

MED-18-12.99

RETAINING WALL NO. 4

Medina County

PID No. 92953

**WALL ESTIMATED QUANTITIES
Final Tracing Submittal**

for

Ohio Department of Transportation – District 3

Prepared by:



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ESTIMATED QUANTITIES



GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.

Job MED-18-12.99 - RETAINING WALL NO. 4

Sheet No. 1 of

Calculated by RFV Date 6/5/18

Checked by DJC Date 6/7/18

ITEM 503 - UNCLASSIFIED EXCAVATION

CADD AREA OF ELEV. BELOW GROUND = 3532.14 ft^2

APPROXIMATE THICKNESS OF EXCAVATION FOR WALL CONSTRUCTION = $4.0'$

\therefore TOTAL FOR ITEM = $3532.14 \text{ ft}^2 \times 4.0' \div 27 = 523.3 \text{ CY} \Rightarrow$ SAY 524 CY

ITEM 507 - STEEL PILES, HP14x73

• EMBEUREMENT DEPTH + HEIGHT ABOVE SHAPTS

TOTAL = $45 \times 14.12' + (3 \times 7.05' + 2 \times 8.55' + 2 \times 11.3' + 2 \times 12.05' + 4 \times 11.8' + 4 \times 11.55'$
 $+ 4 \times 11.3' + 4 \times 11.05' + 4 \times 10.8' + 4 \times 10.05' + 4 \times 9.8' + 8.8'$
 $+ 4 \times 7.8' + 3 \times 6.8')$

= $1086.15'$ \Rightarrow SAY 1090 FT.

ITEM 509 - EPOXY COATED REINFORCING STEEL

FROM REINFORCING STEEL LIST IN PLANS = 24,623 LB

ITEM 511 - CLASS QCI CONCRETE, SUBSTRUCTURE

• CONCRETE COPING

TOTAL = $2.5833' \times 1.50' \times 348.31' \div 27 = 49.99 \text{ CY} \Rightarrow$ SAY 50 CY

ITEM 511 - CLASS QCI CONCRETE, MISC: CAST-IN-PLACE CONCRETE FACING, AS PER PLAN

CADD AREA OF FACING = 2929.33 ft^2 \therefore TOTAL FOR ITEM = $2929.33 \text{ ft}^2 \times (10\% / 12) \div 27$
= $90.4 \text{ CY} \Rightarrow$ SAY 91 CY

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

• CADD AREA BACK FACE = 238.66 ft^2

• COPING PERIMETER = $1.5' + 2.5833' + 1.5' + 0.17'$

• CADD AREA FRONT FACE = 2017.05 ft^2

= $5.75'$

\therefore TOTAL FOR ITEM = $[238.66 \text{ ft}^2 + 2017.05 \text{ ft}^2 + (5.75' \times 348.31')] \div 9$
= $473.17 \text{ SY} \Rightarrow$ SAY 473 SY

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Sheet No. 2 of _____

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ITEM 512 - TYPE 2 WATERPROOFING

• CADD AREAS → 3' WIDE @ EACH JOINT TO BOT. OF COPING MINUS 2' UP FROM TOP OF SHAPTS

$$\therefore \text{TOTAL} = (26.8^{\square} + 25.3^{\square} + 23.8^{\square} + 20.8^{\square}) \div 9 = 10.74 \text{ SY} \Rightarrow \text{SAY } \underline{11 \text{ SY}}$$

ITEM 518 - STRUCTURE DRAINAGE, MISC: MIRADRAIN 5000 DRAINAGE SYSTEM OR EQUAL

$$\text{CADD AREA} = 3291.91^{\square}$$

$$\text{DEDUCT TYPE 2 WATERPROOFING @ JOINTS} = 26.8^{\square} + 25.3^{\square} + 23.8^{\square} + 20.8^{\square} = 96.7^{\square}$$

ALSO DEDUCT FOR PILES = 20" WIDTH

$$\begin{aligned} \therefore \text{TOTAL FOR ITEM} &= 3291.91^{\square} - 96.7^{\square} - (3 \times 7.05' + 2 \times 8.55' + 2 \times 11.3' + 2 \times 12.05' \\ &\quad + 4 \times 11.8' + 4 \times 11.55' + 4 \times 11.3' + 4 \times 11.05' + 4 \times 10.8' + 4 \times 10.05' \\ &\quad + 4 \times 9.8' + 8.8' + 4 \times 7.8' + 3 \times 6.8') \times (20'/12) \\ &= 2443.96^{\square} \Rightarrow \text{SAY } \underline{2445 \text{ SF}} \end{aligned}$$

ITEM 524 - DRILLED SHAPTS, 30" DIAMETER, AS PER PLAN

$$\text{TOTAL} = 45 \times 14.12' = 635.4' \Rightarrow \text{SAY } \underline{636 \text{ FT.}}$$

ITEM 517 - RAILING, PIPE, AS PER PLAN

$$\text{TOTAL} = \text{LENGTH OF WALL} = 348.31' \Rightarrow \text{SAY } \underline{350 \text{ FT.}}$$

ITEM 610 - RETAINING WALL, MISC: 3" TIMBER LAGGING

$$\text{CADD AREA} = 3451.2^{\square} \div 9 = 383.47 \text{ SY} \Rightarrow \text{SAY } \underline{384 \text{ SY}}$$

ITEM 530 - SPECIAL - FORM LINER

$$\text{AREA OF CAST-IN-PLACE WALL FACING} = \underline{2926 \text{ SF}}$$