

CALCULATIONS

SHOULDER REPLACEMENT

$$\begin{aligned} \text{AREA} = & (358 \times 10)^* + 1/2 (160 \times 2)^* + (435 \times 4)^{**} + (400 \times 4)^* + (132 \times 10)^* \\ & + (830 \times 4)^{**} + (435 \times 10)^* + 1/2 (6 + 20) 55^* + (90 \times 4)^* + (370 \times 4)^* \\ & + (240 \times 4 \times 2)^{**} = 20,545 \text{ S.F.} \end{aligned}$$

ITEM 301 BITUMINOUS AGGREGATE BASE
 $V = (20,545 \times 0.667) \div 27 = 507.29 \text{ C.Y.}$

ITEM 310 SUBBASE TYPE II
 $V = (20,545 \times 0.5) \div 27 = 380.46 \text{ C.Y.}$

ITEM 615 TEMPORARY PAVEMENT, CLASS A (SEE GENERAL NOTES, SHEET 2)

S.R.2 A = $[1/2 (24 \times 275) + (24 \times 45) + 1/2 (24 + 10)(120) + 1/2 (10 \times 120) + 1/2 (12 \times 65) + (88 \times 12) + 1/2 (92 \times 12) + 1/2 (3 \times 50) + 100 \times 1/2 (6 + 7) + (28 \times 7) + 1/2 (7 + 12) 115 + (160 \times 6) \div 2] \div 9 = 2251.7 \text{ S.Y.}$

$\left. \begin{array}{l} \text{--- MEDIAN CROSSOVER STA. 170+50 TO STA. 176+50} \\ \text{--- RAMP 'E' EXTENSION ACROSS MEDIAN} \\ \text{--- MEDIAN CROSSOVER STA. 182+00 TO STA. 191+75} \\ \text{--- LEFT LANE OUTSIDE SHOULDER AT RAMP 'A'} \end{array} \right\}$

LOST NATION ROAD
 $A = [(16 \times 45) + 1/2 (16 \times 48) + (14 \times 60) + 1/2 (12 + 6) (45)] \div 9 = 261 \text{ S.Y.}$
 TOTAL ITEM 615 = 2512.7 S.Y.

ITEM 202 CURB REMOVED
 $L = 65 + 65 + 32 + 20 = 182 \text{ L.F.}$

ITEM 404 BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC
 $V = [1/2 (13 + 23) 90 + 1/2 (53 \times 16)] 0.125 \div 27 = 9.46 \text{ C.Y.}$

ITEM 606 TEMPORARY GUARDRAIL, TYPE 5, BARRIER DESIGN AS PER PLAN
 $L = 220 \text{ L.F. (SEE GENERAL NOTES, SHEET 2)}$

ITEM 622 TEMPORARY CONCRETE BARRIER (SEE GENERAL NOTES, SHEET 2)
 $L = 702 + 1068 = 1770 \text{ L.F.}$

ITEM 614 TEMPORARY EDGE LINES
 $L = (970 + 940) 2 + (1200 + 1250) 2 + (385 + 500) + 160 + (950 + 500) = 11,215 \text{ L.F.} = 2.12 \text{ MI.}$

ITEM 614 TEMPORARY LANE LINES (CONTINUOUS)
 $L = (970 + 940) + (1200 + 1250) + 700 = 5060 \text{ L.F.} = 0.96 \text{ MI.}$

ITEM 609 CURB TYPE 6 (TEMPORARY)
 $L = 20 \text{ L.F.}$

ITEM 202 CONCRETE MEDIAN REMOVED - S.Y.
 $[(1/2 (12 + 6) 45)] \div 9 = 45 \text{ S.Y.}$

ITEM 202 CURB REMOVED, AS PER PLAN
 $L = 212 + 210 = 422 \text{ L.F.}$

ITEM 202 WEARING COURSE REMOVED (SEE GENERAL NOTES, SHEET 2)
 $A = 30 (24 + 24 + 36 + 36) \div 9 = 400 \text{ S.Y.}$

ITEM 404 ASPHALT CONCRETE AC-20 (SEE GENERAL NOTES, SHEET 2)
 $V = 30 (24 + 24 + 36 + 36) 0.0833 \times 1/2 \div 27 = 5.55 \text{ C.Y.}$

ITEM 612 CONCRETE MEDIAN
 $[(1/2 (12 + 6) 45)] \div 9 = 45 \text{ S.Y.}$

LEGEND FOR SHOULDER REPLACEMENT

- X LEFT LANES OUTSIDE SHOULDER AREA
- XX LEFT LANES INSIDE SHOULDER AREA
- + RIGHT LANES INSIDE SHOULDER AREA
- ++ RAMP 'H' AT LOST NATION ROAD

CALC: PCB 11-80
 CHK: ROB 11-80

ITEM 660 REINFORCED SODDING (SHEET 10)

$$\frac{[(7 \times 9 + 1/2 (9 + 6) 19 + (4 \times 6)] 2}{[(12 \times 9) + 1/2 (9 + 6) 20 + (4 \times 6)] 2} \div 9 = 113.7 \text{ S.Y.}$$

ITEM 611 APPROACH SLABS (SEE SHEET 10)

$$[(5400 \times 25) 2 + (42.00 \times 25) 2] \div 9 = 534 \text{ S.Y.}$$

ITEM 609 CURB, TYPE 6 (SEE SHEET 10)

$$L = (26 \times 8) = 208 \text{ L.F.}$$

ITEM SPECIAL PRESSURE RELIEF JOINT, TYPE "C" (SEE SHEET 10)

$$L = 36 + 24 + 24 + 42 = 126 \text{ L.F.}$$

ITEM 202 PAVEMENT REMOVED (APPROACH SLABS - SEE SHEET 10)

$$A = (24 + 36) 2 \times 25 \div 9 = 333.3 \text{ S.Y.}$$