BAR LIST (CONSTANT)				
MARK	SIZE	NO.	LENGTH	SHAPE
W1	4	4	7'-7"	BENT
W2	4	4	7'-4"	BENT
W3	4	4	6'-11"	BENT
W4	4	4	6'-7"	BENT
W5	4	4	6'-2"	BENT
W6	4	4	5'-10"	BENT
W7	4	4	5'-6"	BENT
W8	4	4	5'-1"	BENT
W9	4	4	4'-9"	BENT
W10	4	4	4'-5"	BENT
W11	4	4	4'-0"	BENT
W12	4	4	3'-7"	BENT
C1	4	4	9'-0"	BENT
C2	4	4	8'-8"	BENT
C3	4	4	8'-4"	BENT
C4	4	4	8'-0"	BENT
C5	4	4	9'-0"	BENT
C6	4	4	8'-8"	BENT
C7	4	4	8'-4"	BENT
C8	4	4	8'-0"	BENT
C9	4	4	7'-6"	BENT
C10	4	4	7'-2"	BENT
C11	4	4	6'-10"	BENT
C12	4	4	6'-6"	BENT
C13	4	4	6'-0"	BENT
C14	4	8	4'-9"	BENT
H1	6	16	12'-8"	STR.
H2	4	16	11'-11"	STR.
H3	4	8	8'-10"	STR.
H4	4	60	6'-0"	BENT
H5	6	8	9'-6"	STR.
O1-O9	4	4 SETS	41'-8"	STR.
A1	6	8	22'-5"	BENT
A2	6	4	8'-9"	STR.
A3	6	16	14'-9"	STR.
P1	4	72	4'-7"	BENT
P2	6	8	5'-0"	BENT
P3	6	8	7'-4"	STR.
PE	6	8	18'-2"	STR.
V6	4	8	3'-9"	STR.
V7	4	8	2'-5"	STR.
V8	6	8	5'-7"	STR.
F8	4	8	38'-4"	STR.
F9	4	8	38'-4"	STR.
F10	4	8	38'-4"	STR.
F11	6	8	5'-6"	BENT
F12	4	48	6'-4"	BENT
F13	4	48	4'-7"	STR.
T3	4	8	4'-8"	STR.
T4-T8	4	4 SETS	16'-6"	STR.

BAR LIST (VARIABLE)				
MARK	SIZE	NO.	LENGTH	SHAPE
V1	4	300	12'-3"	BENT
V2	5	296	6'-0"	BENT
V3	4	226	5'-4"	STR.
V5	4	456	5'-4"	STR.
F1	4	300	9'-6"	BENT
F2	4	296	6'-0"	BENT
F3	4	150	23'-9"	STR.
F4	5	312	6'-3"	STR.
F6	4	150	35'-8"	STR.
F7	4	296	12'-6"	STR.
S1	5	150	23'-9"	STR.
S2	6	296	6'-3"	STR.
S4	5	150	35'-0"	STR.
T1	4	84	112'-9"	STR.
TE	4	60	113'-4"	BENT

23 U.S.C. 407
NDDOT Reserves All Objections

STATE	PROJECT NUMBER	SECTION NO.	SHEET NO.
ND	project number	170	8

NOTES:

1. Verify the quantity, size, and shape of the bar reinforcement against the structure drawings and immediately notify the Engineer of any discrepancies. Discrepancies in the bar list will not be cause for adjustment of the contract unit price.
2. All dimensions are out to out of bars.
3. Nominal length of each bent bar or cut bar is the sum total of the detailing dimensions for that bar, unless otherwise noted.
4. The radius dimension in the "Bar Details" indicates the outside radius.

NOTE:

Unless construction requirements dictate otherwise, the Contractor has the option to construct the box culvert using construction joints or as one continuous unit. If construction joints are used, the longitudinal bar lengths may be adjusted, but a minimum lap length of 1'-3" must be maintained.

CONCRETE FORMULAS	
ENTIRE FLOOR	"L" x 1.14806 + 17.61541 = 146.2 CY
TWO OUTSIDE WALLS & FOUR WINGS	"L" x 0.22222 + 5.66328 = 30.6 CY
INSIDE WALLS	"L" x 0.22222 + 0.90535 = 25.8 CY
ENTIRE ROOF	"L" x 1.08848 + 1.70081 = 123.6 CY
TOTAL	"L" x 2.68098 + 25.88485 = 326.2 CY

This drawing is preliminary and not for construction or implementation purposes.

PRELIMINARY

QUANTITIES	
CLASS AE-3 CONCRETE	326.2 CY
REINFORCING STEEL	47,012 LBS

LOCATION

REINFORCING BAR LIST