PARE ENGINEERING CORPORATION
Engineers – Planners – Landscape Architects
8 Blackstone Valley Place, Lincoln, RI 02865

ITEM DETAIL AND DRAINAGE SHEET

STATE OF VERMONT
AGENCY OF TRANSPORTATION

DRAINAGE STRUCTURES

STA.	STA.	POSITION	ASKEW	TYPE IN/OUT	DITCH IN	DITCH OUT	PIPE ARCH S IN	PIPE ARCH R IN	PIPE ARCH L FT	PIPE D IN	PIPE L FT	ALLOWABLE OPTIONS CSP TH	RCP CL	PCCSP TH	CAAP TH	NO PIPE ELBOW EA	ELBOWS D IN	TOP DEG	BOT DEG	ES RC EA	ES M EA	CB TYPE	DI TYPE	DEPTH DI FT	CONC CL B CY	REIN STEEL LBS	DI GRATE TYPE	CHAN ELEV	CRM CY	TR EXCAV EARTH CY	TR EXCAV ROCK CY	CH EXCAV EARTH CY	CH EXCAV ROCK CY	STRUC EXCAV CY	GRAN BKF STRUC CY	STONE FILL CY	STONE FILL TYPE	MRKR POSTS LT	MRKR POSTS RT	REMARKS
42+30		℄		DI/DI						12	56		IV										4x4	5.0	2.9	234	A			30								1		STD D-8
42+30	43+25	RT		DI/DI						18	92		III										4x4	4.5	2.7	211	A			64									1	STD D-8
43+25	45+90	RT		DI/DI						18	262		III										4x4	4.0	2.5	203	A			179									1	STD D-8
45+90	46+19	RT		DI/ES						18	32		III							1			4x4	4.0	2.5	203	A			22									1	STD D-8
46+24	46+66	RT					73	55	42				SEE DETAIL BR			7B																								SEE CULVERT QUANTITIES
46+30	46+44	RT																												12										REMOVE EXIST 48" RCP
46+66	47+27	RT																																						RELOCATED STREAM BED - SEE CULV. QUAN.
47+41		℄	74°-36'LT																													136								REMOVE EXIST. 30" CGMP w/ HEADWALL
47+41		℄	74°-36'LT				73	55	98				SEE DETAIL BR			7A																								SEE CULVERT QUANTIES
61+00		℄		ES/						18	86		III	.064	.060					1	1									34	11							1	1	DITCH OUTFALL, STD D-6
61+50	67+75	LT																														185								CONSTRUCT MODIFIED DITCH
62+50		℄		DI/						18	82		III	.064	.060								4x4	3.5	2.2	180	A			27	17							1	1	STD D-8
63+23	68+83	LT								15	60	.064	III																	9								2		DRIVE CULVERT
65+25		℄																												16										REMOVE EXIST HEADWALL & EXIST. 18" CMP
66+00		℄		DI/	✓					18	70		III	.064	.060								4x4	4.0	2.1	193	B			24	7							1	1	DITCH OUTFALL, STD D-6
66+00	71+00	RT																														74				148	I			SPECIAL DITCH w/ STONE FILL TYPE I
68+00		℄		DI/HW	✓					18	84		III	.064	.060								4x4	7.5	3.7	316	B		1.8	50	52					0.67	I	1	1	NEW CONC STRAIGHT HEADWALL AT OUTFALL
68+38		℄																												71										REMOVE EXIST DI & 18" CMP
71+00		℄		DI/ES	✓					36	116		III	.109	.105		2	36	20	20	1	1		4x6	5.5	3.4	322	B			160						5.3	II	1	1	DITCH OUTFALL, STD D-6
71+33		℄	79°-21'RT																											23										REMOVE EXIST 5'x5' CONC. BOX CULVERT
73+46	73+92	LT								15	46	.064	III							2	2									9								1	1	DRIVE CULVERT
76+00		℄																												11										REMOVE EXIST. STONE & CONC HEADWALLS & 12" RCP
78+00		℄		DI/DI						18	64		III	.064	.060								4x4	5.0	2.9	234	A			29	5							1		STD D-8
78+00	81+50	RT		DI/DI						18	348		III	.064	.060								4x4	4.0	2.5	203	A				135								1	STD D-8
78+27	78+71	LT		/ES						15	44	.064	III							1	1									7								1	1	DRIVE CULVERT
78+50	84+50	RT																														89				178	I			SPECIAL DITCH w/ STONE FILL TYPE I
81+50		℄		DI/	✓					18	72		III	.064	.060								4x4	5.0	2.9	234	B			32	34					0.67	I	1	1	STONE FILL TYPE I @ OUTLET
81+80		℄																												12										REMOVE EXIST. DROP INLET & EXIST. 18" RCP
84+50		℄		DI/	✓					18	84		III	.064	.060								4x4	5.0	2.9	234	A			69								1	1	STD D-8
86+[illegible]		℄		HW/						18	90		III	.064	.060														1.8	62								1	1	REINFORCED CONC HEADWALL @ INLET
87+51		℄	66°-30'RT	HW/HW						84	90			.138	.105			SEE DETAILS		BR	3																			SEE CULVERT QUANTITIES
87+59		℄	66°-30'RT	HW/HW						30	90			.079	.075			SEE DETAILS		BR	3																			SEE CULVERT QUANTITIES
87+61		℄	74°-19'RT																																					REMOVE EXIST 4.5'x5'x40' CONC BOX CULVERT w/ HEADWALLS & WINGWALL
93+00	95+50	RT																														46								SPECIAL DITCH w/ EROSION MATTING
96+00	98+50	RT																														56								CONSTRUCT MODIFIED DITCH
96+77		℄	78°-32'LT																											29										REMOVE EXIST. 30" RCP & HEADWALLS
TOTALS										12 15 18 24 30 36 48 54 60 72	56 150 1366 90 165 90					2								33.2	2767			3.6	981	261	586			3278 5.3	I II	14	15	

STEEL BEAM GUARD RAIL

STA.	STA.	LT.	RT.	MEDIAN	ANCHORS
68+50	72+25	375'			2
81+25	87+75	650'			2
86+25	88+75		250'		2
116+50	151+85	3535'			2
116+25	121+87		562'		2
153+15	167+40	1425'			2
167+15	168+40		125'		2
200+80	201+48	68'			1
200+45	201+63		118'		
201+87	202+00	13'			1
202+02	202+10		8'		2
TOTALS		6066'	1063'		18 EA.

BREAKAWAY CABLE TERMINAL

STA.	STA.	LT.	RT.	MEDIAN	ANCHORS
68+25	68+50	1			
72+25	72+50	1			
81+00	81+25	1			
86+00	86+25		1		
87+75	89+00		1		
88+75	89+00		1		
116+00	116+25		1		
116+25	116+50	1			
121+87			1		
151+85	152+10	1			
152+90	153+15	1			
167+40	167+65	1			
200+55	200+80	1			
200+45			1		
202+00	202+25	1			
202+10	202+35		1		
TOTALS		9EA.	7EA.		

UNDERDRAIN

STA.	STA.	TYP.	POS.	D	L	TRENCH E	TRENCH R	GRAN BKF	FB	MKR PST
90+00	96+70		LT&RT	8	1390	368			6	7
97+00	117+00		LT&RT	8	3218	1031			16	17
117+60	121+00		LT&RT	8	700	276			4	5
166+94	170+62		RT	8	370	406			2	2
177+95	186+00		LT&RT	8	1610	785			8	8
213+50	218+72		LT&RT	8	1076	279			6	7
219+48	223+00		LT&RT	8	740	201			6	7
41+50	42+30		LT&RT	8	160	88			2	2
42+50	46+24		LT&RT	8	810	350			6	7
TOTALS					9104 LF	3784 CY			56	62

PROJECT NAME POWNAL - ROUTE 346
PROJECT NUMBER RS 0107(7)

D-4 JAN 85

BRUNING 65083