Environmental and Social Monitoring Report

Ninth Quarterly Report
June 2017

India: Jaipur Metro Rail Line 1-Phase B Project

Prepared by: Jaipur Metro Rail Corporation Limited for the Asian Development Bank

CURRENCY EQUIVALENTS

(As of 31st March 2017)

Currency unit	-	Indian Rupee (INR)
INR 1.00	=	$ 0.0154
$1.00	=	INR 64.8386

ABBREVIATIONS

ADB	-	Asian Development Bank
ADF	-	Asian Development Fund
CEC	-	Continental Engineering Corporation
CSC	-	Construction Supervision Consultant
ES	-	Environmental Specialist
DMRC	-	Delhi Metro Rail Corporation
EMP	-	Environmental Management Plan
EA	-	Execution Agency
EIA	-	Environmental impact Assessment
EARF	-	Environmental assessment and review framework
ESMS	-	Environmental and social management system
EMR	-	Environmental Monitoring Report
GPR	-	Ground penetrating radar
HSO	-	Health and Safety Officer
IEE	-	Initial environmental examination
IPP	-	Indigenous People Plan
JMRC	-	Jaipur Metro Rail Corporation
PAM	-	Project Administration Manual
PCAG	-	Public Consultation and Addressing of Grievances
RP	-	Resettlement Plan
SHE	-	Safety Health & Environment Management Plan
SPS	-	Safeguard Policy Statement
VMR	-	Vibration Monitoring Results

WEIGHTS AND MEASURES

km	-	Kilometer
m	-	Meter

NOTES

In this report, "$" refers to US dollars

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EXECUTIVE SUMMARY

1. This report is the 9th quarterly report on environmental and social safeguards compliance of the Jaipur Metro Rail Line -1 Phase B Project. It covers the period from January 2017 to March 2017. Line 1 - Phase B of the project includes construction of 3.6 km underground portion from Chandpole to Badi Chaupar, with two stations. Line 1 – Phase B is being financed by ADB and expected to be completed by May 2018 at a cost of INR 1126 crore.

2. Jaipur Metro Rail Corporation (JMRC) is the Executing Agency for the Project. The sole civil works contract package under the project was awarded to Continental Engineering Corporation (CEC) in September 2013. The General Consultant overseeing the design and supervision of physical works is Delhi Metro Rail Corporation Limited (DMRC).

3. Progress in construction works as of March, 2017 are: i) Tunnelling work have been completed ii) Chhoti Chaupar station work using cut & cover method has progressed as scheduled. iii) Construction work of D Wall at Badi Chaupar, has been completed and the road has been opened for movement of general traffic. As of March, 2017, total physical and financial accomplishments are about 48.64% and 54.97% respectively.

4. So far no damage has been reported during the tunnelling work. Extra precautions had been taken to ensure no mishap happens during the tunnelling process. 12 prisms has been installed on both sides of the gate to keep a check on the vibrations with monitoring the reading every hour. Additionally, 10 crack meter and six strips of glass have also been put on the gate to receive any information if the cracks widen. Moreover, eight Multi Point Borehole Extensometer (MPBX) have been installed at the depth of 2.5 meter and 5 meter. The status of all the relevant structures have been regularly monitored. Sites are being regularly visited by JMRC Heritage/structural experts i.e., M/s Abha Narain Lambah Associates and M/s Shashank Mehendale & Associates. However, in the reporting period, instrumentation and vibration monitoring were not carried out since there was no tunnelling.

5. The project is running behind the initially planned schedule. This is mainly due to the design changes and discovery of two ancient tanks which were buried right in the path of the alignment. These tanks once brought water to the city centre from the surrounding Aravilli hills. To preserve the tanks, the Jaipur Metro Rail Corporation has altered the design. The tunnel has been lowered by about one meter and made incidental design changes to accommodate the tanks above the metro stations at Chhoti and Badi Chaupar. Another design change that resulted in delay is the decision to tunnel through Chhoti Chaupar station instead of retrieving and re-launching the TBMs at Chhoti Chaupar. This was done to avoid disturbance to general public and business community. Also at Badi Chaupar, the station was lowered to accommodate proposed subway and retrieving shaft location was changed to minimize the period of road blockage. In addition to above, in order to make better utilization of the space above reversal line between Badi Chaupar and Ramganj, which otherwise was to be filled with earth, now the same will be developed for property development and parking area.

6. The environmental and social safeguards of the project are being implemented in compliance with the loan covenants, project agreement and contractor is complying with the proposed mitigation measures described in the Environmental Management Plan (EMP); Safety, Health and Environment (SHE) Manual and the contract specifications. The implementations of environmental and social safeguards are being monitored at Project Management and General Consultant (GC) level. With exception of few issues the project is being implemented in compliance with project requirements.

7. With regards to the baseline study carried out on heritage structures located in the project area before the start of work of Phase 1B, during the reporting period of report i.e. from January 2017 to March 2017 no major changes in the condition of structures have been reported.

8. The list of structures requiring immediate action was submitted to Jaipur Nagar Nigam, so that to ensure no damage during the tunneling work. Preventive measures like propping of the verandahs and the repair of shops along the above length have been taken up during the tunneling work and beyond.

9. For structures located around the Chaupars (station sites) where construction works are ongoing, proactive measures of providing propping support to unstable structures is already in place and are taken care by the contractor under instructions of the 'engineer' (General Consultants). In addition regular monitoring of weak structures through installation of crack, tilt and vibration meters and building settlement markers is also being done on regular basis.

10. The minor social and resettlement impacts such as the acquisition of a strip of private land (10 by 10 meters) outside Chandpole station and at the tunnel construction start point, as the shops (3 Shopkeepers) on that strip are blocking traffic. JMRC has already rehabilitated the shop owners across the Chandpole Metro Station near Church land. 6 Temples at Chhoti Chaupar, which were infringing the station box area have already been rehabilitated and given built up structures as per their satisfaction at Old Atish market land. Rozgareshwar Temple at Chhoti Chaupar will be relocated back to its original position after completion of Station work at Chhoti Chaupar. 7 temples at Badi Chaupar have been identified which are infringing the station box area. Out of these 7, 4 temples have been shifted to Manak Chowk Thana and Tanwarji Ka Nauhra.

11. Civil Administration and JMRC has ensured round the clock availability of Rescue team consisting of Ambulance, Civil defense, Earth moving Machines & Crane, staff from Jaipur Discom and PHED. This is to ensure quick response to any problem which may arise during construction.

12. After complete and detailed documentation of Badi Chaupar and handing over of Gaumukh to A&M Department, Government of Rajasthan, the old water tank has been refilled and the station work has been started. After completion of station work old water tanks will be reinstated at their original location.

13. The construction works are proceeding in accordance with the provisions of the EMP such as review of monitoring reports, regulatory compliance action plan and approval by the GC. The environmental monitoring plan is successfully being implemented by the JMRC through an instrumentation company M/s AMIL engaged by executing agency with the approval of 'Engineer'.

14. JMRC and DMRC officials have regularly been meeting with the local people and business associations in the project area to inform them about the construction works. Measures have been taken to address concerns of the local businesses such as stopping of work and providing proper pathways for customers during festivals. All reports and information on the project is disclosed on the JMRC website. In addition JMRC has a full-time Public Relation Officer dealing with media/press issues and also maintains a facebook page and twitter account for disclosing project information and responding to queries and concerns from the general public.

15. Various proactive measures are being taken to implement project in compliance with requirements, prevent damages to heritage structures, coordination with relevant agencies, communicate with the public and address grievances of the local public. Areas such as public communications, documentation and reporting need further enhancement.

16. There were no significant environmental impacts observed during the reporting period. All environments related observations are regularly recorded and monitored and in case of any short-comings necessary corrective measures are taken up.

I. INTRODUCTION

A. Purpose of the Report

1. The objective of environmental monitoring is to allow ADB and the Jaipur Metro Rail Corporation (JMRC) gather information to: i) evaluate the environmental management plan (EMP) progress by establishing compliance status, ii) detect and correct non-conformances, iii) identify unanticipated impacts and implement necessary mitigation measures, and iv) provide evidence to support enforcement of penalty provisions of the civil works contract to deter non-compliance.

2. Environmental monitoring and disclosure of quarterly or semi-annual monitoring reports is an ADB requirement for environmental category-A projects like Jaipur Metro Rail Line-1 Phase B. Environmental monitoring is part of project implementation process to be complied by both ADB and JMRC. The preparation and submission of the quarterly or semi-annual monitoring reports is the responsibility of JMRC while supervision to provide guidance is the role of ADB.

3. As many sensitive heritage structures of the Pink City exist above the metro underground alignment, it was agreed during project preparation that quarterly environmental monitoring reports will be prepared and disclosed for this project. Since the significant physical construction works started in July 2015, the first environmental and social semi-annual monitoring report for the period July 2014 – December 2014 has been submitted to ADB and disclosed on ADB and JMRC websites. Thereafter quarterly monitoring reports are being regularly submitted to ADB and disclosed on ADB and JMRC websites. This is the ninth quarterly environment and social monitoring report for reporting period January 2017 to March 2017.

B. Project Description

4. Jaipur, the capital of the Indian state of Rajasthan, is one of the fastest growing cities in India. The fast paced industrial and commercial development has resulted in a steep rise in travel demand, but the city's existing public transport infrastructure is inadequate in terms of capacity and service. With the growing economy, passengers are shifting to private modes of transport, as evident in the rise in vehicle ownership, aggravating congestion and pollution. The modal share for public transport was 19% in 2009—one of the lowest in cities with more than 3 million inhabitants in India[1].

5. In 2009, Jaipur Development Authority developed a comprehensive mobility plan, seeking to provide an overall transport plan, up to 2031, that emphasizes the pre-eminence of public transport for the movement of people, not just vehicles, and integrating land use with transport networks. The plan recommended, among others, the development of high capacity metro lines along the east–west corridor of 12 km from Mansarovar to Badi Chaupar, and the north–south corridor of 23 km from Ambabadi to Sitapura. In January 2010, the government of Rajasthan established the Jaipur Metro Rail Corporation (JMRC) to implement the metro rail lines. Line 1- Phase A (9.6 km elevated portion from Mansarovar to Chandpole) and Line 1-Phase B (3.6 km underground portion from Chandpole to Badi Chaupar, with two stations).

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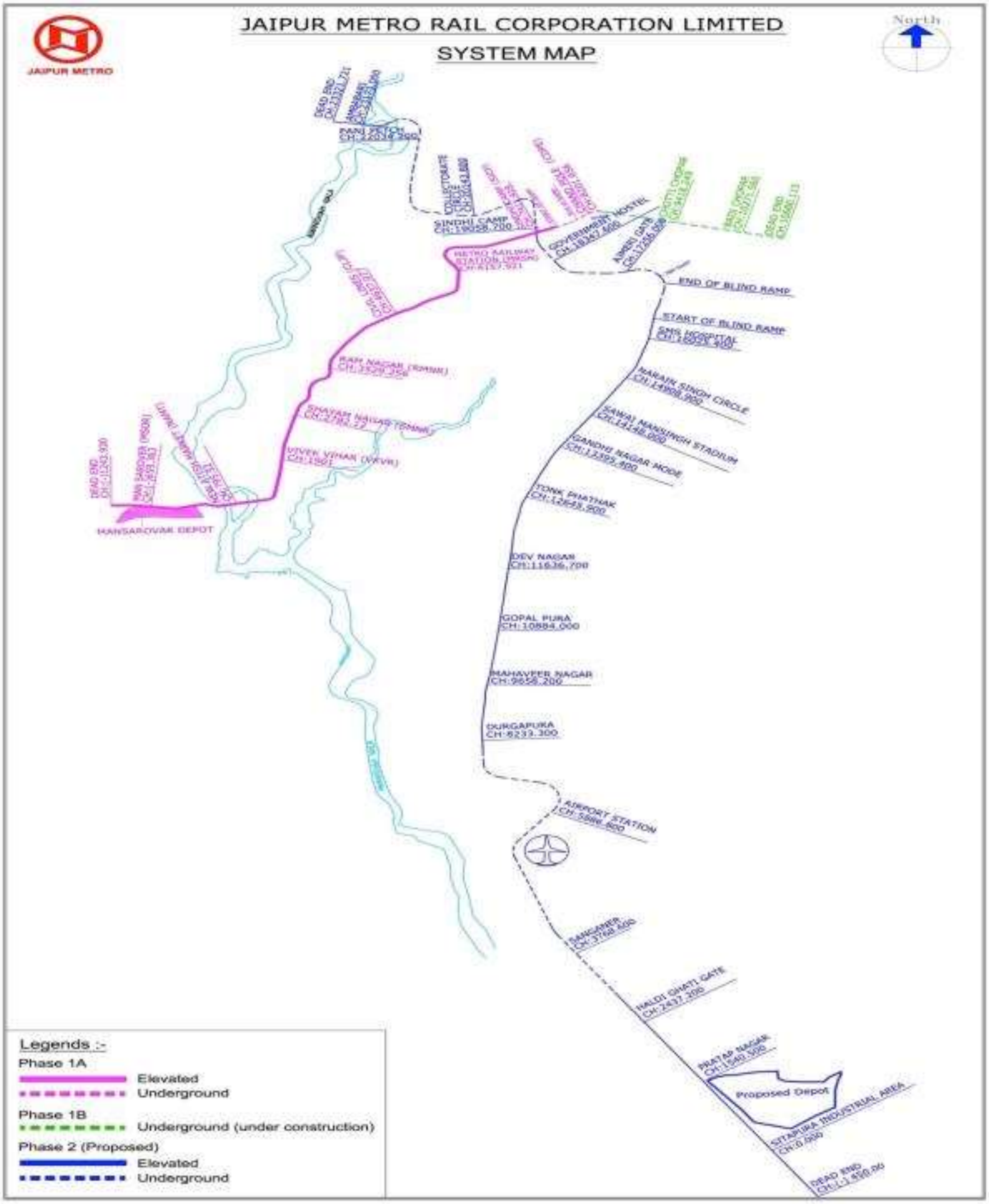
[1]http://www.adb.org/sites/default/files/project-document/79730/46417-001-rrp.pdf

6. Line 1 – Phase B is being financed by ADB and expected to be completed by May 2018 at a cost of INR 1126 Crore[2]. Figure 1 show the system map of the project.



Source: JMRC

Figure 1: JMRC Project System Map

[2]https://www.jaipurmetrorail.in/Present%20Status

C. Project Implementation Arrangement

7. The Government of Rajasthan acting through the Urban Development and Housing Department and Jaipur Metro Rail Corporation (JMRC) is the executing agency of the Project. JMRC has established an environment safeguard cell to look after implementation and monitoring of the safeguards measures associated with the Project. It constitutes six officials of JMRC. Organization structure of Safeguards Cell is show in Figure 2.

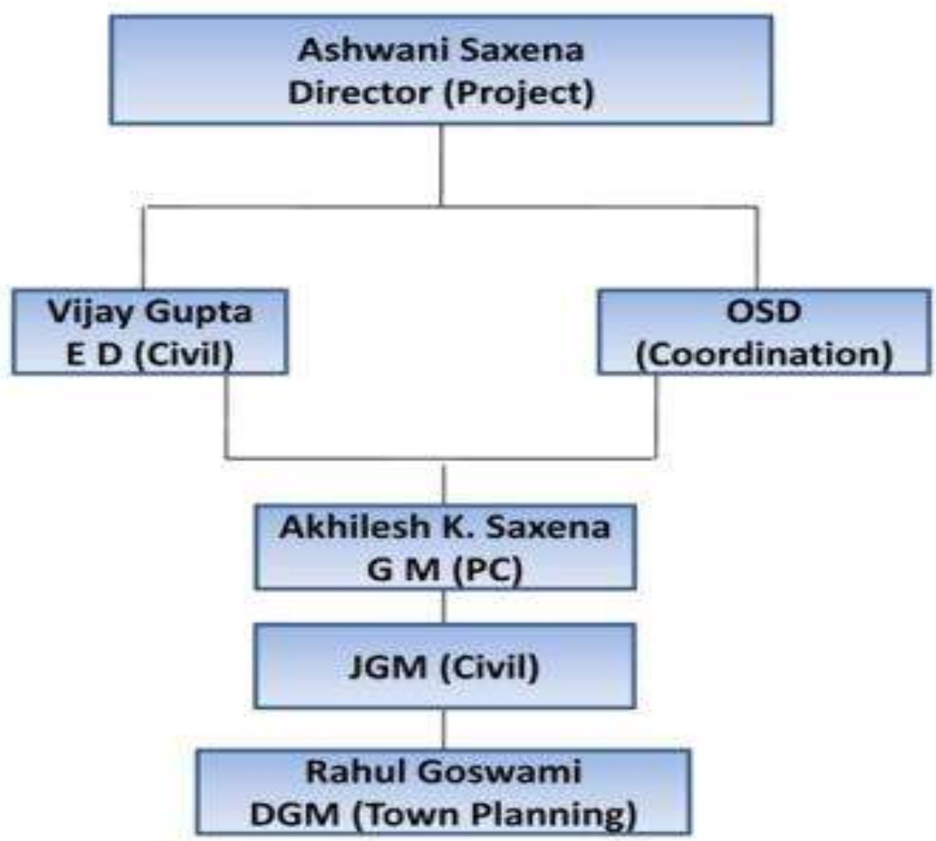


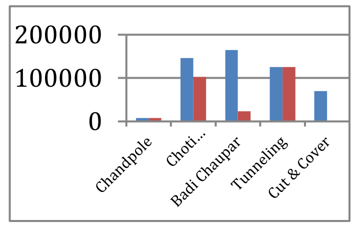
Figure 2: Organization Structure of Safeguards Cell of JMRC

D. Project Implementation Progress

8. As of March 2017, total physical and financial accomplishments are about 48.64% and 54.97% respectively. The status of various construction activities is provided in the Table 1. Photolog demonstrating the progress of works is provided in Appendix 1.

Table 1: Status of Construction Works as of March, 2017

<table>
<tr><th>S.N.</th><th>Activities</th><th>Location</th><th>Status</th></tr>
<tr>
<td>1</td>
<td>Earthworks:

Earthwork is to be done for construction of Launching shaft at Chandpole, construction of underground stations at Chhoti Chaupar and Badi Chaupar by cut & cover method. During the tunneling earth will be excavated with Tunnel Boring Machine (TBM-I & II).</td>
<td>
<table>
<tr><th>Location</th><th>Estimated quantity(in cum)</th></tr>
<tr><td>Chandpole</td><td>8000</td></tr>
<tr><td>Chhoti Chaupar</td><td>146000</td></tr>
<tr><td>Badi Chaupar</td><td>165000</td></tr>
<tr><td>Tunneling Work</td><td>125808</td></tr>
<tr><td>Cut & cover</td><td>70000</td></tr>
</table>
</td>
<td>
<table>
<tr><th>Location</th><th>% Completion</th></tr>
<tr><td>Chandpole</td><td>100 %</td></tr>
<tr><td>Chhoti Chaupar</td><td>70 %</td></tr>
<tr><td>Badi Chaupar</td><td>14 %</td></tr>
<tr><td>Tunneling Work</td><td>100 %</td></tr>
<tr><td>Cut & cover</td><td>0 %</td></tr>
<tr><td></td><td></td></tr>
</table>


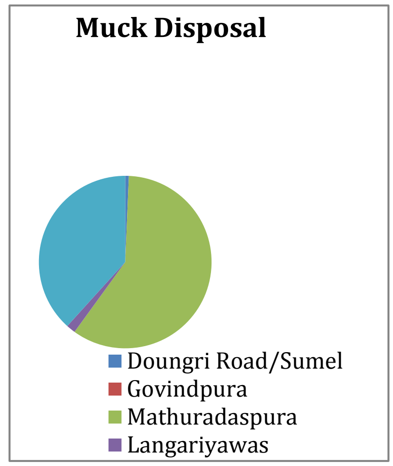
</td>
</tr>
<tr>
<td>2</td>
<td>Soil Disposal:

<table>
<tr><th>Location</th><th>Estimated quantity *(in cum)</th></tr>
<tr><td>Chandpole</td><td>8000</td></tr>
<tr><td>Chhoti Chaupar</td><td>146000</td></tr>
<tr><td>Badi Chaupar</td><td>165000</td></tr>
<tr><td>Tunneling Work</td><td>125808</td></tr>
<tr><td>Cut & cover</td><td>70000</td></tr>
</table>
*Estimated quantity of soil which will be disposed during complete project duration</td>
<td>1. Sumel
2. Govindpura/Ropada
3. Mathuradaspura
4. Langariyawas</td>
<td>➢ Jaipur Development Authority has allotted following soil disposal sites vide letter dated 01.09.2014
1. Sumel
2. Govindpura/ Ropada
3. Mathuradaspura

➢ Jaipur Nagar Nigam has allotted following soil disposal site vide letter dated 08.09.2014:
1. Langariyawas

The above mentioned four muck disposal sites are not exclusively given for metro project. These sites are also being used by other agencies for disposal of muck and in some cases even disposal of C&D waste. JMRC or its contractor is not responsible for maintenance of these sites. However, adequate precaution has been taken by the contractor to avoid nuisance and air pollution during dumping proces.

➢ Soil disposed at different disposal sites during the reporting period is as under:</td>
</tr>
</table>

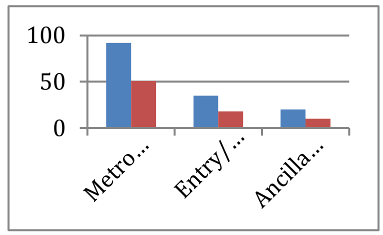
<table>
<tr><th>S.N.</th><th>Activities</th><th>Location</th><th>Status</th></tr>
<tr><td></td><td></td><td></td><td>
<table>
<tr><th>Location</th><th>Estimated quantity (in cum)</th></tr>
<tr><td>Doungri Road/ Sumel</td><td>391</td></tr>
<tr><td>Govindpura/ Ropada</td><td>0</td></tr>
<tr><td>Mathuradaspura</td><td>34239</td></tr>
<tr><td>Langariyawas</td><td>988</td></tr>
<tr><td>Station filling</td><td>22105</td></tr>
</table>


On an average 641 cubic meter of muck was transported daily to the dumping ground or for station back filling. Muck is transported only during night time to avoid nuisance to general public. Wheels of every truck leaving the site with muck are washed/ cleaned before entering public carriage to avoid deposition and spillage. Also the truck is covered with tarpaulin sheet to avoid dust pollution enroute to dumping ground. The dumping ground will be compacted to avoid generation of dust. The route map and photographs of dumping site are annexed as Appendix 7.
</td></tr>
<tr><td>3</td><td>Vegetation and Plant Clearing:

Some trees are coming in the metro route in launching shaft at Chandpole, station box and in entry exit at Chhoti</td><td>• Location of the trees as per survey which are to be cut or located as under:
<table>
<tr><th>Location</th><th>Trees</th></tr>
<tr><td>Metro route</td><td>92</td></tr>
</table>
</td><td>Permission for cutting/ transplantation of 20 trees has been obtained from ADM, Jaipur vide their letter dated 24.04.2015.</td></tr>
</table>

<table>
<tr><th>S.N.</th><th>Activities</th><th>Location</th><th>Status</th></tr>
<tr>
<td></td>
<td>Chaupar and Badi Chaupar. These trees are to be cut or relocated with the prior approval of District Collector.</td>
<td>
<table>
<tr><td>Entry/Exit at Chhoti Chaupar & Badi Chaupar</td><td>35</td></tr>
<tr><td>Ancillary Building area at Chhoti Chaupar</td><td>20</td></tr>
</table>

The tree species include Gulmohar, Banyan tree &Pipal tree.
The trees have been transplanted at GhatkiGuni, Sylvan Bio diversity forest Agra road Jaipur & Ram Niwas Bagh, JDA Jaipur.

</td>
<td>
Details of trees cut or transplanted is as under:
<table>
<tr><th>Location</th><th>Trees transplanted</th></tr>
<tr><td>Metro route</td><td>51</td></tr>
<tr><td>Entry/Exit at Chhoti Chaupar & Badi Chaupar</td><td>18</td></tr>
<tr><td>Ancillary Building area at Chhoti Chaupar</td><td>10</td></tr>
</table>


<table>
<tr><th>Description</th><th>No.</th><th>Survival rate</th></tr>
<tr><td>Trees felled</td><td>6</td><td>NA</td></tr>
<tr><td>Trees transplanted</td><td>79</td><td>56%</td></tr>
<tr><td>Samplings planted</td><td>156</td><td>85%</td></tr>
</table>
In total 79 trees have been transplanted to three locations viz. Ghat Ki Ghuni, Ramniwas Garden and Sylvan Bio-diversity forest. The survival rate as on March 2017 is 56%. All efforts are being made for the survival of the transplanted trees.
In addition transplantation the contractor has carried out multiple tree plantation drive at casting yard and office area. Till March 2017, 156 samplings have been planted at these locations. Photographs and additional details on tree plantation are annexed as Appendix-8.
</td>
</tr>
</table>

<table>
<tr><th>S.N.</th><th>Activities</th><th>Location</th><th>Status</th></tr>
<tr>
<td>4</td>
<td>Utility Shifting:

Utility shifting is an important activity for underground station work.

Underground electric cables, water supply lines and telecom lines are to be realigned at Chandpole for launching shaft and underground station at Chhoti Chaupar and Badi Chaupar.</td>
<td><table>
<tr><td>Chandpole – Launching shaft</td></tr>
<tr><td>Electric cables</td></tr>
<tr><td>Water supply lines</td></tr>
<tr><td>Telecom lines</td></tr>
<tr><td>Chhoti Chaupar</td></tr>
<tr><td>Electric cables</td></tr>
<tr><td>Water supply lines</td></tr>
<tr><td>Telecom lines</td></tr>
<tr><td>Badi Chaupar</td></tr>
<tr><td>Electric cables</td></tr>
<tr><td>Water supply lines</td></tr>
<tr><td>Telecom lines</td></tr>
</table></td>
<td>Status during reporting period is as under:

<table>
<tr><td colspan="2">Chandpole – Launching shaft</td></tr>
<tr><td>Electric cables</td><td>100%</td></tr>
<tr><td>Water supply lines</td><td>100%</td></tr>
<tr><td>Telecom lines</td><td>100%</td></tr>
<tr><td colspan="2">Chhoti Chaupar</td></tr>
<tr><td>Electric cables</td><td>100%</td></tr>
<tr><td>Water supply lines</td><td>100%</td></tr>
<tr><td>Telecom lines</td><td>100%</td></tr>
<tr><td colspan="2">Badi Chaupar</td></tr>
<tr><td>Electric cables</td><td>100%</td></tr>
<tr><td>Water supply lines</td><td>100%</td></tr>
<tr><td>Telecom lines</td><td>100%</td></tr>
</table></td>
</tr>
<tr>
<td>5</td>
<td>Traffic Management and Diversion:

For the construction of launching shaft at Chandpole, underground stations at Chhoti Chaupar and Badi Chaupar, traffic is to be diverted.

Project specific traffic management plan has been developed and the same has been approved by Jaipur Traffic Authority.</td>
<td>Chandpole Launching Shaft

Traffic from Station Road to Jhotwara Road has been diverted via Pareek College Road.

Chhoti Chaupar

Direct access from Chandpole Bazar to Tripolia Bazar. Traffic is diverted via Nahargarh Road – Gangauri Bazar – Cheeni Ki Burj.

Badi Chaupar

Traffic Diversion Plan has been submitted.</td>
<td>Chandpole Launching Shaft

Traffic Management & diversion is continuing.

Chhoti Chaupar

Road is open for traffic from all directions.

Badi Chaupar

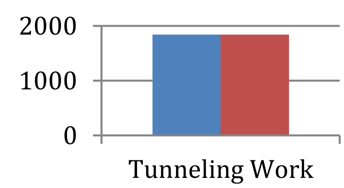
Road is open for traffic from all directions.</td>
</tr>
<tr>
<td>6</td>
<td>Launching shaft:

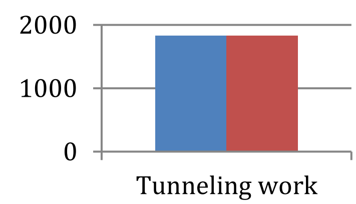
Launching shaft is to be constructed for tunnel boring machine. A launching shaft has diaphragm wall/concrete wall and it is built to be permanent. Once the access shaft is completed, Tunnel Boring Machine will be lowered to the bottom and excavation will start. Launching shaft is the main entrance & exit of the tunnel until project is complete.
Launching shaft is rectangular in shape and constructed with reinforce</td>
<td>Chandpole</td>
<td>Launching shaft work has been completed.</td>
</tr>
</table>

<table>
<tr><th>S.N.</th><th>Activities</th><th>Location</th><th>Status</th></tr>
<tr><td></td><td>cement concrete M50 grade. Walls of launching shaft are 800 mm thick. Dimension of launching shaft at Chandpole is 24m X 20m and a depth of 14m.</td><td></td><td></td></tr>
<tr><td>7</td><td>Tunnel Boring Machine

Tunnel boring machine will be used in excavating and advancing tunnels through any type of ground strata for the complete tunnelling work.

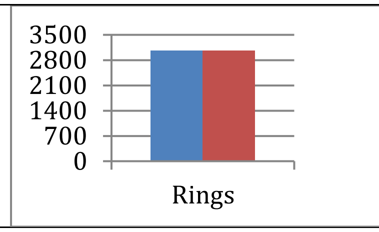
The underlying principle of the EPB method is that the excavated soil or muck itself is used to provide continuous support to the tunnel face by balancing earth pressure against the forward pressure of the machine.

As the shield advances at the face, the cutter head on the TBM rotates through the earth. The excavated soil is then mixed together with a special foam material that actually alters its viscosity or thickness and transforms it into flowing material. The use of a foaming agent to break down muck into a liquefied form provides some obvious benefits. The muck is then stored and controlled in a pressurized chamber located inside the cutter head, and is used to apply support and balance pressure to the tunnel face during the excavation process. The foam acts as a lubricant that conditions the soil to a suitable fluidity, in effect reducing the risk of clogging in the pressurized chamber head or muck storage area.</td><td>The main activities of these TBMs are as under:
<table>
<tr><th colspan="2">TBM 1</th></tr>
<tr><td>Refurbishment</td><td></td></tr>
<tr><td>Lowering in launching shaft</td><td></td></tr>
<tr><td>Tunneling work</td><td>1875 meter</td></tr>
<tr><th colspan="2">TBM 2</th></tr>
<tr><td>Refurbishment</td><td></td></tr>
<tr><td>Lowering in launching shaft</td><td></td></tr>
<tr><td>Tunneling work</td><td>1875 meter</td></tr>
</table></td><td>
<table>
<tr><th colspan="2">TBM 1</th></tr>
<tr><td>Refurbishment</td><td>100 %</td></tr>
<tr><td>Lowering in launching shaft</td><td>100 %</td></tr>
<tr><td>Tunneling work</td><td>98.05 % (1838.4 m) tunneling completed.</td></tr>
<tr><th colspan="2">TBM 2</th></tr>
<tr><td>Refurbishment</td><td>100%</td></tr>
<tr><td>Lowering in launching shaft</td><td>100%</td></tr>
<tr><td>Tunneling work</td><td>97.92 % (1836 M) Tunneling completed.</td></tr>
</table>
<u>TBM-1</u>


<u>TBM-2</u>


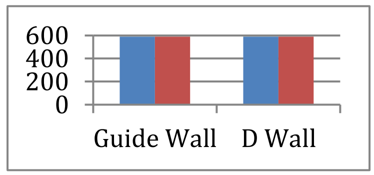
</td></tr>
</table>

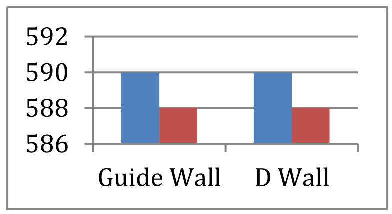
S.N.	Activities	Location	Status
	A screw conveyor then removes excess fluidized muck in controlled volumes from behind the cutter head and in front of the "Pressure bulkhead", synchronizing the screw conveyor with the actual speed of the tunnel boring machine, and equalizing the actual volume of soil travelling into and out of the machine and establishes earth pressure balance during excavation, thereby also reducing the risk of surface or ground settlement. The performance of the EPBV machine, however, largely depends on the actual properties of the excavated muck. The soil may be coarse sands, gravel or stiff clays. The EPB TBM also has the unique capability of placing a continuous ring of segment liners from within the tail shield of the machine inside the tunnel as it advances. These concrete segments provide critical additional reinforcement and support and accomplish all tunnel construction in one pass. Tunneling works from Chandpole to Badi Chaupar will be done by the two TBMs. Diameter of the cutting head of TBM is 6.55 meter. The tunnel size is of 5.60 meter internal diameter.		
8	**Segment casting:** Internal lining of the tunnel will be done by precast reinforced cement concrete segments. The segments are to be	Segment casting will be done at casting yard in Bhankarota. Rings: 3062 (18132 segments)	Rings casted are as under: Rings: 100 % (3062)

<table>
<tr><th>S.N.</th><th>Activities</th><th>Location</th><th>Status</th></tr>
<tr><td></td><td>constructed with M 50 concrete having outer diameter of 6.35 meter. One ring comprises 6 segments.</td><td></td><td>
</td></tr>
<tr><td>9</td><td>Guide wall and D wall at Chhoti Chaupar & Badi Chaupar stations:

For the construction of D-Wall initially guide walls are constructed so as to keep the D-Wall in proper alignment.

Guide walls are constructed with reinforce cement concrete of M20 grade. The thickness of guide wall is about 600 mm and depth is 1.5 m.

Diaphragms walls are constructed with reinforce cement concrete of M35 grade. The thickness of diaphragms wall is about 800 mm and depth is about 26 m.</td><td>
<table>
<tr><th>Location</th><th>Length (m)</th></tr>
<tr><td colspan="2">Chhoti Chaupar</td></tr>
<tr><td>Guide Wall</td><td>590</td></tr>
<tr><td>D-Wall</td><td>590</td></tr>
<tr><td colspan="2">Badi Chaupar</td></tr>
<tr><td>Guide Wall</td><td>590</td></tr>
<tr><td>D-Wall</td><td>590</td></tr>
</table></td><td>
<table>
<tr><th>Location</th><th>% Completion</th></tr>
<tr><td colspan="2">Choti Chaupar</td></tr>
<tr><td>Guide Wall</td><td>100% (590)</td></tr>
<tr><td>D-Wall</td><td>100% (590)</td></tr>
<tr><td colspan="2">Badi Chaupar</td></tr>
<tr><td>Guide Wall</td><td>99.86% (588)</td></tr>
<tr><td>D-Wall</td><td>99.86% (588)</td></tr>
</table>
<u>Choti Chaupar</u>


<u>Badi Chaupar:</u>

</td></tr>
<tr><td>10</td><td>Roof Slabs at Chhoti Chaupar & Badi Chaupar Station

Stations are to be constructed with top down method. Top slab, roof slab, concourse slab & base slab are to be constructed.</td><td>
<table>
<tr><th>Location</th><th>Area (sqm)</th></tr>
<tr><td colspan="2">Chhoti Chaupar</td></tr>
<tr><td>Top slab</td><td>7000</td></tr>
<tr><td>Roof slab</td><td>7000</td></tr>
<tr><td>Concourse</td><td>7000</td></tr>
<tr><td>Base slab</td><td>7000</td></tr>
<tr><td colspan="2">Badi Chaupar</td></tr>
<tr><td>Top slab</td><td>7000</td></tr>
<tr><td>Roof slab</td><td>7000</td></tr>
<tr><td>Concourse</td><td>7000</td></tr>
<tr><td>Base slab</td><td>7000</td></tr>
</table></td><td>
<table>
<tr><th>Location</th><th>Area (sqm)</th></tr>
<tr><td colspan="2">Choti Chaupar</td></tr>
<tr><td>Top slab</td><td>7000</td></tr>
<tr><td>Roof slab</td><td>7000</td></tr>
<tr><td>Concourse</td><td>7000</td></tr>
<tr><td>Base slab</td><td>In progress</td></tr>
<tr><td colspan="2">Badi Chaupar</td></tr>
<tr><td>Top slab</td><td>4090</td></tr>
<tr><td>Roof slab</td><td>2117</td></tr>
<tr><td>Concourse</td><td>0</td></tr>
<tr><td>Base slab</td><td>0</td></tr>
</table>
At Chhoti Chaupar Top Slab, Roof Slab and Concourse slabwork have been completed. Base Slab work is under progress at Chhoti Chaupar.</td></tr>
</table>

<table>
<tr><th>S.N.</th><th>Activities</th><th>Location</th><th>Status</th></tr>
<tr><td></td><td></td><td></td><td>At Badi Chaupar Top Slab and Roof Slab work have been started.</td></tr>
<tr><td>11</td><td>Establishment of construction camp:

➢ A construction camp for laborers has been established near to casting yard area in November 2014.</td><td>Casting Yard, Bhankrota
<table>
<tr><td>Number of blocks</td><td>9</td></tr>
<tr><td>Total Camp Area</td><td>6227 sq.m</td></tr>
<tr><td>Capacity</td><td>9X48</td></tr>
<tr><td colspan="2">Facilities to be provided</td></tr>
<tr><td>Bathing room</td><td>Yes</td></tr>
<tr><td>Dining room</td><td>Yes</td></tr>
<tr><td>Urinal& toilet</td><td>Yes</td></tr>
<tr><td>Drinking water with cooling facility</td><td>Yes</td></tr>
<tr><td>fans</td><td>Yes</td></tr>
<tr><td>playground</td><td>Yes</td></tr>
</table></td><td>Completed.
<table>
<tr><td>Number of blocks</td><td>9</td></tr>
<tr><td>Area of each block</td><td>692 sqm</td></tr>
<tr><td>Workers staying</td><td>190</td></tr>
<tr><td colspan="2">Facilities installed</td></tr>
<tr><td>Bathing room</td><td>Yes</td></tr>
<tr><td>Dining room</td><td>Yes</td></tr>
<tr><td>Urinal& toilet</td><td>Yes</td></tr>
<tr><td>Drinking water with cooling facility</td><td>Yes</td></tr>
<tr><td>Fans</td><td>Yes</td></tr>
<tr><td>playground</td><td>Yes</td></tr>
</table></td></tr>
<tr><td>12</td><td>Other Facilities:

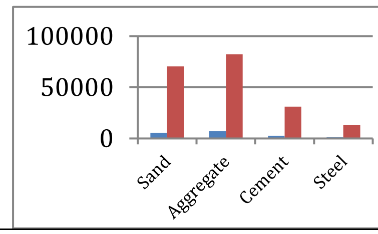
➢ Batching Plant,
➢ Laboratory,
➢ RO Plant
➢ Chiller Plant
➢ Diesel Generating Set
➢ Briquette Boiler</td><td>Following facilities are provided at casting Yard, Bhankrota:
<table>
<tr><th>Item</th><th>Capacity</th></tr>
<tr><td>Batching Plant</td><td>(i) 30 cum/hr
(ii) 60 cum/hr</td></tr>
<tr><td>Quality Control Laboratory</td><td>Installed</td></tr>
<tr><td>RO Plant</td><td>2 kl/hr</td></tr>
<tr><td>Chiller Plant</td><td>100 TR</td></tr>
<tr><td>Diesel Generating Set</td><td>500 KVA</td></tr>
<tr><td>Briquette Boiler</td><td>2 TPH</td></tr>
</table></td><td>Completed.</td></tr>
</table>

<table>
<tr><th>S.N.</th><th>Activities</th><th>Location</th><th>Status</th></tr>
<tr>
<td>13</td>
<td>Establishment and operation of quarry/ borrow area:

For the construction work following material is sourced:

➢ Sand
➢ Aggregate
➢ Cement
➢ Steel</td>
<td>Quarry area and borrow area of construction material is as under:

<table>
<tr><th>Material</th><th>Quarry / borrow area</th></tr>
<tr><td>Sand</td><td>Banas</td></tr>
<tr><td>Aggregate</td><td>Shakun, Lakher</td></tr>
<tr><td>Cement</td><td>Lafarge</td></tr>
<tr><td>Steel</td><td>SAIL, VIZAG,TATA</td></tr>
</table>
</td>
<td>Volume of the material extracted is as under:

<table>
<tr><th>Material</th><th>Quantity (MT)</th></tr>
<tr><td rowspan="2">Sand</td><td>5391</td></tr>
<tr><td>70344.761*</td></tr>
<tr><td rowspan="2">Aggregate</td><td>7080</td></tr>
<tr><td>82400.05*</td></tr>
<tr><td rowspan="2">Cement</td><td>2557</td></tr>
<tr><td>31091.361*</td></tr>
<tr><td rowspan="2">Steel</td><td>1059.72</td></tr>
<tr><td>12894.184*</td></tr>
</table>
* Up to date quantity


</td>
</tr>
</table>

II. COMPLIANCE TO SAFEGUARDS PROVISIONS IN AGREEMENTS UNDER THE PROJECT

A. Compliance to Loan Agreement

9. The environmental and social safeguard requirements are explicit provided in the Loan Agreement 3062-IND between ADB and State of Rajasthan through the Urban Development and Housing Department (UDH) and Jaipur Metro Rail Corporation (JMRC). These loan agreement provisions and compliance status are provided in Table 2.

Table 2: Status of Compliance to Environmental Provisions of the Loan Agreement

S.N.	Environmental Provision	Compliance Status
1	**Schedule 4. Item 7(a):** <u>Conditions for awards of contracts, commencement of Works:</u> 7. As condition for award of any contract under the project the EA shall ensure the following: a. JMRC shall not award any Works contract which involves environmental impacts until JMRC incorporated the relevant provisions from the EMP and SHE into the Works contract,	Complied. SHE (Safety, Health and Environment) Manual and Environmental Management Plan (EMP) is a part of bidding document. Section 6 of Contract Agreement includes condition of contract on SHE and EMP, requiring the Contractor to implement the EMP and comply with requirements of SHE.

2	**Schedule 4. Item 8:** <u>Conditions for award of contracts; commencement of Works:</u> 8. "As a condition for commencement of Works contract under the Project which involves environmental impacts and if it requires environmental clearances, the State thorough the JMRC shall ensure that the final approval of environmental clearances including the EIA, SHE, from appropriate *authority* has been obtained."	Complied. The project did not require environmental clearance, as railways including metro projects in India are not included in the EIA Notification 2006 of GoI.
3	**Schedule 5. Item 3:** <u>Environment</u> 3. "The Borrower shall ensure or cause the State through JMRC to ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project facilities comply with (i) all applicable laws and regulations of the Borrower and State relating to environment, health, and safety including SHE; (ii) the Environmental Safeguards; and (iii) all measures and requirements set forth in the EIA and the EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report."	Being complied. ➢ Requirements on permits and clearance are being followed. The contract has obtained Consent to Operate(CTO) batching plant and casting yard from the Rajasthan State Pollution Control Board in the reporting quarter. Letter received from the authority is attached as **Appendix 6** ➢ SHE is strictly being complied with. ➢ Requirements of EIA and EMP are being implemented.
4	**Schedule 5. Item 4(a):** <u>Land Acquisition and Involuntary Resettlement</u> 4 (a) Where the need arises, the Borrower shall ensure or cause the State through JMRC to ensure that all land and all rights-of-way required for the Project, and all Project facilities are made available to the Works contractor in accordance with the schedule agreed under the related Works contract and all land acquisition and resettlement activities are implemented in compliance with (i) all applicable laws and regulations of the Borrower and State relating to land acquisition and involuntary resettlement; (ii) the Involuntary Resettlement Safeguards; and (c) all measures and requirements set forth in the respective RP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	Being complied. All land acquisition and resettlement activities are implemented as per provisions of Indian Law.
5	**Schedule 5. Item 4 (b)** <u>Land Acquisition and Involuntary Resettlement</u>	

	4 (b) Without limiting the application of the Involuntary Resettlement Safeguards, or the RP, the Borrower shall ensure or cause the State through JMRC to ensure that no physical or economic displacement takes place in connection with the Project until: (a) compensation and other entitlements have been provided to affected people in accordance with the RP; and (b) a comprehensive income and livelihood restoration program has been established in accordance with the RP.	Being complied. Compensation and other entitlements are being provided to affected people in accordance with applicable laws by JMRC.
6	**Schedule 5. Item 5** <u>Indigenous Peoples</u> 5. Where the need arises, the Borrower shall ensure or cause the State through JMRC to ensure that the preparation, design, construction, implementation and operation of the Project, and all Project facilities comply with (a) all applicable laws and regulations of the Borrower and the State relating to indigenous peoples; (b) the Indigenous Peoples Safeguards; and (c) all measures and requirements set forth in the respective IPP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	Not applicable. No issues on Indigenous peoples have arisen during the reporting period.
7	**Schedule 5. Item 6(a) & 6(b)** <u>Human and Financial Resources to Implement Safeguards Requirements</u> 6 (a) "The Borrower shall ensure or cause the State through JMRC to ensure that all necessary budgetary and human resources to fully implement the EMP, and the RP and the IPP as required" 6 (b) "The Borrower shall ensure or cause the State through JMRC to ensure that at least one expert each is designated to supervise implementation of the EMP, and the RP and the IPP as required"	Being complied. ➢ Safeguards cell comprising of 06 officers has been established in JMRC since 2013. ➢ Safeguards experts are part of the PMC (DMRC) team and civil works contractor team. ➢ Adequate budget allocation has been made for implementation of safeguards activities. ➢
8	**Schedule 5. Item 7(a)** <u>Safeguards – Related Provisions in Bidding Documents and Works Contracts.</u> 7 (a) "comply with the measures and requirements relevant to the contractor set forth in the	Being complied.

	EIA, the EMP, SHE, the RP and the IPP as applicable (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set out in a Safeguards Monitoring Report.	Safeguards experts are part of the PMC (DMRC) and civil works contractor teams are implementing safeguard measures. Adequate budget allocation is being made for implementation of safeguards activities.
9	**Schedule 5. Item 7(b)** Safeguards – Related Provisions in Bidding Documents and Works Contracts. 7 (b) "make available a budget for all such environmental and social measures"	 Being complied.
10	**Schedule 5. Item 7(c)** Safeguards-Related Provisions in Bidding Documents and Works Contract. 7 (c) "provide the JMRC with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks if any, or impacts that arise during construction, implementation or operation of the Project that were not considered in the EIA, the EMP, and the RP and the IPP if any;"	 Being complied. Appropriate measures are being and will be taken to address these issues, as they arise.
11	**Schedule 5. Item 8(a)** Safeguards – Related Provisions in Bidding Documents and Works Contracts. 8 (a) submit quarterly Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission"	 Being complied. Quarterly Environmental and Social Monitoring Reports are being timely submitted by JMRC to ADB. The reports are also being disclosed on ADB and JMRC websites.
12	**Schedule 5. Item 8(b)** Safeguards – Related Provisions in Bidding Documents and Works Contracts. 8 (b) "if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the EIA, the EMP, SHE, and RP and IPP as applicable, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan.	 Being complied.
13	**Schedule 5. Item 8(c)** Safeguards – Related Provisions in Bidding Documents and Works Contracts.	

	8 (c) Report any breach of compliance with the measures and requirements set forth in the EMP, SHE and the RP or the IPP if any, promptly after becoming aware of the breach.	Being complied.
14	**Schedule 5. Item 9** 9. The Borrower shall ensure or cause the State through JMRC to ensure that no proceeds of the Loan under the Project are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of ADB's Safeguard Policy Statement (2009).	Being complied
15	**Schedule 5. Item 10** <u>Other Social Measures</u> 10. The EA shall ensure that civil works contracts under the Project follow all applicable labor laws of the Borrower and State and that these further include provisions to the effect that contractors; (i) carry out HIV/AIDS awareness programs for labor and disseminate information at worksites on risks of sexually transmitted diseases and HIV/AIDS as part of health and safety measures for those employed during construction; and (ii) follow and implement all statutory provisions on labor (including not employing or using children as labor, equal pay for equal work), health, safety, welfare, sanitation, and working conditions. Such contracts shall also include clauses for termination in case of any breach of the stated provisions by the contractors.	Complied. ➢ Various awareness programs have been conducted during the reporting period. ➢ HIV/AIDS awareness programs are conducted on regular basis. ➢ Special programs were conducted on 10th March, 2017 as part of 46th National Safety Day celebration. ➢ Monthly environmental training, physical training and general housekeeping training are conducted. Details of Awareness Programs and Meetings are provided in **Appendix 2**
16	**Schedule 5. Item 11** 11. The EA shall ensure the safety and status of the heritage sites and structures involved in the Project site at its own cost and in this regard ensure all appropriate steps included as detailed in the PAM.	Being complied. ➢ In the bidding document, provision was made to conduct Baseline Building condition survey, wherein the structural stability of structures lying on 30 m on either side of the route alignment of Phase 1B was recorded so as to help monitor any changes which may occur during construction. MRC through CEC (AIMIL) got the Building Condition Survey before commencement of work at site. ➢ Mitigation and preventive measures are being taken up by M/s CEC in order to avoid any damager the purpose of monitoring heritage structures along with the metro route alignment of Phase 1B, JMRC has engaged Heritage Consultant M/s Abha Narain Lambah

		Associates and M/s Shashank Mehandale& Associates (JV).
17	**Schedule 5. Item 12** <u>Gender</u> 12. The EA shall ensure that the Project is undertaken in conformity with the stakeholder communication strategy as agreed between ADB, the Borrower, State, and JMRC and referred in the PAM.	Being complied.

B. Compliance to Project Administration Manual

10. The Project Administration Manual[3] (PAM),describes how the JMRC will implement the project and deliver the results on time, with quality, within budget, and in accordance with government and Asian Development Bank (ADB) policies and procedures. The PAM is mandatory and serves as the main document describing implementation details. The status of implementing the safeguards requirements set out in PAM are provided in Table 3.

Table 3: Compliance to PAM

SN	Details	Compliance Status
1.	**Section VII.** **Safeguards** **40. Implementation of SHE and EIA.** The safeguards cell within JMRC will coordinate and ensure that all environment safeguard requirements under the project are met. The SHE and EIA report including site specific EMP will be included in the contract documents. The contractors must include in their bid adequate budget for implementation of all items in the SHE and EIA. The safeguards cell through the project management consultant (Delhi Metro Rail Corporation) will monitor and report on the environmental compliance of contractors with the SHE and EIA and ensure proper implementation of the grievance and redress mechanism. Key implementation activities for each stage of the project are as follows:	Being complied. Sample monthly monitoring report is provided in **Appendix 3.**
2.	**(i) Pre-construction**: All contractors will complete the following activities no later than 30 days from the issuance of Notice to Proceed: 1. Submit appointment letter and resume of the Contractor's Health and Safety Officer (HSO) who will be the on-site focal person for environment safeguards;	Being complied.

[3] http://www.adb.org/sites/default/files/project-document/79731/46417-001-pam.pdf

SN	Details	Compliance Status
	2. HSO will engage CSC-Environment Specialist, and JMRC safeguards cell to a meeting to discuss in detail the SHE and EIA seek clarification and recommend corresponding revisions if necessary;	SHE and EIA have been discussed in detail by HSO with CSC-Environment Specialist, and JMRC safeguards cell. Details of meetings provided in **Appendix 2**.
	3. HSO will request CSC-ES copy of monthly monitoring formats and establish deadlines for submission;	Formats for Monthly Monitoring Report have been finalized with CSC-Environment Specialist. Monitoring report is being sent on monthly basis in prescribed format.
	4. HSO will submit for CSC-ES approval an action plan to secure all permits and approvals needed during construction stage such as for operation of crushers and hot mix plants, transport and storage of hazardous materials, waste disposal sites, use of ground water etc.	HSO has submitted plan and action is being taken accordingly.
	5. HSO will submit for approval of CSC-ES the construction camp layout before its establishment where camps are required, and	Camp has been constructed as per approved layout diagram.
	6. Before start of construction, the contractor will post signs in and around the construction site with information on the names, positions, contact numbers, and addresses of key people for receiving grievances	Adequate relevant signage has been displayed. Photolog is in **Appendix 1**.
3.	**(ii)Construction**: The JMRC safeguards cell through the PMC will monitor the Contractor's compliance to the SHE and EIA. In case of non-conformances, the safeguards cell will recommend corrective measures and ensure their timely implementation. If any unanticipated impacts become apparent, the safeguards cell will inform ADB. If required the EIA report will be updated, and mitigation measures and resources to address the new impacts will be identified	 Being complied.
4.	**(iii)Post-construction**: The safeguards cell through the PMC will certify works completed in accordance with SHE and EIA and ensure all construction sites are satisfactorily rehabilitated and restored or otherwise recommend withholding of payments	Not yet due. Will be done in accordance with SHE & EIA.
5.	**41. PMC Environmental Specialist:** JMRC will ensure PMC (Delhi Metro Rail Corporation) to provide an Environmental Specialist who will, full time during construction, to monitor compliance by the contractor to the SHE and EIA in support of JMRC safeguard cell. The key qualification and experience consist of (a) minimum of a Master's Degree in Environmental Impact Assessment (EIA) or Environmental Engineering correlated subjects; and (b) experience of minimum of 5 years of working experience in conducting Environmental Assessments, implementing and/or supervising environment	 Complied. Mr. S.A. Verma, GM/DMRC /Delhi is designated by PMC as its Environmental specialist to monitor compliance by the Contractor for SHE and EIA. His assistants are doing full time monitoring in Jaipur.

SN	Details	Compliance Status
	management activities in infrastructure projects. The objective is to ensure contractor's compliance to the Safety Health and Environment (SHE) Guidelines and EIA in accordance with the requirements of the ADB Safeguard Policy Statement (SPS) 2009 as well as relevant policies of the Government of India. The main output is the Quarterly monitoring report during the construction period. The responsibilities include:	
6.	• Review EIA report including site specific EMP and SHE guidelines to understand the environmental issues in the project area and mitigation and monitoring requirements of the project.	Complied. EIA, EMP and SHE guidelines have been reviewed.
	• Update the site specific EMP if there are any significant changes in the project scope or environmental conditions to incorporate all new environmental issues and mitigation measures	Being complied. EMP will be updated as per requirements.
	• Prepare monitoring checklists/ templates for daily or weekly monitoring on implementation of the SHE and site specific EMP by the contractor.	Complied. Site specific monitoring checklists/ templates for daily or weekly monitoring on implementation of the SHE and EMP has been prepared.
	• Organize a consultation meeting with JMRC safeguards cell, contractors Health and Safety Officers (HSO), Site Engineer and Heritage Expert before the start of physical works to clarify roles and responsibilities of each party. After start of physical works organize a coordination meeting at least every quarter to provide updates, clarify and follow up on pending issues etc.	Being complied. A consultation meeting between JMRC's Safeguard Cell, Contractor, Health and Safety Officers (HSO), Site Engineer and Heritage Expert held before the start of physical work to clarify roles and responsibilities of each party. Coordination meetings in between JMRC's Safeguard Cell, Contractors, Health and Safety Officers (HSO), Site Engineer and Heritage Expert are being held regularly.
	• Where necessary organize technical training programs to enhance the field level staff's understanding on environmental issues such as health impacts of dust and noise, waste/debris disposal and management, safety issues etc.	Being complied. Environmental training programs are conducted on regular basis. The training is conducted by contractor's HSO. If required additional training will be provided by third party agencies on environmental issues. Details of training sessions are provided in **Appendix 2**.
	• Monitor implementation of the SHE and site specific EMP by the contractor on a daily or weekly basis. In doing so complete the daily or weekly monitoring checklists.	Being complied. Monitoring of implementation of SHE and site specific EMP are being done by Contractor's HSO on regular basis. SHE meeting is held with participation from JMRC, DMRC and Contractor and sub-contractors to ensure compliance and implementation of SHE requirements and EMP.

SN	Details	Compliance Status
	• Provide site based technical advice to the contractors where necessary during construction activities	Site based technical advice to the contractors is being given by DMRC experts.
	• Co-ordinate with the contractor's site engineers on monitoring and data collection on noise and vibration generated during tunnelling works and operation of heavy machinery	PMC's environment team is coordinating with contractor's site engineers on monitoring and data collection on noise and vibration generated during operation of heavy machinery. It will also be monitored during tunneling works.
	• Coordinate with the Heritage Expert on getting data on monitoring and status of heritage structures above ground.	PMC's environment team is coordinating with the Heritage Expert on getting data on monitoring and status of heritage structures above ground.
	• Facilitate the functioning of the Grievance Redress Mechanism and maintain proper records of all environment related grievances and details on how they were addressed.	A system is in place to facilitate the functioning of the Grievance Redress Mechanism and maintain proper records of all environment related grievances and details on how they are addressed.
	• Prepare quarterly Environmental Monitoring reports based on monitoring site visits, completed checklists and quarterly meetings for submission to JMRC safeguards cell and ADB. Amongst other environment safeguard issues, the monitoring report must cover: ➢ compliance to the SHE and site specific EMP by the contractor ➢ vibration monitoring activities conducted by contractor's engineers ➢ grievances redress mechanism ➢ monitoring and status of heritage sites above ground	Noted for compliance. ➢ For compliance of the SHE and site specific EMP by the contractor regular visit is being done by the Environmental team of CSC. ➢ For monitoring of the vibration during the construction instrumentation has been done by M/s CEC as per approval given by CSC. The monitoring will be done by a third party agency i.e. M/s. AIMIL. ➢ Grievances redress mechanism is in place. ➢ For monitoring the status of heritage site above the ground a Heritage Consultant i.e. M/s Abha Narain Lambah Associates and M/s Shashank Mehendale and Associates (JV) has been appointed by JMRC. During the tunneling the team of heritage consultant will be at site to monitor the status of buildings and heritage structures along the metro route.
7.	**42. Monitoring of Heritage Structures** JMRC through DMRC will retain at its own cost the current Heritage architect as the Heritage site expert during construction of the underground metro section. The expert will be responsible for conducting a baseline survey of heritage sites above the metro alignment and conducting regular monitoring of the status of the heritage sites throughout the construction period. The expert will be responsible for coordinating necessary procedures if any historical/traditional artefacts are	Being complied. ➢ JMRC through competitive bidding has engaged heritage consultant M/s Abha Narain Lambah Associates and M/s Shashank Mehendale & Associates (JV) to monitor the heritage structures lying along the metro route of Phase 1B.

<table>
<tr><th>SN</th><th>Details</th><th>Compliance Status</th></tr>
<tr><td></td><td>found during tunneling works. He/she will also provide advice on technical measures during construction to prevent damages to the heritage structures. In the event of any damage to a heritage structure he/she will immediately alert JMRC and recommend appropriate mitigation or restoration measures. Key outputs are: (a) Monthly monitoring report; (b) No damage on heritage structures; and (c) in the event of damage, implementation of immediate restoration and mitigation measures. The main responsibilities are:</td><td>➢ JMRC has also engaged 3 senior Archaeology Consultants to supervise the excavation of Chhoti Chaupar and Badi Chaupar.

➢ Heritage Consultant got conducted Baseline survey for existing building's condition along the metro route and has submitted Building Inventory report.

➢ Structural survey of buildings along the metro route has also conducted and submitted report, wherein they categorized buildings under 3 categories
1. Unstable Structures requiring preventive propping and immediate demolition/ evacuation.
2. Part of structure unstable requiring propping & partial replacement /demolition.
3. No major instability.

These reports have been shared with ADB and concerned local agency who will be further taking necessary action.

A re-evaluation for the structural condition of the shops along Chandpole launching site (from Chandpole gate to Chhoti Chaupar) was conducted by the Joint team of JMRC, DMRC and M/s CEC engineers. Preventive measures like propping of the verandahs and the shops along the above length have been taken by contractor. The consolidated list of unstable structures requiring immediate attention will be further shared with local agency (Jaipur Municipal Corporation) for further course of action.</td></tr>
<tr><td>8.</td><td>• At least one month before the start of construction activities conduct a baseline survey of all heritage structures above the metro alignment and record detailed information including, but not limited to: list of heritage structures with details on location and distance from the metro alignment, exact height of structures above ground, existence of cracks/ damages prior to start of construction, detailed photographs etc.<hr>• Monitor the condition of the heritage structures on a monthly basis throughout the construction period</td><td>Complied.

➢ Before the start of construction activity, Building Condition Survey of all structure along the metro route with photograph of existing cracks and damages was conducted by CEC through AIMIL.
➢ Before the start of construction activity, Baseline Survey of all the structure along the metro route with</td></tr>
</table>

SN	Details	Compliance Status
	and compare the status with the baseline status to ensure that there are no changes from the baseline condition. • Coordinating necessary procedures if any historical/traditional artifacts are found during tunnelling works. • Provide advice on technical measures during construction to prevent damages to the heritage structures. • In the event of observation in any damage to any heritage structure/s immediately alert JMRC and recommend appropriate mitigation or restoration measures. • Provide technical advice on and supervise the mitigation or restoration activity. • Prepare a monitoring report on a monthly basis to record activities implemented and monitoring findings and submit to JMRC safeguards cell as well the Environmental Specialist. Findings of the report will be included in the quarterly environmental monitoring report that will be prepared by the environmental specialist.	detailed photographs was conducted by Heritage Consultant i.e. M/s Abha Narain Lambah Associates and M/s Shashank Mehandale and Associates (JV). ➢ Based on the reports and survey submitted by Heritage consultant, CEC is regularly monitoring status of buildings and the status is reported through daily and weekly reports. ➢ Heritage Consultant entrusted to advice on measures during construction to prevent damages to the heritage structures. ➢ Heritage Consultant is submitting monitoring report on monthly basis to record activities implemented and monitoring findings to JMRC.
9.	**Section VII- Safeguards** **b) Social – Involuntary resettlement.** 44. If any changes or additional land requirements or involuntary resettlement impacts are identified, a resettlement plan will be prepared in accordance with the ADB *Safeguard Policy Statement (2009)* and the same is further approved by ADB before award of related civil works contract and implemented before commencement of the relevant section of the civil works contract as applicable.	Being complied. 6 Temples at Chhoti Chaupar, which were infringing the station box area have all been rehabilitated and shifted to a newly constructed Temple complex at Old Atish market land as per the satisfaction of Temple Trusts. Government is continuously in touch with the stakeholders and is in process of ensuring that sentiments of people at large are not hurt. Rozgareshwar Temple at Chhoti Chaupar will be relocated back to its original position after completion of Station work at Chhoti Chaupar. 7 temples at Badi Chaupar have been identified which are infringing the station box area. 4 temples have been shifted to Manak Chowk Thana and Tanwarj I KaNauhra.
10	**Section VII - Safeguards** **c) Social – Indigenous people** 45. In case of any adverse impacts if identified during implementation on indigenous people, the JMRC will ensure that the Indigenous Peoples Plan (IPP)	Not Applicable.

SN	Details	Compliance Status
	is prepared in accordance with the ADB *Safeguard Policy Statement (2009)* and the same is further approved by ADB before award of related civil works contract and implemented before commencement of the relevant section of the civil works contract as applicable.	
11	**Section VIII - Gender and Social Dimensions** **47 Gender consultation and participation** Meaningful consultations that are gender inclusive and responsive will be carried out as early as in the project preparation stage and will be carried out on an ongoing basis throughout the project cycle. JMRC shall ensure that the bidding documents provide clauses to ensure that all civil works contractors comply with labor laws by not employing child labor; encouraging the employment of the poor, particularly women; and not offering different wages to men and women on work of equal value.	Complied. This provision is a part of the bidding document.
12	**Section VIII - Gender and Social Dimensions** **49. HIV and AIDS** JMRC will ensure that all civil works contractors (i) carry out awareness programs for labor on the risks of sexually transmitted diseases/AIDS and human trafficking; and (ii) disseminate information at worksites on the risks of sexually transmitted diseases and HIV/AIDS as part of health and safety measures for those employed during construction. Contracts for the project will include specific clauses on these undertakings, and compliance will be strictly monitored by JMRC.	Complied. Periodically awareness about HIV/AIDS is discussed in morning tool box talk and apart from this the medical officer visits the labour camp and explains the risk of sexually transmitted disease on periodic basis. **Appendix 2**.
13	**Section VIII - Gender and Social Dimensions** **50. Health**. JMRC shall ensure that contractors provide adequately for the health and safety of construction workers and further ensure that bidding documents include measures on how contractors will address this, including an information and awareness raising campaign for construction workers on sexually transmitted diseases, HIV/AIDS, and human trafficking.	Complied. Various type of awareness programme has been conducted during this period. Apart from this monthly environmental training, physical training and general housekeeping training are conducted in line with India Government's Swatch Bharat Abhiyan.
14	**Section VIII - Gender and Social Dimensions** **51. Labor** JMRC shall ensure that:	Complied.

SN	Details	Compliance Status
	i. civil works contractors comply with all applicable labor laws and regulations, do not employ child labor for construction and maintenance activities, and provide appropriate facilities for women and children in construction campsites; ii. people directly affected by the projects are given priority to be employed by the contractor; iii. contractors do not differentiate wages between men and women for work of equal value; and iv. specific clauses ensuring these will be included in bidding documents. The construction supervision consultants monitor the provisions.	➢ Civil work contractor is complying with all applicable labour laws and regulations. ➢ No child labour is employed. ➢ Preference is being given to people directly affected by the project. ➢ Complying with equal remuneration Act. ➢ Specific clause for ensuring labour law etc. has been included in the bidding document.
15	**Section IX - Performance Monitoring, Evaluation, Reporting and Communication** **B. Monitoring.** **Disclosure of Environmental Assessments and Monitoring Reports** ADB and JMRC will disclose on their respective websites the EIA Report. The quarterly monitoring reports will also be disclosed on the ADB website.	Being complied. EIA report has been disclosed on ADB and JMRC websites. Also 1st Semi Annual and subsequent Quarterly Environmental and Social Monitoring Reports are also disclosed on ADB and JMRC websites. www.jaipurmetrorail.in This is the 9th quarterly report (January 2017 –March 2017) on environmental and social safeguards compliance.
16	**Section IX - Performance Monitoring, Evaluation, Reporting and Communication** **B. Monitoring** **55. Safeguards monitoring - Resettlement** If impact is identified during project implementation, a monitoring system will be established based on the ADB *Safeguard Policy Statement (2009)* and Government of India regulations.	Being complied. All resettlement and relocation issues will be settled on mutually agreed terms.
17	**Section IX - Performance Monitoring, Evaluation, Reporting and Communication** **B. Monitoring** **56. Indigenous People** If impact is identified during project implementation, a monitoring system will be established based on the ADB *Safeguard Policy Statement (2009)* and Government of India regulations.	No impact is identified.

SN	Details	Compliance Status
18	**Section IX - Performance Monitoring, Evaluation, Reporting and Communication** **B. Monitoring** **58. Grievance Redress Mechanism** Grievances related to the implementation of the project, particularly regarding the land acquisition and R&R will be acknowledged, evaluated, and responded to the complainant with corrective actions. Any grievance regarding the land acquisition and R&R is received by OSD (Land), JMRC and is addressed through the decision of the "Negotiation Committee".	Being complied JMRC regularly conducts meetings with project affected people and maintains proper documentation to track their redressal. The details are at Table 12 in this report.

C. Compliance to the Civil Works Contract Agreement

11. The contractor is liable to comply with the safeguards clauses included in the contract agreement. Table 4 below provides an update on the status of safeguards compliance by the civil works contractor.

Table 4: Compliance to the safeguards Clauses of the Civil Work Contract

S.N.	Description	Compliance Status
1	**GCC Sub Clause 4.8** **Safety Procedures** The Contractor shall: a) comply with all applicable safety regulations, b) take care for safety of all persons entitled to be on the Site, c) use reasonable efforts to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons, d) provide fencing, lighting, guarding and watching of the Works until completion and taking over under Clause 10 [Employer's Taking Over], and e) Provide any Temporary Works (including roadways, footways, guards and fences) which may be necessary, because of the execution of the Works, for the use and protection of the public and the owners and occupiers of adjacent land.	Being complied. Contractor is taking adequate measures to comply with regulations on safety of workers.
2	**GCC Sub-Clause 6.7** **Health and Safety** The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In	Being complied.

S.N.	Description	Compliance Status
	collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics. The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to Issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority. The Contractor shall send, to the Engineer, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Engineer may reasonably require.	Contractor is taking measures as per the provision of SHE, which is also a part of bidding document. A medical room has been established at site with all basic facilities. Around the clock ambulance facility is also available at site. The contractor has tie-up with three hospitals viz, Rawal Hospital, Bhankrota near casting yard, Maxx Hospital near tunnel site and SMS Hospital for any emergencies. Emergency mock drill is conducted on monthly basis to check the efficacy of the system. HSO is also working as accident prevention officer. Being complied.
	PCC Sub-Clause 4.8 and 6.7 **Safety Procedures and Health & Safety** “The Contractor shall throughout the execution of the Works including the carrying out of any testing, commissioning (including Integrated Testing and Commissioning), or remedying of any defects: (a) take full responsibility for the adequacy, stability, safety and security of the Works, Plant, Rolling Stock, Contractor's Equipment, Temporary Works, operations on Site and methods of manufacture, installation, construction and transportation; (b) have full regard for the safety of all persons on or in the vicinity of the Site (including without limitation persons to whom access to the Site has been allowed by the Contractor), comply with all relevant safety regulations, including provision of safety gear, and insofar as the Contractor is in occupation or otherwise is using areas of the Site, keep the Site and the Works (so far as the same are not completed and occupied by the Employer) in an orderly state appropriate to the avoidance of injury to all persons and	Being complied. Adequate health and safety measures are being implemented as per the provision of SHE, which is also a part of bidding document.

S.N.	Description	Compliance Status
	shall keep the Employer indemnified against all injuries to such persons; (c) provide and maintain all lights, guards, fences and warning signs and watchmen when and where necessary or required by the Engineer or by laws or by any relevant authority for the protection of the Works and for the safety and convenience of the public and all persons on or in the vicinity of the Site; and (d) where any work would otherwise be carried out in darkness, ensure that all parts of the Site where work is being carried out are so lighted as to ensure the safety of all persons on or in the vicinity of the Site and of such work. Contractor is required to take note of all the necessary provisions in Employer's Safety, Health and Environment Manual (SHE Manual) and the Contractor's price shall be inclusive of all the necessary costs to meet the prescribed safety standards. Precaution shall be taken by the Contractor to ensure the health and safety of his staff and labour. The Contractor shall, in collaboration with and to the requirements of the local health authorities, ensure that medical staff, first aid facilities, sick bay and ambulance service are available at the accommodation and on the Site at all times, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as per the Engineer's requirement and will ensure complete compliance with relevant clauses of Employer's Health, Safety and Environment Manual (SHE Manual). The Contractor's Site Safety Plan shall be developed from his Outline Safety Plan as per Employer's Requirements and SHE Manual of the Employer. The Contractor shall appoint a member of his staff at the Site to be responsible for maintaining the safety, and protection against accidents, of personnel on the Site. This person shall be qualified for his work and shall have the authority to issue instructions and take protective measures to prevent accidents.	
	Safety Precautions	Being complied.

S.N.	Description	Compliance Status
	Within 8 weeks of the date of Notice to Proceed, the Contractor shall submit a detailed and comprehensive contract-specific Site Safety Plan based on the Employer's Safety, Health and Environmental Manual (SHE Manual). The Contractor is required to make himself aware of all the requirements of the Employer's Safety, Health and Environmental Manual in this regard and comply with them. The Site Safety Plan shall include detailed policies, procedures and regulations which, when implemented, will ensure compliance with Sub-Clauses 4.8 and 6.7 of the General Conditions of Contract.	Contractor has submitted site specific Safety plan and the same have been approved by CSC.
	GCC Sub-Clause 4.18 **Protection of the Environment** The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations. The Contractor shall ensure that emissions, surface discharges and effluent from the Contractor's activities shall not exceed the values indicated in the Employer's Requirements, and shall not exceed the values prescribed by applicable laws.	Being complied.
	PCC Sub-Clause 4.18 **Protection of the Environment** The Contractor shall be responsible and liable for any stoppage, closure or suspension of the works due to any contravention of statutory requirements relating to the protection of the environment and shall indemnify and keep indemnified the Employer in this regard. The Contractor's Site Environmental Plan shall be developed from his Employer's Safety. Health and Environmental Manual (SHE Manual), as per the Employer's Requirements and Special Conditions of Contract. Nothing extra shall be payable to the Contractor on this account and his Bid price shall be inclusive of expenditure required to be incurred for working as per SHE Manual. Outline Environmental Plan means the environmental plan forming part of the Tender, setting out, in summary form, the Contractor's proposed means of complying with his	Being complied.

S.N.	Description	Compliance Status
	obligations in relation to environmental quality. Site Environmental Plan means the site environmental plan including all supplements thereto, or any amended or varied version thereof, as submitted by the Contractor in accordance with Employer's Safety, Health and Environmental Manual (SHE Manual), this Clause and which has received the Engineer's consent. The Site Environmental Plan shall include detailed policies, procedures and regulations which, when implemented, will ensure compliance with this Clause. The Contractor is required to make himself aware of all the requirements of the Employer's SHE Manual in this regard and comply with them. Within 8 weeks of the date of the Notice to Proceed, the Contractor shall submit a detailed and comprehensive Site Environmental Plan based on the Employer's Safety, Health and Environmental Manual (SHE Manual), and shall include such further material, which the Contractor considers necessary and relevant. Upon the Engineer notifying his consent to the Site Environmental Plan, or any supplemental part thereof, the Contractor shall adhere to the principles and procedures contained in such document save to the extent that the Engineer may give his consent to any amended or varied version thereof. The Contractor shall provide all necessary access, assistance and facilities to enable the Engineer and the Employer to monitor and conduct tests to verify that the Site Environmental Plan is being properly and fully implemented."	

III. COMPLIANCE TO THE ENVIRONMENTAL MANAGEMENT PLAN

12. The environmental management plan (EMP) for the project was provided in Annexure 4 of the EIA report and also attached to the contract documents. As per EMP, five (05) environmental management activities were required to be implemented during the pre-construction stage (PC 1 – PC5); ten (10) activities are required to be implemented during the construction stage (C1.0 – C1.4, C.1.4.1 and C2 – C6); and three (03) activities are required to be implemented during the operation stage (O1 – O3). The following Table 5 lists out the status of activities during the pre-construction and construction stage as of March 2017.

Table 5: Status of Compliance to the EMP

SN	Activity	Mitigation measures	Compliance attained (Yes, No, Partial)	Comment/Reasons for Partial or Non-Compliance	Issues for further action and target dates
		PRE-CONSTRUCTION STAGE			
PC1	Contractor Preparatory Works (Upon issuance of Notice to Proceed)	The Contractor will complete the following activities no later than 30 days upon issuance of Notice to Proceed			
		1) Submit appointment letter and resume of the Contractor's Health and Safety Officer (HSO) and environmental focal person to CSC.	Yes. Mr. Mohan Kumar Sharma has been appointed as Contractor's HSO after the approval of CSC and he is working full time on site.		
		2) HSO will engage CSC-Environment Specialist to a meeting to discuss in detail the EMP, seek clarification and recommend corresponding revisions if necessary	Yes. EMP and SHE have been discussed with CSC-Environment Specialist.		
		3) HSO will request CSC-ES copy of monthly monitoring formats and establish deadlines for submission.	Yes. Formats and schedule of monthly monitoring reports has been finalized. Sample attached in **Appendix 3 & 4.**		
		4) HSO will submit for CSC-ES approval an action plan to secure all permits and approvals needed to be secured during construction stage which include but not limited to-	Yes.		
		i). operation of crushers and hot mix plants,	Yes. No crushers and hot mix plant have been established by contractor.	Consent to Operate (CTO) batching plant has been obtained from Rajasthan State Pollution Control Board on 09.01.2017**Appendix 6**.	
		ii) transport and storage of hazardous materials (e.g. fuel, lubricants, explosives),	Yes		
		iii) waste disposal sites and disposal management plan,	No, under process	Application for securing authorization for storage of hazardous waste at site has been processed in the reporting quarter.	

SN	Activity	Mitigation measures	Compliance attained (Yes, No, Partial)	Comment/Reasons for Partial or Non-Compliance	Issues for further action and target dates
		iv) temporary storage locations,	Yes		
		v) water use, and	Permission has been obtained from state authority for extraction of ground water for drinking purpose at Chhoti Chaupar.	Application for extraction of ground water for construction purpose has been submitted to authority. Currently, water demand is met from extraction of ground water and also through water tankers supplied by private agencies.	Action plan for securing approvals to be submitted by contractor.
		vi) emission compliance of all vehicles. Arrangements to link with government health programs on hygiene, sanitation, and prevention of communicable diseases will also be included in the action plan.	Yes.		
		5) HSO will submit for approval of CSC-ES the construction camp layout before its establishment.	Yes, Construction camp has been established as per approved layout plan.		
PC2	Coordinate with the Jaipur Development Authority on Traffic Management Plan to avoid nuisance from traffic congestion	The Contractors will discuss and coordinate the implementation of the traffic re-routing scheme particularly in Chhoti Chaupar and Badi Chaupar when it starts the cut and cover activities and the hauling and disposal of excavated materials to the Ambabari village. At the minimum, the traffic management plan will have the following components: construction traffic, ensuring access to properties, accommodating pedestrians, parking, access by construction vehicles, faulty traffic lights and problem interchanges, use of public roads, parking provision during construction, use of residential streets and traffic diversion due to temporary road closures, and construction and use of temporary access roads.	Yes, Proper traffic management plan is in place in coordination with government agencies.		
PC3	Community Liaison to avoid complaints	To ensure that ongoing feedback is provided on the progress of the JMRP together with feedback on the environmental management performance of the project.	Yes		

SN	Activity	Mitigation measures	Compliance attained (Yes, No, Partial)	Comment/Reasons for Partial or Non-Compliance	Issues for further action and target dates
	and/or address complaints if any	Contractor will provide a minimum of two (2) weeks notification to directly affected residents, businesses and other relevant groups of the intended construction commencement date. In providing a mechanism for communication between the contractor and the community and informing the public of construction details (timing, expected impacts), the concessionaire will undertake consultation and information activities.			
PC4	Ground staking to address chance find of artifacts	At least 30 days before the start of tunneling, the Contactor with supervision from the Archeology Department will employ a ground penetrating radar (GPR), detect the presence of buried artifacts along the tunnel alignment. The Contractor, in behalf of the JMRC, will coordinate with the Archeology Department to designate an on-site representative during the entire duration of the project.	Yes. GPR survey has already been submitted and has been uploaded on JMRC website. https://www.jaipurmetrorail.in/pdf/2015.04.16%20GPR%20Recieved%20from%20CEC.pdf JMRC is coordinating with Archeology Department for excavation work.		
PC5	Briefing on working near heritage resource to avoid damages to heritage resources and avoid cultural conflicts	All workers will undergo a briefing with the Archeology Department to ensure safeguarding of heritage resource and cultural/religious practices. A proof of compliance to this requirement to include the name of participants and date and location of briefing will form part of the monthly report to the CSC.	Yes. Briefing is being carried out by the Archaeological Consultant namely Mr. R.D. Singh, Dr. S.K. Sharma and Mr. P.K. Jain engaged by JMRC on regular basis.		
		CONSTRUCTION STAGE			
C1.0	Avoid damage to the following heritage resources during tunnel boring namely Chandpole Gate, IsarLat, Jantar Mantar, Hawa	No heritage resources are inadvertently damaged during construction.	Yes. No heritage resources are inadvertently damaged during construction.	Complying through instrumentation & online monitoring of structures of historic importance.	

SN	Activity	Mitigation measures	Compliance attained (Yes, No, Partial)	Comment/Reasons for Partial or Non-Compliance	Issues for further action and target dates
	Mahal, Chhoti Chaupar, and Badi Chaupar.				
C1.1	To avoid ground settlement under the Chandpole Gate during tunnel boring	The contractor will ensure that no inadvertent damage is incurred to the Chandpole gate. Estimated settlement under the Chandpole gate is less than 5mm. The contractor will ensure that the design value is not exceed and the trigger value = 3.5mm and Allowable value = 4.2 meters are implemented. Tilt meters will be installed at key positions on the gate to ensure the 2/1000 design value is observed with trigger and allowable values of 1.4/1000 and 1.7/1000, respectively Crack meters will be installed at key positions to ensure design value of 3.0mm is not exceeded with 2.1mm trigger value and 2.5 mm allowable value The contractor will immediately cease all operation if any of the trigger values are breached. The CSC will advise the contractor mitigation measures and practices to control settlement, tilt, and cracks to include but not limited to structural reinforcement and operation parameters of the TBM. The contractor will ensure that no structural damage is incurred and cosmetic damages are repaired under the supervision and control of the Jaipur Archeology Department.	Yes. Complied ➢ Under passing scheme prepared by M/s Omikron Kappa, of Greece, structural consultant of M/s CEC has been proof checked by M/s Ayesa of Spain. ➢ Structural consultant of Heritage consultant has also given his comments on the underpassing scheme of M/s CEC. ➢ Under passing scheme of Chandpole gate has also been proof checked by IIT Delhi. ➢ Work will be done as per approved method statement & GCC		
C1.2	To avoid cosmetic and structural damages to the structures along the underground metro alignment along Chandpole Bazar and Tripola Bazar due to vibration	Expected vibration at the Chandpole Gate during tunneling is 0.682 mm/s which is lower that internationally accepted 5mm/s. However, to be on the safe side and as practice in DMRC, the Contractor is to ensure that vibration levels at the Chandpole Gate foundation will not exceed 2.0 mm/s	Complied		

SN	Activity	Mitigation measures	Compliance attained (Yes, No, Partial)	Comment/Reasons for Partial or Non-Compliance	Issues for further action and target dates
	from the tunnel boring machine				
C1.3	To minimize surface noise from excavating equipment in Chhoti and Badi Chaupar and avoid disturbance to patients in the Pink City Hospital near Chandpole, Chaudhary Hospital, Maharaja School at the corner of ChhotiChaupar. To avoid damage and nuisance to JantarMantar, and HawaMahal.	The contractor will ensure that noise from construction activities does not result to exceedances of relevant limits prescribed in the Indian Ambient Air Quality Standards for Commercial Area and Silence Zone. Mitigation measures to be implemented by the Contractors are: 1) liaise with local residents on how to best minimize construction noise along the Chhoti and BadiChaupars. 2) local residents and shop owners should be informed of the nature and duration of intended activities prior to commencement and kept updated as to changes in the management and mitigation plan 3) equipment compounds will be located off-site 4) noise barriers will be installed at critical work areas particularly around the Chaupars 5) enclose especially noisy activities if above the noise limits 6) employ transportable noise screens between noise sources and identified noise sensitive areas for the duration of noisy construction activities 7) maximize the possibility of scheduling noisy activities at the same time to minimize the duration of exposure Noise from vehicles particularly for hauling of excavated materials to the dump site will be controlled through strict adherence to operating and maintenance instructions, routing of heavy vehicles way from noise sensitive areas whenever possible, conform with speed limits, and construction vehicles will only use routes specified in the traffic management plan.	Yes, Only newly manufactured equipment & regular servicing of equipment is being used in construction. Noise monitoring is being done and necessary mitigation measures are taken as required.		
C1.4	To ensure careful demolition and proper restoration of	The project calls for the demolition of the Chhoti and BadiChaupar and its restoration to its original condition as a requirement from Jaipur Development Authority. The demolition and restoration will be under the supervision and control of these agencies.	Yes, ➢ JMRC through competitive bidding has engaged heritage consultant M/s Abha Narain		

SN	Activity	Mitigation measures	Compliance attained (Yes, No, Partial)	Comment/Reasons for Partial or Non-Compliance	Issues for further action and target dates
	Chhoti and Badi Chaupars		Lambah Associates and M/s Shashank Mehendale & Associates (JV) to monitor the heritage structures lying along the metro route of Phase 1B. ➢ JMRC has also engaged 3 senior Archaeology Consultants to supervise the excavation of Chhoti Chaupar and Badi Chaupar. ➢ The work will be done as per approved method statement. Also the work will be done under the supervision of said agencies.		
C1.4.1	To address Chance heritage finds during the cut and fill operations	Please refer to FIDIC Sec. 4.24 Fossils. Recording (including chain of custody) will be made by the contractor to be validate by the CSC, and expert verification will be made by the Jaipur Archeology Department. Temporary work stoppage in the immediate area of the chance find for up to 72 hours to allow for the on-site representative of Archeology Department to visit the site to make an assessment and provide instructions. Work in the areas adjacent to the chance find will continue as provided in the detailed design.	Yes During the excavation of Chhoti Chaupar and Badi Chaupar, Gomukhs were extracted & were handed over to Archeological & Museum Dept., Government of Rajasthan.		
C2	To avoid the following issues from spoil disposal activities: generation of sediment laden runoff from the work site during monsoon; Contamination of disposal	A spoil management plan will be implemented that details the location of spoil disposal sites, transporting soil, and disposing of soil. The Contractor will perform the following: 1) disposed spoils on permitted sites as instructed by the JMRC 2) ensure the adequacy of the disposal site to handle the volume of spoils the will be generated 3) Prepare, submit and seek approval from the CSC a spoil dump plan that provides the: i) dump size, layout, and form, ii) means of controlling water and wind erosion, iii) measures to prevent	Yes, Are being disposed in the approved area only. All other conditions are also being fulfilled.		

SN	Activity	Mitigation measures	Compliance attained (Yes, No, Partial)	Comment/Reasons for Partial or Non-Compliance	Issues for further action and target dates
	sites from construction debris; Community hazard of uncollected and improperly disposed materials.	spoil dump contamination, vehicular, and public access. 4) Explore the possibility of using spoil materials to rehabilitate borrow pits to 5) All hauling vehicles should be maintained at an acceptable working order and serviced regularly 6) Haul vehicles should be routed away from noise sensitive areas 7) Speed limit in built up areas is 40 km/h 8) All haul vehicles should be covered or soil sprayed with water before leaving the site specially during windy condition 9) Spoil dumps shall have slopes no steeper that 1V:2.5H 10) Final shaping, topsoiling, and immediate revegetation 11) No vehicles are to be allowed to enter in revegetated spoils dump			
C3	To avoid depletion of groundwater and competition with existing groundwater users due groundwater Extraction for the construction works	The Contractor shall secure permission for groundwater extraction from CGWA pertinent groundwater authorities before establishing borewells. Water conservation and recycling will be observed in all aspects of constructions to include water main breaks, watering roads for dust control, spraying concrete, equipment cleaning and site clean-up.	Partial,	Application is being submitted.	
C4	To avoid nuisance from temporary damage or shifting in utilities particularly buried water pipes and electrical lines and disruption of essential services	The Contractor will ensure that the public will be minimally affected when constructing in close proximity to essential services through: 1) coordinate and secure necessary permits for utility shifting with the Jaipur Development Authority and other service utility agencies to locate al services prior to construction in any particular area 2) inform residents of planned interruptions through local media, fliers, and public address system	Yes, Care is taken to avoid inconvenience to uses by shifting as per instruction of concerned authorities.		

SN	Activity	Mitigation measures	Compliance attained (Yes, No, Partial)	Comment/Reasons for Partial or Non-Compliance	Issues for further action and target dates
		3) all planned interruptions schedules will be submitted to the safeguards cell JMRC no later than 10 working days before the interruption 4) all affected landowners, tenants, institutions, and businesses to be notified in writing prior to commencement and kept updated in changes of schedule 5) in the event of unforeseen disruptions, the contractor will take all reasonable actions to have the service promptly restored 6) relevant utility agencies will be informed of the construction proximity to essential service line and be kept on standby in the event of unforeseen disruption All unplanned interruption will be immediately reported to the safeguards cell within 24 hour through an incident report.			
C5	To address occupational health and safety issues of the construction workers and local community	The contractor will comply with the occupational health and safety requirements as provided in SHE.	Yes		
C6	Implementation of Cleanup Operations and Restoration and Rehabilitation	Contractor shall prepare site restoration plans, which shall be subject for review and approval by the CSC, JMRC Safeguard Cell, Jaipur Development Authority and the Archeology Department to ensure consistency with zoning and town plans. The clean-up and restoration operations are to be implemented by the Contractor prior to demobilization. All spaces excavated and not occupied by the foundation or other permanent works shall be refilled with earth up to surface of surrounding ground.	Not yet due.		

IV. ACTIVITIES UNDERTAKEN FOR PROTECTION AND MONITORING OF HERITAGE STRUCTURES

A. Findings in Badi Chaupar and Chhoti Chaupar:

13. Under Jaipur Metro Rail Project Phase 1B, an underground Metro line is under construction from Chandpole to Badi Chaupar. While Metro tunnel will be constructed using Tunnel Boring Machines, the two underground Metro Stations at Chhoti Chaupar and Badi Chaupar will be constructed by cut and cover method, requiring excavation from top to bottom.

14. To enable construction of underground stations at Chhoti Chaupar and Badi Chaupar, the dismantling of existing Chaupars and excavation underneath was necessary. In this regard, historical background of Chaupars was studied, both the Chaupars were well documented. The two layers of water tank at both the Chaupars with tunnels on all four cardinal directions were encountered. Under the guidance of heritage consultant M/s Abha Narain Lambah Associates and JMRC archaeology consultants the excavation of the tanks were taken up. Documentation including detailed drawings, photography and videography of the all the layers of old water tanks of Chaupars have been prepared. Gaumukhs of both the Chaupars have been handed over to Albert Museum for safe keeping.

15. Both the water tanks at Chhoti Chaupar and Badi Chaupar will be restored at their present site after construction of underground stations. JMRC has ensured and approved designs, wherein the waters tanks have been incorporated over the station design. Designs have been approved by heritage consultant of JMRC.

B. D-Wall Construction

16. The D-walls (Diaphragm Walls) act as a structural member for the station box. Prior to the commencement of the D-walls, the utilities are diverted. The construction of D-walls is executed through grabbing machines after completion of the guide wall which act as the guide for the excavation. During the operations the grabbing machines removes the soil, the soil is stabilized using Polymer to avoid the collapse of soil. After reaching the desired level, the grabbing

operations are stopped and the reinforcement cage is lowered into the excavated area and concrete is poured through tremie.

17. To monitor the impact of the operations we have provided tilt meters, crack meter and settlement meters to measure the impact and report any abnormality in the reading. Apart from the above, to protect the existing verandahs, we have done the propping and jacking and also in the shops identified as critical.

C. Chandpole Gate Tunnel Underpass Scheme/ Isarlat Side Pass Scheme

Chandpole Gate Tunnel Underpass Scheme

18. Chandpole Gate is coming right in the center of alignment, attracting maximum settlement, but original drawings relating to its foundation were not available. Therefore, the foundation of Chandpole Gate has been physically examined by a team of engineers, by making several trial pits around the gate.

19. For the determination of the structure's foundation, special survey was carried out by CEC and nine trial pits were executed in certain locations near the gate.

20. The foundation of Chandpole Gate has been found to be in a sound condition which can sustain the impact of tunnel-making underneath.

21. To assess the ground settlement due to tunneling by TBM & its effect on structural safety of Chandpole Gate, a detailed 3D analysis has been carried out by M/s Omikron Kappa – Indus Consultant JV and a detailed report submitted.

22. As per this report, considering that Chandpole gate is in category "Slight" according to the pre-condition survey, "negligible" damage is expected for settlements <6.7mm and angular distortion <1/750. As already derived from the 3D analysis, the maximum calculated settlements and angular distortion are 5mm and 1/1200 respectively, values which are related with "negligible" damage even in the case of "High" vulnerable structures.

23. Considering all the above, a set of values were established for the displacement and deflection of the Chandpole Gate, as presented in the following table.

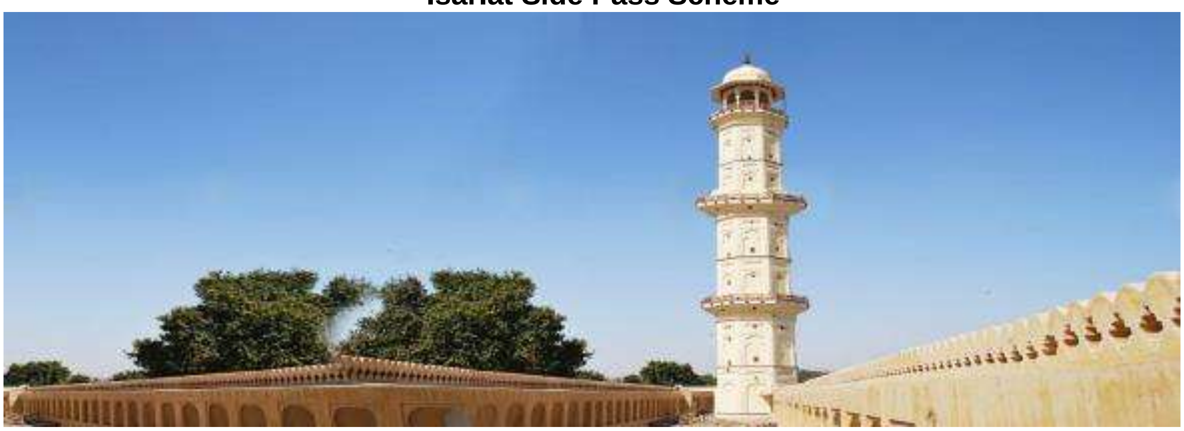
Measurement	Trigger Level	Alarm Level	Limit values
Settlements	4mm	5mm	6mm
Angular Distortion	1/1400	1/1200	1/1000

24. On the advice of Archaeology & Museums Department, the work of further examination/proof check of underpassing scheme of Chandpole Gate was assigned to Indian Institute of Technology (IIT) Delhi. After conducting the proof check of underpassing scheme of Chandpole Gate, IIT Delhi has reported that analysis and other details given in the report are in order. The scheme of Chandpole Gate underpassing by Tunnel Boring Machines is considered safe as it will have no impact on the stability of existing Chandpole Gate.

25. Archaeology & Museums Department, GoR, vide its letter dated 19.06.2015 has issued license under Rule 20 of the Rajasthan Monuments, Archaeological sites and Antiquities Rules, 1968 for construction of twin metro tunnels under Chandpole Gate. The license validity was extended time to time and finaly for 2 months i.e. up to 18.02.2016 by the Archaeology & Museums Department, GoR vide its letter dated 15.12.2015.

26. Now both TBMs have crossed underneath Chandpole Gate, the gate sustained no damage during the tunneling process.

Isarlat Side Pass Scheme



27. As per report of structural expert of Heritage Consultants, Abha Narain Lambah Associates & Shashank Mehendale & Associates (JV), physical condition of Isarlat is found to be generally sound and it is located at safe distance from the tunnel axis. There will be no adverse impact on the Isarlat during tunnel construction.

28. However, as advised by the structural expert of heritage consultants, a detailed study of Isarlat was taken up through Omikron Kappa, on the lines of the detailed study already carried out for Chandpole Gate. Proof check of the structure/report was done by IIT Delhi.

29. Tunneling works have now been completed, and there have been no damages to Isarlat.

D. Results of the Ground Penetrating Radar

1. Introduction

30. Ground penetrating radar survey is a non-destructive geophysical method that produces a continuous cross-sectional profile or record of subsurface features, without drilling, probing, or digging. Ground penetrating radar (GPR) profiles are used for evaluating the location and depth of buried objects and to investigate the presence and continuity of natural subsurface conditions and features. It is a high-resolution geophysical method, which is based on the propagation of high frequency electromagnetic waves. The GPR method images structures in the ground that are related to changes in dielectric properties. In sediments, the water content primarily causes the changes in dielectric properties.

2. Study Area

31. In order to prioritize the scanning work, the entire stretch between Chandpole & Badi Chaupar has been sub-divided into following sectors:

Sector-1: Along the tunnel alignment for the stretch between Chandpole Metro station to Chhoti Chaupar.
Sector-2: Chhoti Chaupar Metro station.
Sector-3: Along the tunnel alignment for the stretch between Chhoti Chaupar to Badi Chaupar.

3. Conclusion

32. The GPr survey was conducted in March 2015 using Ground Penetration Radar with 100 MHz paired antenna has provided scanning down to a depth of 22m.

33. The interpretation of all these scans shows that two distinct layers exits upto the scanned depth for the entire stretch between Chandpole and Badi Chaupar. This is depicted in the scans provided at Figure 10 to 27 of the report. The 3-dimensional model (surface and block) provides variation in terms of depth for the two layers. The drill hole core too in the area indicates presence of two layers of silty sand/sandy silt as defined by grain size analysis of the soil as per geotechnical report. A small portion in the entire stretch indicates more reflective zone which could be on account of anomalous material such as presence of metallic substance, high moisture content or an object.

34. A part of the entire stretch was also taken up for utility survey. This indicates the importance of GPR survey for locating utilities before excavating the area. This helps in planning the excavation work without damaging the existing utilities.

35. The summary report of the GPR done for the project is available online at JMRC web portal.

V. SUMMARY OF ENVIRONMENTAL MONITORING

A. Summary of Inspection Activities:

36. A total of 12 SHE Walk inspections were conducted by the CSC-ES during the reporting period. Further details on the inspections carried out and key findings are provided in Table 6.

Table 5: Field Inspections carried out during reporting period

Date of Inspection	Location	Participants	Key Findings
06/01/2017	Badi Chaupar	10	Safety & Environment
13/01/2017	Chandpole	12	Safety & Environment
20/01/2017	Chhoti Chaupar	13	Safety & Environment
28/01/2017	Badi Chaupar	9	Safety & Environment
02/02/2017	Chandpole	17	Safety & Environment
10/02/2017	Chhoti Chaupar	11	Safety & Environment
21/02/2017	Badi Chaupar	20	Safety & Environment
27/02/2017	Casting Yard	12	Safety & Environment
03/03/2017	Badi Chaupar	13	Safety & Environment
17/03/2017	Chhoti Chaupar	18	Safety & Environment
24/03/2017	Chandpole	13	Safety & Environment
31/03/2017	Badi Chaupar	13	Safety & Environment

Note: Sample copy of SHE Walk attached with Appendix 2.

B. Monitoring of Cracks, Settlements of Structures

37. The entire area where the stations as well as the tunnels underpasses fall under heritage structures. In order to observe the conditions and behaviors of the structures during the operations, monitoring is being done through instrumentations. Since there was no tunneling during the reporting period instrumentation monitoring was not carried out.

1. Vibration Monitoring:

38. **Need for Vibration Monitoring:** The construction of underground rail and road infrastructures in metropolitan and cosmopolitan cities are mostly through developed area under challenging soil conditions. The alignment of structure is passing through densely inhabited areas with many heritage structures falling in the zone of influence of construction activities.

39. Construction vibration sources generate elastic waves in soil and have a wide range of energy, displacement, velocity and acceleration transmitted on the ground. These may be harmful to adjacent and remote structures, sensitive instruments and people. Their effects range from serious disturbance of working conditions for sensitive devices and people, to visible structural damage.

40. It is important to assess the dynamic effect before the beginning of construction activities and at the time of construction. Therefore monitoring of construction vibrations have to be started prior to the beginning of construction works at a site and be continued during construction to provide the safety and serviceability of sound and vulnerable structures.

41. It is required to carry out base line monitoring to determine the Pear Particle Velocity and their respective frequency band that are persisting even before carrying out any construction activities. The recorded values shall form the base line and shall be compared to the corresponding values recorded during construction activities and the influence of construction may be determined accordingly.

42. Since there was no tunneling during the reporting period vibration monitoring was not carried out.

C. Noise Monitoring

43. Noise level survey was conducted by 3rd party M/s. EKO PRO Engineering Pvt. Ltd at all project sites for Day & Night shifts vizBhankrota, Chandpole launching shaft Area, Pink City Hospital, Chhoti Chaupar, Maharaja school, Chaudhry Hospital, Krishna temple, Hawa Mahal, and Jantar Mantar for Day & Night shifts.

44. It has been observed from the results that noise level recorded was exceed with respect to national standard at all sites except casting yard for both day time and night. Except Chandpole all other areas are classified as silent zone however they are located very near to road with heavy moving traffic both during day time and night time. At Chandpole the levels are above national standard but it is way less than the baseline value given in the EIA. The results are summarized in Table 8 and 9 and graphical representation of results is also given below. Sample monitoring report is provided in Appendix 4.

Table 6: Noise Monitoring Results (Day time)

Location	Distance from nearest metro construction site	Category of Area/ Zone	National Standard (Day time) Leq dB(A)	Baseline value (Day time), Leq dB(A)	Noise levels (Day time) Leq dB(A)		
					Jan	Feb	March
Casting Yard (Bhankarota)	0	Industrial	75	NA	61.4	63.8	59.6
Chandpole	0	Commercial	65	74.2#	65.8	67.4	69.2
Maharaja School	Approx 50 m	Silence	50	NA	62.4	58.4	59.8
Chaudhri Hospital	Approx 400m	Silence	50	NA	59.1	62.8	65.6
Pink City Hospital	Approx 250 m	Silence	50	NA	57.2	60.7	62.6
Krishna Temple	Approx 300 m	Silence	50	NA	64.2	65.8	63.2
Jantar Mantar	Approx 300 m	Silence	50	NA	68.2	63.7	71.6
Hawa Mahal	Approx 100 m	Silence	50	NA	67.3	69.2	67.5

NA – Not Available
- As per baseline line data given in the EIA

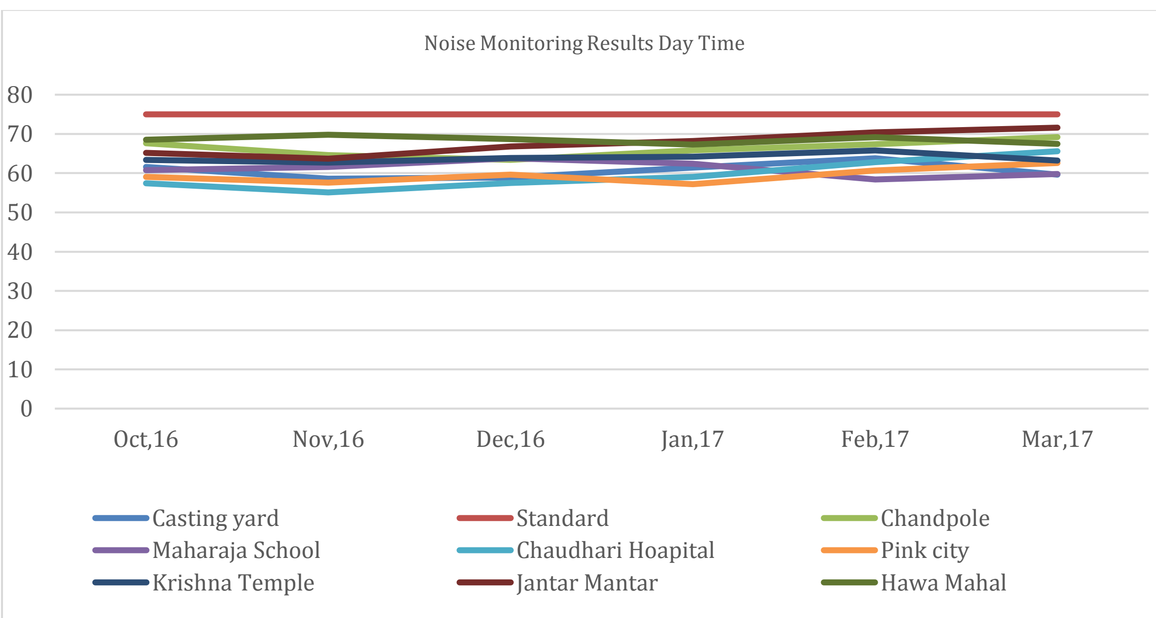
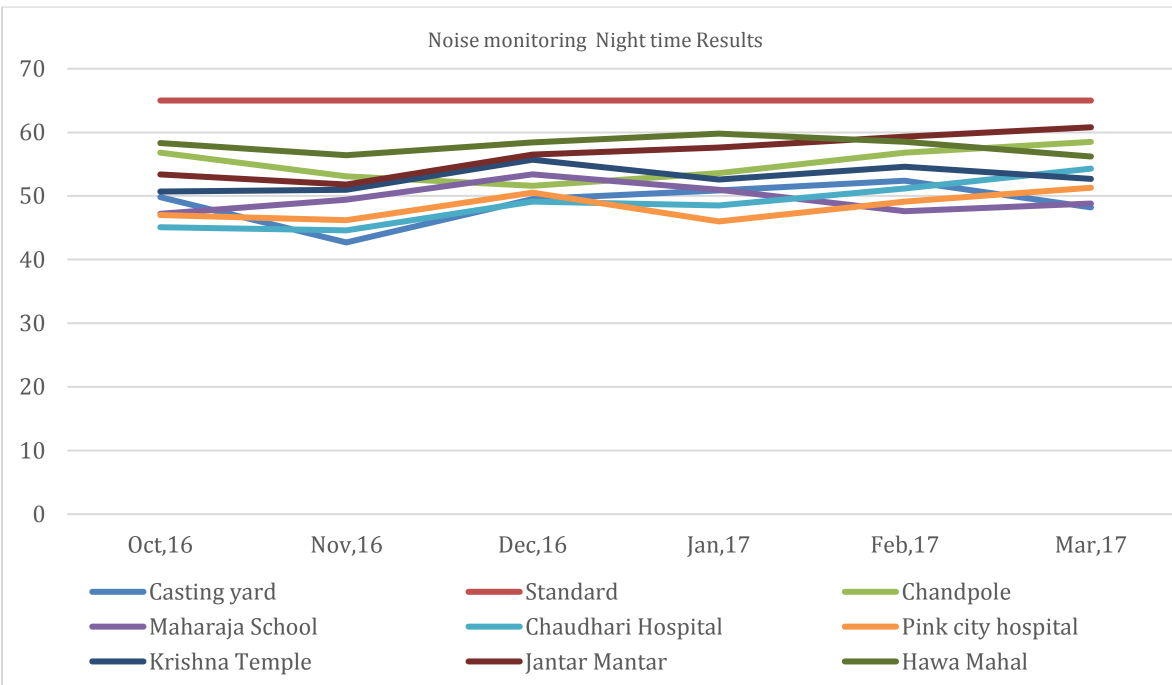


Table 7: Noise Monitoring Results (Night time)

Location	Distance from nearest metro construction site	Category of Area/Zone	National Standard (Night time) Leq dB(A)	Baseline value (Night time), Leq dB(A)	Noise levels (Night time) Leq dB(A)		
					Jan	Feb	March
Casting Yard (Bhankarota)	0	Industrial	70	NA	50.9	52.4	48.2
Chandpole	0	Commercial	55	66#	53.6	56.8	58.5
Maharaja School	Approx 50 m	Silence	40	NA	51.0	47.6	58.8
Chaudhri Hospital	Approx 400m	Silence	40	NA	48.5	51.2	54.3
Pink City Hospital	Approx 250 m	Silence	40	NA	46.0	49.1	51.3
Krishna Temple	Approx 300 m	Silence	40	NA	52.6	54.6	52.7
Jantar Mantar	Approx 300 m	Silence	40	NA	57.6	59.3	60.8
Hawa Mahal	Approx 100 m	Silence	40	NA	59.8	58.5	56.2

NA – Not Available
- As per baseline line data given in the EIA



D. Air Quality

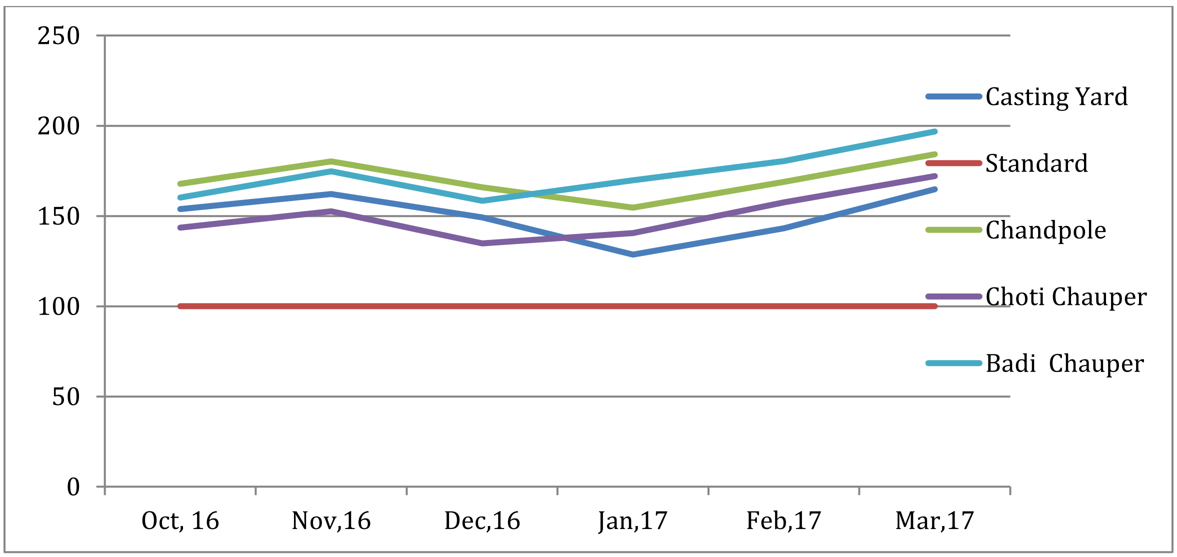
45. The ambient status of five major air pollutants viz. Total Suspended Particulate Matter (TSPM); PM_{10}, Sulphur Dioxide (SO2), Oxides of Nitrogen (NOx) and Carbon Monoxide (CO) representing the quality of pollution level have been assessed by monitoring air quality at four locations viz. Casting Yard, Chandpole launching shaft, Chhoti Chaupar & Badi Chaupar. The air quality monitoring results indicate that PM_{10} concentration exceeds the limits specified by CPCB for all sites. However, except for Badi Chupar for the months February and March, the PM_{10} levels recorded are within the baseline data. This reduction in air pollution levels can be attributed to lesser vehicle movement in the area due to traffic restrictions imposed to facilitate metro construction. This also means due to the proactive measures taken by the contractor there is hardly any contribution of construction work to local air pollution level. However, for casting yard such conclusions cannot be drawn as there is no baseline data available.

46. Air monitoring was carried out from January to March, 2017. Test results are summarized in Table 8. Sample monitoring reports are given in **Appendix 4**.

Table 8: Air Quality Monitoring Results

Location	NAAQS PM_{10} (Unit µg/m^3)	Baseline data PM_{10} (Unit µg/m^3)	PM_{10} Monitoring results (Unit µg/m^3)		
			Jan 2017	Feb 2017	March 2017
Casting Yard	100	Not available#	128.6	143.3	164.8
Chandpole	100	180*	154.6	168.8	184.2
Chhoti Chaupar	100		140.6	157.6	172.1
Badi Chaupar	100		169.8	180.4	196.8

*As per Rajasthan Pollution Control Board (RSPCB) 2012 air quality monitoring data reported in the EIA for Chandpole. The same has been considered as baseline data for Chhoti Chaupar and Badi Chaupar since both locations are within the air shed area of Chandpole.
Baseline data for Casting Yard (Bhankarota) is not available



47. **Air Pollution Control:** The mitigation measures, which have adopted to reduce the air pollution, are: all transportation of construction materials should be covered manner. To minimize dust emission due to handling of aggregate and cement at site, there are sprinkling of water on the internal roads. Vehicle speed restriction of 5-10 km/hrs have been followed at site, tyre washing facility have been provided for cleaning of vehicles/tyres at Chandpole exit gate.

E. Water Quality

48. Water samples were collected from nearby bore wells during March, 2017 to check the quality of the water. Quarterly water analysis results are compared with IS 10500:2012 and found within permissible limited. Results are summarized in Table 9 and monitoring reports are provided in **Appendix 4**.

Table 9: Water Quality Monitoring Results

Sr. No	Parameters	Units	Results	
Sample Identification			**Casting Yard**	**Chandpole**
1.	pH(at 25 ºC)	-	7.32	7.52
2.	Turbidity	NTU	< 1.0	< 1.0
3.	Conductivity	µs/cm	766.2	1092.6
4.	Total Dissolved Solids	mg/L	498.0	710
5.	Total Suspended Solids	mg/L	<5.0	<5.0
6.	Oil and Grease	mg/L	ND	ND
7.	Dissolve Oxygen	mg/L	5.7	5.8
8.	E.coli	Per 100 ml	Absent	Absent

VI. SOCIAL AND RESETTLEMENT IMPACTS

A. Impacts on Structures

1. Shifting of Temples

49. When the work of Phase 1B started it was found that 6 temples fell within the station box area of Chhoti Chaupar and Badi Chaupar where digging is necessary for construction of stations, required immediate relocation. Three of these temples were at Chhoti Chaupar & another three at Badi Chaupar, as under:

- Hanuman Mandir (Chhoti Chaupar)
- Shiv Mandir (Chhoti Chaupar)
- Rojgareshwar Mandir (Chhoti Chaupar)
- Shiv Mandir (Badi Chaupar)
- Ganesh Mandir (Badi Chaupar)
- Hanuman Mandir (Badi Chaupar)

50. As per the decision taken by High Power Committee chaired by Chief Secretary GoR, an office order was issued on 16.10.2014, that GAD land at Tripolia Bazar i.e. TanwarJikaNauhra (around 200 mt from Chhoti Chaupar) which has two courtyards admeasuring 542 sqmt and 645 sqmt respectively be handed over to Jaipur Metro Rail Corporation for relocation of 6 temples and development of Two Wheeler Parking, respectively.

51. The possession of the land was taken over by JMRC from Public Works Department on 17.11.2014.

Figure 3: Location of TanwarJiKaNauhra (Land identified for temple relocation)

52. As the planning and designing of station at Chhoti Chaupar and Badi Chaupar progressed, 7 additional temples were identified which either infringed the entry exit structure or came in mid of the traffic diversion scheme. The detail of the additional temples is as below:

1. Barah ling Mahadev (Chhoti Chaupar)
2. Rameshwar Mahadev (Chhoti Chaupar)
3. Bajrangbali Mandir (Chhoti Chaupar)
4. Peepleshwar Mahadev (Badi Chaupar)
5. Mahadev Ji/Mataji/Hanuman Mandir (Badi Chaupar)
6. Mahadev Mandir (Badi Chaupar)
7. Mahadev/Hanuman Mandir (Badi Chaupar)

53. Proper documentation and measurement were taken and recorded for all the temples.

54. Necessary measures have been taken for relocation of identified temples and 6 Temples of Chhoti Chaupar have already been relocated at Old Atish market.

55. On 11.05.2015/12.05.2015, six temples of Chhoti Chaupar were shifted to Old Atish Market and Murti Sthapna was done along with proper ritual ceremony.

56. As per earlier directions, following was the status of the matter related to shifting of 7 temples at Badi Chaupar is as below:

Temple No.	Temple Name	Owner Name	Existing Area (sqmt)	Proposed Shifting to	Area Allocated at new site
1	Shiv Mandir, ShGaurishankarji, On Median towards Chhoti Chaupar	Sh. JeetendraVyas	2.747	TanwarJiKaNauhra	6.25 sqmt (2.5 x 2.5 mt)
2	DhruvMukhiMahaveer Hanuman Mandir, NW Khanda	Sh. Abhishek Sharma	3.781	RamnagariyaYojana	45 sqmt (Plot No. A363)
3	Ganesh ji Shivalay Mandir, SE Khanda	Sh. Vishnu Kr Sharma	3.132	RajarampuraAwasiyaYojana	45 sqmt (Plot No. 229)
4	Peepleshwar Mahadev, Hanumanji, Ganesh mandir- SW Khanda	Sh. RajnarayanVyas	8.02	TanwarJiKaNauhra	8.00 sqmt (3.2 x 2.5 mt)
5	Mahdev ji, Mataji, Hanuman Mandir- SE Khanda	Sh. PurushotamBharti	39.97	TanwarJiKaNauhra	40.0 sqmt(6.325 x 6.325 mt)
6	Mahadev Mandir, Outside Police thana- NE Khanda (ShriJamneshwar Mahadev Trust)	Sh. Dinesh Vyas	5.096	RamnagariyaYojana	Combined Plot (Plot A434) 90 sqmt
7	Mahadev/Hanuman Mandir, Outside Police thana- NE Khanda (ShriAmneshwar Mahadev Trust)		4.899	RamnagariyaYojana	

Figure 4: Site at Tanwarji Ka Nauhra (Badi Chaupar Temple Shifting)

57. All matters related to compensation and relocation of temples at Chhoti & Badi Chaupar are being dealt with at the level of Collector, Jaipur.

58. Government is continuously in touch with the stakeholders and is in process of ensuring that sentiments of people at large are not hurt. Rozgareshwar Temple at Chhoti Chaupar will be relocated back to its original position after completion of Station work at Chhoti Chaupar.

59. The current status of shifting of temples of Chhoti Chaupar and Badi Chaupar is as under:

Chhoti Chaupar Temple Shifting Status				
Temple No.	**Temple Name**	**Existing Area**	**Earlier Decision over shifting**	**Present Decision**
1	Kashta Haran Mahadev, TowrdsKishanpole Bazar	4.389 sqmt	Shifted to Old Atish Market/ 6.25 sqmt (2.5 x 2.5 mt) on 19.05.15	4 temples out of remaining 5 temples to be shifted back to Choti Chaupar Khanda after completion of Chhoti Chaupar Station work. Provision made in plan (Size 1.8 m x 1.8 mt)
2	Kanwal Sahab Hanuman Mandir, near Chhoti Chaupar	4.246 sqmt	Shifted to Old Atish Market/ 6.25 sqmt (2.5 x 2.5 mt) on 11.06.15	
3	Rojgareshwar Mandir, On median towrads Tripolia Side	32.448 sqmt	Old Atish Market 32.448 sqmt (4.16 x 7.8 mt), shifted on 11.06.2015	To be shifted over platform measuring 2.6 m x 7 mt at Chhoti Chaupar after completion of civil work (Oct 17-Mar 18)
4	Barah Ling Mahadev (Gulabi Rang), NE Khanda	9.415 sqmt	Shifted to Old Atish Market/ 6.25 sqmt (2.5 x 2.5 mt) on 19.05.15	4 temples out of remaining 5 temples to be shifted back to Chhoti Chaupar Khanda after completion of Chhoti Chaupar Station work. Provision made in plan (Size 1.8 m x 1.8 mt)
5	Rameshwar Mahadev (White marble), NE Khanda	7.076 sqmt	Shifted to Old Atish Market/ 6.25 sqmt (2.5 x 2.5 mt) on 19.05.15	
6	Bajrangbali Mandir (Pyayu), NW Khanda	23.277 sqmt	Old Atish Market/ 23.277 sqmt (6.1 x 3.82 mt), shifted on 19.05.2016	

Badi Chaupar Temple Shifting status				
Temple	**Temple Name**	**Existing Area**	**Present decision**	**As per earlier decision**
1	Shiv Mandir, Sh Gaurishankarji , On Median twrds Chhoti Chaupar	2.747	Temporary shifted to Land behind Manak Chowk Thana on 09.06.16 Permanently to median at Badi Chaupar	6.25 sqmt (2.5 x 2.5 mt) at TanwarJi Ka Nauhra
2	Dhruvmukhi Mahaveer Hanuman Mandir, NW Khanda	3.781	No decision yet over temporary and permanent shifting	45 sqmt (Plot No. A363) at Ramnagariya
3	Ganesh ji Shivalay Mandir, SE Khanda	3.132	Temporary shifted to Land behind Manak Chowk Thana Permanently to Khanda at Badi Chaupar khanda (1.8 x 1.8 mt) on 15^{th}/16^{th} Feb 2017	45 sqmt (Plot No. 229) At Rajarampura

Badi Chaupar Temple Shifting status				
Temple	**Temple Name**	**Existing Area**	**Present decision**	**As per earlier decision**
4	Peepleshwar Mahadev, Hanumanji, Ganesh mandir- SW Khanda	8.02	Shifted to Tanwar Ji Ka Nauhra 14.07.2016	8.00 sqmt (3.2 x 2.5 mt) at TanwarJi Ka Nauhra
5	Mahdev ji, Mataji, Hanuman Mandir- SE Khanda	39.97	Shifted to Tanwar Ji Ka Nauhra on 15th/16th Feb 2017	40.0 sqmt (6.325 x 6.325 mt) at TanwarJiKaNauhra
6	Mahadev Mandir, Outside Police thana- NE Khanda (Shri Jamneshwar Mahadev Trust)	5.096	Both to be Temporary shifted to Land behind Manak Chowk Than and a Permanently to khanda at Badi Chaupar khanda (1.8 x 1.8 mt)	Combined Plot (Plot A434) 90 Qmt At Ramnagariya Yojana
7	Mahadev/Hanuman Mandir, Outside Police thana- NE Khanda (Shri Amneshwar Mahadev Trust)	4.899		

B. Land Acquisition and Resettlement

60. For the purpose of easing the traffic diversion near Sanjay Circle, Chandpole, JMRC has processed for acquisition of 3 shops located at Sansar Chand Road. Details are given below:

SN	Shop Detail	Name of Shop Owner	Name of Shopkeeper	Area (sq.m)
1	Shekhawat Rajput Dhaba (Part of Shop No. 12)	Mohd. Salim, S/o Yaseen Khan	MukutBihari, Satynarayan, S/o BanshilalMehra	7.49
2	Bharat Cold Drink (Part of Shop No. 12)			3.90
3	Shiv Pan Bhandar (Part of Shop No. 12)		BihariLal S/o NandlalSaini	1.30
4	DCB ATM	Smt. MamtaKanwar W/o Sohan Singh Shekhawat	DCB Bank	5.46

61. Considering the time required for land acquisition process as per new Land Acquisition Act of GOI, it was agreed and decided by JMRC (in consultation and discussion with shop owners) to undergo a mutual agreement with shop and land owners and tenants to provide land for land and rebuild the shops in land owned by JMRC on the other side of the road near Chandpole station (Near the Church). Besides resettling shops, JMRC also agreed to provide assistance in building the civil structure

62. The new shops were built by JMRC on its land near the church on the other side of the Chandpole station. The shops are currently functioning in routine basis. The details are as under:

S. NO.	Name of Shops	Owner/Interested Person	Name of the Tenant	Area of the Land to be Acquired in sqm.	Land Allotted in lieu of Land at Chandpole Metro Station in sqm.	
					Name of Owner	**Area sqm.**
1	ShekhawatRajpootDhaba Part of Shop No. 12(Agreement on 16.06.15)/ (Compensation paid INR 71581/- in total of shops till Sno. 3)	Mohammad Saleem S/o Yaseen Khan Plot No. 206, Near Badi Masjid, Jalupura, Jaipur	MukutBehari, Satyanarayan S/o BanshilalMehra, 105-A, RanaPratap Nagar, Jhotwada, Jaipur	7.49		
2	Bharat Cold Drinks Part of Shop No. 12 (Agreement on 16.06.15)	Mo. Saleem S/o Yaseen Khan Plot No. 206, Near Badi Masjid, Jalupura, Jaipur	MukutBehari, Satyanarayan S/o BanshilalMehra, 105-A, RanaPratap Nagar, Jhotwada, Jaipur	3.90 11.39	Mohammad. Saleem S/o Yaseen Khan	11.39
3	Shiv Pan Bhandar Part of Shop No. 12 (Agreement on 16.06.15)	Mo. Saleem S/o Yaseen Khan Plot No. 206, Near Badi Masjid, Jalupura, Jaipur	Beharilal S/o NandlalSaini, 1468, Bagruwalonka Rasta, Chandpole, Jaipur	1.30	Mohammad. Saleem S/o Yaseen Khan	1.30
4	DCB ATM Part of Shop No. 12 (Agreement on 23.06.15)/ (Compensation paid NIL As per Court Order ADJ no. 8)	Smt. MamtaKanwar W/o Sohan Singh &Sohan Singh S/o Mal Singh Shekhawat, 1-A129, Shiv Shakti Colony, Shastri Nagar, Jaipur	DCB Bank ATM on rent	5.46	Smt. MamtaKanwar W/o Sohan Singh &Sohan Singh S/o Mal Singh Shekhawat	5.46
Total				**18.15**		**18.15**

C. Compensation for damage to verandahs

63. Due to exceptionally loose soil underneath, two verandah pillars got settled and verandah roof got tilted in front of shop no. 370-371 of Tripolia Bazar on 07.02.2015, when a trench was being dug adjacent to the verandahs for shifting a PHED pipeline. No one got hurt and there was no damage to any shops. All protective measures were taken to contain any further damage to the verandahs. The two affected verandahs had to be dismantled and were reconstructed by JMRC under supervision of Jaipur Municipal Corporation. To avoid recurrence of such incidence in future, following action were taken:

(a) Plan of shifting the PHED pipelines was reviewed and revised. Accordingly, instead of putting these pipelines underground at the edge of Verandah, these pipelines were put at the road level during construction period and will later on be shifted to utility duct which will be constructed as part of station building.
(b) Additional support in the form of steel props were provided in front of all the 100 shops in front of which construction work was be done at Chhoti Chaupar.
(c) The construction company and the General Consultants were directed to ensure presence of a senior manager at the work site at all times.

64. Regarding the compensation for the shopkeepers impacted by the damaged verandah, compensation was paid to the shopkeepers. Since, the shops remained closed for 4 days i.e. from 08.02.2015 to 11.02.2015, the compensation of INR Rs. 660/ day for 4 days was paid (total Rs. 2640.00) to each of the following shopkeepers /firm/individual doing business:

SN	Shop No.	Name of Shop owner/firm/individual doing business	Amount to be Paid (In INR)
1	369	a) S.K. Bangles Manufacturer	2640*
		b) M/s Bhaiyaji Fida Hussain	2640*
2	370A	Sh. Md. Eshaak	2640
3	370B	Sh. Md. Yakub	2640
4	371	Devi Singh Sugandhi Bhandar	2640

**Refused to accept the cheque*

VII. PUBLIC CONSULTATIONS AND ADDRESSING OF GRIEVANCES

A. Public consultations carried out

65. Consultations are being held regularly with the local people in the project area including relevant government agencies, the business associations in the project are such as the Chandpole Bazaar Vyapar Mandal and Tripolia Bazaar Vyapar Mandal.

66. JMRC has taken all possible measures to ensure that following concerns are regularly addressed:

a) Heritage character of Jaipur
b) Traffic diversion during construction
c) Inclusion of all key stakeholders

67. During the period of this report (January 2017–March 2017) following consultations were held:

Table 10: Consultations held during the reporting period

Date	Venue	Participants	Detail of discussion held
09.01.2017	Collectorate Room	State Administration, JMRC & Nominated temple Committee members	To discuss and expedite Badi Chaupar Temple Shifting
21.01.2017	Tripolia	Tripolia Vyapaar Mandal	Day to Day progress & Traffic improvement
28.01.207	Collectorate Room	State Administration, JMRC & Nominated temple Committee members	To discuss and expedite Badi Chaupar Temple Shifting
30.01.2017	Collectorate Room	State Administration, JMRC & Nominated temple Committee members	To discuss and expedite Badi Chaupar Temple Shifting
10.02.2017	Collectorate Room	State Administration, JMRC & Nominated temple Committee members	To discuss and expedite Badi Chaupar Temple Shifting
23.02.207	Ramganj	Ramganj Vyapaar Mandal	Discuss to address problem of Ramganj Shopkeepers
08.03.2017	Collectorate Room	State Administration, JMRC & Nominated temple Committee members	To discuss and expedite Badi Chaupar Temple Shifting
30.03.2017	Badi Chaupar	Tripolia Vyapaar Mandal	Regarding Traffic Management at Badi Chaupar

B. Complaints and Requests Received

68. During the period of reporting (January 2017–March 2017) no written grievances and requests application was received from the local people in the project area.

VIII. UNANTICIPATED SAFEGUARD ISSUES

69. During the reporting period from January 2017–March 2017, no such anticipated safeguard issues were come across.

IX. CONCLUSION

A. Summarize the overall Progress of Implementation of safeguard Measures[4]

70. The implementation environmental and social safeguard measures in this project show a highly satisfactory level. Overall compliance status of items defined in EMP is summarized in Table 11.

Table 11: EMP Compliance Status

Sl. No	Clause/Description	Compliance Status 01.01.2017 – 31.03.2017			
		FC	PC	NC	NA
1.	**Pre-construction stage**				
a.	HSO and Environmental officer	1			
b.	CSC Environment Expert	1			
c.	EMP documentation	1			
d.	GPR study & Baseline survey of heritage structures	1			
2.	**Construction stage – General**				
a.	Traffic management	1			
b.	Safe guarding of heritage structures	1			
c.	Minimum public disturbance		1		
d.	Utility diversion		1		
e.	Safe keeping of heritage findings	1			
3.	**Construction stage – Legal requirement**				
a.	CTE & CTO for batching plant & casting yard	1			
b.	Permission for extraction of ground water			1	
c.	Authorization for storage of hazardous materials			1	
d.	Permission for tunnelling	1			
e.	Emission compliance of vehicles	1			
f.	Permission for felling tress	1			
4.	**Construction stage – Monitoring**				
a.	Air & Noise monitoring	1			
b.	Instrumentation monitoring				1
5.	**Construction stage – Environment protection**				
a.	Tree cutting and transplantation		1		
b.	Air pollution		1		
c.	Noise pollution		1		
d.	Waste management	1			
e.	Spoil/muck disposal	1			

[4] Overall sector environmental management progress could be described in qualitative terms or be evaluated based on a ranking system, such as the following:
1. Very Good
2. Good
3. Fair
4. Poor
5. Very Poor

Additional explanatory comments should be provided as necessary.

Sl. No	Clause/Description	Compliance Status 01.01.2017 – 31.03.2017			
		FC	**PC**	**NC**	**NA**
f.	Landscape & Site aesthetics		1		
6.	**Construction stage – Health & Safety**				
a.	Site Safety	1			
b.	Labour camp condition	1			
c.	Vector borne diseases	1			
d.	SHE reports	1			
	Score	**18**	**6**	**2**	**1**
	Percentage compliance	**67%**	**22%**	**7%**	**4%**

FC – Full Compliance
PC – Partial Compliance
NC – No Compliance
NA – Not Applicable

71. The Contractor has been advised to pursue with the regulatory authorities to obtain permission for extraction of ground water and authorization for storage of hazardous materials. Also, they have been advised to plant new samplings in lieu of damaged transplanted trees.

B. Problems Identified and Actions Recommended

72. During the previous reporting period (October 2016 – December 2016) some of the issues were identified such as follow-up with regulatory / government agencies to get pending approvals/permits, full time environmental specialist by the CSC, proper documentations and record keeping, and information disclosure. However, these issues are still pending.

73. Table 12 present the actions that are proposed in the previous monitoring report and actions taken to address these problems:

Table 12: Status of Actions suggested in previous Monitoring Report

Action Recommended	Measures Taken	Remarks
Follow-up with regulatory / government agencies to get pending approvals/permits.	Consent to Operate (CTO) for batching plant has been obtained from Rajasthan Pollution Control Board. Authorization for storage of hazardous waste also has been submitted to the authority. Permission to extract ground water from CGWA will be pursued.	Expedite process to get pending clearance on priority basis.

74. Finally, according to the field observations and investigations it was able to identify that the most of the environmental requirements are being complied with regulations.

APPENDIX 1: PHOTO LOG OF PROGRESS

View of tunnel towards Badi Chaupar and Chandpole

View of TBM-2

View of cross passage work TBM-1

Lifting Alarm

Labour Camp at Casting Yard

Tally Board system at Chandpole

Soil Excavation at Chhoti Chaupar

Illumination testing

Barricades cleaning

APPENDIX 2: RECORD OF SHE TRAININGS

Details of SHE training conducted in the month of January 2017 to March, 2017

Month of January Training

SN.	DATE	LOCATION	TOPIC	No. of person	REMARKS
1.	03-01-2017	Casting yard	Safe working with Machinery	14	
2.	16-01-2017	Casting yard	Safe working with Hand tools & Power tools	08	
3.	20-01-2017	Casting yard	Fire Fighting	15	
4.	23-01-2017	Casting yard	Eye protection Eye wash cup with stand	19	
5.	24-01-2017	Casting yard	Safety use Machinery	12	
6.	28-01-2017	Casting yard	Labour Welfare measure & legal requirement	20	
7.	30-01-2017	Casting yard	Work at Height	16	
8.	03-01-2017	Chandpole	Lifting Operations	39	
9.	05-01-2017	Chandpole	Right tools for Right job	17	
10.	07-01-2017	Chandpole	Sessional disease precaution & personal Hygiene	26	
11.	07-01-2017	Chandpole	Importance of Safety PPE's	33	
12.	10-01-2017	Chandpole	Road safety	29	
13.	12-01-2017	Chandpole	Scaffolding erection / Dismantling	20	
14.	12-01-2017	Chandpole	Traffic Management	16	
15.	16-01-2017	Chandpole	Scaffolding / work at height	11	
16.	17-01-2017	Chandpole	Electrical inspection	20	
17.	17-01-2017	Chandpole	Permit to work system	27	
18.	18-01-2017	Chandpole	Confined space	10	
19.	19-01-2017	Chandpole	Wire rope inspection	10	
20.	19-01-2017	Chandpole	CPR Training	24	
21.	20-01-2017	Chandpole	Behaviour Base safety management	20	
25.	24-01-2017	Chandpole	Fire Fighting	51	
26.	28-01-2017	Chandpole	Permit to work	32	
27.	31-01-2017	Chandpole	Hand tools & Power tools	20	
28.	06-01-2017	Chhoti Chaupar	Behaviour Base safety management	30	
29.	10-01-2017	Chhoti Chaupar	Permit to work system	28	
30.	11-01-2017	Chhoti Chaupar	Welding work	20	
31.	11-01-2017	Chhoti Chaupar	Scaffolding Erection & Dismantling	21	
32.	12-01-2017	Chhoti Chaupar	Wire Rope Inspection	38	
33.	13-01-2017	Chhoti Chaupar	Fire Fighting	38	
34.	17-01-2017	Chhoti Chaupar	Confined space	33	
35.	18-01-2017	Chhoti Chaupar	Heavy Lifting operation	39	
36.	21-01-2017	Chhoti Chaupar	SHE Emergency preparedness & Response	13	
37.	30-01-2017	Chhoti Chaupar	Power Actuated Hand tool	14	
38.	06-01-2017	Badi Chaupar	Traffic Management	15	
39.	07-01-2017	Badi Chaupar	Fire Fighting	20	
40.	09-01-2016	Badi Chaupar	Wire rope inspection	20	
41.	10-01-2017	Badi Chaupar	Electrical /Crane Inspection	11	

42.	11-01-2017	Badi Chaupar	Lifting & Rigging	11	
43.	13-01-2017	Badi Chaupar	Heavy Lifting operation	07	
44.	17-01-2017	Badi Chaupar	Behaviour Base safety management	15	
45.	20-01-2017	Badi Chaupar	Manually Material Handling	07	
46.	20-01-2017	Badi Chaupar	Mechanical Inspection	11	
47.	27-01-2017	Badi Chaupar	Waste Management system	12	

Month of February Training:

SN.	Date	Location	Topic	No. of person	Remarks
1.	07-02-2017	Casting yard	Rigging	19	
2.	13-02-2017	Casting yard	Safe Procedure of material stacking	11	
3.	13-02-2017	Casting yard	Permit to work	19	
4.	15-02-2017	Casting yard	Industrial First Aid Training	20	
5.	15-02-2017	Casting yard	Traffic Management	15	
6.	17-02-2017	Casting yard	Drug & Alcohol Policy	11	
7.	21-02-2017	Casting yard	Behavior Base safety Management	20	
8.	23-02-2017	Casting yard	Permit to Work System	12	
9.	27-02-2017	Casting yard	Power Actuated Hand tool	8	
10.	03-02-2017	Chandpole	Right tools for Right job	20	
11.	07-02-2017	Chandpole	Importance of Safety PPE's	60	
12	07-02-2017	Chandpole	Behaviour Base safety management	11	
13.	08-02-2017	Chandpole	Fire Fighting	20	
14.	09-02-2017	Chandpole	Confined space Training	10	
15.	09-02-2017	Chandpole	Permit to work system	23	
16.	11-02-2017	Chandpole	Health & Hygiene	29	
17.	12-02-2017	Chandpole	Electrical Hazard	13	
18.	14-02-2017	Chandpole	Waste Management	26	
19.	14-02-2017	Chandpole	CPR Training	16	
20.	18-02-2017	Chandpole	Hot Work	22	
21.	18-02-2017	Chandpole	Industrial First Aid Training	30	
22.	21-02-2017	Chandpole	Fire Fighting	27	
23.	23-02-2017	Chandpole	Waste Management	20	
24.	25-02-2017	Chandpole	Tunnel Hazard	36	
25.	25-02-2017	Chandpole	Scaffolding Erection	10	
26.	04-02-2017	Chhoti Chaupar	Road Safety	06	
27.	08-02-2017	Chhoti Chaupar	Permit to work system	14	
28.	07-02-2017	Chhoti Chaupar	Industrial First Aid & CPR	19	
29.	09-02-2017	Chhoti Chaupar	Concreting Work Safety	20	
30.	09-02-2017	Chhoti Chaupar	Chemical Handling	09	
31.	10-02-2017	Chhoti Chaupar	Manual Material Handling	10	
32.	15-02-2017	Chhoti Chaupar	SHE Emergency preparedness & Response	11	
33.	16-02-2017	Chhoti Chaupar	Scaffolding Erection / Inspection	05	
34.	17-02-2017	Chhoti Chaupar	Industrial First Aid & CPR	35	
35.	18-02-2017	Chhoti Chaupar	Hazard Identification & Risk Analysis	07	
36.	21-02-2017	Chhoti Chaupar	Confined space Training	16	
37.	22-02-2017	Chhoti Chaupar	Power Actuated Hand Tool	21	
38.	23-02-2017	Chhoti Chaupar	Manual Material Handling	10	
39.	24-02-2017	Chhoti Chaupar	Rigging	05	
40.	26-02-2017	Chhoti Chaupar	Hot work & welding & Gas cutting	05	
41.	27-02-2017	Chhoti Chaupar	Material Handling	05	

SN.	Date	Location	Topic	No. of person	Remarks
42.	01-02-2017	Badi Chaupar	Health & Hygiene	20	
43.	03-02-2017	Badi Chaupar	Road Safety	16	
44.	07-02-2017	Badi Chaupar	Safe working around Machinery	07	
45.	10-02-2017	Badi Chaupar	Safe use of Full body Harness	15	
46.	14-02-2017	Badi Chaupar	Labour welfare majors legal Requirement	17	
47.	14-02-2017	Badi Chaupar	Hot Work	12	
48.	15-02-2017	Badi Chaupar	Heavy Lifting Operation	14	
49.	15-02-2017	Badi Chaupar	Fire Fighting	13	
50.	17-02-2017	Badi Chaupar	Hot Work	09	
51.	21-02-2017	Badi Chaupar	Steel Erection & Binding Work	14	
52.	23-02-2017	Badi Chaupar	She Plan	17	
53.	25-02-2017	Badi Chaupar	She Communication	11	
54.	27-02-2017	Badi Chaupar	Industrial First Aid & CPR	19	
55.	27-02-2017	Badi Chaupar	Power Actuated Hand Tool	11	

Month of March Training

SN.	Date	Location	Topic	No. of person	Remarks
01.	03-03-2017	Casting yard	Power Actuated Hand tool	11	
02.	04-03-2017	Casting yard	Emergency mock drill	06	
03.	07-03-2017	Casting yard	Behaviour Base safety	09	
04.	10-03-2017	Casting yard	Rigging	12	
05.	14-03-2017	Casting yard	Wire Rope Inspection	19	
06.	16-03-2017	Casting yard	Permit to work system	07	
07.	21-03-2017	Casting yard	Rigging	16	
08.	23-03-2017	Casting yard	Welding & Cutting	17	
09.	24-03-2017	Casting yard	Waste Management	12	
10.	25-03-2017	Casting yard	Safe Working at site	20	
11.	27-03-2017	Casting yard	Heavy Lifting Operation	10	
12.	27-03-2017	Casting yard	Heat stress	15	
13.	02-03-2017	Chandpole	Right tools for Right job	18	
14.	02-03-2017	Chandpole	Road Safety	20	
15.	06-03-2017	Chandpole	Work at Height	18	
16.	09-03-2017	Chandpole	Electrical Hazard & Precaution	28	
17.	09-03-2017	Chandpole	Hot Work	30	
18.	10-03-2017	Chandpole	Industrial First Aid Training	29	
19.	17-03-2017	Chandpole	Health & Hygiene	37	
20.	17-02-2017	Chandpole	Permit to Work System	13	
21.	18-03-2017	Chandpole	Confined Space	53	
22.	21-03-2017	Chandpole	Emergency Preparedness Plan	20	
23.	22-03-2017	Chandpole	Precaution During The Excavation Work	10	
24.	22-03-2017	Chandpole	Heavy Lifting Operation	11	
25.	23-03-2017	Chandpole	Importance of PPE'S	24	
26.	24-03-2017	Chandpole	Safe Lifting Operation	24	
27.	27-03-2017	Chandpole	Fire Fighting Equipment	21	
28.	28-03-2017	Chandpole	Hot Work	60	
30.	29-03-2017	Chandpole	Heat Stress & Heat Strock	27	
31.	30-03-2017	Chandpole	Waste Management	40	

SN.	Date	Location	Topic	No. of person	Remarks
32.	03-03-2017	Chhoti Chaupar	Power Actuated Hand Tool	16	
33.	03-03-2017	Chhoti Chaupar	Explosive Handling & Control	20	
34.	06-03-2017	Chhoti Chaupar	Fire Fighting	10	
35.	11-03-2017	Chhoti Chaupar	Welding & Gas Cutting	20	
36.	17-03-2017	Chhoti Chaupar	Heavy Lifting Operation	17	
37.	21-03-2017	Chhoti Chaupar	Confined Space Entry	20	
38.	22-03-2017	Chhoti Chaupar	SHE Communication	20	
39.	23-03-2017	Chhoti Chaupar	Scaffolding Erection / Dismantling	13	
40.	24-03-2017	Chhoti Chaupar	Emergency Preparedness & Response	20	
41.	25-03-2017	Chhoti Chaupar	Waste Management System	19	
42.	29-03-2017	Chhoti Chaupar	Permit to Work System	20	
43.	01-03-2017	Badi Chaupar	Emergency Improvement Plan	07	
44.	01-03-2017	Badi Chaupar	Industrial First Aid	20	
45.	03-03-2017	Badi Chaupar	Job Safety Analysis (JSA)	10	
46.	03-03-2017	Badi Chaupar	Work Permit System	11	
47.	06-03-2017	Badi Chaupar	Material Lifting & Shifting	16	
48.	08-03-2017	Badi Chaupar	CPR Training	14	
49.	08-03-2017	Badi Chaupar	Welding & Gas Cutting	11	
50.	08-03-2017	Badi Chaupar	Heavy Lifting Operation	27	
51.	08-03-2017	Badi Chaupar	Crane Inspection	14	
52.	10-03-2017	Badi Chaupar	Fire Fighting	20	
53.	10-03-2017	Badi Chaupar	Labour Welfare Measure & Legal Requirement	13	
54.	18-03-2017	Badi Chaupar	Fire Fighting	19	
55.	22-03-2017	Badi Chaupar	Welding & Gas Cutting	15	
56.	23-03-2017	Badi Chaupar	CPR Training	10	
57.	28-03-2017	Badi Chaupar	She Emergency Response & Preparedness	20	
58.	28-03-2017	Badi Chaupar	Eye Protection	13	

CPR training

Emergency Mock drill Training

Pre Start work training

Training for Full Body Harness
House Keeping

Breath analysis/ Alcohol Testing

House Keeping

 Illumination Monitoring	 First Aid Training Risk Analysis & Environmental Aspect
 Safe work practices	 Traning Conducted

APPENDIX 3: SAMPLE FORMAT OF MONTHLY SHE REPORT

CONTINENTAL ENGINEERING CORPORATION

MONTHLY SAFETY, HEALTH & ENVIRONMENTAL REPORT MARCH- 2017

DOCUMENT No. RP/JMRC/SHE/UG1B/PHOF/033
Revision =00 , Date 08.04.2017

	PREPARED BY	*REVIEWED BY*	*APPROVED BY*
Signature :			
NAME :	PANKAJ KUMAR RAI	MOHA KUMAR SHARMA	DIETER MEYER
DESIGNATION :	*OFFICER SAFETY*	*CHIEF SHE MANAGER*	*PROJECT LEADER*
DATE :	*08April,2017*	*08April,2017*	*08April,2017*

DESIGN AND CONSTRUCTION OF TUNNEL BETWEEN CHANDPOLE AND BADI CHOUPER AND REVERSAL LINE BY SHIELD TBM, UNDERGROUND METRO STATION AT CHOTI CHOUPER AND BADI CHOUPER BY CUT & COVER METHOD ON EAST-WEST CORRIDOR OF JAIPUR METRO (PHASE 1B) AT JAIPUR, RAJASTHAN, INDIA

CONTRACT NO: JP/EW/1B/C1

APPENDIX 4: SAMPLE MONITORING REPORT

EKO PRO

Contact : +91 - 9810243870

EKO PRO ENGINEERS PVT. LTD.

Environmental Consultants and Analytical Laboratory

(An ISO 9001:2008 Certified Company)

Office & Laboratory : 32/41, South Side of G. T. Road, UPSIDC Industrial Area, Ghaziabad - 201 009, UP, INDIA.
Contact No. : 9711159210, 9711159427 E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

TEST REPORT

Ambient Air Quality Monitoring

Test Report No. : EK0/EV-AA/101/250217 **Issue Date** 01/03/2017

Issued To: CEC INTERNATIONAL CORPORATION
Plot No- 860
Village & Post, Keshavpura
Casting Yard Bakhrota, Ajmer Road
Jaipur

Sample Description	Ambient Air
Sample Drawn on	21/02/2017 To 22/02/2017
Sample Drawn by	EPEPL (Mr. Rohitash Rajput)
Sample Received on	25/02/2017
Sampling Location	Near Chandpole Metro Station
Sampling Plan & Procedure	SOP-AAQ/15
Analysis Duration	25/02/2017 To 01/03/2017
Sampling Time	24.0 Hrs.
Ambient Temprature (deg °C)	24.0
Average Flow Rate of SPM (m^3/min)	1.1
Average Flow Rate of Gases (lpm.)	1.0
Weather Conditions	Clear
Remark (if any)	NA

RESULTS

S.No.	PARAMETER	Test Methods	Results	Units	Limits as per EPA*
1	Particulate Matter (PM10)	IS:5182 (P-23)	168.8	µg/m3	100.0
2	SPM	IS:5182 (P-4)	251.6	µg/m3	-
3	Particulate Matter (PM2.5)	SOP-AAQ/89/01	74.2	µg/m3	60.0
4	Sulphur dioxide (as SO2)	IS:5182 (P-2)	14.5	µg/m3	80.0
5	Nitrogen Dioxide (as NO2)	IS:5182 (P-6)	29.1	µg/m3	80.0
6	Carbon Monoxide (as CO)	IS:5182 (P-10) Grab Method	<1.15	mg/m3	4.0
7	Lead (as Pb)	IS:5182 (P-22)	<0.1	µg/m3	1.0

*Details as per EPA-1986 National Ambient Air Quality Standards,date 18.11.2009

End of Report

Notes :

1. The results given above are ralated to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. This test report will not be generated again, either wholly or in part, without written permission of the Laboratory.
3. This test report will not be use for any publicity/legal purpose.
4. This test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.
5. Responsibility of the Laboratory is limited to the invoiced amount only.

For EKO PRO ENGINEERS PVT. LTD.

EKO PRO ENGINEERS PVT. LTD. GHAZIABAD SAVE THE ENVIRONMENT

Authorized Signatory

Page No. 1/1

Analytical Services - Analysis of Environment, Food, AYUSH, Cosmetics, Building Material, Petroleum & Material Samples in the field of Chemical, Mechanical & Biological Disciplines
Consulting Services - EIA, SIA, EC Compliances, DMP, Risk Analysis, Designing of ETP, APCS, RWH Systems, Environmental Audit & other studies, Ground Water & Soil Investigation.

EKO PRO

Contact : +91 - 9810243870

EKO PRO ENGINEERS PVT. LTD.

Analytical Division

(An ISO 9001:2008 Certified Company)

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TEST REPORT

Noise Monitoring

Test Report No. : EKO/EV-NM/105/250217 **Issue Date : 28/02/2017**

Issued To : CEC INTERNATIONAL CORPORATION
Plot No - 860
Village & Post, Keshavpura
Casting Yard Bakhrota, Ajmer Road
Jaipur

Sample Description	:	Ambient Noise
Sample Drawn on	:	21/02/2017 To 22/02/2017
Sample Drawn by	:	EPEPL (Mr. Rohitash Rajput)
Sample Received on	:	25/02/2017
Sampling Location	:	Near Casting Yard
Sampling Plan & Procedure	:	SOP-N/01
Environmental Conditions	:	Normal
Analysis Duration	:	25/02/2017 To 27/02/2017
Remark (if any)	:	NA

S.No.	PARAMETER	TEST METHOD	RESULTS Lday db(A)	LNight db(A)	LIMITS AS PER ENVIRONMENT (PROTECTION) ACT*
1	Leq (24 Hrs.)	SOP-N/94/01	60.4		
2	L Day		63.8	-	75.0
3	L Night		-	52.4	70.0
4	L dn		58.1		
5	L Max (24 Hrs.)		72.4	67.6	
6	L Min (24 Hrs.)		48.6	42.1	
7	L 90		59.2	45.8	
8	L 50		62.4	51.4	
9	L 10		66.8	54.6	

* **Details as per EPA-1986 Ambient Noise Quality Standards, Schedule-III, (Rule-3).**

**** End of Report ****

Notes :

1. The results given above are related to the observed values at the time of monitoring. The customer asked for the above tests only.
2. This test report will not be generated again, either wholly or in part, without prior written permission of the Laboratory.
3. The test report will not be used for any publicity/legal purpose.
4. Responsibility of the Laboratory is limited to the invoiced amount only.

For E. P. E. P. Ltd.

GHAZIABAD

(Authorised Signatory)

EKO PRO

Contact : +91 - 9810243870

EKO PRO ENGINEERS PVT. LTD.

Environmental Consultants and Analytical Laboratory

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Contact No. : 9711159210, 9711159427 E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

TEST REPORT

Water Sample Analysis

Test Report No. : EK0/EV-WA/101/250217 **Issue Date** 01/03/2017

Issued To	CEC INTERNATIONAL CORPORATION Plot No- 860 Village & Post, Keshavpura Casting Yard Bakhrota, Ajmer Road Jaipur
Sample Description	Ground Water
Sample Drawn on	23/02/2017
Sample Drawn by	EPEPL (Mr. Rohitash Rajput)
Sample Received on	25/02/2017
Sampling Location	From Chandpole Metro Station
Sampling Plan & Procedure	SOP-W/66
Sample Quantity	1.0 Litre
Environmental Condition	Normal
Analysis Duration	25/02/2017 To 01/03/2017
Remark (if any)	NA

RESULTS

S.No.	PARAMETER	Test Methods	Result	Units	IS: 10500 : 2012 (Limits)*	
					Acceptable	Permissible
1	Turbidity	IS : 3025 (P-10)	<1.0	NTU	1.0	5.0
2	pH	IS : 3025 (P-11)	7.52	-	6.5-8.5	No relaxation
3	Oil & Grease	IS : 3025 (P-39)	ND	mg/L	-	-
4	Total Dissolved Solids	IS : 3025 (P-16)	710.0	mg/L	500.0	2000.0
5	Total Suspended Solids	IS : 3025 (P-17)	<5.0	mg/L	-	-
6	Conductivity	IS : 3025 (P-14)	1092.6	µs/cm	-	-
7	Dissolved Oxygen	IS : 3025 (P-38)	5.8	mg/L	-	-
8	E.coli	IS : 1622 : 1981	Absent	Per 100 mL	Shall not be detectable in 100ml sample	-

* For details pl see IS : 10500-2012.

Notes :

End of Report

1. The results given above are ralated to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. This test report will not be generated again, either wholly or in part, without written permission of the Laboratory.
3. This test report will not be use for any publicity/legal purpose.
4. This test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer. Sample received for biological tests will be destroyed after 7 days from the date of issue of test report.
5. Responsibility of the Laboratory is limited to the invoiced amount only.

For EKO PRO ENGINEERS PVT. LTD.

EKO PRO ENGINEERS PVT. LTD. GHAZIABAD SAVE THE ENVIRONMENT

Authorized Signatory

APPENDIX 5: MONTHLY REPORT OF HERITAGE CONSULTANT

Sr. No.	Date	Report Details	Remarks
1	2.01.2017	02.01.2017_BC	All Readings are within limit
2	3.02.2017	03.01.2017_BC 03.01.2017_TBM 1 03.01.2017_TBM 2	All Readings are within limit
3	04.01.2017	04.01.2017_BC	All Readings are within limit
4	05.01.2017	05.01.2017_BC	All Readings are within limit
4	06.01.2017	06.01.2017_BC	All Readings are within limit
5	07.01.2017	07.01.2017_BC 07.01.2017_TBM 1 07.01.2017_TBM 2	All Readings are within limit
6	09.01.2017	09.01.2017_BC	All Readings are within limit
7	10.01.2017	10.01.2017_BC 10.01.2017_TBM 1 10.01.2017_TBM 2	All Readings are within limit
8	11.01.2017	11.01.2017_BC	All Readings are within limit
9	12.01.2017	12.01.2017_BC	All Readings are within limit
10	13.01.2017	13.01.2017_BC	All Readings are within limit
11	16.01.2017	16.01.2017_BC	All Readings are within limit
12	19.01.2017	19.01.2017_Cross Pass 01	All Readings are within limit
13	20.01.2017	20.01.2017_Cross Pass 01	All Readings are within limit
14	21.01.2017	21.01.2017_Cross Pass 01	All Readings are within limit
15	23.01.2017	22.01.2017_Cross Pass 01	All Readings are within limit
16	24.01.2017	24.01.2017_Cross Pass 01	All Readings are within limit
17	25.01.2017	25.01.2017_Cross Pass 01	All Readings are within limit

Sr. No.	Date	Report Details	Remarks
1	1.02.2017	1.02.2017_cross Pass 01	All Readings are within limit
2	02.02.2017	02.02.2017_Cross Pass 01	All Readings are within limit
3	03.02.2017	03.02.2017_Cross Pass 01	All Readings are within limit
4	04.02.2017	04.02.2017_Cross Pass 01	All Readings are within limit
5	06.02.2017	06.02.2017_Cross Pass 01 06.02.2017_Cross Pass 02	All Readings are within limit
6	07.02.2017	07.02.2017_Cross Pass 01 07.02.2017_Cross Pass 02	All Readings are within limit
7	08.02.2017	08.02.2017_Cross Pass 01 08.02.2017_Cross Pass 02	All Readings are within limit
8	09.02.2017	09.02.2017_Cross Pass 01 09.02.2017_Cross Pass 02	All Readings are within limit
9	10.02.2017	10.02.2017_Cross Pass 01 10.02.2017_Cross Pass 02	All Readings are within limit
10	11.02.2017	11.02.2017_Cross Pass 01 11.02.2017_Cross Pass 01	All Readings are within limit
11	13.02.2017	13.02.2017_Cross Pass 01 13.02.2017_Cross Pass 02	All Readings are within limit
12	14.02.2017	14.02.2017_Cross Pass 01 14.02.2017_Cross Pass 02	All Readings are within limit
13	15.02.2017	15.02.2017_Cross Pass 01 15.02.2017_Cross Pass 02	All Readings are within limit
14	16.02.2017	16.02.2017_Cross Pass 01 16.02.2017_Cross Pass 02	All Readings are within limit
15	17.02.2017	17.02.2017_Cross Pass 01 17.02.2017_Cross Pass 02	All Readings are within limit
16	18.02.2017	18.02.2017_Cross Pass 01 18.02.2017_Cross Pass 02	All Readings are within limit
17	20.02.2017	20.02.2017_Cross Pass 01 20.02.2017_Cross Pass 02	All Readings are within limit
18	21.02.2017	21.02.2017_Cross Pass 01 21.02.2017_Cross Pass 02	All Readings are within limit
19	22.02.2017	22.02.2017_Cross Pass 01 22.02.2017_Cross Pass 02	All Readings are within limit
20	23.02.2017	23.02.2017_Cross Pass 01	All Readings are within limit

Sr. No.	Date	Report Details	Remarks
1	01.03.2017	01.03.2017_Cross Pass 01	All Readings are within Limit
		01.03.2017_Cross Pass 02	
2	02.03.2017	02.03.2017_Cross Pass 01	All Readings are within Limit
		02.03.2017_Cross Pass 02	
3	03.03.2017	03.03.2017_Cross Pass 01	All Readings are within Limit
		03.03.2017_Cross Pass 02	
4	04.03.2017	04.03.2017_Cross Pass 01	All Readings are within Limit
		04.03.2017_Cross Pass 02	
5	06.03.2017	06.03.2017_Cross Pass 01	All Readings are within Limit
		06.03.2017_Cross Pass 02	
6	07.03.2017	07.03.2017_Cross Pass 01	All Readings are within Limit
		07.03.2017_Cross Pass 02	
7	08.03.2017	08.03.2017_Cross Pass 01	All Readings are within Limit
		08.03.2017_Cross Pass 02	
8	09.03.2017	09.03.2017_Cross Pass 01	All Readings are within Limit
		09.03.2017_Cross Pass 02	
9	10.03.2017	10.03.2017_Cross Pass 01	All Readings are within Limit
		10.03.2017_Cross Pass 02	
10	15.03.2017	15.03.2017_Cross Pass 01	All Readings are within Limit
		15.03.2017_Cross Pass 02	
11	16.03.2017	16.03.2017_Cross Pass 01	All Readings are within Limit
		16.03.2017_Cross Pass 02	
12	17.03.2017	17.03.2017_Cross Pass 01	All Readings are within Limit
		17.03.2017_Cross Pass 02	
13	18.03.2017	18.03.2017_Cross Pass 01	All Readings are within Limit
		18.03.2017_Cross Pass 02	
14	20.03.2017	20.03.2017_Cross Pass 01	All Readings are within Limit
		20.03.2017_Cross Pass 02	
15	21.03.2017	21.03.2017_Cross Pass 01	All Readings are within Limit
		21.03.2017_Cross Pass 02	
16	22.03.2017	22.03.2017_Cross Pass 01	All Readings are within Limit
		22.03.2017_Cross Pass 02	
17	23.03.2017	23.03.2017_Cross Pass 01	All Readings are within Limit
		23.03.2017_Cross Pass 02	
18	24.03.2017	24.03.2017_Cross Pass 01	All Readings are within Limit
		24.03.2017_Cross Pass 02	
19	25.03.2017	25.03.2017_Cross Pass 01	All Readings are within Limit
		25.03.2017_Cross Pass 02	
20	27.03.2017	27.03.2017_Cross Pass 01	All Readings are within Limit
		27.03.2017_Cross Pass 02	

21	28.03.2017	28.03.2017_Cross Pass 01	All Readings are within Limit
		28.03.2017_Cross Pass 02	
22	29.03.2017	29.03.2017_Cross Pass 01	All Readings are within Limit
		29.03.2017_Cross Pass 02	

Observations:

1. All readings are found to be within limit.
2. Site Visit should be planned for review of monitoring process.

APPENDIX 6: CONSENT TO OPERATE LETTER FROM RAJASTHAN STATE POLLUTION CONTROL BOARD

Regional Office Jaipur (S)
Rajasthan State Pollution Control Board
4, Jhalana Institutional Area Jhalana Doongri, Jaipur
Phone: 51[illegible] Fax: 5159699

Registered

File No : **F(Tech)/Jaipur(Sanganer)/2805(1)/2016-2017/2142-2143**
Order No : **2016-2017/Jaipur (S)/6083**
Date: **09/01/2017**
Unit Id : 66141

M/s Contiental Engineering Corporation

Continental Engineering Corporation C/o JMREC City Place
Premises Jalevi Chowk Jaipur , Jaipur Tehsil:Jaipur
District:Jaipur

Sub: **Consent to Operate** under section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974 and under section 21(4) of Air (Prevention & Control of Pollution) Act, 1981.

Ref: Your application for Consent to Operate dated 13/06/2016 and subsequent correspondence.

Sir,

Consent to Operate under the provisions of section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974 (hereinafter to be referred as the Water Act) and under section 21 of the Air (Prevention & Control of Pollution) Act, 1981, (hereinafter to be referred as the Air Act) as amended to date and rules & the orders issued thereunder **is hereby granted** for your **Tunnel Ring Manufacturing Plant plant** situated at **Village Keshavpura Teh Sanganer, Nera Kamla Nehru Floyover, Bhankrota Jaipur Tehsil:Sanganer District:JAIPUR** , Rajasthan, subject to the following conditions:-

1 That this Consent to Operate is valid for a period from **22/08/2016** to **31/07/2031** .

2 That this Consent is granted for manufacturing / producing following products / by products or carrying out the following activities or operation/processes or providing following services with capacities given below.

Particular	Type	Quantity with Unit
READY MIX CONCRETE	By Product	6,000.00 M3/MONTH
Tunnel Rings	Product	2,350.00 PCS PER MONTH

3 That this consent to operate is for existing plant, process & capacity and separate consent to establish/operate is required to be taken for any addition / modification / alteration in process or change in capacity or change in fuel.

4 That the quantity of effluent generation along with mode of disposal for the treated effluent shall be as under:

Regional Office Jaipur (S)
Rajasthan State Pollution Control Board
4, Jhalana Institutional Area Jhalana Doongri, Jaipur
Phone: 5159699 Fax: 5159699

Registered

File No : F(Tech)/Jaipur(Sanganer)/2805(1)/2016-2017/2142-2143
Order No : 2016-2017/Jaipur (S)/6083
Date: 09/01/2017
Unit Id : 66141

Type of effluent	Max. effluent generation (KLD)	Recycled Qty of Effluent (KLD)	Disposed Qty of effluent (KLD)and mode of disposal
Domestic Sewage	6.000	4.000	2.000 Septic Tank and Soakpit

5 That the sources of air emmissions along with pollution control measures and the emission standards for the prescribed parameters shall be as under:

Sources of Air Emmissions	Pollution Control Measures	Prescribed	
		Parameter	Standard
Boiler(150KG/HOUR)	ADEQUATE STACK HEIGHT , Cyclone	--	--
DG SET (1 No.)(225KVA)	ACOUSTIC ENCLOSURE , ADEQUATE STACK HEIGHT	--	--
DG SET (2 No.)(160KVA EACH)	ACOUSTIC ENCLOSURE , ADEQUATE STACK HEIGHT	--	--
DG SET (2 Nos.)(1000KVA EACH)	ACOUSTIC ENCLOSURE , ADEQUATE STACK HEIGHT	--	--
DG SET (3 No.)(125KVA EACH)	ACOUSTIC ENCLOSURE , ADEQUATE STACK HEIGHT	--	--

Regional Office Jaipur (S)

Rajasthan State Pollution Control Board

4, Jhalana Institutional Area Jhalana Doongri, Jaipur

Phone: 5159699 Fax: 5159699

Registered

File No : F(Tech)/Jaipur(Sanganer)/2805(1)/2016-2017/2142-2143

Order No : 2016-2017/Jaipur (S)/6083

Date: 09/01/2017

Unit Id : 66141

19 **That the occupier shall ensure that the noise from the operations in the unit does not exceed the prescribed noise standards for the Residential Area i.e. 55 dB (A) Leq during the day time and 45 dB (A) Leq during the night. The day time is reckoned in between 6:00 a.m. to 10:00 p.m. and the night time is reckoned between 10:00 p.m. to 6:00 a.m.**

20 That, not withstanding anything provided hereinabove, the State Board shall have power and reserves its right, as contained **under section 27(2) of the Water Act and under section 21(6) of the Air Act** to review anyone or all the conditions imposed here in above and to make such variation as it deemed fit for the purpose of **Air Act & Water Act.**

21 That the grant of this **Consent to Operate** is issued from the environmental angle only, and does not absolve the project proponent from the other statutory obligations prescribed under any other law or any other instrument in force. The sole and complete responsibility to comply with the conditions laid down in all other laws for the time-being in force, rests with the industry/ unit/ project proponent.

22 That the grant of this **Consent to Operate** shall not, in any way, adversely affect or jeopardize the legal proceeding, if any, instituted in the past or that could be instituted againt you by the State Board for violation of the provisions of the Act or the Rules made thereunder.

This **Consent to Operate** shall also be subject, besides the aforesaid specific conditions, to the general conditions given in the enclosed Annexure. The project proponent will comply with the provisions of the **Water Act and Air Act** and to such other conditions as may, from time to time , be specified, by the State Board under the provisions of the aforesaid Act(s). Please note that, non compliance of any of the above stated conditions would tantamount to revocation of **Consent to Operate** and project proponent / occupier shall be liable for legal action under the relevant provisions of the said Act(s).

Yours Sincerely

Regional Officer[Jaipur (S)]

Copy To:-

1 Master File.

APPENDIX 7: MUCK DISPOSAL DETAILS

a) Quantity of Muck Disposal:

Quantity of Muck Disposed to dumping ground (January to March 2017)	
Months	**Quantities**
January	14985.066 M^3
February	10228.747 M^3
March	10405.175 M^3

b) No. of trucks used for the same

Number of Trucks used for transporting muck to dumping ground (January to March 2017)	
Months	**Number of Muck Disposal trucks**
January	1065 TRIPS
February	682 TRIPS
March	738 TRIPS

c) Average quantity of muck daily:

Average quantity of muck transported to dumping ground on daily basis (January to March 2017)	
Months	**Average quantity of muck daily**
January	499.502 M3
February	340.958 M3
March	346.839 M3

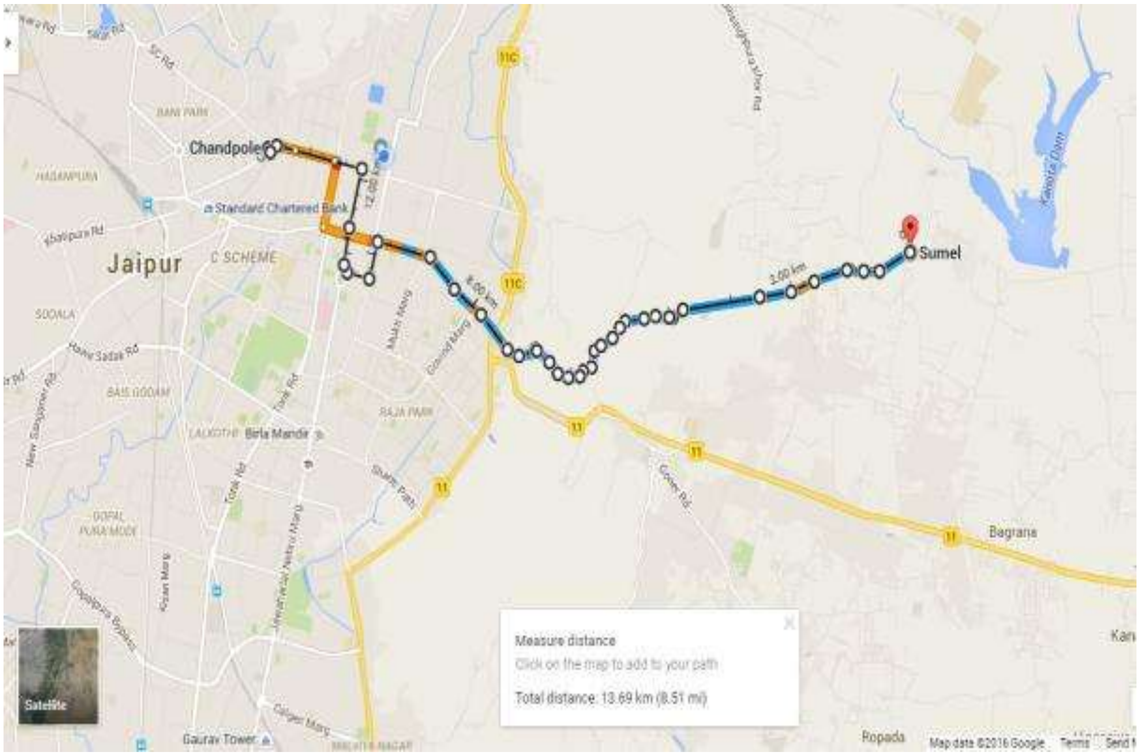
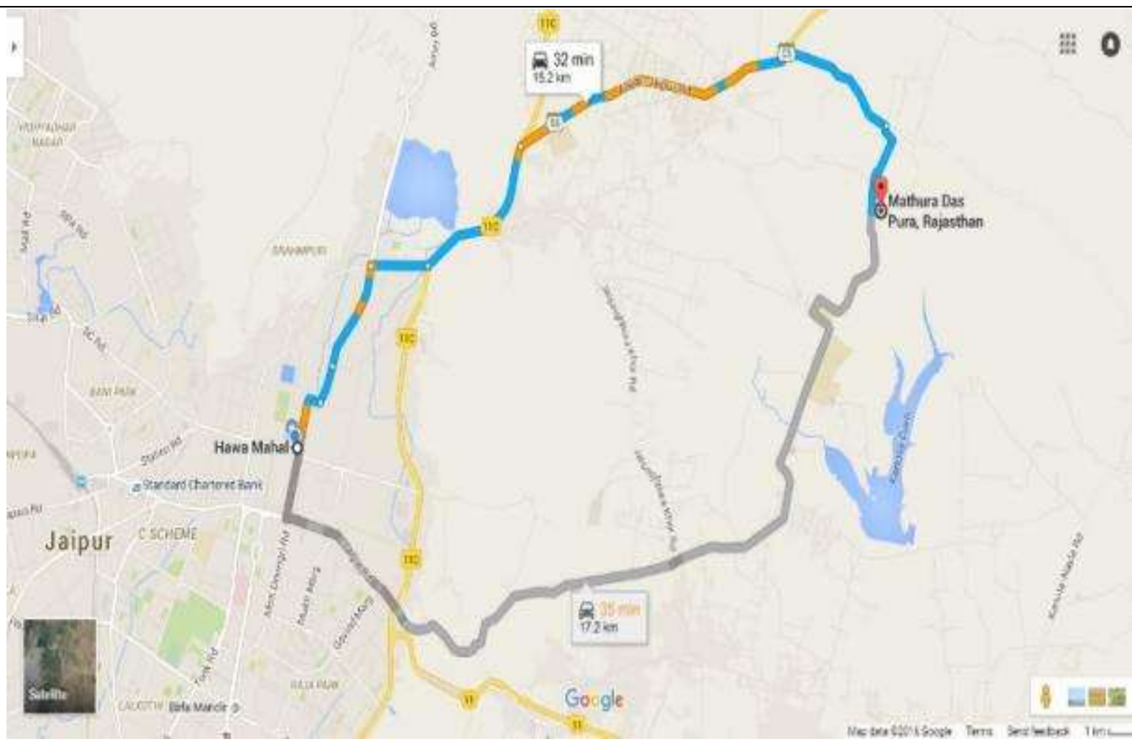
About **22105 ton** muck has been used for Chotti Chauper and Badi Chauper station filling in the reporting quarter.

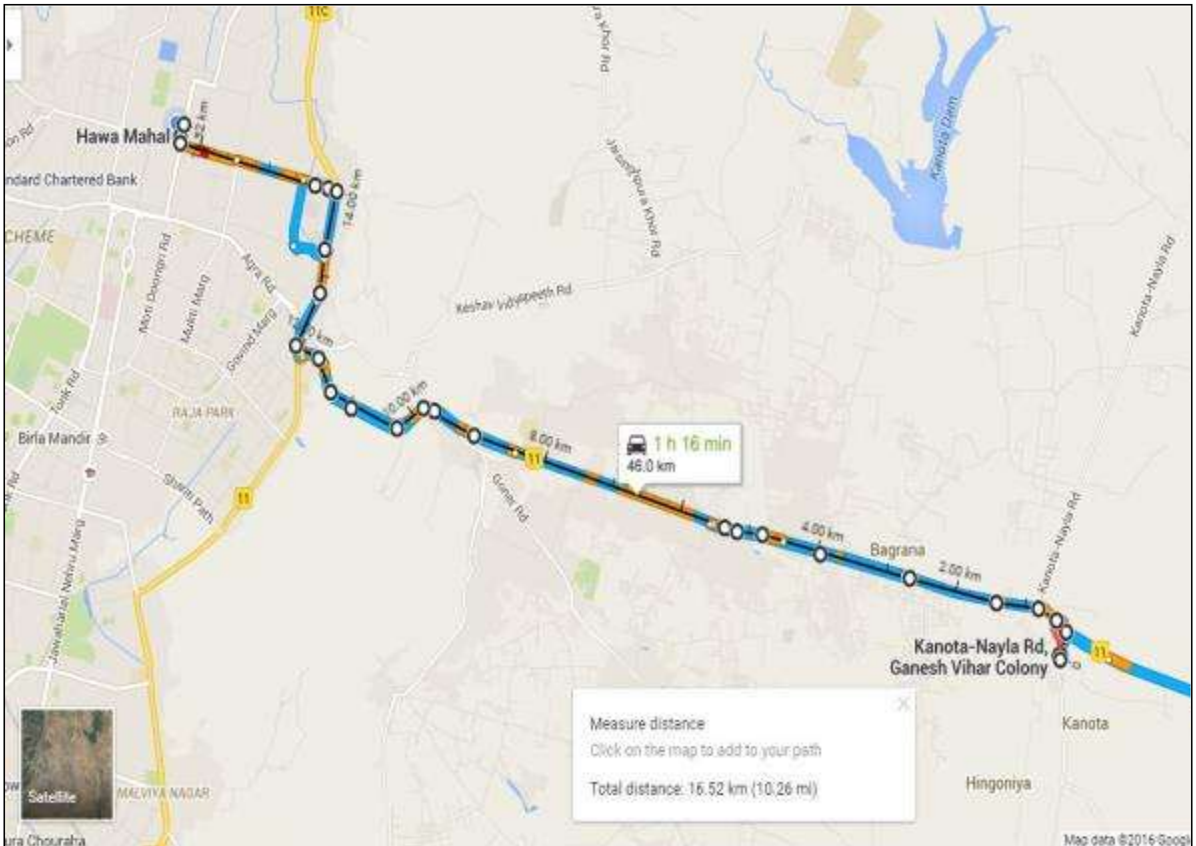
d). Details of disposal site including photographs:

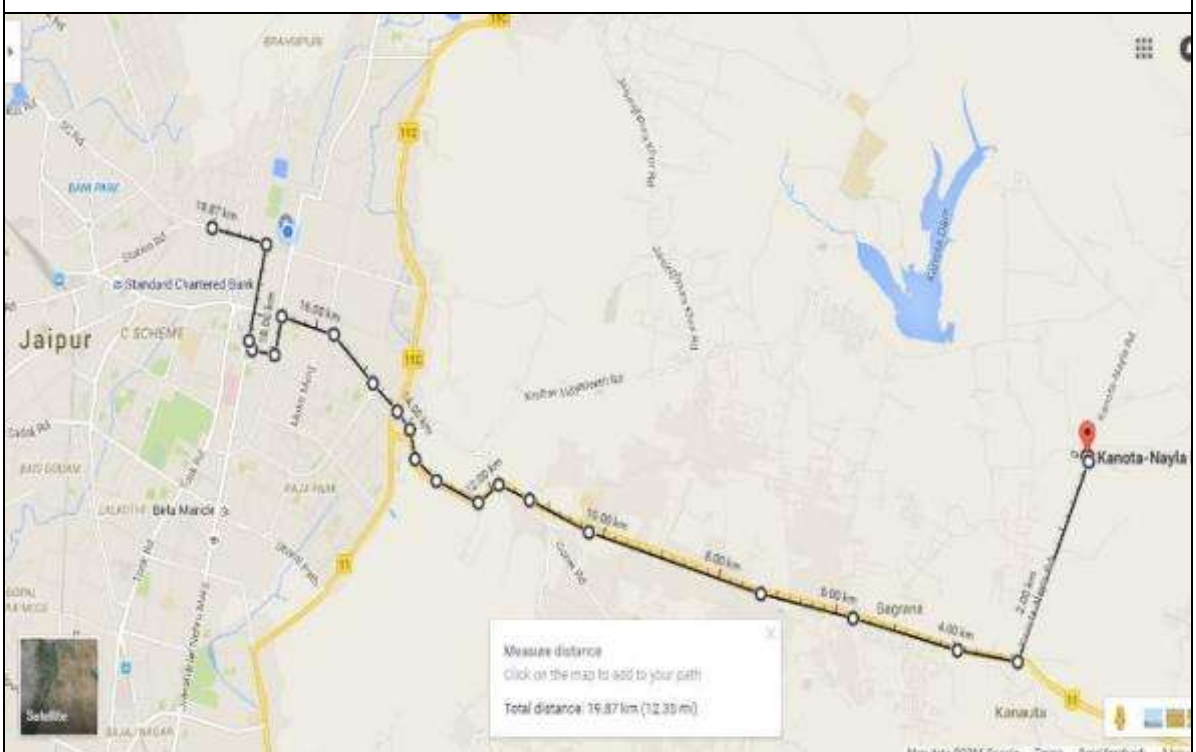
Photographs of disposal (loaded and taken)site		
		
Excavated muck stored in muck pit at	Excavated soil stored at surface	Muck loaded into dumper by L&T Komatsu long boom excavator from muck pit
		
Loaded dumper had reached at wheel washing facilities for tires cleaning	Workers are covering loaded dumper with the tarpaulin.	Due to dry soil tyres are cleaned while leave the site

<table>
<tr><td></td><td></td><td></td></tr>
<tr><td>Cleaning the tyre of Loaded dumper before entering the public road.</td><td>Ready loaded dumpers is going for outside from site.</td><td>Loaded dumper is going through public road for muck disposal.</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>Loaded dumper is going on public road</td><td>Dumping yard of Mathura Daspura</td><td>Dumping yard of Mathura Daspura</td></tr>
</table>

Route Map

Map showing route for muck disposal (Sumel, Mathuradaspura, Govindpura/Ropada& Langariyawas)




Hawa Mahal
Kanota Dam
Bagrana
Kanota-Nayla Rd, Ganesh Vihar Colony
Kanota
Hingoniya
1 h 16 min
46.0 km
Measure distance
Click on the map to add to your path
Total distance: 16.52 km (10.26 mi)
Satellite
Map data ©2016 Googl


Jaipur
Standard Chartered Bank
Kanota Dam
Bagrana
Kanota-Nayla
Measure distance
Click on the map to add to your path
Total distance: 19.87 km (12.35 mi)
Satellite

APPENDIX 8: TREE TRANSPLANTATION DETAILS

	CONTINENTAL ENGINEERING CORPORATION JMRC-1B PROJECT JP/EW/1B/C1	Location: Ghat Ki Ghuni
	List of 1st phase surviving transplanted trees	

Sl No	Previous location	Current Location	year of tree transplantation	Photographs	Remarks
1.	Chhoti Chaupar	Ghat Ki Ghuni	2014		
2.	Chhoti Chaupar	Ghat Ki Ghuni	2014		
3.	Chhoti Chaupar	Ghat Ki Ghuni	2014		Survived

4.	Chhoti Chaupar	Ghat Ki Ghuni	2014		
5.	Chhoti Chaupar	Ghat Ki Ghuni	2014		
6.	Badi Chaupar	Ghat Ki Ghuni	2014		

CONTINENTAL ENGINEERING CORP A MEMBER OF CONTINENTAL HOLDINGS	**CONTINENTAL ENGINEERING CORPORATION** **JMRC-1B PROJECT JP/EW/1B/C1**	**Location:** **Ramnivas Bagh**
	List of 2nd phase surviving transplanted trees	

Sl No	Tree No.	Tree Name	Previous location	Current Location	Date of tree transplantation	Photographs
1.	81	Gulmohar	Badi Chaupar	Ramniwas Garden	09.09.2015	
2	91	Begunvillia	Chhoti Chaupar	Ramniwas Garden	25.8.2015	
3	88	Ashok	Chhoti Chaupar	Ramniwas Garden	03.09.2015	

4	78	Gulmohar	Badi Chaupar	Ramniwas Garden	05.09.2015	
5	67	Ashoka	Badi Chaupar	Ramniwas Garden	07.09.2015	
6	86	Ashoka	Badi Chaupar	Ramniwas Garden	07.09.2015	

7	68	Ashoka	Badi Chaupar	Ramniwas Garden	09.09.2015	
8	76	Ashoka	Badi Chaupar	Ramniwas Garden	10.09.2015	
9	96	Gulmohar	Chhoti Chaupar	Sylvan Bio-diversity forest	26.08.2015	

10	98	Gulmohar	Chhoti Chaupar	Sylvan Bio-diversity forest	26.08.2015	
11.	90	Shahtute	Badi Chaupar	Sylvan Bio-diversity forest	27.08.2015	
12	89	Gulmohar	Badi Chaupar	Sylvan Bio-diversity forest	04.09.2015	

13	94	Bed	Chhoti Chaupar	Sylvan Bio-diversity forest	02.11.2015	
14	108	Pipal	PS Chhoti Chaupar	Sylvan Bio-diversity forest	04.11.2015	
15	146	Shisam	Badi Chaupar	Sylvan Bio-diversity forest	06.11.2015	

Plantation at UG 1B JMRC project site during 46th National Safety week (4th-10th March-2014)

Sr. No.	Plant Photograph	Plant Name	Plant Location	Date of Plantation	Remarks
1.		**Ficus Benjamin**	Project office (PHQ)	8th March, 2017	
2.		**Ficus Benghalensis**	Project office (PHQ)	8th March, 2017	
3.		**Jamun**	Project office (PHQ)	8th March, 2017	

Sr. No.	Plant Photograph	Plant Name	Plant Location	Date of Plantation	Remarks
4.		**Ficus Benjamin**	Project office (PHQ)	8th March, 2017	
5.		**Jamun**	Project office (PHQ)	8th March, 2017	
6.		**Ashok Tree**	Project office (PHQ)	8th March, 2017	
7.		**Ficus religiosa**	Project office (PHQ)	8th March, 2017	

Sr. No.	Plant Photograph	Plant Name	Plant Location	Date of Plantation	Remarks
8.		**Jamun**	Project office (PHQ)	8th March, 2017	
9.		**Ficus Benghalensis**	Project office (PHQ)	8th March, 2017	
10.		**Ficus Benghalensis**	Project office (PHQ)	8th March, 2017	
11.		**Ficus Benghalensis**	Project office (PHQ)	8th March, 2017	

Sr. No.	Plant Photograph	Plant Name	Plant Location	Date of Plantation	Remarks
12.		**Ashok**	Project office (PHQ)	8th March, 2017	
13.		**Jamun**	Project office (PHQ)	8th March, 2017	
14.		**Ficus Benjamin**	Project office (PHQ)	8th March, 2017	

Sr. No.	Plant Photograph	Plant Name	Plant Location	Date of Plantation	Remarks
15.		**Jamun**	Project office (PHQ)	8th March, 2017	
16.		**Ashok**	Project office (PHQ)	8th March, 2017	
17.		**Ficus Benghalensis**	Project office (PHQ)	8th March, 2017	
18.		**Jamun**	Project office (PHQ)	8th March, 2017	

Sr. No.	Plant Photograph	Plant Name	Plant Location	Date of Plantation	Remarks
19.		**Ficus religiosa**	Project office (PHQ)	8th March, 2017	
20.		**Guava**	Project office (PHQ)	8th March, 2017	
21.		**Jamun**	Project office (PHQ)	8th March, 2017	
22.		**Ashok**	Project office (PHQ)	8th March, 2017	

Sr. No.	Plant Photograph	Plant Name	Plant Location	Date of Plantation	Remarks
23.		**Ficus Benghalensis**	Project office (PHQ)	8th March, 2017	

APPENDIX 9: GROUND WATER EXTRACTION PERMISSION IS UNDER PROGRESS

कार्यालय उपजिला कलक्टर एवं मजिस्ट्रेट, जयपुर द्वितीय (सांगानेर), जयपुर

टैली फैक्स: 0141–2731100 ईमेल: sdo2san@gmail.com

क्रमांक: बोरिंग स्वीकृति / 17 / 1058 दिनांक: 5/4/17

सहायक अभियंता
जनस्वास्थ्य अभियांत्रिकी
मानसरोवर ......जयपुर
XI आयुध

विषयः–भूखण्ड सं0 खसरा नं. 860 केशवपुरा भांकरोटा तह0 सांगानेर जयपुर में बोरवेल / नलकूल की अनुमति हेतु बिन्दुवार रिपोर्ट पेश करने बाबत।

प्रसंगः–श्रीमान जिला कलक्टर, जयपुर के पत्रांकः विकास / —1 / नलकूप / 2017 / 7205 दि. 5/12/16 के क्रम में।

उपरोक्त विषयान्तर्गत प्रासंगिक पत्र द्वारा प्रार्थी / ~~प्रार्थिया श्री~~ / श्रीमती Karl Heinz Dieter ~~पुत्र / पुत्रि श्री~~ .... ने अपने भूखण्ड खसरा नं 860 केशवपुरा प्रजापति रोड भांकरोटा जयपुर में बोरवेल / नलकूप खोदने की स्वीकृति चाही है।

अतः आप प्रश्नगत स्थल का मौका निरीक्षण कर निम्नांकित बिन्दुओं की स्पष्ट रिपोर्ट मय अनुमति दिये जाने बाबत मय आपकी स्पष्ट अनुशंषा के 7 दिवस में इस कार्यालय में पेश करना सुनिश्चित करें।

1. बोरिंग / नलकूल निर्माण किस प्रयोजन हेतु करवाया जा रहा है।
2. बोरिंग / नलकूप प्रस्तावित स्थल को चिन्हित करते हुए निर्मित भवन सहित दो फोटो भी भिजवावें।
3. वर्तमान में बोरिंग / नलकूप प्रस्तावित स्थल ऐरिया में पेयजल मांग एवं आपूर्ति का स्पष्ट उल्लेख करें।
4. बोरिंग / नलकूप प्रस्तावित स्थल पर प्रार्थी का स्वयं का मालिकाना हक है अथवा नहीं?
5. बोरिंग / नलकूप प्रस्तावित स्थल पर मकान निर्मित है या नहीं ?

संलग्नः–प्रा0पत्र

o/c

(अशोक कुमार शर्मा)
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क्रमांकः विकास–1/नलकूप( )2016/ 7205

वरिष्ठ भू–जल वैज्ञानिक,
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विषयः– खसरा नं0 860, केशवपुरा, भांकरोटा, जयपुर में बोरवेल/नलकूप की अनुमति चाहने बाबत

द्वाराः– Karl Heinz Dieter Meyer

उपर्युक्त विषयान्तर्गत Karl Heinz Dieter Meyer के द्वारा खसरा नं0 860, केशवपुरा, अजमेर रोड, भांकरोटा, जयपुर में बोरवेल/नलकूप की अनुमति चाहने बाबत अनुरोध किया है। प्राप्त पत्र मूल संलग्न प्रेषित कर लेख है कि आवेदन पत्र को रजिस्टर में दर्ज किया जाकर अंकित तथ्यों एवं उसके द्वारा प्रस्तुत दस्तावेजों की मौके पर जाकर नियमानुसार जांच करना सुनिश्चित करें। जांच करते समय यह सुनिश्चित किया जावे कि आवेदित स्थान उक्त प्रार्थी की सम्पत्ति हो। प्रकरण में समस्त जांच रिपोर्ट नियमों के साथ टिप्पणी सहित कमेटी में आवश्यक निर्णय हेतु रखी जावे। कमेटी द्वारा पारित निर्णय से आवेदक को एवं इस कार्यालय को भी अवगत कराया जावे।

आवेदक को कमेटी द्वारा बोरवेल खोदने की अनुमति दी जाती है तो आवेदक से निर्धारित समयावधि में अनिवार्य रूप से वाटर हार्वेस्टिंग का निर्माण निर्धारित डिजाईन अनुसार कराने के संबंध में शपथ पत्र प्राप्त किया जावे। शपथ पत्र में आवेदक से यह शपथ भी ली जावे कि वह प्राप्त अनुमति तथा नियमों के विरूद्ध कोई कार्यवाही नहीं करेगा। नियम विरूद्व कार्य करने पर वह स्वंय उसके लिए जिम्मेदार होगा तथा सरकार द्वारा जो भी दण्ड या जुर्माना किये जाने पर उसको स्वीकार करेगा। कमेटी द्वारा पारित निर्णय का उल्लघंन न हो इस हेतु दी गई अनुमति के तहत किये गये कार्यों का निरीक्षण भी आपके विभाग द्वारा किया जावे।

संलग्नः–उपरोक्तानुसार (मूल)

(श्याम सिंह शेखावत)
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क्रमांकः विकास/नलकूप ( )2016/7206–07

प्रतिलिपिः–

1. उपखण्ड अधिकारी, सांगानेर को प्रेषित कर लेख है कि प्रकरण में मौके की जांच एवं पानी की आवश्यकता के संबंध में जांच कर रिपोर्ट के साथ मौके पर बने हुऐ भवन की फोटो आवेदक से प्राप्त कर प्रकरण अपनी टिप्पणी सीधे ही वरिष्ठ भूजल वैज्ञानिक भू–जल विभाग 72,बी झालाना डूंगरी जयपुर को प्रेषित करते हुए एक प्रति इस कार्यालय को भी भिजवाये। संलग्नः–उपरोक्तानुसार।
2. Karl Heinz Dieter Meyer खसरा नं0 860, केशवपुरा, अजमेर रोड, भांकरोटा, सांगानेर, जयपुर को सूचनार्थ प्रेषित है।

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