

# Punjab Cities Program

## Detailed Design of Infrastructure Sub-Projects, Sectoral Planning & Resident Supervision in 16 Cities of Punjab

Ref: MMP/PMDFC/1076/COM/339/2022

Date: 06 December 2022

**Mr. Syed Zahid Aziz**

Managing Director, PD PCP

Punjab Municipal Development Fund Company (PMDFC)

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**Subject: Updated Draft PC-I for Improvement of Road from Tank to Harinwala Chowk, Okara (M. A. Jinnah Road) Okara City - Package-V**

Dear Sir,

Please refer to observations raised by the MC Okara received through WhatsApp. They have sent observations on the Draft PC-I submitted to PMDFC costing PKR 178.32 Million vide our letter No. MMP/PMDFC/1076/310/2022 dated 24 November 2022.

Para wise comments appended below: -

1. Removal of Tack coat.
2. Formatting of BOQ.
3. Earth work rates updated from MRS 2nd Bi-Annual.
4. Update Non Schedule item of Electrical work to Schedule item.
5. Update thickness of drain wall.
6. Update Asphalt thickness from 2 inch to 3 inch.

After incorporating a/m observations, kindly find enclosed the copy of the **Updated Draft PC-I Costing PKR 197.60 Million for the project "Improvement of Road from Tank to Harinwala Chowk, Okara (M. A. Jinnah Road) Okara City"** under PCP Package-V.

This deliverable is submitted under **Consultancy Agreement Clause Appendix A, V, Serial No.2 c of Package-V** for your review and further necessary action, please.

Assuring you of our best technical services and cooperation at all times.

Yours faithfully,

**Brig Pervez Hayat Niazi (R)**

Team Leader Package-V

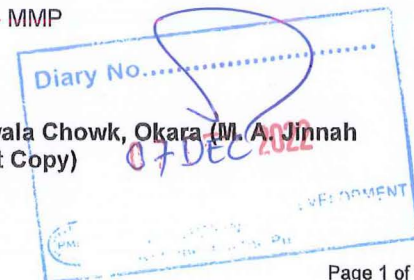
MMP – PCP

Cc:

- Iftikhar Rasool, Deputy Project Director, PMDFC
- **Muhammad Ashiq Chuadhry**, Senior Program Officer, PMDFC
- Malik Ahsan Gulzar, Manager Projects, Associates in Development (Pvt.) Ltd.
- Dr. Javed Iqbal, Project Director, PCP – MMP
- Syed Aslam Sabzwari, W&W Head, PCP – MMP
- Tanvir Masud, Contract Specialist, PCP – MMP
- The Chief Officer, Municipal Committee Khanewal
- Muhammad Abdullah, Senior Engineer Transportation, PCP – MMP
- Zubair Qadir, Field Coordinator, PCP – MMP
- Master File MMP- PCP

Encl:

- i. **Draft PC-I for Improvement of Road from Tank to Harinwala Chowk, Okara (M. A. Jinnah Road) Okara City - Package-V (01 Hard Copy and 01 Soft Copy)**



Page 1 of 1

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**DRAFT**

**Local Government & Community Development  
Department**



**Punjab Cities Program  
PC-I Form**

**For**

**IMPROVEMENT OF ROAD FROM TANK TO HARINWALA  
CHOWK, OKARA (M. A. JINNAH ROAD)**

**Estimated Cost 197.6 Million PKR**

**December 2022**

**Municipal Committee Okara**



**Punjab Cities Program**  
**PC-I Form IMPROVEMENT OF ROAD FROM TANK TO HARINWALA**  
**CHOWK, OKARA (M. A. JINNAH ROAD)**  
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**PC-I FORM**  
for  
**IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK,  
OKARA (M. A. JINNAH ROAD)**

**Project Serial Number**

**Sector : Local Government & Community Development Department**

**Sub Sector : Social**

<b>1. Name of the project</b>	<b>Punjab Cities Program</b> 1. Improvement of Road from Tank to Harinwala Chowk, OKARA (M. A. JINNAH ROAD)		
<b>2.Location</b>	Okara is 127 Km south west of Lahore. The city coordinates are 30-8138' North latitude, and 73-4534' East longitude. Location map of the city is attached in <b>Annexure-A</b>		
<b>3. Authorities responsible for</b>			
I- Sponsoring	Government of the Punjab (through World Bank funding)		
ii- Execution	District Council Unit Okara		
iii- Operation and Maintenance	District Council Unit Okara		
iv-Concerned Provincial Department	Local Government and Community Development Department Punjab		
<b>4a.Plan Provision</b>			
i. If the project is included in medium term/five year plan, specify actual allocation	Punjab Cities Program (PCP) is a World Bank funded Program with a total cost of 236.00 million USD and comprises of below mentioned components.		
	Total loan from World Bank	200.00 million USD	
	Component-1 Infrastructure development (PforR)	180.00 million USD	
	Component-2 Technical Assistance	20.00 million USD	
	MCs share (20% of PforR component) equivalent to:	36.00 million USD	
	Total Program cost	236.00 million USD	
Component-2 i-e Technical Assistance component of Program costing 20.00 million USD is meant for management cost of the Program and capacity building of MCs & Government Departments			

	and is included in the medium term/ five year plan and has been funded now in ADP 2022-23 - under General Serial No-1769 with allocation of PKR 100.00 million as foreign component.
ii- If not included in the current plan, what warrants its inclusion and how it is now proposed to be accommodated	Not applicable
iii If the project is proposed to be financed out of block provision indicate.	The Project is being financed by World Bank as Donor along with 20% co-financing from the Program Units and is not proposed to be financed out of Block Allocation.
4b- Provision in the current year PSDP/ADP	Rs.100.00 million under ADP 2022-23 General Serial No 1769 for Component-2 of the Program i-e Technical Assistance as described above.
5. Project objectives and its relationship with sector objectives	<p><b><u>Sector Objectives</u></b> The sector objectives include:</p> <ol style="list-style-type: none"> <li>1. Provision of efficient and effective municipality services to the masses.</li> <li>2. Community development through improving basic infrastructure.</li> <li>3. Clean and green environment for better living standards.</li> <li>4. Ease in mobility and communication.</li> <li>5. Capacity building of Local Governments.</li> </ol> <p><b><u>Objectives of the Project</u></b> The Main objective of project is to improve the quality of roads / streets leading to enhance quality of life of residents of the area and safety for pedestrians and traffic.</p> <p>The Project has the following objectives;</p> <ol style="list-style-type: none"> <li>1. Improvement of service delivery level of the municipal services in the sector of communication.</li> <li>2. Better travelling facilities for the commuters.</li> <li>3. Reduction in road accidents.</li> <li>4. Saving in travelling and repair cost of the vehicles.</li> <li>5. Reduction in annual maintenance charges of roads and parks</li> <li>6. Improvement in environments of the city making them livable.</li> <li>7. Improvement in local and province economy.</li> </ol>



	<p>8. Improvement in the economic growth potential of the city.</p> <p>Hence, the objectives of the project are in line with the sector objectives mentioned at Sr. No-1, 2, 3 and 4 above and the project forms integral part of the concerned sector.</p>
<b>6. Description, justification, technical parameters and technology transfer aspects</b>	
i)Description	Improvement and widening of existing Roads with allied drainage Works at Okara district.
ii)Justification	<p>There are a lot of areas of Okara District where Roads have been constructed in past years. Due to various activities for installation of utilities in these areas the condition of the areas highlighted by district council, Okara has been deteriorated and needed immediate attention to improve the vehicles/ Pedestrian traffic to ease out the public at large in the area. The same shall also enhance the quality of life and improve area environment also.</p> <p>Presently the roads taken in the project are in miserable condition and show problems regarding surface riding quality, surface drainage and aesthetics. The reconnaissance and detailed surveys were done to identify the condition of existing infrastructure quality and suggest remedial measures to improve the condition of roads pointed out by the client. About 04 Nos of roads were surveyed and the detailed x-sections were developed for different width of road and pavement design.</p> <p>Providing technical parameters and discuss technology aspect of the project</p>
iii)Technical Parameters	<ul style="list-style-type: none"> <li>• Sub – Grade compaction to act as levelling layer.</li> <li>• Sub – Base 6 to 8 inches compacted.</li> <li>• Base course 6 inches compacted</li> <li>• Pre-mixed Wearing course with binding coats</li> <li>• Kerb stone is provided as protection of the edges</li> <li>• 7000 Psi Tuff Pavers of approved quality 80mm thick with Sand bedding 2" to 3".</li> </ul>
iv) Detail of civil works, equipment & machinery and other physical facilities	<p>Location of Okara city area highlighted by the client.</p> <p>The detail of roads to be improved, rehabilitated or constructed in the city, is attached in <b>Annexure-B</b></p>

v) Indicate governess issues of the sector relevant to the project and strategy to resolve them	<ul style="list-style-type: none"><li>• The smooth sailing of the Punjab Cities Program can only be assured when the required staff for maintenance is available with Okara Unit.</li><li>• The Repair and maintenance of the municipal services seem to be not up to the mark in the Unit. Trainings will be imparted by PMDFC to the officers as well as the field staff under the Program but practicing the interventions and method/procedures learnt in these trainings is the actual requirement in which Units are lacking at present. The same are to be given due considerate for improving the delivery level.</li></ul>		
7- Capital Cost of Project	The summary of the works included in the project is given below;		
	S. No	Description	Total Cost ( PKR)
	Road Works		
	1	Improvement of Road from Tank Chowk to Harinwala Chowk	Rs 163,783,884
	Installation of Street Lights		
	2	Improvement of Road from Tank Chowk to Harinwala Chowk	Rs 13,991,456
	Sump well & Pumping Chamber		
	3	Sump well And at top Pumping Chamber and Pumping Machinery,Electric Connection	Rs 5,347,644
		Total cost	Rs 183,122,984
		Contingencies @2%	Rs 3,662,460
		Punjab Sales Tax & 5%	Rs 9,156,149
		Environment Impact Assessment Cost	Rs 1,658,000
		GRAND TOTAL (RS)	Rs 197,599,593
		Say Rs (Million)	Rs 197.6
		See Annexure-B for details	
i- Indicate date of estimation of the project cost	The project estimates have been framed during the month of December, 2022		

ii- Basis of determining the estimates be provided.	The cost estimates have been framed on the basis of bill of quantities actually measured at site and unit rates from the Market Rate System (MRS) issued by the Government of Punjab (District Okara 2 <sup>nd</sup> biannual of year 2022). For items not available in the MRS, the same have been analyzed as per prevailing market rates.											
iii- Provide year wise estimation of physical activities	<div>The physical and financial requirements, year wise are included in the following table:</div> <table><tr><th>S. #</th><th>Name of road</th><th>Year 2022-23</th></tr><tr><td>1</td><td>Improvement of Road from Tank Chowk to Harinwala Chowk (M. A. JINNAH ROAD)</td><td>100%</td></tr><tr><td>2</td><td>Contingencies, taxes and other items</td><td>100%</td></tr></table>			S. #	Name of road	Year 2022-23	1	Improvement of Road from Tank Chowk to Harinwala Chowk (M. A. JINNAH ROAD)	100%	2	Contingencies, taxes and other items	100%
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1	Improvement of Road from Tank Chowk to Harinwala Chowk (M. A. JINNAH ROAD)	100%										
2	Contingencies, taxes and other items	100%										
iv- Phasing of capital cost on the basis of each item of work.	The phasing of capital cost of the project is included in the following table: (All figures are in million rupees)											



	<b>S. No</b>	<b>Description</b>
		<b>Total Cost ( PKR)</b>
	<b>Road Works</b>	
	1	Improvement of Road from Tank Chowk to Harinwala Chowk
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		<b>GRAND TOTAL (RS)</b>
		<b>Rs 197,599,593</b>
	<b>Say Rs (Million)</b>	
		<b>Rs 197.6</b>
	See <b>Annexure-B</b> for details	
<b>8-Annual recurrent cost after completion of the project and source of financing</b>	The roads are already being repaired and maintained by the District Council Unit Okara out of its own financial resources. No additional cost will be required after completion of the improvement and upgradation of the roads, rather the repair cost will be reduced for the initial years. However, the efficiency of the infrastructure and service delivery level will be improved after completion of the project.	
<b>9- Demand &amp; Supply Analysis</b>	<b>B. Existing supply level</b>	
i- Existing Capacity of services	The roads are in much deteriorated condition which are hampering the mobility of residents.	
ii- Projected Demand for 10 years	1. Improvement of Road from Tank Chowk to Harinwala Chowk (M. A. Jinnah Road)	

iii- Capacity of other similar projects being implemented in public/private sector	No other project of similar nature is being executed in city at present.												
iv- Supply and Demand gaps	<p>The roads are old and condition is deteriorated due to a number of maintenance and construction operation for different utility departments.</p> <p>The construction/ rehabilitation is needed to bring the area to a good condition of roads by strengthening the existing structure using sub – base , base and wearing courses has been conceived by the client also for this purpose. This PC-1 is prepared keeping into consideration, above requirement.</p>												
v-Designed capacity and output of the project	Roads having total Length of 3,352 Rft. shall be designed for about ten year's life with minimum O&M cost.												
<b>10. Financial Plan</b> <b>Sources of financing</b> <u>Debt</u> a) Indicate the local and foreign debt Loan	<p>Below given loan for the Punjab Cities Program has been funded by World Bank for 16 PCP cities in Punjab.</p> <table border="1"> <tr> <td>Total loan to Government of Pakistan/Punjab</td><td>200 million USD</td></tr> <tr> <td>Component-1 for Infrastructure Development</td><td>180 million USD</td></tr> <tr> <td>Component-2 for Investment Project Financing For capacity building of MCs &amp; three Govt. organization and program management.</td><td>20 million USD</td></tr> <tr> <td>20% share of Municipalities is equivalent to</td><td>36 million USD</td></tr> <tr> <td>Total funds available for Infrastructure Development</td><td>216 million USD</td></tr> <tr> <td colspan="2">This project will be funded under this financing.</td></tr> </table>	Total loan to Government of Pakistan/Punjab	200 million USD	Component-1 for Infrastructure Development	180 million USD	Component-2 for Investment Project Financing For capacity building of MCs & three Govt. organization and program management.	20 million USD	20% share of Municipalities is equivalent to	36 million USD	Total funds available for Infrastructure Development	216 million USD	This project will be funded under this financing.	
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20% share of Municipalities is equivalent to	36 million USD												
Total funds available for Infrastructure Development	216 million USD												
This project will be funded under this financing.													
b) Equity	<p><b>A. Loan/grant to MC</b></p> <p>The amount of loan converted to grant to Okara Unit will be Rs 197.6 million (cost of the PC-I). The financing of the project will be as given below:</p> <table border="1"> <tr> <td>Grant to Unit for the year 2021-22 (80% of cost of PC-I) worked out</td><td>PKR 158.08 million</td></tr> <tr> <td>20% Co-finance by MC (20% of the cost of PC-I) worked out</td><td>PKR 39.52 million</td></tr> <tr> <td>Total available funds (Total cost of PC-I) worked out</td><td>PKR 197.6 million</td></tr> </table> <p><b>B. Project Cost 197.6 Million PKR</b></p>	Grant to Unit for the year 2021-22 (80% of cost of PC-I) worked out	PKR 158.08 million	20% Co-finance by MC (20% of the cost of PC-I) worked out	PKR 39.52 million	Total available funds (Total cost of PC-I) worked out	PKR 197.6 million						
Grant to Unit for the year 2021-22 (80% of cost of PC-I) worked out	PKR 158.08 million												
20% Co-finance by MC (20% of the cost of PC-I) worked out	PKR 39.52 million												
Total available funds (Total cost of PC-I) worked out	PKR 197.6 million												

		*The loan is from World Bank to Government of Pakistan/Punjab which will trickle down to Okara Unit as grant.
c) Grants		No grant is being given by Government of Punjab out of ADP funds. The World Bank loan to Government of Pakistan/Punjab will trickle down as grant to MC from Government of Punjab.
d) Weighted cost of capital		Nil
<b>11-Project benefits and analysis</b>		
i. Financial: Income to the project with assumption		(Attached Economic Analysis, Cost benefit ratio and Sensitivity Analysis as <b>Annexure-C</b> )
ii. Social benefits to the target group		(Attached at <b>Annexure-E</b> )
iii. Environmental Impact negative/positive		(Attached at <b>Annexure-E</b> )
iv. Quantifiable project outputs		(Attached at <b>Annexure-C</b> )
v. Unit cost analysis		Unit cost of construction shall be Rs. 58,949.76 per Rft (Rs <b>197,599,593</b> / 3,352 / ft)
vi. Employment generation (direct and indirect)		<p><b><u>Employment Analysis</u></b></p> <p><b>Direct Employment</b></p> <p><b>a) Planning and Design of projects</b></p> <p>The planning and design of the project has been entrusted to local consultants who have appointed staff and experts in road and related disciplines along with their support staff. The consultants will also appoint their staff for resident supervision of the project to verify and certify the items of works to be executed under this PC-I.</p> <p><b>b) Execution of the Project</b></p> <p><b>a) PMDFC</b></p> <p>PMDFC has the project monitoring and supervisory role and the company has enough experts and staff to complete this assignment. PMDFC has already deployed under mentioned staff for these projects:</p> <ul style="list-style-type: none"> <li>• Civil Engineers</li> <li>• Accounts, administration and audit personnel</li> <li>• Urban planners</li> </ul>



	<ul style="list-style-type: none"> <li>• GIS experts</li> <li>• Support staff like computer operators, vehicle drivers, office boys and guards.</li> <li>• Procurement experts</li> <li>• Communication experts</li> <li>• Environmental and social experts</li> <li>• Contract management experts</li> </ul> <p><b>b) Consultants</b> PMDFC has employed consultants for detailed design and resident supervision of the projects who will deploy their staff for execution of the project.</p> <p><b>c) Municipality</b> Okara Unit has regular staff like engineers, sub engineers and other administrative &amp; accounts keeping staff which will be responsible for execution of the project and contract management. No additional staff will be needed for execution of this project</p> <p><b>d) Contractor</b> The contractor responsible for execution of the sub project will employ skilled and un-skilled labor on this work.</p> <p><b>Indirect Employment</b> Indirect employment for production of material such as cement, steel, stone metal, bitumen, bricks etc. will be generated.</p>
vii. Impacts of delays on project cost and viability	<p>The impact of delay in project implementation will;</p> <ul style="list-style-type: none"> <li>• Result in increased project cost due to escalation in cost of material and labor.</li> <li>• Delay the benefits to the target group</li> <li>• Result in further deterioration of the infrastructure and the service delivery level.</li> </ul>
<b>12-Implementation Schedule</b>	
a) Indicate starting and completion date of the project	The project is anticipated to commence by December 2022 and to be completed by the end of financial year 2022-2023 i.e. May,2023

b) Item wise/year wise schedule in line chart	The chart is attached as <b>Annexure – D</b>
<b>13- Management Structure and manpower requirements</b>	
i. Administrative arrangements for the implementation of the project	<p><b>i. Planning &amp; design of the project</b> The project has been designed by the consultants employed by PMDFC and will also carry out the resident supervision of the project.</p> <p><b>ii. Preparation of cost estimation</b> The cost estimates have been prepared by the MM Pakistan (PVT) Ltd. The execution of the items of works included in these estimates /PC-I will be certified by these consultants.</p> <p><b>iii. Execution of the project</b></p> <ul style="list-style-type: none"> <li>• The project will be executed by District Council Unit Okara and supervised by the Consultants appointed by PMDFC in resident supervision mode. The technical staff &amp; experts in PMDFC will oversee, co-ordinate and collaborate in the project planning, design and implementation through their experts in head office located in Lahore and regional offices. The reporting of progress to LG &amp; CDD &amp; World bank and troubleshooting will also be responsibility of PMDFC.</li> <li>• MO (I&amp;S) of the Unit has been designated as Project Manager /Engineer in Charge of the project. The supervision of the works will also be carried out by these municipal officers along with their support engineering staff. All supervisory staff is available with MC.</li> <li>• The procurement of works and goods will be done by Procurement Committee of Okara Unit as per PPRA Rules.</li> </ul>

	<p><b>iv. Verification of quantities included in PC-Is and Resident Supervision of the works by consultants</b></p> <p>The works will be supervised by Supervision Consultants in resident supervision mode by assuring the quantity and quality of works. The consultants will verify the items of work and their quantities contained in the PC-Is and cost estimates initially and then the quantities and quality of works included in the contractor claims at the stage of payments. Payments will be made by the Unit after these contractor claims have been entered in the measurement books by the Resident Engineer in Charge and pre audited as per LG Works Rules.</p>																												
ii- The manpower requirements by skills during execution and operation of the project and; The job description, qualification, experience, age and salary of each post	<p><b>a) PMDFC experts and staff</b></p> <p>For rendering assistance in implementation of infrastructure projects in 16 MCs, PMDFC has the experts and staff in the required fields. In order to facilitate the Program Units, three regional offices have been established by PMDFC at Gujranwala, Faisalabad and Multan/Okara.</p> <p><b>b) Resident Supervision Consultants</b></p> <p>The project will be supervised by consultants. The tentative staff to be employed/deployed by the consultants for the certification of quantities of works and resident supervision of the project is given below.</p> <table><tr><th>S #</th><th>Personnel</th><th>Nos</th><th>Qualification</th></tr><tr><td>1</td><td>Chief Resident Engineer/Team Leader</td><td>01</td><td>BSc;/BE in Civil engineering with minimum 20 years' professional experience or MSC; Civil Engineering/Public Health Engineering/Environmental Engineering with Bachelor in Civil Engineering and minimum 15 years, experience, with 5 years on similar assignments in both cases</td></tr><tr><td>2</td><td>Senior Engineer</td><td>01</td><td>BSc/BE Civil engineering with minimum 08 years' relevant design experience or MSc engineering, with 5 years on similar assignments in both cases</td></tr><tr><td>3</td><td>Resident Engineer</td><td>01</td><td>BSc; /BE Civil engineering with minimum 10 years' experience in site supervision and execution for projects of similar nature.</td></tr><tr><td>4</td><td>Assistant Resident Engineer</td><td>01</td><td>Bachelor Degree in Civil engineering with minimum 8 years' experience in site supervision and execution for projects of similar nature</td></tr><tr><td>5</td><td>Site Inspectors</td><td>01</td><td>DAE in Civil with minimum 10 years' experience in site supervision for projects of similar nature</td></tr><tr><td>6</td><td>Quantity Surveyor</td><td>01</td><td>DAE in Civil Technology with minimum 10 years' experience in estimation &amp; costing of</td></tr></table>	S #	Personnel	Nos	Qualification	1	Chief Resident Engineer/Team Leader	01	BSc;/BE in Civil engineering with minimum 20 years' professional experience or MSC; Civil Engineering/Public Health Engineering/Environmental Engineering with Bachelor in Civil Engineering and minimum 15 years, experience, with 5 years on similar assignments in both cases	2	Senior Engineer	01	BSc/BE Civil engineering with minimum 08 years' relevant design experience or MSc engineering, with 5 years on similar assignments in both cases	3	Resident Engineer	01	BSc; /BE Civil engineering with minimum 10 years' experience in site supervision and execution for projects of similar nature.	4	Assistant Resident Engineer	01	Bachelor Degree in Civil engineering with minimum 8 years' experience in site supervision and execution for projects of similar nature	5	Site Inspectors	01	DAE in Civil with minimum 10 years' experience in site supervision for projects of similar nature	6	Quantity Surveyor	01	DAE in Civil Technology with minimum 10 years' experience in estimation & costing of
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6	Quantity Surveyor	01	DAE in Civil Technology with minimum 10 years' experience in estimation & costing of																										

				projects of similar nature. The person having public sector projects will be preferred.
	7	AutoCAD Operator	01	DAE in Civil Technology with minimum 5 years' experience in preparation of drawings for projects of similar nature. (situated at Lahore office)
	<p><b>c) Contractor's Technical staff, skilled &amp; non skilled labor</b></p> <p>The contractors will employ the supervisory technical staff and skilled &amp; non skilled labor for execution of works. The works will be supervised by experienced Engineers and sub engineers and the number of slots for engineers and skilled and non-skilled will depend upon the type and quantity of work and its period of completion.</p> <p><b>d) Repair &amp; maintenance of the project</b></p> <p>MC has its own regular staff which has been deployed for Repair and maintenance of the municipal services infrastructure. However, it has been observed that the existing staff is not adequate to repair and maintain the services in a manner which can give good service delivery. Hence it is proposed to;</p> <ul style="list-style-type: none"> <li>• Fill up the presently vacant slots</li> <li>• Recruit additional staff as per need of the infrastructure after obtaining the sanctions from the competent authorities.</li> </ul>			

<b>15-Certificate</b>	Certified that the project proposal has been prepared on the basis of guidelines provided by the Planning Commission for the preparation of PC-I for Local Government and community development Department.
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<b>Prepared by</b>	MM Pakistan (Pvt) Ltd		Stamp & Signatures	
<b>Checked by</b>	Municipal officer (Infrastructure) District Council Unit Okara		Stamp & Signatures	
	Chief Officer District Council Unit Okara		Stamp & Signatures	
<b>Forwarded by</b>	Administrator District Council Okara		Stamp & Signatures	

# **ANNEXURE – A**

## **Location Map**



**Okara City Road Projects**

**Legend**

- NAME
- M.A Jinnah Road
- Canal
- Existing Primary Roads
- Existing Secondary Roads
- Railway Line
- MC Boundary PLGA 2019

**Sr.No. Project Title**

2 Improvement of Road from Tank Chowk to Harinwala Chowk

**Tank Chowk to Harinwala Chowk (MA Jinnah Road)**



# PUNJAB CITIES PROGRAM (PCP)

## DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS, SECTORAL PLANNING & RESIDENTIAL

**Map Version**  
1.0

**INFORMATION IS PROVIDED BY MC,  
PHED & OTHER SOURCES.**

0 0.5 1 2 Kilometers

<b>September 2022</b>	MMP-1076P05-OKR-RD-LP-001
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# **ANNEXURE – B**

## **Cost Estimates**



**Detail Design of Infrastructure Sub - Projects Sectoral Planning &  
Resident Supervision in 16 Cities of Punjab**

**IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA  
(M. A. JINNAH ROAD)**

**TOTAL LENGTH = 1.022 KM**

**SUMMARY OF COST**

ITEM		DESCRIPTION	AMOUNT
<b>A -</b>		<b>ROAD WORKS</b>	
	1	Improvement of Road from Tank Chowk to Harinwala Chowk	163,783,884
	2	Sump well And at top Pumping Chamber and Pumping Machinery,Electric Connection	5,347,644
<b>B -</b>		<b>STREET LIGHTING NETWORK</b>	
	3	Improvement of Road from Tank Chowk to Harinwala Chowk	13,991,456
<b>TOTAL (RS) :</b>			<b>183,122,984</b>
ADD 2% CONTINGENCY			3,662,460
ADD 5% PST			9,156,149
Environment Impact Assessment Cost			1,658,000
<b>GRAND TOTAL (RS)</b>			<b>197,599,593</b>
<b>COST IN (MILLIONS)</b>			<b>197.60</b>

Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab												
IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)												
Calculation of Quantities												
NOTE: Description of all items shall be considered same as of referred MRS item number.												
NOTE: Market Rate System (MRS) issued by the Government of Punjab (District Okara 2nd biannual of year 2022).												
Sr.No	MRS		Detail of Item	Nos	Measurements			Quantity	Unit	Rate	Unit	Amount
	Chap	Item			Length	Width	Height					
			A) ROAD WORKS									
1	4	45	Dismantling and removing road metalling									
			STA : 0+000 to 3+352	1	3,352.00	7.00	0.17	3,988.88	Cft			
			Total Qty of Item No - 12					3,988.88	Cft	2,031.75	100	Rs. 81,044
2	3	5 - i	Earthwork in ordinary soil for embankments lead upto 100 ft. (30 m), including ploughing and mixing with blade gradeor disc harrow or other suitable equipment, and compaction by mechanical means at optimum moisture content and dressing to designed section, complete in all respects:-									
			Excavated Material to be used									
			Shoulders									
			Olrd Median	1	3,352.00	10.34	1.00	34,659.68				
			New Median	1	3,352.00	6.00	1.00	20,112.00				
			Total Qty		3,352.00			54,771.68	Cft	9,527.90	1000	Rs. 521,859
3	3	7 - i	Earthwork excavation in open cutting									
			Earthwork excavation in open cutting upto 5'-0" (1.5 m) depth for storm water channels, drains, sullage drains in open areas, roads, streets, lanes, including under pinning walls and shoring to protect existing works, shuttering and timbering the trenches, dressed to designed level and dimensions, trimming, removal of surface water from trenches, back filling and surplus excavated material disposed of and dressed within 50 ft. (15 m) lead:-									
			i) Ordinary Soil									
			Olrd Median	1	3,352.00	10.34	2.17	75,211.51				
			Shoulders					-				
			STA : 0+000 to 0+450 = 10.05 4.09	1	450.00	14.13	0.93	5,913.41				
			STA : 0+450 to 0+650 = 10.05 3.59	1	200.00	13.63	0.93	2,535.18				
			STA : 0+650 to 1+400 = 13.75 -	1	750.00	13.75	0.93	9,590.63				
			STA : 1+400 to 3+000 = 14.34 4.09	1	1,600.00	18.42	0.93	27,408.96				
			STA : 3+000 to 3+352 = 10.92 -	1	352.00	10.92	0.93	3,573.13				
			Total Qty					124,232.81	Cft	9,016.70	1000	Rs. 1,120,170

Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab												
IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)												
Calculation of Quantities												
NOTE: Description of all items shall be considered same as of referred MRS item number.												
NOTE: Market Rate System (MRS) issued by the Government of Punjab (District Okara 2nd biannual of year 2022).												
Sr.No	MRS		Detail of Item	Nos	Measurements			Quantity	Unit	Rate	Unit	Amount
	Chap	Item			Length	Width	Height					
4	3	17	Transportation of earth all types when the total distance, including the lead covered in the item of work, is more than 1000 ft. (300 m)									
			Shoulders					124,232.81				
			Same as above 3-7-i					3,988.88				
			Dismantelled Existing Road toping					(54,771.68)				
			Less to be used in filling									
			Total Qty					73,450.01	Cft	6,002.40	1000	Rs. 440,876
5	18	3 - a - ii	Providing and laying sub-base course of stone product of approved quality and grade, including placing, mixing, spreading and compaction of sub-base material to required depth, camber, grade to achieve 100%maximum modified AASHO dry density, including carriage of all material to site of work except gravel and aggregate.									
			Old Median	1	3,352.00	10.34	0.50	17,329.84				
			Shoulders									
			STA : 0+000 to 0+450 = 10.05 4.09	1	450.00	14.13	0.50	3,179.25				
			STA : 0+450 to 0+650 = 10.05 3.59	1	200.00	13.63	0.50	1,363.00				
			STA : 0+650 to 1+400 = 13.75 -	1	750.00	13.75	0.50	5,156.25				
			STA : 1+400 to 3+000 = 14.34 4.09	1	1,600.00	18.42	0.50	14,736.00				
			STA : 3+000 to 3+352 = 10.92 -	1	352.00	10.92	0.50	1,921.04				
			Total Qty					43,685.38	Cft	20,976.48	100	Rs. 9,163,655
6	18	4 - a	Providing and laying base course of crushed stone aggregate of approved quality and grade, and supply and spreading of stone screening, including placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100%maximum modified AASHO dry density, including carriage of all materials to site of work except gravel and aggregate.									
			Old Median	1	3,352.00	10.34	0.50	17,329.84				
			Total Qty					17,329.84	Cft	26,254.94	100	4,549,939
7	18	11	Scarifying old road surface including removal of debris within 1 chain (30 m).									
			STA : 0+000 to 0+450	1	450.00	71.00		31,950.00				
			STA : 0+450 to 0+650	1	200.00	71.84		14,368.00				
			STA : 0+650 to 1+400	1	750.00	67.50		50,625.00				
			STA : 1+400 to 3+000	1	1,600.00	69.50		111,200.00				
			STA : 3+000 to 3+352	1	352.00	68.67		24,171.84				
			Total Qty					232,314.84	Sft	423.30	100	983,389

Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab												
IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)												
Calculation of Quantities												
NOTE: Description of all items shall be considered same as of referred MRS item number.												
NOTE: Market Rate System (MRS) issued by the Government of Punjab (District Okara 2nd biannual of year 2022).												
Sr.No	MRS		Detail of Item	Nos	Measurements			Quantity	Unit	Rate	Unit	Amount
	Chap	Item			Length	Width	Height					
7	18	6	Providing and laying bituminous priming coat, using 10 lbs. kerosene oil and 10 lbs. binder per 100 Sft. or 0.5 Kg kerosene and 0.5 Kg binder per square metre.  STA : 0+000 to 0+450 STA : 0+450 to 0+650 STA : 0+650 to 1+400 STA : 1+400 to 3+000 STA : 3+000 to 3+352 Old Median <b>Total Qty</b>	  1 1 1 1 1 1	  450.00 200.00 750.00 1,600.00 352.00 3,352.00	  71.00 71.84 67.50 69.50 68.67 10.34	  31,950.00 14,368.00 50,625.00 111,200.00 24,171.84 34,659.68 <b>266,974.52</b>	      <b>Sft</b>	      <b>2,294.80</b>	      <b>100</b>	      <b>6,126,531</b>	
8	18	10a	Providing and laying plant premixed bituminous 1-1/2" thick carpet, including compaction and finishing to required camber, grade and density. iii) 4% Bitumen STA : 0+000 to 0+450 STA : 0+450 to 0+650 STA : 0+650 to 1+400 STA : 1+400 to 3+000 STA : 3+000 to 3+352 Old Median <b>Total Qty</b>	  1 1 1 1 1 1	  450.00 200.00 750.00 1,600.00 352.00 3,352.00	  71.00 71.84 67.50 69.50 68.67 10.34	  31,950.00 14,368.00 50,625.00 111,200.00 24,171.84 34,659.68 <b>232,314.84</b>	      <b>Sft</b>	      <b>11,627.33</b>	      <b>100</b>	      <b>27,012,012</b>	
9	18	10a	Providing and laying plant premixed bituminous 1-1/2" thick carpet, including compaction and finishing to required camber, grade and density. iv) 4.5% Bitumen STA : 0+000 to 0+450 STA : 0+450 to 0+650 STA : 0+650 to 1+400 STA : 1+400 to 3+000 STA : 3+000 to 3+352 Old Median <b>Total Qty</b>	  1 1 1 1 1 1	  450.00 200.00 750.00 1,600.00 352.00 3,352.00	  71.00 71.84 67.50 69.50 68.67 10.34	  31,950.00 14,368.00 50,625.00 111,200.00 24,171.84 34,659.68 <b>232,314.84</b>	      <b>Sft</b>	      <b>12,346.88</b>	      <b>100</b>	      <b>28,683,633</b>	
10	13	36 - b	Painting Traffic Lane Marking of specified width (1.5mm thick), with Thermoplastic (TP) Paint including Glass Beads, complete in all respect, as approved and directed by Engineer incharge. 6" wide  STA : 0+000 to 3+352 STA : 0+000 to 3+352 <b>Total Qty of Item No - 14</b>	  4 4	  3,352.00 1,117.00	  - -	  13,408.00 4,468.00 <b>17,876.00</b>	   <b>Rft</b>	   <b>56.20</b>	   <b>1</b>	   <b>Rs. 1,004,631</b>	
11	6	52 -b- ii	Providing and fixing precast Edge Kerb Stone (4"to6"thick), of 3500PSI Compressive Strength, embeded in PCC1:2:4 over lean concrete 1:4:8 etc complete in all respect. (18" high)  STA : 0+000 to 3+352                      Medan Area <b>Total Qty</b>	  2	  3,352.00	  	  6,704.00 <b>6,704.00</b>	   <b>Rft</b>	   <b>529.45</b>	   <b>1</b>	   <b>Rs. 3,549,433</b>	

Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab												
IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)												
Calculation of Quantities												
NOTE: Description of all items shall be considered same as of referred MRS item number.												
NOTE: Market Rate System (MRS) issued by the Government of Punjab (District Okara 2nd biannual of year 2022).												
Sr.No	MRS		Detail of Item	Nos	Measurements			Quantity	Unit	Rate	Unit	Amount
	Chap	Item			Length	Width	Height					
12	5-f		Edge Stone Edge Stone ( As per approved manufacturer ) at site 00mm x 150mm x 50mm  MRS input price               Rs.     43.00 TPT+Installation               Rs.     8.60 Overheads / Profit 20%       Rs.     10.32 Total price per Rft           Rs.     61.92  Total Qty	2	3,352.00			6,704.00				
					3,352.00			6,704.00	Cft	61.92	1	415,112
13	5-i		Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate (i) Ratio 1: 4: 8  Median  Total Qty	1	3,352.00	2.00	0.25	1,676.00				
					3,352.00			1,676.00	Cft	38,504.48	100	645,335
14	10	41 - c	Providing and laying Tuff pavers, having 7000 PSI, crushing strength of approved manufacturer, over 2" to 3" sand cushion i/c grouting with sand in joints i/c finishing to require slope . complete in all respect. (50% Grey / 50% Coloured) 80-mm thick  STA : 0+000 to 0+450       =   10.05   4.09   14.13 STA : 0+450 to 0+650       =   10.05   3.59   13.63 STA : 0+650 to 1+400       =   13.75   -     13.75 STA : 1+400 to 3+000       =   14.34   4.09   18.42 STA : 3+000 to 3+352       =   10.92   -     10.92  Total Qty	1	450.00	14.13		6,358.50				
				1	200.00	13.63		2,726.00				
				1	750.00	13.75		10,312.50				
				1	1,600.00	18.42		29,472.00				
				1	352.00	10.92		3,842.08				
					3,352.00			52,711.08	Sft	189.85	1	Rs. 10,007,199
15	18	25a	Providing, fabrication and fixing pole mounted Direction Board/road delineator of any shape and size, with specified Sheet and thickness, supported with G.I.Channel, (excluding the cost of vertical post and painting) etc complete in all respect  If 3 mm thick Aluminium sheet is used, increase composite rate by Rs 627/- Psft or Rs 6747/- Per Sq.Mtr  (a) G. I. Sheet 14 SWG i) CIRCULAR/TRIANGULAR 3 ft size  Total Qty	4			3.00	12.00	Sft			
								12.00	Sft	948.15	1	Rs. 11,378
16	18	27b	Providing, fabrication and fixing Vertical Post comprising of medium quality G.I Pipe of specified diameter, including the cost of clamping arrangements, top cover, hold fasts embeded in PCC1:2:4 etc complete in all respect.  (b) 3 inch diameter  Total Qty	4			10.17	40.68	Rft			
								40.68	Rft	1,259.95	1	Rs. 51,255

Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of PunjabIMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)Calculation of QuantitiesNOTE: Description of all items shall be considered same as of referred MRS item number.NOTE: Market Rate System (MRS) issued by the Government of Punjab (District Okara 2nd biannual of year 2022).

Sr.No	MRS		Detail of Item	Nos	Measurments			Quantity	Unit	Rate	Unit	Amount
	Chap	Item			Length	Width	Height					
17	18	28	Providing & fixing Cat Eyes of size 4"x4"x3/4" duly casted with specified material having plastic strip containing mini retro-reflective glass beads of color white/red/yellow having specifid reflections, quality & shape i/c the cost of self built in 12mm dia x 120mm long steel zinc plated nail, fixing to road with epoxy/hammering with separate nail complete  b) Aluminium Alloy (B) Uni-Directional (ii) 43 Glass beads a side @ 30' c/c	6	113			678.00 678.00	Each	543.80	1	Rs. 368,696
			<b>Total of Road Work</b>									<u><b>Rs. 94,736,147</b></u>

**Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab****IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)****Calculation of Quantities**

NOTE: Description of all items shall be considered same as of referred MRS item number.

NOTE: Market Rate System (MRS) issued by the Government of Punjab (District Okara 2nd biannual of year 2022).

Sr.No	MRS		Detail of Item	Nos	Measurements			Quantity	Unit	Rate	Unit	Amount
	Chap	Item			Length	Width	Height					
18	3	7-i	<b>C) ROAD DRAINAGE WORKS</b>									
			Earthwork excavation in open cutting upto 5'-0" (1.5 m) depth for storm water channels, drains, sullage drains in open areas, roads, streets, lanes, including under pinning walls and shoring to protect existing works, shuttering and timbering the trenches, dressed to designed level and dimensions, trimming, removal of surface water from trenches, back filling and surplus excavated material disposed of and dressed within 50 ft. (15 m) lead:-									
			Drain along road	1	6,010.00	7.00	4.25	178,797.50				
			Drain at crossings	1	1,068.00	7.00	3.42	25,567.92				
			<b>Total Qty</b>					<b>204,365.42</b>	<b>Cft</b>	<b>9,016.70</b>	<b>1000</b>	<b>Rs. 1,842,702</b>
19	3	17	Transportation of earth all types when the total distance, including the lead covered in the item of work, is more than 1000 ft. (300 m)									
			Shoulders					<b>204,365.42</b>				
			Less to be used in filling					<b>-</b>				
			<b>Total Qty</b>					<b>204,365.42</b>	<b>Cft</b>	<b>6,002.40</b>	<b>1000</b>	<b>Rs. 1,226,683</b>
20	6	5-i	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate (i) Ratio 1: 4: 8									
			Drain along road	1	6,010.00	7.00	0.25	10,517.50				
			Drain at crossings	1	1,068.00	7.00	0.25	1,869.00				
			<b>Total Qty</b>					<b>12,386.50</b>	<b>Cft</b>	<b>38,504.48</b>	<b>100</b>	<b>Rs. 4,769,357</b>
21	6	5-i	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate (f) Ratio 1: 2: 4									
			Drain along road	1	6,010.00	3.50	0.33	7,011.67				
			Drain at crossings	1	1,068.00	3.50	0.33	1,246.00				
			<b>Total Qty</b>					<b>8,257.67</b>	<b>Cft</b>	<b>47,016.25</b>	<b>100</b>	<b>Rs. 3,882,445</b>
22	7	4-i	Pacca brick work in foundation and plinth in:-									
			i) Cement, sand mortar:- Ratio 1:3									
			Drain along road	2	6,010.00	1.50	0.50	9,015.00				
				2	6,010.00	1.13	3.50	47,328.75				
			Drain at crossings	2	1,068.00	1.50	0.50	1,602.00				
				2	1,068.00	1.13	2.67	6,416.01				
			Less Class A concrete	-1	6,010.00	0.75	0.17	(766.28)				
			Less openings	(120.20)	1.00	0.75	0.33	(29.75)				
			<b>Total Qty</b>					<b>63,565.74</b>	<b>Cft</b>	<b>32,521.30</b>	<b>100</b>	<b>Rs. 20,672,404</b>

Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab												
IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)												
Calculation of Quantities												
NOTE: Description of all items shall be considered same as of referred MRS item number.												
NOTE: Market Rate System (MRS) issued by the Government of Punjab (District Okara 2nd biannual of year 2022).												
Sr.No	MRS		Detail of Item	Nos	Measurements			Quantity	Unit	Rate	Unit	Amount
	Chap	Item			Length	Width	Height					
23	11	8-b  b	Cement plaster 1:3 upto 20' (6.00 m) height:-  ½" (13 mm) thick  Drain along road   Drain at crossings   Less openings <b>Total Qty</b>	   4 1 4 2 (240.40)	   6,010.00 6,010.00 1,068.00 1,068.00 1.00	    0.38  0.38	   4.17  3.17  0.33	   100,246.80 2,253.75 13,542.24 801.00 (79.33) <b>116,764.46</b>	     <b>Cft</b>	     <b>3,424.50</b>	     <b>100</b>	     <b>Rs. 3,998,599</b>
24	6	6-a   a) (1)  3	Providing and laying reinforced cement concrete (including prestressed concrete), using coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete (but excluding the cost of steel reinforcement, its fabrication and placing in position, etc.):-  a) (i) Reinforced cement concrete in roof slab, beams,columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:-  (3) Type C (nominal mix 1: 2: 4)  Drain along road Drain at crossings <b>Total Qty</b>	     1 1	     6,010.00 1,068.00	     5.75 5.75	     0.50 0.67	     17,278.75 4,114.47 <b>21,393.22</b>	     <b>Cft</b>	     <b>644.88</b>	     <b>1</b>	     <b>Rs. 13,796,007</b>
25		1	1) Type A (nominal mix 1:1:2)  Drain along road <b>Total Qty</b>	  1	  6,010.00 <b>6,010.00</b>	  1.13	  0.17	  1,149.41 <b>1,149.41</b>	  <b>Cft</b>	  <b>793.63</b>	  <b>1</b>	  <b>Rs. 912,209</b>
26	6	12	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars):-  The rate includes wastage, overlaps and steel chairs, etc. complete in all respect.  (b) Deformed bars (Grade-40) RCC 1:2:4 RCC 1:1:1:2 Total RCC	     <b>Cft</b>	     21,393.22 1,149.41 <b>22,542.63</b>	     5.36	     0.45	     54,856.14 54,856.14	     <b>Kg</b> <b>Kg</b>	     <b>31,392.05</b>	     <b>100</b>	     <b>Rs. 17,220,468</b>
27	21	9	Extra for making and finishing benching floor work in manhole chamber, with 1/8" (3 mm) thick cement finish.  Drain along road Drain at crossings <b>Total Qty</b>	  1 1	  6,010.00 1,068.00	  3.50 3.50	     <b>24,773.00</b>	     <b>Sft</b>	     <b>2,934.10</b>	     <b>100</b>	     <b>Rs. 726,865</b>	
			<b>Total of Drainage Works</b>									<b>Rs. 69,047,738</b>



Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of PunjabIMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)Calculation of QuantitiesNOTE: Description of all items shall be considered same as of referred MRS item number.NOTE: Market Rate System (MRS) issued by the Government of Punjab (District Okara 2nd biannual of year 2022).

Sr.No	MRS		Detail of Item	Nos	Measurments			Quantity	Unit	Rate	Unit	Amount
	Chap	Item			Length	Width	Height					
			Total Road + Drainage Works									Rs. 163,783,884

Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab												
IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)												
Calculation of Quantities												
NOTE: Description of all items shall be considered same as of referred MRS item number.												
NOTE: Market Rate System (MRS) issued by the Government of Punjab (District Okara 2nd biannual of year 2022).												
Sr.No	MRS		Detail of Item	Nos	Measurements			Quantity	Unit	Rate	Unit	Amount
	Chap	Item			Length	Width	Height					
28	3	7-i	C) CIVIL WORKS FOR ELECTRICAL WORKS Earthwork excavation in open cutting upto 5'-0" (1.5 m) depth for storm water channels, drains, sullage drains in open areas, roads, streets, lanes, including under pinning of walls and shoring to protect existing works, shuttering and timbering the trenches, dressed to designed level and dressing, trimming, removal of surface water from trenches, back filling and surplus excavated material disposed of and dressed within 50 ft. (15 m) lead i) Ordinary  <div>Total Qty</div>	30	3.00	3.00	4.25	<div>1,147.50</div> <div>1,147.50</div>	Cft	9,016.70	1000	Rs. 10,347
29	3	17	Transportation of earth all types when the total distance, including the lead covered in the item of work, is more than 1000 ft. (300 m)  Ordinary soil  <div>Total Qty</div>					<div>1,147.50</div> <div>1,147.50</div>	Cft	6,002.40	1000	Rs. 6,888
30	6	5-i	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): i) 1:4:8  <div>Total Qty</div>	30	3.00	3.00	0.25	<div>67.50</div> <div>67.50</div>	Cft	38,504.48	100	Rs. 25,991
31	6	6-a-iii-3	Providing and laying reinforced cement concrete (including prestressed concrete), using coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete (but excluding the cost of steel reinforcement, its fabrication and placing in position, etc.) (a)(iii) Reinforced cement concrete in slab of rafts / strip foundation, base slab of column and retaining walls; etc and footing beams, other structural members other than those mentioned in 6(a) (i)&(ii) above not requiring form work (i.e. horizontal shuttering) complete in all respects: (3) Type C (nominal mix 1: 2: 4)  <div>Total Qty</div>	30	2.00	2.00	6.00	<div>720.00</div> <div>720.00</div>	Cft	644.88	1	Rs. 464,312
32	6	12-c	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars):-  (c) Deformed bars (Grade-60)  @ 5 lbs/Cft <div>Total Qty</div>					1,633.39	Kg	31,781.75	100	Rs. 519,121
33	24	6-ii	Supply and erection PVC pipe for recessed wiring (main and sub-main) purpose, including bends, specials, etc. in floor, wall or trenches:-  iii) 80mm  <div>Total Qty</div>	30	2.00		3.50	<div>210.00</div> <div>210.00</div>	Rft Rft	233.75	1	Rs. 49,088

<u>Detail Design of Infrastructure Sub - Projects Sectoral Planning &amp; Resident Supervision in 16 Cities of Punjab</u>												
<u>IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)</u>												
<u>Calculation of Quantities</u>												
<u>NOTE: Description of all items shall be considered same as of referred MRS item number.</u>												
<u>NOTE: Market Rate System (MRS) issued by the Government of Punjab (District Okara 2nd biannual of year 2022).</u>												
Sr.No	MRS		Detail of Item	Nos	Measurments			Quantity	Unit	Rate	Unit	Amount
	Chap	Item			Length	Width	Height					
34	7	30	Supplying and filling sand under floor; or plugging in wells.  <div>Less foundation</div> <b>Total Qty</b>	 30  -30	 3.00  2.00	 3.00  2.00	 3.75  3.75	 1,012.50  (450.00) <b>562.50</b>	   Cft	   2,943.30	   100	   Rs. 16,556
35	25	9	Small iron work, such as gusset plates, knees, bends, stirrups, straps, rings, etc. including cutting, drilling, riveting, handling, assembling and fixing; but excluding erection in position. (Supply & Installation of 470x470x20 mm Base plate for 10 meter Single & Double Arms Poles.)  <b>Total Qty</b>	 30	 0.47	 0.47	 0.02	 1,040.44 <b>1,040.44</b>	  Kg	  41,131.85	  100	  Rs. 427,952
36		3/7/i	<b>Sub Head 2: laying of Underground Cables</b> Earthwork excavation in open cutting upto 5'-0" (1.5 m) depth for storm water channels, drains, sullage drains in open areas, roads, streets, lanes, including under pinning of walls and shoring to protect existing works, shuttering and timbering the trenches, dressed to designed level and dressing, trimming, removal of surface water from trenches, back filling and surplus excavated material disposed of and dressed within 50 ft. (15 m) lead i) Ordinary  <b>Total Qty</b>	 1	 3,311.06	 1.50	 3.00	 14,899.77 <b>14,899.77</b>	 Cft Cft	  9,016.70	  1000	  Rs. 134,347
			<b>Total Civil Works for Electrical Works</b>									<b>Rs. 1,654,600</b>

Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab														
ROUGH COST ESTIMATE FOR CONSTRUCTION OF SUMP WELL & PUMPING CHAMBER FOR ROAD DRAINAGE NEAR TANK CHOWK OKARA														
C. Sump well And at top Pumping Chamber and Pumping Machinery, Electric Connection														
MRS, 2nd BI-ANNUAL-2022 (01.07.2022 to 31.12.2022) DISTRICT OKARA														
Sr. NO	MRS		Description of Items	Quantity	Unit	Rate	Amount							
	Ch.	Item												
C	1		Sump well & Pumping Chamber	15	ft Dia									
1	22	1.a.i	Excavation of well in dry upto 20'(6 meter) below ground level, and disposal of soil within one chain (30 meter) a) in ordinary soil or sand :- i) from 0' to 5' (o to 1.5 m) depth.	1 x 3.142 x 20.00 x 20.00 x 0.25 x 5.0 =	1,571.00 Cft	1000	7,547.95	11,858.00						
		1.a.ii	ii) from 5.1' to 10' (1.5 to 3.0 meter) depth	1 x 3.142 x 20.00 x 20.00 x 0.25 x 5.0 =	1,571.00 Cft	1000	7,883.15	12,384.00						
		1.a.iii	iii) from 10.1' to 15' (3.0 to 4.5 meter) depth	1 x 3.142 x 20.00 x 20.00 x 0.25 x 4.25 =	1,335.35 Cft	1000	8,868.55	11,843.00						
2	6	3.d	Cement concrete brick or stone ballast 1½ " to 2" (40 mm to50 mm) gauge, in foundation and plinth:-(d) Ratio 1: 6:12											
			Foundation of well	1 x 3.142 x 20.00 x 20.00 x 0.25 x 0.50 =	157.10 Cft									
			Apron foundation.	1 x 3.142 x 20.25 x 3.00 x 0.33 x =	62.99 Cft									
			Total	=	220.09 Cft	100	21,296.05	46,870.00						
3	6	5.f	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):(f) Ratio 1: 2:4	1 x 3.142 x 20.00 x 20.00 x 0.25 x 0.75 =	235.65 Cft	100	38,178.90	89,969.00						
4	7	7.i	Pacca brick work other than building upto 10ft. (3 m) height. i) cement, sand mortar:-ratio 1:3											
			i) cement, sand mortar:-Ratio 1:3											
			1st Step	1 x 3.143 x 16.50 x 1.50 x 9.00 =	700.07 Cft									
			2nd Step	1 x 3.142 x 16.125 x 1.125 x 6.00 =	341.99 Cft									
			Total	=	1,042.06 Cft									
			D/d drain section	1.000 x 4.750 x 1.125 x 3.50 =	18.70 Cft									
			Net Total	=	1,023.36 Cft	100	33,606.10	343,910.00						
5	5	5.i	Pacca brick work in ground floor:-											
			i) cement, sand mortar:-Ratio 1:5											
			Above the landing Slab (Pumping Chamber)											
			Quantity	1 x 3.142 x 15.75 x 0.75 x 9.00 =	334.03 Cft									
			Deduct Door	= 1.000 x 4.000 x 0.75 x 7.00 =	21.00 Cft									
			Deduct Window	= 1.000 x 5.000 x 0.75 x 5.00 =	18.75 Cft									
			Lintels of Door	= 1.000 x 5.000 x 0.75 x 0.50 =	1.88 Cft									
			Lintels of Window	= 1.000 x 6.000 x 0.75 x 0.50 =	2.25 Cft									
			Net Total	=	294.66 Cft	100	32,320.10	95,234.00						
6	7	10	Extra for pacca brick work in steining of wells or any other circular masonry.											
			Quantity as per item.	4 + 5.00 = 1023.355366 + 294.66 =	1,318.01 Cft	100	2,732.40	36,013.00						

Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab																
ROUGH COST ESTIMATE FOR CONSTRUCTION OF SUMP WELL & PUMPING CHAMBER FOR ROAD DRAINAGE NEAR TANK CHOWK OKARA																
C. Sump well And at top Pumping Chamber and Pumping Machinery, Electric Connection																
MRS, 2nd BI-ANNUAL-2022 (01.07.2022 to 31.12.2022) DISTRICT OKARA																
Sr. NO	MRS		Description of Items	Quantity	Unit	Rate	Amount									
	Ch.	Item														
7	7	4.i	Pacca brick work in foundation and plinth in:-  i) cement, sand mortar:-Ratio 1:5  Brick masonry door Steps  1st Step = 1.00 x 5.00 x 3.00 x 0.75 = 15.75 Cft 1st Step = 1.00 x 5.00 x 2.00 x 0.50 = 10.50 Cft 1st Step = 1.00 x 5.00 x 1.00 x 0.50 = 5.50 Cft  Total = 31.75 Cft 100 30,136.30 9,568.00													
8	6	38.a.i.b	Providing and laying vertical damp proof course with cement sand plaster and bitumen coating:- (b) with 2 coats of bitumen:- ii) Ratio 1:3 a) 3/4 " thick (13 mm)  1st Step = 1.00 x 3.1429 x 15.00 x 8.50 = 400.71 Sft 2nd Step = 1.00 x 3.1429 x 14.25 x 6.00 = 268.71 Sft Top of 1st.step = 1.00 x 3.1429 x 15.375 x 0.375 = 18.12 Sft  Total = 687.55 Cft  D/d drain section 1.000 x 4.750 x 3.50 = 16.63 Cft  Net Total = 670.92 Cft 100 6,037.00 40,504.00													
9	6	36.b.ii	Providing and laying damp proof course of cement concrete 1:2: 4(using cement, sand and shingle), including bitumen coating :- (b) with 2 coats of bitumen: ii) 2" thick (50 mm)  1 x 3.142 x 15.75 x 0.75 x 0.50 = 18.56 Sft 100 10,341.70 1,919.00													
10	6	5.c	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): (c) Ratio 1: 1½: 3  Bed of well  1 x 3.142 x 15.00 x 15.00 x 0.25 x 0.50 = 88.37 Cft 100 43,876.50 38,773.00													
11	6	6.a.i.3	Providing and laying reinforced cement concrete (including prestressed concrete), using coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete (but excluding the cost of steel reinforcement, its fabrication and placing in position, etc.): a) (i) Reinforced cement concrete in roof slab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:-(3) (c) Type C (nominal mix 1: 2: 4).  Landing slab 0.25 x 3.142 x 16.00 x 16.00 x 0.50 x 0.50 = 50.27 Cft  Roof slab 1 x 3.142 x 19.50 x 19.50 x 0.25 x 0.50 = 149.34 Cft  Landing beam = 1 x 16.00 x 0.75 x 1.00 = 12.00 Cft Door Lintels = 1.000 x 5.000 x 0.75 x 0.50 = 1.88 Cft Window Lintels = 1.000 x 6.000 x 0.75 x 0.50 = 2.25 Cft  Total = 215.74 Cft 1 556.50 120,059.00													
12	6	12.b	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, lacing in position, making joints and fastenings, including cost of binding wire and labour. Quantity as per item.  11 = 215.74 x 6.0 / 2.204 = 587.31 Kg 100 31,392.05 184,370.00													

C. Sump well And at top Pumping Chamber and Pumping Machinery, Electric Connection

Sr. NO	MRS		Description of Items	Quantity	Unit	Rate	Amount
	Ch.	Item					
13	11	7.b	Cement plaster 1:2 upto 20' (6.00 m) height:- b) ½" (13 mm) thick (i) 0' to 20' 2nd step outside Inside side of dry well = In side the well = 1.00 x 3.143 x 15 x 23.50 = 1,107.86 Door Steps = 1st: Step sides = 1.00 x 11.0 x 0.8 = 8.25 1st: Step top = 1.00 x 5.0 x 1.0 = 5.00 2nd: Step sides = 1.00 x 9.0 x 0.5 = 4.50 2nd: Step top = 1.00 x 5.0 x 1.0 = 5.00 <b>Total</b> = 1,130.61 Sft 100 3,867.30 43,724.00				
14	11	10.c	Cement plaster 3/8" (10 mm) thick under soffit of R.C.C. roof slabs only, upto 20' height. c) Landing slab 0.50 x 3.1429 x 15.00 x 15.00 x 0.25 = 353.57 Sft Roof slab 1 x 3.1429 x 15.00 x 15.00 x 0.25 = 707.14 Sft Roof slab projection 1.00 x 3.143 x 18.00 x 1.50 = 84.86 Sft Roof slab face 1 x 3.1429 x 0.50 x 19.50 x 0.50 = 30.64 Sft Roof slab top 1 x 3.1429 x 19.50 x 19.50 x 0.25 = 1,195.07 Sft <b>Total</b> = 2,371.29 Sft 100 3,609.75 85,597.00				
15	11	18.b+31	Cement pointing struck joints, on walls, upto 20' (6.00 m) height:-a) Extra cost of labour and material for red oxide pigment in cement pointing to match with the colour of bricks. Ratio 1:4 Out side the P. Cham. = 1.00 x 3.143 x 46.50 x 9.00 = 1,315.29 Sft D/d Door 1 x 4.0 x 7.0 (-) = 28.00 Sft D/d Window 1 x 5.0 x 5.0 (-) = 25.00 Sft D/d Door lintel 1 x 4.0 x 0.5 (-) = 2.00 Sft D/d Window lintel 1 x 5.0 x 0.5 (-) = 2.50 Sft Total deduction = 57.50 Sft 652.50 <b>Net Total</b> = 1,257.79 Sft 100 3,955.55 49,752.00				
16	10	9	Brick on edge flooring, laid in 1:6 cement mortar, over a bed of ¾" (20 mm) thick cement mortar 1:6. Apron of P. Cham. = 1.00 x 3.143 x 20.25 x 3.00 = 190.93 Sft 100 13,238.50 25,276.00				
17	25	31	Making and fixing steel grated door with 1/16" thick 1.5mm) sheeting, including angle iron frame 2"x2"x3/8 50x50x10 mm) and ¾" (20 mm) square bars 4" (100 mm) center to center, with locking arrangement. Door = 1.00 x 4.000 x 7.00 x = 28.00 Sft 1 2,371.85 66,412.00				
18	25	41.b.v	Providing and fixing steel windows with openable glazed panels, using beam section for frame 1½"x1"x5/8"x1/8" 40x25x16x3 mm), Z-section for leaves ¾"x1"x¾"x1/8" 20x25x20x3 mm), T-section sashes 1"x1"x1/8" (25x25x3 mm), glass panes, wooden screed for glazing embedded over a thin layer of putty duly screwed with leaves, brass fittings, holdfast, duly painted, complete in all respects, including all cost of material and labour, etc. as per approved design and as directed by the Engineer-in-charge:- b) fixed with wire gauze, 22 SWG v) glass pane 5 mm thick. Window = 1.00 x 5.000 x 5.00 = 25.00 Sft 1 1,081.90 27,048.00				
19	13	5.c.i+ii+iii	Painting new surface:- a) Preparing surface and painting of doors and windows any type (including edges):-i) priming coat. ii) each subsequent coat of paint. Door both side = 1.00 x 2.000 x 5.00 x 7.00 = 70.00 Sft 100 2,714.80 1,900.00			1292.00 +711.40 +711.40	

Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab									
ROUGH COST ESTIMATE FOR CONSTRUCTION OF SUMP WELL & PUMPING CHAMBER FOR ROAD DRAINAGE NEAR TANK CHOWK OKARA									
C. Sump well And at top Pumping Chamber and Pumping Machinery, Electric Connection									
MRS, 2nd BI-ANNUAL-2022 (01.07.2022 to 31.12.2022) DISTRICT OKARA									
Sr. NO	MRS		Description of Items	Quantity	Unit	Rate	Amount		
	Ch.	Item							
20	25	10+11	Fabrication of heavy steel work, with angle, tees, flat iron round iron and sheet iron for making trusses, girders, tanks, etc., including cutting, drilling, revitting, handling, assembling and fixing, but excluding erection in position Erection and fitting in position iron trusses, staging of water tanks, etc.  Weight of R.S. Joist Size 6"x12" and 3/8" thick.  composite (-) lab. rate = 32475.65 (-) 3890.10 = 28585.55  $16.50 \times \left( \frac{6.00 + 6.0 + 11.625}{12.0} \right) \times \frac{0.375}{12.0} \times \frac{490.0}{2.204} = 225.69 \text{ Kg } 100 \text{ } 28,585.55 \text{ } 64,514.00$						
21	25	11	Erection and fitting in position iron trusses, staging of water tanks, etc.  Quantity as per item. 20 = 225.69 = 225.69 Kg 100 1,277.25 2,883.00						
22	13	5.d.i +ii+ii	Painting new surface:- d) Preparing surface and painting guard bars, gates of iron bars, gratings, railing (including standards, braces, etc.) and in similar open work:- i) 2-coat.  $6.00 \times \left( \frac{6.0 + 11.25}{12.00} \right) \times 2.00 = 17.25 \text{ Sft } 100 \text{ } 1,405.25 \text{ } 242.00$			824.15 +490.55 +490.55			
23	Non MRS		Providing and fixing chain pulley block 5-ton capacity with 40 meter extra chain i/c all ding hook with roller trolley etc. complete in all respect (N.S)  Chain pulley block = = 1.00 No 1 30,000.00 30,000.00						
24	25	39	Providing and fixing stair railing of 2½" (63 mm) i/d G.I. pipe, welded with 5/8"x5/8" (16x16 mm) square M.S. bars 2'-9" (838 mm) high, fixed in each step, complete in all respects, including painting, polishing three coats.  G.I Railing = 1.00 x 15.000 x = 15.00 Rft 1 1,757.70 26,366.00						
25	1	1	Carriage of 100 Cft.(2.83 cu.m)of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (Upto 166.5 KM)  Lead upto 166.5 Km from Karana quarry District Sargodha Quantity as per item No. 3 = 235.650 x 88.00 / 100.00 = 207.37 Cft 100 Quantity as per item No. 11 = 215.740 x 88.00 / 100.00 = 189.85 Cft 100 Quantity as per item No. 10 = 88.369 x 84.00 / 100.00 = 74.23 Cft 100 Total = 471.45 Sft 100 10,042.90 47,348.00						
26	21	13	Providing and fixing 1¼"x1¼"x3/16" (31x31x5 mm) angle iron step, in manhole chambers, including carriage and setting the same in work to correct lines and levels.  L-Iron Steps = 15.00 = 15.00 Rft 1 590.55 8,858.00						
				Total	=	C 1	1,523,194.00		
C 2 Out Fall Structure for Disposal of Storm Water into 2-4/L Canal at Tank Chowk									
27	22	1.a.i	Excavation of well in dry upto 20'(6 meter) below ground level, and disposal of soil within one chain (30 meter) a) in ordinary soil or sand Top layer at canal side embankment $1 \times 11.00 \times 8.375 \times 5.00 \times 0.5 = 230.31 \text{ Cft}$ Bottom layer at canal side embankment $1 \times 10.00 \times 12.375 \times 3.00 = 371.25 \text{ Cft}$ Total = 601.56 Cft 1000 7,547.95 4,541.00						

<p align="center"><b>Detail Design of Infrastructure Sub - Projects Sectoral Planning &amp; Resident Supervision in 16 Cities of Punjab</b></p> <p align="center"><b>ROUGH COST ESTIMATE FOR CONSTRUCTION OF SUMP WELL &amp; PUMPING CHAMBER FOR ROAD DRAINAGE NEAR TANK CHOWK OKARA</b></p> <p align="center"><b>C. Sump well And at top Pumping Chamber and Pumping Machinery, Electric Connection</b></p> <p align="center"><b>MRS, 2nd BI-ANNUAL-2022 (01.07.2022 to 31.12.2022) DISTRICT OKARA</b></p>							
Sr. NO	MRS		Description of Items	Quantity	Unit	Rate	Amount
	Ch.	Item					
28	6	3.d	Cement concrete brick or stone ballast 1½ " to 2" (40 mm to 50 mm) gauge, in foundation and plinth:- (d) Ratio 1: 6:12  Foundation of wall & out fall structure  1 x 11.00 x 12.375 x 0.25 = 34.03 Cft  Total = 34.03 Cft 100 21,296.05 7,247.00				
29	6	5.i	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): (f) Ratio 1:4:8  (i) Ratio 1: 4: 8 = 1 x 10.00 x 11.375 x 0.75 = 85.31 Cft 100 28,986.90 24,729.00				
30	6	5.i	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): (f) Ratio 1: 2:4  (i) Ratio 1: 2:4 = 1 x 10.00 x 9.000 x 1.25 = 112.50 (i) Ratio 1: 2:4 = 1 x 10.00 x 4.813 x 0.75 = 36.10 (i) Ratio 1: 2:4 = 10 x 4.25 x 4.250 x 0.50 = 90.31  Total = 238.91 Cft 100 28,986.90 69,253.00				
31	7	7.i	Pacca brick work other than building upto 10ft. (3 m) height. i) cement, sand mortar:-  i) cement, sand mortar:-Ratio 1:3 1st Step 1 x 10.00 x 2.25 x 1.00 = 22.50 Cft 2nd Step 1 x 10.000 x 1.875 x 1.00 = 18.75 Cft 3rd Step 1 x 10.000 x 1.500 x 5.00 = 75.00 Cft  Total = 41.25 Cft 100 33,606.10 13,863.00				
32	6	6-6(a) (i)&(ii) (2)	Providing and laying reinforced cement concrete (including prestressed concrete), using coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete (but excluding the cost of steel reinforcement, its fabrication and placing in position, etc.): -  a)(iii) Reinforced cement concrete in slab of rafts / strip foundation, base slab of column and retaining walls; etc. and footing beams, other structural members other than those mentioned in 6(a) (i)&(ii) above not requiring form work (i.e. horizontal shuttering) complete in all respects:-  (2) Type B (nominal mix 1: 1½: 3) Spill way slab  1.00 x 10.00 x 11.50 x 0.75 = 86.25 Cft 1 513.65 44,302.00				
33	6	12.b	Fabrication of mild steel reinforcement for cement concrete, including cutting, bending, laying in position, making joints and fastenings, including cost of binding wire and labour charges for binding of steel reinforcement (also includes removal of rust from bars): - (b) deformed bars.  Quantity as per item. 32 = 86.25 x 6.0 / 2.204 = 234.80 Kg 100 31,392.05 73,709.00				



<p align="center"><b>Detail Design of Infrastructure Sub - Projects Sectoral Planning &amp; Resident Supervision in 16 Cities of Punjab</b></p> <p align="center"><b>ROUGH COST ESTIMATE FOR CONSTRUCTION OF SUMP WELL &amp; PUMPING CHAMBER FOR ROAD DRAINAGE NEAR TANK CHOWK OKARA</b></p> <p align="center"><b>C. Sump well And at top Pumping Chamber and Pumping Machinery, Electric Connection</b></p> <p align="center"><b>MRS, 2nd BI-ANNUAL-2022 (01.07.2022 to 31.12.2022) DISTRICT OKARA</b></p>							
Sr. NO	MRS		Description of Items	Quantity	Unit	Rate	Amount
	Ch.	Item					
34	1	1	Carriage of 100 Cft.(2.83 cu.m)of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. (Upto 166.5 KM)				
			Lead upto 166.5 Km from Karana quarry District Sargodha				
			Quantity as per item No.C.2 29 = 85.313 x 84.00 / 100.00 =	71.66	Cft	100	
			Quantity as per item No.C.2 30 = 238.910 x 88.00 / 100.00 =	210.24	Cft	100	
			Quantity as per item No.C.2 32 = 86.250 x 84.00 / 100.00 =	72.45	Cft	100	
			<b>Total</b> =	354.35	Sft	100	10,042.90 35,587.00
			<b>Total</b> =	<b>C. 2</b>			<b>273,231.00</b>
<b>C</b>	<b>3</b>		<b>Pumping Machinery</b>				
35	Non MRS		1)-Supplying, installation, testing & commissioning of vertical non clogging sullage pump of KSB or equivalent (ISO-9001 / 9002 Certified),capable to give <b>2.0 cusecs discharge</b> of sullage water against a <b>total of 30 ft.</b> Rate also includes the cost of Supplying/installation, testing and commissioning of A.C. 380-400 Volts 3-phase 50 Hz, vertical shaft squirrel cage induction electric motor of 15 BHP(960 RPM) class-B insulation & IP-44 protection protocol manufactured by PECO/Siemens or equivalent (ISO-9001 / 9002 Certified), suitable to operate the above specified horizontal non clogging sullage pump. pump below. Rate further includes the cost of MCU (Motor control unit)as detailed in item No.2.a to j) and 5" i/d M.S pipe delivery pipe upto 50 Rft with all jointing material ,such as welding,nuts,bolts & rubber gas kit .Complete in all respect to the entire satisfaction of the Engineer in charge.(KSB Pumps Quotation attached).	1.00	Set	1 2,428,800.00	<b>2,428,800.00</b>
			2)-Supplying, installation and testing of wall mounted Star Delta electric Panel (Motor control unit) as per specifications suitable to operate <b>15 BHP</b> Squirrel cage 3-phase, 380-440 volts, 50 Hz (960 RPM) AC induction motor containing all below given items manufactured by Siemens, PEL, Alstom's, PEMPAK, ELECTRECH etc. and approved by Project Manager.				
			a) Control MCCB of rating as per recommendation of the manufacturer				
			b)Cartridge fuses of required rating = 3 Nos				
			c)Kit Kat fuses = 3 Nos				
			d) Air break main contactors of ratings as per manufacturer's recommendations				
			e) Air break contactors (star/delta) rating as per manufacturers recommendations				
			f) Time relay and precise adjustable thermal over-load relay				
			g) Under/Over voltage, phase reversal, phase loss protection /No. volt adjustable relay				
			h) Indicating lights 220V for RYB phases, on-off and all tripping like U/V, O/V with On/Off emergency stop push buttons.				
			j) Power cables from energy meter to MCU to motor of appropriate size housed in the PVC rigid/flexible conduit with brass end connectors. and clamped with the pump house wall and floor.				

Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab							
ROUGH COST ESTIMATE FOR CONSTRUCTION OF SUMP WELL & PUMPING CHAMBER FOR ROAD DRAINAGE NEAR TANK CHOWK OKARA							
C. Sump well And at top Pumping Chamber and Pumping Machinery, Electric Connection							
MRS, 2nd BI-ANNUAL-2022 (01.07.2022 to 31.12.2022) DISTRICT OKARA							
Sr. NO	MRS		Description of Items	Quantity	Unit	Rate	Amount
	Ch.	Item					
Electrical Mechanical Charges							
36	Based on MRS Rates		Providing, laying cutting jointing testing of 8" i/d heavy duty G.I flanged pipe having 50 Rft length for suction and delivery pipe line with required No's C.I specials such as 8" i/d bends, duck foot bends, reducer of 8"x6" .Rate also includes the P/Fixing C.I BSS sluice valve, Non return valve, earthing arrangements, PCC foundation as per KSB design and drawing, obtaining test reports from WAPDA approved contractor and internal/external = electrification of Pumping chamber. Complete in all respect to the entire satisfaction of the Engineer in charge.	1.00 Job	1	317,734.00	317,734.00
				Total =	C	3	2,746,534.00
C 4 Internal and External Electric Connection							
37	Non MRS		Provision for supplying, erection, fixing / installing transformer of 25 KVA for the ruining of 15 BHP AC electric motor with stay wire , plat form , earthing de fuses set and Erection of 11 KV line i/c pc poles cross, arms, pin, insulators, stay wire and aluminum conductor (15 KV XLPE 3 core 35 mm² electric cable from WAPDA H.T line to Transformer). complete (payable to GEPCO) including required no electric poles work will be got done by the LESCO complete in all respect .	= 1.00 Job	1	700,000.00	700,000.00
38	Non MRS		Meter Security payable to LESCO	1.00 Job	1	80,000.00	80,000.00
39	24	13.b.iv	Supply and erection of copper conductor cables for service connection, in pre-laid pipe/G.I. wire/trenches, etc. (rate for cable only):-b) PVC insulated, PVC sheathed 3 core,600/1000 volt cable:-  v) 7/1.12 mm (7/0.044")	= 100.00 Rft	1	246.85	24,685.00
				Total =	C	4	804,685.00
				Total C.	= 1.00 2 3	4.00	5,347,644.00
Carried over to the Summery of Cost						Say	5,347,600.00

**Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab**

**PROVIDING AND FIXING ELECTRIC & MECHENICAL AND PIPE & PIPE FIXTURES/ PUMP  
FOUNDATION WITH BED PLATE**

**MRS, 2nd BI-ANNUAL-2022 (01.07.2022 to 31.12.2022) DISTRICT OKARA**

For Pumping Machinery	2.00	Cusec Discharge
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For Pumping Machinery	2.00	Cusec Discharge
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For Pumping Machinery	2.00	Cusec Discharge
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S No	MRS		Description of items	Quantity	Unit	Rate	Amount
	Ch.	Item					
1	24	70	<p>Earthing of iron clad/aluminum switches, etc. with G.I. wire No.8 SWG in G.I. pipe 15 mm (½") dia, recessed or on surface of wall and floor, complete with 1.5 meter long G.I.pipe,50mm(2")dia with reducing socket 4 to 5 meter below ground level, and 2 meter away from building plinth</p> <p style="text-align: right;">1 x 1 = 1 Job =</p>	2.00 Job	1	9,592.65	<b>Rs. 19,185.00</b>
2	23	37.i.g	<p>Providing, laying, cutting, jointing, testing and disinfecting pipe of B.S.S. 1387-1967 complete in all respects, including specials and valves:-</p> <p>Reduced rate with out specials = 2883.30 (-) 10% = 2594.97</p> <p>i) G.I. flanged joints (Heavy Quality) g) 8" i/d (200 mm) =</p>	50.00 Rft	1	2,883.30	<b>Rs. 144,165.00</b>
3	23	29 b-ii	<p>Providing and fixing cost iron special of BSS class-B (such as bend tee cross collar reducer tail piece flagged spigot flanged socket topper angle branch complete.</p> <p>b)C.I. flanged specials, with flanged and flanged joints:-</p> <p>ii) 8" to 12" (200 to 300 mm) i/d</p> <p>Increaser/Reducer 8"x6" 1 No 25.41 Kg = 25.41 Kg</p> <p>Bend 8" 5 No 41.29 Kg = 206.44 Kg</p> <p>Duck foot Bend 8" 2 No 107.08 Kg = 214.16 Kg</p> <p style="text-align: right;">Total 446.01 Kg =</p>	446.01 Kg	1.0	109.70	<b>Rs. 48,927.00</b>
4	23	35	<p>Providing and fitting C.I. flanges on pipes, including turning, threading, facing and fitting, etc. complete in all respects:-</p> <p>b) 8" to 12" (200 to 300 mm) i/d</p> <p>Flange 8"i/d 8 No 7.00 Kg = 56.00 Kg =</p>	56.00 Kg	1.0	132.60	<b>Rs. 7,426.00</b>
5	23	31	<p>Providing and fixing sluice valve of B.S.S. quality and weight, Class 'B', for cast iron pipe line, and Asbestos cement pipe line (including cost of jointing material):-</p> <p>d) 6" i/d (150 mm) 1 =</p>	1.00 Job	1.0	31,264.50	<b>Rs. 31,265.00</b>
6	23	35	<p>Providing and fixing Non return valve of B.S.S. quality and weight, Class 'B', for cast iron pipe line, and Asbestos cement pipe line (including cost of jointing material):-</p> <p>d) 6" i/d (150 mm) 1 =</p>	1.00 Job	1.0	25,011.60	<b>Rs. 25,012.00</b>
7	6	5-f	<p>Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):</p> <p>(c) Ratio 1: 2:4</p> <p>Size 4'x2.5'x1.0' = 4.0 x 2.50 x 1.0 = 25.00 Cft =</p> <p style="text-align: right;">Total = 25.000 Cft =</p>	25.00 Cft	100	38,178.90	<b>Rs. 9,545.00</b>
8			<p style="text-align: right;">12 2.204</p> <p>Obtaining of test report from the approved contractor of WAPDA complete in all respects</p> <p>For 1 set of pumping Machinery 1 1 Job =</p>	1.00 Job	1.0	15,000.00	<b>Rs. 15,000.00</b>

Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab													
PROVIDING AND FIXING ELECTRIC & MECHANICAL AND PIPE & PIPE FIXTURES/ PUMP FOUNDATION WITH BED PLATE													
MRS, 2nd BI-ANNUAL-2022 (01.07.2022 to 31.12.2022) DISTRICT OKARA													
For Pumping Machinery				2.00	Cusec Discharge								
S No	MRS		Description of items	Quantity	Unit	Rate	Amount						
	Ch.	Item											
9	Non MRS		Internal electrification of pump house with 16 mm dia PVC pipe with 250/ 440 volts PVC insulated 3-10.029"wire, 3 No. round block swan wood one swan wood board of 12"x14" size one 9" long swan neck plain brass / steel oxidation (lamp holder on wall type / pole type) with pins socket 10/15 ampere and one set earthing as standard specification etc. Complete in all respect.  For 1 set of pumping Machinery	1	1	Job	=	1.00	Job	1.0	15,000.00	Rs.	15,000.00
10	1	1	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor.  Lead upto = 166.5 Km from Karana quarry District Sargodha.  Qty. as per item NO. 7 = 25.000 x 0.88 = 22.000 Cft =	22.00	Cft	100	10,042.90	Rs.	2,209.00				
						Total		Rs.	317,734.00				
						Say		Rs.	317,700.00				

Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD) STREET LIGHTING NETWORK M.A JINNAH ROAD DISTRICT OKARA ENGINEERING COST ESTIMATE (ELECTRICAL WORKS)						
ITEM NO.	Okara 2022 2nd MRS Ref.	DESCRIPTION	UNIT	QTY	RATE (Rs.)	AMOUNT (Rs.)
<b>Sub Head 1: Street Light Poles</b>						
1	24/68	Supplying, installation testing and commissioning of Octagonal shape electric street light pole, made of hot dipped 4.5 mm thick (7 SWG) galvanized steel, tapered from 225 mm at bottom to 100 mm at top, with 1500 mm x 60 mm dia. arm for luminaire installation, duly G.I. welded with 470x470x20 mm base plate with the help of 4 no triangular stiffeners 100x350x20 mm of GI sheet, with built in junction box with shutter, i/c the cost of nuts & J-rag bolts, duly fixed in pre-laid concrete foundation, foundation will be paid additionally as approved and directed by the Engineer Incharge.				
a	b) i)	Double Arm 10 Meter	Each	30	109,869.85	3,296,095.50
2	NS	Supply, installation, testing and commissioning of Pole Base Connection Plates complete comprising of four number (4 Nos.) line up terminal for 35 mm square cables connection for incoming and outgoing, nut & bolts, end covers and stoppers and covers etc. with Main 6 Amp Single Pole MCB at outgoing. make Legrand or equivalent				
		Double Arm 10 Meter	Each	30	4,323.76	129,712.68
<b>Sub Head 2: Cables</b>						
3	24/13/d/iv/v	Supply and erection of copper conductor cables for service connection, in pre-laid pipe/G.I. wire/trenches, etc d) PVC insulated, PVC sheathed 4 Core, 600/1000 volt armoured cable:-				
	v	25 mm <sup>2</sup> 4-Core Cable.	Rft	30	1,340.70	40,221.00
	iv	16 mm <sup>2</sup> 4-Core Cable.	Rft	4582	816.10	3,739,402.03
4	24/13/a/iii	Supply and erection of copper conductor cables for service connection, in pre-laid pipe/G.I. wire/trenches, etc a) PVC insulated, PVC sheathed twin core, 250/440 volts. iii) 2.5mmsq [7/0.74 mm (7/0.029")]	Rft	2488	86.55	215,353.71
<b>Sub Head 3: Conduits</b>						
5	24/6/iii	Supply and erection PVC pipe for recessed wiring (main and sub-main) purpose, including bends, specials, etc. in floor, wall or trenches:- iii) 100 mm i/d (4 inch)	Rft	3853	290.75	1,120,401.93
<b>Sub Head 4: Street Light Control Panel (SLCP)</b>						
	24/90/a/i	P/F wall mounted DB (Distribution Board) made with 16SWG Sheet (Recessed/Surface mounted Type), Powder coated Paint, i/c the cost of Lock, Indication lights, Thimble, Copper Comb, Wiring, Neutral & Earth Bar, Door Earthing, Digital Voltmeter, Digital Ammeter, Volt Selector Switch, Ammeter selector switch, Current Transformers and Controls Complete in all respect as approved and directed by the Engineer Incharge  a) 6" Deep i) 20-60A	Each	1	18,634.45	18,634.45

Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD) STREET LIGHTING NETWORK M.A JINNAH ROAD DISTRICT OKARA ENGINEERING COST ESTIMATE (ELECTRICAL WORKS)						
ITEM NO.	Okara 2022 2nd MRS Ref.	DESCRIPTION	UNIT	QTY	RATE (Rs.)	AMOUNT (Rs.)
6		<b>Incoming</b>				
	24/87/a/ii	Supplying ,Installation and commissioning of MCCB (Moulded Case Circuit Breaker) of specified rating made of LEGRAND FRANCE/ GE U.S.A / SCHNEIDER GERMANY / TERASAKI JAPAN/SIEMEN/ABB SWITZERLAND (with fixed Thermal-Magnetic Trip ) in pre-laid DBs and Panels i / c the cost of screws, necessary wire complete in all respect as approved and directed by the Engineer Incharge. a) Tripple Pole (ii) 40 Amp (10 KA)	Each	1	11,433.00	11,433.00
	24/94/xv/b	Providing and fixing DB/Panel accessories of required rating and size i/c copper screws of approved brand Complete in all respect as approved and directed by the Engineer Incharge. (xv) Magnetic Contactor (b) 40 A (AC 3) for 25 KVAR	Each	1	20,193.00	20,193.00
	24/94/viii	Providing and fixing DB/Panel accessories of required rating and size i/c copper screws of approved brand Complete in all respect as approved and directed by the Engineer Incharge (viii) Control MCB S/P 6A (Make: Schneider/ Terasaki/ABB)	Each	1	1,173.00	1,173.00
	24/94/x	Providing and fixing DB/Panel accessories of required rating and size i/c copper screws of approved brand Complete in all respect as approved and directed by the Engineer Incharge (x) Auto/Manual Switch 3-Steps (Make: GGT/Camsco)	Each	1	1,833.00	1,833.00
	NS	Photo Electric Switch Type (10 Amp)	Each	1	16,252.50	16,252.50
	24/21/i	Supply and erection of bus bars, for 500 volts 3 phase A.C.supply with four copper bars, including glazed porcelain bridges, on angle iron board, fixed with rag bolts and M.S.sheet box 1.5 mm thick, etc. complete:- i)60 Amp. with 4 copper bars size 1½"x1/8" (40 x 3 mm)	Each	1	4,924.60	4,924.60
	24/94/vi	Providing and fixing DB/Panel accessories of required rating and size i/c copper screws of approved brand Complete in all respect as approved and directed by the Engineer Incharge (vi) Push Button ON/OFF (Make: Schneider/Himal/Eqv.)	Each	1	447.50	447.50

Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD) STREET LIGHTING NETWORK M.A JINNAH ROAD DISTRICT OKARA ENGINEERING COST ESTIMATE (ELECTRICAL WORKS)						
ITEM NO.	Okara 2022 2nd MRS Ref.	DESCRIPTION	UNIT	QTY	RATE (Rs.)	AMOUNT (Rs.)
		<b>Outgoing</b>				
	24/86/c/ii	Supplying, Installation and comissioning of MCB (Miniature Circuit Breaker) of specified rating made of LEGRAND FRANCE/ GE U.S.A / SCHNEIDER GERMANY /SIEMEN GERMAN/TERASAKI JAPAN/ ABB SWITZERLAND in prelaid DBs and Panels i/c the cost of screws,necessary wire complete in all respect as approved and directed by the Engineer Incharge. <b>c) Tripple Pole</b> ii) 20 Amps TP 6 KA MCB	Each	2	6,753.00	13,506.00
		<b>c) Tripple Pole</b> ii) 16 Amps TP 6 KA MCB		1	6,753.00	6,753.00
		16 Amps TP 6 KA MCB as spare	Each	2	6,753.00	13,506.00
<b>Sub Head 5: LED Street Light</b>						
7	24/69/a/v	Supplying, installation and commissioning of LED Cobra-head Luminaries of specified wattage and lumens conforming to IP 65, Philips/Osram/Thorn with corrosion resistant die casted aluminum housing, silicon gas kit, thermally hardened glass complete with LED drivers, surge protection i/c the cost of all accessories/components required for proper operation , fully flexible for future upgradation and easy replacements for maintenance purposes,bucket elevator charges as approved and directed by the Engineer Incharge <b>a) 140 Lm/Watt.</b> <b>(v) 120 Watt with 16800 Lumens</b>  <i>The LEDs shall be in compliance with latest NEECA/PEECA standards. Along with the minimum of 5 year Manufacturer's warrenty</i>	Each	60	53,301.85	3,198,111.00
<b>Sub Head 5: Transformer &amp; Energy Meter</b>						
8	24/105/iii	Supply, installation, commissioning and testing of oil cooled type, Step down Power Transformer of specified rating,11/0.415 kV, i/c the cost of lifting hooks, thermometers, LT & HT bushing 5-steps, tap changer, imported double float buchholz relay, 2 earthing terminals, roller wheels, connecting terminals for cables M .S box on transformer i n order to cover complete L.T side, all necessary materials required for connections on H.T & L.T side, rated voltage 11000/415/240 V impedance 6.25% or as specified by WAPDA/IEC system earth: Delta / Star, neutral solidly earthed, i/c Wapda test i ng charges,complete in all respects made of PEL , Siemens, as approved and directed by the Engineer Incharge  <b>iii) 25KVA</b>	Each	1	329,487.70	329,487.70
9	24/77/b/ii	Supply and erection of electric energy meter, including meter testing fee, etc. b)Three phase, 4 wires: ii) 3x50 Amp, 400 volts	Each	1	14,659.25	14,659.25

Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD) STREET LIGHTING NETWORK M.A JINNAH ROAD DISTRICT OKARA ENGINEERING COST ESTIMATE (ELECTRICAL WORKS)						
ITEM NO.	Okara 2022 2nd MRS Ref.	DESCRIPTION	UNIT	QTY	RATE (Rs.)	AMOUNT (Rs.)
<b>Sub Head 6: Earthing</b>						
11	NS	Supply, Installation, testing and commissioning of Bore type, earthing as per WAPDA standards and specifications comprising of 50 meter 70 mm <sup>2</sup> bare Cu stranded conductor, hug in 2 inch dia GI pipe up to slush below ground and connected to 3/4 inch dia 10 ft. long Cu rod. The rod shall be dipped in mixture of NH <sub>4</sub> Cl, CaCO <sub>3</sub> and Charcoal in the pipe. Including earth conductivity material : Bentonite Based , Weight Bag 20 kg. Provide a GI Tee and Cap on the top of the pipe to take the stranded conductor out of the manhole for other connections. Pit with CI/PVC Cover size 2x2 feet included in this job. Earthing set complete with accessories for Street Light Poles and SLCPs To achieve Earthing value of less then 1 Ohms as per Drawings/ Data approval by Consultant/ Client. The payment shall be made as per actual work done.	Job	1	92,742.68	92,742.68
12	24/70	Earthing of iron clad/aluminum switches, etc. with G.I. wire No. 8 SWG in G.I. pipe 15 mm (½") dia, recessed or on surface of wall and floor, complete with 1.5 metre long G.I. pipe, 50 mm (2") dia with reducing socket 4 to 5 metre below ground level, and 2 metre away from building plinth.	Job	1	9,592.65	9,592.65
13	24/71-i	Earthing of Metallic cases, etc. with G.I. wire No. 8 SWG, in 15 mm (½") dia G.I. pipe, best quality:- i) on surface, including clamps, etc.	Each	300	141.40	42,420.00
<b>TOTAL (Rs.)</b>						<b>12,336,856.17</b>
<b>TOTAL (Rs. In Million)</b>						<b>12.337</b>



Detail Design of Infrastructure Sub - Projects Sectoral Planning & Resident Supervision in 16 Cities of Punjab IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD) STREET LIGHTING NETWORK M.A JINNAH ROAD DISTRICT OKARA RATE ANALYSIS OF NON- SCHEDULE ITEMS OF ELECTRICAL WORKS																			
BOQ Item#	Qty	Unit	Unit Price	Cost	Contractor Profit %		Amount in lieu of Tax		Total Material Cost		Freight Charges		Labour / Installation ( With Material)		Income Tax		Total Services Cost	Total Cost /unit	Total Cost
	a	b	c	d	e	f	g	h	m	n	o	p	q	x	y	z	cc	dd	
				a x c		d x e	d x g	d x h	d + f + h	d x n			d x p	(o + q) * x		o + q + y	dd / a	m + z	
				Pkr	%	Amount	%	Amount	Pkr	%	Amount	Pkr	%	Amount	%	Pkr	Pkr	Pkr	
2	30	Each	2,926	87,792	20%	17,558	17%	14,925	120,275	5%	4,390	5%	4,390	7.5%	658	9,438	4,324	129,713	
5	1	Each	11,000	11,000	20%	2,200	17%	1,870	15,070	5%	550	5%	550	7.5%	83	1,183	16,253	16,253	
10	1	Job	62,770	62,770	20%	12,554	17%	10,671	85,995	5%	3,139	5%	3,139	7.5%	471	6,748	92,743	92,743	
11	1	Each	20,240	20,240	20%	4,048	17%	3,441	27,729	5%	1,012	5%	1,012	7.5%	152	2,176	29,905	29,905	

<b>Detail Design of Infrastructure Sub - Projects Sectoral Planning &amp; Resident Supervision in 16 Cities of Punjab</b> <b>IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)</b> <b>MRS, 2nd BI-ANNUAL-2022 (01.07.2022 to 31.12.2022) DISTRICT OKARA</b>					
				<b>UNIT</b>	<b>100 CFT</b>
<b>Sr.No</b>	<b>Detail of Item</b>	<b>Unit</b>		<b>Rate</b>	<b>Amount</b>
	<b>RATE ANALYSIS FOR SUB - BASE</b> <b>Chapter,18 - Item ,3a,ii,b - Page ,115</b>				
1	Providing and laying sub-base course of stone product of approved quality and grade, including placing, mixing, spreading and compaction of sub-base material to required depth, camber, grade to achieve 100%maximum modified AASHO dry density, including carriage of all material to site of work except gravel and aggregate.				
ii)	Crushed stone aggregate.	100	Cft	8,925	8,925.00
	<b>Chapter,1 - Item ,1 - Page ,3</b>				
2	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor.				
	<b>Carriage from Kirana Hills Quarry</b> Okara to Pull 11 + Pull 11 to Kirana hills 165 + 1.4 = <b>166.5 Kms</b>				
	1st Km	Km	1.20	299.40	359.28
	2nd Km	Km	1.20	145.25	174.30
	3rd Km	Km	1.20	116.85	140.22
	4th Km	Km	1.20	85.30	102.36
	5th Km	Km	1.20	80.20	96.24
	6th Km	Km	1.20	79.00	94.80
	7th Km	Km	1.20	74.25	89.10
	8th Km	Km	1.20	73.50	88.20
	9th Km	Km	1.20	69.55	83.46
	10th Km	Km	1.20	65.70	78.84
	10th Kms to 166.4Kms = 156.4Kms	156	Km	57.25	10,744.68
	<b>Total Carriage</b>				<b>12,051.48</b>
	<b>Total Rate for 100 Cft</b>				<b>20,976.48</b>
	<b>Rate Per Cft</b>				<b>209.76</b>

<b>Detail Design of Infrastructure Sub - Projects Sectoral Planning &amp; Resident Supervision in 16 Cities of Punjab</b> <b>IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)</b> <b>MRS, 2nd BI-ANNUAL-2022 (01.07.2022 to 31.12.2022) DISTRICT OKARA</b>					
				<b>UNIT</b>	<b>100 CFT</b>
<b>Sr.No</b>	<b>Detail of Item</b>	<b>Unit</b>		<b>Rate</b>	<b>Amount</b>
	<b>RATE ANALYSIS FOR BASE COURSE</b> <b><u>Chapter,18 - Item ,4 (a) page ,116</u></b>				
1	Providing and laying base course of crushed stone aggregate of approved quality and grade, and supply and spreading of stone screening, including placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100%maximum modified AASHO dry density, including carriage of all materials to site of work except gravel and. aggregate.				
ii)	Crushed stone aggregate.	100	Cft	14,002.60	14,002.60
	<b><u>Chapter,1 - Item ,1 - Page ,3</u></b>				
2	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor.				
	<b><u>Carriage from Kirana Hills Quarry</u></b> Okara to Pull 11 + Pull 11 to Kirana hills 165 + 1.4 = <b>166.5 Kms</b>				
	1st Km	Km	1.22	299.40	365.27
	2nd Km	Km	1.22	145.25	177.21
	3rd Km	Km	1.22	116.85	142.56
	4th Km	Km	1.22	85.30	104.07
	5th Km	Km	1.22	80.20	97.84
	6th Km	Km	1.22	79.00	96.38
	7th Km	Km	1.22	74.25	90.59
	8th Km	Km	1.22	73.50	89.67
	9th Km	Km	1.22	69.55	84.85
	10th Km	Km	1.22	65.70	80.15
	10th Kms to 166.4Kms = 156.4Kms	156	Km	57.25	10,923.76
	<b>Total Carriage</b>				<b>12,252.34</b>
	<b>Total Rate for 100 Cft</b>				<b>26,254.94</b>
	<b>Rate Per Cft</b>				<b>262.55</b>

<b>Detail Design of Infrastructure Sub - Projects Sectoral Planning &amp; Resident Supervision in 16 Cities of Punjab</b> <b>IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)</b> <b>MRS, 2nd BI-ANNUAL-2022 (01.07.2022 to 31.12.2022) DISTRICT OKARA</b>					
				UNIT	100 CFT
Sr.No	Detail of Item	Unit		Rate	Amount
	<b>RATE ANALYSIS FOR PCC 1:4:8</b> <b><u>Chapter,6 - Item ,5 (i)</u></b>				
1	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate (i) Ratio 1: 4: 8				
ii)	Crushed stone aggregate.	100	Cft	28,986.90	28,986.90
	<b><u>Chapter,1 - Item ,1 - Page ,3</u></b>				
2	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor.				
	<b><u>Carriage from Kirana Hills Quarry</u></b> Okara to Pull 11 + Pull 11 to Kirana hills 165 + 1.4 = <b>166.5 Kms</b> Consumption Factor = 1.54 x 8 / 13				
	1st Km	Km	0.94769	299.40	283.74
	2nd Km	Km	0.94769	145.25	137.65
	3rd Km	Km	0.94769	116.85	110.74
	4th Km	Km	0.94769	85.30	80.84
	5th Km	Km	0.94769	80.20	76.00
	6th Km	Km	0.94769	79.00	74.87
	7th Km	Km	0.94769	74.25	70.37
	8th Km	Km	0.94769	73.50	69.66
	9th Km	Km	0.94769	69.55	65.91
	10th Km	Km	0.94769	65.70	62.26
	10th Kms to 166.4Kms = 156.4Kms 156	Km	0.94769	57.25	8,485.54
	<b>Total Carriage</b>				<b>9,517.58</b>
	<b>Total Rate for 100 Cft</b>				<b>38,504.48</b>
	<b>Rate Per Cft</b>				<b>385.04</b>

<b>Detail Design of Infrastructure Sub - Projects Sectoral Planning &amp; Resident Supervision in 16 Cities of Punjab</b> <b>IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)</b> <b>MRS, 2nd BI-ANNUAL-2022 (01.07.2022 to 31.12.2022) DISTRICT OKARA</b>					
				<b>UNIT</b>	<b>100 CFT</b>
<b>Sr.No</b>	<b>Detail of Item</b>	<b>Unit</b>		<b>Rate</b>	<b>Amount</b>
	<b>RATE ANALYSIS FOR PCC 1:2:4</b> <b><u>Chapter,6 - Item ,5 (f)</u></b>				
1	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate (f) Ratio 1: 2: 4				
ii)	Crushed stone aggregate.	100	Cft	38,178.50	38,178.50
	<b><u>Chapter,1 - Item ,1 - Page ,3</u></b>				
2	Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor.				
	<b><u>Carriage from Kirana Hills Quarry</u></b> Okara to Pull 11 + Pull 11 to Kirana hills 165 + 1.4 = <b>166.5 Kms</b> Consumption Factor = 1.54 x 4 / 7				
	1st Km	Km	0.88	299.40	263.47
	2nd Km	Km	0.88	145.25	127.82
	3rd Km	Km	0.88	116.85	102.83
	4th Km	Km	0.88	85.30	75.06
	5th Km	Km	0.88	80.20	70.58
	6th Km	Km	0.88	79.00	69.52
	7th Km	Km	0.88	74.25	65.34
	8th Km	Km	0.88	73.50	64.68
	9th Km	Km	0.88	69.55	61.20
	10th Km	Km	0.88	65.70	57.82
	10th Kms to 166.4Kms = 156.4Kms	156	Km	0.88	57.25
	<b>Total Carriage</b>				<b>8,837.75</b>
	<b>Total Rate for 100 Cft</b>				<b>47,016.25</b>
	<b>Rate Per Cft</b>				<b>470.16</b>

<b>Detail Design of Infrastructure Sub - Projects Sectoral Planning &amp; Resident Supervision in 16 Cities of Punjab</b> <b>IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)</b> <b>MRS, 2nd BI-ANNUAL-2022 (01.07.2022 to 31.12.2022) DISTRICT OKARA</b>					
				UNIT	100 CFT
Sr.No	Detail of Item	Unit		Rate	Amount
1	<b>RATE ANALYSIS FOR RCC 1:2:4</b> <b>Chapter,6 - Item ,6-a-i-3</b> Providing and laying reinforced cement concrete (including prestressed concrete), using coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete (but excluding the cost of steel reinforcement, its fabrication and placing in position, etc.):- a) (i) Reinforced cement concrete in roof slab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- (3) Type C (nominal mix 1: 2: 4) ii) Crushed stone aggregate.	100	Cft	100	556.50
2	<b>Chapter,1 - Item ,1 - Page ,3</b> Carriage of 100 Cft. (2.83 cu.m) of all materials like stone aggregate, spawl, kankar lime (unslaked), surkhi, etc. or 150 Cft. (4.25 cu.m) of timber, by truck or by any other means owned by the contractor. <b>Carriage from Kirana Hills Quarry</b> Okara to Pull 11 + Pull 11 to Kirana hills 165 + 1.4 = <b>166.5 Kms</b> Consumption Factor = 1.54 x 4 / 7 1st Km 2nd Km 3rd Km 4th Km 5th Km 6th Km 7th Km 8th Km 9th Km 10th Km 10th Kms to 166.4Kms = 156.4Kms	156	Km	0.88	299.40
			Km	0.88	145.25
			Km	0.88	116.85
			Km	0.88	85.30
			Km	0.88	80.20
			Km	0.88	79.00
			Km	0.88	74.25
			Km	0.88	73.50
			Km	0.88	69.55
			Km	0.88	65.70
			Km	0.88	57.25
	<b>Total Carriage</b>				<b>8,837.75</b>
	<b>Total Rate for 100 Cft</b>				<b>64,487.75</b>
	<b>Rate Per Cft</b>				<b>644.88</b>

<b>Detail Design of Infrastructure Sub - Projects Sectoral Planning &amp; Resident Supervision in 16 Cities of Punjab</b> <b>IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)</b> <b>MRS, 2nd BI-ANNUAL-2022 (01.07.2022 to 31.12.2022) DISTRICT OKARA</b>					
				UNIT	100 CFT
Sr.No	Detail of Item	Unit		Rate	Amount
1	<b>RATE ANALYSIS FOR RCC 1:1:2</b> <b>Chapter,6 - Item ,6-a-i-3</b> Providing and laying reinforced cement concrete (including prestressed concrete), using coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete (but excluding the cost of steel reinforcement, its fabrication and placing in position, etc.):- a) (i) Reinforced cement concrete in roof slab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- <b>1) Type A (nominal mix 1:1:2)</b>				
ii)	Crushed stone aggregate.	100	Cft	100	716.30
2	<b>Chapter,1 - Item ,1 - Page ,3</b> Carriage of 100 Cft. (2.83 cu.m) of all materials like <b>Carriage from Kirana Hills Quarry</b> Okara to Pull 11 + Pull 11 to Kirana hills $165 + 1.4 = 166.5 \text{ Kms}$ Consumption Factor = $1.54 \times 2 / 4$				
	1st Km	Km	0.77	299.40	230.54
	2nd Km	Km	0.77	145.25	111.84
	3rd Km	Km	0.77	116.85	89.97
	4th Km	Km	0.77	85.30	65.68
	5th Km	Km	0.77	80.20	61.75
	6th Km	Km	0.77	79.00	60.83
	7th Km	Km	0.77	74.25	57.17
	8th Km	Km	0.77	73.50	56.60
	9th Km	Km	0.77	69.55	53.55
	10th Km	Km	0.77	65.70	50.59
	10th Kms to 166.4Kms = 156.4Kms	156	Km	0.77	57.25
	<b>Total Carriage</b>				<b>7,733.03</b>
	<b>Total Rate for 100 Cft</b>				<b>79,363.03</b>
	<b>Rate Per Cft</b>				<b>793.63</b>

<b>Detail Design of Infrastructure Sub - Projects Sectoral Planning &amp; Resident Supervision in 16 Cities of Punjab</b> <b>IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)</b> <b>MRS, 2nd BI-ANNUAL-2022 (01.07.2022 to 31.12.2022) DISTRICT OKARA</b>					
				<b>UNIT</b>	<b>100 CFT</b>
<b>Sr.No</b>	<b>Detail of Item</b>	<b>Unit</b>		<b>Rate</b>	<b>Amount</b>
2	<b>Chapter,1 - Item ,1 - Page ,3</b> Carriage of 100 Cft. (2.83 cu.m) of all materials like <b>Carriage from Kirana Hills Quarry</b> Okara to Pull 11 + Pull 11 to Kirana hills 165 + 1.4 = <b>166.5 Kms</b>				
	1st Km	Km	1.00	299.40	299.40
	2nd Km	Km	1.00	145.25	145.25
	3rd Km	Km	1.00	116.85	116.85
	4th Km	Km	1.00	85.30	85.30
	5th Km	Km	1.00	80.20	80.20
	6th Km	Km	1.00	79.00	79.00
	7th Km	Km	1.00	74.25	74.25
	8th Km	Km	1.00	73.50	73.50
	9th Km	Km	1.00	69.55	69.55
	10th Km	Km	1.00	65.70	65.70
	10th Kms to 166.4Kms = 156.4Kms 156	Km	1.00	57.25	8,953.90
	<b>Total Carriage</b>				<b>10,042.90</b>
	<b>Total Rate for 100 Cft</b>				<b>10,042.90</b>
	<b>Rate Per Cft</b>				<b>100.43</b>
<b>RATE ANALYSIS FOR PLANT MIX BITUMEN 1-1/2" THICK</b>					
	<b>Chapter,18 - Item ,10a</b>				
1	Providing and laying plant premixed bituminous 1-1/2" thick carpet, including compaction and finishing to required camber, grade and density.				
iii)	iii) 4% Bitumen	100 Sft	100	10,572.83	10,572.83
2	<b>Chapter,1 - Item ,1 - Page ,3</b> Carriage of 100 Cft. (2.83 cu.m) of all materials like <b>Carriage from Kirana Hills Quarry</b> Okara to Pull 11 + Pull 11 to Kirana hills 165 + 1.4 = <b>166.5 Kms</b> Consumption Factor = 1				
	1st Km	Km	0.1050	299.40	31.44
	2nd Km	Km	0.1050	145.25	15.25
	3rd Km	Km	0.1050	116.85	12.27
	4th Km	Km	0.1050	85.30	8.96
	5th Km	Km	0.1050	80.20	8.42
	6th Km	Km	0.1050	79.00	8.30
	7th Km	Km	0.1050	74.25	7.80
	8th Km	Km	0.1050	73.50	7.72
	9th Km	Km	0.1050	69.55	7.30
	10th Km	Km	0.1050	65.70	6.90
	10th Kms to 166.4Kms = 156.4Kms 156	Km	0.1050	57.25	940.16
	<b>Total Carriage</b>				<b>1,054.50</b>
	<b>Total Rate for 100 Cft</b>				<b>11,627.33</b>
	<b>Rate Per Cft</b>				<b>116.27</b>



<b>Detail Design of Infrastructure Sub - Projects Sectoral Planning &amp; Resident Supervision in 16 Cities of Punjab</b> <b>IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)</b> <b>MRS, 2nd BI-ANNUAL-2022 (01.07.2022 to 31.12.2022) DISTRICT OKARA</b>					
				<b>UNIT</b>	<b>100 CFT</b>
<b>Sr.No</b>	<b>Detail of Item</b>	<b>Unit</b>		<b>Rate</b>	<b>Amount</b>
	<b>RATE ANALYSIS FOR PLANT MIX BITUMEN 1-1/2" THICK</b> <b><u>Chapter,18 - Item ,10a</u></b>				
1	Providing and laying plant premixed bituminous 1-1/2" thick carpet, including compaction and finishing to required camber, grade and density.				
iv)	iv) 4.5% Bitumen	100 Sft	100	11,292.38	11,292.38
	<b><u>Chapter,1 - Item ,1 - Page ,3</u></b>				
2	Carriage of 100 Cft. (2.83 cu.m) of all materials like <b><u>Carriage from Kirana Hills Quarry</u></b> Okara to Pull 11 + Pull 11 to Kirana hills 165 + 1.4 = <b>166.5 Kms</b> Consumption Factor = 1				
	1st Km	Km	0.1050	299.40	31.44
	2nd Km	Km	0.1050	145.25	15.25
	3rd Km	Km	0.1050	116.85	12.27
	4th Km	Km	0.1050	85.30	8.96
	5th Km	Km	0.1050	80.20	8.42
	6th Km	Km	0.1050	79.00	8.30
	7th Km	Km	0.1050	74.25	7.80
	8th Km	Km	0.1050	73.50	7.72
	9th Km	Km	0.1050	69.55	7.30
	10th Km	Km	0.1050	65.70	6.90
	10th Kms to 166.4Kms = 156.4Kms	156 Km	0.1050	57.25	940.16
	<b>Total Carriage</b>				<b>1,054.50</b>
	<b>Total Rate for 100 Cft</b>				<b>12,346.88</b>
	<b>Rate Per Cft</b>				<b>123.47</b>

**MMP**

**Amprass Road  
Lahore**

**Quotation**

**For Sewerage Schem Okara**

**NON CLOGGING CENTRIFUGAL PUMP**

Your Reference No.	Telecon
Date	04-11-22
Item Number	01

Order Confirmation No.	LEA 15921
Quantity	01
WORKS NO.	Date 04-11-22

We thank you for your above enquiry/order and are pleased to submit our offer/order confirmation subject to our general conditions for Sales and Supply of equipment contained in form 07 FT-04 attached.

**TECHNICAL PART**

**Pump Data**

Pump Type	KWPK	150-315
Liquid handled	Sewage	
Flow rate	2.00	CUSEC
Pump total head	30	Ft
Speed	960	rpm
Efficiency		
Specific Gravity	1.05	
NPSH		Ft
Pump Input	10.08	BHP
Motor/ Engine Rating	15	HP
Suction Flange I.D.	6	inch
Delivery Flange I.D.	6	inch
Flange Standard	BS Table 10 D	
Shaft Seal	--	
Coupling Type	2BN-H	

**Driver**

	KSB /Siemens/ ABB		
Make/Type		Rated Speed	960
Protection	IP-55	Rated Output	15
Insulation Class	F	Voltage	400 ± 5%
Ambient Temp.	40 °C	Phase	3
Enclosure		Cycle/Sec	50

**Material GG-25**

Part	Material	Part	Material
Pump Casing	Cast Iron	Shaft	C. Steel
Impeller	Cast Iron	Suction Cover	Cast Iron
Discharge Cover	Cast Iron	Seal Ring	Cast Iron
S.P Sleeve	Cast Iron	F.I. Piece	Cast Iron
S.B Gland	Cast Iron	Throat bush	Cast Iron
Mechanical Seal		Type	

Pump is recommended for suction lift up to 14FT

**COMMERCIAL PART**

**Price Basis**

Ex.	Ex-Customer Site
Delivery Time	10-12 weeks after confirm order
Validity	30 Day from today
Terms of Payment	100% Advance

Shipping	Space	Gross Wt	Nett Wt.

**Scope of Supply**

Item Description	Scope	Qty	Total Value Rs.
KWP-150-315	y	1	Included
F.I.P	y	1	Included
Fabricated Frame	y	1	Included
Coupling	y	1	Included
Motor Rating 15. HP	y	1	Included
Starter Type MCU 15	y	1	Included
Installation	y	1	Included

Grand Total Price/Unit inclusive of 17% GST	2,428,800
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for KSB Pumps Company Limited

*[Signature]*  
Sales Department

**Disclaimer:**

Working out the prices of above mentioned engineered products should be acknowledged as KSB's prerogative. This quotation will have no bearing on previously quoted prices anywhere or on prices to be quoted in future to any prospective client. After expiry of quotation's validity, KSB reserves the right to change prices as a result of market forces / manufacturing variables  
Procuring Agency is requested to comply with all PPRA rules as it is its responsibility



## Improvement of Road from Tank Chowk to Harinwala Chowk



# **ANNEXURE – C**

**Economic Analysis, Sensitivity  
Analysis & Cost Benefit Ratio**

## **Punjab Cities Program (PCP)**

### **IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD) – Okara City**

#### **Annexure - C**

#### **Project Benefits and Analysis**

Construction, widening and improving roads of any country are the backbone of social and economic development, enabling the provision of transport and logistics services to passengers & cargo and providing accessibility, which in turn induces mobility.

This project will address the following gaps in the road sector of Okara:-

- Limited access to road infrastructure
- Low quality / poor infrastructure
- High transportation cost

#### **1). Project Economic and Financial Analysis**

Economic analyses compares the benefits, costs, and return to the economy as a whole. While, the financial analyses of the project compare direct benefits/revenues, costs and return to the individual investor / enterprise OR operating authority.

##### **1.1. Economics**

Effective and efficient road network provides economic benefits that result in multiplier effects such as providing infrastructure results in improving (physical) accessibility that will enhance mobility of people and goods, resulting in improving overall economic welfare. The proposed study relates to improvement of “ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)” Okara City.

Length, proposed tasks and traffic type on the subject road is as detailed below:

<b>Sr. No</b>	<b>City Road Names</b>	<b>Length (Km)</b>	<b>Proposed Works</b>		<b>Traffic Type</b>
			Road Work	Installation of Street Lights	
1	Road from Tank to Harinwala Chowk (M.A, Jinnah Road), Okara City	1.8288	Rehabilitation / Improvement	Electrical and Civil Work	Mostly Light city traffic

Above listed existing road/track under study in Okara City was constructed in past as a good / paved road, however, due to various activities for installation of utilities in these areas, the condition of the road has been deteriorated and needed immediate attention to be improved and widened and ease out the vehicles/ pedestrian traffic at large in the area. Traffic on this road is light city traffic. With the completion of proposed works, a large number of people of the city would be benefitted.

### 1.1.1. Project Economic Costs

Financial (market) estimates of project Investment (Capital) Costs are estimated as Rs.197.60 million. These are converted in to Economic Costs as Rs. 171.91 million by applying Standard Conversion Factor (SCF) of 0.87.

Sr. No.	Description	Financial Costs	Economic Costs @ 0.87 SCF
		Rs.	
	Project Investment Costs		
i.	Rehabilitation Works	163,783,884	142,491,979.
ii.	Improvement Works	13,991,456	12,172,567
iii.	Sump well & Pumping Chamber	5,347,644	4,652,450
iv	<u>Contingency, Sales tax, Environment, Impact costs etc</u>	14,476,609	12,594,650
Total Investment Costs		197,599,593	171,911,646

World Bank would finance project via loan to Government of Pakistan / Punjab which will trickle down to Okara Unit as grant.

### 1.1.2. O&M Costs

The roads are already being repaired and maintained by the District Council Unit Okara out of its own financial resources. No additional cost will be required after completion of the improvement and upgradation of the roads, rather the repair cost will be reduced for the initial years.

### 1.1.3. Project Economic Benefits

Theoretically, the project involves the provision of a public good so it is set to a number of 'wider' economic benefits to the entire population of the concerned area.

#### 1.1.3.1. Direct Benefits

The major economic direct benefits from the project works include:

- **Road User Benefits**
  - a) Vehicle operating cost savings
    - These include fuel and lubricant costs, spare part cost, tyre cost, maintenance cost and depreciation cost among others
  - b) Travel time saving OR travel delay reductions
- **Other benefits**
  - c) Increase in land values / assets / properties along the project roads

#### 1.1.3.2. Indirect Benefits

Some indirect economic benefits may include:

- a) Reduced traffic congestion
- b) Accident reduction, if any. (Cost of human fatal accident, injury, or hospitalization)
- c) Induced travel, including new trips and changes in mode, route, and time of travel
- d) Better and improved connectivity to further infrastructure.

- e) Provision of efficient and effective municipality services to the masses.
- f) Community development through improving basic infrastructure
- g) Reduced fuel consumption due to reduction in stopped vehicular delays (idling fuel consumption)
- h) Ease in mobility and communication.
- i) Capacity building of Local Governments.

Benefits of purely socio-economic nature may include:

- a) Increased household income and appreciation in value of land adjacent to project roads, resulting in higher aggregate economic output
- b) The project is expected to generate skilled and non-skilled jobs especially during construction period and onwards for roads maintenance works.
- c) Development of commercial activities along improved / widened proposed project roads, resulting in income generation of project area people.
- d) Overall Social and economic uplift of the project roads area.
- e) Easy / comfortable travelling (made possible due to project works) provides a state of complete physical, mental, and social well-being to the people of the area.

For a project of a relatively mega scale involving main roads or other transport infrastructure, it is possible to quantify some of these benefits such as land appreciation, vehicle operating costs, travel time costs with necessary data inputs such as

- Sizeable average daily traffic data by vehicle type (existing and projected),
- Road geometry, pavement structure, road condition, and vehicle operating cost parameters, using the highway Development Model 4 (HDM-4).
- Vehicle operating cost parameters data
- Travel time cost data etc.

#### **1.1.4. Analysis**

However, the proposed works are for the city road, are very small (in length) and do not have sizeable motorized traffic, thereby sizeable economic benefits not expected to accrue and thereby are not quantified and B/C Ratio, NPV and EIRR not calculated.

#### **1.2. Financial Aspects**

2. Project Financial Investment Costs are estimated as Rs. 65,848,220 million. (For details, refer to Section 1.1.1).

Efficient / good roads facility is a public good, and its provision thereby is responsibility of the Government. City road users will not thereby be tolled for using the improved project road. No revenues (public or private) are anticipated to be directly generated. Hence, a financial analysis is not required as there is no positive cash flow or direct revenue stream that contributes to the calculation of an internal rate of return (IRR) or payback period or cost-benefit ratio. There is no land acquisition or resettlement requirement (in case of road's improvement / widening) as the road is owned by the government. Consequently, the capital cost of the project will not be recovered by the public. Any other realized costs after completion will be borne by the government from some other income source, such as municipal budgetary or other earmarked resources.

#### **2.1. Social Benefits with Indicators**

With the ease of transportation that comes with the construction of project roads, women will have greater enablement and access to economic opportunities and services. An overall change/uplift in livelihood of people around project site is expected due to increase in employment opportunities, raise in incomes, and raise in commercial activities (shops) along road (if any) etc. The road works would decrease transport costs, ease / increase access to jobs, schools, stores / markets, recreation and other community services and amenities, , foster economic integration, stimulate competition, generate agglomeration economies, encourage citizen satisfaction ad build trust with the government. These effects can be reflected in increased land values.

## **2.2. Employment Generation (direct and indirect)**

Increased access to the economy from the improvement of the subject road will increase employment in and across project site. It will also create a positive effect on employees, working in various institutions/offices along project road, in terms of their performance and productivity and, hence wages. During construction, employment for the local people of the project area will be available. There will be indirect employment resulting from easier and greater access to opportunities across local geographies. Expected construction of commercial activities / shops (if any) along proposed road will also result in increased employment generation.

## **2.3. Environmental Impact and Clean Development Mechanism Assessment**

Air emission and greenhouse gas reduction will result from the construction/improvement of project roads. During the construction phase, however, issues may arise from the generation of dust, emission of air pollution, noise, and traffic congestion due to traffic lane reduction and redirection.

Paved / improved road would reduce dust element and hence elimination of challenges to human health.

Positive change in the aesthetic/visual scene of the area would occur due to construction of paved and clean roads and expected plantation / greenery along roadsides (if space available).

## **2.4. Impact of delays on project cost and viability**

Delays in the project will cause the total cost of the project to go up due to ever increasing inflationary pressures.











# **ANNEXURE – D**

## **Implementation Period (Gant Chart)**

# IMPROVEMENT OF ROAD FROM TANK TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD)

## Project Implementation Period Chart

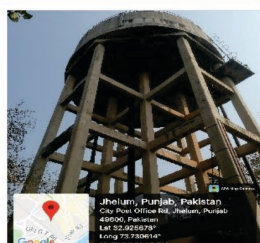
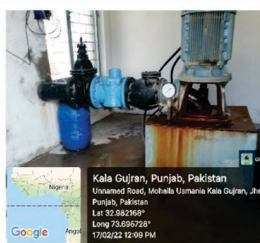
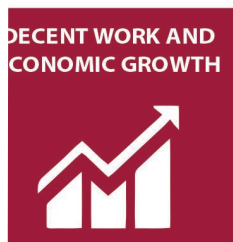
Sr No	Activity	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
1	Milling and dismantling of Road and Median						
2	Preparation of Sub - Grade						
3	Laying of Sub - Base						
4	Laying of Base Course						
5	Asphalt Concrete						
6	Installation of Tuff pavers						
7	Construction of Drainage system						
8	Installation of Street lights						

# **ANNEXURE – E**

## **Environment Impact Assessment**



**SUSTAINABLE CITIES  
AND COMMUNITIES**



# **Environmental and Social Management Plan (ESMP)**

## **IMPROVEMENT OF ROAD FROM TANK Chowk TO HARINWALA CHOWK, OKARA (M. A. JINNAH ROAD) MC Okara**

**November 2022**



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## ACRONYMS

<b>AHs</b>	Affected Households	<b>MC</b>	Department
<b>BOD</b>	Biological Oxygen Demand	<b>MO-I</b>	Municipal Corporation/Committee
<b>DPO</b>	Deputy Program Officer	<b>MO-P</b>	Municipal Officer Infrastructure
<b>CO</b>	Chief Officer		Municipal Officer Planning
<b>CPMT</b>	Central Program Management Team	<b>NEQS</b>	National Environmental Quality Standards
<b>CTS</b>	Complaints Tracking System	<b>NOC</b>	No Objection Certificate
<b>DPO</b>	Deputy Program Officer	<b>OHS</b>	Occupational Health & Safety
<b>EHS</b>	Environment Health & Safety	<b>OPs</b>	Operational Policies
<b>EIA</b>	Environmental Impact Assessment	<b>PAPs</b>	Project Affected Persons
<b>EMMP</b>	Environmental Management and Monitoring Plan	<b>PC-I</b>	Planning Commission Form-I
<b>EPA</b>	Environment Protection Agency	<b>PCP</b>	Punjab Cities Program
<b>EPD</b>	Environment Protection Department	<b>PCRs</b>	Physical Cultural Resources
<b>ESFPs</b>	Environmental & Social Focal Persons	<b>PD</b>	Project Director
<b>ESM</b>	Environmental & Social Management	<b>PDO</b>	Program Development Objectives
<b>ESMF</b>	Environmental & Social Management Framework	<b>PEPA</b>	Punjab Environment Protection Act
<b>ESMP</b>	Environmental & Social Management Plan	<b>PHED</b>	Public Health Engineering Department
<b>ESMMP</b>	Environmental & Social Management and Monitoring Plan	<b>PMDFC</b>	Punjab Municipal Development Fund Company
<b>ESSs</b>	Environmental & Social Safeguards	<b>PMU</b>	Project Management Unit
<b>GoP</b>	Government of the Punjab	<b>PPEs</b>	Personal Protective Equipment
<b>GRC</b>	Grievance Redress Committee	<b>PO</b>	Program Officer
<b>GRM</b>	Grievance Redress Mechanism	<b>RoW</b>	Right of Way
<b>HIV/AIDS</b>	Human Immunodeficiency Virus / Acquired Immune Deficiency Syndrome	<b>RPF</b>	Resettlement Policy Framework
<b>HSE</b>	Health Safety & Environment	<b>SMP</b>	Social Management Plan
<b>IEE</b>	Initial Environmental Examination	<b>SOPs</b>	Standard Operating Procedures
<b>LG&amp;CD</b>	Local Government & Community Development	<b>SPOs</b>	Senior Program Officer
		<b>STIs</b>	Site Transmission Infections
		<b>TORs</b>	Terms of References
		<b>WB</b>	World Bank



## Executive Summary

Government of Punjab (Govt. of Punjab) sought support from the World Bank for the economic growth of urban sectors in Punjab and launched Punjab Cities Program (PCP). Program is expected to achieve overarching goals of ending poverty and promoting shared prosperity by delivering improved urban infrastructure inclusively and in ways that enhance economic growth and development in the participating cities. The Project has a number of financial, social, economic and environmental benefits, including institutional development, widening and improvement of municipal services, capital investments, better quality of life and employment generation. In addition, a large number of secondary benefits are also likely to accrue in the medium to long term such as institutional reforms at the local level. Environmental and social management under the program will be largely based on the existing legal, regulatory and institutional systems in Pakistan and in the Punjab province. PCP-IPF Window (technical assistance component) supports the strengthening of social and environmental risk management systems in the participating cities. It will finance the strengthening of:

- a) Social and environmental focal points in each city;
- b) The creation of social and environmental management system at the city level; and
- c) Rolling out a training program by PMDFC for city officials.

This Environmental and Social Management Plan (ESMP) is prepared according to the World Bank Core Principles for PforR financing modality and Environmental and Social laws of Government of Punjab (GoPb). It will be used to identify and mitigate the environmental and social impacts that may emerge during implementation of proposed Sub-project "Improvement of road from Tank Chowk to Harinwala Chowk, Okara (M. A. Jinnah Road)" which will be executed by MC Okara from the financial grant of PCP. This ESMP follows the social and environmental appraisal and compliance as mentioned in the Environmental and Social Management Framework (ESMF) of PCP.

### Sub-project Summary:

<b>Scope of Work</b>	<b>Sub-Project Involves</b> Improvement of road from Tank Chowk to Harinwala Chowk, Okara (M. A. Jinnah Road).
<b>Location</b>	The alignment of M. A. Jinnah Road exists in between Tank Chowk to Harinwala Chowk Okara (M. A. Jinnah Road).
<b>Sub-project Cost</b>	PKR 167.61 /- Million
<b>ESMP Implementation Cost</b>	PKR /-1,658,000 (1,500,000 Env. Cost and 158,000 Plants replenishment cost)

<b>Sub-project Duration</b>	Six months approx. 30/40 workers/labor will be engaged
<b>Major Work Activities</b>	<ul style="list-style-type: none"> <li>i. Million and dismantling of road and Median</li> <li>ii. Preparation of Sub-Grade</li> <li>iii. Laying of Sub-Base</li> <li>iv. Laying of Base Course</li> <li>v. Asphalt Wearing Course</li> <li>vi. Installation of Tuff Pavers</li> <li>vii. Construction of Sludge Carrier Channels</li> <li>viii. Installation of Street Lights</li> </ul>
<b>Executing Agency</b>	MC Okara
<b>Monitoring Agency</b>	Punjab Municipal Development Fund Company (PMDFC)
<b>Sub-project Financed By</b>	World Bank under Punjab Cities Program (PCP)
<b>Environmental Category</b>	E-2
<b>Social Category</b>	S-1

### Environment & Social Management:

This ESMP report presents the Sub-project site-specific baseline data, identification, assessment and evaluation of project impacts and preparation of environmental management and monitoring plan for mitigation of adverse impacts that may arise due to the proposed project interventions.

### Screening of Impacts:

Environment and social screening checklist included in the ESMF to screen the Sub-projects has been used to screen the impacts of "Improvement of road from Tank Chowk to Harinwala Chowk, Okara (M. A. Jinnah Road)" and filled as per the environmental and social survey conducted in the Sub-project area. The screening checklist suggested that environmental and social impacts of the Sub-project are minor to moderate and temporary and can be mitigated and managed with prevailing good civil construction measures.

### Impact Assessment:

Overall, the subproject will be beneficial. However, during construction phase, there will be some negative environmental and social impacts including construction waste generation during dismantling of road, noise pollution, obstruction in vehicular and pedestrian movement,

and temporary disturbance in the accessibility of residents due to road closure. There will be minimal impact on PCRs as there are two mosque in the project area where a part of concrete floor will have to be dismantled due to project interventions. There is 01 school, 02 mosques and 06 clinics along the entire stretch of road, where movement of pedestrians may be temporarily affected due to project interventions. Ramps of one school and five clinics will be partially affected during improvement of M. A. Jinnah road. Overall there are 215 structures (stairs, ramps and floors) which will be partially dismantled due to improvement of road. There are 62 electric poles and 25 telephone poles on the left side of the road and 60 electric poles and 02 telephone poles in the middle on the green belt. 44 transformers are installed with the electric poles. These poles will have to be relocated. The installation of street lights may cause safety hazards that may be avoided through application of Power Safety Codes. It will be advised to implement traffic management plan during construction and ensure safety of children by applying SOPs related to construction safety while executing activities near schools, clinics and mosques. Further it will be required to monitor noise levels of machinery and equipment to keep them within safe limits. There are community safety and occupational safety prospects envisaged which will be avoided by implementing OHS protocols. Land acquisition is not required in this sub-project.

### **Mitigation Measures:**

These impacts require appropriate mitigation and management measures to curtail them. The Sub-project specific measures suggested are;

- a) ESFPs will conduct regular visit to the construction sites and fortnightly by DPO ESM to monitor the compliance of E & S aspects
- b) Dismantled material will be disposed of simultaneously
- c) It will be ensured to execute the work in portions to minimize the temporary disturbance in accessibility
- d) Public safety will be ensured
- e) Workforce will be provided with the PPEs
- f) OHS protocols and Power Safety Codes will be implemented
- g) Corona SOPs will be followed
- h) Contractor will use efficient machinery and equipment's to reduce noise and air pollution impacts

- i) Contractor will ensure public convenience during the course of Sub-project.

**Grievance Redress Mechanism (GRM):**

GRM for subproject implementation will cater to all subproject beneficiaries. The GRM mechanism is based on two-tier grievance redress committees at MC Okara, PMDFC/ LG & CDD level. At construction site number of GRC members will be displayed.

**Stakeholder Consultations:**

Stakeholder consultations were carried out during preparation of ESMP. Interviews were undertaken with primary stakeholders to discuss present working condition of road and improvements recommended. Meetings were held with MC Okara Officials and key environmental and social issues were discussed. Consultations revealed that overwhelming majority of the respondents were not satisfied with the current condition of road as presently the road taken in the project is in miserable condition and shows problems regarding surface riding quality, surface drainage and aesthetics. All the respondents were in favor of improvement of the road.

## Section-1 Introduction

### 1.1. Punjab Cities Program (PCP)

Punjab Cities Program (PCP) Program-for-Results (PforR) will support participating MC Okara to improve their urban management and service delivery performance. The operation will provide capacity-building and institutional support to 16 secondary cities in Punjab, with an estimated total population of 4.1 million, half of whom are female.

**Program Development Objectives (PDO)** *is to strengthen the performance of participating urban local governments in urban management and service delivery.*

By achieving the Program Development Objective (PDO), the execution of the subproject is expected to contribute to the overarching goals of ending extreme poverty and promoting shared prosperity by delivering improved urban infrastructure on an inclusive basis and in ways that enhance economic growth and development in the participating cities. Achievement of the PDO will also make a significant contribution to attaining Sustainable Development Goal-11 (sustainable cities and communities).

### 1.2. Environment & Social Management Framework (ESMF)

Environmental and Social Management Framework (ESMF) has been prepared for Punjab Cities Program (PCP). ESMF will facilitate and technically assist the MC Okara in better understanding and compliance of social and environmental management processes and procedures as per the World Bank Core Principles under PforR financing modality, local policies and legal framework. Under ESMF procedures, each Sub-project will be screened for the severity and extent of environmental and social impacts. All the Sub-projects will be screened through an environmental and social screening checklist and those having negligible environmental and or social impacts will require no further assessment. Sub-projects having some negative but localized environmental and or social impacts will require a generic Environmental and Social Management Plan (ESMP) or SMP, while those having environmental impacts of significant nature or they come under Schedule I or II of PEPA Review of IEE/ EIA Regulation 2000 will require to conduct the detailed studies (IEE/EIA) and further submission of reports to PEPA for review and to obtain NOC/ environmental approval.

### 1.3. Environment & Social Assessment Categories

#### 1.3.1. Environmental Categories:

Depending on size, cost, location and the nature, scheme will have varying impacts on city environment. The rigorousness of environmental assessment requires identifying and mitigating the impacts, largely dependent upon the complexities of scheme. To facilitate effective screening, ESMF categorized schemes into three categories viz. E-1, E-2 and E-3.

E-1	schemes are those wherein major environmental impacts are foreseen;
E-2	schemes are expected to have only moderate environmental impacts; and
E-3	schemes are the schemes with negligible environmental impacts and hence, these can be termed as “environmentally benign”.

#### 1.3.2. Social Categories:

Based on the number of households that may be affected by the scheme, i.e., Affected Households (AHs) and magnitude of impacts, schemes are categorized as S-1, S-2 and S-3.

S-1	schemes are those schemes that will impact more than 40 households, and are expected to have significant negative social consequences;
S-2	schemes are those which will impact less than 40 households and are expected to have significant social consequences affecting local inhabitants
S-3	schemes are not expected to have any significant adverse social impacts.

#### 1.3.3. Environment & Social Assessment Category of the Sub-project

Sub-project has been screened to assess the environment and social impacts anticipated as per scope of work. As per findings of the site visit conducted on 02.11.2022, discussion with officials and stakeholder consultations, sub-project area does not fall in any of the wildlife habitat or reserve area/ environmental sensitive areas; therefore, it will not cause any harmful environmental impact directly or indirectly during or after execution of civil works. Sub-project will have no irreversible environmental and social impacts. There are some moderate environmental impacts (minor excavations and civil works) as per scope of work which will be minimized by providing mitigation measures mentioned in Table 7-1. Sub-project is categorized as E-2 and ESMP is prepared under this category.

Involuntary land acquisition is not required, and therefore there will be no physical displacement or impacts on livelihoods with some temporary restrictions on access of the local community. Sub-project may have temporary social impacts as, platforms, stairs, ramps, floors etc. of 213 shops,

banks, clinics, school, mosques, hotels, and commercial buildings have to be partially dismantled. A compensation package will be prepared accordingly. Therefore, Sub-project is categorized as S-1, as there is no negative impact in terms of livelihood, business loss and any other economic loss is not anticipated. 149 (124 electric and 27 telecom) poles along with 44 transformers will have to be relocated due to improvement of M. A. Jinnah road.

### 1.4. Environment & Social Management Plan (ESMP)

The Environmental and Social Management Plan (ESMP) is prepared in compliance with the guidelines provided in the Environmental and Social Management Framework (ESMF) for the following Sub-project:

**“Improvement of road from Tank Chowk to Harinwala Chowk, Okara (M. A. Jinnah Road)”**

### 1.5. Objectives of ESMP

The primary objectives of the ESMP are as follows:

- To facilitate the implementation of the identified mitigation measures.
- To define responsibilities of the project proponents, Contractor, and other members of the project team.
- To define a monitoring mechanism and identify monitoring parameters in order to ensure complete implementation of all mitigation measures and ensure effectiveness of the mitigation measures.

### 1.6. Sub-Project Team

Following team members participated during the preparation of ESMP.

Table 1-1: Composition of Sub-project Team

Sr. No.	Name	Designation	Department
01	Muhammad Nasim	Chief Officer	MC Okara
02	Zaheer Liaqat Baig	Administrator	MC Okara
03	Mushtaq Ahmad Manda	MO-I&S	MC Okara
04	Mr. Ali Raza	Sub-Engineer	MC Okara
05	Mr. Asif Gilani	DPO-ESS	PMDFC
06	Dr. Muhammad Ashraf Bodla	Environmental Specialist	MM-Pakistan
07	Mr. Saqib Sadiq	Sociologist	MM-Pakistan



## Section-2 Sub-Project Description

### 2.1. Area Description

The alignment of Canal Road exists in between Tank Chowk and Harinwala Chowk in Okara city. The present physical conditions of Canal road is presented in the Figure 2-1.



Figure 2-1: Physical Condition of M. A. Jinnah Road Okara

### 2.2. Problem Statement

This Sub-project has been formulated on the basis of demand from communities residing along with the alignment of the Sub-Project. The road proposed for improvement has been damaged because of poor maintenance. Due to various activities for installation of utilities in these areas the condition of the areas highlighted by district council, Okara has been deteriorated and needed immediate attention to improve the vehicles/ Pedestrian traffic to ease out the public at large in the area. Choking of old sludge carrier channels on both sides of road causes water stagnation and damage to road. The road is damaged at various places and needs improvement. Therefore, MC Okara also decided to construct road and sludge carrier channels under this Sub-project.



### **2.3. Description of Work Activities**

The subproject is Improvement of road from Tank Chowk to Harinwala Chowk, Okara (M. A. Jinnah Road)

The sub-project has the following interventions:

- Milling and dismantling of road and Median
- Preparation of Sub-Grade
- Laying of Sub-Base
- Laying of Base Course
- Asphalt Wearing Course
- Installation of Tuff Pavers
- Construction of Sludge Carrier Channels
- Installation of Street Lights.

### **2.4. Environmental Management Cost**

Total cost of the scheme: 167.61 Million/- PKR

ESMP implementation cost: 1.658/- Million. PKR (Break-up of this cost described in Table 7-2).

### **2.5. Duration of the Sub-project**

Implementation Schedule/Duration: 06 month maximum.

No. of workers/labor involved: 30-40 approx.

### **2.6. Sub-project Alternatives**

Sub-project involves Improvement of road from Tank Chowk to Harinwala Chowk, Okara (M. A. Jinnah Road).

### **2.6.1. Do Nothing Scenario**

The no-build alternative involves letting the current situation continue without addressing the on-going deterioration of the air quality, level of service and other environmental and social impacts occurring in the subproject area. If the project is not carried out the expected consequences are:

- Deterioration in air quality, and increase in noise levels due to traffic jam.
- An increase in the severity of socio-economic impacts in the surrounding area.
- The project shall eventually have to be undertaken as the demand from the communities shall soon reach its peak levels.
- The cost of the proposed design shall increase in future due to inflation, social issues, environmental impacts etc.

### **2.6.2. Site Alternative**

Sub-project involves Improvement of road from Tank Chowk to Harinwala Chowk, Okara (M. A. Jinnah Road), so there is no site alternative envisaged because no other site available to serve this purpose.

## Section-3 Legal & Policy Framework

### 3.1. Introduction

The Government of Pakistan and Government of Punjab (GOP) have enacted a range of laws, regulations, policies and procedures for management and mitigation of social and environmental impacts for infrastructure development projects. This chapter discusses the relevant and applicable laws and WB Core Principles for PforR financing modality applicable for PCP to deal with the environmental and social issues.

### 3.2. National and Provincial Laws, Regulations, Procedures and Guidelines dealing with the Environmental & Social Aspects

Table 3-1: National and Provincial Laws, Regulations, Procedures and Guidelines dealing with the Environmental & Social Aspects

Sr. No.	Applicable laws, regulations, Guidelines	Relevancy/Applicability
I.	Punjab Environmental Protection Act 2012	PEPA does not require IEE or EIA of widening projects
II.	PEPA Review of IEE/EIA Regulations, 2000	IEE/EIA regulations do not require IEE or EIA of widening projects.
III.	Notification No.SO (Tech)/EPD/1-26/2004 issued by Government of the Punjab, Environment Protection Department "Delegation of Powers for Environmental Approvals Rules 2017	ESMP do not require review and subsequent NOC from the relevant authority
IV.	Punjab Local Government Act, 2019	Follows the environmental and social assessment procedures stated in PEPA 2012
V.	Punjab Environmental Quality Standards for Motor Vehicle Exhaust and Noise	Applied to vehicles used by the contractor
VI.	Punjab Environmental Quality Standards for Ambient Air	Compliance required during construction activities
VII.	Punjab Environmental Quality Standards for Noise	Compliance required during construction activities
VIII.	Punjab Environmental Quality Standards for Drinking Water	Compliance required during construction activities
IX.	Punjab Restriction of Employment of Children Act 2016	Compliance required during construction activities
X.	Protection Against Harassment of Women at the Workplace Act, 2010	Compliance required during construction activities

### 3.3. World Bank Policy Core Principles and Applicability on Sub-project

Core Principles	Applicability
<b>Core Principle 1</b> Environmental and social management procedures and processes are designed to (a) Avoid, minimize, or mitigate against adverse impacts; (b) Promote environmental and social sustainability in program design; and (c) Promote informed decision making relating to a program's environmental and social effects.	ESMP prepared under the light of this Principle in order to mitigate negative impacts envisaged in this Sub-project. ESMP implementation will help in achieving environmental and social sustainability

Core Principles	Applicability
<b>Core Principle 2</b> Environmental and social management procedures and processes are designed to avoid, minimize, and mitigate against adverse effects on natural habitats and physical cultural resources resulting from the program	Table 7-1 prepared to mitigate all minor impacts anticipated during the course of the Sub-project.
<b>Core Principle 3</b> Program procedures ensure adequate measures to protect public and worker safety against the potential risks associated with (a) construction and/or operations of facilities or other operational practices developed or promoted under the Program and (b) exposure to toxic chemicals, hazardous wastes, and otherwise dangerous materials	All the mitigation measures have been incorporated in the Table 7-1 to address risks associated with workers and community health and safety. Contractor will ensure compliance with these attributes.
<b>Core Principle 4</b> Land acquisition and loss of access to natural resources are managed in a way that avoids or minimizes displacement, and affected people are assisted in improving, or at least restoring, their livelihoods and living standards	This core principle doesn't trigger in this Sub-project as no land acquisition is required during the replacement of existing sewer-line.
<b>Core Principle 5</b> Due consideration is given to cultural appropriateness of, and equitable access to, program benefits, giving special attention to rights and interests of indigenous peoples and to the needs or concerns of vulnerable groups.	No indigenous/ Vulnerable groups exist in the Sub-project sites.
<b>Core Principle 6</b> Avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.	This principle is not relevant for this Sub-project.

### 3.4. World Bank Environmental, Health and Social Guidelines

The principal World Bank publications that contain environmental and social guidelines are listed below.

- Environment, Health, and Safety (EHS) Guidelines prepared by International Finance Corporation and World Bank in 2007
- Pollution Prevention and Abatement Handbook 1998: Towards Cleaner Production
- Environmental Assessment Sourcebook, Volume I: Policies, Procedures, and Cross-Sectoral Issues.

- Social Analysis Sourcebook
- WB Group Gender Strategy

Details of related EHSG can be found in Annexure ii.

### **3.5. PMDFC Environment Health and Safety SOPs for labor/workers (including Women)**

EHS SOPs for labor/ workers (including women workers) will be applicable during the labor work and made part of the contractual agreement of the contractor

### **3.6. COVID-19 SOPs**

During the construction and implementation of the Sub-project, the Standard Operating Procedures (SOPs) will be strictly followed during construction activities, stakeholder consultations or applicable in any other relevant aspect. The SOPs attached as Annexure iii.

## Section-4 Environment & Social Baseline

### 4.1. City profile

Okara district is composed of three sub-divisions Okara, Renala Khurd and Depalpur. Okara, the District Headquarters is about 127 Kilometers to the southwest of Lahore, on the National Highway and on the main Lahore-Karachi Railway track. Okara district spreads between latitudes of 30° - 18' to 31°-08' North, and the longitudes of 73°-14' to 74°-09' East. The city coordinates are 30° - 49' North latitude, and 73° -27' East longitude.

### 4.2. Climate

Climate of the district varies from hot to very hot in summer and cold in winter especially in December and January. During the months of July and August, the weather is humid whereas spring is pleasant. Summer season starts in April and continues till September. June is the hottest month with mean maximum and minimum temperature of about 45 and 27 degree Celsius respectively. Winter season starts from November and lasts till February. Mean maximum and minimum temperature recorded during the month of January is about 20 and 6 degree Celsius respectively. Light rainfalls during winter season especially in the months of January and February is succeeded by a spell of pleasant spring weather. Monsoon starts in the first week of July. The average annual rainfall is about 625 millimeters.

### 4.3. Demographic Status

The population census report of year 2017 has not been published by Government of Pakistan. However the provisional data available for this census shows the population of 357,935 persons for the city within municipal limits. A land scan process was done to estimate the population of entire inhabited areas of city in close approximation which was found to be 443,396 persons in the year 2017 with an annual growth rate of 2.32 % and it is expected to rise to 557,695 persons in the year 2027. A large and thick inhabitation has developed outside the municipal limits of the city and the municipal limits need to be extended.

### 4.4. Water Resources

The city is divided into two zones by Lahore-Khanewal railway track and is called North & South Zones. Originally 19 tube wells for north zone were installed on the bank of Lower Bari Doab Canal (LBDC) between the LBDC and 4-L distributary whereas the tube wells for south zone were installed on the bank of 4-L distributary. Both the irrigation channels diverge away from each other at the south-western end of the city.

The discharge of 4-L distributary is 260 cusecs only and after some time the water quality of the tube wells installed on the banks of this channel, deteriorated because of excessive withdrawals as compared to the recharge and became unfit for human consumption. In this way acute water shortage was experienced in the south zone.

#### **4.4.1. Water Quality**

No specific primary and secondary data available in context of Okara City. MC Okara has not analyzed/ sample any drinking water since PHED handed over whole water supply infrastructure to MC.

#### **4.5. Solid Waste Management**

Some portion of the city is either un-served or partially served because of shortage of sanitary staff and machinery & equipment whereas the existing machinery and equipment is inefficient having costly operation and maintenance and needs repairs. The solid waste is being dumped at two different points along the LBDC because no proper landfill site is available which is creating hazards like obnoxious smell, sub soil water pollution and breeding of vectors causing water borne and vector diseases. Apart from that this is also creating insanitary conditions resulting in frustration in the citizen. MC has a piece of land measuring 13 acres for the development of Landfill site but it could not be developed due to financial constraints.

#### **4.6. Sewerage Facility**

The city is equipped with sewerage system in 71% area. The city has been divided in to three areas called as Zones with respect to the drainage. In zone-1 the outfall sewer line of 48" diameter was choked and has been subsequently got replaced by a 54" diameter sewer. The Disposal works of this system is located in Chack No-2/4L and the waste water from this disposal works is being pumped into a seepage/storm water drain through a force main up to LBDC and sullage carrier up to drain. The section of the sullage carrier is not adequate to carry the entire quantity of water and hence it overflows in private lands. To eliminate the overflow, the farmers divert the water to LBDC thus polluting this channel.

The disposal works of zone-2 is located in Chack No-1/4L. No problem in this zone is experienced as the sewers are relatively of much lesser age than the rest of the systems and not posing any problem of flooding of streets and roads. However the ultimate disposal of waste water is broad irrigation in the private lands across LBDC. When water is not required by the farmers, they divert this water into LBDC thus polluting the canal. The sullage carrier needs to be extended up to the seepage drain to eliminate pollution of the canal.



Zone-3 is relatively much bigger systems and covers most of the area lying in the south-east of railway track. The waste water is being discharged by gravity into a seepage/storm water drain flowing in the south eastern side of Okara city at a distance 6 Km through the outfall sewer of 66 inches diameter converting into a sullage carrier from its mid length to the end.

#### 4.7. Seismologic Zone

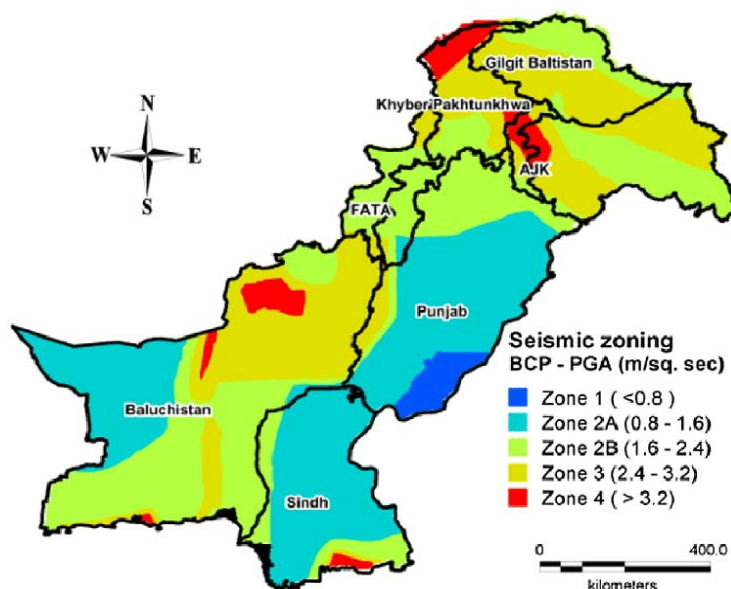


Figure 4-1: Project Area Seismic Zone Location<sup>1</sup>

Tehsil	Seismic Zone	Tehsil	Seismic Zone	Tehsil	Seismic Zone
<b>Punjab</b>					
Bhakkar	2A	Kasur	2A	Kot Addu	2A
Kalur Kot	2B	Chunian	2A	Bahawalpur	2A
Mankera	2A	Pattoki	2A	Hasilpur	2A
Darya Khan	2A	<b>Okara</b>	2A	Yazman	2A
Khushab	2B	Depalpur	2A	Ahmadpur East	2A
Nurpur	2A	Renala Khurd	2A	Khairpur Tamawali	2A

Table 4-1: Seismic Zones of Tehsils of Pakistan

According to the Seismic data of Pakistan; Okara lies in 2A zone with minimum risks to any earthquakes<sup>2</sup>.

<sup>1</sup> Source: Geological Survey of Pakistan

<sup>2</sup> Source: Geological Survey of Pakistan

#### 4.8. Natural Disasters Data

Geographically Okara lies at a distance of 32 Km and 111 Km from River Ravi and Satluj respectively and is therefore historically not affected by floods.

##### 4.8.1. Potential Hazards of the District Okara

Table 4-2: Risk Analysis of Potential Hazards of District Okara

Hazards Risk	Likelihood Score (1-5)	Impact Score (1-5)	
Floods	5	5	25
Urban Flooding	1	1	1
Flash Floods	1	1	1
Hill Torrent	1	1	
Glacial Lake Outburst Flood (GLOF)	1	1	1
Landslide	1	1	1
Tornado	1	1	1
Earthquake	5	5	25
Drought	1	1	1
Epidemic	2	4	8
Fire Incidents	1	1	1
Other Major Accidents (Building Collapse, road traffic accidents, train accident, Stampede, plane crash)	1	1	1
Environmental Hazards (industrial accidents, severe pollution etc.)	1	1	1
Risk = Impact x Likelihood Low: 1-7 Medium: 8-14 High: 15-25			

Source: District Disaster Management Plan 2020 (District Okara)

#### 4.9. Environmentally and Socially Sensitive Receptors

Environmental sensitive areas are more prone towards human disturbance. For this Sub-project, no wetland, estuarine, river, protected areas lie within scope of work of scheme area and no significant environmental impacts have been envisaged. 01 school, 02 mosques and 06 clinics are located within 100m of M. A. Jinnah road. There will only be impediment in the movement of local community during working and prayer timings. There are 149 poles (122 electric and 27 telecom) which will have to be relocated due to improvement of road.

#### 4.10. Flora & Fauna

64 small palms, 15 small plants of Bakain, Ulta Ashauk, toot and Khajoor are growing along the median which have to be cut due to dismantling of road median, total cost of Pkr. 158,000/- is proposed under environmental management cost for compensatory plantation and nourishment of plants for three years. No wild animal/ endangered species is found in the area.

#### **4.11. Right of Way and Area of Influence**

The existing Right of Way (RoW) of Canal Road is 100-115 ft. The existing and proposed carriage way is 70 to 75ft which is the Area of Influence (AOI) where the improvement works of road will be confined.

#### **4.12. Socio - Economic Baseline**

The socio-economic characteristics are a comprehensive review of the current conditions of the project area. It is based on a literature review, site visits, and consultations with institutional and community stakeholders. The baseline provides a glance of the conditions of the community of the project area. It includes provision of social infrastructure facilities available in the area. Moreover, the existing conditions of utilities and the presence of cultural and religious sites are also discussed. The communities of the road sub-project fall under the lower income category and mostly are engaged with private jobs, embroidery shops, restaurants, furniture shops, general stores, motorcycle shops, private clinics, fodder, vegetable & fruit shops.

##### **4.12.1. Demographic Characteristics**

The population of Okara is 357,935 as recorded in 2017. The project lies in the urban area. Birth, Death, fertility, mortality, fecundity, Crude and net birth rate and migration are the most important demographic factors.

##### **4.12.2. Educational institutions**

01 school is present in the vicinity of project location, where temporary impediment in the movement of school children is anticipated. Construction works in front of these schools will be done after school hours or civil activities will be executed in sections to avoid any blockage in the movement of students or any interference in educational activities during working hours.

##### **4.12.3. Housing**

Majority of the houses are made of material such as concreted and cemented in the project area. Basic utilities, which are included gas, water supply and sewerage system, are also available at the proposed project site.

##### **4.12.4. Archaeological, Historical, and Cultural Resources**

There is no identified archaeological, historical, and cultural resources along the project route that will be impacted by the road construction except 02 mosques that are located inside of subproject Area of Influence (AoI) where the concrete floor will be partially dismantled during construction of

project. There will be temporary impediment in the movement of people during the prayer timings. This impact would be mitigated by keeping the passageway clear during these timings.

#### 4.12.5. Identification of Project Affected Persons (PAP)

The residential structures and residential settlements in the vicinity will not be affected as no land acquisition is required. Since there is no land acquisition, no shelter or residential land is required to be resettled and no agriculture or productive assets that exist in the project area will be affected. No businesses or enterprises will be affected due to the project activity. The ramps, stairs and floors of shops, banks, clinics, commercial buildings, school and mosques will be partially affected and 149 electric and telecom poles will have to be relocated. The details of structures to be partially dismantled are as under:

Table 4-3: The Detail of Assets to be affected by subproject activities

Sr. #	Stairs		Ramps			Floor		Eligibility		Business
	Concrete	Marble	Brick	Concrete	Marble	Concrete	Marble	Name	Contact N0	
1				182				M. Ali	03016536868	Wasim Hotel & Tea stall
2				84				M. Wasim	03226790732	Wasim Hotel & Tea stall
3				22.5		90		M. Nawaz	03024901674	Cart Sugar Cane
4				22.5		90		Qadir Hussain	03017309127	Qadir Autos
5				22.5		90		M. Hussain	03017309127	Cycle Works
6				45		180		Mujahid Hussain	03039580783	Muhamma dia Hotel
7				45		180		Abdul Shakoor	03239746219	Pakeeza Hotel
8				32		80		Bilal Ahmed	03034478914	Paan Shop
9				0		420		Abdul Wahid	03129435715	Concrete Blocks maker
10				0		80		Abdul Hanan	03030338363	Cement Shop
11				0		100		Abid Hussain	03229681724	Mash Allah Chicken
12				0	90	204		Abdul Aziz	03008860195	Rehan Akbar Plaza
13				0	160	420		Naeem - Ur Rahman	03136518491	SO Kamal
14				0	160	560		Naeem - Ur Rahman	03136518491	SO Kamal

# Environment & Social Management Plan (ESMP)

Sr. #	Stairs		Ramps			Floor		Eligibility		Business
	Concrete	Marble	Brick	Concrete	Marble	Concrete	Marble	Name	Contact N0	
15				0	216	504		Dr. Riffat Latif	03434612112	Dr. Riffat Latif Clinic
16				18		108		Malik Bashir	03017104960	Malik Building material store
17				60		130		M. Zaman	03081361994	AFC Food Shop
18				22		132		Malik Irfan	03040407585	HiFi Event planners
19				144		336		Khalid Butt	03226974987	Kash Retailer and traders
20				48		192		Hassan Ali	03017366046	Hassan Auto Service
21				24		378		Naeem Ahmed	03440444455	Orient Centre
22	80			72		120		Ch. Sarwar	03047266399	Flower Centre
23	160			48		120		Master Pervaiz Ahmed	03136930025	NC Tailors
24	0			60		120		M. Ali	03126694328	Ali Bin Saleem Traders
25	72			60		336		Hassan Sharif	03336984446	Sindh Bank
26	96			48		336		M. Nawaz	03006138920	Ittehad Kayseria
27	164			72		408		Dr. Liaquat Ali	0	Liaquat Medical and Dental Lab
28	0			0	68	182		Ameer Hamza	03023641861	Hamza Men's Salon
29	0			0	240	280		Ali Raza	030137214263	Rollover cloths
30	0	2.5		0	42	110		Abdul Jabbar Jutt	03017334487	Hollywood Cutting Beauty saloon
31	0			0	79	653		M.A Zaidi	03117523242	Zaidi Super Store
32		16		44		43		Ahmed	03110768297	AM Beauty Parlor
33		240		96		303		Javed		Breeze
34		240		95		360		Zahid		Minnie Minor
35		60		43				Arshad	03452714942	Mian Photo State
36		216				918		Arshad Ali	03006972688	Arshad Building

# Environment & Social Management Plan (ESMP)

Sr. #	Stairs		Ramps			Floor		Eligibility		Business
	Concrete	Marble	Brick	Concrete	Marble	Concrete	Marble	Name	Contact N0	
										Material Store
37		30		110		302		Zahid Mughal	03455981515	Fazal brothers Property Point
38		54		87		337		Rizwan	03142437246	Haier Store
39		40		40		192		Imran Paracha	03351355558	Karwan Zair-e-Madina
40		335		21		322		Umay Habib Hanif	03020980787	Brands CO
41				112		554		Rizwan	03142437246	Haier Store
42				141		311		M. Yasin	03216966894	Foodies
43				38		95		Ejaz	03454662330	Ejaz Book Centre
44				56		140		Muaaz	03046860478 03367030211	PEPPER Fast food
45				45		108		Fazal Haq Zia	030216966854	Chishtia Electric Works
46				55		167		M. Shahid	030226944705	Shahid furniture shop
47					44	160		Shabbir Ahmed	03081227276	Shabbir Book Shop
48					208	504		M. Bashir	03158804242	The School Stationary Shop
49					214	336		Zaheer Ullah		Bata Shoe Store
50					308	378		Zain	03000554008	Ismail's cloth Brand
51					246	277		Matin Ali	03000554808	Kids Galleria
52				0		2813		Shahab-ud- Din	03036942834	Lunda Shoe Market
53				329		270		M. Rizwan	03068991046	Hopscotch
54				0		160		Irfan Ahmed	03226979606	Makka Autos
55				0		196		M. Afzal	03026552910	Sabir Hussain Pakwan Centre
56				0		668		Mumtaz Ahmed	03007532529	Askari Bank
57					1224	401		Farzana Nighat	0442513665	Dr. Asama Sadiq Clinic

# Environment & Social Management Plan (ESMP)

Sr. #	Stairs		Ramps			Floor		Eligibility		Business
	Concrete	Marble	Brick	Concrete	Marble	Concrete	Marble	Name	Contact N0	
58				903		336		Khaizar	03004460270	Bank Islami
59				347		337		Ali abbas	03108889740	Service Shoe Store
60				192		295		Zernaab	03357982324	Ideas store
61				332		288		Khawar Mushtaq	03018620294	Allied Bank
62				262		315		M. Ahmed	03041821309	Heels shoe store
63				469		666		M. Ishtiaq	03041927405	Mehran Bank
64				945		840		Kashif Akram	03017343800	Bank Alfalah
65				208		215		Rao Akhtar	03236354848	XM Cloth
66				434		467		Haji Riaz	03442172075	K&Ns chicken
67				600		520		Zeeshan Ahmed	03156952623	Bata Store
68				299		382				Faysal Bank
69				0		446		Hamza Amin	03024962304	Lime Light
70				91		108		M. Zain	03065700644	Zain Sports
71					91	108		Haji Umer Sarwar	03457497202	Muqamay Makkah travels
72				90		122		Tahir	03042456500	Alletto Waffle
73					58	603		M. Adal	03246884114	Spark cloth
74				134		115		Rao Adeel	03143932482	Waheed Cycle Works
75					332	322		Ch Makaram	03424233332	Dehli Sweets
76				69		138		Ch. Shafiq	03004334117	Ali Brothers Aluminium
77				69		74		Ali Akbar	03066927017	for rent shop
78				92		150		M. Zeeshan	03075632495	Abid Pakwan Centre
79				189		231		M. Shahzad	03213210699	Abdul Ghafoor Tailor
80					74	117		M. Sultan	03142262608	Sultan Dates
81					74	117		Baba Amin	03090858594	Data Milk shop
82					74	88		M. Hussain	03457503427	Eman Milk Mart
83					223	222		Tariq Bhatti	03115575500	ZONG franchise

# Environment & Social Management Plan (ESMP)

Sr. #	Stairs		Ramps			Floor		Eligibility		Business
	Concrete	Marble	Brick	Concrete	Marble	Concrete	Marble	Name	Contact N0	
84					105	134		Mian Sajjad	03206800381	Eman Milk Shop
85					53	135		M. Boota	03041452425	Data Milk Shop
86					74	102		Abdul Rasheed	03228609881	Data Tent Service
87					112	267		Hasher	03156960162	3C Architects
88				273		487		M. Saleem	03066666750	Well Pharmacy
89				68		255		M. Ibrahim	03014957719	Well Come real estate
90					218	486		Haroon Ahmed	03226934137	Hameed Sweets
91				282		529		Sohaib Ahmed	03316930335	Care Plus pharmacy
92				260		676		Shahid Ahmed	03207792380	Gourmet bakery
93				430		458		M. Alam		Bank Al-Habib
94				131		228		M. Nadeem	03034234080	Bilal Carpets
95				84		378		Sabir ali	03228791339	Sabir Hotel
96				0		526		Bilal Bahadur	03334102345	Soneri Bank
97				0		273		Zahid Hussain	03037416601	Adeel Builders
98				55		143		Haji Ibrar Ismail	03006961081	786 Karwan travels
99					165	409		M. Latif	03013585757	Master Molty Foam
100				78		121		Yasir Naveed	03217082419	Pakistan Photo State
101					109	200		M. Hamza	03226917442	Diamond foam House Okara
102					207	310		Adnan	03227088865	Al- Baraqa Bank
103					87	172		Ch. Adnan	03467426271	Sanam Furniture House
104					190	381		M. Nasir	03317466085	Raja Bar B Q
105				128	72	500				Plaza under construction
106						216		Ali Raza	03006962660	Dr. Deedar-ul-Haq



# Environment & Social Management Plan (ESMP)

Sr. #	Stairs		Ramps			Floor		Eligibility		Business
	Concrete	Marble	Brick	Concrete	Marble	Concrete	Marble	Name	Contact N0	
107				55		124		Khalid Mahmou d	03217093526	Imperial Furniture
108					141	232		Sh. Shoaib	03218611326	Afzal Electronic s
109					133	212		Waqas Rasool	03126969533	Fauji Carpets
110					151	200		M. Qasir	03007531949	Khal Shop
111					105	140		Nouman	03142611032	Ch. Foam Centre
112					98	112		Abdullah	03044253778	Molty Foam
113					273	390		Boby	0111111666	Supreme Foam
114					171	513		Zahid Islam0	03007581428	NDURE
115					96	229		Arslan	03006951957	Alizeh Foam Shop
116					224	304		Shafaqat Ali	03227177732	Sage Leather
117				60		110		Rana Waqar	03216973091	Baba Fareed Foam
118				60		110		Arshad	03216957504	Chairman Foam
119				54		94		Abdul Jabbar	03015471964	Bismillah Bakers
120				62		129		M. Hussain	03216975858	Amin Foam Centre
121				108		198		Khailid Chishiti	03226913905	Chishtia Foam Centre
122				59		123		M. Khalid	03341011293	Madina Sweets
123				128		279		Malik Saleem	03368644814	Azeem Sofa House
124				130		312		Bilal Ahsan	03006962096	Supreme Foam
125				0		181		M.Hussai n	03017327331	Sundar Sharif Pan shop
126				0		198		Abu Bakar	03152466482	Primax Foam
127				65		205	65	Zahid Ali	03154369848	Plaza under constructio n
128				0		120				Plaza under constructio n
129				64		199		Abdul Samad	03219730321	Calza

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Sr. #	Stairs		Ramps			Floor		Eligibility		Business
	Concrete	Marble	Brick	Concrete	Marble	Concrete	Marble	Name	Contact N0	
130				0		218		Malik Khalil	03018065228	Wash station
131				59		147				Plaza under construction
132				62		45		Malik Asif	03061111584	Food Panda office
133				0		366		Zahid	03040768644	Home Decor
134				0		96		Ali Ahmed		Chinyere
135				0		552		Ashraf Sohna	03069500772	PSO Petrol pump
136				0		213		Mujeeb		Khaadi
137				0		87		M. Razzaq	03126951612	Sadiq Chicken Shop
138				0		87		Naeem	03024919765	Al Barkat Tikka Karahi
139				0		87		Abdull Sattar	03379225534	Vegetable shop
140				0		87		Haji Shafqat	03239684449	Chicken Shop
141				0		87		M. Azam	03007954613	Furniture House
142				0			423	Rana Ali Raza	03216966694	Wood Valley furniture
143				0		262		Ahmed	03010377773	Bonanza
144				0		416		Rashid Mehmood	03091500028	Zellbury
145				0			320	Zoohaib	03087828051	Insign Bridal cloth
146				0		560		Sajid Ali	03335433226	MCB bank
147				276			376	Ali Raza	03336687010	Borjan
148						313		M. Rashid	03338447536	MCB Islamic Bank
149						682		Moosa	03228696203	Ahmad Cash and Cary
150						165		Shahid Ahmed	03049114698	Dollar shop
151						0		M.shafiq	03017827055	Juice Point
152						529		Sadiq	03211688823	Clive shoe store
153						514		M.Ali	03343444433	Stylo
154						327		Suleman	03330555879	Diners

# Environment & Social Management Plan (ESMP)

Sr. #	Stairs		Ramps			Floor		Eligibility		Business
	Concrete	Marble	Brick	Concrete	Marble	Concrete	Marble	Name	Contact N0	
155						215		Yasir Arafat	03094441515	Uniworth
156						84		Shabbir Ahmad	03040768644	Al Madina Furniture
157						637		Qari Mazhar-ul Hassan	03057560603	Jamia Masjid Nawaban
158						236				Plaza under construction
159						355		M. Umar	03127532378	Khush khali bank
160						309		Rao Ali Nouman	03008791044	Engine store
161						169		Aslam		Vegetable shop
162						131		Rao Sultan	03228696203	Smart Furniture
163						131		Farooq Ahmad	03011569298	Elegance construction company
164						241		Abas Hussain	03013264969	AMB mobile
165						190		M. Younas	03451430000	Al-Younas Toys shop
166						209		Zubair Ahmad	003217098009	Zee cloth store
167						240		M.Afzal Ahmad	030598355201	Young Cloth
168						114		Kashif Akram	030619964205	Devogue shoes
169						165		Bisharat Ali	030086963000	Basharat Foam center
170						174	100	M.Ahmad	03047571619	Rehman Super Store
171						125	128	Nadeem Abbas	032169563007	Dua Poultry
172						288				PTCL office
173						60		M.Akram	003217097816	Mehar Pan Shop
174						143		Malik Ashfaq	003017311013	Jaddah Sofa House
175						281		M.Nawaz Raja	003226934303	Raja Bar B Q
176							509			Plaza under construction
177						120		Junaid	003457521227	Saqib Flour

# Environment & Social Management Plan (ESMP)

Sr. #	Stairs		Ramps			Floor		Eligibility		Business
	Concrete	Marble	Brick	Concrete	Marble	Concrete	Marble	Name	Contact N0	
178						120		Akbar ALI	03017369168	Rana Pan Shop
179						243		Qurban Ali	03023478653	Ravi Tikka Shop
180						94		M.Imran	03137614333	Ayaz Welcome Ice-cream
181						133		Awais	03157402163	Vegetable shop
182						110		M.Nazam	03457500565	LPG Gas Filling
183						110		M.mukhtar	03357722256	Vegetable shop
184						110		Shan Hussain	03217720691	Boby Cycle Works
185							313	Asif Ali	03009691128	Aitmad Islamic Bank
186							403	Fahad	03217025508	Bank OF Khyber
187							361	DR.Iftikhar	03007957186	Habib Metropolitan Bank
188							161	DR.Ismail	0442513212	Al.noor Dental Service
189						100		Anees Anwar	03067406643	Beauty Care
190						120		Waleed Akram	03336908646	Mian AUTO store
191						120		M.Shahid	03337971644	Shahid Photo Studio
192						120		M.Shahid	03337971644	Shahid Photo State
193						229		Muneer Ahmad	03000721142	Scholar Public School
194							325	Shahid Maqbool	03006960912	Telenor franchise
195						1287		M.Ashraf	03154104137	District Traffic Office Okara
196						90		Adnan Ali	03457494406	Ali Raza Studio
197						90		M.Iqbal	03229761603	Iqbal Autos
198						160		M.Asif	03466979282	Asif Autos
199						100		Abid farooq	03118851720	Jamia masjid QADRI Rizwi
200						100		M.Gulzar	03027994878	Qadri Ittar House

# Environment & Social Management Plan (ESMP)

Sr. #	Stairs		Ramps			Floor		Eligibility		Business
	Concrete	Marble	Brick	Concrete	Marble	Concrete	Marble	Name	Contact N0	
201						100		Sheikh Fateh Ullah	03223224300	Karma Wala sale Point
202						120				Gate Market Committee office
203						180		M. Mehboob	03217086282	Fruit Shop
204						60		M.Jamil		Vegetable shop
205						132		Zaigham	03058846266	Fruit Shop
206						92		Naeem Ahmad	03143565205	Karachi Cycle Works
207						68		Usman Anwar	03064646806	Hussain Tikkah
208						67		Qurban Hussain	03047878629	Ali Zinger Shwarma
209						64		Nadeem Ahmad	03157403714	Karachi glass House
210						64		Iqbal Hussain	03047878629	Ali Refreshment
211						64		M.Qasim	03217081095	Naimat Paint Store
212							173	Hafiz Khalil	03137271971	Lahore Chany Wala
213							67	Usama	03223233312	Al. Shifah Pharmacy



## Section-5 Stakeholder Consultation

Timely and broad-based stakeholder involvement is an essential element for an effective environmental and social assessment. Stakeholder engagement during Environmental & Social Assessment contributes in the improvement of the project design, environmental compliance and social acceptability.

### 5.1. General

This section describes the outcomes of the public consultation sessions held within MC Okara of the proposed project area that can be affected by the project. The objectives of this process were to:

- Share information with stakeholders on the improvement of the proposed project and expected impacts on the physical, biological and socio-economic environment of the project;
- Understand stakeholder's concerns regarding various aspects of the project and the likely impacts of construction related activities and operation of the project;
- Understand the perceptions, assessment of social impacts and concerns of the affected people/ MC Okara of the proposed project;
- Provide an opportunity to the public regarding their valuable suggestions in a positive manner; and
- Reduce the chances of conflict through the early identification of controversial issues, and consult them to find acceptable solutions.

In preparation for the ESMP, two major groups of stakeholders were identified:

- (i) Local communities who are the direct beneficiaries of the project interventions and therefore identified as the primary stakeholders
- (ii) Institutions who have an important role in enabling the realization of the project interventions and therefore identified as the secondary stakeholders.

### 5.2. Public Consultation

For public information/ consultation, visits were made in the proposed project areas to record the concerns of communities regarding Sub-project activities. Methodology selected for selection of interviewee was Random Sampling/ Focus Group Discussion. Table 5.1 depicts the concerns of



the community and Institutional officers and the replies from the consultant team. The pictorial record of Institutional and public consultations are given in Figure 5-1 & 5-2 respectively.

Sr. No.	Institutional Concerns	Consultant Responses
1	Mr. Zahid Iqbal, Additional Deputy Commissioner (General) asked about any broacher on the sub-project prepared? If so send a copy	Project brief has been prepared by Punjab Municipal Development Finance Company (PMDFC) and may be provided to the stakeholders in due course
2	Mr. Zaheer Liaqat Baig, Administrator MC Okara asked about the removal of electric poles and transformers from the roads. He also enquired about the cutting of trees. An alternate plantation of tree cutting should be made prior to subproject execution. He commented that the green belts of roads should not be decreased. He was fully agreed with the construction of roundabout and U-Turn at Multan Road. He said, it is a dire need to take urgent initiatives accordance with the available space.	It was informed that the electric poles will be removed by Lahore Electric Supply Company (LESCO) for which Demand Notice has been received. About tree cutting, he was informed that 10 trees will be planted for every mature tree cut/uprooted.
3	Mr. Muhammad Nasim Chief Officer has positive response to the subproject. He commented that the sub-project may be executed at the earliest as per need of the citizens.	Well appreciated his views.
4	Ahsan Bilal, Circle Head Draftsman was briefed about the shifting of electricity poles. He enquired about the shifting cost of the electric poles as per their Demand Notice.	He was informant that demand notice has been received and payment to LESCO being arranged.
5	Mr. Sarfraz Ali Sub Divisional Officer Irrigation has no issue about the roads but has concern about disposal of untreated sewage in to Lower Bari Doab Canal and 4.L Distributary.	He was informed that the sewage will not be disposed of in to the water bodies.
6	Mr. Javaid Suleman Assistant Forest asked that whether any forest tree will be cut/uprooted. In doing so replenishment cost has to be paid to the Forest Department prior to execution of the subproject. He provided copy of SOP for cutting of forest trees.	He was informed that No forest tree will be cut/uprooted
7	Mr. Muhammad Tufail Principal Savvy School, and Mr. Arshad Ali Principal Allied School supported the subproject.	Appreciated their support
Sr. No.	Community Concerns	Consultant Responses
1	The existing sludge carrier channel is choked and water remains stagnant in	The team clarified that the cost of construction of ramps and stairs will be



	front of shops that's why all shop keepers have constructed ramps and stairs. The stairs or ramps must be rehabilitated after construction of drains.	paid to the affected persons before the commencement construction activities.
2	There is dire need to construct sludge carrier channel as during rainy season water gets stagnated around electric poles and becomes life threatening	The team briefed that this issue will be resolved after construction of sludge carrier channel.
3	Here the problem of asthma is growing in local people due to the deteriorated condition of road, please construct this road on priority basis before Canal and Benazir road	The team answered that this project will be initiated soon and local people will benefit from it.
4	People inquired that how and when the cost of assets lost will be paid? Before or after the project?	The team answered that compensation amount will be paid before the start of construction activities.
5	The local people inquired that as it is a business hub of Okara, what strategy contractor will adopt to manage traffic during construction on this road?	Acknowledged by the consultants and replied they also recognize the importance of the business activities on this road and contractor will manage his activities in a way that these will cause minimal hindrance in the movement of people and will implement traffic management plan to fulfill the needs accordingly. No construction material shall be dumped in front of any shop or commercial building. All project vehicles will be parked away from any business point.
6	The place for relocation of electric poles should be pre planned in advance as in the past they were haphazardly placed.	Acknowledged by the consultants.
7	Rather than reducing the width of green belt it should be increased.	The team replied that the design was finalized after thorough discussion and keeping in view the need of increasing traffic and population load on this road. Additional tree plantation is planned to increase beautification as well as environment point of view.
8	In case of a complaint what a common shop keeper can do?	Sociologist explained the GRM in detail



Figure 5-1: Pictorial view of Institutional Consultations



Figure 5-2: Pictorial view of Public Consultation

## Section-6 Grievance Redress Mechanism

In order to receive and facilitate the resolution of affected people concerns, compliments, and grievance about the project's environmental and social performance an Environmental Grievance Redress Mechanism (GRM) has been established. The GRM will address affected people's concerns and complaints proactively and promptly, using an understandable and transparent process that is gender responsive, culturally appropriate and readily accessible to all segments of the affected people at no costs and without retribution.

The GRM will be accessible to diverse members of the communities, including women, senior citizens, and people with disabilities, laborers/workers, and other vulnerable groups. Culturally appropriate communication mechanisms will be used at all Sub-project sites both to spread awareness regarding the GRM process as well as complaints management. *ESMF GRM will be integrated with the PCP's overall program GRM hotline to be developed by the Consultants under the scope of PCP.*

GRM has been designed which will utilize the web platform and also android app.

### 6.1. GRM AT SUB-PROJECT SITE

Grievance Redress Mechanism (GRM) is to provide a robust system of procedures and processes that provides for transparent and rapid resolution of concerns and complaints identified at the local level. For integration of GRM into existing Complaint Tracking System (CTS), Grievance Redress Committee (GRC) - MC will be notified under umbrella of Punjab Cities Program (PCP) comprising of the following members and TORs.

Chief Officer MC	Chairperson
Municipal Officer (Infrastructure Development)	Convener
Municipal Officer (Planning)	Member
Municipal Officer (Regulation)	Member

TORs of GRC-MC are as followed:

- ESFPs designated by the MCs for environmental and social management will be responsible to manage the GRM effectively. The ESFPs with the support of DPO-ESM will play an instrumental role in steering the GRC functions both at city and regional level.



- CO MC will be responsible to share monthly recorded grievances data with regional GRC.

## 6.2. GRM at Regional Level

Grievance Redress Committee at Regional level will also be notified under umbrella of Punjab Cities Program (PCP) comprising of the following members and TORs:

Deputy Program Officer (Environmental & Social Management)      Chairperson & Convener

Deputy Program Officer (Infrastructure Development)      Member

Deputy Program Officer (Institutional Strengthening)      Member

TORs of GRC-Regional are as followed:

- Committee will be responsible to manage the GRM effectively as per data provided by MC GRC.
- DPO-ESM will support ESFPs in steering the GRC functions both at city and regional level.
- DPO ESM will maintain monthly complaint records from ESFPs.

A Grievance Redress Committee (GRC- PMDFC/LG & CDD) will be responsible to oversee the overall functions of the GRM at a strategic level including monthly reviews. It will be headed by the Secretary LG &CDD.

## 6.3. Types of Grievances

The following are some of the environmental and social issues could be subject for grievance from the affected people.

Environmental Issues	Social Issues	EHS Issues
<ul style="list-style-type: none"> <li>• Noise Pollution</li> <li>• Air Pollution</li> <li>• Fugitive Dust</li> <li>• Water Pollution</li> <li>• Solid Waste Management</li> <li>• House Keeping</li> <li>• Cutting of Trees</li> <li>• Borrow Areas Management</li> </ul>	<ul style="list-style-type: none"> <li>• Accidental Insurance for labor</li> <li>• Non-Provision of PPEs to labor as per nature of their jobs</li> <li>• Loss of any public infrastructure</li> <li>• Protection of sensitive receptors</li> </ul>	<ul style="list-style-type: none"> <li>• First Aid</li> <li>• Fire Safety</li> <li>• Workplace Safety</li> <li>• Tools Box Talks</li> <li>• Provision of PPEs</li> <li>• Work at Height Safety</li> <li>• Excavation Safety</li> <li>• Heavy Machinery Issues</li> </ul>

<ul style="list-style-type: none"><li>• Protection of Wildlife</li><li>• Campsite Management</li></ul>	<ul style="list-style-type: none"><li>• Compensation for any economic losses</li><li>• Traffic Management</li><li>• Labor grievance redressal</li><li>• Gender discrimination</li><li>• Security Arrangements</li><li>• Impacts on livelihood</li><li>• Irregular Traffic Movement</li><li>• Obstruction in access</li><li>• Intensive schedule of construction activities</li><li>• Child Labor</li><li>• Unsafe conditions for the community (Community Health and Safety, CHS)</li></ul>	
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## **Section-7 Environmental and Social Management and Monitoring Plan**

### **7.1. Objective**

The purpose of Environmental and Social Management and Monitoring Plan (ESMMP) for widening and improvement of roads is to ensure that all necessary identified measures have been adopted in order to protect the environment and social situations and to comply with country environmental legislation and applicable World Bank Core Principles for PforR financing modality. After the preparation of ESMF, PMDFC ESM Wing outlined site-specific ESMMP for the Contractors and executing agency. Environmental and social checklist was prepared by PMDFC ESM Wing with the help of the field teams and was used to assess the potential impacts of Sub-project on the basis of its scale/ size, nature and significant negative impacts.

### **7.2. Institutional Arrangements**

The specific responsibilities of the institutions involved in the ESMP implementation are described below:

#### **7.2.1. MC Okara**

Overall responsibility for Environmental Management and Monitoring will rest with the MC Okara. MC Okara will be responsible for implementation, monitoring and reporting of ESMP with the technical assistance of ESM Wing PMDFC throughout the project period.

Notification of ESFPs in MC Okara under PCP has been done.

MOI has been nominated for Environment focal person, he is responsible for implementation & Monitoring of Environmental Aspects. MOP has been nominated for Social focal person he is responsible for implementation & Monitoring of social Aspects

#### **7.2.2. PMDFC ESM Wing**

ESM Wing will provide support to ESFPs (MOI for Environment focal person and MOP for Social focal person) for managing environment and social aspects of the subproject and implementation of the present ESMP. ESM Wing would also support communities' participation, consultations and other social activities from the Sub-project identification to completion stage. PMDFC ESM wing will also monitor the subproject activities to ensure the project remains compliant as per World Bank and national/provincial policies and regulations. Therefore, regular reports will be submitted to the Word Bank accordingly.

### 7.2.3. The Contractor

The Contractor will be responsible for on-field implementation of the ESMP and environmental protection liabilities under the Punjab Environmental Protection Act (Amendment 2012) and World Bank's Environmental and Social Core Principles for PforR financing. He will also be responsible for compliance of ESMP provisions keeping in view his contract with the MC Okara. The Contractor will train his crews in all aspects for implementation of the ESMP.

Contractors have to comply with the following responsibilities:

- Observation of timings and make a schedule that the surrounding communities and their business activities should not be affected from noise pollution, air emissions, traffic congestion and disturbances in their routine work
- Sage of machinery/equipment's producing negligible/low noise.
- Ensure health, safety and protective measures including safety equipment, safe drinking water, first aid boxes etc. to the workforce as per nature of their jobs.
- Water sprinkling to avoid air pollution.
- Indicate alternate routes and provide indicators on suitable places during work timings.
- Local labor should be preferred to work.
- Child labor is strictly prohibited as per labor law. All labor should be more than 14 year of age individually.
- Minimize livelihood disturbance of hawkers and shopkeepers
- Proper disposal of wastes and garbage.
- Health, safety and protective measures for the labor.
- Notice board of emergency numbers should be placed on proper place
- Contractors shall also provide safety equipment's i.e., PPEs, safe drinking water, first aid boxes etc. to the workforce as per nature of their jobs. By ensuring all these mitigation measures; not only their company profile shall boost up but also enable them to qualify and win the future Sub-projects.



#### **7.2.4. Supervisory Consultant**

Compliance of ESMP all attributes will be ensured by Resident Supervision Consultant.

### **7.3. Monitoring Mechanism**

The ESFPs will carry out the monitoring at the field level on a continuous basis. The DPO ESSs will perform periodic monitoring during their site visits. Two complementary methodology approaches are being applied to monitor the proposed actions under the ESMP:

- Compliance monitoring; which checks whether the actions proposed by the ESMP have been carried out by visual observation, photographic documentation and the use of checklists prepared for the ESMP;
- Effects monitoring; which records the consequences of program activities on the biophysical and social environment; as applicable, these effects are repeatedly measured by applying selected indicators.

The plan also defines the monitoring mechanism and identifies a set of verifiable monitoring parameters to ensure that all proposed mitigation measures laid down in the ESMP are completely and effectively implemented.

Monitoring will be carried out to ensure that the mitigation plans are regularly and effectively implemented. It will be performed at two levels. At the PMDFC, the environmental team will do ESMP compliance monitoring to ensure that the mitigation plans are being effectively implemented. At Contractor's level, the Environmental & Social monitoring checklist (Annexure i) will be filled on weekly basis by their Environmental Manager.

### **7.4. Reports**

The Contractor will submit weekly compliance monitoring checklist and PMDFC ESM Wing will submit quarterly and annual monitoring reports as well as a final report of the Sub-project based on safeguard implementation status. The monitoring reports will also include process and outcome of consultations with the Project Affected Persons if any. The distribution of periodic reports is given below:

<b>Distribution of Periodic Reports Report</b>	<b>Prepared by</b>	<b>Reviewed by</b>	<b>Distribution</b>
<b>Weekly</b>	Contractor	PMDFC DPO ESSs	PD, The Engineer
<b>Quarterly</b>	PMDFC DPO ESSs	PMDFC SPO ESSs	PD, The Engineer, The World Bank
<b>Annual</b>	PMDFC DPO ESSs	PMDFC SPO ESSs	PD, The Engineer, The World Bank
<b>Final</b>	PMDFC DPO ESSs	PMDFC SPO ESSs	PD, The Engineer, The World Bank

### **7.5. Inclusion of ESMP in Bidding/ Contract Documents**

The present ESMP has been included in the bidding/ contract documents and their implementation will be a contractual binding for the Contractors. In addition, the Contractor's guidelines prepared by PMDFC/ safeguards procedures will also be made part of contracts.

### **7.6. Environmental and Social Non-Compliance**

Any environmental and social non- compliance during first half of the reporting month will be considered as a "minor deviation". In case the non- compliance attains the status of "non-mitigation" during the second half of the reporting month, it would be considered a "moderate non-compliance". In case non-compliance continues in the second month, it will fall in the category of "undone" and as such would be considered as a major non-compliance and eventually leading to serious action including the suspension of Contractor's payment or any other penalty as may be considered appropriate with the recommendation of the DPO ESSs/Engineer. No payment will be made to Contractor against non-compliance and no arrears will be paid thereof.

### **7.7. Environmental and Social Management and Monitoring Plan**

The impacts, mitigation measures, monitoring indicators, frequency and responsibility has been discussed in Environmental and Social Management and Monitoring Plan (ESMMP).

Table 7-1: Environmental &amp; Social Management &amp; Monitoring Plan

**Sub-project:** Widening and Improvement of Roads and Streetlights in Okara City

Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
<b>Design Phase</b>							
	<b>Conflict on design</b>	<b>Negligible</b>	To avoid conflicts at design phase public consultations was conducted, in this subproject no conflict was raised during public consultation	MC ESFPs	Minutes of meeting records, attendance sheets and pictures	Design E&S Consultants	ESM team of PMDFC
<b>Construction Phase</b>							
Dismantling, Excavation fine aggregate, base coarse and cleaning & grabbing)	<b>a) Land Use:</b> <ul style="list-style-type: none"> <li>The current land use is commercial with shops, banks, mosques and commercial structures on both sides of the road.</li> </ul> <b>b) Environmental Issues:</b>	High	<ul style="list-style-type: none"> <li>Excavated material will be disposed within 24 hours at the designated place of MC Okara.</li> <li>Updated and tuned machinery will be used to control noise.</li> <li>Water sprinkling will be carried out</li> </ul>	Contractor	Visual/ Photographic record, Public consultation, Environment Quality Analysis reports, GRM Complaints record	<ul style="list-style-type: none"> <li>Daily site visit during construction phase</li> <li>Fortnightly/ Weekly</li> </ul>	<ul style="list-style-type: none"> <li>ESFPs</li> <li>DPO ESM</li> <li>Supervision Consultants E&amp;S team</li> </ul>

Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
	<ul style="list-style-type: none"> <li>Dust which may affect visibility, community and labor health</li> <li>Noise from machineries/ equipment</li> <li>Waste may be generated due these activities</li> <li>Safety hazards to labor and nearby resident population.</li> <li>Worse House Keeping</li> </ul> <p><b>c) Social Issues:</b></p> <ul style="list-style-type: none"> <li>Excavated material may cause disturbance in mobility</li> <li>Temporary blockage of road may restrict mobility</li> <li>Conflict with public and</li> </ul>		<p>at consecutive intervals as per instructions</p> <ul style="list-style-type: none"> <li>Avoiding construction activities during nights.</li> <li>Removal of excess matter/ debris from the site within 24 hours.</li> <li>Provide PPEs (See Annexure v).</li> <li>Provide appropriate signage near the construction activities to sensitize the communities and minimize accidents.</li> <li>Public must be informed about project major activities, duration of scheme, time</li> </ul>				

Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
	public complaints <ul style="list-style-type: none"> <li>• Economic losses</li> <li>• Livelihood's loss.</li> <li>• Temporary loss of structures and private property</li> <li>• Economic loss of permanent and mobile vendors due to obstruction of passage</li> <li>• Presence of Physical Cultural Resources (PCRs) of Archeological importance</li> <li>• Air and dust pollution</li> <li>• Noise pollution</li> </ul>		and schedule, anticipated impacts and their proposed Mitigation Measures. <ul style="list-style-type: none"> <li>○ The contact Nos. of focal person of Grievance Redress Committee will be displayed at different locations and residents will also be informed about it.</li> <li>○ Traffic controllers will be placed at strategic locations to control traffic and ensure safety of pedestrians</li> <li>○ Safety/ caution sign boards and</li> </ul>				

Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
			<p>reflective tape will be installed at site during work.</p> <ul style="list-style-type: none"> <li>Construction work will be scheduled in such a way that business of the shopkeepers and schools and clinics located along the roads will not be affected.</li> <li>Any disturbance to the business activities of commercial outlets will be avoided.</li> <li>Temporary hindrance in mobility for which contractor will be instructed to execute that work by</li> </ul>				

Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
			<p>providing the alternate route for community mobility.</p> <ul style="list-style-type: none"> <li>○ Contractor will ensure that work should be executed in portions to avoid the temporary disturbances in the accessibility and placement of the temporary vendors</li> <li>○ Contractor will make sure that labor must not damage the property and structures of the communities (ramps, floors, stairs of 213 APs at different locations will be partially</li> </ul>				

Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
			<p>dismantled which will be compensated as per market rate and 149 electric and telecom poles will be relocated) and in case of damage compensation will be provided as per entitlements.</p> <ul style="list-style-type: none"> <li>○ If there will be any PCR found during excavation; Contractor will follow guidelines (Annexure vi.) of chance find procedure.</li> <li>○ Air quality will be analyzed by the contractor from EPD certified Lab at</li> </ul>				



Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
			<p>pre, during and after execution stage of the work.</p> <ul style="list-style-type: none"> <li>Noise quality will be analyzed by the contractor from EPD certified Lab at pre, during and after execution of the work</li> </ul>				
Construction material storage, handling and use	<p><b>Environmental Issues:</b></p> <ul style="list-style-type: none"> <li>Ground water may be contaminated due to the any oil spillages from machinery.</li> <li>Health risk to workers and local inhabitants.</li> <li>Poor Housekeeping</li> </ul> <p><b>Social Issues:</b></p> <ul style="list-style-type: none"> <li>Land acquisition for storage of</li> </ul>	Medium to negligible	<ul style="list-style-type: none"> <li>Construction material will be covered to ensure safe passage between the destinations during transportation.</li> <li>Materials will not be loaded to a higher level than the side and tail boards and shall be covered with a</li> </ul>	Contractor	Visual/ Pictures	<ul style="list-style-type: none"> <li>Daily site visit during construction phase</li> <li>Fortnightly/ Weekly</li> </ul>	<ul style="list-style-type: none"> <li>ESFPs</li> <li>DPO ESM</li> <li>Supervision Consultants E&amp;S team</li> </ul>

Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
	<p>construction material</p> <ul style="list-style-type: none"> <li>○ Accidents/ Injuries expected if neglected</li> <li>○ Blockage of passage for pedestrians</li> <li>○ Haphazard arrangement of construction material</li> </ul>		<p>good quality tarpaulin;</p> <ul style="list-style-type: none"> <li>• Sufficient space is available within the RoW of roads for storage of construction material. No construction material or project vehicle shall be dumped or parked in front of a business point or shop. Anyhow, if land may need to be acquired for temporary storage of machinery &amp; materials contractor will be liable to compensate the land owner accordingly through</li> </ul>				

Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
			<p>agreement/ negotiations/vol untarily. Contractor will submit satisfactory handing over certificate from land owner verified by DPO-ESS to the supervision consultant</p> <ul style="list-style-type: none"> <li>• Contractor will lay/ utilize construction materials as per work requirement from his storage site.</li> <li>• Contractor will use night vision reflective signboards/ reflective tapes to cordon off the area during construction activities.</li> </ul>				

Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
Labor Camp (if established by Contractor)	<ul style="list-style-type: none"> <li>Health impacts due to absence of housing and sanitation facilities in labor camp.</li> <li>Security of labor</li> <li>Unhygienic conditions</li> </ul>	Medium	<ul style="list-style-type: none"> <li>Contractor will prepare Occupational Health and Safety Plan and get approval from DPO-ESSs before the execution of work.</li> <li>For the execution of this sub-project, 30/40 number of workers/ laborers will be required to work for almost 06 months and contractor will be instructed (will be included in his term of reference and in the form of EHS SOPs, implementation) to prefer the local labor to be engaged, for</li> </ul>	Contractor	Visual/ Pictures	<ul style="list-style-type: none"> <li>Daily site visit during construction phase</li> <li>Fortnightly/Weekly</li> </ul>	<ul style="list-style-type: none"> <li>ESFPs</li> <li>DPO ESM</li> <li>Supervision Consultants E&amp;S team</li> </ul>

Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
			<p>which labor camp will not be required to be established. Anyhow, for temporary labor site, following mitigation measures will be provided</p> <ul style="list-style-type: none"> <li>• Contractor will ensure provision of appropriate housing, water supply, lighting, bathing and sanitation facilities to construction labor.</li> <li>• Good housekeeping will be ensured inside campsite</li> <li>• Labor will be provided with quality food.</li> <li>• During winter hot water will</li> </ul>				

Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
			be provided for bathing and likewise as per the weather condition. • Accommodation will be provided by the Contractor. • It's better to accommodate labor in Containers Camps/ houses with all amenities. • Contractor will submit Campsite Management Plan and get approval from DPO-ESSs before the execution of work.				
Vehicle Movements	• Traffic congestion • Conflicts	High	○ Contractor will prepare Traffic Management Plan (TMP) and	Contractor	Visual/ Pictures, Vehicle emission tests reports,	• Daily site visit during construction phase	• ESFPs • DPO ESM

Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
	<ul style="list-style-type: none"> <li>Vehicle emissions</li> </ul>		<p>get approval from DPO-ESSs before the execution of work.</p> <ul style="list-style-type: none"> <li>HSE Manager of the contractor will ensure implementation of the plan at site.</li> <li>Sign boards and posters will also be displayed at Sub-project site and adjacent areas as well. Inform the residents about timing, schedule and construction work duration.</li> <li>Work will be done in portions so that the half portion of road may be used</li> </ul>		GRM Complaints record	<ul style="list-style-type: none"> <li>Fortnightly/ Weekly</li> </ul>	<ul style="list-style-type: none"> <li>Supervision Consultants E&amp;S team</li> </ul>

Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
			<p>safely and vehicles movement and commercial activities will not be disturbed.</p> <ul style="list-style-type: none"> <li>Vehicle emissions testing will be ensured (Hand platter, Compactor)</li> </ul>				
Site Safety Issues	<ul style="list-style-type: none"> <li>Accidents</li> </ul>	High	Contractor will ensure site safety using safety cautions (night vision), boards, flagmen, cordon tapes for smooth flow of traffic and pedestrians during the construction phase of the Sub-Project.	Contractor	Visual/ Pictures	<ul style="list-style-type: none"> <li>Daily site visit during construction phase</li> <li>Fortnightly/ Weekly</li> </ul>	<ul style="list-style-type: none"> <li>ESFPs</li> <li>DPO ESM</li> <li>Supervision Consultants E&amp;S team</li> </ul>
Public access	Problems for pedestrians. Normal mode of transport may be disturbed during	Medium	<ul style="list-style-type: none"> <li>If it required to provide an alternated access route, contractor will ensure that</li> </ul>	Contractor	No hindrance in the community movement. Visual/ Pictures	<ul style="list-style-type: none"> <li>Daily site visit during construction phase</li> </ul>	<ul style="list-style-type: none"> <li>ESFPs</li> <li>DPO ESM</li> <li>Supervision Consultants E&amp;S team</li> </ul>



Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
	Sub-project execution. 01 school and two mosques exist within 100m of the M. A. Jinnah road. There will be impediment in the movement of local community during school working and prayer timings.		the alternate access route must consider the safety aspects for all kind of pedestrian i.e. women, children, disabled. <ul style="list-style-type: none"> <li>• Cordon off the construction zone.</li> <li>• Ensure to work at night for major part of work in which heavy machinery may hinder the public accessibility</li> <li>• Implement a proper traffic management plan.</li> </ul>			<ul style="list-style-type: none"> <li>• Fortnightly/ Weekly</li> </ul>	
Occupational Health & Safety	<ul style="list-style-type: none"> <li>• Injuries to workers/LTI</li> <li>• Occupational Health &amp; safety risks during Installation of Street Lights</li> </ul>	High	<ul style="list-style-type: none"> <li>• Contractor will follow PMDFC designed Environment, Health and Safety SOPs for Labor/ Workers for all activities on the</li> </ul>	Contractor	Visual/ Pictures	<ul style="list-style-type: none"> <li>• Daily site visit during construction phase</li> <li>• Fortnightly/ Weekly</li> </ul>	<ul style="list-style-type: none"> <li>• ESFPs</li> <li>• DPO ESM</li> <li>• Supervision Consultants E&amp;S team</li> </ul>

Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
			<p>site and these SOPs will be the part of his term of reference and contractual agreement.</p> <ul style="list-style-type: none"> <li>Workers will be trained by the PMDFC ESM team and guided to follow SOPs and will be provided with necessary PPEs (Safety Helmets, Safety Shoes, Gloves, Chemical Masks etc.) wherever required.</li> <li>Environmental and HSE Managers of the contractor will ensure implementation of HSE plan at site.</li> <li>During installation of street lights Power safety</li> </ul>				

Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
			codes will be followed (Annex-vii) • First aid boxes and dispenser will be available at work site and first aid will be provided onsite • Careful monitoring will also be carried out.				
Laying of coarse base, gravel, sub base	<ul style="list-style-type: none"> <li>Injuries to workers</li> </ul>	High	<ul style="list-style-type: none"> <li>Contractor will provide Safety Shoes, Hand Gloves, Safety Helmet, and Reflective Vest to all the labor.</li> </ul>	Contractor	Visual/ Pictures	<ul style="list-style-type: none"> <li>Daily site visit during construction phase</li> <li>Fortnightly/ Weekly</li> </ul>	<ul style="list-style-type: none"> <li>ESFPs</li> <li>DPO ESM</li> <li>Supervision Consultants E&amp;S team</li> </ul>
Damage to Public Infrastructure/ utilities	<ul style="list-style-type: none"> <li>Accidents/ Incidents/ Injuries</li> <li>Structural loss:</li> <li>Social Conflicts</li> </ul>	High	<ul style="list-style-type: none"> <li>Contractor will ensure no damage to public utilities or structures.</li> <li>Contractor will provide compensation for the damages to</li> </ul>	Contractor	Visual/ Pictures/payment record	<ul style="list-style-type: none"> <li>Daily site visit during construction phase</li> <li>Fortnightly/ Weekly</li> </ul>	<ul style="list-style-type: none"> <li>ESFPs</li> <li>DPO ESM</li> <li>Supervision Consultants E&amp;S team</li> </ul>

Environment & Social Management Plan (ESMP)

Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
			entitles accordingly				
Sexual Harassment-Labor Influx-Child Labor	<ul style="list-style-type: none"> <li>Social Conflicts</li> </ul>	Low	<ul style="list-style-type: none"> <li>Contractor's Environment Manager will give behavioral training to the workforce.</li> <li>Contractor will hire local labor for un-skilled works.</li> <li>No child labor is allowed onsite below 14 years.</li> <li>GRM at site level will be ensured to report in case of any such incident</li> </ul>	Contractor	Visual/ Pictures/ Reported/ Complains by public during visit	<ul style="list-style-type: none"> <li>Daily site visit during construction phase</li> <li>Fortnightly/ Weekly</li> </ul>	<ul style="list-style-type: none"> <li>ESFPs</li> <li>DPO ESM</li> <li>Supervision Consultants E&amp;S team</li> </ul>
CoViD-19 SOPs implementation	<ul style="list-style-type: none"> <li>Spread of Corona among the labor</li> </ul>	Low	<ul style="list-style-type: none"> <li>Contractor will provide face masks to the labor on daily basis to reduce Corona impact.</li> <li>Contractor will follow CoViD-19 guidelines during construction works (Annexure iii)</li> </ul>	Contractor	Visual/ Pictures	<ul style="list-style-type: none"> <li>Daily site visit during construction phase</li> <li>Fortnightly/ Weekly</li> </ul>	<ul style="list-style-type: none"> <li>ESFPs</li> <li>DPO ESM</li> <li>Supervision Consultants E&amp;S team</li> </ul>

Proposed Sub-project activities	Potential Env/Soc. Impacts	Magnitude of Impact	Mitigation Measures	Mitigation Implementation Responsibility	Monitoring Indicators	Monitoring Frequency	Monitoring Responsibility
<b>Operational Phase</b>							
Road Maintenance- Road Furniture	<ul style="list-style-type: none"> <li>Accidents</li> <li>Complains</li> </ul>	Low	<ul style="list-style-type: none"> <li>MC will maintain road lighting system for night vision.</li> <li>Road surface will be repaired/maintained by MC.</li> </ul>	Contractor	Visual/ Pictures		<ul style="list-style-type: none"> <li>MC Officials</li> </ul>

## 7.8. Environmental and Social Management Plan Implementation Budget

Table 7-2: Environmental Implementation Budget

Sr. No.	Description	Quantity	Per Unit Cost (PKR)	Total Cost (PKR)
<b>1. Environmental Monitoring</b>				
1.1	Drinking Water Quality Testing	2 sample	15,000	30,000
1.2	Air quality monitoring covering CO, SO <sub>2</sub> , O <sub>2</sub> , NO <sub>2</sub> , NO, NO <sub>x</sub> , CO <sub>2</sub> , PM2.5, and PM2.10, Smoke	2	25,000	50,000
1.3	Noise level Monitoring	2	1000	2,000
<b>Subtotal (1)</b>				<b>82,000</b>
<b>2. Implementation of OHS Requirements</b>				
2.1	Remuneration of Environmental Manager	1 for 6 Months	70,000	420,000
2.2	Remuneration of Health and Safety Officer (2 months)	1 for 6 Months	50,000	300,000
2.3	Purchase of PPEs			
a.	Safety Shoes Pairs	40	4,000	160,000
b.	P. Caps	80	200	16,000
c.	Hard Hats	40	500	20,000
d.	Glowing Jackets	80	300	24,000
e.	Pairs of Gloves	100	110	11,000
f.	Face Masks	1,000	10	10,000
g.	Sanitizers	60	300	18,000
2.4	Establishment of dispensary (Salary of Dispenser)	1 for 6 months	30,000	180,000
2.5	Medicines (LS)	Lump Sum	100,000	100,000
2.6	First Aid Box	12	2000	24,000
2.7	Misc.	Lump Sum	20,000	20,000
<b>Subtotal (2)</b>				<b>1,303,000</b>
<b>3. Training sessions with contractor labour force and with local communities at site on code of ethics and GRM</b>				
3.1	Boarding and Lodging	Lump Sum	25,000	25,000
3.2	Transportation	Lump Sum	25,000	25,000
3.3	Training Material	Lump Sum	15,000	15,000
3.4	Entertainment	Lump Sum	30,000	40,000
3.5	Misc.	Lump Sum	10,000	10,000
<b>Subtotal (3)</b>				<b>115,000</b>
<b>4. Compensatory Tree plantation and taking care cost</b>				<b>158,000</b>
<b>Total (1+2+3+4)</b>				<b>1,658,000</b>

## Section-8 Capacity Building

### 8.1. General

A comprehensive program will be followed to strengthen the technical and institutional capacities of the executing agency (MC Okara), contractors, and laborers.

Table 8-1: Training/ Awareness and Sensitization Plan

Components	Audience	Level	Modality	Frequency	Responsibility
ESMF Site Specific requirements and E&S Management and Mitigation Plan	MO-1 MO-P and MC field staff <sup>3</sup>	Training	Briefing Presentations Mock Activities	Before execution of sub-project and time to time instructions	PMDFC ESM team
ESMP Implementation and Monitoring Plan	MO-1 MO-P MC field staff	Training	Briefing Presentations Mock Activities		
	Contractor	Awareness and sensitization	Briefing	At the time of Contract signing and before execution	DPO-ESM ESFPs
	Labor	Awareness and sensitization	Briefing	Before execution and time to time during execution	DPO-ESM ESFPs
EHS SOPs for Labor/Workers (including women workers)	Contractor	Awareness and sensitization	Briefing and Illustrations	Before execution and time to time during execution	DPO-ESM ESFPs
	Labor/ workers	Awareness and sensitization on SOPs Training on Use of PPEs	Presentations Illustrations Mock activities Resource material	Before execution and time to time during execution	DPO-ESM ESFPs
GRM	Contractor	Awareness and sensitization	Briefing	Before execution and time to time during execution	DPO-ESM ESFPs

<sup>3</sup> For ESFPs and MC field staff, PMDFC will organize time to time trainings and a training/ capacity building program has been designed in this regard

## Environment & Social Management Plan (ESMP)

Components	Audience	Level	Modality	Frequency	Responsibility
	Labor/ workers	Awareness and sensitization	Briefing and resource material	Before execution and time to time during execution	DPO-ESM ESFPs
	Public/ communities	Awareness	Briefing during public consultation Resource material	Before and during execution	DPO-ESM ESFPs



## Annexure i: Environment & Social Screening Checklist

### Instructions:

Environmental and Social Focal Persons (ESFPs)<sup>1</sup> nominated by the MCs for PCP environmental and social management, will use this checklist in field for environmental and social screening and categorization of each and every sub-project proposed to be executed under the Program.

Deputy Program Officers-Environmental and Social Management deputed by PMDFC in regional offices will technically assist and support the ESFPs/MCs in filling in of this Checklist

It is to be attached with the main document<sup>2</sup> of sub-projects at planning stage and will be duly signed by the relevant ESFP and endorsed by the respective DPO-ESM

This checklist focuses on environmental issues and social concerns. To ensure that social dimensions are adequately considered, Involuntary Resettlement Screening Checklist will also be used

(iii) The purpose of this E&S Screening Checklists is to identify potential “Negative” impacts of environmental and social attributes or to enhance the existing environmental & social benefits. Use the “remarks” section to discuss any anticipated mitigation measures.

**Name of ESFP:** Mushtaq Ahmad Manda MO (I&S)

**Name of MC:** Okara

**Sub-Project Sector:** Roads

**Sub-Project Title:** Improvement of Road from Tank Chowk to Harinwala Chowk, Okara (M. A. Jinnah road)

**Sub- Project Categorization:** E-2 S-1

**Date of Screening:** 02.11.2022

### Anticipated Project Activities:

- Milling and dismantling of Road and Median
- Preparation of Sub- Grade
- Laying of Sub- Base
- Laying of Base Course
- Asphalt wearing course
- Installation of Tuff Pavers
- Construction of Sludge Carrier Channel
- Installation of street lights

**Estimated Cost of Subproject:** 167.61 Million

**Tentative Completion Time/ Duration:** 6 Months

**Estimated Labor for Subproject:** 30-40

<sup>1</sup> In all MCs, ESFPs are notified by Local government; MO (I&S) are focal persons for environmental sector and MO(P) are focal persons for social sectors.

<sup>2</sup> It is meant as PC-I and/or engineering estimates of sub-project

## Environment & Social Management Plan (ESMP)

Screening Questions	Yes	No	Remarks
<b>A. Project Siting</b>			
Is the Sub-Project area adjacent to or within any of the following:			
<b>Environmentally sensitive areas?</b>			
Legally protected Area		✓	No legally protected area i.e. wildlife sanctuary, national park or game reserve exist within or near the project area
Any surface water body (river, canal, stream, lake, wetland) within 250 meter of the proposed sub		✓	No water body exists within 250 of RoW of the road
Estuarine		✓	No estuarine within or near the project area
Special area for protecting biodiversity		✓	No ecological significant habitat exists within or near the project area
Buffer zone of protected area		✓	No protected area exists in the vicinity of the subproject area
Mangroves Forest		✓	No mangrove forest is located near the project area
Man-made forest /game reserve, orchid/ crops or any other area of environmental importance		✓	No man-made forest /game reserve, orchid/ crops or any other area of
<b>Socially sensitive /important areas/communities/ people?</b>			
PCRs and or any site of cultural/ religious importance (Graveyard, Shrine, Mosque, Church, <i>Gordwarah</i> , Temple, Fort, archeological/ historical site) within 100 m of the proposed subproject <sup>4</sup>		✓	02 mosques exist within 100m of the proposed subproject
Sensitive receptors (Schools, colleges, hospitals and clinics) within 100 meter of the proposed sub		✓	01 school, 06 clinics exist within 100m of the proposed subproject
Any graveyard of local community (Muslims or Christians)		✓	No graveyard exist within the subproject
Any demographic or socio-economic aspects of the sub-project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, squatters, ethnic minorities, people with disabilities, people in old age, socially isolated segments <sup>6</sup> of the society and women or children)?		✓	No vulnerable group exists within the sub-project area
Already existing infrastructure <sup>7</sup> (including public amenities) which may be required to dismantle or may be affected temporarily by any means?	✓		There are 62 electric poles and 25 telephone poles on the left side of the road and 60 electric poles and 02 telephone poles in the middle on the green belt. 44 transformers are installed with the electric poles. These poles have to be shifted. These poles have to be shifted during project execution and this activity may cause safety hazards that may be avoided through application of OHS protocols
<b>B. Potential Environmental Impacts</b>			
Will the Sub-Project cause...			

## Environment & Social Management Plan (ESMP)

1. Disturbance to habitats/ biodiversity of environmentally sensitive or protected areas?		✓	No sensitive habitats or protected area exist in the subproject area
2. Cutting of trees?	✓		64 small palms, 15 small trees of bakain, ultashauk, toot and Khajoor have to be cut/uprooted. 10 trees has to be planted for each cut/uprooted plant.
3. Disruption to habitats/ biodiversity of surrounding ecosystem/ environment?		✓	Cutting of trees will disturb the associated fauna. Compensatory tree plantation is recommended
4. Generation of wastewater during construction or operation?		✓	No separate establishment of contractor's camp is anticipated so no waste water would be generated during construction
5. Pollution of surface water/ground water due to wastewater discharge from construction site or due to direct/indirect disposal of waste water?		✓	No waste water will be generated due to subproject interventions
6. Alteration of surface water hydrology of waterways resulting in increased sediment in streams/ rivers or due to increased soil erosion at construction site?		✓	No alteration of surface water hydrology due to subproject interventions
7. Deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?		✓	No deterioration of surface water quality due to subproject interventions
8. Over pumping of ground water, leading to salinization and ground subsidence?		✓	No over pumping of groundwater will be required for the subproject
9. Serious contamination of soil due to construction works?	✓		Due to use of chemicals (cement, oil/ fuel) and movement of project machinery there are chances of soil contamination which will be mitigated by avoiding spill of oil/ fuel and safe use of coal tar to avoid soil contamination
10. Aggravation of solid waste problems in the area?	✓		Due to construction of sludge carrier channels there are chances of aggravation of construction waste in the project area, which may cause hindrance in the movement of local people. All generated waste will be required to be removed daily to an environmentally safe waste dumping site immediately
11. Generation of hazardous waste?	✓		Bitumen mixed solid waste will be generated as a result of dismantling of road that would be harmful if not properly disposed of. The excavated materials would be disposed of as per approval of the supervision engineer

## Environment & Social Management Plan (ESMP)

12. Increased air pollution due to sub-project construction and operation?	✓		Due to project interventions it is anticipated that ambient air of the project area may be temporarily affected due to dust emissions and smoke generated from project vehicles and machinery. Water sprinkling will be required to be done periodically on daily basis and contractor will have to keep his machinery and equipment well-tuned to avoid smoke emissions
13. Noise and vibration due to sub-project construction or operation?	✓		Noise produced from machinery operating at project site may cause disturbance to residents and workers. Contractor will be required to use new machinery to avoid noise emissions. Contractor will provide ear plugs/ muffs to workers near noise producing machinery and shall monitor noise levels periodically throughout the day during construction works.
14. Creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents due to solid/liquid?		✓	No temporary breeding habitats will be developed due to sub project interventions
15. Use of chemicals during construction?	✓		Due to use of chemicals (cement, oil/ fuel) and movement of project machinery there are chances of soil contamination which will be mitigated by avoiding spill of oil/ fuel and safe use of cement to avoid soil contamination
<b>C: Potential Social Impacts</b> Will the Sub-Project cause...			
1. Impairment of historical/ cultural areas; disfiguration of landscape or potential loss/ damage to Physical Cultural Resources (PCRs)?		✓	There will be no damages to Physical Cultural Resources (PCRs)
2. Displacement or involuntary resettlement of people? (physical displacement and/ or economic displacement) (If "Yes", please also fill Involuntary Resettlement Screening Checklist)		✓	Platforms, stairs, ramps, floors etc. of 213 shops, banks, clinics, school, mosque, hotels, and commercials buildings have to be dismantled. A compensation package has to be prepared accordingly
3. Disproportionate impacts on the poor, women and children and or other vulnerable groups <sup>8</sup> (mentioned above)?		✓	There will be no disproportionate impacts on the poor, women and children and or other vulnerable groups due to subproject
4. Temporary impediments in movements of people/ transport and animals?	✓		Due to project interventions there will be temporary impediment in the movement of local people which will be managed by working in patches so as to provide alternate passage way on other side and dump construction in a way that does not interfere with the commutation of local community and passersby.

## Environment & Social Management Plan (ESMP)

5. Large population influx during sub-project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?		✓	There will be no population influx during sub-project execution
6. Social conflicts if workers from other areas are hired?		✓	Mostly local workers will be hired.
7. Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?	✓		Workers will be provided PPEs, and trainings will be imparted to them regarding their use. Site related OHS guidelines shall be displayed at site and will be implemented by the contractor and supervision consultant will monitor its implementation at site
8. Risks to community health and safety due to the transport, storage, and use and/ or disposal of materials such as explosives, fuel and other chemicals during construction and operation?	✓		Construction material will be transported to site while covered with tarpaulin to avoid impact on community. Oil/ fuel will be transferred safely at a workshop or fuel station to avoid risk.
9. Community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?	✓		Entrance to working site will be restricted by installing barricade tape. Safety/ caution sign boards will be erected and flag men will be appointed to control traffic and keep irrelevant persons away from project site
10. Any impact on sensitive receptors (mentioned above)		✓	01 school, 06 clinics exist within 100m of the proposed subproject. The construction activities would hinder the mobility of the students and the patients. It will be advised to implement traffic management plan during construction and ensure safety of children by applying SOPs related to construction safety while executing activities near schools. Further it will be required to monitor noise levels of machinery and equipment to keep them within safe limits.
11. Any impact of negative nature on already existing infrastructure including public amenities			Asset inventory has been prepared

### Prepared by:

- i. Dr. Ashraf Bodla- Environmental Specialist, MMP
- ii. Saqib Sadiq-Sociologist, MMP

## Annexure ii: IFC EHS Guidelines for Construction and Decommissioning

General EHS Guidelines [Complete version] at: [www.ifc.org/ehsguidelines](http://www.ifc.org/ehsguidelines)



**Environmental, Health, and Safety (EHS) Guidelines**  
GENERAL EHS GUIDELINES: CONSTRUCTION AND DECOMMISSIONING



WORLD BANK GROUP

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#### Applicability and Approach

This section provides additional, specific guidance on prevention and control of community health and safety impacts that may occur during new project development, at the end of the project life-cycle, or due to expansion or modification of existing project facilities. Cross referencing is made to various other sections of the General EHS Guidelines.

#### 4.1 Environment{ TC "4.1 Environment" \f C \l "2" }

##### Noise and Vibration

During construction and decommissioning activities, noise and vibration may be caused by the operation of pile drivers, earth moving and excavation equipment, concrete mixers, cranes and the transportation of equipment, materials and people. Some recommended noise reduction and control strategies to consider in areas close to community areas include:

- Planning activities in consultation with local communities so that activities with the greatest potential to generate noise are

planned during periods of the day that will result in least disturbance

- Using noise control devices, such as temporary noise barriers and deflectors for impact and blasting activities, and exhaust muffling devices for combustion engines.
- Avoiding or minimizing project transportation through community areas

##### Soil Erosion

Soil erosion may be caused by exposure of soil surfaces to rain and wind during site clearing, earth moving, and excavation activities. The mobilization and transport of soil particles may, in turn, result in sedimentation of surface drainage networks, which may result in impacts to the quality of natural water systems and ultimately the biological systems that use these waters.

Recommended soil erosion and water system management approaches include:

##### Sediment mobilization and transport

- Reducing or preventing erosion by:
  - Scheduling to avoid heavy rainfall periods (i.e., during the dry season) to the extent practical
  - Contouring and minimizing length and steepness of slopes
  - Mulching to stabilize exposed areas
  - Re-vegetating areas promptly
  - Designing channels and ditches for post-construction flows
  - Lining steep channel and slopes (e.g. use jute matting)
- Reducing or preventing off-site sediment transport through use of settlement ponds, silt fences, and water treatment, and modifying or suspending activities during extreme rainfall and high winds to the extent practical.





## *Clean runoff management*

- Segregating or diverting clean water runoff to prevent it mixing with water containing a high solids content, to minimize the volume of water to be treated prior to release

## *Road design*

- Limiting access road gradients to reduce runoff-induced erosion
- Providing adequate road drainage based on road width, surface material, compaction, and maintenance

## *Disturbance to water bodies*

- Depending on the potential for adverse impacts, installing free-spanning structures (e.g., single span bridges) for road watercourse crossings
- Restricting the duration and timing of in-stream activities to lower flow periods, and avoiding periods critical to biological cycles of valued flora and fauna (e.g., migration, spawning, etc.)
- For in-stream works, using isolation techniques such as berming or diversion during construction to limit the exposure of disturbed sediments to moving water
- Consider using trenchless technology for pipeline crossings (e.g., suspended crossings) or installation by directional drilling

## *Structural (slope) stability*

- Providing effective short term measures for slope stabilization, sediment control and subsidence control until long term measures for the operational phase can be implemented
- Providing adequate drainage systems to minimize and control infiltration

## *Air Quality*

Construction and decommissioning activities may generate emission of fugitive dust caused by a combination of on-site excavation and movement of earth materials, contact of construction machinery with bare soil, and exposure of bare soil and soil piles to wind. A secondary source of emissions may include exhaust from diesel engines of earth moving equipment, as well as from open burning of solid waste on-site. Techniques to consider for the reduction and control of air emissions from construction and decommissioning sites include:

- Minimizing dust from material handling sources, such as conveyors and bins, by using covers and/or control equipment (water suppression, bag house, or cyclone)
- Minimizing dust from open area sources, including storage piles, by using control measures such as installing enclosures and covers, and increasing the moisture content
- Dust suppression techniques should be implemented, such as applying water or non-toxic chemicals to minimize dust from vehicle movements
- Selectively removing potential hazardous air pollutants, such as asbestos, from existing infrastructure prior to demolition
- Managing emissions from mobile sources according to Section 1.1
- Avoiding open burning of solid (refer to solid waste management guidance in Section 1.6)

## *Solid Waste*

*Non-hazardous solid waste* generated at construction and decommissioning sites includes excess fill materials from grading and excavation activities, scrap wood and metals, and small concrete spills. Other non-hazardous solid wastes include office, kitchen, and dormitory wastes when these types of operations are part of construction project activities. *Hazardous solid waste* includes contaminated soils, which could potentially be encountered on-site due to previous land use activities, or small



amounts of machinery maintenance materials, such as oily rags, used oil filters, and used oil, as well as spill cleanup materials from oil and fuel spills. Techniques for preventing and controlling non-hazardous and hazardous construction site solid waste include those already discussed in Section 1.6.

## Hazardous Materials

Construction and decommissioning activities may pose the potential for release of petroleum based products, such as lubricants, hydraulic fluids, or fuels during their storage, transfer, or use in equipment. These materials may also be encountered during decommissioning activities in building components or industrial process equipment. Techniques for prevention, minimization, and control of these impacts include:

- Providing adequate secondary containment for fuel storage tanks and for the temporary storage of other fluids such as lubricating oils and hydraulic fluids,
- Using impervious surfaces for refueling areas and other fluid transfer areas
- Training workers on the correct transfer and handling of fuels and chemicals and the response to spills
- Providing portable spill containment and cleanup equipment on site and training in the equipment deployment
- Assessing the contents of hazardous materials and petroleum-based products in building systems (e.g. PCB containing electrical equipment, asbestos-containing building materials) and process equipment and removing them prior to initiation of decommissioning activities, and managing their treatment and disposal according to Sections 1.5 and 1.6 on Hazardous Materials and Hazardous Waste Management, respectively
- Assessing the presence of hazardous substances in or on building materials (e.g., polychlorinated biphenyls, asbestos-containing flooring or insulation) and decontaminating or properly managing contaminated building materials

## Wastewater Discharges

Construction and decommissioning activities may include the generation of sanitary wastewater discharges in varying quantities depending on the number of workers involved. Adequate portable or permanent sanitation facilities serving all workers should be provided at all construction sites. Sanitary wastewater in construction and other sites should be managed as described in Section 1.3.

## Contaminated Land

Land contamination may be encountered in sites under construction or decommissioning due to known or unknown historical releases of hazardous materials or oil, or due to the presence of abandoned infrastructure formerly used to store or handle these materials, including underground storage tanks. Actions necessary to manage the risk from contaminated land will depend on factors such as the level and location of contamination, the type and risks of the contaminated media, and the intended land use. However, a basic management strategy should include:

- Managing contaminated media with the objective of protecting the safety and health of occupants of the site, the surrounding community, and the environment post construction or post decommissioning
- Understanding the historical use of the land with regard to the potential presence of hazardous materials or oil prior to initiation of construction or decommissioning activities
- Preparing plans and procedures to respond to the discovery of contaminated media to minimize or reduce the risk to health, safety, and the environment consistent with the approach for Contaminated Land in Section 1.6
- Preparation of a management plan to manage obsolete, abandoned, hazardous materials or oil consistent with the approach to hazardous waste management described in Section 1.6.





Successful implementation of any management strategy may require identification and cooperation with whoever is responsible and liable for the contamination.

## 4.2 Occupational Health and Safety{ TC "4.2 Occupational Health and Safety" \f C \l "2" }

### *Over-exertion*

Over-exertion, and ergonomic injuries and illnesses, such as repetitive motion, over-exertion, and manual handling, are among the most common causes of injuries in construction and decommissioning sites. Recommendations for their prevention and control include:

- Training of workers in lifting and materials handling techniques in construction and decommissioning projects, including the placement of weight limits above which mechanical assists or two-person lifts are necessary
- Planning work site layout to minimize the need for manual transfer of heavy loads
- Selecting tools and designing work stations that reduce force requirements and holding times, and which promote improved postures, including, where applicable, user adjustable work stations
- Implementing administrative controls into work processes, such as job rotations and rest or stretch breaks

### *Slips and Falls*

Slips and falls on the same elevation associated with poor housekeeping, such as excessive waste debris, loose construction materials, liquid spills, and uncontrolled use of electrical cords and ropes on the ground, are also among the most frequent cause of lost time accidents at construction and decommissioning sites. Recommended methods for the prevention of slips and falls from, or on, the same elevation include:

- Implementing good house-keeping practices, such as the sorting and placing loose construction materials or demolition debris in established areas away from foot paths
- Cleaning up excessive waste debris and liquid spills regularly
- Locating electrical cords and ropes in common areas and marked corridors
- Use of slip retardant footwear

### *Work in Heights*

Falls from elevation associated with working with ladders, scaffolding, and partially built or demolished structures are among the most common cause of fatal or permanent disabling injury at construction or decommissioning sites. If fall hazards exist, a fall protection plan should be in place which includes one or more of the following aspects, depending on the nature of the fall hazard<sup>95</sup>:

- Training and use of temporary fall prevention devices, such as rails or other barriers able to support a weight of 200 pounds, when working at heights equal or greater than two meters or at any height if the risk includes falling into operating machinery, into water or other liquid, into hazardous substances, or through an opening in a work surface
- Training and use of personal fall arrest systems, such as full body harnesses and energy absorbing lanyards able to support 5000 pounds (also described in this section in Working at Heights above), as well as fall rescue procedures to deal with workers whose fall has been successfully arrested. The tie in point of the fall arresting system should also be able to support 5000 pounds
- Use of control zones and safety monitoring systems to warn workers of their proximity to fall hazard zones, as well as

<sup>95</sup> Additional information on identification of fall hazards and design of protection systems can be found in the United States Occupational Health and Safety Administration's (US OSHA) web site: <http://www.osha.gov/SLTC/fallprotection/index.html>



securing, marking, and labeling covers for openings in floors, roofs, or walking surfaces

### *Struck By Objects*

Construction and demolition activities may pose significant hazards related to the potential fall of materials or tools, as well as ejection of solid particles from abrasive or other types of power tools which can result in injury to the head, eyes, and extremities. Techniques for the prevention and control of these hazards include:

- Using a designated and restricted waste drop or discharge zones, and/or a chute for safe movement of wastes from upper to lower levels
- Conducting sawing, cutting, grinding, sanding, chipping or chiseling with proper guards and anchoring as applicable
- Maintaining clear traffic ways to avoid driving of heavy equipment over loose scrap
- Use of temporary fall protection measures in scaffolds and out edges of elevated work surfaces, such as hand rails and toe boards to prevent materials from being dislodged
- Evacuating work areas during blasting operations, and using blast mats or other means of deflection to minimize fly rock or ejection of demolition debris if work is conducted in proximity to people or structures
- Wearing appropriate PPE, such as safety glasses with side shields, face shields, hard hats, and safety shoes

### *Moving Machinery*

Vehicle traffic and use of lifting equipment in the movement of machinery and materials on a construction site may pose temporary hazards, such as physical contact, spills, dust, emissions, and noise. Heavy equipment operators have limited fields of view close to their equipment and may not see pedestrians close to the vehicle. Center-articulated vehicles create a significant impact or crush hazard zone on the outboard side of

a turn while moving. Techniques for the prevention and control of these impacts include:

- Planning and segregating the location of vehicle traffic, machine operation, and walking areas, and controlling vehicle traffic through the use of one-way traffic routes, establishment of speed limits, and on-site trained flag-people wearing high-visibility vests or outer clothing covering to direct traffic
- Ensuring the visibility of personnel through their use of high visibility vests when working in or walking through heavy equipment operating areas, and training of workers to verify eye contact with equipment operators before approaching the operating vehicle
- Ensuring moving equipment is outfitted with audible back-up alarms
- Using inspected and well-maintained lifting devices that are appropriate for the load, such as cranes, and securing loads when lifting them to higher job-site elevations.

### *Dust*

- Dust suppression techniques should be implemented, such as applying water or non-toxic chemicals to minimize dust from vehicle movements
- PPE, such as dust masks, should be used where dust levels are excessive

### *Confined Spaces and Excavations*

Examples of confined spaces that may be present in construction or demolition sites include: silos, vats, hoppers, utility vaults, tanks, sewers, pipes, and access shafts. Ditches and trenches may also be considered a confined space when access or egress is limited. In addition to the guidance provided in Section 2.8 the occupational hazards associated with confined spaces and excavations in construction and decommissioning sites should be prevented according to the following recommendations:



- Controlling site-specific factors which may contribute to excavation slope instability including, for example, the use of excavation dewatering, side-walls support, and slope gradient adjustments that eliminate or minimize the risk of collapse, entrapment, or drowning
- Providing safe means of access and egress from excavations, such as graded slopes, graded access route, or stairs and ladders
- Avoiding the operation of combustion equipment for prolonged periods inside excavations areas where other workers are required to enter unless the area is actively ventilated

### *Other Site Hazards*

Construction and decommissioning sites may pose a risk of exposure to dust, chemicals, hazardous or flammable materials, and wastes in a combination of liquid, solid, or gaseous forms, which should be prevented through the implementation of project-specific plans and other applicable management practices, including:

- Use of specially trained personnel to identify and remove waste materials from tanks, vessels, processing equipment or contaminated land as a first step in decommissioning activities to allow for safe excavation, construction, dismantling or demolition
- Use of specially trained personnel to identify and selectively remove potentially hazardous materials in building elements prior to dismantling or demolition including, for example, insulation or structural elements containing asbestos and Polychlorinated Biphenyls (PCBs), electrical components containing mercury<sup>96</sup>
- Use of waste-specific PPE based on the results of an occupational health and safety assessment, including

respirators, clothing/protective suits, gloves and eye protection

## 4.3 Community Health and Safety{ TC "4.3 Community Health and Safety" \f C \1 "2" }

### *General Site Hazards*

Projects should implement risk management strategies to protect the community from physical, chemical, or other hazards associated with sites under construction and decommissioning. Risks may arise from inadvertent or intentional trespassing, including potential contact with hazardous materials, contaminated soils and other environmental media, buildings that are vacant or under construction, or excavations and structures which may pose falling and entrapment hazards. Risk management strategies may include:

- Restricting access to the site, through a combination of institutional and administrative controls, with a focus on high risk structures or areas depending on site-specific situations, including fencing, signage, and communication of risks to the local community
- Removing hazardous conditions on construction sites that cannot be controlled affectively with site access restrictions, such as covering openings to small confined spaces, ensuring means of escape for larger openings such as trenches or excavations, or locked storage of hazardous materials

### *Disease Prevention*

Increased incidence of communicable and vector-borne diseases attributable to construction activities represents a potentially serious health threat to project personnel and residents of local communities. Recommendations for the prevention and control of communicable and vector-borne diseases also applicable to

<sup>96</sup> Additional information on the management and removal of asbestos containing building materials can be found in ASTM Standard E2356 and E1368



construction phase activities are provided in Section 3.6 (Disease Prevention).

### Traffic Safety

Construction activities may result in a significant increase in movement of heavy vehicles for the transport of construction materials and equipment increasing the risk of traffic-related accidents and injuries to workers and local communities. The incidence of road accidents involving project vehicles during construction should be minimized through a combination of education and awareness-raising, and the adoption of procedures described in Section 3.4 (Traffic Safety).

### Annexure iii: COVID-19 Pandemic and Health Safety Measures

Given the unprecedented nature of the COVID-19 pandemic, contractors are bound to take all necessary precautions to maintain the health and safety related measures at site and to ensure suitable arrangements regarding hygiene requirements for the prevention of pandemic. Following are the measures that should be implemented at the construction site to avoid the spread of Covid-19:

Activities	Adaptive Measures
<b>Pre- Execution Phase</b>	
<b>A. Profile preparation</b>	<ul style="list-style-type: none"> <li>Detail profile of project workforce</li> <li>Enlist the names, addresses and contact #</li> <li>Breakdown of the workforce (workers from local communities and those who have on site accommodation)</li> <li>Assigning the task against each person</li> <li>Schedule the key activities and their duration at site</li> </ul>
<b>B. Initial Screening</b>	<ul style="list-style-type: none"> <li>All enlisted workforce should go through initial screening process</li> <li>Ensuring the availability of Thermo gun at site</li> <li>Record keeping against initial screening</li> <li>Identifying all workers who are initially at more risk of contracting Covid-19</li> </ul>
<b>During Execution Phase</b>	
<b>A. Preliminary Screening</b>	<p><b>Regular Screening:</b></p> <ul style="list-style-type: none"> <li>Regular screening by using Thermo gun on daily basis before starting civil work at site</li> <li>Checking and recording temperatures of workers and other people entering the site or requiring self-reporting prior to or on entering the site.</li> <li>If a worker has symptoms of COVID-19 (e.g. fever, dry cough, fatigue) the worker should be removed immediately from work activities and isolated on designated site.</li> <li>Co-workers (i.e. workers with whom the sick worker was in close contact) should be required to stop work, and to quarantine themselves for 14 days, even if they have no symptoms.</li> </ul> <p><b>Sequential Screening:</b></p> <ul style="list-style-type: none"> <li>Concerned DHQ medical staff is requested for screening at regular intervals. List should also be shared with DHQ for avoiding future inconvenience <b>or hire health safety officer on weekly basis.</b></li> </ul>
<b>B. Special Arrangements regarding PPEs</b>	<ul style="list-style-type: none"> <li>Ensuring availability of hand washing facilities (sanitizers/soaps) at site</li> <li>Presence of closed waste bins at key places throughout site, including at entrances/exits to work areas (toilet, canteen or food distribution, or provision of drinking water; in worker accommodation; at waste stations; at stores; and in common spaces).</li> <li>Special arrangements regarding PPEs and sanitation at site</li> <li>Record keeping of stock availability on daily basis</li> </ul>
<b>C. Restricted Movement/</b>	<ul style="list-style-type: none"> <li>Encourage employees to wash their hands at least for 20 seconds with soap and stay at least one meter away from people who are coughing or sneezing</li> </ul>



Activities	Adaptive Measures
<b>Demobilization of staff</b>	<ul style="list-style-type: none"> <li>• Breakdown of workers who reside at home (i.e. workers from the communities), workers who lodge within the local communities and workers in on-site accommodation. Workers accommodated on site should be required to minimize contact with people near the site, and in certain cases be prohibited from leaving the site for the duration of their contract, so that contact with local communities is avoided.</li> <li>• Workers from local communities, who return home daily, weekly or monthly, will be more difficult to manage. They should be subject to health checks at entry to the site (as set out above) and at some point, circumstances may make it necessary to require them to either use accommodation on site or not to come to work.</li> <li>• All workers should be provided separate accommodation.</li> </ul>
<b>D. Training sessions</b>	<ul style="list-style-type: none"> <li>• Health and safety training for Contractor's Personnel (which include project workers and all personnel that the Contractor uses on site, including staff and other employees of the Contractor and Subcontractors and any other personnel assisting the Contractor in carrying out project activities.</li> <li>• Sessions related to safety procedures, use of construction PPEs, occupational health and safety issues, and code of conduct specially privacy issues including social distancing.</li> <li>• Arranging daily briefings with workforce, reminding workers to self-monitor for possible symptoms (fever, cough) and to report to their supervisor or the COVID-19 focal point if they have symptoms or are feeling unwell.</li> <li>• Placing posters and sign boards around the site in local languages.</li> <li>• Appointing one person on daily basis among the workforce who will serve as trainer for conducting awareness session and encouraging the rest to take preventive measures.</li> </ul>
<b>E. Operationalization of Grievance Redress Mechanism</b>	<ul style="list-style-type: none"> <li>• Effective implementation of GRM at site</li> <li>• Encouraging to report any COVID-19 related health issue and concerns about the health of their co-workers and other staff as well.</li> <li>• In case of unavailability of the PPEs at site, grievance would be lodged directly to PMU.</li> </ul>
<b>F. Role of PMU</b>	<ul style="list-style-type: none"> <li>• PMU is required to arrange regular meetings with Contractors and workforce to monitor all procedural implementation of COVID-19 prevention related mechanism.</li> <li>• Arrange meeting with concerned DHQs for immediate support and guidance in case of emergency.</li> <li>• During inspection visit by PMU Staff, if a worker is found to has symptoms of COVID-19, the worker should be removed immediately from work activities and isolated on designated site.</li> </ul>
<b>Post Execution Phase</b>	
<b>A. Post Screening</b>	<ul style="list-style-type: none"> <li>• Screening should be done at the end of the day on daily basis, if a worker is found to have any symptoms of COVID-19, he should be immediately reported to concerned health department.</li> </ul>
<b>B. Cleaning and waste disposal</b>	<ul style="list-style-type: none"> <li>• All waste (PPEs and sanitation related) shall be disposed properly at designated sites.</li> </ul>

**Annexure iv: List of Persons Consulted**

<b>Sr. No.</b>	<b>Name</b>	<b>Designation</b>	<b>Department</b>
<b>Technical Discussion</b>			
1.	Muhammad Nasim	Chief Officer	MC Okara
2.	Zaheer Liaqat Baig	Administrator	MC Okara
3.	Mushtaq Manda	MO-I	MC Okara
4.	Mr. Ali Raza	Sub-Engineer	MC Okara
<b>Communities Consultation</b>			
<b>M. A. Jinnah Road</b>			
	<b>Name</b>	<b>Location</b>	<b>Contact No.</b>
1.	Shahab-ud- Din	M. A. Jinnah Road	03036942834
2.	Izat Ullah	M. A. Jinnah Road	03036552645
3.	Amir Khan	M. A. Jinnah Road	03061550547
4.	Sami Ullah Khan	M. A. Jinnah Road	03035632265
5.	Ihsan Khan	M. A. Jinnah Road	03166321628
6.	Sadaam Hussain	M. A. Jinnah Road	03166321660
7.	Naeem Khan	M. A. Jinnah Road	03158853838
8.	Aziz Ullah	M. A. Jinnah Road	03039224245
9.	Hazart Ullah	M. A. Jinnah Road	03110372934
10.	Abdul Razzaq	M. A. Jinnah Road	03039366332
11.	M. Mehboob	M. A. Jinnah Road	03217086282
12.	Zaigham	M. A. Jinnah Road	03058846266
13.	Naeem Ahmad	M. A. Jinnah Road	03143565205
14.	Usman Anwar	M. A. Jinnah Road	03064646806
15.	Qurban Hussain	M. A. Jinnah Road	03047878629
16.	Nadeem Ahmad	M. A. Jinnah Road	03157403714
17.	Iqbal Hussain	M. A. Jinnah Road	03047878629
18.	M. Qasim	M. A. Jinnah Road	03217081095
19.	Hafiz Khalil	M. A. Jinnah Road	03137271971
20.	Usama	M. A. Jinnah Road	03223233312
21.	M. Mehboob	M. A. Jinnah Road	03217086282
22.	Kashif Akram	M. A. Jinnah Road	03061964205

## Environment & Social Management Plan (ESMP)

23.	M.Ashraf	M. A. Jinnah Road	03154104137
24.	Adnan Ali	M. A. Jinnah Road	03457494406
25.	M. Iqbal	M. A. Jinnah Road	03229761603
26.	M. Asif	M. A. Jinnah Road	03466979282
27.	M. Ashraf	M. A. Jinnah Road	03154104137
28.	Shahab-ud- Din	M. A. Jinnah Road	03036942834



**Annexure v: Personal Protective Equipment According to Hazard<sup>4</sup>**

Objective	Workplace Hazards	Suggested PPE
Eye and face protection	Flying particles, molten metal, liquid chemicals, gases or vapors, light radiation.	Safety Glasses with side-shields, protective shades, etc.
Head protection	Falling objects, inadequate height clearance, and overhead power cords.	Plastic Helmets with top and side impact protection.
Hearing protection	Noise, ultra-sound.	Hearing protectors (ear plugs or ear muffs).
Foot protection	Falling or rolling objects, pointed objects. Corrosive or hot liquids.	Safety shoes and boots for protection against moving & falling objects, liquids and chemicals.
Hand protection	Hazardous materials, cuts or lacerations, vibrations, extreme temperatures.	Gloves made of rubber or synthetic materials (Neoprene), leather, steel, insulating materials, etc.
Respiratory protection	Dust, fogs, fumes, mists, gases, smokes, vapors.	Facemasks with appropriate filters for dust removal and air purification (chemicals, mists, vapors and gases). Single or multi-gas personal monitors, if available.
	Oxygen deficiency	Portable or supplied air (fixed lines). On-site rescue equipment.
Body/leg protection	Extreme temperatures, hazardous materials, biological agents, cutting and laceration.	Insulating clothing, body suits, aprons etc. of appropriate materials.

<sup>4</sup> Source: IFC Environmental, Health, and Safety (EHS) Guidelines

### **Annexure vi: Chance Find Procedures**

Chance finds procedures which will be used during this Project are as follows:

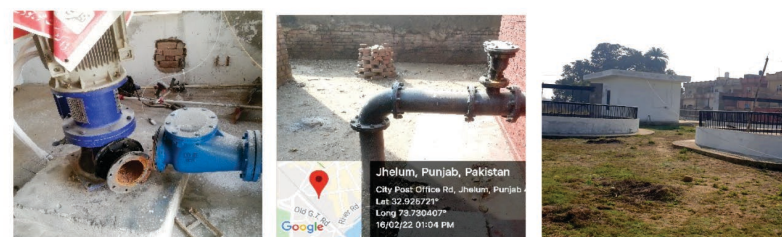
- Stop the construction activities in the area of the chance find;
- Delineate the discovered site or area;
- Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be present until the responsible local authorities and the Ministry in charge of Department of Archaeology take over;
- Notify the supervisory Engineer who in turn will notify the responsible local authorities and the Ministry immediately (within 24 hours or less);
- Responsible local authorities and the Ministry in charge of Department of Archaeology would oversee protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archaeologists of the Department of Archaeology and Museums (within 72 hours). The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values;
- Decisions on how to handle the finding shall be taken by the responsible authorities and the Ministry in charge of Department of Archaeology. This could include changes in the layout (such as when finding an irremovable remain of cultural or archaeological importance) conservation, preservation, restoration and salvage;
- Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the Ministry in charge of Department of Archaeology; and□
- Construction work could resume only after permission is given from the responsible local authorities and the Ministry in charge of Department of Archaeology concerning safeguard of the heritage.

These procedures will be referred to as standard provisions in construction contracts, when applicable. During project supervision, the Site Engineer will monitor the above regulations relating to the treatment of any chance find encountered are observed.

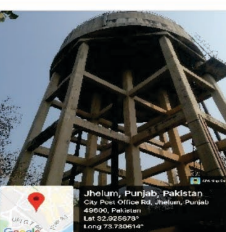
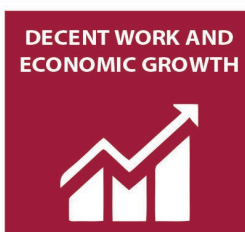
**Annexure vii: Power Safety Code**

# **ANNEXURE - F**

## **Drawings**



SUSTAINABLE CITIES  
AND COMMUNITIES



## Detailed Design of Infrastructure Sub- Projects Sectoral Planning & Resident Supervision in 16 cities of Punjab (Package-V – Okara)

### Improvement of Road from Tank Chowk to Harinwala Chowk (MA Jinnah Road)

November 22







## General Drawings

# LIST OF DRAWINGS

S. No.	DWG. No.	DRAWING TITLE
GENERAL DRAWINGS		
1.	MMP-1076P05-OKR-RD-GN-001	LIST OF DRAWINGS
2.	MMP-1076P05-OKR-RD-GN-002	GENERAL NOTES
3.	MMP-1076P05-OKR-RD-GN-003	LOCATION PLAN
4.	MMP-1076P05-OKR-RD-GN-004	TYPICAL PAVEMENT MARKINGS
5.	MMP-1076P05-OKR-RD-GN-005	ARROW MARKINGS
6.	MMP-1076P05-OKR-RD-GN-005a	TYPICAL CATEYE DETAIL
7.	MMP-1076P05-OKR-RD-GN-005b	CATEGORY - 1 TYPICAL SIGN DETAILS
8.	MMP-1076P05-OKR-RD-GN-006	TYPICAL MANHOLE DETAIL
MA JINNAH ROAD		
9.	MMP-1076P05-OKR-RD-GN-007	MA JINNAH TYPICAL DRAIN DETAIL
10.	MMP-1076P05-OKR-RD-GN-008	MA JINNAH TYPICAL DRAIN DETAIL WITH CONCRETE GRATING
11.	MMP-1076P05-OKR-RD-GN-009	MA JINNAH ROAD TYPICAL CROSS SECTION ( 0+000 TO 0+650)
12.	MMP-1076P05-OKR-RD-GN-010	MA JINNAH ROAD TYPICAL CROSS SECTION ( 0+650 TO 3+000)
13.	MMP-1076P05-OKR-RD-GN-011	MA JINNAH ROAD TYPICAL CROSS SECTION ( 3+000 TO 3+352)
14.	MMP-1076P05-OKR-RD-GN-012	MA JINNAH ROAD LIST OF CONTROL POINTS
15.	MMP-1076P05-OKR-RD-TP-001 ~ 002	MA JINNAH ROAD TOPOGRAPHIC SURVEY
16.	MMP-1076P05-OKR-RD-PP-001 ~ 003	MA JINNAH ROAD PLAN AND PROFILE (STA 0+000 TO STA 3+352)
17.	MMP-1076P05-OKR-SL-GN-002	DOUBLE ARM POLE DETAIL
18.	MMP-1076P05-OKR-SL-GN-003	SINGLE AND DOUBLE ARM POLE FOUNDATION
19.	MMP-1076P05-OKR-SL-GN-004	MA JINNAH ROAD SLD AND CONTROL PANEL DETAIL
20.	MMP-1076P05-OKR-SL-P-001 ~ 002	MA JINNAH ROAD STREET LIGHT PLAN
21.	MMP-1076P05-OKR-DR-GN-001	SUMP WELL FOR MA JINNAH ROAD DRAINAGE AT 4/L CANAL OKARA CITY
22.	MMP-1076P05-OKR-RD-DR-001 ~ 002	MA JINNAH ROAD DRAINAGE PLAN
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<div>Consultants</div> <div><div>MMP</div><div>CENTRAL DESIGN CELL 2nd Floor, CTI Building, 27-Empress Road, Lahore 042-36292525-7 042-36292528 mmpdcc@mmpakistan.com http://www.mmpakistan.com</div></div>	<div>Client</div> <div><div><div>GOVERNMENT OF PUNJAB</div></div><div><div><div>Punjab Municipal Development Fund Company Department (PMDFC)</div></div></div></div>	<div>Financing Agency</div> <div>WORLD BANK</div> <div>Project</div> <div>Punjab Cities Program (PCP) Detailed Design of Infrastructure Sub-Projects, Sectoral Planning &amp; Resident Supervision in 16 Cities of Punjab(Package-5)</div>	Rev.	Date	Description	Checked	Approved	Title LIST OF DRAWINGS	Designed	M. Abdullah		
			0	8-11-2022		SA	PHK		Drawn	M. Tayyab		
									Checked	Sajjad Anwar		
									Approved	Pervez Hayat Khan		
										Scale	AS SHOWN	
										Drawing No.	MMP-1076P05-OKR-RD-GN-001	
									Rev No:	0		

Drawing file path & name: F:\PMDFC\Package\_V\_Roads\_P&P\Qlara Roads\3. General Notes\General Notes.dwg  
User and Plot Date: Tayyab - Tue, 11 Oct 2022 - 11:50am

GENERAL NOTES:

- EXCEPT WHEN OTHERWISE INDICATED, ALL DIMENSIONS AND UNITS ARE IN THE IMPERIAL SYSTEM OF MEASUREMENT.
- ALL COORDINATES ARE MEASURED IN FEET AND CORRESPOND TO THE GIRD REFERENCE OF UNIVERSAL TRANSVERSE MERCATOR.
- ALL ELEVATIONS ARE REFERENCED TO MEAN SEA LEVEL.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES OR AS OTHERWISE ENCOUNTERED DURING EXCAVATION PROCESS. ANY DAMAGE TO UTILITIES WILL BE RESTORED AT HIS OWN COST.
- BEFORE COMMENCEMENT OF WORK,CONTRACTOR SHALL VERIFY THE EXISTING ELEVATION SHOWN IN TENDER DRAWINGS ALONG WITH THE ENGINEER'S REPRESENTATIVE.
- ANY DISCREPANCIES ON DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF ENGINEER FOR THE CLARIFICATION BEFORE PROCEEDING WITH THE WORK INVOLVED.
- THE TENDERER SHOULD VISIT THE SITE AND ASSESS SCOPE AND NATURE OF THE WORKS SPECIALLY DISMANTLING ITEMS AND GET INFORMATION/ MEASUREMENTS AT HIS OWN AND SATISFY HIMSELF BEFORE QUOTING RATES.
- THE DEMOLISHED MATERIAL WILL BE HANDED OVER TO THE CONCERNED DEPARTMENT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE PROPOSED DESIGN OF PAVEMENT IS A TENTATIVE DESIGN AND IT IS BASED ON ASSUMED VALUE OF CBR 5%. HOWEVER AT CONSTRUCTION STAGE IS RECOMMENDED THAT CLIENT MAY PROVIDE THE GEOTECHNICAL INVESTIGATION REPORT AND DESIGN WILL BE REVISED ACCORDINGLY AS PER OUR TOR.
- THE GEOMETRIC DESIGN IS BASED ON THE TOPOGRAPHIC SURVEY. HOWEVER, AT CONSTRUCTION STAGE, IT IS RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SURVEY AND ANY DISCREPANCY IF FOUND SHALL BE CORRECTED AND DESIGN MAY BE REVISED ACCORDINGLY.
- ALL PROFILE DRAWINGS SHALL BE READ IN CONJUNCTION WITH RELEVANT PLAN AND CROSS SECTIONAL DRAWINGS.
- ALL EXISTING STRUCTURES/UTILITY POLES,WHICH LIE IN THE PROPOSED CROSS SECTION, ARE REQUIRED TO BE DEMOLISHED/RELOCATED BY THE CONTRACTOR COORDINATION WITH THE CONCERNED UTILITY DEPARTMENT OR AS DIRECTED BY THE ENGINEER
- PAVEMENT WIDENING SHALL BE REQUIRED WHERE EXISTING PAVEMENT WIDTH IS LESS THAN THE WIDTH SHOWN ON THE TYPICAL CROSS SECTION OR SHOWN ELSEWHERE ON THE DRAWINGS.
- AII DEFECTIVE PORTIONS OF SUB-GRADE/GRANULAR SUB BASE COURSE FAILURE OF THE EXISTING PAVEMENT AS DETERMINED BY THE ENGINEER SHALL BE REMOVED AND RELAYED AS PER DRAWINGS AND SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.
- THE EXISTING MANHOLES LYING BELOW THE FINAL DESIGN LEVELS ARE REQUIRED TO BE RAISED AND MATCHED WITH FINAL DESIGN ELEVATION.
- ACCESS TO RESIDENTIAL AREAS WITHIN THE CONSTRUCTION ZONE SHALL NOT BE BLOCKED BY THE CONTRACTOR AT ANY TIME ALL EXISTING ACCESSES WILL BE RETAINED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY TRAFFIC DIVERSIONS ON THE ROAD, CONSTRUCTION OF DETOUR,MAINTENANCE,SPRINKLING OF WATER,GRADING AND COMPACTION,TRAFFIC SAFETY DEVICES, BEACON LIGHTS WHEN AND WHERE REQUIRED, OR AS DIRECTED BY THE ENGINEER.
- GENERAL SPECIFICATIONS TO BE USED SHALL BE THE LATEST AVAILABLE EDITION OF **STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION** PUBLISHED BY PUNJAB COMMUNICATION AND WORKS DEPARTMENT
- CLEANING AND MAINTENANCE OF GULLY GRATING CHAMBER IS THE RESPONSIBILITY OF MUNICIPAL COMMITTEE.
- GULLY GRATING CHAMBER ARE PROVIDED DUE TO ABSENCE OF DEDICATED INFRASTRUCTURE FOR SURFACE RUNOFF.

ABBREVIATIONS




HORIZONTAL / VERTICAL CURVES		
S.NO.	DESCRIPTION	SYMBOL
1	STATION	STA
2	POINT OF INTERSECTION	PI
3	EASTING	E
4	NORTHING	N
5	ANGLE OF DEFLECTION	d
6	RADIUS	R
7	LENGTH OF TANGENT	T
8	LENGTH OF CIRCULAR CURVE	LC
9	EXTERNAL ORDINATE	E
10	DEGREE OF CURVE	D
11	RATE OF SUPER ELEVATION	SE
12	POINT OF COMMENCEMENT (CIRCULAR CURVE)	PC
13	POINT OF TERMINATION (CIRCULAR CURVE)	PT
14	VERTICAL POINT OF INTERSECTION	VPI
15	ELEVATION	EL
16	LENGTH OF HORIZONTAL/VERTICAL CURVE	L
17	MIDDLE ORDINATE	M
18	NORMAL CROSSFALL	NC
19	REVERSE CROWN	RC
20	SUPER ELEVATION RUNOFF	SR
21	TANGENT RUNOUT	TR
22	POINT OF COMPOUND CURVATURE	PCC
23	POINT OF REVERSE CURVE	PRC
24	VERTICAL POINT OF CURVATURE	VPC
25	VERTICAL POINT OF TANGENCY	VPT
26	VERTICAL GRADIENT	G

LEGEND

PROPOSED CENTERLINE		BUILDING		CENTER LINE		TUBEWELL	
FRL		CANAL		ELECTRIC POLE		MANHOLE	
NSL		DRAIN		PYLON		SIGN BOARD	
EDGE OF TRAVELWAY		ROAD		LIGHT POLE		HAND PUMP	
LANE		TRACK		TREE		OPTICAL FIBER CABLE	
EDGE OF PAVED SHOULDER		PCC		RAILWAY LINE		MOSQUE	
PROPOSED CARRIAGEWAY		TUFF TILE		TELEPHONE POLE		ELEVATION	EL=210.256
PROPOSED PAVERS		FENCE		FOOT PATH		GRAVEYARD	
PROPOSED GULLY GRATING CHAMBER		GREEN BELT		KARB STONE			

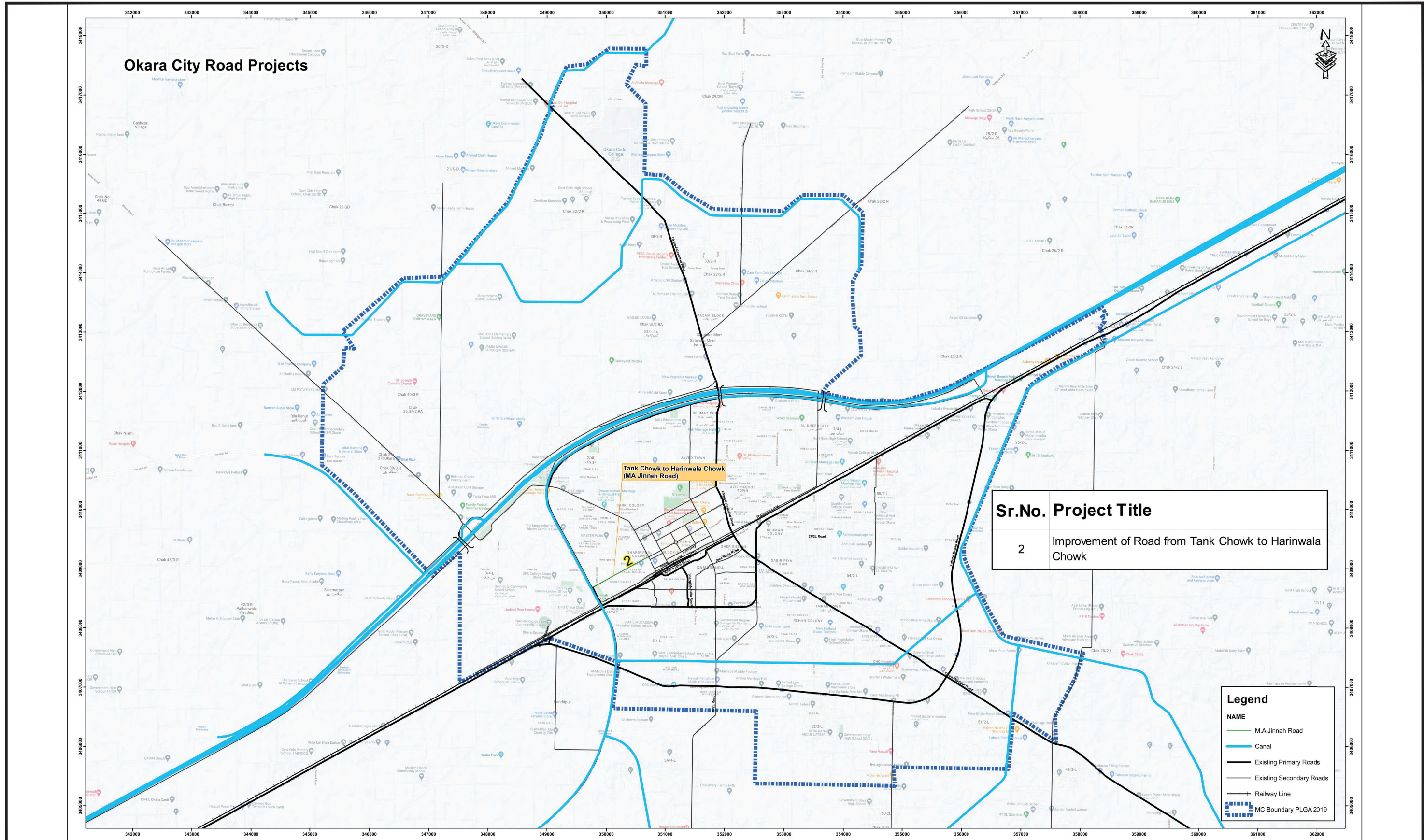
MISCELLANEOUS

S.NO.	DESCRIPTION	SYMBOL
1.	MAXIMUM	MAX.
2.	MINIMUM	MIN.
3.	FINISHED ROAD LEVEL	FRL
4.	NATURAL SURFACE LEVEL	NSL
5.	HIGH FLOOD LEVEL	HFL
6.	SHOULDER	SHLDR

<div>Consultants</div> <div><div>CENTRAL DESIGN CELL 2nd Floor, CT1 Building, 27-Empress Road, Lahore 042-36292525-7 042-36292528 mmpdc@mmppakistan.com http://www.mmpakistan.com</div></div>	<div>Client</div> <div><div>GOVERNMENT OF PUNJAB</div><div><div>Punjab Municipal Development Fund Company Department (PMDFC)</div></div></div> <td><div>Financing Agency</div><div>WORLD BANK</div></td> <td>Rev.</td> <td>Date</td> <td>Description</td> <td>Checked</td> <td>Approved</td> <td rowspan="7"><div>Title</div><div>GENERAL NOTES</div><div>Drawing No. MMP-1076P05-OKR-RD-GN-002</div></td> <td>Designed</td> <td>M. Abdullah</td>	<div>Financing Agency</div> <div>WORLD BANK</div>	Rev.	Date	Description	Checked	Approved	<div>Title</div> <div>GENERAL NOTES</div> <div>Drawing No. MMP-1076P05-OKR-RD-GN-002</div>	Designed	M. Abdullah
		<div>Project</div> <div>Punjab Cities Program (PCP) Detailed Design of Infrastructure Sub-Projects, Sectoral Planning &amp; Resident Supervision in 16 Cities of Punjab(Package-5)</div>	0	11-10-2022		SA	PHK		Drawn	M. Tayyab
									Checked	Sajjad Anwar
									Approved	Pervez Hayat Khan
									Scale	AS SHOWN
									Rev No:	0



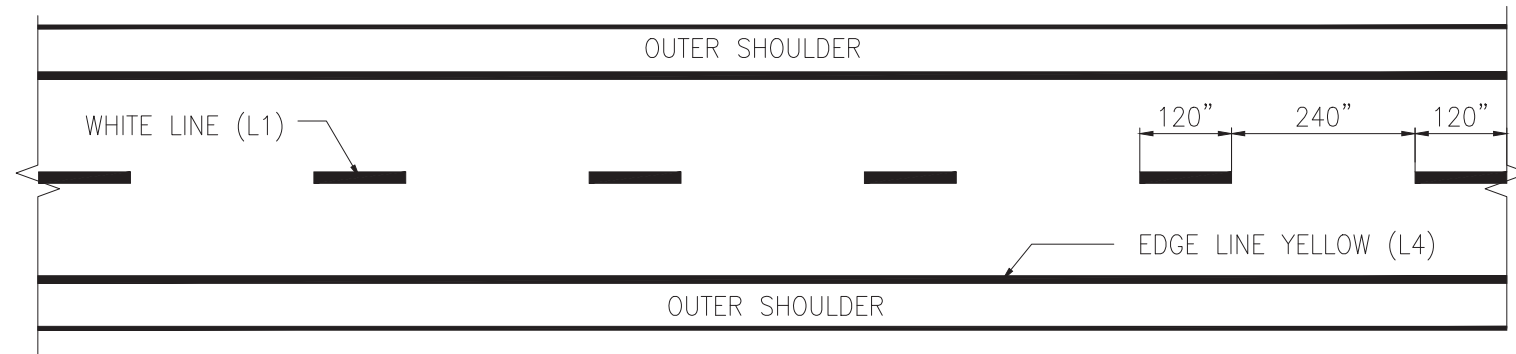
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User and Plot Date: Tayyab - Fri, 21 Oct 2022 - 3:18pm



<div>Consultants</div> <div><div>MMP</div><div>CENTRAL DESIGN CELL 2nd Floor, CTI Building, 27-Empress Road, Lahore 042-36292525-7 042-36292528 mmpdcc@mmpakistan.com http://www.mmpakistan.com</div></div>	<div>Client</div> <div><div></div><div>GOVERNMENT OF PUNJAB</div><div><div></div><div>Punjab Municipal Development Fund Company Department (PMDFC)</div></div></div>	Financing Agency	Rev.	Date	Description	Checked	Approved	Title	Designed	M. Abdullah		
		Project	WORLD BANK	0	21-10-2022		SA		PHK	LOCATION PLAN	Drawn	M. Tayyab
											Checked	Sajjad Anwar
											Approved	Pervez Hayat Khan
									Scale		AS SHOWN	
									Drawing No. MMP-1076P05-OKR-RD-GN-003		Rev No:	0



Drawing file path & name: F:\PMDFC\Package\_V\_Roads\_P&P\Okara Roads\7. Typical Pavement marking details\Typical Pavement Marking details (ft).dwg  
User and Plot Date: Tayyab - Thu, 29 Sep 2022 - 6:11pm



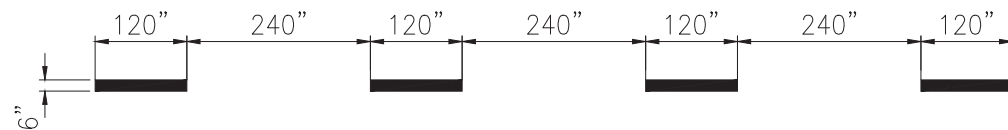
- NOTES:-**
1. ALL DIMENSIONS ARE IN INCHES UNLESS SHOWN OTHERWISE.
  2. CAT EYES TO BE PROVIDED AT 36' C/C ON EDGES AND CENTERLINE OR AS DIRECTED BY THE ENGINEER

## TYPICAL PAVEMENT MARKING



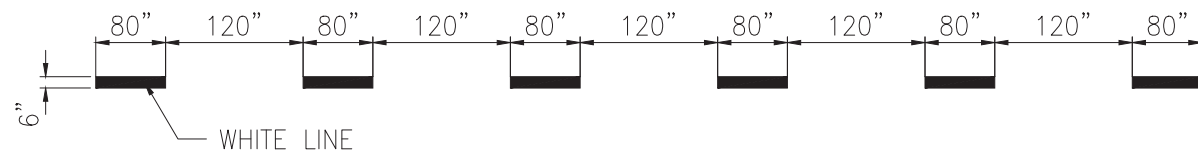
### L2- CONTINUOUS LINE (WHITE)

AT CENTERLINE OF HIGHWAY WHERE OVERTAKING PROHIBITED



### L1- BROKEN GUIDE LINE (WHITE)

AT CENTERLINE OF HIGHWAY



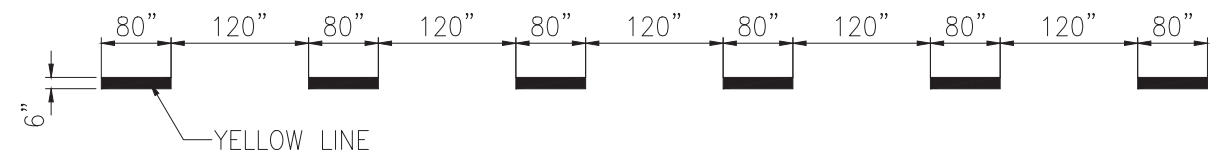
### L3- DASHED LINE (WHITE)

CONTINUITY LINE






### L4- CONTINUOUS LINE (YELLOW)

AT EDGE OF PAVEMENT

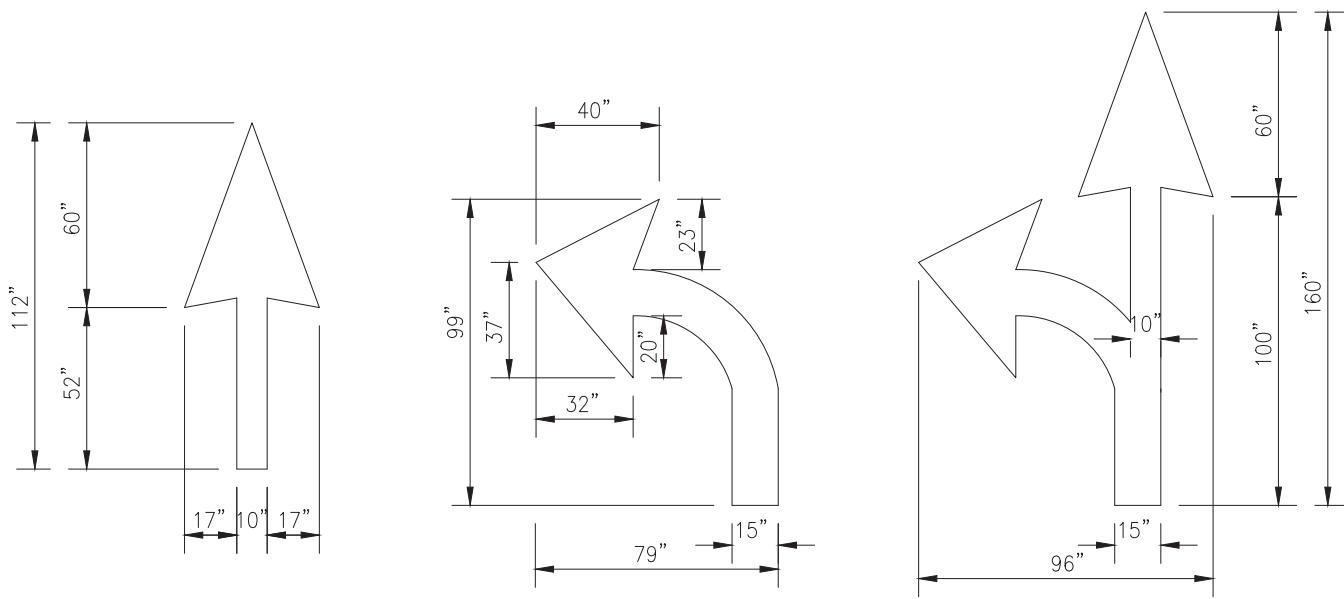


### L5- DASHED LINE (YELLOW)

AT EDGE OF PAVEMENT AT MINOR CROSSING

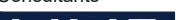


<div>Consultants</div> <div></div> <div><div>CENTRAL DESIGN CELL 2nd Floor, CTI Building, 27-Empress Road, Lahore 042-36292525-7 042-36292528 mmpdccc@mmpakistan.com http://www.mmpakistan.com</div></div>	<div>Client</div> <div><div>GOVERNMENT OF PUNJAB</div><div><div>Punjab Municipal Development Fund Company Department (PMDFC)</div></div></div>	<div>Financing Agency</div> <div>WORLD BANK</div>	Rev.	Date	Description	Checked	Approved	<div>Title</div> <div>TYPICAL PAVEMENT MARKINGS</div>	Designed	M. Abdullah		
		0	29-09-2022		SA	PHK	Drawn		M. Tayyab			
							Checked		Sajjad Anwar			
							Approved		Pervez Hayat Khan			
									Scale	AS SHOWN		
		<div>Project</div> <div>Punjab Cities Program (PCP) Detailed Design of Infrastructure Sub-Projects, Sectoral Planning &amp; Resident Supervision in 16 Cities of Punjab(Package-5)</div>							Drawing No.	MMP-1076P05-OKR-RD-GN-004	Rev No:	0

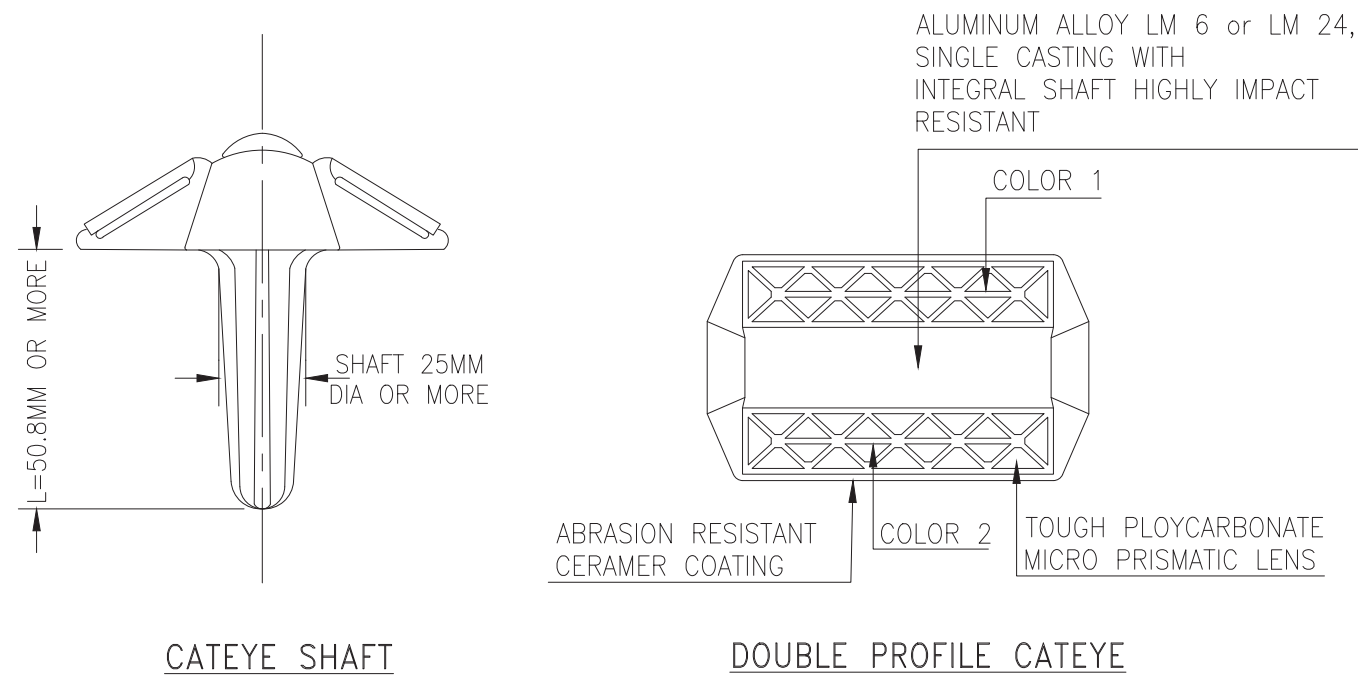
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User and Plot Date: Tayyab - Thu, 29 Sep 2022 - 6:11pm



ARROWS FOR PAVEMENT MARKING




NOTES:-  
1. ALL DIMENSIONS ARE IN INCHES UNLESS SHOWN OTHERWISE.

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		Project  Punjab Cities Program (PCP) Detailed Design of Infrastructure Sub-Projects, Sectoral Planning & Resident Supervision in 16 Cities of Punjab(Package-5)	0	29-09-2022			SA		PHK	Drawn	M. Tayyab		
											Checked	Sajjad Anwar	
											Approved	Pervez Hayat Khan	
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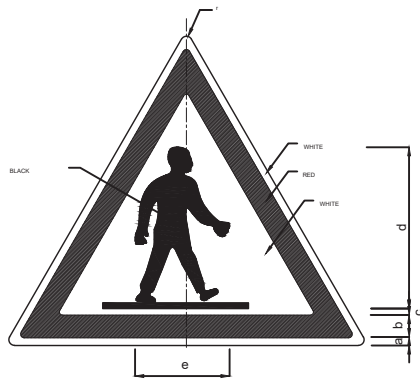


**NOTE:-**  
DIMENSIONS SHOWN ARE INDICATIVE ONLY AND NOT NECESSARILY  
BE FOLLOWED. HOWEVER ACTUAL DIMENSIONS SHALL BE GIVEN BY  
MANUFACTURER/SUPPLIER

- NOTES:-**
1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS SHOWN OTHERWISE.
  2. CATEYE SPACING 30 FEET C/C

<b>Consultants</b>  CENTRAL DESIGN CELL 2nd Floor, CTI Building, 27-Empress Road, Lahore 042-36292525-7 mmpdccc@mmpakistan.com http://www.mmpakistan.com	<b>Client</b>  <b>GOVERNMENT OF PUNJAB</b>   <b>Punjab Municipal Development Fund Company Department (PMDFC)</b>	<b>Financing Agency</b>  <b>WORLD BANK</b>  <b>Project</b> Punjab Cities Program (PCP) Detailed Design of Infrastructure Sub-Projects, Sectoral Planning & Resident Supervision in 16 Cities of Punjab(Package-5)	Rev.	Date	Description	Checked	Approved	<b>Title</b>  TYPICAL CATEYE DETAIL	Designed	M. Abdullah
			0	11-10-2022		SA	PHK		Drawn	M. Tayyab
									Checked	Sajjad Anwar
									Approved	Pervez Hayat Khan
									Scale	AS SHOWN
									Rev No:	0
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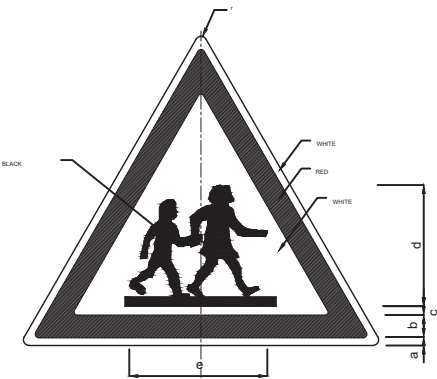
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User and Plot Date: Tayyab - Tue, 11 Oct 2022 - 11:50am



PEDESTRIAN CROSSING SIGN  
(W-11)

DIMENSION(mm)

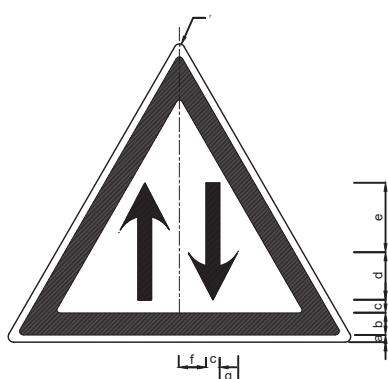
PARTS	SIGN SIZE		
	90cm	105cm	120cm
f	3.5	4.1	-
a	1.0	1.2	-
b	6.5	7.6	-
c	2.5	2.9	-
d	43.0	52.2	-
e	25.0	28.8	-



CHILDREN CROSSING SIGN  
(W-16)

DIMENSION(mm)

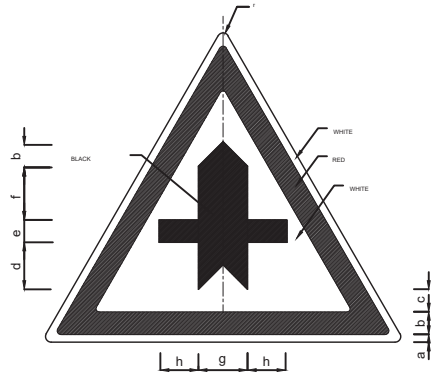
PARTS	SIGN SIZE		
	90cm	105cm	120cm
f	3.5	4.1	-
a	1.0	1.2	-
b	6.5	7.6	-
c	4.5	5.3	-
d	28.5	33.3	-
e	37.5	43.8	-



TWO WAY TRAFFIC AHEAD  
(W-36)

DIMENSION(mm)

PARTS	SIGN SIZE		
	90cm	105cm	120cm
f	3.5	4.1	4.7
a	1.0	1.2	1.3
b	6.5	7.6	8.7
c	4.0	4.7	5.3
d	9.0	10.5	12.0
e	18.0	22.2	25.3
f	5.0	5.8	6.7
g	3.5	4.1	4.7



MINOR ROAD CROSSING AT RIGHT ANGLE (W-27)

DIMENSION(mm)

PARTS	SIGN SIZE		
	90cm	105cm	120cm
f	3.5	4.1	4.7
a	1.0	1.2	1.3
b	6.5	7.6	8.7
c	4.0	4.7	5.3
d	15.0	17.5	20.0
e	6.0	7.0	8.0
f	11.0	12.8	14.7
g	13.5	15.7	18.0
h	8.5	9.8	11.3

NOTES:

1. ALL DIMENSIONS ARE IN CENTIMETERS UNLESS OTHERWISE SPECIFIED
2. THE 90 cm SIGNS WILL BE USED
3. ALL SIGNS HAVE WHITE BACKGROUND WITH BLACK WRITING / MARKINGS AND RED BORDER
4. ALL SHEETING IS OF HIGH INTENSITY PRISMATIC REFLECTIVE SHEET FOR SIGNS.
5. SIGN BOARD SHOULD BE PLACED 2 ft FROM EDGE OF SHOULDER, WITH 10 ft POLE.
6. FOR TRAFFIC SAFETY NO FIX STRUCTURE/POLE/TREE SHOULD BE PRESENT WITHIN 2 ft OF EDGE OF ROADWAY.

Consultants



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042-36292528  
mmpdccc@mnpakistan.com  
http://www.mnpakistan.com

Client



GOVERNMENT OF PUNJAB



Punjab Municipal Development  
Fund Company  
Department (PMDFC)

Financing Agency

WORLD BANK

Project

Punjab Cities Program (PCP)  
Detailed Design of Infrastructure  
Sub-Projects, Sectoral Planning & Resident  
Supervision in 16 Cities of Punjab(Package-5)

Rev.

Date

Description

Checked

Approved

Title

0

11-10-2022

SA

PHK

CATEGORY - 1  
TYPICAL SIGN DETAILS

Designed

M. Abdullah

Drawn

M. Tayyab

Checked

Sajjad Anwar

Approved

Pervez Hayat Khan

Scale

AS SHOWN

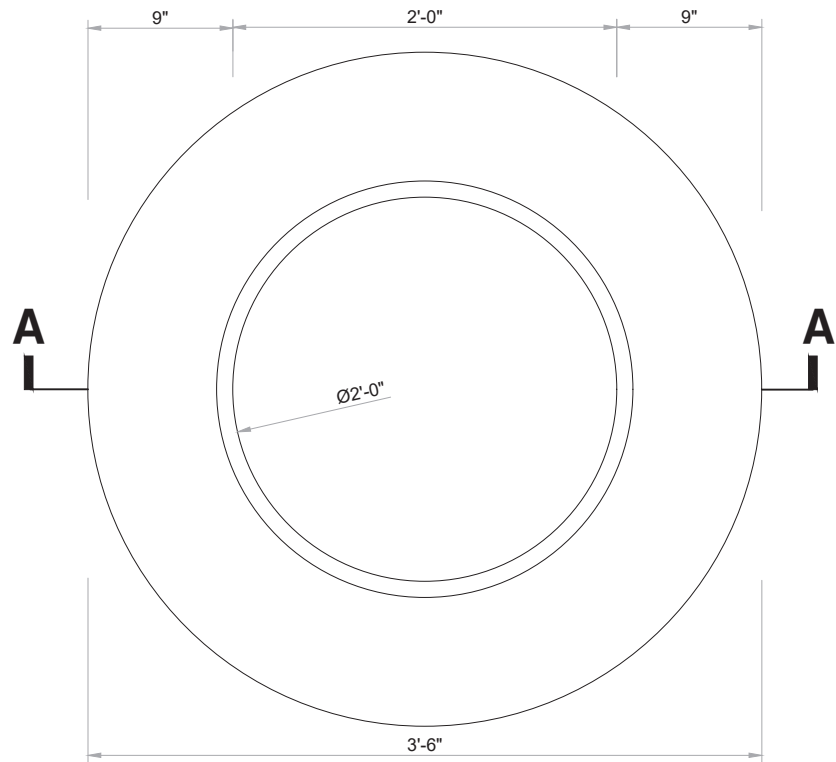
Drawing No.

MMP-1076P05-OKR-RD-GN-005b

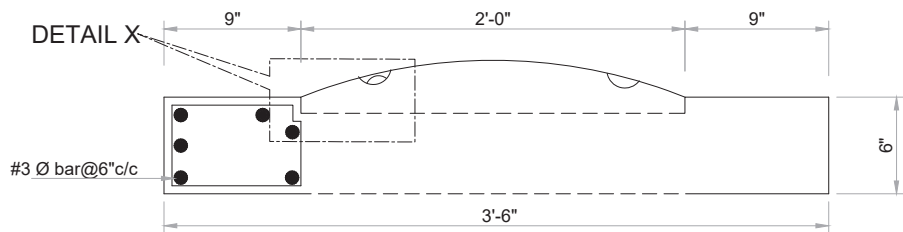
Rev No:

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User and Plot Date: Tayyab - Fri, 02 Dec 2022 - 2:54pm

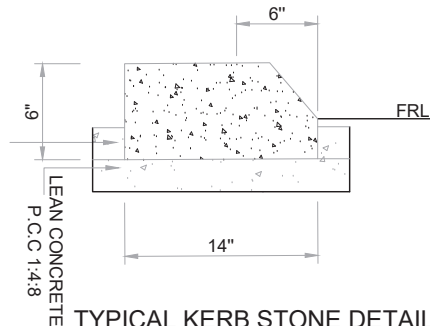


PLAN OF MANHOLE COLLAR

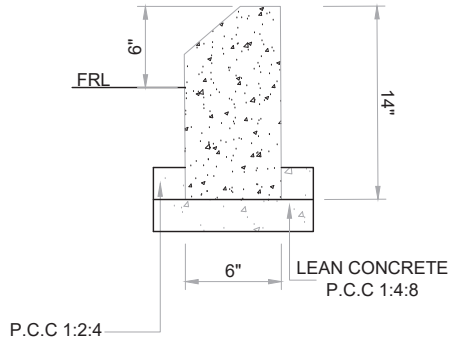


SECTION OF MANHOLE COLLAR

SECTION A-A

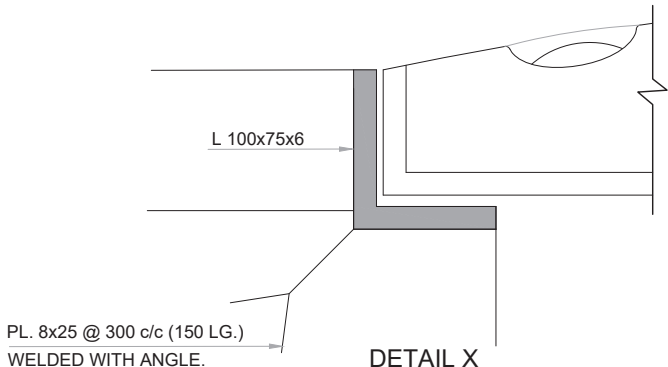


TYPICAL KERB STONE DETAIL B



TYPICAL KERB STONE DETAIL A

TYPICAL KERB STONE DETAIL A





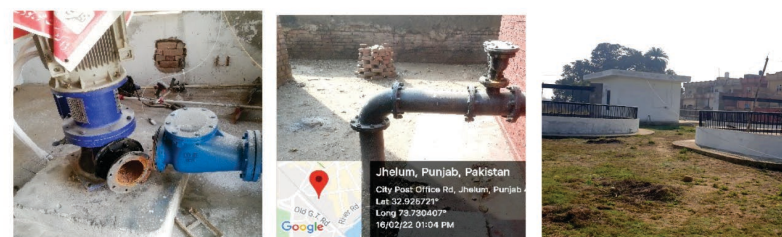
DETAIL X

RAISING OF EXISTING MANHOLE

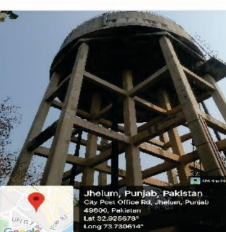
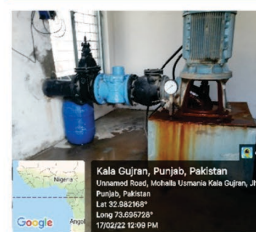
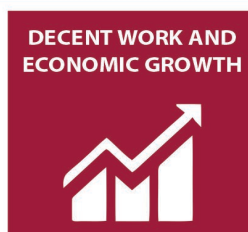
NOTES:-

1. ALL DIMENSIONS ARE IN FEET UNLESS SHOWN OTHERWISE.
2. TYPICAL KERB DETAIL B TO BE PROVIDED WHERE EXISTING DRIVEWAY IS PRESENT OR AS DIRECTED BY THE ENGINEER.

<div>Consultants</div> <div><div><div>MMP</div><div>CENTRAL DESIGN CELL 2nd Floor, CTI Building, 27-Empress Road, Lahore 042-36292528 mmpdco@mmpakistan.com http://www.mmpakistan.com</div></div></div>	<div>Client</div> <div><div><div><div></div><div>GOVERNMENT OF PUNJAB</div></div><div><div></div><div>Punjab Municipal Development Fund Company Department (PMDFC)</div></div></div></div>	Financing Agency	Rev.	Date	Description	Checked	Approved	Title TYPICAL MANHOLE DETAIL	Designed	M. Abdullah	
		Project	0	2-12-2022			SA		PHK	Drawn	M.Tayyab
										Checked	Sajjad Anwar
										Approved	Pervez Hayat Khan
										Scale	AS SHOWN
									Drawing No.	MMP-1076P05-OKR-RD-GN-006	Rev No:



SUSTAINABLE CITIES  
AND COMMUNITIES



## Detailed Design of Infrastructure Sub- Projects Sectoral Planning & Resident Supervision in 16 cities of Punjab (Package-V – Okara)



## Road Works Drawings Improvement of Road from Tank Chowk to Harinwala Chowk (MA Jinnah Road)

(STA 0+000 TO STA 3+352)

October 22

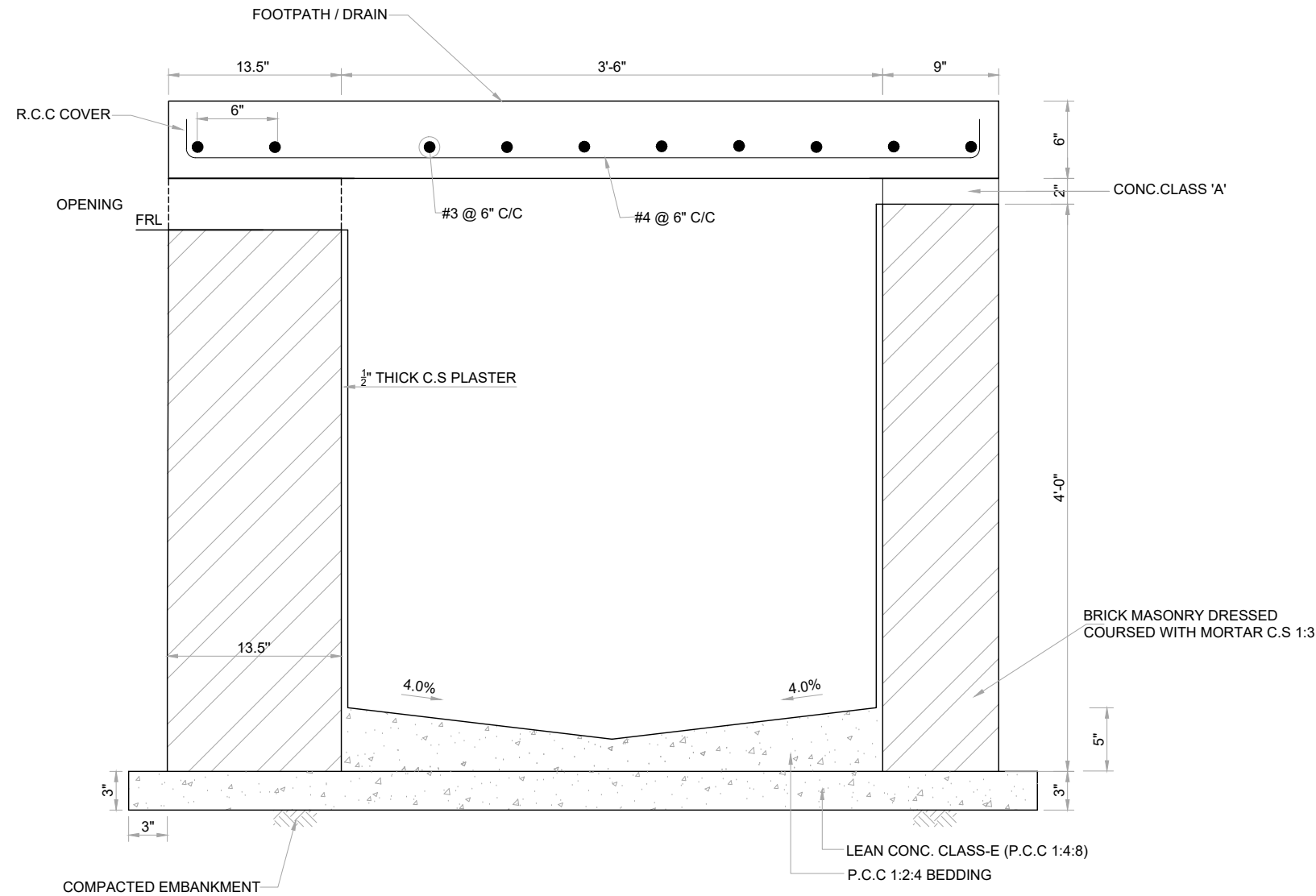




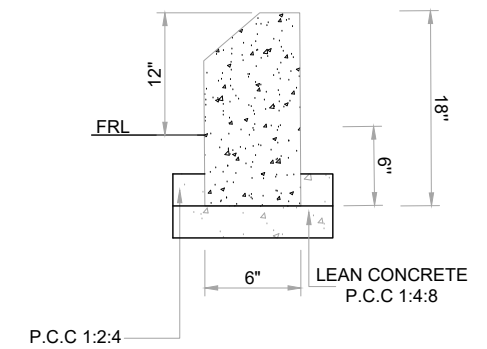
## General Drawings



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User and Plot Date: Tayyab - Mon, 05 Dec 2022 - 3:39pm




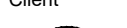

MA JINNAH TYPICAL DRAIN DETAIL WITH CONCRETE GRATING

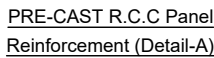


TYPICAL KERB STONE DETAIL A

NOTES:-

1. ALL DIMENSIONS ARE IN FEET UNLESS SHOWN OTHERWISE.

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		0	5-12-2022		SA	PHK	Drawn		M.Tayyab				
							Checked		Sajjad Anwar				
							Approved		Pervez Hayat Khan				
							Scale		AS SHOWN				
							Drawing No.		MMP-1076P05-OKR-RD-GN-007	Rev No:	0	Status	PRE

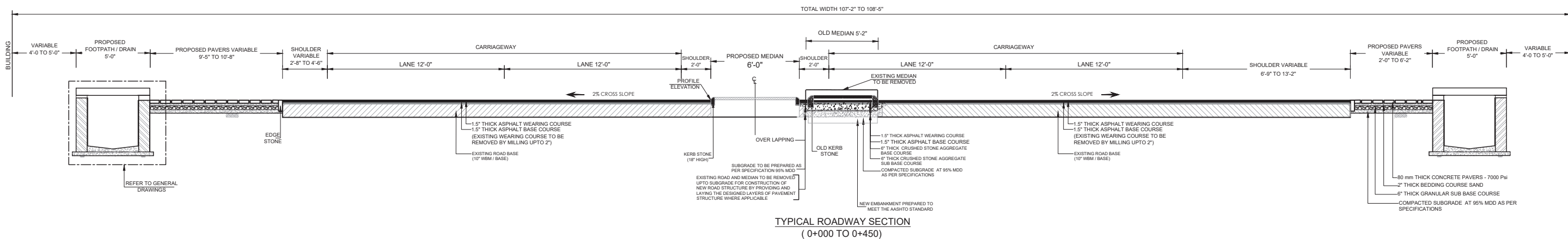


1. ALL DIMENSIONS ARE IN FEET UNLESS SHOWN OTHERWISE.

Designed	M. Abdullah
Drawn	M.Tayyab
Checked	Sajjad Anwar
Approved	Pervez Hayat Khan
Scale AS SHOWN	
Rev No: 0	Status PRE

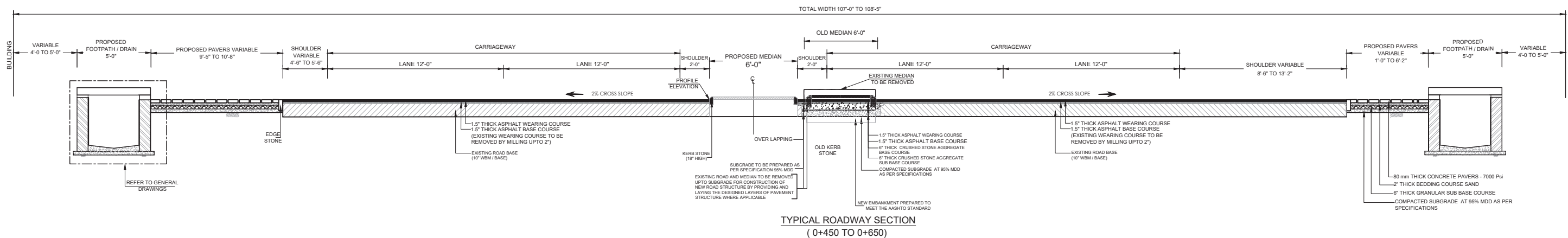
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User and Plot Date: Tayyab - Fri, 02 Dec 2022 - 2:54pm

PROPOSED ROAD SECTION






EXISTING ROAD SECTION

PROPOSED ROAD SECTION



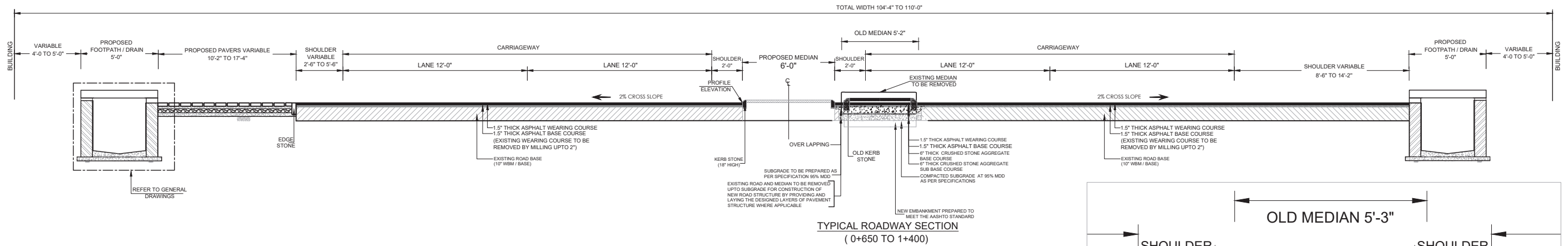
NOTES:-

1. ALL DIMENSIONS ARE IN FEET EXCEPT SHOWN OTHERWISE.
2. EXISTING ASPHALT SHALL BE REMOVED.
3. EXISTING LEVEL AT THE CROSSINGS / INTERSECTIONS SHALL BE MATCHED AS PER SITE CONDITION OR AS DIRECTED BY THE ENGINEER.

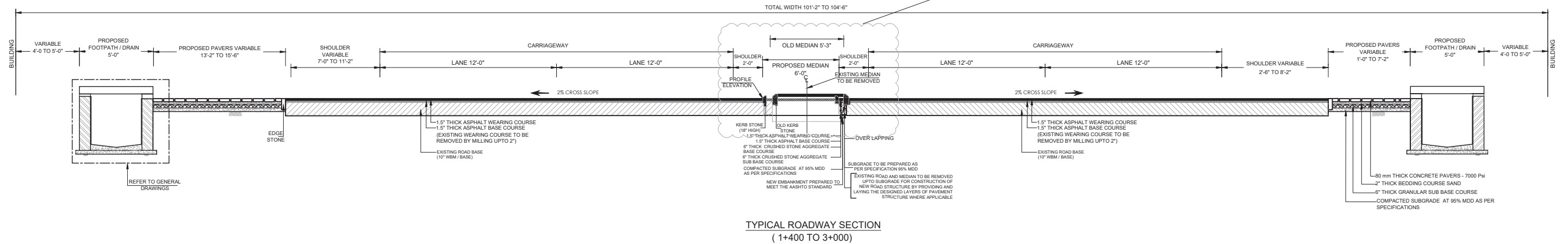
<div>Consultants</div> <div></div> <div><div>CENTRAL DESIGN CELL 2nd Floor, CTI Building, 27-Empress Road, Lahore 042-36292525-7 042-36292528 mmpdco@mmpakistan.com http://www.mmpakistan.com</div></div>	<div>Client</div> <div><div>GOVERNMENT OF PUNJAB</div><div>Punjab Municipal Development Fund Company Department (PMDFC)</div></div>	<div>Financing Agency</div> <div>WORLD BANK</div>	Rev.	Date	Description	Checked	Approved	<div>Title</div> <div>MA JINNAH ROAD TYPICAL CROSS SECTION ( 0+000 TO 0+650)</div> <div>Drawing No. MMP-1076P05-OKR-RD-GN-009</div>	Designed	M. Abdullah
		0	2-12-2022		SA	PHK	Drawn		M.Tayyab	
							Checked		Sajjad Anwar	
							Approved		Pervez Hayat Khan	
							Scale		AS SHOWN	
							Rev No:		0	
							Status		PRE	

Drawing file path & name: F:\PMDFC\Package\_V\_Roads\_P&P\Qara Roads\6. Typical Cross Sections\Qara Roads Typical Cross Sections and Drain.dwg  
User and Plot Date: Tayyab - Fri, 02 Dec 2022 - 2:54pm

### PROPOSED ROAD SECTION






### PROPOSED ROAD SECTION



#### NOTES:-

1. ALL DIMENSIONS ARE IN FEET EXCEPT SHOWN OTHERWISE.
2. EXISTING ASPHALT SHALL BE REMOVED.
3. EXISTING LEVEL AT THE CROSSINGS / INTERSECTIONS SHALL BE MATCHED AS PER SITE CONDITION OR AS DIRECTED BY THE ENGINEER.




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		Project <div>Punjab Cities Program (PCP) Detailed Design of Infrastructure Sub-Projects, Sectoral Planning &amp; Resident Supervision in 16 Cities of Punjab(Package-5)</div>	0	2-12-2022		SA	PHK		Drawn	M.Tayyab					
									Checked	Sajjad Anwar					
									Approved	Pervez Hayat Khan					
										Scale	AS SHOWN				
										Drawing No.	MMP-1076P05-OKR-RD-GN-010	Rev No:	0	Status	PRE

**TYPICAL ROADWAY SECTION**  
(3+000 TO 3+352)

The diagram illustrates a cross-section of a roadway with the following components and dimensions from left to right:

- Left Side (Building Side):**
  - VARIABLE: 4'-0" TO 5'-0"
  - PROPOSED FOOTPATH / DRAIN: 5'-0"
  - PROPOSED PAVERS VARIABLE: 9'-6" TO 12'-4"
  - SHOULDER VARIABLE: 1'-6" TO 4'-6"
  - EDGE STONE
- Carriageway:**
  - LANE 12'-0"
  - LANE 12'-0"
  - SHOULDER 2'-0"
  - PROPOSED MEDIAN 6'-0"
- Right Side (Building Side):**
  - SHOULDER 2'-0"
  - OLD MEDIAN 5'-2"
  - LANE 12'-0"
  - LANE 12'-0"
  - SHOULDER VARIABLE: 11'-2" TO 11'-6"
  - PROPOSED FOOTPATH / DRAIN: 5'-0"
  - VARIABLE: 4'-0" TO 5'-0"
- Pavement and Subgrade Details:**
  - EXISTING ROAD BASE (10" WBM / BASE)
  - 1.5" THICK ASPHALT WEARING COURSE
  - 1.5" THICK ASPHALT BASE COURSE (EXISTING WEARING COURSE TO BE REMOVED BY MILLING UPTO 2")
  - EXISTING ROAD AND MEDIAN TO BE REMOVED UPTO SUBGRADE FOR CONSTRUCTION OF NEW ROAD STRUCTURE BY PROVIDING AND LAYING THE DESIGNED LAYERS OF PAVEMENT STRUCTURE WHERE APPLICABLE
  - SUBGRADE TO BE PREPARED AS PER SPECIFICATION 85% MOD
  - OVER LAPPING
  - OLD KERB STONE
  - 1.5" THICK ASPHALT WEARING COURSE
  - 1.5" THICK ASPHALT BASE COURSE
  - 8" THICK CRUSHED STONE AGGREGATE BASE COURSE
  - 8" THICK CRUSHED STONE AGGREGATE SUB BASE COURSE
  - COMPACTED SUBGRADE AT 95% MOD AS PER SPECIFICATIONS
  - NEW EMBANKMENT PREPARED TO MEET THE AASHTO STANDARD
- Other Labels:**
  - REFER TO GENERAL DRAWINGS
  - 2% CROSS SLOPE
  - EXISTING MEDIAN TO BE REMOVED

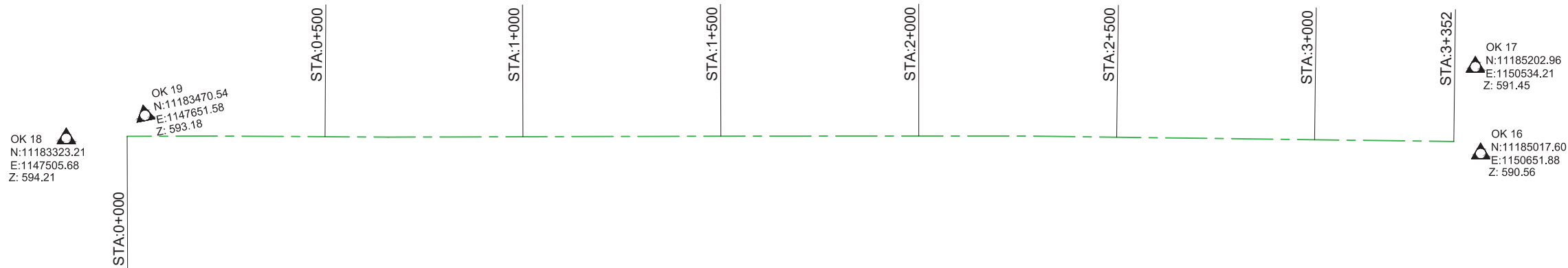
1. ALL DIMENSIONS ARE IN FEET EXCEPT SHOWN OTHERWISE.
2. EXISTING ASPHALT SHALL BE REMOVED.
3. EXISTING LEVEL AT THE CROSSINGS / INTERSECTIONS SHALL BE MATCHED AS PER SITE CONDITION OR AS DIRECTED BY THE ENGINEER.

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		Project <div>Punjab Cities Program (PCP) Detailed Design of Infrastructure Sub-Projects, Sectoral Planning &amp; Resident Supervision in 16 Cities of Punjab(Package-5)</div>	WORLD BANK	0	2-12-2022		SA		PHK	Drawn	M.Tayyab				
										Checked	Sajjad Anwar				
										Approved	Pervez Hayat Khan				
										Scale	AS SHOWN				
										Drawing No.	MMP-1076P05-OKR-RD-GN-011	Rev No:	0	Status	PRE




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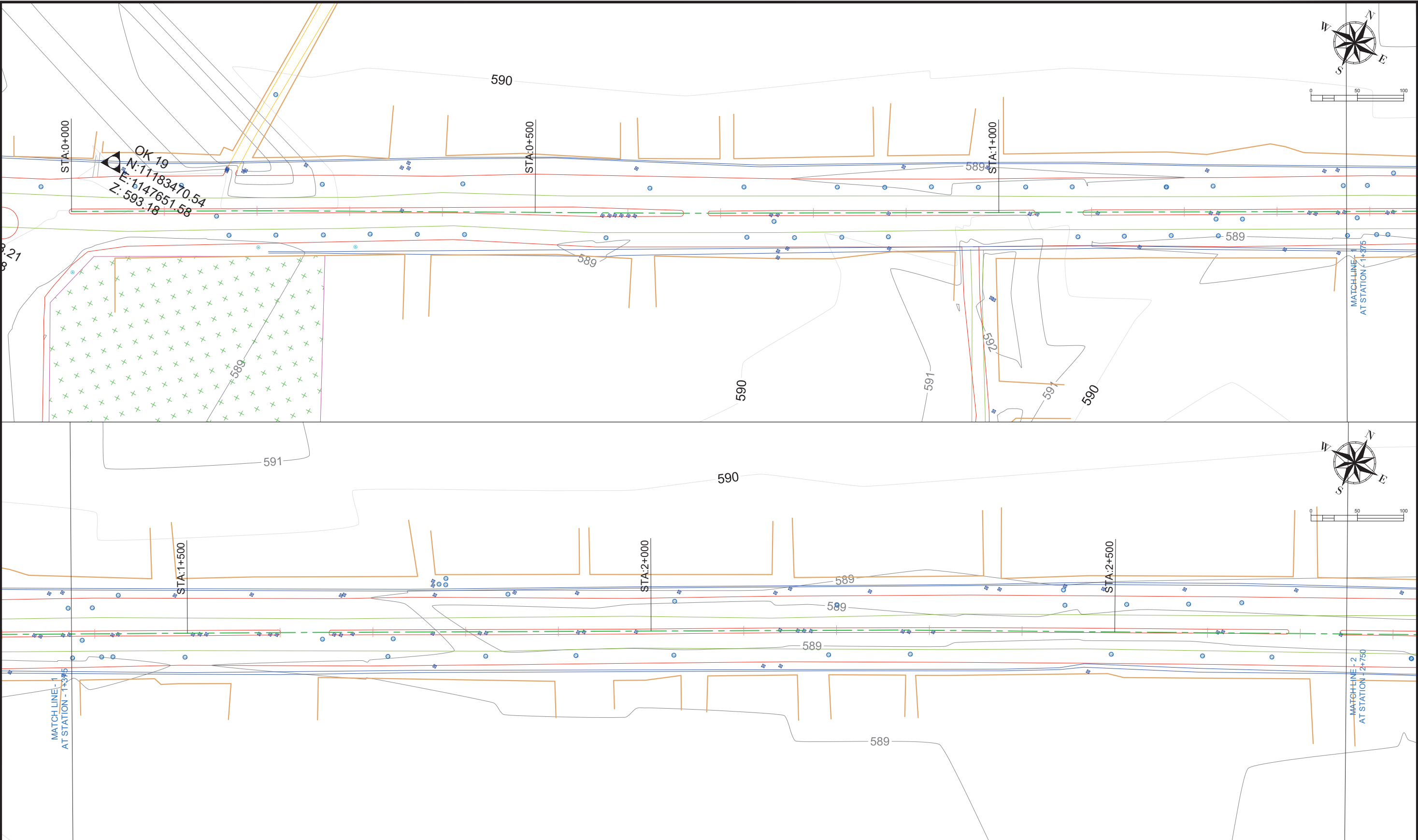
# Topographic Survey






List of Control Points				
Point	Northing	Easting	Elevation	Description
9	11185017.60	1150651.88	590.56	OK 16
10	11185202.96	1150534.21	591.45	OK 17
11	11183323.21	1147505.68	594.21	OK 18
12	11183470.54	1147651.58	593.18	OK 19

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		WORLD BANK	0	3-10-2022		SA	PHK		Drawn	M. Tayyab
		Project  Punjab Cities Program (PCP) Detailed Design of Infrastructure Sub-Projects, Sectoral Planning & Resident Supervision in 16 Cities of Punjab(Package-5)							Checked	Sajjad Anwar
									Approved	Pervez Hayat Khan
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			Drawing No.	MMP-1076P05-OKR-RD-GN-012		Rev No:	0			

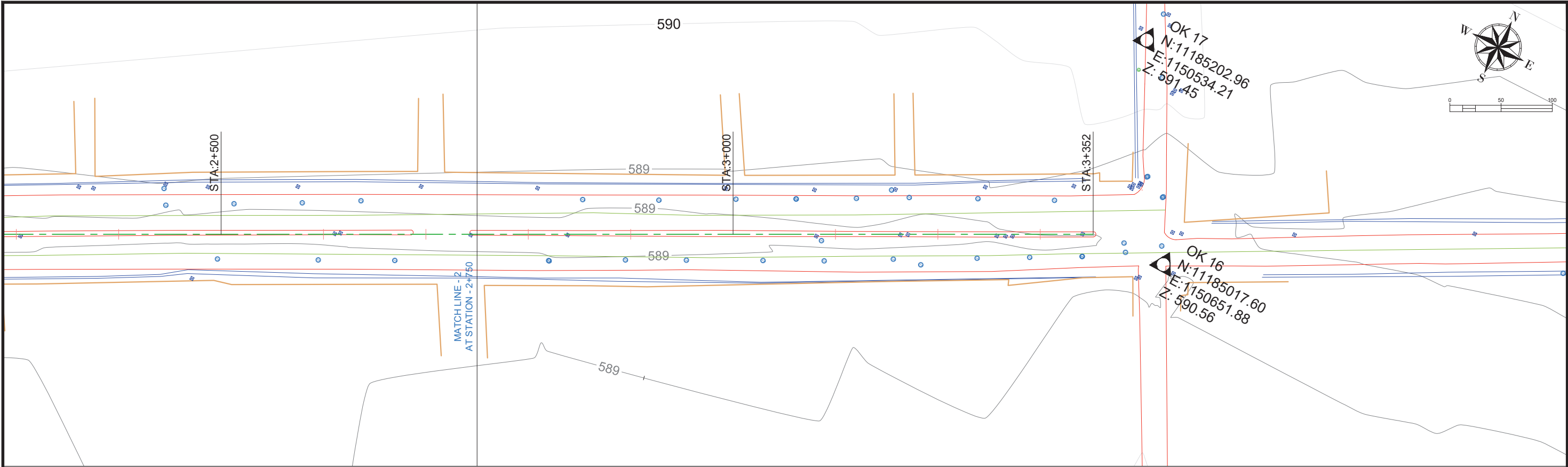
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User and Plot Date: Tayyab - Fri, 30 Sep 2022 - 6:22pm






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		Project  Punjab Cities Program (PCP) Detailed Design of Infrastructure Sub-Projects, Sectoral Planning & Resident Supervision in 16 Cities of Punjab(Package-5)	0	30-09-2022		SA	PHK		Drawn	M. Tayyab
									Checked	Sajjad Anwar
									Approved	Pervez Hayat Khan
									Scale	1" : 100'
								Drawing No.  MMP-1076P05-OKR-RD-TP-001	Rev No:	0



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User and Plot Date: Tayyab - Fri, 30 Sep 2022 - 6:22pm

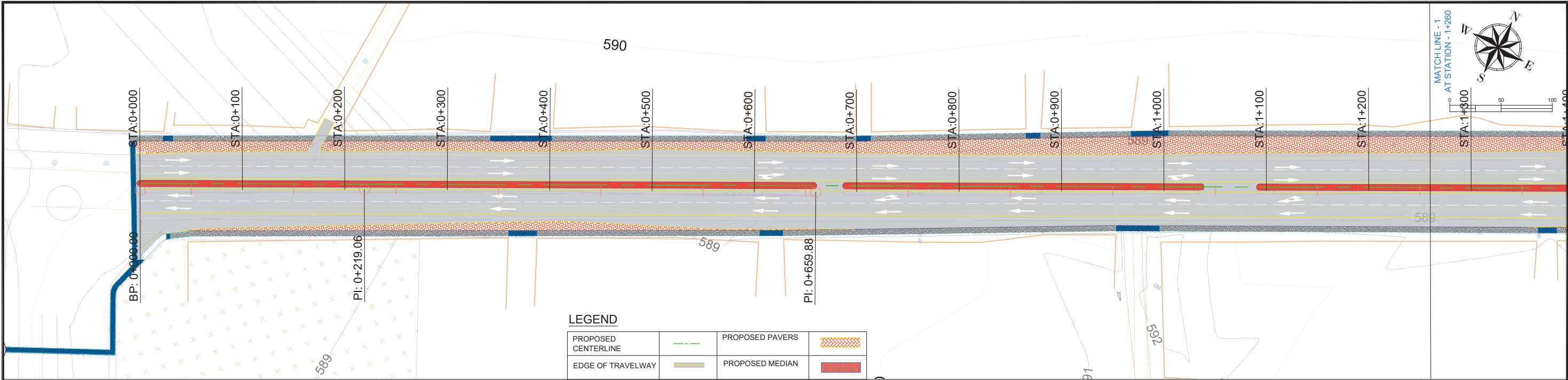


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		Project  Punjab Cities Program (PCP) Detailed Design of Infrastructure Sub-Projects, Sectoral Planning & Resident Supervision in 16 Cities of Punjab(Package-5)	0	30-09-2022		SA	PHK		Drawn	M. Tayyab	
									Checked	Sajjad Anwar	
									Approved	Pervez Hayat Khan	
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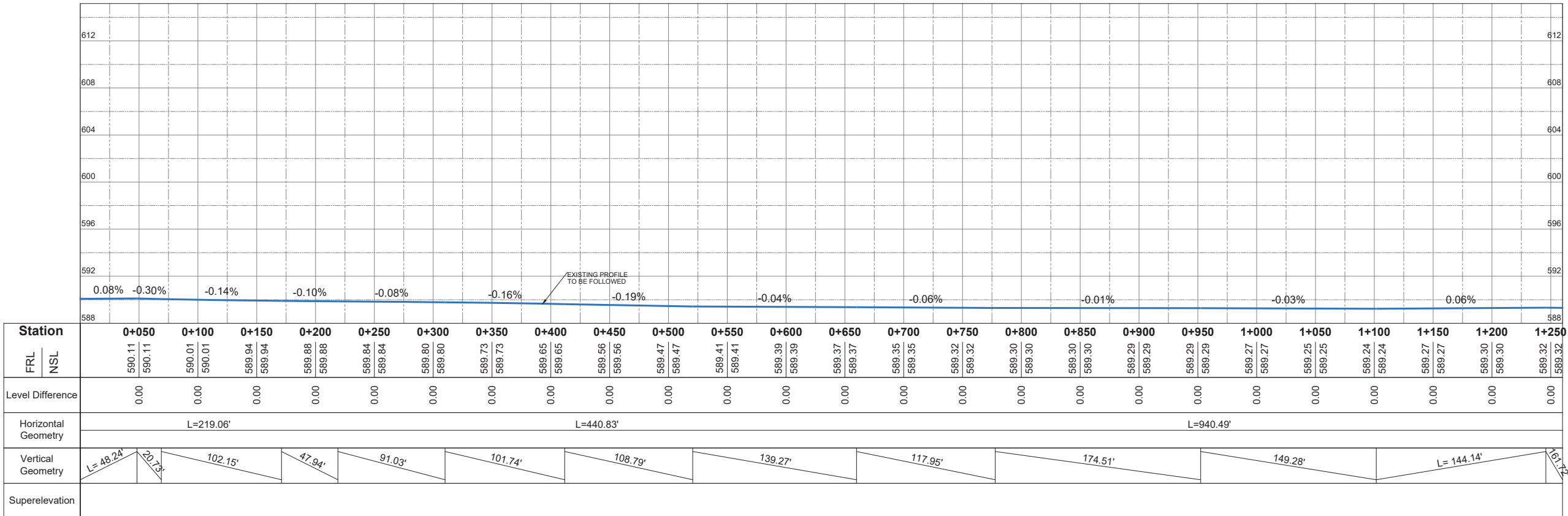
## Plan and Profile Drawings

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User and Plot Date: Tayyab - Fri, 04 Nov 2022 - 3:19pm



LEGEND

PROPOSED CENTERLINE		PROPOSED PAVERS	
EDGE OF TRAVELWAY		PROPOSED MEDIAN	
LANE		PROPOSED FOOTPATH / DRAIN	
EDGE OF PAVED SHOULDER		PROPOSED CARRIAGEWAY	

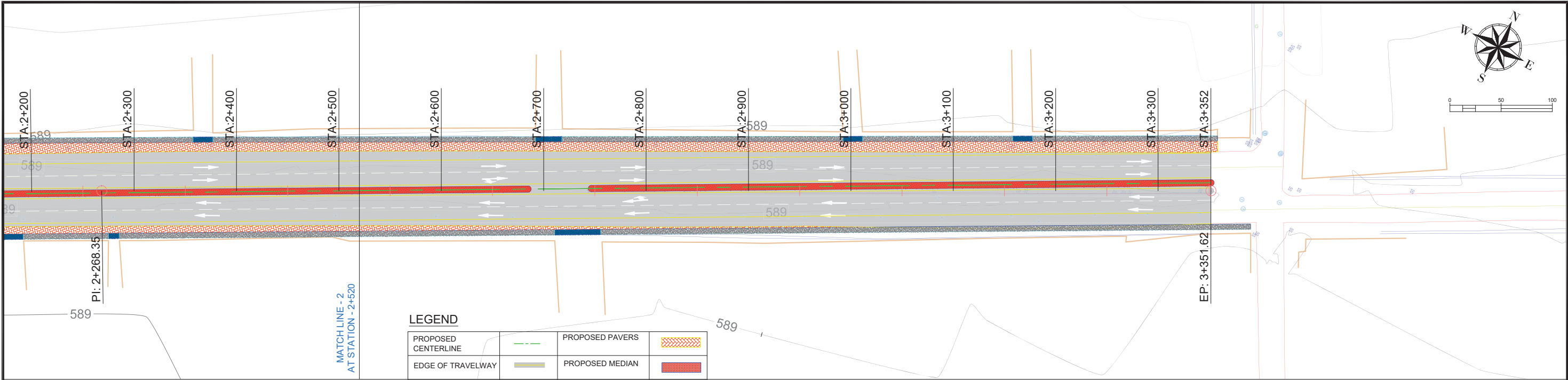


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FRL	590.11	590.11	590.01	589.94	589.88	589.84	589.73	589.65	589.56	589.47	589.41	589.39	589.37	589.35	589.32	589.30	589.30	589.29	589.29	589.27	589.25	589.24	589.27	589.30	589.32
NSL	590.11	590.01	589.94	589.88	589.84	589.80	589.73	589.65	589.56	589.47	589.41	589.39	589.37	589.35	589.32	589.30	589.30	589.29	589.29	589.27	589.25	589.24	589.27	589.30	589.32
Level Difference	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Horizontal Geometry	L=219.06'																								
	L=440.83'															L=940.49'									
Vertical Geometry	L= 48.24'	20.73'	102.15'	47.94'	91.03'	101.74'	108.79'	139.27'	117.95'	174.51'	149.28'	L= 144.14'	161.72'												
Superelevation																									

<b>Consultants</b>  CENTRAL DESIGN CELL 2nd Floor, CTI Building, 27-Empress Road, Lahore 042-36292525-7 mmpdco@mmpakistan.com http://www.mmpakistan.com	<b>Client</b>  <b>GOVERNMENT OF PUNJAB</b>   Punjab Municipal Development Fund Company Department (PMDFC)	<b>Financing Agency</b>  <b>WORLD BANK</b>  Project Punjab Cities Program (PCP) Detailed Design of Infrastructure Sub-Projects, Sectoral Planning & Resident Supervision in 16 Cities of Punjab(Package-5)	Rev.	Date	Description	Checked	Approved	Title  MA JINNAH PLAN AND PROFILE(STA 0+000.00 TO STA 1+260.00)  Drawing No. MMP-1076P05-OKR-RD-PP-001	Designed	M. Abdullah
			0	4-11-2022		SA	PHK		Drawn	M. Tayyab
									Checked	Sajjad Anwar
									Approved	Pervez Hayat Khan
									Scale	H= 1" : 100' V= 1" : 10'
									Rev No:	0

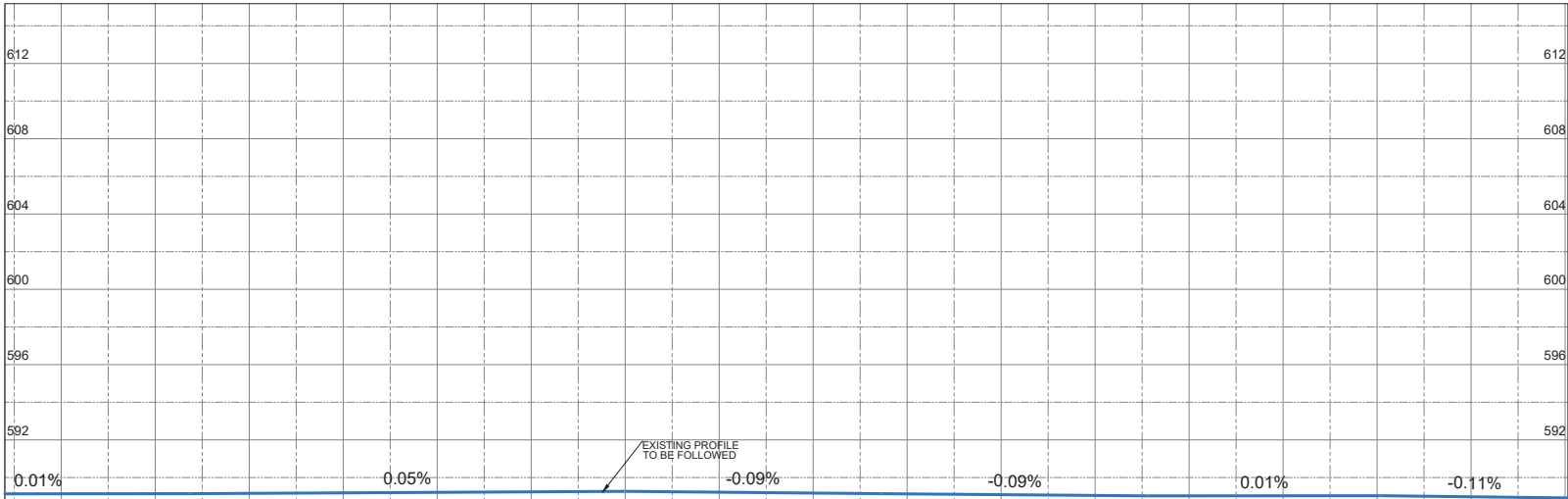


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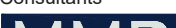




LEGEND

PROPOSED CENTERLINE		PROPOSED PAVERS	
EDGE OF TRAVELWAY		PROPOSED MEDIAN	
LANE		PROPOSED FOOTPATH / DRAIN	
EDGE OF PAVED SHOULDER		PROPOSED CARRIAGEWAY	



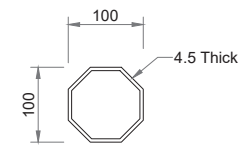
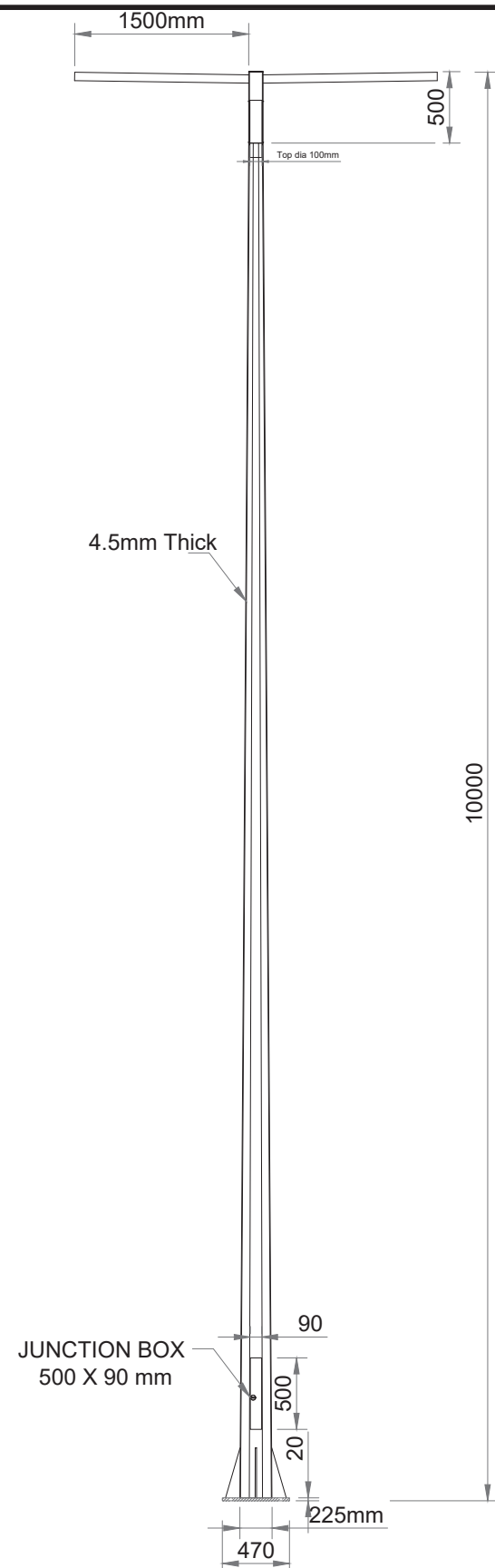
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FRL	NSL	<div><div></div><div>589.14589.14</div></div>	<div><div></div><div>589.14589.14</div></div>	<div><div></div><div>589.16589.16</div></div>	<div><div></div><div>589.19589.19</div></div>	<div><div></div><div>589.21589.21</div></div>	<div><div></div><div>589.24589.24</div></div>	<div><div></div><div>589.27589.27</div></div>	<div><div></div><div>589.22589.22</div></div>	<div><div></div><div>589.18589.18</div></div>	<div><div></div><div>589.14589.14</div></div>	<div><div></div><div>589.09589.09</div></div>	<div><div></div><div>589.05589.05</div></div>	<div><div></div><div>589.03589.03</div></div>	<div><div></div><div>589.03589.03</div></div>	<div><div></div><div>589.03589.03</div></div>	<div><div></div><div>588.98588.98</div></div>	<div><div></div><div>588.92588.92</div></div>
Level Difference		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Horizontal Geometry		L=1083.27'																
Vertical Geometry		<div><div></div><div>L= 161.33'</div><div></div><div>L= 231.40'</div><div></div><div>136.25'</div><div></div><div>142.21'</div><div></div><div>L= 123.69'</div><div></div><div>99.60'</div><div></div></div>																
Superelevation																		

<div>Consultants</div> <div></div> <div><div>CENTRAL DESIGN CELL 2nd Floor, CTI Building, 27-Empress Road, Lahore 042-36292525-7 042-36292528 mmpdco@mmpakistan.com http://www.mmpakistan.com</div></div>	<div>Client</div> <div><div>GOVERNMENT OF PUNJAB</div><div><div>Punjab Municipal Development Fund Company Department (PMDFC)</div></div></div>	Financing Agency	Rev.	Date	Description	Checked	Approved	Title  MA JINNAH PLAN AND PROFILE(STA 2+520.00 TO STA 3+351.62)  Drawing No.  MMP-1076P05-OKR-RD-PP-003	Designed	M. Abdullah
		WORLD BANK	0	4-11-2022		SA	PHK		Drawn	M. Tayyab
		Project  Punjab Cities Program (PCP) Detailed Design of Infrastructure Sub-Projects, Sectoral Planning & Resident Supervision in 16 Cities of Punjab(Package-5)							Checked	Sajjad Anwar
									Approved	Pervez Hayat Khan
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									Rev No:	0

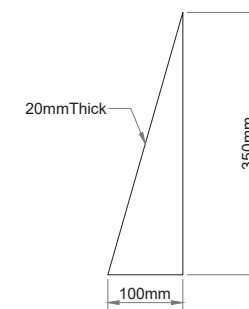




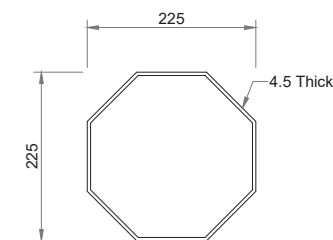
# Street Lights Plan



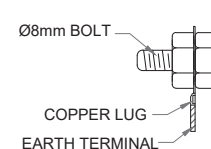
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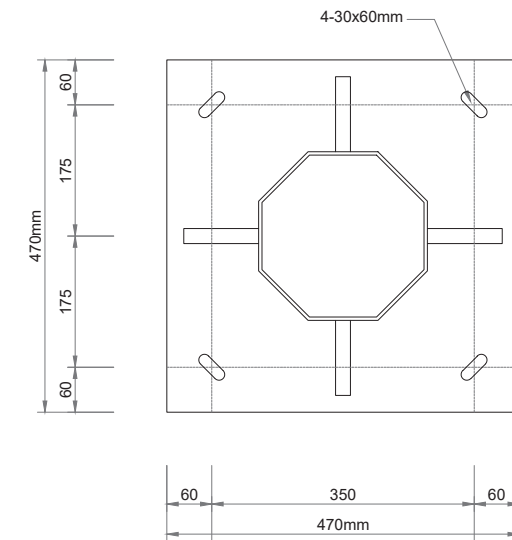
STIFFENER



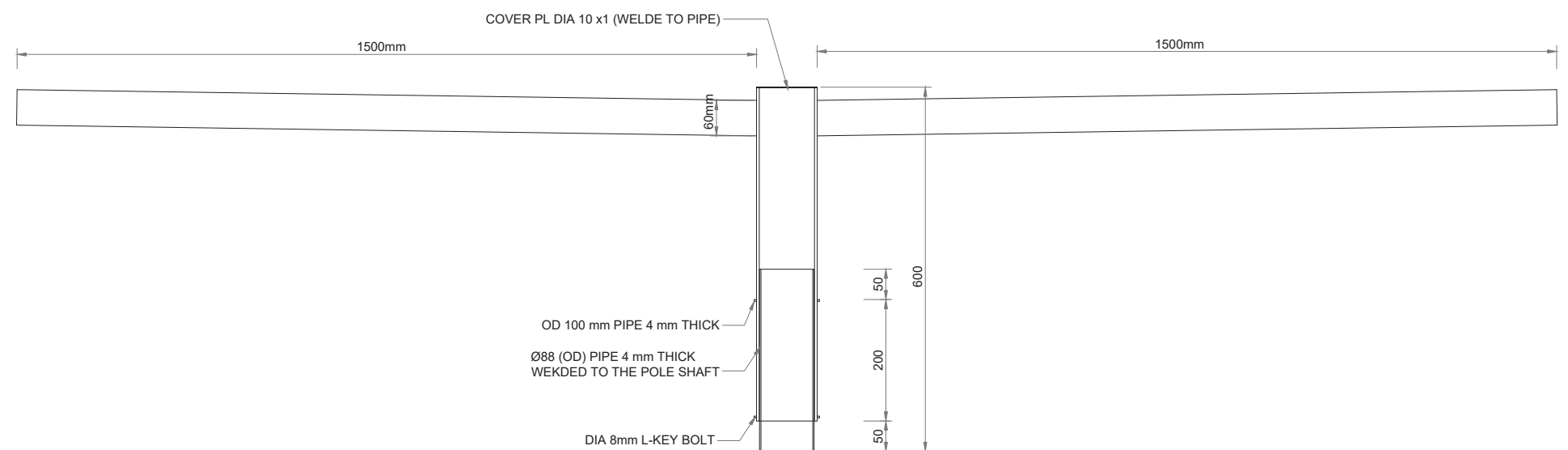
BASE DIA



### DETAIL-EARTH TERMINAL






470x470X20 mm THICK  
BASE PLATE



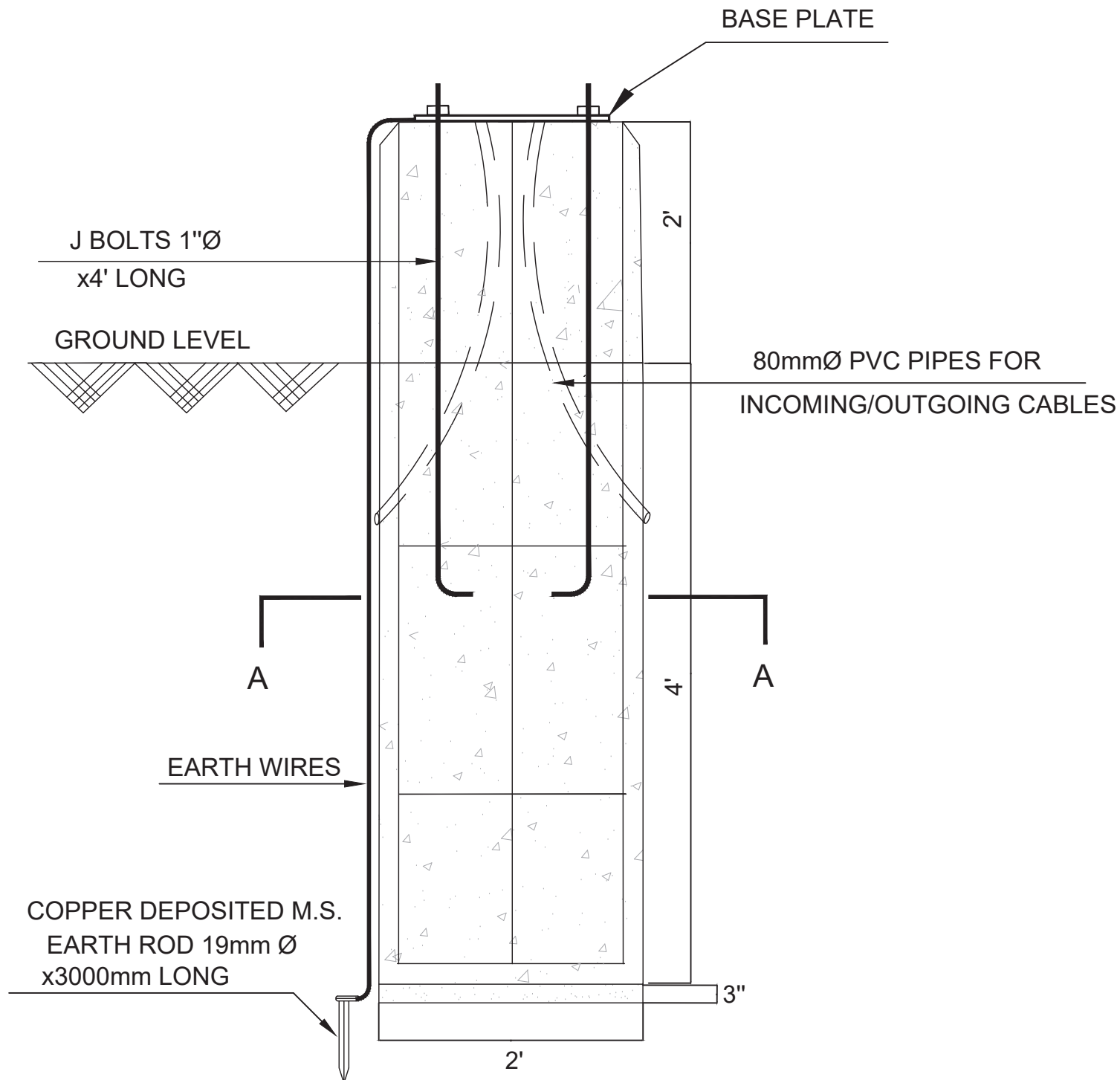
## SINGLE ARM DETAIL

NOTES:-

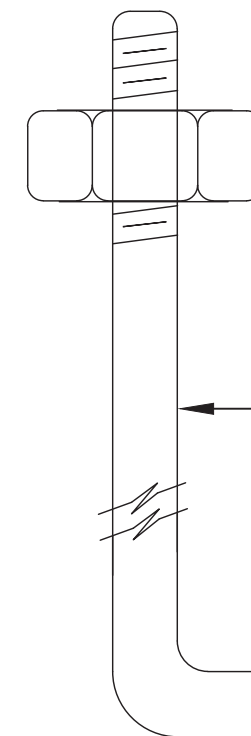
1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS SHOWN OTHERWISE.

<div>Consultants</div> <div></div> <div>CENTRAL DESIGN CELL 2nd Floor, CTI Building 27-Empress Road, Lahore 042-36292525-7 042-36292528 mmpdco@mmpakistan.com http://www.mmpakistan.com</div>	<div>Client</div> <div><div>GOVERNMENT OF PUNJAB</div><div>Punjab Municipal Development Fund Company Department (PMDFC)</div></div>	Financing Agency	Rev.	Date	Description	Checked	Approved	Title  DOUBLE ARM POLE DETAIL	Designed	Ahsan Rasheed
		Project  Punjab Cities Program (PCP) Detailed Design of Infrastructure Sub-Projects, Sectoral Planning & Resident Supervision in 16 Cities of Punjab(Package-5)	0	3-10-2022		BA	PHK		Drawn	Ahsan Rasheed
									Checked	Bilal Ashraf
									Approved	Pervez Hayat Khan
									Scale	AS SHOWN
							Drawing No.	MMP-1076P05-OKR-SL-GN-002	Rev No:	0

Drawing file path & name: F:\PMDFC\Package\_V\_Roads\_P&P\Okara Roads\14. Street Lights\0.Street Light PlanTypical\CANAL ROAD OKARA ELECTRICAL\_SL.dwg  
User and Plot Date: Toyab - Mon, 03 Oct 2022 - 6:40pm



## POLE FOUNDATION



DEFORMED M.S GALV. BOLT  
1"Ø x 4' LONG  
WITH NUT & WASHERS

## J- BOLT

### NOTES:-

- ALL DIMENSIONS ARE IN FEET UNLESS SHOWN OTHERWISE.

<b>Consultants</b> <b>MMP</b> CENTRAL DESIGN CELL 2nd Floor, CTI Building, 27-Empress Road, Lahore 042-36292528 mmpdco@mmpakistan.com http://www.mmpakistan.com	<b>Client</b>  <b>GOVERNMENT OF PUNJAB</b>  Punjab Municipal Development Fund Company Department (PMDFC)	<b>Financing Agency</b>  <b>WORLD BANK</b>  Project Punjab Cities Program (PCP) Detailed Design of Infrastructure Sub-Projects, Sectoral Planning & Resident Supervision in 16 Cities of Punjab(Package-5)	Rev.	Date	Description	Checked	Approved	Title  SINGLE AND DOUBLE ARM POLE FOUNDATION	Designed	Ahsan Rasheed
			0	3-10-2022		BA	PHK		Drawn	Ahsan Rasheed
									Checked	Bilal Ashraf
									Approved	Pervez Hayat Khan
									Scale	AS SHOWN
									Rev No:	0
								Drawing No.	MMP-1076P05-OKR-SL-GN-003	





The image contains two technical drawings of a VOLT METER 96X96mm.

**FRONT VIEW:** This drawing shows the front of the meter. It is a square unit with a width of 400mm and a height of 750mm. At the top, there is a VOLT METER SELECTOR SWITCH with 4 positions (V, R, Y, B) and a central position. Below the switch are three PHASE INDICATION LAMPS labeled R, Y, and B. The main body of the meter is a large square area. A PUSH LOCK is located on the right side. The bottom left corner shows a detail of the COPPER BRAID DOOR EARTHING.

**SECTIONAL SIDE:** This drawing shows a cross-section of the meter. It is a rectangular unit with a width of 20mm and a height of 700mm. The front face is labeled FRONT. The back face is labeled BACK BOX. The unit is mounted on a WALL. The distance from the top of the unit to the top of the front face is 125mm. The unit is shown with a CUTOUT PLATE and a DOOR. The unit is shown with a PUSH LOCK and a DOOR.

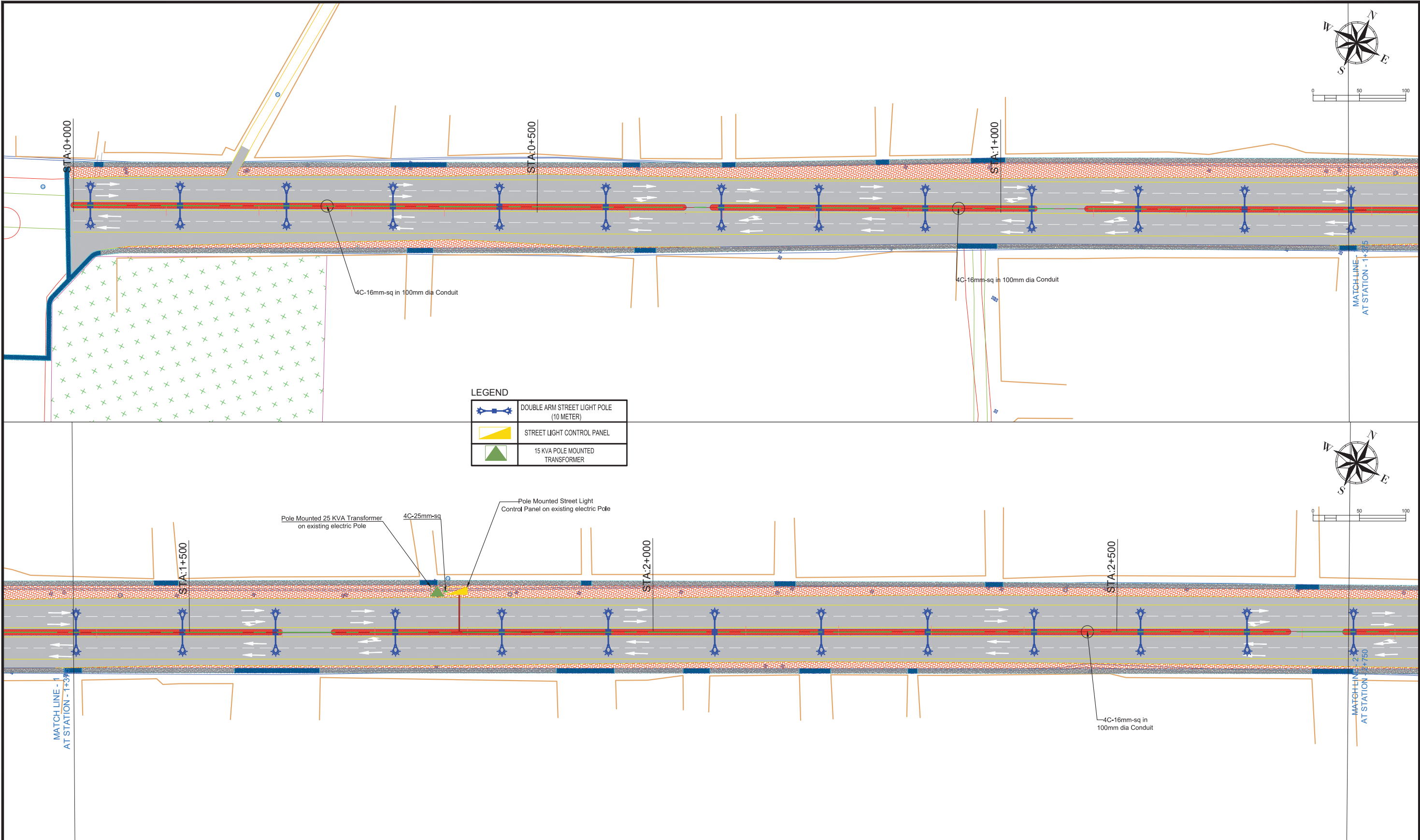





DIMENSIONS SHOWN ARE INDICATIVE ONLY AND NOT NECESSARILY  
BE FOLLOWED. HOWEVER ACTUAL DIMENSIONS OF DB SHALL BE  
GIVEN BY DB MANUFACTURER/SUPPLIER

1. ALL DIMENSIONS ARE IN MILLIMETER UNLESS SHOWN OTHERWISE.

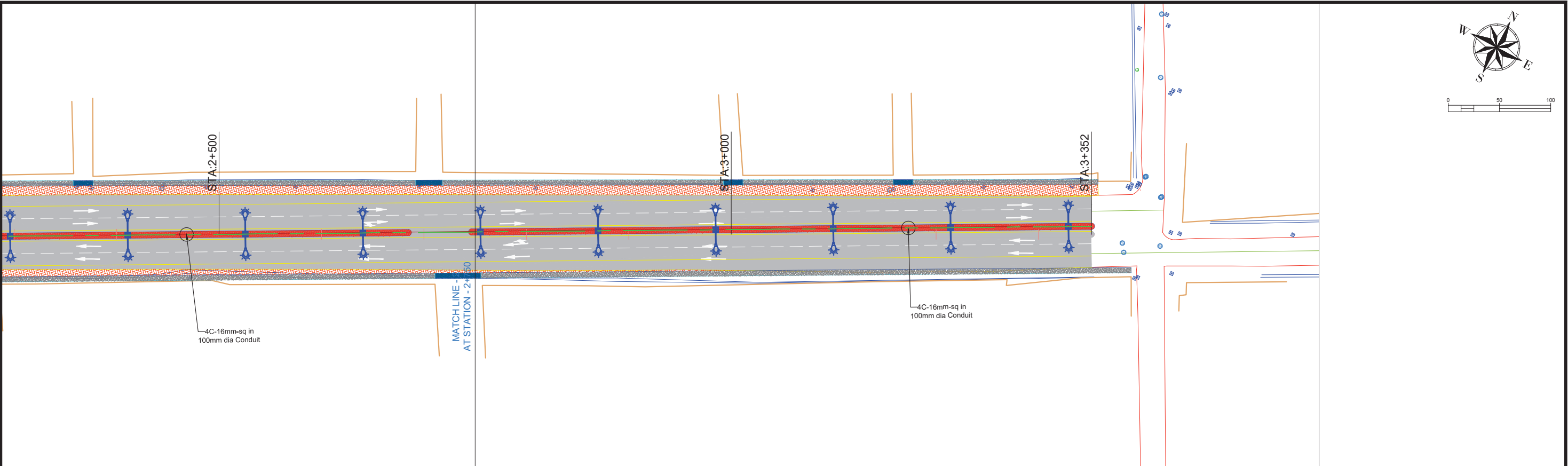
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Drawing file path & name: F:\PMDFC\Package\_V\_Roads\_P&P\Okara Roads\14. Street Lights\Okara MA Jinnah and Banazser Road Street Light Plan.dwg  
User and Plot Date: Tayyab - Fri, 04 Nov 2022 - 3:20pm






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		Project  Punjab Cities Program (PCP) Detailed Design of Infrastructure Sub-Projects, Sectoral Planning & Resident Supervision in 16 Cities of Punjab(Package-5)	0	4-11-2022		SA	PHK		Drawn	M. Tayyab	
										Checked	Sajjad Anwar
										Approved	Pervez Hayat Khan
										Scale	1" : 100'
									Drawing No.  MMP-1076P05-OKR-SL-P-001	Rev No:	0

Drawing file path & name: F:\PMDFC\Package\_V\_Roads\_P&P\Okara MA Jinnah and Banazser Road Street Light Plan.dwg  
User and Plot Date: Tayyab - Fri, 04 Nov 2022 - 3:20pm



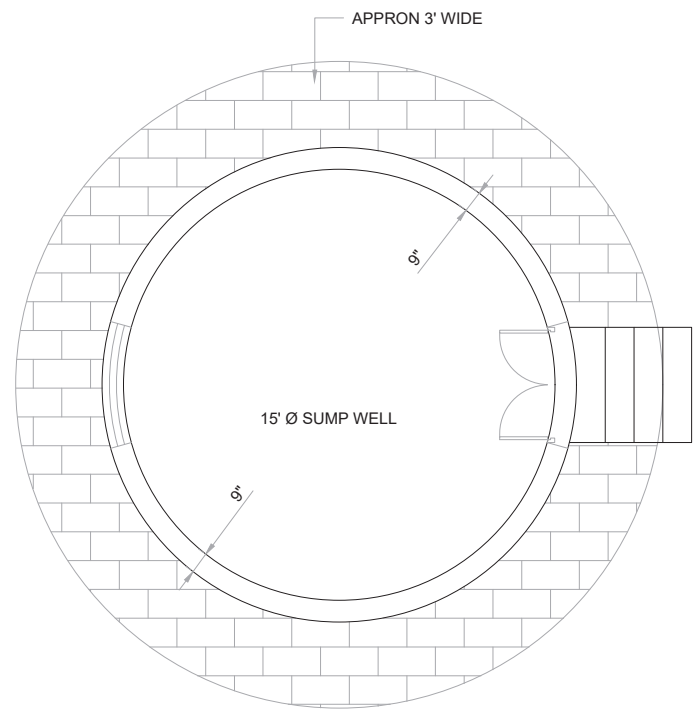
LEGEND	
	DOUBLE ARM STREET LIGHT POLE (10 METER)
	STREET LIGHT CONTROL PANEL
	15 KVA POLE MOUNTED TRANSFORMER

<div>Consultants</div> <div> CENTRAL DESIGN CELL 2nd Floor, CTI Building, 27-Empress Road, Lahore 042-36292525-7 042-36292528 mmpdco@mmpakistan.com http://www.mmpakistan.com</div>	<div>Client</div> <div> GOVERNMENT OF PUNJAB   Punjab Municipal Development Fund Company Department (PMDFC)</div>	Financing Agency	Rev.	Date	Description	Checked	Approved	Title  MA JINNAH ROAD STREET LIGHT PLAN	Designed	M. Abdullah		
		Project  Punjab Cities Program (PCP) Detailed Design of Infrastructure Sub-Projects, Sectoral Planning & Resident Supervision in 16 Cities of Punjab(Package-5)	0	4-11-2022			SA		PHK	Drawn	M. Tayyab	
										Checked	Sajjad Anwar	
										Approved	Pervez Hayat Khan	
										Scale	1" : 100'	
									Drawing No.	MMP-1076P05-OKR-SL-P-002	Rev No:	0

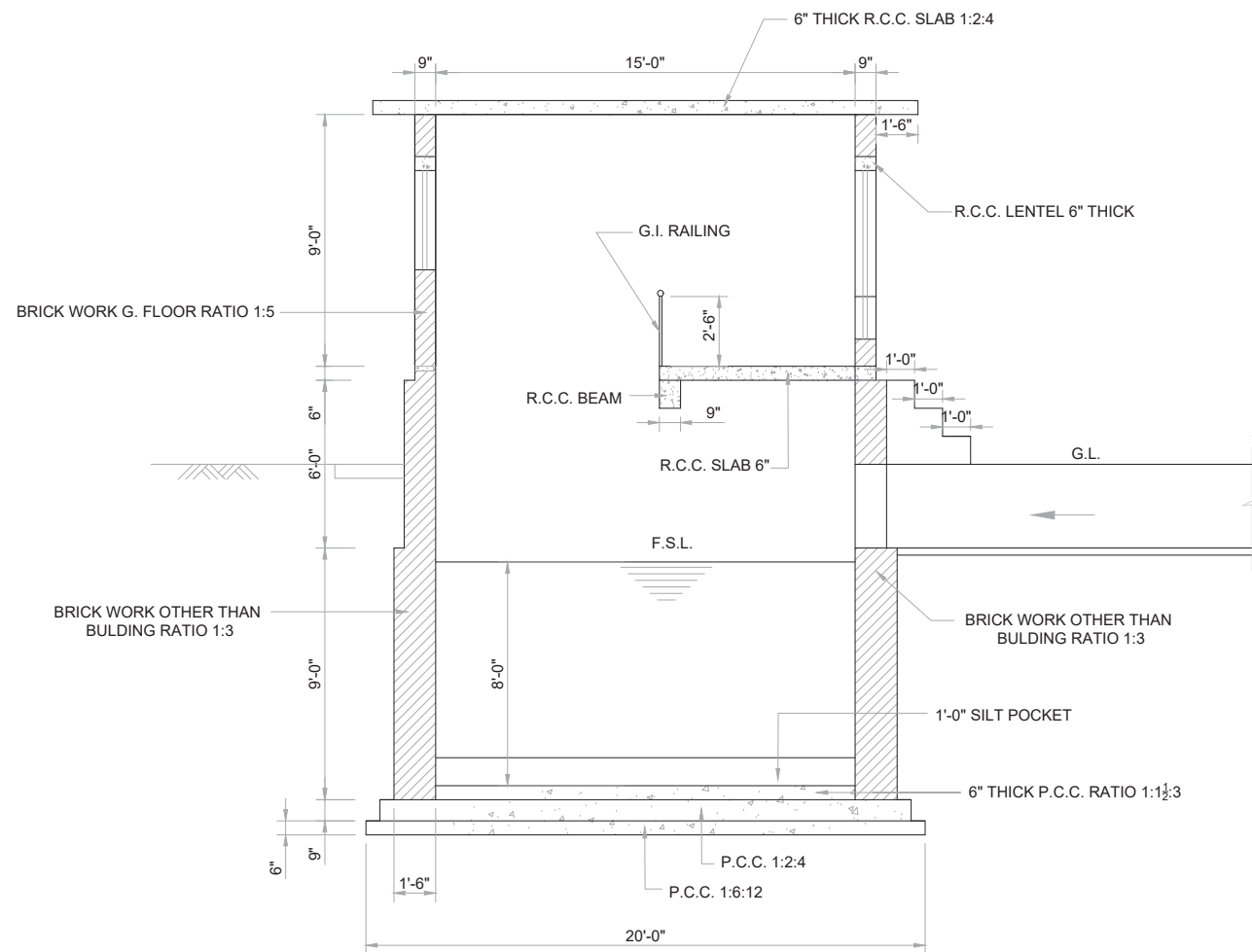


## Drainage Plan




Drawing file path & name: F:\PMDFC\Package\_V\_Roads\_P&P\Okara Roads\15. Drainage Plan\SUMP WELL.dwg  
User and Plot Date: Toyab - Tue, 08 Nov 2022 - 5:02pm



PLAN OF SUMP WELL

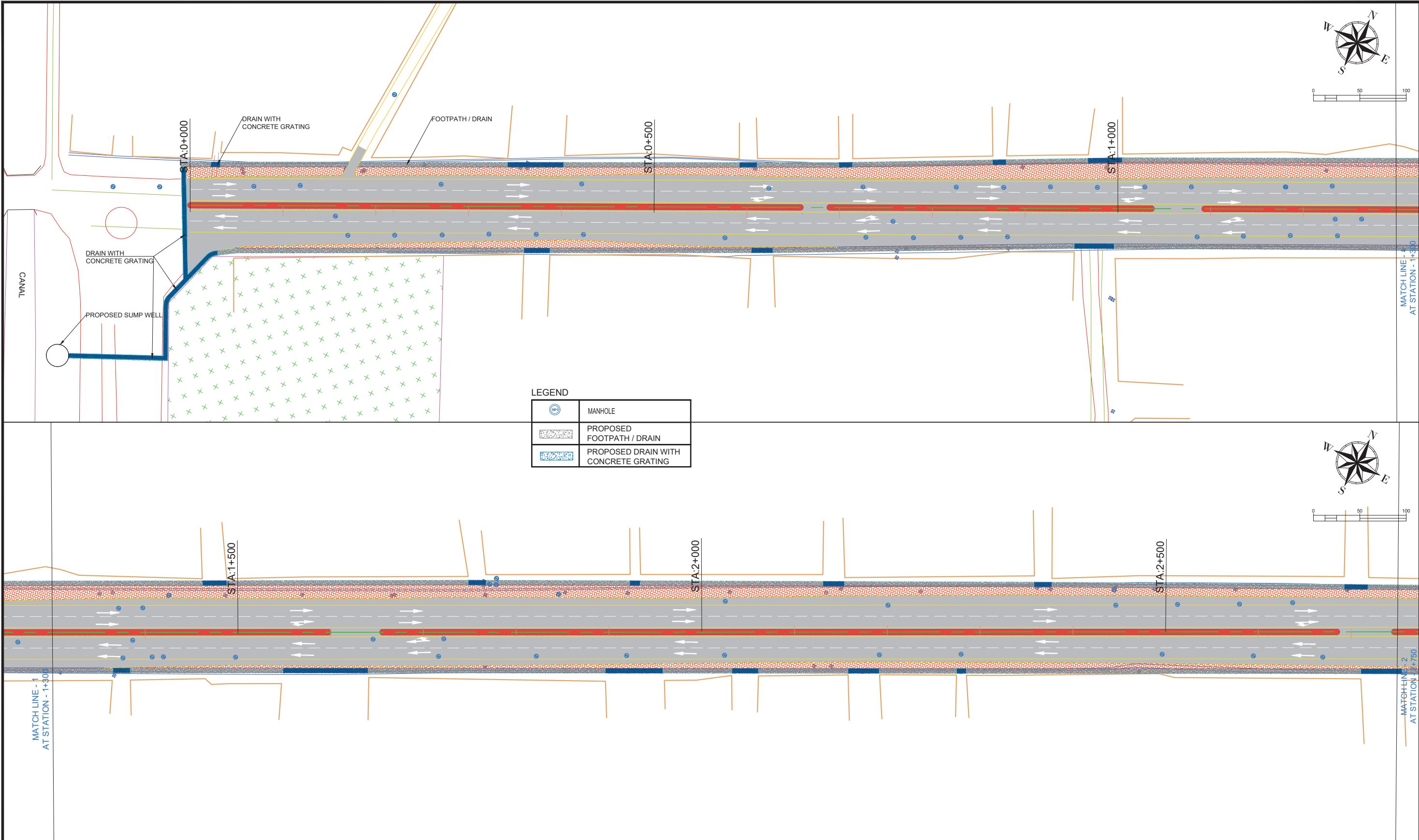





SECTION A-A

<div>Consultants</div> <div></div> <div><div>CENTRAL DESIGN CELL</div><div>2nd Floor, CTI Building,</div><div>27-Empress Road, Lahore</div><div>042-36292525-7</div><div>042-36292528</div><div>mmpdcc@mmpakistan.com</div><div>http://www.mmpakistan.com</div></div>	<div>Client</div> <div></div> <div>GOVERNMENT OF PUNJAB</div> <div></div> <div>Punjab Municipal Development</div> <div>Fund Company</div> <div>Department (PMDFC)</div>	Financing Agency	Rev.	Date	Description	Checked	Approved	Title	Designed	S.A				
		WORLD BANK	0	8-11-2022			SA		PHK	SUMP WELL FOR MA JINNAH ROAD DRAINAGE AT 4/L CANAL OKARA CITY	Drawn	A.J		
		Project									Checked	Sajjad Anwar		
											Approved	Pervez Hayat Khan		
											Scale	AS SHOWN		
											Drawing No.	MMP-1076P05-OKR-DR-GN-001	Rev-No:	0

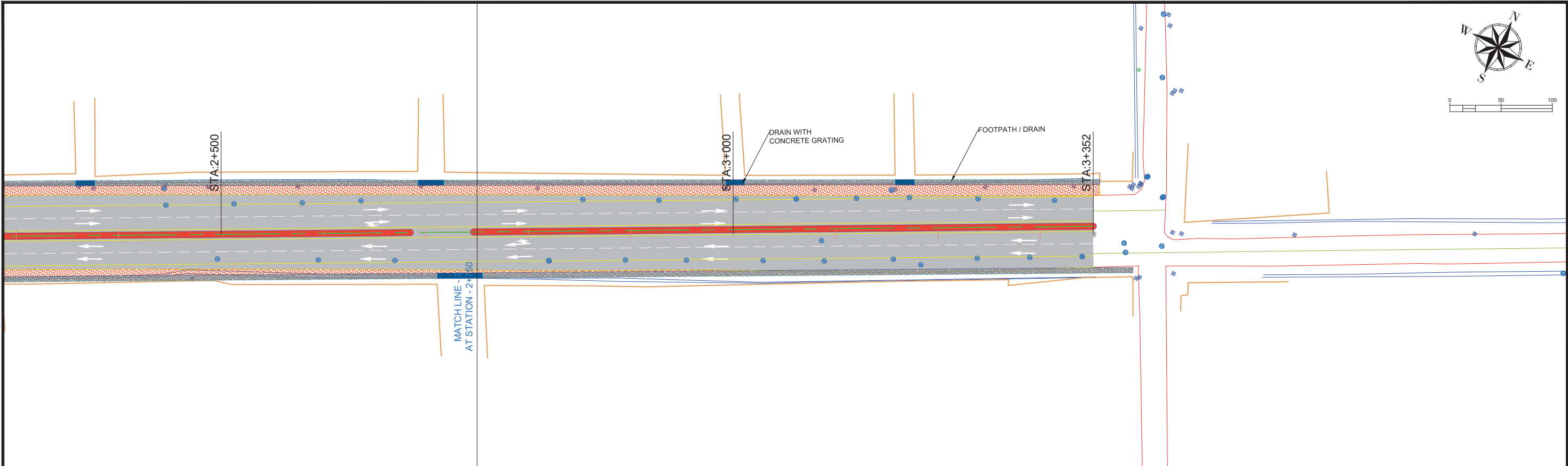


Drawing file path & name: F:\PMDFC\Package\_V\_Roads\_P&P\Okara MA Jinnah and Banazir Road Drainage Plan.dwg  
User and Plot Date: Tayyab - Fri, 04 Nov 2022 - 3:20pm









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		Project	WORLD BANK	0	4-11-2022		SA		PHK	MA JINNAH ROAD DRAINAGE PLAN	Drawn	M. Tayyab	
											Checked	Sajjad Anwar	
											Approved	Pervez Hayat Khan	
											Scale	1" : 100'	
									Drawing No.		MMP-1076P05-OKR-RD-DR-001	Rev No:	0

Drawing file path & name: F:\PMDFC\Package\_V\_Roads\_P&P\Okara Roads\15. Drainage Plan\Okara MA Jinnah and Banazeer Road Drainage Plan.dwg  
User and Plot Date: Tayyab - Fri, 04 Nov 2022 - 3:21pm



LEGEND

	MANHOLE
	PROPOSED FOOTPATH / DRAIN
	PROPOSED DRAIN WITH CONCRETE GRATING

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		Project	WORLD BANK	0	4-11-2022		SA		PHK	MA JINNAH ROAD DRAINAGE PLAN	Drawn	M. Tayyab	
											Checked	Sajjad Anwar	
											Approved	Pervez Hayat Khan	
											Scale	1" : 100'	
									Drawing No.		MMP-1076P05-OKR-RD-DR-002	Rev No:	0