

Colonel Ledyard Highway Improvements

Master Plan Cost Estimate

Kent + Frost
Landscape Architecture

Project Phase Summary

PHASE ITEM	COST	UNIT	QTY.	ITEM COST	NOTE	
All Demolition						
Key Existing Asphalt	\$0.25	SF	39292	\$9,823.00	12" into existing asphalt roadway, 1.5" depth	
Excavation (Cut)	\$2.70	CY	6750	\$18,225.00	Excavation and removal of soil	
Bituminous Curb Removal	\$1.00	SF	8218	\$8,218.00	Demo and removal of existing curbing	
Guardrail Relocation	\$20.00	LF	5670	\$113,400.00	Remove and replace	
Rock Blasting/Removal	\$70.00	CY	3600	\$252,000.00	Removal of exposed bedrock, may be crushed on-site	
Tree Removal	\$50,000.00	LS	1	\$50,000.00	Tree removal within areas of roadway widening	
Mailbox Relocation	\$50.00	EA	242	\$12,100.00	Existing mailbox relocation	
Utility Pole Relocation	\$1,500.00	EA	20	\$30,000.00	Existing utility poles relocation	
Roadway Sign Relocation	\$100.00	EA	37	\$3,700.00	Existing speed, stop and directional signage relocation	
All Improvements						
Asphalt Full Depth	\$4.00	SF	83357	\$333,428.00	Roadway base, binder course, tack coat, wearing course	
Asphalt Key	\$2.00	SF	39292	\$78,584.00	12" wide, 1.5" depth class 2	
Roadway Joint Sealant	\$1.00	LF	39292	\$39,292.00	Hot applied bituminous joint sealant	
Asphalt Curb	\$6.00	LF	8354	\$50,124.00	6" height, class 4 asphalt	
Sidewalk	\$10.00	SF	67216	\$672,160.00	5", 4,000psi concrete, wwm, 6" processed stone base	
Granular Fill	\$40.00	CY	9921	\$396,840.00	Structural fill	
Roadway Embankment	\$5.00	SF	69960	\$349,800.00	Steep slope stabilization	
Topsoil	\$50.00	CY	1700	\$85,000.00	2" deep, 5' on each side of roadway	
Turf Seed	\$0.25	SF	196430	\$49,107.50	Tall fescue blend	
Replace Catchbasins	\$5,000.00	EA	17	\$85,000.00	Modification of existing catchbasins, new catchbasin tops	
Roadway Centerline Stripe	\$2.00	LF	19646	\$39,292.00	(2) 4" yellow lines	
Roadway White Stripe	\$2.00	LF	19646	\$39,292.00	6" white stripe, one per travel lane	
Bike Lane Symbol	\$100.00	EA	175	\$17,500.00	Symbol with arrow	
Crosswalk Striping	\$250.00	EA	19	\$4,750.00	16" wide band, 8' minimum width per CTDOT	
Crosswalk Signage	\$150.00	EA	22	\$3,300.00	2 @ each crosswalk, opposite sides of the road	
Project Subtotal				\$2,740,935.50		
Additional Items & Contingencies						
	10% Design Fees			\$274,093.55		
	5% M&P of Traffic			\$137,046.78		
	2% Construction Staking			\$54,818.71		
	5% Mobilization			\$137,046.78		
	18% Contingency			\$493,368.39		
Project Total				\$3,837,309.70		
Additive Alternates						
Add 1	Roadway Reclamation	\$2.50	SY	49530	\$123,825.00	Pulverize, regrade and compact existing asphalt.
	Asphalt	\$3.00	SF	530253	\$1,590,759.00	Binder course, tack coat, wearing course
Add 1 Subtotal				\$1,714,584.00		

Phase 1 - Route 117 to Gallop Hill Road

PHASE	ITEM	COST	UNIT	QTY.	ITEM COST	NOTE
1	Demolition					
	Key Existing Asphalt	\$0.25	SF	8780	\$2,195.00	12" into existing asphalt roadway, 1.5" depth
	Excavation (Cut)	\$2.70	CY	1520	\$4,104.00	Excavation and removal of soil
	Bituminous Curb Removal	\$1.00	LF	7038	\$7,038.00	Demo and removal of existing curbing
	Guardrail Relocation	\$20.00	LF	732	\$14,640.00	Remove and replace
	Rock Blasting/Removal	\$70.00	CY	0	\$0.00	Removal of exposed bedrock, may be crushed on-site
	Tree Removal	\$10,000.00	LS	1	\$10,000.00	Tree removal within areas of roadway widening
	Mailbox Relocation	\$50.00	EA	48	\$2,400.00	Existing mailbox relocation
	Utility Pole Relocation	\$1,500.00	EA	2	\$3,000.00	Existing utility poles relocation
	Roadway Sign Relocation	\$100.00	EA	14	\$1,400.00	Existing speed, stop and directional signage relocation
1	Improvements					
	Asphalt Full Depth	\$4.00	SF	18290	\$73,160.00	Roadway base, binder course, tack coat, wearing course
	Asphalt Key	\$2.00	SF	8780	\$17,560.00	12" wide, 1.5" depth class 2
	Roadway Joint Sealant	\$1.00	LF	8780	\$8,780.00	Hot applied bituminous joint sealant
	Asphalt Curb	\$6.00	LF	7174	\$43,044.00	6" height, class 4 asphalt
	Sidewalk	\$10.00	SF	21891	\$218,910.00	5", 4,000psi concrete, wwm, 6" processed stone base
	Granular Fill	\$40.00	CY	3650	\$146,000.00	Structural fill
	Roadway Embankment	\$5.00	SF	24000	\$120,000.00	Steep slope stabilization
	Topsoil	\$50.00	CY	400	\$20,000.00	2" deep, 5' on each side of roadway
	Turf Seed	\$0.25	SF	43900	\$10,975.00	Tall fescue blend
	Replace Catchbasins	\$5,000.00	EA	6	\$30,000.00	Modification of existing catchbasins, new catchbasin tops
	Roadway Centerline Stripe	\$2.00	LF	4390	\$8,780.00	(2) 4" yellow lines
	Roadway White Stripe	\$2.00	LF	4390	\$8,780.00	6" white stripe, one per travel lane
	Bike Lane Symbol	\$100.00	EA	39	\$3,900.00	Symbol with arrow
	Crosswalk Striping	\$250.00	EA	10	\$2,500.00	16" wide band, 8' minimum width per CTDOT
	Crosswalk Signage	\$150.00	EA	9	\$1,350.00	2 @ each crosswalk, opposite sides of the road
Phase 1 Subtotal					\$758,516.00	
Additional Items & Contingencies						
	10% Design Fees				\$75,851.60	
	5% M&P of Traffic				\$37,925.80	
	2% Construction Staking				\$15,170.32	
	5% Mobilization				\$37,925.80	
	18% Contingency				\$136,532.88	
Phase 1 Project Total					\$1,061,922.40	
Additive Alternates						
Add 1	Roadway Reclamation	\$2.50	SY	14378	\$35,945.00	Pulverize, regrade and compact pulverized asphalt.
	Asphalt	\$3.00	SF	118422	\$355,266.00	Binder course, tack coat, wearing course
Add 1 Subtotal					\$391,211.00	

Phase 2 - Gallop Hill Road to Whipple Road

PHASE	ITEM	COST	UNIT	QTY.	ITEM COST	NOTE
2	Demolition					
	Key Existing Asphalt	\$0.25	SF	16352	\$4,088.00	12" into existing asphalt roadway, 1.5" depth
	Excavation (Cut)	\$2.70	CY	4405	\$11,893.50	Excavation and removal of soil
	Bituminous Curb Removal	\$1.00	SF	0	\$0.00	Demo and removal of existing curbing
	Guardrail Relocation	\$20.00	LF	4152	\$83,040.00	Remove and replace
	Rock Blasting/Removal	\$70.00	CY	3600	\$252,000.00	Removal of exposed bedrock, may be crushed on-site
	Tree Removal	\$20,000.00	LS	1	\$20,000.00	Tree removal within areas of roadway widening
	Mailbox Relocation	\$50.00	EA	46	\$2,300.00	Existing mailbox relocation
	Utility Pole Relocation	\$1,500.00	EA	10	\$15,000.00	Existing utility poles relocation
	Roadway Sign Relocation	\$100.00	EA	8	\$800.00	Existing speed, stop and directional signage relocation
2	Improvements					
	Asphalt Full Depth	\$4.00	SF	32886	\$131,544.00	Roadway base, binder course, tack coat, wearing course
	Asphalt Key	\$2.00	SF	16352	\$32,704.00	12" wide, 1.5" depth class 2
	Roadway Joint Sealant	\$1.00	LF	16352	\$16,352.00	Hot applied bituminous joint sealant
	Asphalt Curb	\$6.00	LF	0	\$0.00	6" height, class 4 asphalt
	Sidewalk	\$10.00	SF	40990	\$409,900.00	5", 4,000psi concrete, wwm, 6" processed stone base
	Granular Fill	\$40.00	CY	5719	\$228,760.00	Structural fill
	Roadway Embankment	\$5.00	SF	45960	\$229,800.00	Steep slope stabilization
	Topsoil	\$50.00	CY	800	\$40,000.00	2" deep, 5' on each side of roadway
	Turf Seed	\$0.25	SF	81750	\$20,437.50	Tall fescue blend
	Replace Catchbasins	\$5,000.00	EA	0	\$0.00	Modification of existing catchbasins, new catchbasin tops
	Roadway Centerline Stripe	\$2.00	LF	8176	\$16,352.00	(2) 4" yellow lines
	Roadway White Stripe	\$2.00	LF	8176	\$16,352.00	6" white stripe, one per travel lane
	Bike Lane Symbol	\$100.00	EA	73	\$7,300.00	Symbol with arrow
	Crosswalk Striping	\$250.00	EA	6	\$1,500.00	16" wide band, 8' minimum width per CTDOT
	Crosswalk Signage	\$150.00	EA	7	\$1,050.00	2 @ each crosswalk, opposite sides of the road
Phase 2 Subtotal					\$1,541,173.00	
Additional Items & Contingencies						
	10% Design Fees				\$154,117.30	
	5% M&P of Traffic				\$77,058.65	
	2% Construction Staking				\$30,823.46	
	5% Mobilization				\$77,058.65	
	18% Contingency				\$277,411.14	
Phase 2 Project Total					\$2,157,642.20	
Additive Alternates						
Add 1	Roadway Reclamation	\$2.50	SY	14378	\$35,945.00	Pulverize, regrade and compact existing asphalt.
	Asphalt	\$3.00	SF	220725	\$662,175.00	Binder course, tack coat, wearing course
Add 1 Subtotal					\$698,120.00	

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Phase 3 - Whipple Road to Town Line

PHASE ITEM	COST	UNIT	QTY.	ITEM COST	NOTE	
3 Demolition						
Key Existing Asphalt	\$0.25	SF	14160	\$3,540.00	12" into existing asphalt roadway, 1.5" depth	
Excavation (Cut)	\$2.70	CY	825	\$2,227.50	Excavation and removal of soil	
Bituminous Curb Removal	\$1.00	SF	1180	\$1,180.00	Demo and removal of existing curbing	
Guardrail Relocation	\$20.00	LF	786	\$15,720.00	Remove and replace	
Rock Blasting/Removal	\$70.00	CY	0	\$0.00	Removal of exposed bedrock, may be crushed on-site	
Tree Removal	\$20,000.00	LS	1	\$20,000.00	Tree removal within areas of roadway widening	
Mailbox Relocation	\$50.00	EA	148	\$7,400.00	Existing mailbox relocation	
Utility Pole Relocation	\$1,500.00	EA	8	\$12,000.00	Existing utility poles relocation	
Roadway Sign Relocation	\$100.00	EA	15	\$1,500.00	Existing speed, stop and directional signage relocation	
3 Improvements						
Asphalt Full Depth	\$4.00	SF	32181	\$128,724.00	Roadway base, binder course, tack coat, wearing course	
Asphalt Key	\$2.00	SF	14160	\$28,320.00	12" wide, 1.5" depth class 2	
Roadway Joint Sealant	\$1.00	LF	14160	\$14,160.00	Hot applied bituminous joint sealant	
Asphalt Curb	\$6.00	LF	1180	\$7,080.00	6" height, class 4 asphalt	
Sidewalk	\$10.00	SF	4335	\$43,350.00	5", 4,000psi concrete, wwm, 6" processed stone base	
Granular Fill	\$40.00	CY	552	\$22,080.00	Structural fill	
Roadway Embankment	\$5.00	SF	0	\$0.00	Steep slope stabilization	
Topsoil	\$50.00	CY	500	\$25,000.00	2" deep, 5' on each side of roadway	
Turf Seed	\$0.25	SF	70780	\$17,695.00	Tall fescue blend	
Replace Catchbasins	\$5,000.00	EA	11	\$55,000.00	Modification of existing catchbasins, new catchbasin tops	
Roadway Centerline Stripe	\$2.00	LF	7080	\$14,160.00	(2) 4" yellow lines	
Roadway White Stripe	\$2.00	LF	7080	\$14,160.00	6" white stripe, one per travel lane	
Bike Lane Symbol	\$100.00	EA	63	\$6,300.00	Symbol with arrow	
Crosswalk Striping	\$250.00	EA	3	\$750.00	16" wide band, 8' minimum width per CTDOT	
Crosswalk Signage	\$150.00	EA	6	\$900.00	2 @ each crosswalk, opposite sides of the road	
Phase 3 Subtotal				\$441,246.50		
Additional Items & Contingencies						
	10% Design Fees			\$44,124.65		
	5% M&P of Traffic			\$22,062.33		
	2% Construction Staking			\$8,824.93		
	5% Mobilization			\$22,062.33		
	18% Contingency			\$79,424.37		
Phase 3 Project Total				\$617,745.10		
Additive Alternates						
Add 1	Roadway Reclamation	\$2.50	SY	20774	\$51,935.00	Pulverize, regrade and compact existing asphalt.
	Asphalt	\$3.00	SF	191106	\$573,318.00	Binder course, tack coat, wearing course
Add 1 Subtotal				\$625,253.00		

