Feasibility Study Report

Trail/Walking Facility Extensions & Improvements Weldon Spring, Missouri

<u>PREPARED FOR:</u> City of Weldon Spring, Missouri



Architecture Civil Engineering Land Surveying Site Development Construction Inspection Testing

8 East Main St. Wentzville, Missouri 63385 Telephone: 636-332-4574 • Fax: 636-327-0760 E-Mail: mail@cochraneng.com February 2023

Cochran Project No. M22-8566

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<u>EXHIBITS</u>

Exhibit 1 – Conceptual Plans

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Section 1 - Introduction

On January 12, 2023 Cochran visited the five (5) trail/walking facility project locations identified by the City of Weldon Spring to perform visual evaluations and provide recommendations to the City. The five (5) trail/walking facility project locations were evaluated on the basis of location feasibility. Per our onsite evaluations, our recommendations are outlined below.

Section 2 – Project Description

1) Wrenwyck Place – Westwood Drive to South Breeze Lane

Upon evaluation of the project location, it appears to be feasible to install a new trail/walking facility at this location and improve upon community connectivity. It is recommended that a new 5' wide concrete sidewalk be installed along Westwood Drive, between Dunbarton Drive and South Breeze Lane, including the installation of new ADA ramps, concrete curb & gutter, ADA detectable warning plates, and pavement striping as shown in Exhibit 1. This project will also require storm adjustments, grading, landscape repair, seed & straw, and sign relocation. Refer to Exhibits 1 & 2 for more details.

2) Wolfrum Road from Westwood Drive to Route 94

Upon evaluation of the project location, it appears to be feasible to install a new trail/walking facility at this location and improve upon community and local business connectivity. It is recommended that a new 5' wide concrete sidewalk be installed along Wolfrum Road, between Westwood Drive and Route 94, including the installation of new ADA ramps, concrete curb & gutter, retaining wall, ADA detectable warning plates, and pavement striping as shown in Exhibit 1. This project will also require utility relocations/adjustments, grading, landscape repair, seed & straw, and sign relocation. Refer to Exhibits 1 & 2 for more details.

3) Patriotic Trail – FHSD Mary Emily Bryant Middle School

Upon evaluation of the project location, it appears to be feasible to install a new trail/walking facility at this location and improve upon community connectivity with the school. It is recommended that a combination of a new 5' wide concrete sidewalk and 10' wide asphalt trail be installed along Patriotic Trail, including the installation of new ADA ramps, retaining walls, metal fencing, ADA detectable warning plates, and pavement striping as shown in Exhibit 1. This project will also require utility relocations/adjustments, grading, seed & straw, and sign relocation. Refer to Exhibits 1 & 2 for more detail.

4) Meadows Parkway – Patriotic Trail to MO Research Roundabout

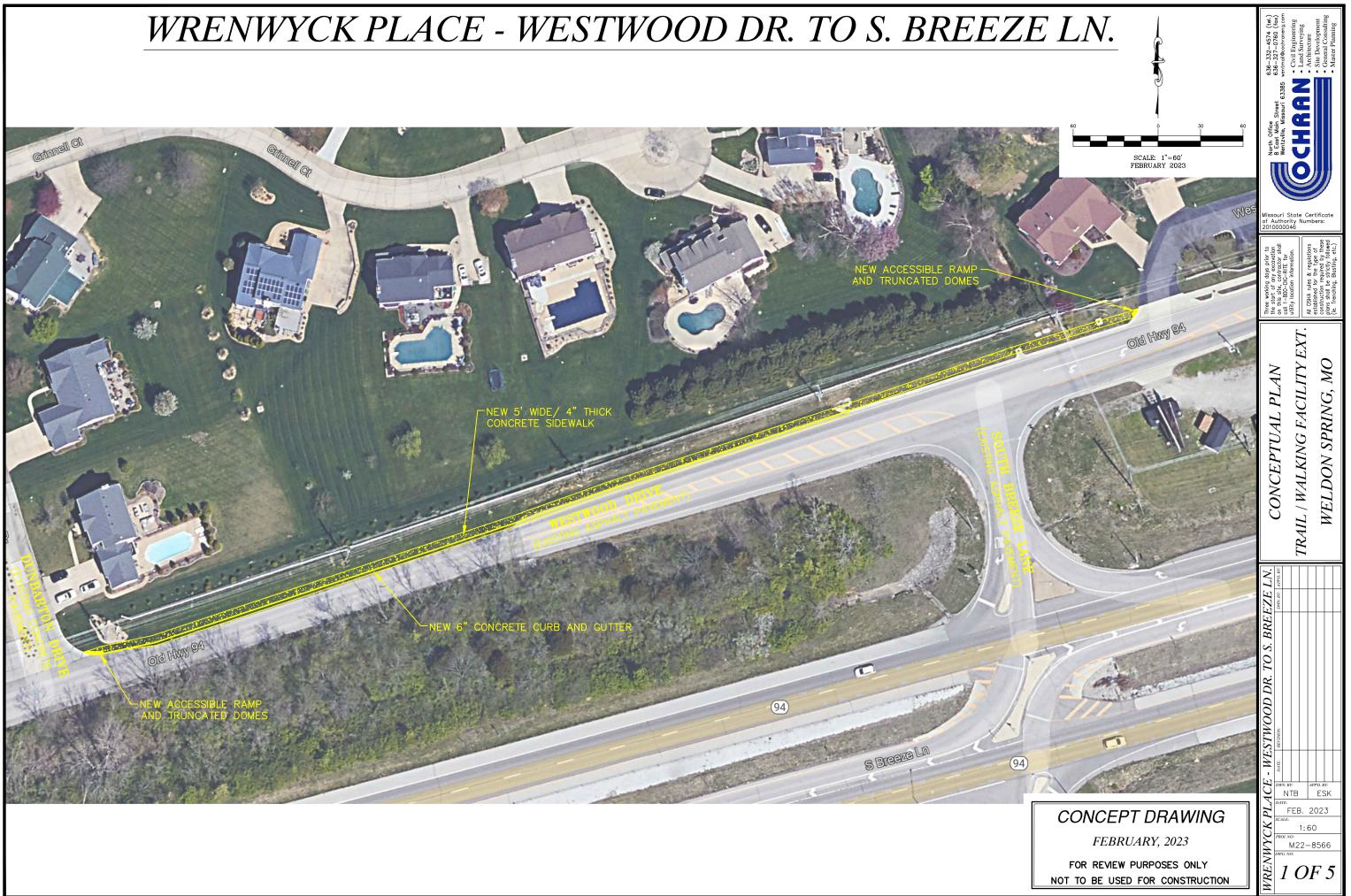
Upon evaluation of the project location, it appears to be feasible to install a new trail/walking facility at this location and improve upon community connectivity and the existing sidewalks at the schools. It is recommended that a new 5' wide concrete sidewalk be installed along Meadows Parkway, between Patriotic Trail and MO Research roundabout, including the installation of new ADA ramps, retaining walls, and metal fencing as shown in Exhibit 1. This project will also require utility adjustments, grading, seed & straw, and sign relocations. Refer to Exhibits 1 & 2 for more detail.

5) T-Intersection of Whitmoor Drive/Malinmor Drive & Loughmor Pass to Pitman Hill Road Upon evaluation of the project location, it appears to be feasible to install a new trail/walking facility at this location and improve upon community connectivity. It is recommended that a new 10' wide asphalt trail be installed, beginning at the T-intersection of Whitmoor Drive/Malinmor Drive/Loughmor Pass and extend to Pitman Hill Road. This project will also include new ADA ramps, ADA detectable warning plates, and pavement striping as shown in Exhibit 1. This project will also require utility relocations/adjustments, grading, and seed & straw. Refer to Exhibits 1 & 2 for more detail. Also, during our site evaluations there appears to be a sight distance concern where the new trail will connect to Pitman Hill Road. However, we believe this concern can be addressed through the installation of advanced warning signage and crosswalk signage.

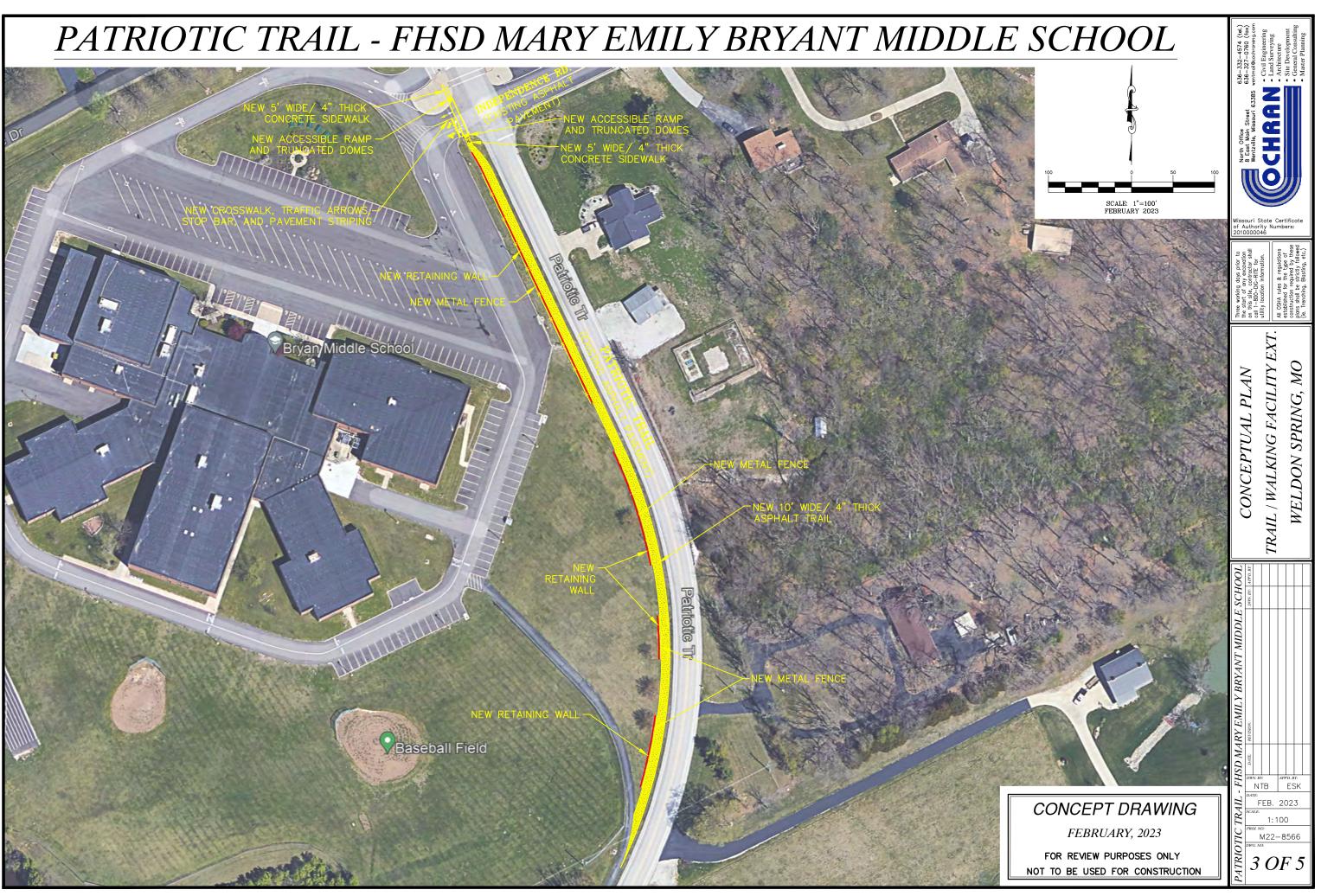
Section 3 – Conclusion

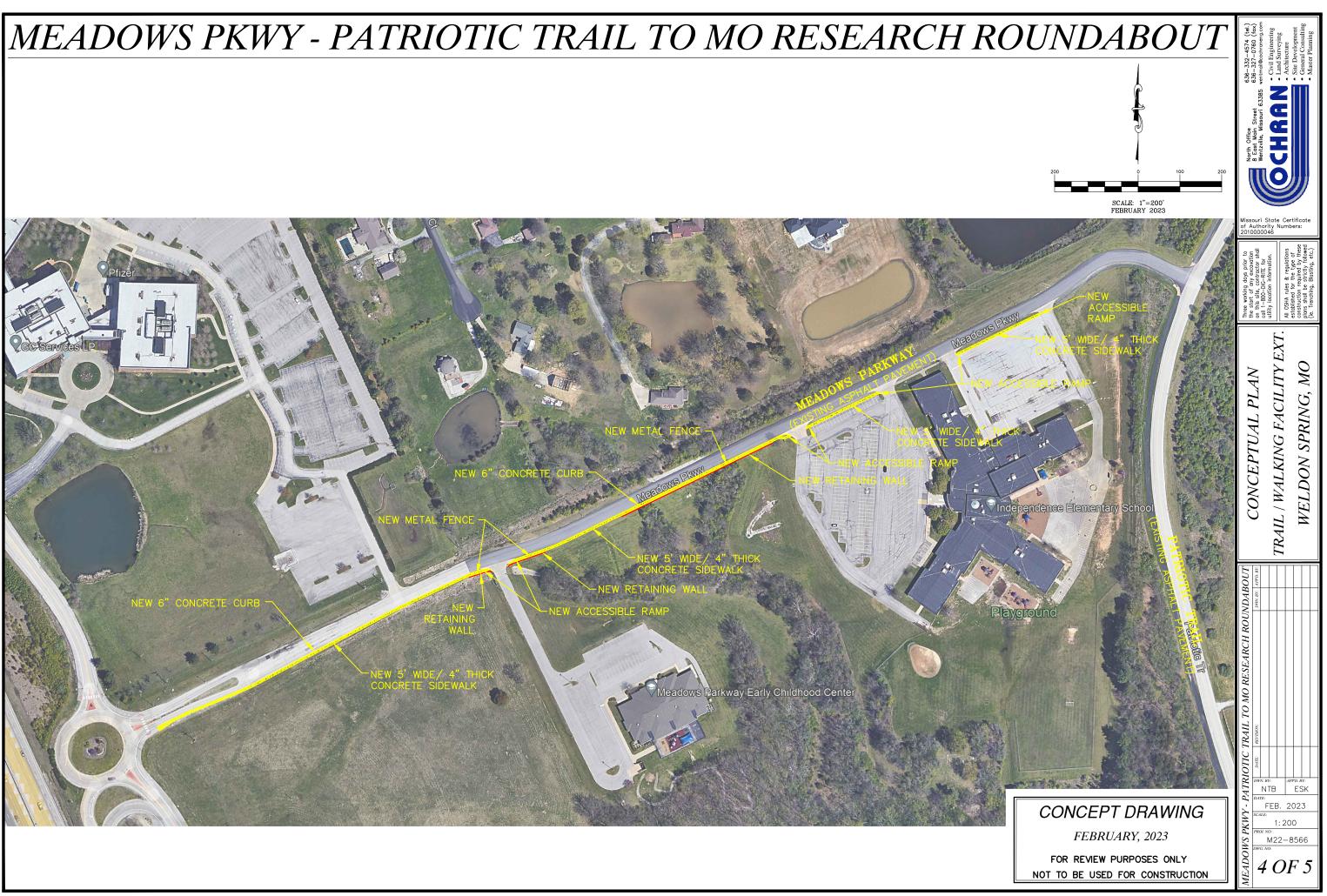
Upon completion of the City's review of the above recommendations, conceptual plans, and preliminary cost estimates, as shown in Exhibits 1 & 2, Cochran will proceed accordingly to the direction given by the City of Weldon Spring.

Exhibit 1 – Conceptual Plans









LOUGHMOR PASS TO PITMAN HILL RD.

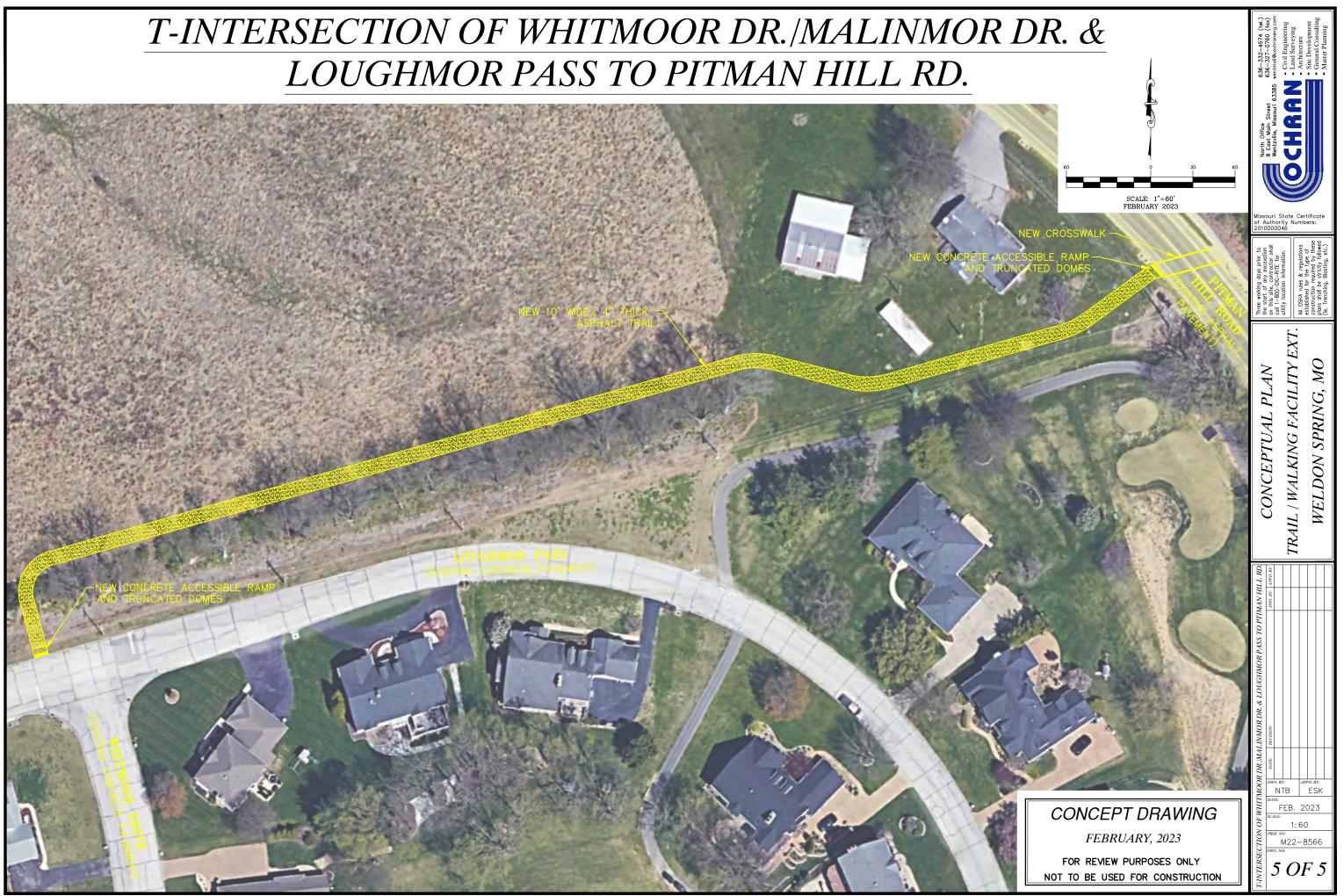


Exhibit 2 – Preliminary Opinion of Probable Costs



Site Development

PRELIMINARY OPINION OF PROBABLE COST Wrenwyck Place - Westwood Drive to South Breeze Lane (~778 L.F.) Trail / Walking Facility Extension February 23, 2023 Project No. M22-8566

ITEM	QUANTITY	<u>UNIT</u>	<u>UNIT COST</u>	TOTAL
Pavement:				
5' Wide Concrete Sidewalk (4" Thick)	414	S.Y.	\$67.00	\$27,738.00
Concrete ADA Ramp	14	S.Y.	\$160.00	\$2,240.00
6" Concrete Curb and Gutter	554	L.F.	\$36.00	\$19,944.00
Type 5 Base Rock (4" Thick)	582	S.Y.	\$9.00	\$5,238.00
Storm:				
12" RCP	77	L.F.	\$60.00	\$4,620.00
Curb Inlet	3	E.A.	\$3,200.00	\$9,600.00
Storm Manhole	1	E.A.	\$2,700.00	\$2,700.00
Grading:				
Earthwork	288	C.Y.	\$34.00	\$9,792.00
Erosion Control	1	L.S.	\$1,500.00	\$1,500.00
Erosion Control Maintenance	1	L.S.	\$5,000.00	\$5,000.00
Landscaping:				
Landscape Repair	1	L.S.	\$2,500.00	\$2,500.00
Seeding and Straw	0.18	AC.	\$8,150.00	\$1,467.00
Other Items:				
Mobilization	1	L.S.	\$7,000.00	\$7,000.00
Traffic Control	1	L.S.	\$5,000.00	\$5,000.00
Removal of Improvements	1	L.S.	\$3,000.00	\$3,000.00
Handicap Detectable Warning Plates (Per Location)	2	E.A.	\$550.00	\$1,100.00
Pavement Marking 4" White	778	L.F.	\$1.50	\$1,167.00
Sawcutting	778	L.F.	\$3.00	\$2,334.00
Sign Relocation/Adjustments	1	L.S.	\$2,000.00	\$2,000.00
	SUB-TOTAL:			\$113,940.00
	10% Contingency:			\$11,394.00
	En	\$15,040.08		
	Construction Administration: GRAND-TOTAL:			\$18,800.10
		\$159,174.18		

This estimate does not include any expense for utility permit fees or building permit fees.

This estimate does not include any expense for Rock Excavation.

This estimate does not include any expense for Gas, Electric, Sanitary, Water, or Phone Improvements.

This estimate does not include any expense for Construction Staking.

This estimate does not include any expense for Construction Inspection.

This estimate does not include any expense for Geotechnical or Environmental Evaluations.

This estimate does not include any expense for Right of Way or Easement acquisition.

This estimate does not include any expense for Soft Costs.



Architecture Civil Engineering Land Surveying Site Development

PRELIMINARY OPINION OF PROBABLE COST Wolfrum Road from Westwood Drive to Route 94 (~1,047 L.F.) Trail / Walking Facility Extension February 23, 2023 Project No. M22-8566

ITEM	QUANTITY	<u>UNIT</u>	UNIT COST	TOTAL
Pavement:				
5' Wide Concrete Sidewalk (4" Thick)	508	S.Y.	\$67.00	\$34,036.00
Concrete ADA Ramp	62	S.Y.	\$160.00	\$9,920.00
6" Concrete Curb and Gutter	355	L.F.	\$36.00	\$12,780.00
Type 5 Base Rock (4" Thick)	667	S.Y.	\$9.00	\$6,003.00
Storm:				
12" RCP	53	L.F.	\$60.00	\$3,180.00
Curb Inlet	1	E.A.	\$3,200.00	\$3,200.00
Storm Manhole	1	E.A.	\$2,700.00	\$2,700.00
Water:				
Utility Adjustment - Water Meter/Vault (Adjust to Grade)	1	L.S.	\$5,000.00	\$5,000.00
<u>Electric:</u>				
Utility Relocation - Utility Pole	1	L.S.	\$5,000.00	\$5,000.00
<u>Cable:</u>				
Utility Relocation - Cable Pedestal/Vault	1	L.S.	\$5,000.00	\$5,000.00
Grading:				
Earthwork	388	C.Y.	\$34.00	\$13,192.00
Erosion Control	1	L.S.	\$1,500.00	\$1,500.00
Erosion Control Maintenance	1	L.S.	\$5,000.00	\$5,000.00
Landscaping:				
Landscape Repair	1	L.S.	\$2,500.00	\$2,500.00
Seeding and Straw	0.24	AC.	\$8,150.00	\$1,956.00
Other Items:				
Mobilization	1	L.S.	\$10,000.00	\$10,000.00
Traffic Control	1	L.S.	\$6,000.00	\$6,000.00
Removal of Improvements	1	L.S.	\$7,000.00	\$7,000.00
Retaining Wall	854	S.F.	\$30.00	\$25,620.00

Handicap Detectable Warning Plates (Per Location)	2	E.A.	\$550.00	\$1,100.00	
Crosswalk	1	E.A.	\$350.00	\$350.00	
Sawcutting	539	L.F.	\$3.00	\$1,617.00	
Sign Relocation/Adjustments	1	L.S.	\$2,000.00	\$2,000.00	
		SUB-TOTAL:			
		10% Contingency:			
		Engineering & Surveying:			
	Co	Construction Administration:			
		GRAND-TOTAL:			

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This estimate does not include any expense for Construction Inspection.

This estimate does not include any expense for Geotechnical or Environmental Evaluations.

This estimate does not include any expense for Right of Way or Easement acquisition.

This estimate does not include any expense for Soft Costs.



Site Development

PRELIMINARY OPINION OF PROBABLE COST Patriotic Trail - FHSD Mary Emily Bryant Middle School (~925 L.F.) Trail / Walking Facility Extension February 23, 2023 Project No. M22-8566

ITEM	QUANTITY	<u>UNIT</u>	UNIT COST	TOTAL
Pavement:				
5' Wide Concrete Sidewalk (4" Thick)	109	S.Y.	\$67.00	\$7,303.00
Concrete ADA Ramp	51	S.Y.	\$160.00	\$8,160.00
10' Wide Asphalt Trail (4" Thick)	979	S.Y.	\$45.00	\$44,055.00
Type 5 Base Rock (4" Thick)	1,139	S.Y.	\$9.00	\$10,251.00
Storm:				
12" RCP	330	L.F.	\$60.00	\$19,800.00
Area Inlet	3	E.A.	\$2,600.00	\$7,800.00
Water:				
Utility Adjustment - Water Meter/Vault (Adjust to Grade)	1	L.S.	\$5,000.00	\$5,000.00
Electric:				
Utility Relocation - Utility Pole/Guy Wire	1	L.S.	\$10,000.00	\$10,000.00
Gas:				
Utility Adjustment - Gas Valve (Adjust to Grade)	1	L.S.	\$5,000.00	\$5,000.00
Grading:				
Earthwork	686	C.Y.	\$34.00	\$23,324.00
Erosion Control	1	L.S.	\$1,500.00	\$1,500.00
Erosion Control Maintenance	1	L.S.	\$5,000.00	\$5,000.00
Landscaping:				
Seeding and Straw	0.42	AC.	\$8,150.00	\$3,423.00
Other Items:				
Mobilization	1	L.S.	\$10,000.00	\$10,000.00
Traffic Control	1	L.S.	\$3,000.00	\$3,000.00
Removal of Improvements	1	L.S.	\$7,000.00	\$7,000.00
Retaining Wall	3,099	S.F.	\$30.00	\$92,970.00
Metal Fence	592	L.F.	\$165.00	\$97,680.00
Handicap Detectable Warning Plates (Per Location)	2	E.A.	\$550.00	\$1,100.00

Pavement Marking 24" Stop Bar White	24	L.F.	\$12.00	\$288.00
Pavement Marking 4" Yellow	22	L.F.	\$0.50	\$11.00
Pavement Marking "Straight" Directional Arrow	2	E.A.	\$75.00	\$150.00
Pavement Marking "Right" Directional Arrow	1	E.A.	\$85.00	\$85.00
Pavement Marking "Left" Directional Arrow	1	E.A.	\$85.00	\$85.00
Crosswalk	1	E.A.	\$350.00	\$350.00
Sawcutting	131	L.F.	\$3.00	\$393.00
Sign Relocation/Adjustments	1	L.S.	\$2,000.00	\$2,000.00
	SUB-TOTAL:			\$365,728.00
	10% Contingency: Engineering & Surveying: Construction Administration:			\$36,572.80
				\$48,276.10
				\$60,345.12
		\$510,922.02		

This estimate does not include any expense for utility permit fees or building permit fees.

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This estimate does not include any expense for Construction Inspection.

This estimate does not include any expense for Geotechnical or Environmental Evaluations.

This estimate does not include any expense for Right of Way or Easement acquisition.

This estimate does not include any expense for Soft Costs.



Site Development

PRELIMINARY OPINION OF PROBABLE COST Meadows Parkway - Patriotic Trail to MO Research Roundabout (~2,027 L.F.) Trail / Walking Facility Extension February 23, 2023 Project No. M22-8566

ITEM	QUANTITY	<u>UNIT</u>	<u>UNIT COST</u>	TOTAL
Pavement:				
5' Wide Concrete Sidewalk (4" Thick)	1,099	S.Y.	\$67.00	\$73,633.00
Concrete ADA Ramp	38	S.Y.	\$160.00	\$6,080.00
6" Concrete Curb	1,592	L.F.	\$25.00	\$39,800.00
Type 5 Base Rock (4" Thick)	1,579	S.Y.	\$9.00	\$14,211.00
Storm:				
Storm Manhole (Adjust to Grade)	1	L.S.	\$5,000.00	\$5,000.00
<u>Gas:</u>				
Utility Adjustment - Gas Valve (Adjust to Grade)	1	L.S.	\$5,000.00	\$5,000.00
Grading:				
Earthwork	751	C.Y.	\$34.00	\$25,534.00
Erosion Control	1	L.S.	\$1,500.00	\$1,500.00
Erosion Control Maintenance	1	L.S.	\$5,000.00	\$5,000.00
Landscaping:				
Seeding and Straw	0.47	AC.	\$8,150.00	\$3,830.50
Other Items:				
Mobilization	1	L.S.	\$15,000.00	\$15,000.00
Traffic Control	1	L.S.	\$8,000.00	\$8,000.00
Removal of Improvements	1	L.S.	\$25,000.00	\$25,000.00
Retaining Wall	307	S.F.	\$30.00	\$9,210.00
Metal Fence	559	L.F.	\$165.00	\$92,235.00
Sawcutting	1,662	L.F.	\$3.00	\$4,986.00
Sign Relocation/Adjustments	1	L.S.	\$4,000.00	\$4,000.00
	SUB-TOTAL:			\$338,019.50
		\$33,801.95		
	En	\$44,618.57		
	Construction Administration:			\$55,773.22
		GRA	AND-TOTAL:	\$472,213.24

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This estimate does not include any expense for Right of Way or Easement acquisition.

This estimate does not include any expense for Soft Costs.



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PRELIMINARY OPINION OF PROBABLE COST T-Intersection of Whitmoor Drive/Malinmor Drive & Loughmor Pass to Pitman Hill Road (~907 L.F.) Trail / Walking Facility Extension February 23, 2023 Project No. M22-8566

ITEM	QUANTITY	<u>UNIT</u>	UNIT COST	TOTAL
Pavement:				
10' Wide Asphalt Trail (4" Thick)	994	S.Y.	\$45.00	\$44,730.00
Concrete ADA Ramp	14	S.Y.	\$160.00	\$2,240.00
Type 5 Base Rock (4" Thick)	1,008	S.Y.	\$9.00	\$9,072.00
<u>Electric:</u>				
Utility Relocation - Utility Pole/Guy Wire	1	L.S.	\$10,000.00	\$10,000.00
<u>Cable:</u>				
Utility Relocation - Cable Pedestal	1	L.S.	\$5,000.00	\$5,000.00
Grading:				
Earthwork	672	C.Y.	\$34.00	\$22,848.00
Erosion Control	1	L.S.	\$1,500.00	\$1,500.00
Erosion Control Maintenance	1	L.S.	\$5,000.00	\$5,000.00
Landscaping:				
Seeding and Straw	0.42	AC.	\$8,150.00	\$3,423.00
Other Items:				
Mobilization	1	L.S.	\$5,000.00	\$5,000.00
Traffic Control	1	L.S.	\$1,000.00	\$1,000.00
Removal of Improvements	1	L.S.	\$6,500.00	\$6,500.00
Handicap Detectable Warning Plates (Per Location)	2	E.A.	\$550.00	\$1,100.00
Crosswalk	1	E.A.	\$350.00	\$350.00
Sawcutting	20	L.F.	\$3.00	\$60.00
	SUB-TOTAL:			\$117,823.00
		\$11,782.30		
	Er	\$15,552.64		
	Const	\$19,440.80		
	GRAND-TOTAL:			

NOTE:

This estimate does not include any expense for utility permit fees or building permit fees.

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