Riverside Center

Project Timeline

9.27.13

1.	**Special Permit Process**		
	a. Special Permit Review / Meetings	8/1/12 – 10/1/13	(14 Months)
	b. Special Permit Issued	10/1/13	
2.	**Federal Highway Review Process**		
	a. FHWA Project Framework Submitted	8/15/13	
	b. FHWA Conceptual Approval	1215/13	(4 Months)
	c. Interchange Modification Request	2/15/14 – 9/15/14	(7 Months)
3.	**MassDOT**		
	a. Section 61 Finding	11/15/123 – 2/15/14	(3 Months)
	b. 25% Design Development	3/15/14 – 7/15/14	(4 Months)
	c. 75% Design Development	9/15/14 – 12/15/14	(3 Months)
	d. 100% Design	2/15/15 – 4/15/15	(2 Months)
	e. MassDOT Permit Issued	6/15/15	
4.	**MBTA Garage**		
	a. Design / Public Outreach	10/1/13 – 5/31/14	(8 Months)
	b. Begin Construction	6/1/14	
	c. Construction	6/1/14 – 7/1/15	(13 Months)
5.	**Development Buildings**		
	a. Community Center / Retail		
	i. Permit Issued	7/2/15	
	ii. Construction	7/2/15 – 7/2/16	(12 Months)
	b. Office Building		
	i. Permit Issued	7/2/15	
	ii. Construction	7/2/15 – 7/2/17	(24 Months)
	c. Residential		
	i. Permit Issued	7/2/15	
	ii. Construction	7/2/15 – 7/2/17	(24 Months)
6.	**Offsite Roadway Improvements**		
	a. Grove St Entry / Signal	7/2/14 – 1/1/15	(6 Months)
	b. Roundabouts / New Access Entry	11/2/15 – 5/2/17	(18 Months)

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CONSTRUCTION PERIOD IMPACTS

Overview

This following is a general overview of the Project Construction schedule and sequencing and identifies steps that will be taken during construction to minimize potential temporary environmental impacts related to the demolition and construction phase of the Project. More specifically, it also identifies the steps that will be taken to minimize impacts related to noise, air quality (dust), wetlands, water quality and construction related traffic. Careful consideration has been given to developing plans to minimize construction phase impacts – specifically to pedestrian access and safety, potential impacts to the local neighborhoods and protection of the Charles River Watershed.

Generally, measures to reduce construction period impacts include controlling erosion and sedimentation, controlling dust, machinery air emissions and noise, properly managing construction related truck traffic and protection of pedestrians. Additionally, a Construction Management Plan (CMP) will be developed with input from the appropriate MBTA, State and local agencies. Guided by considerable input from the selected general contractor, the CMP will include detailed information on construction activities, specific construction mitigation measures, and construction materials and access and staging plans to minimize impacts to patrons, abutters and the local community. The CMP will define truck routes that will help in minimizing the impact of trucks on local streets. Barricades, walkways, lighting and signage will be identified to address public safety throughout the construction period.

Construction Timeline

The Project schedule and sequencing plan have been carefully planned and coordinated with existing MBTA facilities to minimize construction impacts and efficiently complete the proposed improvements. As noted above, careful attention must be paid to the construction sequencing of the site improvements and individual buildings due to the unique nature of the Project Site as an active MBTA commuter facility. The construction phase of the Project will proceed in a manner that protects the adjacent resource areas, minimizes site erosion, and provides safe working conditions for the contractor.

The project will be broken down into phases for both the onsite construction of the Buildings / Structures and the offsite roadway improvements. Below is a brief summary of the phases and current timeline assumptions:

Phase 1 – Intermodal Commuter Facility replacement parking garage will commence in June 2014 and be completed in July 2015.

During Phase 1 the Offsite Roadway improvements at the existing entry to the site will also begin. This work will include the widening and signalization at this entry. The work is scheduled to be completed in a 6 -8 month timeframe. July 2014 to January 2015.

The Proponent has been working closely with the MBTA to establish an Access / Construction Staging plan during Phase 1 to allow the MBTA commuter operations to continue with minimal disruption. The attached Construction Staging plan outlines how the MBTA bus circulation, commuter parking and pedestrian access will be maintained. During this phase the current 960 commuter spaces will be reduced to approximately 625 spaces. The buses will be rerouted on site to allow pick-up / drop/off of passengers.

In terms of construction access during Phase 1 in order to limit the potential for any construction vehicle traffic on local roadways, all contractors will be required to access the property by means of the Grove Street interchange. At this time, the Proponent is considering to provide a new dedicated construction access from the existing Recreation Road. This option is intended to further limit the amount of construction traffic on Grove Street and is subject to MassDOT and FHWA approval. This secondary construction access would be constructed prior to any work on site. Refer to attached Construction Staging plan for location.

Phase 2 – Remaining Build-out consisting of Residential Building B & Office Building A. The duration of construction for these two phases would be roughly 24 months and could potentially run concurrent. July 2015 – July 2017 subject to market conditions.

During Phase 2 the balance of the Offsite Roadway improvements at the two Grove St. roundabouts and the new access to the site off the CD road will also be completed at this time. The work is scheduled to be completed in a 18 month timeframe. November 2015 - May 2017.

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Construction Hours

Construction of the Project will conform to all local, state, and federal laws and employ reasonable means to minimize inconvenience to residents in the general area. Exterior construction of the Project will occur predominantly during daytime hours no earlier than 8:00 AM and no later than 7:00 PM on any weekday, except for certain operations such as concrete finishing and emergency repairs. On Saturdays, exterior construction will occur no earlier than 8:00 AM and no later than 5:00 PM, with the same exceptions. The Building Inspector may allow longer hours of construction

under special circumstances, if a written request is provided to the Building Inspector in advance (except in emergencies). There shall be no exterior construction on Sunday or any state or federal legal holiday.

Air Quality Emissions

Dust generated from earthwork and other construction activities will be controlled by spraying with water. If necessary, other dust suppression methods will be implemented to ensure minimization of the off-site transport of dust. There also will be regular sweeping of the pavement of adjacent roadway surfaces during the construction period to minimize the potential for vehicular traffic to kick up dust and particulate matter.

All contractors will be required to adhere to all applicable regulations regarding control of dust and emissions. This will include, but not be limited to, maintenance of all motor vehicles, machinery, and equipment associated with construction activities and proper fitting of equipment with mufflers or other regulatory-required emissions control devices. The Proponent will require that the machinery of the contractor hired and the machinery of other sub-contractors hired to perform site work will utilize Low Sulfur Diesel (LSD) fuel or Ultra-Low Sulfur Diesel (ULSD) fuel in off-road construction equipment.

The construction process typically involves operations that may introduce two main types of air emissions: dust and vehicle exhaust. Clearing of vegetation, earthwork, blasting/excavation, and demolition activities provide the potential for release of fugitive dust emissions. The use and operation of construction vehicles and equipment provides the potential for increases of motor vehicle engine emissions. Blasting and/or rock crushing will be carried out in accordance with all federal, state and local blasting permit practices. No perchlorate containing explosives will be utilized.

Dust will be controlled using wetting agents, as necessary and the direct transfer of excavated soil into covered trucks will greatly diminish the potential for soil migration. If necessary, other dust suppression methods will be implemented to ensure minimization of the off-site transport of dust. There also will be regular sweeping of the pavement of adjacent roadway surfaces during the construction period to minimize the potential for vehicular traffic to kick up dust and particulate matter. Dust control and street cleaning will be components of the contractors SWPPP under the EPA GCP.

The Proponent is aware of the Clean Construction Equipment Initiative actively promoted by the Department of Environmental Protection (DEP) (engine retrofit program and/or use of low sulfur fuel). A number of construction managers and contractors already are participating in this program. To the greatest practical

degree, the Proponent will seek to engage a contractor familiar with and participating in this program.

The Proponent will require the use of ultra-low-sulfur diesel fuel exclusively in all diesel-powered construction equipment. Ultra-low sulfur diesel has a maximum sulfur content of 15 parts per million as opposed to low sulfur diesel fuel, which has a maximum sulfur content of 500 parts per million. In fact, by using ultra-low sulfur diesel fuel, there is a 97 percent reduction in the sulfur content as compared to low sulfur diesel fuel. In addition, the Proponent will direct its contractor(s) to retrofit any diesel-powered non-road construction equipment rated 50 horsepower or above to be used for 30 or more days over the course of the Project with EPA-verified (or equivalent) emission control devices (e.g., oxidation catalysts or other comparable technologies).

The Proponent and its contractors will comply with state law (M.G.L. Chapter 90, Section 16A) and DEP regulations (310 CMR 7.11(1)(b)), which limit vehicle idling to no more than five minutes in most cases. There are exceptions for vehicles being serviced, vehicles making deliveries that need to keep their engines running and vehicles that need to run their engines to operate accessories.

The Proponent will contractually require the construction contractors to adhere to all applicable regulations regarding control of dust and emissions. This will include, but not be limited to, maintenance of all motor vehicles, machinery, and equipment associated with construction activities and proper fitting of equipment with mufflers or other regulatory-required emissions control devices. No significant uncontrolled dust or air quality impacts are anticipated to be generated by construction activities.

Earthwork Activities

The development plan strives to minimize significant cut and fill to the extent possible. Site imported fill materials will primarily include structural materials to support the development. These materials include bituminous pavement, concrete pavement and slab base sections and building structural fill. All disturbed undeveloped areas will receive six inches of topsoil and, at a minimum, will be planted with an appropriate seed mix.

The source of the import material has not yet been determined. This determination will occur during the construction/bidding process when the site contractor is selected. However, the Proponent and their consultants will produce Project specifications that define the parameters of the materials that can be used at the Project Site for both structural and non-structural needs.

Construction Noise

The Project will generate typical sound levels from construction activities, including foundation construction, truck movements, heavy equipment operations, blasting for ledge removal and general construction activities. Construction activity associated with the Project may temporarily increase nearby sound levels due to the use of heavy machinery. Heavy machinery will be used intermittently throughout the Project's construction phases.

The Proponent will implement mitigation measures to reduce or minimize noise from construction activities. Specific mitigation measures may include:

- Construction equipment will be required to have installed and properly operating appropriate noise muffler systems and contractors will be required to maintain all original engine noise control equipment
- All exterior construction activities, such as site excavation/grading and new building construction will be managed and conducted in accordance with the City of Newton's requirements. Any necessary off-hour work will be minimized to the extent practicable.
- Appropriate traffic management techniques implemented during the construction period will mitigate roadway traffic noise impacts.
- Proper operation and maintenance, and prohibition of excessive idling of construction equipment engines, will be implemented as required by DEP regulation 310 CMR 7.11.
- The Project Site will be surrounded by safety fencing to provide security, as well as to mitigate construction noise and fugitive dust.
- Work hours and relevant noise generating activities will be reviewed with the City of Newton prior to construction.
- Appropriate operational specifications and performance standards will be incorporated into the construction contract documents.

Limited ledge removal will be required during the site work phase of the Project. Blasting activities to remove rock and ledge will be restricted to daytime periods only, and no blasting will be conducted on Sundays. All blasting will be conducted in accordance with applicable safety regulations and immediate residential abutters to the Project Site will be notified prior to any blasting activities. A typical rock blast produces a maximum sound level in the audible range of 94 dBA Lmax at 50 feet. The estimated instantaneous maximum (Lmax) sound levels at the nearest residential properties from blasting on the site are 69 to 84 dBA. These levels are similar to existing daytime sound levels at these same locations of 60 to 87 dBA Lmax. Therefore, blasting sound for brief periods during the day is not expected to create a noise nuisance condition to surrounding residential properties. Furthermore, all blasting activity will be done by a licensed blasting contractor in full compliance with all state and federal regulations for protecting residential areas.

Wetlands and Water Quality

During construction, the Project will include installation of erosion and sedimentation controls to ensure that there is minimal discharge of any sediment material into nearby wetland resource areas or off-site drainage systems. Site preparation activities, construction staging, and other requirements are described below. Additionally, a stormwater management plan, has been developed to minimize impacts on nearby resource areas from construction activities, and long term operation of the Project.

There is no work anticipated directly within wetland resource areas. Work within the 100-foot wetland buffer zone and Riverfront Area is also limited and includes minor regarding and restoration of open space to accommodate the proposed track relocation and future connection to the DCR bike path. Erosion and sedimentation controls including silt fence and hay bales will be installed along appropriate downgrade portions of the perimeter of the excavated areas to prevent construction materials from contaminating the storm drainage system.

Site Preparation, Construction Staging and General Construction Requirements

The Project Site preparation and construction staging for the Project will include several important steps. The contractor will establish site trailers and staging areas to minimize impacts on natural resources. The site trailers and staging areas will provide a location for erosion control equipment and supplies, documentation related to the Project's local and State permits as well as NPDES compliance, and spill control equipment. It is expected that the staging area will be located on compacted gravel or a paved surface, which will reduce potential erosion. As previously noted, the vast majority of the site has been previously altered with predominately paved areas associated with commuter parking areas. As such, these areas will be far more manageable as compared to a previously undisturbed site.

The following are some general requirements related to construction vehicle fueling and storage:

- Any refueling of construction vehicles and equipment will take place outside of the 100-foot wetlands buffer zone or riverfront area and will not be conducted in proximity to temporary sedimentation basins or diversion swales.
- No on-site disposal of solid waste, including building materials, is allowed in the 100-foot buffer zone.
- No materials will be disposed of into the wetlands or existing or proposed drainage systems. All contractors, including concrete suppliers,

painters and plasterers, will be informed that the cleaning of equipment is prohibited in areas where wash water will drain directly into wetlands or stormwater collection systems.

- The contractor will establish a water resource to supply a "water truck", or other means, to provide moisture for dust control and irrigation. Water will not be withdrawn from wetland areas.

Upon establishing the staging area, the contractor will then establish sedimentation and erosion controls as identified in the next section. Although specific construction and staging details have not been finalized, the Proponent will work with the Contractor to verify that materials staging and storage areas will be located to minimize impact to the surrounding neighborhood, pedestrian and vehicular traffic. All staging and vehicular unloading is anticipated to occur on-site.

Sedimentation and Erosion Control

The Project will include implementation of erosion and sedimentation controls during each phase of construction through implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will be adapted to fit the contractor's equipment, weather conditions, and specific construction activity. The following sedimentation and erosion control measures will be employed, as well as additional construction methods, in order to minimize impacts.

The program incorporates Best Management Practices (BMPs) specified in guidelines developed by the DEP and the U.S. Environmental Protection Agency (EPA). Proper implementation of the erosion and sedimentation control program will:

- Minimize exposed soil areas through sequencing and temporary stabilization;
- Place structures to manage stormwater runoff and erosion; and
- Establish a permanent vegetative cover or other forms of stabilization as soon as practicable.

The structural and non-structural practices proposed for the Project comply with criteria contained in the NPDES General Permit for Discharges from Large and Small Construction Activities issued by the EPA. Non-structural practices include:

- Temporary Stabilization;
- Temporary Seeding;
- Permanent Seeding;
- Pavement Sweeping; and
- Dust Control.

Structural practices include:

- Erosion Control Barriers,
- Stabilized Construction Exits;
- Temporary Sediment Basins;
- Diversion Swales;
- Temporary Check Dams;
- Catch Basin Inlet Protection; and
- Dewatering Filters.

In addition, a hay bale/silt fence line will be installed along the down gradient slope at the limit of work line. The installation of this hay bale/silt fence line will provide erosion and sedimentation controls for the Project, and will define the limit of disturbance for the site contractor.

Pre-Construction Erosion Control

- Erosion control barriers (silt fences or hay bale dyke) will be installed prior to the start of construction. These barriers will remain in place until all tributary surfaces have been fully stabilized.
- The contractor will establish a staging area, outside the 100-foot wetland buffer zone and riverfront area, for the overnight storage of equipment and stockpiling of materials.
- In the staging area, the contractor will have a stockpile of materials required to control erosion on-site to be used to supplement or repair erosion control devices. These materials will include, but are not limited to, hay bales, silt fence, erosion control matting and crushed stone.
- A temporary stone construction entrance is required to prevent tracking of silt, mud, etc, onto existing roads. The stone will be replaced regularly and, as needed, if silt-laden.
- The contractor is responsible for erosion control on the Site and will utilize erosion control measures where needed, regardless of whether the measures are specified on the construction plans or in supplemental plans prepared for the SWPPP.

General Erosion Control Measures

The most important aspects of controlling erosion and sedimentation are limiting the extent of disturbance, and limiting the size and length of the tributary drainage areas to the worksite and drainage structures. These fundamental principles will be the key factors in the contractor's control of erosion on the Project Site. If appropriate, the contractor will construct temporary diversion swales, settling basins or use a settling tank. If

additional drainage or erosion control measures are needed, they will be located in the upland, up-gradient from the hay bales and silt fences.

All disturbed surfaces will be stabilized a minimum of 14 days after construction in any portion of the Project Site has ceased or is temporarily halted, unless additional construction is intended to be initiated within 21 days.

The contractor is responsible for the maintenance and repair of all erosion control devices on-site. All erosion control devices will be regularly inspected. At no time will silt-laden water be allowed to enter sensitive areas (wetlands, streams, and drainage systems). Any runoff from disturbed surfaces will be directed through a sedimentation tank that will discharge by gravity to the existing on-site drainage system.

Soil Stabilization Specifications

All disturbed areas to remain open will be graded and stabilized with plantings, sod, grass, riprap, or other suitable material as shown or specified on the plans. A minimum of six inches of loam will be applied to all surfaces to be seeded. Loam will be uniformly applied, compacted, shaped, and smoothed prior to being seeded.

Seeding may be performed by hand, mechanical, or by tractor-mounted spreader. Hydroseeding or sod may also be used. Seeding before April 15, or after October 15, will be reapplied between these dates if a minimum germination of 90 percent of surface area coverage has not occurred, or if the surface has become unstable. Seed will be lightly raked into a depth of ¼-inch to one inch, with raking to be perpendicular to slope. Seeded areas will be mulched using seed-free straw, covering the area to a depth of one inch.

Utility Construction

The Proponent will construct utility trenches in a manner that will not direct runoff toward wetlands or to drainage system structures.

Drainage System

The following will be employed during construction activities in order to minimize impacts to the local drainage system:

- Inlet works shall be constructed to a point that will allow the stabilization of the area over the pipe, if the tributary drainage works are not to be immediately extended.
- Hay bale check dams shall be used on roadways to divert runoff onto stabilized areas.
- The drainage system will be installed from the downstream end up.
- Until tributary areas are stabilized, catch basin inlets will be filtered with a siltsack, or by placing filter fabric over catch basin grates and surrounding the grate with stone or sand bags. If intense rainfall is predicted before all tributary areas are stabilized, erosion control measures will be reinforced for the duration of the storm. Downstream areas will be inspected and any sediment removed at the end of the storm.
- Unfiltered water will not be allowed to enter pipes from unstabilized surfaces.
- Trench excavation will be limited to the minimum length required for daily pipe installation. All trenches will be backfilled as soon as possible. The ends of pipes will be closed nightly with plywood.
- Silt-laden waters should be intercepted prior to reaching catch basins. Any gross depositions of materials on paved surfaces will be removed.
- All paved areas shall be vacuum swept during the April-May period.
- Catch basins should be inspected monthly and cleaned in anticipation of the winter season in November and at the same time the roads are swept in the spring.

Maintenance of Erosion and Sedimentation Controls

Scheduled inspections and maintenance of erosion and sedimentation controls will be routinely performed by the Contractor and/or an Environmental Site Monitor to maintain the functional capacity of the stormwater system and to protect stormwater quality during construction. Sediment and erosion controls will be inspected within 12 hours following each storm event of 0.5-inch or greater. Immediate action will be taken to correct any failures that are observed and repairs and/or adjustments made promptly to any erosion and sedimentation control measures found to be inadequately performing. Silt sacks or hay bales will be installed in or around existing and new catch basins and a supply of replacement materials such as silt fence, hay bales, etc., necessary to make repairs or for first response in the event of an accidental release or failure, will be stored on-site. Catch basins in work areas will be cleaned when the sump becomes one-half full and accumulated sediment and debris should be removed from the site.

National Pollutant Discharge Elimination System

As previously discussed, the Project is subject to the provisions of the NPDES because the proposed development results in the disturbance of more than one acre of land. Prior to the start of construction, the property owner and/or general contractor must file a Notice of Intent (NOI) with the U.S. Environmental Protection Agency (EPA) under the NPDES General Permit for Construction Activities. The NOI will include a Storm Water Pollution Prevention Plan (SWPPP), largely consisting of the erosion and sedimentation control plan described herein. A SWPPP will be prepared by the general contractor prior to filing the NOI for the NPDES Phase II Stormwater General Permit. The general contractor is solely responsible for developing and implementing the SWPPP.

The SWPPP will be implemented during construction to comply with the requirements of the NPDES General Permit. The Project contractor will be responsible for implementing and maintaining all erosion and sedimentation control measures. Below are specific recording and inspection requirements:

NPDES Record Requirements

- A copy of the NPDES submittal and SWPPP must be kept on-site at all times during construction and will be made available to all interested parties.
- Records must be maintained pursuant to the permit for a period of three years from the date of stabilization of the Project Site as required. Stabilization occurs when the Project Site has over 70 percent vegetative growth and/or mechanical stabilization throughout.
- The detailed plans of completed work must be added to the NPDES and SWPPP information specified above as they become available.

NPDES Inspection Requirements

- All inspections will be conducted by qualified personnel who will produce written quantitative and qualitative reports on the construction methods, general condition of the Project Site, the condition of erosion control measures, and the status of the installation of drainage structures.
- Inspections are required during site alteration a minimum of one out of every seven days while surfaces are not stabilized.
- Inspections are required within 24 hours of storms which have 0.25-inches or greater of precipitation.
- Before/until the Project Site is fully stabilized, inspections will be conducted at monthly intervals for a period of one year.

Construction Traffic

The construction period will generate construction truck/vehicle traffic and construction employee traffic. The following is a summary of the expected impacts of construction truck traffic and the measures to be used to reduce any potentially negative impacts during the construction period.

Truck Access

The Proponent is committed to working with local and MBTA public officials to help ensure that appropriate traffic maintenance and protection measures are in place during construction. Designated routes for all associated construction truck traffic will be implemented. All construction deliveries will be required encouraged to access the project site via the Route 128 corridor and Grove Street interchange and not via local Newton or Wellesley roads.

The contractor will establish site construction trailers and staging areas to minimize impacts on traffic. Trucks will be required to wait in on-site staging/waiting areas and will be prohibited from stopping for extended durations on public roads, including Grove Street.

Traffic Maintenance

A pre-construction coordination meeting with the Proponent, General Contractor and City will be scheduled to designate truck routes and coordinate operations for off-site work required for the construction of roadway and related utility improvements. Generally, the off-site construction will be performed during off-peak travel periods. All reasonable efforts will be made to maintain existing traffic patterns at all times. Full road closures and detours will be avoided to the maximum extent possible and will be limited to off-peak travel periods.

Demolition, Excavation and Construction Waste

While overall demolition activities are minimal, all construction and demolition debris will be handled, managed, and disposed of in accordance with applicable regulations, including the "Waste Bans" as applicable at local solid waste facilities in the Project Site area (effective July 1, 2006 solid waste facility management regulations at 310 CMR 19.017). In addition, solid waste/debris generated by the Project's construction activities will be managed and disposed of in accordance with DEP's Waste and Recycling Regulations and Standards (310 CMR 16.00 and 310 CMR

19.000). It is anticipated that a majority of the existing asphalt, brick, and concrete will be recycled and/or reused on-site, where feasible.

As mentioned above, the amount of demolition to occur is limited. It is anticipated that any concrete demolition debris will be crushed on-site and reused on-site as backfill material. Bedrock and large boulders also will be crushed on-site and reused as backfill. To the extent possible, granular soils that are excavated will be reused as compacted backfill. Any geotechnically unsuitable soil, such as organic peat, will be disposed off-site at appropriate locations. During construction, there also will be solid waste generated by the various trades. These materials will be collected into dumpsters and hauled to licensed disposal facilities. To the extent feasible, separate containers or dumpsters will be provided to separate recyclable materials such as cardboard, paper, wood and metals.

Any asbestos-containing waste material will be managed in accordance with DEP's Solid Waste Management Regulations (310 CMR 19.061) for "special waste." A licensed waste management contractor will be retained to transport all debris to an approved landfill/disposal facility or reclamation facility.