

Public Works
Department
Traffic Engineering

June 11, 2013

Federal Highway Administration
Attn: Mr. Bruce Friedman
1200 New Jersey, S.E.
HOTO-1
Washington, DC 20590

SUBJECT: 8-83 (E) – Symbol Sign No. 1 Warning Pedestrians to Look for Additional Trains – Riverside, CA – Fourth Semiannual Report

Thank you very much for the opportunity to provide the Federal Highway Administration (FHWA) with the fourth and final report documenting the City of Riverside's evaluation of the "Additional Trains May Approach" signs, see below. The four reports and respective surveys were aimed at measuring the signs' effectiveness in promoting pedestrian and bicyclist safety traversing at-grade railroad crossings with multiple tracks.



Sign No. 1



Sign No. 2

On July 31, 2012 the City submitted its third semiannual report which determined that 90% of those surveyed (middle and high school students) prefer and better understand Sign No. 1. In addition, in all previous surveys the community overwhelmingly favored Sign No. 1 over Sign No. 2 and thus this report and respective survey questions did not require respondents to compare the two signs shown above. Instead the questions focused on how well the public comprehends Sign No. 1. The survey questions that were included to determine the effectiveness of Sign No. 1 were:

- What is the message that Sign No. 1 conveys to you?
- Does the sign remind you to stop and look both ways before crossing the tracks?

- What does Sign No. 1 convey to you if a railroad crossing is **active**? (flashing red lights, sounding bells, and railroad gate for vehicles is in the “down” position)
- Does Sign No. 1 clearly/explicitly warn pedestrians and bicyclists not to enter an Active Railroad Crossing?
- What does Sign No. 1 convey to you if a railroad crossing is **NOT** active – gate for vehicles is in the “up right” position?
- To what extent do you think Sign No. 1 improves safety at a railroad crossing?

The City surveyed the general public by deploying staff to various at-grade railroad crossing locations in effort to determine if residents of all age groups and ethnicities understand, support and adhere to the warning of Sign No. 1. Staff questioned 100 pedestrians who typically traverse at-grade railroad crossings and focused the questions on their understanding and support of Sign No. 1. The results show that 57% of those surveyed were students, commuting to and from Arlington High, Madison Elementary, Central Middle, Hillcrest High, Notre Dame and Pachappa Elementary. The remaining 43% were older pedestrians, 17 years or older, who cross the railroad tracks on a regular basis and encounter Sign No. 1 and/or Sign No. 2.

This reporting period covers **August 1, 2012 through May 31, 2013**. The survey results and responses are enclosed although some of the key survey findings include:

- No train incidents occurred during this reporting period
- Ten respondents said they have entered an active grade crossing when the bells and flashers were on. Of those ten, three stated they thought it was safe to cross, three said they were in a hurry and four were just about to cross the tracks when the bells and flashers turned on.
- 96% believe that Sign No.1 would improve safety to some or great extent. In addition, that same 96% believe the sign is a reminder to pedestrians and bicyclists to be cognizant of the probability of a second train arriving during an active train crossing.
- Respondents were comprised of 54% Latino, 19% African Americans, 18% White, and the other 9% were from other ethnicities or refused to answer. Overall, the various ethnic groups show strong support and comprehension of Sign No. 1.
- Sign No. 1 was supported by the various age groups as 57% surveyed were 16 years or younger. The other 43% also found the sign to be effective.
- 77 respondents believe Sign No. 1 clearly and explicitly warns pedestrians and bicyclists not to enter active railroad crossings. Although 23 people responded “No” to the question, it should be noted that 19 of those still believe the sign is effective in reminding pedestrians to look both ways before crossing as 96 of the 100 surveyed stated that Sign No. 1 would improve safety to some or great extent.

In general the various age and ethnic groups responded favorably to Sign No. 1. The results from Survey #4 are very similar to previous surveys where the public has supported and endorsed Sign No. 1. In reviewing the detailed responses, pedestrians in general responded that Sign No. 1 conveys a message to look both ways for trains that may be approaching, especially to be aware of the likelihood of a second train arriving.

During an active railroad crossing (flashing red lights, sounding bells, and railroad gate for vehicles is in the “down” position), pedestrians interpreted Sign No. 1 as a warning

that they must stop and wait behind the prolongation of the railroad gates since an additional train may arrive. When the railroad crossing is inactive, pedestrians interpret the sign as a reminder to always look both ways before traversing the tracks. Several pedestrians responded that they do not acknowledge Sign No. 1 or Sign No. 2 when the crossing is inactive, although during an active crossing they responded that Sign No. 1 and Sign No. 2 has reminded them of the presence of multiple tracks and the importance to recognize the possibility of the arrival of additional trains. Based on the responses, many of the pedestrians who traverse the railroad tracks look both ways before crossing regardless if it is active or not – it is a positive practice that the signs have helped instill.

The primary goal of the “Additional Trains May Approach” experimentation project was to provide a sign or series of signs that were effective and well understood by the general public to minimize train vs. pedestrian/bicyclist conflicts. There were no train incidents during this review period and based on the current and past survey responses the public supports and prefers Sign No. 1.

SUMMARY

On October 14, 2009 FHWA approved the City’s proposal to conduct experimentation to evaluate “Additional Trains May Approach” signs, Sign No. 1 and Sign No. 2. Subsequently, on January 21, 2010 the California Traffic Control Device Committee (CTCDC) approved the City’s experimentation proposal. On July 21, 2010 the City completed sign installation at twenty-two at-grade crossings with multiple tracks. Each location included both Sign No. 1 and Sign No. 2 type signs to expose pedestrians and bicyclists to both types of signs and allow staff to conduct surveys to analyze the effectiveness of each sign. The experimentation period was from July 21, 2010 through May 31, 2013. Within the experimentation period four reports were submitted documenting the City’s evaluation of the signs’ effectiveness, the reports are dated March 23, 2011, January 24, 2012, September 5, 2012 and June 11, 2013. Throughout the four reports, the public overwhelmingly supported Sign No. 1 over Sign No.2 and responded that the signs would improve pedestrian and bicyclist safety at at-grade railroad crossing having multiple tracks. The reports were shared with stakeholders such as FHWA, CTCDC, BNSF, Union Pacific, and the California Public Utilities Commission (CPUC). Table 1 summarizes the train incidents during the experimentation period:

Table 1: Train Incidents During Experimentation Period

Report Period	Total Incidents	Attribute to Suicide	Non-Suicide
7/21/10 to 1/21/11	0	N/A	N/A
1/21/11 to 12/31/11	3	0	3
1/1/12 to 7/31/12	4	3	1
8/1/12 to 5/31/13	0	N/A	N/A

Of the four non-suicide train incidents that occurred in the 34-month experimentation period, the primary factors attributed include:

1. Pedestrian attempting to cross an active railroad crossing and failing to notice a second train approaching (Buchanan St RR Crossing, 2/8/2011)
2. Bicyclist attempting to cross an active railroad crossing and failing to notice a second train approaching (Adams St RR Crossing, 3/1/2011)

3. A mother attempting to cross an active railroad crossing and having the child's stroller wheels get stuck on the tracks (Mary St RR Crossing, 10/10/2011)
4. Pedestrian attempting to cross an active railroad crossing and failing to notice a second train approaching (Chicago Ave RR Crossing, 6/30/2012)

In an April 2013 study titled *Pedestrian/Bicyclist Warning Devices and Signs at Highway-Rail and Pathway-Rail Grade Crossing* published by the Illinois Center for Transportation, it was noted that Federal reporting shows a relatively constant number of pedestrians and bicycle fatalities at highway-rail and pathway-rail grade crossings over the past ten years. This is contrast to a measureable decrease in train-vehicle collisions at highway-rail crossings within the same period. The study concluded that “selection of a traffic control device for use where pedestrians are intended to cross railroad tracks at grade should be the result of an engineering study whose simplicity or complexity will be determined by conditions at the crossing in question”.

Prior to the City's request for experimentation, the City of Riverside had studied a 2009 train-pedestrian fatality on Jackson Street that involved a high school student. The City determined that the teenager was struck by an additional train arriving at an active crossing. Thus the City is in strong support of the “Additional Trains May Approach” signs as they are simple to install, feasible, and standardize pedestrian warning signs at each at-grade crossing with multiple tracks. Numerous studies have shown increased safety and pedestrian awareness at at-grade multiple tracks crossings with similar warning devices.

A “Second Train Coming” warning sign demonstration project was conducted by the Los Angeles County Metropolitan Transportation Authority (TRB 2001) and concluded that dynamic signs were effective in reducing risky pedestrian behavior. In addition, in 2002 the Long Island Railroad implemented a second-train changeable message sign system that was activated when a second-train event was present. Additional studies in the United States, Australia, Canada, and Japan determined that warning devices, including static signs such as Sign No. 1 and Sign No. 2, need to be clear in order to reduce risk. The City's surveys concluded that the public comprehends and support Sign No. 1 over Sign No. 2 and that Sign No. 1 is effective in promoting pedestrian/bicyclist safety and awareness at multiple track at-grade crossings. Table 2 shows a summary of the public's support for the Sign No. 1 that incorporates “Additional Trains May Approach” wording.

Table 2: Additional Trains May Approach Survey Results

Report Period	Prefer Sign No. 1	Prefer Sign No. 2	Sign Would Improve Safety to Some or Great Extent
7/21/10 to 1/21/11	78%	22%	96%
1/21/11 to 12/31/11	80%	16%	87%
1/1/12 to 7/31/12	78%	19%	90%
8/1/12 to 5/31/13	*N/A	*N/A	96%

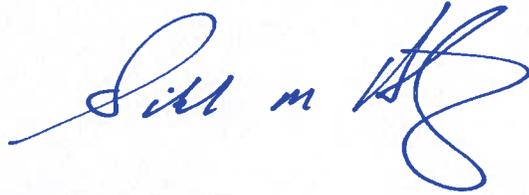
*The last report did not compare Sign No. 1 to Sign No. 2 as the previous surveys determined that the public prefers Sign No. 1 over Sign No. 2

Based on the survey results during the experimentation phase and the public's support of the “Additional Trains May Approach” signs the City of Riverside intends to maintain the signs to continue warning pedestrians and bicyclists of the risk of an additional train arriving at multiple track locations while a crossing is active. Furthermore, the City

encourages the FHWA and/or CTCDC to adopt Sign No. 1 or a similar sign into the FHWA MUTCD and/or the FHWA MUTCD as amended for use in California to standardize pedestrian warning devices at at-grade crossings with multiple tracks.

Thank you for your time. If you have any questions, comments or suggestions, please contact Mr. Steve Libring, City Traffic Engineer, at 951-826-5368, or myself at 951-826-5148.

Sincerely,

A handwritten signature in blue ink, appearing to read "Gilbert Hernandez", with a large, stylized flourish at the end.

Gilbert Hernandez, P.E., T.E.
Senior Traffic Engineer

cc. File, Chrono, Thomas Boyd, Steve Libring, FHWA, CTCDC, BNSF, Union Pacific

City of Riverside - Experimental Railroad Sign Survey

Date: 6/6/13

Question 1 Have you ever entered a grade crossing when the bells and flashers were on?

Yes 10
No 89

Refused to Answer 1

Question 1a What are your reasons for doing so?

a I thought it was safe
b I was in a hurry
c Refused to Answer
d Other

Number of Respondents

3
3
0
4

Question 2 What is the message that Sign No. 1 conveys to you?

[\(See Question 2\)](#)

Show Sign #1 ("Look" Arrow & "Additional Trains May Approach")

Question 3 Does the sign remind you to stop and look both ways before crossing the tracks?

a Yes
b No
c Refused to Answer

Number of Respondents

96
4
0

Show Sign #1 ("Look" Arrow & "Additional Trains May Approach")

Question 4 What does Sign No. 1 convey to you if a railroad crossing is **active** (flashing red lights, sounding bells, and the railroad gate for vehicles is in the "down" position)?

[\(See Question 4\)](#)

Show Sign #1 ("Look" Arrow & "Additional Trains May Approach")

Question 5 Does Sign #1 clearly/explicitly warn pedestrians and bicyclists not to enter an Active Railroad Crossing?

Yes 77
No 23

Show Sign #1 ("Look" Arrow & "Additional Trains May Approach")

Question 6 What does Sign No. 1 convey to you if a railroad crossing is **Inactive** - gate for vehicles is in the "up right" position.

[\(See Question 6\)](#)

Show Sign #1 ("Look" Arrow & "Additional Trains May Approach")

Question 7 To what extent do you think Sign #1 improves safety at a railroad crossing?

a Great Extent
b Some Extent
c Not at All
d Don't Know
e Refused to Answer

Number of Respondents

29
67
3
1
0

Question 8 What is Your Age Group?

a 16 or Younger
b 17 to 29 Years
c 30 to 64 Years
d 65 or Older
e Refused to Answer

Number of Respondents

57
26
16
1
0

Question 9 To which of the following racial or ethnic groups do you feel you most belong?

a African American
b Asian
c Latino
d White
e Other
f Refused to Answer

Number of Respondents

19
0
54
18
5
4

Male 55

Female 45

Survey Language

English 87
Spanish 13

QUESTION #2

Number	Age	What is the message that Sign 1 conveys to you?
1	17 to 29 Years	look both ways
2	30 to 64 Years	trains come from both directions
3	16 or Younger	look for trains
4	16 or Younger	stop
5	16 or Younger	look both ways before you cross
6	16 or Younger	trains passing through
7	30 to 64 Years	trains going either way
8	16 or Younger	train coming
9	16 or Younger	look both ways
10	16 or Younger	don't go when arms are down
11	16 or Younger	look - trains coming at you
12	30 to 64 Years	look for more trains
13	17 to 29 Years	look both ways
14	16 or Younger	look for trains to come
15	16 or Younger	watch for trains
16	16 or Younger	trains could be on the way
17	16 or Younger	look for trains coming both ways
18	16 or Younger	look
19	16 or Younger	watch for trains
20	16 or Younger	train's coming
21	16 or Younger	<i>(did not answer)</i> -----
22	16 or Younger	look both ways
23	16 or Younger	look for trains
24	16 or Younger	look both ways
25	17 to 29 Years	look both ways - more trains may come
26	16 or Younger	trains may approach
27	16 or Younger	look out for trains
28	16 or Younger	if you cross you got a ticket
29	16 or Younger	not to cross
30	16 or Younger	stop
31	17 to 29 Years	look both ways, train is coming
32	30 to 64 Years	trains can come both ways: look both ways
33	17 to 29 Years	more trains
34	16 or Younger	two trains coming
35	17 to 29 Years	watch for trains
36	17 to 29 Years	two trains may come
37	30 to 64 Years	and advisory - check if train is coming
38	30 to 64 Years	two trains can come - be cautious
39	65 or Older	stop & look before crossing tracks
40	30 to 64 Years	don't cross when train is present or visible
41	17 to 29 Years	be cautious
42	30 to 64 Years	be careful, there could be a second train coming
43	17 to 29 Years	look around for trains
44	30 to 64 Years	don't cross - look both ways
45	30 to 64 Years	stop when train comes
46	30 to 64 Years	walk slowly before tracks - check for trains
47	30 to 64 Years	look both ways
48	30 to 64 Years	a cautionary sign to respect the tracks and look for trains
49	30 to 64 Years	don't understand full meaning
50	16 or Younger	more than one train possible

QUESTION #2

Number	Age	What is the message that Sign 1 conveys to you?
51	16 or Younger	look both ways - more trains may be coming
52	30 to 64 Years	look both ways before crossing
53	17 to 29 Years	not sure - look when crossing
54	16 or Younger	look both ways
55	17 to 29 Years	look both ways
56	16 or Younger	to look both ways
57	16 or Younger	take extra precaution when crossing the tracks
58	17 to 29 Years	to look both ways
59	17 to 29 Years	that two trains may come - watch out for them
60	17 to 29 Years	to look both ways
61	17 to 29 Years	to realize my surroundings
62	17 to 29 Years	<i>(did not answer -----)</i>
63	17 to 29 Years	look both ways
64	16 or Younger	to look both ways before you cross
65	17 to 29 Years	trains going both ways
66	16 or Younger	tracks
67	16 or Younger	<i>(did not answer -----)</i>
68	16 or Younger	to look both ways
69	30 to 64 Years	might be a train coming - check
70	16 or Younger	look both ways
71	16 or Younger	look both ways
72	16 or Younger	look both ways
73	16 or Younger	look before crossing
74	16 or Younger	look both ways
75	16 or Younger	look both ways
76	17 to 29 Years	to stop
77	16 or Younger	look both ways before crossing
78	16 or Younger	trains are going by
79	16 or Younger	train tracks are present
80	17 to 29 Years	make sure no trains are coming
81	17 to 29 Years	watch for trains going by
82	17 to 29 Years	look before crossing
83	16 or Younger	train is coming - stop
84	16 or Younger	stop when trains come
85	17 to 29 Years	trains may be coming - 2 tracks
86	16 or Younger	look both ways for trains
87	16 or Younger	look both way before you enter
88	16 or Younger	look before going
89	16 or Younger	pay attention
90	17 to 29 Years	look both ways before crossing
91	16 or Younger	look both ways - possible 2nd train
92	16 or Younger	look for trains
93	16 or Younger	train crossing
94	16 or Younger	trains are coming
95	16 or Younger	watch - trains can hit you
96	16 or Younger	two trains can come
97	16 or Younger	train could be coming
98	17 to 29 Years	look both ways
99	16 or Younger	look both ways
100	17 to 29 Years	to look both ways and double check for a second train

QUESTION #4

Number	Age	What does Sign 1 convey to you if a railroad crossing is active? (flashing red lights, sounding bells, and railroad gate for vehicles is in the "down" position)
1	17 to 29 Years	don't cross
2	30 to 64 Years	trains are coming - stop
3	16 or Younger	stop
4	16 or Younger	wait
5	16 or Younger	train coming - but sometimes gates are down and train does not come
6	16 or Younger	stop - trains coming
7	30 to 64 Years	trains coming - do not cross
8	16 or Younger	train coming
9	16 or Younger	trains coming
10	16 or Younger	train is going to come
11	16 or Younger	stop
12	30 to 64 Years	stay back
13	17 to 29 Years	don't go through
14	16 or Younger	don't go - train
15	16 or Younger	train's on the way
16	16 or Younger	train is coming
17	16 or Younger	stop
18	16 or Younger	train is coming
19	16 or Younger	stop
20	16 or Younger	train is coming
21	16 or Younger	<i>(did not answer -----)</i>
22	16 or Younger	train is coming
23	16 or Younger	stop for trains
24	16 or Younger	stop
25	17 to 29 Years	train is coming
26	16 or Younger	don't walk
27	16 or Younger	stop & wait
28	16 or Younger	depends if the kid looks
29	16 or Younger	stop
30	16 or Younger	stop and look
31	17 to 29 Years	another train is coming
32	30 to 64 Years	trains are coming
33	17 to 29 Years	look for trains
34	16 or Younger	trains coming from both directions
35	17 to 29 Years	another train coming
36	17 to 29 Years	look for second train
37	30 to 64 Years	stop & wait for train
38	30 to 64 Years	don't cross - check both directions
39	65 or Older	can't cross - look for train
40	30 to 64 Years	stop - don't cross
41	17 to 29 Years	stop and be cautious
42	30 to 64 Years	<i>(did not answer -----)</i>
43	17 to 29 Years	stop - look both ways
44	30 to 64 Years	stop, train is coming
45	30 to 64 Years	don't cross - look both ways
46	30 to 64 Years	stop - proceed if safe. Sign is sometimes ignored.
47	30 to 64 Years	don't cross - wait until train goes by
48	30 to 64 Years	look both ways and stop when gates are down
49	30 to 64 Years	train is coming
50	16 or Younger	look for trains

QUESTION #4

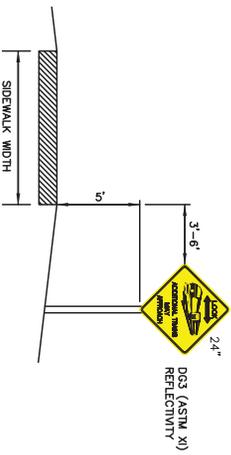
51	16 or Younger	train coming
52	30 to 64 Years	yes you should stop and watch for trains
53	17 to 29 Years	watch for train
54	16 or Younger	stop
55	17 to 29 Years	stop
56	16 or Younger	to stop and look before crossing
57	16 or Younger	trains can be coming from both tracks. If one finishes another may follow
58	17 to 29 Years	to stop
59	17 to 29 Years	there might be a second train
60	17 to 29 Years	the gate is down, so I don't go until it's up. The sign doesn't help in this
61	17 to 29 Years	train is coming, stop
62	17 to 29 Years	stop and wait for train
63	17 to 29 Years	do not cross
64	16 or Younger	to stop and wait for train to cross
65	17 to 29 Years	don't cross and be away while trains are crossing
66	16 or Younger	look both ways
67	16 or Younger	that there are railroad tracks and I have to stop
68	16 or Younger	to stop and look before crossing
69	30 to 64 Years	train is coming - stop
70	16 or Younger	stop - let the train go by
71	16 or Younger	stop
72	16 or Younger	stop - train is coming
73	16 or Younger	train is coming
74	16 or Younger	trains coming - step back
75	16 or Younger	stop
76	17 to 29 Years	stop
77	16 or Younger	<i>(did not answer -----)</i>
78	16 or Younger	to not cross until it's not active
79	16 or Younger	train is passing
80	17 to 29 Years	stop and wait for trains to go by
81	17 to 29 Years	train is coming
82	17 to 29 Years	don't cross - train is coming
83	16 or Younger	stop - don't cross
84	16 or Younger	don't cross
85	17 to 29 Years	stop for trains
86	16 or Younger	train approaching
87	16 or Younger	wait for trains and the arms to go up
88	16 or Younger	stop - wait for the trains to go by
89	16 or Younger	stop - don't cross
90	17 to 29 Years	don't cross when arms are down
91	16 or Younger	stop for trains
92	16 or Younger	don't go - train is coming
93	16 or Younger	don't cross
94	16 or Younger	trains are coming
95	16 or Younger	don't go
96	16 or Younger	stop for trains
97	16 or Younger	train is coming and closeby
98	17 to 29 Years	stay behind line - train is coming
99	16 or Younger	don't pass train is coming
100	17 to 29 Years	reminds you to look for a second train that may not be visible

Number	Age	What does Sign 1 convey to you if a railroad crossing is NOT active? (Gate for vehicles is in the "up right" position)
1	17 to 29 Years	it's ok to cross
2	30 to 64 Years	can go but look just incase
3	16 or Younger	look both ways
4	16 or Younger	walk
5	16 or Younger	no trains coming
6	16 or Younger	can pass through
7	30 to 64 Years	safe
8	16 or Younger	go
9	16 or Younger	trains not coming
10	16 or Younger	you can cross
11	16 or Younger	can go
12	30 to 64 Years	look still - gates have malfunctioned in past
13	17 to 29 Years	look still in case train is coming
14	16 or Younger	go ahead - no trains
15	16 or Younger	can go
16	16 or Younger	can go through
17	16 or Younger	can go
18	16 or Younger	can go
19	16 or Younger	can go
20	16 or Younger	can go
21	16 or Younger	go ahead
22	16 or Younger	safe to cross
23	16 or Younger	no trains
24	16 or Younger	ok to cross
25	17 to 29 Years	free to go
26	16 or Younger	can walk - but need to look just in case
27	16 or Younger	look both ways
28	16 or Younger	depends on where it is
29	16 or Younger	to cross
30	16 or Younger	<i>(did not answer -----)</i>
31	17 to 29 Years	look for trains anytime
32	30 to 64 Years	look both ways
33	17 to 29 Years	look both ways
34	16 or Younger	look both ways
35	17 to 29 Years	look out for train
36	17 to 29 Years	look for trains
37	30 to 64 Years	sign gets ignored, people check on their own
38	30 to 64 Years	look both ways regardless
39	65 or Older	people ignore the sign - especially those under the influence
40	30 to 64 Years	if they don't notice the sign they look to see if train is coming
41	17 to 29 Years	people don't read it or ignore it
42	30 to 64 Years	the sign is only a quick reminder to look for trains
43	17 to 29 Years	look both ways before crossing
44	30 to 64 Years	don't understand the sign
45	30 to 64 Years	respect the tracks, cross whenever safe
46	30 to 64 Years	be cautious of a possible coming train
47	30 to 64 Years	can cross safely with caution
48	30 to 64 Years	check both directions for trains before crossing
49	30 to 64 Years	it's clear to pass - look both ways to make sure
50	16 or Younger	unsure

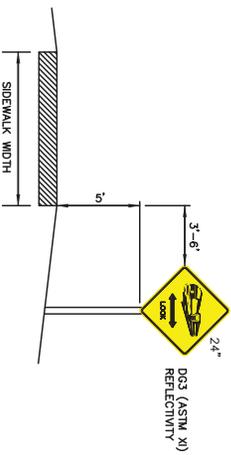
51	16 or Younger	pay attention if lights flash
52	30 to 64 Years	pay attention as if you were crossing at street
53	17 to 29 Years	watch for lights
54	16 or Younger	<i>(did not answer -----)</i>
55	17 to 29 Years	people ignore the sign
56	16 or Younger	<i>(did not answer -----)</i>
57	16 or Younger	to look both ways anyways. The railroad crossing don't always work
58	17 to 29 Years	to look both ways
59	17 to 29 Years	nothing at all since the guard rail is up, so no train is coming
60	17 to 29 Years	trains may come from both directions
61	17 to 29 Years	to go ahead and cross
62	17 to 29 Years	<i>(did not answer -----)</i>
63	17 to 29 Years	to look both ways, regardless
64	16 or Younger	to look even if gates are not flashing
65	17 to 29 Years	look both ways and cross
66	16 or Younger	look both ways
67	16 or Younger	I would not look because there is nothing to stop cars
68	16 or Younger	<i>(did not answer -----)</i>
69	30 to 64 Years	they walk across - sometimes they don't look both ways
70	16 or Younger	it's ok to go across tracks
71	16 or Younger	look
72	16 or Younger	look both ways
73	16 or Younger	safe to pass
74	16 or Younger	beware of trains
75	16 or Younger	go
76	17 to 29 Years	move ahead
77	16 or Younger	to make sure you still look if a train is coming
78	16 or Younger	you are able to cross - it is safe
79	16 or Younger	trains go by here
80	17 to 29 Years	clear to cross
81	17 to 29 Years	no trains coming
82	17 to 29 Years	it's ok to go across tracks
83	16 or Younger	go ahead and cross
84	16 or Younger	safe to cross
85	17 to 29 Years	can cross
86	16 or Younger	safe to go through
87	16 or Younger	safe to cross
88	16 or Younger	no trains are coming
89	16 or Younger	go ahead and cross
90	17 to 29 Years	ok to cross
91	16 or Younger	safe to go across
92	16 or Younger	no trains
93	16 or Younger	can cross
94	16 or Younger	go ahead and cross
95	16 or Younger	can walk across tracks
96	16 or Younger	go ahead and cross
97	16 or Younger	no train - open and safe to cross
98	17 to 29 Years	safe to go but look in case
99	16 or Younger	it's ok to walk
100	17 to 29 Years	there is a train crossing present



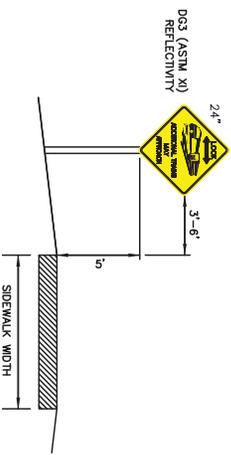
DETAIL 'A'



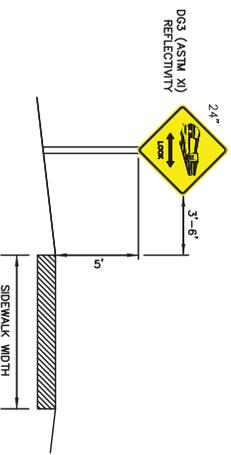
DETAIL 'B'



DETAIL 'C'



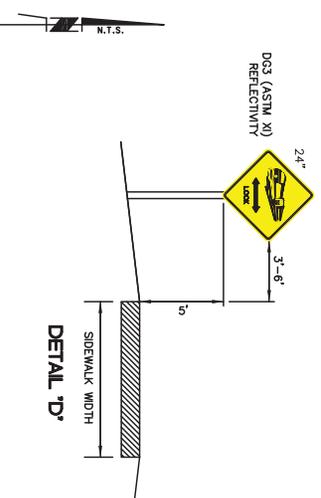
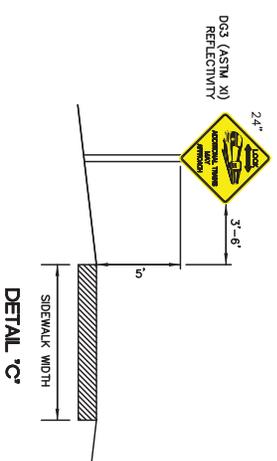
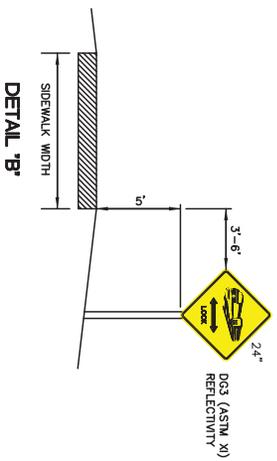
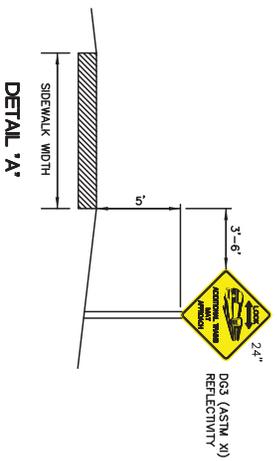
DETAIL 'D'



- LEGEND**
- └ PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RR LIGHT LINE ON THE APPROACH SIDE)
 - *x* INSTALLATION PER DETAIL "x"
 - a. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)



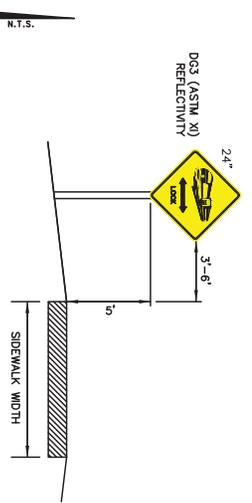
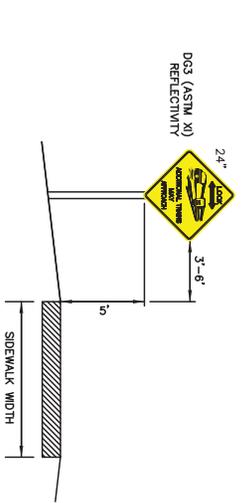
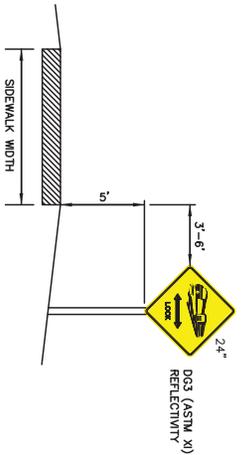
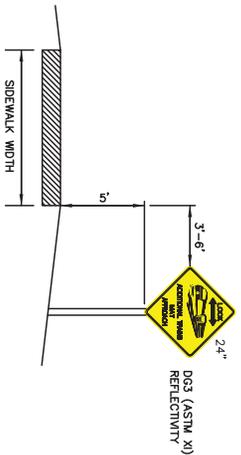
LOCATION: BUCHANAN STREET	
RAIL AGENCY: BNSF	
EXHIBIT No. 1	



- LEGEND**
- ⊥ PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RR LIMIT LINE ON THE APPROACH SIDE)
 - "x" INSTALLATION PER DETAIL "x"
 - Ⓜ PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

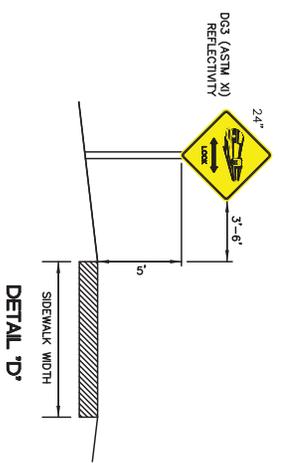
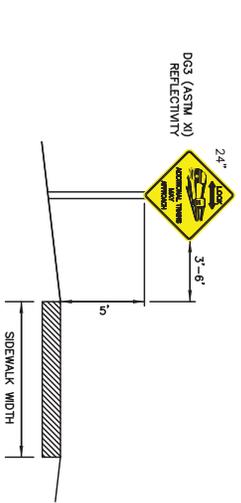
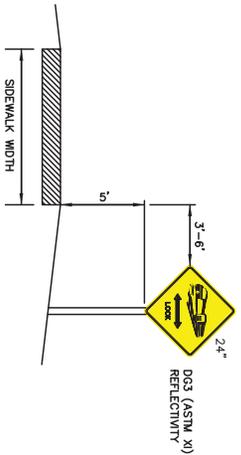
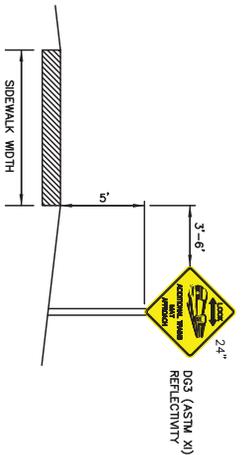
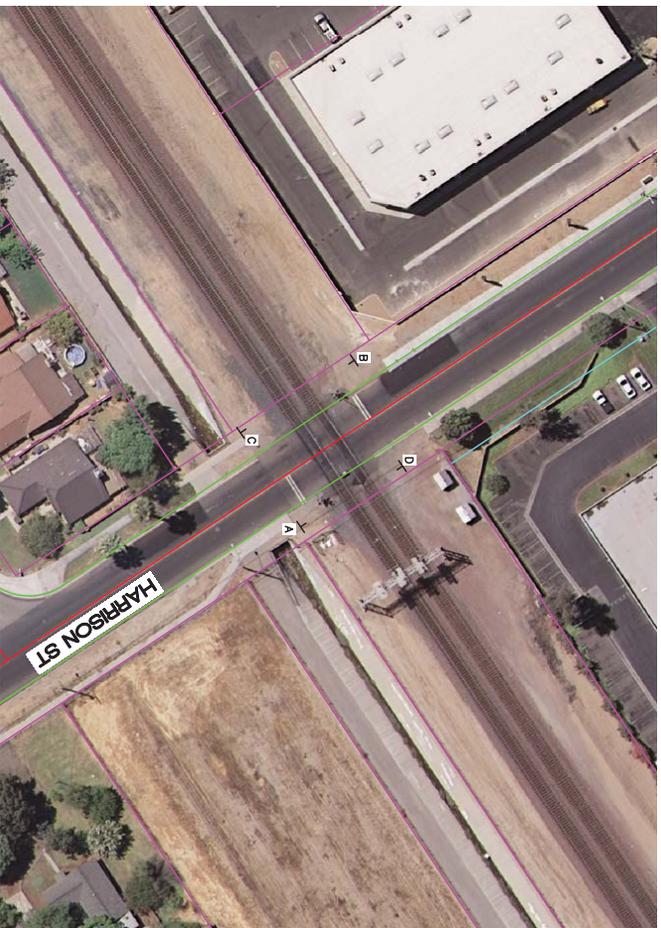


LOCATION: PIERCE STREET	
RAIL AGENCY: BNSF	
	
EXHIBIT No. 2	



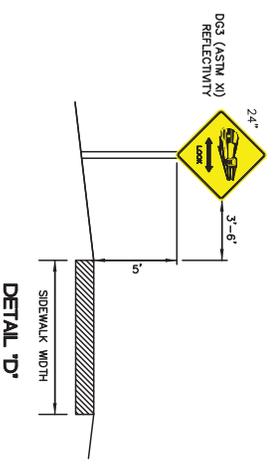
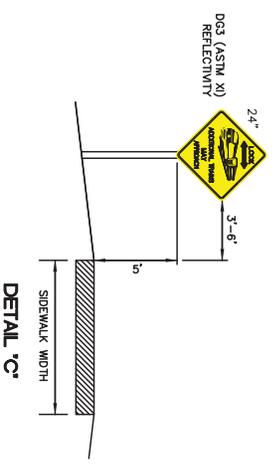
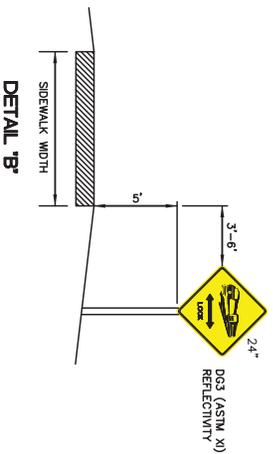
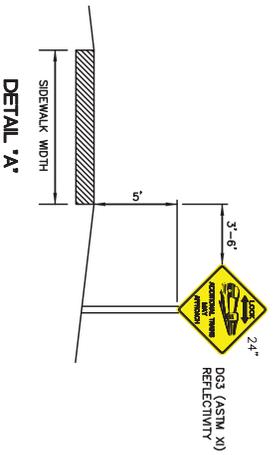
- LEGEND**
- 1. PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RR LIMIT LINE ON THE APPROACH SIDE)
 - *x* INSTALLATION PER DETAIL "x"
 - Δ. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

LOCATION: TYLER STREET	
RAIL AGENCY: BNSF	
	
EXHIBIT No. 3	



- N.T.S.
- LEGEND**
- 1. PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RR LIMIT LINE ON THE APPROACH SIDE)
 - "x" INSTALLATION PER DETAIL "x"
 - 2. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

LOCATION: HARRISON STREET	
RAIL AGENCY: BNSF	
EXHIBIT No. 4	



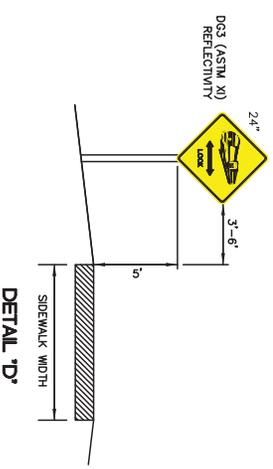
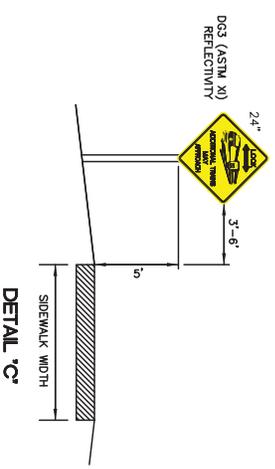
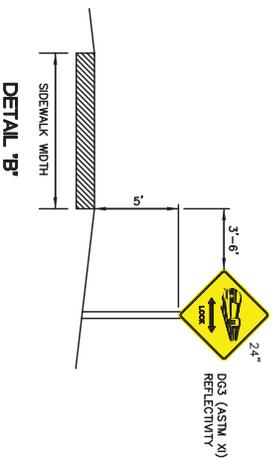
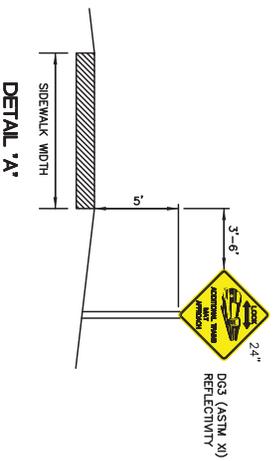
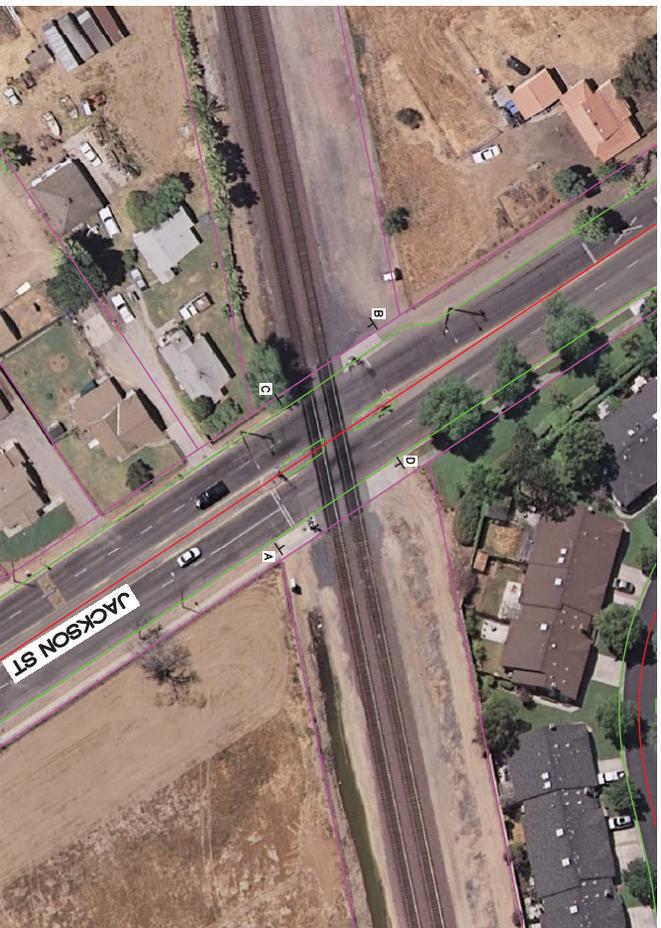
LEGEND

- ┆ PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RR LIMIT LINE ON THE APPROACH SIDE)
- *x* INSTALLATION PER DETAIL "x"
- Δ. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

LOCATION: GIBSON STREET
RAIL AGENCY: BNSF



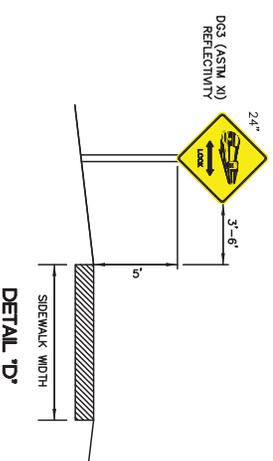
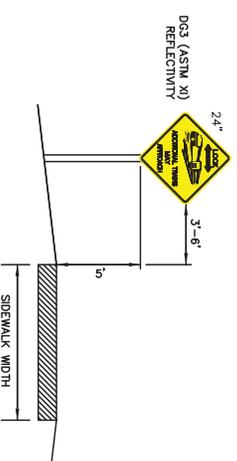
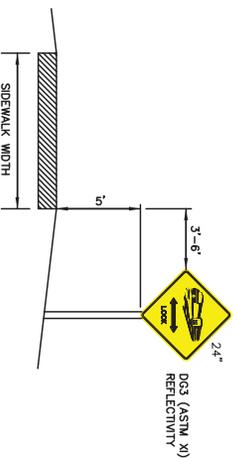
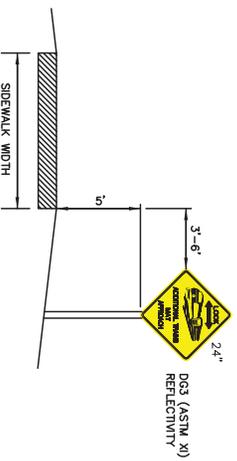
EXHIBIT No. 5



LEGEND

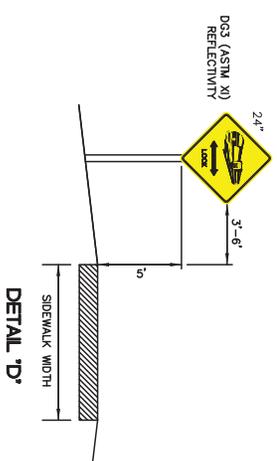
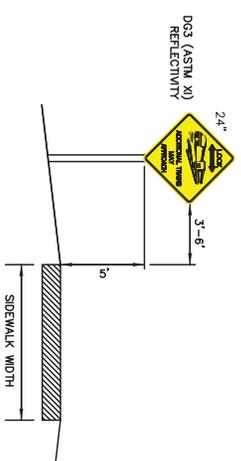
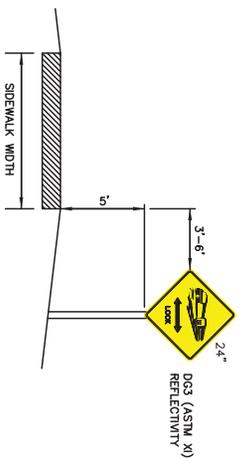
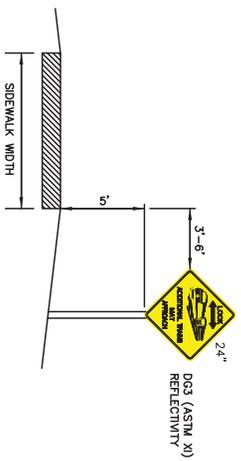
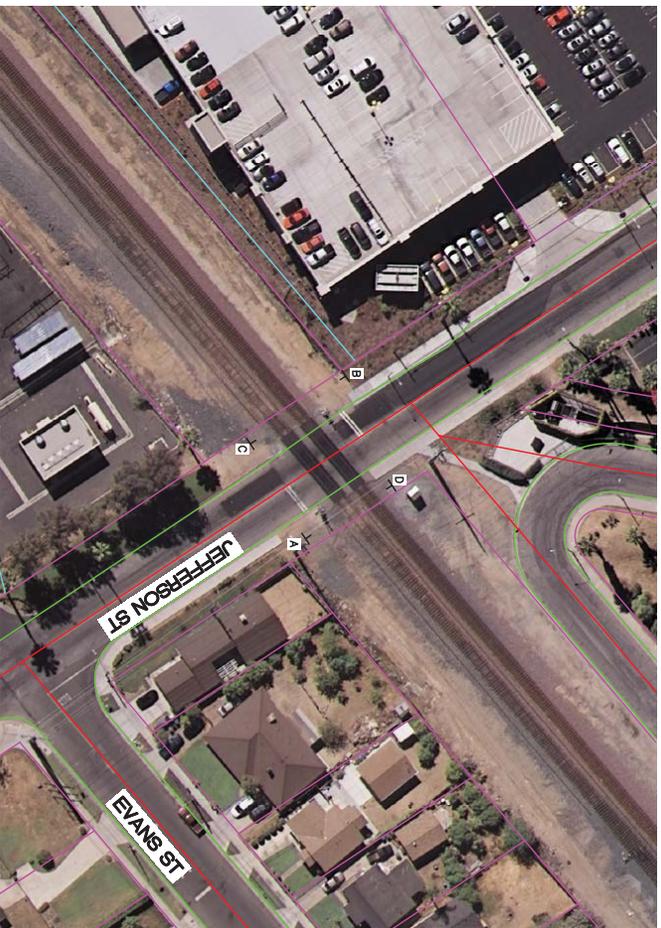
- 1. PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RR LIMIT LINE ON THE APPROACH SIDE)
- "X" INSTALLATION PER DETAIL "X"
- Δ. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

LOCATION: JACKSON STREET	
RAIL AGENCY: BNSF	
EXHIBIT No. 6	



- LEGEND**
- 1. PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RR LIMIT LINE ON THE APPROACH SIDE)
 - "x" INSTALLATION PER DETAIL "x"
 - 2. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

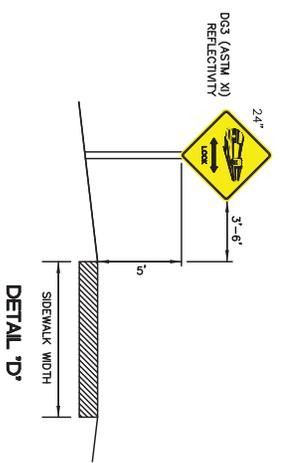
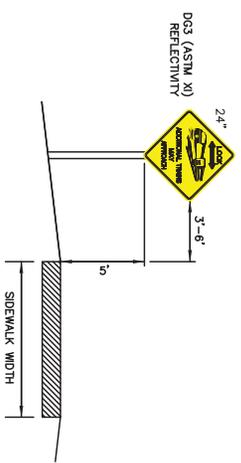
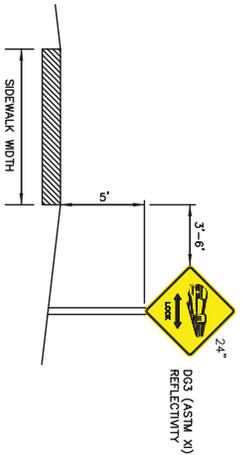
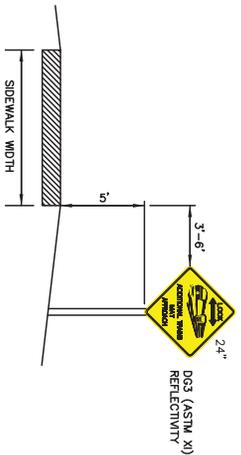
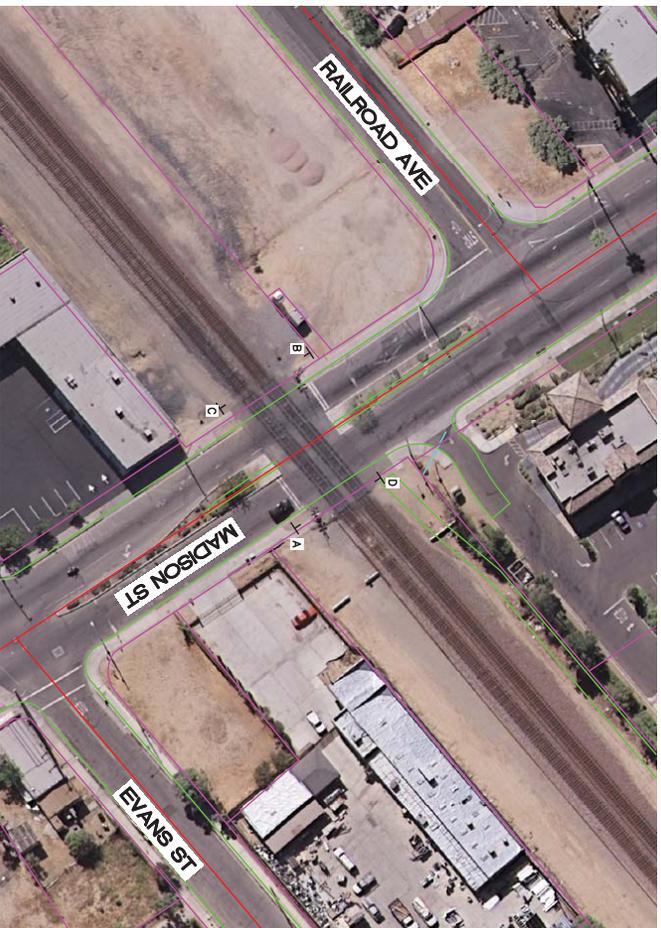
LOCATION: ADAMS STREET	
RAIL AGENCY: BNSF	
	
EXHIBIT No. 7	



LEGEND

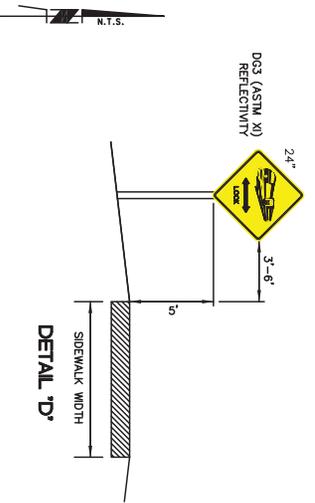
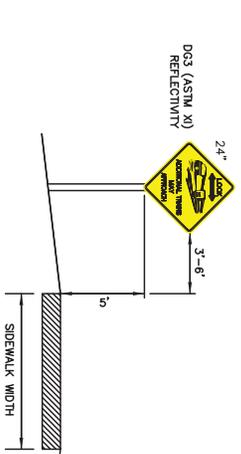
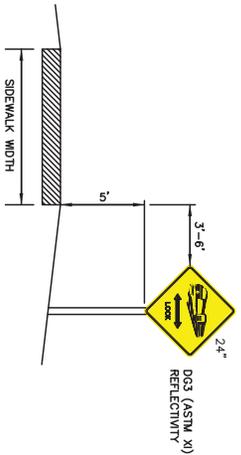
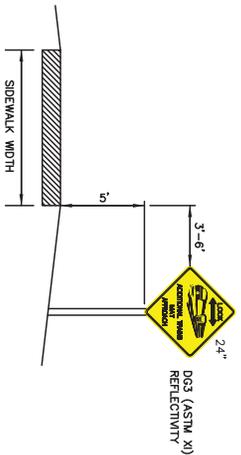
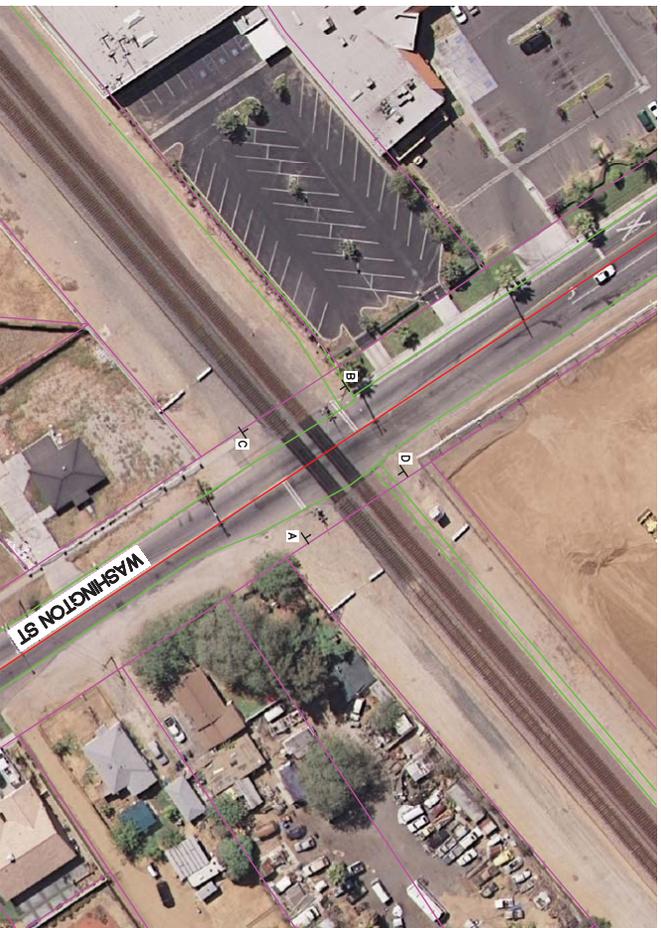
- 1. PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RR LIMIT LINE ON THE APPROACH SIDE)
- "x" INSTALLATION PER DETAIL "x"
- 2. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

LOCATION: JEFFERSON STREET	
RAIL AGENCY: BNSF	
EXHIBIT No. 8	



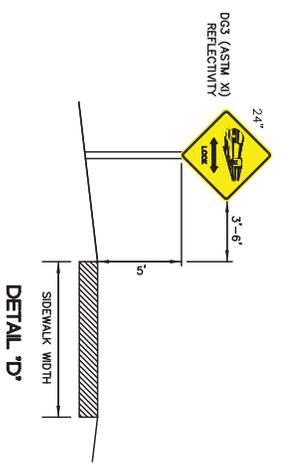
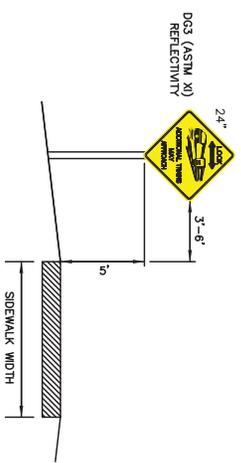
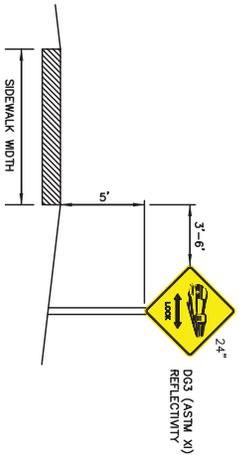
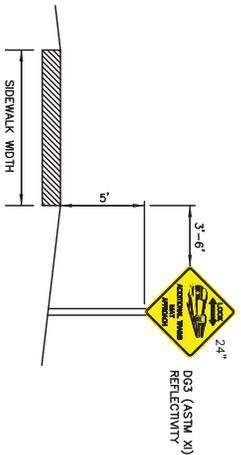
- LEGEND**
- 1. PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RR LIMIT LINE ON THE APPROACH SIDE)
 - "X" INSTALLATION PER DETAIL "X"
 - 2. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

LOCATION: MADISON STREET	
RAIL AGENCY: BNSF	
EXHIBIT No. 9	



- LEGEND**
- 1. PROPOSED SIGN (ONE POST) (TYPICALLY 7' BEHIND THE RR LIMIT LINE ON THE APPROACH SIDE)
 - *x* INSTALLATION PER DETAIL "x"
 - a. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

LOCATION: WASHINGTON STREET	
RAIL AGENCY: BNSF	
EXHIBIT No. 10	



N.T.S.

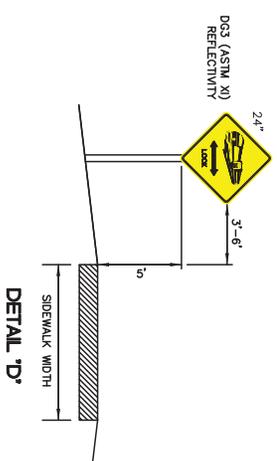
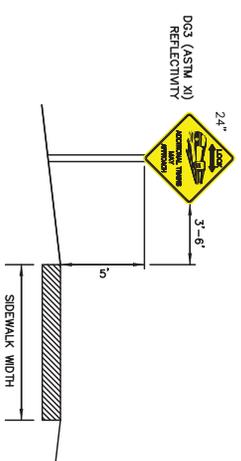
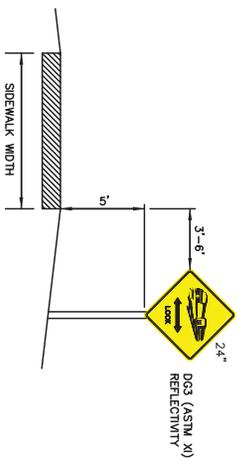
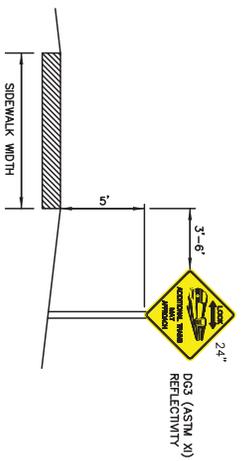
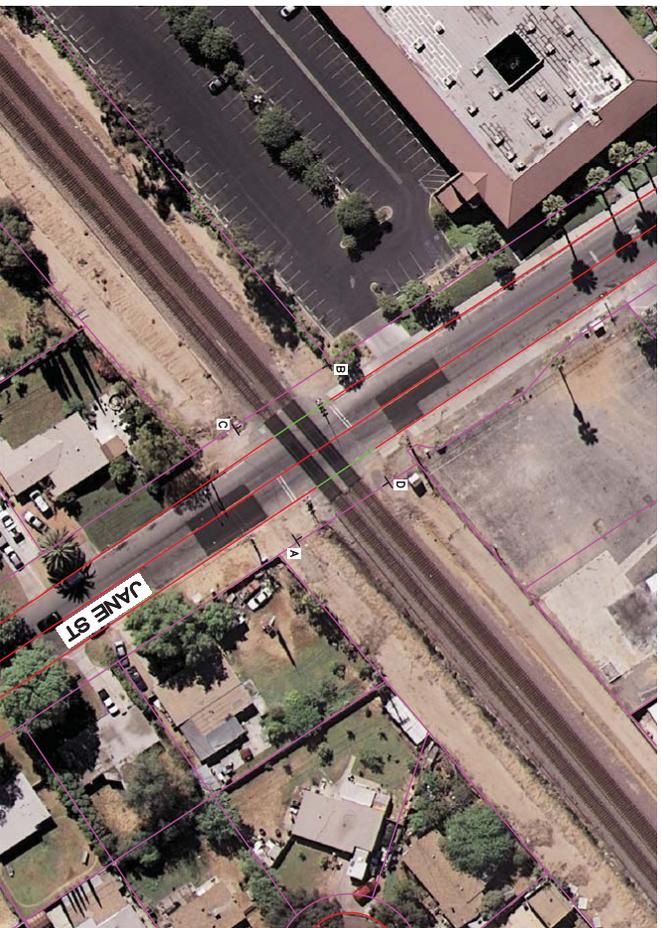
LEGEND

1. PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RR LIMIT LINE ON THE APPROACH SIDE)

"x" INSTALLATION PER DETAIL "x"

Δ. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

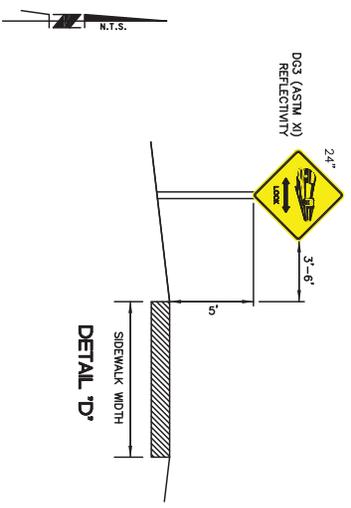
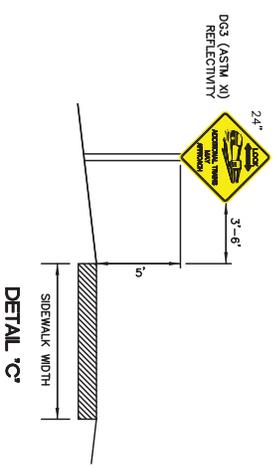
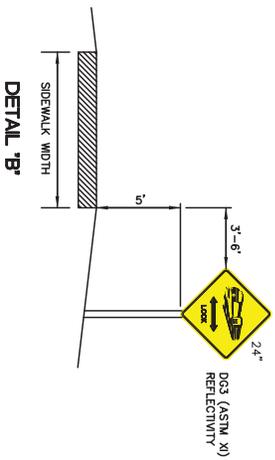
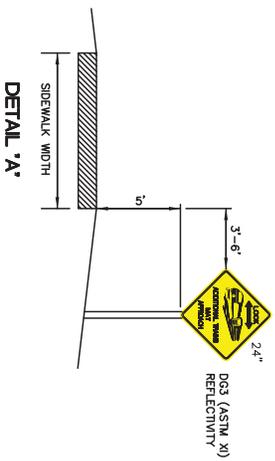
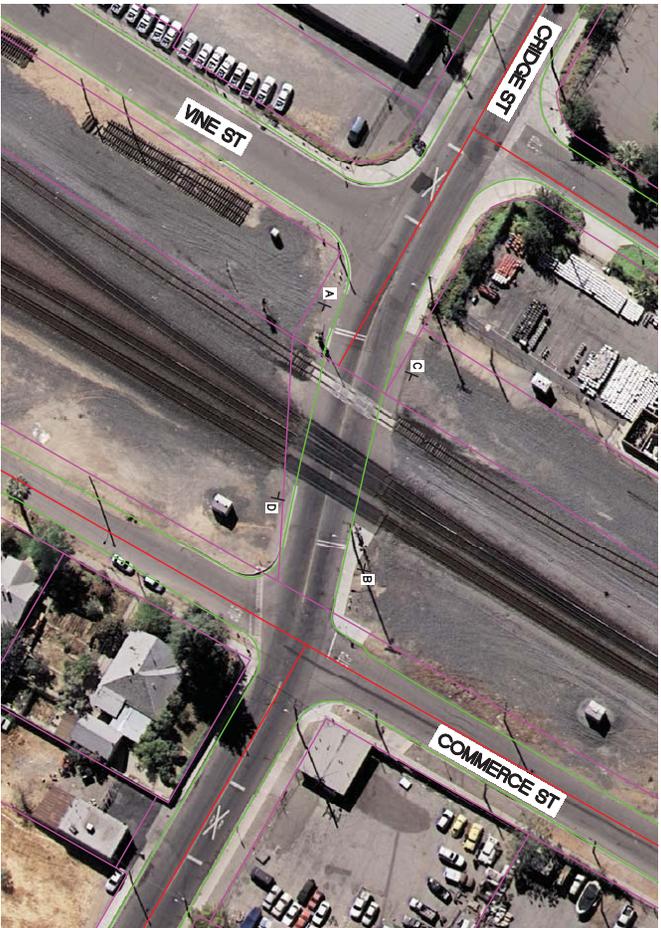
LOCATION: MARY STREET	
RAIL AGENCY: BNSF	
EXHIBIT No. 11	



LEGEND

- 1. PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RR LIMIT LINE ON THE APPROACH SIDE)
- *x* INSTALLATION PER DETAIL "x"
- Δ. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

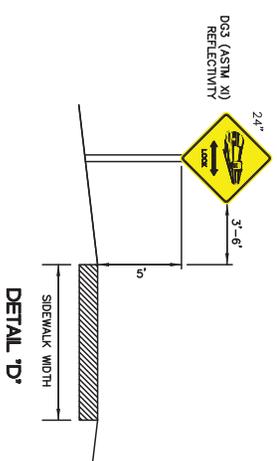
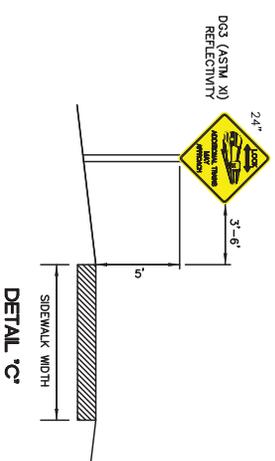
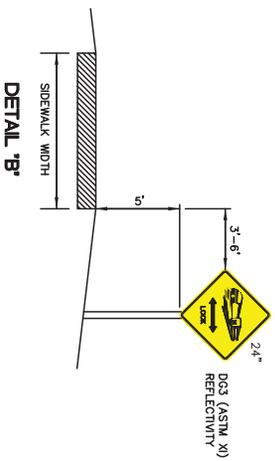
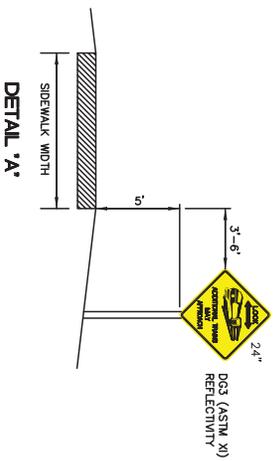
LOCATION: JANE STREET	
RAIL AGENCY: BNSF	
	
EXHIBIT No. 12	



LEGEND

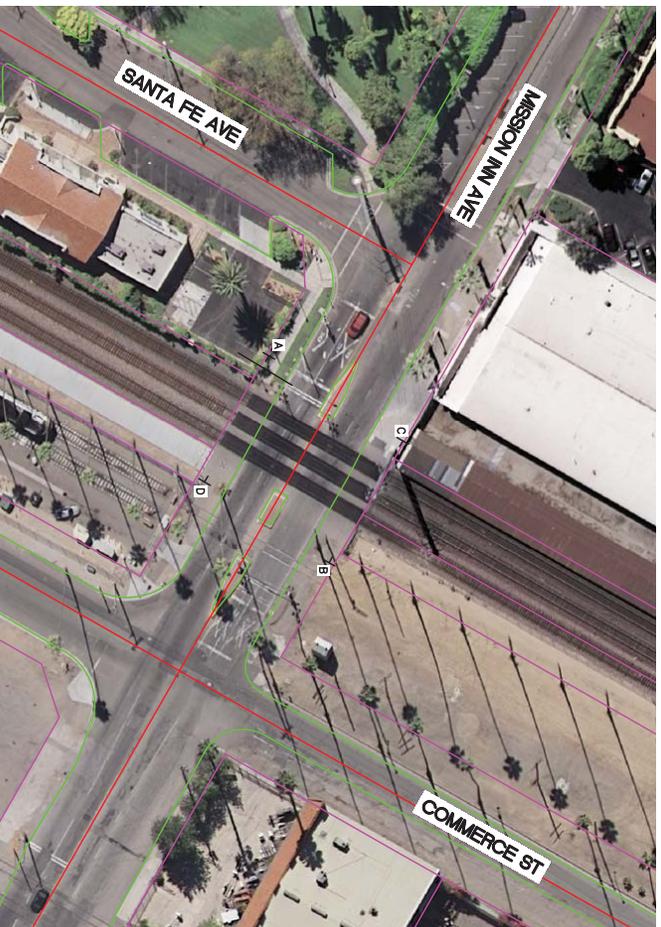
- 1. PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RAIL LIMIT LINE ON THE APPROACH SIDE)
- "x" INSTALLATION PER DETAIL "x"
- 2. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

LOCATION: CRIDGE STREET	
RAIL AGENCY: BNSF/UPRR	
EXHIBIT No. 13	

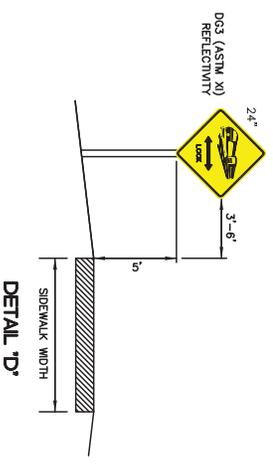
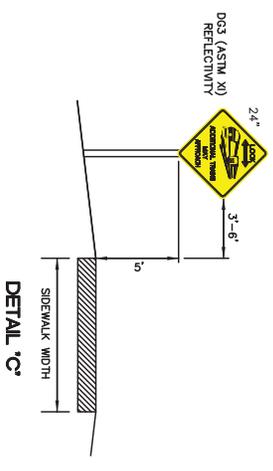
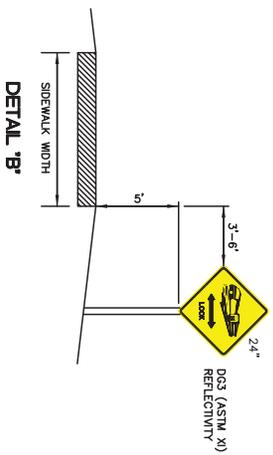
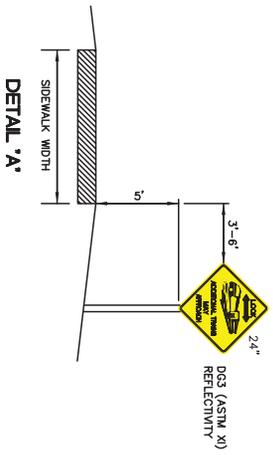
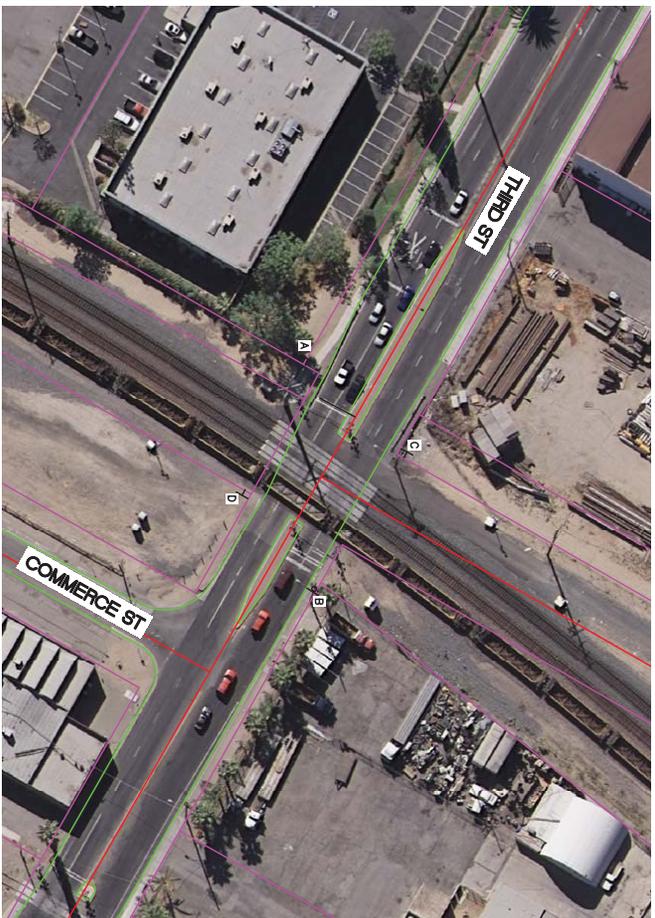


LEGEND

- 1. PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RR LIMIT LINE ON THE APPROACH SIDE)
- "x" INSTALLATION PER DETAIL "x"
- 2. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)



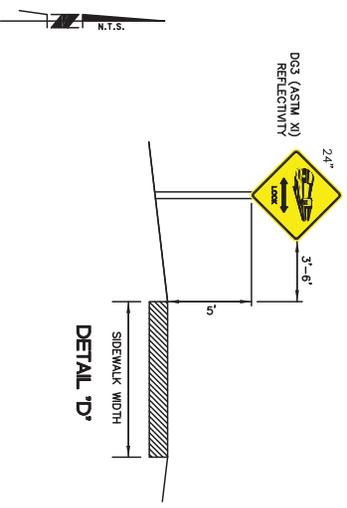
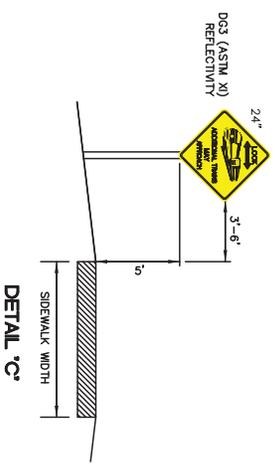
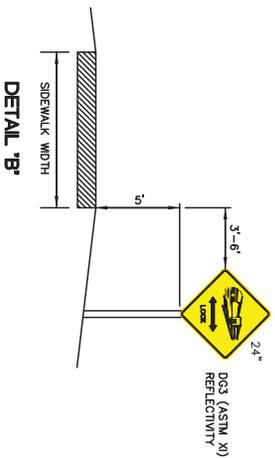
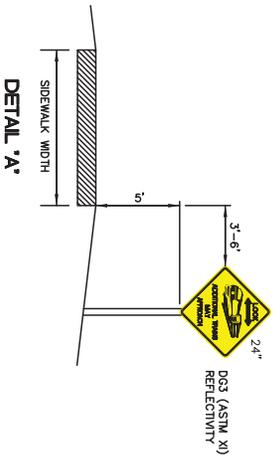
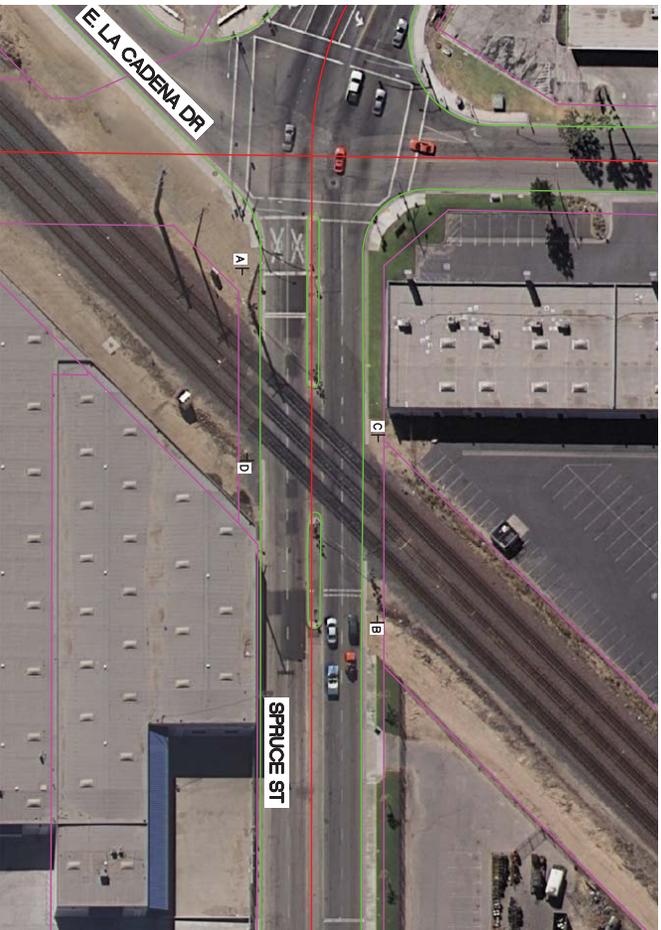
LOCATION: MISSION INN AVENUE	
RAIL AGENCY: BNSF/UPRR	
EXHIBIT No. 14	



LEGEND

- 1. PROPOSED SIGN (ONE POST) (TYPICALLY 7' BEHIND THE TR LIMIT LINE ON THE APPROACH SIDE)
- *X* INSTALLATION PER DETAIL 'X'
- Δ. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

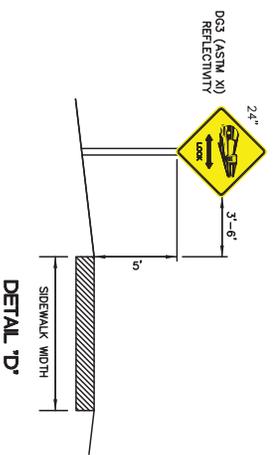
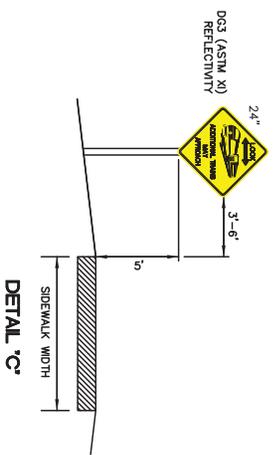
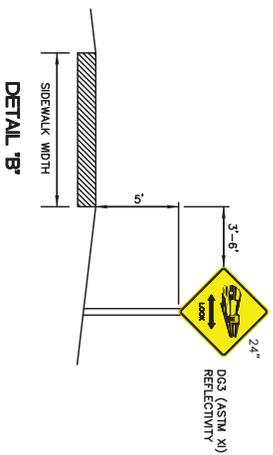
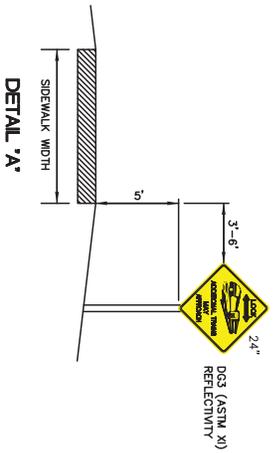
LOCATION: THIRD STREET	
RAIL AGENCY: BNSF/UPRR	
	
EXHIBIT No. 15	



LEGEND

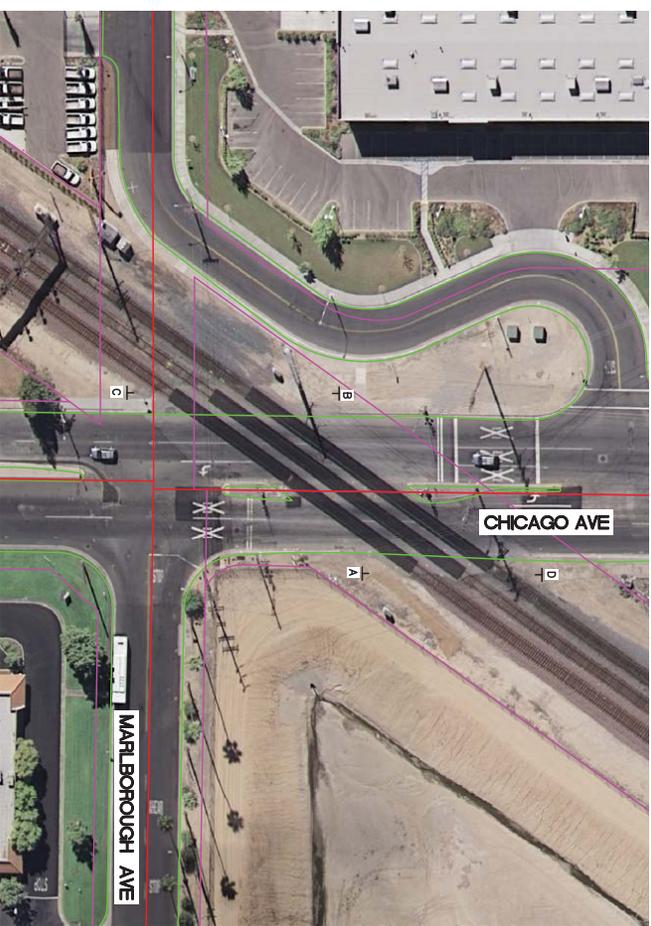
- 1. PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RAIL LIMIT LINE ON THE APPROACH SIDE)
- "x" INSTALLATION PER DETAIL "x"
- 2. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

LOCATION: SPRUCE STREET	
RAIL AGENCY: BNSF/UPRR	
EXHIBIT No. 16	

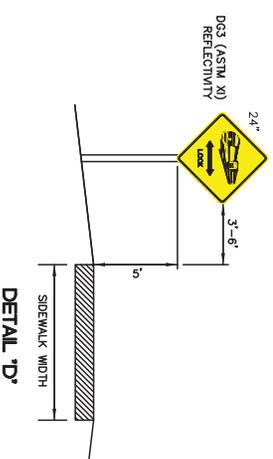
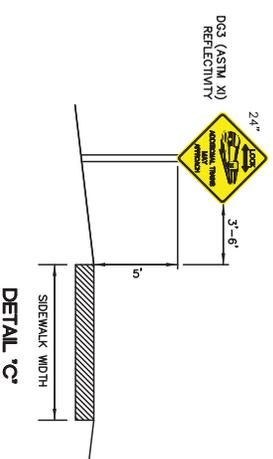
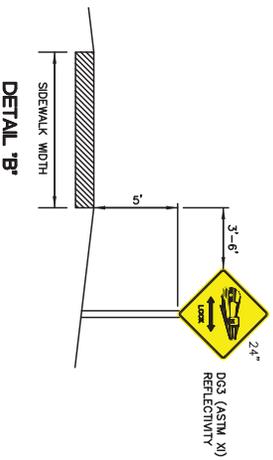
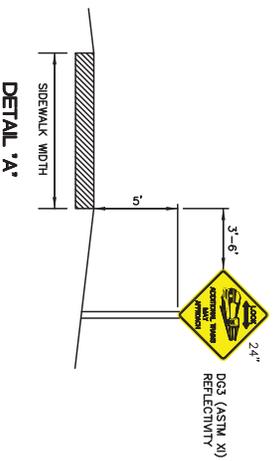


LEGEND

- 1. PROPOSED SIGN (ONE POST) (TYPICALLY 7' BEHIND THE RR LIMIT LINE ON THE APPROACH SIDE)
- *x* INSTALLATION PER DETAIL "x"
- a. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

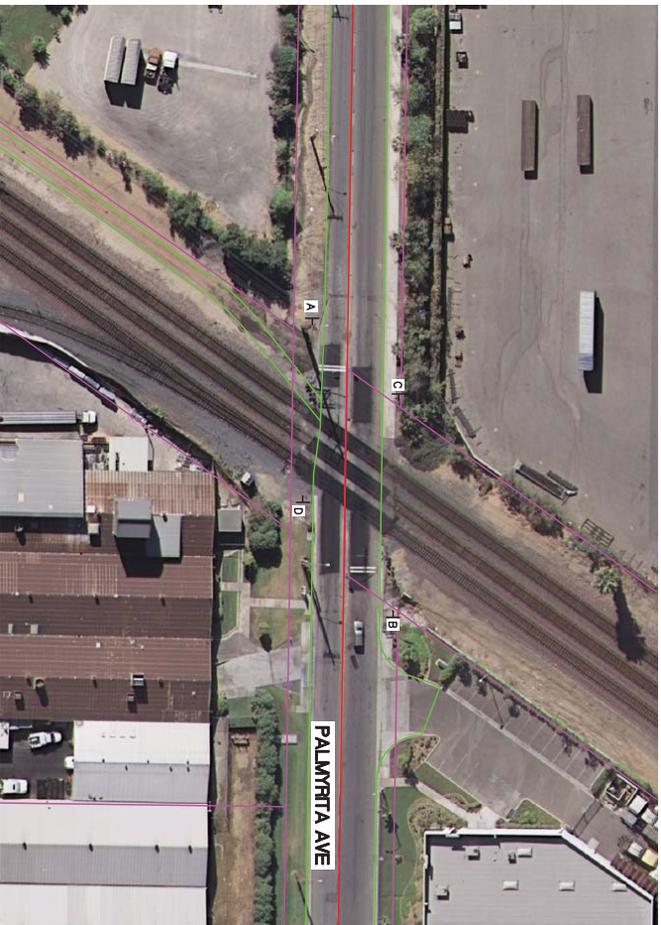


LOCATION: CHICAGO AVENUE	
RAIL AGENCY: BNSF/UPRR	
	
EXHIBIT No. 17	

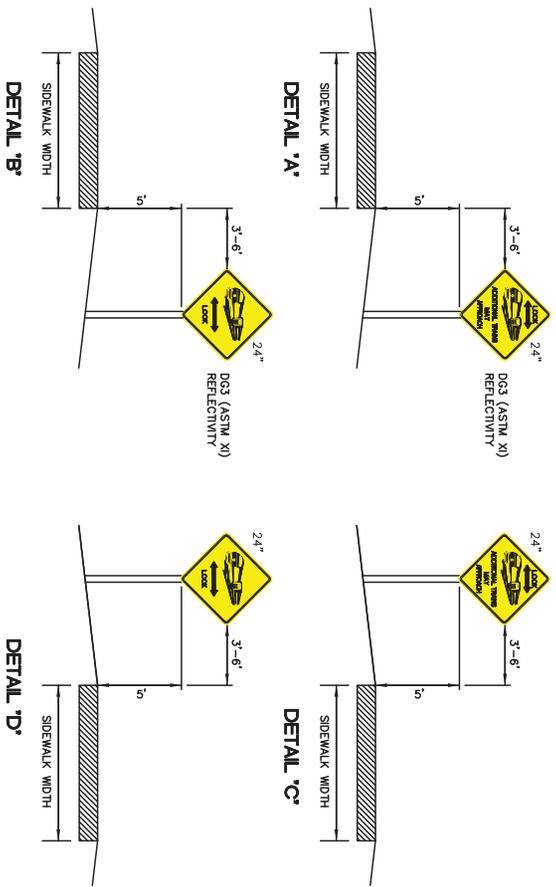
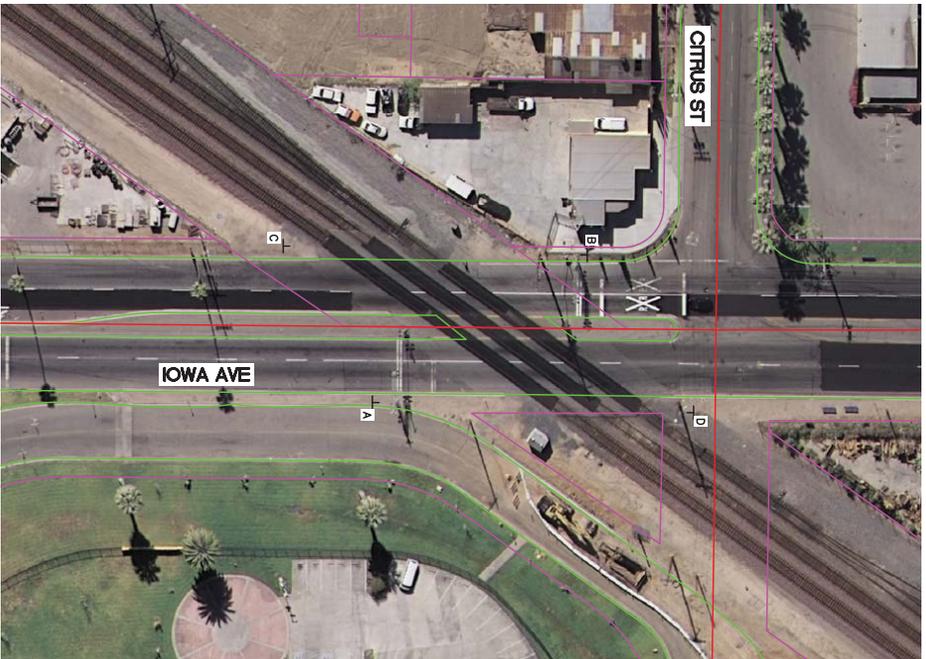


LEGEND

- 1. PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RR LIMIT LINE ON THE APPROACH SIDE)
- "x" INSTALLATION PER DETAIL "x"
- 2. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

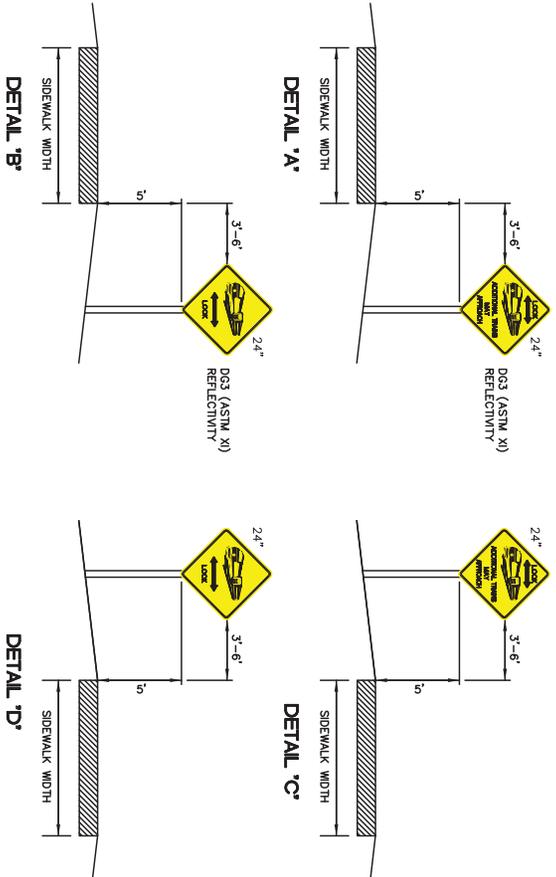
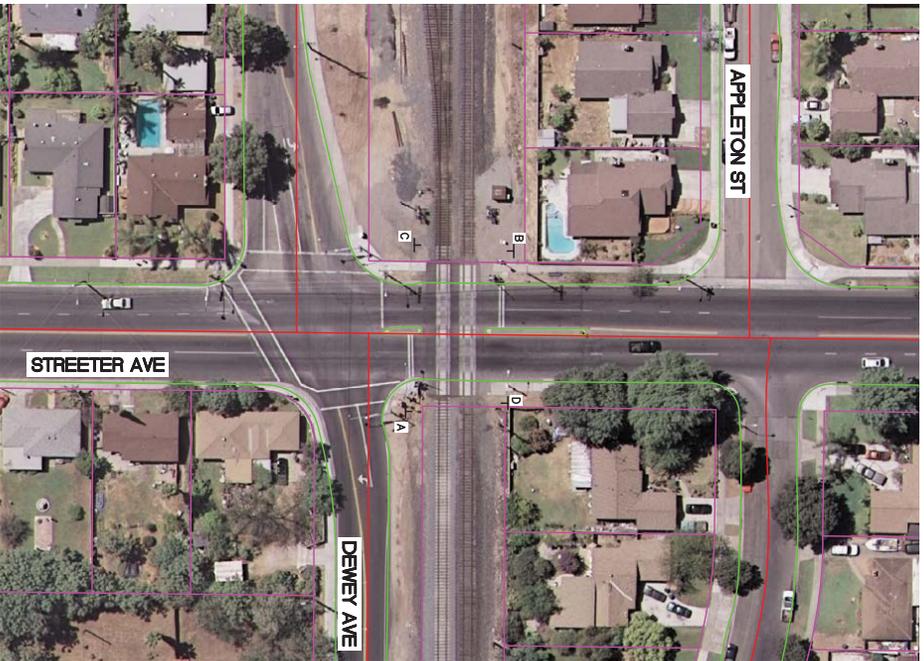


LOCATION: PALMYRITA AVENUE	
RAIL AGENCY: BNSF/UPRR	
EXHIBIT No. 18	



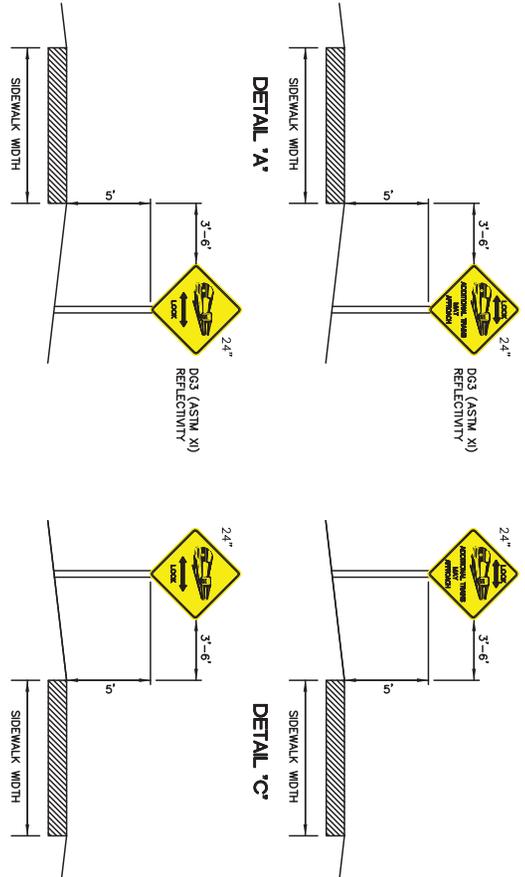
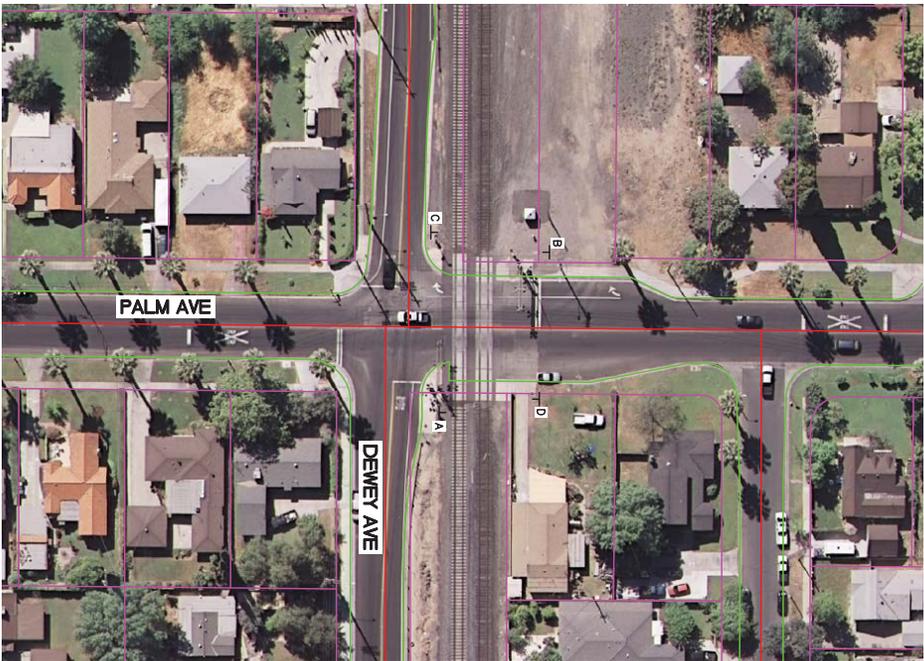
- LEGEND**
- 1. PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RAIL LIMIT LINE ON THE APPROACH SIDE)
 - "x" INSTALLATION PER DETAIL "x"
 - 2. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

LOCATION: IOWA AVENUE	
RAIL AGENCY: BNSF/UPRR	
EXHIBIT No. 19	



- LEGEND**
- 1. PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RR LIMIT LINE ON THE APPROACH SIDE)
 - *x" INSTALLATION PER DETAIL "x"
 - ∆. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

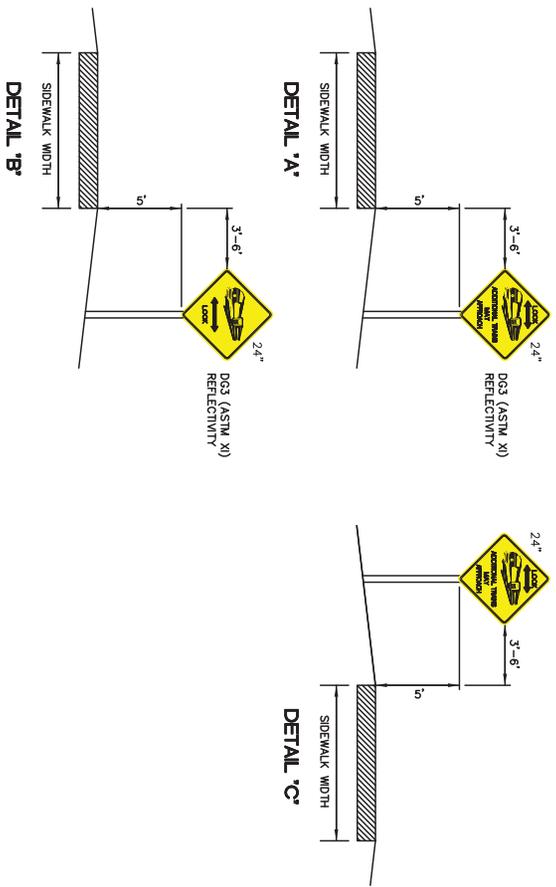
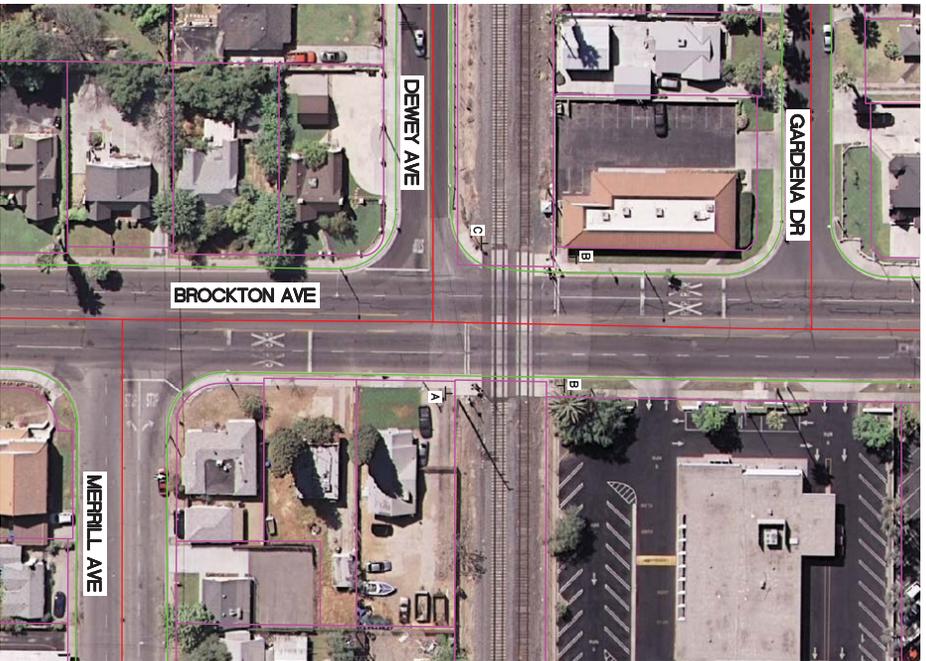
LOCATION: STREETER AVENUE	
RAIL AGENCY: UPRR	
EXHIBIT No. 20	



- LEGEND**
- ┆ PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RR LIMIT LINE ON THE APPROACH SIDE)
 - "x" INSTALLATION PER DETAIL "x"
 - △ PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)



LOCATION: PALM AVENUE	
RAIL AGENCY: UPRR	
EXHIBIT No. 21	



- LEGEND**
- 1. PROPOSED SIGN (ONE POST)
(TYPICALLY 7' BEHIND THE RR LIMIT LINE ON THE APPROACH SIDE)
 - "x" INSTALLATION PER DETAIL "x"
 - 2. PROPOSED SIGN (STRAP MOUNT TO LIGHT STANDARD)

LOCATION: BROCKTON AVENUE	
RAIL AGENCY: UPRR	
EXHIBIT No. 22	