

Addendum No. 3 to the
Environmental Impact Assessment
of January 2016 and its First (July, 2016) and Second Addendums, (April 2018)
For the
Dhaka Mass Rapid Transit Development Project

Prepared for
Dhaka Mass Transit Company Limited

By NKDM Association

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I. Summary

This is Addendum No. 3 to the detailed design stage Environmental Impact Assessment (EIA) prepared in January 2016 for the Dhaka Mass Rapid Transit Development Project (DMRTDP). The addendum follows on the previous addendums (Addendum No. 1 dated July 2016 and Addendum No. 2 dated April 2018), and introduces further changes to specific content of the January 2016 version of the EIA and the previous addendums.

There are four revisions (replacement or addition of text and figures) contained in this addendum, which are described in the following sections in the order of their appearance in the EIA report. A reference describing the nature of the revision is provided along with reference to a section in the January 2016 version of the EIA and, in some cases, the previous addendums, followed by a description of the adjustment to be made. A final table summarizes the changes and describes their impacts and consequences. Additional changes may be necessary as the project progresses, to be addressed in further addenda.

II. Revisions

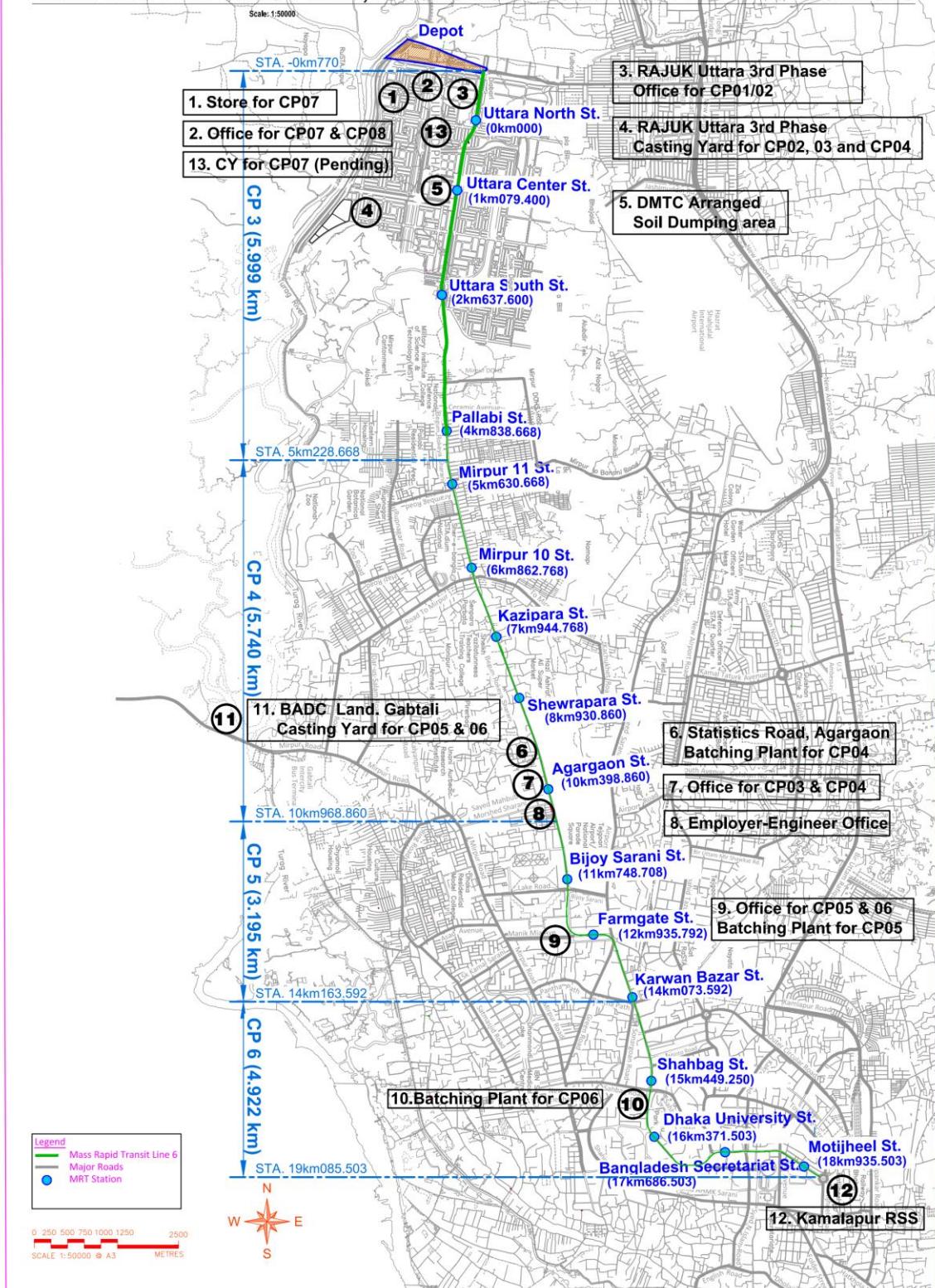
1. Chapter 3, Sec. 3.3.6: Temporary Construction Facilities (Note this revision also applies to Item 4 of Addendum No. 1 and Item 2 of Addendum No. 2)

Replace the paragraph with the following:

“Seven locations have been identified for temporary construction facilities for use under contracts CP-3 – CP-8 (see the next section). These six sites are now confirmed, and are located as shown in Figure 3-12. Environmental aspects of these sites are evaluated in Chapter 6.”

Update Figure 3-12 contained in the EIA with the following: (next page; note: this figure was previously updated in Addendum 2)

DHAKA MRT LINE-6 ROUTE MAP, PACKAGING & ASSOCIATED FACILITIES LOCATIONS



2. Chapter 6, Sec. 6.13.2: Temporary Construction Facilities/Sites and Locations (These revisions also apply to Item 6 of Addendum No. 1 and Item 5 of Addendum No. 2)

Delete the opening paragraph and replace with the following:

“Seven temporary construction sites (TCS) have been selected as locations for construction-related activities and are described herein.”

Insert the following after the paragraph under “Uttara” and before the heading “Statistics Road”:

Uttara Office Space

DMTC took lease of land parcels just south of the depot area for office use by Contractor and Engineer. One parcel of 1.93 ha was first used by CP-01, which will be later used by CP-07 and CP08 (0.7 ha for office and 1.23 ha for construction yard). The other parcel is used by CP-02 for office space and staff quarters, which is 0.47 ha.

Delete the heading and associated paragraph entitled T & T Field, as this site will no longer be used.

Insert the following after the paragraph under the heading “Gabtoli” (as described in Addendum 2):

Suhrawardy Udyan

A 0.5 ha site at Suhrawardy Udyan adjacent to the alignment and close by Dhaka University, the Supreme Court and Independence Monument (Shadhinata Stambho) is designated for use by CP-06. Specific covenants govern the use of this site as described later in the report.

3. Chapter 6, Sec. 6.13.3: Temporary Construction Facilities/Potential Impacts and Mitigation Measures (These revisions also apply to Item 7 of Addendum No. 1 and Item 6 of Addendum No. 2)

Insert following the paragraph under “Uttara” and before the heading “Statistics Road”:

Uttara Office Space

There are two land parcels provided for office space at Uttara, 1.93 ha and 0.47 ha. These parcels are adjacent to the Depot site and lay along the road paralleling the south boundary. The sites are used for office space and in the case of the smaller parcel, for staff quarters for CP-02, CP-07 & CP-08. Location of these parcels are shown in Figure A3 6-1.

 <p>Block-I</p> <p>Sites and facilities described in this section</p>	
a: Uttara office Space Location	b: Photograph of Uttara office of CP 07
	
c: Photograph of Uttara office of CP 02	d: Photograph of Uttara office interior
Figure A3 Error! No text of specified style in document.-1: Uttara Office Space Location	

Since the locations are used for office space and staff quarters only, there are no significant environmental impacts resulting from the occupation of these land parcels.

Delete the heading entitled T & T Field and associated paragraphs, as this site will no longer be used.
Delete Figure 6-16 (found in the January 2016 EIA).

Insert the following after paragraphs found under the heading “Gabtoli” (described in Addendum 2):

Suhrawardy Udyan

A 0.5 ha site at Suhrawardy Udyan has been designated for use by the CP-06 contractor. Special covenants apply due to its proximity with important institutional and cultural features of the Dhaka landscape: Dhaka University, the Supreme Court and Independence Monument (Shadhinata Stambho), as well as Doel Chattar, the Mausoleum of the Three Leaders and Haji Shabaz Khan Mosque. (See Figure A3 6-2) The property is under the jurisdiction of the PWD.

	
a: Suhrawardy Udyana Location	b: Photograph of Suhrawardy Udyana Site
Figure A3 Error! No text of specified style in document.-2: Suhrawardy Udyana Location	

Despite the small size of the property, intensive use is planned by the CP-06 contractor. Restrictions placed on use of the site by PWD include no removal of trees, and return of the site to its original condition once the contract is complete (e.g. removal of constructed elements, paving and replenishment of topsoil to original grade).

The contractor has developed a detailed site plan that identifies all existing trees, and provides for locating equipment and vehicle passage in and among the trees. Two batching plants and a casting facility are installed at the site, as well as two deep wells, a below-grade clean water reservoir and a concrete wash water treatment tank. There is no staff lodging at the site. The contractor has installed an onsite drainage and waste collection/treatment system for management of runoff as well as treatment of septage generated at offices.

In addition to nearby cultural features, the site is located in a park. Noise and air emissions may impact on casual use of the park as well as on facility use at nearby institutional and cultural features. Traffic movements (trucks entering and exiting the site) can add to noise and congestion, and cause a nuisance for ongoing surrounding land uses. Mud and dirt can adhere to truck wheels and be carried off the site premises. The following measures are proposed in order to mitigate these impacts:

- The site should be equipped with raised, well-drained and paved driving surfaces throughout.
- A wheel washing platform and equipment should be installed at the site and its use required for all trucks leaving the site.
- A drainage collection and treatment system is required for concrete truck wash water, wheel washing and other sources of drainage and waste water.
- Biological waste should be treated separately, with effluent discharged to a common drain.

- Sampling points should be provided for wastewater, and a permit for discharge obtained from DWASA for discharge to the DWASA collection system.
- Batch plants must be of recent manufacture and equipped with both spray dampening and filtration equipment for control of dust.
- Standard operating procedures should be developed for minimizing dust emissions and noise (e.g. by limiting material drop height, providing cover for stockpiles, and installing noise barriers).
- Material stockpiles must be kept covered and or wetted.
- Noise barriers may be required around individual items of equipment, or erected along the site boundary if operations cause significant nuisance for surrounding land uses.
- Open-bed trucks hauling aggregate that enter or leave the site must be covered.

4. Chapter 8, Sec. 8.3.11: Inspection and Reporting during Construction

Insert as the final paragraph in the section (append to end of the section):

Additional spoil disposal sites are needed during construction, for which a procedure is established by which 1) the contractor may propose a site and within which 2) the NKDM's environment group will review the proposal and 3) recommend disposition of the proposal in keeping with good practice.

Contractor's Proposal for Use: In order for the NKDM Environment Group to review the suitability of a proposed site, the following documentation is needed:

- Location map that identifies the site within the context of the surrounding area.
- A map of sufficient detail to show the area to be filled, surrounding water bodies (if any), and any nearby occupied properties. The map should clearly show the limits of the area to be filled.
- Maps showing route of travel and access to the property.
- A Mousa map with the parcel of land identified.
- Information to identify the types of material and estimates of quantities to be disposed of.
- Method and timing of placement should be described.
- Ground elevation and proposed depth of fill should be stated along with the amount of area coverage anticipated at the site (sq m).
- Identification of the owner of the property and provision of a letter of no objection (NOC) from the owner.

Review of Proposal: NKDM Environment's review of the proposal consists of document checking, request of additional information if needed, a site visit, discussion with surrounding land occupants as necessary and any other particulars that will add to its comprehension of the environmental issues related to use of the spoil disposal site.

Once the review is conducted, NKDM issues a letter to inform the contractor of its decision. Since the materials being placed are considered Class C non-putrescible wastes (see Sec. 6.7.1), environmental impact from the wastes as a pollutant source is negligible. Environmental concerns instead focus on approved access to the location for filling, control of mud and dust along haul routes and in the immediate vicinity of the site, and avoiding drainage blockage. Wetlands protection is not generally an issue, since the land being filled is either privately owned, in which the owner has the right to fill the land, or administered by RAJUK, for which filling is done within the general guidelines of the Dhaka Development Authority.

NKDM's notification is given as a no objection to use of the site with conditions that cover a range of issues from transport and placement of the materials to restrictions on type of material. In respect to the latter, typically only soil cuttings from piling installation are allowed, since rubble (also considered Class C) may affect future use.

III. Addendum Summary

Rewvisions to four (4) sections of the EIA have been submitted in this Addendum, which involve replacement or addition of text and figures in order to elaborate the design, describe facilities that are provided for construction and extend the management framework. Three revisions stem from introduction of an additional construction yard site and a site for construction offices. These elements require changes in the text at three locations. The fourth change involves addition of an element to the management framework. Environmental impacts related to construction are associated with the former. These impacts that can be mitigated by means described in the EIA. The latter change introduces a screening measure aimed at managing impact. These are recapped in the following table.

<u>Seq.No.</u>	<u>Short Description</u>	<u>Page/Sec. Ref</u>	<u>Consequence</u>
1.	<u>Project description; Temporary Construction Facilities</u>	<u>Chapter 3, Sec. 3.3.6</u>	Clarification of arrangements related to construction; notice of change in the number of sites and update of map
2.	<u>Temporary Construction Facilities/Sites and Locations</u>	<u>Chapter 6, Sec. 6.13.2</u>	Minor impacts associated with use of the site that can be mitigated following procedures described in the EIA
3.	<u>Temporary Construction Facilities/Potential Impacts and Mitigation Measures</u>	<u>Chapter 6, Sec. 6.13.3</u>	
4.	<u>Inspection and Reporting during Construction</u>	<u>Chapter 8, Sec. 8.3.11</u>	Element of management system aimed at managing impact