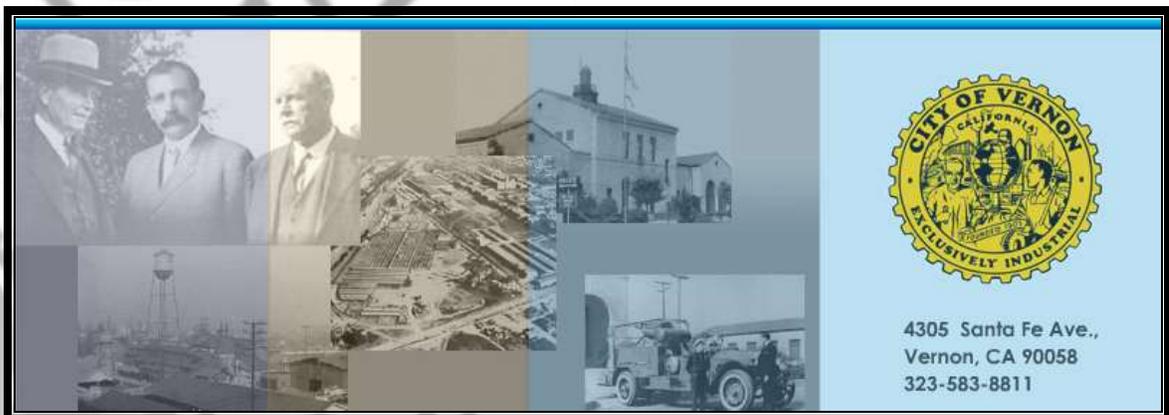


City of Vernon

Public Works, Water & Development Services



Five-Year Capital Improvement Plan

2015-2020

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Executive Summary

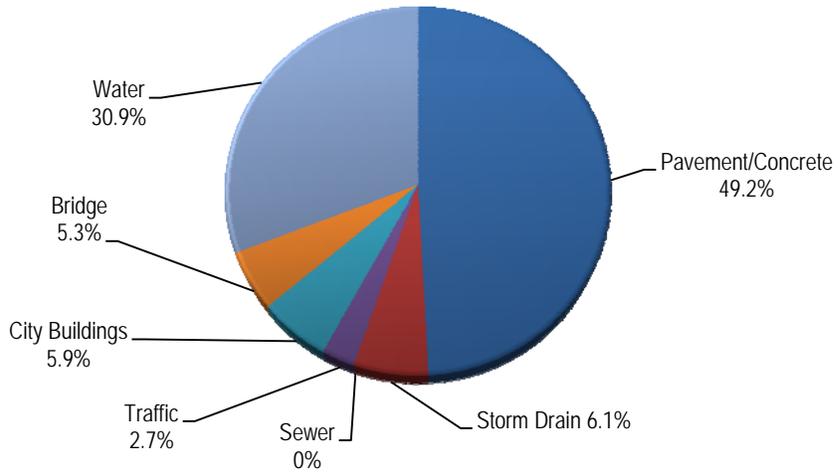
The Engineering Division proposes the following capital improvement expenditures for the five-year period of 2015-2020. The improvements are divided into six categories including Street, Storm Drain, Sewer, Traffic, City Buildings, and Bridges. The fiscal impacts are summarized in the table below.

FIVE-YEAR CAPITAL IMPROVEMENT PLAN SUMMARY								
Fiscal Year	Pavement & Concrete	Storm Drain	Sewer	Traffic	City Buildings	Bridge	Subtotal per Year	Adjusted Subtotals for 5.0% Inflation
FY 2015-2016	\$3,150,000	\$324,600	\$0	\$255,000	\$835,000	\$277,745	\$4,842,345	\$5,084,462
FY 2016-2017	\$2,650,000	\$575,000	\$0	\$215,000	\$620,000	\$0	\$4,060,000	\$4,476,150
FY 2017-2018	\$2,950,000	\$715,000	\$0	\$200,000	\$200,000	\$0	\$4,065,000	\$4,705,746
FY 2018-2019	\$3,480,000	\$175,000	\$0	\$100,000	\$150,000	\$520,050	\$4,425,050	\$5,378,676
FY 2019-2020	\$3,350,000	\$175,000	\$0	\$100,000	\$150,000	\$802,900	\$4,577,900	\$5,842,689
Subtotal=	\$15,580,000	\$1,964,600	\$0	\$870,000	\$1,955,000	\$1,600,695	\$21,970,295	\$25,487,723
Total Adjusted for 5.0% Inflation	\$18,149,624	\$2,238,532	\$0	\$985,491	\$2,165,593	\$1,948,482		\$25,500,000
Average/year=	\$3,630,000	\$448,000	\$0	\$197,000	\$433,000	\$390,000		

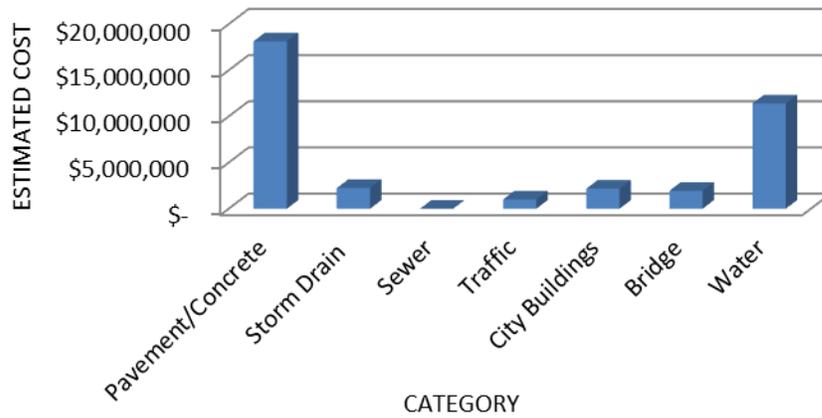
This report also includes information relating to the Water Division's five-year outlook as summarized below.

FIVE-YEAR <u>WATER</u> CAPITAL IMPROVEMENT PLAN SUMMARY	
2015-2016	\$ 2,280,000.00
2016-2017	\$ 1,380,000.00
2017-2018	\$ 1,690,000.00
2018-2019	\$ 1,730,000.00
2019-2020	\$ 2,690,000.00
TOTAL:	\$ 9,770,000.00

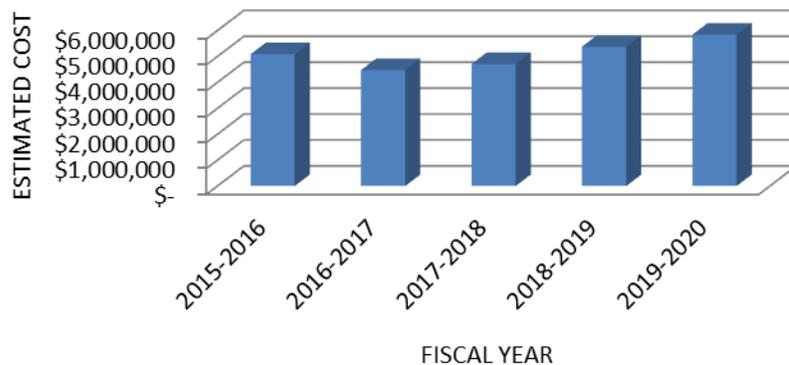
5-Year CIP Distribution of Funds \$36,895,582 (5% Inflation)



**2015-2020 FIVE YEAR CAPITAL IMPROVEMENT PROGRAM
(5% Inflation Per Year)**



**2015-2020 FIVE YEAR CAPITAL IMPROVEMENT PROGRAM
(5% Inflation Per Year)**



Note: Water estimates not included in the graph above

Street Improvement Plan



Fiscal Years 2015-2020

1.0 Street Improvement Plan

1.1 Introduction:

Various factors shape the prioritization of the street improvement five-year plan including:

- Safety Related Improvements
Examples include bridges rehabilitations, trip hazards, and streets that have begun to pothole. Projects where safety becomes an issue have priority.
- Pavement Management Program
As part of a previously established Pavement Management Program (PMP) for all the City's streets, all City streets are surveyed bi-annually and the pavement inventory and pavement condition data is updated. Pavement maintenance and rehabilitation historical records have also been entered into the database. A pavement maintenance and rehabilitation (M&R) budget-needs analysis is performed and budgetary scenarios are analyzed.

In April 2015, the City's Engineering Division completed the latest survey of all the City streets, which contains approximately 49.1 centerline miles. The pavement inventory and pavement condition data was updated. The updated data was used as the basis for the street improvement five-year plan where projects are selected for implementation and must be cost-effective from a lifecycle perspective. The recommendations listed in this section are based on this latest analysis.

- Capital Improvement Funding
Other factors that shape the street improvement five-year plan include strategic direction relating to Capital Improvement funding. Currently, this has been established at \$4 to \$5 million per year. From this amount, depending on other types of Capital Improvement Projects (such as buildings, bridges and sidewalk repair), funds will be allocated for street improvements.

1.2 Existing Conditions:

The City of Vernon is responsible for the repair and maintenance of approximately 49.1 centerline miles of pavement, or 302 pavement sections. Table 1 below summarizes the lengths of the road network based on functional classes.

Network Classification for the City of Vernon		
Functional Class	Centerline Miles	Lane Miles
Arterial	15.8	57.3
Collector	13.5	41.2
Local	19.8	38.8
Total	49.1	137.3

The pavement condition index, or PCI, is a measurement of pavement grade or condition and ranges from 0 to 100. A newly constructed road would have a PCI of 100, while a failed road would have a PCI of 10 or less. The average PCI of the City’s roads is 58. Table 2 gives a summary of the network pavement condition based on the April 2015 survey.

Condition Category	PCI Range	Percent of Network
Good	70-100	31.3%
Fair	50-69	35.9%
Poor	25-49	29.3%
Very Poor	0-24	3.5%

As shown in the above tables, pavement condition categories are determined by PCI. Following is a brief description of the various condition categories.

Good: PCI – 70 to 100. No distress to low severity weathering requiring no treatment or low severity weathering with linear cracking requiring a treatment such as slurry seal.

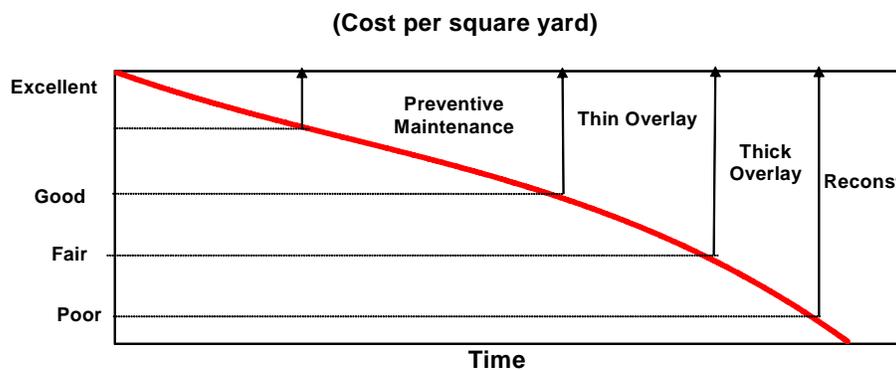
Fair: PCI – 50 to 69. Low to moderate severity weathering with moderate cracking requiring a thin overlay or patch & slurry seal.

Poor: PCI – 25 to 49. Accelerated base deterioration requiring thick overlay.

Very Poor: PCI – 0 to 24. Badly deteriorated pavement requiring major rehabilitation. The Engineering Division goal is to obtain and maintain an average PCI rating of 75.

1.3 Rehabilitation Strategy:

Though the current average condition of the City of Vernon’s streets falls within the “Fair” section, there is a significant portion of the network that suffers from load-related distresses. In addition, there is currently a backlog of millions of dollars in maintenance. If these issues are not addressed, the quality of the road network will inevitably and rapidly decline. Furthermore, as the graph below shows, pavement life can deteriorate rapidly and subsequent rehabilitation costs can dramatically increase if maintenance strategies are not in place.



The map on Appendix “A” shows the history of type of street improvement projects completed in previous years.

1.4 Fiscal Impact

The Pavement Management System established preliminary budgetary needs necessary to maintain an average pavement condition index (PCI) rating in the “Fair” range for \$4 to \$5 million per year including the estimated values to account for other items of work such as concrete, landscaping, etc.

FISCAL YEAR	PAVEMENT & CONCRETE PROJECTS	TOTAL COST
2015-2016	Slauson Ave. (Boyle - Downey)	\$1,200,000
	Boyle Avenue (Slauson - City Limit)	\$300,000
	Downey Rd. Resurfacing (LA River - Fruitland Ave.)	\$800,000
	District Blvd. (250ft Sections E/O Atlantic)	\$100,000
	Heliotrope (District - City Limit)	\$100,000
	Citywide Concrete Repair (2015-2016) Phase I	\$50,000
	Citywide Concrete Repair (2015-2016) Phase II	\$50,000
	Citywide Crack Seal Repair (2015-2016)	\$50,000
	Citywide Rubberized Slurry Seal Phase III	\$500,000
	Subtotal	\$3,150,000
2016-2017	Soto St. Resurfacing (LA River - South City Limit)	\$2,000,000
	Citywide Crack Seal Repair (2016-2017)	\$50,000
	Citywide Rubberized Slurry Seal Phase IV	\$600,000
		Subtotal
2017-2018	1st, 2nd, 53rd, 54th, 55th, 56th, & 57th	\$1,125,000
	26th, 30th, 45th, 46th, Hawthorne, Sierra Pine, Saint Charles & Hampton	\$1,175,000
	Citywide Concrete Repair (2017-2018) Phase III	\$50,000
	Citywide Rubberized Slurry Seal Phase V	\$600,000
		Subtotal
2018-2019	Washington Blvd. Resurfacing (Within City Boundary)	\$1,700,000
	Exchange Ave. & Everett Ave.	\$1,130,000
	Citywide Concrete Repair (2019-2020) Phase IV	\$50,000
	Citywide Rubberized Slurry Seal Phase VI	\$600,000
		Subtotal
2019-2020	Bandini Blvd. (LA River - County Line)	\$1,250,000
	Bandini Blvd. (Downey Rd - Bonnie Beach)	\$2,050,000
	Citywide Concrete Repair (2019-2020) Phase V	\$50,000
		Subtotal
TOTAL		\$15,580,000
Total Adjusted for 5.0% Inflation:		\$18,149,624
Average Per Year		\$3,630,000

The map in Appendix “B” illustrates the limits of the street improvement projects.

Fiscal Year	RUBBERIZED SLURRY SEAL PROJECTS	Total Budget
2015-2016	PHASE III	\$500,000
	Vernon Ave. (Alameda to Santa Fe)	
	38th St. (Alameda to Santa Fe)	
	49th St. (Alameda to Santa Fe)	
	Malburg Way (Alcoa to Slauson)	
2016-2017	PHASE IV	\$600,000
	Vernon Ave. (Soto to Downey)	
	Alcoa Ave. (Fruitland to Slauson)	
	37th St. (Alameda to LA River)	
2016-2017	PHASE V	\$600,000
	Various Streets	
2017-2018	PHASE VI	\$600,000
	Various Streets	
2019-2020	PHASE VII	\$600,000
	Various Streets	
TOTAL		\$2,900,000

2.0 Storm Drain Improvement Plan



Fiscal Years 2015-2020

2.0 Storm Drain Improvement Plan

2.1 Introduction

In 1969, a Storm Drain Master Plan (SDMP) was developed by the City of Vernon. This study investigated the total drainage area for the City. The capacity of all existing drains was reviewed and the deficiencies were evaluated. Also, new drainage systems were proposed where drainage conditions warrant.

Although this SDMP is 46 years old, drainage patterns have not dramatically changed since then. Therefore, the 1969 SDMP continues to be used as a guide for the five-year plan. However, the City might choose to consider issuing a request for proposals to update the City's SDMP.

2.2 Improvement Strategy

The new proposed storm drain segment on 57th Street shown on the table in Section 2.4 is the last of the drainage systems proposed by the Storm Drain Master Plan. This segment is illustrated on the map in Appendix "B" and shown on the table in section 2.4 below.

2.3 Studies for NPDES Structural Regional Best Management Practices

The Municipal National Pollutant Discharge Elimination System (NPDES) Permit places an emphasis on coordination of resources and efforts between Permittees such as integrated watershed planning. In

an effort to comply with the Municipal NPDES Permit the City of Vernon joined in with neighboring cities to prepare and submit planning documents to the Los Angeles Regional Water Quality Control Board. The objective of the planning documents is to identify structural and non-structural Best Management Practices (BMPs) and meet the goals of the NPDES program.

The planning documents concluded that in order to meet the goals of the NPDES program the City must implement costly new pollutant source and watershed control measures (including Minimum Control Measures), Low Impact Development (LID) and Green Street projects, scientific studies, enforcement, and structural regional Best Management Practices (BMPs).

Technical feasibility studies to determine the feasibility of the regional structural BMP projects is an essential component of the regional structural BMP projects identified in the planning documents.

2.4 Fiscal Impact

Using the quantities noted in the 1969 SDMP and today's construction unit prices, the following estimate was generated.

Fiscal Year	STORM DRAIN PROJECTS	Total Cost	City of Vernon		Federal Funds & Gateway Cities
			Matching %	Matching Funds	
2015-2016	Studies for NPDES Structural Regional BMPs	\$100,000	100%	\$100,000	
	LID BMPs Project - 2 Treebox filters	\$149,600	27.3%	\$40,836	\$108,764
	Catch Basin Inserts	\$75,000	100%	\$75,000	\$0
	Subtotal	\$324,600		\$324,600	\$108,764
2016-2017	Soto St. - LID Streets (LA River - Fruitland)	\$400,000	100%	\$400,000	\$0
	Studies for NPDES Structural Regional BMPs	\$175,000	100%	\$175,000	\$0
	Subtotal	\$575,000		\$575,000	
2017-2018	57th Street Storm Drain Construction	\$540,000	100%	\$540,000	\$0
	Studies for NPDES Structural Regional BMPs	\$175,000	100%	\$175,000	\$0
	Subtotal	\$715,000		\$715,000	
2018-2019	Studies for NPDES Structural Regional BMPs	\$175,000	100%	\$175,000	\$0
	Subtotal	\$175,000		\$175,000	
2019-2020	Studies for NPDES Structural Regional BMPs	\$175,000	100%	\$175,000	\$0
	Subtotal	\$175,000		\$175,000	
Total		\$1,964,600		\$1,964,600	\$108,764
Total Adjusted for 5.0% Inflation:				\$2,238,532	
Average Per Year				\$448,000	

3.0 Sewer Improvement Plan



Fiscal Years 2015-2020

3.0 Sewer Improvement Plan

3.1 Introduction:

In 2005, the City of Vernon completed improvements to the sewer network in the Central Manufacturing District with the installation of 6,000 linear feet of sewer.

For future projects, the City will consider using the previously used method of utilizing trenchless manhole-to-manhole pipe lining & sectional linings (point repairs) with cured-in-place pipe (CIPP) in lieu of traditional excavate, remove and replace existing pipe method. The cost difference in methods is substantial.

The City does not have any sewer improvement projects scheduled in the next five fiscal years.

Fiscal Year	Proposed Sewer Projects	Cost
2015-2016	None	\$ -
2016-2017	None	\$ -
2017-2018	None	\$ -
2018-2019	None	\$ -
2019-2020	None	\$ -
Total		\$ -
Total Adjusted for 5.0% Inflation		\$ -
Average per year		\$ -

4.0 Traffic Improvement Plan



Fiscal Year 2015-2020

4.0 Traffic Improvement Plan

4.1 Introduction:

The City retained Republic Intelligent Transportation Services, Inc. (ITS) to conduct a citywide condition survey of Vernon’s Traffic Signal system. Based on the survey a prioritized list was developed of signalized intersections that need improvements and/or repairs.

The table below shows the signalized intersections proposed to be improved within the next five fiscal years. The locations are also illustrated in the map shown in Appendix “B”.

4.2 Fiscal Impact:

FISCAL YEAR	TRAFFIC IMPROVEMENT PROJECTS	TOTAL COST
2015-2016	Intersection Improvements - Slauson @ Alcoa	\$30,000
	Intersection Improvements - Bandini @ I-710 Ramp	\$50,000
	Intersection Improvements - Santa Fe @ 28th St.	\$50,000
	Intersection Improvements - Downey @ Vernon	\$50,000
	Sign Replacement Program - Section 2	\$50,000
	Warning Devices	\$25,000
	Subtotal	\$255,000
2016-2017	Intersection Improvements - Soto @ Vernon	\$50,000
	Intersection Improvements - Soto @ Leonis	\$40,000
	Intersection Improvements - Soto @ Fruitland	\$50,000
	Sign Replacement Program - Section 3	\$50,000
	Warning Devices	\$25,000
	Subtotal	\$215,000
2017-2018	Intersection Improvements - Fruitland @ Pacific	\$50,000
	Intersection Improvements - Pacific @ Leonis	\$50,000
	Intersection Improvements - Bandini @ Sierra Pine	\$50,000
	Sign Replacement Program - Section 4	\$50,000
	Subtotal	\$200,000
2018-2019	Intersection Improvements - Washington @ Hobart	\$50,000
	Intersection Improvements - Various Intersections	\$50,000
	Sign Replacement Program - Section 5	\$50,000
	Subtotal	\$100,000
2019-2020	Intersection Improvements - Bandini @ Sunol	\$50,000
	Sign Replacement Program - Section 6	\$50,000
	Subtotal	\$100,000
Total		\$870,000
Total Adjusted for 5.0% Inflation		\$985,491
Average per year		\$197,000

5.0 Improvements of City Building Facilities



Fiscal Years 2015-2020

5.0 Improvements of City Building Facilities

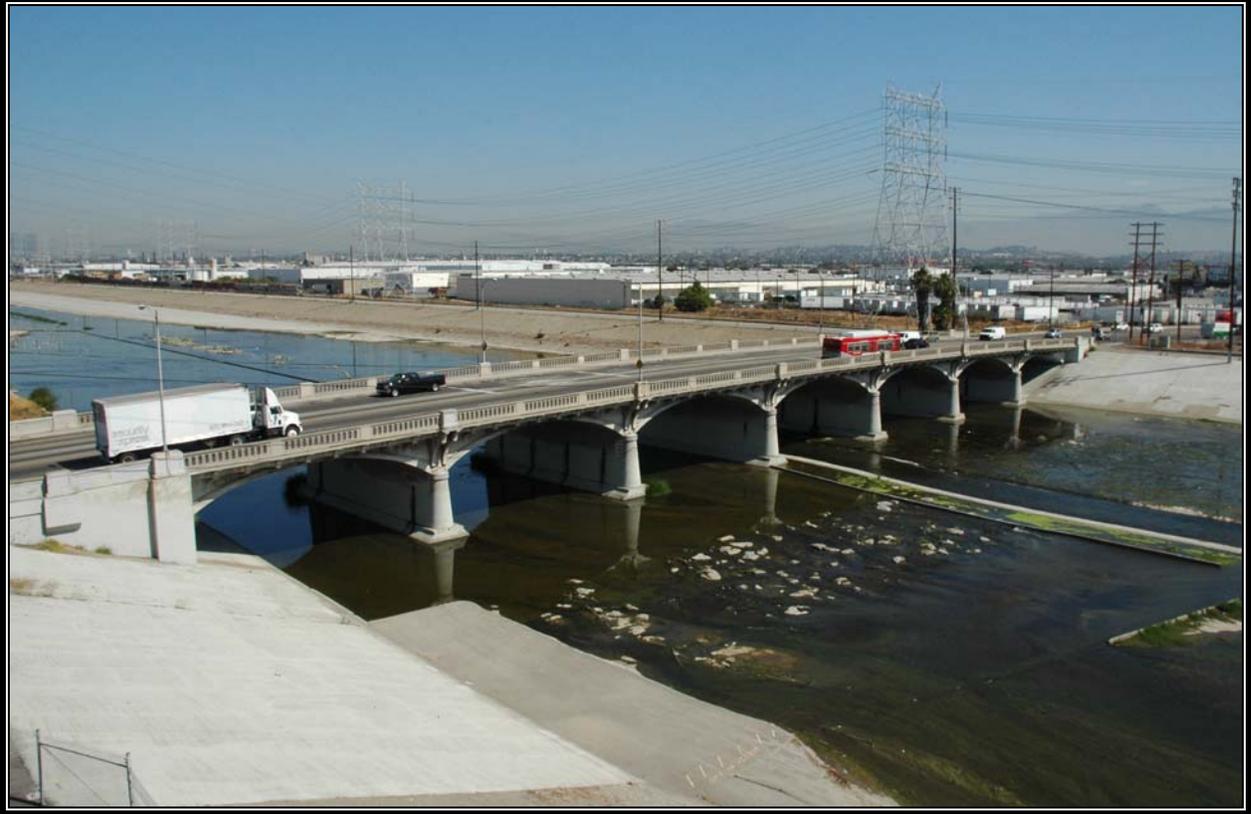
5.1 Introduction:

The City owns a variety of building facilities including, four fire stations, City Hall, and several housing units. City hall is comprised of the City Council Chamber, the police department, the public works warehouse, garage, and a two-story parking structure. While the City has staff to provide routine maintenance, there are significant improvements that are needed to preserve and retain the useful serviceability of the building facilities.

The City of Vernon will be administering the following City Building Improvement Projects in the next 5 fiscal years.

FISCAL YEAR	CITY BUILDING PROJECTS	TOTAL COST
2015-2016	City Hall Main Roof	\$ 120,000
	Fire Station Repairs	\$ 150,000
	Remodel of Four Homes	\$ 450,000
	City Housing (Various Improvements)	\$ 75,000
	Paint City Hall Structure	\$ 40,000
	Subtotal	\$ 835,000
2016-2017	Fire Station Repairs	\$ 150,000
	Remodel of Three Homes	\$ 330,000
	Seal Parking Structure Deck	\$ 100,000
	City Hall Elevator - Electronics Replacement	\$ 40,000
	Subtotal	\$ 620,000
2017-2018	Fire Station Repairs	\$ 150,000
	Paint City Hall Structure	\$ 50,000
	Subtotal	\$ 200,000
2018-2019	Fire Station Repairs	\$ 150,000
	Subtotal	\$ 150,000
2019-2020	Fire Station Repairs	\$ 150,000
	Subtotal	\$ 150,000
Total		\$ 1,955,000
Total Adjusted for 5.0% Inflation		\$ 2,165,593
Average per year		\$ 433,000

6.0 Bridge Improvement Plan



Fiscal Years 2015-2020

6.0 Bridge Improvement Plan

6.1 Introduction:

The City owns and maintains six of the fifteen bridges within the City limits. All the bridges in the City are inspected every two years by the County of Los Angeles Department of Public Works as in accordance with the law. The inspections report bridge conditions and ratings, which the City uses to prioritize bridge improvements. The following two bridges are scheduled to be rehabilitated during the next five years:

1. The Atlantic Blvd. Bridge over the Los Angeles River
2. The 26th Street Bridge over the Los Angeles River

The City obtained Federal Funding for up to 88.53% of the proposed bridge improvement costs through the Highway Bridge Program (HBP). Authorized by the US Congress through the Safe, Accountable, Flexible, and Efficient Transportation Equity Act - A Legacy for Users (SAFETEA-LU), the HBP will help the City provide the necessary improvements needed to rehabilitate the Atlantic Blvd and 26th Street bridges.

The planned construction time periods and costs of these bridges are shown in the table below as well as in the map in Appendix “B”.

Fiscal Year	Bridge Project Description	Total Cost	Matching Funds			Highway Bridge Program Funds
			% Matching	City of Vernon	Measure R Funds	
2015-2016	Atlantic Blvd. Bridge - Design (over the LA River)	\$ 350,000	20.0%	\$ 70,000		\$ 280,000
	Atlantic Blvd. Bridge - R/W (over the LA River)	\$ 1,811,200	11.47%	\$ 207,745		\$ 1,603,455
	Subtotal	\$ 2,161,200		\$ 277,745		\$ 1,883,455
2016-2017	Atlantic Blvd. Bridge - Construction (over the LA River)	\$ 4,217,000	11.47%		\$ 484,000	\$ 3,733,000
	Subtotal	\$ 4,217,000			\$ 484,000	\$ 3,733,000
2017-2018	Atlantic Blvd. Bridge-Construction (over the LA River)	\$ 8,433,000	11.47%		\$ 967,000	\$ 7,466,000
	Subtotal	\$ 8,433,000			\$ 967,000	\$ 7,466,000
2018-2019	Atlantic Blvd. Bridge-Construction (over the LA River)	\$ 8,433,000	11.47%	\$ 348,000	\$ 619,000	\$ 7,466,000
	26th Street Bridge - Design & R/W (over the LA River)	\$ 1,500,000	11.47%	\$ 172,050		\$ 1,327,950
	Subtotal	\$ 9,933,000		\$ 520,050	\$ 619,000	\$ 8,793,950
2019-2020	26th Street Bridge - Construction (over the LA River)	\$ 7,000,000	11.47%	\$ 802,900		\$ 6,197,100
	Subtotal	\$ 7,000,000		\$ 802,900		\$ 6,197,100
Total		\$ 31,744,200		\$ 1,600,695	\$2,070,000	\$ 28,073,505

7.0 Water Improvement Plan



Fiscal Years 2015-2020

7.0 Water Improvement Plan

7.1 Introduction:

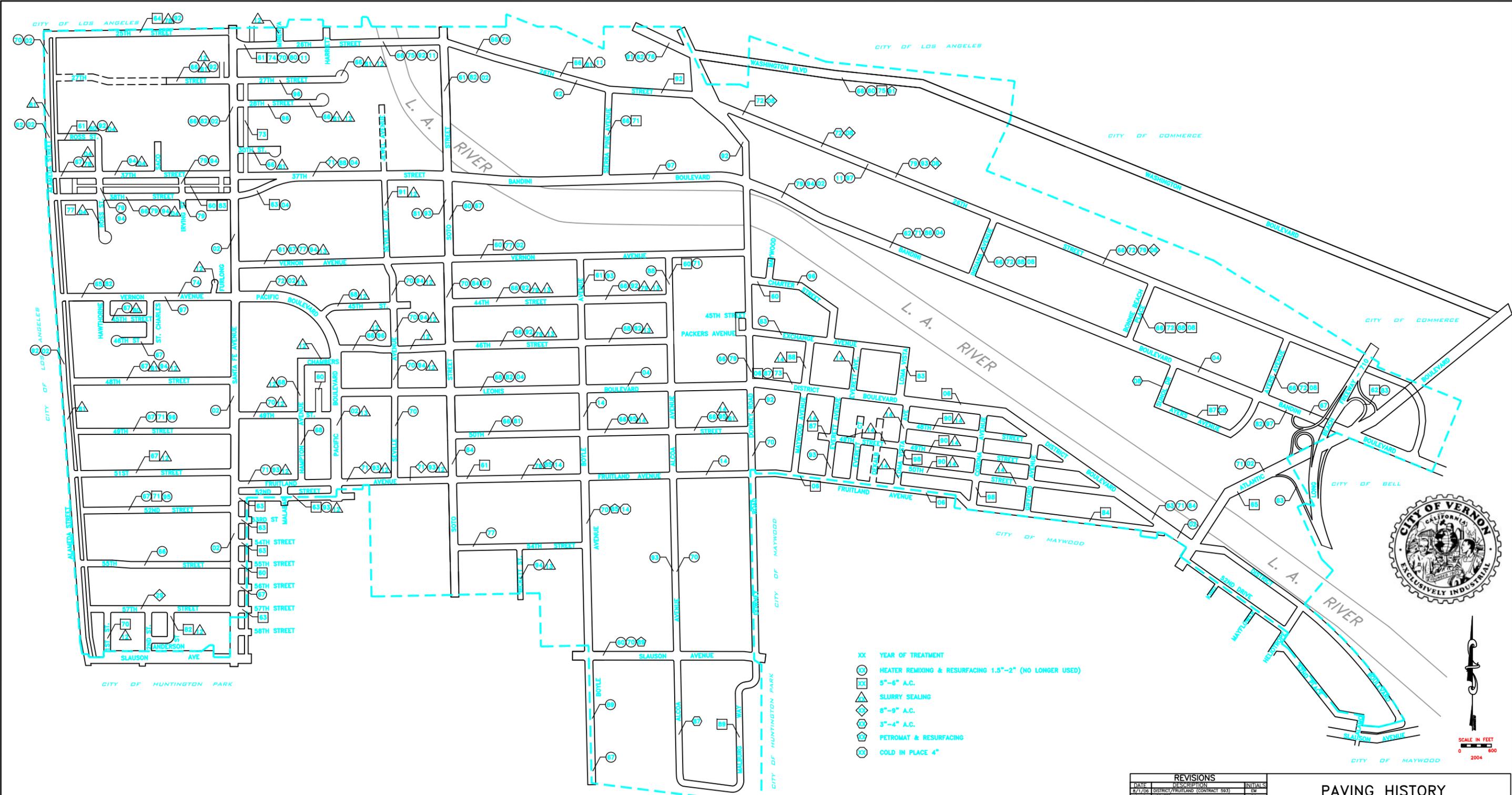
The City of Vernon will be completing the following water improvements over the next five years. Appendix “D” highlights in detail the project listed in the table below.

Fiscal Year	Water Project Description	Total Cost
2015-2016	Equipping Well No. 21 & Related Site Work	\$ 1,400,000
	Well No. 11 Rehabilitation	\$ 260,000
	Well No. 20 Rehabilitation	\$ 260,000
	Reservoirs 3-1, 3-2 & 3-3 Rehabilitation - Engineering	\$ 100,000
	Booster Pumps - Refurbish	\$ 90,000
	Well No. 5 - Destroy	\$ 100,000
	Pump House 2 Exterior & Interior Refurbishment	\$ 40,000
	Plant No.2 & Well No. 19 - Fence Replacement	\$ 30,000
	Subtotal	\$ 2,280,000
2016-2017	Well No. 17 Rehabilitation - Well Pedestal	\$ 260,000
	Well No. 15 Pump/Motor Replacement - Well Pedestal	\$ 130,000
	Booster Pumps - Refurbish	\$ 90,000
	Reservoirs 3-1, 3-2 & 3-3 Rehabilitation	\$ 700,000
	Design of Closed Water System Phase I	\$ 200,000
	Subtotal	\$ 1,380,000
2017-2018	10 Million Gallon Reservoir Interior Rehabilitation	\$ 200,000
	Reservoirs 2-1, 2-2, 2-3 Rehabilitation - Engineering	\$ 100,000
	Booster Pumps - Refurbish	\$ 90,000
	Closed Water System Phase I	\$ 1,300,000
	Subtotal	\$ 1,690,000
2018-2019	Packers/Exchange/Downey - Pipeline Extension	\$ 100,000
	Reservoirs 2-1, 2-2, 2-3 Rehabilitation	\$ 700,000
	Booster Pumps - Refurbish	\$ 90,000
	Closed Water System Phase II	\$ 840,000
	Subtotal	\$ 1,730,000
2019-2020	Booster Pumps - Refurbish	\$ 90,000
	Plant No. 4 Demolish two 500,000 Gal. Reservoir	\$ 100,000
	Drill Production Well No. 22	\$ 2,000,000
	Elevated tank Interior Rehabilitation	\$ 500,000
	Subtotal	\$ 2,690,000
Total		\$ 9,770,000

APPENDIX “A”

PAVING HISTORY MAP





- XX YEAR OF TREATMENT
- ⊗ HEATER REMIXING & RESURFACING 1.5"-2" (NO LONGER USED)
- ⊗ 5"-6" A.C.
- ⊗ SLURRY SEALING
- ⊗ 8"-9" A.C.
- ⊗ 3"-4" A.C.
- ⊗ PETROMAT & RESURFACING
- ⊗ COLD IN PLACE 4"



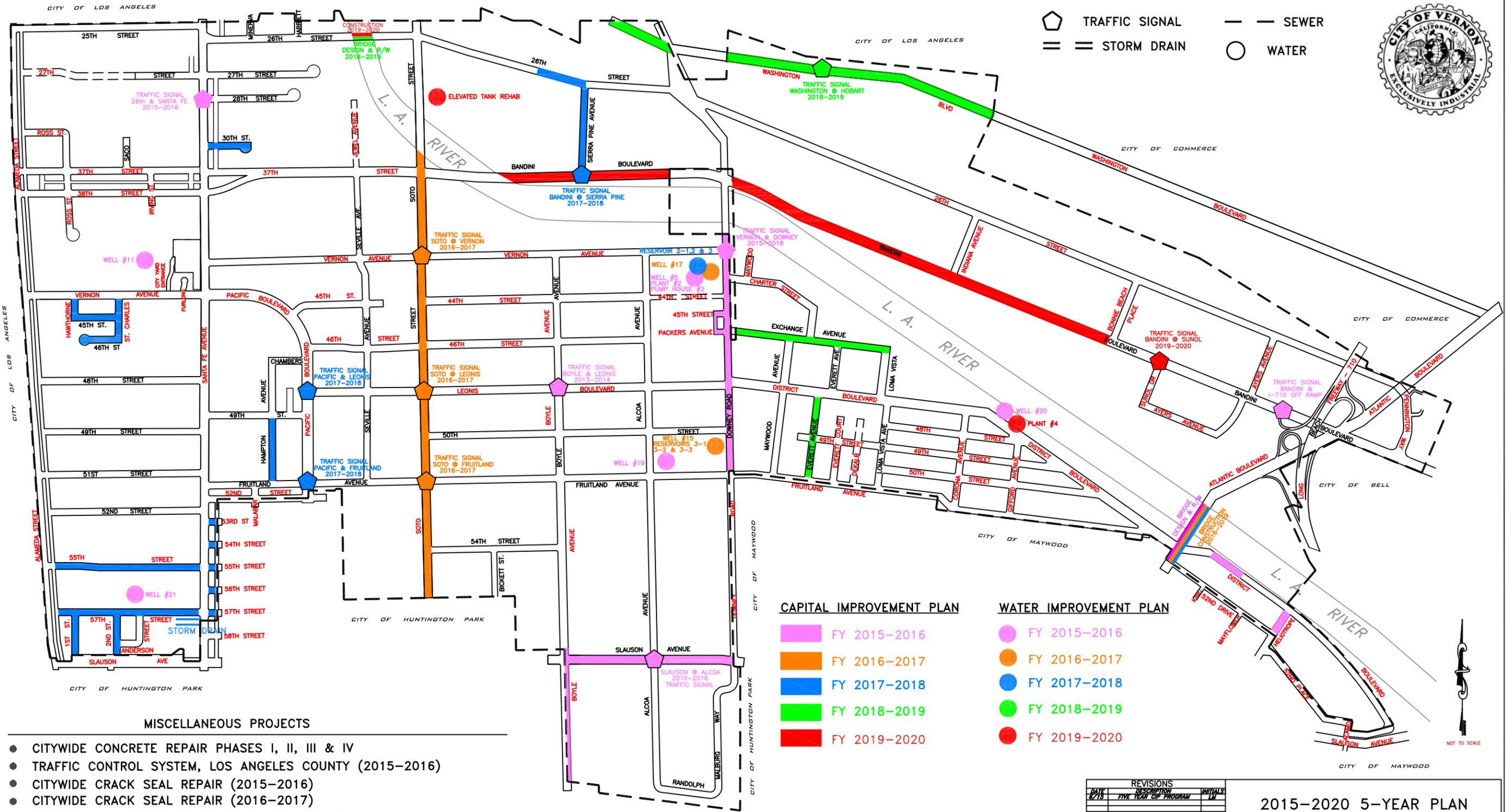
REVISIONS		
DATE	DESCRIPTION	INITIALS
8/17/06	DISTRICT/FRUITLAND (CONTRACT 593)	EM
8/23/10	UPDATED	PC
1/23/13	UPDATED	LM
8/23/15	UPDATED	LM

**PAVING HISTORY
CITY OF VERNON, CALIFORNIA**

APPENDIX “B”

FISCAL YEAR IMPROVEMENT MAP





MISCELLANEOUS PROJECTS

- CITYWIDE CONCRETE REPAIR PHASES I, II, III & IV
- TRAFFIC CONTROL SYSTEM, LOS ANGELES COUNTY (2015-2016)
- CITYWIDE CRACK SEAL REPAIR (2015-2016)
- CITYWIDE CRACK SEAL REPAIR (2016-2017)
- CITYWIDE RUBBERIZED SLURRY SEAL PHASE III, IV, V & VI

CAPITAL IMPROVEMENT PLAN

- FY 2015-2016
- FY 2016-2017
- FY 2017-2018
- FY 2018-2019
- FY 2019-2020

WATER IMPROVEMENT PLAN

- FY 2015-2016
- FY 2016-2017
- FY 2017-2018
- FY 2018-2019
- FY 2019-2020

REVISIONS		
DATE	DESCRIPTION	INITIALS
8/15	FIVE YEAR CIP PROGRAM	LM

**2015-2020 5-YEAR PLAN
CAPITAL IMPROVEMENT PROGRAM**

NOT TO SCALE

APPENDIX “C”

STREET SURFACE EVALUATION 2015

CITY OF VERNON STREET SURFACE EVALUATION 2015

Created: 6/7/11 Last updated: 7/7/2015

LEGEND				PAVEMENT CONDITION SUMMARY			
Rating	Street Type	Surface	Adjustment Factor		Condition	PCI Rating	Percent of Network
good: 70-100	A = Arterial	AC = Asphalt	Collector x	0.95	Good	70-100	34.0%
fair: 50-69	C = Collector	CONC = Concrete	Arterial x	0.90	Fair	50-69	35.9%
poor: 25-49	L = Local		Concrete x	1.10	Poor	25-49	27.4%
very poor: 0-24	P = Private				Very Poor	0-24	2.7%
Fiscal Year - Proposed Improvements			Slurry Seal		Rating Average:		
2015-2016			2015-2016		Adjusted Rating Average:		
2016-2017			2016-2017		61		
2017-2018					59		
2018-2019							
2019-2020							

STREET NAME	TYPE	SURFACE TYPE	FROM	TO	2009 RATING	2010 RATING	2015 RATING	ADJUSTED 2015 RATING	NOTES
30th Street	L	AC	Santa Fe	Cul De Sac	40	25	20	20	Center gutter, not all street has sidewalk
46th Street	L	AC	Cul De Sac	St. Charles	40	35	20	20	-
55th Street	L	AC	Santa Fe	City Limit	40	40	20	20	cracking throughtout
56th Street	L	AC	Santa Fe	City Limit	25	20	20	20	cracking throughtout
St. Charles	L	AC	Vernon	45.th	40	30	20	20	-
St. Charles	L	AC	45th	46th	40	40	20	20	-
Heliotrope	L	CONC	District	South City Limit	30	30	20	22	Recent south frontage on the west side ingood condition (90)
45th Street	L	AC	Hawthorne	St. Charles	40	30	25	25	-
53rd Street	L	AC	Santa Fe	City Limit	30	25	25	25	-
54th Street	L	AC	Santa Fe	City Limit	35	30	25	25	-
57th Street	L	AC	Anderson	Santa Fe	45	45	25	25	Recent frontage area in good condition (90)
57th Street	L	AC	Santa Fe	City Limit	35	35	25	25	cracking throughtout
Alleys	L	AC	45th	Packers	-	45	25	25	-
Hampton Avenue	L	AC	Fruitland	49th	40	30	25	25	-
Hawthorne	L	AC	45th	Vernon	40	30	25	25	-
Downey Road	A	AC	City/County Boundary (near Vernon)	Vernon	45	45	30	27	Heavy rutting throughout this block
Downey Road	A	AC	Vernon	Charter	45	45	30	27	-
26th Street	C	AC	47+00	Sierra Pine	100	90	30	28.5	-
Atlantic Boulevard	A	AC	Bridge		85	75	35	31.5	-
Everett Avenue	L	CONC	District	49th	55	50	30	33	concrete street
25th Street	C	AC	Railroad Track	Santa Fe	70	70	35	33.25	-
26th Street	C	AC	Sierra Pine	Downey S. Rd	40	100	35	33.25	AC (75) around the RR tracks, concrete Bridge
26th Street	C	AC	Downey S. Rd	85+00	30	100	35	33.25	-
1st Street	L	AC	Slauson	57th	40	40	35	35	-
2nd Street	L	AC	Slauson	Anderson	40	35	35	35	-
2nd Street	L	AC	Anderson	57th	40	35	35	35	-

STREET NAME	TYPE	SURFACE TYPE	FROM	TO	2009 RATING	2010 RATING	2015 RATING	ADJUSTED 2015 RATING	NOTES
50th Street	L	AC	Soto	Boyle	40	40	35	35	-
55th Street	L	AC	Alameda	Santa Fe	25	20	35	35	Heavy rutting on west Santa Fe approach, recent frontage area in good condition
Alcoa Avenue	L	AC	Vernon	44th	30	30	35	35	West side is good. Really bad at tracks.
Alcoa Avenue	L	AC	44th	46th	45	45	35	35	-
Alcoa Avenue	L	AC	46th	Leonis	45	35	35	35	-
Exchange Avenue	L	AC	Downey	Maywood	45	45	35	35	-
Exchange Avenue	L	AC	Maywood	Everett	45	40	35	35	-
Exchange Avenue	L	AC	Everett	Loma Vista	45	40	35	35	-
Sierra Pine	L	AC	26th	Bandini	45	35	35	35	AC (75) on westside recently overlay. Rutting @ Bandini Intersection
Downey Road	A	AC	Charter	Exchange	50	50	40	36	Heavy rutting throughout this block
Downey Road	A	AC	Exchange	Leonis/District	45	45	40	36	Heavy rutting throughout this block
Downey Road	A	AC	Leonis/District	50th	75	75	40	36	-
Downey Road	A	AC	50th	South City Limit	75	75	40	36	-
Slauson Avenue	A	AC	Boyle	Alcoa	45	40	40	36	-
Slauson Avenue	A	AC	Alcoa	Downey	45	40	40	36	-
Washington Blvd.	A	AC	West City Limit	West of Downey	65	50	40	36	AC (90) on southside recently overlay
Washington Blvd.	A	AC	West of Downey	Bridge (underpass)		45	40	36	-
Washington Blvd.	A	AC	Signalized driveway	East City Limit		60	40	36	East of Downey, some potholes throughout the street
50th Street	L	CONC	Gifford	District	75	75	35	38.5	Concrete with lots of AC patches
45th Street	L	AC	Cul De Sac-2	Downey	60	55	40	40	AC overlay on concrete
57th Street	L	AC	Alameda	1st	30	25	40	40	North side streets (75)
57th Street	L	AC	1st	2nd	30	25	40	40	Recent frontage area in good condition (90)
57th Street	L	AC	2nd	Anderson	40	40	40	40	Recent frontage area in good condition (90)
Alcoa Avenue	L	AC	Leonis	50th	60	50	40	40	-
Alcoa Avenue	L	AC	50th	Fruitland	65	50	40	40	Bad at tracks.
Alcoa Avenue	L	AC	Fruitland	Slauson	65	50	40	40	-
Alcoa Avenue	L	AC	Slauson	Malburg	65	40	40	40	-
Soto Street	A	AC	Bandini/37th	Vernon	50	60	45	40.5	-
Boyle Avenue	C	AC	Vernon	44th	65	60	45	42.75	-
Boyle Avenue	C	AC	Slauson	South City Limit	45	35	45	42.75	-
Fruitland Avenue	C	AC	Santa Fe	Hampton	55	50	45	42.75	Few AC patches
Maywood Avenue	L	CONC	District	Fruitland	80	75	40	44	Concrete street with asphalt patches
38th Street	A	AC	Alameda	Ross	65	55	50	45	-
38th Street	A	AC	Ross	Irving	70	50	50	45	-
49th Street	L	AC	Alameda	Santa Fe	65	55	45	45	-
54th Street	L	AC	Soto	Bickett	45	45	45	45	-
54th Street	L	AC	Bickett	Boyle	50	45	45	45	-
Bandini Boulevard	A	AC	Sierra Pine	County Line	90	60	50	45	Lines cracking throughout Bandini
Everett Court	L	AC	49th	Fruitland	55	50	45	45	Asphalt utility trench on CL

STREET NAME	TYPE	SURFACE TYPE	FROM	TO	2009 RATING	2010 RATING	2015 RATING	ADJUSTED 2015 RATING	NOTES
Loma Vista Avenue	L	AC	Exchange	District	50	50	45	45	-
Packers Avenue	L	AC	45th	Downey	55	50	45	45	Private
Soto Street	A	AC	Vernon	44th	55	65	50	45	AC pavement significantly worse north of RR tracks
Soto Street	A	AC	44th	46th	70	65	50	45	-
Washington Blvd.	A	AC	Bridge	Signalized driveway	55	45	50	45	-
Fruitland Avenue	C	AC	Hampton	Pacific	65	60	50	47.5	AC patch on south side of street.
38th Street	A	AC	Irving	Santa Fe	75	50	55	49.5	-
Bandini Boulevard	A	AC	Bridge	Sierra Pine	90	65	55	49.5	-
Soto Street	A	AC	46th	Leonis	70	60	55	49.5	Putting S/B lanes
Soto Street	A	AC	Leonis	50th		65	55	49.5	-
48th Street	L	CONC	Corona	District	55	45	45	49.5	Concrete with AC patches
52nd Street	L	CONC	Atlantic	Heliotope	-	25	45	49.5	-
Everett Avenue	L	CONC	North City Limit	Fruitland	50	50	45	49.5	concrete and AC
27th Street	L	AC	City Limit	Santa Fe	55	35	50	50	-
52nd Drive	L	AC	Alameda	Santa Fe	55	55	50	50	-
Malburg Way	L	AC	Slauson	Alcoa	65	60	50	50	-
Maywood Avenue	L	AC	North Street End	Charter	45	40	50	50	-
51st Street	C	AC	Alameda	Santa Fe	55	55	55	52.25	-
Boyle Avenue	C	AC	44th	46th		45	55	52.25	-
Boyle Avenue	C	AC	46th	Leonis	70	70	55	52.25	-
Vernon Avenue	C	AC	Soto	Boyle	70	65	55	52.25	Patches due to recent frontage improvements
37th Street	A	AC	Alameda	Ross	70	70	60	54	-
37th Street	A	AC	Ross	Irving	70	70	60	54	-
Bandini Boulevard	A	AC	Indiana	Bonnie Beach	70	60	60	54	Lines cracking throughout Bandini
Bandini Boulevard	A	AC	Bonnie Beach	Sunol	90	65	60	54	Rutting on Eastboard left turn lane into Sunol
Bandini Boulevard	A	AC	Sunol	Ayers	85	75	60	54	Lines cracking throughout Bandini
Bandini Boulevard	A	AC	Ayers	Atlantic		80	60	54	Rutting on Eastboard lanes in front of Fire Station No. 4
Santa Fe Avenue	A	AC	N. City Limit	27th	75	70	60	54	-
Santa Fe Avenue	A	AC	27th	28th	75	70	60	54	-
Santa Fe Avenue	A	AC	28th	30th	75	70	60	54	-
Santa Fe Avenue	A	AC	30th	37th	75	70	60	54	-
Santa Fe Avenue	A	AC	37th	38th	75	70	60	54	Rutting on Northbound lane @ 37th intersection
Santa Fe Avenue	A	AC	38th	Vernon	75	70	60	54	Rutting on Northbound lane @ 38th intersection
Santa Fe Avenue	A	AC	Vernon	Pacific	80	70	60	54	Rutting and cracking at north and south approaches
Santa Fe Avenue	A	AC	Pacific	48th	75	70	60	54	Pothole in southbound lane just south of pacific
Santa Fe Avenue	A	AC	48th	49th	80	70	60	54	-
Santa Fe Avenue	A	AC	49th	51st	80	70	60	54	-
Santa Fe Avenue	A	AC	51st	Fruitland	80	70	60	54	-
Santa Fe Avenue	A	AC	Fruitland	52nd	80	70	60	54	-
Santa Fe Avenue	A	AC	52nd	55th	80	70	60	54	-

STREET NAME	TYPE	SURFACE TYPE	FROM	TO	2009 RATING	2010 RATING	2015 RATING	ADJUSTED 2015 RATING	NOTES
Santa Fe Avenue	A	AC	55th	57th	80	70	60	54	-
Soto Street	A	AC	50th	Fruitland		70	60	54	Rutting at Fruitland Intersection
Soto Street	A	AC	Fruitland	54th	55	100	60	54	-
Soto Street	A	AC	54th	South City Limit		100	60	54	-
27th Street	L	AC	Santa Fe	Cul De Sac	60	60	55	55	-
48th Street	L	AC	Alameda	Santa Fe	80	75	55	55	-
50th Street	L	AC	Loma Vista	Corona	60	60	55	55	-
Minerva	L	AC	City Limit	26th	60	60	55	55	-
Ross Street	L	AC	Alameda	37th	65	60	55	55	-
Ross Street	L	AC	37th	38th	70	60	55	55	-
Ross Street	L	AC	38th	Cul De Sac	65	60	55	55	-
Seville Avenue	L	AC	Leonis	Blocked/gate	70	70	55	55	-
49th Street	L	CONC	Corona	Gifford	75	75	50	55	Mostly concrete with AC patches
49th Street	L	CONC	Gifford	District	80	80	50	55	Concrete with heavy cracking. AC at 49th and District
Gifford Avenue	L	CONC	District	49th	55	55	50	55	Few bad panels
Gifford Avenue	L	CONC	49th	50th	55	50	50	55	Concrete with poor AC portions at tracks
Gifford Avenue	L	CONC	50th	Fruitland	55	50	50	55	-
Vernon Avenue	C	AC	Boyle	Alcoa	65	60	60	57	Alcoa approach (55)
Vernon Avenue	C	AC	Alcoa	Downey	65	50	60	57	-
37th Street	A	AC	Irving	Santa Fe	70	70	65	58.5	-
37th Street	A	AC	Santa Fe	38th	90	75	65	58.5	-
37th Street	A	AC	38th	Seville	90	75	65	58.5	-
37th Street	A	AC	Seville	Soto	90	75	65	58.5	concrete intersection @ 37th St & Soto St
Atlantic Boulevard	A	AC	Bridge	District	75	75	65	58.5	-
Atlantic Boulevard	A	AC	District	South City Limit	90	85	65	58.5	-
Bandini Boulevard	A	AC	Downey	Indiana		65	65	58.5	Lines cracking throughout Bandini
Soto Street	A	AC & CONC	Bridge		50	55	65	58.5	-
28th Street	L	AC	Santa Fe	Cul De Sac	55	55	60	60	-
44th Street	L	AC	Soto	Boyle	55	55	60	60	-
45th Street	L	AC	Seville	Cul De Sac-1	60	60	60	60	-
52nd Street	L	AC	Santa Fe	Malburg	60	55	60	60	South side of Street
Charter Street	L	AC	Downey	Exchange	70	60	60	60	Asphalt with various patches
Saco	L	AC	End of Street	37th	60	60	60	60	-
Fruitland Avenue	C	AC	Loma Vista	Corona	40	30	65	61.75	-
Fruitland Avenue	C	AC	Corona	Gifford	40	30	65	61.75	-
Fruitland Avenue	C	AC	Gifford	District	40	30	65	61.75	-
38th Street	A	AC	Santa Fe	38th Street		75	70	63	-
Alameda Street	A	AC	25th	27th	75	75	70	63	-
Alameda Street	A	AC	27th	Ross	75	75	70	63	-
Alameda Street	A	AC	Ross	37th	75	75	70	63	-

STREET NAME	TYPE	SURFACE TYPE	FROM	TO	2009 RATING	2010 RATING	2015 RATING	ADJUSTED 2015 RATING	NOTES
Alameda Street	A	AC	37th	38th	75	75	70	63	-
Alameda Street	A	AC	38th	Vernon	75	75	70	63	-
Atlantic Boulevard	A	AC	Bandini	Bridge	75	70	70	63	Concrete/AC intersection at Bandini
Bandini Boulevard	A	AC	Atlantic	East City Limit		90	70	63	-
Soto Street	A	AC	Bridge	Bandini/37th	50	55	70	63	-
44th Street	L	AC	Boyle	Alcoa	60	60	65	65	-
45th Street	L	AC	Pacific	Seville	50	45	65	65	Approx. 50' section of alligator cracking.
46th Street	L	AC	Pacific	Seville	70	65	65	65	Rocks starting to show, but good condition overall.
49th Street	L	AC	Santa Fe	w/o Tracks	70	50	65	65	-
49th Street	L	AC	Tracks (included)	Hampton	65	50	65	65	Really poor condition between 6 tracks
49th Street	L	AC	Hampton	Pacific	45	45	65	65	Middle of street looks newer than rest
50th Street	L	AC	Boyle	Alcoa	50	45	65	65	No gutter on north & portions of south side.
Anderson Street	L	AC	2nd	57th	55	55	65	65	-
Chambers	L	AC	Hampton	Pacific	50	40	65	65	center concrete swale
Hampton Avenue	L	AC	49th	Chambers	40	40	65	65	Centerline gutter. No gutter on west side
Irving Street	L	AC	37th	38th	65	65	65	65	-
25th Street	C	AC	Alameda	Railroad Track	50	35	70	66.5	-
26th Street	C	AC	Ayers	Atlantic		100	70	66.5	-
Fruitland Avenue	C	AC	Pacific	Seville	90	65	70	66.5	-
Alameda Street	A	AC	Vernon	48th	80	80	75	67.5	-
Alameda Street	A	AC	48th	49th	80	80	75	67.5	-
Alameda Street	A	AC	49th	51st	80	80	75	67.5	-
Alameda Street	A	AC	51st	52nd	80	80	75	67.5	-
Alameda Street	A	AC	52nd	57th	80	80	75	67.5	-
Alameda Street	A	AC	57th	Slauson	80	80	75	67.5	Utility Patch @ Intersection
Bandini Boulevard	A	AC	Soto	Bridge	60	50	75	67.5	concrete intersection @ 37th St & Soto St
46th Street	L	AC	Seville	Soto	65	65	70	70	-
50th Street	L	AC	Alcoa	Downey	75	75	70	70	No gutter on south side
52nd Street	L	AC	Malburg	East City Limit	50	50	70	70	-
Furlong Place	L	AC	Vernon	Cul De Sac	60	60	70	70	-
Indiana Avenue	L	AC	26th	Bandini	100	90	70	70	Line crack showing along AC join
Irving Street	L	AC	38th	End of Street	75	70	70	70	-
Malabar Street	L	AC	Fruitland	South City Limit	55	55	70	70	-
Seville Avenue	L	AC	Vernon	45th	55	55	70	70	-
Seville Avenue	L	AC	45th	46th	60	50	70	70	-
Seville Avenue	L	AC	46th	Leonis	60	50	70	70	-
26th Street	C	AC	Join 26th St Project	Indiana	30	100	75	71.25	Multiple cracks in front of BNSF driveway
26th Street	C	AC	Bonne Beach	Ayers	50	100	75	71.25	Multiple cracking

STREET NAME	TYPE	SURFACE TYPE	FROM	TO	2009 RATING	2010 RATING	2015 RATING	ADJUSTED 2015 RATING	NOTES
District Boulevard	C	AC	Downey	Maywood	70	70	75	71.25	Recently resurfaced
District Boulevard	C	AC	Maywood	Everett	70	70	75	71.25	-
District Boulevard	C	AC	Everett	Loma Vista	90	90	75	71.25	Bleeding at intersection
District Boulevard	C	AC	Loma Vista	Corona	90	90	75	71.25	-
District Boulevard	C	AC	Corona	Gifford	90	90	75	71.25	-
District Boulevard	C	AC	Gifford	Atlantic	90	90	75	71.25	Rutting at District
Leonis Boulevard	C	AC	Pacific	Seville	90	85	75	71.25	Small hairlines cracks
Leonis Boulevard	C	AC	Seville	Soto	90	85	75	71.25	Small hairlines cracks
Leonis Boulevard	C	AC	Soto	Boyle	85	85	75	71.25	Small hairlines cracks
Leonis Boulevard	C	AC	Boyle	Alcoa	85	85	75	71.25	Small hairlines cracks
Leonis Boulevard	C	AC	Alcoa	Downey	85	85	75	71.25	Small hairlines cracks
Vernon Avenue	C	AC	Alameda	Hawthorne	80	60	75	71.25	Rutting at Alameda Intersection
Vernon Avenue	C	AC	Hawthorne	St. Charles	80	65	75	71.25	-
Vernon Avenue	C	AC	St. Charles	Santa Fe	80	60	75	71.25	Rutting at Santa Fe Intersection
District Boulevard	L	CONC	Tracks	Heliotrope	90	90	65	71.5	AC (45) along south portion of street
District Boulevard	L	CONC	Heliotrope	East City Limit	80	80	65	71.5	-
Atlantic Boulevard	A	CONC	North City Limit	Bandini	75	70	75	74.25	-
Downey Road	A	CONC	North City Limit	26th	45	30	75	74.25	-
Downey Road	A	CONC	26th	City/County Boundary (near Bandini)		30	75	74.25	-
46th Street	L	AC	Soto	Boyle	60	55	75	75	-
46th Street	L	AC	Boyle	Alcoa	55	55	75	75	Few AC patches
District Boulevard	L	AC	Atlantic	Tracks	90	90	75	75	-
26th Street	C	AC	Indiana	Bonne Beach	65	100	80	76	Concrete intersection at 26th and Bonne Beach
Fruitland Avenue	C	AC	Seville	Soto	90	65	80	76	-
Vernon Avenue	C	AC	Santa Fe	Seville	70	65	80	76	Frontage improved areas (90)
Vernon Avenue	C	AC	Seville	Soto	70	65	80	76	-
Ayers Avenue	L	AC	26th	Bandini	100	85	80	80	Aligator cracking at driveway near 26th St
Ayers Avenue	L	AC	Bandini	Sunol	100	90	80	80	-
Bickett Street	L	AC	54th	South City Limit	55	45	80	80	-
Bonnie Beach Place	L	AC	26th	Bandini	100	90	80	80	concrete intersection at Bandini
Seville Avenue	L	AC	37th	Vernon	50	45	80	80	Recently slurried
26th Street	C	AC	85+00	Join 26th St Project	35	100	85	80.75	-
Fruitland Avenue	C	AC	Downey	Maywood	90	90	85	80.75	-
Fruitland Avenue	C	AC	Maywood	Everett Ave	90	90	85	80.75	-
Fruitland Avenue	C	AC	Everett Ave	Everett Court	90	90	85	80.75	-
Fruitland Avenue	C	AC	Everett Court	Loma Vista	90	90	85	80.75	Some rutting at Loma Vista eastbound approach
Bandini Boulevard	A	AC	Bridge		60	55	90	81	-
Pacific Boulevard	A	AC	Santa Fe	45th	90	85	90	81	Recently resurfaced
Pacific Boulevard	A	AC	45th	46th	90	85	90	81	-

STREET NAME	TYPE	SURFACE TYPE	FROM	TO	2009 RATING	2010 RATING	2015 RATING	ADJUSTED 2015 RATING	NOTES
Pacific Boulevard	A	AC	46th	Leonis	90	85	90	81	-
Pacific Boulevard	A	AC	Leonis	Fruitland	90	85	90	81	-
Soto Street	A	AC	North City Limit	26th	55	50	90	81	-
Soto Street	A	AC	26th	Bridge	55	50	90	81	-
Atlantic Boulevard	A	CONC	North City Limit	Bandini		35	85	84.15	-
Everett Avenue	L	AC	Exchange	District	65	60	85	85	Recently Slurried
48th Street	L	AC	Loma Vista	Corona	55	50	85	85	Some utility patches
49th Street	L	AC	Everett Ave.	Everett Court	45	45	85	85	-
49th Street	L	AC	Everett Ct.	Dekalb	80	75	85	85	-
49th Street	L	AC	Dekalb	Loma Vista	80	75	85	85	-
49th Street	L	AC	Loma Vista	Corona	75	75	85	85	Utility patches
50th Street	L	AC	Corona	Gifford	70	60	85	85	-
Harriett	L	AC	City Limit	26th	25	100	85	85	-
Loma Vista Avenue	L	AC	District	49th	85	80	85	85	-
Loma Vista Avenue	L	AC	49th	Fruitland	85	80	85	85	-
Maywood Avenue	L	AC	Exchange	Tracks	65	55	85	85	-
Maywood Avenue	L	AC	Tracks	District	75	65	85	85	-
Sunol Drive	L	AC	Bandini	Ayers	100	90	85	85	Recently resurfaced
26th Street	C	AC	Santa Fe	Minerva	50	35	90	85.5	-
26th Street	C	AC	Minerva	Harriett	50	40	90	85.5	-
26th Street	C	AC	Harriett	Bridge	55	45	90	85.5	-
26th Street	C	AC	Bridge		100	90	90	85.5	-
26th Street	C	AC	Bridge	Soto	100	90	90	85.5	-
26th Street	C	AC	Soto	47+00	100	90	90	85.5	-
Pennington Way	C	AC	26th	Bandini	100	90	90	85.5	-
Corona Avenue	L	AC	District	48th	80	80	90	90	-
Corona Avenue	L	AC	48th	49th	80	80	90	90	-
Corona Avenue	L	AC	49th	50th	80	80	90	90	-
Corona Avenue	L	AC	50th	Fruitland	80	80	90	90	-
49th Street	L	CONC	West of Everett	Everett	25	15	85	93.5	concrete & asphalt
Boyle Avenue	C	AC	Leonis	50th	75	65	100	95	-
Boyle Avenue	C	AC	50th	Fruitland	45	35	100	95	-
Boyle Avenue	C	AC	Fruitland	54th	45	35	100	95	-
Boyle Avenue	C	AC	54th	Slauson	45	40	100	95	-
Fruitland Avenue	C	AC	Soto	Boyle	90	65	100	95	-
Fruitland Avenue	C	AC	Boyle	Alcoa	60	60	100	95	-
Fruitland Avenue	C	AC	Alcoa	Downey	55	55	100	95	-
44th Street	P	-	Alcoa	Downey	Private	Private	-	-	-
De Kalb	Private	-	-	-	-	-	-	-	-
Seville Avenue	L	AC	50th	Fruitland	-	-	-	-	Street blocked at power plant.

APPENDIX “D”

COST ESTIMATES



COST ESTIMATES

\$ 4.05 cost per square foot for general improvements
 \$ 13.00 cost per square foot for concrete approach
 \$ 50,000.00 per traffic signal

	Limits	CL start	CL end	Street Width (ft)	Total Street length(ft)	Square Feet	SUBTOTAL	TOTAL COST	
DOWNEY	LA River to Fruitland	3610	6916	46	3306	133,676	\$ 541,387.80	\$ 830,587.80	
	concrete	Vernon, Leonis, Fruitland				18,400	\$ 239,200.00		
	t. signal	Vernon					\$ 50,000.00		
SOTO STREET	LA River to S/City Bdry	1900	8523	54	6623	323,242	\$ 1,309,130.10	\$ 1,856,330.10	
	concrete	Vernon, Leonis, Fruitland				34,400	\$ 447,200.00		
	t. signal	Vernon, Fruitland					\$ 100,000.00		
WASHINGTON	W. Bdry to E. Bdry	0	938	70	938	50,060	\$ 202,743.00	\$ 1,685,973.50	
	concrete	Hobart	1735	5630	78	3895	\$ 1,230,430.50		
	t. signal	Hobart					\$ 202,800.00		
							\$ 50,000.00		
SUB									
BANDINI	LA River to County line	7200	10100	82	2900	237,800	\$ 963,090.00	\$ 1,226,290.00	
	concrete	Sierra Pine				16,400	\$ 213,200.00		
	t. signal	Sierra Pine					\$ 50,000.00		
BANDINI	Downey to B. Beach	200	6130	78	5930	446,940	\$ 1,810,107.00	\$ 2,012,907.00	
	concrete	Bonnie Beach				15,600	\$ 202,800.00		
BANDINI	Downey to I-710	6130	9500	78	3370	247,260	\$ 1,001,403.00	\$ 1,741,313.00	
	concrete	Atlantic to Pennington	9800	10900	78	1100	70,200		\$ 284,310.00
	t. signal	Sunol, I-710 Off-Ramp					31,200		\$ 405,600.00
		Sunol							\$ 50,000.00
BANDINI	Atlantic to Pennington	9800	10900	78	1100	85,800	\$ 347,490.00	\$ 448,890.00	
	concrete	Pennington				7,800	\$ 101,400.00		
SIERRA PINE		0	1300	40	1300	48,200	\$ 195,210.00	\$ 244,610.00	
	concrete	Bandini				3,800	\$ 49,400.00		
TOTAL								\$ 9,598,011.40	

1ST ST.	Slauson to 57th	0	600	42	600	25,200	\$	102,060.00
2ND ST.	Slauson to 57th	0	636	38	636	24,168	\$	97,880.40
26TH ST.	Sta. 47+00 to Sierra Pine	4700	5733	38	1033	39,254	\$	158,978.70
30TH ST.	Santa Fe to Cul De Sac Sidewalk	0 50	700 700	42 8	700 650	29,400	\$	119,070.00
45TH ST.	Hawthorne to St. Charles	326	650	40	324	12,960	\$	52,488.00
46TH ST.	Cul De Sac to St. Charles	0	485	40	485	19,400	\$	78,570.00
53RD ST.	Santa Fe to City Limit	30	200	40	170	6,800	\$	27,540.00
54TH ST.	Santa Fe to City Limit	30	200	40	170	6,800	\$	27,540.00
55TH ST.	Alameda to City Limit	74	2600	40	2526	101,040	\$	409,212.00
56TH ST.	Santa Fe to City Limit	30	185	40	155	6,200	\$	25,110.00
57TH ST.	Alameda to City Limit	72	2550	40	2478	99,120	\$	401,436.00
SAINT CHARLES	Vernon to 46th	0	650	38	650	24,700	\$	100,035.00
HAWTHORNE	Vernon to 45th	0	326	38	326	12,388	\$	50,171.40
EXCHANGE	Downey to Loma Vista	50	2400	42	2350	98,700	\$	399,735.00
EVERETT AVE.	Exchange to District	0	750	56	750	42,000	\$	170,100.00
EVERETT AVE.	District to Fruitland	0	1309	38	1309	49,742	\$	646,646.00 Concrete
HAMPTON	49th to Fruitland	799	1813	38	1014	38,532	\$	156,054.60

APPENDIX “E”

WATER IMPROVEMENTS DETAILS

Fiscal Year 2015-2016

SMURFIT WELL NO. 21 DESIGN SPECIFICATIONS AND PUMP STATION INSTALLATION

The City took possession of a former industrial well, located at 2170 55th Street, and is seeking to convert it to a municipal water supply well. The City retained the services of Richard C. Slade & Associates, LLC (Slade) who performed a hydrogeological evaluation of the subject well. The evaluation consisted of a multi phase test pumping methodology to ascertain the downwell condition and to access the current production capacity and water quality. The Stage 1 Phase was performed utilizing a normal pumping sequence without the use of a packer. The initial test results of Stage 1 Phase indicated that the well had elevated levels of Volatile Organic Compounds (VOCs) that exceeded the Maximum Contaminate Levels (MCLs) for those constituents. In the Stage 2 Phase, a packer was inflated at 500 feet in order to isolate the upper set of perforations from the well. The test results of Stage 2 Phase determined that the VOC levels are well below established MCLs. The results of the hydrogeological evaluation were submitted to the California Department of Public Health (CDPH) for review. The CDPH findings concluded that the installation of an inflatable packer, combined with water quality monitoring, are reasonable measures to ensure that the subject well is suitable for potable use. Specifications for a fully functional pump station were completed by Cannon Engineering, Inc. in 2014. Construction will commence in 2015. (\$1,400,000.00).



Fiscal Year 2015-2016

WELL NO. 11 REHABILITATION

Well No. 11 has experienced a decrease in its production capacity. Pump Check Pumping Systems ran a test on the well pump 2014. The results of the test indicated that Well No. 11 is operating inefficiently. The test results indicate the possibility of plugged perforations along the well-shaft and wear to the pump shaft, bowls and bearings. A video log will be performed to ascertain the condition of the well-shaft. The pump shaft, bowls and bearings will have to be inspected in order to determine the extent of the wear. (\$260,000.00).



WELL NO. 20 REHABILITATION

Well No. 20 has experienced a decrease in its production capacity. Pump Check Pumping Systems ran a test on the well pump 2014. The results of the test indicated that Well No. 20 is operating inefficiently. The test results indicate the possibility of plugged perforations along the well-shaft and wear to the pump shaft, bowls and bearings. A video log will be performed to ascertain the condition of the well-shaft. The pump shaft, bowls and bearings will have to be inspected in order to determine the extent of the wear. (\$260,000.00).



Fiscal Year 2015-2016

INTERIOR & EXTERIOR RECOATING - RESERVOIRS 3-1, 3-2, & 3-3 ENGINEERING

The City had an interior and exterior evaluation performed of Reservoirs 3-1, 3-2, and 3-3. The results of the evaluation indicated that both the interior and exterior coating are beginning to fail at each reservoir. In addition, the evaluation also recommended that a cathodic protection be installed to eliminate corrosive properties that are inherent in moist environments. Specifications will be developed to facilitate the rehabilitation of these reservoirs. (\$100,000.00).



REFURBISH BOOSTER PUMPS

The booster pumps located at Booster Plants 1, 2, and 3 are in need of refurbishment. These pumps have been in service for many years and will be disassembled, inspected for wear, and refurbished. (\$90,000.00).



FISCAL YEAR 2015-2016

DESTRUCTION OF PRODUCTION WELL NO. 5

The City looked into the feasibility of rehabilitating Well No. 5 in order to augment the Water Department's water production capabilities. The California Department of Public Health advised the City that it would not grant approval for placing this facility back into production until such time the City could produce a letter from a registered engineering firm stating that this well's method of drilling provides for equivalent protection to that of a sanitary seal. In this quest, the City hired Infrastructure Engineering Corporation (IEC) who performed an analytical review of this facility and concluded that it could not produce a letter supporting the merits of the project based on available data. IEC provided options that potentially could have provided for equivalent protection to that of a sanitary seal. However, these options were not cost effective and eliminated from consideration. The Public Works has recommended that this facility be destroyed. (\$100,000.00).



PUMP HOUSE 2 EXTERIOR AND INTERIOR REFURBISHMENT

Pump House 2 was inspected in 2015 to assess the condition of the interior and exterior structure. The inspection found that the exterior windows are in need of replacement and the exterior coating has failed; and that the interior coating has failed (\$40,000.00).



FISCAL YEAR 2015-2016

FENCE REPLACEMENT PLANT NO. 2 AND WELL NO. 19

Sections of fence at Plant No. 2 and Well No. 19 were inspected in 2015 to assess their condition and determine what repairs will need to be facilitated to improve the appearance and security of the facilities. The inspection identified several sections of fence at both facilities that will have to be replaced. (\$30,000.00).



Plant No. 2



Well No. 19

FISCAL YEAR 2016-2017

WELL NO. 17 REHABILITATION AND WELL PEDESTAL MODIFICATIONS

Well No. 17 has experienced a decrease in its production capacity. Pump Check Pumping Systems ran a test on the well pump 2014. The results of the test indicated that Well No. 17 is operating inefficiently. The test results indicate the possibility of plugged perforations along the well-shaft and wear to the pump shaft, bowls and bearings. A video log will be performed to ascertain the condition of the well-shaft. The pump shaft, bowls and bearings will have to be inspected in order to determine the extent of the wear. Additionally, the existing well pedestals are well below the required 18-inch pedestal height required in the California Department of Water Resources Water Well Standards. The pedestals will be raised in accordance with the Water Well Standards as part of this project. (\$260,000.00).



WELL NO. 15 PUMP/MOTOR REPLACEMENT AND WELL PEDESTAL MODIFICATIONS

Well No. 15 has experienced a decrease in its production capacity. Pump Check Pumping Systems ran a test on the well pump 2014. The results of the test indicated that Well No. 15 is operating inefficiently. The test results indicate the possibility of plugged perforations along the well-shaft and wear to the pump shaft, bowls and bearings. A video log will be performed to ascertain the condition of the well-shaft. The pump shaft, bowls and bearings will have to be inspected in order to determine the extent of the wear. Additionally, the existing well pedestals are well below the required 18-inch pedestal height required in the California Department of Water Resources Water Well Standards. The pedestals will be raised in accordance with the Water Well Standards as part of this project. (\$260,000.00).



Fiscal Year 2016-2017

REFURBISH BOOSTER PUMPS

The booster pumps located at Booster Plants 1, 2, and 3 are in need of refurbishment. These pumps have been in service for many years and will be disassembled, inspected for wear, and refurbished. (\$90,000.00).



INTERIOR & EXTERIOR RECOATING - RESERVOIRS 3-1, 3-2, & 3-3 REHABILITATION

The City had an interior and exterior evaluation performed of Reservoirs 3-1, 3-2, and 3-3. The results of the evaluation indicated that both the interior and exterior coating are beginning to fail at each reservoir. In addition, the evaluation also recommended that a cathodic protection be installed to eliminate corrosive properties that are inherent in moist environments. (\$700,000.00).



Fiscal Year 2016-2017

CLOSED WATER SYSTEM (DESIGN)

The design of a closed water system will provide a degree of redundancy as it will allow the City to operate the water distribution system without the services of the Elevated Water Tank. (\$200,000.00).



Fiscal Year 2017-2018

10 MG BURIED CONCRETE RESERVOIR INTERIOR REHABILITATION

The 10 MG Reservoir's interior was inspected by Harper & Associates Engineering, Inc. (Harper) in April of 2010. Harper's report concluded that moderate to severe corrosion exists on appurtenances and construction joints. The report recommends that the appurtenances receive an abrasive blast to remove the existing coating and have a new coating reapplied. The subject report also recommends that polyurethane sealants be applied to existing construction joints and that random tubercles be repaired. (\$200,000.00).



Fiscal Year 2017-2018

INTERIOR & EXTERIOR RECOATING - RESERVOIRS 2-1, 2-2, & 2-3 REHABILITATION - ENGINEERING

The City had an interior and exterior evaluation performed of Reservoirs 2-1, 2-2, and 2-3. The results of the evaluation indicated that both the interior and exterior coating are beginning to fail at each reservoir. In addition, the evaluation also recommended that a cathodic protection be installed to eliminate corrosive properties that are inherent in moist environments. Specifications will be developed to facilitate the rehabilitation of these reservoirs. (\$100,000.00).



REFURBISH BOOSTER PUMPS

The booster pumps located at Booster Plants 1, 2, and 3 are in need of refurbishment. These pumps have been in service for many years and will be disassembled, inspected for wear, and refurbished. (\$90,000.00).



Fiscal Year 2017-2018

CLOSED WATER SYSTEM (PHASE I)

This Phase includes the communications system upgrade and SCADA system engineering and design for Booster Plant 2. The engineering and design portion includes PLC hardware and software installations, field instruments reviews and variable frequency drive (VFD) conversions. (\$1,300,000.00).



Fiscal Year 2018-2019

PACKERS/EXCHANGE AVENUE & DOWNEY ROAD PIPELINE EXTENSION

The Infrastructure Engineering Corporation (IEC) completed a Water Distribution System Hydraulic Analysis in January of 2006. At the conclusion of the analysis, it was determined that in order to increase the maximum fire flows sustainable at parcels in the southeastern portion of the distribution system, modifications to the distribution system waterlines would be needed. IEC recommended installing 70 linear feet of new 12” diameter pipeline, which will connect the 10” and 12” diameter pipelines at Packers Avenue and Downey Road to the 10” and 12” diameter pipelines at Exchange Avenue and Downey Road. The new pipeline will significantly increase the maximum fire flows associated with a majority of parcels in the Southeastern portion of the City’s service area. (\$100,000.00).



Fiscal Year 2018-2019

INTERIOR & EXTERIOR RECOATING - RESERVOIRS 2-1, 2-2, & 2-3 REHABILITATION

The City had an interior and exterior evaluation performed of Reservoirs 2-1, 2-2, and 2-3. The results of the evaluation indicated that both the interior and exterior coating are beginning to fail at each reservoir. In addition, the evaluation also recommended that a cathodic protection be installed to eliminate corrosive properties that are inherent in moist environments. (\$700,000.00).



REFURBISH BOOSTER PUMP

The booster pumps located at Booster Plants 1, 2, and 3 are in need of refurbishment. These pumps have been in service for many years and will be disassembled, inspected for wear, and refurbished. (\$90,000.00).



Fiscal Year 2018-2019

CLOSED WATER SYSTEM (PHASE II)

This phase includes the communications system upgrade and SCADA system engineering and design for Booster Plant 1. The engineering and design portion includes PLC hardware and software installations, field instruments reviews and variable frequency drive (VFD) conversions. (\$840,000.00).



Fiscal Year 2019-2020

REFURBISH BOOSTER PUMP

The booster pumps located at Booster Plants 1, 2, and 3 are in need of refurbishment. These pumps have been in service for many years and will be disassembled, inspected for wear, and refurbished. (\$90,000.00).



Fiscal Year 2019-2020

WELL 20 - DEMOLISH TWO 500,000-GALLON RESERVOIRS – 4755 DISTRICT BLVD

The reservoirs at Well 20 have not been used in more than twenty-years and will be demolished due to their poor condition. The cost is estimated to be \$100,000.00.



DRILL WATER PRODUCTION WELL NO. 22

A replacement well is needed to augment the City's ability to meet water demand requirements. Many of the City's existing inventory of wells will be reaching the end of their useful life in the next decade. It is important to begin phasing in new wells in the future to insure production facilities are available to meet water demand conditions. (\$2,000,000.00).

ELEVATED TANK INTERIOR REHABILITATION

The Elevated Tank's interior shell was inspected by Harper & Associates Engineering, Inc. (Harper) in April of 2010. The inspection report concluded that corrosion exists on the interior roof, lower shell, bowl, drywell, and riser pipe. The observed corrosion is a clear indicator that the existing coating is beginning to fail. Harper's report recommends that the interior coating be removed by abrasive blast cleaning and that a new coating be reapplied. The report also illustrated the need to retrofit the facility with hand-railings, new mesh screening, and fall prevention on all interior ladders. (\$500,000.00).

