APPENDIX Q

Infrastructure Cost Estimates

SANTA CLARA STATION

UTILITY	DESCRIPTION		ESTIMATED COST
Storm Drain	Upsizing pipes that are deficient during the 10-year storm event within and downstream of project area.	$	25,390,000
Sanitary Sewer	-	$	-
Domestic/Fire Water	Installing new pipes and upsizing undersized pipes.	$	2,692,000
Recycled Water	Pump Station #5 Upgrades.	$	258,333
	TOTAL	$	28,340,333

DOWNTOWN SAN JOSE STATION

UTILITY	DESCRIPTION		ESTIMATED COST
Storm Drain	Upsizing pipes that are deficient during the 10-year storm event within and downstream of project area.	$	27,000,000
Sanitary Sewer	Central to Interceptor 6 (CTI-6+), Downtown 1 (DTN-1), Portion of Interceptor Phase VII.	$	46,955,200
Domestic/Fire Water	Installing new pipes and upsizing undersized pipes.	$	3,208,500
Recycled Water	Pump Station #5 Upgrades.	$	15,758,333
	TOTAL	$	92,922,033

ALUM ROCK/28TH STREET STATION

UTILITY	DESCRIPTION		ESTIMATED COST
Storm Drain	Upsizing pipes that are deficient during the 10-year storm event within and downstream of project area.	$	7,500,000
Sanitary Sewer	Urban Village (VT3 & CR28), King-San Antonio (KSA-5), Portion of Interceptor Phase VII.	$	8,144,800
Domestic/Fire Water	Installing new pipes and upsizing undersized pipes.	$	6,032,600
Recycled Water	Pump Station #5 Upgrades, Alignment D extension.	$	15,758,333
	TOTAL	$	37,435,733

TABLE 2. STORM DRAIN IMPROVEMENTS BY STATION

STATION	DESCRIPTION	REFERENCE MAP/FIGURE	ESTIMATED COST		
Santa Clara[1]	**De La Cruz and Guadalupe (Project ID 10)**: Upsizing pipes to address existing system deficiencies - HIGH Priority.	Figure 3A-3C, 3G & 3H	-	-	$ 6,270,000
	Benton and Sherman (Project ID 58): Upsizing pipes to address existing system deficiencies - LOW Priority.	Figure 3A & 3D	-	-	$ 4,390,000
	El Camino Real and Coleman (Project ID 70): Upsizing pipes to address existing system deficiencies - LOW Priority.	Figure 3A & 3E	-	-	$ 6,830,000
	Fremont and Lafayette (Project ID 71): Upsizing pipes to address existing system deficiencies - LOW Priority.	Figure 3A & 3E	-	-	$ 2,140,000
	Jackson (Project ID 78): Upsizing pipes to address existing system deficiencies - LOW Priority.	Figure 3A & 3E	-	-	$ 1,300,000
	Jefferson and El Camino Real (Project ID 79): Upsizing pipes to address existing system deficiencies - LOW Priority.	Figure 3A & 3E	-	-	$ 570,000
	Sherman (Project ID 122): Upsizing pipes to address existing system deficiencies - LOW Priority.	Figure 3A & 3F	-	-	$ 3,890,000
					$ 25,390,000
Downtown San Jose[2,3]	Upsizing _____ LF of pipeline that are deficient during the 10-year storm event within and downstream of project area. New pipes will range from __" to __". [2, 3]	Figure 1	-	-	**$ 27,000,000**
Alum Rock/ 28th Street[2, 3]	Upsizing _____ LF of pipeline that are deficient during the 10-year storm event within and downstream of project area. New pipes will range from __" to __". [2, 3]	Figure 1	-	-	**$ 7,500,000**
				TOTAL	**$ 59,890,000**

Footnotes

[1] City of Santa Clara Storm Drain Master Plan - Appendix B, prepared by Schaff & Wheeler, dated December 2015. Construction costs include 5% markup for traffic control, 10% markup for mobilization/demobilization, and 40% markup for contingency. CIP total (as shown) includes an additional 20% markup for engineering and inspection, on top of construction costs.

[2] There is no adopted storm drain master plan for City of San Jose. As an alternative, the City provided a preliminary Storm Improvement Map (March 2019) which identifies existing deficient storm drain pipes during the 10-year storm event and their lump sum costs with in the VTA-BART Station study area and this lump sum cost includes an annual increase in capacity costs of 4.2% (2019 Dollars) - Per Figure 3: City of San Jose Preliminary Improvement Projects within VTA-BART Station Boundary.

[3] City provided costs represent best information currently available from draft/preliminary model results. Model estimates existing deficiencies based on existing land use as of 2006 and existing pipe sizes. This does not take into account future conditions. The Capacity Improvement Project (CIP) values listed are based on each City's plans, which envision less development than the VTA growth scenarios. If development reaches the levels proposed within the VTA's BART Phase II TOD Corridor Strategies and Access Planning Study, the CIPs mentioned may need to be accelerated to accommodate more rapid growth around the Station Study Areas.

TABLE 3. SEWER IMPROVEMENTS BY STATION

STATION	DESCRIPTION	REFERENCE MAP/FIGURE	ESTIMATED COST[6]			
Santa Clara	No projected improvements surrounding Santa Clara Bart[4]	Figure 5	-			
Downtown San Jose	**Central to Interceptor 6 (CTI-6+)**: S 3rd St. between E San Fernando to E San Salvador[1,2]	Figure 4	-	-	$	1,400,000
	Downtown 1 (DTN-1): S 2nd St. between E San Carlos St. and E San Salvador St.[1,2]		-	-	$	700,000
					$	**2,100,000**
Alum Rock/28th Street	**Urban Village (VT3)**: 5 Wounds Lane between N 28th St. and N 30th St.[1,2]	Figure 4	-	-	$	400,000
	Urban Village (CR28): E Santa Clara St. between S 24th St. and S 28th St.[1,2]		-	-	$	500,000
	King-San Antonio 5 (KSA-5): S 24th Street between Appian Lane and San Antonio St.[1,2]		-	-	$	2,700,000
					$	**3,600,000**
Downtown San Jose & Alum Rock/28th Street	**Phase VII** - New sewer alignment from 7th & Empire to 4th & Commercial.[3,4]	Figure 4	**Item**	**Quantity**		**Subtotal**
			60-inch pipe	6,200	$	49,400,000
					$	**49,400,000**
				TOTAL	**$**	**5,700,000**

Footnotes

[1] City of San Jose Sanitary Sewer Master Plan (CSJ SSMP), prepared by RMC, dated April 2013

[2] The City of San Jose provided a preliminary Sanitary Sewer Improvement Map (March 2019) which identifies city planned Capacity improvements that fall with in the VTA-BART Station study area their lump sum costs and this lump sum cost includes small pipe improvement costs and an annual increase in capacity costs of 4.2% (2019 Dollars) - Per Figure 4. Based on updated sewer model analysis (October 2018) that incorporates GP2040 new development information.

[3] Per City of San Jose comments from April - May 2019, Phase VII has not been designed yet; alignment and cost is preliminary. Phase VII is outside of the Downtown San Jose study area, but is downstream of Downtown San Jose and Alum Rock/28th Street station developements. Due to the projected increase in demand from future development, Interceptor Phase VII may require implementation. Cost of Phase VII developement is split based on approximated percentage of flow coming from both developements (9.2% from Alum Rock

TABLE 4. DOMESTIC/FIRE WATER IMPROVEMENTS BY STATION

STATION	DESCRIPTION	REFERENCE MAP/FIGURE	ESTIMATED COST		
			Quantity (LF)	**Unit Cost[2]**	
Santa Clara	Installing new pipes and upsizing undersized pipes.(City of San Jose)	Figure 8	4,200	414	$ 1,739,000
	Installing new pipes and upsizing undersized pipes.(City of Santa Clara)		2,300	414	$ 953,000
					$ 2,692,000
			Mobilization, Contingencies, and Soft Costs[1]	55%	$ 1,480,600
					$ 4,172,600
			Quantity (LF)	**Unit Cost[2]**	
Downtown San Jose	Installing new pipes and upsizing undersized pipes.	Figure 7	5,000	414	**$ 2,070,000**
			Mobilization, Contingencies, and Soft Costs[1]	55%	$ 1,138,500
					$ 3,208,500
			Quantity (LF)	**Unit Cost[2]**	
Alum Rock/28th Street	Installing new pipes and upsizing undersized pipes.	Figure 6	9,400	414	**$ 3,892,000**
			Mobilization, Contingencies, and Soft Costs[1]	55%	$ 2,140,600
					$ 6,032,600
				TOTAL	**$ 13,413,700**

Footnotes

[1] Percent cost of mobilization, contingencies, and soft costs adopted from recommendations provided by City of San Jose in March 2019.

[2] For purposes of a conservative cost estimation, the highest cost for a water main extension "in paved streets" was used - per Eastbay Municipal Utility District Schedule G, Water Main Extension Charges effective 07/01/18

TABLE 5. RECYCLED WATER IMPROVEMENTS BY STATION

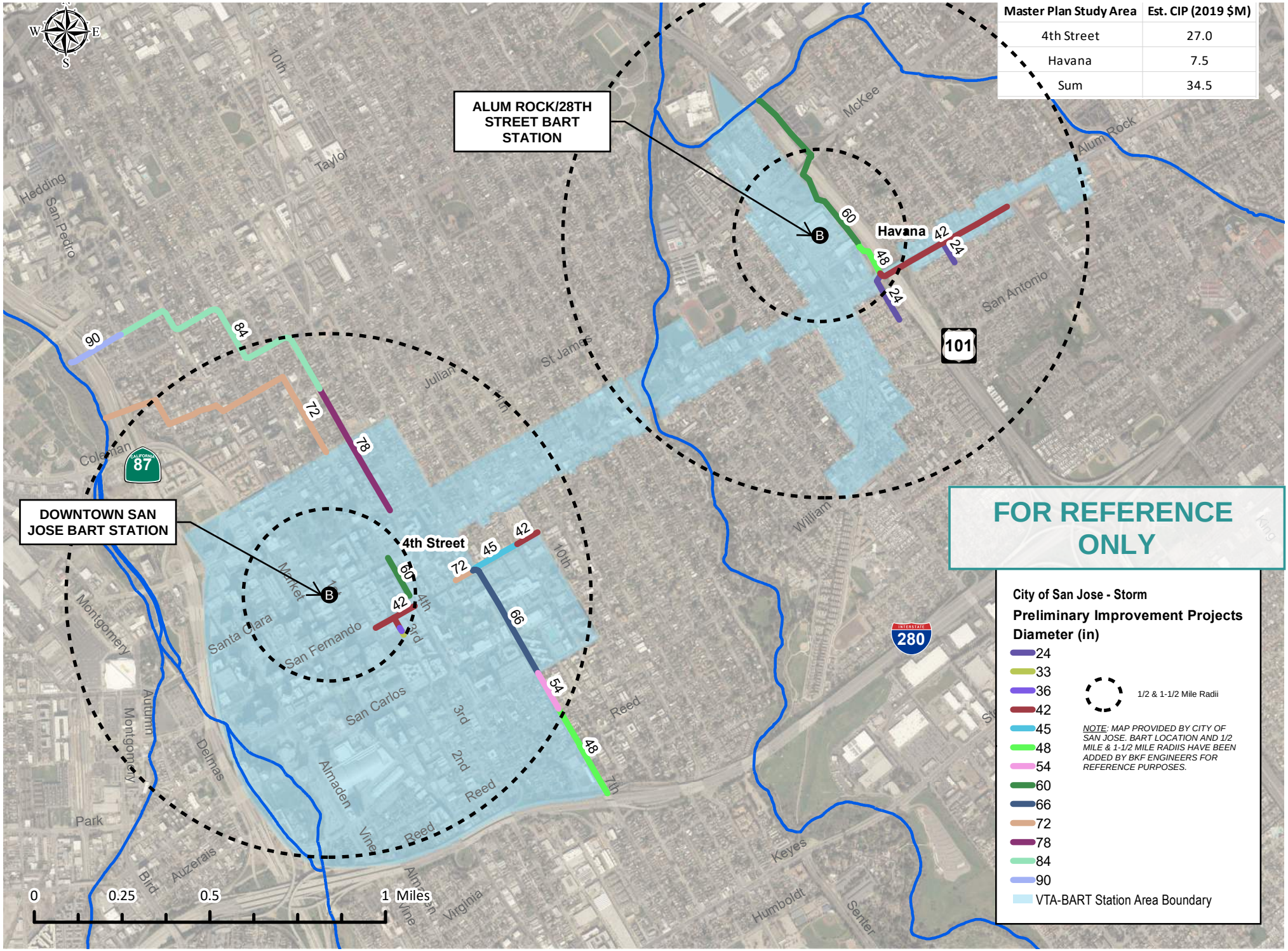
STATION	PROJECT	DESCRIPTION	REFERENCE MAP/FIGURE	ESTIMATED COST
Santa Clara, Downtown San Jose & Alum Rock/28th Street	**Pump Station #5 Upgrades**	**D5** - Upgrade pump station 5 bypass: Construct new 42-inch diameter bypass pipe bridging between the upstream and downstream 42-inch backbone pipeline to and from Pump Station 5 to provide redundancy for taking P.S. 5 out of service for maintenance. Priority 1.[1]	Figure 9B	$ 400,000
		D11 - HVAC upgrades at PS 5: Upgrade HVAC in electrical rooms to prevent VFD shutdowns due to high heat. Priority 2.[1]		$ 100,000
				$ 500,000
		Mobilization, Contingencies, and Soft Costs[2]	55%	$ 275,000
				$ 775,000
Downtown San Jose & Alum Rock/28th Street	**Alignment D**	Recycled water system extension: Installing 61,900 feet of piping[1]	Figure 9A	**$ 20,000,000**
		Mobilization, Contingencies, and Soft Costs[2]	55%	$ 11,000,000
				$ 31,000,000
			TOTAL	**$ 31,775,000**

Footnotes

[1] South Bay Water Recycling Strategic and Master Plan, prepared by RMC, dated December 2014.

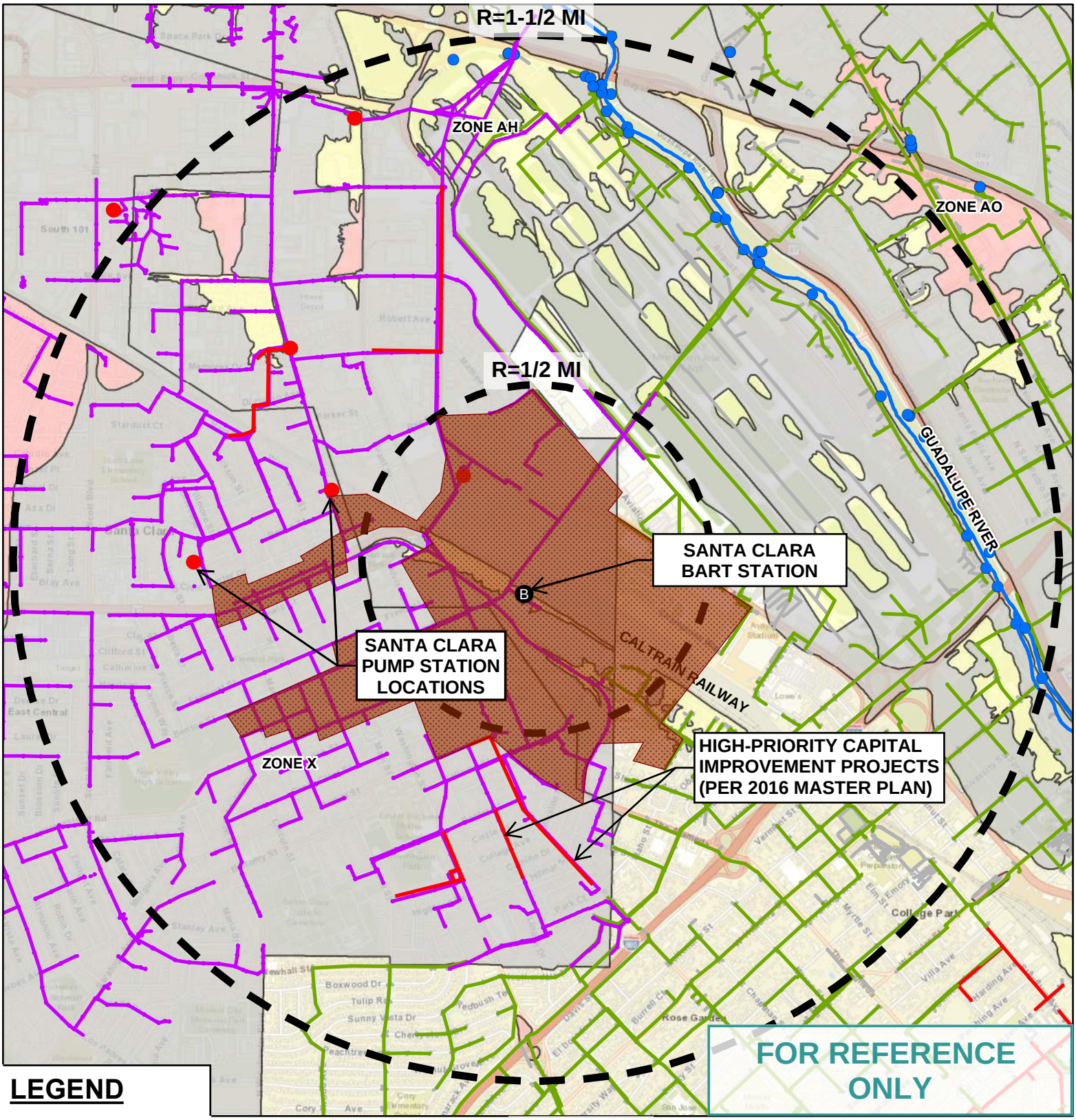
[2] Percent cost of mobilization, contingencies, and soft costs adopted from recommendations provided by City of San Jose in March 2019.

FIGURE 1. CITY OF SAN JOSE PRELIMINARY STORM DRAIN IMPROVEMENT PROJECTS WITHIN VTA-BART STATION BOUNDARY



Master Plan Study Area	Est. CIP (2019 $M)
4th Street	27.0
Havana	7.5
Sum	34.5

FIGURE 2. SANTA CLARA BART STATION STORM DRAIN IMPROVEMENT MAP



LEGEND

- VTA BART Station Study Area
- 1/2 & 1-1/2 Mile Radii
- Creeks
- Santa Clara - SD
- San Jose - SD Outfall
- San Jose - SD
- San Jose - SD (Deficient in 10-yr Storm Event)

ZONE

- **X** ponding depth up to 1-foot during the 0.2% annual chance
- **AH** flood depths of 1 to 3 feet (usually areas of ponding); during the 1% annual chance event
- **AO** flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); during the 1% annual chance event

N

FIGURE 3A. CITY OF SANTA CLARA CIP PRIORITY MAP

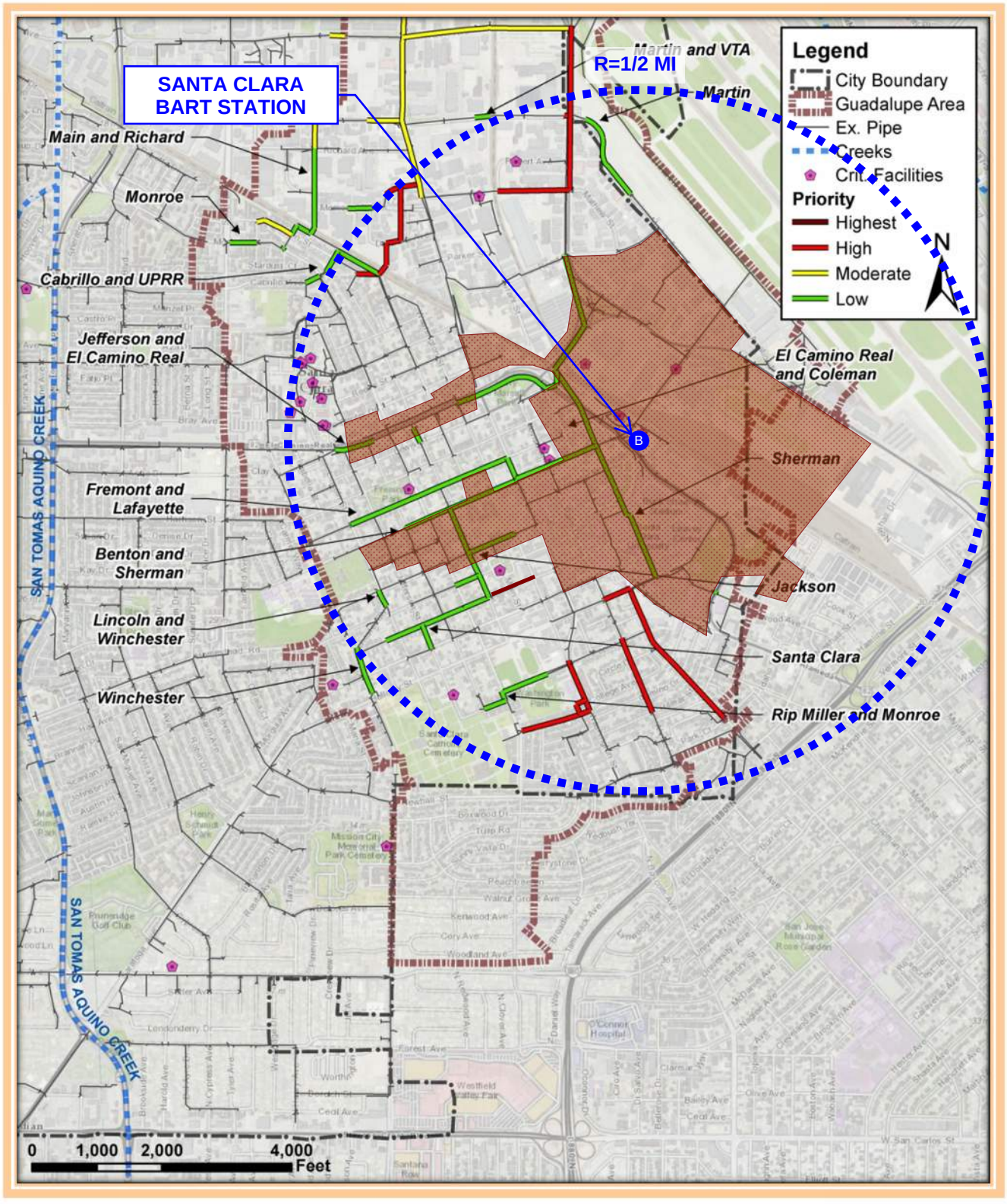


Figure 5-91: Southern Guadalupe River Drainage Area Low Priority Improvement Projects

NOTE: MAPS AND TABLES PROVIDED WERE TAKEN FROM THE CITY OF SANTA CLARA STORM DRAIN MASTER PLAN 2015, CONDUCTED BY SCHAAF & WHEELER. VTA "STATION STUDY AREA", BART LOCATION AND 1/2 MILE & 1-1/2 MILE RADIIS HAVE BEEN ADDED BY BKF ENGINEERS FOR REFERENCE PURPOSES.

FOR REFERENCE ONLY

FIGURE 3B. CITY OF SANTA CLARA CIP PRIORITY MAP

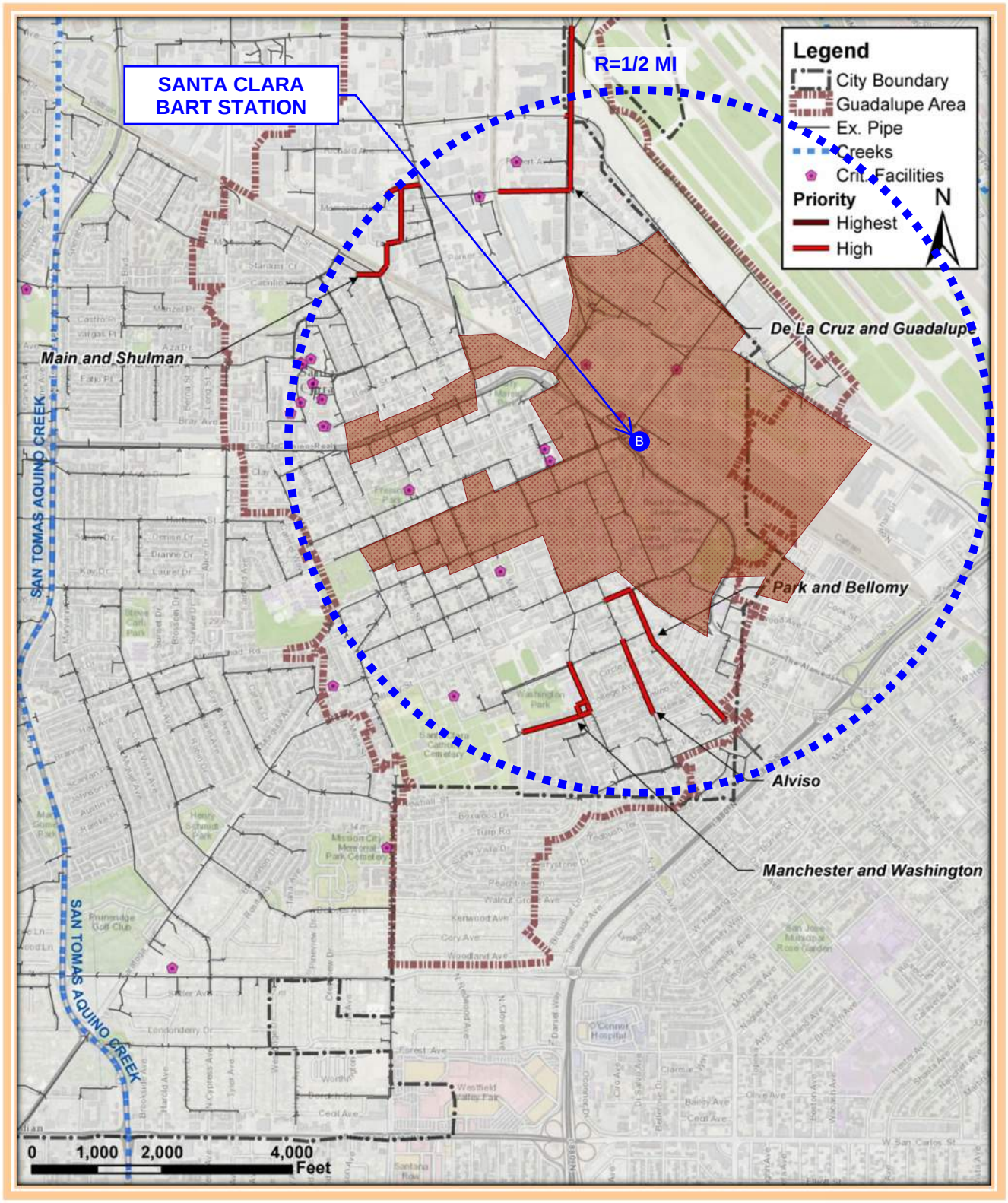


Figure 5-78: Southern Guadalupe River Drainage Area High Priority Improvement Projects

NOTE: MAPS AND TABLES PROVIDED WERE TAKEN FROM THE CITY OF SANTA CLARA STORM DRAIN MASTER PLAN 2015, CONDUCTED BY SCHAAF & WHEELER. VTA "STATION STUDY AREA", BART LOCATION AND 1/2 MILE & 1-1/2 MILE RADIIS HAVE BEEN ADDED BY BKF ENGINEERS FOR REFERENCE PURPOSES.

FOR REFERENCE ONLY

FIGURE 3C. DETAILED CIP TABLE

Appendix B. Detailed CIP

Table B-1: Capital Improvement Program project and priority summary

ID	Pipe Projects	Priority	Pipe Length	Connections	Outfalls	Project Subtotal[1]	Construction Total[2]	CIP Total[3]
1	**Anna**	**Highest**	**2,044**	**12**	**1**	$1,050,000	$1,630,000	$1,950,000
2	**Harrison**	**Highest**	**3,182**	**15**	**1**	$1,290,000	$2,000,000	$2,390,000
3	**Homestead and Maryann**	**Highest**	**4,691**	**21**	**1**	$3,810,000	$5,900,000	$7,040,000
4	**Los Padres and Warburton**	**Highest**	**2,833**	**12**	**1**	$880,000	$1,360,000	$1,620,000
5	**Washington and Santa Clara**	**Highest**	**695**	**3**	**0**	$190,000	$290,000	$350,000
6	Agate and Bowers	High	4,950	19	0	$2,760,000	$4,280,000	$7,700,000
7	Alviso	High	1,242	5	0	$380,000	$590,000	$700,000
8	Burton	High	1,468	6	0	$1,530,000	$2,370,000	$2,830,000
9	Carmel and Harrison	High	251	1	0	$72,000	$110,000	$130,000
10	De La Cruz and Guadalupe	High	3,985	17	0	$3,390,000	$5,260,000	$6,270,000
11	Fowler and Calabazas	High	1,302	8	1	$760,000	$1,180,000	$1,410,000
12	Homestead and Layton	High	1,516	9	1	$1,090,000	$1,700,000	$2,020,000
13	Leith	High	3,166	14	0	$2,790,000	$4,330,000	$5,160,000
14	Main and Shluman	High	2,454	12	0	$1,090,000	$1,680,000	$4,510,000
15	Manchester and Washington	High	2,281	14	0	$740,000	$1,150,000	$1,380,000
16	Park and Bellomy	High	2,931	12	0	$1,000,000	$1,550,000	$1,840,000
17	Royal and Cabrillo	High	2,736	11	1	$1,130,000	$1,750,000	$2,100,000
18	St Lawrence and Calabazas	High	4,798	19	1	$2,070,000	$3,210,000	$3,820,000
19	Bowers and Chromite	Moderate	1,941	10	0	$1,260,000	$1,950,000	$2,330,000
20	Bowers and Monroe	Moderate	4,630	14	1	$2,180,000	$3,380,000	$4,020,000
21	Caltrain and San Tomas Aquino	Moderate	2,789	15	1	$2,220,000	$3,440,000	$4,110,000
22	Condensa	Moderate	2,578	11	1	$2,930,000	$4,540,000	$5,430,000
23	De La Pena and Homestead	Moderate	3,310	18	0	$1,550,000	$2,400,000	$2,860,000
24	El Camino Real and Calabazas	Moderate	3,832	14	1	$1,640,000	$2,530,000	$3,030,000
25	Forbes	Moderate	279	1	0	$74,000	$120,000	$140,000
26	Halford and Tamarack	Moderate	805	3	0	$260,000	$400,000	$470,000
27	Harold and San Tomas Aquino	Moderate	6,760	27	0	$4,510,000	$6,990,000	$8,340,000
28	Juanita and Saratoga	Moderate	1,813	11	0	$570,000	$890,000	$1,050,000
29	Juliette	Moderate	1,955	15	0	$1,270,000	$1,970,000	$2,350,000
30	Kiely	Moderate	4,150	15	1	$2,260,000	$3,500,000	$4,180,000
31	Lafayette and Laurelwood	Moderate	10,469	47	0	$10,110,000	$15,670,000	$21,890,000
32	Lake Santa Clara PS	Moderate	1,390	10	1	$5,790,000	$8,970,000	$10,710,000

ID	Pipe Projects	Priority	Pipe Length	Connections	Outfalls	Project Subtotal[1]	Construction Total[2]	CIP Total[3]
33	Landeros and Gamblin	Moderate	2,010	8	1	$790,000	$1,230,000	$1,460,000
34	Los Padres	Moderate	3,040	12	0	$1,640,000	$2,540,000	$3,030,000
35	Machado	Moderate	590	3	0	$190,000	$300,000	$360,000
36	Main	Moderate	591	3	0	$230,000	$350,000	$420,000
37	Melody	Moderate	509	4	1	$200,000	$310,000	$360,000
38	Oakmead and Scott	Moderate	682	4	0	$240,000	$370,000	$450,000
39	Patricia	Moderate	197	2	1	$130,000	$200,000	$250,000
40	Princeton and Homestead	Moderate	839	4	0	$330,000	$510,000	$620,000
41	Richard and Scott	Moderate	8,295	29	1	$6,060,000	$9,390,000	$11,210,000
42	Salberg and Barcells	Moderate	2,119	7	0	$690,000	$1,070,000	$1,280,000
43	Scott and Anna	Moderate	2,390	9	0	$640,000	$1,000,000	$1,180,000
44	St Ignatius	Moderate	695	3	1	$250,000	$390,000	$460,000
45	Tahoe and Enochs	Moderate	296	4	0	$120,000	$190,000	$230,000
46	Tannery	Moderate	180	1	0	$89,000	$140,000	$170,000
47	Victor	Moderate	882	5	0	$350,000	$540,000	$650,000
48	Victoria	Moderate	455	2	0	$140,000	$220,000	$260,000
49	Walsh	Moderate	233	1	0	$68,000	$110,000	$130,000
50	Walsh and De La Cruz	Moderate	2,632	12	0	$2,200,000	$3,410,000	$4,070,000
51	Warburton and Nobili	Moderate	299	1	0	$88,000	$140,000	$170,000
52	Aldo and Woodward	Low	3,114	12	0	$1,240,000	$1,920,000	$2,300,000
53	Barcells	Low	646	2	0	$180,000	$280,000	$340,000
54	Bassett	Low	256	2	0	$93,000	$140,000	$170,000
55	Bellomy and Newhall	Low	4,462	19	0	$1,360,000	$2,110,000	$2,520,000
56	Benton	Low	2,837	9	1	$1,240,000	$1,920,000	$2,300,000
57	Benton and Calabazas	Low	3,619	18	1	$1,520,000	$2,360,000	$2,810,000
58	Benton and Sherman	Low	3,959	21	0	$2,370,000	$3,680,000	$4,390,000
59	Bowers 101 South Ramp	Low	1,350	4	0	$930,000	$1,440,000	$1,730,000
60	Bowers Overflow	Low	1,317	1	0	$370,000	$580,000	$690,000
61	Brookdale and Calabazas Creek	Low	2,255	11	1	$880,000	$1,360,000	$1,620,000
62	Bucher Overflow	Low	1,934	2	0	$970,000	$1,510,000	$1,800,000
63	Cabrillo and UPRR	Low	1,326	7	0	$470,000	$730,000	$870,000
64	Calabazas	Low	3,462	4	0	$2,500,000	$3,880,000	$4,630,000
65	Claremont	Low	1,167	5	1	$380,000	$590,000	$700,000
66	Coronado and San Tomas Aquino	Low	2,430	14	0	$970,000	$1,510,000	$1,800,000
67	De La Cruz and Nelo	Low	1,922	3	0	$990,000	$1,530,000	$1,820,000
68	Dolores and Saratoga	Low	2,756	13	0	$1,150,000	$1,790,000	$2,140,000
69	Edward	Low	329	3	0	$140,000	$220,000	$250,000

FIGURE 3E. DETAILED CIP TABLE - CONTINUED

ID	Pipe Projects	Priority	Pipe Length	Connections	Outfalls	Project Subtotal[1]	Construction Total[2]	CIP Total[3]
70	El Camino Real and Coleman	Low	4,413	17	0	$3,690,000	$5,720,000	$6,830,000
71	Fremont and Lafayette	Low	2,959	13	0	$1,150,000	$1,790,000	$2,140,000
72	Garrett Overflow	Low	530	2	0	$190,000	$300,000	$360,000
73	Glendenning and Pruneridge Golf Club	Low	1,015	5	0	$310,000	$480,000	$570,000
74	Glorietta	Low	585	3	0	$190,000	$300,000	$360,000
75	Harvard and Saratoga Creek	Low	2,784	11	1	$1,020,000	$1,580,000	$1,890,000
76	Howard	Low	840	4	0	$270,000	$420,000	$510,000
77	Hwy 101 PS	Low	234	1	1	$3,880,000	$5,650,000	$7,190,000
78	Jackson	Low	1,930	9	0	$710,000	$1,100,000	$1,300,000
79	Jefferson and El Camino Real	Low	609	6	0	$310,000	$480,000	$570,000
80	Kaiser PS	Low	400	6	1	$1,460,000	$2,310,000	$2,890,000
81	Kellogg and Pruneridge	Low	2,449	10	0	$900,000	$1,390,000	$1,660,000
82	Keystone	Low	959	6	0	$330,000	$510,000	$610,000
83	Kifer	Low	758	6	0	$360,000	$550,000	$660,000
84	Las Palmas	Low	460	6	1	$230,000	$350,000	$420,000
85	Laurelwood	Low	483	3	0	$150,000	$230,000	$280,000
86	Laurie and Kevin	Low	655	3	0	$200,000	$310,000	$370,000
87	Lincoln and Winchester	Low	269	2	0	$130,000	$200,000	$230,000
88	Live Oak	Low	387	3	0	$130,000	$200,000	$240,000
89	Madera	Low	152	2	1	$98,000	$150,000	$180,000
90	Main and Richard	Low	1,739	8	0	$790,000	$1,220,000	$1,450,000
91	Mangrum	Low	670	2	0	$200,000	$310,000	$370,000
92	Martin	Low	1,422	3	0	$580,000	$900,000	$1,070,000
93	Martin and VTA	Low	240	2	0	$100,000	$150,000	$190,000
94	McKinley	Low	386	5	0	$150,000	$230,000	$280,000
95	Mead	Low	880	2	0	$260,000	$390,000	$460,000
96	Memorex	Low	370	2	0	$110,000	$160,000	$190,000
97	Mission and Montague	Low	1,179	6	0	$830,000	$1,280,000	$1,540,000
98	Mission College	Low	378	2	0	$170,000	$260,000	$320,000
99	Monroe	Low	451	2	0	$160,000	$250,000	$290,000
100	Monroe and Agate	Low	1,366	6	0	$530,000	$820,000	$980,000
101	Monroe and San Tomas Aquino	Low	3,511	15	1	$1,780,000	$2,760,000	$3,300,000
102	Monroe Pump Station	Low	50	2	1	$4,960,000	$7,260,000	$9,248,000
103	Montague and De La Cruz	Low	1,180	4	0	$340,000	$530,000	$630,000
104	Norman	Low	1,033	4	0	$810,000	$1,250,000	$1,500,000
105	Notre Dame and Monroe	Low	2,740	11	0	$1,110,000	$1,720,000	$2,050,000
106	Orthello and Kiely	Low	2,663	12	0	$900,000	$1,400,000	$1,660,000

FOR REFERENCE ONLY

FIGURE 3F. DETAILED CIP TABLE - CONTINUED

ID	Pipe Projects	Priority	Pipe Length	Connections	Outfalls	Project Subtotal[1]	Construction Total[2]	CIP Total[3]
107	Peterson Overflow	Low	1,308	5	0	$630,000	$970,000	$1,160,000
108	Phillips	Low	711	5	0	$220,000	$340,000	$410,000
109	Pomeroy	Low	1,856	12	1	$900,000	$1,400,000	$1,670,000
110	Pomeroy Overflow	Low	1,500	4	0	$630,000	$980,000	$1,170,000
111	Pruneridge and Carlysle	Low	2,304	9	0	$840,000	$1,310,000	$1,560,000
112	Pruneridge and Kerry	Low	946	4	0	$430,000	$670,000	$800,000
113	Pruneridge and Saratoga Creek	Low	2,361	7	1	$990,000	$1,530,000	$1,830,000
114	Pruneridge and Tanoak	Low	2,455	14	1	$1,360,000	$2,120,000	$2,520,000
115	Rip Miller and Monroe	Low	1,235	5	0	$340,000	$530,000	$630,000
116	Russell	Low	715	4	0	$250,000	$390,000	$470,000
117	Santa Clara	Low	2,103	13	0	$680,000	$1,050,000	$1,250,000
118	Santa Cruz and Cabrillo	Low	2,015	9	0	$680,000	$1,050,000	$1,260,000
119	Santa Maria and Chromite	Low	3,212	13	0	$1,250,000	$1,930,000	$2,310,000
120	Scott and Bowers	Low	2,248	10	0	$1,070,000	$1,660,000	$1,970,000
121	Scott and El Camino Real	Low	1,435	6	0	$570,000	$890,000	$1,060,000
122	Sherman	Low	2,237	19	0	$2,100,000	$3,260,000	$3,890,000
123	Sherman and De La Cruz	Low	742	2	0	$270,000	$420,000	$510,000
124	South	Low	742	3	0	$250,000	$390,000	$460,000
125	Sunlite and Benton	Low	1,114	4	0	$340,000	$530,000	$630,000
126	The Alameda	Low	41	1	0	$37,000	$60,000	$68,000
127	Thomas and Norman	Low	1,906	9	0	$1,430,000	$2,210,000	$2,650,000
128	Warburton	Low	919	5	1	$310,000	$480,000	$570,000
129	Warburton and Barkley	Low	1,184	4	0	$360,000	$550,000	$660,000
130	Winchester	Low	740	3	0	$270,000	$420,000	$510,000
					Total			**$269,500,000**

[1]Project subtotals do not include markups for traffic control, mobilization/demobilization, design and engineering, or contingency (detailed in Table B-2).

[2]Construction cost includes 5% markup for traffic control, 10% markup for mobilization/demobilization, and 40% markup for contingency.

[3]CIP Total includes an additional 20% markup for Engineering and Inspection

FIGURE 3G. DE LA CRUZ AND GUADALUPE STORM DRAIN CIP

A. **Project ID:** 10

B. **Project Name:** De La Cruz and Guadalupe

C. **Project Location:** Matthew St. to De La Cruz and Walsh Ave.

D. **Storm Drain Block Book Location:** 57-MH32 to 58-MH1

E. **Priority:** High

F. **Type:** Capacity

G. **Project Description:** 2-year and 10-year flooding occurs on Martin Avenue and in the system upstream of Martin Avenue. Upsizing existing 33" pipes on De La Cruz to 72" is recommended.

Ex. Diameter (in)	Replacement Pipe Diameter (in)	Parallel Pipe Diameter (in)	Length (ft)
15	18	12	40
33	42	33	360
33	54	48	690
33	72	72	2,780
72	78	42	40

H. **Special Considerations:** N/A

I. **Alternatives:** N/A

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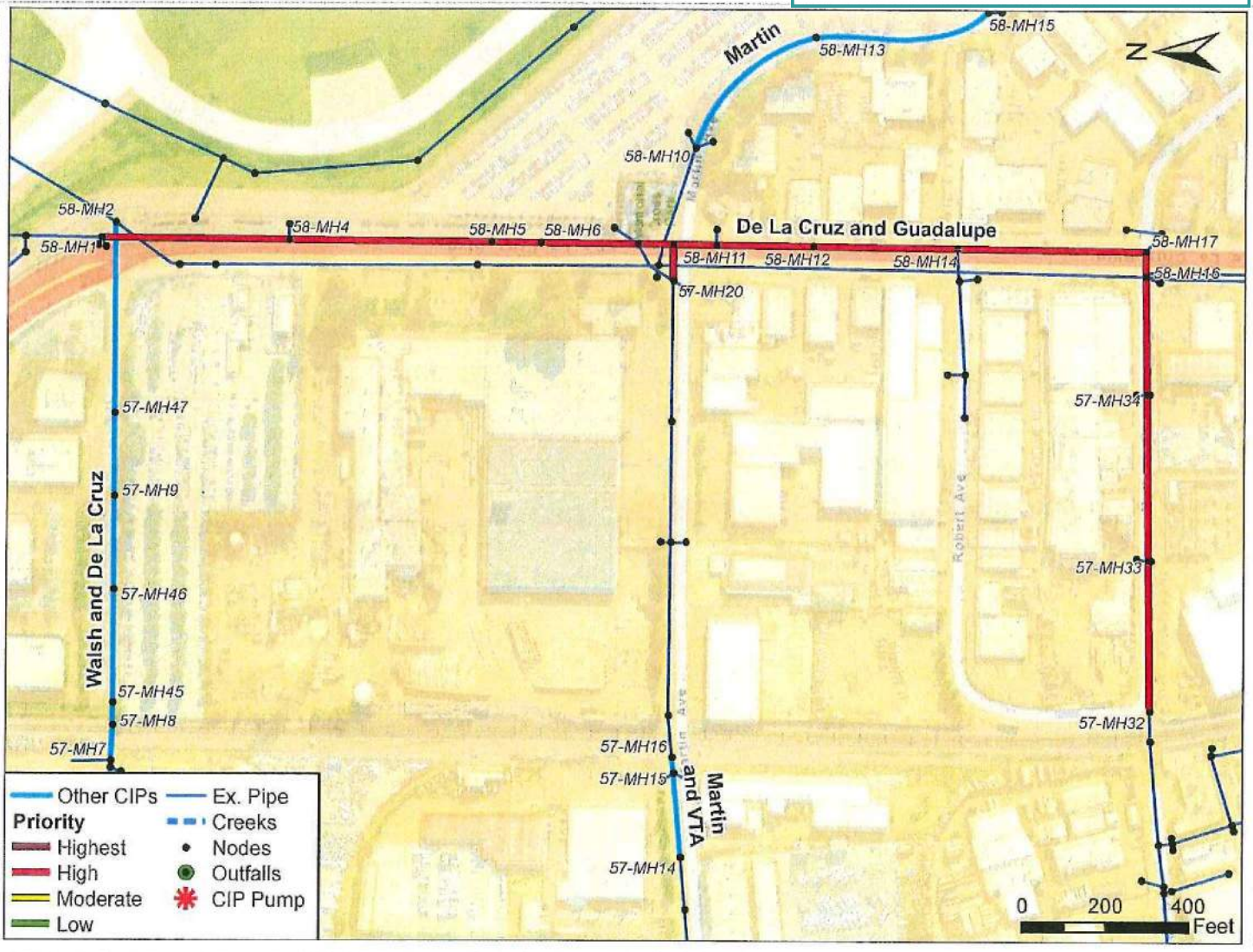

A. Project ID: 10
B. Project Name: De La Cruz and Guadalupe
C. Project Location: Matthew St. to De La Cruz and Walsh Ave.
D. Storm Drain Block Book Location: 57-MH32 to 58-MH1
E. Priority: High
F. Project Cost:

MAJOR ITEMS	DIAM. (in)	DEPTH (ft)	QTY.	UNIT	UNIT COST	COST
BASELINE CONSTRUCTION COST						
Pipe Demo/Disposal						**$179,000**
67-MH24 to 67-MH23	15		40	LF	$27	$1,000
57-MH32 to 58-MH1, 58-MH9 to 68-MH14	33		3,820	LF	$46	$175,000
58-MH16 to 58-MH8	72		40	LF	$88	$3,000
Pipe Construction						**$2,940,000**
67-MH24 to 67-MH23	18	5	40	LF	$205	$8,000
57-MH32 to 57-MH33	42	3	360	LF	$410	$148,000
57-MH33 to 58-MH16	54	2	680	LF	$557	$382,000
58-MH17 to 68-MH14	72	1	2,780	LF	$854	$2,372,000
58-MH16 to 58-MH8	78	2	40	LF	$854	$31,000
Structures						
Manholes						$270,000
Catch Basins						$0
Outfalls						$0
SITE SPECIFIC COSTS						
Utility Relocation						$0
ROW Acquisition						$0
SUBTOTAL						**$3,390,000**
Mobilization/Demobilization					10%	$340,000
Traffic Control					5%	$170,000
Contingency					40%	$1,360,000
CONSTRUCTION COST TOTAL						**$5,260,000**
Engineering/Inspection					20%	$1,020,000
CIP TOTAL						**$6,270,000**

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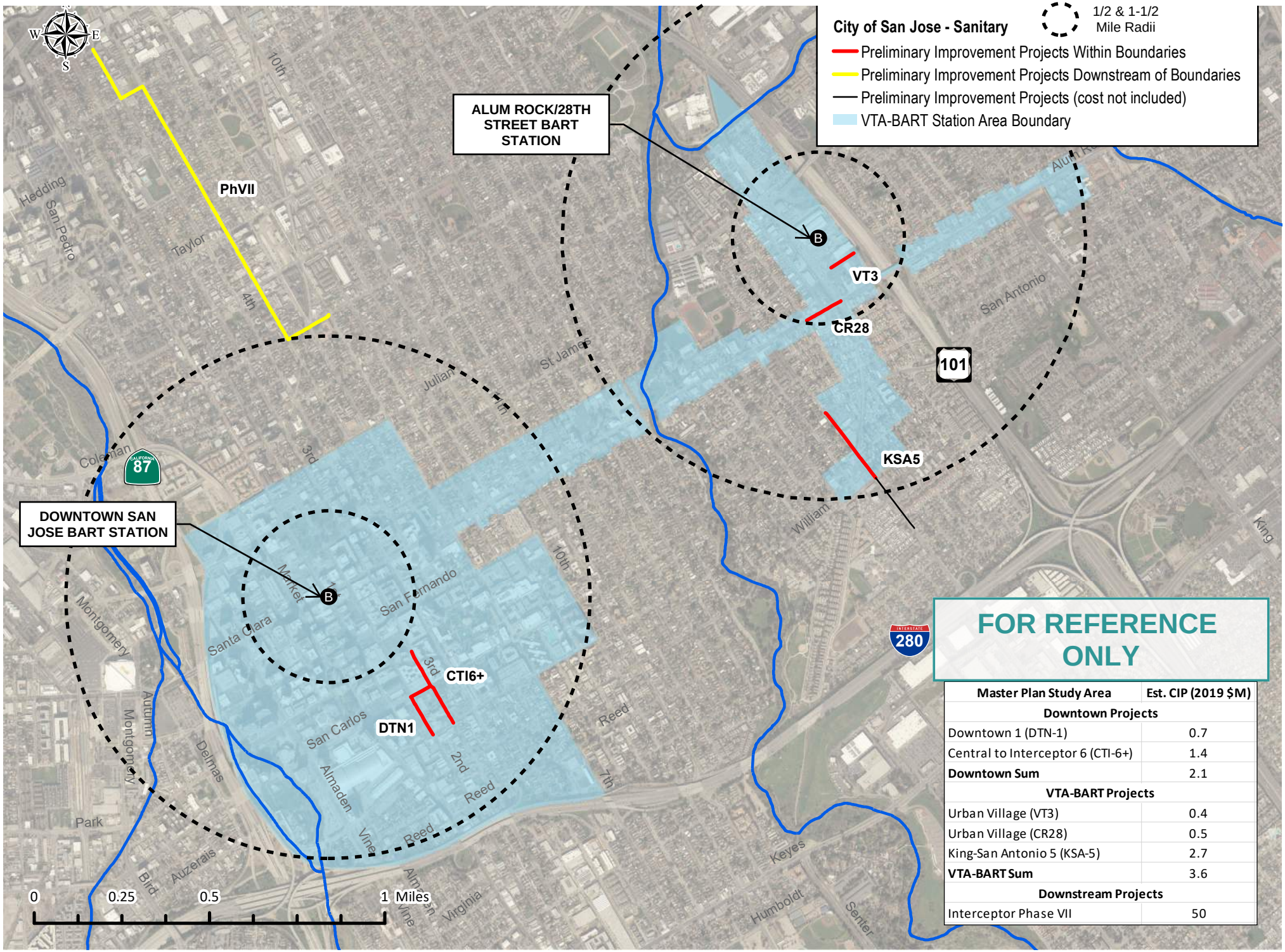
FIGURE 4. CITY OF SAN JOSE PRELIMINARY SANITARY SEWER IMPROVEMENT PROJECTS WITHIN VTA-BART STATION BOUNDARY

NOTE: MAP PROVIDED BY CITY OF SAN JOSE. BART LOCATION AND 1/2 MILE & 1-1/2 MILE RADIIS HAVE BEEN ADDED BY BKF ENGINEERS FOR REFERENCE PURPOSES.



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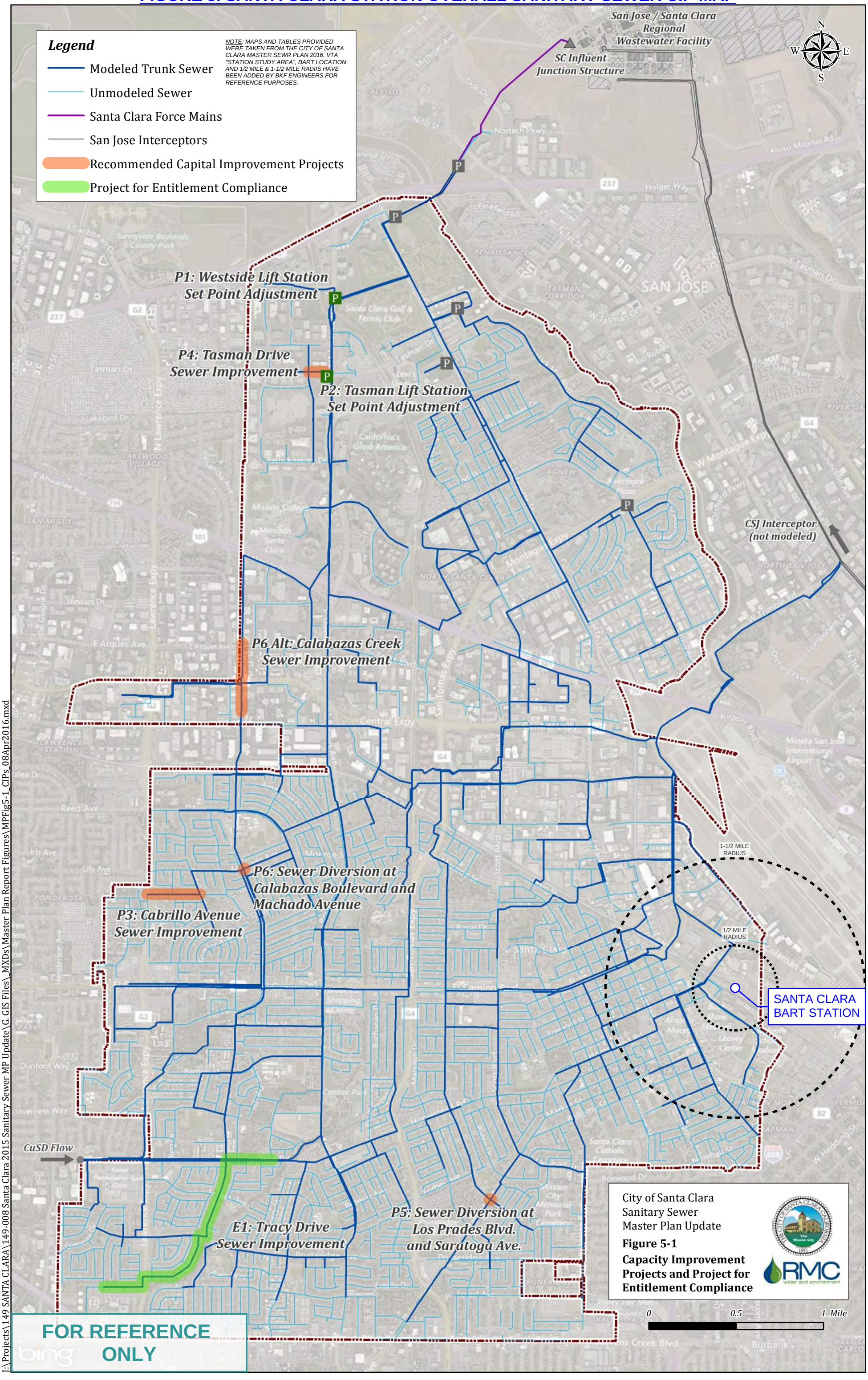
Master Plan Study Area	Est. CIP (2019 $M)
Downtown Projects	
Downtown 1 (DTN-1)	0.7
Central to Interceptor 6 (CTI-6+)	1.4
Downtown Sum	2.1
VTA-BART Projects	
Urban Village (VT3)	0.4
Urban Village (CR28)	0.5
King-San Antonio 5 (KSA-5)	2.7
VTA-BART Sum	3.6
Downstream Projects	
Interceptor Phase VII	50

FIGURE 5. SANTA CLARA STATION OVERALL SANITARY SEWER CIP MAP



J:\Projects\149 SANTA CLARA\149-008 Santa Clara 2015 Sanitary Sewer MP Update\G. GIS Files_MXDs\Master Plan Report Figures\MPFig5-1_CIPs_08Apr2016.mxd

FIGURE 6. ALUM ROCK/28TH STREET BART STATION DOMESTIC WATER/FIRE IMPROVEMENTS

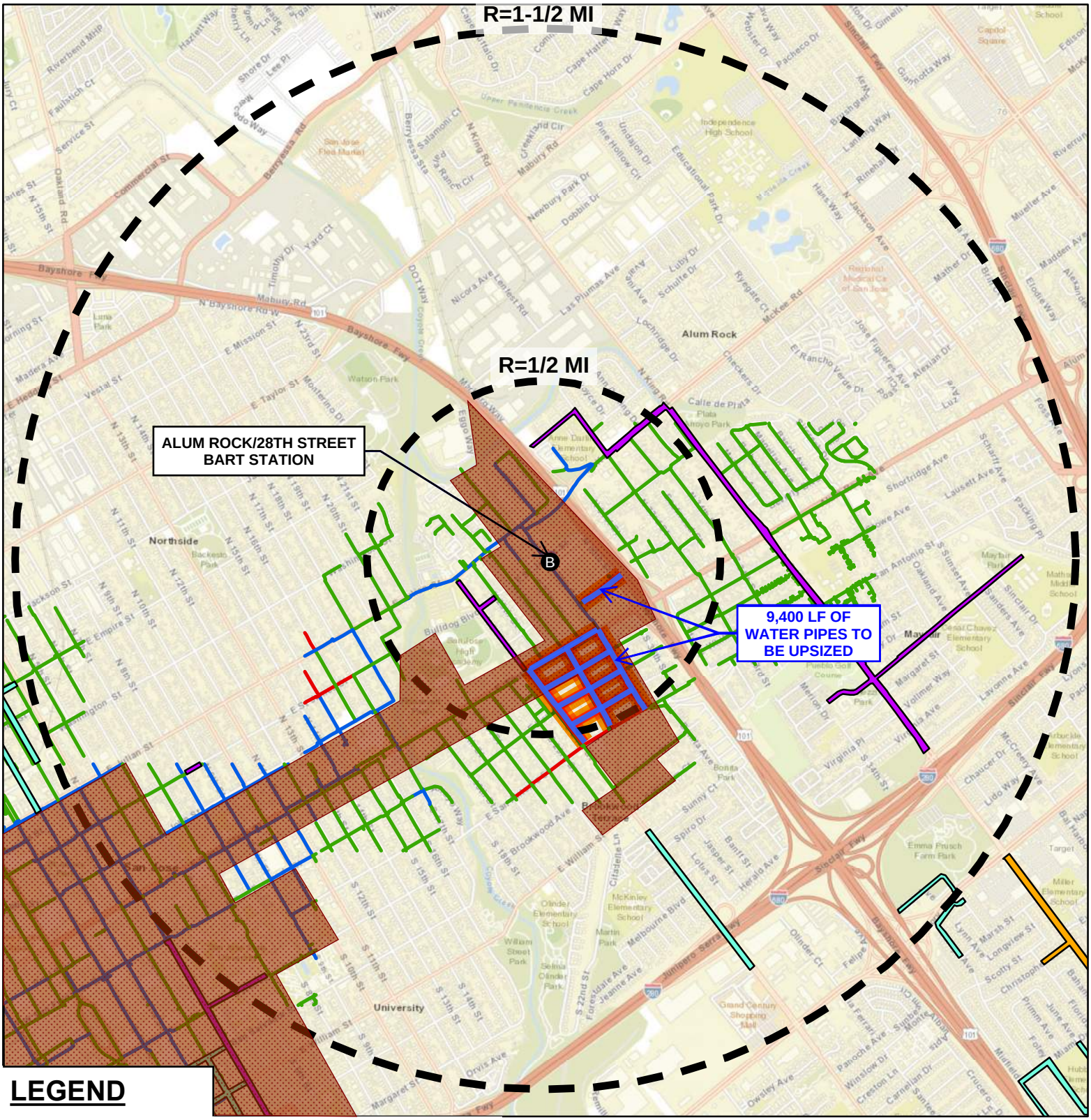
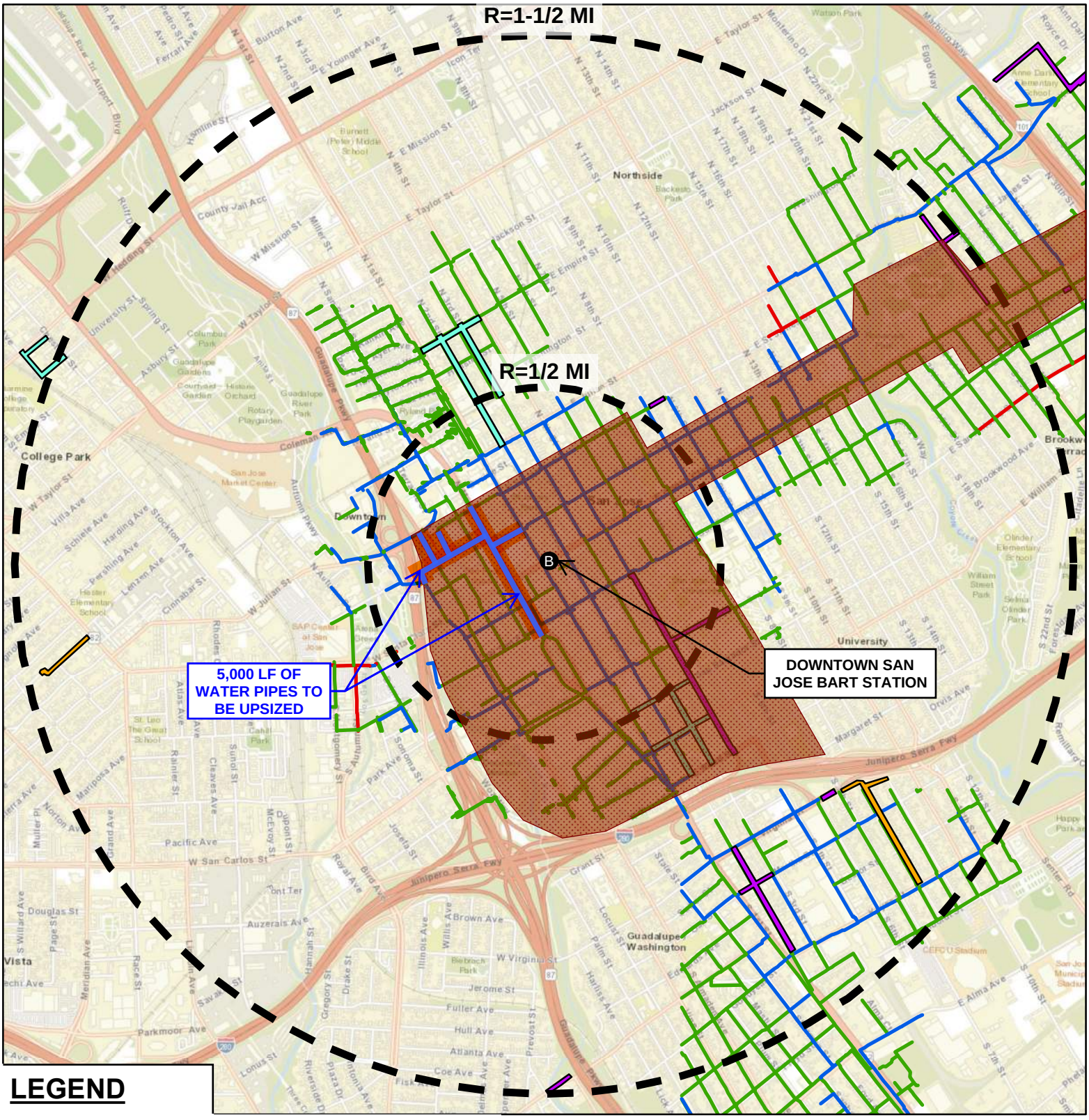


FIGURE 7. DOWNTOWN SAN JOSE BART STATION DOMESTIC WATER/FIRE IMRPOVEMENTS



LEGEND

- VTA BART Station Study Area
- 1/2 & 1-1/2 Mile Radii
- Water (<12")
- Water (12")
- Water (>12")
- 2018 Main Replacement Project
- 2019 Main Replacement Project
- 2020 Main Replacement Project

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FIGURE 8. SANTA CLARA BART STATION DOMESTIC WATER/FIRE IMRPOVEMENTS

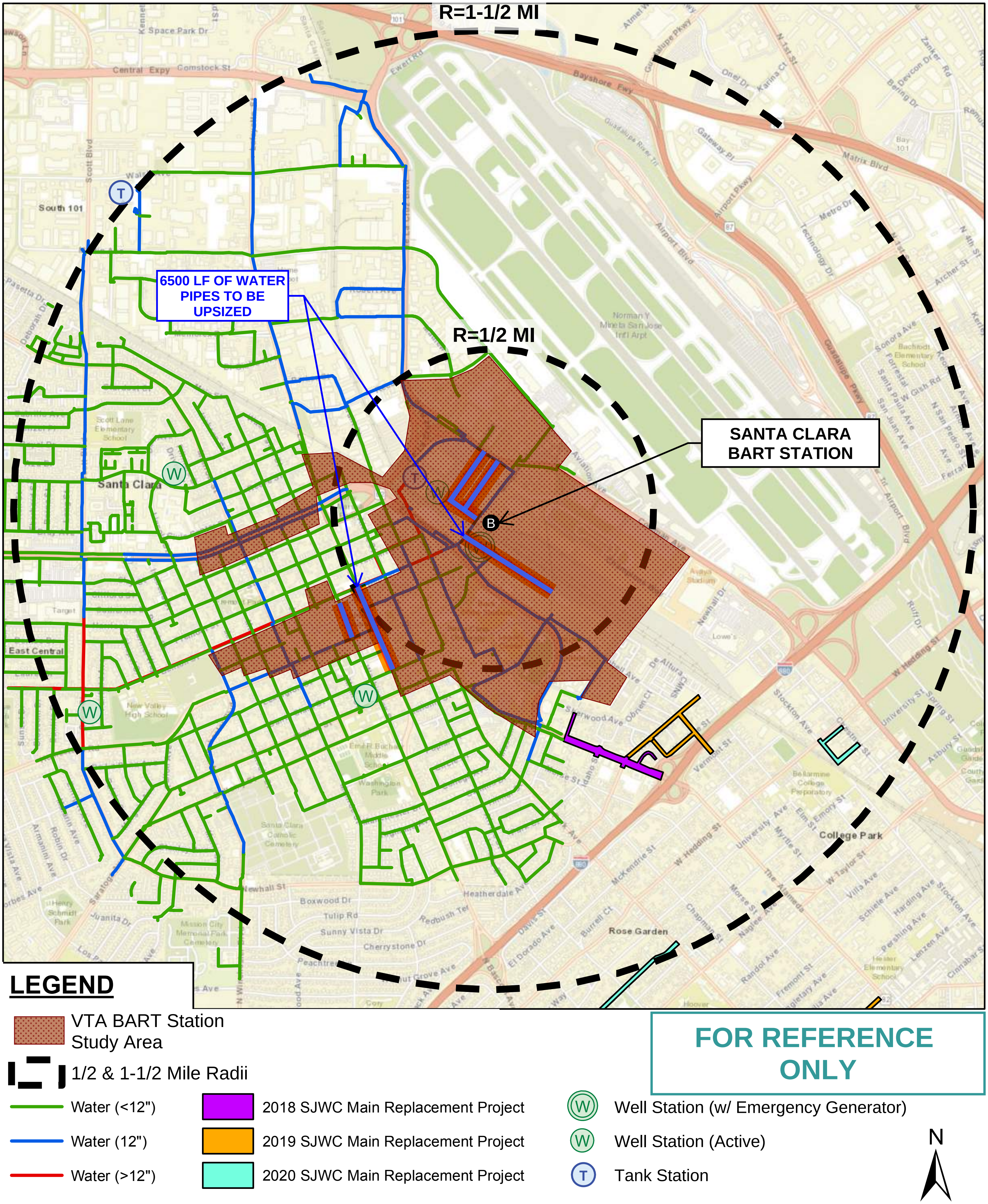

Figure 3-3: SJWC Potential Extensions

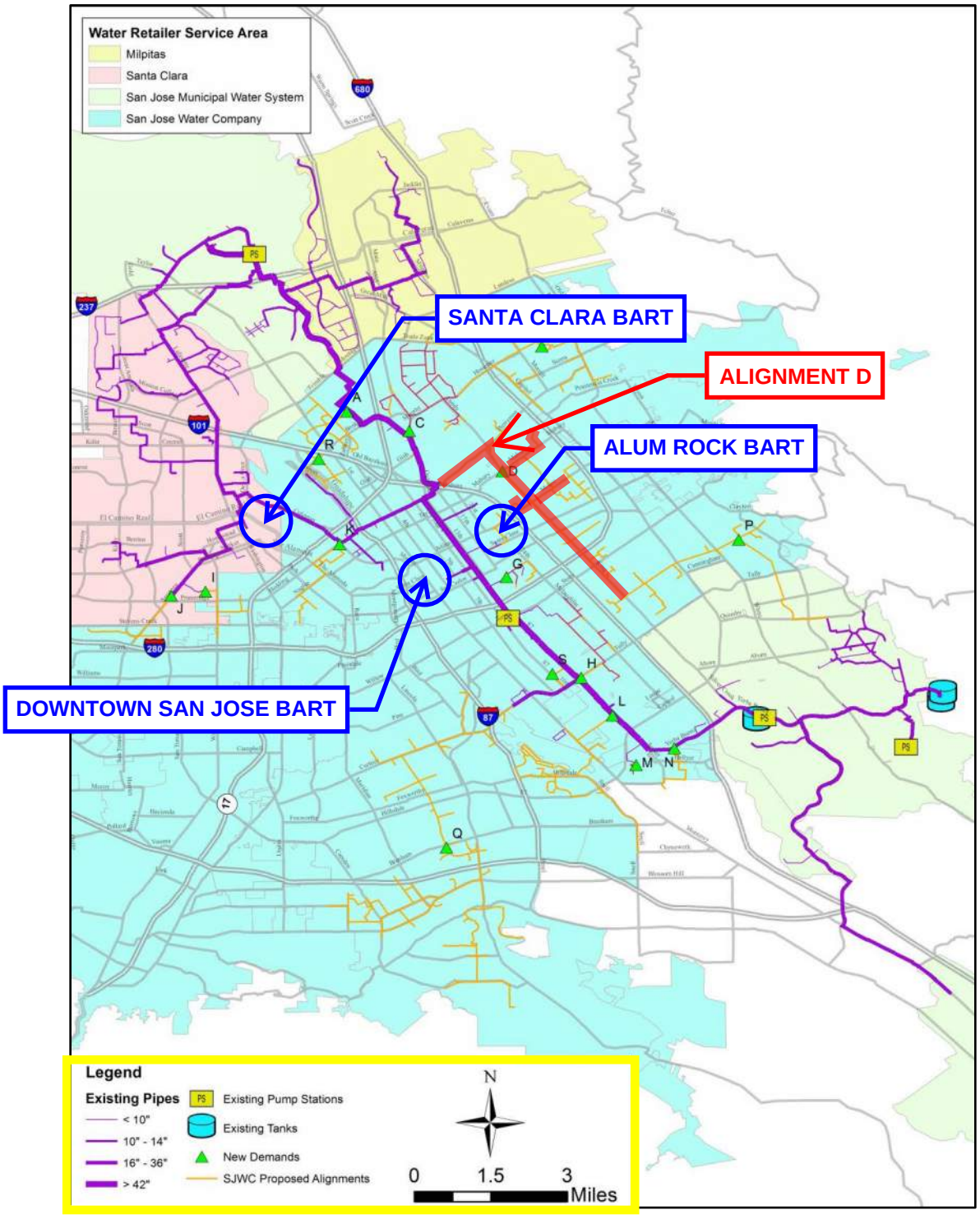

Figure 4-3: Potential Zone 1 Storage Sites