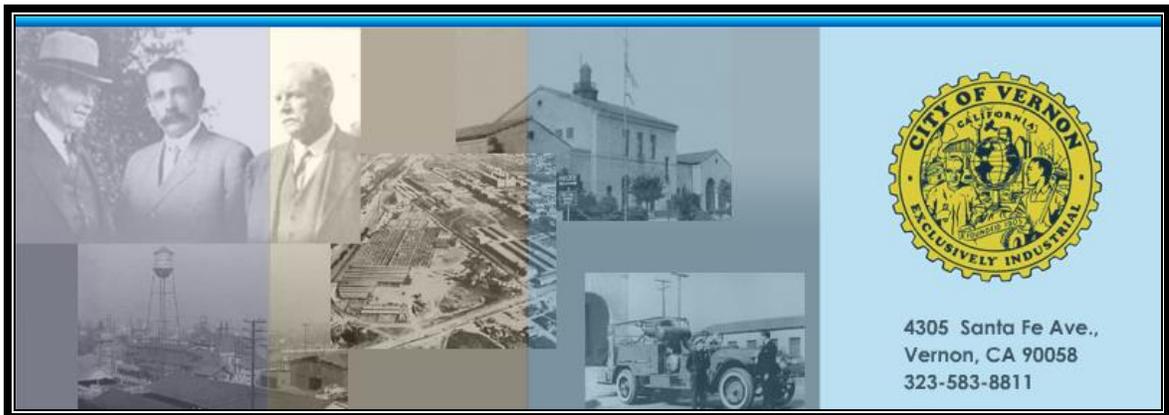


City of Vernon

Community Services & Water Department



Five-Year Capital Improvement Plan

2013-2018

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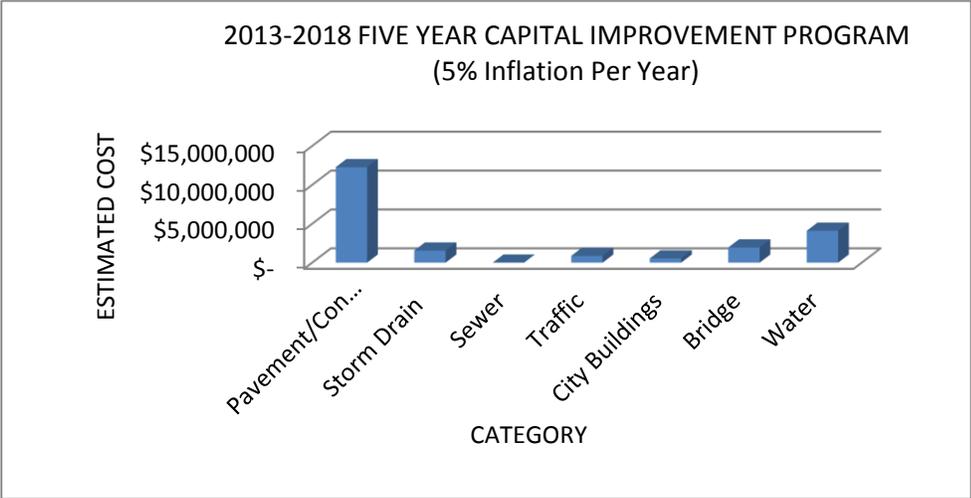
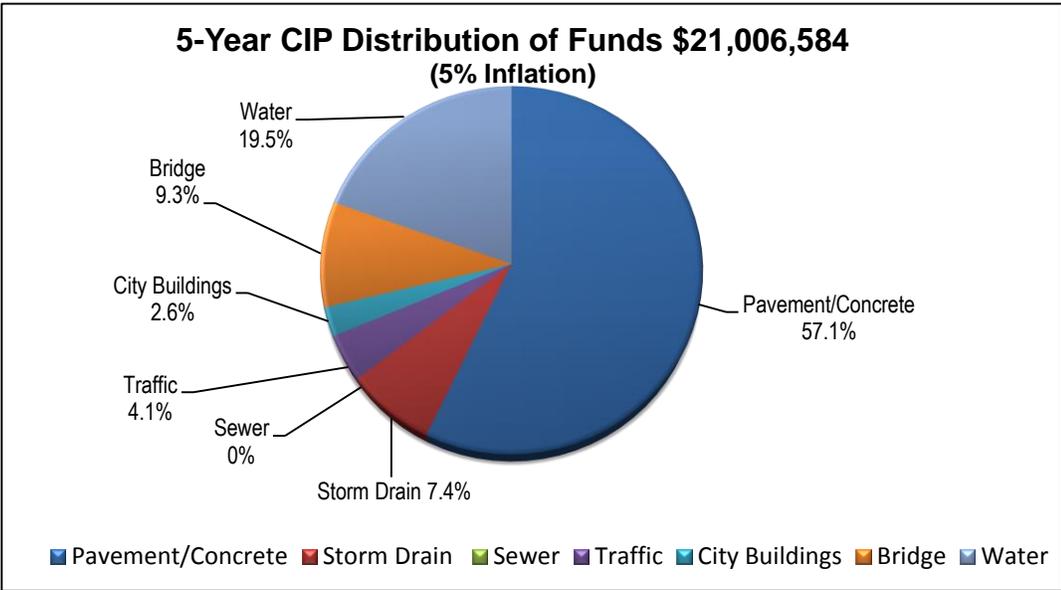
Executive Summary

The Engineering Division proposes the following capital improvement expenditures for the five-year period of 2013-2018. 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.

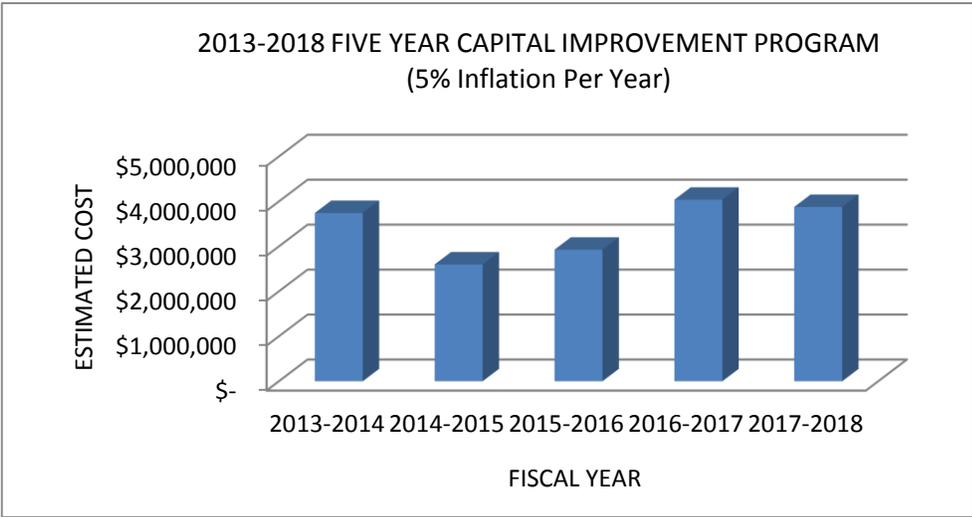
FIVE-YEAR CAPITAL IMPROVEMENT PLAN SUMMARY								
Fiscal Year	Pavement/ Concrete	Storm Drain	Sewer	Traffic	City Buildings	Bridge	Subtotal/year	Adjusted Subtotals for 5.0% Inflation
FY 2013-2014	\$2,105,000	\$445,000	\$0	\$130,000	\$295,000	\$324,568	\$3,299,568	\$3,464,546
FY 2014-2015	\$1,490,000	\$175,000	\$0	\$200,000	\$155,000	\$337,780	\$2,357,780	\$2,599,452
FY 2015-2016	\$2,194,000	\$175,000	\$0	\$110,000	\$50,000	\$0	\$2,529,000	\$2,927,634
FY 2016-2017	\$2,821,000	\$175,000	\$0	\$155,000	\$0	\$172,050	\$3,323,050	\$4,039,188
FY 2017-2018	\$1,706,000	\$375,000	\$0	\$155,000	\$0	\$802,900	\$3,038,900	\$3,878,492
Subtotal =	\$10,316,000	\$1,345,000	\$0	\$750,000	\$500,000	\$1,637,298	\$14,548,298	\$16,909,312
Total Adjusted for 5.0% Inflation	\$11,999,084	\$1,554,091	\$0	\$870,566	\$538,519	\$1,947,053		\$16,900,000
Average/year=	\$2,456,000	\$311,000	\$0	\$174,000	\$108,000	\$389,000		

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

FIVE-YEAR WATER CAPITAL IMPROVEMENT PLAN SUMMARY	
2013-2014	\$ 1,185,000.00
2014-2015	\$ 860,000.00
2015-2016	\$ 900,000.00
2016-2017	\$ 500,000.00
2017-2018	\$ 200,000.00
TOTAL:	\$ 3,645,000.00
Adjusted for 5.0% Inflation:	\$ 4,097,272.00
Average/Year:	\$ 820,000.00



Note: Water estimates not included in the graph below



1.0 Street Improvement Plan



Fiscal Years 2013-2018

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. Such projects have the priority where safety becomes an issue.
- Pavement Management Program
In 2005, the City implemented a Pavement Management Program (PMP) for all the City's streets. As part of this established PMP, all of the City's streets are to be surveyed bi-annually and the database of the pavement inventory and pavement condition data is updated. Pavement maintenance and rehabilitation historical records are also entered into the database. A pavement maintenance and rehabilitation (M&R) budget-needs analysis is performed and budgetary scenarios are analyzed.

In February 2011, the City's Engineering Division completed a survey of all the City streets, which contains approximately 49.1 centerline miles. As part of the already established PMP, 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 below are based on the latest analysis and in late 2013, the City will once again re-survey the streets and update the PMP.

- 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 \$3 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 59. However, as stated above, this number does not reflect the delaying of some street improvements due to the Vernon Power Plant. Table 2 gives a summary of the network pavement condition.

Condition Category	PCI Range
Good	70-100
Fair	50-69
Poor	25-49
Very Poor	0-24

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.

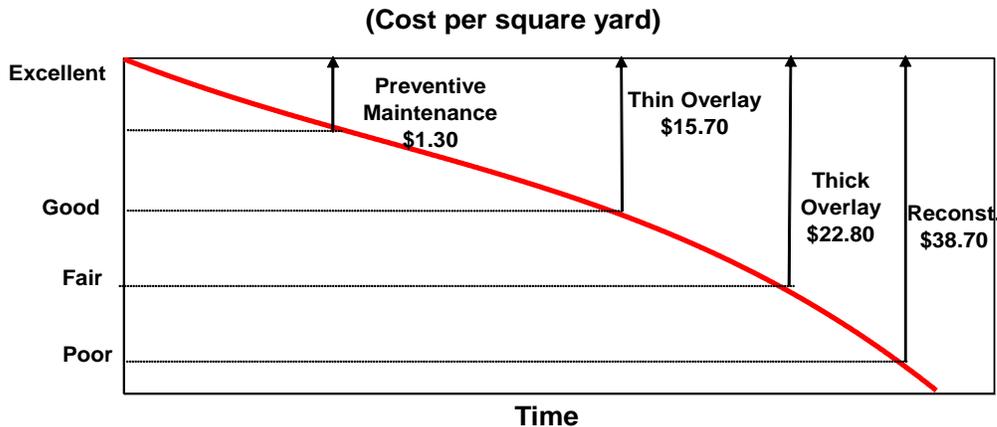
Fair: PCI – 50 to 69. Low to moderate severity weathering with moderate cracking requiring a thin overlay or patch & slurry seal.

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 85.

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 developed by Nichols Consulting Inc. established preliminary budgetary need necessary to have an average pavement condition index (PCI) rating in the “Fair” range for \$3 to \$4 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	City of Vernon		Outside Funds
			% Match	Matching Funds	
2013-2014	Boyle Avenue Resurfacing (Leonis to Slauson)	\$800,000	100%	\$800,000	\$0
	Fruitland Ave. Resurfacing (Soto St. to Downey Rd.)	\$680,000	100%	\$680,000	\$0
	Citywide Concrete Repair (2012-2013)	\$40,000	63%	\$25,000	\$15,000
	Citywide Concrete Repair (2013-2014)	\$50,000	100%	\$50,000	\$0
	Citywide Crack Seal Repair (2013-2014)	\$50,000	100%	\$50,000	\$0
	Citywide Rubberized Slurry Seal Phase II	\$500,000	100%	\$500,000	\$0
	Subtotal	\$2,120,000		\$2,105,000	\$15,000
2014-2015	Citywide Concrete Repair (2014-2015)	\$50,000	100%	\$50,000	\$0
	Slauson Avenue Resurfacing (Boyle Ave. to Downey)	\$890,000	100%	\$890,000	\$0
	Citywide Crack Seal Repair (2014-2015)	\$50,000	100%	\$50,000	\$0
	Citywide Rubberized Slurry Seal Phase III	\$500,000	100%	\$500,000	\$0
	Subtotal	\$1,490,000		\$1,490,000	
2015-2016	Sierra Pine Ave., Hampton St., 30th St., Resurfacing	\$544,000	100%	\$544,000	\$0
	55th St., 57th St., and Misc. Streets Resurfacing	\$1,050,000	100%	\$1,050,000	
	Citywide Rubberized Slurry Seal Phase IV	\$600,000	100%	\$600,000	\$0
	Subtotal	\$2,194,000		\$2,194,000	
2016-2017	Downey Rd. Resurfacing (LA River - Fruitland Ave.)	\$1,010,000	100%	\$1,010,000	\$0
	Citywide Rubberized Slurry Seal Phase V	\$600,000	100%	\$600,000	
	Soto St. Resurfacing (LA River - Fruitland Ave.)	\$1,211,000	100%	\$1,211,000	\$0
	Subtotal	\$2,821,000		\$2,821,000	
2017-2018	Alcoa Avenue Resurfacing (Vernon to Slauson)	\$856,000	100%	\$856,000	\$0
	Citywide Rubberized Slurry Seal Phase VI	\$600,000	100%	\$600,000	
	Exchange Ave. (Downey Rd. - Loma Vista Ave.)	\$250,000	100%	\$250,000	\$0
	Subtotal	\$1,706,000		\$1,706,000	
TOTAL		\$10,331,000		\$10,316,000	\$15,000
Total Adjusted for 5.0% Inflation:				\$11,999,084	
Average Per Year				\$2,400,000	

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

2.0 Storm Drain Improvement Plan



Fiscal Years 2013-2018

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 43 years old, drainage patterns have not dramatically changed since then. Therefore, the 1969 SDMP was used as a guide for this 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 SDMP proposes various new storm-drain pipe segments that have yet to be installed in the City. Of those segments, 2 are located within the streets to be rehabilitated as part of this five-year plan. These segments are illustrated on the map in Appendix "A" and shown on the table in section 2.3 below.

2.3 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	
2013-2014	55th St. Storm Drain Construction (50% cost)	\$370,000	100%	\$370,000	\$0
	NPDES Structural Improvements	\$75,000	100%	\$75,000	
	Subtotal	\$445,000		\$445,000	
2014-2015	NPDES Structural Improvements	\$175,000	100%	\$175,000	\$0
	Subtotal	\$175,000		\$175,000	
2015-2016	NPDES Structural Improvements	\$175,000	100%	\$175,000	\$0
	Subtotal	\$175,000		\$175,000	
2016-2017	NPDES Structural Improvements	\$175,000	100%	\$175,000	\$0
	Subtotal	\$175,000		\$175,000	
2017-2018	57Th Street Storm Drain Construction	\$200,000	100%	\$200,000	\$0
	NPDES Structural Improvements	\$175,000	100%	\$175,000	\$0
	Subtotal	\$375,000		\$375,000	
Total		\$1,345,000		\$1,345,000	\$0
Total Adjusted for 5.0% Inflation:				\$1,554,091	
Average Per Year				\$311,000	

3.0 Sewer Improvement Plan



Fiscal Years 2013-2018

3.0 Sewer Improvement Plan

3.1 Introduction:

The City of Vernon began improving the sewer network in the Central Manufacturing District in 1989 with the Phase I installation of 3,570 LF of Sewer. In 1995, the City installed an additional 8,000 linear feet of Sewer as part of Phase II. Phase III was constructed in 2005 placing 6,000 linear feet of sewer. Reconstruction of the sewer network in the Central Manufacturing District has been completed.

3.2 New Technology:

The City of Vernon completed a project utilizing trenchless manhole-to-manhole pipe linings & sectional linings (point repairs) with cured-in-place pipe (CIPP) method in lieu of traditional excavate, remove and replace the existing deteriorated pipe with new pipe. The following two locations were completed using this technique and cost savings were substantial.

- (1) District Boulevard between Heliotrope and Slauson Avenue, sewer pipe.
- (2) Vernon Avenue between Soto Street and Boyle Avenue, storm drain pipe.

The City of Vernon also installed sectional lining (point repair) with 4 feet long sections of lining on cracked sewer pipes along Vernon Avenue and District Boulevard.

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

Fiscal Year	Proposed Sewer Projects	Cost
2013-2014	None	\$ -
2014-2015	None	\$ -
2015-2016	None	\$ -
2016-2017	None	\$ -
2017-2018	None	\$ -
Total		\$ -
Total Adjusted for 5.0% Inflation		\$ -
Average per year		\$ -

4.0 Traffic Improvement Plan



Fiscal Year 2013-2018

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 various locations, a prioritized list was developed of signalized intersections that need improvements and/or repairs. The map in Appendix “B” illustrates the locations of the signal improvements and they are also listed in the table below.

4.2 Fiscal Impact:

Fiscal Year	TRAFFIC IMPROVEMENT PROJECTS	Total Cost	City of Vernon		Outside Funds
			Matching %	Matching Funds	
2013-2014	Intersection Rewiring & Updates: Boyle @ Fruitland, Santa Fe @ 27th & Bandini @ I-710 Off-ramp, Boyle @ Leonis	\$130,000	100%	\$130,000	
	Citywide Countdown Ped Head Replacement	\$104,300	0%	\$0.00	\$104,300
	Traffic Control System (LA County)	\$966,000	0%	\$0.00	\$966,000
	Subtotal	\$1,200,300		\$130,000	\$1,070,300
2014-2015	Intersection Rewiring - Pacific @ Leonis	\$50,000	100%	\$50,000	
	Intersection Rewiring - Fruitland @ Pacific	\$40,000	100%	\$40,000	
	Intersection Rewiring - Downey @ Vernon	\$50,000	100%	\$50,000	
	Citywide Sign Replacement Program	\$35,000	100%	\$35,000	
	Warning Devices	\$25,000	100%	\$25,000	
	Subtotal	\$200,000		\$200,000	
2015-2016	Bandini Blvd. and Sunol Ave.	\$35,000	100%	\$35,000	
	Soto Street and Leonis Blvd.	\$40,000	100%	\$40,000	
	Citywide Sign Replacement Program	\$35,000	100%	\$35,000	
	Subtotal	\$110,000		\$110,000	
2016-2017	Various Intersections	\$120,000	100%	\$120,000	
	Citywide Sign Replacement Program	\$35,000	100%	\$35,000	
	Subtotal	\$155,000		\$155,000	
2017-2018	Various Intersections	\$120,000	100%	\$120,000	
	Citywide Sign Replacement Program	\$35,000	100%	\$35,000	
	Subtotal	\$155,000		\$155,000	
Total		\$1,820,300		\$750,000	\$1,070,300
Total Adjusted for 5.0% Inflation				\$870,566	
Average per year				\$174,000	

5.0 Improvements of City Building Facilities



Fiscal Years 2013-2018

5.0 Improvements of City Building Facilities

5.1 Introduction:

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	City of Vernon	
			Matching %	Matching Funds
2013-2014	Remodel City Administrator's Office	\$75,000	100%	\$75,000
	Remodel City Attorney's Office	\$75,000	100%	\$75,000
	Reroofing of City Hall Penthouse Mechanical Room	\$30,000	100%	\$30,000
	Fire Station No.1 Repairs	\$115,000	100%	\$115,000
	Subtotal	\$295,000		\$295,000
2014-2015	Seal Parking Structure Deck	\$100,000	100%	\$100,000
	City Hall Main Roof	\$55,000	100%	\$55,000
	Subtotal	\$155,000		\$155,000
2015-2016	Paint City Hall Structure	\$50,000	100%	\$50,000
	Subtotal	\$50,000		\$50,000
2016-2017				
	Subtotal	\$ -		
2017-2018				
	Subtotal	\$ -		
Total		\$500,000		\$500,000
Total Adjusted for 5.0% Inflation				\$538,519
Average per year				\$108,000

6.0 Bridge Improvement Plan



Fiscal Years 2013-2018

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
			% Match	City of Vernon	Measure R Funds	
2013-2014	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)	\$ 1,025,000	11.47%	\$ 117,568		\$ 907,433
	Bridge Preventative Maintenance Program - Various Vernon Bridges	\$1,140,000	12.0%	\$ 137,000		\$ 1,003,000
	Subtotal	\$ 2,515,000		\$ 324,568		\$ 2,190,434
2014-2015	Atlantic Blvd. Bridge - Construction (over the LA River)	\$ 10,496,000	11.47%	\$ 337,780	\$ 866,110	\$ 9,629,890
	Subtotal	\$ 10,496,000		\$ 337,780	\$ 866,110	\$ 9,629,890
2015-2016	Atlantic Blvd. Bridge- Construction (over the LA River)	\$ 10,496,000	11.47%		\$1,203,890	\$ 9,292,110
	Subtotal	\$ 10,496,000		\$ -	\$1,203,890	\$ 9,292,110
2016-2017	26th Street Bridge - Design & R/W (over the LA River)	\$ 1,500,000	11.47%	\$ 172,050		\$ 1,327,950
	Subtotal	\$ 1,500,000		\$ 172,050		\$ 1,327,950
2017-2018	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		\$ 32,007,000		\$ 1,637,298	\$ 2,070,000	\$ 27,309,534

7.0 Water Improvement Plan



Fiscal Years 2013-2018

7.0 Water Improvement Plan

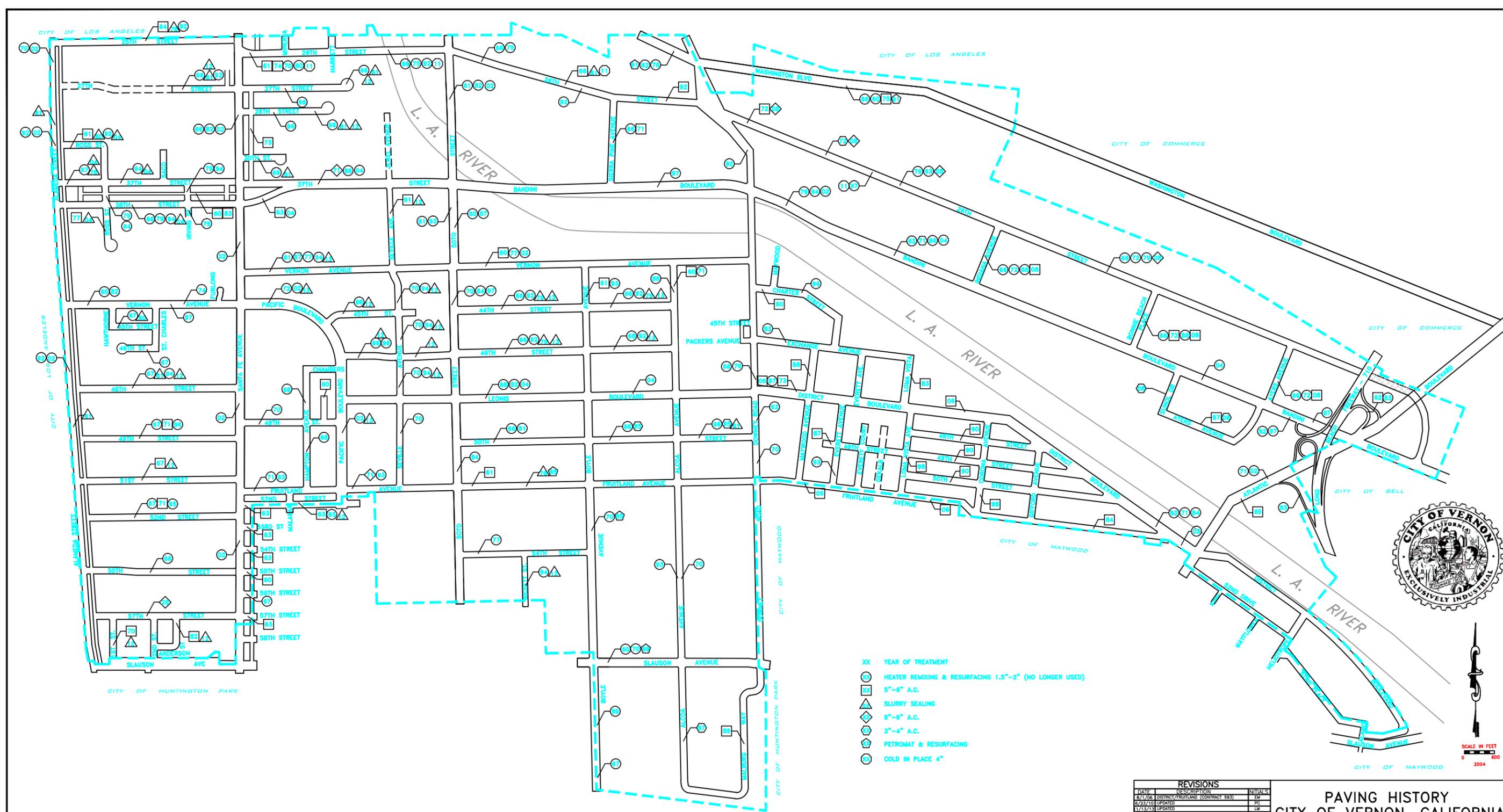
7.1 Introduction:

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	City of Vernon	
			% Matching	Matching Funds
2013-2014	Smurfit Well No. 21 Pump Station	\$ 500,000	100%	\$500,000
	55th Street Storm Drain Construction (50% Cost)	\$ 380,000	100%	\$380,000
	Well No. 16 Rehabilitation/Pump & Motor Replacement	\$ 260,000	100%	\$260,000
	Elevated Tank Standpipe Repair	\$ 45,000	100%	\$45,000
	Subtotal	\$ 1,185,000		\$1,185,000
2014-2015	Packers/Exchange/Downey Pipeline Extension	\$ 100,000	100%	\$100,000
	Smurfit Weel No. 21 Pump Station	\$ 500,000	100%	\$500,000
	Well No. 11 Rehabilitation/Pump & Motor Replacement	\$ 260,000	100%	\$260,000
	Subtotal	\$ 860,000		\$860,000
2015-2016	Inerior/Exterior Recoating - Reservoirs 3-1, 3-2 & 3-3	\$ 900,000	100%	\$900,000
	Subtotal	\$ 900,000		\$900,000
2016-2017	Elevated Tank Interior Rehabilitation	\$ 500,000	100%	\$500,000
	Subtotal	\$ 500,000		\$500,000
2017-2018	10 MG Buried Concrete Reservoir Interior Rehabilitation	\$ 200,000	100%	\$200,000
	Subtotal	\$ 200,000		\$200,000
Total		\$ 3,645,000		\$3,645,000

APPENDIX “A”

PAVING HISTORY MAP



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



REVISIONS		
DATE	DESCRIPTION	INITIALS
8/1/06	DISTRICT/HUNTINGTON PARK (CONTRACT 593)	EM
02/23/10	UPDATED	PS
11/23/13	UPDATED	LW

**PAVING HISTORY
CITY OF VERNON, CALIFORNIA**

APPENDIX “B”

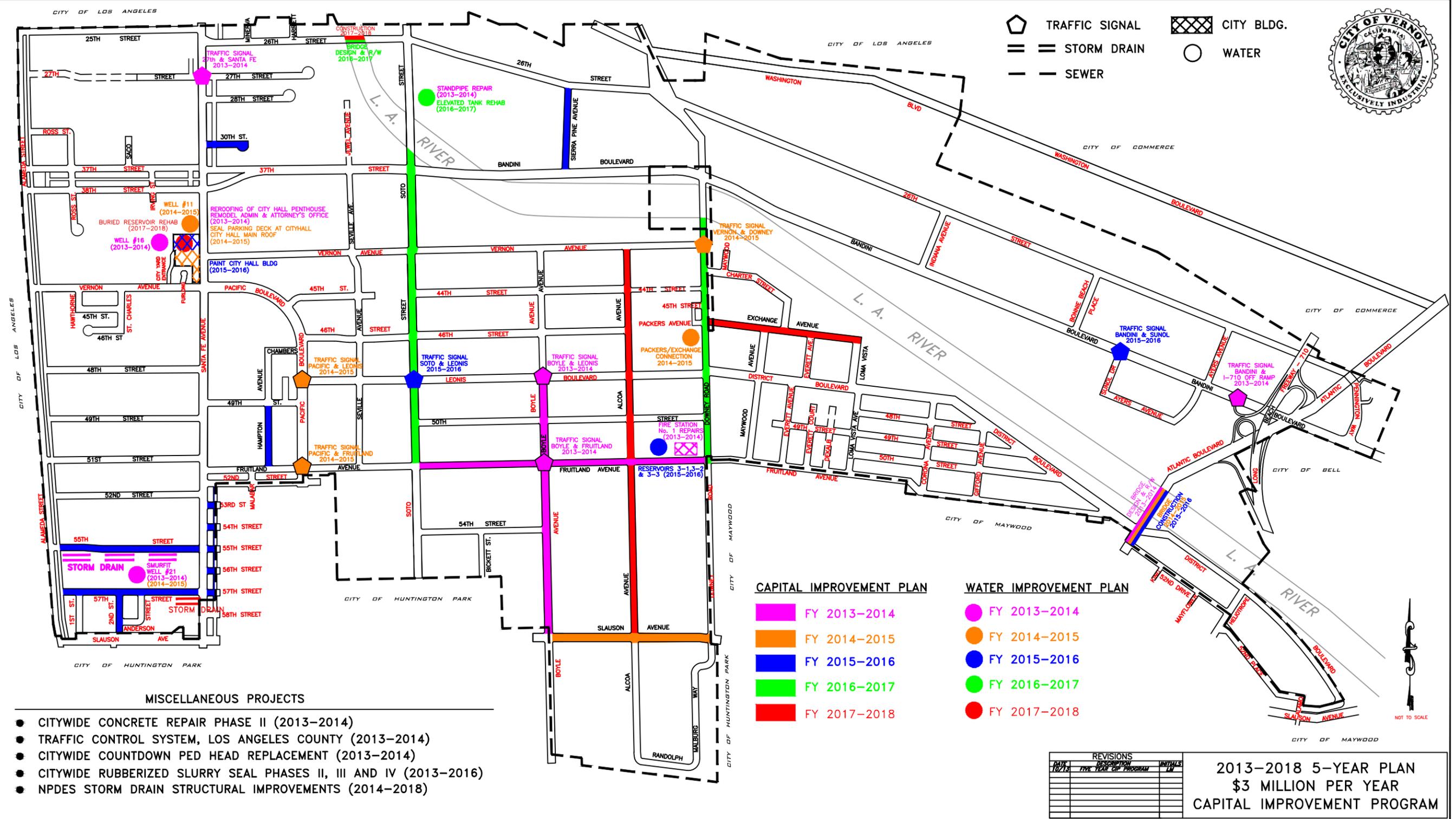
FISCAL YEAR IMPROVEMENT MAP

CITY OF LOS ANGELES

CITY OF LOS ANGELES



- TRAFFIC SIGNAL
- STORM DRAIN
- SEWER
- CITY BLDG.
- WATER



MISCELLANEOUS PROJECTS

- CITYWIDE CONCRETE REPAIR PHASE II (2013-2014)
- TRAFFIC CONTROL SYSTEM, LOS ANGELES COUNTY (2013-2014)
- CITYWIDE COUNTDOWN PED HEAD REPLACEMENT (2013-2014)
- CITYWIDE RUBBERIZED SLURRY SEAL PHASES II, III AND IV (2013-2016)
- NPDES STORM DRAIN STRUCTURAL IMPROVEMENTS (2014-2018)

CAPITAL IMPROVEMENT PLAN

- FY 2013-2014
- FY 2014-2015
- FY 2015-2016
- FY 2016-2017
- FY 2017-2018

WATER IMPROVEMENT PLAN

- FY 2013-2014
- FY 2014-2015
- FY 2015-2016
- FY 2016-2017
- FY 2017-2018

REVISIONS		
DATE	DESCRIPTION	INITIALS
10/13	FIVE YEAR CIP PROGRAM	

2013-2018 5-YEAR PLAN
 \$3 MILLION PER YEAR
 CAPITAL IMPROVEMENT PROGRAM

NOT TO SCALE

APPENDIX “C”

COST ESTIMATES

Fiscal Year	RUBBERIZED SLURRY SEAL PROJECTS	Total Budget
2013-2014	PHASE II	\$500,000
	Pacific Blvd.	
	Vernon Ave.	
	44th St.	
	45th St.	
2014-2015	PHASE III	\$500,000
	Vernon Ave. (Soto to Downey)	
	Boyle Ave. (Vernon to Leonis)	
	50th St. (Boyle to Downey) Malburg Way (Alcoa to Slauson)	
2015-2016	PHASE IV	\$600,000
	Vernon Ave. (Alameda to Santa Fe)	
	37th St. (Alameda to LA River)	
	38th St. (Alameda to 37th)	
2016-2017	PHASE IV	\$600,000
	Various Streets	
2017-2018	PHASE IV	\$600,000
	Various Streets	
TOTAL		\$2,800,000

FISCAL YEAR 2015-2016

Contract No. CS-0009 - Construction Cost Estimate

1st St., 2nd St., 52nd St., 53rd St., 54th St., 55th St., 56th St., 57th St., Anderson St. and Malabar St.

ITEM	DESCRIPTION	UNIT	QTY	UNIT PRICE	COST
STREET IMPROVEMENTS					
1	Unclassified excavation	CY	962	\$ 25.00	\$ 24,045.00
2	Header Cutting	LF	7,815	\$ 1.00	\$ 7,814.63
3	2" AC cold plane and dispose	SF	80,802	\$ 0.35	\$ 28,280.60
4	4" AC cold plane	SF	37,526	\$ 0.60	\$ 22,515.57
5	Variable AC cold plane	SF	6,082	\$ 0.60	\$ 3,649.28
6	Construct Asphalt Concrete	TN	2,683	\$ 75.00	\$ 201,245.63
7	Construct 2" & variable Latex AC Overlay	TN	3,003	\$ 80.00	\$ 240,240.00
8	Construct CMB	CY	338	\$ 35.00	\$ 11,833.50
9	Slurry Seal	SF	69,175	\$ 0.10	\$ 6,917.51
10	A.C. Crack Sealing	LS	1	\$ 25,000.00	\$ 25,000.00
11	Adjust manhole frame and cover to grade	EA	32	\$ 360.00	\$ 11,520.00
12	Replace locking manhole frame & cover w/ non-locking	EA	1	\$ 800.00	\$ 800.00
13	Lower & re-raise manhole frame, cover & ring to grade	EA	5	\$ 950.00	\$ 4,750.00
14	Construct Curb & Gutter	LF	1,020	\$ 30.00	\$ 30,602.25
15	Construct Median Curb	LF	565	\$ 30.00	\$ 16,950.00
16	Construct PCC sidewalk (t=3.5")	SF	4,997	\$ 5.25	\$ 26,233.99
17	Construct Curb Ramp	EA	24	\$ 3,000.00	\$ 72,000.00
18	Construct Driveway	SF	1,747	\$ 11.00	\$ 19,219.20
19	Construct 8" concrete cross gutter & alley entrance	SF	238	\$ 20.00	\$ 4,760.00
20	Construct concrete block wall and chain link fence	LF	48	\$ 400.00	\$ 19,200.00
21	Traffic Loops	EA	12	\$ 600.00	\$ 7,200.00
22	Channelization, legends, markers	LS	1	\$ 20,000.00	\$ 20,000.00
23	4" thick, stamped concrete median slab	SF	2,651	\$ 10.00	\$ 26,505.00
24	Irrigation & electrical systems	LS	1	\$ 20,000.00	\$ 20,000.00
25	Furnish & install plans on 3 islands	LS	1	\$ 30,000.00	\$ 30,000.00
					\$ 881,282.13
				10% Contingency	\$ 88,128.21
				Total	\$ 969,410.35
STORM DRAIN CONSRUCTION					
26	Furnish & Install 36" RCP	LF	621	\$ 350.00	\$ 217,350.00
27	Furnish & Install 30" RCP	LF	541	\$ 150.00	\$ 81,150.00
28	Furnish & Install 27" RCP	LF	349	\$ 175.00	\$ 61,075.00
29	Furnish & Install 18" RCP	LF	148	\$ 200.00	\$ 29,600.00
30	Construct Catch Basin	EA	6	\$ 6,000.00	\$ 36,000.00
31	Furnish & Install Storm Drain Manhole per Std. 320-1	EA	3	\$ 7,000.00	\$ 21,000.00
32	Furnish & Install Storm Drain Manhole per Std. 321-1	EA	3	\$ 7,000.00	\$ 21,000.00
33	Furnish & Install concrete collar	EA	1	\$ 1,125.00	\$ 1,125.00
34	Remove & dispose 72" RCP & install Junction Structure	EA	1	\$ 15,000.00	\$ 15,000.00
35	Remove & dispose conflicting portion of 12' wide abandoned	LS	2	\$ 2,500.00	\$ 5,000.00
				Subtotal	\$ 488,300.00
				10% Contingency	\$ 48,830.00
				Total	\$ 537,130.00
TOTAL =					\$ 1,506,540.35

APPENDIX “D”

WATER IMPROVEMENTS DETAILS

Fiscal Year 2013-2014/2014-2015

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. The City's consultant, Cannon Engineering, Inc., is currently preparing specifications for the construction of a fully operational pump station at the Vernon Water Department Production Well 21. (\$1,000,000.00).



Fiscal Year 2013-2014

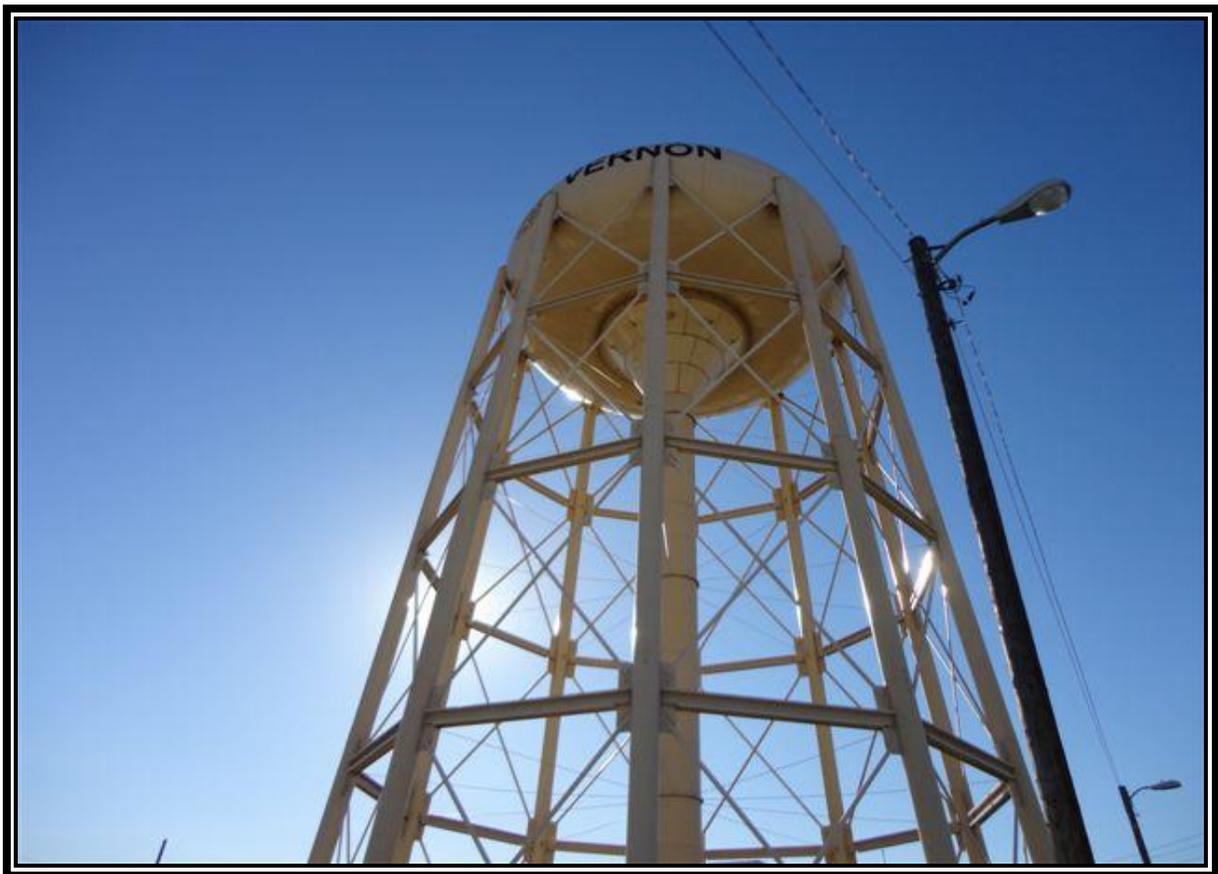
WELL NO. 16 REHABILITATION – PUMP & MOTOR REPLACEMENT

Well No. 16 has experienced a significant decrease in its production capacity. Pump Check Pumping Systems ran a test on the well pump on April 4, 2011. The results of the test indicated that Well No. 16 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 2013-2014

ELEVATED TANK STANDPIPE REPAIR, TEMPORARY CLOSED SYSTEM DESIGN, AND TECHNICAL SUPPORT SERVICES

The Elevated Tank was inspected by Harper & Associates Engineering, Inc. (Harper) in April of 2010. Harper's structural report noted that there was severe corrosion present on the lower portion of the standpipe. The City entered into an agreement with Cannon Engineering, Inc. (Cannon) to develop specifications, bid documents, technical support services, and a detailed cost estimate for the repair of the Elevated Tank's standpipe. Cannon will also evaluate methods to convert the existing open to atmosphere distribution system to a temporary closed water distribution system in order for the distribution system to remain hydraulically sound during the construction phase of the project. The City will review design options provided by Cannon and select an option based on sound engineering principles. Once the design specifications are completed, the City will contract to have the repair work facilitated. (\$45,000.00).



Fiscal Year 2014-2015

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 2014-2015

WELL NO. 11 REHABILITATION – PUMP & MOTOR REPLACEMENT

Well No. 11 has experienced a decrease in its production capacity. Pump Check Pumping Systems ran a test on the well pump on April 4, 2011. 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).



Fiscal Year 2015-2016

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

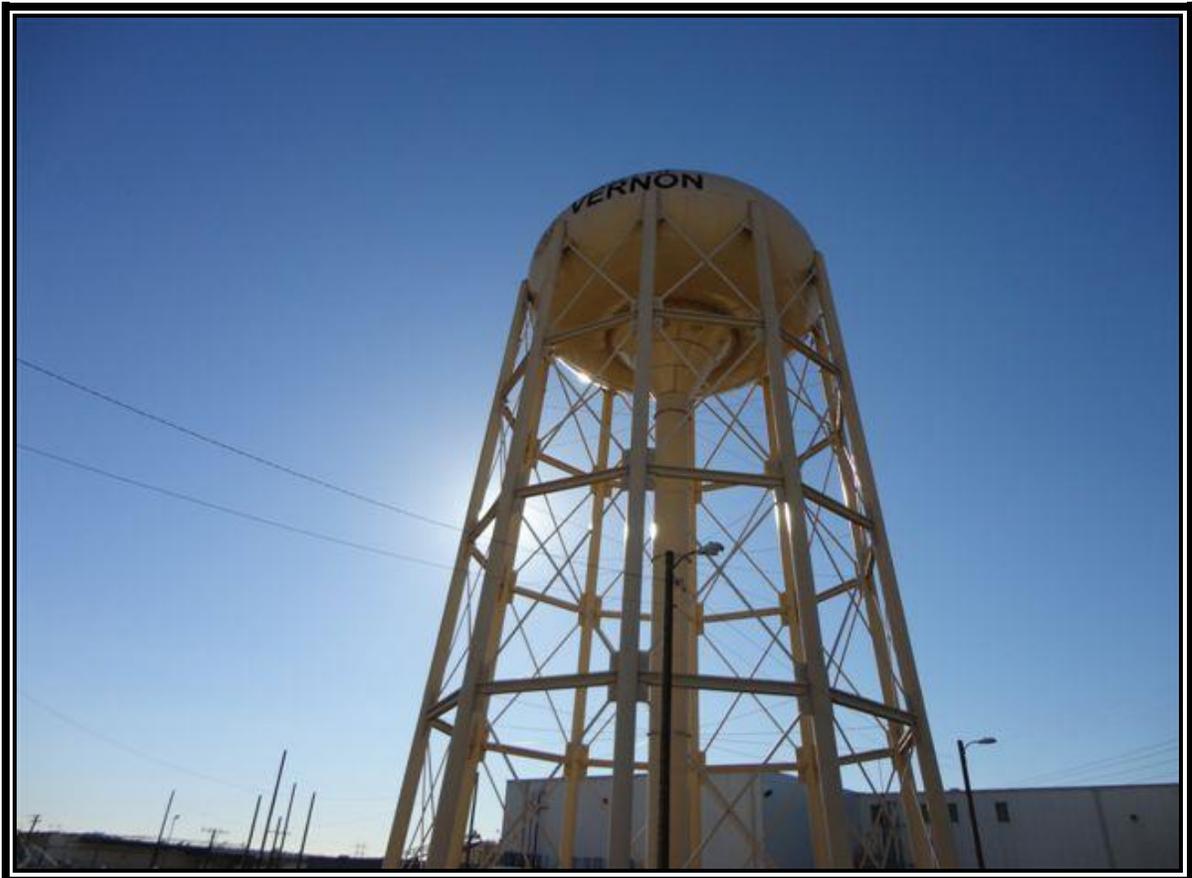
The City had an interior and exterior evaluation performed of Reservoirs 3-1, 3-2, and 3-3. The results of the evaluation indicated that both the interior and exterior coating are beginning to fail at each reservoir. In addition, the evaluation also recommended that a cathodic protection be installed to eliminate corrosive properties that are inherent in moist environments. Specifications will be developed to facilitate the rehabilitation of these reservoirs. (\$900,000.00).



Fiscal Year 2016-2017

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).



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).

