

CITY COUNCIL REPORT

DATE: January 16, 2018

TO: Mayor and Councilmembers

FROM: Bret Petersen, P.E., Capital Improvements Engineer
Mark Landsiedel, Community Development Director

CC: Josh Copley, Barbara Goodrich, Leadership Team

SUBJECT: Engineer's Estimate (Construction Projects)

The Engineer's (construction) Estimate is prepared/provided by the design consultant for a project. Typical design contract language requires an estimate be prepared at the 60% and 100% design levels. These estimates are usually based on historic unit rates for other similar projects.

There are other factors to consider when developing the cost estimate, those include:

- **Size and location of the project.** A smaller project on a major roadway would likely have a greater percentage of overhead costs than a larger project on a less busy roadway. Thus, as it pertains to these two projects, increased unit rates would have been a reasonable expectation.
- **Amount of construction activity currently underway** versus the available work force.

Both the Steves Blvd. & Rt. 66 FUTS Reconfiguration projects are small and located on heavily traveled busy roadways. In staff's opinion, the primary factor for the higher bids received is likely due to the unprecedented amount of public/private construction activity currently occurring in/around Flagstaff.

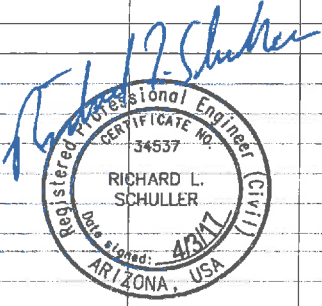
Along with the factors listed above, the original Steves Blvd. & Rt. 66 FUTS Reconfiguration project estimate did NOT include costs for bid items that were added to the bid schedule prior to soliciting the request for bids. The City's project manager did however anticipate an increase in costs when determining his project budget needs. Staff continues to support the recommended action to approve each project.

Attachments:

- Engineer's estimate and a bid tabulation summary sheet for each of the following projects:

- **ITEM 7C** - 4th Street Safety Improvements - Phase II.....(*Amount: \$117,707*)
- **ITEM 7D** - Steves Blvd. & Route 66 FUTS Reconfiguration...(*Amount: \$64,656*)

**115801 -4th Street Improvement Project
CONSTRUCTION COST ESTIMATE
(FINAL Plans)**

		Est	Unit	Unit	Total
		Quant.	Units	Price	Price
1	Traffic Control	1	LS	\$9,000.00	\$9,000
2	SWPPP	1	LS	\$1,000.00	\$1,000
3	Sawcut, Remove & Dispose Existing Pavement	113	SY	\$5.00	\$565
4	Sawcut, Remove & Dispose Existing Curb and Gutter	82	LF	\$4.00	\$328
5	Sawcut, Remove & Dispose Existing Sidewalk	35	SF	\$4.00	\$140
6	Remove Existing Tree	2	EA	\$500.00	\$1,000
7	Remove & Replace Water Meter Box	1	EA	\$400.00	\$400
8	A.C. Pavement, 2 1/2" A.C. on 5" A.B.C	81	SY	\$55.00	\$4,455
9	Concrete Sidewalk, MAG 230 w/3" AB	354	SF	\$8.00	\$2,832
10	6" Curb & Gutter, MAG 220 Type 'A'	99	LF	\$20.00	\$1,980
11	4" Roll Curb, MAG 220 Type 'D'	12	LF	\$40.00	\$480
12	Ribbon Curb, MAG 220-1 Type 'B'	12	LF	\$40.00	\$480
13	Reconstruct Pedestrian Refuge PR-1	1	EA	\$2,000.00	\$2,000
14	Construct Sidewalk Ramp Per COF 10-10-039	2	EA	\$1,500.00	\$3,000
15	Furnish & Install 'Q' Pole w/ 25' Mast Arm & 10' Luminaire Arm	2	EA	\$8,500.00	\$17,000
16	Construct 'Q' Pole Foundation	2	EA	\$3,500.00	\$7,000
17	Furnish & Install 'F' Pole w/ 20' Mast Arm & 10' Luminaire Arm	1	EA	\$6,500.00	\$6,500
18	Construct 'F' Pole Foundation	1	EA	\$1,500.00	\$1,500
19	Furnish & Install Dual Flasher Assembly	3	EA	\$850.00	\$2,550
20	Furnish & Install 135W LPS Luminaire	3	EA	\$650.00	\$1,950
21	2" Sched 40 PVC Conduit w/Pull Rope	33	LF	\$12.00	\$396
22	Conductors	1	LS	\$3,000.00	\$3,000
23	Remove and Reinstall Signal Controller	1	EA	\$1,200.00	\$1,200
24	Remove and Salvage/Reinstall Signal Equipment	1	LS	\$4,000.00	\$4,000
25	Furnish & Install Pedestrian PB Post	1	EA	\$750.00	\$750
26	Construct Pedestrian PB Post Foundation	1	EA	\$350.00	\$350
27	Remove and Reinstall Existing Sign Assembly	3	EA	\$150.00	\$450
28	High-Visibility Crosswalk Markings	1	LS	\$500.00	\$500
29	Furnish & Install W11-2 Sign, 36"x36"	3	EA	\$350.00	\$1,050
30	Remove and Reinstall Existing Fence	36	LF	\$40.00	\$1,440
PROJECT SUBTOTAL					\$77,296
CONTINGENCY OF 10%					\$7,730
PROJECT TOTAL					\$85,026
This estimate is based on the plans for the project dated 4/3/17.					
This Cost Estimate is made on the basis of our experience and qualifications and represents our best judgement. However, since so many aspects of costs are beyond our control, we cannot and do not guarantee that Costs will not vary from this Estimate.					
					
EXPIRES 3/31/2018					

BID TABULATIONS 12-5-17 RW
 Engineers Estimate and Two Lowest Bids

Fourth Street Safety Improvements-Phase II		Engineers Estimate		Mountain High		AJP	
		Unit Rate	Total	Unit Rate	Total	Unit Rate	Total
1	Traffic Control	LS	\$9,000.00	\$11,000.00	\$11,000.00	\$22,125.00	\$22,125.00
2	SWPPP	LS	\$1,000.00	\$1,200.00	\$1,200.00	\$22,125.00	\$22,125.00
3	Sawcut, Remove & Dispose Existing Pavement	113 SY	\$5.00	\$565	\$26.00	\$15.00	\$1,695.00
4	Sawcut, Remove & Dispose Existing Curb and Gutter	82 LF	\$4.00	\$328	\$18.00	\$8.00	\$656.00
5	Sawcut, Remove & Dispose Existing Sidewalk	35 SF	\$4.00	\$140	\$12.00	\$6.00	\$210.00
6	Remove Existing Tree	2 EA	\$500.00	\$1,000	\$220.00	\$2,000.00	\$4,000.00
7	Remove & Replace Water Meter Box	1 EA	\$400.00	\$400	\$510.00	\$400.00	\$400.00
8	A.C. Pavement, 4" A.C. on 6" A.B.C	81 SY	\$55.00	\$4,455	\$51.00	\$4,131.00	\$5,670.00
9	Concrete Sidewalk, MAG 230 w/3" AB	354 SF	\$8.00	\$2,832	\$7.50	\$2,655.00	\$5,664.00
10	6" Curb & Gutter, MAG 220 Type 'A'	99 LF	\$20.00	\$1,980	\$43.00	\$4,257.00	\$5,445.00
11	4" Roll Curb, MAG 220 Type 'D'	12 LF	\$40.00	\$480	\$37.00	\$444.00	\$660.00
12	Ribbon Curb, MAG 220-1 Type 'B'	12 LF	\$40.00	\$480	\$26.00	\$312.00	\$660.00
13	Reconstruct Pedestrian Refuge PR-1	1 EA	\$2,000.00	\$2,000	\$1,800.00	\$2,800.00	\$2,800.00
14	Construct Sidewalk Ramp Per COF 10-10-039	2 EA	\$1,500.00	\$3,000	\$2,100.00	\$3,888.00	\$7,776.00
15	Furnish & Install 'Q' Pole w/ 25' Mast Arm & 10'	2 EA	\$8,500.00	\$17,000	\$11,200.00	\$22,400.00	\$11,250.00
16	Construct 'Q' Pole Foundation	2 EA	\$3,500.00	\$7,000	\$4,800.00	\$9,600.00	\$9,600.00
17	Furnish & Install 'F' Pole w/ 20' Mast Arm & 10' Luminaire Arm	1 EA	\$6,500.00	\$6,500	\$9,600.00	\$3,570.00	\$3,570.00
18	Construct 'F' Pole Foundation	1 EA	\$1,500.00	\$1,500	\$3,600.00	\$3,000.00	\$3,000.00
19	Furnish & Install Dual Flasher Assembly	3 EA	\$850.00	\$2,550	\$970.00	\$1,615.00	\$4,845.00
20	Furnish & Install 135W LPS Luminaire	3 EA	\$650.00	\$1,950	\$1,100.00	\$3,300.00	\$4,500.00
21	2" Sched 40 PVC Conduit w/Pull Rope	33 LF	\$12.00	\$396	\$76.00	\$2,508.00	\$1,650.00
22	Conductors	1 LS	\$3,000.00	\$3,000	\$3,700.00	\$3,700.00	\$7,000.00
23	Remove and Reinstall Signal Controller	1 EA	\$1,200.00	\$1,200	\$1,300.00	\$4,750.00	\$4,750.00
24	Remove and Salvage/Reinstall Signal Equipment	1 LS	\$4,000.00	\$4,000	\$2,300.00	\$5,400.00	\$5,400.00
25	Furnish & Install Pedestrian PB Post	1 EA	\$750.00	\$750	\$2,100.00	\$700.00	\$700.00
26	Construct Pedestrian PB Post Foundation	1 EA	\$350.00	\$350	\$2,000.00	\$600.00	\$600.00
27	Remove and Reinstall Existing Sign Assembly	3 EA	\$150.00	\$450	\$900.00	\$350.00	\$1,050.00
28	High-Visibility Crosswalk Markings	1 LS	\$500.00	\$500	\$1,500.00	\$8,500.00	\$8,500.00
29	Furnish & Install W11-2 Sign, 36"x36"	3 EA	\$350.00	\$1,050	\$510.00	\$475.00	\$1,425.00
30	Remove and Reinstall Existing Fence	36 LF	\$40.00	\$1,440	\$66.00	\$2,376.00	\$1,980.00
31	Owners Allowance (Do Not Revise)			\$7,730.00		\$55.00	\$8,500.00
	Total Construction Cost		\$85,026	\$117,707.00			\$158,206.00

**STEVE'S BOULEVARD & ROUTE 66 FUTS RECONFIGURATION
100% SUBMITTAL**

Prepared by OTAK 04-03-2017

PRELIMINARY OPINION OF PROBABLE COST

Item No.	Item Name	Quantity	Unit	Unit Cost	Subtotal
1	Mobilization/Demobilization	1	LS	\$4,000.00	\$4,000.00
2	Traffic Control Allowance	1	LS	\$8,000.00	\$8,000.00
3	Construction Surveying	1	LS	\$1,500.00	\$1,500.00
4	Permits Allowance	1	LS	\$1,000.00	\$1,000.00
5	Sawcut and Remove Concrete Sidewalk	822	SF	\$1.50	\$1,233.00
6	Sawcut and Remove Curb or Curb and Gutter	68	LF	\$8.00	\$544.00
7	Sawcut and Remove Concrete Curb Ramp	2	EA	\$500.00	\$1,000.00
8	Sawcut and Remove Asphalt Pavement	138	SF	\$1.50	\$207.00
9	Relocation of Irrigation Control Box	1	EA	\$1,200.00	\$1,200.00
10	Not Used	0	SF	\$0.00	\$0.00
11	6" Concrete Sidewalk per ADOT Det. C-05.20	1561	SF	\$7.00	\$10,927.00
12	Not Used	0	EA	\$0.00	\$0.00
13	8'-0" wide Sidewalk Ramp per ADOT Det. C-05.30	3	EA	\$2,500.00	\$7,500.00
14	Not Used	0	LF	\$0.00	\$0.00
15	Curb and Gutter ADOT Std. Det. C-05.10	68	LF	\$25.00	\$1,700.00
16	8" Solid White Vehicular Striping	303	LF	\$15.00	\$4,545.00
17	Clearing and Grubbing	1	EA	\$750.00	\$750.00
18	Low Shrubs (1 Gallon)	220	EA	\$10.00	\$2,200.00
19	Decomposed Granite Mulch / Inert Landscape	380	SF	\$0.60	\$228.00
20	3'-0" wide Boulder	6	EA	\$300.00	\$1,800.00
21	1'-6" wide Boulder	8	EA	\$180.00	\$1,440.00
22	Irrigation	1	EA	\$1,500.00	\$1,500.00
Total					\$51,274.00



BID TABULATIONS 12-5-17 RW
 Engineers Estimate and Two Lowest Bids

Steve Boulevard /Route 66 FUTS Reconfiguration		Engineers Estimate		Mountain High		KCS	
		Unit Rate	Total	Unit Rate	Total	Unit Rate	Total
1	Traffic Control						
		\$8,000.00	\$8,000	\$6,000.00	\$6,000.00	\$12,943.00	\$12,943.00
2	Construction Surveying						
		\$1,500.00	\$1,500	\$2,000.00	\$2,000.00	\$3,201.00	\$3,201.00
3	Clearing, Grubbing and Grading						
		\$750.00	\$750	\$1,500.00	\$1,500.00	\$5,937.00	\$5,937.00
4	Sawcut and Remove Concrete Sidewalk						
		\$1.50	\$1,233	\$3.00	\$2,466.00	\$2.60	\$2,137.20
5	Sawcut and Remove Concrete Curb Ramp						
		\$500.00	\$1,000	\$580.00	\$1,160.00	\$688.00	\$1,376.00
6	Obliteration of existing Crosswalk Striping						
		\$0.00	\$0	\$1,300.00	\$2,600.00	\$2,218.00	\$4,436.00
7	Sawcut and Remove Curb and Gutter						
		\$8.00	\$544	\$18.00	\$1,224.00	\$28.60	\$1,944.80
8	Sawcut, Remove and Replace Asphalt Pavement						
		\$1.50	\$207	\$26.00	\$3,588.00	\$53.35	\$7,362.30
9	Relocation of Irrigation Control Box						
		\$1,200.00	\$1,200	\$1,100.00	\$1,100.00	\$1,160.00	\$1,160.00
10	6" Concrete Sidewalk per ADOT Det. C-05.20						
		\$7.00	\$10,927	\$7.00	\$10,927.00	\$12.40	\$19,358.40
11	8'-0" Wide Sidewalk Ramp per ADOT Det. C-05.30						
		\$2,500.00	\$7,500	\$2,200.00	\$6,600.00	\$4,071.00	\$12,213.00
12	Curb and Gutter ADOT Std. Det. C-05.10						
		\$25.00	\$1,700	\$42.00	\$2,856.00	\$76.00	\$5,168.00
13	8" Solid White Vehicle Striping						
		\$15.00	\$4,545	\$5.00	\$1,515.00	\$22.00	\$6,666.00
14	Low Shrub (1 Gallon)						
		\$10.00	\$2,200	\$24.00	\$5,280.00	\$16.55	\$3,641.00
15	Decomposed Granite Mulch						
		\$0.60	\$228	\$2.00	\$760.00	\$1.30	\$494.00
16	3'-0" Wide Boulder						
		\$300.00	\$1,800	\$200.00	\$1,200.00	\$169.00	\$1,014.00
17	1'-6" Wide Boulder						
		\$180.00	\$1,440	\$85.00	\$680.00	\$148.00	\$1,184.00
18	Irrigation						
		\$1,500.00	\$1,500	\$2,200.00	\$2,200.00	\$4,692.30	\$4,692.30
19	Reconfigure Pedestrian Crosswalk Push Button						
		\$0.00	\$0	\$6,000.00	\$6,000.00	\$5,763.00	\$5,763.00
20	Owners Allowance (Do Not Revise)						
			\$5,000		\$5,000.00		\$5,000.00
	Total Construction Cost		\$51,274		\$64,656.00		\$105,689.00