

**CITRUS GROVE ROAD
DESIGN PHASE V
FROM SR 91 TO BLACKSTILL LAKE ROAD
RSQ No. 19-0910**

**Structures Design Calculations
Retaining Walls**

April 2022

Prepared For:

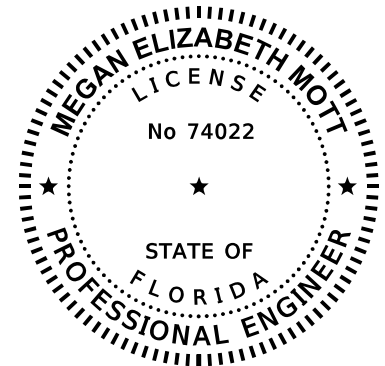


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**STRUCTURES DESIGN CALCULATIONS
RETAINING WALLS**

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MSE Wall RW-1 Geometry

Vertical Profile Data - VC1

VPC Sta. = 241+71.5687
 VPC Elev. = 175.085450
 VPT Sta. = 244+72.3687
 VPT Elev. = 180.650250
 G1 = -0.00500
 G2 = 0.04200

A = 7.812500E-05
 B = -0.005000
 C = 175.085450

$y = Ax^2 + Bx + C$

Vertical Profile Data - VC2

VPC Sta. = 246+11.8037
 VPC Elev. = 186.506520
 VPT Sta. = 248+55.8537
 VPT Elev. = 192.241695
 G1 = 0.04200
 G2 = 0.00500

A = -7.580414E-05
 B = 0.042000
 C = 186.506520

$y = Ax^2 + Bx + C$

S/W Cross-slope Transition

Begin	247+30.00	-0.0200
End	247+10.00	0.0150

S/W Step-up Transition

Begin	247+10.00	0.0000'
End	246+85.00	0.5417'

Roadway Width Transition

Begin	246+85.00	19.00'
End	246+40.00	16.00'

Note: Wall offset is constant; as roadway width reduces, sidewalk width increases.

Wall Station	CL Const. Station	PGL Elevation (NAVD)	Lane + Shoulder		Barrier Wall		Sidewalk Step-up (ft)	Sidewalk		Top of Coping Elevation (NAVD)	Ex. Grnd El. @ Wall Face (NAVD)	Proposed Ground (NAVD)	Comment
			Width (ft)	Cross-slope (ft/ft)	Width (ft)	Cross-slope (ft/ft)		Width (ft)	Cross-slope (ft/ft)				
	246+00.00										170.00		
1001+03.19	246+30.00	187.246	16.00	-0.0200	1.25	-0.0200	0.5417	8.3958	0.0150	187.568	169.67	187.568	END WALL
1001+00.00	246+33.23	187.371	16.00	-0.0200	1.25	-0.0200	0.5417	8.3958	0.0150	187.694	169.63	187.568	
1000+93.31	246+40.00	187.630	16.00	-0.0200	1.25	-0.0200	0.5417	8.3958	0.0150	187.953	169.56	185.941	End Roadway Width Trans.
1000+75.00	246+58.54	188.304	17.24	-0.0200	1.25	-0.0200	0.5417	7.1600	0.0150	188.583	169.35	179.838	
1000+50.00	246+83.85	189.139	18.92	-0.0200	1.25	-0.0200	0.5417	5.4725	0.0150	189.359	169.07	171.505	
1000+48.86	246+85.00	189.175	19.00	-0.0200	1.25	-0.0200	0.5417	5.3958	0.0150	189.392	169.06	171.126	End S/W Step-up Trans. Begin Roadway Width Trans.
	247+00.00										168.89		
1000+25.00	247+09.16	189.877	19.00	-0.0200	1.25	-0.0200	0.0181	5.3958	0.0150	189.571	168.83	168.831	
1000+24.17	247+10.00	189.900	19.00	-0.0200	1.25	-0.0200	0.0000	5.3958	0.0150	189.576	168.83	168.826	End S/W Cross-slope Trans. Begin S/W Step-up Trans.
1000+12.41	247+21.91	190.212	19.00	-0.0200	1.25	-0.0200	0.0000	5.3958	-0.0058	189.775	168.75	168.750	12-ft from approach slab
1000+04.69	247+29.73	190.405	19.00	-0.0200	1.25	-0.0200	0.0000	5.3958	-0.0195	189.895	168.70	168.700	PC
1000+04.42	247+30.00	190.412	19.00	-0.0200	1.25	-0.0200	0.0000	5.3958	-0.0200	189.899	168.70	168.698	Begin S/W Cross-slope Trans.
1000+00.41	247+34.01	190.507	19.00	-0.0200	1.25	-0.0200	0.0000	5.3958	-0.0200	189.990	168.67	168.673	Begin Approach Slab
1000+00.00	247+34.42	190.517	19.00	-0.0200	1.25	-0.0200	0.0000	5.3958	-0.0200	190.000	168.67	168.670	BEGIN WALL

MSE Wall RW-2 Geometry

Vertical Profile Data - VC1

VPC Sta. = 241+71.5687
 VPC Elev. = 175.085450
 VPT Sta. = 244+72.3687
 VPT Elev. = 180.650250
 G1 = -0.00500
 G2 = 0.04200

Vertical Profile Data - VC2

A = 7.812500E-05
 B = -0.005000
 C = 175.085450
 y = Ax² + Bx + C

VPC Sta. = 246+11.8037
 VPC Elev. = 186.506520
 VPT Sta. = 248+55.8537
 VPT Elev. = 192.241695
 G1 = 0.04200
 G2 = 0.00500

A = -7.580414E-05
 B = 0.042000
 C = 186.506520
 y = Ax² + Bx + C

Trail Cross-slope Transition

Begin	247+30.00	-0.0200
End	247+10.00	0.0150

Trail Step-up Transition

Begin	247+10.00	0.0000'
End	246+85.00	0.5417'

Roadway Width Transition

Begin	246+85.00	19.00'
End	246+40.00	16.00'

Note: Wall offset is constant; as roadway width reduces, trail width increases.

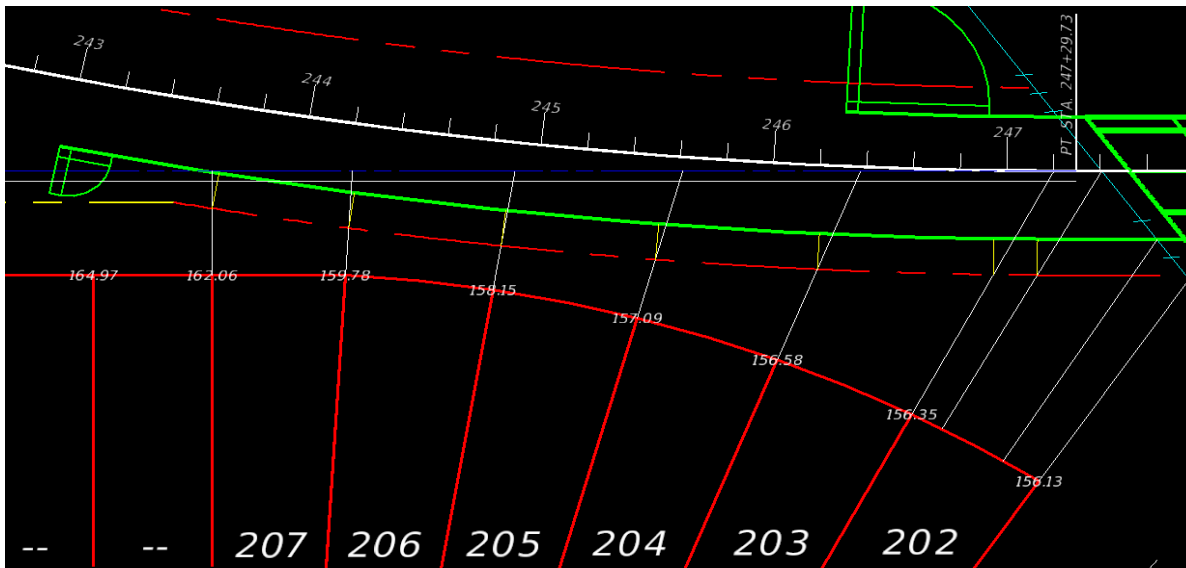
Wall Station	CL Const. Station	PGL Elevation (NAVD)	Lane + Shoulder		Barrier Wall		Trail Step-up (ft)	Trail		Top of Coping Elevation (NAVD)	Ex. Grnd El. (NAVD)	Proposed Ground (NAVD)	Comment
			Width (ft)	Cross-slope (ft/ft)	Width (ft)	Cross-slope (ft/ft)		Width (ft)	Cross-slope (ft/ft)				
2000+00.00	242+98.23	175.706	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	176.133	171.67	176.133	BEGIN WALL
2000+01.77	243+00.00										171.67		
2000+25.00	243+22.84	176.117	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	176.545	170.55	170.548	
2000+50.00	243+47.46	176.623	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	177.051	169.34	169.340	
2000+69.31	243+66.77										168.39	168.324	
2000+75.00	243+72.07	177.224	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	177.651	168.13	167.841	
2001+00.00	243+96.69	177.919	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	178.347	166.92	165.721	
2001+03.31	244+00.00										166.76	165.440	
2001+25.00	244+21.30	178.709	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	179.137	166.19	164.846	
2001+50.00	244+45.91	179.594	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	180.021	165.53	164.162	
2001+75.00	244+70.53	180.573	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	181.001	164.87	163.477	
2002+00.00	244+95.14	181.607	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	182.034	164.21	162.793	
2002+04.86	245+00.00										164.08	162.660	
2002+25.00	245+19.76	182.640	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	183.068	164.12	162.675	
2002+50.00	245+44.37	183.674	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	184.102	164.18	162.693	
2002+59.23	245+53.60										164.20	162.700	
2002+75.00	245+68.98	184.708	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	185.136	165.51	164.004	
2003+00.00	245+93.60	185.742	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	186.169	167.60	166.071	
2003+06.40	246+00.00										168.14	166.600	
2003+25.00	246+18.21	186.773	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	187.200	169.48	168.243	
2003+47.13	246+40.00	187.630	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	188.058	171.08	170.199	End Roadway Width Trans.
2003+50.00	246+42.83	187.736	16.19	-0.0200	1.25	-0.0200	0.5417	15.2075	0.0150	188.157	171.29	170.453	
2003+75.00	246+67.44	188.609	17.83	-0.0200	1.25	-0.0200	0.5417	13.5666	0.0150	188.972	173.10	172.662	
2003+92.84	246+85.00	189.175	19.00	-0.0200	1.25	-0.0200	0.5417	12.3958	0.0150	189.497	174.40	174.238	End Trail Step-up Trans. Begin Roadway Width Trans.
2004+00.00	246+92.05	189.389	19.00	-0.0200	1.25	-0.0200	0.3888	12.3958	0.0150	189.559	174.92	174.871	
2004+03.04	246+95.09										175.14	175.140	
2004+07.95	247+00.00										175.25	175.250	
2004+18.23	247+10.00	189.900	19.00	-0.0200	1.25	-0.0200	0.0000	12.3958	0.0150	189.681	173.84	173.838	End Trail Cross-slope Trans. Begin Trail Step-up Trans.
2004+25.00	247+16.67	190.077	19.00	-0.0200	1.25	-0.0200	0.0000	12.3958	0.0033	189.714	172.90	172.897	
2004+38.27	247+29.73	190.405	19.00	-0.0200	1.25	-0.0200	0.0000	12.3958	-0.0195	189.758	171.05	171.053	PT
2004+38.54	247+30.00	190.412	19.00	-0.0200	1.25	-0.0200	0.0000	12.3958	-0.0200	189.759	171.01	171.015	Begin Trail Cross-slope Trans.
2004+50.00	247+41.46	190.678	19.00	-0.0200	1.25	-0.0200	0.0000	12.3958	-0.0200	190.025	169.40	169.397	
2004+72.54	247+64.00	191.143	19.00	-0.0200	1.25	-0.0200	0.0000	12.3958	-0.0200	190.490	166.21	166.214	12-ft from approach slab
2004+72.86	247+64.32										166.17	166.170	LA R/W LINE
2004+75.00	247+66.46	191.189	19.00	-0.0200	1.25	-0.0200	0.0000	12.3958	-0.0200	190.536	166.16	166.160	
2004+84.54	247+76.00	191.359	19.00	-0.0200	1.25	-0.0200	0.0000	12.3958	-0.0200	190.703	166.08	166.080	Begin Approach Slab
2004+85.37	247+76.83	191.373	19.00	-0.0200	1.25	-0.0200	0.0000	12.3958	-0.0200	190.717	166.07	166.070	END WALL

**MSE Wall RW-2 Geometry
Proposed Ground Elevations**

The proposed Esplanade development will result in re-grading the existing ground up to the limits of the existing R/W line. The Esplanade cross-sections show a 1:10 slope down over 10' and a 1:5 slope up from the lot line toward the existing R/W line. The elevations were confirmed to provide a 1:3 slope or greater and a "new existing" ground elevation was calculated at the proposed R/W line based on the Esplandade lot elevations and the calculated tie-in slope (1:3 or greater) up to a 1:5 slope. The "new existing" ground elevation was then used to calculate the proposed ground elevation along RW-2 assuming a 15' wide berm in front of the wall (assume a "flat" 1:10 slope berm).

Lot	Prop. El. @ Lot Line Corner (NAVD)	Prop. El. @ 10' from Lot Line (NAVD)	Dist. Btwn Lot Line & Exist. R/W (ft)	Exist. El. @ Exist. R/W (NAVD)	Slope Rate (ft/ft)	Dist. Btwn Lot Line & Prop. R/W (ft)	Prop. El. @ Prop. R/W (NAVD)	Ex. El. @ Prop. R/W (NAVD)	Prop. El. @ Wall Face (NAVD)	Wall RW-2 Station
corner 207	162.06	161.06	49.94	171.5	3.83	32.05	166.82	--	168.324	2000+69.31
corner 206	159.78	158.78	50.06	170.5	3.42	22.72	162.50	--	164.000	2001+28.04
corner 205	158.15	157.15	57.78	170.0	3.72	21.45	160.23	--	161.730	2001+93.36
corner 204	157.09	156.09	73.25	169.5	4.72	29.23	160.17	--	161.667	2002+59.23
corner 203	156.58	---	97.39	169.5	7.54	46.74	165.93	166.50	167.427	2003+28.18
corner 202	156.35	---	131.76	168.5	10.84	75.71	168.50	166.50	168.000	2004+03.04
									167.269	2004+30.94
									166.170	2004+72.86

* Calculated proposed elevation @ proposed R/W line compared to existing elevation and minimum elevation applied.



MSE Wall RW-3 Geometry

Vertical Profile Data

VPT Sta. = 251+31.7000
 VPT Elev. = 193.620
 G = 0.00500

Wall Station	CL Const. Station	PGL Elevation (NAVD)	Lane		Shoulder		Barrier Wall		Sidewalk		Top of Coping Elevation (NAVD)	Ex. Grnd El. @ Wall Face	Proposed Ground	Comment
			Width (ft)	Cross-slope (ft/ft)	Width (ft)	Cross-slope (ft/ft)	Width (ft)	Cross-slope (ft/ft)	Width (ft)	Cross-slope (ft/ft)				
3000+00.00	251+25.00	193.587	11.00	-0.0200	8.00	-0.0200	1.25	-0.0200	5.3958	-0.0200	193.074	181.67	193.074	BEGIN WALL
3000+23.54	251+01.46	193.469	11.00	-0.0200	8.00	-0.0200	1.25	-0.0200	5.3958	-0.0200	192.956	181.37	184.725	12-ft from approach slab
3000+25.00	251+00.00	193.462	11.00	-0.0200	8.00	-0.0200	1.25	-0.0200	5.3958	-0.0200	192.949	181.34	184.185	
3000+35.54	250+89.46	193.409	11.00	-0.0200	8.00	-0.0200	1.25	-0.0200	5.3958	-0.0200	192.896	181.15	181.150	End Approach Slab
3000+36.37	250+88.63	193.405	11.00	-0.0200	8.00	-0.0200	1.25	-0.0200	5.3958	-0.0200	192.892	181.14	181.140	END WALL

MSE Wall RW-4 Geometry

Vertical Profile Data - VC3

VPC Sta. = 251+31.7012
 VPC Elev. = 193.620933
 VPT Sta. = 252+90.0335
 VPT Elev. = 192.357750
 G1 = 0.00500
 G2 = -0.02096

A = -8.197953E-05
 B = 0.005000
 C = 193.620933

$y = Ax^2 + Bx + C$

Vertical Profile Data - VC4

VPC Sta. = 253+07.4782
 VPC Elev. = 191.992176
 VPT Sta. = 256+02.0453
 VPT Elev. = 192.598086
 G1 = -0.02096
 G2 = 0.02507

A = 7.813161E-05
 B = -0.020960
 C = 191.992176

$y = Ax^2 + Bx + C$

Trail Cross-slope Transition

Begin	251+40.00	-0.0200
End	251+90.00	0.0150

Trail Step-up Transition

Begin	252+35.00	0.0000'
End	252+85.00	0.5417'

Roadway Width Transition

Begin	251+90.00	19.00'
End	252+35.00	16.00'

Note: Wall offset is constant; as roadway width reduces, trail width increases.

Wall Station	Cl Const. Station	PGL Elevation (NAVD)	Lane + Shoulder		Barrier Wall		Trail Step-up (ft)	Trail		Top of Coping Elevation (NAVD)	Ex. Grnd El. @ Wall Face (NAVD)	Proposed Ground (NAVD)	Comment
			Width (ft)	Cross-slope (ft/ft)	Width (ft)	Cross-slope (ft/ft)		Width (ft)	Cross-slope (ft/ft)				
4000+00.00	251+31.05	193.618	19.00	-0.0200	1.25	-0.0200	0.0000	12.3958	-0.0200	192.964	180.18	180.180	BEGIN WALL
4000+00.41	251+31.45	193.620	19.00	-0.0200	1.25	-0.0200	0.0000	12.3958	-0.0200	192.967	180.18	180.180	End Approach Slab
4000+08.95	251+40.00	193.657	19.00	-0.0200	1.25	-0.0200	0.0000	12.3958	-0.0200	193.004	180.18	180.183	Begin Trail Cross-slope Trans.
4000+12.41	251+43.45	193.668	19.00	-0.0200	1.25	-0.0200	0.0000	12.3958	-0.0176	193.045	180.18	180.184	12-ft from approach slab
4000+25.00	251+56.05	193.694	19.00	-0.0200	1.25	-0.0200	0.0000	12.3958	-0.0088	193.180	180.19	180.187	
4000+50.00	251+81.05	193.668	19.00	-0.0200	1.25	-0.0200	0.0000	12.3958	0.0087	193.371	180.19	180.195	
4000+58.95	251+90.00	193.634	19.00	-0.0200	1.25	-0.0200	0.0000	12.3958	0.0150	193.415	180.20	180.197	End Trail Cross-slope Trans. Begin Roadway Width Trans.
	252+00.00										180.2		
4000+75.00	252+06.05	193.540	17.93	-0.0200	1.25	-0.0200	0.0000	13.4656	0.0150	193.358	180.31	180.805	
4001+00.00	252+31.05	193.309	16.26	-0.0200	1.25	-0.0200	0.0000	15.1322	0.0150	193.185	180.76	183.413	
4001+03.95	252+35.00	193.263	16.00	-0.0200	1.25	-0.0200	0.0000	15.3958	0.0150	193.149	180.83	184.259	End Roadway Width Trans. Begin Trail Step-up Trans.
4001+25.00	252+56.05	192.975	16.00	-0.0200	1.25	-0.0200	0.2280	15.3958	0.0150	193.089	181.21	184.300	
4001+50.00	252+81.05	192.539	16.00	-0.0200	1.25	-0.0200	0.4988	15.3958	0.0150	192.924	181.66	184.300	
4001+53.95	252+85.00	192.461	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	192.888	181.73	184.300	End Trail Step-up Trans.
	253+00.00										182.0		
4001+75.00	253+06.05	192.022	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	192.450	182.18	184.300	
4002+00.00	253+31.05	191.542	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	191.969	182.93	184.300	
4002+25.00	253+56.05	191.158	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	191.586	183.68	184.300	
4002+50.00	253+81.05	190.873	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	191.301	184.43	184.431	
	254+00.00										185.0		
4002+75.00	254+06.05	190.685	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	191.113	185.18	185.181	
4003+00.00	254+31.05	190.595	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	191.023	185.93	185.931	
4003+25.00	254+56.05	190.603	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	191.030	186.68	191.040	
4003+28.95	254+60.00	190.613	16.00	-0.0200	1.25	-0.0200	0.5417	15.3958	0.0150	191.040	186.80	191.040	END WALL
	255+00.00										188.0		

Retaining Wall RW-5 Geometry

Vertical Profile Data

VPC Sta. = 275+61.7231	A = 7.812129E-05	VPT Sta. = 281+11.8292
VPC Elev. = 129.921965	B = -0.052150	VPT Elev. = 124.873619
VPT Sta. = 281+11.8292	C = 129.921965	VPI Sta. = 282+91.4729
VPT Elev. = 124.873619		VPI Elev. = 130.945576
G1 = -0.05215	$y = Ax^2 + Bx + C$	G = 0.03380
G2 = 0.03380		

Wall Station	CL Const. Station	PGL Elevation	Lane		Shoulder		Type F Curb	Sidewalk + Misc. Width		Top of Wall Elevation	Ex. Grnd El. @ Wall Face	Proposed Grnd El. @ Wall Face	Exposed Wall Height	Comment
			Width	Cross-slope	Width	Cross-slope	Step Up	Width	Cross-slope					
			(ft)	(ft/ft)	(ft)	(ft/ft)	(ft)	(ft)	(ft/ft)	(NAVD)				
	276+00.00										128.3	128.3		
5005+00.00	276+85.00	124.680	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	124.865	124.14	124.865	0.000	END WALL
	277+00.00										123.4	122.0		
5004+75.00	277+10.00	123.907	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	124.092	123.06	121.650	2.442	
5004+50.00	277+35.00	123.231	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	123.416	122.21	120.775	2.641	
5004+25.00	277+60.00	122.653	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	122.838	121.36	119.900	2.938	
5004+00.00	277+85.00	122.173	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	122.358	120.51	119.025	3.333	
	278+00.00										120.0	118.5		
5003+75.00	278+10.00	121.790	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	121.975	119.72	118.300	3.675	
5003+50.00	278+35.00	121.505	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	121.690	119.02	117.800	3.890	
5003+25.00	278+60.00	121.317	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	121.502	118.32	117.300	4.202	
5003+00.00	278+85.00	121.227	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	121.412	117.62	116.800	4.612	
	279+00.00										117.2	116.5		
5002+75.00	279+10.00	121.235	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	121.420	117.19	116.580	4.840	
5002+50.00	279+35.00	121.341	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	121.526	117.17	116.780	4.746	
5002+25.00	279+60.00	121.544	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	121.729	117.14	116.980	4.749	
5002+00.00	279+85.00	121.845	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	122.030	117.12	117.180	4.850	
	280+00.00										117.1	117.3		
5001+75.00	280+10.00	122.243	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	122.428	117.44	117.570	4.858	
5001+50.00	280+35.00	122.739	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	122.924	118.29	118.245	4.679	
5001+25.00	280+60.00	123.333	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	123.518	119.14	118.920	4.598	
5001+00.00	280+85.00	124.024	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	124.209	119.99	119.595	4.614	
	281+00.00										120.5	120.0		
5000+75.00	281+10.00	124.812	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	124.997	121.05	120.668	4.329	
5000+58.02	281+26.98	125.386	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	125.571	121.98	121.803	3.768	end handrail
5000+54.52	281+30.48	125.504	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0150	125.518	122.18	122.037	3.482	
5000+50.00	281+35.00	125.657	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0102*	124.025**	122.43	122.339	1.687	
5000+33.02	281+51.98	126.231	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0000*	124.563**	123.36	123.473	1.090	
5000+25.00	281+60.00	126.502	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0000*	124.835**	123.80	124.009	0.825	
5000+00.00	281+85.00	127.347	12.00	-0.0200	4.00	-0.0200	0.375	8.6667	0.0000*	125.680**	125.18	125.680	0.000	BEGIN WALL
	282+00.00										126.0	125.0		

* 3.5' wide berm slope ** No sidewalk section; 3.5' wide berm + 1:3 slope to top of wall

Project: Citrus Grove Phase 5
 DRMP Job No.: 18-0592.000

DRMP
 941 Lake Baldwin Lane
 Orlando, FL 32814

Structures / Retaining Wall Quantities

Pay Item	Pay Item Description	Unit	Quantity	Unit Cost	Cost
0400 0 11	CONCRETE CLASS NS, GRAVITY WALL	CY	325.0	\$ 755.37	\$ 245,495.25
0400 143	CLEANING AND COATING CONCRETE SURFACE, CLASS 5	SF	4,162	\$ 2.05	\$ 8,532.10
0515 1 2	PIPE HANDRAIL - GUIDERAIL, ALUMINUM	LF	442	\$ 50.00	\$ 22,100.00
0515 4 2	BULLET RAIL, DOUBLE RAIL	LF	954	\$ 50.12	\$ 47,814.48
0521 6 11	CONCRETE PARAPET, PEDESTRIAN/BICYCLE, 27" HEIGHT	LF	954	\$ 85.92	\$ 81,967.68
0524 2 2	CONCRETE SLOPE PAVEMENT- NON REINFORCED	SY	27	\$ 87.89	\$ 2,373.03
0548 12	RETAINING WALL SYSTEM, PERMANENT, EXCLUDING BARRIER	SF	17,530	\$ 66.00	\$ 1,156,980.00

Project: Citrus Grove Phase 5
 DRMP Job No.: 18-0592.000

DRMP
 941 Lake Baldwin Lane
 Orlando, FL 32814

Designed: MEM 6/9/20
 Checked: WRA 11/17/20
 Backchecked: MEM 11/17/20

Retaining Wall Quantities

MSE Wall	Begin Station	End Station	Length	Maximum Height	Area
			(ft)	(ft)	(SF)
RW-1	1000+00.00	1001+03.19	103.19	24	2,286
RW-2	2000+00.00	2004+85.37	485.37	30	10,271
RW-3	3000+00.00	3000+36.37	36.37	15	512
RW-4	4000+00.00	4003+28.95	328.95	16	4,461

Total Wall Area (SF) = 17,530

Total Concrete Parapet / Bullet Railing Length (LF) = 954

Gravity Wall RW-5

Begin Station = 5000+00.00
 End Station = 5005+00.00
 Length = 500.00 ft
 Surface Area = 2,399.43 SF
 Average Height = 4.80 ft

Scheme = 2 (With Traffic Loading, Slopes <= 1:1.5)
 Back Slope = 9H:12V

Concrete per LF of Wall = 0.65 CY/LF (Per Index)

Concrete Volume = 325.0 CY

Reinf. Steel per LF of Wall = 7 LB/LF (Per Index)

Reinf. Steel Weight = 3,500 LB

Railing Length (on wall) = 442 LF

Retaining Wall Quantities

Concrete Slope Pavement (MSE Wall RW-3)

MSE Wall RW-3 Length =	36.37	ft
Adjoining MSE Wall Length "By Others" =	44.99	ft
Total MSE Wall Length =	81.36	ft
Slope Pavement Length "By Others" =	37.00	ft
Slope Pavement Length =	44.36	ft
<i>Slope pavement is on 1:2.7 slope outside LA R/W and flat inside LA R/W.</i>		
Length Outside LA R/W =	33.36	ft
Length Inside LA R/W =	11.00	ft
Slope Factor (1:2.7 slope) =	1.0664	
Slope Pavement Width =	5.00	ft
Slope Pavement Area =	242.47	SF
Slope Pavement Area =	27	SY

Cleaning and Coating Concrete Surface, Class 5

Proposed Walls

MSE Wall	Exposed Area	Length	Coating Area
	(SF)	(ft)	(SF)
RW-1	2,039.26	103.19	2,090.85
RW-2	7,525.21	485.37	7,767.90
RW-3	423.18	36.37	441.36
RW-4	2,647.69	328.95	2,812.17
MSE Wall Coating Area, Proposed Walls			13,112.28

Walls "By Others"

Proposed MSE Wall	Adjoining Wall	Adjoining Wall Face	Exposed Area	Length	Coating Area
			(SF)	(ft)	(SF)
RW-1	RW7-1	Left	917.50	44.99	940.00
RW-2	RW7-1	Right	996.64	44.99	1,019.13
RW-3	RW7-2	Left	545.39	44.99	567.88
RW-4	RW7-2	Right	564.74	44.99	587.24
MSE Wall Coating Area, Walls "By Others"					3,114.25

Project: Citrus Grove Phase 5
 DRMP Job No.: 18-0592.000

DRMP
 941 Lake Baldwin Lane
 Orlando, FL 32814

Concrete Parapets

Concrete Parapet Perimeter = 5.17 ft
 Length on Proposed Walls = 953.88 ft
 Length on Walls "By Others" (each) = 36.97 ft
 Length on Walls "By Others" (each) = 147.88 ft
 Concrete Parapet Coating Area, Proposed Walls = 4,928.38 SF
 Concrete Parapet Coating Area, Walls "By Others" = 764.02 SF

Cheek Walls

Proposed MSE Wall	Adjoining Wall	Adjoining Wall Face	Length	Height	Coating Area
			(ft)	(ft)	(SF)
RW-1	RW7-1	Left	5.78	11.78	67.63
RW-2	RW7-1	Right	6.21	11.95	73.69
RW-3	RW7-2	Left	6.21	12.03	74.20
RW-4	RW7-2	Right	5.78	11.92	68.44
Cheek Wall Coating Area, Walls "By Others"					283.95

Total Coating Area, Proposed Walls = 18,041 SF**

Total Coating Area, Walls "By Others" = 4,162 SF

** Included in cost of item to which it is applied per Spec Section 400-23.7