Grade Crossing Modifications for the PVL

Appendix J presents the 10% conceptual design for grade crossings throughout the project corridor. Specific action at each crossing is subject to California Public Utilities Commission (CPUC) review. RCTC will coordinate with the CPUC to finalize the modification at each location.

No.	LOCATION	Milepost CPUC No. DOT No.	EXISTING DEVICE TYPE	GRADE CROSSING ENHANCEMENTS
1	Citrus Avenue, Riverside County and City of Riverside border	MP 0.57 002X-0.6 027301Y	2-1R	1. Install standard No. 9 flasher with gate for East Bound traffic. 2. Install standard No. 9A cantilever flasher with gate for West Bound traffic. 3. Install 72 track feet (TF) of new precast grade crossing panels for the new second track. 4. Extend crossing panels on existing track as required. 5. Install fencing along RR ROW from crossing to 100' from intersection. 6. Install ROW access control gates. 7. Install raised medians, length to be coordinated with existing adjacent driveways on NE, NW and SE quadrants. 8. Sidewalks have been constructed on the SW quadrant but no sidewalks are present east of track. Either post for no pedestrians and block with a railing or construct sidewalk across tracks. 9. Sidewalk in northwest quadrant will extend into ROW to precast crossing panel and will be provided by the new development currently under construction per an agreement between the City of Riverside, RCTC and the developer.
2	Palmyrita Avenue, City of Riverside	MP 1.00 002X-1.0 027302F	2- No. 9	1. Install two standard No. 9A cantilever flashers with gates due to restricted visibility due to power poles along curbs. 2. Install 72 TF of new precast grade crossing panels for the new second track. 3. Extend crossing panels on existing track. 4. Install fencing along RR ROW from crossing to 100' from intersection. 5. Install ROW access control gates. 6. Install median islands. 7. Review relocation of driveway to business on NE quadrant so that median island could extend to 100'. 8. Restrict street parking near crossing. 9. Provide sidewalk and pedestrian treatment across track on south side of Palmyrita to link with Station.
3	Columbia Avenue, City of Riverside	MP 1.24 002X-1.3 027303M	2-No. 1R	Columbia has been widened to 4 lanes plus bike lanes east and west of the crossing. The crossing itself is unimproved and the widening stops a few hundred feet from the ROW on each side. BNSF was in the process of installing new No. 9 for the existing tracks. 1. Crossing is to be improved outside of the project with 2 (two) standard No. 9 gates and flashing lights. 2. Install 72 TF of new precast grade crossing panels for the new second track. 3. Install fencing along RR ROW from crossing to 100' from crossing 4. Install ROW access control gates. 5. Construct median islands if not provided by others. 6. Coordinate with property owners on driveway access and channelization. 7. Construct sidewalk on north side adjacent to station. 8. Evaluate whether pedestrian gates are warranted.
4	Marlborough Avenue, City of Riverside	MP 1.50 002X-1.5 027304U	2-No. 1R	Marlborough crossing is in the process of being improved. BNSF has installed 2 (two) standard No. 9 gates and flashing lights. 1. Install fencing along RR ROW from crossing to 100' from intersection 2. Install ROW access control gates 3. Review pedestrian treatments.

No.	LOCATION	Milepost CPUC No. DOT No.	EXISTING DEVICE TYPE	GRADE CROSSING ENHANCEMENTS
5	Spruce Street, City of Riverside	MP 2.02 002X-2.02 027305B	2-No. 8	1. Install 2 (two) standard No. 9 gates and flashing lights 2. Install 72 TF new precast grade crossing panels. 3. Install raised median at least 100 feet in length east of crossing. 4. Install raised median island as appropriate west of crossing to intersection with Watkins. 5. Fencing along RR ROW from crossing to 100' from intersection 6. Install ROW access control gates 7. Reconstruct sidewalks on south side as this is a school route. 8. Route all pedestrians to south sidewalk. 9. Determine of pedestrian gates are warranted. 10. Eliminate WB stop sign to allow track clearance and stripe for WB left turn pocket at Watkins. Install medians if feasible. (Alternately signalize intersection with pre-emption)
6	West Blaine/ Watkins Drive City of Riverside	MP 2.66 002X-2.7 027307P	5-No. 9	1. Install 128 TF new precast grade crossing panels. 2. Modify existing medians to SCRRA standard length (as feasible), width, and height. 3. Reconstruct sidewalk on both sides and install pedestrian gates. 4. Install signs/paint on curb 'No Parking' on east side of crossing. 5. Review traffic study to determine is any lane changes are required. 6. Install fencing along RR ROW from crossing to 100' from intersection. 7. Modify Blaine Street and Watkins Drive traffic signal to be interconnected with track crossing. 8. Install ROW access control gates.
7	Mt. Vernon Avenue, City of Riverside	MP 3.41 002X-3.4 027308W	2-No. 9	1. Install 64 TF new precast grade crossing panels. 2. Construct sidewalk on west side only. No pedestrian gates are proposed. 3. Construct 100' median island. Coordinate with owner in NE quadrant regarding driveway access. 4. Existing No. 9 flashers and gates to remain, relamp with LEDs. 5. Install fencing along RR ROW from crossing to 100' from intersection 6. Install ROW access control gates.
8	Poarch Road, Riverside County	MP 5.02 002X-5.0 027311E	1-R	1. Close crossing except for emergency vehicle access by means of a pad-locked gate. 2. Install crossing flashers (but NOT gate arms) inside pad-locked gate. 3. Pave crossing and install new precast grade crossing panels 4. Install fencing along RR ROW from crossing to 400' from crossing 5. Install ROW Access Control Gates
9	River Crest Drive, City of Riverside	MP 7.00 002X-7.0 909090S	4-No. 9	1. Install 72 TF new precast grade crossing panels. 2. Bring medians to standard height and width. Extend medians to the intersections of River Crest Drive with Box Springs Boulevard and Fischer Road. 3. Existing No. 9 flashers and gates to remain, relamp with LEDs. 4. Install fencing along RR ROW from crossing to 100' from intersection 5. Install ROW access control gates

No.	LOCATION	Milepost CPUC No. DOT No.	EXISTING DEVICE TYPE	GRADE CROSSING ENHANCEMENTS
10	San Jacinto Avenue, City of Perris	MP 18.05 002X-18.0 027338N	1-R	1. Install two standard No. 9 flashers with gates (to be provided by others). 2. Install 80 TF new precast grade crossing panels on new track and extend panels on existing track by 40 TF 3. Construct raised medians east and west of crossing and modify driveways as appropriate. 4. Modify sidewalk to accommodate warning devices and pedestrian channelization and pedestrian gates. 5. Interconnect with traffic signal at D Street intersection for railroad preemption of traffic signal (planned project). 6. Fencing along RR ROW from crossing for 100' 7. Install ROW access control gates. 8. Coordinate with planned housing project opposite Senior Center. 9. Do not install signal as San Jacinto and C Street as other legs of intersection are dead ends. Stop control is acceptable.
11	W. 2nd Street, City of Perris	MP 18.20 002X-18.2 027339V	1-R	1. Close crossing. 2. Construct station platform at this location.
12	W. 4th Street, City of Perris	MP 18.34 002X-18.3 027340P	2-No. 9A	1. Extend medians and reconstruct to SCRRA standard height and width. 2. Install traffic signal with interconnect at South C Street and 4th Streets. Maintain WB left turn pocket at South C Street and EB pocket at South D Street. 3. Relocate existing crossing gates or replace as required. May not need median gates in new configuration. Then could use 4' island widths. 4. Install 80 TF new precast grade crossing panels for the new second track and extend existing crossing panels as needed. 5. Modify sidewalks to current pedestrian standards. Install pedestrian crossing signals and swing gates since near Station. 6. Install fencing along RR ROW from crossing to 100' from intersection on south side of crossing. 7. Install ROW access control gates on south side of crossing.
13	W. 5th Street., City of Perris	MP 18.42 002X-18.4 027341W	1-R	1. Close Crossing. 2. Install fencing along RR ROW both sides of current crossing.
14	W. 6th Street, City of Perris	MP19.03 002X-19.0 027342D	1-R	1. Close Crossing 2. Install fencing along RR ROW both sides of current crossing.

No.	LOCATION	Milepost CPUC No. DOT No.	EXISTING DEVICE TYPE	GRADE CROSSING ENHANCEMENTS
15	W. 7th Street, City of Perris	MP 19.10 002X-19.1 027343K	1-R	The crossing at 7th St. to be upgraded in conjunction with the closures of 5th and 6th streets. 1. Install 2 (two) standard No. 9 flashers with gates. 2. Construct raised center medians 3. Construct sidewalks on the north side only and block pedestrian access on south side. 4. Install 56 T.F new precast grade crossing panels for new track and extend existing panels as needed. 5. Reprofile 7th Street to match track profile including super elevation at crossing. 6. Install fencing along RR ROW from crossing to 100' from intersection. 7. Install ROW access control gates. 8. Review traffic analysis to confirm adequacy of laneage with closure of 5th and 6th Street crossings. (Stop controlled intersections at C and D streets may have to be signalized) 9. Determine need for pedestrian gates and swing gates. 10. Restrict parking within 100' of crossing. 11. Review NE quadrant driveway placements and modify as required. 12. Review proposal for private development in SE quadrant including driveway placements and modify as required. 13. OERM proposes an additional track crossing but project is not making provisions for this.
16	South D Street., City of Perris	MP 19.17 002X-19.2 027347M	1-R	1. Install two standard No. 9 flashers with gates. 2. Install medians at least 100 feet in length. 3. Install 64 TF concrete new precast grade crossing panels for new track. 4. Channelize Commercial Street for Right turns only. 5. Reprofile D Street to match track profile including superelevation at crossing (7 degree curve). 6. Construct sidewalk on east side of D Street from across RCTC ROW. Direct pedestrians to this side. 7. Fencing along RR ROW from S. Perris Blvd. to 100' north of intersection 8. Install ROW access control gates
17	S. Perris Street, City of Perris	MP 19.37 002X-19.4 027348U	1-R	1. Install two standard No. 9 flashers with gates. 2. Install 80 TF of new precast grade crossing panels. 3. Raise power line (RR East) 4. Close State Street and construct cul-de–sac with median islands. Construction cul-de-sac on State. 5. Channelize Alley for right turn out only. 6. Construct raised medians on S. Perris St. 7. Construct sidewalk at crossing. (No Ped gates.) 8. Install traffic signal at Case/11th Street and S. Perris Blvd. with interconnect to RR. 9. Install fencing along RR ROW from 7th Street to crossing and to 100' south of crossing. 10. Install ROW access control gates.

No.	LOCATION	Milepost CPUC No. DOT No.	EXISTING DEVICE TYPE	GRADE CROSSING ENHANCEMENTS
18	G Street, City of Perris	MP 19.68 002X-19.7 027349B	1-R	1. Install 80 TF of new precast grade crossing panels on existing track. 2. Install two standard No. 9 flashers with gate signal devices. 3. Install 80 TF concrete grade crossing 4. Regrade G Street to smooth profile. 5. Widen roadway at crossing to allow for median islands. 6. Install traffic signal at the adjacent intersection with Case Road and interconnect with railroad signal system. 7. Install fencing along RR ROW from crossing to 100' from intersection 8. Install ROW access control gates.
19	East Ellis Avenue, City of Perris	MP 19.87 002X-19.9 027350V	1-R	Crossing closure is not feasible as no other public egress to Case Road is available. Future development would analyze and potentially improve the crossing including reducing the angle of the crossing. Project Design Improvements are to include: 1. Install two standard No. 9 flashers with gates. 2. Install 96 TF of new precast grade crossing panels on existing track 3. Install fencing along RR ROW from crossing to 100' from intersection 4. Install ROW Access Control Gates 5. Install raised medians with, length to be coordinated with existing adjacent driveways on NE, NW and SE quadrants. 6. Fencing along RR ROW both sides of current crossing. 7. Install stop signs on Case Road to allow free flow of traffic across the tracks without stopping. (Alternately would require a traffic signal with RR pre-emption.)
20	Mapes Road, City of Perris	MP 21.59 002X-21.6 027352J	2-No. 8	1. Relocate track crossing as required for station design and access. 2. Install two standard No. 9 flashers with gate at crossing. 3. Install 96 TF new precast grade crossing panels 4. Install raised medians in advance of crossing as appropriate. 5. Install ROW Access Control Gates. 6. Install fencing along RR RO.W from crossing to 100' from intersection and through station platform 7. Design intersection for heavy truck traffic from Case Road to freeway via Mapes.
21	Villa Street Riverside County and City of Riverside border	MP 0.40 002X-0.4 027300S	Bell	1. Install two standard No. 9 flashing signal devices. (No gates) 2. Re-grade area for better visibility.

NOTE:

Possible track changes through the City of Perris that have been proposed by others outside this project and are not depicted as these have not been confirmed. Some track realignment of the Orange Empire Railway Museum track is expected which could affect the track location and crossing improvements.