By Email and Mail

February 9, 2018

Matthew Beaton, Secretary
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Attn: Alex Stryksy, MEPA Office

Re: I-90 Allston Interchange Project, Boston, Draft Environmental Impact Report, EOEEA No. 15278

Dear Secretary Beaton:

The Charles River Watershed Association (CRWA) has been deeply involved in the I-90 Allston Interchange Project both as members of its Task Force and in discussions and collaboration with both neighborhood and environmental organizations. In December, 2016, CRWA presented its principles and goals for this project to the Task Force, a copy of which is attached hereto as Appendix A. It is through this lens that we now review the DEIR.

CRWA’s project principles in brief are:

1) Creation of parklands and access to the river
2) Creation of blue-greenways (linear open space corridors) and green streets
3) Planning/Design for climate change resilience
4) Place-making with the goal of environmental restoration, improving quality of life for the neighborhood and creating access to nature in a dense urban core

West Station, north-south connections and bicycle-pedestrian links
CRWA strongly supports the construction of West Station in Phase I. Without this the project is not a “multi-modal transportation improvement project,” as the proponent asserts, nor is this transit-oriented development (DEIR Section 1.2 p.7). We understand that Harvard University is now offering to contribute $58 million toward station construction. Whether the complete proposed West Station, or one more akin to Allston Landing or Yawkey Station, is built in Phase I, this should be a binding mitigation commitment by MassDOT and embodied in the Section 61
findings. Without this, in our opinion, the project fails to use all feasible means to avoid, or if not possible, minimize and mitigate damage to the environment to the maximum extent practicable. 301 CMR 11.01(1)(a).

Importantly, while “construction of a new pedestrian/bicycle connection (bridge structure over rail yard) between Malvern Street and the reconfigured I-90 Interchange” is listed in Phase I, Mass DOT should commit to building the Malvern Street north-south bike-pedestrian connection early in Phase 1. Indeed, in the DEIR MassDOT proposes the Malvern Street and Babcock Street “thru-access” bridges across West Station and BPY only in its 2040 full build (DEIR Section 3.2.2). MassDOT needs to clarify this since in the DEIR MassDOT also states that under 3K-HV, the Malvern street connection is in Stage 5 and that the Malvern and Babcock Street pedestrian bridges and MBTA layover facility will be completed in Stage 6. DEIR at 5.21.1.

The north-south connection is essential for bicyclists and pedestrians travelling between Brookline, Boston and Cambridge, and one that will undoubtedly reduce the number of circuitous automobile trips and promote healthier transportation alternatives. “Additionally, many citizens in Allston, Cambridge and Brookline, and groups like Walk Boston, have voiced the importance of this connection for busses. We agree. Yet no action at this time is proposed according to MassDOT. While the Franklin Street Bridge is proposed as an “early action item,” no specificity on the timing of its construction is proposed. This should be clarified as should the timing of all bike-pedestrian measures.

MassDOT proposes to design and reconstruct Cambridge Street as a “complete street,” with separate bicycle and pedestrian paths, however, we disagree with MassDOT’s assertion that HV-3K4 is the “most responsive to the People’s Pike,” a project condition which you prescribed in your ENF certificate. CRWA believes that the AMP opportunity for bike/pedestrian use along the elevated Grand Junction Road over I-90 makes for a more direct connection to the River and its parklands.

Climate Change and Resiliency
As MassDOT recognizes climate change will result in increased precipitation and overbank flooding in the project area. While the BH-FRM modeling in the DEIR predicts that between today and 2030, there is “no chance of flooding in the project area,” the model has a very significant caveat: it does not include “precipitation based flooding in the Study Area from upland sources (i.e., stormwater runoff).” (DEIR Section 4.19.1 pg. 48). BH-FRM “does not include potential backups in piped infrastructure, or poor drainage conditions at a specific site” Id. With increased precipitation, “these stormwater flooding impacts are also expected to intensify.” By 2070, the model predicts “storm surge induced flanking and overtopping of the

1 Nor does it appear that the project will comply with MassDOT’s GreenDOT criteria for transportation systems and infrastructure design. The “GreenDOT Implementation Plan provides the framework for incorporating sustainability principles to MassDOT’s business practices, with three primary objectives: (1) reduce greenhouse gases; (2) promote healthy transportation options including bicycling, public transit and walking; and (3) support smart growth development. ENF Response to comments at BTD/BRA-11. Without West Station and the construction of ped/bike bridges early in the project, the project fails to support smart growth development; nor does it promote healthy transportation options including public transit, biking and walking.
[New Charles River] dam [will] far exceed[ ] the capacity of the pumps and “causes water to flow upstream behind the dam throughout the Charles River system.” *Id.* The proponent acknowledges that the water surface will be above Soldiers Field Road by 2070\(^2\) and that upstream flooding “may occur prior to 2070”. (DEIR Section 4.19.1 pg. 48). We note that this is an extremely flood-prone area,\(^3\) and that MassDOT’s preliminary results suggest that areas adjacent to the river between the Western Avenue and River Street bridges are at a high risk of flooding, especially after 2030.

Climate change-induced hotter temperatures combined with heat-absorbing surfaces (pavement and roadways), will also intensify urban heat island effect. The project area consists of almost 66 acres of roadways, 3 acres of sidewalks, and 5.5 acres of parking lots. DEIR at 4.19.3. We completely agree with the conclusion in the DEIR that “[i]t is reasonable to assume . . . commensurate increases in urban heat island effect throughout the project area.” DEIR at 4.19.4. As MassDOT recognizes, the AMP option provides an opportunity for tree shading in the throat area to alleviate some heat island effect.

Although MassDOT states that both the HV and AMP options will have no impacts on flood plain, the ABC option will as currently proposed result in a loss of flood storage and would require compensatory flood storage. As MassDOT acknowledges, compensatory flood storage must be not previously used and incrementally equal to the volume of flood water at each elevation; it must also have unrestricted hydraulic connection to same waterway. DEIR at 1.5.13.

The project and Harvard University’s development of its Enterprise Research Campus (ERC) both need to do their utmost to reduce flooding and mitigate heat island impacts. Green infrastructure (GI) will play a key role in both flood mitigation and reduction of heat island effect while reducing polluted stormwater runoff to the Charles. Stormwater pollution is the major problem affecting the health of the Charles River today and the principal reason that the river fails to meet water quality standards and designated uses. Yet, as discussed below, the DEIR fails to incorporate GI on a meaningful scale. This is a major lost opportunity –the omission and, we believe, folly of which will become all too clear in the coming years. We ask that you require in your DEIR certificate that MassDOT identify GI opportunities fully and provide a complete explanation for any areas where MassDOT claims GI is neither feasible, nor practicable to the maximum extent.

**Stormwater Management**

The project area is covered mostly by impervious surfaces, which have severely disrupted the natural hydrology. Today, stormwater drains to a series of outfalls before discharging into the Charles River. There are 36 sub-catchment areas routing to 25 outfalls that discharge to the

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\(^2\) According to MassDOT, under its preferred alternative, 2070 flooding won’t threaten 1-90 until it meets grade near the BU bridge.

\(^3\) Flood maps from City of Cambridge of the Mean High High Water +5 feet projected to occur by mid- to late-century (**equivalent to flooding from Hurricane Sandy if it hit Boston during high tide**)
river in the project area. DEIR at Figure 4.17-2. Stormwater management presents both a challenge and an opportunity for this project.

Five entities (MassDOT, MBTA, City of Boston, DCR and Harvard University) are responsible for the stormwater management system throughout the project area. CRWA is greatly concerned about the lack of coordination and comprehensive planning for stormwater in the project area. MassDOT should explain its statement in the DEIR “[a]lthough the limits of jurisdiction among these entities will be distinct and defined by property rights that will be established as part of the Project design process, the attainment of stormwater management goals will be evaluated and measured on a Project-wide basis without regard to proposed jurisdictional boundaries.” DEIR at 1.5.17 (emphasis added). This evaluation and measurement process should be fully detailed in the FEIR. Realistically, we fail to see how stormwater management goals will be attained Project-wide without a clear understanding on how the GI retrofits can be planned and engineered for each drainage area at a cumulative sub-watershed level.

DEIR Figure 4.17-2 Existing Subwatershed

DEIR Figure 4.17-2 shows the four major drainage areas within the project area and 26 smaller ones draining to Charles River outfalls. According to MassDOT, the preferred alternative will meet stormwater regulatory standards. In addition, the City will require drainage easements, which will be established in coordination with Harvard University, for the conveyance of stormwater through a system of underground pipes to a new outfall at the Charles River. The City will also need to acquire a drainage easement from the relocated Soldiers Field Road (SFR) Right of Way from DCR for this conveyance to the Charles River.
CRWA has reviewed the stormwater management plan and is concerned that a large part of the project area (over 35 acres of the total 100-acre drainage area) is receiving no treatment to reduce phosphorus loading. This includes the entire stretch of SFR in the throat area, which today discharges directly to the Charles River. Given the phosphorus-laden runoff generated from car exhaust on roadways and the phosphorous limits established in the Lower Charles River Nutrient Total Maximum Daily Load (TMDL), the proponent has failed to show how this DCR-controlled Parkway will comply with the TMDL (64% phosphorous reduction). It is unclear to us why stormwater BMPs are listed in Stage 6.

The drainage calculations in Appendix M assume that the various infiltration BMP’s will provide the pollutant removal efficiencies noted, yet, there is no documentation of soil tests and ground water levels at the locations where these BMP’s are proposed. Additionally, although only the 3K-HV option is shown to achieve 66% phosphorous load reduction, CRWA is uncertain about the project’s ability as designed to meet the TMDL. Specifically, the project proposes no treatment for several of the small drainage areas and only partial treatment for the larger drainage areas.

CRWA is very concerned about the two new/relocated outfalls (#O2 and O3) shown in DEIR Figure 4.17-2 for the 3K-HV option. It is unclear whether the relocated discharge will be considered a new discharge by MassDEP. The project has not even attempted to treat any flows going to the Salt Creek outfall (# O4). Because this project site is at the very downstream end of an extremely polluted drainage area to the south that include parts of Brookline and Boston University, it provides the opportunity for MassDOT to leverage resources from them to work with BWSC to clean up the current and any increased discharge through a constructed wetland, rather than a new outfall. While the DEIR states that MassDOT has a preference for above-ground vegetative features, where space allows, the plan is for mostly underground infiltration strategies, which may or may not work with the existing urban soils and high groundwater levels in the area.
As can be seen in Figure 1 above, CRWA is proposing GI systems, including “blue greenways” (bioretention /wet-weather corridors) and constructed wetlands to manage stormwater runoff from 1”-5” rain storms for this entire drainage area in North Allston. We believe that this is far better in terms of stormwater management and resiliency than that proposed by MassDOT.
The minimum target in CRWA’s plan is the capture and management of a 2” storm, and where opportunities exist for accommodating additional (temporary) flood storage, a 5” storm. These blue greenway designs will provide increased public open space, reduce flooding, and mitigate the urban heat Island effect. CRWA’s blue green infrastructure planning strategies start with an understanding of historic hydrologic conditions in this area and aim to replicate the natural hydrology. For more detail on CRWA’s approach, which connects this project to the ERC please see Appendix B attached hereto.

While MassDOT states that it will construct the complete stormwater system for the project area in conformance with applicable design requirements, it is crucial that the entire project area be considered and managed as a single “stormwater management district.” This would enable design and engineering of a larger subwatershed GI plan for this largely impervious urban area. This GI plan would not only help the parties to comply with their respective stormwater permits and Charles River TMDLs, but also create a much more resilient urban neighborhood with an ability to better manage current and future flooding. We therefore request that the FEIR be scoped to include a stormwater management district plan for the larger drainage area identified by CRWA in Figure 1 above.

**Throat Area**

While MassDOT is proposing to widen the Paul Dudley White path (PDW) to 12 feet and to buffer it from Soldiers Field Road (SFR) with trees under the 3K-HV, its preferred alternative, this comes at a cost, namely, building a wider viaduct than exists today. The new viaduct would extend out over the relocated SFR and the parkland created in this section of the project. Stormwater BMPs would be located beneath the viaduct in 3K-HV. MassDOT should explain how these BMPs will perform given the soil conditions and high groundwater table in the area. Large viaduct footings will also need to be located in this parkland to support the viaduct. We believe that MassDOT’s preferred alternative will diminish the value of the parkland and its public enjoyment. See, Section 4(f) discussion below.

In the FEIR, the proponent should closely analyze the historic impacts of its preferred alternative on the Charles River and the Charles River Reservation, including SFR, an important contributing element of the Charles River Parkways District. MassDOT should be required to include visualizations from across the river for all three throat options—3K-HV, AMP and ABC, and for the 3K-HV option, from underneath the viaduct and from the PDW.

Importantly, there is no noise mitigation proposed in the 3K-HV option. And although we appreciate that I-90 drivers will continue to have sweeping views of the Charles River basin under the HV option, this is not a proper project goal. In the FEIR, or preferably, a supplemental EIR, MassDOT should thoroughly analyze noise mitigation options for all three throat options and the impact to historic resources.

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4 According to MassDOT, 3K-HV provides “some acoustic shielding to receptors in the PDW path in the vicinity of the Throat area. DEIR at 5.0, p 1; 5.11). We have grave doubts that moving the viaduct closer to the river will result in “similar or lower than existing conditions” for noise levels, which are already a problem for adjacent neighborhoods and Cambridge residents.
CRWA believes there are a number of advantages to putting I-90 at grade in the throat (ABC and AMP) for improved river access, noise and shadows, among others. However, under all three options, the starting point should be the minimum safe I-90 width. We note that the I-90 viaduct appears to have operated quite well at its current lane width (11.5 foot lanes) with one-foot shoulders (1.08 crashes per million) and that other parts of I-90 leading into the city, which are not proposed to be changed, have scant shoulders.

Additionally, I-90 vehicle use (and that of SFR) is likely to look quite different in 20, or even 10, years given the likely advent of driverless cars, and improved public and alternative modes of transportation. We ask that you require MassDOT to analyze these transportation mode changes in relation to its preferred alternative viaduct width.

MassDOT should analyze its conclusion that a fully AASHTO standards applicable highway with four, 12-foot lanes in each direction with 4-foot shoulders left and right both east and west-bound is necessary in the throat area, irrespective of which option is chosen. CRWA believes that this is an excessive treatment that is not compelling for safety, or for stormwater management. Highway speeds could be reduced in this area and the proponent should be required to analyze this in relation to lane and shoulder width. Overall, 3K-HV will create 2.26 acres of new impervious surface. MassDOT asserts with scant support that the ABC and AMP options will result in gutter flow into travel lanes.

CRWA is well aware of the permitting challenges posed by the ABC option, which even without the addition of the NBBJ proposal for a multiuse path in the river, requires a retaining wall and fill in the river. While CRWA does not consider the river under all circumstances inviolate, our starting point for going into the river is environmental benefit, for habitat, water quality, flood storage and resiliency.

The Charles is home to an important anadromous fish run for both blueback herring and alewife. Catadromous fish—American Eel, also migrate in the Charles. Additionally, US Fish & Wildlife in partnership with Division of Marine Fisheries and collaboration with CRWA began an American shad restoration project in 2006 to bring back these once-native fish. Bank habitat is important to these fisheries for cover, shade and feeding areas. Existing bank habitat in this section of the river is poor and under all three options should be restored as project mitigation. The ABC option as analyzed in the DEIR will eliminate all habitat value. Consequently, CRWA

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5 According to DEIR Figure 5.4-2, the outer east and west bound shoulders are proposed to be eight feet wide, not four feet.
does not support the ABC option as currently set forth in the DEIR.\(^6\)

As presented in the DEIR, CRWA believes that the AMP option, although more expensive, is the better at-grade option. In the FEIR the proponent should explain in detail why both the AMP and ABC options would require shutting down the Grand Junction Rail (GJR) for a minimum of three years, and up to five years, to rebuild the GJR.

**Section 4(f)**
Because parkland and historic resources are located, and will be impacted by the project, a Section 4(f) evaluation is required. See, DEIR ch.6 at 1. It makes little sense to postpone this evaluation until National Environmental Policy Act review. Indeed, section 4(f)’s requirements of no prudent and feasible alternative and “all possible planning to minimize harm,” we believe, dictate far earlier consideration and public review in the MEPA process. 49 U.S.C. § 303 (c)(1)-(2). Your certificate on the ENF also required that Section 4(f) be considered in the DEIR.

CRWA believes the project “will adversely affect the activities, features, and attributes of the park . . . eligible for protection under [49 U.S.C. § 303 (d)(3)(A)].” The footings to support an

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\(^6\) Since the filing of the DEIR, advocates for a wider PDW in the throat area working with Sasaki have offered conceptual designs for constructing the PDW on new fill in the river (Expanded Shoreline Paths) or on a boardwalk out over the river (Boardwalk Paths). ABC, with conceptual design by Alex Krieger and NBBJ, is also expected to submit with its DEIR comments visuals of its “All At-Grade Base” and an “All At-Grade w/Add Green-Space” for the throat area. The All At-Grade w/Add Green-Space option would include a sloping natural edge, replacing existing bank rip-rap and eliminating the vertical seawall. The NBBJ concept calls for 10-foot wide separate bicycle and pedestrian paths with a landscaped buffer against SFR. The All At-Grade w/Add Green-Space concept that was provided to CRWA also shows a floating boardwalk and pier; under the NBBJ concept the “natural edge” is proposed from the BU Bridge thru the Throat area, and possibly to River Street. In the Sasaki concept, 6 or 7-foot separate bicycle and walking paths are proposed in the river on fill and with a boardwalk.

While on their face the Sasaki and NBBJ renderings seem attractive, the engineering would have to be thought through since the devil is in the details. Creation of new river vegetated edge with fill would require very careful planning and design for the lowest impact and highest environmental benefit. Two separated 10-foot wide paths into the river with a 2-foot buffer in the NBBJ design strikes us as excessive. CRWA has no information about the new imperviousness necessary for either the Sasaki or NBBJ concepts.

For CRWA, critical elements for river fill would be whether the fill creates new edge habitat for fish and wildlife, improves SFR stormwater runoff, and provides flood storage capacity and resiliency under climate change. Understandably, CRWA is less cavalier than others about the expendability of river to create a better PDW. We do, however, recognize that an improved PDW will encourage use for travel/commuting in the years to come into Boston thereby reducing the number of vehicles on SFR, as well as allowing users to better enjoy this section of the river.

CRWA is quite willing to engage in this discussion; however, it requires an understanding by both advocates for an improved PDW and relevant state agencies that environmental benefit is central to the discussion. MEPA should require that MassDOT conduct a fair and thorough environmental analysis of design alternatives that would require fill in the river for additional parkland.
elevated roadway\(^7\) and the 6,100-sf Pike overhang in MassDOT’s preferred alternative, which will move the viaduct eight feet closer to SFR are not \textit{de minimis} impacts. They will result in direct alteration of parkland features.\(^8\) MassDOT estimates that there will be 15,250 sf of direct impacts due to the I-90 support piers and realignment of GJR. DEIR Table 5.4.2. It is debatable whether visual and noise impacts are indirect impacts as MassDOT claims for parkland uses. However, in our opinion, there will be an adverse effect on historic resources and Mass DOT’s preferred alternative will also require the conversion of Article 97 land.\(^9\) Accordingly, the effects should not be considered \textit{de minimis} to historic resources.

While DEIR Table 5.4.2 Summary of Potential Section 4(f) Impacts, lists “Minimal Shading PDW Path” as the only indirect impact, elsewhere in the DEIR, MassDOT identifies 6,100 sf of indirect impacts for 3K-HV. This should be reconciled and explained in the FEIR.

Additionally, although all of the construction stage plans in the DEIR, ch. 6, show the PDW open during all stages, we think it is highly likely that the path will need to be closed and PDW users rerouted in both the River Street and throat areas to Cambridge for a lengthy period of time since both areas are adjacent to active construction zones.\(^10\) In the FEIR Mass DOT should be required to complete the 4(f) evaluation and to identify and quantify clearly each of the direct, indirect and temporary parkland and historic resource impacts and the mitigation it is proposing for these effects. Impacts with specific locations identified should also be presented in tabular format.

Importantly, in its section 4(f) evaluation, MassDOT should discuss and analyze smaller I-90 lane widths and shoulders in the throat area in order to avoid parkland and historic resource impacts under all three options. Indeed, in our opinion, this analysis is mandatory to meet the requirement of all possible planning to minimize harm. You also required this in your certificate on the ENF: the DEIR should discuss “the design implications of seeking design exceptions from federal highway standards”; describe the types and locations of other MassDOT projects with design exceptions and their overall performance with regard to operations and safety”; and whether design exceptions “may impact fundability or approval of the project by State and federal officials.” ENF Certificate at 15-16.

\(^7\) According to MassDOT, “[t]he viaduct support structures will require 8,750 square feet (sf) of parkland loss due to the placement of the piers on DCR property. The location of the I-90 viaduct in the 3K-HV Throat Area Variation will be the highest and the closest to the PDW Path.” DEIR 5.4.5

\(^8\) As MassDOT acknowledges, “[e]ach of the variations will result in unavoidable direct use of DCR parkland, and would require a determination of affect under Section 106 to determine whether there is a 4(f) use of an historic property. Only the No Build Alternative will have no effect on Section 4(f) resources.” DEIR at 5.4.5

\(^9\) Perhaps we missed this in the DEIR, but we remain unclear about the location and amount of Article 97 land conversion required in the throat area under MassDOT’s preferred alternative. Land under an expanded viaduct is not identified as Article 97 land in Figure 5.4-2; it is shown as a stormwater BMP-area.

\(^10\) We note that according to MassDOT, “Path access depends on the Throat Area Variation, where sections may be detoured and/or closed for safety purposes.” DEIR at 5.21.2.
Wetlands and Tidelands

MassDOT claims with the exception of discharge pipe(s) to the Charles River, the project work is not within wetland resource areas. MassDOT identifies the wetland impacts—along the top of slope of Charles River for as a work zone — as temporary. The proponent also acknowledges that [t]he installation of one new pipe, removal of six pipes and replacement of three stormwater discharge pipes along the Charles River in the Project Area will temporarily and permanently alter state resource areas including 240 sf of Land Under Water (LUW), 90 lf of Bank and Bordering Land Subject to Flooding (BLSF). See Figures 5.12-1 through 5.12-3 for the discharge pipe locations. DEIR at 5.12.2.

The pipe planned to discharge at the toe of planned armored rock is clearly a wetland resource alteration of bank, riverfront area, bordering land subject to flooding, and depending on scouring and erosion, has high potential to alter land under water. We do not believe that this should be considered a temporary impact.

Although MassDOT seems to claim that this would not be considered a new outfall under MassDEP’s Stormwater Standards because the discharge volume will not increase and three discharge pipes are being eliminated, it remains to be seen how MassDEP would view this and whether this new outfall can meet Stormwater Management Standard 1: “No new stormwater conveyances (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.” Erosion, sedimentation build up, and pollution from stormwater outfall discharges in the Charles is of great concern to CRWA. Today, the Charles River Basin fails to meet water quality standards. We note that it was necessary recently for DCR to dredge the river in the vicinity of an outfall near Nonantum Road, Brighton to remove a large sandbar created by the outfall’s discharge. The sandbar created a serious hazard for boaters and impacted fish habitat. Source control is a very important component of stormwater management for the project area.

Permitting for the proposed stormwater outfall(s) should be detailed in the FEIR, the responsible party(ies) identified, all potential impacts to wetland resources identified, and NPDES permitting required from EPA, if any, or whether (and how) this would be covered by the City of Boston’s Phase I stormwater permit. The proponent should discuss in detail how the project will comply with the Wetlands Protection Act and the City of Boston’s wetland ordinance with respect to both temporary and permanent resource impacts.

This nonwater- dependent infrastructure project is located in Commonwealth and filled tidelands. Commonwealth tidelands extend from ordinary high water across SFR and to land beneath I-90, including under the existing viaduct. As MassDOT acknowledges, the project will impact filled and flowed tidelands. DEIR at 7.12.2. Landlocked tidelands\(^{11}\) comprise 4.66 acres of the project area.\(^{12}\) According to Table 5.12-2, stormwater discharge pipes will create

\(^{11}\) It is unclear to us whether the full extent of the landlocked tidelands is shown in Figure 4.12-3. In the FEIR the proponent should clarify this.

\(^{12}\) According to MassDOT, the landlocked tidelands are mainly located in the railyard (former Salt Creek) and other former tributaries to the Charles River south of Cambridge Street. DEIR at 8.1.
temporary impacts to 200 sf and permanently impact 60 sf. of flowed tidelands. It is unclear to us whether this is just in the throat area or project-wide. This should be explained in the FEIR. The full project area’s temporary and permanent Commonwealth tidelands’ impacts should be included in the FEIR.¹³

Pursuant to 310 CMR 9.55: Standards for Nonwater-dependent Infrastructure Facilities, the project is not subject to the requirements of 310 CMR 9.51 through 9.53. However, this does not obviate the need for the project to comply with the proper public purpose requirement in 310 CMR 9.31 (2). This purpose must provide greater benefit than detriment to the rights of the public in said lands. A public benefit determination is also required for the landlocked tidelands pursuant to 310 CMR 13.05. While not subject to the Riverfront Area requirements in the Wetlands Protection Act, we believe that project c. 91 licensing, should prescribe conditions to protect the riverfront area.

In the FEIR, MassDOT should discuss compliance with 310 CMR 9.55 (1) that “all feasible measures are taken to avoid or minimize detriments to the water-related interests of the public,” including the attainment of water quality goals, the reduction of flood and erosion-related hazards on land subject to the 100-year storm event, especially those in damage-prone or natural buffer areas, and the preservation of historic sites and districts near waterways. 310 CMR 9.55 (1)(c), (d) and (f). Although MassDOT states that stormwater management compliance will be achieved on a project area-wide basis, this does not address the requirement in 310 CMR 9.55 of all feasible measures to avoid or minimize detriment to attainment of water quality goals in tidelands. Since no new stormwater treatment is proposed for SFR in the throat area, MassDOT should discuss how it will meet this requirement.

Phasing and Mitigation
Project phasing and stages for project elements should be more precise in the FEIR, particularly for the construction of bicycle and pedestrian bridges, construction of stormwater BMPs, and creation of new parkland. It is very important that the timing of construction of the Franklin Street Bridge, identified as an early action item, be specified, as well as the Malvern Street north south connection. Mitigation measures should align closely with project impacts and be performed as early as feasible.

CRWA believes that the mitigation proposed by Mass DOT is inadequate. Additional mitigation should include:

- Construction of a system of blue greenway(s) and wetlands for stormwater management, flood resiliency, and reduction of heat island effect in the project area;
- Charles River bank restoration from at least the throat area to the River Street Bridge with vegetation to provide fish habitat;
- A larger “Allston Esplanade” park for the public with bioswales and wetland features for stormwater management;
- Construction of West Station in Phase I;

¹³ Contrary to MassDOT’s assertion, see, DEIR at 4.12.2, our understanding is that the river is considered tidal to the Watertown Dam. This should be clarified in the FEIR.
• Pervious pavement for bicycle-pedestrian lanes and the PDW path;
• Completion of the GJ Path at the start of the project;
• Construction of the Franklin Street Bridge in Stage 1 and the Malvern Street bridge connection as soon as feasible and well before Stage 5.
• A true Peoples Pike that connects the residential neighborhood to the River through a network of bike and pedestrian greenways and parkland.

Lastly, we cannot stress enough that public participation during development of the FEIR is essential to the success of this project for transparency, public review, and a better project. We believe that the Task Force is the ideal vehicle for facilitating this public participation and requests that you make this mandatory in your DEIR certificate for MassDOT’s preparation of the FEIR.

Please feel free to call us if you have any questions.

Sincerely,

Margaret Van Deusen
Deputy Director and General Counsel

Pallavi Kalia Mande
Director, Blue Cities

cc: (via email)
I-90 Task Force
Secretary Stephanie Pollack, MassDOT
Commissioner Leo Roy, Department of Conservation and Recreation
Brian Golden, Boston Planning and Development Agency
Gerald Autler, Boston Planning and Development Agency
John Sullivan, BWSC
Michael O’Dowd, MassDOT
Boston Environment Department
Shaun Donovan, Harvard University
Kevin Casey, Harvard University
Ken Miller, Federal Highway Administration
Chris Osgood, City of Boston Chief of Streets
Louis D. Pasquale, Cambridge City Manager
Vision and Four Principles for I-90 Allston Interchange Project

1. Creation of new parkland and public access to the Charles River

   **Strategies and Benefits:**
   - Improve quality of life and access to open space for neighborhood residents
   - Create stronger bicycle and pedestrian access through multiple connections to the river
   - Improve water quality in the river by managing stormwater runoff
   - Minimize the urban heat island effect caused by paved and built areas

   ![Vision for new parkland and open space connection to the Charles River](image1)
   
   Vision for new parkland and open space connection to the Charles River
   Source: Varanasi Team, Beacon Yards Urban Design Workshop

2. Creation of a blue-greenway (network of open space corridors) and green streets

   **Strategies and Benefits:**
   - Daylight Salt Creek to capture and treat stormwater flows and provide capacity for larger volumes
   - Meet phosphorus reduction requirements for stormwater runoff to reduce nutrient pollution
   - Create open space to absorb excess precipitation and provide flood storage
   - Provide safe and inviting public access to the riverfront via pedestrian and bike ways

   ![Proposed Daylighted Salt Creek with pedestrian and bike access](image2)
   
   Proposed Daylighted Salt Creek with pedestrian and bike access
   Source: Boston Globe “At Beacon Yards, Here Comes the Neighborhood”
3. Planning and design for climate change resilience

Strategies and Benefits:
- Provide flood storage for extreme weather events and increased storm surges
- Provide green space to decrease impact of projected heatwaves due to climate change
- Create a natural sponge to restore hydrology and decrease impervious cover
- Increase urban tree canopy to capture and store CO2, a major contributor to climate change

4. Place-making to restore the environment, improve quality of life for the neighborhood and provide access to nature in a dense urban core

Strategies and Benefits:
- Improve public health through new green space for active and passive recreation
- Increase development potential through new and improved open spaces and restored environmental conditions
- Create parkland with recreational value and improved ecosystem services for neighborhood residents
Blue Green Infrastructure Planning Strategies
Harvard Enterprise Research Center & I-90 Interchange Project

INFRASTRUCTURE NEEDS AND APPROACH FOR RESILIENCE

Climate change is predicted to result in increased precipitation and higher flood inundation levels, as well as higher temperatures due to the Urban Heat Island effect. Designing and implementing Green Infrastructure (GI) in urban neighborhoods such as North Allston-Brighton will play a key role in mitigating flooding and heat island effect while improving water quality in the Charles River. Stormwater parks and blue-greenways will also serve as public open space for the local community, providing much needed passive recreational opportunities and connections to the Charles River.

CRWA’s approach for the Harvard ERC site and the I-90 project area is to design GI systems, including blue greenways (bioretention / wet-weather corridors) and constructed wetlands to manage stormwater runoff from 1”-5” rain storms. The minimum target will be to capture and manage a 2” storm, and where opportunities exist for accommodating additional (temporary) flood storage, a 5” storm. These designs will provide increased public open space, reduce flooding, and mitigate the Urban Heat Island effect.
The proposed concept design aims to capture, store, and treat stormwater runoff from the following drainage areas within the Harvard ERC project site.

**Drainage Area (A)**
- Located west of the District Energy Facility (DEF)
- Drains to an outfall north of Western Ave, indicated in orange

**Drainage Area (B)**
- Located between Western Ave and River Street encompassing the DEF
- Currently has no drainage outfall in place

CRWA has also identified opportunities for additional bioretention systems and parkland north of the Genzyme building extending from East Drive to Soldiers Field Road (SFR).

**Constructed Wetlands**
- Two wetlands totaling 5.4 acres
- Designed to be connected by piping
- Located south and southeast of the DEF

**Blue Greenway**
- A 6-acre bioretention system designed as a blue greenway (network of open space corridors), running parallel to Cattle Drive and Science Drive
- This design, when coupled with the constructed wetlands, is able to capture a 2” storm

Sizing Note: Constructed wetland and bio-retention systems were sized to be able to treat/manage/store 1”-5” of precipitation based on location and probability of flooding/inundation suggested by MassDOT’s 2070 projections of a 1% chance storm.
The area of North Allston has seen dramatic changes in development since the turn of the 16th century, especially along the banks of the Charles River. Prior to 1908, the Charles River existed as a true estuary open to the Boston Harbor. In what is now the I-90 project area, salt marshes and freshwater meadows buffered the estuary, providing natural flood control by storing excess water volume and filtering out nutrients and pollutants.

Today, the I-90 project area is covered mostly by impervious surfaces. Stormwater drains to a series of outfalls where it discharges into the Charles River, carrying pollution from the land into the river. Understanding the historic conditions of the project site helps guide the design of Green Infrastructure that will successfully restore the function of natural hydrology on the site.

The concept design proposed by CRWA aims to capture, store, and treat stormwater runoff from the three major drainage areas within the I-90 project area. These areas as delineated based on the drainage flowing to the MassDOT and BWSC owned outfalls in the Charles shown above.
I-90 Allston Interchange Project Area

Proposed Green Infrastructure Strategies

**Constructed Wetlands**

- In order to capture a 1” storm from the area draining to MassDOT outfall #2, a wetland, 0.5 acre in size, was sited south of River Street. To capture a 2” storm, 0.5 acres of bioretention is needed.
- To capture a 1” storm from the area draining to the MassDOT outfall #1, a 2.5-acre wetland was sited south of River Street. This area has a high probability of inundation suggested by MassDOT’s 2070 projections of a 01% chance storm.

**Bioretention Systems**

- A 10 acre bioretention system designed as a blue greenway (network of open space corridors)
- Connects from the Harvard ERC project area to a 4-acre constructed wetland sited between East Drive and SFR
- Located adjacent to the proposed parkland along the Charles River in the I-90 project area

Sizing Note: The wetland alone was sized to capture a 1” storm. Together with the bioretention systems in the blue greenway, these green infrastructure designs capture over a 5” storm. To capture a 2” storm, 4 acres of bioretention are required in addition to the 4-acre wetland.