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DATE: July 16, 2024

County Project No. C21901

Yoash Tiles, PE
Department of Public Infrastructure
County of Sonoma
2300 County Center Drive, Suite B100
Santa Rosa, CA 95403

Subject: **Responses to Questions for Public Circulation of Asti Permanent Bridge Construction Project over the Russian River IS-MND**

Dear Yoash:

Please find attached, for review and circulation, TRC's responses to questions received during the public circulation of the Asti Permanent Bridge Project IS-MND.

Sincerely,

Mark J. Christensen, PE, MBA
Senior Project Manager

Julie Dilley and Neighbors' Questions:

The following questions came from Julie Dilley (Parcel 12) and three neighbors to the north of her. The locations of their parcels are identified below in Figure 1.

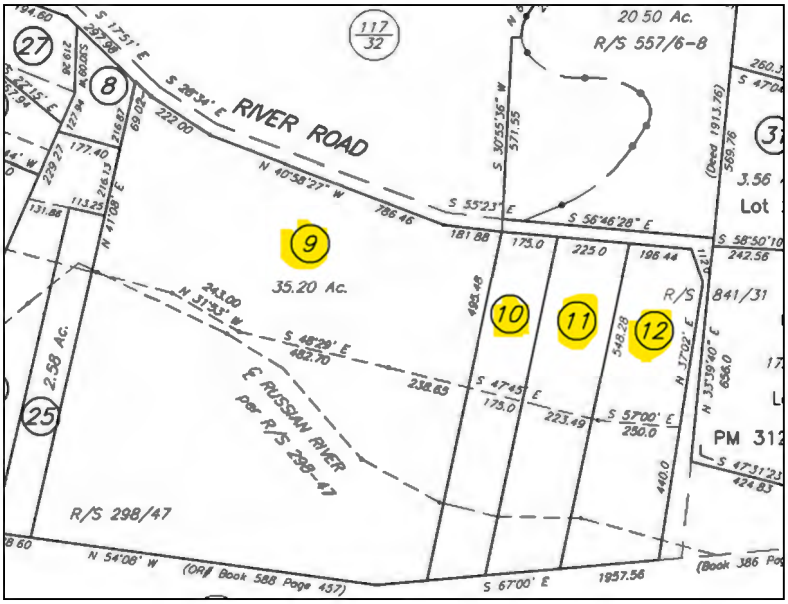


Figure - 1 Parcel Locations

1. Flooding

Recent floods have resulted in standing water on these parcels. The following questions were asked.

Questions:

a. *"We are concerned that the levee and the retaining wall on the parcel South of us (will) cause the water to back up onto our properties. This is the parcel where the bridge will be placed. In the IS/MND more retaining walls are discussed. Where will they be and will they cause more water to back-up onto our properties?"*

Response – The existing wall and levee on the Sciaini property would remain. A new retaining wall would also be constructed along the bridge approach along Washington School Road. Because the project would open up the river channel, reduce constrictions and increase the clear area for water passage in the river, these features and the project would not cause more water to back up onto your parcels. This was verified in the hydraulic models discussed below. Please refer to the section below titled "HEC-RAS River Analysis – Existing Condition/Post Project Condition.

b. *"During the winter months of 2023/24 with all of the gravel movement in the river another island appears to be forming at the same location as the temporary bridge. If this continues to build up will this cause more flooding on our properties?"*

Response – With the existing seasonal crossing removed, the river channel would be less constricted (as described above), which should reduce the buildup of

gravel. However, a detailed response to the question would require a sediment transport analysis of the Russian River, which is beyond the scope of the bridge project.

c. *"It is a major concern that a bridge with new foundations in the river and the proposed retaining walls will cause even more changes to the flow of the river causing potential flooding on our properties."*

Response – As discussed in responses a and b above, the proposed bridge project would remove the seasonal crossing and open up the channel as described above, which would reduce water surface elevations upstream of the bridge and maintain water surface elevations downstream of the bridge when compared to the existing condition. Please refer to the section below titled "HEC-RAS River Analysis – Existing Condition / Post Project Condition."

d. *"What will the county do to prevent the massive flooding we experienced in 2019?"*

Response - While the proposed project would improve the hydraulics and water surface elevations in the river, it is beyond the scope of the bridge project to address flood control on the Russian River.

2. Bicycle Lanes

Question - Bike Lanes should not be included on the new bridge. River Road cannot handle more bicyclists.

Response – AASHTO design code requires that shoulders be included adjacent to the bridge travel lanes. Per the California Vehicle Code (CVC) Section 21200, these shoulders and the traffic lanes are legally acceptable for use by bicycles.

The project is not expected to increase bicycle use on Washington School Road as there is not a north end destination, however, the project would more safely accommodate existing riders.

3. Bridge Design

Question - Photos 11 and 13 show a bridge with low open sides which allow the people in the cars to see the whole riverbed. This is important and it is aesthetically pleasing.

Response - Thank you. This design feature will be maintained.

HEC-RAS River Analysis – Existing Condition / Post Project Conditions

The project site has been analyzed using the USACE Hydrologic Engineering Center's HEC-RAS River Analysis System software, which is the industry standard for this type of project. Flows were determined for the 100 year storm event from FEMA data and a model was developed for the existing river condition with the existing ASC topography and again modeling the proposed bridge with the ASC removed. The numerical and graphical results of these models are presented below. The project would lower the water surface elevation (WSE) upstream of the bridge and maintain WSE downstream, as required by FEMA. Regarding the spread of the

flood, the extents of the floodwaters with the project would be slightly less than the existing flood, thus improving conditions for the properties in question (see figures below).

River Station	Description/Distance from Existing Structure Centerline (ft)	WSE (ft)		Difference in WSE (ft)
		Existing	Proposed	
		[1]	[2]	[2] - [1]
16347	5,711 feet upstream	274.7	274.6	-0.2
15511	4,875 feet upstream	273.6	273.3	-0.2
14724	4,088 feet upstream	272.8	272.5	-0.3
13922	3,286 feet upstream	272.3	271.9	-0.4
13216	2,580 feet upstream	271.9	271.4	-0.5
12444	1,808 feet upstream	271.2	270.7	-0.6
11705	1,069 feet upstream	270.8	270.2	-0.6
11297	661 feet upstream	270.3	269.5	-0.8
10880	244 feet upstream	269.1	268.0	-1.0
10658	22 feet upstream	268.5	267.3	-1.2
10651 BR U	Upstream face of existing low flow seasonal crossing	268.5	--	--
10651 BR D	Downstream face of existing low flow seasonal crossing	265.9	--	--
10651 BR U	Upstream face of proposed bridge	--	266.8	--
10651 BR D	Downstream face of proposed bridge	--	266.0	--
10524	112 feet downstream; proposed pier	265.9	265.8	-0.1
10330	306 feet downstream; proposed pier	265.7	265.7	0.0
10060	576 feet downstream; proposed pier	265.3	265.2	0.0
9801	835 feet downstream; proposed abutment	264.8	264.8	0.0
9640	996 feet downstream	264.5	264.5	0.0
9039	1,597 feet downstream	263.2	263.2	0.0
8442	2,194 feet downstream	262.7	262.7	0.0

Notes:
BR U: Upstream face of structure
BR D: Downstream face of structure

Figure 2 - Numerical Results of HECRAS Modeling for 100 Yr. Event

Figure 11. Upstream Face of Existing Low Flow Seasonal Crossing, Looking Downstream (Southeast)

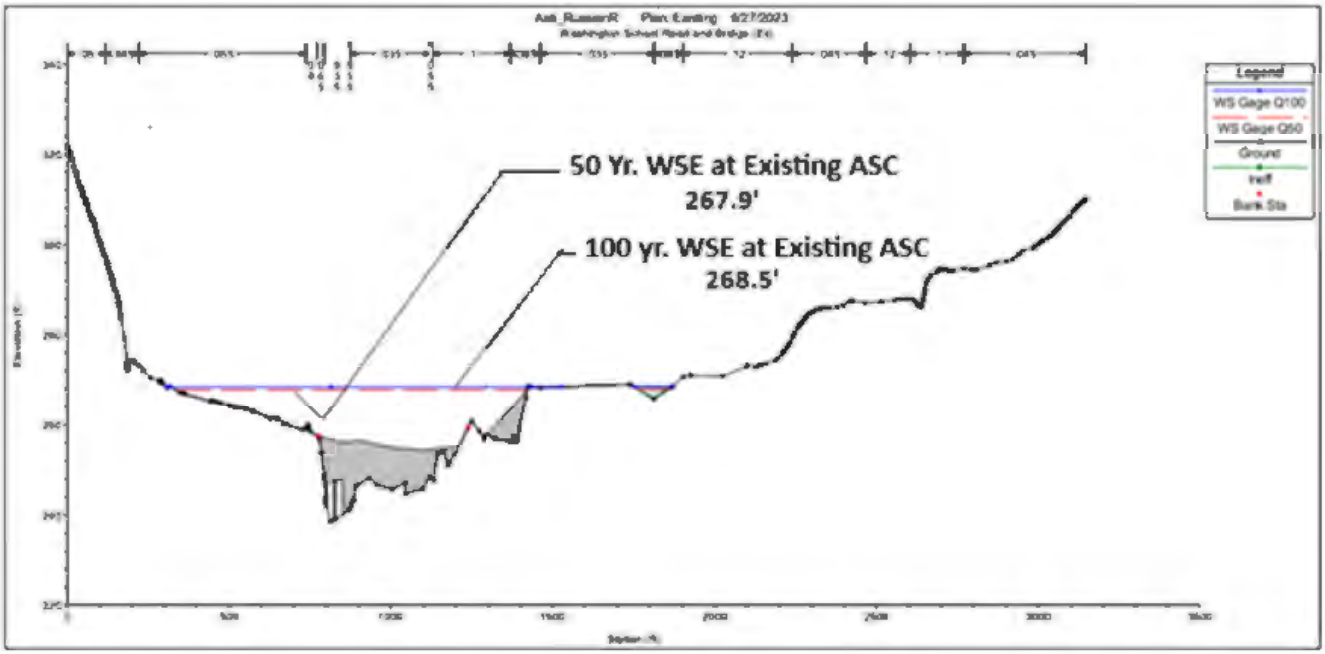


Figure 3 - 50 Yr. and 100 Yr. WSE at Existing ASC

Figure 12. Upstream Face of Proposed Bridge, Looking Downstream (Southeast)

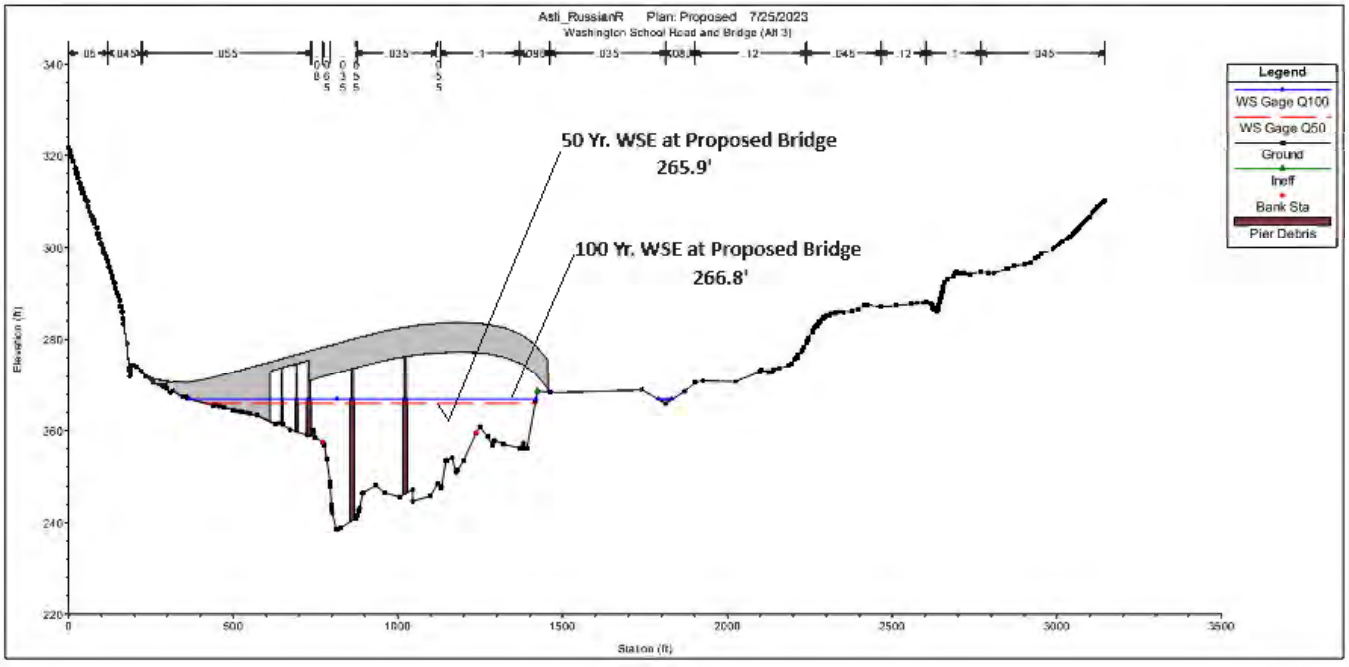


Figure 4 - 50 Yr. and 100 Yr. WSE at Proposed Bridge

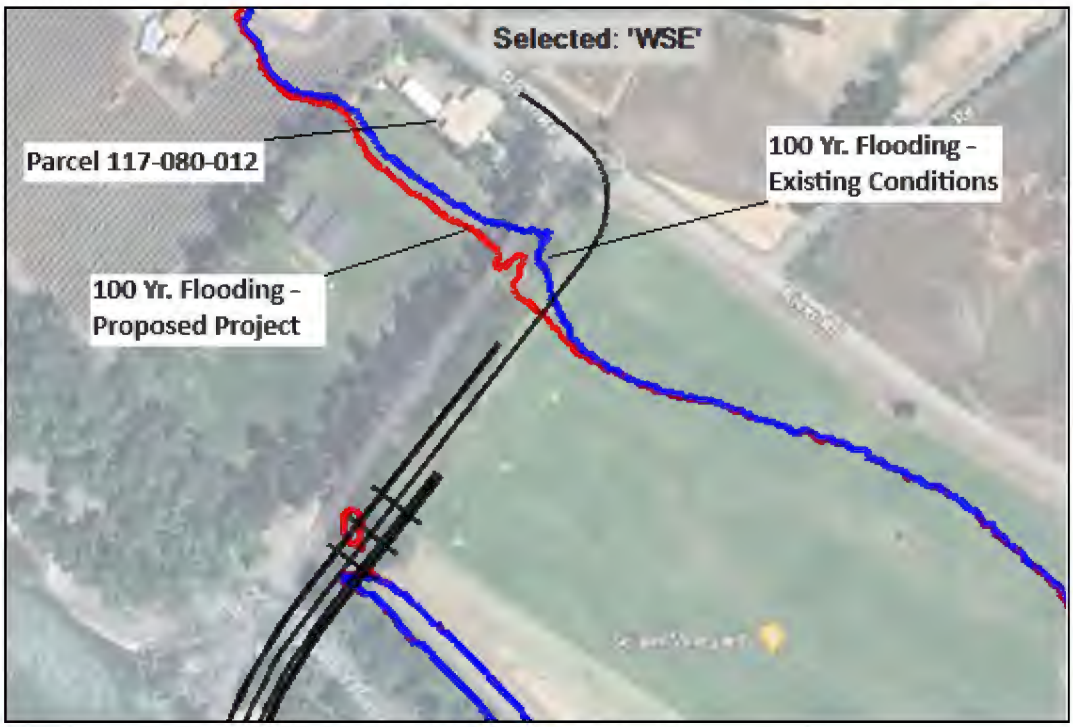


Figure - 5 Estimated Extents of Flooding

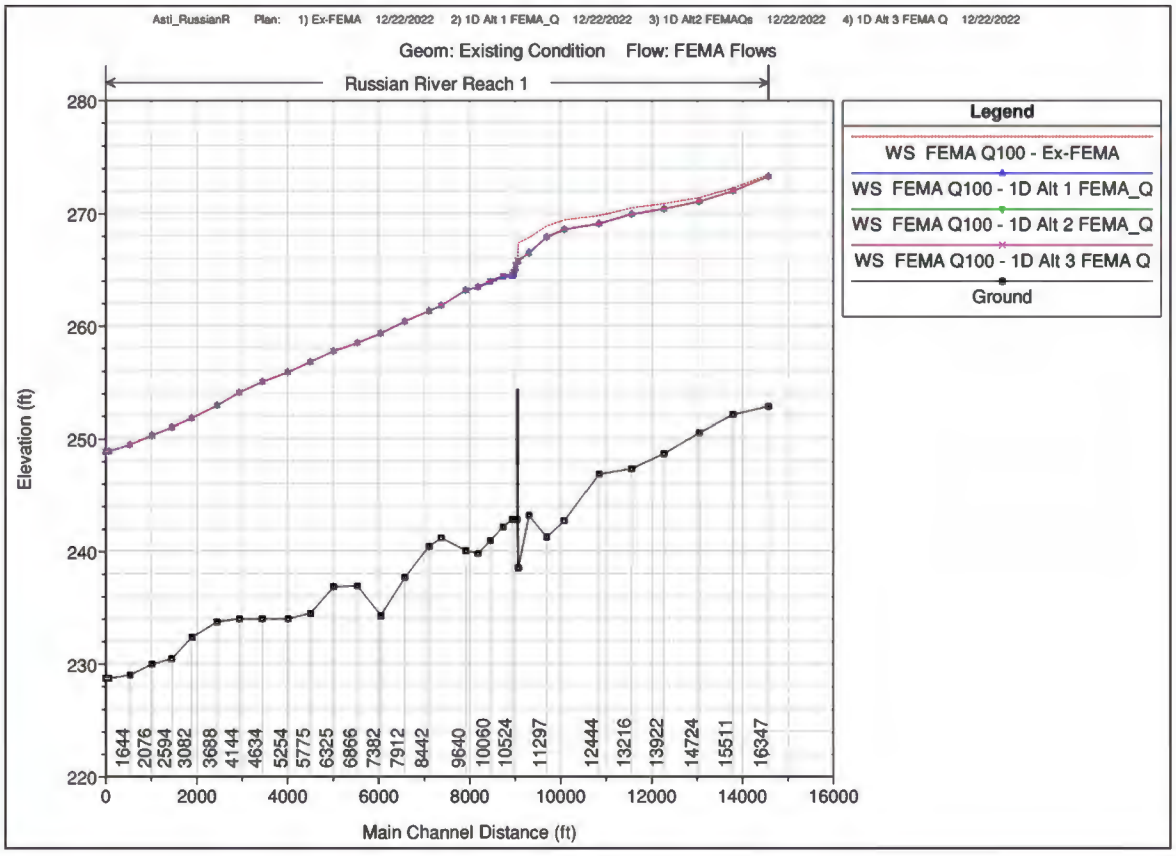


Figure 6 - Profile Existing and Proposed Project WSE Profiles

Figure 7 – Flood Extents, Parcel 117-080-012 – Existing Conditions

Figure 8 – Flood Extents Parcel 117-080-012 – Proposed Conditions

Caltrans Local Development Review

The following question came from Yunsheng Lou, Branch Chief, Local Development Review, Office of Regional and Community Planning.

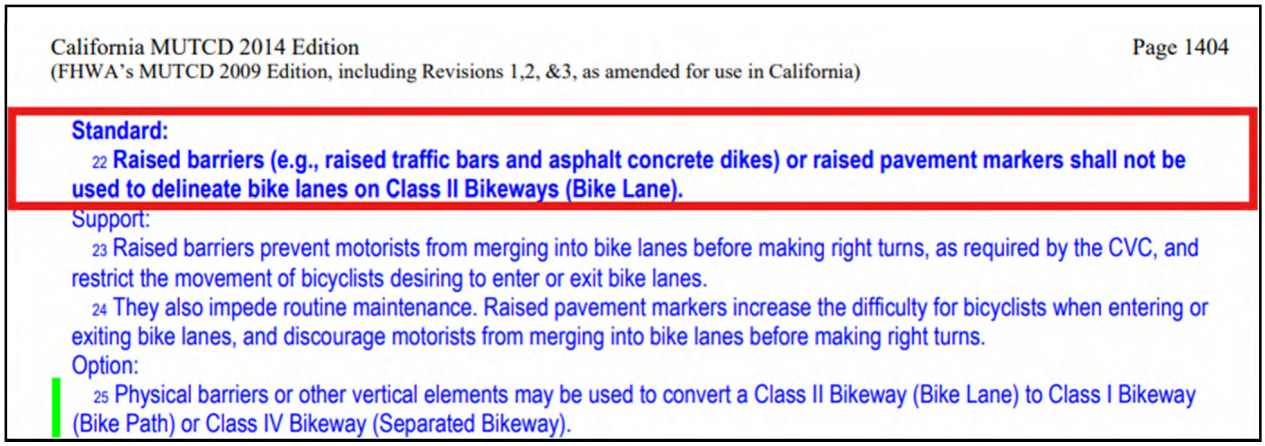
Question – Please indicate the expected speed on the bridge. If the expected speed on the bridge would be in the lower range of 30-40 miles per hour, a vertical separation between the bike lanes and vehicular travel lanes would be recommended to reduce level of traffic stress for cyclists.

Response – The design speed for the bridge and approaches is 30 mph.

The proposed project was developed using 5 foot shoulders on the bridge structure, acceptable for use by bicycles, adjacent to the 11 foot travel lanes and a 6.17 foot raised sidewalk on the east side for pedestrians. The approaches would consist of the two 11 foot vehicle lanes and 5 foot paved shoulders that would be used by bicycles and pedestrians.

Due to the low design speed (30 mph) and low ADT (Current (2022) 1700 VPD/Future 2400 VPD (2040)), a vertical separation is not required to separate the bicyclists from the traveled way and is in violation of the California Manual on Uniform Traffic Control Devices MUTCD.

As noted in the California MUTCD 2014 Edition:



California MUTCD 2014 Edition
(FHWA's MUTCD 2009 Edition, including Revisions 1,2, &3, as amended for use in California)
Page 1404

Standard:

22 **Raised barriers (e.g., raised traffic bars and asphalt concrete dikes) or raised pavement markers shall not be used to delineate bike lanes on Class II Bikeways (Bike Lane).**

Support:

23 Raised barriers prevent motorists from merging into bike lanes before making right turns, as required by the CVC, and restrict the movement of bicyclists desiring to enter or exit bike lanes.

24 They also impede routine maintenance. Raised pavement markers increase the difficulty for bicyclists when entering or exiting bike lanes, and discourage motorists from merging into bike lanes before making right turns.

Option:

25 Physical barriers or other vertical elements may be used to convert a Class II Bikeway (Bike Lane) to Class I Bikeway (Bike Path) or Class IV Bikeway (Separated Bikeway).

Note: *The 11th Edition of the MUTCD was published on December 19, 2023, and is effective as of January 18, 2024. Per 23 CRF, California will have a 2-year period through January 18, 2026, to have a revised CA MUTCD in substantial conformance with the National MUTCD. California will continue to use the CA MUTCD 2014 Revision 8 during the 2-year period.*

In addition, adding a vertical separation would change the bike lane from Class 2 to Class 1, which would require substantial changes to the bridge and approach design that are not justified given the design speed and low ADT.

- Adding this separation would negatively impact the bridge design by:
    - Requiring the bridge to be widened considerably to provide width for the separator and width for additional shoulders between the separator and the traffic lane on each side of the bridge (bicycles are required by California Vehicle Code to ride in the direction of traffic VEH 21650) so separators would be required on both sides of the bridge. Widening the bridge would also require revising the bridge and approach horizontal and vertical alignment and re-running the

hydraulic models used to model the proposed condition, which were completed in 2023.

- Requiring additional right of way to provide for a Class 1 bikeway along both the north and south approaches.

- Impacting jurisdictional waters that have been carefully avoided along the approach to the south.

Based on the above discussion, it is recommended that these separators not be added to the proposed project.

- The Sonoma County Bicycle and Pedestrian Plan website, which can be found here: (https://www.permitsonoma.com/longrangeplans/adoptedlong-rangeplans/bicycleandpedestrianplan)
  indicates that a Class 1 bikeway is proposed along the Sonoma-Marin Area Rail Transit District (SMART) right of way (see Figure 10 further below) just south of the project limits and a Class 2 bike lane is proposed for Asti Road from Cloverdale to Healdsburg. These routes would be the preferred route for bicyclists riding along the Russion River. Providing a Class 1 bikeway across the bridge could encourage riders to travel over the new bridge to River Road, which is very narrow (9.5 foot lanes and 0 foot to 1 foot shoulders, see Figure 9 below) for cyclists.

Figure 9 - Road near Washington School Road

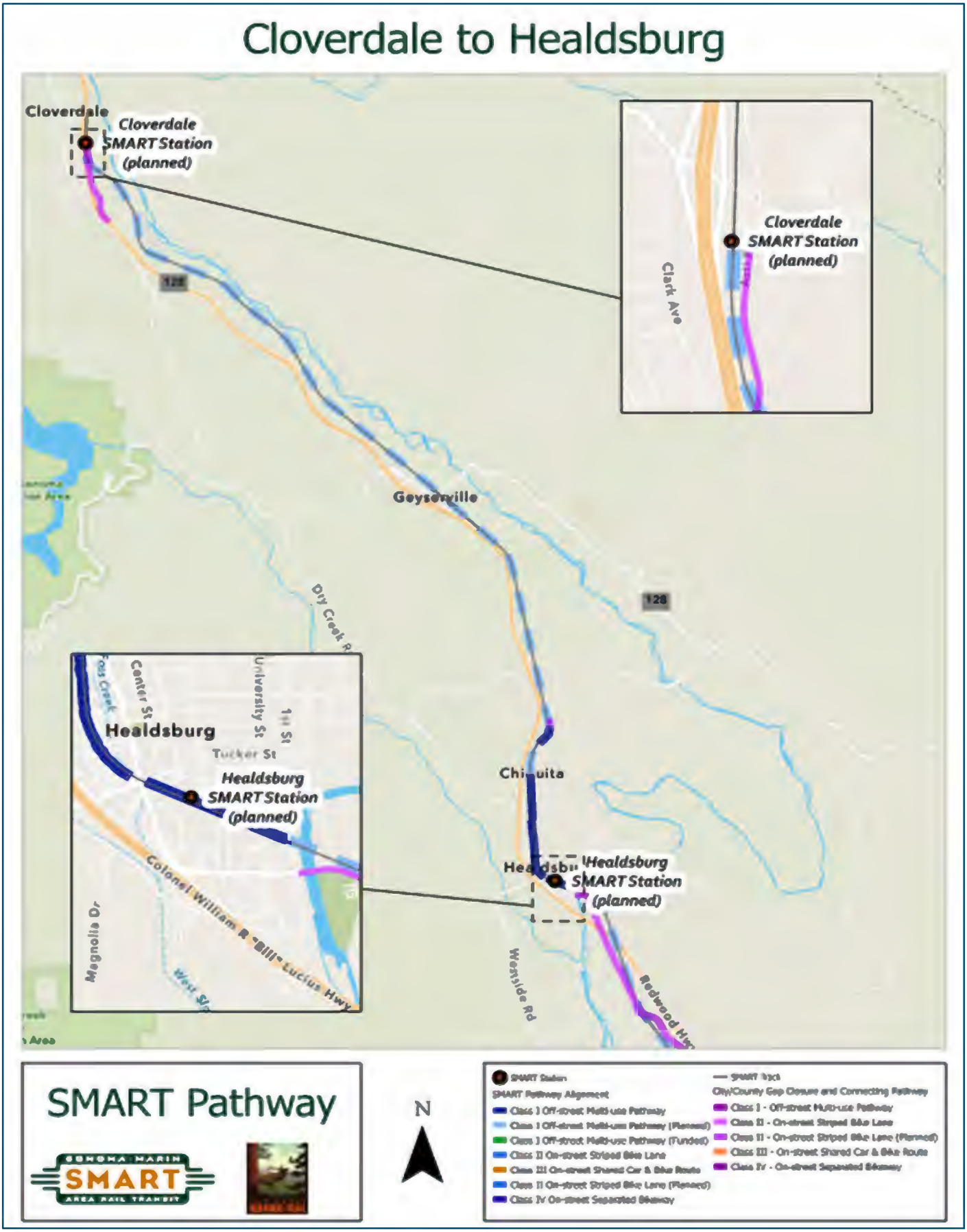

Cloverdale to Healdsburg
Cloverdale
Cloverdale SMART Station (planned)
Clark Ave
Geyserville
Dry Creek R
128
Healdsburg
Center St
University St
1st St
Tucker St
Foss Creek
Healdsburg SMART Station (planned)
Chiquita
Healdsburg SMART Station (planned)
Westside Rd
Redwood Hwy
Magnolia Dr
Colonel William R "Bill" Lucius Hwy
SMART Pathway
SONOMA MARIN SMART AREA RAIL TRANSIT
N
SMART Station
SMART Pathway Alignment
Class I Off-street Multi-use Pathway
Class I Off-street Multi-use Pathway (Planned)
Class I Off-street Multi-use Pathway (Funded)
Class II On-street Striped Bike Lane
Class III On-street Shared Car & Bike Route
Class II On-street Striped Bike Lane (Planned)
Class IV On-street Separated Bikeway
SMART Track
City/County Gap Closure and Connecting Pathway
Class I - Off-street Multi-use Pathway
Class II - On-street Striped Bike Lane
Class II - On-street Striped Bike Lane (Planned)
Class III - On-street Shared Car & Bike Route
Class IV - On-street Separated Bikeway

Figure 10