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March 10, 1994

Ms. Trudy Coxe
Secretary
Massachusetts Executive Office of Environmental Affairs
100 Cambridge Street, 20th Floor
Boston, MA 02202
ATTN: MEPA Unit

Mr. Daniel Berman
Project Manager
Central Artery/Tunnel Project
Federal Highway Administration
55 Broadway, 10th Floor
Cambridge, MA 02142

RE: Central Artery/Tunnel Project, Charles River Crossing
Final Supplemental Environmental Impact Statement/Report
EOEA #4325
FHWA-MA-EIS-82-02-FS3

Dear Secretary Coxe and Mr. Berman:

The City of Cambridge appreciates the opportunity to submit comments on the Charles River Crossing Final Supplemental Environmental Impact Statement/Report (FSEIS/R). We hope that our comments will facilitate the eventual selection and implementation of a universally beneficial river crossing design.

The FSEIS/R is inadequate and deficient for the following reasons:

- It is an advocacy document rather than an objective analysis of impacts and alternatives;
- The Alternatives Analysis is flawed;
- The FSEIS/R provides inadequate responses to comments by Cambridge and others;

- The wetlands analysis is insufficient;

- Alternative Bridge designs should be incorporated into this document, and, at a minimum, a further SEIS/R is required. No state or federal permitting decisions should be made until the bridge design issue is resolved; and

- The 4(f) inventory is inadequate because it fails to identify all 4(f) resources and improperly concludes that the Preferred Alternative has fewer impacts than the Reduced River-Tunnel Alternative or the 8.1D family alternatives.

Background

Cambridge has demonstrated a long-standing commitment to achieving a Charles River Crossing that is environmentally sound and aesthetically pleasing while providing safe and efficient traffic flow. Cambridge believes that while Scheme Z utterly fails in achieving these goals, the new Preferred Alternative still falls well short.

Cambridge has worked with other governmental agencies, advocacy groups and private landowners for more than a decade to improve the Charles River and its environs. Cambridge developed a long and productive relationship with the Metropolitan District Commission (MDC), the Charles River Watershed Association and others in working toward completion of the riverfront park system, improvements in water quality and enhancing public access in the lower Charles River Basin. Cambridge has sought to preserve the viability of these goals in advocating replacement of Scheme Z with a more environmentally responsive design.

Cambridge has further pursued its commitment to these goals in its substantial and ongoing efforts to work cooperatively with the Central Artery/Tunnel Project ("CA/T" or "the Project") staff, state agencies, the City of Boston and other interested parties to develop and support a significantly improved river crossing alternative.

Bridge Design Review Committee

Cambridge participated in the Bridge Design Review Committee (BDRC) efforts to develop and evaluate the more than twenty Committee Improvement Package (CIP) alternatives to Scheme Z. This long and painstaking process lasted more than one-and-one-half years and resulted in the selection of a viable alternative to Scheme Z, CIP 8, that included a single Charles River bridge, a northbound-only river-tunnel, and at most two loop ramps on the north bank of the Charles River.

The FSEIS/R erroneously asserts that the BDRC relied primarily on aesthetic and environmental impacts as the basis for selection of new Charles River Crossing designs (Sections 2.2.2 and 2.3.3). In fact, the BDRC used traffic, transportation, environmental, cost and construction schedule criteria to develop and analyze designs. To assist in evaluating these issues, the BDRC engaged expert consultants in the areas of traffic, transportation, bridge design and engineering, and tunnel construction.

The FSEIS/R statement that the BDRC's goal of improving "'the environmental and aesthetic impacts' . . . was to expand the objectives" of the crossing design acknowledges that there was inadequate concern for these impacts with the initial choice of Scheme Z (p. 2-5). The FSEIS/R erroneously states that the new Preferred Alternative meets the goals and objectives of the BDRC (p. 2-7 to 2-9). To the contrary, it very closely resembles Z, and meets almost none of the requirements for a more environmentally responsible crossing design.

Despite the FSEIS/R assertions to the contrary, the BDRC rejected the Non-River-Tunnel design during its deliberations. The BDRC developed, evaluated and rejected CIP 3, the conceptual equivalent of the Non-River-Tunnel, that was commonly referred to by that name. The FSEIS/R employs misleading wordsmithing in stating that the BDRC never reviewed and thus never rejected the Massachusetts Highway Department's (MHD's) Non-River-Tunnel design that is nominally modified and presented as the Preferred Alternative (Letter L-5, Comment 9).

Alternatives Analysis

Cambridge has consistently voiced a strong preference for river-tunnel alternatives based on environmental requirements and standards. Cambridge believes that the river-tunnel designs presented in the FSEIS/R impose significantly fewer permanent impacts on the area's natural resources and adjacent neighborhoods than the Non-River-Tunnel design. The selection of the Non-River-Tunnel over these designs violates the requirements of the Massachusetts Environmental Policy Act (MEPA), the National Environmental Policy Act (NEPA), Section 4(f) of the Department of Transportation Acts of 1966 [4(f)] and other environmental laws.

The analysis of alternatives is flawed and does not satisfy the requirements of NEPA or MEPA. Rather than comparing the impacts of the Preferred Alternative and the Reduced River-Tunnel, both of which are improvements over Scheme Z, the FSEIS/R simply compares the Preferred Alternative to Scheme Z. Having dismissed Scheme Z in the Notice of Project Change filed in September 1992, MHD has erred in continuing to give Scheme Z the same level of

analysis as the Preferred Alterative while providing only a cursory review of the 8.1D family designs and the Reduced River-Tunnel.

Both the NEPA and MEPA regulations mandate that reasonable alternatives be fully evaluated. 40 CFR 1502.14 provides that the alternatives analysis "is the heart of the environmental impact statement" and requires that MHD "[v]igorously explore and objectively evaluate all reasonable alternatives" and "[d]evote substantial treatment to each alternative . . . so that reviewers may evaluate their comparative merits." MEPA requires no less. See 301 CMR 11.07(4).

In failing to properly analyze the impacts of the 8.1D family designs and the Reduced River-Tunnel, and in failing to compare the relative merits of these alternative designs with the Preferred Alternative, the FSEIS/R falls short of meeting the requirements of NEPA and MEPA.

Comparison to Scheme Z

Comparison of the new Preferred Alternative primarily to Scheme Z is improper and does not substantiate its selection from among the alternatives presented in the Draft Supplemental Environmental Impact Statement/Report (DSEIS/R). The document assumes that Z has to be considered because it was previously identified as the Proposed Action. The FSEIS/R should have focussed on the relative impacts of 8.1D Mod 5 and its revisions, the Reduced River-Tunnel and its revisions, and the Non-River-Tunnel because all are acknowledged to be improvements over Z. Comparing the Preferred Alternative to Scheme Z with its infamous extensive environmental impacts does not substitute for the complete and fair evaluation of the performance and environmental impacts of the alternatives as required by the Secretary's Certificate on the DSEIS/R, MEPA, and NEPA. The Preferred Alternative should have been compared in detail to 8.1D Mod 5, the Reduced River-Tunnel, and their revisions described in the DSEIS/R.

Lack of Sufficient Analysis

The cursory analysis of alternatives in the FSEIS/R and the substantial reliance on the very limited analysis in the DSEIS/R are inadequate for full and fair comparison of alternatives. The alternatives analysis is not sufficient for proper selection of the river crossing design alternative with the least impacts on the environment. In fact, even the limited information presented does not support the selection of the design identified as the new Preferred Alternative (Chapter 2).

Traffic

The FSEIS/R traffic analysis is not sufficient to allow comparison of the alternatives. Analysis using the expanded model is presented only for Scheme Z and the new Preferred

Alternative. All alternatives, including the "no build" alternative, should have been analyzed with this expanded model to allow the Project, affected communities and the public to review the results and properly compare performance and impacts of the alternatives. More complete analysis is required to comply with the requirements of the MEPA Certificate on the DSEIS/R and allow informed selection of a replacement for Scheme Z.

Even the limited data presented in the FSEIS/R cause concern about impacts in Cambridge. Tables 4.2 and 4.3 show year 2010 peak hour intersection operations for Scheme Z and the Preferred Alternative at six key locations in Cambridge. The analysis indicates significant degradation of traffic operations in the am peak at five of the six intersections studied. During the pm peak, two of these locations show significant increases in volumes and delay. In some instances delay is projected to double relative to Scheme Z. Although we do not believe that Scheme Z is the appropriate standard by which to measure alternatives, this data strongly suggests that further traffic analysis is required. This analysis is necessary to determine the extent of the impacts at local intersections and mitigation necessary as part of the Project. It may further direct selection of a different river crossing design as the replacement for Scheme Z.

Traffic Mitigation

With all alternatives, Cambridge remains concerned about poor operations at intersections in the Project area. With the FSEIS/R Preferred Alternative, the intersection of the Gilmore Bridge and O'Brien Highway continues to function at near gridlock in both the am and pm peak periods. Cambridge has analyzed and proposed to MHD potential improvements at this intersection and on the Gilmore Bridge that would substantially reduce delay and provide some improvement of level of service. These improvements include prohibition of the left turn movement from the Gilmore Bridge to O'Brien Highway and addition of a third outbound lane on the Gilmore Bridge beyond the historic Green Line viaduct. As performance of this intersection affects Leverett Circle operations, as well as traffic operations elsewhere in East Cambridge and Charlestown, MHD should proceed to implement these improvements immediately as part of Project mitigation and specifically identify them as such in the Section 61 finding.

MHD has agreed to implement other traffic monitoring and infrastructure improvement actions in Cambridge to mitigate the construction period and long-term impacts of the Project. These improvements are necessary to ensure that the Project will not unduly burden Cambridge roadways with diverted vehicle trips during and following construction. These commitments, described in the September 11, 1992 Services Agreement between and among the Executive Office of Transportation and Construction (EOTC),

MHD, and the City of Cambridge, ("Services Agreement"), and listed below, should be acknowledged in the MEPA Certificate, Section 61 finding and Record of Decision.

Through the Services Agreement, EOTC and MHD have committed to assisting Cambridge in identifying and mitigating Project traffic impacts. MHD will fund traffic mitigation planning services to ensure protection of Cambridge residential streets from construction vehicle traffic and construction-related diversions, with particular attention to East Cambridge, the area of the City most affected by the Project. MHD has also agreed to fund development and implementation of a baseline traffic study in Cambridge that will provide data to assist in identifying and mitigating construction period impacts of the Project. The initial step in collecting this data includes installation this spring of loop detectors at several Cambridge intersections. MHD has further agreed to implement certain roadway improvements that will ease anticipated congestion in Cambridge, including Lafayette Square/Massachusetts Avenue roadway improvements and potential Cambridgeport roadway improvements.

In support of MHD's efforts to mitigate Project related traffic impacts in Cambridge, EOTC has agreed to undertake certain studies and actions to improve public transportation service into and through the City. EOTC shall undertake a study of current bus routing in Cambridge which will include consideration of combining and through routing certain service to reduce transfers and reduce layovers in congested areas. The study shall also assess latent demand for bus service into and within Cambridge. EOTC shall also conduct a study of potential High Occupancy Vehicle (HOV) bus service into Cambridge to provide transit service from suburban communities to Cambridge employment centers. In addition, EOTC has committed to advancing implementation of the Lechmere Green Line station to improve transit service and facilities in this part of the Project area and to improve traffic circulation by facilitating the extension of First Street to the O'Brien Highway. All of these traffic and transportation improvement measures are critical to ensuring that the impacts of the Project are properly mitigated.

<u>High Occupancy Vehicle Service</u>

In keeping with Cambridge's commitment to decrease the number of Single Occupancy Vehicle trips into the City and the state's responsibilities under the Federal Clean Air Act, we have consistently urged the Project to incorporate HOV facilities serving Cambridge. An HOV connection from this corridor to Cambridge is highly desirable as I-93 provides access from those suburban communities with the greatest concentration of residents commuting to Cambridge worksites.

HOV connections to the East Cambridge/Kendall Square employment centers are not analyzed in the FSEIS/R, despite the fact that, we have raised this issue in MEPA comments and directly with Project staff for several years. MHD's response to Cambridge's comments on the DSEIS/R regarding HOV facilities was that there are problems of "physical connectivity" to the already planned HOV lane on I-93. The response to Cambridge's comment is a summary conclusion which is unsupported by any analysis and therefore is inconsistent with the requirements of MEPA (310 CMR 11.07 (10)) and NEPA (40 CFR 503.4).

Addressing the potential for HOV connections into eastern Cambridge after the final selection of the preferred design is inappropriate. One of the criteria for the selection of a preferred alternative should be whether or not an HOV lane into Cambridge is feasible with that alternative. Thus, the HOV design study needs to take place before the final commitment is made for any alternative.

Wetlands and Waterways

The FSEIS/R presents a slightly more expanded evaluation of wetlands resources at the Millers and Charles Rivers than the inadequate analysis presented in the DSEIS/R. However, the FSEIS/R still misinterprets the Wetlands Protection Act and Regulations, does not accurately portray wetlands values found at the Millers River and proposes inadequate mitigation.

The apparent strategy of this FSEIS/R, as in earlier documents, is not to provide an objective analysis of conditions, but instead to support *a priori* judgments with a selective reading of laws and regulations. For example, the FSEIS/R, as in the July 1993 DSEIS/R, misinterprets regulatory requirements applicable to "limited projects" under 310 CMR 10.53. The FSEIS/R claims throughout Appendix D that thresholds for alterations to Bank, Bordering Land Subject to Flooding (BLSF), and Land Under Water Body (LUW) "do not apply" to a limited project. As the Cambridge Conservation Commission's (CCC) comments on the DSEIS/R pointed out, this is not true. The FSEIS/R is correct in stating that the Wetlands Regulations Performance Standards may be relaxed for a "limited project" to allow alterations above otherwise permitted thresholds. However, a Conservation Commission must impose "such conditions as will contribute to the interests identified in the Act" (310 CMR 10.53). Therefore, the FSEIS/R's claim that the Wildlife Habitat Evaluation Checklists in Appendix D do not apply to a limited project is wrong. It is perfectly reasonable, and indeed, appropriate, for a Conservation Commission to require this information before issuing an Order of Conditions for a limited project. As they appear in Appendix D, the Checklists are incomplete and thus do not provide adequate grounds for approval of the Project by the CCC.

Delineation of Resource Areas at the Millers River

The FSEIS/R (Appendix D, Section 1.2.3) includes a re-delineation of Bordering Vegetated Wetland (BVW) at the Millers River, up from 180 sq. ft. in the DSEIS/R to 2,800 sq. ft. While the new delineation more accurately depicts the extent of BVW at the Millers River, it is still not based on a formal Determination of Applicability issued by the appropriate local or state agencies. At meetings with MHD and the Department of Environmental Protection (DEP) at the Millers River in the Fall of 1993, the CCC continued to maintain that most of the low, flat vegetated areas along the west side of the Millers River can appropriately be delineated as BVW. The FSEIS/R (footnote 9, Appendix D) suggests that DEP representatives at the above-mentioned meetings agreed with the delineation as presented by Project staff. However, DEP staff recommended two ways to resolve the delineation issue: the Project could file directly with DEP for a Variance, or file a Request for Determination of Applicability with the CCC. The Project has not pursued either alternative.

Evaluation of Existing Conditions at the Millers River

The Project was asked by federal, state, and local agencies, and directed by the MEPA Certificate to consider the impact of unauthorized activities in the area to wetlands functions of the Millers River, and to consider the benefits that would have resulted from prior commitments made to improve the area. The FSEIS/R did not adequately address these issues.

In considering the effect on existing resources of unauthorized activities, the FSEIS/R merely stated, in Section 4.5.2, that MHD "is not in the position to make determinations concerning the legality of previous or ongoing activities which may be affecting the resource values of either the Charles or Millers Rivers." MHD was not asked to examine legal issues, but to analyze how the values of the Millers River wetlands would be improved in the absence of these impacts. The FSEIS/R did not perform this analysis.

As detailed in the CCC's comments on the DSEIS/R, there is a history of unauthorized activity at the Millers River that has substantially degraded this resource. The CCC issued an Enforcement Order under the Wetlands Protection Act to Boston Sand and Gravel (BSG) on October 28, 1993, and has been meeting with BSG since then to appropriately address their activity adjacent to the Millers River. Until taking enforcement action, Cambridge had purposely put off action on BSG to allow the company to "reconfigure" its facility in response to Central Artery North Area (CANA) and CA/T construction projects. The Commission's comments on the DSEIS/R also detailed other commitments for improving wetlands resources. These include outstanding Chapter 91 mitigation for the original CANA project, and commitments within the Order of Conditions issued to the MHD by the CCC for the construction of the temporary CANA loop ramps.

This Order of Conditions included a provision in which MHD would, prior to commencement of the temporary loop ramp construction, participate in the development of an action plan for the removal of unauthorized fill and restoration of the west bank of the Millers River.

The FSEIS/R also did not consider Waterways resources that have been altered similarly by unauthorized activity. Not only was this analysis required for an understanding of Waterways impacts and mitigation, the project proponent also will need to address issues of unpermitted or unlicensed activity subject to Chapter 91 in the Waterways licensing process for the final Charles River Crossing design. It is not sufficient to reply that "MHD cannot assess the legality of the alleged placement of fill in the Millers River by others" (p.7-13). It is important to note that the said lands are under the care and control of MHD, making the agency responsible for their condition.

In view of the extent to which conditions at the Millers River are due to unauthorized activities that should be corrected, a more appropriate analysis of impacts to this site should include impacts to the restored condition. Commitments in place to remove fill and restore the western bank of the Millers River would particularly enhance its pollution prevention and wildlife habitat functions, and improve land-side public access. DEP's comments on the DSEIS/R suggested that the road and culverts cutting off the Millers from the Charles are unlicensed and unpermitted. In the absence of these structures, the Millers River's navigability, water-side public access, and fisheries would be fully functional.

Impacts on Wetlands and Waterways Functional Values

Rather than thoroughly and objectively documenting existing and potential aquatic resources in the Project area, the FSEIS/R focusses on attempting to rebut the Presumptions of Significance of the Wetlands Resource Areas, and neglects to comment on illegal Wetlands and Waterways conditions that should be corrected. Because of this, the FSEIS/R does not provide an accurate analysis of impacts to the Millers River by the Preferred Alternative. These impacts will affect: important wetlands functions; navigation and public use and enjoyment of existing and planned riverfront parkland; and the potential for future water-dependent activities in the Project area.

Wetlands Resource Areas at the Millers River include Bank, BVW, LUW, and BLSF. The FSEIS/R claims to have successfully rebutted Presumptions of Significance for all interests protected under the Act except pollution prevention. The analysis of wildlife habitat at the Millers River (Appendix D, Exhibit 1) does acknowledge that wetlands at this site provide habitat for some animals, particularly birds. This observation was confirmed by DEP and CCC in their comments on the DSEIS/R. Nevertheless, the

conclusion in Appendix D is that the Presumption of Significance for wildlife habitat value has been rebutted. This conclusion was reached by a selective reading of the "Preface to Wetlands Regulations Relative to Protection of Wildlife Habitat" (the Preface) which accompanied the 1987 revisions to the Wetlands Regulations, adding Wildlife Habitat as one of the Interests protected by the Wetlands Protection Act. A more thorough reading of the Preface, however, reveals that DEP specifically rejected the idea of protecting only "high quality" wildlife habitat.

The FSEIS/R acknowledges that filling half of the Millers River will significantly impair its pollution prevention function, and proposes to divert highway stormwater runoff to the Harbor so that less stormwater will enter the Millers River. The FSEIS/R (Appendix D, Attachment A) states that wetlands not filled in will be able to adequately treat stormwater still entering the Millers River, but the analysis also shows a decline in the "removal efficiency". Since the unfilled wetlands at the Millers River will be substantially degraded by shading, vegetation that is important in attenuating pollutants is unlikely to grow to the extent necessary to perform this function. Therefore, the pollution prevention function of the Millers River will have to be mitigated elsewhere.

The FSEIS/R's discussion of the need to fill half of the Millers River continues to raise significant questions. In Section 4.5.3 (and elsewhere), the document asserts that the fill in the Millers River "allows the ramps and viaducts to be set back 120 feet from the banks of the Charles River." This statement is not elaborated upon, and the point does not seem entirely clear. This appears to be the first time this rationale has been used for the placement of fill in the Millers River.

The determination of water-dependency for this intersection should be closely examined. The intersection does not include roads leading to or from the new bridges or loop ramps to be built by the Preferred Alternative, nor do these roads lead to or from any water-dependent structures. It is also not clear why the portion of the at-grade intersection at the Millers River designed exclusively for access to Boston Sand and Gravel is considered water-dependent. Figure 8 in Appendix D shows that a substantial amount of additional fill is required exclusively for the Boston Sand and Gravel entrance.

Wetlands and Waterways Mitigation

Permanent impacts to the Millers River require mitigation of the river's wildlife habitat, pollution prevention, and flood storage values, in addition to replication of lost BVW. In Chapter 4 and in the Final Section 4(f) Evaluation, the FSEIS/R describes the Project's proposed mitigation for wetlands and waterways losses. The central feature of this mitigation is a proposed navigable water feature in the North Point area of Cambridge and Boston

running parallel to the Charles River, with an area of replicated wetlands at the eastern end. Since there are insufficient details of the water feature in the FSEIS/R, it is difficult to be certain to what extent lost aquatic resources can or will be successfully mitigated at this site, and if so, at what cost.

The Memorandum of Agreement (MOA) between the MDC, EOTC and MHD included in the Final Section 4(f) Evaluation proposes that 4,000 sq. ft. of BVW be replicated at the North Point water feature. This is in contrast to the statement in Section 4.5.2 that a minimum of 1,300 sq. ft. of BVW will be replicated. However, since the question of how much BVW is present at the Millers River will not be resolved until a formal Determination is made, and since it is likely that all BVW at the Millers River will require replication due to direct or indirect (shadowing) impacts, it is unclear whether even 4,000 sq. ft. of replicated BVW will meet the requirements of the Wetlands Regulations.

Perhaps more importantly, there are questions as to whether the water feature as proposed will mitigate lost wetlands functions adequately. Since impacts to the Millers River will result in a loss of its pollution prevention function, the replicated wetlands must provide some treatment of stormwater. The FSEIS/R proposes to mitigate this function by diverting half of the stormwater entering the river into Boston Harbor, assuming that runoff continuing to enter the Millers will be adequately treated by the remaining wetlands. However, since unfilled wetlands at the Millers River will be severely impacted by the shadow cast by the overhead bridge, this is not necessarily a reasonable assumption, and the pollution prevention function may need to be provided elsewhere. However, the proposed replicated wetlands feature as drawn in the FSEIS/R does not appear to carry the potential to significantly attenuate pollution. The wetlands will be planted in a sheltered embayment, and are unlikely to be subject to sufficient water current to significantly reduce pollutants. The proposed wetlands feature is unlikely to compensate adequately for lost wildlife habitat. The wildlife habitat function of the replicated area may be minimal due to the proximity of the replicated wetlands to the proposed loop ramps, and the expected heavy use of this area by people. The only wetlands function the proposed water feature will adequately mitigate is theoretical flood valley storage, a function which the FSEIS/R dismissed as irrelevant. The MOA included in the Final Section 4(f) Evaluation does not include performance standards that will guarantee the success of the proposed water feature as mitigation for lost pollution prevention and wildlife habitat, nor for the length of Millers River Bank that will be altered. Only the navigability, flood storage, public access, and replanting (but not functioning) of BVW are mentioned in the performance standards.

Not only is the water feature, as proposed, unlikely to mitigate lost wetlands resources in any significant way, numerous questions remain about its potential value in any sense. There is insufficient information on the depth of the water feature, and on the amount of water flow through the feature that can be expected. The navigational benefits of this water feature are also questionable. During a meeting of the Water Resources Subcommittee of the Interagency Coordinating Committee, historical preservation agencies raised the potential difficulty with lowering the historic seawall along this portion of the river. Without lowered seawalls, the recreational experience by canoeists in the water channel will probably be nil. In addition, this part of the Charles River can be quite busy with motor boat traffic during the summer, making it potentially unsafe for inexperienced canoeists who stray away from the water feature.

The water quality in this area is poor, and at times has an unpleasant odor and color due to algal blooms. The water feature and wetlands can also be expected to demand a high degree of maintenance, which if not performed adequately, may detract from this parkland. Finally, the considerable cost of the water feature and wetlands area (especially if utility relocation and hazardous materials disposal issues arise) forces one to consider whether alternatives exist that, for the cost of the proposed water feature and wetlands replication, could offer more significant environmental benefits to the Charles River Basin. Alternative mitigation should be considered should the problems noted above prove difficult and expensive to resolve. Appropriate alternative mitigation might include a combination of storm water management, bank stabilization, and/or other measures to improve the water quality in the Charles; BVW replication at another site in the Charles River; a public boat launch facility in the area; repair of the fish ladder at the New Charles River Dam; and improvements to the Esplanade, to name only a few possibilities. This appears to be a project for which off-site mitigation may be appropriate, as long as the project proponent is not relieved of any mitigation responsibility.

Short- Versus Long-Term Impacts

Chapter 2 of the FSEIS/R presents the rationale for selecting the Non-River-Tunnel design (as it was called in the DSEIS/R) as the Preferred Alternative over other options considered. The FSEIS/R claims that the Preferred Alternative has less impact than river-tunnel alternatives due to extra construction-related disturbance at the Millers River, resulting in increased turbidity, sediment disturbance, and dredged material disposal, as well as navigation and fisheries impacts related to tunnel construction in the

Charles River. However, this conclusion is in some cases based on insufficient information, and most of the river-tunneling impacts can be minimized when the proper construction methods are used.

The additional tunneling impacts to the Millers River are insignificant considering that half of the river will be permanently filled, and that further impacts can be expected during construction of the intersection proposed for this site. In addition, the shadows cast over the Millers River by the proposed bridge will impact wetlands on a long-term basis after construction in the area ceases.

Impacts to water quality caused by increased turbidity and sediment disturbance during tunnel construction in the Charles can be reduced to a level comparable with pier construction impacts by the application of appropriate controls. Comments on the DSEIS/R from both the U.S. Environmental Protection Agency (EPA) and the DEP clearly indicated that the cofferdam method of construction discussed in the DSEIS/R would effectively eliminate any differences in impacts between the construction of the river-tunnel and exclusively bridge designs considered in the DSEIS/R.

While legitimate concerns about the disposal of excavate and dredge spoils have been raised in reference to tunneling in the Charles River, this issue seems to carry more significance now than it did when tunnel construction in other parts of the CA/T Project was evaluated. The amount of excavate produced by the Reduced River-Tunnel alternative, for example, is only 50% more than that expected from the Preferred Alternative, and is inconsequential compared to the total amount of excavate generated by the entire Project. In addition, DEP's comments on these issues noted that the volume of dredged spoils expected from construction of the Reduced River-Tunnel is considered minor, and can be disposed of appropriately with careful planning. Furthermore, sufficient information on the extent and volume of contaminated excavate and dredged material has not been presented; the FSEIS/R states that "Final information on the nature and extent of materials to be disposed will be resolved through the permitting process" (FSEIS/R, p.M-1).

As pointed out in EPA's comments, impacts to navigation and fisheries can be suitably minimized by maintaining a navigation channel during tunnel construction. Sufficient methods also exist to deter fish from construction areas and protect them from being damaged during blasting for the river-tunnel.

A thorough, comparative analysis of shading impacts was requested by EPA, the U.S. Army Corps of Engineers, and the CCC in their comments on the DSEIS/R. The discussions of shading impacts in Chapter 4 and Appendix D repeat the conclusions reached in the DSEIS/R, but present no supporting data and give no indication that additional studies were done, although this was requested.

Shadows are permanent impacts that degrade aquatic, recreational, and historic resources; without detailed comparative studies, it is difficult to conclude that one alternative has less impact in this regard than others. However, it is likely that river-tunnel alternatives, with fewer bridges and loop ramps, have minimal shading impacts compared to the Preferred Alternative.

The comparison in Chapter 2 reveals that, at best, the Preferred Alternative was selected as the least environmentally damaging alternative on the basis of short-term impacts only. However, based on comments by federal, state, and local regulatory agencies, differences in short-term impacts between the Preferred Alternative and river-tunnel options are either insignificant or can be mitigated adequately. Even the analysis in Chapter 2 of the FSEIS/R concedes that river-tunnel alternatives pose fewer long-term environmental impacts. For example, in comparing the environmental and aesthetic impacts of the Reduced River-Tunnel to the Preferred Alternative, the FSEIS/R uses highly subjective language to reluctantly admit that these impacts are lower with the Reduced River-Tunnel (p.2-17). Comparing visual impacts (pp.2-17 to 2-18), the FSEIS/R appears to use the word "comparable" when the Preferred Alternative does not match the Reduced River-Tunnel; the Preferred Alternative's loop ramps are "comparable" to the Reduced River-Tunnel's, even though there are fewer loop ramps in the Reduced River-Tunnel. Also, the visual impact of two bridges is downplayed compared to the single bridge of the Reduced River-Tunnel. Impacts to parkland and aquatic resources (pp.2-18 to 2-19) are discussed entirely in terms of short-term impacts; the lack of comparison of long-term impacts leads one to conclude that the Preferred Alternative does not offer significant benefits in this regard.

In addition, the Preferred Alternative is in many cases presented as being better than Scheme Z, a design at one time advanced as the Proposed Action, but ultimately discarded; Scheme Z therefore does not represent the appropriate point of comparison for the environmental impacts associated with the Preferred Alternative.

All of the river-tunnel alternatives presented in the DSEIS/R are superior to the Preferred Alternative when their long-term impacts are compared. River-tunnel designs result in fewer piers in the Charles River, narrower bridges, and fewer loop ramps, which result in long-term benefits to parkland, wetlands, water quality, fisheries, historic resources, and navigation compared to the Preferred Alternative.

Land Use/Urban Design

The flaws in the Alternatives Analysis are particularly evident in the proponent's insufficient comparison of the land use/urban design impacts of the Preferred Alternative, the 8.1D family alternatives, and the Reduced River-Tunnel Alternative.

The 8.1D Mod 5 design allows for the creation of a plan for a new Charles River Basin that would support parkland uses by reducing bridge width and ramping. In contrast, the Preferred Alternative, with its additional ramping and additional bridge, makes it very difficult to turn the leftover spaces into usable parkland.

The proponent asserts that "...the visual impacts of the Reduced-Tunnel Alternative are either equivalent to or more adverse than the Preferred Alternative." (p. 2-17) Cambridge strongly disputes this assertion. The fact that the Preferred Alternative requires an additional bridge over the Charles River is not properly assessed. The statement that "the loop ramps in the area adjacent to the parkland are similar" fails to mention that the Preferred Alternative has more above-ground ramps than the Reduced-Tunnel Alternative (p. 2-17), with a concomitant increased impact on the land use/urban design options for the North Point area.

Figure 4.15 accurately depicts a vision of a New Charles River Basin, incorporating an acceptably scaled Crossing design; however, it is insufficient for the proponent to append the note that "Modification to accommodate the Preferred Alternative will be incorporated." Accommodating the Preferred Alternative will require major changes in park plans. A fundamental aspect of the Basin design is that the loss of the Millers River would be mitigated in part by the new North Point Wild and related water features along the river edges of North Point. The proponent fails to demonstrate how these features would function with the Preferred Alternative, making it impossible to properly analyze the alternatives. Because figure 4.15 does not include the Preferred Alternative, it cannot be used to assess the impacts of that design on the MDC Master Plan.

In regard to the New Charles River Basin, the letter from MDC Commissioner Ilyas Bhatti to Peter Zuk of the CA/T Project contains the statement that:

> The park development of the former GSA parcel and additional land being acquired along the North Point waterfront will incorporate a significant new water feature, which will enhance active and passive recreational activities.

The proponent fails to adequately describe and analyze how such a water feature can work with the Preferred Alternative, and thereby prevents an adequate comparison to the other design alternatives. There is not a sufficient basis in the FSEIS/R for determining whether or not the objectives of the New Charles River Basin Plan can be achieved with the Preferred Alternative, as we know they can be achieved with the 8.1D Mod 5 design.

The proponent does not adequately assess the impacts of the Preferred Alternative on the potential private development of North Point. While the proponent mentions one project currently permitted, the document fails to assess the impacts of the Preferred Alternative on the mixed-use development district that was established in North Point several years ago by the Cambridge Planning Board and City Council. The document does not provide sufficient information to assess the long-term interactions of the Preferred Alternative and the development district so as to be compared with alternative designs.

Historic Resources

The Cambridge Historical Commission believes that the discussion of the overall mitigation program for the granite seawalls in the second full paragraph on page 4-62 overly simplifies the more complete description in the MHD's 4(f) statement (Section 4.23, page 4(f)-26-27). Basically, the MDC, the Massachusetts Historical Commission, the Cambridge Historical Commission, and the Boston Landmarks Commission have agreed that the configuration of new parklands and/or a water feature is a separate issue from the design of the Charles River Crossing; that the MDC's proposed park design has significant effects on the seawall; and that they will conduct further discussions on the design proposed by the MDC. The FSEIS/R's statement that this project only "involves potential disturbance to one small section of the historic seawalls in this area" (page 4-62) is simplistic and does not reflect the understanding among the agencies, which the MDC refers to on page 4(f)-27.

Recreational Resources Protected under Section 4(f)

The Section 4(f) evaluation omits critical recreational resources and incorrectly identifies and evaluates 4(f) impacts of river crossing alternatives. The 4(f) inventory of recreational resources in the Project area omits certain important parcels. These include the Charles River between the Railroad Bridge and the new MDC dam, the Millers River, and the walkways on the Bascule Bridge. The MDC has long planned for improvements along the banks of the Charles River between the old and new dams and at the Millers River to complete the connections to the harbor. More than 25 years of MDC policy, planning and action support the designation of these areas as recreational resources subject to protection under 4(f). The MDC's correspondence, including Commissioner Bhatti's letter of December 30, 1993, regarding the Charles River Crossing in no way contravenes this designation.

The Charles River itself from the Watertown dam to the new dam is an active recreational boating facility. Once again, Cambridge is compelled to point out that the section of river between the

Bascule Bridge and the new dam is a critical link in the recreational boaters' use and enjoyment of the river. Just because bridges (carrying either passenger or rail cars) cross the Charles in this area, its recreational value is not negated. In addition, the CANA mitigation plan which includes the banks of the Millers River acknowledges the planned use of this area as a recreational resource. Because the FSEIS/R does not include these resources in the 4(f) inventory, the relative impacts of river crossing alternatives are not properly identified and considered in the 4(f) analysis.

Cambridge's position under Section 4(f) is supported by the Department of the Interior's comments on the DSEIS/R. Interior's comment letter states:

> [W]e believe that there are more lands and watered areas upstream from the Charles River Dam (Gridley Locks) that lie within the Charles River Reservation which should be considered as Section 4(f) lands.

The comment must be taken into account in light of the Department of the Interior's responsibilities for Section 4(f) resources.

The MEPA Certificate on the DSEIS/R failed to evaluate this issue by claiming a lack of authority to resolve the adequacy of the Section 4(f) analysis. FHWA, however, must address this issue and should require MHD to revise its Section 4(f) analysis to include an analysis of all protected resources. Cambridge takes issue with the conclusion that all three design alternatives have "substantially similar impacts" (Letter L-5, Comment 23) on 4(f) recreational resources. Cambridge firmly believes that a river-tunnel alternative would leave substantially more 4(f) parklands for development by Cambridge or the MDC. It is incorrect to state that selection of any alternative would allow for creation of "high quality" parklands that would "function in the same manner."

In addition, the FSEIS/R misapplies the 4(f) requirements for selection among the alternatives. The FSEIS/R states that all alternatives are substantially equivalent in terms of their 4(f) impacts because the impacts of each design may be mitigated to negate any differences. Section 4(f) requires the selection of the prudent and feasible alternative with the least impact on 4(f) resources. A proponent cannot choose an alternative with greater impacts and then justify that choice by offering more mitigation to compensate for the additional impacts.

Invoking the issue of constructive use in the construction of river-tunnel alternatives is not valid for short-term impacts to 4(f) resources. The use of a subsurface area only constitutes a use if there are impacts on areas above it; this would not be the

case with long-term impacts. This is of primary importance in the case of tunnel construction in the area of Nashua Street. Although "directly affecting park use," this is temporary and should not be an issue in selecting a river crossing option.

Bridge Type

The FSEIS/R is also inadequate because although the entire analysis assumes a cable-stayed bridge, there is a statement at page 2-1 that "FHWA will require a bridge type study analyzing long-span alternatives." Any such study should have been incorporated as part of the FSEIS/R so that it could have been reviewed by the public. The absence of any explanation as to why the study is omitted indicates that the FHWA requirement came late in the NEPA/MEPA process. Because the study will provide significant new information, it will be required to be the subject of a further EIS/R. See 40 CFR 1502.9(c).

Bridge type is a critical consideration in selecting a design for the crossing. Throughout the document, there are numerous references to the notion that "it is possible that the bridge-type study may indicate that a modified tower design is needed due to engineering difficulties." Indeed, subsequent to the publication of the FSEIS/R, there have been reports that the cable-stayed bridge fails to meet Federal requirements.

With reference to indeterminate future changes in the bridge tower design, it is not possible to evaluate the assertion that "incorporation of such design details could be made without substantially altering the impacts of the Preferred Alternative." The FSEIS/R does not present any analysis of the impacts of change in bridge type and does not otherwise support this conclusion. Change in bridge type would likely result in significantly different impacts, particularly with regard to wetlands, waterways, 4(f) and aesthetic impacts. If the bridge type study directs selection of a bridge type other than the FSEIS/R cable-stayed bridge, a supplemental EIS/R will be required.

Mitigation

Parkland/MDC MOA

Because the 4(f) evaluation is flawed, a proper assessment relative to the requirements of Section 4(f) of the proposed mitigation program is not possible. Although this is the case, Cambridge has reviewed the provisions of the Amended MOA and, for the most part, concurs with the improvement parcels and priorities identified therein. These improvements are consistent with the goals of the City of Cambridge and others who have sought to complete the riverfront park facilities in the lower

Charles River Basin. The primary area of concern remaining is with the ultimate feasibility and appropriateness of the construction of the new water feature as proposed. As indicated in the wetlands and waterways comments, serious questions remain about the viability and advisability of this so-called improvement and further study and possible analysis of alternatives are warranted.

North Point Infrastructure

In various documents, including the Services Agreement between EOTC, MHD and the City of Cambridge, MHD has committed to mitigate certain Project impacts on North Point development by constructing roadways and other infrastructure in this area. The roadways shall be used as haul roads during interchange construction and will follow the City of Cambridge urban design plan for the district. Utilities shall be provided in such a manner as to meet Project needs and provide service to planned North Point development. Cambridge is already working closely with MHD on coordination of design and construction of these facilities with CANA and CA/T construction.

As part of these infrastructure improvements, MHD is installing water lines to provide fire protection to the CANA temporary loop ramps and ultimately the permanent CA/T interchange. MHD will soon commence installation of water service from Land Boulevard at Lechmere Canal across the O'Brien Highway and through North Point along Industrial Way. This is only a temporary configuration to facilitate timely opening of the ramps and requires further expansion to service the permanent interchange ramps. As MHD has agreed in the Services Agreement, prior to completion and opening of the new, permanent facility, MHD shall complete installation of water line facilities along the alignment of the proposed North Street to Cambridge Street via East Street. This will create a loop configuration eliminating a dead end line that may jeopardize fire protection and other water service in North Point should any shut off of service be required upstream on the line. MHD must work closely with the Cambridge Water Department (CWD) to ensure that CWD requirements are met in construction of the water line. MHD must also continue to coordinate with other City departments to ensure successful implementation of these improvements.

Conclusion

In summary, the FSEIS/R is clearly inadequate, as it does not meet the requirements of the MEPA certificate on the July 1993 DSEIS/R, MEPA, NEPA and Section 4(f). The FSEIS/R does not fully and objectively compare alternatives, rather it advocates and rationalizes the selection of the Preferred Alternative design.

The FSEIS/R analysis of alternatives is severely flawed, providing grossly insufficient analysis of impacts in the areas of traffic performance, wetlands impacts, bridge design, 4(f) impacts and other issues critical to proper design evaluation and selection. Because of these major deficiencies and others in the document, Cambridge believes that the FSEIS/R must be deemed to be inadequate and further environmental review required.

Cambridge appreciates the opportunity to comment and reiterates its desire to work cooperatively with MHD and others to achieve an appropriate river crossing design.

Sincerely,

Robert W. Healy

10.

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EXECUTIVE DEPARTMENT
ROBERT W. HEALY
City Manager

RICHARD C. ROSSI
Deputy City Manager

March 21, 1994

To The Honorable, The City Council:

Please find attached for your information the City's comments on the Charles River Crossing Final Supplemental Environmental Impact Statement/Report (FSEIS/R).

Very truly yours,

Robert W. Healy
City Manager

RWH/mev
attachment

Consent Agenda #10 S. 101

Transmitting comm. from R.W. Healy relative to the City of Cmabridge's comments on the Charles River Crossing final Supplemental Environmantal Impact Statement/Report.

3/24/94 Copy sent to Environment committee (a)
3/24/94 Copy sent to Traffic and Transportation Committee (a)

In City COuncil March 21, 1994

Mayor to schedule executive session. Referred to Environ. Comm. & Traffic and Transport. comm.