

Project: Mill Creek Culvert
 Proj. No.:

564 White Pond Dr.
 Akron, Ohio 44320

INPUT

20211201
 50311101
 50321301
 50910000
 51010000
 51153100
 51233001
 51233010
 61197400
 61194800
 61199731
 61197400
 61199621
 86700100

ESTIMATED QUANTITIES						CALCULATED BY: HER
ITEM ODOT	EXT.	PARTICIPATION	TOTAL	UNIT	DESCRIPTION	CHECKED BY: JTH
						REF. SHEET
202	11201	LS	LS	LS	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	
503	11100	LS	LS	LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	
503	21301	1,244	1,244	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	
509	10000	30,281	30,281	LB	EPOXY COATED STEEL REINFORCEMENT	
510	10000	136	136	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
511	53100	92	92	CU. YD.	CLASS CC2 CONCRETE, MISC.: CAST IN PLACE SECTIONS	
512	33000	1,163	1,163	SQ. YD.	TYPE 2 WATERPROOFING, AS PER PLAN	
512	33010	254	254	SQ. YD.	TYPE 3 WATERPROOFING	
611	97400	55	55	FT	CONDUIT, MISC.: PRECAST 4'x6' CONDUIT, TYPE A, 706.05	
611	94800	156	156	FT	8' X 4' CONDUIT, TYPE A, 706.05	
611	99731	1	1	EACH	JUNCTION CHAMBER, AS PER PLAN	
611	97400	140	140	FT	CONDUIT, MISC.: 22'x7', TYPE A, PRECAST REINFORCED CONCRETE BOX CULVERT, 706.05, 2'-0" ESTIMATED SLAB THICKNESS, AS PER PLAN OR APPROVED ALTERNATIVE	
611	99621	1	1	EACH	MANHOLE, NO. 5, AS PER PLAN	
867	00100	1	1	LS	TEMPORARY WIRE FACED MECHANICALLY STABILIZED EARTH WALL	

Removal of 6x4, 4x6, 22x7

6x4

Weight 1.2 ton/ft
 length 176 ft
 Total Weight 211.2 tons

4x6

Weight 1.2 ton/ft
 Length 55 ft
 Total Weight 66 ton

22x7

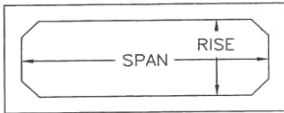
Weight 5 ton/ft
 Length 171 ft
 Total Weight 855 ton

Total 1132.2 ton
 809 CU. YD

Removal Cost \$250/CU. YD

Cost 202250 Use 200K

LINDSAY PRECAST
 CANAL FULTON, OHIO
 (800) 837-7788
4 SIDED BOX CULVERTS



SPAN	RISE	WALL SIZE	HAUNCH SIZE	MAX LENGTH	WEIGHT (TONS/LF)	SPAN	RISE	WALL SIZE	HAUNCH SIZE	MAX LENGTH	WEIGHT (TONS/LF)	SPAN	RISE	WALL SIZE	HAUNCH SIZE	MAX LENGTH	WEIGHT (TONS/LF)
4 X 4	8"	8"	8"	8"	1.0	10 X 4	10"	12"	8"	8"	2.1	18 X 4	12"	12"	6"	6"	3.75
4 X 5	8"	8"	8"	8"	1.1	10 X 5	10"	12"	8"	8"	2.2	18 X 5	12"	12"	6"	6"	3.90
4 X 6	8"	8"	8"	8"	1.2	10 X 6	10"	12"	8"	8"	2.3	18 X 6	12"	12"	6"	6"	4.05
4 X 7	8"	8"	8"	8"	1.3	10 X 7	10"	12"	8"	8"	2.4	18 X 7	12"	12"	6"	6"	4.20
4 X 8	8"	8"	8"	8"	1.4	10 X 8	10"	12"	8"	8"	2.6	18 X 8	12"	12"	6"	6"	4.35
5 X 3	8"	8"	8"	8"	1.0	10 X 9	10"	12"	8"	8"	2.7	18 X 9	12"	12"	6"	6"	4.50
5 X 4	8"	8"	8"	8"	1.1	10 X 10	10"	12"	8"	8"	2.8	18 X 10	12"	12"	6"	6"	4.65
5 X 5	8"	8"	8"	8"	1.2							18 X 12	12"	12"	6"	6"	4.95
5 X 6	8"	8"	8"	8"	1.3	12 X 4	12"	12"	8"	8"	2.85	20 X 4	12"	12"	6"	6"	4.05
5 X 7	8"	8"	8"	8"	1.4	12 X 5	12"	12"	8"	8"	3.00	20 X 5	12"	12"	6"	6"	4.20
5 X 8	8"	8"	8"	8"	1.5	12 X 6	12"	12"	8"	8"	3.15	20 X 6	12"	12"	6"	6"	4.35
6 X 3	8"	8"	8"	8"	1.1	12 X 7	12"	12"	8"	8"	3.30	20 X 7	12"	12"	6"	6"	4.50
6 X 4	8"	8"	8"	8"	1.2	12 X 8	12"	12"	8"	8"	3.45	20 X 8	12"	12"	6"	6"	4.65
6 X 5	8"	8"	8"	8"	1.3	12 X 9	12"	12"	8"	8"	3.60	20 X 9	12"	12"	6"	6"	4.80
6 X 6	8"	8"	8"	8"	1.4	12 X 10	12"	12"	8"	8"	3.75	20 X 10	12"	12"	6"	6"	4.95
6 X 7	8"	8"	8"	8"	1.5							20 X 12	12"	12"	6"	6"	5.80
6 X 8	8"	8"	8"	8"	1.6	14 X 4	12"	12"	8"	8"	3.15	22 X 4	12"	12"	6"	6"	4.35
7 X 3	8"	8"	8"	8"	1.2	14 X 5	12"	12"	8"	8"	3.30	22 X 5	12"	12"	6"	6"	4.50
7 X 4	8"	8"	8"	8"	1.3	14 X 6	12"	12"	8"	8"	3.45	22 X 6	12"	12"	6"	6"	4.65
7 X 5	8"	8"	8"	8"	1.4	14 X 7	12"	12"	8"	8"	3.60	22 X 7	12"	12"	6"	6"	4.80
7 X 6	8"	8"	8"	8"	1.5	14 X 8	12"	12"	8"	8"	3.75	22 X 8	12"	12"	6"	6"	4.95
7 X 7	8"	8"	8"	8"	1.6	14 X 9	12"	12"	8"	8"	3.90	22 X 9	12"	12"	6"	6"	5.10
7 X 8	8"	8"	8"	8"	1.7	14 X 10	12"	12"	8"	8"	4.05	22 X 10	12"	12"	6"	6"	5.25
						16 X 4	12"	12"	8"	8"	3.45	22 X 12	12"	12"	6"	6"	6.15
						16 X 5	12"	12"	8"	8"	3.60						
						16 X 6	12"	12"	8"	8"	3.75	24 X 4	12"	12"	6"	6"	4.65

Temporary sheeting Phase 1 (8X4)

Depth 30 ft
Length 372 ft

Cost/ft \$1,431.00

Cost \$532,332.00

Temporary sheeting Phase 2 (NEAR 22X7)

Depth 33 ft
Length 35 ft

Cost/ft \$1,574.00

Cost \$55,090.00

Total Cost \$587,422.00

Steel vs Concrete Tool

Enter your wall dimensions and the values below will adjust automatically.

wall length wall height
 ft ft

retaining wall type	construction days	total cost	cost per linear ft	cost per square ft
Steel Sheet Pile Wall	76	\$532220	\$1431	\$75.3
Soldier Pile and Lagging Wall	153	\$1009422	\$2714	\$142.82
Concrete Modular Unit Gravity Wall	182	\$850169	\$2285	\$120.28
Mechanically Stabilized Earth Wall	206	\$1066673	\$2867	\$150.92
Cast-In-Place Reinforced Concrete Wall	276	\$1518764	\$4083	\$214.88
Slurry Wall	376	\$2350296	\$6318	\$332.53

Approximate cost and construction time for different wall types is based on 2009 RSMMeans pricing for the US and extrapolated from the 2009 NASSPA Retaining Wall Comparison Technical Report.

<https://www.isheetpile.com/articles/cost>

Enter your wall dimensions and the values below will adjust automatically.

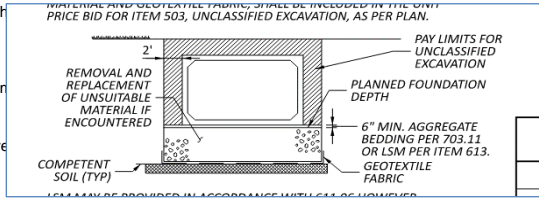
wall length wall height
 ft ft

retaining wall type	construction days	total cost	cost per linear ft	cost per square ft
Steel Sheet Pile Wall	8	\$55082	\$1574	\$82.83
Soldier Pile and Lagging Wall	16	\$104470	\$2985	\$157.1
Concrete Modular Unit Gravity Wall	19	\$87988	\$2514	\$132.31
Mechanically Stabilized Earth Wall	21	\$110395	\$3154	\$166.01
Cast-In-Place Reinforced Concrete Wall	29	\$157184	\$4491	\$236.37
Slurry Wall	39	\$243243	\$6950	\$365.78

Approximate cost and construction time for different wall types is based on 2009 RSMMeans pricing for the US and extrapolated from the 2009 NASSPA Retaining Wall Comparison Technical Report.

503 21301 CY UNCLASSIFIED EXCAVATION, AS PER PLAN
 THIS ITEM INCLUDES THE EXCAVATION OF THE PROP. 4X4, 8X4 AND 22X7, JUNCTION BOX 2

4x6 - mostly new alignment so th
 Length 55 ft
 Width 11.33 ft
 Depth 8.833333 ft
 Volume 204.00 CY



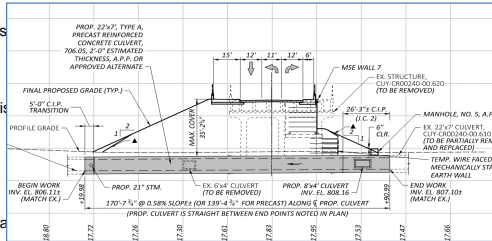
to excavate the whole area

8x4 - new alignment so the culve
 Length 156 ft
 Width 13.33 ft
 Depth 8.583333 ft
 Volume 662 CY

to excavate the whole area

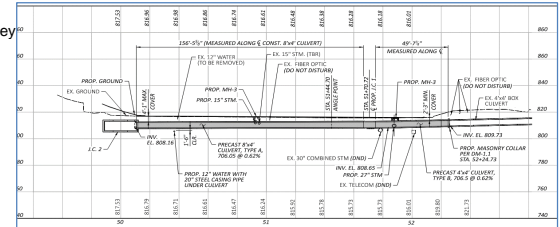
2.4' min. to 4.0833' max., avg. 3.25
ELEVATION FOR 22x7

22x7 - mostly existing alignment s
 Length 139.4167 ft
 Width 4 ft
 Depth 13.5 ft
 Volume 279 CY



as they

Elevation for 8x4 and 4x6

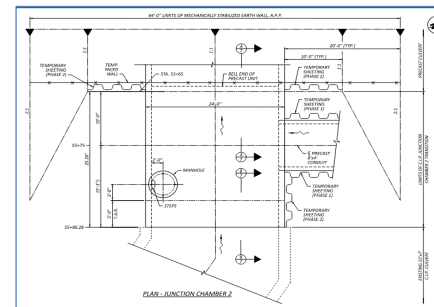
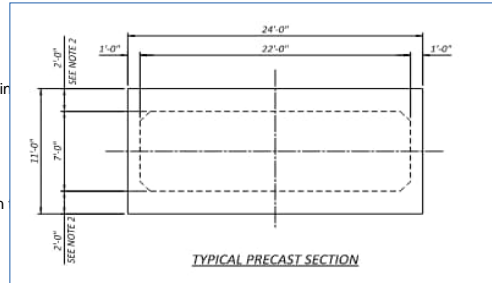


Junction Box 2

Avg. width 4 ft
 Length 26.25 ft
 Depth 11.26667 ft
 Volume 44 CY

2' ma

Section for 22x7



Junction Box 3

Avg. width 4 ft
 Length 5 ft
 Depth 14.15 ft
 Volume 11 CY

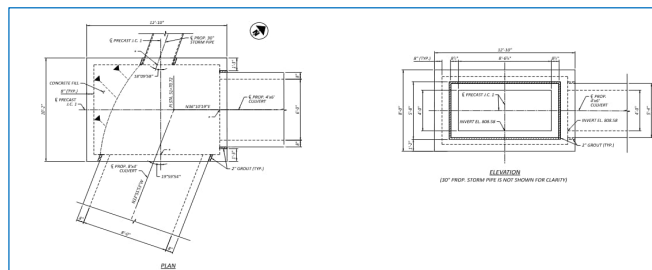
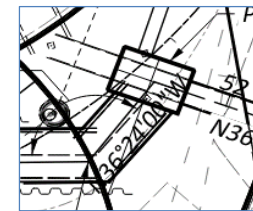
3' min

Junction Box 1 (Assume 12'-10\"/>

Avg. width 12.83333 ft
 Length 10.25 ft
 Depth 9.00 ft
 Volume 44 CY

2' on

Junction Box 1



1244.00

Total 1244.00 CY

150/CY was assumed

JB 2 and 3 cast in place

Junction Box 2

24808 lbs

Junction Chamber 3

5473 lbs

Total 30281

Cost per lbs 1.75

Total Cost 52991.75

MARK	MAT'RL	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
		TOTAL				A	B	C	D	E	R	INC
JUNCTION CHAMBER NO. 2												
J501	ECSR	73	18'-0"	1,371	STR							
J502	ECSR	123	25'-11"	3,325	STR							
J503	ECSR	8	10'-2"	84	STR							
J504	ECSR	8	5'-10"	49	STR							
J505	ECSR	42	9'-0"	394	STR							
J506	ECSR	2	16'-3"	34	STR							
J507	ECSR	2	15'-8"	33	STR							
J508	ECSR	3	15'-5"	48	STR							
J509	ECSR	6	8'-10"	55	STR							
J510	ECSR	20	9'-4"	195	STR							
J511	ECSR	6	4'-8"	29	STR							
J512	ECSR	20	5'-3"	110	STR							
J513	ECSR	11	8'-4"	98	STR							
J514	ECSR	12	4'-11"	164	3	0'-8"	1'-6"					
J515	ECSR	11	4'-2"	48	STR							
J601	ECSR	20	25'-11"	779	STR							
J602	ECSR	68	4'-0"	409	STR							
J801	ECSR	73	18'-0"	3,508	STR							
J802	ECSR	73	23'-8"	4,613	STR							
J803	ECSR	2	16'-9"	89	STR							
J804	ECSR	2	19'-7"	105	STR							
J805	ECSR	2	16'-2"	87	STR							
J806	ECSR	2	19'-0"	102	STR							
J807	ECSR	3	15'-11"	128	STR							
J808	ECSR	3	18'-8"	150	STR							
J809	ECSR	4	6'-0"	64	STR							
J810	ECSR	3	4'-2"	28	STR							
J811	ECSR	224	12'-1"	7,823	1	5'-4"	8'-0"					
J812	ECSR	2	15'-5"	83	2	5'-4"	9'-0"	1'-6"				
J813	ECSR	2	14'-11"	80	2	5'-4"	9'-0"	1'-0"				
J814	ECSR	11	7'-4"	216	44	5'-4"	7'-10"					
J815	ECSR	28	8'-2"	492	1	5'-4"	1'-6"					
SUB-TOTAL				24,808								

MARK	MAT'RL	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
		TOTAL				A	B	C	D	E	R	INC
JUNCTION CHAMBER NO. 3												
J531	ECSR	16	18'-0"	300	STR							
J532	ECSR	152	4'-8"	740	STR							
J533	ECSR	4	1'-2"	5	STR							
J534	ECSR	8	2'-6"	21	STR							
J535	ECSR	10	10'-7"	110	STR							
J536	ECSR	2	5'-3"	11	STR							
J537	ECSR	2	3'-1"	7	STR							
J631	ECSR	68	4'-0"	409	STR							
J831	ECSR	16	18'-0"	769	STR							
J832	ECSR	16	23'-8"	1,011	STR							
J833	ECSR	46	13'-10"	1,699	1	5'-4"	8'-9"					
J834	ECSR	2	11'-10"	63	44	5'-4"	5'-9"					
J835	ECSR	2	11'-6"	62	44	5'-4"	5'-5"					
J836	ECSR	3	11'-4"	91	44	5'-4"	5'-3"					
J837	ECSR	2	9'-7"	51	44	5'-4"	3'-6"					
J838	FCSR	2	9'-4"	50	44	5'-4"	3'-3"					
J839	ECSR	3	9'-2"	74	44	5'-4"	3'-1"					
SUB-TOTAL				5,473								

511 53100

CU. YD. CLASS QC2 CONCRETE, MISC.: CAST IN PLACE SECTIONS

Junction Chamber 2 - box

24x9.41667	226
22x7	154
Total	72 ft ²
Length	26.25 ft

Volume 71 CY

Junction Chamber 3

24x11	264
22x7	154
Total	110 Ft ²
Length	5 Ft

Volume 21 CY

Total 92 CY

92 CY

Junction Box 2 - box

Cross sectional A 74 ft²
Length 26.25 ft

Volume 71.94444 CY

Junction Box 3

Area 110 ft²
Length 5
Volume 20.37037 CY

Total Volume 92.31481 CY

512 33000

SQ. YD. TYPE 2 WATERPROOFING, AS PER PLAN

1' lap on each side

8x4

Length 156 ft
Width 9.333333 ft
Depth 5.333333 ft
Lap 2 ft
Total 184.8889 SY

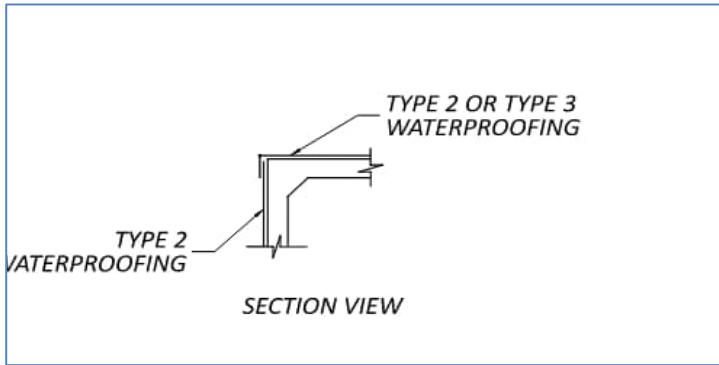
4x6

Length 55 ft
Width 7.333333 ft
Depth 5.333333 ft
Lap 2 ft
Total 65.18519 SY

22'x7' Precast Culvert

Length 171 ft (includes J.B 2 and 3)
Width 24 ft
Depth 11 ft
Lap 2 ft
Lap at JB 2 2 ft
Total 912 SY

TOTAL 1162.074 SY
1163 SY



512 33010

SQ. YD. TYPE 3 WATERPROOFING

8x4

Length 156 ft
Width 9.333333 ft
Depth 5.333333 ft
Lap 2 ft
Total 196.4444 SY

4x6

Length 55 ft
Width 7.333333 ft
Depth 5.333333 ft
Lap 2 ft
Total 57.03704 SY

TOTAL 254 SY

254 SY

