610	13		4-5 1/4	0-3 3/4	4-4 3/4						0-4 1/4	0-2 1/4	4-7
37	31	6	9-5 3/4	1R611	13		5-2 1/4	0-3 3/4	3-11 3/4						0-5 1/4	0-2 1/4	4-2
38	279	5	2-8	1R520	17		0-0	1-0	0-10								
39	210	5	7-8 3/4	1R521	13		6-9 1/4	0-3 1/2	0-8						0-6 3/4	0-2	0-10
40	22	5	8-11 1/2	1R522	16		3-9	0-6	4-8 1/2								
41	11	5	7-9	1R523	16		3-3	0-6	4-0								
42																	
43						WALL TYPE II											
44																	
45																	
46 △	146	8	11-0	2R801	STR												
47																	
48																	
49	62	6	13-7	2R601	STR												
50	31	6	14-6	2R602	STR												
51	31	6	13-6	2R603	STR												
52																	
53	120	5	29-6	2R501	STR												
54	24	5	26-0	2R502	STR												
55	12	5	25-11	2R503	STR												
56	62	5	4-11	2R504	STR												
57	31	5	5-8	2R505	STR												
58	26	5	4-3	2R506	STR												
59	31	5	13-7	2R507	STR												
60	31	5	14-6	2R508	STR												
61	26	5	VARIES	—	STR	2R509 TO 2R534 VARIES 6-5 TO 13-9 (INCR. 0-3 1/2)											
62	26	5	6-6	2R535	STR												
63	26	5	11-6	2R536	STR												
64	26	5	VARIES	—	STR	2R537 TO 2R562 VARIES 6-5 TO 13-9 (INCR. 0-3 1/2)											
65	26	5	11-6	2R563	STR												
66	26	5	24-6	2R564	STR												
67	12	5	VARIES	—	STR	2R565 TO 2R570 VARIES 4-4 TO 21-0 (INCR. 3-4)											
68	[illegible]	5	25-6	2R571	STR												
69	2	5	14-9	2R572	STR												
70	6	5	11-0	2R573	STR												
71	28	5	32-0	2R574	STR												
72	26	5	27-0	2R575	STR												
73 △	142	6	10-0 7/8	2R604	13		9-9 3/8	0-3 3/4	0-9 3/8						0-9 3/4	0-2 1/4	1-0
74	62	6	9-4 5/8	2R605	13		4-7 1/8	0-3 3/4	4-5 3/4						0-4 5/8	0-2 1/4	4-8
75	31	6	10-1 3/4	2R606	13		5-4 1/4	0-3 3/4	4-5 3/4						0-5 3/8	0-2 1/4	4-8
76	26	6	8-10 3/8	2R607	13		4-8 1/8	0-3 3/4	3-10 3/4						0-4 5/8	0-2 1/4	4-1
77	26	6	11-0 3/4	2R608	13		6-2 1/4	0-3 3/4	4-6 3/4						0-6 1/8	0-2 1/4	4-9
78	143	5	2-8	2R576	17		0-10	1-0	0-10								
79	12	5	6-6 1/2	2R577	16		2-9	0-6	3-3 1/2								
80	12	5	8-11 1/2	2R578	16		3-9	0-6	4-8 1/2								

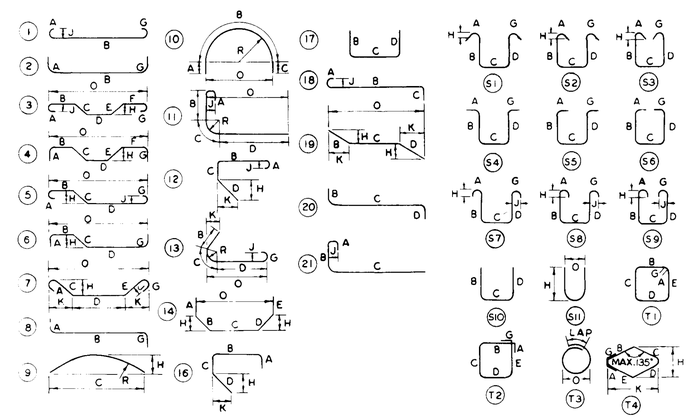
ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
81	12	5	9-9 1/2	2R579	16	4-3	0-6	5-0 1/2									
82	2	5	27-2	2R580	19		2-8	24-6					0-9		2-6		27-0
83						WALL TYPE III											
84	480	7	13-6	3R701	STR												
85	31	7	15-10	3R702	STR												
86	62	7	16-8	3R703	STR												
87	31	7	17-3	3R704	STR												
88	31	7	16-2	3R705	STR												
89	31	7	18-1	3R706	STR												
90	31	7	16-10	3R707	STR												
91	31	7	15-6	3R708	STR												
92																	
93	217	5	29-6	3R501	STR												
94	48	5	31-2	3R502	STR												
95	12	5	30-9	3R503	STR												
96	48	5	31-6	3R504	STR												
97	93	5	5-5	3R505	STR												
98	155	5	6-0	3R506	STR												
99	31	5	15-10	3R507	STR												
100	62	5	16-8	3R508	STR												
101	31	5	17-3	3R509	STR												
102	31	5	16-2	3R510	STR												
103	31	5	18-0	3R511	STR												
104	31	5	16-10	3R512	STR												
105	31	5	15-6	3R513	STR												
106	6	5	13-6	3R514	STR												
107	72	5	34-6	3R515	STR												
108	80	5	32-0	3R516	STR												
109	240	8	15-0 1/2	3R801	13		13-6 1/2	0-5	1-1							1-1 1/2	0-3	1-4
110																	
111	93	7	11-1	3R709	13		5-7 1/4	0-4 3/8	5-1 3/8							0-5 3/8	0-2 5/8	5-4
112	155	7	11-11 1/4	3R710	13		6-5 1/2	0-4 3/8	5-1 3/8							0-6 1/4	0-2 5/8	5-4
113																	
114																	
115	248	5	2-8	3R517	17		0-10	1-0	0-10								
116	15	5	7-8 1/2	3R518	16		3-3	0-6	3-11 1/2								
117	15	5	6-6 1/2	3R519	16		2-9	0-6	3-3 1/2								
118	15	5	10-2	3R520	16		4-3	0-6	5-3								
119						WALL TYPE IV											
120																	
121																	
122	16	5	26-0	4R501	STR												
123	10	5	25-9	4R502	STR												
124	53	5	7-0	4R503	STR												
125	52	5	4-9	4R504	STR												
126	26	5	7-8	4R505	STR												
127	26	5	6-9	4R506	STR												
128	26	5	6-0	4R507	STR												
129 △	28	5	5-3	4R508	STR												
130	14	5	24-6	4R509	STR												
131	2	5	12-0	4R510	STR												
132	10	5	27-0	4R511	STR												
133	2	5	14-6	4R512	STR												
134	52	6	7-6 3/4	4R601	13		4-6 1/4	0-3 3/4	2-5 1/4							0-4 1/4	0-2 1/4	2-11
135																	
136	52	5	2-8	4R513	17		0-10	1-0	0-10								
137	8	5	8-11 1/2	4R514	16		3-9	0-6	4-8 1/2								
138																	
139																	
140						WALL TYPE V											
141																	
142																	
143	13	7	13-7	5R701	STR												
144	13	7	12-6	5R702	STR												
145																	
146																	
147	23	5	12-0	5R501	STR												
148	49	5	24-6	5R502	STR												
149	26	5	5-2	5R503	STR												
150	13	5	13-7	5R504	STR												
151	13	5	12-6	5R505	STR												
152																	
153																	
154	25	7	8-9 1/4	5R703	13		7-9 1/4	0-4 1/2	0-7 3/8							0-7 3/4	0-2 5/8	0-10
155	26	7	9-7 1/8	5R704	13		5-4 1/4	0-4 1/2	3-10 3/8							0-5 3/8	0-2 5/8	4-1
156																	
157																	
158	26	5	2-8	5R506	17		0-10	1-0	0-10								
159																	
160																	

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
161						WALL TYPE VI											
162																	
163																	
164	26	5	7-6	6R501	STR												
165	14	5	24-6	6R502	STR												
166	26	5	3-11	6R503	STR												
167	26	5	VARIES	—	STR	6R504 TO 6R529 VARIES 12-0 TO 3-1 1/2 (INCR. 0-4 1/2)											
168	26	5	VARIES	—	STR	6R530 TO 6R555 VARIES 12-6 TO 3-1 1/2 (INCR 0-4 1/2)											
169	16	5	VARIES	—	STR	6R556 TO 6R563 VARIES 5-8 TO 24-4 (INCR 2-8)											
170	8	5	27-0	6R564	STR												
171																	
172																	
173	26	5	2-8	6R565	17		0-10	1-0	0-10								
174	26	5	7-3 3/4	6R566	13		3-11 1/4	0-3 1/2	3-1						0-4 1/8	0-2	3-3
175	2	5	28-10	6R567	19		2-6	26-4					0-3		2-6		28-10
176																	
177																	
178																	
179																	
180																	

ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION		
		DIAMETER INCHES	CROSS SECTIONAL AREA SQ. INCHES	PERIMETER INCHES
#3	.376	.375	.11	1.178
#4	.668	.500	.20	1.571
#5	1.043	.625	.31	1.963
#6	1.502	.750	.44	2.356
#7	2.044	.875	.60	2.749
#8	2.670	1.000	.79	3.142
#9	3.400	1.128	1.00	3.544
#10	4.303	1.270	1.27	3.990
#11	5.313	1.410	1.56	4.430
#14	7.65	1.693	2.25	5.32
#18	13.60	2.257	4.00	7.09

TYPICAL BAR BENDS



NOTES

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT," AASHTO M 31 (ASTM A 615-S1). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS AND OTHER STANDARD PRACTICE SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE"
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180° AND 135° HOOKS.
5. "J" DIMENSION ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45° DIMENSIONS "H" AND "K" MUST BE SHOWN.

▲ DENOTES BARS TO BE CUT IN FIELD.
✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
△ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.

PARE ENGINEERING CORPORATION
Engineers Planners Landscape Architects
8 Blackstone Valley Place Lincoln RI 02865
401 334 4100

REV. NO.	MADE BY	DATE	DESCRIPTION

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF POWNAL	BRIDGE NO.
	LOG STA.
HIGHWAY NO. ROUTE 346	SURV. STA.
CONCRETE RETAINING WALL	
REINFORCING STEEL SCHEDULE	
DESIGNED BY J.S.J.	DRAWN BY K.M.B.
CHECKED BY / DATE	BRIDGE DESIGN SUPERVISOR / DATE
PROJECT POWNAL	PROJECT NO. RS0107 (7)
BRIDGE SHEET NO.	SHEET 160 OF 319