

Appendix I

Preliminary Opinion of Probable Project Cost

TECHNICAL MEMORANDUM

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Date: December 7, 2016
 Rev. : March 29, 2017

Subject: Pacheco Boulevard Improvements
 Blum Road to Morello Avenue
 PRELIMINARY OPINION OF PROBABLE PROJECT COST

This memorandum presents a summary of the estimated project costs for the Pacheco Boulevard Improvement Project, Blum Road to Morello Avenue. As with the other sections of this report, the following discussion assumes that Pacheco Boulevard runs from south to north and the sides of the street are designated as the east side and the west side, respectively.

1. Summary of Estimated Total Project Costs

A summary estimate of the total project cost for each alternative appears in **Table 1**.

PACHECO BLVD ALIGNMENT STUDY			
Conceptual Alternatives Analysis			
Engineer's Opinion of Probable Cost			
October 2016			
SUMMARY TOTALS			
Segment	Alternative 1	Alternative 2	Alternative 3
1	\$ 5,178,000	\$ 3,556,400	\$ 3,712,500
2	\$ 24,992,600	\$ 19,437,100	\$ -
3	\$ 5,839,600	\$ 5,066,400	\$ -
4	\$ 7,669,800	\$ 4,522,900	\$ -
Total	\$ 43,680,000	\$ 32,582,800	\$ 3,712,500

Table 1 – Opinion of Probable Project Cost

In compiling the total for each alternative, the total cost was divided into three categories: (a) construction (b) design and administration and (c) right of way acquisition. **Table 2** indicates the total estimated cost of Construction, Design and Administration and Right of Way for each alternative. These costs represent October 2016 values and should be inflated in the future to reflect the increase in the cost of living.

The total estimated cost for Alternative 1 is significantly higher than the estimated cost for Alternative 2. This inherently makes sense as the former alternative provides for an extra through lane in each direction for Segments 1, 3 and 4. Alternative 2 would construct a single through lane in each direction for these segments.



PACHECO BLVD ALIGNMENT STUDY				
Conceptual Alternatives Analysis				
Engineer's Opinion of Probable Cost				
October 2016				
SUMMARY BY COST CATEGORY				
	Construction	Design & Admin	Right of Way	Total
Alternative 1				
Segment 1	\$ 3,039,000	\$ 1,519,700	\$ 619,300	\$ 5,178,000
Segment 2 (City)	\$ 3,272,200	\$ 1,636,400	\$ 501,800	\$ 5,410,400
Segment 2 (County)	\$ 12,783,300	\$ 6,391,800	\$ 407,100	\$ 19,582,200
Segment 3	\$ 3,583,900	\$ 1,792,000	\$ 463,700	\$ 5,839,600
Segment 4	\$ 2,485,500	\$ 1,242,900	\$ 3,941,400	\$ 7,669,800
Total	\$ 25,163,900	\$ 12,582,800	\$ 5,933,300	\$ 43,680,000
Alternative 2				
Segment 1	\$ 2,253,300	\$ 1,126,800	\$ 176,300	\$ 3,556,400
Segment 2 (City)	\$ 3,277,500	\$ 1,638,900	\$ 128,600	\$ 5,045,000
Segment 2 (County)	\$ 9,412,300	\$ 4,706,400	\$ 273,400	\$ 14,392,100
Segment 3	\$ 3,213,300	\$ 1,671,100	\$ 182,000	\$ 5,066,400
Segment 4	\$ 2,370,600	\$ 1,185,500	\$ 966,800	\$ 4,522,900
Total	\$ 20,527,000	\$ 10,328,700	\$ 1,727,100	\$ 32,582,800
Alternative 3				
Segment 1	\$ 2,309,800	\$ 1,155,000	\$ 247,700	\$ 3,712,500
Total	\$ 2,309,800	\$ 1,155,000	\$ 247,700	\$ 3,712,500

Table 2 – Estimate of Cost by Alternative, Segment and Category

Alternative 2 would involve at a minimum an additional 20 to 24 feet of pavement plus additional right of way costs. The additional roadway width would have increased involvement with adjacent properties. These impacts would result in significant additional construction and right of way costs.

Additionally, Alternative 1 would construct a wider two way underpass beneath the BN&SF Railway east of the existing location. The new underpass would accommodate bicycles and pedestrians. The existing tunnel would be closed to through traffic and would be used for a multi-use path and emergency vehicles only. The new underpass would involve the existing drainage (Drainage No. 2) referenced in other sections of the Alternatives Analysis. The wider underpass and involvement with the creek would involve significant additional costs.

Alternative 2 provides for a couplet (one way traffic pattern) at the BNSF Railway. The existing road would be used for southbound traffic and a new one way northbound underpass would be constructed east of the current structure. The structure would accommodate a single northbound lane plus bicycles and pedestrians and would be narrower than the Alternative 1 structure. It would not require construction in the existing creek.

2. Construction Costs

Detailed estimates for each segment of each alternative are attached. Twenty-six items of construction were identified. The estimated cost for each item was computed (a) by calculating the quantities of work to be performed and then multiplying the estimated quantity by a unit price or (b) assigning a lump sum value. Lump sum values were assigned based on the engineer's judgment. The plans for each alternative are conceptual and are based upon a number of assumptions. For example subgrade conditions will differ throughout the project limits may vary considerably. This will affect the depth of pavement section and



the volume of excavation that may be required. Another example is the amount of involvement with the existing drainage channel (creek) that may be required. A third example is the involvement with the Railway Company. Construction of the underpass by tunneling methods has been assumed. This methodology would eliminate the need to construct a temporary (or shoe fly) track. If the railway were to not approve the proposed methodology, the costs for Segment 2 for either alternative could be significantly higher.

Additionally, the Engineer has no control over the cost of labor, materials, equipment, or the Contractor's means and methods of determining prices or over competitive bidding or future market conditions. A 40% contingency has been added to the construction cost estimate to allow for unknown costs.

The estimates assume that the project will be constructed in the four segments designated in the report. Should the work be performed in smaller increments, it should be expected that costs for those portions will increase due a reduction in the economy of scale.

3. Design and Administration Costs

Design and administration costs include the estimated costs to prepare plans and specifications, prepare environmental documents, secure permits for the work, advertise for public bids and provide construction management and inspection services. The costs for these services included in the estimates represent standard industry percentages. These costs are based upon a percentage of construction based upon the Engineer's judgment. The amounts include a percentage of the contingency and therefore have been inflated by the same percentage (40%) as the construction items.

The overall design and administration costs for the project are estimated to be 50% of the project construction including the contingency. These include 25% for design, 15% for Construction Management, 5% for agency administration and 5% for processing environmental documents. The estimated costs associated with environmental permitting are very hard to predict. The percentage employed represents the Engineer's judgment of the cost for similar projects.

4. Preliminary Opinion Regarding Total Right of Way Acquisition Costs

The proposed right of way acquisition for each parcel listed on the Right of Way Exhibit will have its own unique set of circumstances. Estimating the costs to acquire individual parcels is beyond the scope of this report. In order to obtain accurate estimates of the probable cost to acquire individual parcels of right of way, it will be necessary for the City and/or the County to obtain certified appraisals of the value of the parcels to be acquired by a competent Real Estate professional. Procedures to be followed, in general should conform to those outlined in State Department of Transportation (Caltrans) Right of Way Manual.

For the purpose of developing an overall estimate of project cost, however, an estimate of right of way costs has been prepared. The right of way cost estimates are opinions based upon very rough assumptions and no guarantee is made that the actual cost to acquire the necessary rights of way for the project will not be more than amounts indicated. While the estimates have been apportioned by parcel, it is not the intent of this report to establish the actual cost for individual properties. This can only be done with due diligence following the procedures referenced above.



An allowance for the costs to acquire temporary construction easements as necessary to conform to existing driveways and parking lots has been included. In order to construct these “onsite” improvements, it will be necessary to obtain temporary permission to enter and construct upon the private property.

Observations and assumptions regarding the specific parcels to be acquired are briefly described in the Right of Way Memorandum. The overall right of way costs for each alternative have been estimated using estimated present worth as reported by the Contra Costa County Assessor of properties on Pacheco Boulevard sold or transferred during the last ten (10) years. An average price per square foot was calculated for vacant land and improved land for the different categories observed. These rough estimates of the value of land on Pacheco Boulevard are included in Table 10.

Category	Land Category	Estimated Price (\$ per SF)
0	Public or Existing DIA	\$ -
1	Easement or License	\$ 4.00
2	Vacant Land	\$ 11.00
3	Improved Frontage	\$ 44.00
4	Improved Frontage w Impact	\$ 66.00

Table 10 – Avg. Price per SF

The price for an easement was taken as one third the price of vacant (unimproved) land rounded up to the nearest dollar. The price for impact was taken as the improved cost plus 50%, rounded up to the nearest dollar.

The figures in Table 10 were applied to the overall square footage in each category for each segment as shown in the tables above. This amount was then increased by 10% for Temporary Construction Easements. In a few cases, an additional allowance was made because the building on the property may have to be remodeled in order to accommodate the right of way take.

Table 11 indicates the total estimated right of way acquisition cost for each alternative and segment. A 30% contingency was added to the estimate for each segment. This cost was then increased by a total of 60% for the estimated cost of right of way engineering, real estate appraisal and preliminary title reports. Estimates are based upon October 2016 prices and the present worth of the project should be inflated by a cost of living index in order to arrive at approximate future values.

The unit prices indicated above are solely for the purpose of determining an overall sense of the right of way costs required for this project. No guarantee is made or otherwise implied that the total cost of right of way acquisition for the project as a whole, any segment of the project will not exceed the amounts indicated in the cost estimates.



Estimated Right of Way Acquisition Costs		
ALTERNATIVE 1	Area	Amount
Total Segment 1	11,716	\$ 297,711
Total Segment 2	38,844	\$ 516,250
Total Segment 3	9,202	\$ 313,249
Total Segment 4	22,105	\$ 1,894,857
TOTAL ALTERNATIVE 1	81,867	\$ 3,022,067
ALTERNATIVE 2	Area (SF)	Amount
Total Segment 1	7,099	\$ 119,062
Total Segment 2	13,689	\$ 193,229
Total Segment 3	5,746	\$ 87,497
Total Segment 4	9,603	\$ 464,791
TOTAL ALTERNATIVE 2	36,137	\$ 864,579
ALTERNATIVE 3	Area (SF)	Amount
Total Segment 1	7,099	\$ 119,062

Table 11 – Estimated Right of Way Cost , Alternative 1

5. LIMITATION

The “Cost Estimates” presented herein, including those for Construction, Design, Administration and Right of Way represent the Engineers’ opinion based upon judgment and experience with other similar projects. The estimates are based upon conceptual plans and are necessarily limited as to accuracy. Further design and the development of Plans, Specifications and Estimates for the work will be necessary in order to arrive at more precise values. The Engineer has no control over market conditions and Engineers’ opinion expressed herein does not constitute a guarantee, implied or expressed, that the actual cost of the work or the right of way to be acquired will not exceed the amounts indicated. Estimates are based upon October 2016 costs. These amounts should be increased by a suitable cost of living index in order to obtain future values.

Attachments: [Cost Estimates](#)

- Alternative 1 – All Segments
- Alternative 1 – Segment 1
- Alternative 1 – Segment 2 (County)
- Alternative 1 – Segment 2 (City)
- Alternative 1 – Segment 3
- Alternative 1 – Segment 4

- Alternative 2 – All Segments
- Alternative 2 – Segment 1
- Alternative 2 – Segment 2 (County)
- Alternative 2 – Segment 2 (City)
- Alternative 2 – Segment 3
- Alternative 2 – Segment 4

- Alternative 3 – Segment 1

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PACHECO BLVD ALIGNMENT STUDY		
Conceptual Alternatives Analysis		
Engineer's Opinion of Probable Cost		
October 2016		
SUMMARY TOTALS		
Segment	Alternative 1	Alternative 2
1	\$ 5,178,000	\$ 3,556,400
2	\$ 24,992,600	\$ 19,437,100
3	\$ 5,839,600	\$ 5,066,400
4	\$ 7,669,800	\$ 4,522,900
Total	\$ 43,680,000	\$ 32,582,800

Notes:

1. The Engineer has no control over the cost of labor, materials, equipment, or the Contractor's methods of determining prices or over competitive market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.

2. Estimated costs to acquire right of way are based solely upon the square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire right of way may be higher or lower based upon appraisals and market conditions when the acquisitions are made.

3. Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.

4. Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.

5. The costs for Alternative 3 only apply to Segment 1. The cost estimate for Alternative 3 is provided as a separate attachment.

PACHECO BLVD ALIGNMENT STUDY		
Conceptual Alternatives Analysis		
Engineer's Opinion of Probable Cost		
October 2016		
SUMMARY TOTALS		
Segment	Alternative 1	Alternative 2
1	\$ 5,178,000	\$ 3,556,400
2	\$ 24,992,600	\$ 19,437,100
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Total	\$ 43,680,000	\$ 32,582,800

Notes:

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3. Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.
4. Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.
5. The costs for Alternative 3 only apply to Segment 1. The cost estimate for Alternative 3 is provided as a separate attachment.

PACHECO BOULEVARD - BLUM ROAD TO MORELLO AVENUE				
Conceptual Alternatives Analysis				
Engineer's Preliminary Opinion of Probable Project Cost				
	Construction	Design & Admin	Right of Way	Total
Alternative 1				
Segment 1	\$ 3,039,000	\$ 1,519,700	\$ 619,300	\$ 5,178,000
Segment 2 (City)	\$ 3,272,200	\$ 1,636,400	\$ 501,800	\$ 5,410,400
Segment 2 (County)	\$ 12,783,300	\$ 6,391,800	\$ 407,100	\$ 19,582,200
Segment 3	\$ 3,583,900	\$ 1,792,000	\$ 463,700	\$ 5,839,600
Segment 4	\$ 2,485,500	\$ 1,242,900	\$ 3,941,400	\$ 7,669,800
Total	\$ 25,163,900	\$ 12,582,800	\$ 5,933,300	\$ 43,680,000
Alternative 2				
Segment 1	\$ 2,253,300	\$ 1,126,800	\$ 176,300	\$ 3,556,400
Segment 2 (City)	\$ 3,277,500	\$ 1,638,900	\$ 128,600	\$ 5,045,000
Segment 2 (County)	\$ 9,412,300	\$ 4,706,400	\$ 273,400	\$ 14,392,100
Segment 3	\$ 3,213,300	\$ 1,671,100	\$ 182,000	\$ 5,066,400
Segment 4	\$ 2,370,600	\$ 1,185,500	\$ 966,800	\$ 4,522,900
Total	\$ 20,527,000	\$ 10,328,700	\$ 1,727,100	\$ 32,582,800
Alternative 3				
Segment 1	\$ 2,309,800	\$ 1,155,000	\$ 247,700	\$ 3,712,500
Total	\$ 2,309,800	\$ 1,155,000	\$ 247,700	\$ 3,712,500
Notes:				
1. The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2. Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3. Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 1 cost estimate.				
4. Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				

PACHECO BLVD ALIGNMENT STUDY		
Conceptual Alternatives Analysis		
Engineer's Opinion of Probable Cost		
October 2016		
SUMMARY BY ALTERNATIVE		
	Alternative 1	Alternative 2
Segment 1		
Construction	\$ 3,039,000	\$ 2,253,300
Design & Administration	\$ 1,519,700	\$ 1,126,800
Right of Way	\$ 619,000	\$ 176,300
Total	\$ 5,177,700	\$ 3,556,400
Segment 2 (City)		
Construction	\$ 3,272,200	\$ 3,277,500
Design & Administration	\$ 1,636,400	\$ 1,638,900
Right of Way	\$ 501,800	\$ 128,600
Total	\$ 5,410,400	\$ 5,045,000
Segment 2 (County)		
Construction	\$ 12,783,300	\$ 9,412,300
Design & Administration	\$ 6,391,800	\$ 4,706,400
Right of Way	\$ 407,100	\$ 273,400
Total	\$ 19,582,200	\$ 14,392,100
Segment 3		
Construction	\$ 3,583,900	\$ 3,213,300
Design & Administration	\$ 1,792,000	\$ 1,671,100
Right of Way	\$ 463,700	\$ 182,000
Total	\$ 5,839,600	\$ 5,066,400
Segment 4		
Construction	\$ 2,485,500	\$ 2,370,600
Design & Administration	\$ 1,242,900	\$ 1,185,500
Right of Way	\$ 3,941,400	\$ 966,800
Total	\$ 7,669,800	\$ 4,522,900
Total Project	\$ 43,679,700	\$ 32,582,800

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 1 - All Segments
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 898,900	\$ 898,900
2	Traffic Control	1	LS	\$ 130,000	\$ 130,000
3	Erosion Control	1	LS	\$ 70,000	\$ 70,000
4	Clearing and Grubbing	1	LS	\$ 37,000	\$ 37,000
5	Tree Removal	39	EA	\$ 500	\$ 19,500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 100,000	\$ 100,000
7	Roadway Excavation	17,898	CY	\$ 35	\$ 626,430
8	Hot Mix Asphalt (Type A)	7,663	TON	\$ 110	\$ 842,879
9	0.17' Grind and Overlay	47,237	SQYD	\$ 10.00	\$ 472,367
10	Aggregate Base (Class 2)	28,829	TON	\$ 40	\$ 1,153,173
11	Minor Concrete (New Driveway)	275	CY	\$ 400	\$ 110,163
12	Minor Concrete (County Type S1-6 Curb and Gutter)	16,522	LF	\$ 24	\$ 396,528
13	Minor Concrete (County Type A Traffic Median Curb)	3,755	LF	\$ 20	\$ 75,100
14	Minor Concrete (Sidewalk)	160,346	SF	\$ 10	\$ 1,603,460
15	Hardscaping	17,923	SF	\$ 12	\$ 215,076
16	Infiltration Landscaping	19,145	SF	\$ 50	\$ 957,250
17	Signal Installation (Arnold Dr)	2	LS	\$ 250,000	\$ 500,000
18	Signal Modification (Arthur Dr)	1	LS	\$ 200,000	\$ 200,000
19	Retaining Wall 1-A	1,712	SF	\$ 115	\$ 196,880
20	Retaining Wall 1-B	7,155	SF	\$ 215	\$ 1,538,229
21	Retaining Wall 1-C	1,281	SF	\$ 115	\$ 147,320
22	Railroad Crossing Structure	1	LS	\$ 3,000,000	\$ 3,000,000
23	Pedestrian Prefabricated Steel Truss Bridge	2	LS	\$ 200,000	\$ 400,000
24	Drainage	1	LS	\$ 2,800,000	\$ 2,800,000
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 139,730	\$ 137,730
26	Lighting and Electrical	1	LS	\$ 1,344,000	\$ 1,344,000
Sub-Total					\$ 17,971,986
40% Contingency					\$ 7,188,794
Construction Total					\$ 25,160,800
Project Design and Administration Costs					
	Design	1	LS	\$ 6,291,200	\$ 6,291,200
	Construction Management	1	LS	\$ 3,774,800	\$ 3,774,800
	Project Administration	1	LS	\$ 1,258,400	\$ 1,258,400
	Environmental Document	1	LS	\$ 1,258,400	\$ 1,258,400
		1	LS		Subtotal \$ 12,582,800
Right of Way					
	Acquisition	1	LS	\$ 3,022,067	\$ 3,022,067
	Contingency	1	LS	\$ 906,620	\$ 906,620
				Subtotal	\$ 3,928,687
	Right of Way Engineering	1	LS	\$ 835,101	\$ 835,101
	Real Estate Services	1	LS	\$ 835,101	\$ 835,101
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 334,040	\$ 334,040
				Total ROW	\$ 5,933,000
TOTAL ESTIMATED COST - ALTERNATIVE 1					\$ 43,676,600
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 1 Segment 1 (Blum Rd to Arnold Dr) ~1,450 LF

Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 108,600	\$ 108,600
2	Traffic Control	1	LS	\$ 45,000	\$ 45,000
3	Erosion Control	1	LS	\$ 20,000	\$ 20,000
4	Clearing and Grubbing	1	LS	\$ 5,000	\$ 5,000
5	Tree Removal	7	EA	\$ 500	\$ 3,500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 14,000	\$ 14,000
7	Roadway Excavation	4,221	CY	\$ 35	\$ 147,735
8	Hot Mix Asphalt (Type A)	1,470	TON	\$ 110	\$ 161,651
9	0.17" Grind and Overlay	4,913	SQYD	\$ 10.00	\$ 49,132
10	Aggregate Base (Class 2)	5,529	TON	\$ 40	\$ 221,160
11	Minor Concrete (New Driveway)	102	CY	\$ 400	\$ 40,630
12	Minor Concrete (County Type S1-6 Curb and Gutter)	2,615	LF	\$ 24	\$ 62,760
13	Minor Concrete (County Type A Traffic Median Curb)	891	LF	\$ 20	\$ 17,820
14	Minor Concrete (Sidewalk)	18,120	SF	\$ 10	\$ 181,200
15	Hardscaping	4,110	SF	\$ 12	\$ 49,320
16	Infiltration Landscaping	-	SF	\$ 50.00	\$ -
17	Signal Installation (Arnold Dr)	1	LS	\$ 250,000.00	\$ 250,000
18	Signal Modification (Arthur Dr)	-	LS	\$ 200,000.00	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115.00	\$ -
20	Retaining Wall 1-B	-	SF	\$ 215.00	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115.00	\$ -
22	Railroad Crossing Structure	-	LS	\$ 3,000,000.00	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	1	LS	\$ 200,000	\$ 200,000
24	Drainage	1	LS	\$ 387,500	\$ 387,500
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 19,652	\$ 19,652
26	Lighting and Electrical	1	LS	\$ 186,000	\$ 186,000
Sub-Total					\$ 2,170,659
40% Contingency					\$ 868,264
Total Construction					\$ 3,039,000
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 759,800	\$ 759,800
	Construction Management @ 15%	1	LS	\$ 455,900	\$ 455,900
	Project Administration @ 5%	1	LS	\$ 152,000	\$ 152,000
	Environmental Document @ 5%	1	LS	\$ 152,000	\$ 152,000
		1	LS	Subtotal	\$ 1,519,700
Right of Way					
	Acquisition	1	SF	\$ 297,711	\$ 297,711
	Contingency	1	LS	\$89,313	\$ 89,313
				Subtotal	\$ 387,024
	Right of Way Engineering	1	LS	\$96,756	\$ 96,756
	Real Estate Services	1	LS	\$96,756	\$ 96,756
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$38,702	\$ 38,702
				Total ROW	\$ 619,300
TOTAL ESTIMATED COST - ALTERNATIVE 1 - SEGMENT 1					\$ 5,178,000
	Notes:				
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 1 Segment 2 (Arnold Dr to Arthur Rd) ~5,200 LF
County Portion (Sunrise Dr to Arthur Rd) ~3,400 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity (County)	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 456,600	\$ 456,600
2	Traffic Control	1	LS	\$ 50,000	\$ 50,000
3	Erosion Control	1	LS	\$ 30,000	\$ 30,000
4	Clearing and Grubbing	1	LS	\$ 20,000	\$ 20,000
5	Tree Removal	21	EA	\$ 500	\$ 10,500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 35,000	\$ 35,000
7	Roadway Excavation	3,112	CY	\$ 35	\$ 108,920
8	Hot Mix Asphalt (Type A)	2,688	TON	\$ 110	\$ 295,733
9	0.17" Grind and Overlay	17,595	SQYD	\$ 10.00	\$ 175,951
10	Aggregate Base (Class 2)	10,115	TON	\$ 40	\$ 404,604
11	Minor Concrete (New Driveway)	44	CY	\$ 400	\$ 17,556
12	Minor Concrete (County Type S1-6 Curb and Gutter)	6,910	LF	\$ 24	\$ 165,840
13	Minor Concrete (County Type A Traffic Median Curb)	-	LF	\$ 20	\$ -
14	Minor Concrete (Sidewalk)	72,806	SF	\$ 10	\$ 728,060
15	Hardscaping	-	SF	\$ 12	\$ -
16	Infiltration Landscaping	13,047	SF	\$ 50	\$ 652,350
17	Signal Installation (Arnold Dr)	-	LS	\$ 250,000	\$ -
18	Signal Modification (Arthur Road)	-	LS	\$ 200,000	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115	\$ -
20	Retaining Wall 1-B	7,155	SF	\$ 215	\$ 1,538,229
21	Retaining Wall 1-C	1,281	SF	\$ 115	\$ 147,320
22	Railroad Crossing Structure	1	LS	\$ 3,000,000	\$ 3,000,000
23	Pedestrian Prefabricated Steel Truss Bridge	-	LS	\$ 200,000	\$ -
24	Drainage	1	LS	\$ 850,000	\$ 850,000
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 36,221	\$ 36,221
26	Lighting and Electrical	1	LS	\$ 408,000	\$ 408,000
Sub-Total					\$ 9,130,883
40% Contingency					\$ 3,652,353
Total Construction					\$ 12,783,300
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 3,195,900	\$ 3,195,900
	Construction Management @ 15%	1	LS	\$ 1,917,500	\$ 1,917,500
	Project Administration @ 5%	1	LS	\$ 639,200	\$ 639,200
	Environmental Document @ 3%	1	LS	\$ 639,200	\$ 639,200
		1	LS	Subtotal	\$ 6,391,800
Right of Way					
	Acquisition	1	LS	\$ 275,034	\$ 275,034
	Contingency	1	LS	\$ 82,510	\$ 82,510
				Subtotal	\$ 357,544
	Right of Way Engineering	1	LS	\$ 20,628	\$ 20,628
	Real Estate Services	1	LS	\$ 20,628	\$ 20,628
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 8,251	\$ 8,251
				Total ROW	\$ 407,100
TOTAL ESTIMATED COST - ALTERNATIVE 1 - SEGMENT 2 (COUNTY)					\$ 19,582,200
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				
7	Railroad Crossing Structure lump sum assumes construction can be completed WITHOUT requiring a 'shoo fly' track.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 1 Segment 2 (Arnold Dr to Arthur Rd) ~5,200 LF
City Portion (Arnold Dr to Sunrise Dr) ~ 1,800 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity (City)	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 116,900	\$ 116,900
2	Traffic Control	1	LS	\$ 10,000	\$ 10,000
3	Erosion Control	1	LS	\$ 5,000	\$ 5,000
4	Clearing and Grubbing	1	LS	\$ 5,000	\$ 5,000
5	Tree Removal	1	EA	\$ 500	\$ 500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 10,000	\$ 10,000
7	Roadway Excavation	5,400	CY	\$ 35	\$ 189,000
8	Hot Mix Asphalt (Type A)	1,857	TON	\$ 110	\$ 204,302
9	0.17" Grind and Overlay	464	SQYD	\$ 10.00	\$ 4,641
10	Aggregate Base (Class 2)	6,988	TON	\$ 40	\$ 279,513
11	Minor Concrete (New Driveway)	51	CY	\$ 400	\$ 20,281
12	Minor Concrete (County Type S1-6 Curb and Gutter)	3,483	LF	\$ 24	\$ 83,592
13	Minor Concrete (County Type A Traffic Median Curb)	2,146	LF	\$ 20	\$ 42,920
14	Minor Concrete (Sidewalk)	29,708	SF	\$ 10	\$ 297,080
15	Hardscaping	11,593	SF	\$ 12	\$ 139,116
16	Infiltration Landscaping	-	SF	\$ 50	\$ -
17	Signal Installation (Arnold Dr)	1	LS	\$ 250,000	\$ 250,000
18	Signal Modification (Arthur Road)	-	LS	\$ 200,000	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115	\$ -
20	Retaining Wall 1-B	-	SF	\$ 215	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115	\$ -
22	Railroad Crossing Structure	0	LS	\$ 3,000,000	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	-	LS	\$ 200,000	\$ -
24	Drainage	1	LS	\$ 450,000	\$ 450,000
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 13,394	\$ 13,394
26	Lighting and Electrical	1	LS	\$ 216,000	\$ 216,000
Sub-Total					\$ 2,337,239
40% Contingency					\$ 934,896
Total Construction					\$ 3,272,200
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 818,100	\$ 818,100
	Construction Management @ 15%	1	LS	\$ 490,900	\$ 490,900
	Project Administration @ 5%	1	LS	\$ 163,700	\$ 163,700
	Environmental Document @ 3%	1	LS	\$ 163,700	\$ 163,700
		1	LS	Subtotal	\$ 1,636,400
Right of Way					
	Acquisition	1	LS	\$ 241,216	\$ 241,216
	Contingency	1	LS	\$ 72,365	\$ 72,365
				Subtotal	\$ 313,581
	Right of Way Engineering	1	LS	\$ 78,395	\$ 78,395
	Real Estate Services	1	LS	\$ 78,395	\$ 78,395
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 31,358	\$ 31,358
				Total ROW	\$ 501,800
TOTAL ESTIMATED COST - ALTERNATIVE 1 - SEGMENT 2 (CITY)					\$ 5,410,400
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 1 Segment 3 (Arthur Rd to Camino Del Sol) ~1,600 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 128,000	\$ 128,000
2	Traffic Control	1	LS	\$ 15,000.00	\$ 15,000
3	Erosion Control	1	LS	\$ 10,000.00	\$ 10,000
4	Clearing and Grubbing	1	LS	\$ 5,000.00	\$ 5,000
5	Tree Removal	10	EA	\$ 500.00	\$ 5,000
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 16,000	\$ 16,000
7	Roadway Excavation	3,061	CY	\$ 35.00	\$ 107,135
8	Hot Mix Asphalt (Type A)	932	TON	\$ 110.00	\$ 102,545
9	0.17' Grind and Overlay	9,414	SQYD	\$ 10.00	\$ 94,139
10	Aggregate Base (Class 2)	3,507	TON	\$ 40.00	\$ 140,296
11	Minor Concrete (New Driveway)	28	CY	\$ 400.00	\$ 11,378
12	Minor Concrete (County Type S1-6 Curb and Gutter)	1,482	LF	\$ 24.00	\$ 35,568
13	Minor Concrete (County Type A Traffic Median Curb)	718	LF	\$ 20.00	\$ 14,360
14	Minor Concrete (Sidewalk)	28,946	SF	\$ 10.00	\$ 289,460
15	Hardscaping	2,220	SF	\$ 12.00	\$ 26,640
16	Infiltration Landscaping	6,098	SF	\$ 50.00	\$ 304,900
17	Signal Installation (Arnold Drive)	-	LS	\$ 250,000.00	\$ -
18	Signal Modification (Arthur Road)	1	LS	\$ 200,000.00	\$ 200,000
19	Retaining Wall 1-A	1,712	SF	\$ 115.00	\$ 196,880
20	Retaining Wall 1-B	-	SF	\$ 215.00	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115.00	\$ -
22	Railroad Crossing Structure	-	LS	\$ 3,000,000.00	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	1	LS	\$ 200,000	\$ 200,000
24	Drainage	1	LS	\$ 425,000.00	\$ 425,000
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 28,557	\$ 28,557
26	Lighting and Electrical	1	LS	\$ 204,000.00	\$ 204,000
					Sub-Total \$ 2,559,858
					40% Contingency \$ 1,023,943
					Total Construction \$ 3,583,900
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 896,000	\$ 896,000
	Construction Management @ 15%	1	LS	\$ 537,600	\$ 537,600
	Project Administration @ 5%	1	LS	\$ 179,200	\$ 179,200
	Environmental Document @ 5%	1	LS	\$ 179,200	\$ 179,200
		1	LS	Subtotal	\$ 1,792,000
Right of Way					
	Acquisition	1	LS	\$ 313,249	\$ 313,249
	Contingency	1	LS	\$ 93,975	\$ 93,975
				Subtotal	\$ 407,224
	Right of Way Engineering	1	LS	\$ 23,494	\$ 23,494
	Real Estate Services	1	LS	\$ 23,494	\$ 23,494
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 9,397	\$ 9,397
				Total ROW	\$ 463,700
TOTAL ESTIMATED COST - ALTERNATIVE 1 - SEGMENT 3					\$ 5,839,600
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 1 Segment 4 (Camino Del Sol to West of Morello Ave) ~2,600 LF
 Engineer's Opinion of Probable Cost
 October 2016

Construction Costs					
Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 88,800	\$ 88,800
2	Traffic Control	1	LS	\$ 10,000.00	\$ 10,000
3	Erosion Control	1	LS	\$ 5,000.00	\$ 5,000
4	Clearing and Grubbing	1	LS	\$ 2,000.00	\$ 2,000
5	Tree Removal	0	EA	\$ 500.00	\$ -
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 25,000	\$ 25,000
7	Roadway Excavation	2,104	CY	\$ 35.00	\$ 73,640
8	Hot Mix Asphalt (Type A)	715	TON	\$ 110.00	\$ 78,648
9	0.17' Grind and Overlay	14,850	SQYD	\$ 10.00	\$ 148,505
10	Aggregate Base (Class 2)	2,690	TON	\$ 40.00	\$ 107,601
11	Minor Concrete (New Driveway)	51	CY	\$ 400.00	\$ 20,319
12	Minor Concrete (County Type S1-6 Curb and Gutter)	2,032	LF	\$ 24.00	\$ 48,768
13	Minor Concrete (County Type A Traffic Median Curb)	-	LF	\$ 20.00	\$ -
14	Minor Concrete (Sidewalk)	10,766	SF	\$ 10.00	\$ 107,660
15	Hardscaping	-	SF	\$ 12.00	\$ -
16	Infiltration Landscaping	-	SF	\$ 50.00	\$ -
17	Signal Installation (Arnold Drive)	-	LS	\$ 250,000.00	\$ -
18	Signal Modification (Arthur Road)	-	LS	\$ 200,000.00	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115.00	\$ -
20	Retaining Wall 1-B	-	SF	\$ 215.00	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115.00	\$ -
22	Railroad Crossing Structure	-	LS	\$ 3,000,000.00	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	-	LS	\$ 200,000	\$ -
24	Drainage	1	LS	\$ 687,500.00	\$ 687,500
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 41,906	\$ 41,906
26	Lighting and Electrical	1	LS	\$ 330,000.00	\$ 330,000
				Subtotal	\$ 1,775,346
				40% Contingency	\$ 710,138
				Total Construction	\$ 2,485,500
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 621,400	\$ 621,400
	Construction Management @ 15%	1	LS	\$ 372,900	\$ 372,900
	Project Administration @ 5%	1	LS	\$ 124,300	\$ 124,300
	Environmental Document @5 %	1	LS	\$ 124,300	\$ 124,300
				Subtotal	\$ 1,242,900
Right of Way					
	Acquisition	1	LS	\$ 1,894,857	\$ 1,894,857
	Contingency	1	LS	\$ 568,457	\$ 568,457
				Subtotal	\$ 2,463,314
	Right of Way Engineering	1	LS	\$ 615,829	\$ 615,829
	Real Estate Services	1	LS	\$ 615,829	\$ 615,829
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 246,331	\$ 246,331
				Total ROW	\$ 3,941,400
TOTAL ESTIMATED COST - ALTERNATIVE 1 - SEGMENT 4					\$ 7,669,800
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 2 - All Segments
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 733,300	\$ 733,300
2	Traffic Control	1	LS	\$ 120,000	\$ 120,000
3	Erosion Control	1	LS	\$ 70,000	\$ 70,000
4	Clearing and Grubbing	1	LS	\$ 37,000	\$ 37,000
5	Tree Removal	36	EA	\$ 500	\$ 18,000
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 87,000	\$ 87,000
7	Roadway Excavation	12,806	CY	\$ 35	\$ 448,210
8	Hot Mix Asphalt (Type A)	6,362	TON	\$ 110	\$ 699,849
9	0.17' Grind and Overlay	42,752	SQYD	\$ 10	\$ 427,522
10	Aggregate Base (Class 2)	23,937	TON	\$ 40	\$ 957,489
11	Minor Concrete (New Driveway)	277	CY	\$ 400	\$ 110,756
12	Minor Concrete (County Type S1-6 Curb and Gutter)	14,050	LF	\$ 24	\$ 337,200
13	Minor Concrete (County Type A Traffic Median Curb)	2,702	LF	\$ 20	\$ 54,040
14	Minor Concrete (Sidewalk)	125,350	SF	\$ 10	\$ 1,253,500
15	Hardscaping	4,187	SF	\$ 12	\$ 50,244
16	Infiltration Landscaping	13,685	SF	\$ 50	\$ 684,250
17	Signal Installation (Arnold Drive)	2	LS	\$ 250,000	\$ 500,000
18	Signal Modification (Arthur Road)	1	LS	\$ 200,000	\$ 200,000
19	Retaining Wall 2-A	1,328	SF	\$ 115	\$ 152,720
20	Retaining Wall 2-B	5,124	SF	\$ 215	\$ 1,101,660
21	Retaining Wall 2-C	1,200	SF	\$ 115	\$ 138,000
22	Railroad Crossing Structure	1	LS	\$ 2,000,000	\$ 2,000,000
23	Pedestrian Prefabricated Steel Truss Bridge	1	LS	\$ 200,000	\$ 200,000
24	Drainage	1	LS	\$ 2,800,000	\$ 2,800,000
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 137,182	\$ 137,182
26	Lighting and Electrical	1	LS	\$ 1,344,000	\$ 1,344,000
Sub-Total					\$ 14,661,920
40% Contingency					\$ 5,864,768
Total Construction					\$ 20,526,700
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 5,132,000	\$ 5,132,000
	Construction Management @ 15%	1	LS	\$ 3,079,200	\$ 3,079,200
	Rule 20A/B Undergrounding Administration Cost @ 5% of UG Cost	1	LS	\$ 1,026,600	\$ 1,026,600
	Environmental Document @ 5%	1	LS	\$ 1,090,900	\$ 1,090,900
		1	LS		Subtotal \$ 10,328,700
Right of Way					
	Acquisition	1	LS	\$ 864,579	\$ 864,579
	Contingency	1	LS	\$ 259,374	\$ 259,374
					Subtotal \$ 1,123,953
	Right of Way Engineering	1	LS	\$ 251,223	\$ 251,223
	Real Estate Services	1	LS	\$ 251,223	\$ 251,223
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 100,489	\$ 100,489
					Total ROW \$ 1,726,900
TOTAL ESTIMATED PROJECT COST - ALTERNATIVE 2					\$ 32,582,300
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 2 Segment 1 (Blum Rd to Arnold Dr) ~1,450 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 80,500	\$ 80,500
2	Traffic Control	1	LS	\$ 35,000.00	\$ 35,000
3	Erosion Control	1	LS	\$ 20,000.00	\$ 20,000
4	Clearing and Grubbing	1	LS	\$ 5,000.00	\$ 5,000
5	Tree Removal	5	EA	\$ 500.00	\$ 2,500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 11,000	\$ 11,000
7	Roadway Excavation	2,324	CY	\$ 35.00	\$ 81,340
8	Hot Mix Asphalt (Type A)	688	TON	\$ 110.00	\$ 75,659
9	0.17' Grind and Overlay	5,810	SQYD	\$ 10.00	\$ 58,095
10	Aggregate Base (Class 2)	2,588	TON	\$ 40.00	\$ 103,512
11	Minor Concrete (New Driveway)	87	CY	\$ 400.00	\$ 34,859
12	Minor Concrete (County Type S1-6 Curb and Gutter)	2,328	LF	\$ 24.00	\$ 55,872
13	Minor Concrete (County Type A Traffic Median Curb)	-	LF	\$ 20.00	\$ -
14	Minor Concrete (Sidewalk)	20,434	SF	\$ 10.00	\$ 204,340
15	Hardscaping	-	SF	\$ 12.00	\$ -
16	Infiltration Landscaping	-	SF	\$ 50.00	\$ -
17	Signal Installation (Arnold Dr)	1	LS	\$ 250,000.00	\$ 250,000
18	Signal Modification (Arthur Dr)	-	LS	\$ 200,000.00	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115.00	\$ -
20	Retaining Wall 1-B	-	SF	\$ 215.00	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115.00	\$ -
22	Railroad Crossing Structure	-	LS	\$ 2,000,000.00	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	-	LS	\$ 200,000	\$ -
24	Drainage	1	LS	\$ 387,500.00	\$ 387,500
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 18,257	\$ 18,257
26	Lighting and Electrical	1	LS	\$ 186,000.00	\$ 186,000
				Sub-Total	\$ 1,609,435
				40% Contingency	\$ 643,774
				Total Construction	\$ 2,253,300
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 563,400	\$ 563,400
	Construction Management @ 15%	1	LS	\$ 338,000	\$ 338,000
	Project Administration @ 5%	1	LS	\$ 112,700	\$ 112,700
	Environmental Document @ 5%	1	LS	\$ 112,700	\$ 112,700
		1	LS	Subtotal	\$ 1,126,800
Right of Way					
	Acquisition	1	LS	\$ 119,062	\$ 119,062
	Contingency	1	LS	\$ 35,719	\$ 35,719
				Subtotal	\$ 154,781
	Right of Way Engineering	1	LS	\$ 8,930	\$ 8,930
	Real Estate Services	1	LS	\$ 8,930	\$ 8,930
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 3,572	\$ 3,572
				Total ROW	\$ 176,300
TOTAL ESTIMATED COST - ALTERNATIVE 2 - SEGMENT 1					\$ 3,556,400
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 2 Segment 2 (Arnold Dr to Arthur Rd) ~5,200 LF
County Portion (Sunrise Dr to Arthur Rd) ~3,400 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity (County)	Unit	Unit Cost	Total (County)
1	Mobilization @5%	1	LS	\$ 336,200	\$ 336,200
2	Traffic Control	1	LS	\$ 50,000.00	\$ 50,000
3	Erosion Control	1	LS	\$ 30,000.00	\$ 30,000
4	Clearing and Grubbing	1	LS	\$ 20,000.00	\$ 20,000
5	Tree Removal	21	EA	\$ 500.00	\$ 10,500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 35,000	\$ 35,000
7	Roadway Excavation	184	CY	\$ 35.00	\$ 6,440
8	Hot Mix Asphalt (Type A)	2,184	TON	\$ 110.00	\$ 240,224
9	0.17" Grind and Overlay	12,562	SQYD	\$ 10.00	\$ 125,619
10	Aggregate Base (Class 2)	8,216	TON	\$ 40.00	\$ 328,659
11	Minor Concrete (New Driveway)	55	CY	\$ 400.00	\$ 22,126
12	Minor Concrete (County Type S1-6 Curb and Gutter)	5,159	LF	\$ 24.00	\$ 123,816
13	Minor Concrete (County Type A Traffic Median Curb)	1,979	LF	\$ 20.00	\$ 39,580
14	Minor Concrete (Sidewalk)	45,137	SF	\$ 10.00	\$ 451,370
15	Hardscaping	1,845	SF	\$ 12.00	\$ 22,140
16	Infiltration Landscaping	6,878	SF	\$ 50.00	\$ 343,900
17	Signal Installation (Arnold Dr)	-	LS	\$ 250,000.00	\$ -
18	Signal Modification (Arthur Dr)	-	LS	\$ 200,000.00	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115.00	\$ -
20	Retaining Wall 1-B	5,124	SF	\$ 215.00	\$ 1,101,660
21	Retaining Wall 1-C	1,200	SF	\$ 115.00	\$ 138,000
22	Railroad Crossing Structure	1	LS	\$ 2,000,000.00	\$ 2,000,000
23	Pedestrian Prefabricated Steel Truss Bridge	-	LS	\$200,000	\$ -
24	Drainage	1	LS	\$ 850,000.00	\$ 850,000
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$39,811	\$ 39,811
26	Lighting and Electrical	1	LS	\$ 408,000.00	\$ 408,000
Sub-Total					\$ 6,723,045
40% Contingency					\$ 2,689,218
Total Construction					\$ 9,412,300
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 2,353,100	\$ 2,353,100
	Construction Management @ 15%	1	LS	\$ 1,411,900	\$ 1,411,900
	Project Administration @ 5%	1	LS	\$ 470,700	\$ 470,700
	Environmental Document @ 5%	1	LS	\$ 470,700	\$ 470,700
		1	LS	Subtotal	\$ 4,706,400
Right of Way					
	Acquisition	1	SF	\$ 131,408	\$ 131,408
	Contingency	1	LS	\$ 39,422	\$ 39,422
				Subtotal	\$ 170,830
	Right of Way Engineering	1	LS	\$42,708	\$ 42,708
	Real Estate Services	1	LS	\$42,708	\$ 42,708
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$17,083	\$ 17,083
				Total ROW	\$ 273,400
TOTAL ESTIMATED PROJECT COST - ALTERNATIVE 2 - SEGMENT 2					\$ 14,392,100
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				
7	Railroad Crossing Structure lump sum assumes construction can be completed WITHOUT requiring a 'shoo fly' track.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 2 Segment 2 (Arnold Dr to Arthur Rd) ~5,200 LF
City Portion (Arnold Dr to Sunrise Dr) ~ 1,800 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity (City)	Unit	Unit Cost	Total (City)
1	Mobilization @5%	1	LS	\$ 117,100	\$ 117,100
2	Traffic Control	1	LS	\$ 10,000.00	\$ 10,000
3	Erosion Control	1	LS	\$ 5,000.00	\$ 5,000
4	Clearing and Grubbing	1	LS	\$ 5,000.00	\$ 5,000
5	Tree Removal	1	EA	\$ 500.00	\$ 500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 10,000	\$ 10,000
7	Roadway Excavation	6,411	CY	\$ 35.00	\$ 224,385
8	Hot Mix Asphalt (Type A)	2,237	TON	\$ 110.00	\$ 246,090
9	0.17' Grind and Overlay	2,381	SQYD	\$ 10.00	\$ 23,810
10	Aggregate Base (Class 2)	8,417	TON	\$ 40.00	\$ 336,685
11	Minor Concrete (New Driveway)	53	CY	\$ 400.00	\$ 21,089
12	Minor Concrete (County Type S1-6 Curb and Gutter)	3,484	LF	\$ 24.00	\$ 83,616
13	Minor Concrete (County Type A Traffic Median Curb)	-	LF	\$ 20.00	\$ -
14	Minor Concrete (Sidewalk)	32,470	SF	\$ 10.00	\$ 324,700
15	Hardscaping	-	SF	\$ 12.00	\$ -
16	Infiltration Landscaping	-	SF	\$ 50.00	\$ -
17	Signal Installation (Arnold Dr)	1	LS	\$ 250,000.00	\$ 250,000
18	Signal Modification (Arthur Dr)	-	LS	\$ 200,000.00	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115.00	\$ -
20	Retaining Wall 1-B	-	SF	\$ 215.00	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115.00	\$ -
22	Railroad Crossing Structure	0	LS	\$ 2,000,000.00	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	-	LS	\$ 200,000	\$ -
24	Drainage	1	LS	\$ 450,000.00	\$ 450,000
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 17,078	\$ 17,078
26	Lighting and Electrical	1	LS	\$ 216,000.00	\$ 216,000
Sub-Total					\$ 2,341,053
40% Contingency					\$ 936,421
Total Construction					\$ 3,277,500
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 819,400	\$ 819,400
	Construction Management @ 15%	1	LS	\$ 491,700	\$ 491,700
	Project Administration @ 5%	1	LS	\$ 163,900	\$ 163,900
	Environmental Document @ 5%	1	LS	\$ 163,900	\$ 163,900
		1	LS	Subtotal	\$ 1,638,900
Right of Way					
	Acquisition	1	SF	\$ 61,821	\$ 61,821
	Contingency	1	LS	\$ 18,546	\$ 18,546
				Subtotal	\$ 80,367
	Right of Way Engineering	1	LS	\$ 20,092	\$ 20,092
	Real Estate Services	1	LS	\$ 20,092	\$ 20,092
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 8,037	\$ 8,037
				Total ROW	\$ 128,600
TOTAL ESTIMATED PROJECT COST - ALTERNATIVE 2 - SEGMENT 2					\$ 5,045,000
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 2 Segment 3 (Arthur Rd to Camino Del Sol) ~1,600 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 114,800	\$ 114,800
2	Traffic Control	1	LS	\$ 15,000.00	\$ 15,000
3	Erosion Control	1	LS	\$ 10,000.00	\$ 10,000
4	Clearing and Grubbing	1	LS	\$ 5,000.00	\$ 5,000
5	Tree Removal	8	EA	\$ 500.00	\$ 4,000
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 12,000	\$ 12,000
7	Roadway Excavation	2,123	CY	\$ 35.00	\$ 74,305
8	Hot Mix Asphalt (Type A)	700	TON	\$ 110.00	\$ 76,970
9	0.17' Grind and Overlay	9,528	SQYD	\$ 10.00	\$ 95,281
10	Aggregate Base (Class 2)	2,633	TON	\$ 40.00	\$ 105,306
11	Minor Concrete (New Driveway)	31	CY	\$ 400.00	\$ 12,281
12	Minor Concrete (County Type S1-6 Curb and Gutter)	1,417	LF	\$ 24.00	\$ 34,008
13	Minor Concrete (County Type A Traffic Median Curb)	723	LF	\$ 20.00	\$ 14,460
14	Minor Concrete (Sidewalk)	14,169	SF	\$ 10.00	\$ 141,690
15	Hardscaping	2,342	SF	\$ 12.00	\$ 28,104
16	Infiltration Landscaping	6,807	SF	\$ 50.00	\$ 340,350
17	Signal Installation (Arnold Drive)	-	LS	\$ 250,000.00	\$ -
18	Signal Modification (Arthur Road)	1	LS	\$ 200,000.00	\$ 200,000
19	Retaining Wall 1-A	1,328	SF	\$ 115.00	\$ 152,720
20	Retaining Wall 1-B	-	SF	\$ 215.00	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115.00	\$ -
22	Railroad Crossing Structure	-	LS	\$ 2,000,000.00	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	1	LS	\$ 200,000	\$ 200,000
24	Drainage	1	LS	\$ 425,000.00	\$ 425,000
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 29,867	\$ 29,867
26	Lighting and Electrical	1	LS	\$ 204,000.00	\$ 204,000
				Sub-Total	\$ 2,295,143
				40% Contingency	\$ 918,057
				Total Construction	\$ 3,213,300
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 803,400	\$ 803,400
	Construction Management @ 15%	1	LS	\$ 482,000	\$ 482,000
	Project Administration @ 5%	1	LS	\$ 160,700	\$ 160,700
	Environmental Document @ 5%	1	LS	\$ 225,000	\$ 225,000
		1	LS	Subtotal	\$ 1,671,100
Right of Way					
	Acquisition	1	LS	\$ 87,497	\$ 87,497
	Contingency	1	LS	\$ 26,249	\$ 26,249
				Subtotal	\$ 113,746
	Right of Way Engineering	1	LS	\$ 28,437	\$ 28,437
	Real Estate Services	1	LS	\$ 28,437	\$ 28,437
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 11,375	\$ 11,375
				Total ROW	\$ 182,000
TOTAL ESTIMATED PROJECT COST - ALTERNATIVE 2 - SEGMENT 3					\$ 5,066,400
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 2 Segment 4 (Camino Del Sol to West of Morello Ave) ~2,600 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 84,700	\$ 84,700
2	Traffic Control	1	LS	\$ 10,000.00	\$ 10,000
3	Erosion Control	1	LS	\$ 5,000.00	\$ 5,000
4	Clearing and Grubbing	1	LS	\$ 2,000.00	\$ 2,000
5	Tree Removal	1	EA	\$ 500.00	\$ 500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 19,000	\$ 19,000
7	Roadway Excavation	1,764	CY	\$ 35.00	\$ 61,740
8	Hot Mix Asphalt (Type A)	554	TON	\$ 110.00	\$ 60,905
9	0.17' Grind and Overlay	12,472	SQYD	\$ 10.00	\$ 124,717
10	Aggregate Base (Class 2)	2,083	TON	\$ 40.00	\$ 83,326
11	Minor Concrete (New Driveway)	51	CY	\$ 400.00	\$ 20,400
12	Minor Concrete (County Type S1-6 Curb and Gutter)	1,662	LF	\$ 24.00	\$ 39,888
13	Minor Concrete (County Type A Traffic Median Curb)	-	LF	\$ 20.00	\$ -
14	Minor Concrete (Sidewalk)	13,140	SF	\$ 10.00	\$ 131,400
15	Hardscaping	-	SF	\$ 12.00	\$ -
16	Infiltration Landscaping	-	SF	\$ 50.00	\$ -
17	Signal Installation (Arnold Drive)	-	LS	\$ 250,000.00	\$ -
18	Signal Modification (Arthur Road)	-	LS	\$ 200,000.00	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115.00	\$ -
20	Retaining Wall 1-B	-	SF	\$ 215.00	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115.00	\$ -
22	Railroad Crossing Structure	-	LS	\$ 2,000,000.00	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	-	LS	\$ 200,000	\$ -
24	Drainage	1	LS	\$ 687,500.00	\$ 687,500
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 32,168	\$ 32,168
26	Lighting and Electrical	1	LS	\$ 330,000.00	\$ 330,000
Sub-Total					\$ 1,693,245
40% Contingency					\$ 677,298
Total Construction					\$ 2,370,600
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 592,700	\$ 592,700
	Construction Management @ 15%	1	LS	\$ 355,600	\$ 355,600
	Project Administration @ 5%	1	LS	\$ 118,600	\$ 118,600
	Environmental Document @ 5%	1	LS	\$ 118,600	\$ 118,600
		1	LS	Subtotal	\$ 1,185,500
Right of Way					
	Acquisition	1	SF	\$ 464,791	\$ 464,791
	Contingency	1	LS	\$ 139,437	\$ 139,437
				Subtotal	\$ 604,228
	Right of Way Engineering	1	LS	\$151,057	\$ 151,057
	Real Estate Services	1	LS	\$151,057	\$ 151,057
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$60,423	\$ 60,423
				Total ROW	\$ 966,800
TOTAL ESTIMATED PROJECT COST - ALTERNATIVE 2 - SEGMENT 4					\$ 4,522,900
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 3 Segment 1 (Blum Rd to Arnold Dr) ~1,450 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 82,500	\$ 82,500
2	Traffic Control	1	LS	\$ 35,000.00	\$ 35,000
3	Erosion Control	1	LS	\$ 20,000.00	\$ 20,000
4	Clearing and Grubbing	1	LS	\$ 5,000.00	\$ 5,000
5	Tree Removal	11	EA	\$ 500.00	\$ 5,500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 11,000	\$ 11,000
7	Roadway Excavation	2,412	CY	\$ 35.00	\$ 84,420
8	Hot Mix Asphalt (Type A)	755	TON	\$ 110.00	\$ 82,995
9	0.17' Grind and Overlay	5,595	SQYD	\$ 10.00	\$ 55,949
10	Aggregate Base (Class 2)	2,839	TON	\$ 40.00	\$ 113,549
11	Minor Concrete (New Driveway)	87	CY	\$ 400.00	\$ 34,800
12	Minor Concrete (County Type S1-6 Curb and Gutter)	2,358	LF	\$ 24.00	\$ 56,592
13	Minor Concrete (County Type A Traffic Median Curb)	-	LF	\$ 20.00	\$ -
14	Minor Concrete (Sidewalk)	22,079	SF	\$ 10.00	\$ 220,790
15	Hardscaping	-	SF	\$ 12.00	\$ -
16	Infiltration Landscaping	-	SF	\$ 50.00	\$ -
17	Signal Installation (Arnold Dr)	1	LS	\$ 250,000.00	\$ 250,000
18	Signal Modification (Arthur Dr)	-	LS	\$ 200,000.00	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115.00	\$ -
20	Retaining Wall 1-B	-	SF	\$ 215.00	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115.00	\$ -
22	Railroad Crossing Structure	-	LS	\$ 2,000,000.00	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	-	LS	\$ 200,000	\$ -
24	Drainage	1	LS	\$ 387,500.00	\$ 387,500
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 18,257	\$ 18,257
26	Lighting and Electrical	1	LS	\$ 186,000.00	\$ 186,000
				Sub-Total	\$ 1,649,853
				40% Contingency	\$ 659,941
				Total Construction	\$ 2,309,800
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 577,500	\$ 577,500
	Construction Management @ 15%	1	LS	\$ 346,500	\$ 346,500
	Project Administration @ 5%	1	LS	\$ 115,500	\$ 115,500
	Environmental Document @ 5%	1	LS	\$ 115,500	\$ 115,500
		1	LS	Subtotal	\$ 1,155,000
Right of Way					
	Acquisition	1	LS	\$ 119,062	\$ 119,062
	Contingency	1	LS	\$ 35,719	\$ 35,719
				Subtotal	\$ 154,781
	Right of Way Engineering	1	LS	\$ 38,695	\$ 38,695
	Real Estate Services	1	LS	\$ 38,695	\$ 38,695
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 15,478	\$ 15,478
				Total ROW	\$ 247,700
TOTAL ESTIMATED COST - ALTERNATIVE 3 - SEGMENT 1					\$ 3,712,500
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BOULEVARD - BLUM ROAD TO MORELLO AVENUE				
Conceptual Alternatives Analysis				
Engineer's Preliminary Opinion of Probable Project Cost				
	Construction	Design & Admin	Right of Way	Total
Alternative 1				
Segment 1	\$ 3,039,000	\$ 1,519,700	\$ 619,300	\$ 5,178,000
Segment 2 (City)	\$ 3,272,200	\$ 1,636,400	\$ 501,800	\$ 5,410,400
Segment 2 (County)	\$ 12,783,300	\$ 6,391,800	\$ 407,100	\$ 19,582,200
Segment 3	\$ 3,583,900	\$ 1,792,000	\$ 463,700	\$ 5,839,600
Segment 4	\$ 2,485,500	\$ 1,242,900	\$ 3,941,400	\$ 7,669,800
Total	\$ 25,163,900	\$ 12,582,800	\$ 5,933,300	\$ 43,680,000
Alternative 2				
Segment 1	\$ 2,253,300	\$ 1,126,800	\$ 176,300	\$ 3,556,400
Segment 2 (City)	\$ 3,277,500	\$ 1,638,900	\$ 128,600	\$ 5,045,000
Segment 2 (County)	\$ 9,412,300	\$ 4,706,400	\$ 273,400	\$ 14,392,100
Segment 3	\$ 3,213,300	\$ 1,671,100	\$ 182,000	\$ 5,066,400
Segment 4	\$ 2,370,600	\$ 1,185,500	\$ 966,800	\$ 4,522,900
Total	\$ 20,527,000	\$ 10,328,700	\$ 1,727,100	\$ 32,582,800
Alternative 3				
Segment 1	\$ 2,309,800	\$ 1,155,000	\$ 247,700	\$ 3,712,500
Total	\$ 2,309,800	\$ 1,155,000	\$ 247,700	\$ 3,712,500
Notes:				
1. The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2. Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3. Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 1 cost estimate.				
4. Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				

PACHECO BLVD ALIGNMENT STUDY		
Conceptual Alternatives Analysis		
Engineer's Opinion of Probable Cost		
October 2016		
SUMMARY BY ALTERNATIVE		
	Alternative 1	Alternative 2
Segment 1		
Construction	\$ 3,039,000	\$ 2,253,300
Design & Administration	\$ 1,519,700	\$ 1,126,800
Right of Way	\$ 619,000	\$ 176,300
Total	\$ 5,177,700	\$ 3,556,400
Segment 2 (City)		
Construction	\$ 3,272,200	\$ 3,277,500
Design & Administration	\$ 1,636,400	\$ 1,638,900
Right of Way	\$ 501,800	\$ 128,600
Total	\$ 5,410,400	\$ 5,045,000
Segment 2 (County)		
Construction	\$ 12,783,300	\$ 9,412,300
Design & Administration	\$ 6,391,800	\$ 4,706,400
Right of Way	\$ 407,100	\$ 273,400
Total	\$ 19,582,200	\$ 14,392,100
Segment 3		
Construction	\$ 3,583,900	\$ 3,213,300
Design & Administration	\$ 1,792,000	\$ 1,671,100
Right of Way	\$ 463,700	\$ 182,000
Total	\$ 5,839,600	\$ 5,066,400
Segment 4		
Construction	\$ 2,485,500	\$ 2,370,600
Design & Administration	\$ 1,242,900	\$ 1,185,500
Right of Way	\$ 3,941,400	\$ 966,800
Total	\$ 7,669,800	\$ 4,522,900
Total Project	\$ 43,679,700	\$ 32,582,800

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 1 - All Segments
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 898,900	\$ 898,900
2	Traffic Control	1	LS	\$ 130,000	\$ 130,000
3	Erosion Control	1	LS	\$ 70,000	\$ 70,000
4	Clearing and Grubbing	1	LS	\$ 37,000	\$ 37,000
5	Tree Removal	39	EA	\$ 500	\$ 19,500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 100,000	\$ 100,000
7	Roadway Excavation	17,898	CY	\$ 35	\$ 626,430
8	Hot Mix Asphalt (Type A)	7,663	TON	\$ 110	\$ 842,879
9	0.17' Grind and Overlay	47,237	SQYD	\$ 10.00	\$ 472,367
10	Aggregate Base (Class 2)	28,829	TON	\$ 40	\$ 1,153,173
11	Minor Concrete (New Driveway)	275	CY	\$ 400	\$ 110,163
12	Minor Concrete (County Type S1-6 Curb and Gutter)	16,522	LF	\$ 24	\$ 396,528
13	Minor Concrete (County Type A Traffic Median Curb)	3,755	LF	\$ 20	\$ 75,100
14	Minor Concrete (Sidewalk)	160,346	SF	\$ 10	\$ 1,603,460
15	Hardscaping	17,923	SF	\$ 12	\$ 215,076
16	Infiltration Landscaping	19,145	SF	\$ 50	\$ 957,250
17	Signal Installation (Arnold Dr)	2	LS	\$ 250,000	\$ 500,000
18	Signal Modification (Arthur Dr)	1	LS	\$ 200,000	\$ 200,000
19	Retaining Wall 1-A	1,712	SF	\$ 115	\$ 196,880
20	Retaining Wall 1-B	7,155	SF	\$ 215	\$ 1,538,229
21	Retaining Wall 1-C	1,281	SF	\$ 115	\$ 147,320
22	Railroad Crossing Structure	1	LS	\$ 3,000,000	\$ 3,000,000
23	Pedestrian Prefabricated Steel Truss Bridge	2	LS	\$ 200,000	\$ 400,000
24	Drainage	1	LS	\$ 2,800,000	\$ 2,800,000
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 139,730	\$ 137,730
26	Lighting and Electrical	1	LS	\$ 1,344,000	\$ 1,344,000
Sub-Total					\$ 17,971,986
40% Contingency					\$ 7,188,794
Construction Total					\$ 25,160,800
Project Design and Administration Costs					
	Design	1	LS	\$ 6,291,200	\$ 6,291,200
	Construction Management	1	LS	\$ 3,774,800	\$ 3,774,800
	Project Administration	1	LS	\$ 1,258,400	\$ 1,258,400
	Environmental Document	1	LS	\$ 1,258,400	\$ 1,258,400
		1	LS		Subtotal \$ 12,582,800
Right of Way					
	Acquisition	1	LS	\$ 3,022,067	\$ 3,022,067
	Contingency	1	LS	\$ 906,620	\$ 906,620
				Subtotal	\$ 3,928,687
	Right of Way Engineering	1	LS	\$ 835,101	\$ 835,101
	Real Estate Services	1	LS	\$ 835,101	\$ 835,101
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 334,040	\$ 334,040
				Total ROW	\$ 5,933,000
TOTAL ESTIMATED COST - ALTERNATIVE 1					\$ 43,676,600
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 1 Segment 1 (Blum Rd to Arnold Dr) ~1,450 LF

Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 108,600	\$ 108,600
2	Traffic Control	1	LS	\$ 45,000	\$ 45,000
3	Erosion Control	1	LS	\$ 20,000	\$ 20,000
4	Clearing and Grubbing	1	LS	\$ 5,000	\$ 5,000
5	Tree Removal	7	EA	\$ 500	\$ 3,500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 14,000	\$ 14,000
7	Roadway Excavation	4,221	CY	\$ 35	\$ 147,735
8	Hot Mix Asphalt (Type A)	1,470	TON	\$ 110	\$ 161,651
9	0.17" Grind and Overlay	4,913	SQYD	\$ 10.00	\$ 49,132
10	Aggregate Base (Class 2)	5,529	TON	\$ 40	\$ 221,160
11	Minor Concrete (New Driveway)	102	CY	\$ 400	\$ 40,630
12	Minor Concrete (County Type S1-6 Curb and Gutter)	2,615	LF	\$ 24	\$ 62,760
13	Minor Concrete (County Type A Traffic Median Curb)	891	LF	\$ 20	\$ 17,820
14	Minor Concrete (Sidewalk)	18,120	SF	\$ 10	\$ 181,200
15	Hardscaping	4,110	SF	\$ 12	\$ 49,320
16	Infiltration Landscaping	-	SF	\$ 50.00	\$ -
17	Signal Installation (Arnold Dr)	1	LS	\$ 250,000.00	\$ 250,000
18	Signal Modification (Arthur Dr)	-	LS	\$ 200,000.00	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115.00	\$ -
20	Retaining Wall 1-B	-	SF	\$ 215.00	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115.00	\$ -
22	Railroad Crossing Structure	-	LS	\$ 3,000,000.00	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	1	LS	\$ 200,000	\$ 200,000
24	Drainage	1	LS	\$ 387,500	\$ 387,500
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 19,652	\$ 19,652
26	Lighting and Electrical	1	LS	\$ 186,000	\$ 186,000
Sub-Total					\$ 2,170,659
40% Contingency					\$ 868,264
Total Construction					\$ 3,039,000
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 759,800	\$ 759,800
	Construction Management @ 15%	1	LS	\$ 455,900	\$ 455,900
	Project Administration @ 5%	1	LS	\$ 152,000	\$ 152,000
	Environmental Document @ 5%	1	LS	\$ 152,000	\$ 152,000
		1	LS	Subtotal	\$ 1,519,700
Right of Way					
	Acquisition	1	SF	\$ 297,711	\$ 297,711
	Contingency	1	LS	\$89,313	\$ 89,313
				Subtotal	\$ 387,024
	Right of Way Engineering	1	LS	\$96,756	\$ 96,756
	Real Estate Services	1	LS	\$96,756	\$ 96,756
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$38,702	\$ 38,702
				Total ROW	\$ 619,300
TOTAL ESTIMATED COST - ALTERNATIVE 1 - SEGMENT 1					\$ 5,178,000
	Notes:				
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 1 Segment 2 (Arnold Dr to Arthur Rd) ~5,200 LF
County Portion (Sunrise Dr to Arthur Rd) ~3,400 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity (County)	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 456,600	\$ 456,600
2	Traffic Control	1	LS	\$ 50,000	\$ 50,000
3	Erosion Control	1	LS	\$ 30,000	\$ 30,000
4	Clearing and Grubbing	1	LS	\$ 20,000	\$ 20,000
5	Tree Removal	21	EA	\$ 500	\$ 10,500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 35,000	\$ 35,000
7	Roadway Excavation	3,112	CY	\$ 35	\$ 108,920
8	Hot Mix Asphalt (Type A)	2,688	TON	\$ 110	\$ 295,733
9	0.17" Grind and Overlay	17,595	SQYD	\$ 10.00	\$ 175,951
10	Aggregate Base (Class 2)	10,115	TON	\$ 40	\$ 404,604
11	Minor Concrete (New Driveway)	44	CY	\$ 400	\$ 17,556
12	Minor Concrete (County Type S1-6 Curb and Gutter)	6,910	LF	\$ 24	\$ 165,840
13	Minor Concrete (County Type A Traffic Median Curb)	-	LF	\$ 20	\$ -
14	Minor Concrete (Sidewalk)	72,806	SF	\$ 10	\$ 728,060
15	Hardscaping	-	SF	\$ 12	\$ -
16	Infiltration Landscaping	13,047	SF	\$ 50	\$ 652,350
17	Signal Installation (Arnold Dr)	-	LS	\$ 250,000	\$ -
18	Signal Modification (Arthur Road)	-	LS	\$ 200,000	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115	\$ -
20	Retaining Wall 1-B	7,155	SF	\$ 215	\$ 1,538,229
21	Retaining Wall 1-C	1,281	SF	\$ 115	\$ 147,320
22	Railroad Crossing Structure	1	LS	\$ 3,000,000	\$ 3,000,000
23	Pedestrian Prefabricated Steel Truss Bridge	-	LS	\$ 200,000	\$ -
24	Drainage	1	LS	\$ 850,000	\$ 850,000
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 36,221	\$ 36,221
26	Lighting and Electrical	1	LS	\$ 408,000	\$ 408,000
Sub-Total					\$ 9,130,883
40% Contingency					\$ 3,652,353
Total Construction					\$ 12,783,300
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 3,195,900	\$ 3,195,900
	Construction Management @ 15%	1	LS	\$ 1,917,500	\$ 1,917,500
	Project Administration @ 5%	1	LS	\$ 639,200	\$ 639,200
	Environmental Document @ 3%	1	LS	\$ 639,200	\$ 639,200
		1	LS	Subtotal	\$ 6,391,800
Right of Way					
	Acquisition	1	LS	\$ 275,034	\$ 275,034
	Contingency	1	LS	\$ 82,510	\$ 82,510
				Subtotal	\$ 357,544
	Right of Way Engineering	1	LS	\$ 20,628	\$ 20,628
	Real Estate Services	1	LS	\$ 20,628	\$ 20,628
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 8,251	\$ 8,251
				Total ROW	\$ 407,100
TOTAL ESTIMATED COST - ALTERNATIVE 1 - SEGMENT 2 (COUNTY)					\$ 19,582,200
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				
7	Railroad Crossing Structure lump sum assumes construction can be completed WITHOUT requiring a 'shoo fly' track.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 1 Segment 2 (Arnold Dr to Arthur Rd) ~5,200 LF
City Portion (Arnold Dr to Sunrise Dr) ~ 1,800 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity (City)	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 116,900	\$ 116,900
2	Traffic Control	1	LS	\$ 10,000	\$ 10,000
3	Erosion Control	1	LS	\$ 5,000	\$ 5,000
4	Clearing and Grubbing	1	LS	\$ 5,000	\$ 5,000
5	Tree Removal	1	EA	\$ 500	\$ 500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 10,000	\$ 10,000
7	Roadway Excavation	5,400	CY	\$ 35	\$ 189,000
8	Hot Mix Asphalt (Type A)	1,857	TON	\$ 110	\$ 204,302
9	0.17" Grind and Overlay	464	SQYD	\$ 10.00	\$ 4,641
10	Aggregate Base (Class 2)	6,988	TON	\$ 40	\$ 279,513
11	Minor Concrete (New Driveway)	51	CY	\$ 400	\$ 20,281
12	Minor Concrete (County Type S1-6 Curb and Gutter)	3,483	LF	\$ 24	\$ 83,592
13	Minor Concrete (County Type A Traffic Median Curb)	2,146	LF	\$ 20	\$ 42,920
14	Minor Concrete (Sidewalk)	29,708	SF	\$ 10	\$ 297,080
15	Hardscaping	11,593	SF	\$ 12	\$ 139,116
16	Infiltration Landscaping	-	SF	\$ 50	\$ -
17	Signal Installation (Arnold Dr)	1	LS	\$ 250,000	\$ 250,000
18	Signal Modification (Arthur Road)	-	LS	\$ 200,000	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115	\$ -
20	Retaining Wall 1-B	-	SF	\$ 215	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115	\$ -
22	Railroad Crossing Structure	0	LS	\$ 3,000,000	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	-	LS	\$ 200,000	\$ -
24	Drainage	1	LS	\$ 450,000	\$ 450,000
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 13,394	\$ 13,394
26	Lighting and Electrical	1	LS	\$ 216,000	\$ 216,000
Sub-Total					\$ 2,337,239
40% Contingency					\$ 934,896
Total Construction					\$ 3,272,200
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 818,100	\$ 818,100
	Construction Management @ 15%	1	LS	\$ 490,900	\$ 490,900
	Project Administration @ 5%	1	LS	\$ 163,700	\$ 163,700
	Environmental Document @ 3%	1	LS	\$ 163,700	\$ 163,700
		1	LS	Subtotal	\$ 1,636,400
Right of Way					
	Acquisition	1	LS	\$ 241,216	\$ 241,216
	Contingency	1	LS	\$ 72,365	\$ 72,365
				Subtotal	\$ 313,581
	Right of Way Engineering	1	LS	\$ 78,395	\$ 78,395
	Real Estate Services	1	LS	\$ 78,395	\$ 78,395
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 31,358	\$ 31,358
				Total ROW	\$ 501,800
TOTAL ESTIMATED COST - ALTERNATIVE 1 - SEGMENT 2 (CITY)					\$ 5,410,400
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 1 Segment 3 (Arthur Rd to Camino Del Sol) ~1,600 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 128,000	\$ 128,000
2	Traffic Control	1	LS	\$ 15,000.00	\$ 15,000
3	Erosion Control	1	LS	\$ 10,000.00	\$ 10,000
4	Clearing and Grubbing	1	LS	\$ 5,000.00	\$ 5,000
5	Tree Removal	10	EA	\$ 500.00	\$ 5,000
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 16,000	\$ 16,000
7	Roadway Excavation	3,061	CY	\$ 35.00	\$ 107,135
8	Hot Mix Asphalt (Type A)	932	TON	\$ 110.00	\$ 102,545
9	0.17' Grind and Overlay	9,414	SQYD	\$ 10.00	\$ 94,139
10	Aggregate Base (Class 2)	3,507	TON	\$ 40.00	\$ 140,296
11	Minor Concrete (New Driveway)	28	CY	\$ 400.00	\$ 11,378
12	Minor Concrete (County Type S1-6 Curb and Gutter)	1,482	LF	\$ 24.00	\$ 35,568
13	Minor Concrete (County Type A Traffic Median Curb)	718	LF	\$ 20.00	\$ 14,360
14	Minor Concrete (Sidewalk)	28,946	SF	\$ 10.00	\$ 289,460
15	Hardscaping	2,220	SF	\$ 12.00	\$ 26,640
16	Infiltration Landscaping	6,098	SF	\$ 50.00	\$ 304,900
17	Signal Installation (Arnold Drive)	-	LS	\$ 250,000.00	\$ -
18	Signal Modification (Arthur Road)	1	LS	\$ 200,000.00	\$ 200,000
19	Retaining Wall 1-A	1,712	SF	\$ 115.00	\$ 196,880
20	Retaining Wall 1-B	-	SF	\$ 215.00	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115.00	\$ -
22	Railroad Crossing Structure	-	LS	\$ 3,000,000.00	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	1	LS	\$ 200,000	\$ 200,000
24	Drainage	1	LS	\$ 425,000.00	\$ 425,000
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 28,557	\$ 28,557
26	Lighting and Electrical	1	LS	\$ 204,000.00	\$ 204,000
Sub-Total					\$ 2,559,858
40% Contingency					\$ 1,023,943
Total Construction					\$ 3,583,900
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 896,000	\$ 896,000
	Construction Management @ 15%	1	LS	\$ 537,600	\$ 537,600
	Project Administration @ 5%	1	LS	\$ 179,200	\$ 179,200
	Environmental Document @ 5%	1	LS	\$ 179,200	\$ 179,200
		1	LS	Subtotal	\$ 1,792,000
Right of Way					
	Acquisition	1	LS	\$ 313,249	\$ 313,249
	Contingency	1	LS	\$ 93,975	\$ 93,975
				Subtotal	\$ 407,224
	Right of Way Engineering	1	LS	\$ 23,494	\$ 23,494
	Real Estate Services	1	LS	\$ 23,494	\$ 23,494
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 9,397	\$ 9,397
				Total ROW	\$ 463,700
TOTAL ESTIMATED COST - ALTERNATIVE 1 - SEGMENT 3					\$ 5,839,600
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 1 Segment 4 (Camino Del Sol to West of Morello Ave) ~2,600 LF
 Engineer's Opinion of Probable Cost
 October 2016

Construction Costs					
Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 88,800	\$ 88,800
2	Traffic Control	1	LS	\$ 10,000.00	\$ 10,000
3	Erosion Control	1	LS	\$ 5,000.00	\$ 5,000
4	Clearing and Grubbing	1	LS	\$ 2,000.00	\$ 2,000
5	Tree Removal	0	EA	\$ 500.00	\$ -
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 25,000	\$ 25,000
7	Roadway Excavation	2,104	CY	\$ 35.00	\$ 73,640
8	Hot Mix Asphalt (Type A)	715	TON	\$ 110.00	\$ 78,648
9	0.17' Grind and Overlay	14,850	SQYD	\$ 10.00	\$ 148,505
10	Aggregate Base (Class 2)	2,690	TON	\$ 40.00	\$ 107,601
11	Minor Concrete (New Driveway)	51	CY	\$ 400.00	\$ 20,319
12	Minor Concrete (County Type S1-6 Curb and Gutter)	2,032	LF	\$ 24.00	\$ 48,768
13	Minor Concrete (County Type A Traffic Median Curb)	-	LF	\$ 20.00	\$ -
14	Minor Concrete (Sidewalk)	10,766	SF	\$ 10.00	\$ 107,660
15	Hardscaping	-	SF	\$ 12.00	\$ -
16	Infiltration Landscaping	-	SF	\$ 50.00	\$ -
17	Signal Installation (Arnold Drive)	-	LS	\$ 250,000.00	\$ -
18	Signal Modification (Arthur Road)	-	LS	\$ 200,000.00	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115.00	\$ -
20	Retaining Wall 1-B	-	SF	\$ 215.00	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115.00	\$ -
22	Railroad Crossing Structure	-	LS	\$ 3,000,000.00	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	-	LS	\$ 200,000	\$ -
24	Drainage	1	LS	\$ 687,500.00	\$ 687,500
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 41,906	\$ 41,906
26	Lighting and Electrical	1	LS	\$ 330,000.00	\$ 330,000
				Subtotal	\$ 1,775,346
				40% Contingency	\$ 710,138
				Total Construction	\$ 2,485,500
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 621,400	\$ 621,400
	Construction Management @ 15%	1	LS	\$ 372,900	\$ 372,900
	Project Administration @ 5%	1	LS	\$ 124,300	\$ 124,300
	Environmental Document @5 %	1	LS	\$ 124,300	\$ 124,300
		1	LS	Subtotal	\$ 1,242,900
Right of Way					
	Acquisition	1	LS	\$ 1,894,857	\$ 1,894,857
	Contingency	1	LS	\$ 568,457	\$ 568,457
				Subtotal	\$ 2,463,314
	Right of Way Engineering	1	LS	\$ 615,829	\$ 615,829
	Real Estate Services	1	LS	\$ 615,829	\$ 615,829
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 246,331	\$ 246,331
				Total ROW	\$ 3,941,400
TOTAL ESTIMATED COST - ALTERNATIVE 1 - SEGMENT 4					\$ 7,669,800
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				
					3

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 2 - All Segments
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 733,300	\$ 733,300
2	Traffic Control	1	LS	\$ 120,000	\$ 120,000
3	Erosion Control	1	LS	\$ 70,000	\$ 70,000
4	Clearing and Grubbing	1	LS	\$ 37,000	\$ 37,000
5	Tree Removal	36	EA	\$ 500	\$ 18,000
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 87,000	\$ 87,000
7	Roadway Excavation	12,806	CY	\$ 35	\$ 448,210
8	Hot Mix Asphalt (Type A)	6,362	TON	\$ 110	\$ 699,849
9	0.17' Grind and Overlay	42,752	SQYD	\$ 10	\$ 427,522
10	Aggregate Base (Class 2)	23,937	TON	\$ 40	\$ 957,489
11	Minor Concrete (New Driveway)	277	CY	\$ 400	\$ 110,756
12	Minor Concrete (County Type S1-6 Curb and Gutter)	14,050	LF	\$ 24	\$ 337,200
13	Minor Concrete (County Type A Traffic Median Curb)	2,702	LF	\$ 20	\$ 54,040
14	Minor Concrete (Sidewalk)	125,350	SF	\$ 10	\$ 1,253,500
15	Hardscaping	4,187	SF	\$ 12	\$ 50,244
16	Infiltration Landscaping	13,685	SF	\$ 50	\$ 684,250
17	Signal Installation (Arnold Drive)	2	LS	\$ 250,000	\$ 500,000
18	Signal Modification (Arthur Road)	1	LS	\$ 200,000	\$ 200,000
19	Retaining Wall 2-A	1,328	SF	\$ 115	\$ 152,720
20	Retaining Wall 2-B	5,124	SF	\$ 215	\$ 1,101,660
21	Retaining Wall 2-C	1,200	SF	\$ 115	\$ 138,000
22	Railroad Crossing Structure	1	LS	\$ 2,000,000	\$ 2,000,000
23	Pedestrian Prefabricated Steel Truss Bridge	1	LS	\$ 200,000	\$ 200,000
24	Drainage	1	LS	\$ 2,800,000	\$ 2,800,000
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 137,182	\$ 137,182
26	Lighting and Electrical	1	LS	\$ 1,344,000	\$ 1,344,000
Sub-Total					\$ 14,661,920
40% Contingency					\$ 5,864,768
Total Construction					\$ 20,526,700
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 5,132,000	\$ 5,132,000
	Construction Management @ 15%	1	LS	\$ 3,079,200	\$ 3,079,200
	Rule 20A/B Undergrounding Administration Cost @ 5% of UG Cost	1	LS	\$ 1,026,600	\$ 1,026,600
	Environmental Document @ 5%	1	LS	\$ 1,090,900	\$ 1,090,900
		1	LS		Subtotal \$ 10,328,700
Right of Way					
	Acquisition	1	LS	\$ 864,579	\$ 864,579
	Contingency	1	LS	\$ 259,374	\$ 259,374
					Subtotal \$ 1,123,953
	Right of Way Engineering	1	LS	\$ 251,223	\$ 251,223
	Real Estate Services	1	LS	\$ 251,223	\$ 251,223
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 100,489	\$ 100,489
					Total ROW \$ 1,726,900
TOTAL ESTIMATED PROJECT COST - ALTERNATIVE 2					\$ 32,582,300
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 2 Segment 1 (Blum Rd to Arnold Dr) ~1,450 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 80,500	\$ 80,500
2	Traffic Control	1	LS	\$ 35,000.00	\$ 35,000
3	Erosion Control	1	LS	\$ 20,000.00	\$ 20,000
4	Clearing and Grubbing	1	LS	\$ 5,000.00	\$ 5,000
5	Tree Removal	5	EA	\$ 500.00	\$ 2,500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 11,000	\$ 11,000
7	Roadway Excavation	2,324	CY	\$ 35.00	\$ 81,340
8	Hot Mix Asphalt (Type A)	688	TON	\$ 110.00	\$ 75,659
9	0.17' Grind and Overlay	5,810	SQYD	\$ 10.00	\$ 58,095
10	Aggregate Base (Class 2)	2,588	TON	\$ 40.00	\$ 103,512
11	Minor Concrete (New Driveway)	87	CY	\$ 400.00	\$ 34,859
12	Minor Concrete (County Type S1-6 Curb and Gutter)	2,328	LF	\$ 24.00	\$ 55,872
13	Minor Concrete (County Type A Traffic Median Curb)	-	LF	\$ 20.00	\$ -
14	Minor Concrete (Sidewalk)	20,434	SF	\$ 10.00	\$ 204,340
15	Hardscaping	-	SF	\$ 12.00	\$ -
16	Infiltration Landscaping	-	SF	\$ 50.00	\$ -
17	Signal Installation (Arnold Dr)	1	LS	\$ 250,000.00	\$ 250,000
18	Signal Modification (Arthur Dr)	-	LS	\$ 200,000.00	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115.00	\$ -
20	Retaining Wall 1-B	-	SF	\$ 215.00	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115.00	\$ -
22	Railroad Crossing Structure	-	LS	\$ 2,000,000.00	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	-	LS	\$ 200,000	\$ -
24	Drainage	1	LS	\$ 387,500.00	\$ 387,500
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 18,257	\$ 18,257
26	Lighting and Electrical	1	LS	\$ 186,000.00	\$ 186,000
				Sub-Total	\$ 1,609,435
				40% Contingency	\$ 643,774
				Total Construction	\$ 2,253,300
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 563,400	\$ 563,400
	Construction Management @ 15%	1	LS	\$ 338,000	\$ 338,000
	Project Administration @ 5%	1	LS	\$ 112,700	\$ 112,700
	Environmental Document @ 5%	1	LS	\$ 112,700	\$ 112,700
		1	LS	Subtotal	\$ 1,126,800
Right of Way					
	Acquisition	1	LS	\$ 119,062	\$ 119,062
	Contingency	1	LS	\$ 35,719	\$ 35,719
				Subtotal	\$ 154,781
	Right of Way Engineering	1	LS	\$ 8,930	\$ 8,930
	Real Estate Services	1	LS	\$ 8,930	\$ 8,930
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 3,572	\$ 3,572
				Total ROW	\$ 176,300
TOTAL ESTIMATED COST - ALTERNATIVE 2 - SEGMENT 1					\$ 3,556,400
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 2 Segment 2 (Arnold Dr to Arthur Rd) ~5,200 LF
County Portion (Sunrise Dr to Arthur Rd) ~3,400 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity (County)	Unit	Unit Cost	Total (County)
1	Mobilization @5%	1	LS	\$ 336,200	\$ 336,200
2	Traffic Control	1	LS	\$ 50,000.00	\$ 50,000
3	Erosion Control	1	LS	\$ 30,000.00	\$ 30,000
4	Clearing and Grubbing	1	LS	\$ 20,000.00	\$ 20,000
5	Tree Removal	21	EA	\$ 500.00	\$ 10,500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 35,000	\$ 35,000
7	Roadway Excavation	184	CY	\$ 35.00	\$ 6,440
8	Hot Mix Asphalt (Type A)	2,184	TON	\$ 110.00	\$ 240,224
9	0.17" Grind and Overlay	12,562	SQYD	\$ 10.00	\$ 125,619
10	Aggregate Base (Class 2)	8,216	TON	\$ 40.00	\$ 328,659
11	Minor Concrete (New Driveway)	55	CY	\$ 400.00	\$ 22,126
12	Minor Concrete (County Type S1-6 Curb and Gutter)	5,159	LF	\$ 24.00	\$ 123,816
13	Minor Concrete (County Type A Traffic Median Curb)	1,979	LF	\$ 20.00	\$ 39,580
14	Minor Concrete (Sidewalk)	45,137	SF	\$ 10.00	\$ 451,370
15	Hardscaping	1,845	SF	\$ 12.00	\$ 22,140
16	Infiltration Landscaping	6,878	SF	\$ 50.00	\$ 343,900
17	Signal Installation (Arnold Dr)	-	LS	\$ 250,000.00	\$ -
18	Signal Modification (Arthur Dr)	-	LS	\$ 200,000.00	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115.00	\$ -
20	Retaining Wall 1-B	5,124	SF	\$ 215.00	\$ 1,101,660
21	Retaining Wall 1-C	1,200	SF	\$ 115.00	\$ 138,000
22	Railroad Crossing Structure	1	LS	\$ 2,000,000.00	\$ 2,000,000
23	Pedestrian Prefabricated Steel Truss Bridge	-	LS	\$ 200,000	\$ -
24	Drainage	1	LS	\$ 850,000.00	\$ 850,000
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 39,811	\$ 39,811
26	Lighting and Electrical	1	LS	\$ 408,000.00	\$ 408,000
Sub-Total					\$ 6,723,045
40% Contingency					\$ 2,689,218
Total Construction					\$ 9,412,300
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 2,353,100	\$ 2,353,100
	Construction Management @ 15%	1	LS	\$ 1,411,900	\$ 1,411,900
	Project Administration @ 5%	1	LS	\$ 470,700	\$ 470,700
	Environmental Document @ 5%	1	LS	\$ 470,700	\$ 470,700
		1	LS	Subtotal	\$ 4,706,400
Right of Way					
	Acquisition	1	SF	\$ 131,408	\$ 131,408
	Contingency	1	LS	\$ 39,422	\$ 39,422
				Subtotal	\$ 170,830
	Right of Way Engineering	1	LS	\$ 42,708	\$ 42,708
	Real Estate Services	1	LS	\$ 42,708	\$ 42,708
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 17,083	\$ 17,083
				Total ROW	\$ 273,400
TOTAL ESTIMATED PROJECT COST - ALTERNATIVE 2 - SEGMENT 2					\$ 14,392,100
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				
7	Railroad Crossing Structure lump sum assumes construction can be completed WITHOUT requiring a 'shoo fly' track.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 2 Segment 2 (Arnold Dr to Arthur Rd) ~5,200 LF
City Portion (Arnold Dr to Sunrise Dr) ~ 1,800 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity (City)	Unit	Unit Cost	Total (City)
1	Mobilization @5%	1	LS	\$ 117,100	\$ 117,100
2	Traffic Control	1	LS	\$ 10,000.00	\$ 10,000
3	Erosion Control	1	LS	\$ 5,000.00	\$ 5,000
4	Clearing and Grubbing	1	LS	\$ 5,000.00	\$ 5,000
5	Tree Removal	1	EA	\$ 500.00	\$ 500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 10,000	\$ 10,000
7	Roadway Excavation	6,411	CY	\$ 35.00	\$ 224,385
8	Hot Mix Asphalt (Type A)	2,237	TON	\$ 110.00	\$ 246,090
9	0.17' Grind and Overlay	2,381	SQYD	\$ 10.00	\$ 23,810
10	Aggregate Base (Class 2)	8,417	TON	\$ 40.00	\$ 336,685
11	Minor Concrete (New Driveway)	53	CY	\$ 400.00	\$ 21,089
12	Minor Concrete (County Type S1-6 Curb and Gutter)	3,484	LF	\$ 24.00	\$ 83,616
13	Minor Concrete (County Type A Traffic Median Curb)	-	LF	\$ 20.00	\$ -
14	Minor Concrete (Sidewalk)	32,470	SF	\$ 10.00	\$ 324,700
15	Hardscaping	-	SF	\$ 12.00	\$ -
16	Infiltration Landscaping	-	SF	\$ 50.00	\$ -
17	Signal Installation (Arnold Dr)	1	LS	\$ 250,000.00	\$ 250,000
18	Signal Modification (Arthur Dr)	-	LS	\$ 200,000.00	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115.00	\$ -
20	Retaining Wall 1-B	-	SF	\$ 215.00	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115.00	\$ -
22	Railroad Crossing Structure	0	LS	\$ 2,000,000.00	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	-	LS	\$ 200,000	\$ -
24	Drainage	1	LS	\$ 450,000.00	\$ 450,000
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 17,078	\$ 17,078
26	Lighting and Electrical	1	LS	\$ 216,000.00	\$ 216,000
Sub-Total					\$ 2,341,053
40% Contingency					\$ 936,421
Total Construction					\$ 3,277,500
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 819,400	\$ 819,400
	Construction Management @ 15%	1	LS	\$ 491,700	\$ 491,700
	Project Administration @ 5%	1	LS	\$ 163,900	\$ 163,900
	Environmental Document @ 5%	1	LS	\$ 163,900	\$ 163,900
		1	LS	Subtotal	\$ 1,638,900
Right of Way					
	Acquisition	1	SF	\$ 61,821	\$ 61,821
	Contingency	1	LS	\$ 18,546	\$ 18,546
				Subtotal	\$ 80,367
	Right of Way Engineering	1	LS	\$ 20,092	\$ 20,092
	Real Estate Services	1	LS	\$ 20,092	\$ 20,092
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 8,037	\$ 8,037
				Total ROW	\$ 128,600
TOTAL ESTIMATED PROJECT COST - ALTERNATIVE 2 - SEGMENT 2					\$ 5,045,000
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 2 Segment 3 (Arthur Rd to Camino Del Sol) ~1,600 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 114,800	\$ 114,800
2	Traffic Control	1	LS	\$ 15,000.00	\$ 15,000
3	Erosion Control	1	LS	\$ 10,000.00	\$ 10,000
4	Clearing and Grubbing	1	LS	\$ 5,000.00	\$ 5,000
5	Tree Removal	8	EA	\$ 500.00	\$ 4,000
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 12,000	\$ 12,000
7	Roadway Excavation	2,123	CY	\$ 35.00	\$ 74,305
8	Hot Mix Asphalt (Type A)	700	TON	\$ 110.00	\$ 76,970
9	0.17' Grind and Overlay	9,528	SQYD	\$ 10.00	\$ 95,281
10	Aggregate Base (Class 2)	2,633	TON	\$ 40.00	\$ 105,306
11	Minor Concrete (New Driveway)	31	CY	\$ 400.00	\$ 12,281
12	Minor Concrete (County Type S1-6 Curb and Gutter)	1,417	LF	\$ 24.00	\$ 34,008
13	Minor Concrete (County Type A Traffic Median Curb)	723	LF	\$ 20.00	\$ 14,460
14	Minor Concrete (Sidewalk)	14,169	SF	\$ 10.00	\$ 141,690
15	Hardscaping	2,342	SF	\$ 12.00	\$ 28,104
16	Infiltration Landscaping	6,807	SF	\$ 50.00	\$ 340,350
17	Signal Installation (Arnold Drive)	-	LS	\$ 250,000.00	\$ -
18	Signal Modification (Arthur Road)	1	LS	\$ 200,000.00	\$ 200,000
19	Retaining Wall 1-A	1,328	SF	\$ 115.00	\$ 152,720
20	Retaining Wall 1-B	-	SF	\$ 215.00	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115.00	\$ -
22	Railroad Crossing Structure	-	LS	\$ 2,000,000.00	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	1	LS	\$ 200,000	\$ 200,000
24	Drainage	1	LS	\$ 425,000.00	\$ 425,000
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 29,867	\$ 29,867
26	Lighting and Electrical	1	LS	\$ 204,000.00	\$ 204,000
				Sub-Total	\$ 2,295,143
				40% Contingency	\$ 918,057
				Total Construction	\$ 3,213,300
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 803,400	\$ 803,400
	Construction Management @ 15%	1	LS	\$ 482,000	\$ 482,000
	Project Administration @ 5%	1	LS	\$ 160,700	\$ 160,700
	Environmental Document @ 5%	1	LS	\$ 225,000	\$ 225,000
		1	LS	Subtotal	\$ 1,671,100
Right of Way					
	Acquisition	1	LS	\$ 87,497	\$ 87,497
	Contingency	1	LS	\$ 26,249	\$ 26,249
				Subtotal	\$ 113,746
	Right of Way Engineering	1	LS	\$ 28,437	\$ 28,437
	Real Estate Services	1	LS	\$ 28,437	\$ 28,437
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 11,375	\$ 11,375
				Total ROW	\$ 182,000
TOTAL ESTIMATED PROJECT COST - ALTERNATIVE 2 - SEGMENT 3					\$ 5,066,400
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 2 Segment 4 (Camino Del Sol to West of Morello Ave) ~2,600 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 84,700	\$ 84,700
2	Traffic Control	1	LS	\$ 10,000.00	\$ 10,000
3	Erosion Control	1	LS	\$ 5,000.00	\$ 5,000
4	Clearing and Grubbing	1	LS	\$ 2,000.00	\$ 2,000
5	Tree Removal	1	EA	\$ 500.00	\$ 500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 19,000	\$ 19,000
7	Roadway Excavation	1,764	CY	\$ 35.00	\$ 61,740
8	Hot Mix Asphalt (Type A)	554	TON	\$ 110.00	\$ 60,905
9	0.17' Grind and Overlay	12,472	SQYD	\$ 10.00	\$ 124,717
10	Aggregate Base (Class 2)	2,083	TON	\$ 40.00	\$ 83,326
11	Minor Concrete (New Driveway)	51	CY	\$ 400.00	\$ 20,400
12	Minor Concrete (County Type S1-6 Curb and Gutter)	1,662	LF	\$ 24.00	\$ 39,888
13	Minor Concrete (County Type A Traffic Median Curb)	-	LF	\$ 20.00	\$ -
14	Minor Concrete (Sidewalk)	13,140	SF	\$ 10.00	\$ 131,400
15	Hardscaping	-	SF	\$ 12.00	\$ -
16	Infiltration Landscaping	-	SF	\$ 50.00	\$ -
17	Signal Installation (Arnold Drive)	-	LS	\$ 250,000.00	\$ -
18	Signal Modification (Arthur Road)	-	LS	\$ 200,000.00	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115.00	\$ -
20	Retaining Wall 1-B	-	SF	\$ 215.00	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115.00	\$ -
22	Railroad Crossing Structure	-	LS	\$ 2,000,000.00	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	-	LS	\$ 200,000	\$ -
24	Drainage	1	LS	\$ 687,500.00	\$ 687,500
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 32,168	\$ 32,168
26	Lighting and Electrical	1	LS	\$ 330,000.00	\$ 330,000
				Sub-Total	\$ 1,693,245
				40% Contingency	\$ 677,298
				Total Construction	\$ 2,370,600
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 592,700	\$ 592,700
	Construction Management @ 15%	1	LS	\$ 355,600	\$ 355,600
	Project Administration @ 5%	1	LS	\$ 118,600	\$ 118,600
	Environmental Document @ 5%	1	LS	\$ 118,600	\$ 118,600
		1	LS	Subtotal	\$ 1,185,500
Right of Way					
	Acquisition	1	SF	\$ 464,791	\$ 464,791
	Contingency	1	LS	\$ 139,437	\$ 139,437
				Subtotal	\$ 604,228
	Right of Way Engineering	1	LS	\$151,057	\$ 151,057
	Real Estate Services	1	LS	\$151,057	\$ 151,057
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$60,423	\$ 60,423
				Total ROW	\$ 966,800
TOTAL ESTIMATED PROJECT COST - ALTERNATIVE 2 - SEGMENT 4					\$ 4,522,900
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				

PACHECO BLVD ALIGNMENT STUDY
Conceptual Alternatives Analysis
Alternative 3 Segment 1 (Blum Rd to Arnold Dr) ~1,450 LF
 Engineer's Opinion of Probable Cost
 October 2016

Item	Description	Quantity	Unit	Unit Cost	Total
1	Mobilization @5%	1	LS	\$ 82,500	\$ 82,500
2	Traffic Control	1	LS	\$ 35,000.00	\$ 35,000
3	Erosion Control	1	LS	\$ 20,000.00	\$ 20,000
4	Clearing and Grubbing	1	LS	\$ 5,000.00	\$ 5,000
5	Tree Removal	11	EA	\$ 500.00	\$ 5,500
6	Adjust Utility Frame & Covers (not covered by Franchise)	1	LS	\$ 11,000	\$ 11,000
7	Roadway Excavation	2,412	CY	\$ 35.00	\$ 84,420
8	Hot Mix Asphalt (Type A)	755	TON	\$ 110.00	\$ 82,995
9	0.17' Grind and Overlay	5,595	SQYD	\$ 10.00	\$ 55,949
10	Aggregate Base (Class 2)	2,839	TON	\$ 40.00	\$ 113,549
11	Minor Concrete (New Driveway)	87	CY	\$ 400.00	\$ 34,800
12	Minor Concrete (County Type S1-6 Curb and Gutter)	2,358	LF	\$ 24.00	\$ 56,592
13	Minor Concrete (County Type A Traffic Median Curb)	-	LF	\$ 20.00	\$ -
14	Minor Concrete (Sidewalk)	22,079	SF	\$ 10.00	\$ 220,790
15	Hardscaping	-	SF	\$ 12.00	\$ -
16	Infiltration Landscaping	-	SF	\$ 50.00	\$ -
17	Signal Installation (Arnold Dr)	1	LS	\$ 250,000.00	\$ 250,000
18	Signal Modification (Arthur Dr)	-	LS	\$ 200,000.00	\$ -
19	Retaining Wall 1-A	-	SF	\$ 115.00	\$ -
20	Retaining Wall 1-B	-	SF	\$ 215.00	\$ -
21	Retaining Wall 1-C	-	SF	\$ 115.00	\$ -
22	Railroad Crossing Structure	-	LS	\$ 2,000,000.00	\$ -
23	Pedestrian Prefabricated Steel Truss Bridge	-	LS	\$ 200,000	\$ -
24	Drainage	1	LS	\$ 387,500.00	\$ 387,500
25	Pavement Stripes, Markings, and Roadside Signs	1	LS	\$ 18,257	\$ 18,257
26	Lighting and Electrical	1	LS	\$ 186,000.00	\$ 186,000
				Sub-Total	\$ 1,649,853
				40% Contingency	\$ 659,941
				Total Construction	\$ 2,309,800
Project Design and Administration Costs					
	Design @ 25%	1	LS	\$ 577,500	\$ 577,500
	Construction Management @ 15%	1	LS	\$ 346,500	\$ 346,500
	Project Administration @ 5%	1	LS	\$ 115,500	\$ 115,500
	Environmental Document @ 5%	1	LS	\$ 115,500	\$ 115,500
		1	LS	Subtotal	\$ 1,155,000
Right of Way					
	Acquisition	1	LS	\$ 119,062	\$ 119,062
	Contingency	1	LS	\$ 35,719	\$ 35,719
				Subtotal	\$ 154,781
	Right of Way Engineering	1	LS	\$ 38,695	\$ 38,695
	Real Estate Services	1	LS	\$ 38,695	\$ 38,695
	Preliminary Title Reports, Recording, Miscellaneous	1	LS	\$ 15,478	\$ 15,478
				Total ROW	\$ 247,700
TOTAL ESTIMATED COST - ALTERNATIVE 3 - SEGMENT 1					\$ 3,712,500
Notes:					
1	The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known at the time of the opinion.				
2	Estimated costs to acquire right of way are based solely upon the number of square feet to be acquired and the Engineer's opinion of the reasonable cost per square foot. Appraisals were not performed and the cost to acquire rights of way may be higher or lower based upon appraisals and market conditions at the time that the acquisitions are made.				
3	Traffic signal installation at the Pacheco Blvd/Arnold Dr intersection is included in the Segment 2 cost estimate.				
4	Traffic signal modification at the Pacheco/Arthur Rd intersection is included in the Segment 3 cost estimate.				
5	Drainage lump sum includes storm drain pipe, inlets, and manholes.				
6	Lighting and Electrical lump sum includes new streetlights, pull boxes, conduits, and conductors.				