

**2017 Los Angeles River Trash TMDL Annual Report
for the City of Pico Rivera**

Prepared for the Los Angeles Regional Water Quality Control Board
Submitted as part of the 2016-2017 Individual MS4 NPDES Annual Report

December 15, 2017

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City of Pico Rivera Trash TMDL Annual Report

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1. Background

The City of Pico Rivera (City) is complying with the Los Angeles River Trash TMDL (Trash TMDL) through an alternative compliance option, as allowed by the June 11, 2015, Los Angeles Regional Water Quality Control Board (Regional Board) Amendment to the Trash TMDL. The City is employing a combination of full capture systems, partial capture systems, and institutional controls—all properly sized, operated, and maintained—to achieve a reduction in trash discharge of 99% or greater from the baseline load. The percent reduction is determined through a mass balance approach, based on a daily generation rate (DGR) study as described in the Regional Board's August 9, 2007, Trash TMDL Staff Report for the Los Angeles River Watershed.

2. Compliance Status

The Regional Board's mass balance worksheets (Reporting Forms) were used to calculate the percent reduction in trash discharge for reporting year 2016-2017. They are discussed in Section 5 and included in Section 6 of this report.

The City will continue to properly maintain its trash capture devices and institutional controls and anticipates loading reductions above 99% in future reporting years. The City requests the Executive Officer's concurrence to reduce the frequency of DGR studies from annually to once every five years. The City will report annually on the continued implementation at the same level of capture devices and institutional controls and any drastic land use changes that occur.

3. Full Capture Systems, Partial Capture Systems, and Institutional Controls

A complete list of trash capture devices is included in Section 6. Institutional controls include littering ordinances, biannual catch basin cleaning, weekly street sweeping, public education and stormwater pollution prevention outreach, residential curbside recycling, hazardous and electronic waste roundups, and bulky item collection.

4. Daily Generation Rate (DGR) Study

The City's trash discharge for the reporting year was estimated using a mass balance approach based on a trash DGR calculated for land use areas within the City. The representative land use areas studied were residential and industrial areas. All catch basins within commercial, public/educational, and open space areas are retrofitted with full-capture devices, so these areas were not studied. The DGR was calculated by weighing trash collected over a 30-day period in the summer along representative street sweeping collection routes within the study areas, then extrapolating that weight across the City. See Figures 1-2 for the designated routes. The results of the DGR study are included as part of the Regional Board Reporting Forms in Section 6.

4.1 Study method

Trash¹ was manually picked up with a reaching tool along the collection routes. (See Figure 3.) The manual pickup was conducted one day prior to street sweeping for each route. Catch basins along the study routes were covered to prevent trash from being swept into them. (See Figure 4.) Only trash a quarter of an inch or larger was collected. Collected trash in each area was weighed using a calibrated digital scale. (See Figure 5.) Five gallon buckets were used to estimate the volume. The trash was then separated and quantified by material type. A standard health and safety plan was followed at all times. The health and safety plan is available upon request.

4.2 Collection routes

Figures 1-2 show the collection routes for the DGR Study. Each figure includes a brief description.

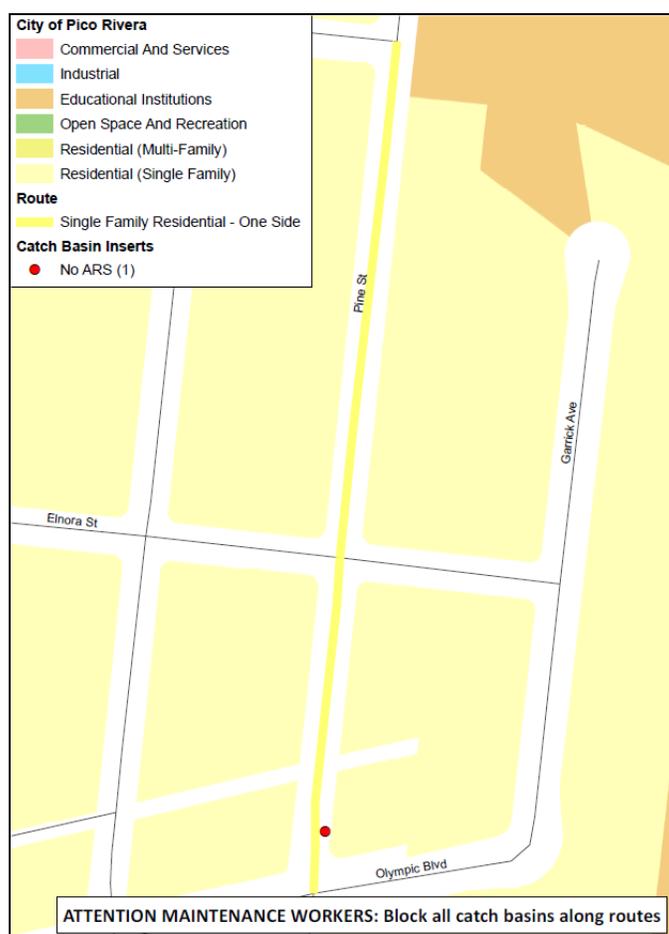


Figure 1. Residential Area Route. Collection occurred Monday. Route includes the side of the street swept Tuesday only.

¹ Following the Los Angeles River Trash TMDL, “trash” is defined in California Government Code Section 68055.1(g) as “...all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling or manufacturing.”

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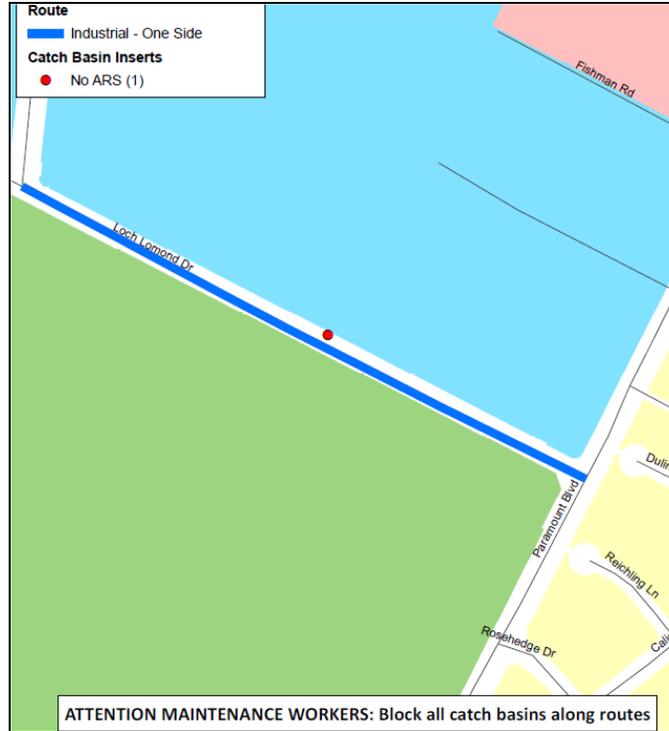


Figure 2. Industrial Area Route. Collection occurred Friday. Route includes the side of the street swept Saturday only.

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4.3 Field pictures

Figures 3-6 were taken during the 2017 DGR study. Each picture includes a brief description.



Figure 3. DGR crew member collecting trash using a reaching tool.



Figure 4. Catch basins along the study routes were covered to prevent trash from being swept into them.



Figure 5. DGR crew member weighing collected trash using a digital scale.



Figure 6. Sorted trash pile from the Residential Area route on 8-28-17.

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5. Mass Balance Approach

The mass balance Reporting Forms provided by the Regional Board were used to calculate total trash discharge. (See Section 6.) Deviations from the Reporting Forms are noted and explained in the comments sections. This includes the following:

- The City's streets are not swept in one day. Approximately equal parts are swept Monday through Friday. Accounting for this effect results in fractional days of trash accumulation for a given storm event.

6. Trash TMDL Reporting Forms

The 2017 Trash TMDL Reporting Forms are included on the following pages.

Trash Collection for Calculation of Daily Generation Rate, DGR										
Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11
Land Use Category	Total Area within Jurisdiction	Representative Area for DGR Calculation	Date of Last Street Sweeping	Date of DGR Sampling	Length of Collection Period	Trash Collection from Representative Area (lb. or gal.)	Trash Cleaned Out from Catchbasin(s) within the Representative Area (lb. or gal.)	Total Amount of Trash Generated in Representative area	Total Trash Generated within Representative Area	Comments
Residential	35.44	0.22	08/08/17	08/14/17	6	0.31	0	0.31		Residential areas swept weekly. DGR sampling collected weekly (Monday) by hand, and prior to street sweeping activities (Tuesdays) Thus a six-day period elapsed between sweeping and collection events.
			08/15/17	08/21/17	6	1.00	0	1.00		
			08/22/17	08/28/17	6	1.06	0	1.06		
			08/29/17	09/04/17	6	0.63	0	0.63		
			09/05/17	09/11/17	6	0.13	0	0.13	17.17	
				Total Days:	30					
Industrial	9.10	0.28	08/12/17	08/18/17	6	2.19	0	2.19		Industrial areas swept weekly. DGR sampling collected weekly by hand (Fridays) and prior to street sweeping (Saturdays). Thus a six-day period elapsed between sweeping and collection events.
			08/19/17	08/25/17	6	1.88	0	1.88		
			08/26/17	09/01/17	6	2.00	0	2.00		
			09/02/17	09/08/17	6	0.25	0	0.25		
			09/09/17	09/15/17	6	0.88	0	0.88	7.68	
				Total Days:	30					
Commercial	2.22	0.00								All catch basins within this land-use area are retrofitted with full capture devices, thus trash was not collected from this area.
									0.00	
				Total Days:	0					
Public Facilities / Educational Institutions	0.35	0.00								All catch basins within this land-use area are retrofitted with full capture devices, thus trash was not collected from this area.
									0.00	
				Total Days:	0					
Open Space / Recreation	2.57	0.00								All catch basins within this land-use area are retrofitted with full capture devices, thus trash was not collected from this area.
									0.00	
				Total Days:	0					
Total Area	49.69	0.50					Total Trash (lbs)	10.3		
							DGR (lbs/day)	24.84		
Notes:	* Total collection period must equal 30 days for each representative land use area.									
Col. 1	Land Use Category - Categories based on Baseline Monitoring Program conducted by LACDPW baseline monitoring group. Alternatively, describe land use type as designated by the City.									
Col. 2	Total area of said land use within jurisdiction (fill in once in gray-highlighted row for each land use category). Total area may be accounted for using other approved measurement units, e.g. curb miles.									
Col. 3	Representative area for DGR calculation (fill in once in gray-highlighted row for each land use category). Representative area may be accounted for using other approved measurement units, e.g. curb miles. Collectively, the areas used for DGR calculation should be representative, proportionally, of the land uses within the jurisdiction and must be approved by the EO prior to the 30-day collection period.									
Col. 4	Date of last street sweeping									
Col. 5	Date of DGR sampling (direct measurement of deposited trash) - The DGR collection period(s) must fall between June 22nd and September 22nd									
Col. 6	Length of Collection Period in days - The DGR collection period must be 30 days, total, for each representative land use area									
Col. 7	Trash collection from representative area through street sweeping or other method, lb. or gal.									
Col. 8	Trash cleaned out from catchbasins within the representative area (lb. or gal.). Trash accumulated in the CBs during the DGR collection period must be included in the total trash generated. Where CBs are closed off such that no trash can enter them for the purpose of DGR sampling, this value will be zero (0).									
Col. 9	Total amount of trash generated in representative area (sum of Col. 7 and Col. 8), lb. or gal.									
Col. 10	Total Trash Generated within Representative Area (estimated in 30 day period)									
Col. 11	Provide comments, if necessary									
Note: Sampling must be conducted during any 30-day period, starting June 22nd through September 22nd of each year.										

Rainfall Station: WHITTIER 2.9 WNW, CA US							
Total Trash Discharged by Storm Event							
Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
DGR	Date of Last Street Sweeping	Date of Storm Event	Precipitation Depth	Days	Amount of Trash Recovered from Catchbasins	Storm Event Trash Discharge	Comments
24.84	10/13/16	10/17/2016	0.3	3.5		86.95	* Rainfall data was collected from the closest rainfall station.
24.84	11/16/16	11/21/2016	1.03	4.5		111.80	
24.84	11/22/16	11/27/2016	0.25	4.4		109.31	** The entire City of Pico Rivera is not swept in one day. Approximately equal parts of the City are swept Monday through Friday. As such during any given rain event, different parts of the City were swept between 1 to 7 days previously. Accounting for this effect results in fractional days of trash accumulation for a given storm event.
24.84	12/13/16	12/16/2016	2	2.5		62.11	
24.84	12/19/16	12/22/2016	1.05	2.8		69.56	
24.84	12/22/16	12/24/2016	1.15	1.9		47.20	
24.84	12/27/16	12/30/2016	0.25	2.5		62.11	
24.84	12/30/16	12/31/2016	0.25	1		24.84	
24.84	01/02/17	1/5/2017	0.61	2.6		64.59	
24.84	01/05/17	1/9/2017	0.68	3.2		79.50	
24.84	01/09/17	1/11/2017	0.59	1.6		39.75	
24.84	01/11/17	1/12/2017	1	0.9		22.36	
24.84	01/12/17	1/13/2017	0.84	0.9		22.36	
24.84	01/16/17	1/19/2017	0.94	2.8		69.56	
24.84	01/19/17	1/20/2017	1.56	0.9		22.36	
24.84	01/20/17	1/22/2017	0.76	2		49.69	
24.84	01/22/17	1/23/2017	1.83	0.9		22.36	
24.84	02/03/17	2/7/2017	0.8	4		99.38	
24.84	02/07/17	2/11/2017	0.39	3.1		77.02	
24.84	02/15/17	2/18/2017	2.7	3		74.53	
24.84	03/19/17	3/22/2017	0.25	3.5		86.95	
24.84	05/03/17	5/7/2017	0.3	4		99.38	
24.84	05/07/17	5/8/2017	0.27	0.9		22.36	
Total Storm Year Trash Discharge						1,142.83	

Rainfall Station: WHITTIER 2.9 WNW, CA US							
Total Trash Discharged by Storm Event							
Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8
DGR	Date of Last Street Sweeping	Date of Storm Event	Precipitation Depth	Days	Amount of Trash Recovered from Catchbasins	Storm Event Trash Discharge	Comments
Notations:							
Form	Add additional rows for storm events, if necessary						
Rainfall Station	Name of rainfall station used, indicate only the L.A. County station number						
Total Storm Year Trash Discharge = Sum of individual storm event discharges for reporting period (October 1 - September 30).							
Col. 1	DGR for Jurisdiction from DGR Sampling Data worksheet						
Col. 2	Date of last street sweeping						
Col. 3	Date of storm event with 0.25 inch or more of rainfall						
Col. 4	Depth of rainfall taken from nearest rainfall station (in.)						
Col. 5	Number of days between date of last street sweeping and storm event. For each day of a storm event that generates precipitation greater than 0.25 inch, the Permittee shall calculate a storm event discharge. When more than one storm event occurs prior to the next street sweeping the discharge shall be calculated from the date of the last storm event discharge calculation.						
Col. 6	Amount of trash recovered from catchbasins, if any (lb. or gal.)						
Col. 7	Storm Event Discharge = Col. 1 x Col. 5 - Col. 7 [trash discharged by the storm event], lbs. or gal.						
Col. 8	Provide comments, if necessary						

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10
Reporting Period	Institutional Control Measure			Structural Control Measure		Required Trash Abatement (%)	Total Combined Compliance	Compliance	Comments
	Total Trash Discharged (lbs.)	Effluent Limitation	Equivalent Compliance	Total # CBs served by FCDs and PCDs	% of CBs served by FCDs / PCDs				
31-Oct-11									
31-Oct-12									
31-Oct-13									
31-Oct-14									
31-Oct-15	7,411	744	67.1%	Total CBs = 67 Total FCDs = 56 Total PCDs = 8	93.9%	96.7%	98.0%		
31-Oct-16	6,122	225	72.9%	63	93.9%	99.0%	98.3%		
31-Oct-17	1,143	225	94.9%	63	93.9%	99.0%	99.7%	Yes	

Notations:

- Form** Structural Control Measure: Report compliance using land area served by FCD/PCDs or number of catchbasins served by FCD/PCDs.
- Column 1: Reporting Period: Part 7.1.(C)(1) of Order No. 01-182 as amended by Order No. R4-2009-0130
- Column 2: As calculated pursuant to Part 7.1.(B)(1)(b)(2) of Order No. 01-182 as amended by Order No. R4-2009-0130
 Alternative approaches per Part 7.1.(B)(1)(b)(3) must be approved in advance by the Executive Officer
- Column 3: Effluent Limitation per Part 7.1, Appendix 7-1, Table 1a or 1b, of Order No. 01-182 as amended by Order No. R4-2009-0130
- Column 4: Compliance = 1-(Col. 2 / Baseline Waste Load Allocation)
- Column 5: Total number of catchbasins, total number of (CBs) served by FCD/PCDs within jurisdiction
- Column 6: Percentage of CBs served by FCD/PCDs within jurisdiction
- Column 7: Required Trash Abatement: Part 7.1, Appendix 7-1 of Order No. 01-182 as amended by Order No. R4-2009-0130
- Column 8: Total Combined Compliance = (Col. 6) + (1.0-Col.6)*(Col.4)
- Column 9: FCD Compliance: Yes, if Col. 8 is greater than Col. 7
- Column 10: Provide comments, if necessary

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	
Certified FCD(s) Installed	FCD Location	Nearest Cross Street	FCD Owner	FCD Maintained By	FCD Installation Date	CB ID No. Served by FCD		CB Type	CB Owner	CB Maintained By	Frequency of FCD Maintenance and other O&M comments
ARS & CPS	NW	PARAMOUNT		CITY	08/15/11	1970	190	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	SW	PARAMOUNT		CITY	08/15/11	1970	191	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NW	PARAMOUNT		CITY	08/15/11	1970	192	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NW	PARAMOUNT		CITY	08/15/11	1970	193	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	MID E	PARAMOUNT		CITY	08/15/11	1970	194	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NORTH	PARAMOUNT		CITY	08/15/11	1970	195	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NE	PARAMOUNT		CITY	08/15/11	1970	196	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	EAST	WASHINGTON		CITY	08/15/11	1970	197	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NW	WASHINGTON		CITY	08/15/11	1970	198	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NORTH	CANDACE		CITY	08/15/11	1970	199	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NE	CANDACE		CITY	08/15/11	1970	200	CURB OPENING	CITY	CITY	2x / year
ARS	N/NW	PHAETON		CITY	08/15/11	1970	201	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NE	PARAMOUNT		CITY	08/15/11	1970	204	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	WEST	SLAUSON		CITY	08/15/11	1971	133	CURB OPENING	CITY	CITY	2x / year
CPS	NW	SLAUSON		CITY	08/15/11	1971	134	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NW	SLAUSON		CITY	08/15/11	1971	135	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NORTH	CROSSWAY		CITY	08/15/11	1971	136	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NE	CROSSWAY		CITY	08/15/11	1971	137	CURB OPENING	CITY	CITY	2x / year

ARS	EAST	SLAUSON		CITY	08/15/11	1971	138	CURB OPENING	CITY	CITY	2x / year
ARS	SE	SLAUSON		CITY	08/15/11	1971	139	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	SOUTH	SLAUSON		CITY	08/15/11	1971	140	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NW	BEVERLY		CITY	08/15/11	2022	224	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	WEST	BEVERLY		CITY	08/15/11	2022	225	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	WEST	PARAMOUNT		CITY	08/16/11	2022	227	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NORTH	GALLATIN		CITY	08/16/11	2022	228	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NE	WHITTIER		CITY	08/15/11	2023	175	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	SE	WHITTIER		CITY	08/15/11	2023	176	CURB OPENING	CITY	CITY	2x / year
ARS	SE	PARAMOUNT		CITY	08/15/11	2023	182	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NE	PARAMOUNT		CITY	08/15/11	2023	183	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	W/SW	PARAMOUNT		CITY	08/15/11	2023	184	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NW	PARAMOUNT		CITY	08/15/11	2023	185	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	SOUTH	SW OF MINES		CITY	08/15/11	2023	186	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	EAST	MINES		CITY	08/15/11	2023	187	CURB OPENING	CITY	CITY	2x / year
ARS	NE	PHAETON		CITY	08/16/11	2023	188	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	EAST	WASHINGTON		CITY	08/16/11	2023	189	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NW	WASHINGTON		CITY	08/16/11	2023	190	CURB OPENING	CITY	CITY	2x / year
ARS & CPS	NORTH	BOLLENBACHER		CITY	08/16/11	2023	191	CURB OPENING	CITY	CITY	2x / year
ARS	NE	BOLLENBACHER		CITY	08/16/11	2023	192	CURB OPENING	CITY	CITY	2x / year
ARS	SE	LOCHLOMOND		CITY	08/16/11	2023	193	CURB OPENING	CITY	CITY	2x / year

ARS & CPS	MID	LOCHLOMOND		CITY	08/16/11	2023	194	CURB OPENING	CITY	CITY	2x / year
ARS	NW	LOCHLOMOND		CITY	08/16/11	2023	195	CURB OPENING	CITY	CITY	2x / year
CPS	WEST	TELEGRAPH		CITY	08/22/11	1971	092	CURB OPENING	COUNTY	COUNTY	2x / year
CPS	NW	TELEGRAPH		CITY	08/16/11	1971	093	CURB OPENING	COUNTY	COUNTY	2x / year
CPS	NORTH	ELMONT		CITY	08/16/11	1971	094	CURB OPENING	COUNTY	COUNTY	2x / year
CPS	EAST	ELMONT		CITY	08/16/11	1971	095	CURB OPENING	COUNTY	COUNTY	2x / year
CPS	SW	FERNADEL		CITY	08/16/11	1971	096	CURB OPENING	COUNTY	COUNTY	2x / year
CPS	SE	TELEGRAPH		CITY	08/16/11	1971	097	CURB OPENING	COUNTY	COUNTY	2x / year
CPS	SOUTH	TELEGRAPH		CITY	08/16/11	1971	098	CURB OPENING	COUNTY	COUNTY	2x / year
CPS	NE	FERNADEL		CITY	08/16/11	1971	099	CURB OPENING	COUNTY	COUNTY	2x / year
CPS	NE	TERRADELL		CITY	08/16/11	1971	100	CURB OPENING	COUNTY	COUNTY	2x / year
CPS	MID	TERRADELL		CITY	08/16/11	1971	101	GRATE	COUNTY	COUNTY	2x / year
CPS	SE	TERRADELL		CITY	08/16/11	1971	102	CURB OPENING	COUNTY	COUNTY	2x / year
ARS & CPS	SE	PRA		CITY	08/16/11	2022	124	CURB OPENING	COUNTY	COUNTY	2x / year
ARS & CPS	SOUTH	PRA		CITY	08/16/11	2022	125	CURB OPENING	COUNTY	COUNTY	2x / year
CPS	NW	PARAMOUNT		CITY	08/16/11	2022	129	CURB OPENING	COUNTY	COUNTY	2x / year
ARS & CPS	SE	SPRUCE		CITY	08/16/11	2022	130	CURB OPENING	COUNTY	COUNTY	2x / year
ARS & CPS	EAST	SPRUCE		CITY	08/16/11	2022	131	CURB OPENING	COUNTY	COUNTY	2x / year
ARS & CPS	SE	OLYMPIC		CITY	08/16/11	2022	132	CURB OPENING	COUNTY	COUNTY	2x / year
ARS & CPS	NE	OLYMPIC		CITY	08/16/11	2022	133	CURB OPENING	COUNTY	COUNTY	2x / year
CPS	NE	PINE		CITY	08/16/11	2022	134	CURB OPENING	COUNTY	COUNTY	2x / year

ARS & CPS	NW	PINE		CITY	08/16/11	2022	135	CURB OPENING	COUNTY	COUNTY	2x / year
CPS	MID	LOCHLOMOND		CITY	08/16/11	2023	066	CURB OPENING	COUNTY	COUNTY	2x / year
NONE	NW	WHITTIER		CITY	08/16/11	2023	067	CURB OPENING	COUNTY	COUNTY	2x / year
CPS	NE	PARAMOUNT		CITY	08/16/11	2023	071	CURB OPENING	COUNTY	COUNTY	2x / year
NONE	NW	PARAMOUNT		CITY	08/16/11	2023	072	CURB OPENING GRATING	COUNTY	COUNTY	2x / year
NONE	SE	DUNLAP CROSSING		CITY	08/16/11	2023	073	CURB OPENING	COUNTY	COUNTY	2x / year
CPS	NE	DUNLAP CROSSING		CITY	08/16/11	2023	074	CURB OPENING	COUNTY	COUNTY	2x / year
