MEMORANDUM

To:	Mike O'Dowd MassDOT Project Manager	Date:	April 19, 2019
From:	Erin Reed Howard Stein Hudson	HSH Project No.:	2013061.14
Subject:	MassDOT Allston I-90 Task Force Meeting #34 Meeting Notes of March 27, 2019		

Overview

On March 27, 2019, members of the Allston I-90 Interchange Improvement Project team and associated MassDOT staff held the 36th Task Force meeting for the job. The Task Force is composed of local residents, business owners, transportation, and open space advocates, as well as representatives of local, state, and federal governments. The purpose of the group is, through the application of its members' in-depth knowledge, to assist and advise the Massachusetts Department of Transportation (MassDOT) in determining a single preferred alternative to be selected by the Secretary of Transportation for documentation in a joint Environmental Assessment and Final Environmental Impact Report (FEIR) document.

The purpose of this Task Force meeting was to provide an update on the utility impacts primarily in the area of the project known as throat and possible solutions to these impacts now that the Highway At-Grade Hybrid and Highway At-Grade Modified Hybrid are progressing as the alternatives for the throat section of I-90 Allston. MassDOT provided additional information regarding the highway signage at Exit 20 and the possible tunnel classification that were discussed at February's Task Force Meeting. The project team provided a short presentation on the existing utilities and the meeting with the utility providers. Highlights of this presentation included the following elements. MassDOT's existing pump station will need to be relocated. There will be impacts on the Massachusetts Water Resources Authority (MWRA) lines present in the throat. Additional analysis, modeling, and full engineering will need to be completed to best determine how to address these impacts. MWRA is open to partial rehabilitation, rehabilitation in place and/or lining. MWRA is also open to the possible relocation of a pipe under the Dr. Paul Dudley White Bike

Path. MWRA clients who are provided water by the main which runs through the site can also be served by other lines, therefore water service impacts are not anticipated at this time. Boston Water and Sewer lines which travel through the site flow by gravity ran than pumps. The condition of these pipes will need to be further evaluated to see if pumping or a siphon would be most applicable.

Overall, utility impacts within the throat area are very similar regardless of whether the Soldiers' Field Road (SFR) viaduct is placed over I-90 eastbound or I-90 westbound. The task force meeting followed a workshop model allowing for members of the project team to discuss the utility impacts. The project team admitted that there are still a number of variables to analyze.

Agenda

Detailed Meeting Minutes[1]

Welcome & Opening Remarks

C: Ed Ionota, Tetra Tech: Here's how it is going to work this evening. We have a lean agenda; it's two group discussions regarding utilities that will be the same at both tables. Before we get going, Jim has a few introductory slides. I want to introduce our team this evening, as things have changed over time. Jim Keller of Tetra Tech is here, Mark Fobert of Tetra Tech is here. The second table discussion will be run by Rich Lenox with WSP. Chris Calnan is here as the engineer on the project.

A reminder: the next meeting is April 24. That agenda is much more heavily stacked with information, clarification and development remaining MEPA and NEPA approach to the project and on construction staging. Tonight, is light in terms of content, the next one is a pretty heavy night. Upon the conclusion of Jim's presentation, pick a table and we'll get into group discussions. Any questions or comments before we get started?

[1] Herein "C" stands for comment, "Q" for question and "A" for answer. For a list of attendees, please see Appendix 1.

Presentation

C: **Jim Keller, *Tetra Tech***: Good evening everyone; to reiterate what Ed said, we're going to get into a utility discussion tonight picking up from last month where we delved into the Hybrid and Modified Hybrid layouts, profiles and some of the cross-sections. Tonight, we are going to look at the utilities within the throat area – now that were essentially putting I-90 below grade with the two options. We learned last month during discussion that keeping I-90 at-grade has an impact on the height of the SFR viaduct.

As a refresher for those that aren't familiar with the variations in the throat area, we have the Highway At-Grade Hybrid, as it is being called, and the Modified Highway At-Grade Hybrid. The Hybrid sets Soldiers Field Road over I-90 Westbound and the Modified Hybrid sets Soldiers Field Road over I-90 Eastbound. In both, we have looked more closely at a cut[2] of I-90 since keeping the highway at ground level has implications on the height of the SFR viaduct and the potential future Agganis Way pedestrian crossing. Currently we aren't studying the version that would just place I-90 on the ground that closely. We are focusing on the cut version which cuts into the I-90 grade up to 10'. This is to accommodate the Grand Junction Rail viaduct over I-90. Currently the Grand Junction line starts at-grade and then climbs up and over SFR. In the future, it starts low and goes up high over I-90.

One of topics that came up at the end of the meeting was the potential need for ventilation now that we are up to 10' below grade with I-90. As you look at the cross-section on the boards, because we are cutting the northern section of the highway, essentially there will be a wall against the Dr. Paul Dudley White Path to create a barrier between I-90 and the path. With the cut version, the retaining wall and the wall/fence above almost creates a tunnel effect. That's present on one side of I-90 for both variations and on the Modified Hybrid there is also the retaining wall required for the Grand Junction rail that runs along the Southern edge of I-90 Eastbound. The Hybrid and Modified Hybrid have similar situations. The tunnel class will be determined by the authority having jurisdiction. That authority could be MassDOT or the Boston Fire Department. As concepts are developed, we will have to have more discussion on that. Major elements requiring further analysis include smoke venting, life safety requirements and vehicle emitted pollutants. WSP has some folks that have a lot of experience with this and are looking deeper at this issue.

The other issue we spoke about in depth and at A Better City also looked at was highway signage. In the Hybrid, Soldiers Field Road over I-90 Westbound, there needs to be highway

[2] Herein the term "cut" should be understood as lowering.

signage for traffic heading west to get Exit 20. Looking at Manual for Uniform Traffic Control Devices (MUTCD), the way interchange is classified, currently we are looking at this as not as a "major" interchange. MassDOT typically sees a "major interchange" as one where you go from a major interstate to freeway for example, I-90 to I-93, or I-95 to I-93, and in that case you would need larger signs. We came up with a modified sign that could be 30' wide to 4-5' high range. It would provide a sign with all three destinations there today at the sign just before exit. A half mile back we will still replace the sign that is there today with a similar size sign.

Providing space for the sign gets tricky due to the location of the viaduct and the desire to keep the overall height of Soldiers Field Road as well as I-90 as low as possible. Currently we are at about 4-5' in height. As a result of putting the viaduct over the highway, as we come up and put crest curves in, there are some locations in excess of the 14.5 minimum clearance. There a couple locations where we have a little more space. It may require lowering up to 2' or raising up to 2' for the hybrid which would have an effect on the potential future Agganis way connection and make things higher than the Modified Hybrid would.

That brings us to the utility discussion. The existing conditions need to be updated; this is currently underway. WSP is on the team for survey and structural engineering. WSP is doing supplemental survey as result of the toll demolition. Some of that survey work has been completed in addition to rail and yard related work and up to the River Street intersection. WSP is compiling changes and updating the survey. Most important as far as tonight, is that we are making the attempt to show things vertically. We have some information from the survey work and record plans, but we are not confident in the elevations to date. A test pit program has been developed to conduct several test pits on major and minor utilities so we have a much better level of confidence about really cutting below I-90 to make sure it can be done. It will provide information on the possible relocation of utilities, where utility relocation can be done, and where they can possibly go. We have some approaches to relocate major utilities. We met with Massachusetts Water Resources Authority (MWRA) and Boston Water and Sewer Commission (BWSC). Until the test pit program gets underway and provides solid field data, we are a little in the dark on where utilities are located vertically.

There are major utilities throughout the site, but we are focusing on the throat area for this evening's purposes. The existing pump station currently drains the highway. A major section of I-90 east of the Commonwealth Avenue overpass drains into the existing pump station that is below the viaduct. That needs to be relocated as a result of cutting in this area. There is a 54" drain coming from the east and going into that pump station. The pump station would move out of the footprint of the I-90 corridor.

On March 1st we had a good meeting with Massachusetts Water Resource Authority (MWRA). We went in not sure how it would go with the water main and the 58x63 brick sewer running parallel to the throat. We rolled out the plans and started talking about the impacts. We were pleasantly surprised that they're open to different things: they were open to partial rehabilitation, and/or rehabilitation in place, which is riskier. The quality of the rehabilitation, long-term maintenance, investigating current pipe conditions, and the lining are all different parts of process that could add difficulties, but they are open to potential lining. The hydraulic line is currently based on site elevations. With us cutting it would get tricky with all of the structures. We also showed on plans the potential relocation into Dr. Paul Dudley White Bike path area and they are open to that as a potential to mitigate and deal with impacts.

The other utility we talked about was the 64" major water main. Because of the cut, (shown in cross-sections) we have jacking receiving pits. There are potential and most likely temporary impacts to Boston University property at Buick Street. We are not sure when the current pipe went in, maybe the 1990s when they had to do substantial jacking and receiving pits to install it. It would be a similar installation. MWRA says there is redundancy in the system; when connections made to existing line so the line can shut it down for a period to allow crossover connections. That's the short version of our meeting with MWRA.

A couple weeks later we met with John Sullivan's team at Boston Water and Sewer Commission (BWSC). BWSC has an 18" sewer through the site and just west of the existing pump station, but this is sanitary sewer, not storm water. That sewer line would also be impacted and would have to get relocated. We came up with a scenario where we may do that with gravity. It would require jacking and receiving pits. It would be a fair amount of utility work to get relocated but we are fairly confident we have an approach to do that.

The other major utility is a 60" cast iron drain crossing. An 84x84' drain pipe comes up Buick Street from Brookline and has an outlet at the 5'x7' culvert that you see as walking or riding on Dr. Paul Dudley White Bicycle path at eastern section at the river. That drain is a bit trickier as it is all gravity today. As we'll show you on the profile and the cross-section, we are impacting that line directly as we currently see the elevations. With the test pits we may find it's a little deeper; we are hoping that's the case. For time the being, we're in discussions with BWSC to see if they are open to multiple smaller pipes so you can bring the system up a bit and spread it out with multiple pipes. Hydraulically there could be ways to make it work, but they are not interested at all in that approach. They don't have many situations where they would even consider it and from the engineering side, we agree with that. We looked at potentially getting that 60" into the relocated MassDOT pump station. They are not amenable to a pump station

that is not on their system. They prefer to not have any pumps at all. John let us know that in the Central Artery Project, they played with profiles of the highway to let the pipes run parallel to the roadway and then cross the road when it made sense to allow gravity to move the flow rather than using pumps. They went out of their way to make sure they didn't get any pumps.

If its hydraulically feasible, they are open to a siphon. A siphon gets the flow down low and then back up all through the pressure of the system. They need to look at the model of their system to see if there is any ability to do that with hydraulics. They are open to that as a potential remedy to the impacts. Stay tuned as the 60" is something we are continuously looking at. That's it for utilities for tonight.

Just a note, when looking at the two: hybrid and modified hybrid, currently with all the information we have there is not a differentiator between the two as far as utilities. With test pit data that could possibly change on how it affects one or other, however, currently we are not there.

Q: Bill Deignan, *City of Cambridge*: I have a question about the tunnel classification. Can you explain what that means and what that has to do with the alternatives?

A: Rich Lennox: With it being substantially closed off on one side it could be considered a tunnel. Whoever has that authority can make that classification, that's a combination of MassDOT and Boston Fire. Depending on how that area was designated it would change what we have to do for analysis and criteria. It's something that may be important distinction. It's a function of the authority making the classification and how much space we wind up closing off.

C: Bill Deignan: My question of whether it is a tunnel or not and then what that means for ventilation and other design considerations.

A: Jim Keller: Where a bridge or elevated highway does not fully highway enclose the highway, the decision to make it a road tunnel shall be made by the authority having jurisdiction after an engineering analysis is done. That is essentially where we are at currently.

Q: Ari Ofsevit, *LivableStreets Alliance:* Looking at the cross sections, the Worcester and Grand Junction Line seem higher than ground level. Does that impact ventilation at-grade?

A: Jim Keller: Exactly. That's why we're saying it's similar to hybrid it is just on the southside versus the north. The current rail design to needs to get the Grand Junction to go up and over I-90 and allow for all of the switching operations to work on the commuter rail. VHB is

consistently working to try to get a little lower but there is not a whole lot of play in the profiles at this time.

Q: Tad Read, *Boston Planning and Development Agency:* I'm not sure I follow the sign modification issue. How is this different than what we were looking at last month?

A: Jim Keller: It's not different. If you look at the MUTCD highway sign application, depending on type of interchange and its classification, you are required to have larger signs than we'd like to have. We think we can have smaller signs as we're taking the approach this isn't a "major" interchange since it isn't highway to highway.

Q: Tad Read: How much smaller can it be?

A: Jim Keller: You just don't have the same requirements to provide the amount of information on signage.

A: Chris Calnan: It's really a height issue that's driving it. The layout Jim is showing is 4' and elongated. Traditionally could see 10' or more. Even if you look farther east tunnel area are some narrow signs where there are restricted height clearances.

C: Tad Read: That could make a significant difference, right?

A: Chris Calnan: Yes, could end up lowering or raising by a couple feet but you still need to provide a sign.

Q: Steve Kaiser, *Community member*: Do you have any estimates for how long the water or sewer line might be out of service?

A: Jim Keller: No. It comes down to whether it will be an early utility install or if it would it be part of the overall project. If part of the overall project, it would be folded in as you are working on that area.

A: Chris Calnan: Plus, there is redundancy in the water line anyway.

A: Jim Keller: We may have some estimates next month.

Q: Steve Kaiser: The water line is a pressure line correct? Does water flow from Boston to Cambridge?

A: Jim Keller: I'm not sure. I think it flows from Cambridge to Boston.

C: No Name Given: Cambridge has their own water supply.

Q: Steve Kaiser: Would you be able to serve Cambridge if you had to shut it down?

A: Jim Keller: MWRA told us that that if it was shut down, they have redundancy to maintain service. Therefore no one would lose service.

Q: Ed Ionata: Are both tables the same?

A: Jim Keller: They are the hybrid and modified hybrid but as previously stated the utilities are the same for both. If there are certain questions about a variation you can pick the table you want. We have a couple of cross sections.

Q: Glen Berkowitz, *Community member*: I have a couple questions that many people are curious about. It seems like there's a proposal for the sewer line that runs parallel to river. Currently it sits under where the proposed I-90 Westbound is. It seems like there is one proposal to move into parkland. When you think about the goals of planting trees that could grow into robust shade trees etc. you wouldn't want a big sewer pipe 6' below. Where are we vertically in terms of the top of sewer to the depth of proposed Dr. Paul Dudley White Bike Path. How many feet of earth? My second question is there a second alternative we should be considering or an alignment that didn't move the sewer into parklands?

A: Jim Keller: That's one potential location for the sewer. It is not final to put it there. It could be rehabilitated in place which would mean leave it where it is, clean it, line it, do the analysis and modeling required by MWRA to make sure that if we keep it there at a lower grade whatever is done leaves it in as good or better condition than today. The two options are to rehabilitate in place or relocate. MWRA has told us this has to be fully modeled. If it was located in path alignment, the idea would be to put it under the path where no plantings would go. It would have access covers every so often for maintenance. The open space would remain for plantings.

Q: Glen Berkowitz: Do you have a sense of vertical dimension?

A: Jim Keller: Don't want to say wrong number-maybe 10 feet. It's pretty deep. It's low today. With all the changes in the access structure, the hydraulic grade line would change. It could be surcharged, which it is today. If we get it surcharged, then it's flowing full and potentially blowing off covers and getting into trouble. Relocating off to the path at the same elevations and the idea would be to not have any effect on that

Q: Bob Sloane, *WalkBoston*: Where is the outfall now? Where will they discharge in the future?

A: Jim Keller: The same place. MWRA is completely separate. It goes through site and continues out. The 60" BWSC goes through the site and discharges at the large outfall.

C: Chris Calnan: I'd say that it is a good opportunity to break up at the two tables

C: Ed Ionata: Detailed question at tables. We'd ask that you split up evenly so everyone can get a good look at the materials.

Breakout Group Summaries

Hybrid-At Grade Alternative (Soldiers' Field Road over I-90 Westbound)

Rich Lennox (WSP) served as moderator for this breakout group. As Jim Keller had already provided an initial presentation regarding utility impacts, task force members in the Hybrid At-Grade Alternative were concise. Several task force members commented that they felt that the project team has developed a good understanding of the utility situation and has it well under control. Bob Sloane (WalkBoston) inquired if the relocation of the MWRA line would lower the westbound viaduct and if there would be a path connection to the river at pump station from Grand Junction Line. Harry Mattison (Allston Resident) advocated for separated paths at the Grand Junction Line boardwalk to accommodate bicycle and foot traffic. Tad Read (City of Boston) asked about the bus connection inbound from West Station.

Discussions shifted to a review of the geometry of the alternative and the reasons to cut the grade of the alternatives. This is driven by the need to support "high and wide" freight operations[3] on the Grand Junction Line and the future placement of switches between Grand Junction and the Worcester Main Line. It was noted that new sketches of the alternatives could help show the public the different perspectives of the alignment. Courtney Worhunsky (MassDOT District 6) commented that the road access to the MassDOT pump station will not be possible on a retained fill viaduct portions Grand Junction Line. Bob Sloan commented on the permitting justification for filling river as mitigation for parkway impacts and noted permitting agencies will not likely be happy about replacing river with paths.

Modified Hybrid-At Grade Alternative (Soldiers' Field Road over I-90 Eastbound

Jim Keller served as moderator for this breakout group. It was noted that a detailed discussion of stormwater infrastructure and potential relocations is needed. The project team in their presentation

[3] High and wide refers to oversized freight cars which require a larger operating envelope than smaller passenger train coaches.

had indicated that MWRA and BWSC noted their utilities would have to be analyzed and evaluated before decisions could be made. Task force members inquired about the impact of pipe lines on plantings along the parkland, and manholes in relation to path. A discussion of where manholes would be located if moved to the path and distance between manholes. Manholes will be 24" in diameter and distance between them could vary between locations. It is expected that construction vibration and issues with existing lines will be present no matter what alternative is chosen. Conversation then shifted to a back and forth discussion on the phasing impacts and the importance of maintaining all modes during construction.

Discussion turned to the BWSC's water main currently at elevation and the current 100-year-old sewer line below elevation. A new pipe would be 25-30' deep. The bottom line is that BWSC was much more amenable to this conversation than Jim thought they would be (likely due to age of facility). Relining of the pipe would mean minimal rehabilitation work. The agency is amenable to lining horizontal sections of pipe but has much less confidence about vertical linings. As mentioned in the presentation the project team needs to assess how the pipes flow since BWSC wants to avoid pumping water. Water treatment was raised as an issue, given that BWSC needs to address phosphorous in the storm water. While discussing BWSC, water treatment opportunities were noted as phosphorus must be treated in stormwater. Under current site conditions, stormwater goes into the pumping station on site.

Questions arose about the new pipe measurements and if drilling would be from surface or using jacking pits. Jim Keller (Tetra Tech) suggested it would probably be done from the surface using an open trench. The duration for this operation would be between 3-12 months which could likely be without any problems if it were done as an early action of the project. However, if it were done as part of the overall project the timeframe could be because construction would already be mobilized in the area. The issue is if there is enough room for construction equipment. It was noted that digging up parkland for new pipe could be impactful and questions over the permitting for the pipe work were raised. Task force members raised the broader issue of how best to maintain connections on the Paul Dudley White pathway during construction.

Conversation shifted to questions regarding the post-construction riverbank rehabilitation process looks like once this construction is done. Jim Keller noted that it would be similar to completed phases of DCR's reconstruction of Memorial Drive and that this topic will be discussed in detail at a future task force meeting. Mark Fobert (Tetra Tech) noted that coordination with the Massachusetts Historic Commission will be needed regarding both the future condition of the river bank and the change to placing Soldiers' Field Road on a viaduct, however, this coordination may be a lagging element of the process since MHC does not typically comment on projects in advance of filings, but

rather only after filings have been made. The project team is being conservative in their impact estimates as since this could emerge as a differentiating factor as to placing the proposed Soldiers Field Road viaduct over I-90 eastbound or westbound. If this were to be the case, this is something that would be brought forward and shared with the task force and public. Based on the post DEIR decisions, regardless of where the proposed new viaduct is situated within the throat, the project will have major construction impacts and the lowering of I-90 will mean additional permitting. It was noted that the project already impacts Department of Conversation and Recreation land.

The discussion moved to constructability questions. At present, it does not appear that constructability bears on whether the new parkway viaduct goes over I-90 eastbound or westbound. Both alternatives will be evolved through staging at least. Task force members discussed of issues west of throat. Fred Salvucci asked if can we have an interim condition to take the viaduct off the critical path and if the current MWRA plan can stay in place until after demolition? Jim Keller responded that the sewer is mostly outside the limits of the viaduct and it could most likely be addressed after demolition. Task force members noted that they were interested in this and asked it be investigated further.

Next Steps

The task force will next meet on April 24, 2019. As with prior such meetings, the meeting will begin at 6:00PM. Unlike meetings held during the first quarter of 2019, this session will **be on Thursday, rather than Wednesday,** based on the availability of the Fiorentino Center.

Appendix 1: Meeting Attendees

Last Name	First Name	Affiliation
Beggan	Joseph	Harvard University
Brockhaus	Hannah	Howard Stein Hudson
Cabral-Curtis	Nate	Howard Stein Hudson
Calnan	Chris	Tetra Tech
Ciommo	Mark	City Councilor
Dailey	Donny	MassDOT
Davis	Henrietta	Cambridgeport, resident
Deignan	Bill	City of Cambridge
Dietrich	Jeff	Howard Stein Hudson
D'Isidoro	Anthony	Allston Civic Association
Driessen	Guus	Brookline Transportation Board
Haglund	Karl	Department of Conservation and Recreation
Ionata	Ed	Tetra Tech
Keller	Jim	Tetra Tech
La Tremouille	Robert J.	FOWA
Landman	Wendy	WalkBoston
Leary	Elizabeth	Boston University
Mande	Pallavi Kalia	Charles River Watershed Association
Marini	Christine	Boston Police Department
Marvin	Patrick	MassDOT
Mattison	Harry	Charles River Conservancy
Miller	Ken	Federal Highway Administration
Mook	Galen	MassBicycle

Last Name	First Name	Affiliation
Nally	Tom	A Better City
O'Dowd	Mike	MassDOT
Ofsevit	Ari	Livable Streets Alliance
Read	Tad	Boston Planning and Development Agency
Schluntz	Alexandra	Conservation Law Foundation
Silveira	Steve	Boston University
Sloane	Bob	WalkBoston
Worhunsky	Courtney	MassDOT District 6