

Mayor Elizabeth Patterson and

Benicia City Council

City of Benicia

250 East L Street Benicia, Ca 94510

Dear Mayor Patterson and Benicia City Council:

I am a licensed Civil and Structural engineer in California practicing engineering for the last 37 years and I have been a Benicia resident for more than 35 years. I submitted my written and verbal comments regarding this project on February 10, 2016 at the planning commission hearing. There was some discussion of my comments at the planning commission hearing of February 11, 2016 with Valero, ESA consultants and City Staff responding to some of the issues raised by me. Here is a link to the February 11 hearing video (there is no transcript of that hearing available yet): http://benicia.granicus.com/MediaPlayer.php?view_id=1&clip_id=10

Below I summarize my comments that were previously submitted, along with my paraphrasing of some of the Valero, ESA, and City Staffs' responses and my final clarifying notes to wrap up the discussion. These sections are prefixed with **R** and **RC** for clarity, and have different font color.

1. From a Land Use and City Planning point of view, we do not understand the advisability of the City Planning Department decision to permit Valero to do major work and construct permanent structures and tracks to receive railroad cars filled with hazardous material, day in day out all throughout the year, so close to the property line and the Sulfur Spring in a flood zone, on downstream of a dam (lake Herman) and in the process reducing the existing setback to the property line and top of a stream and eliminate and/or drastically degrade service road access over 3655 feet of the property (see below for detailed discussion). If you want an example of bad City Planning, this is one.

See items 3-8 for further discussion.

2. Presently, there is a 20 feet wide service road all along the interior perimeter of Valero property, specifically all along the top bank of the Sulfur Spring at the north-east side of the property. This service road not only provides easy access for inspection, security, fire suppression, and hazardous spill containment from entering the Sulfur Spring but also helps to contain flood in the Sulfur Spring from entering structures and other improvements on the Valero property. This road also increases the setback and buffer zone available for the properties to the east of Valero site across the Sulfur Spring.

See items 3-8 for further discussion.

3. The proposed CBR project eliminates this service road and builds a railroad track in its place where a 50 car train could be parked over extended period of time every day and night, 365 days a year. Valero proposes to construct a 1900 feet partial replacement service road 60 feet away and parallel to the present road on its south-east (Figure 3-3 of DEIR enclosed at the end of this letter). Along this segment (Section B-B of Figure ES-3 of DEIR) there will be a substantial degrading of emergency vehicle access to the eastern most train (departure track) and the middle train, as well as the Sulfur Spring. Along the remaining 1755 feet segment (Section A-A of Figure ES-3 of DEIR) there is actually no emergency vehicle access at all where potentially up to 5 trains could be in an emergency situation with no access to them or to the Sulfur Spring banks to contain any hazardous spill or suppress fire/explosions.

We note that both Valero proposal, and DEIR which basically cuts and pastes Valero's proposal in their DEIR, fail to mention this major change and its implications when they describe the key component of the project (see page 2-6 of DEIR). We can understand why Valero might not want to emphasize this negative point by discussing the degradation of accessibility and fire/flood protection when they apply for permit, however, we are at a loss why the City Planning department and the City consultants in charge of EIR, who are the technical parties with the responsibility of clarifying ramifications of the proposed project, failed to do so.

3R:

Benicia fire chief responded that Avenue A will be still available for vehicular access if there are no trains parked there. He also mentioned if there are trains parked there they could access the trains via alternate roads, and that works for him. He added that he might not necessarily want to drive right along any train (i.e. Avenue A) anyway. He mentioned that he will not necessarily access the refinery through Park Road entrance and he will access it through the Second Street entrance.

Regarding making upright any tanker car that is tipped over after a jolt, the fire chief said it is not done by the City Fire Department, and it is done by other specialty contractors and he was not sure how it is exactly done.

Regarding any spill into creek and using booms or other measures to stop the spill, he said he does not need vehicles to install protection measures; it can be done on foot.

3RC:

I understand that the Benicia Fire department will do its utmost in any fire, in spite of adverse site conditions and structural obstacle. However, this is not the point for us now during decision making and planning stage for the future configuration of the refinery. At this stage, our task is to give the Benicia as well as Valero fire departments the best configuration possible for ease of access, direct access, visible access, reliable access, having multiple and redundant access roads. Please be reminded that the stated reason for Valero to want to do this project is NOT that it is losing money now or that it cannot get enough crude via pipelines and marine transport. Valero's main reason is that it wants to have more OPTIONS more CHOICES. Therefore, we do not understand why City of Benicia (and consequently residents and other businesses) have to live with fewer OPTIONS and CHOICES, or with degraded and worse OPTIONS and CHOICES in the future compared to now. We should not have to rely on good luck and hard work of our fire fighters only in future fires. We should also demand to have

OPTIONS and CHOICES (to use vehicles or do it on foot when installing spill containment equipment along the creek at avenue A; whether to use Park Road or Second Street for access, etc.)

Regarding any tipped over train car that requires making it upright, we are not sure why an important scenario like this is not discussed in the EIR and the consequences, procedures, and responsibilities clearly identified.

Finally we would like to mention that we could not find in the EIR any mention that the EIR has actually checked the revised configuration of the refinery with the trains loading dock and berms and storage tanks in the new and more dense configuration and have found that the dangers of fire at any location jumping to other locations is not a concerns for this new and denser arrangement.

4. Benicia Municipal Code Section 17.70.340 Stream setbacks requires:

All development shall be set back a minimum of 25 feet from the top of the bank of streams (both seasonal and perennial) and ravines. No development shall be permitted within the setback. (Ord. 01-6 N.S., 2001).

Obviously the proposed departure track violates this along 3655 feet of its length parallel to Sulfur Spring. There is no mention in the EIR if Valero has applied for and/or received a variance from the City for this non-compliance.

4R:

Ms. Million responded that the project has to comply with all the City Ordinances, and the 25 foot setback is required and has to be complied with in the final project configuration and if it does not then the project will not be issued a permit. However, she then claimed that all the drawings in the Valero submittals are all preliminary and in her word are “architectural” [sic], and the real official drawings will be submitted for review and approval before construction.

4RC:

We find this strange that checking of the setback requirements are pushed to the final stage, more than 3 years after the beginning of the project, and after thousands of pages of documents produced and thousands of hours of staff time, consultants time, Valero's team time, and the general public' time spent on a project that might not be buildable.

City of Benicia Municipal Code's section regarding the setback is very brief. This might cause ambiguity for some as to what really constitutes a "development", and what is the meaning of "top of the bank"? That is why I have enclosed at the end of this letter similar provision for the City of Santa Rosa, where "development" is defined in detail, and "top of the bank" geometry is graphically defined in sketches. Please note that roads and walls are defined as development and are prohibited in the setback. Also please note that the top of bank definition requires drawing a 2.5 to 1 line from toe of the stream bank to the ground surface.

Also please note that the soil in this area is subject to large lateral and vertical movements, as well as the heavy weight of crude carrying train cars and subsequently the heavy pressure on the soil. This makes any ground failure that much more critical and likely. The departure track is theoretically used by empty trains and therefore lighter than train cars filled by crude. However, there is no guarantee for this to be the case all the time and no way to verify that Valero or other owners in the future will never have trains with full cargo loads on "departure" track.

Finally we note that none of the drawings that Valero has submitted includes a true sectional view of the Sulfur Spring creek in sufficient detail and extent to make it possible to establish clearly top of the bank and the setback distance on the plans. This shortcoming of the Valero documentations should have been brought up by the City Staff and ESA consultants and they should have commented on the setback requirements.

5. We do not see any berm/trench or other mechanisms that are proposed by Valero to contain potential hazardous spills from the parked railroad cars and stop them before they enter the Sulfur Spring. Please be reminded that these railroad cars will be like permanent fixtures at this location, since the process of arrival-unloading-departure will be continuous on a 24 hour basis every day of the year. The omission of berm/trench becomes more critical due to violation of the required setback from the stream banks discussed above. We also note that both Sections A-A and B-B on Figure ES-3 of DEIR show the proposed finish grade sloping down from the new tracks toward the Sulfur Spring and thus directing any contamination or spill into the Spring. This appears to be a violation of environmental regulation that has not been addressed in the Valero proposal or in the EIR.

5R:

Valero representative testified that there is a 3 foot high retaining wall at the top of creek (the east edge of the departure track road) that will stop the trains from tipping over and will also contain the spill from falling into the creek.

5RC:

We note that there are no retaining walls or barriers at this location on the drawings that we have seen. The latest drawing available (Dwg 89413, revision 01-08-16) in Sections A-A or D-D shows only an 8 inch high curb. Moreover, given the trains size and weight, we do not believe a 3 foot high wall will stop a train from tipping over. (See the attached Section A-A, where we have shown a 3 foot high wall and it is apparent even to non-engineers that this not a serious solution to prevent train tip over.

Moreover, we note as discussed above in part 4, construction of the train tracks as well as the “protective” retaining walls are not permitted in this Setback area.

Finally, we note that this area according to the EIR and geotechnical reports for the subject project will be subjected to ground failure by lateral spreading of up to 39

inches, fissures of 6 inches and settlements of several inches. The only mitigation mentioned in the EIR is to design the railroad ties to accommodate these deformations. Frankly due to lack of details of construction and detailed design criteria, we are not sure how the tracks, loading racks, underground pipes and storage for the spill will behave under stresses and deformations imposed on them by the surrounding soil. If these systems fail, the promised protections against spill after such ground failure cannot be kept.

6. DEIR Section 4.8-6 discusses flood hazard. In the middle of the paragraph it relies on the following reasoning to belittle impact of the flood since it claims that “the facility is not occupied by humans”:

Further, the Project elements are not habitable structures for human occupancy.

The author of DEIR is reminded that the Valero parking of railroad cars, unloading, and departure of the cars are done by human beings and not robots. Moreover, since these operations are done on a continuous basis, the probability of workers being at this location at all hours day and night is very high. We do not understand why the workers are not classified as occupants here.

6R:

ESA Consultant response was that this is not a habitable occupancy like a house or office, since presumably nobody sleeps in it or perhaps since it is not enclosed with walls and roof or some other reasoning.

6RC:

Again our point was and is that since there are workers in this area more or less continuously day and night every day of the year, then this area is more akin to a house in terms of continuous occupancy and human presence than a warehouse or storage room.

7. DEIR Section 4.8-7 discusses Dam safety and its effect on this project. Section 4.8-7 of DEIR relies on the following reasoning to dismiss the effect of potential dam failure:

However, all dams are routinely inspected and evaluated for seismic integrity as overseen by the California Division of Safety of Dams (DSOD). When a dam is found to have a failure potential, the water level behind the dam is reduced to allow for partial collapse without loss of water as required by DSOD (ABAG, 2013). Thus, the probability of dam failure resulting in significant loss, injury, or death is low (ABAG, 2013). Given the low risk of dam failure, and because the proposed facilities would be designed to withstand natural hazards, potential impacts related to dam failure are considered less than significant.

If the project was an existing structure and we were evaluating its risk profile, then the above reasoning has some merit. But this project does not exist yet. It is only being proposed. We do not know the state of dam safety program ten or twenty years in future and we do not know for certain all different scenarios that might result in dam failure. For example, Lake Herman fault is mentioned in the report but is dismissed as being a not active fault. But how confident are we about this issue? Therefore, it is advisable that we do not act with bravado as if daring the nature by building hazardous facilities in a flood zone downstream of a dam. We recommend practicing prudence in City and Land Use planning and change location of the project. It is not as if we are under the gun and have to approve the project in its present location no matter what.

7R:

ESA Consultant response was that CEQA guidelines prohibit considering items that were of concern and mentioned by me.

7RC:

It appears everybody is counting on other entities and agencies to take care of everything else perfectly even when one has made a very unwise and risky overall

decision to do a project a certain way. This is similar to the reasoning that train related issues are preempted, since federal government is taking care of it perfectly well; or dam safety concern is not warranted since presumably DSOD is taking care of it adequately; or building safety is not to be a concern, since CBC is taking care of it. My point is that as users and neighbors of a project that have to live with it, we should not abdicate our own responsibility to choose wisely and we should not blindly trust most decision makings to others.

8. DEIR and final EIR discussions of structural issues and building code are full of platitudes and short of substance. There are so many errors in the reports that it leads me to doubt the author's knowledge of the subject matter, which leads me to lose confidence in their discussion of other subjects such as probabilities, risks, environmental impacts, .etc. Below, I will paste some portions of reports with the errors highlighted to illustrate my point. For instance, DEIR Section 4.5-11 second paragraph from top says:

The 2013 CBC is based on the 2009 International Building Code. In addition, the CBC contains necessary California amendments that are based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements...

The first sentence is erroneous, since any building official, structural/civil engineer, or even architect knows that the 2013 CBC is based on 2012 International Building Code. The second sentence is also erroneous, since again professionals with elementary knowledge of the subject matter, know that 2013 CBC is based on ASCE 7-10. This appears not to be a problem of carelessness on the part of the author due to haste in preparation of the DEIR, since the final EIR repeats the same mistake in answering comments. See for example the final EIR Section 2.7-108 item D32-18 middle of paragraph which states:

Also discussed, specific to seismic hazards in California, are the California amendments to the CBC that are based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements.

Again there is repetition of the erroneous reference to ASCE 7-05 rather than the correct edition ASCE 7-10. Moreover, in the first sentence there is the incorrect and funny statement that there are California amendments to CBC, which is absurd, since CBC stands for California Building Code, and state of California does not amend its own Code.

8R:

ESA consultants agreed that the code editions used in the EIR documents were old and should have been superseded by the current one. However, they said it does not make that much difference since the current edition requirement is not that much different.

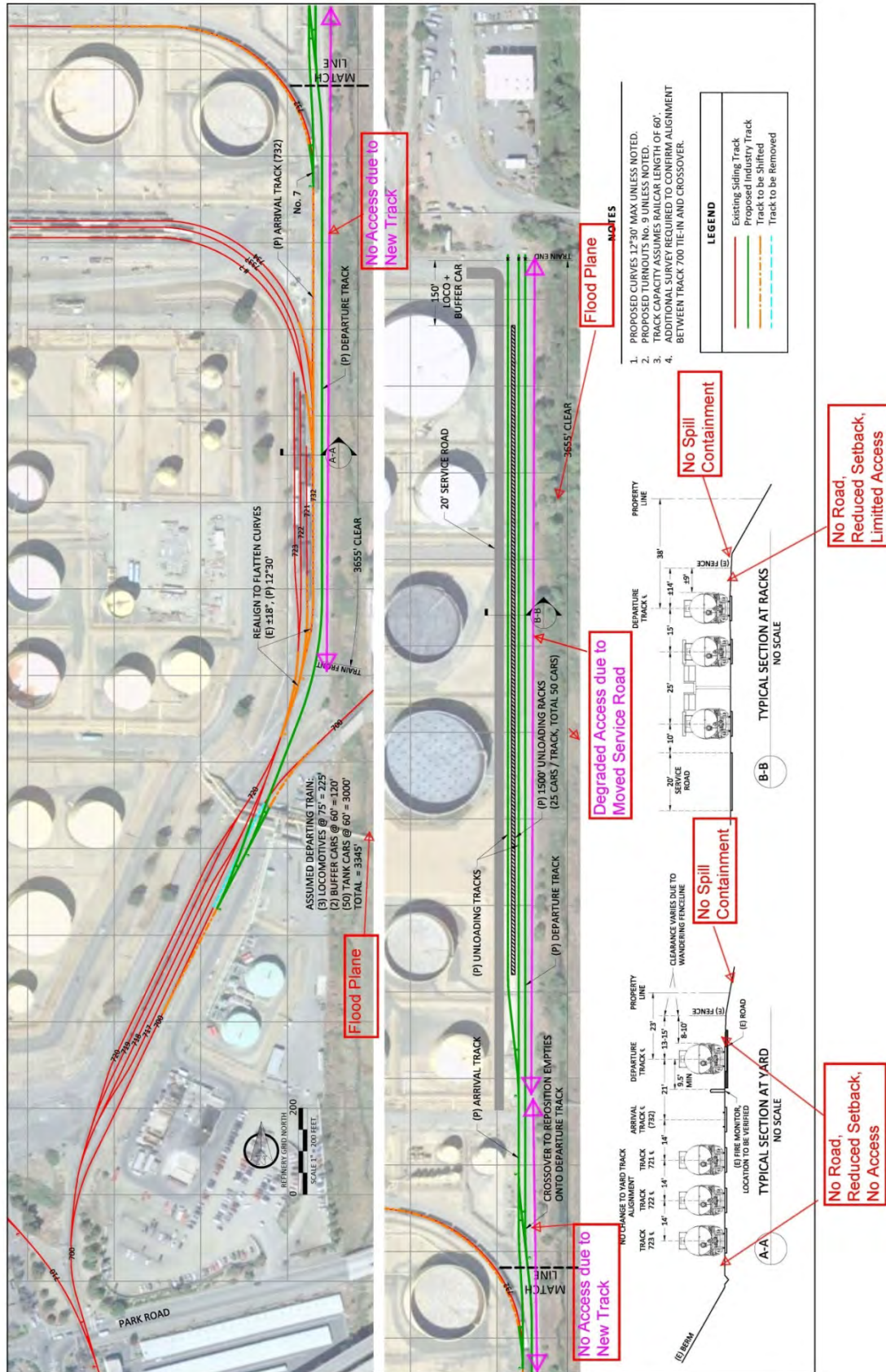
On our second comment, the ESA consultant disagreed and insisted that California Building Code indeed amends CBC.

8RC:

We disagree with the EIR authors. The correct terminology is that the California Building Code amends IBC (international Building Code) and not CBC (California Building Code). Since the authors of the EIR insist on using the incorrect terminology, even after being reminded of it, it leads us to conclusion that they are not familiar with the Code writing process and Code adoption process.

Sincerely,
Amir Firouz
Benicia, CA

*Encl: Annotated Figure 3-3
Google Map
Google Map with Avenue A
Santa Rosa Creek Side Development Setback requirements
Section A-A*



SOURCE: Valero

Benicia Valero CBR, 202115,01

Figure 3-3

Site Plan





Santa Rosa City Code

[Up](#)[Previous](#)[Next](#)[Main](#)[Search](#)[Print](#)[No Frames](#)[Title 20 ZONING](#)[Division 3 Site Planning and General Development Regulations](#)[Chapter 20-30 STANDARDS FOR ALL DEVELOPMENT AND LAND USES](#)**20-30.040 Creekside development.**

A. Purpose. This Section requires minimum setbacks from waterways for new structures, to provide reasonable protection to owners of riparian property and the public from the hazards of stream bank failures and flooding, while allowing owners of property near waterways reasonable use of and the opportunity to improve their properties consistent with general safety.

B. Applicability. No structure, including buildings of any type, swimming pools, including prefabricated swimming pools, driveways, streets, parking areas, patios, platforms, decks, fences, liquid storage tanks, mobile homes, broken concrete rubble, earth fill or other structural debris fill, or retaining walls, shall be placed within the creekside setbacks required by this Section.

1. Existing structures. An existing, lawfully constructed structure that is located within a setback required by this Section is subject to the requirements for nonconforming structures in Chapter 20-61 (Nonconforming Uses, Structures, and Parcels).

2. Exceptions. This Section shall not apply to:

Storm drainage, erosion control, and creekbank stability improvements that have been approved as required by law by the governmental agencies having jurisdiction over them.

3. Design guidelines. See also Section 4.4 (Creeks, Riparian Corridors, and Storm Drainage) of the City's Design Guidelines.

C. Definitions. Definitions of the technical terms and phrases used in this Section may be found in Division 7 (Glossary), under "Waterway."

D. Creekside setback requirements.

1. **Waterway with defined bank.** The exterior boundary of the setback area on each side of a natural or modified natural waterway shall be 50 feet from the top of the highest bank on that side of the waterway, as determined by the Director. When the bank of a natural or modified natural waterway is steeper than 2.5:1, the exterior setback boundary shall be measured by the projections of a slope of 2.5:1 from the toe of the stream bank to ground level, plus 50 feet. See Figure 3-1.

2. **Waterway without defined bank.** The exterior boundary of the setback area adjacent to the side of a natural or modified natural waterway, where the top of the stream bank is not defined, shall be 50 feet, measured horizontally, from the established 100-year storm freeboard level. See Figure 3-2.

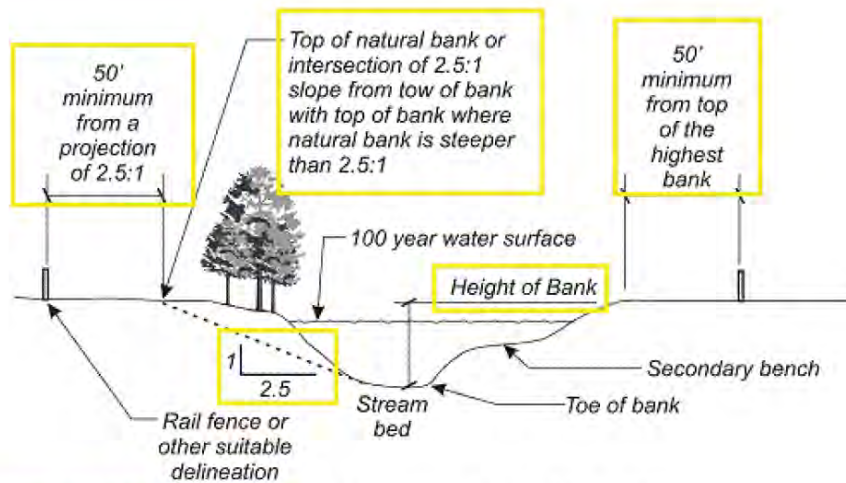


Figure 3-1 – Setback with defined bank (see exceptions Section 20-30.040.D.4.)

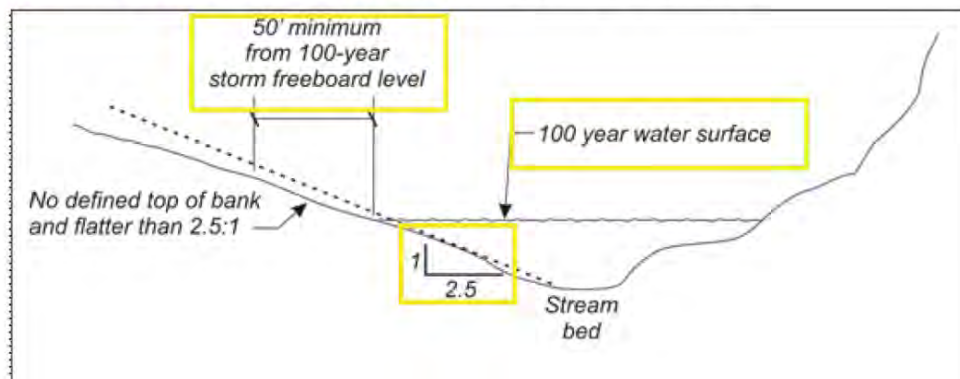


Figure 3-2 – Setback without defined bank (see exceptions Section 20-30.040.D.4.)

3. Channelized waterway. Where a fully channelized waterway exists and the channel is owned by, or under the control of the Sonoma County Water Agency, structures may be closer to the top of the bank than a distance of 2.5 times the depth of the bank plus 50 feet, provided that this encroachment into the setback area will not obstruct or impair the channel's hydraulic functions, impede Water Agency access or maintenance of the channel, or impair the stability of the slope, bank, or maintenance of the channel, or impair the stability of the slope, bank, or creekbed fountain, all as determined by and approved by the Department, the Public Work Department, and the Sonoma County Water Agency.

4. Exceptions.

a. The setbacks required in Section 20-30.040 shall be 30 feet for existing properties or adjacent areas within the City that were developed in compliance with applicable setback requirements in effect prior to September 3, 2004.

b. The setbacks required in Section 20-30.040 shall be 30 feet for new development that is surrounded by existing structures that were developed in compliance with applicable setback requirements in effect prior to September 3, 2004.

E. Bridges and utilities within setback areas. Bridges for motor vehicles, pedestrians, and/or bicycles, and/or public utility infrastructure may cross through a waterway setback area and over or under its channel, provided that the installation has received all required approvals from the City. "Bridges" as used in this Subsection includes the segments of the street connecting with the ends of the bridge and the use of

box culverts to contain the waters of a waterway for a street overcrossing.
(Ord. 3711 § 1 Exh. A, 2005; Ord. 3677 § 1, 2004)

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