

City of Oakland



Public Works Agency (PWA)

Design Construction Services Department

Transportation Services Division

Memorandum

To: Daniel Clanton

From: Ade Oluwasogo *AO*

Date Memo Prepared: 5/4/2011

Prepared By: Joel Kelly

Location: MACARTHUR BLVD @ OAKLAND AVE & SANTA CLARA

Signal Timing Log ID 616

Change Description:

Offsets have been changed to coordinate with Oakland/Perry and MacArthur/Harrison during all daily programs.

Cycle Change ☐ Initial Ped Change ☐ Offset Change ☒ All Red Change ☐

Split Change ☐ FDW Change ☐ Max Change ☐ Yellow Change ☐

Other Change

Installed By: NAVELLER Date Timing Installed: 5/15/11

WO# 388732

(F) 5-19-11

Calculation of Pedestrian Crossing Time

Intersection: MacArthur Blvd & Oakland Ave

E/W Street: MacArthur Blvd

N/S Street: Oakland Ave

Ped Walking Speed:¹ 4 ft/sec

φ #	Named of Street Being Crossed	Existing Condition				Ped Clearance (sec) ⁴	Revised			
		Xing Dist (ft) ²	Parking Lane Width (ft)	Walk (sec)	FDW (sec) ³		Yellow (sec) ⁵	All Red (sec)	Walk (sec) ⁶	FDW (sec) ⁷
1P	Oakland Ave	60	0	40	6	$(60-0)/4=15$	4	1	36	10
		60	0	31	6	$(60-0)/4=15$	4	1	27	10
		60	0	38	6	$(60-0)/4=15$	4	1	34	10
2P	MacArthur Blvd	48	0	11.5	8	$(48-0)/4=12$	3.5	1	11.5	8
		48	0	25.5	8	$(48-0)/4=12$	3.5	1	25.5	8
		48	0	18.5	8	$(48-0)/4=12$	3.5	1	18.5	8

Comment:

Note: ¹ Walking speed is 4 feet per second unless specified otherwise.

² Xing Dist = Distance from center of curb ramp to center of curb ramp.

³ FDW = Flashing Don't Walk Interval. Should be rounded up to nearest whole second.

⁴ Ped Clearance Time = (Xing Dist-Parking Lane) / Walking speed

⁵ Refer to Table 4D-102(CA) of the latest California MUTCD and round it up to the nearest 0.5-sec.

⁶ The Walk interval should be at least 7-sec, but it could be lowered to at least 4-sec.

⁷ FDW = Ped Clearance Time - Yellow - All Red

Prepared by:

ES

ES
Initial

Approved By:

AO

AO
Initial and Date

1/19/11

JK no change
4/28/2011

CITY OF OAKLAND
TIMING INTERVAL PLAN PROGRAM CHART
INTERSECTION NAME : MACARTHUR @ OAKLAND AVENUE
N/S STREET : MACARTHUR E/W STREET: OAKLAND AVENUE
TYPE OF CONTROL : LS180/240
EMERGENCY FLASHING : RED FOR ALL PHASES
DATE INSTALLED : 5/19/11

		MACARTHUR										OAKLAND AVENUE											
INTERVAL	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
	W	FDW	SDW	Y	AR	W	FDW	SDW	Y	AR													
CYCLE 1	36	10	0	4	1	11	8.5	0	3.5	1													
	SPLIT 2																						
	SPLIT 3																						
	SPLIT 4																						
CYCLE 2	27	10	0	4	1	25	8.5	0	3.5	1													
	SPLIT 2																						
	SPLIT 3																						
	SPLIT 4																						
CYCLE 3	34	10	0	4	1	18	8.5	0	3.5	1													
	SPLIT 2																						
	SPLIT 3																						
	SPLIT 4																						
CYCLE 4																							
	SPLIT 1 =																						
	SPLIT 2																						
	SPLIT 3																						
	SPLIT 4																						
CYCLE 1	OFFSET 1																						

FIELD OFFSET REFERENCE BASE - FROM START OF GREEN

MINIMUM FLASH	N/A
ACTUATION #1, #2	1
ACTUATION #3, #4	N/A
PRE-EMPTION #1	N/A
PRE-EMPTION #2	N/A
DELAY BEFORE PRE-EMPT	N/A
CYCLE	0
SPLIT	1
OFFSET	1
SIGNAL PLAN	0

OAKLAND @ PERRY	
TO	
OAKLAND @ MACARTHUR/SANTA CLARA	
C1S1	C2S1
C3S1	C4S1
FIELD OFFSET (01)	3
FIELD OFFSET (02)	3
FIELD OFFSET (03)	

		PED XING TIME																CLEARANCE TIME							
		CYCLE 1	CYCLE 2	CYCLE 3	CYCLE 4	W	AW	W	AW	W	AW	W	AW	W	AW	W	AW	FDW	SDW	Y	AR	Y	AR	Y	AR
Xing	OAKLAND AVENUE					36		27				34				0	10	0	0	4	1				
Xing	MACARTHUR					11.5		25.5				18.5				0	0	8	0	3.5	1				

FDW : FLASHING DON'T WALK
SDW : STEADY DON'T WALK
A : AUDIBLE
W : WALK
G : GREEN
Y : YELLOW
AR : ALL RED
OLY : OVERLAP YELLOW
OLR : OVERLAP RED

NOTE: CLEARANCE TIME = FDW + SDW + Y + AR
C = CYCLE, S = SPLIT, O = OFFSET

COMMENT :

JK 4/28/2011

APPROVED/DATE

Prepared By: JTK Reviewed By: AO

LS180/240 Controller Assembly Signal Plan Programming Chart

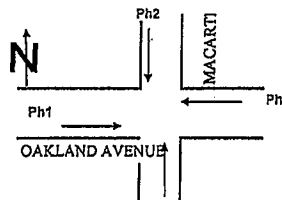
Intersection MACARTHUR @ OAKLAND AVENUE
 Installation _____
 Programmed By _____
 FROM # _____

Interval 6: Decision Interval

[illegible]

Cycle Transfer	12
Split Transfer	12
Flash Entry	12
Flash Exit	12
Dwell	1
Initialization	12

Number of Intervals	12
Shortway/Dwell/Interrupter	S
RAM/PROM	RAM
Security Code	0
50/60 Hz	60
Sync Adjust Time	0100
Fast Flash or Normal	NORM




APPROVED

Prepared By:	BMA	Reviewed By:	AO	CHANGES MADE TO THIS PAGE?	NO
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JK no change
4/28/2011

City of Oakland

LS180/240 Controller Assembly Signal Plan Programming Chart

Intersection MACARTHUR @ OAKLAND AVENUE
Installation _____
Programmed By _____
PROM # _____

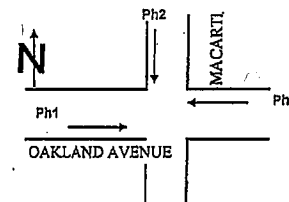
Signal plan 2

Interval 6: Decision Interval

pH	Description	Signal	#	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DIM
1	MACARTHUR	R	1					X	X	X	X	X	X	X	X													
1	MACARTHUR	Y	2				X																					
1	MACARTHUR	G	3	X	X	X																						
2	OAKLAND AVE	R	4	X	X	X	X	X							X													
2	OAKLAND AVE	Y	5											X														
2	OAKLAND AVE	G	6					X	X	X	X	X																
			7																									
			8																									
			9																									
			10																									
			11																									
			12																									
1P		A/W	13	X																								
1P		DW	14			F	X	X	X	X	X	X	X	X	X													
1P		W	15	X	X																							
2P		A/W	16							X																		
2P		DW	17	X	X	X	X	X	X			F	X	X	X													
2P		W	18							X	X																	
			19																									
			20																									
			21																									
			22																									
			23																									
			24																									
			25																									
			26																									
			27																									
			28																									
Actuation #1			X																									
Reset #1																												
Actuation #2			X																									
Reset #2																												
Transition																												
Auto Timing																												
Minimum Timing																												
Response																												
Pre-emption Xfer																												
Signal Plan Xfer																												
Hold																												
Force-off																												

Cycle Transfer	16
Split Transfer	16
Flash Entry	16
Flash Exit	16
Dwell	1
Initialization	16

Number of Intervals	18
Shortway/Dwell/Interrupter	S
RAM/PROM	RAM
Security Code	0000
50/60 Hz	60
Syne Adjust Time	0100
Fast Flash or Normal	NORM



[Signature]
APPROVED

Prepared By: BMA Reviewed By: AO CHANGES MADE TO THIS PAGE? NO

JK no change 4/28/2011

City of Oakland

LS180/240 Controller Assembly Signal Plan Programming Chart

Intersection MACARTHUR @ OAKLAND AVENUE
Installation _____
Programmed By _____
PROM # _____

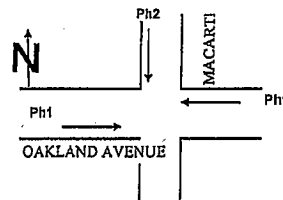
Signal plan 3

Interval 6: Decision Interval

pH	Description	Signal	#	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DIM
1	MACARTHUR	R	1					X	X	X	X	X	X	X	X													
1	MACARTHUR	Y	2				X																					
1	MACARTHUR	G	3	X	X	X																						
2	OAKLAND AVE	R	4	X	X	X	X	X							X													
2	OAKLAND AVE	Y	5											X														
2	OAKLAND AVE	G	6						X	X	X	X	X															
			7																									
			8																									
			9																									
			10																									
			11																									
			12																									
1P		A/W	13	X																								
1P		DW	14			F	X	X	X	X	X	X	X	X	X													
1P		W	15	X	X																							
2P		A/W	16							X																		
2P		DW	17	X	X	X	X	X	X			F	X	X	X													
2P		W	18							X	X																	
			19																									
			20																									
			21																									
			22																									
			23																									
			24																									
			25																									
			26																									
			27																									
			28																									
Actuation #1			X																									
Reset #1																												
Actuation #2			X																									
Reset #2																												
Transition																												
Auto Timing																												
Minimum Timing																												
Response																												
Pre-emption Xfer																												
Signal Plan Xfer																												
Hold																												
Force-off																												

Cycle Transfer	16
Split Transfer	16
Flash Entry	16
Flash Exit	16
Dwell	1
Initialization	16

Number of Intervals	18
Shortway/Dwell/Interrupter	S
RAM/PROM	RAM
Security Code	0000
50/60 Hz	60
Sync Adjust Time	0100
Fast Flash or Normal	NORM



[Signature]
APPROVED

Prepared By: BMA Reviewed By: AO CHANGES MADE TO THIS PAGE? NO

JK no change 4/28/2011

City of Oakland

LS180/240 Controller Assembly Signal Plan Programming Chart

Intersection MACARTHUR @ OAKLAND AVENUE
Installation _____
Programmed By _____
PROM # _____

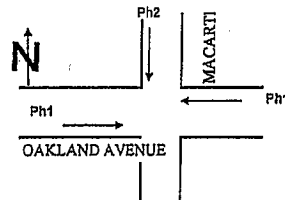
Signal plan 4

Interval 6: Decision Interval

pH	Description	Signal	#	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DIM
1	MACARTHUR	R	1					X	X	X	X	X	X	X	X													
1	MACARTHUR	Y	2				X																					
1	MACARTHUR	G	3	X	X	X																						
2	OAKLAND AVE	R	4	X	X	X	X	X							X													
2	OAKLAND AVE	Y	5											X														
2	OAKLAND AVE	G	6						X	X	X	X	X															
			7																									
			8																									
			9																									
			10																									
			11																									
			12																									
1P		A/W	13	X																								
1P		DW	14			F	X	X	X	X	X	X	X	X	X													
1P		W	15	X	X																							
2P		A/W	16							X																		
2P		DW	17	X	X	X	X	X	X			F	X	X	X													
2P		W	18							X	X																	
			19																									
			20																									
			21																									
			22																									
			23																									
			24																									
			25																									
			26																									
			27																									
			28																									
Actuation #1			X																									
Reset #1																												
Actuation #2			X																									
Reset #2																												
Transition																												
Auto Timing																												
Minimum Timing																												
Response																												
Pre-emption Xfer																												
Signal Plan Xfer																												
Hold																												
Force-off																												

Cycle Transfer	16
Split Transfer	16
Flash Entry	16
Flash Exit	16
Dwell	1
Initialization	16

Number of Intervals	18
Shortway/Dwell/Interrupter	S
RAM/PROM	RAM
Security Code	0000
50/60 Hz	60
Synce Adjust Time	0100
Fast Flash or Normal	NORM



APPROVED

Prepared By: BMA Reviewed By: AO CHANGES MADE TO THIS PAGE? NO

JK no change 4/28/2011

INTERSECTION NAME :

MACARTHUR @ OAKLAND AVENUE

[illegible][illegible]

OUTPUT CIRCUITS	
#	FUNCTIONS
1	CYCLE 2
2	CYCLE 3
3	OFFSET 1
8	AUTO FLASH ON
1,2	CYCLE 4
---	CYCLE 1

DATE INSTALLED _____

Prepared By: ES Reviewed By: AO

CHANGES MADE TO THIS PAGE?	NO
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JK no change ~~4/28/2011~~
5/03/2011.

Traffic Control Technologies (TCT)
LS/LC/LN TIME CLOCK
PROGRAM CHART

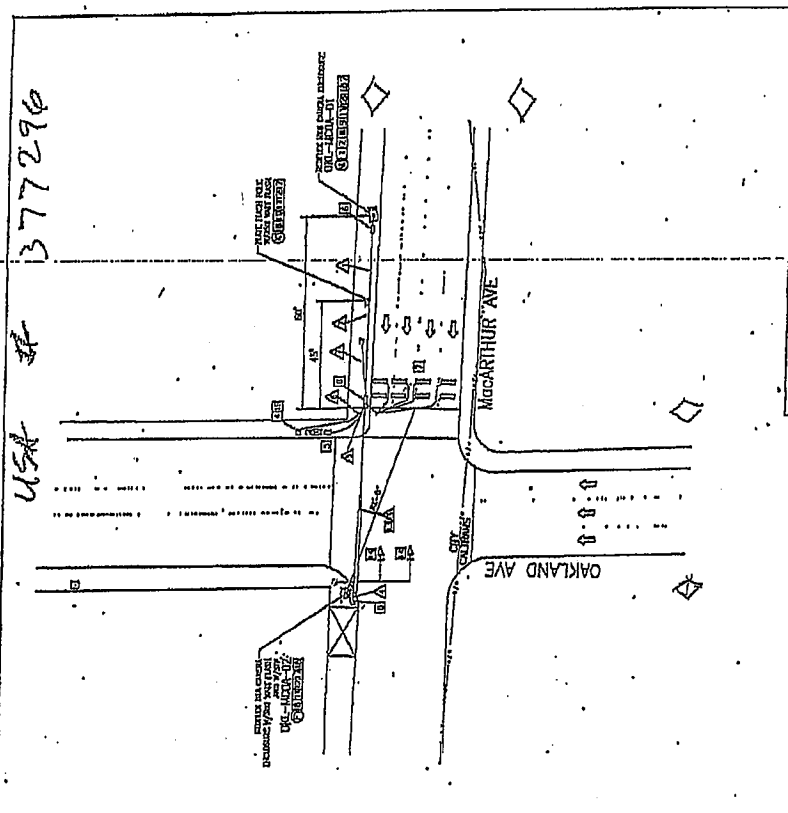
CLR - INH - CKT - (1-8, 13) - VAL - (ON, OFF, AUTO) - LOAD

PROM #

CLR-EXC DAY-VAL-(1000 OR 2000)-LOAD; 1000 = BACK, 2000 = AHEAD

File: MacArthur Blvd, Oakland Ave, Santa Clara, LS180.1-14-11, 4/27/2011

Permit # 377296



SCALE 1"=20'

MAINT. VERIFY EXISTING UTILITY INFO AND LOCATION

GENERAL NOTES

- 1. ALL EXISTING UTILITIES SHOWN ON THIS PLAN ARE BASED ON THE BEST AVAILABLE INFORMATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES.
- 2. ALL NEW UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF OAKLAND STANDARDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES.
- 3. ALL UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF OAKLAND STANDARDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES.
- 4. THE CITY OF OAKLAND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES.

CONSTRUCTION NOTES

- 1. THE CITY OF OAKLAND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES.
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- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES.

CONDUITS		CONDUITS	
SIZE	AMT	SIZE	AMT
12"	1	12"	1
18"	1	18"	1
24"	1	24"	1
36"	1	36"	1
48"	1	48"	1
60"	1	60"	1
72"	1	72"	1
84"	1	84"	1
96"	1	96"	1
108"	1	108"	1
120"	1	120"	1
132"	1	132"	1
144"	1	144"	1
156"	1	156"	1
168"	1	168"	1
180"	1	180"	1
192"	1	192"	1
204"	1	204"	1
216"	1	216"	1
228"	1	228"	1
240"	1	240"	1
252"	1	252"	1
264"	1	264"	1
276"	1	276"	1
288"	1	288"	1
300"	1	300"	1
312"	1	312"	1
324"	1	324"	1
336"	1	336"	1
348"	1	348"	1
360"	1	360"	1
372"	1	372"	1
384"	1	384"	1
396"	1	396"	1
408"	1	408"	1
420"	1	420"	1
432"	1	432"	1
444"	1	444"	1
456"	1	456"	1
468"	1	468"	1
480"	1	480"	1
492"	1	492"	1
504"	1	504"	1
516"	1	516"	1
528"	1	528"	1
540"	1	540"	1
552"	1	552"	1
564"	1	564"	1
576"	1	576"	1
588"	1	588"	1
600"	1	600"	1
612"	1	612"	1
624"	1	624"	1
636"	1	636"	1
648"	1	648"	1
660"	1	660"	1
672"	1	672"	1
684"	1	684"	1
696"	1	696"	1
708"	1	708"	1
720"	1	720"	1
732"	1	732"	1
744"	1	744"	1
756"	1	756"	1
768"	1	768"	1
780"	1	780"	1
792"	1	792"	1
804"	1	804"	1
816"	1	816"	1
828"	1	828"	1
840"	1	840"	1
852"	1	852"	1
864"	1	864"	1
876"	1	876"	1
888"	1	888"	1
900"	1	900"	1
912"	1	912"	1
924"	1	924"	1
936"	1	936"	1
948"	1	948"	1
960"	1	960"	1
972"	1	972"	1
984"	1	984"	1
996"	1	996"	1
1008"	1	1008"	1
1020"	1	1020"	1
1032"	1	1032"	1
1044"	1	1044"	1
1056"	1	1056"	1
1068"	1	1068"	1
1080"	1	1080"	1
1092"	1	1092"	1
1104"	1	1104"	1
1116"	1	1116"	1
1128"	1	1128"	1
1140"	1	1140"	1
1152"	1	1152"	1
1164"	1	1164"	1
1176"	1	1176"	1
1188"	1	1188"	1
1200"	1	1200"	1
1212"	1	1212"	1
1224"	1	1224"	1
1236"	1	1236"	1
1248"	1	1248"	1
1260"	1	1260"	1
1272"	1	1272"	1
1284"	1	1284"	1
1296"	1	1296"	1
1308"	1	1308"	1
1320"	1	1320"	1
1332"	1	1332"	1
1344"	1	1344"	1
1356"	1	1356"	1
1368"	1	1368"	1
1380"	1	1380"	1
1392"	1	1392"	1
1404"	1	1404"	1
1416"	1	1416"	1
1428"	1	1428"	1
1440"	1	1440"	1
1452"	1	1452"	1
1464"	1	1464"	1
1476"	1	1476"	1
1488"	1	1488"	1
1500"	1	1500"	1
1512"	1	1512"	1
1524"	1	1524"	1
1536"	1	1536"	1
1548"	1	1548"	1
1560"	1	1560"	1
1572"	1	1572"	1
1584"	1	1584"	1
1596"	1	1596"	1
1608"	1	1608"	1
1620"	1	1620"	1
1632"	1	1632"	1
1644"	1	1644"	1
1656"	1	1656"	1
1668"	1	1668"	1
1680"	1	1680"	1
1692"	1	1692"	1
1704"	1	1704"	1
1716"	1	1716"	1
1728"	1	1728"	1
1740"	1	1740"	1
1752"	1	1752"	1
1764"	1	1764"	1
1776"	1	1776"	1
1788"	1	1788"	1
1800"	1	1800"	1
1812"	1	1812"	1
1824"	1	1824"	1
1836"	1	1836"	1
1848"	1	1848"	1
1860"	1	1860"	1
1872"	1	1872"	1
1884"	1	1884"	1
1896"	1	1896"	1
1908"	1	1908"	1
1920"	1	1920"	1
1932"	1	1932"	1
1944"	1	1944"	1
1956"	1	1956"	1
1968"	1	1968"	1
1980"	1	1980"	1
1992"	1	1992"	1
2004"	1	2004"	1
2016"	1	2016"	1
2028"	1	2028"	1
2040"	1	2040"	1
2052"	1	2052"	1
2064"	1	2064"	1
2076"	1	2076"	1
2088"	1	2088"	1
2100"	1	2100"	1
2112"	1	2112"	1
2124"	1	2124"	1
2136"	1	2136"	1
2148"	1	2148"	1
2160"	1	2160"	1
2172"	1	2172"	1
2184"	1	2184"	1
2196"	1	2196"	1
2208"	1	2208"	1
2220"	1	2220"	1
2232"	1	2232"	1
2244"	1	2244"	1
2256"	1	2256"	1
2268"	1	2268"	1
2280"	1	2280"	1
2292"	1	2292"	1
2304"	1	2304"	1
2316"	1	2316"	1
2328"	1	2328"	1
2340"	1	2340"	1
2352"	1	2352"	1
2364"	1	2364"	1
2376"	1	2376"	1
2388"	1	2388"	1
2400"	1	2400"	1
2412"	1	2412"	1
2424"	1	2424"	1
2436"	1	2436"	1
2448"	1	2448"	1
2460"	1	2460"	1
2472"	1	2472"	1
2484"	1	2484"	1
2496"	1	2496"	1
2508"	1	2508"	1
2520"	1	2520"	1
2532"	1	2532"	1
2544"	1	2544"	1
2556"	1	2556"	1
2568"	1	2568"	1
2580"	1	2580"	1
2592"	1	2592"	1
2604"	1	2604"	1
2616"	1	2616"	1
2628"	1	2628"	1
2640"	1	2640"	1
2652"	1	2652"	1
2664"	1	2664"	1
2676"	1	2676"	1
2688"	1	2688"	1
2700"	1	2700"	1
2712"	1	2712"	1
2724"	1	2724"	1
2736"	1	2736"	1
2748"	1	2748"	1
2760"	1	2760"	1
2772"	1	2772"	1
2784"	1	2784"	1
2796"	1	2796"	1
2808"	1	2808"	1
2820"	1	2820"	1
2832"	1	2832"	1
2844"	1	2844"	1
2856"	1	2856"	1
2868"	1	2868"	1
2880"	1	2880"	1
2892"	1	2892"	1
2904"	1	2904"	1
2916"	1	2916"	1
2928"	1	2928"	1
2940"	1	2940"	1
2952"	1	2952"	1
2964"	1	2964"	1
2976"	1	2976"	1
2988"	1	2988"	1
3000"	1	3000"	1

OAKLAND, CA		3102	
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