BWRR
BALTIMORE-WASHINGTON RAPID RAIL

Exhibit R – USACE Comment Response Matrix

#	Agency	USACE Comment	BWRR Comment Response
1	USACE-Align-1	The Corps is currently reviewing both Alignments J and J1. A comprehensive field review of impacts associated with the alignments has not been conducted by the Corps. We plan to place both alignments on public notice to request agency and public comments. We request to field review Alternates J and J1 with BWRR personnel.	Understood. Field visits are being coordinated March 5-10.
2	USACE-Align-2	Exhibit E of the JPA seems to indicate that permanent wetland impacts associated with alignment J are similar to the permanent wetland impacts associated with alignment J1. Permanent wetland impacts for the BARC TMF on either alignment appear to be the same. However, when examining the project as a whole, Exhibit F appears to show that build alternative J1-03 would have comparable total wetland impacts as compared to J-03, and would have less overall impacts to NTWSSC, waterways, and floodplains. Additionally, Exhibit I: Appendix A: Alternatives Comparison Matrix shows that aggregated alternatives G through L, on alignment J1, minimize and/or entirely reduce land acquisitions needed from certain Federal Properties, particularly National Park Service, Patuxent Research Refuge, Fort Meade, Secret Service, and NASA land. The Corps recognizes these alternatives may be more costly and may have a greater number of residential properties within 200 feet of the alignment. However, alternatives along alignment J1 should be retained for analysis in the case that one or more of the Federal properties is unable to authorize the SCMAGLEV system.	While the J1-03 alignment may appear to have less impact, the reduction in surface impacts comes at the expense of added tunneling which would render this project no longer viable as it would add ~$1-Billion in added tunneling cost, plus ~1.7-Million cubic yards of tunnel spoils to be disposed. Additionally, the J1-03 alignment would daylight in the Greenbelt Forest Refuge. Use of federal land is paramount to this project's success as the incremental costs associated with the J1 alternative make it unattainable. Further, BWRR remains committed to minimizing impacts to residential properties and avoiding residential displacements to the greatest extent possible.

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3	USACE-Align-3	The Corps requests field meetings to review each alignment (sections of the alignment that are above ground) and to review major water crossings, in an effort to make recommendations on proper bridge lengths and pier spacings for major stream and wetland crossings.	Understood. Field visits are being coordinated March 5-10.
4	USACE-TMF-1	The Corps must ensure that the TMF is located at the least environmentally damaging practicable site. The Corps is concerned that the three TMFs evaluated in the DEIS and JPA (BARC West, BARC East, and MD 198) may not be the least damaging alternatives in their currently designed footprints. Additionally, if these TMF properties become unavailable or not capable of being constructed for certain reasons, no other TMF options are evaluated. The Corps has determined that this is not prudent for a project of this magnitude. Therefore, additional TMF facilities dropped from the analysis must be reconsidered and the analysis submitted to the Corps for review.	As an initial matter, the TMF site must meet technical requirements. Once past that threshold, BWRR is in full agreement that the TMF be located at the least environmentally damaging practicable site. As defined by 40 CFR 230.10(a)(2) h, Practicable Alternatives are those that are "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.". BWRR's TMF Assessment Memo (Exhibit J of the JPA) was prepared at the request of FRA when BWRR notified FRA that the TMF footprint could be reduced from the 235-acre site in the ARDS Report to a 180 acres site based on the Chubu TMF footprint. FRA specifically requested the report ensure the entire project corridor be evaluated for the 180-acre footprint. This was done resulting in three alternatives. BARC is naturally a selection due to its location in the corridor, the large volume of land (over 6,000 acres), and the compatibility with its current use (bisected by MD 295, various alternate uses on property, disused structures, etc.). BARC West was added at that time because of concerns expressed about BARC East in the ARDS Report. The BARC TMF alternate considered in the ARDS Report was modified to utilize a disused airfield, taking advantage of the already disturbed space. Although BWRR believes that BARC East or West are the Practicable Alternatives, FRA requested that the MD-198 TMF configuration be included in the DEIS, which BWRR did. After extensive study and coordination with JRC, FRA and BWRR concluded that there were no further sites in the corridor that could meet the criteria, other than the two BARC options (and potentially MD-198).

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5	USACE-TMF-2	The Corps understands that TMF footprints were increased to accommodate a 16- car train, as opposed to the initially proposed 12-car train. Factors mentioned for the increased train car length included the need to accommodate U.S. standards for larger seats, restrooms, luggage storage, and ADA requirements. Other than ADA, are these standards required by U.S. law, or standards designed to accommodate rider comfort? Please specify the standards that dictated this change. Please be advised that the Corps continues to evaluate the 12-car trainset design for TMF practicability and minimization of environmental impacts. How would the TMF footprints and impacts to wetland and waterways change with a TMF based on a 12-car trainset?	Ridership forecasts drove the need for 16 car trainsets. All facilities, including stations and the TMF, were designed for 16-car trainsets. A 12-car trainset was briefly considered very early in the design process and rejected from consideration for reasons noted in the DEIS. Shifting from a 16-car train to a 12-car train is not simple matter of adding or reducing cars. Various aspects of the system must be designed to accommodate a specific trainset length including stations, boarding gates, platforms, the TMF and other facilities. A smaller TMF could conceivably be designed if the system only needed to operate 12-car trainsets. However, Project ridership forecasts clearly demonstrate that 12-car trainsets are not capable of meeting the demand for the Baltimore-Washington Project, much less the full Washington-New York corridor. Additionally, it is not practical to transition from 12 to 16-car trainsets at some point in the future as this would require guideways be realigned, buildings to be rebuilt, etc. Therefore, 16-car trainsets must be accommodated at the TMF and the 180-acre TMF footprint is required. The 12-car trainset does not meet the Purpose and Need nor the technology and logistics requirements outlined in the USACE review mandate.

#	Agency	USACE Comment	BWRR Comment Response
6	USACE-TMF-3	The Corps is requiring that the Patapsco Ave TMF be reevaluated for practicability. The Patapsco Avenue TMF should be reevaluated to accommodate a 12-car trainset. Further, the Patapsco Avenue TMF should be evaluated to accommodate a 16-car trainset with the associated additional property acquisitions. These additional acquisitions for the Patapsco Avenue TMF and site impacts should be studied in detail and the analysis submitted to the Corps. We recognize that the configuration of a TMF at the Patapsco Ave location may require a more challenging alignment to efficiently access the facility. However, in comparison to the other TMF alternatives, the Patapsco Avenue TMF has significantly less impacts to waters of the U.S.	The Patapsco location is outside the envelope required for the location of the TMF. In addition, the TMF as was contemplated for a Patapsco site would have required trains departing the mainline to go through the Baltimore station, use tail tracks, and then reverse into the storage yard. This would be in direct violation of the design criteria for TMF layout. Further, trains leaving the tail tracks for the storage tracks would use the same switches as trains departing the storage tracks for the inspection shop, thereby creating an untenable bottleneck also in violation of the TMF layout design criteria. Reliability would be put at risk due to the train movements required and extensive switching. The use of 16 car trainsets would exacerbate this problem. Patapsco was definitively eliminated. Additionally, the ARDS Report stated in Appendix B that "The graphical elements and dimensions listed in this report correspond to preliminary 12-car stations… but the proposed train car length will be studied further based on the ridership assessment during preparation of the DEIS." The Patapsco site was originally considered as a 12-car train facility, but it did not work for any trainset, whether 12 or 16-cars for the key reasons noted above. 16-car trainsets are required to meet the Purpose and Need.
7	USACE-TMF-4	Additionally, TMF alternatives that were removed primarily due to cost or property acquisition requirements should be reevaluated. In the Corps regulatory program, an alternative is practicable if it is available and capable of being done taking into consideration cost, logistics, and existing technology, in light of the overall project purposes. Note that a more costly alternative can still be a practicable alternative.	BWRR fully understands and agrees with USACE's definition of practicable alternatives. It is also clear that cost is a consideration. We agree that a more costly alternative could be a practicable alternative, however, this has limits. If there were no limit as to cost, then cost would cease to be a consideration. As already mentioned in our previous answers, sites like Patapsco Avenue were only eliminated for operational reasons or an inability to meet the project purpose and need (i.e., 16-car trainsets to meet forecasted passenger demand). Sites removed for cost were removed as the estimated costs were more than 6 times that of the next best alternate. An approximate cost increase of 600% increase is neither reasonable nor practicable.

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8	USACE-TMF-5	Exhibit J, Section 5.3, Operational Review, states that TMF sizes were able to be reduced from the proposed 235-acre footprint to 180 acres by disaggregating the major operational elements onto separate parcels. This section seems to imply that a disaggregated Patapsco Avenue TMF facility would be constructible, but would require additional material transport time, resulting in a loss of some revenue-producing hours. As mentioned in the previous comment, the Corps would like to emphasize that a more costly TMF could still be a practicable one.	The change in footprint from 235 acres to 180 acres was not related to disaggregation. The 180-acre site is aggregated and streamlined to minimize the footprint while meeting operational requirements. It is based upon the real world TMF design in Japan. As noted above the disaggregated Patapsco TMF results in severe operational problems that are unacceptable to BWRR and JRC, the technology supplier. Technology requirements are a specific consideration required in review of the project. TMF size though, a multi-year design collaboration has been reduced by 24%. It is not possible to disaggregate and meet technical requirements.
9	USACE-TMF-6	Exhibit J mentions that only the TMF alternatives at Patapsco Ave and MD 198 were studied under the notion of functional disaggregation. The Corps recommends that the BARC East and BARC West TMF should also be studied under this concept to determine whether the TMF footprints and associated environmental impacts at these sites could minimized by separating certain operational elements.	As previously noted, a disaggregated TMF footprint was investigated but found to not meet technical requirements. This applies to BARC for the same reasons as Patapsco. The minimum 180-acre JRC Chubu design is the smallest footprint and layout that achieves all technical requirements of the technology supplier.
10	USACE-TMF-7	The Corps notes that the BARC East TMF site is located primarily on prior disturbed land, which is advantageous. However, as currently designed, the entrance and exit ramps are proposed for placement in nontidal wetlands of special state concern (NTWSSC) associated with Beaver Dam Creek. Please thoroughly evaluate the practicability of (a) avoiding the impacts to the NTWSSC by realigning the TMF facility and/or realigning the approach ramps and, (b) constructing the approach ramps on bridge structures to minimize impacts to wetlands. Has the BARC East TMF been evaluated for the maximum potential to move the TMF facility into the airfield itself and minimize impacts to Beaver Creek stream and wetlands?	The BARC East TMF site is located primarily on prior disturbed land and that was the reason for selection. The ramps are in fact elevated structures, which minimizes impacts to sensitive areas, limited to the pier locations. Changes to the alignment of the approach ramps would require shifting the overall footprint of the TMF itself off the disturbed land, potentially resulting in negative environmental impacts.

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11	USACE-TMF-8	Additionally, the BARC East site was rejected in large measure due to its relative proximity to the NASA Goddard Geophysical and Astronomical Observatory (GGAO). It is mentioned in various Exhibits that BWRR feels that it would be able to mitigate NASA's concerns associated with frequency interference, EMF, vibrations, and light impacts. The Corps requires that BWRR initiate in-depth consultation with NASA to discuss the proposed mitigation measures and determine whether a TMF facility at BARC East could satisfy NASA's concerns.	Vibrations and EMF are minimal. BWRR's review of the frequency spectrum indicates that BWRR operational frequencies are outside the range utilized by NASA (with the exception of products such as cell phones, which are used on public roads, etc. in the vicinity of the NASA facility). Light impacts can be mitigated. BWRR has had multiple meetings with NASA to address their concerns. Most recently, the BWRR Project team along with FRA officials, met with NASA on October 8th, 2020 to provide a project update and answer their questions. At the conclusion of the October 8th meeting, NASA made clear to BWRR and the FRA that they have no issue with BARC West and are only concerned about BARC East. BWRR welcomes a technical discussion with NASA which could be further facilitated by the Corps given its desire to satisfy NASA concerns. BWRR is ready to meet with NASA at any time.
12	USACE-TMF-9	The Corps has not conducted a field review of the potential TMF site location at MD 198. We understand that this facility may be more costly, require more complex engineering, and potentially greater environmental impacts. That said, without having visited the site, the Corps cannot provide a comprehensive assessment of its regulatory feasibility. We request to field review the MD 198 TMF site with BWRR personnel.	A field visit to MD-198 TMF has been scheduled for USACE, MDE and the NEPA team on March 5, 2021.
13	USACE-GC-1	The project will require a Section 401 Water Quality Certification (WQC) from MDE. Please contact Heather Nelson, Acting Program Manager of MDE regarding state needs for the WQC and the process for applying. The WQC application shall be jointly submitted to both MDE and the Corps.	BWRR has initiated this effort and had multiple meetings with Heather Nelson and her team. A draft WQC application was submitted to MDE on February 19, 2021. MDE comments are awaited.

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14	USACE-GC-2	The Corps would like to request several site visits to view the potential MD 198 TMF site, resources impacted by the train alignment, and the potential permittee- responsible mitigation sites. The Corps is requesting that BWRR prioritize site visits along the alignment in order for regulatory personnel to see the areas where larger quantities and/or more sensitive/unique wetlands and waterways are proposed for impact.	A field visit to MD-198 TMF has been scheduled for USACE, MDE and the NEPA team on March 5, 2021.
15	USACE-GC-3	Please provide the Corps with the most recent projections on SCMAGLEV ridership data between Baltimore and Washington, D.C. The Corps considers the Baltimore to Washington D.C. SCMAGLEV system as a single and complete project; therefore, we are specifically requesting proposed ridership between the two cities before any future phases of the Northeast Corridor SCMAGLEV system are built.	A ridership report cannot be submitted to USACE as it is proprietary information. As such, this information was not included in the DEIS. However, FRA was provided a copy for review and deemed the report "acceptable." However, FRA was provided a copy for review and deemed the report "acceptable." Selected ridership information was included in the DEIS, Appendix App-D.2: Transportation Technical Report and Appendiux-D.4: Economics Impact Analysis Technical Report
16	USACE-GC-4	The Corps requires adjacent property owner information (name/address) on both J and J1 alignments (including tunnel sections) and for the following TMF alternatives: BARC East, BARC West, MD 198, Patapsco Ave, Greenbelt East, and Greenbelt West.	Adjacent property information has been prepared for the three TMF alternatives included in the DEIS (BARC East, BARC West and MD-198) for both the J and J1 alignments. The ROW maps and associated owner information tables are in the DEIS App G: Facility Parcel Impact Submittal (also attached). ROW maps and owner information have not been prepared for the TMF alternatives that are not part of the DEIS (Patapsco Ave, Greenbelt East and Greenbelt West).
17	USACE-IP-1	Please note that ephemeral streams not recognized by the Corps as Federally regulated waters of the U.S. are shown on the impact plates. These may be removed from plates and impact totals after the Corps is able to verify evidence for their flow regime designation.	Ephemeral channels will be removed from the impact plates and impact totals pending field verification by USACE. Impacts to ephemeral streams are not calculated as part of the project's permanent or temporary impact totals.

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18	USACE-IP-2	Additional detail on stormwater management design and facility specifications will be needed to determine an accurate accounting of impacts and any potential discharges to waterways.	More detailed information will be provided as the project advances to the FEIS phase. This project will follow both Environmental Protection Agency (EPA) and Maryland SWM guidelines for Federal Projects. Throughout the project corridor, SWM will be provided to meet current Maryland Department of Environment (MDE) regulations for both regulated SWM quality and quantity treatment. The developer intends to demonstrate the implementation of Environmental Site Design to the Maximum Extent Practicable before proposing traditional structural Best Management Practices for SWM treatment.
19	USACE-IP-3	Color shading on some of the impact plates is confusing. For example, on impact plate WI-03, a portion of wetland buffer associated with WP187 extends on to the LOD shown and is shaded in yellow. Per the legend, this would indicate a temporary impact to a Nontidal Wetland of Special State Concern (NTWSSC). Is this wetland buffer associated with an NTWSSC? Wetland buffer impacts are not regulated by the Corps. The Corps realizes it is difficult with so many elements shown, but please try to maintain consistency with the colors shown on the legend.	Buffer impacts on WI-03 are not associated with a NTWSSC. The shading noted is taupe, which according to the legend signifies "Temporary Wetland Buffer Impact". The outline of the buffer is yellow which according to the legend signifies "25' Wetland Buffer."
20	USACE-IP-4	Impact Plate WI-03, WI-05: are the entire LODs shown on these plates (other than structures, SWM facilities, and access roads) intended to be utilized for laydown materials?	Yes. The large size of this laydown area is due to the proximity of the tunnel portal that necessitates storage of tunnel boring material and equipment.
21	USACE-IP-5	Impact Plate WI-05: Based on the topography, the stormwater management facility shown on this plate appears to be discharging into a valley, which later enters a mapped floodplain area. Was this area delineated? Is there a stream present here?	This area was included in the 2018 and 2020 field delineation efforts. The site was considered because although it appears to discharge into a drainage swale, it has upland soils; therefore, it is not a regulated resource.

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22	USACE-IP-6	Impact Plate WI-06: Both TMF approach ramps and the main alignment show significant areas of permanent wetland conversion in NTSWSSC and waterways associated with Beaver Dam Creek. Please clarify how these wetlands are being converted (i.e., To PEM? To uplands?) Is it possible to raise the ramps and minimize access routes for placement of the pier footers to allow these wetlands to remain in a forested condition? Similarly, could the piered crossings of wetlands near the Patuxent River shown on plates WI-23 and 24 be raised to maintain these as forested wetlands?	These wetlands will be converted to PEM (i.e., emergent wetlands). Tall trees will not be allowed to regrow under the viaduct due to maintenance access requirements (this is irrespective of the height of the viaducts). There are, however, opportunities for optimizing the viaduct piers spacing to minimize impacts onto the NTWSSC wetlands. This optimization may result in the elimination of a few piers in the area of the NTWSSC wetlands. It is envisioned that this will be investigated as the design advances towards the FEIS phase once the preferred alignment/TMF are established.
23	USACE-IP-7	The headers on the Corps Waterway Impact Table appear to be out of order and are confusing. For example, the “Classification” column lists design impact type codes. It is unclear what is represented by the numbers in the “Tributary To” and “Design Impact Type” columns. Are these the permanent impacts associated with the listed waterway? Please update this table to clarify.	Headers have been updated correctly in the revised Exhibit A.

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24	USACE-IP-8	The Corps is assuming that impacts listed with the design impact type "TMF" are impacts associated with the TMF building itself. Please clarify if this is a correct assumption. The Corps would like to request an estimate of the total impacts to wetlands and waterways associated with the TMF, its ancillary facilities, and other above ground infrastructure needed to allow the SCMAGLEV to access the TMF. Estimates should be provided for the BARC East, BARC West, MD 198, Patapsco Ave, Greenbelt East, and Greenbelt West TMFs.	The LOD shown on the plates for the BARC West TMF covers the footprint of the entire facility (including buildings, tracks, access roads, stormwater BMPs, etc.). Similarly, the impacts shown in the tables under the design impact type "TMF" also account for the entire TMF facility (not just the buildings). The impacts generated by the TMF ramp viaducts are coded in the tables as VFTG (Viaduct Footing), VF (Viaduct Footprint) and VR (Viaduct ROW, which represents the width of the viaduct ROW, excluding the width of the viaduct itself). Tables D.7-15; D.7-17; D.7-22 included in Appendix D.7 Natural Environment Technical Report from the DEIS show the total permanent and temporary impacts of the BARC East, BARC West and Rte. 198 TMFs onto wetlands, SSC wetlands and waterways. These tables do not show buffer impacts or habitat conversion areas. Refer to the TMF memo submitted as Exhibit N for justification of impacts.
25	USACE-WD-1	Some wetland delineation sheets show field-delineated wetlands within Wetlands of Special State Concern polygons in the study/impact areas. For example, on Sheet 4 shows WP068 occupying some, but not all of the NTWSSC polygon associated with Beaver Dam Creek. Please clarify if these are indications that the rest of the NTWSSC polygon was delineated as upland, or if that area was not delineated.	The displayed wetland boundary for WP068 is the limit of the study area delineation. The system may continue in extend in the western direction outside of the displayed study boundary. The boundary is not necessarily an upland boundary, but no disturbance is currently proposed outside of the displayed delineation limits.
26	USACE-WD-1	Wetlands boundaries have not been verified by the Corps – as mentioned, site visits will be needed to areas of wetlands impacts along the project alignment.	Understood. Field visits are being coordinated March 5-10, 2021.

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27	USACE-WR-1	Table 6.1 shows that build alternatives J1-02 and J1-03 cross under the Little Patuxent. This reduces nearly 50 acres of watershed impacts compared to the sponsor's preferred alternative (J-03), which crosses on a viaduct structure. The Corps requires that you evaluate the practicability of crossing the Little Patuxent in tunnel for alignment J.	Tunneling under Little Patuxent for Alignment J would require moving the northern portal of this alignment into the Patuxent Wildlife Refuge which would create other undesirable impacts.
28	USACE-CMP-1	Changes to the impact totals associated with Corps/MDE comments will need to be taken into consideration in order to determine the appropriate compensatory mitigation requirements for wetlands and waterways.	Understood, all impacts included in revised JPA submittals will be updated per applicable MDE and USACE comments. Refer to updated Exhibit A for up-to-date impacts.
29	USACE-CMP-2	As touched upon in Section 2.3, the Corps will require compensatory mitigation to address the loss of unique habitat features in impacted streams and riparian wetland areas. As stated in Exhibit C, the SCMAGLEV system is likely to remove features such as, but not limited to, vernal pools, oxbows, forested canopy coverage, and large woody debris. These habitat features provide unique functions for aquatic species. The Corps will require a detailed report describing the functional losses to wetlands and waters of the U.S. associated with the SCMAGLEV project.	A detailed summary of anticipated lost functions is provided in Section 2.3 of the updated CMP (Exhibit G). Exhibit B has been updated to include the wetland functional assessment summary in Section 7."
30	USACE-CMP-3	The Corps would like to emphasize that high-quality streams and wetlands impacted by the SCMAGLEV project will need to be mitigated using natural, reference-reach style restoration to the maximum extent practicable. Rock- heavy, stabilization-oriented stream restoration projects should be avoided, and restorations should seek to enhance the full suite of wetland and waterway functions impacted by SCMAGLEV. Detailed rationale is required for the creation of any new streams for mitigation purposes.	The restoration design will aim to provide natural, reference-reach style restoration to the maximum extent practicable. Rock-heavy, stabilization- oriented stream restoration projects will be avoided where possible. All proposed PRM projects include fully integrated stream and wetland complexes that aim to enhance the full suite of wetland and waterway functions impacted by SCMAGLEV. The MSMF tool will be used to quantify stream function gains (and stream function losses at impact sites) to ensure no net loss of stream function.

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31	USACE-CMP-4	The mitigation replacement ratios displayed in Table 2 have not been approved by the Corps. Discussion will be required to determine the appropriate ratio for each impacted resource type. Credits generated from stream mitigation sites should be determined using the Maryland Stream Mitigation Framework (MSMF) for functional uplift.	The MSMF tool will be applied to mitigation sites to determine the amount of stream functional uplift (in functional feet). Details will be provided in the Phase II Mitigation Plan.
32	USACE-CMP-5	Similarly, required mitigation totals in Tables 3a and 3b have not been verified by the Corps. The Corps has numerous questions regarding the project impacts that may change these numbers.	Understood, such information will be updated as further guidance is received from USACE and MDE as the project progresses. Impacts and mitigation requirements in tables 3a and 3b have been updated and are submitted via revised Exhibit G.
33	USACE-CMP-6	Section 4.1 indicates that GreenVest and BWRR intend to utilize two mitigation banks, Peige Wetland Mitigation, and Patuxent (Cabin Branch). Please confirm credit availability at Peige. It is the Corps understanding that the initial credit release from the Peige mitigation bank may have already been accounted for. The Patuxent Mitigation bank has not yet been approved by the Corps. Based on interagency discussions, it is likely that the potential credit availability will be different than the numbers currently proposed by the designer.	BWRR intends to use mitigation banks to the greatest extent they are available. BWRR has initiated coordination with the sponsors of the Peige, Patuxent, and Pheasant Run mitigation banks in February. Information related to these banks has been updated in Section 5.1 of the CMP (Exhibit G).
34	USACE-CMP-7	The established hierarchy for mitigation preference places mitigation banks as the top choice for meeting for a project's mitigation needs. Every effort should be made to utilize credits available at Peige, Patuxent, and any other mitigation bank that may come on-line in the impacted watersheds before using permittee- responsible mitigation (PRM) methods.	Understood. As noted in the comment response to USACE-CMP-7, BWRR has initiated coordination with the sponsors of the Peige, Patuxent, and Pheasant Run mitigation banks in February.

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35	USACE-CMP-8	Discussions on the twelve mitigation elements for the four PRM mitigation sites will be necessary to determine site specific requirements for each proposed PRM site, including proposed credit generation. Corps legal counsel will need to review the site protection instruments and financial assurances.	Understood. Further information will be provided through forthcoming updates to the CMP and the subsequent Final Mitigation Plan.
36	USACE-CMP-9	The Corps will need design plan sets for each of the proposed PRM mitigation sites. These plan sets must be accompanied by reports explaining the project designs, details on the functional uplift provided, and other rationale for the stream and wetland credits proposed at each site.	Understood. Design Plans and supporting reports will be provided in the Phase II Mitigation Plan.
37	USACE-CMP-10	The Corps requires site-specific monitoring plans and associated project success metrics to accompany any PRM site proposals. Monitoring criteria will need to be directly tied to any functional uplift used to justify credit production at each site. In addition, discussion will be needed on the long-term stewardship of each site, and the entity that will be fulfilling that role.	Site-specific monitoring plans and performance standards will be provided in the Phase II Mitigation Plan. Long-term management details, including identification of a potential long-term steward, will be provided in the Phase II Mitigation Plan.
38	USACE-CMP-11	The Corps will need to visit each of the proposed PRM sites. We will be in contact with GreenVest and BWRR to determine appropriate dates for site visit availability.	Field visits to the proposed PRM sites were completed on February 10, 2021.

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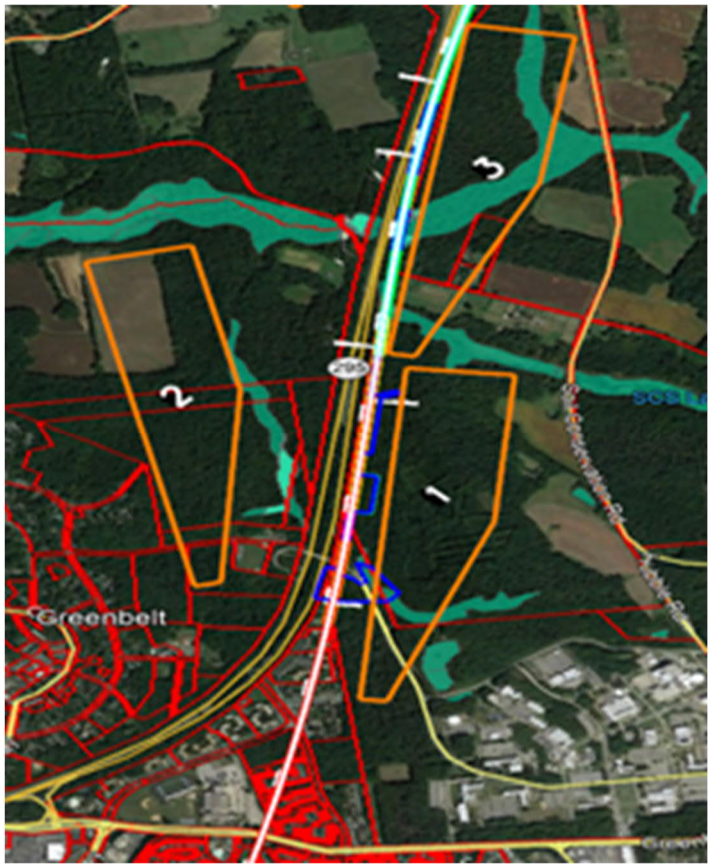
39	USACE-TMFR-1	Section 7.2 states that TMF facilities that would require any residential acquisition were eliminated from consideration. Did the project conduct any kind of survey(s) to determine the opinions of the residential properties that would have to be bought out in order to construct these TMFs? It is possible that if residents were in favor of being bought out, one or more of these TMF sites could provide a lesser-damaging environmental alternative to the three sites being currently evaluated?	The intent used was not "any" residential acquisition would eliminate a TMF, rather that residential displacement and impact was a factor to be used in evaluation. From the beginning of the project development, BWRR has been conducting community outreach. To date we have had over 200 meetings with county councils, civic groups, communities' associations, and private landowners among others. So far, as could be expected, residential acquisitions have been met with strong resistance by the residents and communities. No desire to be bought out and relocated has been raised by any resident. This is particularly evident when there are reasonable and practicable alternatives that would not entail residential impact and displacement. Nonetheless, BWRR will continue its outreach efforts. The three alternatives retained were retained due to them meeting technical requirements, and being the least damaging environmental alternative, when you include impacts to people as part of the environment.

40	USACE-TMFR-2	An additional criterion of the TMF was for TMF ramps to connect to the mainline above ground. The description for this criterion states that, in addition to increased cost, ramps connecting below ground would have unacceptable surface impacts associated with the construction of underground switchboxes, tunnel transition portals and ventilation facilities that would pose substantial impacts to the human and natural environment. TMF alternatives #1-3 were removed based on this criterion, though TMF alternative #1 (Greenbelt, MD, East of BWP) would only impact 1 acre of wetland, compared to 4 acres with the sponsor's proposed alternative at BARC West. Please elaborate on the environmental impacts associated with placing these facilities below ground and why they are considered unacceptable.	All three sites would still have substantial environmental impacts. Regarding sites #1 and #2, ramps must depart the mainline at a straight section, which would make the ramps leave the mainline in locations resulting in severe impacts to the human environment and residential properties. This would require residential takings for top-down construction and areas of open cut where the ramps daylight, see the screenshot below for reference. Site # 2 would greatly impact the Greenbelt Forest Preserve, for which there could be no adequate mitigation. Site #3 impacts 34 acres, more acres than BARC sites or MD -198. 

#	Agency	USACE Comment	BWRR Comment Response
			Additionally, as noted in our Alternatives Analysis (Exhibit F of the JPA), "The determination of what constitutes an unreasonable expense should generally consider whether the projected cost is substantially greater than the costs normally associated with the particular type of project." In the case of below grade ramps, the expected cost increase would be more the six (6) times the cost of using an above ground installation. BWRR estimates the cost of underground ramps to increase the TMF site cost by $500,000,000. Without going underground, the TMF Civil costs is expected to be approximately $80,000,0000. These estimates are for site work only ($500,000,000/80,000,000 = 6.25).
41	USACE-CP-1	Please make sure that all ancillary facilities needed for the SCMAGLEV system construction (for example, the 1-acre temporary slurry facility) are located outside of wetlands and waters of the US. If this is unavoidable due to project constraints, please make sure that all these facilities are shown on the impact plates and included in impact totals.	The intent is to locate the slurry plant(s) and all other ancillary facilities within the LOD defined on the plans. As the project design progresses, all opportunities to avoid and minimize impacts to resources through placement of ancillary facilities will be utilized to the maximum extent practicable.
42	USACE-CP-1	Construction should be phased in a manner that minimizes impacts to wetlands and waters to the maximum extent practicable. For example, temporary access roads that cross wetlands or waterways should be utilized for the minimum time frame needed for construction before being rehabilitated to their pre-construction conditions. The appropriate in-stream closure periods, as determined by MD DNR stream use designation, as well as additional input from MD DNR/US FWS, will need to be strictly followed for any work that impacts waters of the U.S.	Understood. There is flexibility to adjust construction access and overall sequencing as design progresses to minimize impacts to the maximum practicable extent. At the time of initial access design, delineation data was not available.

#	Agency	USACE Comment	BWRR Comment Response
43	USACE-PP-1	The Corps will need detailed design plans with existing and proposed contours clearly shown for all above-ground aspects of the SCMAGLEV system to evaluate any fill or grading impacts to wetlands or waterways. All limits of disturbance (LODs) should be minimized to the maximum extent practicable for construction and access. An erosion & sediment control plan will be required to show the best management practices (BMPs) used to minimize adverse impacts to wetlands and waterways. Planting plans will be needed to show how temporarily impacted wetlands will be restored to their pre-construction conditions. The Corps understands that the project design is at a relatively conceptual phase and that more detailed plans will be submitted in the future.	Proposed grading plans have not been developed for all facilities yet. However, the LODs shown on the plans include buffers that are meant to ensure that the facility footprints are adequate (and include the areas required for cut/fill slopes for example). Erosion control and planting plans will be prepared as the design advances towards the FEIS phase for the preferred alternative.
44	USACE-PP-2	Is there a factor of safety (i.e., added area) shown in the LODs on these plans?	See above response to comment 43. Certain buffers are included in the LODs to ensure that they are adequate.
45	USACE-PP-3	Please clarify what is shown by the yellow outlined polygons labeled “SCMAGLEV Systems”. Are these structural features associated with the project?	SCMAGLEV systems are smaller facilities that are required by the technology. These sites will include small buildings, parking areas and other equipment needed for the SCMAGLEV system.
46	USACE-GT-1	The Corps has questions about the disposal of the 23-28 million cubic yards of spoil resulting from tunneling and grading. Further, Exhibit E indicates that BWRR is coordinating with the Maryland Environmental Service on the potential use of spoils on Chesapeake Bay shoreline and island enhancement projects. Excavated soil from deep tunnel may not be a viable material for coastal enhancement projects. As mentioned in Section 3.4, future geotechnical analysis will be needed to determine the potential presence of contaminants in the spoil material.	BWRR is in communication with various entities who have shown interest in the use of spoils, including from an airport for runway construction. Geotechnical analysis will be needed to determine the potential presence of contaminants in the spoil material before any disbursement of the spoils. Additional information was included in the DEIS, App-G7: Construction Planning Memorandum

#	Agency	USACE Comment	BWRR Comment Response
47	USACE-GT-2	The potential use of spoil material for coastal and island enhancement projects will require permitting from the Corps and may require additional coordination with the Corps Navigation Branch, NMFS, and MDE's Tidal Wetlands Division.	Understand. See comment #46 above.
48	USACE-GT-3	The Corps notes that three landfills and two construction sites are identified for the disposal of spoil. Do these landfills have the capacity to take all the spoil material if it is determined unfit for coastal enhancement or use on construction sites? Any aquatic resource impacts associated with the spoil placement for coastal/island enhancement projects, landfills, or construction sites will need to be included in the impact totals and mitigation requirements for the project.	Understand. See comment #46 above. Note, the disbursement of spoils will be to permitted or otherwise approved locations. Therefore, no additional impacts associated with spoil disbursement will be added to the SCMAGLEV project totals at this time.
49	USACE-408-3	The Corps Section 408 review has indicated that they do not have enough information to consider the 408 submittal a complete application. Please coordinate with the Section 408 review team (Mr. Rob Lewis, Robert.L.Lewis@usace.army.mil) to determine the additional information required to satisfy 408 application and permit requirements.	Understood, Shape file of USACE facility at the Anacostia received from USACE, and incorporated into drawings.