



- DESIGN CRITERIA**
- ASSUMED ALLOWABLE LOAD FOR SPREAD FOOTINGS
 - ON SOIL: 4 ksf
 - ON LEDGE: 10 ksf
 - REINFORCING STEEL GRADE: 60 ksi
 - CONCRETE CLASS B: 3500 psi
 - SOIL UNIT WEIGHT: 140 psf
 - ASSUMED FOOTING FRICTION COEFFICIENT: 0.55
 - SOIL FRICTION ANGLE: 33.67
 - DEDUCT VOLUME OF PIPE
 - ALL EXPOSED EDGES WILL BE CHAMFERED ONE INCH
 - ALL REBAR CLEARANCES SHALL BE 3 INCHES UNLESS OTHERWISE NOTED.

REBAR NOTES:
 NF = NEAR FACE
 FF = FAR FACE
 EF = EACH FACE
 ▲ = CUT TO FIT IN FIELD

STEEL SCHEDULE FOR REINFORCED CONCRETE HEADWALL DIAM. 48"

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	H	K
1	28	5	15'-6"	W501	STR.							
2	34	5	6'-9"	W502	STR.							
3	33	5	4'-6"	W503	STR.							
4	17	5	3'-11"	W504	STR.							
5	17	5	7'-10"	W505	17		3'-11"	3'-11"	---			
6	4	5		W506	14	2'-0"	2'-0"	2'-0"	2'-0"	2'-0"	1'-5"	1'-5"
7	17	5		W507	S10	2'-0"	0'-7"	2'-0"				

STEEL SCHEDULE FOR REINFORCED CONCRETE HEADWALL DIAM. 42"

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	H	K
1	26	5	13'-6"	W501	STR.							
2	30	5	6'-3"	W502	STR.							
3	29	5	4'-6"	W503	STR.							
4	15	5	3'-11"	W504	STR.							
5	15	5	7'-10"	W505	17		3'-11"	3'-11"	---			
6	4	5		W506	14	1'-9"	1'-9"	1'-9"	1'-9"	1'-9"	1'-2 7/8"	1'-2 7/8"
7	15	5		W507	S10	2'-0"	0'-7"	2'-0"				

STEEL SCHEDULE FOR REINFORCED CONCRETE HEADWALL DIAM. 36"

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	H	K
1	24	5	11'-6"	W501	STR.							
2	26	5	6'-3"	W502	STR.							
3	25	5	4'-0"	W503	STR.							
4	13	5	3'-5"	W504	STR.							
5	13	5	6'-10"	W505	17		3'-5"	3'-5"	---			
6	4	5		W506	14	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-0 3/4"	1'-0 3/4"
7	13	5		W507	S10	2'-0"	0'-7"	2'-0"				

PIPE DIAMETER	48"	42"	36"	30"	24"	18"
DIMENSION "I"	48"	48"	42"	42"	36"	36"
DIMENSION "J"	24"	24"	18"	18"	12"	12"
CONCRETE QUANTITY (CY)	9.61	8.20	5.63	4.54	2.85	2.05
LENGTH OF BARS	1130	949	761	629	483	348
WEIGHT OF BARS (LB)	1179	990	794	656	504	363

STEEL SCHEDULE FOR REINFORCED CONCRETE HEADWALL DIAM. 30"

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	H	K
1	24	5	9'-6"	W501	STR.							
2	22	5	5'-9"	W502	STR.							
3	21	5	4'-10"	W503	STR.							
4	11	5	3'-5"	W504	STR.							
5	11	5	6'-10"	W505	17		3'-5"	3'-5"	---			
6	4	5		W506	14	1'-3"	1'-3"	1'-3"	1'-3"	1'-3"	0'-10 3/8"	0'-10 3/8"
7	11	5		W507	S10	2'-0"	0'-7"	2'-0"				

STEEL SCHEDULE FOR REINFORCED CONCRETE HEADWALL DIAM. 24"

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	H	K
1	24	5	7'-6"	W501	STR.							
2	18	5	5'-9"	W502	STR.							
3	17	5	3'-6"	W503	STR.							
4	9	5	2'-11"	W504	STR.							
5	9	5	5'-10"	W505	17		2'-11"	2'-11"	---			
6	4	5		W506	14	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	0'-8 1/2"	0'-8 1/2"
7	9	5		W507	S10	2'-0"	0'-7"	2'-0"				

STEEL SCHEDULE FOR REINFORCED CONCRETE HEADWALL DIAM. 18"

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	H	K
1	22	5	5'-6"	W501	STR.							
2	14	5	5'-3"	W502	STR.							
3	13	5	3'-6"	W503	STR.							
4	7	5	2'-11"	W504	STR.							
5	7	5	5'-10"	W505	17		2'-11"	2'-11"	---			
6	4	5		W506	14	0'-9"	0'-9"	0'-9"	0'-9"	0'-9"	0'-6 3/8"	0'-6 3/8"
7	7	5		W507	S10	2'-0"	0'-7"	2'-0"				

REINFORCED CONCRETE HEADWALL
 LOCATION: STA. NB 8+545 LT. STA. ER 1+080 RT.
 DESCRIPTION: PIPE 45I INLET CV 308 INLET

NOT TO SCALE

VERMONT AGENCY OF TRANSPORTATION

PROJECT NAME: BENNINGTON
 PROJECT NUMBER: AC NH 019-(153)
 FILE NAME: ...\\plot_files\zd307c3det.drn.pff PLOT DATE: 5/16/2011
 DESIGN SUPERVISOR: GREG EDWARDS DRAWN BY: STANTEC
 DESIGNED BY: MARC FOISY CHECKED BY: GARY SANTY
DRAINAGE DETAILS DD-3 SHEET 112 OF 577