ONEWATERSHED FRAMEWORK REPORT REVISED DRAFT (12-02-2024)
TAC/EPC Review Comments
Date: April 21, 2025

Attached Report: ***insert final name***

No.	Location	Comment/Question	Originator	Response	Comment Type
1	Dashboard	Lets explore adding some component of the LiDAR DEM data we have for the County to assess either low elevation thresholds for where flood risk is greater, or maybe a combination of low elevation thresholds in proximity to higher elevations (like the train track areas) that would be at reduced risk to SLR but increased risk from precipitation-based flooding. Areas that are in the threshold zones may be weighted more heavily for instance, or we could at least show on the map where those areas are via identified elevation lines, for instance. (Check the Coastal Risk Assessment Tool: Map by Elevation Data from Climate Central that just came out - Maps & Tools | Surging Seas: Sea level rise analysis by Climate Central). We might postpone the finalization of the Framework, outputs and dashboard until we can amend the contract with Geo to add additional contingency funds. This would likely not happen until February, so we should discuss how that might impact the project schedule.	Reid Bogert (C/CAG)	Comment noted.	Major
2	Dashboard	Propose including some indication of equity indexing on the risk exposure areas, because that's a primary basis for identifying priority watershed areas. The data in the viewer are great, and we should use them directly in the framework outputs as a weighting factor. If we wait until the local watershed planning part, we are missing the necessary guidance at the countywide scale to inform where we target our work. We can use C/CAG's prior SMC Equity Focus Area and other state/regional equity criteria for consistency (See example from the C/CAG Comp Bike and Ped Plan from 2021, Table 9). We might postpone the finalization of the Framework, outputs and dashboard until we can amend the contract with Geo to add additional contingency funds. This would likely not happen until February, so we should discuss how that might impact the project schedule.	Reid Bogert (C/CAG)	Comment noted.	Major
3	Dashboard	Should we shift to having the heat map depict subwatershed boundaries for the heat map, vs. water infrastructure service area boundaries. I like having those, boundaries, too, because it shows what asset systems are exposed, but as for planning and prioritizing watersheds, which is the primary unit we will be working in for subwatershed plans, it makes sense to me to show that unit of boundary. We could still show the climate hazard exposure thresholds for each asset category type and maybe any weighting factors for equity, etc. We might postpone the finalization of the Framework, outputs and dashboard until we can amend the contract with Geo to add additional contingency funds. This would likely not happen until February, so we should discuss how that might impact the project schedule.	Reid Bogert (C/CAG)	Comment noted.	Major
4	Dashboard	Perform QA/QC checks before publishing dashboard publicly.	Michael Barber (Supervisor Dave Pine's Office)	Comment noted.	Major
5	Dashboard	I would like for our team to take a closer look at how the spatial analysis of risk exposure thresholds was applied to ensure that it is logical and does not use inappropriate assumptions. Your points do get to the issue of exposure of future climate hazards vs. current/future impacts based on a combination of exposure and asset sensitivity/adaptive capacity. What is clearly not included, as we discussed, and is an admitted weakness of the analysis is the inclusion of some determination of increased risk of exposure due to infrastructure/landscape characteristics. For example, corresponding low points in watersheds or areas where land forms/elevations may increase flood risk could be a major consideration that we might include if data are available. I'm thinking the DEM datasets that we have, for example, could be a potentially simple added layer to inform risk exposure (at least for flood-based hazards).	Reid Bogert (C/CAG)	Comment noted.	Major
6	Dashboard	Climate hazard exposure analysis results are not necessarily as meaningful as they ideally would be given existing flooding impacts that communities are experiencing. We can discuss internally and with the PMT whether we should consider adding geospatial data related to sensitivity or consequence to the extent that geospatial data is available – with the intent that existing flooding impacts would be shown more prominently in the output.	Kelly Havens (Geosyntec)	Comment noted.	Major
7	Dashboard	Did your team use refined data from SM County's latest Map Viewer tool that evaluates Sea Level Rise scenarios and impacts? It was developed by Pathways Climate Institute in partnership with Carollo, and still being finalized, but Melissa Ross-Perkins and Matt Goldberg are the primary points of contact at the county for that work/data. It looks like you're using BCDC mapping, which is good, but the Pathways team refined this to make it more location specific for SM County. I can help get this if you'd like.	Julia Schmitt (Carollo)	Addressed, see response to comment in the Attached Report.	Major
8	Dashboard	Within the map, there needs to be a legend of the symbology that pops on when the layers are toggled. It's confusing to be able to select a climate scenario on the left and then select a different climate scenario on the right.	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Major
9	Dashboard / Report	The spatial data that are available do not fully capture lived experiences, so it needs to be really clear how the model outputs should be used and what additional groundtruthing work is needed to incorporate the on-the-ground knowledge	Melissa Foley (SFEI)	Comment noted.	Major

10	Report: 2.2 Vulnerable Communities	Are we going to be bringing in any geospatial data to support the sensitivity component of vulnerability down the line? We should discuss. I also saw that MTC has a new Equity Priority Community dataset they released recently that at minimum we might include in our data inventory. Overall it may be a question of whether we decide to incorporate additional GIS data into the climate hazard exposure assessment or if we keep the assessment more or less as is and just add a few datasets to the inventory. Ideally the hazard exposure assessment would include consideration of exposure to vulnerable communities defined by MTC's EPC data and consideration of base level geospatial factors that could influence exposure wrt risk, i.e., landforms/elevation data to give a sense where infrastructure/resources/communities are at most risk. But we need to decide if we can do that effectively and if there are resources in the budget to make it happen.	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Major
11	Report: 3.3 Process	[in relation to Steb 2b: conduct a CVA] In thinking about this process, the methods and integrating the shared risk/exposure assessment with the CVA, and getting towards opportunity identification and prioritization, we should be careful about how we guide that process to get a product (project map/prioritization) that is sensible/logic/and consistent at the scale we are working in. For example we're not going to get CVA data on the whole watershed, but rather likely in just one key neighborhood. So is the idea to get very local in a watershed to pin point one area only? I assume we'll want to include assessment and prioritization of other projects that are outside of Belle Air, so how do we do that in a way that is consistent with the proposed framework approach? Maybe for the San Bruno study, it just happens that the community of focus is in Belle Air and so a portion of what's in the San Bruno OneWatershed Plan is focused there, but I don't think we want to end up with just one area of focus. Maybe the idea is to leverage prior planning efforts to inform other priority projects in the watershed, and new opportunities might be identified through the CVA process. The other issue I see is that I think the service area boundaries in San Bruno Creek area are such that the entire watershed is ranked a single level of risk exposure (I think), so that makes it hard to do further assessment of the infrastructure exposure vulnerabilities and inform project prioritization.	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Major
12	Report: 4.1 Overview	[ultimate climate change-related vulnerability of an asset] This is being a bit picky, but US EPA, when building the framework for Risk and Resilience Assessments of water systems for America's Water Infrastructure Act, defined Risk as equal to the product of vulnerability x consequence x threat likelihood for each asset-threat pair. Threat likelihood is constant, and for natural hazards can be obtained from the datasets that you're using already in the web viewer. Vulnerability is more location-specific and seems pretty consistent with what you've defined - sensitivity to the hazard and adaptive capacity of the asset. However, you've lumped consequence with vulnerability which I think should be separate. Consequence is tricky for sure, because it requires looking specifically at each asset and each threat to determine what damage would look like and how much it would cost. It is really nice to have a monetized value for consequence. At that point, you can start quantifying a cost-benefit for mitigation measures in economic terms. I.e. if we do this resilience improvement for $1M, it will result in reduced consequence of this threat to this asset of $5M.	Julia Schmitt (Carollo)	No change, see response to comment in the Attached Report.	Major
13	Report: 4.2 Assessment	Perhaps we need to say something about how the thresholds for different exposure scores were developed? Were they based on scientific literature or other resilience planning efforts, or based on best professional judgement from the consultant team, lacking other specific sources to reference?	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Major
14	Report: 4.2.1 Sea Level Rise	Why are you not using CoSMoS? We should address the data options here. [Maps of GW rise are for limited areas around the Bay…] This statement needs to be reconciled with the groundwater data option discussion	Unidentified TAC/EPC Member	Addressed, see updated section in Attached Report.	Major
15	Report: 4.2.3 Extreme Precipitation	[Extreme precipitation exposure levels] How were these thresholds determined for exposure scores?	Unidentified TAC/EPC Member	Addressed, see updated section in Attached Report.	Major
16	Report: 4.2.4 Drought	This section is pretty complex and complicated. I'm not sure if there's a way to simplify some of the language/interpretation. If not, that's OK, but as a non-water supply person, it's tough to read and understand the main pionts in terms of laying out the projected demand shortage implications with drought under the different scenarios.	Unidentified TAC/EPC Member	Addressed, see response to comment and updated section in the Attached Report.	Major
17	Dashboard / Report: 4.2.5 Wildfire	Did you look at the Cal Adapt projections? If yes, why are they not a good fit for the analysis?	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Major
18	Report: 4.3 Application to OneWatershed Infrastructure Networks	Should we emphasize/clarify the difference between countywide exposure assessment vs. countywide vulnerability assessment? We also might provide a few examples of what the data outputs mean. I.e., an asset unit area may show high impacts for SLR that extends up into the watershed, where the immediate impacts of SLR are not felt, but where disruptions to the entire service area for WWTPs or stormwater drainage may be compromised.	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Major
19	Report: 6 Climate Resilience Projects	When will we define the methodology for project prioritization? A proven approach (within the emergency management world) to prioritizing projects would be to be able to assign dollar amounts to the risk faced by each asset to each threat/climate hazard and then be able to identify projects that could deal with the highest dollar risk value asset-threat pairs. Obviously there isn't enough scope/budget to be able to go to that level of detail at the County scale, but if you could move in that direction for at least SOME of the assets and hazards within the San Bruno pilot, I think that would be a valuable approach to use.	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Major
20	Report: 6 Climate Resilience Projects	Can we add something regarding creek restoration/resilience? Maybe from the RCD or other larger resource agencies?	Unidentified TAC/EPC Member	No change, see response to comment in the Attached Report.	Major

21	Report: 7 Pilot Application to San Bruno Creek Watershed	[step 2a: using countywide results...] We should look at the maps, but I think the service area boundary for the averaged exposure scores is basically the entire watershed (maybe the storm drain boundary, though I'm not sure what utility network boundary is used). Actually, we should probably look at how the averaged scores are rolled up in terms of the defining network boundary showing the overlapping exposure. Is it consistently one asset network boundary, or does it vary? Is it the right network unit boundary?	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Major
22	Report: 7 Pilot Application to San Bruno Creek Watershed	[Step 3] I think there needs to be more description in this report about how the community priorities and water infrastructure concerns are going to be weighed together. My guess is that the CCCT meetings and vulnerability assessment are going to show community areas that are being impacted, but those impacts may not align with water infrastructure that the risk maps were created around. I think the community is going to want to know how these pieces come together, so good to either hold space for that here if you are still figuring it out or include your approach (high level is fine) to incorporating that information into the risk assessment. Agreed. I think we should explain how the prioritization process will be planned and developed if it's not entirely defined at this time. And balance should be made between the community level input and infrastructure analysis.	Melissa Foley (SFEI)	Addressed, see response to comment in the Attached Report.	Major
23	Report: E.6. Climate Resilience Projects	Seems worth addressing the whole realm of projects that may be considered in this work. It makes me think again that a thorough strategic planning process would be necessary to fully detail project typologies, associated with agreed upon project/program goals/objectives, performance outcomes, etc.	Unidentified TAC/EPC Member	Comment noted.	Major
24	Report: Table 1 OneWatershed Infrastructure Networks	Obviously our infrastructure networks are not complete datasets, though. Should we mention here that the data referenced reflect the best available information at the countywide scale and are not necessarily complete or completely characteristic of each watershed asset?	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Major
25	Report: Table 3 OneWatershed SLR and GW Intrusion Flooding Exposure Score	This table is proposing to use flooding, not groundwater. Suggest you remove groundwater from the table if you choose not to use the CoSMoS projections. Yes, I'm a bit confused here. Is the SLR data from BCDC also reflecting groundwater intrusion? I.e., inundation from surface overflow and impacts from emerging groundwater? Not sure I understand what the data reflect and what the analysis is characterizing.	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Major
26	Dashboard	[Look into as part of QA/QC] The stormwater risks are substantially understated in so many geographical areas (however one looks at it: exposure, sensitivity or any vulnerability measure). Some of the heat risks seem completely random. Heat risk is not an area I have focused on, but the one high risk area south of Coyote Point doesn't make sense. Some upland areas are noted with risks from sea level rise (????)	Michael Barber (Supervisor Dave Pine's Office)	Comment noted.	Minor
27	Dashboard	[Look into as part of QA/QC] I would also cross check with the latest FEMA Flood Insurance Rate Maps (FIRMS). The link below is just one map for Burlingame. Unfortunately, FEMA's modelling is also flawed because they don't take into account non-FEMA "certified" structures such as highways, sound barriers, or ALL of SFO! We (the County, San Bruno, South San Francisco and SFO) tried to appeal their methodology, but lost the appeal in 2016. Regardless, FEMA does recognize some high risk flood areas that are not taken into account by the OneWatershed map	Michael Barber (Supervisor Dave Pine's Office)	Comment noted.	Minor
28	Dashboard	[Look into as part of QA/QC] The dashboard lists "None" for many risks. Should that be "minimal?" We always have some risk.	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
29	Dashboard	[Look into as part of QA/QC] When I looked at the map, it does not seem to capture known issues with East Palo Alto's storm drainage infrastructure. EPA has plans to upgrade but has not occurred yet. How could there be low risk by 2100? Also for groundwater Basin it states none, but East Palo Alto has groundwater wells that are used as municipal supply, and private water purveyors (O'Connor Water)	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
30	Dashboard	Flagging that San Mateo County has been working on a SLR viewer through Sustainability and in collaboration with OneShoreline. I believe that it is using CoSMoS data.	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
31	Report: 2.1 Climate Risks to Communities in San Mateo County	Should we also mention issues of compound effects of other natural disasters, like earthquake, liquifaction?	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
32	Report: 2.2 Vulnerable Communities	Add in MTC's Equity Priority Community designations. This framing could be important for accessing transportation-related funding.	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
33	Report: 2.4 Regulatory Requirements	What about climate adaptation/resilience requirements coming down from the state? SLR, RSAP, etc. What about recylced water policies/regulations? [SWRCB is] also developing statewide infiltration policy.	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
34	Report: 2.4 Regulatory Requirements	Would it be worth also describing how the framework relates to other resilience planning requirements like RSAPs?	Erin Pang (Save the Bay)	Addressed, see response to comment in the Attached Report.	Minor

35	Report: 2.5 Climate Adaptation and Resilience	Add a sentence regarding how the OneWatershed Framework leverages OES guidelines for adaptation.	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
36	Report: 3.4.1 Countywide Data	[countywide social vulnerabilities dataset] I wasn't aware that this dataset was used for the exposure analysis. Ideally, I think it would be as a first layer of prioritization for identifying watersheds/service areas that are exposed AND represent vulnerable communities. But I didn't think we included it.	Unidentified TAC/EPC Member	Comment noted.	Minor
37	Report: 3.4.2 Watershed-Scale Data	[watershed-specific data] is the should happening as part of this project or something that needs to be done in the future?	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
38	Report: 4.1 Overview	Suggest relying on 4th climate assessment Bay Area regional report to justify selection of these hazards. Include reference.	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
39	Report: 4.1 Overview	["shared-risk"] this term creates confusion since the methodology never gets to vulnerability or risk. Suggest that you keep multi-hazard, multi-system exposure related information using exposure terminology.	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
40	Report: 4.2.1 Sea Level Rise	what do you mean by a "coastal storm"? is this a rain event? a storm surge event? Maybe a storm surge?	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
41	Report: 4.2.1 Sea Level Rise	[insufficient data and information to understand what level of exposure might contribute to an increased level of climate impact or consequence] I disagree somewhat with this statement as phrased. I think it is it more that in order to understand gw rise vulnerability, you would need to be at an asset scale rather than the regional scale included in the analysis	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
42	Report: 4.2.1 Sea Level Rise	I think it would be good to be explicit about what effects of a "winter storm" you are referring to - assuming rainfall, but could also be storm surge	Unidentified TAC/EPC Member	No change, see response to comment in the Attached Report.	Minor
43	Report: 4.2.1 Sea Level Rise	[exposure risk levels] exposure risk is not a defined term. This is more of an exposure rating or score. Risk should be quantified in economic terms, ideally. If you don't have consequence data, then you may not be able to get to a risk number.	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
44	Report: 4.2.2 Extreme Heat	Seems like the biggest threat is threat to human health/well-being, incidences of hospitalization due to high heat exposure and likely related air quality impacts? Maybe we can reference a few other human health impacts?	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
45	Report: 4.2.3 Extreme Precipitation	Can we be more technically explicit about what specific data sources were used? Is the dataset documented somewhere and can a reference be included?	Unidentified TAC/EPC Member	Addressed, see response to comment and updated section in the Attached Report.	Minor
46	Report: 4.2.4 Drought	[265-million-gallon-per-day (mgd) demand (+15% of the LTVA baseline) scenario] Is this for just the Peninsula or all BAWSCA regions.	Unidentified TAC/EPC Member	Addressed, see response to comment and updated section in the Attached Report.	Minor
47	Report: 4.2.4 Drought	[The LTVA study did not provide detailed statistics regarding local groundwater and surface water sources to BAWSCA agencies in San Mateo County. However, given the small percentage of total supply, it can be assumed that the impact of climate change to local water sources will not significantly alter the total supply reliability to San Mateo BAWSCA agencies] But if the shortage frequency is ranking high for the evaluated scenarios, doesn't that mean agencies may need to look for alternative sources and that groundwater in particular could be a more utilized source in future, which may imply that groundwater could be impacted by drought in the end of century scenario and later?	Unidentified TAC/EPC Member	Addressed, see response to comment and updated section in the Attached Report.	Minor
48	Dashboard / Report: Figure 4 Example Climate Hazard Exposure for Location	In the climate space, mitigation means reductions in GHG/sequestering carbon. Suggest using Climate Adaptation or Resilience in lieu of mitigation. https://www.ipcc.ch/report/ar6/wg2/chapter/summary-for-policymakers/. Terminology: the risk chart is really a exposure chart?	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
49	Report: 5 Community Vulnerability Assessment Approach	[survey to collect data from workshop participants and their families and friends] seems like some data will already have been collected from the Resilient San Bruno team if that is being presented in these workshops? So is the goal to expand data collection to those outside the San Bruno watershed?	Unidentified TAC/EPC Member	Question, no change to Report.	Minor
50	Report: 7 Pilot Application to San Bruno Creek Watershed	[Draft San Bruno CAP] Sounds like the City is updating or creating a new CAP? There's also OneShoreline's new San Bruno Regional Project effort. Summer can provide more details.	Unidentified TAC/EPC Member	Comment noted.	Minor
51	Report: Acknowledgements	I would change "climate impacts" throughout to "climate change impacts." I realize that is a nuanced change, but the "climate" is not the issue; the changes happening to the climate and in turn the individual weather events the changing climate is driving are the issue	Melissa Foley (SFEI)	Addressed, see response to comment in the Attached Report.	Minor

52	Report: E.1. Introduction	One thing that wasn't entirely clear to me initially is that this report only goes through the Step 2a and a description of the 2b approach. Can this framing be included up front to level set the expectations for the scope of this document?	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
53	Report: E.4. Climate Hazard Exposure Assessment	The exposure assessment is step 2a and 2b is the vulnerability assessment. Revise to reflect the updated process graphic.	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
54	Report: E.4. Climate Hazard Exposure Assessment	[exposure levels were assigned to infrastructure network units coutywide based on the co-located geospatial climate hazard data] And based on chosen thresholds for low, med, high? Correct? And these were vetted by the PMT and TAC/EPC?	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
55	Report: E.5. Community Vulnerability Assessment Approach	The Community Vulnerability assessment is Step 2b, which will inform 2c? Revise to reflect updated process graphic.	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
56	Report: Figure 5 Climate Hazard Exposure for Climate Scenarios	I would change "composite" to "cumulative" in the legend. I would also expand the figure caption to say "Cumulative Climate Hazard Exposure Across all Water Infrastructure Categories for OneWater Climate Scenarios"	Unidentified TAC/EPC Member	Comment noted.	Minor
57	Report: Figure E-1	2a: consider dropping "shared risk" language as it's just exposure	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
58	Report: Table 11 Summary of SF RWS Imported Water Supply Impacts to BAWSCA	[Approximate Frequency of Shortage ≥ 20%] These frequencies are a percent probability on an annual basis? What's the timeframe?	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
59	Report: Table 6 Extreme Heat Scenarios Used	Is it possible to show the heat thresholds in the table?	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
60	Report: Table 7 Extreme Precipitation Exposure Levels	[Projected increase] Increase in overall precipitation during the return storm or projected stormwater runoff depth increase?	Unidentified TAC/EPC Member	Addressed, see updated section in Attached Report.	Minor
61	Report: Throughout	Can we stick to one name for the plan? I think it should be "San Bruno Creek OneWatershed Climate Resilience Plan" or "San Bruno Creek OneWatershed Plan"	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor
62	Report: Throughout	[Climate Resilience Plans]. We should be clear on the name - are they OneWatershed Climate Resilience Plans? Climate Resilience Plans may be confused with other efforts.	Unidentified TAC/EPC Member	Addressed, see response to comment in the Attached Report.	Minor