

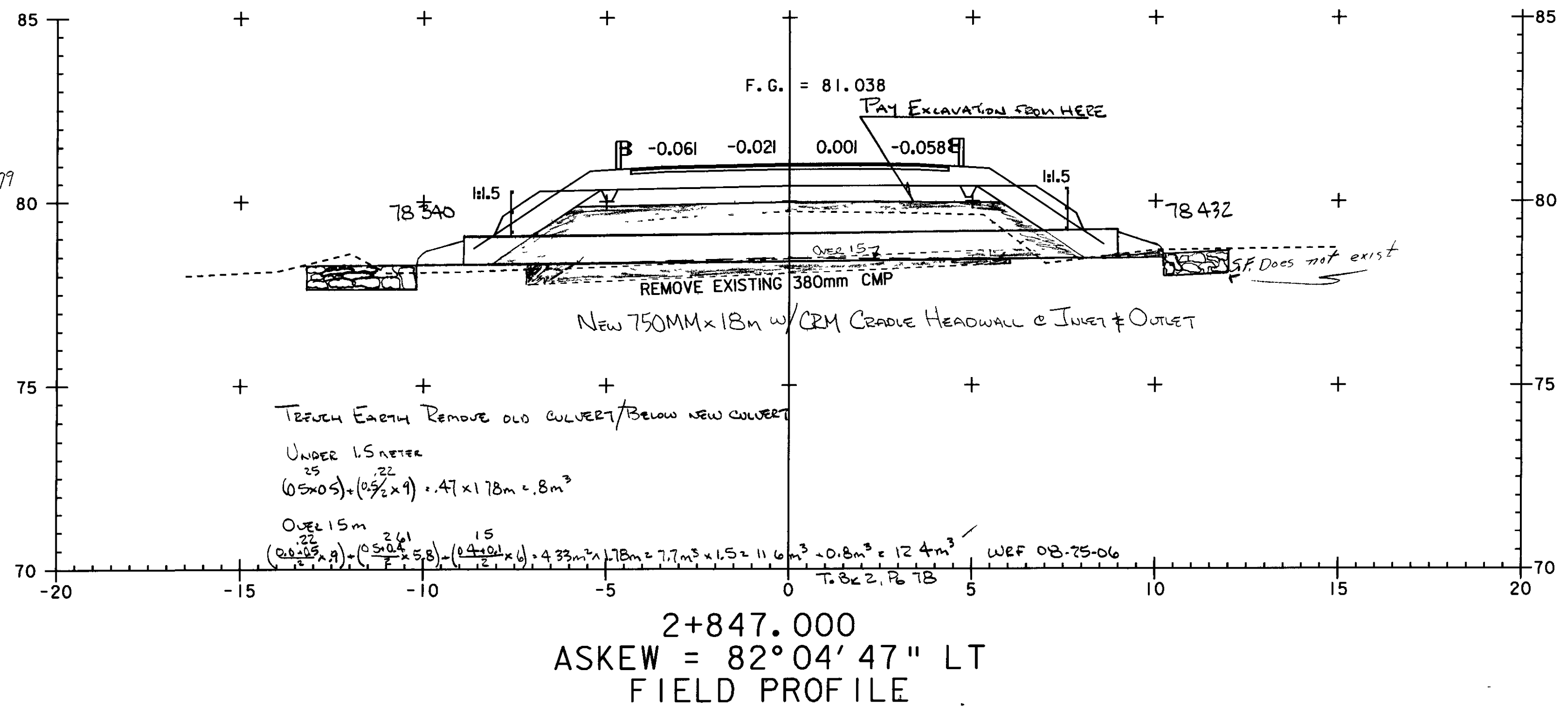
TRENCH EARTH - NEW CULVERT

$$\left(\frac{0.0 \times 0.6 \times 0.9}{2}\right) + \left(\frac{0.6 \times 1.5}{2} \times 1.3\right) + (1.5 \times 11.8) + \left(\frac{1.4 \times 0.0}{2} \times 2\right) + \left(\frac{0.0 \times 0.2 \times 2.5}{2}\right) = 20.79$$

$20.99 \text{ m}^2 \times 1.78 \text{ m} = 37.4 \text{ m}^3$
 FOR STONE FILL @ OUTLET
 $3 \text{ m (L)} \times 8 \text{ m (W)} \times 0.6 \text{ m (D)} = 14.4 \text{ m}^3$ WEF 10-2-06

GRAN BACKFILL @ STRUCTURES
 EXIST. CULVERT AREA = 8.5 m^3
 NEW CULVERT
 $1.78 \text{ m (W)} \times 100 \text{ m (L)} \times 15 \text{ m (H)} = \frac{26.7 \text{ m}^3}{35.2 \text{ m}^3}$ WEF 08-25-06
 DEW 11-07-06

STONE FILL @ OUTLET
 $3 \text{ m (L)} \times 8 \text{ m (W)} \times 0.6 \text{ m (D)} = 14.4 \text{ m}^3$
 GEOTEXTILE FOR STONE FILL
 $4.2 \text{ m (L)} \times 9.2 \text{ m (W)} = 38.6 \text{ m}^2$



TRENCH EARTH

$$\left(\frac{0.7 \times 0.8 \times 7.5}{2}\right) + \left(\frac{0.8 \times 1.5 \times 1.0}{2}\right) + (1.5 \times 14.6) + \left(\frac{1.5 \times 0.6 \times 1.0}{2}\right) + \left(\frac{0.8 \times 0.7 \times 4.8}{2}\right) = 33.3 \text{ m}^3$$

$33.3 \text{ m}^2 \times 1.28 \text{ m} = 42.6 \text{ m}^3$

OVER 1.5m
 $\left(\frac{0.0 \times 1.0 \times 1.5}{2}\right) + \left(\frac{1.0 \times 0.9 \times 11.7}{2}\right) + \left(\frac{0.5 \times 0.5 \times 1.4}{2}\right) = 12.5 \text{ m}^2 \times 1.28 \text{ m} = 16 \text{ m}^3 \times 1.5 = 24 \text{ m}^3$

GRANULAR BACKFILL @ STRUCTURES
 $1.28 \text{ m} \times 20 \text{ m (L)} \times 0.5 \text{ m (H)} = 12.8 \text{ m}^3$ WEF 8-25-06
 DEW 11/07/06

