

# Attachment C

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# KENNEDY/JENKS CONSULTANTS

## OPINION OF PROBABLE CONSTRUCTION COST

### BASIS OF ESTIMATE

#### PROJECT INFORMATION

**Client:** Carmel Area Wastewater District  
**Project:** CRFREE Mitigation Pipeline Undergrounding Project  
**KJ Job No.:** 2068010\*00  
**Estimate Date:** 7/11/2022  
**Prepared By:** JLH  
**Reviewed By:** JB  
**Estimate Type:** 90% Design  
**AACEI Class Level Estimate :** 2

#### PROJECT DESCRIPTION:

Project scope is to install new 6" and 24" pipelines via HDD, connect approx 200 LF of 6" HDPE pipe to existing pump station via open cut construction , make connections to existing pipelines, and demo existing pipes on bridge structure.

#### ESTIMATE DOCUMENTS:

DRAWINGS: 90% Draft Submittal Drawings Dated September 2021

DOCUMENTS:

COSTS PROVIDED BY OTHERS: HDD cost estimate provided by Staheli trenchless consultants

#### SOURCE OF COST DATA:

RS Means CostWorks 2021 Qtr 3 data

#### ESTIMATE ASSUMPTIONS:

The followings assumptions were made in the preparation of this estimate:  
*Regular working hours will be allowed.*

Dewatering required on East end of site, pumping dewatering water back to WWTP required.

*Assumes the following work will be subcontracted to specialty subcontractor: HDD*

#### SPECIFIC INCLUSIONS:

#### SPECIFIC EXCLUSIONS:

The estimate does not include the following:

*Contaminated Soil/ Water Handling or Disposal  
Owner's Construction Management Expenses or Facilities  
Independent or Special Inspections*

#### MAJOR CHANGES FROM PREVIOUS ESTIMATE:

#### DESIGN CONTINGENCY:

A estimating contingency of 15% has been included.

Note: This allowance is intended to provide a Design Contingency allowance. It is not intended to provide for a Construction Contingency for change orders during construction or to cover unforeseen conditions.

#### ESCALATION:

An escalation factor has been included to account for a midpoint of construction in approximately September 2021 . The owner is cautioned that the project cost should be adjusted for any changes in the project schedule.

Current ENR CCI	<u>13110.5</u>	Jun-22
Annual Inflation Escalation Factor:	<u>5.0%</u>	
Time Until Project Midpoint of Construction (Months)	<u>26</u>	Aug-24

\* from estimate (or data) date until the projects midpoint of construction.

**ACCURACY:**

The level of accuracy is commensurate with levels developed by the AACE, the Association for the Advancement of Cost Engineering International. At increasing levels of design completion, the narrower the range between upper and lower limits and the greater the accuracy of the estimate. This estimate is considered a Class 3 level estimate in accordance with AACE guidelines. Typically this level of estimate has an expected accuracy range of +30 % to -15%. This estimate is based upon competitive bidding, which assumes receipt of multiple bids from five or more General Contractors. Without competitive bidding, pricing can vary significantly from the prices assumed in this estimate.

The enclosed Engineer's Estimate of Probable Construction Cost is only an opinion of possible items that maybe considered for budgeting purposes. This Project Estimate is limited to the conditions existing at issuance and is not a guaranty of actual construction cost or schedule. Uncertain market conditions such as, but not limited to, local labor or contractor availability, wages, other work, material market fluctuations, price escalations, force majeure events and developing bidding conditions, etc. may affect the accuracy of this review. Kennedy/Jenks is not responsible for any variance from this Project Estimate or actual prices and conditions obtained.

**OPINION OF PROBABLE CONSTRUCTION COST**

**KENNEDY JENKS CONSULTANTS**

Client: Carmel Area Wastewater District  
 Project: CRFREE Mitigation Pipeline Undergrounding Project  
 Location: Carmel, CA  
 Estimate Type: 90% Design

Prepared By: JLH  
 Date Prepared: 11-Jul-22  
 K/J Proj. No.: 2068010\*00

**SUMMARY BY DIVISION**

DIV. No.	ITEM DESCRIPTION	MATERIALS	INSTALLATION	SUB-CONTRACTOR	TOTAL
2	Environmental Protections / Demo	223,836	178,472		402,308
33A	Open Cut and Connections	53,544	68,165		121,709
33B	HDD	2,800		2,469,800	2,472,600
	Subtotal Direct Cost	<b>280,180</b>	<b>246,638</b>	<b>2,469,800</b>	<b>2,996,617</b>
	Site Overhead/ General Conditions @ 6%				179,797
	Design/Estimating Contingency @ 15%				449,493
	Subtotals				3,625,907
	Market Conditions Contingency Factor @ 10%				362,591
	Subtotals				3,988,497
	Escalate to Midpt of Const. @ 5.0%				432,087
	Subtotals				4,420,585
	Bonds & Insurance 3.0%				132,618
	Contractors Fee @ 15%				663,088
	Subtotals				5,216,290
	Estimated Bid Price				5,216,000
	Engineering Services During Construction 10%				521,600
	Construction Management 18%				938,880
	Environmental Monitoring/ CEQA/ Regulatory Monitoring/ Site Restoration				350,000
	Total Estimate				<b>7,026,480</b>

Estimate Accuracy	
+15%	-5%

Estimated Range of Probable Cost		
+15%	Total Est.	-5%
<b>\$8,080,452</b>	<b>\$7,026,480</b>	<b>\$6,675,156</b>

OPINION OF PROBABLE CONSTRUCTION COST

KENNEDY/JENKS CONSULTANTS

Client: Carmel Area Wastewater District  
 Project: CRFREE Mitigation Pipeline Undergrounding Project  
 Location: Carmel, CA  
 Estimate Type: 90% Design

Prepared By: JLH  
 Date Prepared: 20-Sep-21  
 K/J Proj. No. 2068010\*00

Area / Bldg	CSI Spec. Division	Description	Qty	Units	Materials		Installation		Equipment		Sub-contractor		Total
					\$/Unit	Total	\$/Unit	Total	\$/Unit	Total	\$/Unit	Total	
	2	TESC (silt Fence) Access Road & work area at West end	3,600	LF	2.00	7,200	2.50	9,000					16,200
	2	Construction Fencing	600	LF	4.00	2,400	3.13	1,876					4,276
	2	Utility Locate/ Potholing	1	LS			16,000.00	16,000	1,600.00	1,600			17,600
	2	Trim Vegetation on Access Road	1	LS			5,000.00	5,000					5,000
	2	Trim Vegetation at Work Areas at both ends of HDD for Site Prep (Ha	1	LS			4,080.00	4,080					4,080
	2	Open Cell Construction Mats - East Access Road	9,000	SF	8.20	73,817	2.00	18,000					91,817
	2	Open Cell Construction Mats - Eastern Work Area	3,840	SF	8.20	31,495	2.00	7,680					39,175
	2	Open Cell Construction Mats - Western Work Area	12,000	SF	8.20	98,423	2.00	24,000					122,423
	2	Open Cell Construction Mats - Demo Work Area	3,200	SF			2.00	6,400					6,400
	2	Stockpile Protections	1	LS	100.00	100	300.00	300					400
	2	Turbidity Curtain	260	LF	25.00	6,500	25.00	6,500					13,000
	2	Adjust Move Turbidity Curtains to allow for fish passage	130	LF			25.00	3,250					3,250
	2	<b>Demo:</b>											
	2	Excavation on sides of lagoon to expose pipes near mudline	13	CY			30.00	400					400
	2	Backfill and Restore at Demo'd Pipe	13	CY			30.00	400					400
	2	Plug Existing 6" Pipe with Concrete	3	EA	100.00	300	250.00	750					1,050
	2	Plug Existing 24" Pipe	3	EA	200.00	600	500.00	1,500					2,100
	2	Demo Existing 6" Pipe on Bridge	180	LF			29.27	5,268	4.00	720			5,988
	2	Demo Existing 24" Pipe on Bridge	180	LF			75.60	13,608	8.00	1,440			15,048
	2	Demo Existing Pipe Supports on Bridge	10	EA			150.00	1,500	50.00	500			2,000
	2	Haul and Dispose Demo'd Materials	1	LS	1,000.00	1,000	1,000.00	1,000					2,000
	2	Demo Concrete filled steel Pipes/ Pipe Supports to Lagoon Bottom	10	EA	200.00	2,000	3,200.00	32,000	1,500.00	15,000			49,000
	2	Demo Existing Manhole	1	LS			500.00	500	200.00	200			700
		<b>2 Total</b>				223,836		159,012		19,460			402,308
West End 6"	33A	<b>Pipe in Existing 24" :</b>											
	33A	Cut Existing 24" Steel Pipe	2	LC	50.00	100	300.00	600	100.00	200			900
	33A	8" OD HDPE (pipe / fusion) Open cut/Slip Line/ non HDD portions Supply / Ins	289	LF	11.14	3,219	12.85	3,714	2.46	711			7,645
	33A	Pressure Testing 6"	1,759	LF			2.00	3,518					3,518
	33A	Pressure Testing 24"	1,466	LF			5.00	7,330					7,330
		<b>East Connections:</b>											
East	33A	Trenching for 28" HDPE	46	LF			25.00	1,150					1,150
East	33A	Bedding for 28" HDPE	23	CY	30.00	689	15.00	344					1,033
East	33A	Warning Tape	46	LF	0.50	23	1.00	46					69
East	33A	Backfill and Compact ( Native)	14	CY			15.00	204					204
West and East	33A	Connection to (E) Existing Pipe 24" Weld on Flanges / Repair CML/C	1	EA	1,500.00	1,500	3,080.00	3,080	200.00	200			4,780
West and East	33A	28" HDPE Flg	1	EA	1,200.00	1,200	682.99	683	240.35	240			2,123
West and East	33A	24" NBG Kit SST	1	EA	500.00	500							500
West and East	33A	28" 45 Fitting HDPE	2	EA	1,531.75	3,064	1,365.97	2,732	480.69	961			6,757
West and East	33A	28" HDPE Pipe	46	LF	90.98	4,185	41.49	1,908	14.42	663			6,757
West and East	33A	1" Flg nozzle on 24" Pipe	1	EA	300.00	300	400.00	400	100.00	100			800
West and East	33A	1" ARV	2	EA	580.00	1,160	77.91	156					1,316
West and East	33A	1" ball valve	2	EA	156.00	312	54.28	109					421
	33A	24" MH Section 30" High w/ Lid	2	EA	800.00	1,600	500.00	1,000	75.00	150			
East	33A	Trenching for 8" HDPE	19	LF			30.00	570					570
East	33A	Bedding for 8" HDPE	1	CY	30.00	43	15.00	22					65
East	33A	Warning Tape	19	LF	0.50	10	1.00	19					29
East	33A	Backfill and Compact ( Native)	11	CY			15.00	158					158
East	33A	Connection to (E) Existing Cast Iron Pipe 6" FCA	1	EA	350.00	350	220.00	220					570
East	33A	8" HDPE Flg	1	EA			330.00	330					330
East	33A	8" 45 Bend	2	EA	106.00	212	171.00	342	32.86	66			620

Area / Bldg	CSI Spec. Division	Description	Qty	Units	Materials		Installation		Equipment		Sub-contractor		Total
					\$/Unit	Total	\$/Unit	Total	\$/Unit	Total	\$/Unit	Total	
West and East	33A	1" Flg nozzle on 8" Pipe	1	EA	100.00	100	200.00	200	50.00	50			350
East	33A	8" NBG Kit	1	EA	58.00	58							58
East	33A	6" NBG Kit	1	EA	60.00	60							60
East	33A	8x6" Flanged DI Red	1	EA	450.00	450	248.40	248	16.09	16			714
		<b>West 28" Connection:</b>											
East	33A	Trenching for 28" HDPE	26	LF			25.00	650					650
East	33A	Bedding for 28" HDPE	13	CY	30.00	389	15.00	195					584
East	33A	Warning Tape	26	LF	0.50	13	1.00	26					39
East	33A	Backfill and Compact ( Native)	8	CY			15.00	116					116
West and East	33A	Connection to (E) Existing Pipe 24" Weld on Flanges / Repair CML/C	1	EA	1,500.00	1,500	3,080.00	3,080	200.00	200			4,780
West and East	33A	28" HDPE Flg	1	EA	1,200.00	1,200	682.99	683	240.35	240			2,123
West and East	33A	24" NBG Kit SST	1	EA	500.00	500							500
West and East	33A	28" HDPE 45 Fitting	2	EA	1,531.75	3,064	1,365.97	2,732	480.69	961			6,757
West and East	33A	28" HDPE Pipe	20	LF	90.98	1,820	41.49	830	14.42	288			2,938
West and East	33A	24" Flanged Steel Tee	1	EA	1,500.00	1,500	2,200.00	2,200					3,700
West and East	33A	24" Blind Flange w/ 4" Flange Nozzle	1	EA	1,000.00	1,000	920.00	920					1,920
West and East	33A	4" ARV	2	EA	2,645.75	5,292	394.62	789					6,081
West and East	33A	4" ball valve	2	EA	1,879.80	3,760	618.30	1,237					4,996
	33A	48" MH Section 30" High w/ 24" Lid	2	EA	1,400.00	2,800	600.00	1,200	75.00	150			4,150
West End Pipe Connection	33A	<b>Connection HDD to (E) Pipe :</b>											
West End Pipe Connection	33A	Trenching for 8" HDPE	20	LF			25.00	500					500
West End Pipe Connection	33A	Bedding for 8 " HDPE	3	CY	30.00	83	15.00	41					124
West End Pipe Connection	33A	Warning Tape	20	LF	0.50	10	1.00	20					30
West End Pipe Connection	33A	Backfill and Compact ( Native)	3	CY			15.00	50					50
West End Pipe Connection	33A	Decomposed granite surfacing 3' wide x 3" deep over trench)	1	CY	60.00	43	50.00	36					79
West End Pipe Connection	33A	8" HDPE Bend	2	EA	106.00	212	171.00	342	32.86	66			620
West End Pipe Connection	33A	2" combo Vac/ Air Relief	1	EA	986.00	986	121.42	121					1,107
West End Pipe Connection	33A	2" Nozzle on 8" Pipe	1	EA	250.00	250	165.00	165					415
West End Pipe Connection	33A	2" Ball Valve	1	EA	356.68	357	93.34	93					450
	33A	24" MH Section 30" High w/lid	1	EA	800.00	800	500.00	500	75.00	75			1,375
West End Pump Station Connection	33A	<b>Connection to (E) PS Pipe &amp; Cleanout :</b>											
West End Pump Station Connection	33A	Trenching for 8" HDPE	50	LF			25.00	1,250					1,250
West End Pump Station Connection	33A	Bedding for 8" HDPE	7	CY	30.00	207	15.00	103					310
West End Pump Station Connection	33A	Warning Tape	50	LF	0.50	25	1.00	50					75
West End Pump Station Connection	33A	Backfill and Compact ( Native)	8	CY			15.00	125					125
West End Pump Station Connection	33A	Decomposed granite surfacing 3' wide x 3" deep over trench)	2	CY	60.00	108	50.00	90					199
West End Pump Station Connection	33A	8" Plug Valve w/ Box	1	EA	2,193.00	2,193	1,152.44	1,152					3,345
West End Pump Station Connection	33A	8" HDPE Bend	2	EA	106.00	212	171.00	342	32.86	66			620
West End Pump Station Connection	33A	8" Wye	1	EA	145.00	145	187.20	187	36.00	36			368
West End Pump Station Connection	33A	8" Flange (Stub end with Backup Flg)	4	EA	250.00	1,000	101.43	406	31.00	124			1,530
West End Pump Station Connection	33A	8" Blind Flange	1	EA	335.00	335	187.00	187					522
West End Pump Station Connection	33A	8" SST NBG Kit	4	EA	58.00	232	187.00	748					980
West End Pump Station Connection	33A	24 x24 Conc Box with Cover	1	EA	500.00	500	500.00	500	50.00	50			1,050
East Side	33A	Pumping Dewatering Water back to WWTP	1	LS	375.00	375	7,200.00	7,200					7,575
East Side	33A	Temp Piping/ Hose for Pumping Dewatering Water back to WWTP	1,800	LF	2.00	3,600	3.00	5,400					9,000
	<b>33a Total</b>					53,544		62,751		5,414			118,959
	33B	<b>HDD :</b>											
	33B	6 ID" / 8" OD HDD (pilot bore, reaming, pipe material, pullback	1	LS							492,200	492,200	492,200
	33B	24" ID/ 28" OD HDD ( " )	1	LS							1,958,100	1,958,100	1,958,100
	33B	2 " conduit	1,400	LF	2.00	2,800					10	14,000	16,800
	33B	Cathodic Protection Cable (#2 XHHW Shielded Wire )	1,400	LF							2.50	3,500	3,500
	33B	Bonding Cathodic Protection Cable	1	LS							2,000	2,000	2,000
	<b>33b Total</b>					2,800						2,469,800	2,472,600
	<b>Grand Total</b>					280,280		222,363		25,074		2,469,800	2,994,767

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