Local Government & Community Development Department

Punjab Cities Program
Improvement and Construction of Chowks in Kamalia City

PC-I

EstimatedCostMillionPKR.93.375

September 2022

Municipal Committee Kamalia

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Punjab Cities Program

PC-I Form for Improvement of Chowks Project in Kamalia City

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PC-I FORM
for
Improvement & Rehabilitation of Chowks Project in Kamalia City

Project Serial Number

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

<table>
<tr><td>1. Name of the project</td><td>Punjab Cities Program
Improvement & Construction of Chowks Project in Kamalia</td></tr>
<tr><td>2.Location</td><td>Kamalia Town is located at 72°-39' East longitude and 30°-43' North latitude. The town is located at a distance of 105 km from Faisalabad, 240 km from Lahore, and 32 km from Toba Tek Singh.
Location map of the city is attached in Annexure-A</td></tr>
<tr><td colspan="2">3. Authorities responsible for</td></tr>
<tr><td>i- Sponsoring</td><td>Government of the Punjab (through World Bank funding)</td></tr>
<tr><td>ii- Execution</td><td>Municipal Committee Kamalia</td></tr>
<tr><td>iii- Operation and Maintenance</td><td>Municipal Committee Kamalia</td></tr>
<tr><td>iv-Concerned Provincial Department</td><td>Local Government and Community Development Department Punjab</td></tr>
<tr><td>4a.Plan Provision</td><td></td></tr>
<tr><td>i. If the project is included in medium term/five year plan, specify actual allocation</td><td>Punjab Cities Program (PCP) is a World Bank funded Program with a total cost of USD 236.00 million and comprises of below mentioned components.
<table>
<tr><td>Total loan from World Bank</td><td>USD 200.00 million</td></tr>
<tr><td>Component-1 Infrastructure development (PforR)</td><td>USD 180.00 million USD</td></tr>
<tr><td>Component-2 Technical Assistance</td><td>USD 20.00 million</td></tr>
<tr><td>MCs share (20% of PforR component) equivalent to:</td><td>USD 36.00 million</td></tr>
<tr><td>Total Program cost</td><td>USD 236.00 million</td></tr>
</table>
Component-2 i-e Technical Assistance component of Program costing USD 20.00 million is meant for management cost of the Program and capacity building of MCs & Government Departments and is included in</td></tr>
</table>

	Component-2 i-e Technical Assistance component of Program costing USD 20.00 million 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 2021-22 - under General Serial No-2521 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	PKR.100.00 million under ADP 2021-22 General Serial No 2521 for Component-2 of the Program i-e Technical Assistance as described above.
5. Project objectives and its relationship with sector objectives	**Sector Objectives** The sector objectives include: 1. Provision of efficient and effective municipality services to the masses. 2. Community development through improving basic infrastructure. 3. Clean and green environment for better living standards. 4. Effective use of land through master planning of urban areas. 5. Social uplifting and cohesion through provision of public open spaces and play grounds. 6. Ease in mobility and communication. 7. Cost efficient Solid Waste Management through waste to energy initiatives. 8. Capacity building of Local Governments. 9. Efficient Road network to make areas easily accessible **Objectives of the Project** The Project aims at improvement of infrastructure of municipal services such as roads, chowks, cross roads, street lights, parks and parking shed for SWM machinery for improved communication and recreational facilities. Scope of the work for this particular project includes the rehabilitation and improvement of existing chowks and drainage system along with the

	construction of new drainage system where needed. However, the cleaning and de-silting of existing drains and pipes will be arranged by MC Kamalia from their own resources. The Project has the following objectives: 1. Improvement of service delivery level of the municipal services in the sector of communication. 2. Better travelling facilities for the commuters. 3. Reduction in road accidents. 4. Saving in travelling and repair cost of the vehicles. 5. Reduction in annual maintenance charges of chowks and parks. 6. Better lit streets adding to security of people travelling at night. 7. Improvement in environments of the city making them livable. 8. Improvement in local and province economy. 9. Improvement in the economic growth potential of the city. Hence, the objectives of the project are in line with the sector objectives mentioned at Sr. No-1, 2, 3, 5 and 6 above and the project forms integral part of the concerned sector.
6. Description, justification, technical parameters and technology transfer aspects	
i. Present Condition	As per PLGA-12019 Urban Local Governments (ULGs) are basically and wholly responsible for delivery of the municipal services with a service delivery level which should satisfy the consumers and citizen. Unfortunately, the prevalent conditions of the service delivery are not encouraging in the city. The major reason of unsatisfactory service delivery is the lack of proper maintenance of the municipal infrastructure in all sectors causing consumer dissatisfaction at one end and degradation of the infrastructure on the other end apart from very low revenue recovery as the consumers are reluctant to pay because of deteriorated service delivery. The chowks infrastructure has been damaged and degraded because of lack of repairs and upgradation due to shortage of money and constrained municipal budgets. If these chowks are not improved at this stage, then this infrastructure will be further damaged / degraded giving financial loss to the public as well as private sectors and the growth potential of the city will be adversely affected. Damaged chowks will increase the operational expenditure of the vehicles apart from wasting time and giving rise to public frustration and mental agony. The only way to keep the infrastructure in operational and functional condition for better travelling and recreational facilities to the inhabitants

<table>
<tr><td></td><td>of the city and the surrounding areas, is to improve the chowks and important cross roads</td></tr>
<tr><td>ii. Description of the subproject-</td><td>The project comprises of improvement of 03 Nos chowks in the city.</td></tr>
<tr><td>iii Detail of civil works, equipment & machinery and other physical facilities</td><td>The detail of chowks to be improved, rehabilitated or constructed in the city, is given below
<table>
<tr><td colspan="3">• Chowks or cross roads</td></tr>
<tr><td>1</td><td>CP-1 Main Kalma Chowk</td><td>• Geometric Improvement of intersection
• Channelization of traffic flow
• Rehabilitation of Existing Pavement Structure
• Pavement Marking
• Street Lighting
• Aesthetic improvement of chowk</td></tr>
<tr><td>2</td><td>CP-2 Jhakkar Mor Chowk</td><td>• Geometric Improvement of intersection
• Channelization of traffic flow
• Rehabilitation of Existing Pavement Structure
• Pavement Marking
• Street Lighting
• Aesthetic improvement of chowk</td></tr>
<tr><td>3</td><td>CP-3 Eid Gah Chowk</td><td>• Geometric Improvement of intersection
• Channelization of traffic flow
• Rehabilitation of Existing Pavement Structure
• Pavement Marking
• Street Lighting
• Aesthetic improvement of chowk</td></tr>
</table></td></tr>
<tr><td>iv Indicate governess issues of the sector relevant to the project and strategy to resolve them</td><td>• District Council Unit Kamalia is facing acute shortage of staff. The smooth sailing of the Punjab Cities Program can only be assured when the required staff is available with Unit.
• The Repair and maintenance of the municipal services in not up to the mark in the such 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. Hence inculcating the mind set for good repair and maintenance is the major requirement for improving the service delivery level.</td></tr>
</table>

7- Capital Cost of Project

The summary of the works included in the project is given below;

S. No	Name of Chowks	Cost (PKR million)
1	CP1-Main Kalma Chowk	23.93
2	CP2- Jhakkar Mor Chowk	28.66
3	CP3- Eid Gah Chowk	19.84
	Sub-Total	**72.44**
5	Drainage System	6.09
6	Electrical Works	7.62
7	Environmental Health & Safety	1.09
	Total	**87.35**
	Contingencies @2%	1.74
	Punjab Sales Tax @5%	4.36
	Grand Total	**93.37**

See **Annexure-B** for details

i- Indicate date of estimation of the project cost

The project estimates have been framed during the month of November, 2022

ii- Basis of determining the estimates be provided.

The cost estimates have been framed on the basis of bill of quantities actually required at site and unit rates from the Market Rate System (MRS) issued by the Government of Punjab (District Kamalia 2nd 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

The physical and financial requirements, year wise are included in the following table:

S. #	Name of chowk	Year 2022-2023
1	CP1-Main Kalma Chowk	100%
2	CP2- Jhakkar Mor Chowk	100%
3	CP3- Eid Gah Chowk	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)

S. #	Items of Chowk	Total (PKR million)	Year 2022-2023 (100%)
1	CP1-Main Kalma Chowk	23.93	23.93
2	CP2- Jhakkar Mor Chowk	28.66	28.66
3	CP3- Eid Gah Chowk	19.84	19.84
4	Drainage System	6.09	6.09
5	Electrical Works	7.62	7.62
6	Environmental Health Safety Budget	1.09	1.09
	Total work outlay	**87.26**	**87.26**
7	PST, contingencies	6.1	6.1
	Total project cost (Millions)	**93.37**	**93.37**

8-Annual recurrent cost after completion of the project and source of financing

The chowks are already being repaired and maintained by the District Council Unit Kamalia out of its own financial resources. No additional cost will be required after completion of the improvement and upgradation of the chowks, rather the repairs 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.

9- Demand & Supply Analysis

i- Existing Capacity of services

Existing supply level

- Existing geometry of the chowk is not well enough to sustain the smooth traffic flow. Existing pavement structure of the chowk is deteriorated which needs the rehabilitation to bear the traffic loading and better riding quality.
- Municipal Committee Kamalia is unable to render satisfactory service to the entire area of the city because of degraded infrastructure wherein some rehabilitation and improvement are direly needed but MC could not be able to accomplish them because of low revenue recovery and funding constraints. Very few areas are reasonably served but others are deprived of the required level of the service. This is resulting in low credibility of the municipal services and citizen dissatisfaction. Further the infrastructure has not been developed and extended keeping in pace with the growth of population mainly due to migration from rural areas to urban areas. The market prices of the materials and labor have also increased drastically during the last decade which increased the O&M cost of services. This has further degraded the situation and the service delivery level is further deteriorating.

ii- Projected Demand for 10 years	• Traffic is increasing day by day in Kamalia city. Projected traffic of 3 project Chowks for 10 year is 93.521 million. Project chowks of MC Kamalia needs to be improved to save the travel time and better riding quality. • The municipal services require radical improvement to enhance the efficiency of the service to increase service delivery to a satisfactory level. For this purpose, the existing infrastructure will have to be improved. • Many shortcomings, problems and bottlenecks have been observed in the existing infrastructure which could not be addressed by MC due to funding constraints and now have been proposed to be addressed by rehabilitation of defective and outlived components of all the municipal services infrastructure.
iii- Capacity of other similar projects being implemented in public/private sector	No other project of this nature is being implemented in public as well as private sector because of funding constrains in the Unit.
iv- Supply and Demand gaps	The nature of supply and demand gap has been explained in the preceding paras which concludes; • Existing condition of the chowks is not good enough to bear the traffic load. It's causing excessive delays, increasing travel time, occurring accidents at intersections and vehicles wear and tear due to the poor condition of pavement surface. Increasing traffic load requires the improvement of existing chowk. • The existing infrastructure has poor efficiency resulting in unsatisfactory service delivery level. • The O&M cost of the infrastructure services is very high because of low efficiency and high market rates while there in a large gap between the O&M expenditure and the revenue recovery. • Large subsidies are being injected by MC to the keep the services in operation • Numerous public complaints are the talk of the day. • Unsatisfactory municipal delivery is not encouraging the city to become engines of economic growth and hence the GDP of our city is much lower than the peers in the developing world. Hence there is a large gap between the supply and demand which is to be bridged by improvement in the infrastructure and its management.
v-Designed capacity and output of the project	1. One 4 leg chowk (CP-1 Main Kalma Chowk), connecting with Katchery Road,Toba Chichawatni Road and Iqbal Bazar Road.

<table>
<tr><td></td><td>Second 3 leg chowk (CP-2 Jhakkar Mor Chowk) connecting with High school Road, Toba Chichawatni Road and Jhakar Kamalia Road. Third 3 leg chowk (CP-3 Eid Gah Chowk) connecting with Railway road, Eid Gah Road and
2. Chowks are designed for 10-year life.
3. These chowks will carry out the 93.521 million traffic cumulatively for 10 years.
4. Improvement of these chowk will decrease the travel time of commuters which will ultimately improve the economy of city.</td></tr>
<tr><td>10. Financial Plan
Sources of financing
<u>Debt</u>
a) Indicate the local and foreign debt Loan</td><td>Below given loan for the Punjab Cities Program has been funded by World Bank for 16 PCP cities in Punjab.
<table>
<tr><td>Total loan to Government of Pakistan/Punjab</td><td>USD 200 million</td></tr>
<tr><td>Component-1 for Infrastructure Development</td><td>USD 180 million</td></tr>
<tr><td>Component-2 for Investment Project Financing For capacity building of MCs & three Govt. organization and program management.</td><td>USD 20 million</td></tr>
<tr><td>20% share of Municipalities is equivalent to</td><td>USD 36 million</td></tr>
<tr><td>Total funds available for Infrastructure Development</td><td>USD 216 million</td></tr>
<tr><td colspan="2">This project will be funded under this financing.</td></tr>
</table></td></tr>
<tr><td>b) Equity</td><td>A. Loan/grant to MC
The amount of loan converted to grant to Kamalia Unit will be PKR. 74.70 million. The financing of the project will be as given below:
<table>
<tr><td>Grant to Unit for the year 2022-2023 (80% of cost of PC-I)</td><td>PKR 74.70 million</td></tr>
<tr><td>20% Co-finance by MC (20% of the cost of PC-I)</td><td>PKR 18.675 million</td></tr>
<tr><td>Total available funds</td><td>PKR 93.375 million</td></tr>
</table>
B. Project Cost PKR 93.375 million

*The loan is from World Bank to Government of Pakistan/Punjab which will trickle down to Kamalia Unit as grant.</td></tr>
<tr><td>c) Grants</td><td>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.</td></tr>
<tr><td>d) Weighted cost of capital</td><td>Nil</td></tr>
<tr><td colspan="2">11-Project benefits and analysis</td></tr>
<tr><td>i.Financial:</td><td>• The project comprises of improvement of chowks and cross roads in the city.</td></tr>
</table>

Income to the project with assumption	• Kamalia Unit has no plan to levy user charges /toll tax as these are internal infrastructure of city and levying of toll tax is not feasible. • However, it is an infrastructure sector project but the capital cost of the project is not intended to be recovered. The unit will meet the cost of repair and maintenance out of its own resources. The project economic analysis is given as **Annexure-C**.
ii.Social benefits to the target group	The completion of the project will result in: • Up gradation of the infrastructure. • Enhanced life of the chowks. • Reduction in travelling time of the commuters. • Reduction of road accidents. • Reduction in consumption of POL resulting in saving of the foreign exchange. • Reduction in the operation and maintenance cost of the vehicles. • Improvement in the environment of the city; • Minimized public mental tension and frustration • Improved local economy • Improvement of city growth potential
iii.Environmental Impact negative/positive	Construction/Rehabilitation of chowks and their subsequent long-term use led to many changes in the environment. There will be some negative impacts during rehabilitation of the Chowks in the form of noise of the machinery, dismantling of the existing chowks, dust pollution, nuisance caused by higher traffic, risked caused by animal intersecting routes or consequences of any crossing water courses etc. Therefore, it is recommended to develop variant solutions in order to choose the one that would be least harmful to the environment, and then to incorporate them in an Environmental and Social Management Framework. However, the impacts will be temporary and there will be no negative impacts after completion of the project, rather, positive impacts, because of improvement in environments of the city, will be observed and present traffic hazards and jams will be eliminated. Hence overall positive impacts will be experienced due to execution and operation of the sub-projects. To facilitate the selection of an optimal solution and for the inclusion of Safe Operating Procedures for Construction workers/labors; assessment indicators or an Environmental Screening Checklists have been developed which is attached as Annexure E (A) of this PC-1. The checklist focuses on Environmental Issues and social concerns and ensure that all environmental and social dimensions are adequately considered. Based on the remarks of the screening checklist, Environment and Social Management Plans (ESMPs) are prepared and the necessary costs for implementation of ESMPs have been provided in this PC-1.The

<table>
<tr><td></td><td>Environment, Health and Safety SOPs for labor/workers are provided as Annexure E (B).</td></tr>
<tr><td>iv.Quantifiable project outputs</td><td>The quantifiable project out puts have been given above in Sr. No-9 (V). The social benefits to the citizen have been described at Sr. No-11(ii).</td></tr>
<tr><td>v.Unit cost analysis</td><td>The unit cost analysis is produced below;
<table><tr><td>Project capital cost</td><td>PKR 93.375 million</td></tr><tr><td>Population of the city in year 2023</td><td>164715 persons</td></tr><tr><td>Unit capital cost per capita</td><td>PKR 566</td></tr></table>
• Unit R&M cost: – The Repair & maintenance cost is already being borne by Kamalia Unit and there will be no increase in this cost. Due to improvement of the infrastructure R&M cost will reduce for at least 5 years after completion of the project.</td></tr>
<tr><td>vi.Employment generation (direct and indirect)</td><td><u>Employment Analysis</u>
Direct Employment
a) Planning and Design of projects
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.
b) Execution of the Project
a) PMDFC
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:
• Civil Engineers
• Accounts, administration and audit personnel
• Urban planners
• GIS experts
• Support staff like computer operators, vehicle drivers, office boys and guards.
• Procurement experts
• Communication experts
• Environmental and social experts
• Contract management experts

b) Consultants
PMDFC has employed consultants for detailed design and resident supervision of the projects who will deploy their staff for execution of the project.</td></tr>
</table>

	c) Municipality Kamalia Unit has regular staff like engineers, sub engineers and other administrative & 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 *d) Contractor* The contractor responsible for execution of the sub project will employ skilled and un-skilled labor on this work. **Indirect Employment** Indirect employment for production of material such as cement, steel, stone metal, bitumen, bricks etc. will be generated.
vii. Impacts of delays on project cost and viability	The impact of delay in project implementation will; • Result in increased project cost due to escalation in cost of material and labor. • Delay the benefits to the target group • Result in further deterioration of the infrastructure and the service delivery level.
12-Implementation Schedule	
a) Indicate starting and completion date of the project	The project is anticipated to commence by January 2023 and to be completed by June 2023 with project implementation period of 06 months.
b) Item wise/year wise schedule in line chart	The Gant chart has been attached at **Annexure-D**
13- Management Structure and manpower requirements	
i. Administrative arrangements for the implementation of the project	**ii. Planning & design of the project** The project has been designed by the consultants employed by PMDFC and will also carry out the resident supervision of the project. **iii. Preparation of cost estimation** The cost estimates have been prepared by the design consultants by actual measurements are required at site. The execution of the items of works included in these estimates /PC-I will be certified by these consultants. **iv. Execution of the project** • The project will be executed by Municipal Committee Kamalia and supervised by the Consultants appointed by PMDFC in resident supervision mode. The technical staff & 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

	to LG & CDD & World bank and troubleshooting will also be responsibility of PMDFC. • MO (I&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. • The procurement of works and goods will be done by Procurement Committee of Kamalia Unit as per PPRA Rules. **v. Verification of quantities included in PC-Is and Resident Supervision of the works by consultants** 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 Project Manager/Engineer in Charge and pre audited as per LG Works Rules.

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	**a) PMDFC experts and staff** 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/Khanewal. **b) Resident Supervision Consultants** 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.

S #	Personnel	Nos	Qualification
1	Chief Resident Engineer/Team Leader	01	BSc;/BE in Civil engineering from HEC approved University with minimum 20 years' professional experience and 5 years' experience on similar assignment 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 on urban planning, designing and construction supervision assignment.
2	Assistant Resident Engineer	01	Bachelor Degree in Civil engineering with minimum 8 years' experience in site supervision and execution for projects of similar nature
3	Site Inspectors	01	DAE in Civil with minimum 10 years' experience in site supervision for projects of similar nature

c) Contractor's Technical staff, skilled & non skilled labor

The contractors will employ the supervisory technical staff and skilled & 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.

d) Repair & maintenance of the project

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;

- Fill up the presently vacant slots
- Recruit additional staff as per need of the infrastructure after obtaining the sanctions from the competent authorities.

14-Additional projects /decisions required to optimize the investment being undertaken	**1) Shortage & frequent transfers of Provincially appointed staff** MC is facing shortage in provincially appointed and locally appointed cadres. This will seriously affect the pace of progress of the program and the implementation of the infrastructure projects may be delayed. Provincial Government should fill up the vacant staff immediately for optimizing the investments in MC. **2) Repair & Maintenance (R&M) staff** The R&M staff is also deficient and this is adversely affecting the service delivery level. Number of slots are vacant but MC is not allowed to recruit the persons to fill these slots due to ban on recruitments. Further the sanctioned strength of the field staff is much lesser than the actual requirement because with the increase in population and extension of services, additionally required staff has not been sanctioned by the competent authorities. Both of the above issues need to be addressed for optimal utilization of the investments and giving targeted benefits to the resident population of these cities.
15-Certificate	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 social sectors projects.

Prepared by	Jers Consultancy (Pvt.) Ltd	Signatures	JERS CONSULTANCY (PVT) LTD.
Checked by	Municipal officer (Infrastructure) Municipal Committee Kamalia	Signatures	Municipal Officer(I&S) Municipal Committee Kamalia
	Chief Officer Municipal Committee Kamalia	Signatures	Chief Officer Municipal Committee Kamalia
Forwarded by	Administrator Municipal Committee Kamalia	Signatures	2/12/22 Administrator Municipal Committee Kamalia
Vetted by	Senior Program Officer PMDFC	Signatures	

vetted

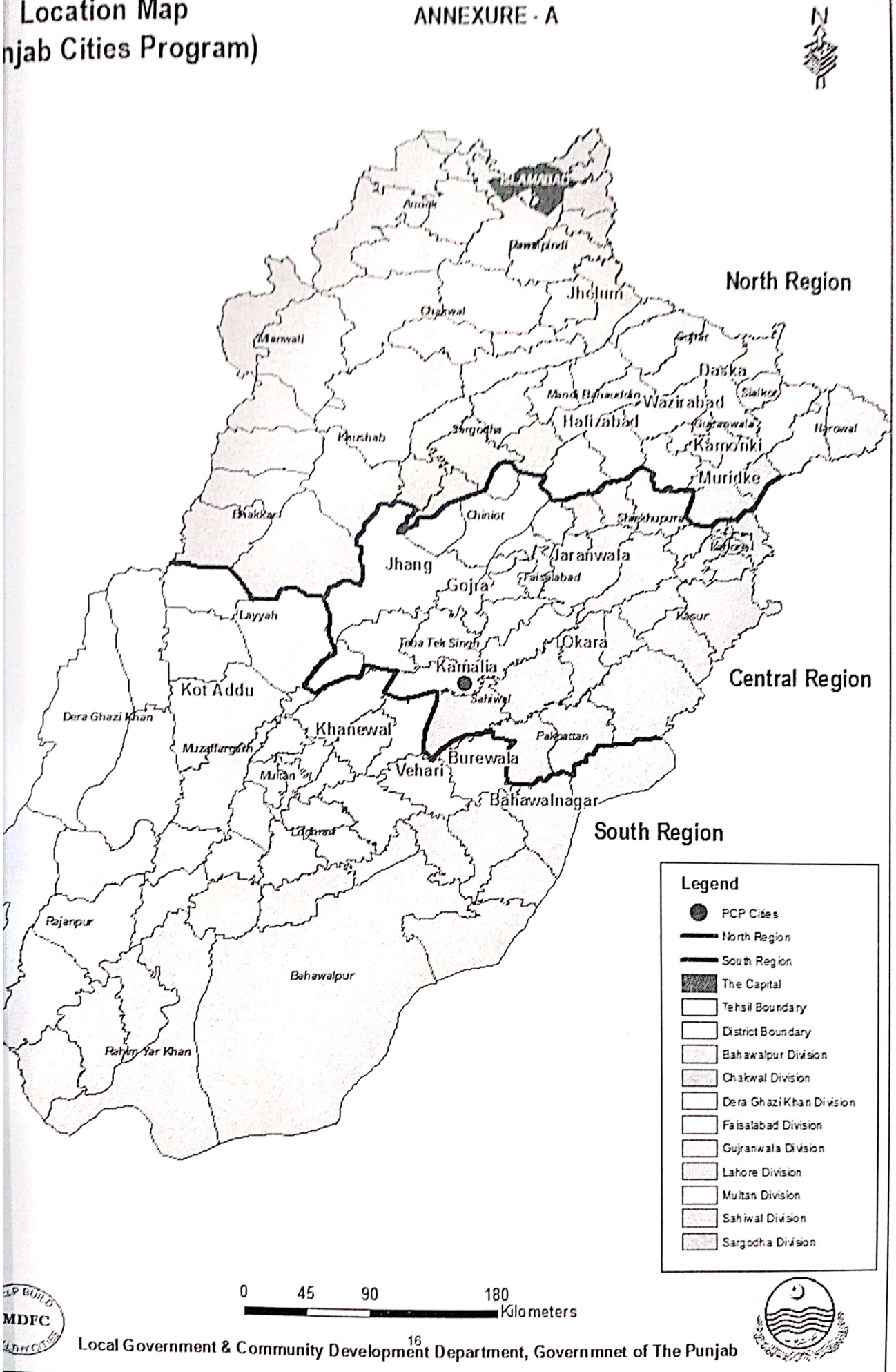
Senior Program Officer
Infrastructure Development
Punjab Cities Program

Program Officer-I
Infrastructure Development
Punjab Cities Program-Lahore

Annexure-A
Location Map

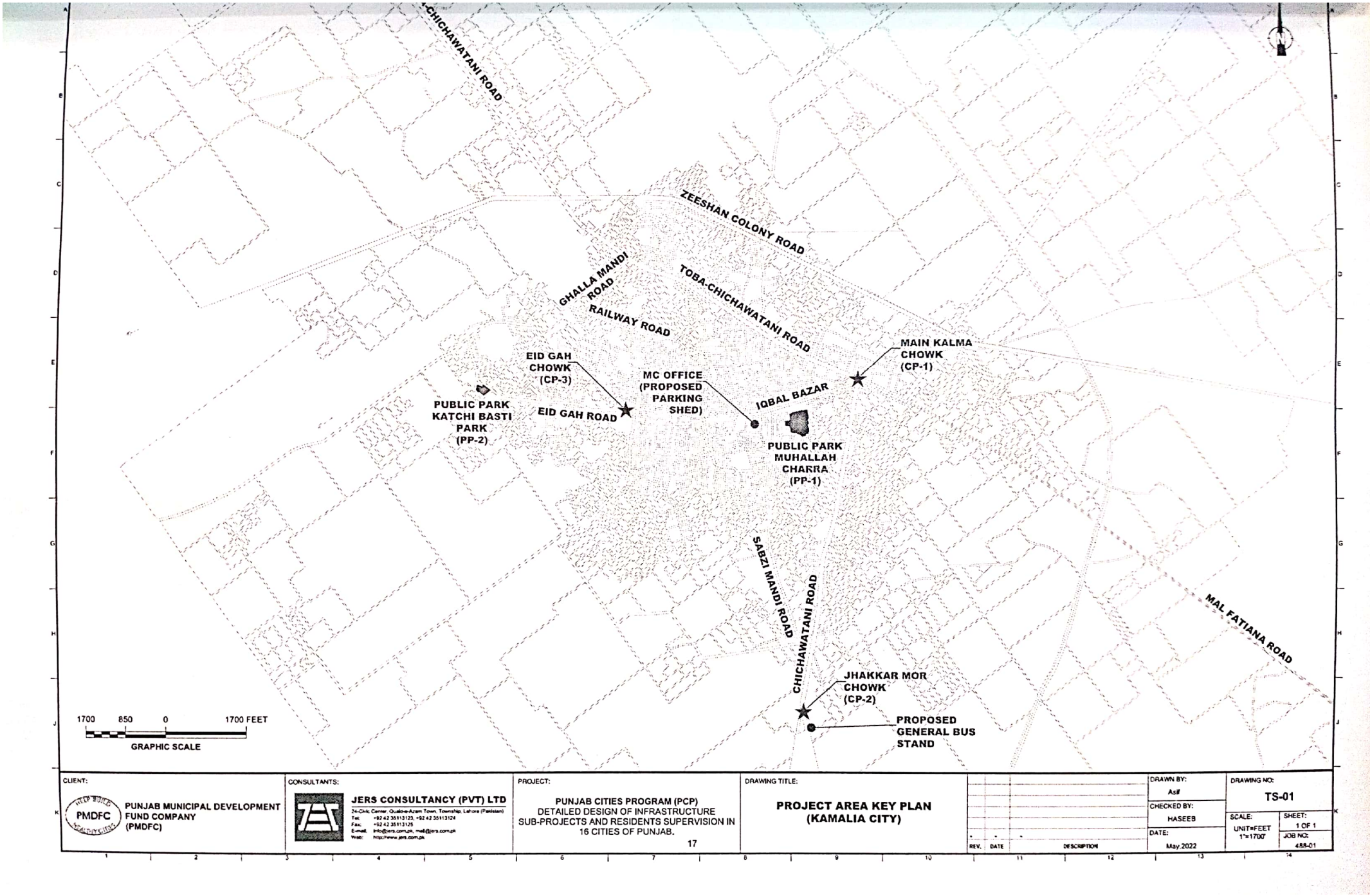
Location Map
njab Cities Program)

ANNEXURE - A



MDFC

Local Government & Community Development Department, Governmnet of The Punjab



CLIENT: PUNJAB MUNICIPAL DEVELOPMENT FUND COMPANY (PMDFC)	CONSULTANTS: JERS CONSULTANCY (PVT) LTD	PROJECT: PUNJAB CITIES PROGRAM (PCP) DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB.	DRAWING TITLE: PROJECT AREA KEY PLAN (KAMALIA CITY)	DRAWN BY: Asif CHECKED BY: HASEEB DATE: May,2022	DRAWING NO: TS-01 SCALE: UNIT=FEET 1"=1700' SHEET: 1 OF 1 JOB NO: 488-01

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Annexure-B
Rough Cost Estimate

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

ROADS AND CHOWKS WORKS

MC KAMALIA

DETAILED COST ESTIMATE

SUMMARY

Sr. No.	Description	Amount (Rs.)
1	ROAD WORKS Detail attached	72,444,392
2	DRAINAGE SYSTEM -do-	6,096,585
3	ELECTRICAL WORKS -do-	7,627,799
4	ENVIRONMENTAL HEALTH SAFETY BUDGET	1,098,000
	Total Amount (Rs.)	**87,266,777**
	Contingencies @ 2%	1,745,336
	PRA Charges @ 5%	4,363,339
	Total Amount. Rs.	**93,375,451**

Estimate Technically vetted'

Chief Engineer (North)
Punjab Local Govt Board
L.G. & C.D Deptt
LAHORE

D.M

JERS CONSULTANCY (PVT) LTD.

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

INFRASTRUCTURE WORK

MC KAMALIA

DETAILED COST ESTIMATE

SUMMARY

Sr. No.	Description	Amount (Rs.)
1	**ROAD WORKS**	
1.1	CP-1 KALMA CHOWK Detail attached	23,938,304
1.2	CP-2 JHAKKAR CHOWK Detail attached	28,660,651
1.3	CP-3 EID GAH CHOWK Detail attached	19,845,437
	1) Total Amount. Rs.	**72,444,392**
2	**DRAINAGE SYSTEM**	
2.1	CP-1 KALMA CHOWK DRAINAGE SYSTEM Detail attached	385,762
2.2	CP-2 JHAKKAR CHOWK DRAINAGE SYSTEM Detail attached	4,509,688
2.3	CP-3 EID GAH CHOWK DRAINAGE SYSTEM Detail attached	1,201,135
	2) Total Amount. Rs.	**6,096,585**
3	**ELECTRICAL WORKS**	**7,627,799**
4	**ENVIRONMENTAL HEALTH SAFETY BUDGET**	**1,098,000**
	Total Amount (Rs.) "1+2+3+4"	**87,266,777**
	Say Millions	**87.267**

CHOWKS

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE
CP-1 KALMA CHOWK
ROADS WORK

Sr. No	2nd Bi-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		Dismantling				
1	4/45	Dismantling and removing road metalling.	100Cft	59.51	2,031.75	120,909
2	N.S	Ploughing and Compaction of Existing road surface upto 6" depth i/c dressing, leveling, supplying and spreading of stone screening (Khaka) and compaction to achieve to 100% maximum ASSHO dry density complete in all respects.	100Cft	142.84	4,883.47	697,555
		Sub Base Course				
3	18/3/a/ (i) + 1/1	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 and grade to achieve 98% maximum dry density determined according to AASHTO T-180 method-D, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Pit run or bed run gravel from sargodha querry to site, actual compacted depth shall be considered for payment)	100Cft	122.57	19,017.90	2,331,024
		Water Bound Macadam				
4	18/4/a + 1/1	Providing and laying base course of crushed stone **(Water Bound Macadam)** of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from sargodha querry to site, actual compacted depth shall be considered for payment)	100Cft	248.84	26,489.72	6,591,701

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE

CP-1 KALMA CHOWK

ROADS WORK

Sr. No	2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		Prime Coat				
5	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.	100Sft	361.00	2,293.45	827,935
		Carpeting				
		AWC				
6	18/10/a + 1/1	Providing and laying plant premixed bituminous carpet, including compaction and finishing to required camber, grade and density. (2 inch thick) (iv) 4.5% Bitumen	Per inch thickness per 100Sft.	361.00	16,249.00	5,865,889
		Paint For Traffic Lanes				
7	13/36	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.				
		ii) 6" wide	Rft	4,125.00	56.20	231,825
		Kerb Stone				
8	6/52/b	Providing and fixing precast Edge Kerb Stone (4" to 6" thick), of 3500 PSI Compressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc. complete in all respect.				
		b) With Painting				
		(i) 14" high	P.Rft	1,690.00	516.90	873,561
9	18/5	Providing and laying road edging of 3" (75 mm) wide and 9" (225 mm) deep brick on end, complete in all respects.	P.Rft	1,890.00	52.80	99,792
		Tuff Paver				
10	10/41	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)				
		c) 80-mm thick	Sft	20,702.50	194.90	4,034,917

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE

CP-1 KALMA CHOWK

ROADS WORK

Sr. No	2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
14	N.S	Supplying, erecting and fixing of frame having size 25mm x 25mm x 3mm as shown in drawings supported/beautified with square pipe of 25mm x 20mm x 3mm and flat strips of 25mm x 3mm as shown in drawing this frame shall be erected of foundation of P.C.C 1:6:12, Brick Work 1:4 c/s mortar, sand filling, R.C.C on top of plank as shown in drawing & as directed by Engineer Incharge. This item includes all kinds of cuttings, bending, welding, leads and lifts.	Provisional Sum	1.00	1,000,000	1,000,000
15	N.S	Providing and fixing of PVC planks 50mm x 25mm, Wall hanging PVC Planter 300mm x 150mm x 225mm, Fiber Stone Planters 800mm x 300mm x 400mm and Flowers as per drawing and as directed by Engineer Incharge	Provisional Sum	1.00	1,000,000	1,000,000
		Total Amount Rs.				**23,938,304**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
CP-1 KALMA CHOWK
CALCULATION OF QUANTITES
ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	Dismantling						
1	Dismantling and removing road metalling.						
	CP-1 Chowk						
	RD 0+000 To 0+670	1	670	29.50	0.21	4,118	Cft
	RD 0+000 To 0+175	1	175	36.00	0.21	1,313	Cft
	Main Bazar Road	1	100	25.00	0.21	521	Cft
					Total	5,951	Cft
					Total.	**59.51**	**%Cft**
2	Ploughing and Compaction of Existing road surface upto 6" depth i/c dressing, leveling, supplying and spreading of stone screening (Khaka) and compaction to achieve to 100% maximum ASSHO dry density complete in all respects.						
	RD 0+000 To 0+670	1	670	29.50	0.50	9,883	Cft
	RD 0+000 To 0+175	1	175	36.00	0.50	3,150	Cft
	Main Bazar Road	1	100	25.00	0.50	1,251	Cft
					Total	14,284	Cft
					Total.	**142.84**	**%Cft**
	Sub Base Course						
3	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 and grade to achieve 98% maximum dry density determined according to AASHTO T-180 method-D, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Pit run or bed run gravel from sargodha querry to site, actual compacted depth shall be considered for payment)						
	CP-1 Chowk						
	RD 0+000 To 0+670	2	670	5.25	0.67	4,690	Cft
	RD 0+000 To 0+175	2	175	2.00	0.67	467	Cft
	Main Bazar Road	2	100	2.00	0.67	267	Cft
	Under Tuff Paver						
	RD 0+000 To 0+670	2	670	12.25	0.33	5,419	Cft
	RD 0+000 To 0+175	2	175	12.25	0.33	1,415	Cft
					Total	12,257	Cft
					Total.	**122.57**	**%Cft**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
CP-1 KALMA CHOWK
CALCULATION OF QUANTITES
ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	Water Bound Macadam						
4	Providing and laying base course of crushed stone (Water Bound Macadam) of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from sargodha querry to site, actual compacted depth shall be considered for payment)						
	Crushed stone aggregate from approved quarry						
	CP-1 Chowk						
	RD 0+000 To 0+670	2	670	20.00	0.50	13,400	Cft
	RD 0+000 To 0+175	1	175	36.00	0.50	3,150	Cft
	Main Bazar Road	1	100	30.00	0.50	1,500	Cft
	Under Tuff Paver						
	RD 0+000 To 0+670	2	670	12.25	0.33	5,419	Cft
	RD 0+000 To 0+175	2	175	12.25	0.33	1,415	Cft
					Total	24,884	Cft
					Total.	**248.84**	**%Cft**
	Prime Coat						
5	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.						
	CP-1 Chowk						
	RD 0+000 To 0+670	2	670	20.00		26,800	Sft
	RD 0+000 To 0+175	1	175	36.00		6,300	Sft
	Main Bazar Road	1	100	30.00		3,000	Sft
					Total	36,100	Sft
					Total.	**361.00**	**%Sft**
	Carpeting						
	AWC						
6	Providing and laying plant premixed bituminous carpet, including compaction and finishing to required camber, grade and density. (2 inch thick) (iv) 4.5% Bitumen						
	CP-1 Chowk						
	RD 0+000 To 0+670	2	670	20.00		26,800	Sft
	RD 0+000 To 0+175	1	175	36.00		6,300	Sft
	Main Bazar Road	1	100	30.00		3,000	Sft

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
CP-1 KALMA CHOWK
CALCULATION OF QUANTITES
ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
					Total	36,100	Sft
					Total.	**361.00**	**%Sft**
	Paint For Traffic Lanes						
7	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.						
	CP-1 Chowk						
	RD 0+000 To 0+670	5	670			3,350	Rft
	RD 0+000 To 0+175	3	175			525	Rft
	Main Bazar Road	2.5	100			250	Rft
					Total.	**4,125**	**Rft**
8	Providing and fixing precast Edge Kerb Stone (4" to 6" thick), of 3500 PSI Compressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc. complete in all respect.						
	b) With Painting						
	(i) 14" high						
	RD 0+000 To 0+670	2	670			1,340	Rft
	RD 0+000 To 0+175	2	175			350	Rft
					Total.	**1,690**	**Rft**
9	Providing and laying road edging of 3" (75 mm) wide and 9" (225 mm) deep brick on end, complete in all respects.						
	RD 0+000 To 0+670	2	670			1,340	Rft
	RD 0+000 To 0+175	2	175			350	Rft
	Main Bazar Road	2	100			200	Rft
					Total.	**1,890**	**Rft**
	Tuff Paver						
10	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)						
	c) 80-mm thick						
	RD 0+000 To 0+670	2	670	12.25		16,415	Sft
	RD 0+000 To 0+175	2	175	12.25		4,288	Sft

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

CP-1 KALMA CHOWK

CALCULATION OF QUANTITES

ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
					Total.	**20,703**	**Sft**
	P.C.C						
11	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):						
	(f) Ratio 1: 2: 4						
	RD 0+000 To 0+670	2	670	0.50	0.33	221	Cft
	RD 0+000 To 0+175	2	175	0.50	0.33	58	Cft
					Total	279	Cft
					Total.	**2.79**	**%Cft**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE

CP-2 JHAKKAR CHOWK

ROADS WORK

2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
	Dismantling				
4/45	Dismantling and removing road metalling.	100Cft	46.38	2,031.75	94,233
N.S	Ploughing and Compaction of Existing road surface upto 6" depth i/c dressing, leveling, supplying and spreading of stone screening (Khaka) and compaction to achieve to 100% maximum ASSHO dry density complete in all respects.	100Cft	139.15	4,883.47	679,535
	Sub Base Course				
18/3/a/ (i) + 1/1	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 and grade to achieve 98% maximum dry density determined according to AASHTO T-180 method-D, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Pit run or bed run gravel from sargodha querry to site, actual compacted depth shall be considered for payment)	100Cft	190.54	19,017.90	3,623,671
	Water Bound Macadam				
18/4/a + 1/1	Providing and laying base course of crushed stone **(Water Bound Macadam)** of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from sargodha querry to site, actual compacted depth shall be considered for payment)	100Cft	308.94	26,489.72	8,183,733

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE
CP-2 JHAKKAR CHOWK
ROADS WORK

r. lo	2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		Prime Coat				
5	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.	100Sft	400.36	2,293.45	918,206
		Carpeting				
		AWC				
5	18/10/a + 1/1	Providing and laying plant premixed bituminous carpet, including compaction and finishing to required camber, grade and density. (2 inch thick) (iv) 4.5% Bitumen	Per inch thickness per 100Sft.	400.36	16,249.00	6,505,450
		Paint For Traffic Lanes				
7	13/36	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.				
		ii) 6" wide	Rft	2,528.00	56.20	142,074
		Kerb Stone				
3	6/52/b	Providing and fixing precast Edge Kerb Stone (4" to 6" thick), of 3500 PSI Compressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc. complete in all respect.				
		b) With Painting				
		(i) 14" high	P.Rft	1,466.00	516.90	757,775
9	18/5	Providing and laying road edging of 3" (75 mm) wide and 9" (225 mm) deep brick on end, complete in all respects.	P.Rft	2,022.00	52.80	106,762
		Tuff Paver				
0	10/41	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)				
		c) 80-mm thick	Sft	32,632.00	194.90	6,359,977

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE
CP-2 JHAKKAR CHOWK
ROADS WORK

Sr. No	2nd Bi-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		P.C.C				
1	6/5	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):				
		(f) Ratio 1: 2: 4	100Cft	3.34	38,178.90	127,518
2	1/1 Rate Analysis	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.	Cft	293.92	104.21	30,629
3	18/25/a	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.				
		(a) G.I Sheet 14 SWG				
		CIRCULAR/TRIANGULAR				
		3 ft size	P. Sft	30.00	948.15	28,445
4	18/27/b	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 PCC 1:2:4 etc, complete in all respect				
		(b) 3 inch diameter	Rft	55.00	1,259.95	69,297
5	13/42/a	Lettering and printing of signage /direction boards/ road delineators of any colour by machine i/c cost of Digital Lettering, Lamination & pasting etc complete in all respect.				
		a) High Intensity Prismatic (HIP) Tape	P. Sft	30.00	1,111.65	33,350
6	N.S	Providing and fixing monument as per drawing and design complete in all respect and approval by the Engineer incharge prior to booking arrived at site. This item includes erection in level/plum all leads & lifts.	Provisional Sum	1.00	1,000,000	1,000,000

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE

CP-2 JHAKKAR CHOWK

ROADS WORK

2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
	P.C.C				
6/5	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):				
	(f) Ratio 1: 2: 4	100Cft	3.34	38,178.90	127,518
1/1 Rate Analysis	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.	Cft	293.92	104.21	30,629
18/25/a	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.				
	(a) G.I Sheet 14 SWG				
	CIRCULAR/TRIANGULAR				
	3 ft size	P. Sft	30.00	948.15	28,445
18/27/b	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 PCC 1:2:4 etc, complete in all respect				
	(b) 3 inch diameter	Rft	55.00	1,259.95	69,297
13/42/a	Lettering and printing of signage /direction boards/ road delineators of any colour by machine i/c cost of Digital Lettering, Lamination & pasting etc complete in all respect.				
	a) High Intensity Prismatic (HIP) Tape	P. Sft	30.00	1,111.65	33,350

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE

CP-2 JHAKKAR CHOWK

ROADS WORK

Sr. No	2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
16	N.S	Supplying, erecting and fixing of frame having size 25mm x 25mm x 3mm as shown in drawings supported/beautified with square pipe of 25mm x 20mm x 3mm and flat strips of 25mm x 3mm as shown in drawing this frame shall be erected of foundation of P.C.C 1:6:12, Brick Work 1:4 c/s mortar, sand filling, R.C.C on top of plank as shown in drawing & as directed by Engineer Incharge. This item includes all kinds of cuttings, bending, welding, leads and lifts.	Provisional Sum	1.00	1,000,000	1,000,000
		Total Amount Rs.				**28,660,651**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE

CP-2 JHAKKAR CHOWK

ROADS WORK

r. o	2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		Total Amount Rs.				**28,660,651**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
CP-2 JHAKKAR CHOWK
CALCULATION OF QUANTITES
ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	Dismantling						
1	Dismantling and removing road metalling.						
	CP-2 Chowk						
	RD 0+000 To 0+278	1	278	20.00	0.17	927	Cft
	RD 0+000 To 0+442	1	442	28.00	0.17	2,063	Cft
	RD 0+000 To 0+291	1	291	34.00	0.17	1,649	Cft
					Total	4,638	Cft
					Total.	**46.38**	**%Cft**
2	Ploughing and Compaction of Existing road surface upto 6" depth i/c dressing, leveling, supplying and spreading of stone screening (Khaka) and compaction to achieve to 100% maximum ASSHO dry density complete in all respects.						
	RD 0+000 To 0+278	1	278	20.00	0.50	2,780	Cft
	RD 0+000 To 0+442	1	442	28.00	0.50	6,188	Cft
	RD 0+000 To 0+291	1	291	34.00	0.50	4,947	Cft
					Total	13,915	Cft
					Total.	**139.15**	**%Cft**
	Sub Base Course						
3	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 and grade to achieve 98% maximum dry density determined according to AASHTO T-180 method-D, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Pit run or bed run gravel from sargodha querry to site, actual compacted depth shall be considered for payment)						
	CP-2 Chowk						
	RD 0+000 To 0+278	1	278	8.00	0.67	1,490	Cft
	RD 0+000 To 0+442	1	442	16.00	0.67	4,738	Cft
	RD 0+000 To 0+291	1	291	10.00	0.67	1,950	Cft
	Under Tuff Paver						
	RD 0+000 To 0+278	2	278	16.00	0.33	2,965	Cft
	RD 0+000 To 0+442	2	442	15.00	0.33	4,420	Cft
	RD 0+000 To 0+291	2	291	18.00	0.33	3,492	Cft
					Total	19,054	Cft
					Total.	**190.54**	**%Cft**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
CP-2 JHAKKAR CHOWK
CALCULATION OF QUANTITES
ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	Water Bound Macadam						
4	Providing and laying base course of crushed stone (Water Bound Macadam) of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from sargodha querry to site, actual compacted depth shall be considered for payment)						
	Crushed stone aggregate from approved quarry						
	CP-2 Chowk						
	RD 0+000 To 0+278	1	278	28.00	0.50	3,892	Cft
	RD 0+000 To 0+442	1	442	44.00	0.50	9,724	Cft
	RD 0+000 To 0+291	1	291	44.00	0.50	6,402	Cft
	Under Tuff Paver						
	RD 0+000 To 0+278	2	278	16.00	0.33	2,965	Cft
	RD 0+000 To 0+442	2	442	15.00	0.33	4,420	Cft
	RD 0+000 To 0+291	2	291	18.00	0.33	3,492	Cft
					Total	30,894	Cft
					Total.	**308.94**	**%Cft**
	Prime Coat						
5	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.						
	CP-2 Chowk						
	RD 0+000 To 0+278	1	278	28.00		7,784	Sft
	RD 0+000 To 0+442	1	442	44.00		19,448	Sft
	RD 0+000 To 0+291	1	291	44.00		12,804	Sft
					Total	40,036	Sft
					Total.	**400.36**	**%Sft**
	AWC						
6	Providing and laying plant premixed bituminous carpet, including compaction and finishing to required camber, grade and density. (2 inch thick) (iv) 4.5% Bitumen						
	CP-2 Chowk						
	RD 0+000 To 0+278		278	28.00		7,784	Sft
	RD 0+000 To 0+442		442	44.00		19,448	Sft
	RD 0+000 To 0+291	1	291	44.00		12,804	Sft

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
CP-2 JHAKKAR CHOWK
CALCULATION OF QUANTITES
ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
					Total	40,036	Sft
					Total.	**400.36**	**%Sft**
	Paint For Traffic Lanes						
7	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.						
	CP-2 Chowk						
	RD 0+000 To 0+278	2.5	278			695	Rft
	RD 0+000 To 0+442	2.5	442			1,105	Rft
	RD 0+000 To 0+291	2.5	291			728	Rft
					Total.	**2,528**	**Rft**
8	Providing and fixing precast Edge Kerb Stone (4" to 6" thick), of 3500 PSI Compressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc. complete in all respect.						
	b) With Painting						
	(i) 14" high						
	RD 0+000 To 0+442	2	442			884	Rft
	RD 0+000 To 0+291	2	291			582	Rft
					Total.	**1,466**	**Rft**
9	Providing and laying road edging of 3" (75 mm) wide and 9" (225 mm) deep brick on end, complete in all respects.						
	RD 0+000 To 0+278	2	278			556	Rft
	RD 0+000 To 0+442	2	442			884	Rft
	RD 0+000 To 0+291	2	291			582	Rft
					Total.	**2,022**	**Rft**
	Tuff Paver						
10	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)						
	c) 80-mm thick						
	RD 0+000 To 0+278	2	278	16.00		8,896	Sft
	RD 0+000 To 0+442	2	442	15.00		13,260	Sft
	RD 0+000 To 0+291	2	291	18.00		10,476	Sft
					Total.	**32,632**	**Sft**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
CP-2 JHAKKAR CHOWK
CALCULATION OF QUANTITES
ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	P.C.C						
11	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):						
	(f) Ratio 1: 2: 4						
	RD 0+000 To 0+278	2	278	0.50	0.33	92	Cft
	RD 0+000 To 0+442	2	442	0.50	0.33	146	Cft
	RD 0+000 To 0+291	2	291	0.50	0.33	96	Cft
					Total	334	Cft
					Total.	**3.34**	**%Cft**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
DETAILED COST ESTIMATE
CP-3 EID GAH CHOWK
ROADS WORK

Sr. No	2nd Bi-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		Borrow Earth				
1	3/5/i + 3/17	Earthwork in ordinary soil for embankment including ploughing and mixing with blade grade or disc harrow or other suitable equipment and compaction by mechanical means at optimum moisture content and dressing to designed section, complete in all respects:- 90% to 95% maximum modified dry density as determined according to AASHTO T-180 method-D including Transportation of earth.	1000Cft	9.83	17,222.30	169,295
		Sub Base Course				
2	18/3/a/ (ii) + 1/1	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 and grade to achieve 98% maximum dry density determined according to AASHTO T-180 method-D, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from sargodha querry to site, actual compacted depth shall be considered for payment)	100Cft	263.56	19,017.90	5,012,358
		Water Bound Macadam				
3	18/4/a + 1/1	Providing and laying base course of crushed stone **(Water Bound Macadam)** of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from sargodha querry to site, actual compacted depth shall be considered for payment)	100Cft	196.69	26,489.72	5,210,262

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
DETAILED COST ESTIMATE
CP-3 EID GAH CHOWK
ROADS WORK

Sr. No	2nd Bi-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
		Kerb Stone				
4	6/52/b	Providing and fixing precast Edge Kerb Stone (4" to 6" thick), of 3500 PSI Compressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc. complete in all respect.				
		b) With Painting				
		(i) 14" high	P.RFt	668.00	516.90	345,289
5	18/5	Providing and laying road edging of 3" (75 mm) wide and 9" (225 mm) deep brick on end, complete in all respects.	P.RFt	2,368.00	52.80	125,030
		Tuff Paver				
6	10/41	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)				
		c) 80-mm thick	Sft	39,338.00	194.90	7,666,976
		P.C.C				
7	6/5	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):				
		(f) Ratio 1: 2: 4	100Cft	3.91	38,178.90	149,279
8	1/1 Rate Analysis	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.	Cft	344.08	104.21	35,856
9	18/25/a	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.				
		(a) G.I Sheet 14 SWG				
		CIRCULAR/TRIANGULAR				
		3 ft size	P. Sft	30.00	948.15	28,445

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
DETAILED COST ESTIMATE
CP-3 EID GAH CHOWK
ROADS WORK

Sr. No	2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Amount (Rs.)
10	18/27/b	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 PCC 1:2:4 etc, complete in all respect				
		(b) 3 inch diameter	Rft	55.00	1,259.95	69,297
11	13/42/a	Lettering and printing of signage /direction boards/ road delineators of any colour by machine i/c cost of Digital Lettering, Lamination & pasting etc complete in all respect.				
		a) High Intensity Prismatic (HIP) Tape	P. Sft	30.00	1,111.65	33,350
12	N.S	Providing and fixing of PVC planks 50mm x 25mm, Wall hanging PVC Planter 300mm x 150mm x 225mm, Fiber Stone Planters 800mm x 300mm x 400mm and Flowers as per drawing and as directed by Engineer Incharge	Provisional Sum	1.00	1,000,000	1,000,000
		Total Amount Rs.				**19,845,437**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
CP-3 EID GAH CHOWK
CALCULATION OF QUANTITES
ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	Borrow Earth						
1	Earthwork in ordinary soil for embankment including ploughing and mixing with blade grade or disc harrow or other suitable equipment and compaction by mechanical means at optimum moisture content and dressing to designed section, complete in all respects:- 90% to 95% maximum modified dry density as determined according to AASHTO T-180 method-D including Transportation of earth.						
	CP-3 Chowk						
	RD 0+000 To 0+334	1	334	44.50	0.25	3,716	Cft
	RD 0+000 To 0+650	1	650	31.50	0.25	5,119	Cft
	Approach Road	1	200	20.00	0.25	1,000	Cft
					Total.	**9.83**	**%oCft**
	Sub Base Course						
2	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 and grade to achieve 98% maximum dry density determined according to AASHTO T-180 method-D, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from sargodha querry to site, actual compacted depth shall be considered for payment)						
	Crushed stone aggregate from approved quarry						
	CP-3 Chowk						
	RD 0+000 To 0+334	1	334	44.50	0.67	9,958	Cft
	RD 0+000 To 0+650	1	650	31.50	0.67	13,718	Cft
	Approach Road	1	200	20.00	0.67	2,680	Cft
					Total	26,356	Cft
					Total.	**263.56**	**%Cft**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
CP-3 EID GAH CHOWK
CALCULATION OF QUANTITES
ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	Water Bound Macadam						
3	Providing and laying base course of crushed stone (Water Bound Macadam) of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from sargodha querry to site, actual compacted depth shall be considered for payment)						
	Crushed stone aggregate from approved quarry						
	CP-3 Chowk						
	RD 0+000 To 0+334	1	334	44.50	0.50	7,432	Cft
	RD 0+000 To 0+650	1	650	31.50	0.50	10,238	Cft
	Approach Road	1	200	20.00	0.50	2,000	Cft
					Total	19,669	Cft
					Total.	**196.69**	**%Cft**
4	Providing and fixing precast Edge Kerb Stone (4" to 6" thick), of 3500 PSI Compressive Strength, embeded in PCC 1:2:4 over lean concrete 1:4:8 etc. complete in all respect.						
	b) With Painting						
	(i) 14" high						
	RD 0+000 To 0+334	2	334			668	Rft
					Total.	**668**	**Rft**
5	Providing and laying road edging of 3" (75 mm) wide and 9" (225 mm) deep brick on end, complete in all respects.						
	RD 0+000 To 0+334	2	334			668	Rft
	RD 0+000 To 0+650	2	650			1,300	Rft
	Approach Road	2	200			400	Rft
					Total.	**2,368**	**Rft**
	Tuff Paver						
6	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)						
	c) 80-mm thick						

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
CP-3 EID GAH CHOWK
CALCULATION OF QUANTITES
ROADS NET WORK

Sr. No	Description	No.	Length	Width	Height	Qty.	Unit.
	RD 0+000 To 0+334	1	334	44.50		14,863	Sft
	RD 0+000 To 0+650	1	650	31.50		20,475	Sft
	Approach Road	1	200	20.00		4,000	Sft
					Total.	**39,338**	**Sft**
	P.C.C						
1	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):						
	(f) Ratio 1: 2: 4						
	RD 0+000 To 0+334	2	334	0.50	0.33	110	Cft
	RD 0+000 To 0+650	2	650	0.50	0.33	215	Cft
	Approach Road	2	200	0.50	0.33	66	Cft
					Total	391	Cft
					Total.	**3.91**	**%Cft**

DRAINAGE SYSTEM

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
DETAILED COST ESTIMATE
CP-1 KALMA CHOWK DRAINAGE SYSTEM

Sr No	2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Amount. Rs.
		Dismantling				
1	4/19/c	c) Dismantling cement concrete 1:2:4 plain.	100Cft	0.26	11,174.60	2,897
		Excavation				
2	3/7/a	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 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	1000Cft	0.96	9,016.70	8,656
		P.C.C				
3	6/5	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):				
		(f) Ratio 1: 2: 4	100Cft	0.26	38,178.90	9,927
4	1/1 Rate Analysis	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.	Cft	22.88	104.21	2,384
		Brick Work				
5	7/7/i	Pacca brick work other than building upto 10ft. (3 m) Cement, sand mortar:- Ratio 1:3	100Cft	0.52	32,796.10	17,002
6	7/10	Extra for pacca brick work in steining of wells or any other circular masonry.	100Cft	0.52	2,683.20	1,391
		Plaster				
7	11/8/b	Cement plaster 1:3 upto 20' (6.00 m) height:-				
		b) ½" (13 mm) thick	100Sft	1.38	3,424.50	4,734

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
DETAILED COST ESTIMATE
CP-1 KALMA CHOWK DRAINAGE SYSTEM

Sr No	2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Amount. Rs.
		Gully Grating Chamber				
8	21/8	Constructing standard gully grating chamber, 3'x2½' (900x750 mm), with chinaware trap as per PHED Drawing STD/PD No. 3 of 1977, complete in all respects.	Each	8.00	16,561.10	132,489
9	7/30	Supplying and filling sand under floor; or plugging in wells.	100Cft	4.80	2,943.30	14,128
		uPVC Pipe				
10	19/47	Providing, fixing, testing and commissioning of µ-PVC (Unplasticized polyvinyl Chloride) Nikasi /waste pipe make of dadex / Popular / Beta/ BBJ plain / socket ended conforming to code EN-1401 of specified SDR (Standard Dimension Ratio) including the cost of specials and Solvents complete in all respect as approved and directed by the Engineer Incharge.				
		Type (SDR 41/SN-4)				
		vi) 6" (160 mm)	Rft	160.00	420.65	67,304
		Manhole Cover				
11	21/16	Providing and fixing 6" thick R.C.C. manhole cover with tee shaped C.I. frame of 22" I/d (frame weighing 37.324 Kg. or one maund as per Standard Drawing STD/PD No. 6, of 1977, complete in all respect.	Set	8.00	15,106.30	120,850
		Manhole Cover				
12	MR	Old/existing Manhole cover and Frame complete set shift to MC store.	Set	8.00	500.00	4,000
		Total Amount (Rs)				**385,762**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
CALCULATION OF QUANTITIES
CP-1 KALMA CHOWK DRAINAGE SYSTEM

Sr. No.	Description	No.	Length	Width	Height	Qty.	Unit.
	Dismantling						
1	c) Dismantling cement concrete 1:2:4 plain.	8	8.64	0.75	0.50	26	Cft
					Total	**0.26**	**%Cft**
	Excavation						
2	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 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						
	uPVC Pipe	8	20.00	2.00	3.00	960	Cft
					Total	**0.96**	**%oCft**
3	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):						
	(f) Ratio 1: 2: 4						
	For Manhole neck	8	8.64	0.75	0.50	26	Cft
					Total	**0.26**	**%Cft**
4	Pacca brick work other than building upto 10ft. (3 m) Cement, sand mortar:- Ratio 1:3						
	For Manhole neck	8	8.64	0.75	1.00	52	Cft
					Total	**0.52**	**%Cft**
5	Extra for pacca brick work in steining of wells or any other circular masonry.				**Total**	**0.52**	**%Cft**
6	Cement plaster 1:3 upto 20' (6.00 m) height:-						
	b) ½" (13 mm) thick	16	8.64		1.00	138	Sft
					Total	**1.38**	**%Sft**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
CALCULATION OF QUANTITIES
CP-1 KALMA CHOWK DRAINAGE SYSTEM

Sr. No.	Description	No.	Length	Width	Height	Qty.	Unit.
7	Constructing standard gully grating chamber, 3'x2½' (900x750 mm), with chinaware trap as per PHED Drawing STD/PD No. 3 of 1977, complete in all respects.	8				**8.00**	**Each**
8	Supplying and filling sand under floor; or plugging in wells.	8	20.00	2.00	1.50	**4.80**	**%Cft**
	uPVC Pipe						
9	Providing, fixing, testing and commissioning of µ-PVC (Unplasticized polyvinyl Chloride) Nikasi /waste pipe make of dadex / Popular / Beta/ BBJ plain / socket ended conforming to code EN-1401 of specified SDR (Standard Dimension Ratio) including the cost of specials and Solvents complete in all respect as approved and directed by the Engineer Incharge.						
	Type (SDR 41/SN-4)						
	vi) 6" (160 mm)	8	20.00			**160**	**Rft**
	Manhole Cover						
10	Providing and fixing 6" thick R.C.C. manhole cover with tee shaped C.I. frame of 22" I/d (frame weighing 37.324 Kg. or one maund as per Standard Drawing STD/PD No. 6, of 1977, complete in all respect.	8				**8.00**	**Set**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
DETAILED COST ESTIMATE
CP-2 JHAKKAR CHOWK DRAINAGE SYSTEM

Sr No	2nd Bi-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Total Amount (Rs.)
		Excavation				
1	3-42	Earthwork excavation in open cutting for sewer as shown in drawings including shuttring and timbring dressing to correct section and dimensions according to template and levels and removing surface water in all type of soil execpt shingle gravel and rock.				
		i) 0 to 7 ft depth	1000 Cft	33.39	11,740.40	392,012
		Backfilling				
2	3-13-a	Rehandling of Earthwork complete in all respects as per specifications and as directed by the Engineer Incharge a) Lead up to a single throw of kassi	1000 Cft	26.71	2,539.70	67,835
		Compaction				
3	3/24/a	Compaction of earthwork (soft, ordinary or hard soil) :- a) Mixing, moistening earth to optimum moisture content in layers for compaction, etc. complete.	1000 Cft	26.71	1,196.35	31,955
		Brick or Stone Ballast				
4	6/2	Dry rammed brick or stone ballast, 1½" to 2"(40 mm to 50 mm) gauge.	100 Cft	58.35	8,891.50	518,819
		Pipe laying				
5	21/4	Providing and laying R.C.C. pipe sewers, moulded with cement concrete 1:1½:3 conforming to ASTM Specification C-76-79, Class III, Wall B, including carriage of pipes from factory to site of work, lowering in trenches to correct alignment and grade, jointing with rubber ring, cutting pipes where necessary, testing, etc. complete:-				
		iii) 460 mm (18") i/d	P Rft	1,500.00	1,225.40	1,838,100
		Gully Grating Chamber				
6	21/8	Constructing standard gully grating chamber, 3'x2½' (900x750 mm), with chinaware trap as per PHED Drawing STD/PD No. 3 of 1977, complete in all respects.	Each	6.00	16,561.10	99,367

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
DETAILED COST ESTIMATE
CP-2 JHAKKAR CHOWK DRAINAGE SYSTEM

2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Total Amount (Rs.)
	Manholes				
Rate Analysis	Construction of circular brick masonary manhole 4.83 ft dia for 15" to 18" dia sewer complete in all respests as shown in drawing and directed by Engineer incharge. The work includes the excavation, backfilling, PCC (1:4:8) for base, PCC (1:2:4) for benching, Brickwork 1:3 c/s mortar with bitumen coating on outer side, Collar of PCC (1:2:4) with all finishing (6" thick RCC manhole cover with tee shaped CI frame of 22" i/d (Frame weighing 37.324 kg or one maund as per Standard Drawing STD/PD No. 6, of 1977). iron steps etc.				
	i) 0 to 5 feet depth	Each	7.00	89,057	623,402
	ii) 0 to 8 feet depth	Each	8.00	117,275	938,198
	Total Amount Rs.				**4,509,688**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
CALCULATION OF QUANTITIES
CP-2 JHAKKAR CHOWK DRAINAGE SYSTEM

Sr. No.	Description	No.	Length	Width	Height	Qty.	Unit.
	Excavation						
1	Earthwork excavation in open cutting for sewer as shown in drawings including shuttring and timbring dressing to correct section and dimensions according to template and levels and removing surface water in all type of soil execpt shingle gravel and rock.						
	i) 0 to 7 ft depth						
	iii) 460 mm (18") i/d	1	1,500	3.71	6.00	33,390	Cft
					Total	33,390	Cft
					Total	**33.39**	**%oCft**
2	Rehandling of Earthwork complete in all respects as per specifications and as directed by the Engineer Incharge a) Lead up to a single throw of kassi				Total	26,712	Cft
					Total	**26.71**	**%oCft**
3	Compaction of earthwork (soft, ordinary or hard soil) :- a) Mixing, moistening earth to optimum moisture content in layers for compaction, etc. complete.						
					Total	**26.71**	**%oCft**
4	Dry rammed brick or stone ballast, 1½" to 2"(40 mm to 50 mm) gauge.						
	iii) 460 mm (18") i/d	1	1,500	1.00	3.89	5,835	Cft
					Total	**58.35**	**%Cft**
	Pipe laying						
5	Providing and laying R.C.C. pipe sewers, moulded with cement concrete 1:1½:3 conforming to ASTM Specification C-76-79, Class III, Wall B, including carriage of pipes from factory to site of work, lowering in trenches to correct alignment and grade, jointing with rubber ring, cutting pipes where necessary, testing, etc. complete:-						
	iii) 460 mm (18") i/d	1	1,500			**1,500**	**P Rft**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
CALCULATION OF QUANTITIES
CP-2 JHAKKAR CHOWK DRAINAGE SYSTEM

Sr. No.	Description	No.	Length	Width	Height	Qty.	Unit.
	Gully Grating Chamber						
6	Constructing standard gully grating chamber, 3'x2½' (900x750 mm), with chinaware trap as per PHED Drawing STD/PD No. 3 of 1977, complete in all respects.	6				**6.00**	**Each**
	Manholes						
7	Construction of circular brick masonary manhole 4.83 ft dia for 15" to 18" dia sewer complete in all respests as shown in drawing and directed by Engineer incharge. The work includes the excavation, backfilling, PCC (1:4:8) for base, PCC (1:2:4) for benching, Brickwork 1:3 c/s mortar with bitumen coating on outer side, Collar of PCC (1:2:4) with all finishing (6" thick RCC manhole cover with tee shaped CI frame of 22" i/d (Frame weighing 37.324 kg or one maund as per Standard Drawing STD/PD No. 6, of 1977). iron steps etc.						
	i) 0 to 5 feet depth	7				**7.00**	**Each**
	ii) 0 to 8 feet depth	8				**8.00**	**Each**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
DETAILED COST ESTIMATE
CP-3 EID GAH CHOWK DRAINAGE SYSTEM

Sr No	2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Amount. Rs.
		Dismantling				
1	4/19/c	c) Dismantling cement concrete 1:2:4 plain.	100Cft	0.49	11,174.60	5,431
		Excavation				
2	3/7/a	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 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	1000Cft	3.12	9,016.70	28,132
		P.C.C				
3	6/5	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):				
		(f) Ratio 1: 2: 4	100Cft	0.49	38,178.90	18,708
4	1/1 Rate Analysis	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.	Cft	43.12	104.21	4,493
		Brick Work				
5	7/7/i	Pacca brick work other than building upto 10ft. (3 m) Cement, sand mortar:- Ratio 1:3	100Cft	0.97	32,796.10	31,880
6	7/10	Extra for pacca brick work in steining of wells or any other circular masonry.	100Cft	0.97	2,683.20	2,608
		Plaster				
7	11/8/b	Cement plaster 1:3 upto 20' (6.00 m) height:-				
		b) ½" (13 mm) thick	100Sft	2.59	3,424.50	8,877
		Gully Grating Chamber				
8	18/23	Constructing standard gully grating chamber, 3'x2½' (900x750 mm), with chinaware trap as per PHED Drawing STD/PD No. 3 of 1977, complete in all respects.	Each	26.00	16,561.10	430,589

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
DETAILED COST ESTIMATE
CP-3 EID GAH CHOWK DRAINAGE SYSTEM

Sr No	2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Quantity	Unit Rate (Rs.)	Amount. Rs.
9	7/30	Supplying and filling sand under floor; or plugging in wells.	100Cft	15.60	2,943.30	45,915
		uPVC Pipe				
0	19/47	Providing, fixing, testing and commissioning of µ-PVC (Unplasticized polyvinyl Chloride) Nikasi /waste pipe make of dadex / Popular / Beta/ BBJ plain / socket ended conforming to code EN-1401 of specified SDR (Standard Dimension Ratio) including the cost of specials and Solvents complete in all respect as approved and directed by the Engineer Incharge.				
		Type (SDR 41/SN-4)				
		vi) 6" (160 mm)	Rft	520.00	420.65	218,738
		Manhole Cover				
1	21/16	Providing and fixing 6" thick R.C.C. manhole cover with tee shaped C.I. frame of 22" I/d (frame weighing 37.324 Kg. or one maund as per Standard Drawing STD/PD No. 6, of 1977, complete in all respect.	Set	26.00	15,106.30	392,764
		Manhole Cover				
2	MR	Old/existing Manhole cover and Frame complete set shift to MC store.	Set	26.00	500.00	13,000
		Total Amount (Rs)				**1,201,135**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
CALCULATION OF QUANTITIES
CP-3 EID GAH CHOWK DRAINAGE SYSTEM

Sr. No.	Description	No.	Length	Width	Height	Qty.	Unit.
	Dismantling						
1	c) Dismantling cement concrete 1:2:4 plain.	15	8.64	0.75	0.50	49	Cft
					Total	**0.49**	**%Cft**
	Excavation						
2	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 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						
	uPVC Pipe	26	20.00	2.00	3.00	3,120	Cft
					Total	**3.12**	**%oCft**
	P.C.C						
3	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate):						
	(f) Ratio 1: 2: 4						
	For Manhole neck	15	8.64	0.75	0.50	49	Cft
					Total	**0.49**	**%Cft**
	Brick Work						
4	Pacca brick work other than building upto 10ft. (3 m) Cement, sand mortar:- Ratio 1:3						
	For Manhole neck	15	8.64	0.75	1.00	97	Cft
					Total	**0.97**	**%Cft**
5	Extra for pacca brick work in steining of wells or any other circular masonry.				**Total**	**0.97**	**%Cft**
	Plaster						
6	Cement plaster 1:3 upto 20' (6.00 m) height:-						
	b) ½" (13 mm) thick	30	8.64		1.00	259	Sft
					Total	**2.59**	**%Sft**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
CALCULATION OF QUANTITIES
CP-3 EID GAH CHOWK DRAINAGE SYSTEM

Sr. No.	Description	No.	Length	Width	Height	Qty.	Unit.
7	Constructing standard gully grating chamber, 3'x2½' (900x750 mm), with chinaware trap as per PHED Drawing STD/PD No. 3 of 1977, complete in all respects.	26				**26.00**	**Each**
8	Supplying and filling sand under floor; or plugging in wells.	26	20.00	2.00	1.50	**15.60**	**%Cft**
	uPVC Pipe						
9	Providing, fixing, testing and commissioning of µ-PVC (Unplasticized polyvinyl Chloride) Nikasi /waste pipe make of dadex / Popular / Beta/ BBJ plain / socket ended conforming to code EN-1401 of specified SDR (Standard Dimension Ratio) including the cost of specials and Solvents complete in all respect as approved and directed by the Engineer Incharge.						
	Type (SDR 41/SN-4)						
	vi) 6" (160 mm)	26	20.00			**520**	**Rft**
	Manhole Cover						
10	Providing and fixing 6" thick R.C.C. manhole cover with tee shaped C.I. frame of 22" I/d (frame weighing 37.324 Kg. or one maund as per Standard Drawing STD/PD No. 6, of 1977, complete in all respect.	26				**26**	**Set**

ELECTRICAL WORKS

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

INFRASTRUCTURE WORK

MC KAMALIA

DETAILED COST ESTIMATE

SUMMARY

Sr. No.	Description	Amount (Rs.)
3	**ELECTRICAL WORKS**	
3.1	CHOWK-CP-01	3,342,268
3.2	CHOWK-CP-02	2,565,838
3.3	CHOWK-CP-03	1,719,693
	3) Total Amount. Rs.	**7,627,799**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE
ELECTRICAL WORKS CP-01

MRS 2nd, 2022	Description	Unit.	Quantity	Rate (Rs.)	Amount (Rs.)
	Scheduled Items (A)				
	Excavation				
3/21	Excavation in foundation of building, bridges and other structures, including dagbelling, dressing, refilling around structure with excavated earth, watering and ramming lead upto one chain (30 m) and lift upto 5 ft. (1.5 m)				
	a) By Manual				
	ii) in ordinary soil.	%oCft	2.11	10,677.75	22,509
	RCC Foundation for Poles				
6/6	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)	Cft	108.00	457.75	49,437
1/1 Rate Analysis	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.	Cft	95.04	104.21	9,904
	Steel Work				
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):-				
	(b) Deformed bars (Grade-40)	100Kg	2.70	31,394.70	84,766

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE
ELECTRICAL WORKS CP-01

MRS 2nd, 2022	Description	Unit.	Quantity	Rate (Rs.)	Amount (Rs.)
C-24/10a.iii	Supply and erection of single core PVC insulated copper conductor cables, in prelaid PVC pipe/M.S. conduit/G.I pipe/wooden strip batten/wooden casing an capping/G.I. wire/trenches (rate for cables only). (7.029)	Rft.	400.00	40.75	16,300
24/6	Supply and erection PVC pipe for recessed wiring (main and sub-main) purpose, including bends, specials, etc. in floor, wall or trenches:-				
	i) 50 mm i/d	Rft	1,000.00	185.85	185,850
24/12	Supply and erection of single core PVC insulated, PVC sheathed copper conductor, 660/1100 volts grade cable, in prelaid G.I. pipe/M.S. conduits/PVC pipe/G.I. wire/trenches, etc (rate for cable only):-				
	ii) 6 mm sq (7/0.044")	Rft	200.00	117.70	23,540
	iv) 16 mm sq (7/0.064")	Rft	100.00	173.95	17,395
24/13	Supply and erection of copper conductor cables for service connection, in prelaid pipe/G.I. wire / trenches, etc. (rate for cable only):-				
	a) PVC insulated, PVC sheathed twin core, 250/440 volts.				
	v) 7/1.12 mm (7/0.044")	Rft	1,000.00	160.20	160,200
	vi) 7/1.63 mm (7/0.064")	Rft	200.00	306.30	61,260
C-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 ,tappered from 225 mm at bottom to 100 mm at top,with 1500 mmx60 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 prelaid concrete foundation, foundation will be paid additionally as approved and directed by the Engineer Incharge.				
	a) Single Arm				
	(i) 10 mtr height	Each	3.00	106,229.10	318,687
	b) Double Arm				
	(i) 10 mtr height	Each	6.00	109,871.10	659,227

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE
ELECTRICAL WORKS CP-01

	MRS 2nd, 2022	Description	Unit.	Quantity	Rate (Rs.)	Amount (Rs.)
)	24/69/c	Supplying, installation and commissioning of LED Cobra-head Luminaries of specified wattage and lumens conformimg 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.				
		c) 120 Lm/Watt				
		(vi) 120 Watt with 14400 Lumens	Each	15.00	51,675.00	775,125
	24/77	Supply and erection of electric energy meter, including meter testing fee, etc.				
		a) single phase:				
		ii) 1x30 Amp, 250 volts	Each	1.00	3,940.50	3,941
	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	1.00	9,592.65	9,593
		Sub Total Scheduled Items: (A)				**2,397,732**
n Schedule		**Part-B**				
		Fabrication, Supply of following Light control panels (LCP), floor standing weather proof, IP 65 Rated of appropriate size, made of MS Sheet 16 SWG with hinged door, handle, catcher, 2 coats of antirust and powder coated paint of approved colour, AC3 megnatic contactor, photocell for automatic operation of lights, CBs, Hand/Off/Auto switch, push button and all necessary accessories complete in all respects. LCP shall be manufactured as per specifications, single line diagram complete in all respect up to the satisfaction of Engineer incharge.				
	(b)	Same as above but single phase DB.as per SLD	No.	1.00	244,536	244,536

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE

ELECTRICAL WORKS CP-01

	MRS 2nd, 2022	Description	Unit.	Quantity	Rate (Rs.)	Amount (Rs.)
4	N.S	Shifting of 4 Nos. FESCO Electrical Poles	Job			600,000
5	N.S	Electric Connection Charges	Each	1.00	100,000	100,000
		Total Cost (Part B)			**Rs.**	**944,536**
		Grand Total (Part A + Part B)			**Rs.**	**3,342,268**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE
ELECTRICAL WORKS CP-02

MRS 2nd, 2022	Description	Unit.	Quantity	Rate (Rs.)	Amount (Rs.)
	Scheduled Items (A)				
	Excavation				
3/21	Excavation in foundation of building, bridges and other structures, including dagbelling, dressing, refilling around structure with excavated earth, watering and ramming lead upto one chain (30 m) and lift upto 5 ft. (1.5 m)				
	a) By Manual				
	ii) in ordinary soil.	%oCft	2.66	10,677.75	28,403
	RCC Foundation for Poles				
6/6	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)	Cft	60.00	457.75	27,465
1/1 Rate Analysis	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.	Cft	52.80	104.21	5,502
	Steel Work				
6/11/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):-				
	(b) Deformed bars (Grade-40)	100Kg	1.50	31,394.70	47,092

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE
ELECTRICAL WORKS CP-02

MRS 2nd, 2022	Description	Unit.	Quantity	Rate (Rs.)	Amount (Rs.)
C-24/10a.iii	Supply and erection of single core PVC insulated copper conductor cables, in prelaid PVC pipe/M.S. conduit/G.I pipe/wooden strip batten/wooden casing an capping/G.I. wire/trenches (rate for cables only). (7.029)	Rft.	400.00	40.75	16,300
24/6	Supply and erection PVC pipe for recessed wiring (main and sub-main) purpose, including bends, specials, etc. in floor, wall or trenches:-				
	i) 50 mm i/d	Rft	1,300.00	185.85	241,605
24/12	Supply and erection of single core PVC insulated, PVC sheathed copper conductor, 660/1100 volts grade cable, in prelaid G.I. pipe/M.S. conduits/PVC pipe/G.I. wire/trenches, etc (rate for cable only):-				
	ii) 6 mm sq (7/0.044")	Rft	400.00	117.70	47,080
	iv) 16 mm sq (7/0.064")	Rft	200.00	173.95	34,790
24/13	Supply and erection of copper conductor cables for service connection, in prelaid pipe/G.I. wire / trenches, etc. (rate for cable only):-				
	a) PVC insulated, PVC sheathed twin core, 250/440 volts.				
	v) 7/1.12 mm (7/0.044")	Rft	1,300.00	160.20	208,260
	vi) 7/1.63 mm (7/0.064")	Rft	400.00	306.30	122,520
C-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 ,tappered from 225 mm at bottom to 100 mm at top,with 1500 mmx60 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 prelaid concrete foundation, foundation will be paid additionally as approved and directed by the Engineer Incharge.				
	a) Single Arm	Each	1.00	106,229.10	106,229
	(i) 10 mtr height				
	b) Double Arm	Each	4.00	109,871.10	439,484
	(i) 10 mtr height				

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

DETAILED COST ESTIMATE
ELECTRICAL WORKS CP-02

r. o.	MRS 2nd, 2022	Description	Unit.	Quantity	Rate (Rs.)	Amount (Rs.)
0	24/69/c	Supplying, installation and commissioning of LED Cobra-head Luminaries of specified wattage and lumens conformimg 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.				
		c) 120 Lm/Watt				
		(vi) 120 Watt with 14400 Lumens	Each	9.00	51,675.00	465,075
	24/77	Supply and erection of electric energy meter, including meter testing fee, etc.				
		a) single phase:				
		ii) 1x30 Amp, 250 volts	Each	1.00	3,940.50	3,941
2	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	6.00	9,592.65	57,556
		Sub Total Scheduled Items: (A)				**1,851,302**
on Schedule		**Part-B**				
3		Supplying, installation and commissioning of LED flood light 150 Watt of specified wattage and lumens conformimg to IP 65, Philips / AVADA/ NVC 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.	Nos.	4.00	55,000	220,000

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
DETAILED COST ESTIMATE
ELECTRICAL WORKS (CP-02)

	MRS 2nd, 2022	Description	Unit.	Quantity	Rate (Rs.)	Amount (Rs.)
		Fabrication, Supply of following Light control panels (LCP), floor standing weather proof, IP 65 Rated of appropriate size, made of MS Sheet 16 SWG with hinged door, handle, catcher, 2 coats of antirust and powder coated paint of approved colour, AC3 megnatic contactor, photocell for automatic operation of lights, CBs, Hand /Off / Auto switch, push button and all necessary accessories complete in all respects. LCP shall be manufactured as per specifications, single line diagram complete in all respect up to the satisfaction of Engineer incharge.				
	(b)	Same as above but single phase DB as per SLD	No	1.00	244,536	244,536
	N.S	Shifting of 1 Nos. FESCO Electrical Poles	Job			150,000
	N.S	Electric Connection Charges	Each	1.00	100,000	100,000
		Total Cost (Part B)			**Rs.**	**714,536**
		Grand Total (Part A + Part B)			**Rs.**	**2,565,838**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
DETAILED COST ESTIMATE
ELECTRICAL WORKS CP-03

Sr. No.	MRS 2nd, 2022	Description	Unit.	Quantity	Rate (Rs.)	Amount (Rs.)
		Scheduled Items (A)				
		Excavation				
	3/21	Excavation in foundation of building, bridges and other structures, including dagbelling, dressing, refilling around structure with excavated earth, watering and ramming lead upto one chain (30 m) and lift upto 5 ft. (1.5 m)				
		a) By Manual				
		ii) in ordinary soil.	%oCft	1.55	10,677.75	16,529
		RCC Foundation for Poles				
	6/6	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)	Cft	48.00	513.65	24,655
	1/1 Rate Analysis	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.	Cft	42.24	104.21	4,402
		Steel Work				
	6/11/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):-				
		(b) Deformed bars (Grade-40)	100Kg	1.20	31,394.70	37,674

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
DETAILED COST ESTIMATE
ELECTRICAL WORKS CP-03

MRS 2nd. 2022	Description	Unit.	Quantity	Rate (Rs.)	Amount (Rs.)
C-24/10a.iii	Supply and erection of single core PVC insulated copper conductor cables, in prelaid PVC pipe/M.S. conduit/G.I pipe/wooden strip batten/wooden casing an capping/G.I. wire/trenches (rate for cables only). (7.029)	Rft.	180.00	40.75	7,335
24/6	Supply and erection PVC pipe for recessed wiring (main and sub-main) purpose, including bends, specials, etc. in floor, wall or trenches:-				
	i) 50 mm i/d	Rft	750.00	185.85	139,388
24/12	Supply and erection of single core PVC insulated, PVC sheathed copper conductor, 660/1100 volts grade cable, in prelaid G.I. pipe/M.S. conduits/PVC pipe/G.I. wire/trenches, etc (rate for cable only):-				
	ii) 6 mm sq (7/0.044")	Rft	100.00	117.70	11,770
	iv) 16 mm sq (7/0.064")	Rft	50.00	173.95	8,698
24/13	Supply and erection of copper conductor cables for service connection, in prelaid pipe/G.I. wire / trenches, etc. (rate for cable only):-				
	a) PVC insulated, PVC sheathed twin core, 250/440 volts.				
	v) 7/1.12 mm (7/0.044")	Rft	750.00	160.20	120,150
	vi) 7/1.63 mm (7/0.064")	Rft	100.00	306.30	30,630
C-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 ,tappered from 225 mm at bottom to 100 mm at top,with 1500 mmx60 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 prelaid concrete foundation, foundation will be paid additionally as approved and directed by the Engineer Incharge.				
	a) Single Arm				
	(i) 10 mtr height	Each	4.00	106,229.10	424,916

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
DETAILED COST ESTIMATE
ELECTRICAL WORKS CP-03

Sr. No.	MRS 2nd, 2022	Description	Unit.	Quantity	Rate (Rs.)	Amount (Rs.)
10	24/69/c	Supplying, installation and commissioning of LED Cobra-head Luminaries of specified wattage and lumens conformimg 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.				
		c) 120 Lm/Watt				
		(vi) 120 Watt with 14400 Lumens	Each	4.00	51,675.00	206,700
1	24/77	Supply and erection of electric energy meter, including meter testing fee, etc.				
		a) single phase:				
		ii) 1x30 Amp, 250 volts	Each	1.00	3,940.50	3,941
2	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	4.00	9,592.65	38,371
		Sub Total Scheduled Items: (A)				**1,075,157**
Ion Schedule		**Part-B**				
3	(b)	Fabrication, Supply of following Light control panels (LCP), floor standing weather proof, IP 65 Rated of appropriate size, made of MS Sheet 16 SWG with hinged door, handle, catcher, 2 coats of antirust and powder coated paint of approved colour, AC3 megnatic contactor, photocell for automatic operation of lights, CBs, Hand/Off/Auto switch, push button and all necessary accessories complete in all respects. LCP shall be manufactured as per specifications, single line diagram complete in all respect up to the satisfaction of Engineer incharge. Same as above but single phase DB.as per SLD	No.	1.00	244,536	244,536
4	N.S	Shifting of 2 Nos. FESCO Electrical Poles	Job			300,000
5	N.S	Electric Connection Charges	Each	1.00	100,000	100,000
		Total Cost (Part B)			**Rs.**	**644,536**
		Grand Total (Part A + Part B)			**Rs.**	**1,719,693**

ENVIRONMENTAL HEALTH SAFETY BUDGET

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
DETAILED COST ESTIMATE
ENVIRONMENTAL HEALTH SAFETY BUDGET

Sr No	Description	Unit	Quantity	Unit Rate (Rs.)	Amount Rs.
	Labor Safety				
1	Face Masks (3 PLY)	Nos	25.00	500.00	12,500
2	Safety Gum Shoes	Nos	20.00	1,000.00	20,000
3	Hand Gloves	Nos	20.00	1,000.00	20,000
4	First Aid Box (Including essential Medicine)	Nos	3.00	5,000.00	15,000
5	Safety Hard Helmets MSA	Nos	20.00	2,000.00	40,000
6	Safety Goggles	Nos	20.00	500.00	10,000
7	Reflective Safety Vests	Nos	20.00	500.00	10,000
8	Infrared Thermometer (Benetech GM-2200 OR equivalent)	Nos	1.00	45,000.00	45,000
				Sub Total	**172,500**
	Working Site Safety				
1	Reflective Safety Signs Boards	Nos	10.00	10,000.00	100,000
2	Reflective Safety PVC Cones (18 inch)	Nos	15.00	1,200.00	18,000
3	Road Guiding Portable Delineators with Chain	Nos	15.00	2,500.00	37,500
4	Reflective Safety Barricading Tape	Nos	30.00	1,500.00	45,000
5	Emergency Portable Light	Nos	3.00	5,000.00	15,000
6	Solid Waste Collection Drums	Nos	3.00	5,000.00	15,000
7	Fire Extinguishers DCP	Nos	3.00	5,000.00	15,000
				Sub Total	**245,500**
	Others				
1	Pole Hanging Waste Bins	Nos.	6.00	10,000	60,000
2	Water Sprinkling (Dust Abatement)		1.00	150,000	150,000
3	Roadside Plantation		1.00	70,000	70,000
4	Environmental Analytical Assessments (Ambient Air Quality Testing, Noise Testing, Vehicular Emissions Testing/Generators, Surface Water & Ground Water Testing)		1.00	150,000	150,000
5	Hiring of Environmentalist (03 Months Budget)		1.00	250,000	250,000
				Sub Total	**680,000**
	Total Amount (Rs)				**1,098,000**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

EARTH WORK LEAD CHART

Rate Analysis Road- 1

Sr. No.	2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	Lead	Unit.	Qty	Rate (Rs)	Amount (Rs)
1	3/5/i	Earthowrk in ordinary soil for embankments lead upto 100 ft. (30 m), including ploughing and mixing with blade grade or disc harrow or other suitable equipment, and compaction by mechanical means at optimum moisture content and dressing to designed section, complete in all respects:-					
		i) 95% to 100% maximum modified AASHO dry density.	1	1000Cft	1	9,527.90	9,527.90
2	3/17a.b.c	**Carriage**					
		upto ¼ mile (400 m).	1	1000 Cft	1	4,248.00	4,248.00
		for every 330 ft. (100 m) additional lead or part thereof, beyond ¼ mile (400 m) upto one mile. (1.6 Km.)	12	1000 Cft	1	47.50	570.00
		for every ¼ mile (400 m) additional lead or part thereof, beyond one mile (1.6 Km.) upto 5 mile (8 Km).	8.5	1000 Cft	1	338.40	2,876.40
		for every ½ mile (800 m) additional lead or part thereof, beyond 5 miles (8 Km).	0	1000 Cft	1	320.35	-
		Total Amount 1,000 (Rs.).					**17,222.30**
		Total Amount Per Cft					**17.22**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

Rate Analysis Road- 2

Description

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 and grade to achieve 98% maximum dry density determined according to AASHTO T-180 method-D, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Pit run or bed run gravel from sargodha querry to site, actual compacted depth shall be considered for payment)

Crush Stone

173 Km

Sr. No.	2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Lead (Km)	Qty	Rate (Rs)	Amount (Rs)
1		**Material**					
	18-3 a(i)	Pit run or bed run gravel.	100 Cft	1	1	6,513.00	6,513.00
2		**Carriage**					
		1st KM	100 Cft	1	1.2	299.40	359.28
		2nd KM	100 Cft	1	1.2	145.25	174.30
		3rd KM	100 Cft	1	1.2	116.85	140.22
		4th KM	100 Cft	1	1.2	85.30	102.36
		5th KM	100 Cft	1	1.2	80.20	96.24
	1/1	6th KM	100 Cft	1	1.2	79.00	94.80
		7th KM	100 Cft	1	1.2	74.25	89.10
		8th KM	100 Cft	1	1.2	73.50	88.20
		9th KM	100 Cft	1	1.2	69.55	83.46
		10th KM	100 Cft	1	1.2	65.70	78.84
		From 11 km to 200 km	100 Cft	163.00	1.2	57.25	11,198.10
		Total.					**19,017.90**
		Total Amount per 100 Cft					**19,017.90**
		Total Cost for Per Cft					**190.18**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

Rate Analysis Road - 3

Providing and laying base course of crushed stone (Water Bound Macadam) of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from sargodha querry to site, actual compacted depth shall be considered for payment)

173 Km

Sr. No.	2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Lead (Km)	Qty	Rate (Rs)	Amount (Rs.)
1	18/4(a)	Providing and laying base course of crushed stone (Water Bound Macadam) of approved quality and grade including, placing, mixing, spreading and compaction of base course material to required depth, camber and grade to achieve 100% maximum modified AASHTO dry density, including carriage of all material to site of work complete in all respect as per specifications and as directed by the engineer incharge. (Crushed stone aggregate from sargodha querry to site, actual compacted depth shall be considered for payment)	100 Cft		1.00	13,776.40	13,776.40
2	1/1	Carriage of 100 cft of all materials like stone aggregate spawl kanker lime surkhi etc or 150 cft of timber by truck or by any other means owned by the contratcor.					
		1st KM	100 Cft	1	1.22	299.40	365.27
		2nd KM	100 Cft	1	1.22	145.25	177.21
		3rd KM	100 Cft	1	1.22	116.85	142.56
		4th KM	100 Cft	1	1.22	85.30	104.07
		5th KM	100 Cft	1	1.22	80.20	97.84
		6th KM	100 Cft	1	1.22	79.00	96.38
		7th KM	100 Cft	1	1.22	74.25	90.59
		8th KM	100 Cft	1	1.22	73.50	89.67
		9th KM	100 Cft	1	1.22	69.55	84.85
		10th KM	100 Cft	1	1.22	65.70	80.15
		From 11 km to 200 km	100 Cft	163.00	1.22	57.25	11,384.74
		Total.					**26,489.72**
		Total Amount per 100 Cft					**26,489.72**
		Total Cost for Per Cft					**264.90**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

Rate Analysis Road- 4

Description

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.

173 Km

Sr. No.	2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Lead (Km)	Rate (Rs)	Amount (Rs)
1	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.				
		1st KM	100 Cft	1	299.40	299.40
		2nd KM	100 Cft	1	145.25	145.25
		3rd KM	100 Cft	1	116.85	116.85
		4th KM	100 Cft	1	85.30	85.30
		5th KM	100 Cft	1	80.20	80.20
		6th KM	100 Cft	1	79.00	79.00
		7th KM	100 Cft	1	74.25	74.25
		8th KM	100 Cft	1	73.50	73.50
		9th KM	100 Cft	1	69.55	69.55
		10th KM	100 Cft	1	65.70	65.70
		From 11 km to 200 km	100 Cft	163	57.25	9,331.75
		Total.				**10,420.75**
		Total Amount per 100 Cft				**10,420.75**
		Total Cost for Per Cft				**104.21**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
Rate Analysis Road - 5

viding and laying plant premixed bituminous carpet, including compaction and finishing to required camber, grade density. (2 inch thick)
4.50% Bitumen

2nd Bi-Annual-2022 (July to Dec) Toba Tek Singh	Description	Unit	Lead (Km)	Qty	Rate (Rs)	173 Km Amount (Rs.)
18/10/a	Providing and laying plant premixed bituminous carpet, including compaction and finishing to required camber, grade and density. (2 inch thick) (iv) 4.50% Bitumen	Per inch thickness per 100Sft.		1.00	14,953.70	14,953.70
1/1	Carriage of 100 cft of all materials like stone aggregate spawl kanker lime surkhi etc or 150 cft of timber by truck or by any other means owned by the contratcor.					
	1st KM	100 Cft	1	0.1243	299.40	37.22
	2nd KM	100 Cft	1	0.1243	145.25	18.05
	3rd KM	100 Cft	1	0.1243	116.85	14.52
	4th KM	100 Cft	1	0.1243	85.30	10.60
	5th KM	100 Cft	1	0.1243	80.20	9.97
	6th KM	100 Cft	1	0.1243	79.00	9.82
	7th KM	100 Cft	1	0.1243	74.25	9.23
	8th KM	100 Cft	1	0.1243	73.50	9.14
	9th KM	100 Cft	1	0.1243	69.55	8.65
	10th KM	100 Cft	1	0.1243	65.70	8.17
	From 11 km to 200 km	100 Cft	163.00	0.1243	57.25	1,159.94
	Total.					**16,249.00**
	Total Amount per 100 Sft					**16,249.00**
	Total Cost for Per Sft					**162.49**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

Rate Analysis Road - 6

Ploughing and Compaction of Existing road surface upto 6" depth i/c dressing, leveling, supplying and spreading of stone screening (Khaka) and compaction to achieve to 100% maximum ASSHO dry density complete in all respects.

MRS 2nd Bi-Annual Jan 2022 to Jun 2022

Taking = 100Cft | **Unit rate =Per 100 Cft**

Sr. No.	Details	Qty	Unit	Rate (Rs)	Amount (Rs)
A	Material				
1	Ploughing with tractor up to 6" depth for 100 Cft (Input Rate EQ-18)	1	P.Hour	858.00	858.00
2	Cost of Stone Screening (Khaka) at quarry for 100 Cft = (Input Rate 18.005)	17	%Cft	3,979.00	676.43
3	Labour charges for spreading of Khaka dressing and levelling etc skilled 2 No's for 1.5 Hours (Input Rate lb-024)		P.Day	1,250.00	468.75
4	Compaction of existing road surface with 12 to roller and watering etc. for 100Cft (Input Rate EQ-05)	0.75	P.Hour	3,660.00	2,745.00
				Total	**4,748.18**
				Add 20% Contractor Profit on Item No.2	135.29
				Composite Rate Per 100Cft	**4,883.47**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
Rate Analysis Road - 7

Manhole Construction 4.83' dia
Internal dia of manhole = 4.83 ft

								Unit	Each
								Depth upto	0 to 5 ft
Sr. No.	2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	No.	Length	Width	Height	Qty	Unit	Rate (Rs)	Amount (Rs)
1		Excavation.								
	3-42-i	(0 to 7 feet depth)	1	3.142	17.35	6.00	327.03	1000 Cft	11,740.40	3,839.46
2	6-3-b	Cement concrete brick or stone ballast (1:4:8)	1	3.142	17.35	0.50	27.25	100 Cft	24,796.45	6,757.65
3	6-5-f	Benching 1:2:4 (1/3" Dia)	1	3.142	5.83	2.25	41.23	100 Cft	38,178.90	15,741.51
		Base slab	1	3.142	13.43	0.50	21.10	100 Cft	38,178.90	8,056.52
4	6-6-(a)(iii)	Top ring Beam Ratio 1:2:4	1	8.641	0.75	0.50	3.24	100 Cft	457.75	1,483.20
5	6/12 (c)	Steel work		3.00 kg per cft			11.34	kg	31,784.50	3,604.57
6	7-7-i	Brick Work Ratio 1:3								
		Step - 1	1	17.53	0.75	5.00	65.75	100 Cft	32,796.10	21,562.24
7	7-10	Brick work in steining								
		Step - 1	1	17.53	0.75	5.00	65.75	100 Cft	2,683.20	1,764.11
8	11-8-c	3/4" thick Plaster Ratio 1:3 (External)	1	19.89		5.00	99.44	100 Sft	4,589.85	4,564.34
9	11-18-a	Cement pointing struck joints, on walls (1:2) (Internal)	1	15.18		5.00	75.88	100 Sft	3,518.35	2,669.70
10	13-9-i	Bitumen Coating on External Plaster	1	19.89		5.00	99.44	100 Sft	2,148.00	2,136.06
11	21-16	R.C.C. manhole over with C.I. frame of 22" I/d					1.00	Each	15,106.30	15,106.30
12	21-13	Angle iron step, in manhole chambers					3.00	No.	590.60	1,771.80
								Grand Total.		**89,057**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB
Rate Analysis Road - 8

Manhole Construction 4.83' dia
Internal dia of manhole = 4.83 ft

Unit: Each
Depth upto: 0 to 8 ft

Sr. No.	2nd BI-Annual-2022 (July to Dec) Toba Tek Singh	Description	No.	Length	Width	Height	Qty	Unit	Rate (Rs)	Amount (Rs)
1	3-42-i	Excavation. (0 to 7 feet depth)	1	3.142	20.61	7.00	453.33	1000 Cft	11,740.40	5,322.29
2	6-3-b	Cement concrete brick or stone ballast (1:4:8)	1	3.142	20.61	0.50	32.38	100 Cft	24,796.45	8,029.29
3	6-5-f	Benching 1:2:4 (1/3" Dia)	1	3.142	5.83	2.25	41.23	100 Cft	38,178.90	15,741.51
		Base slab	1	3.142	13.43	0.50	21.10	100 Cft	38,178.90	8,056.52
4	6-6-(a)(iii)	Top ring Beam Ratio 1:2:4	1	8.641	0.75	0.50	3.24	100 Cft	457.75	1,483.20
5	6/9 (c)	Steel work		3.00 kg per cft			11.34	kg	31,784.50	3,604.57
6	7-7-i	Brick Work Ratio 1:3								
		Step - 1	1	18.71	1.13	1.00	21.05	100 Cft	32,796.10	6,903.39
		Step - 2	1	17.53	0.75	7.00	92.04	100 Cft	32,796.10	30,187.13
7	7-10	Brick work in steining								
		Step - 1	1	18.71	1.13	1.00	21.05	100 Cft	2,683.20	564.80
		Step - 2	1	17.53	0.75	7.00	92.04	100 Cft	2,683.20	2,469.75
8	11-8-c	3/4" thick Plaster Ratio 1:3 (External)	1	22.25		8.00	177.96	100 Sft	4,589.85	8,168.23
9	11-18-a	Cement pointing struck joints, on walls (1:2) (Internal)	1	15.18		8.00	121.41	100 Sft	3,518.35	4,271.52
10	13-9-i	Bitumen Coating on External Plaster	1	22.25		8.00	177.96	100 Sft	2,148.00	3,822.64
11	21-16	R.C.C. manhole over with C.I. frame of 22" I/d					1.00	Each	15,106.30	15,106.30
12	21-13	Angle iron step, in manhole chambers					6.00	No.	590.60	3,543.60
								Grand Total.		**117,275**

PUNJAB CITIES PROGRAM (PCP)
DETAILED DESIGN OF INFRASTRUCTURE SUB-PROJECTS AND RESIDENTS SUPERVISION IN 16 CITIES OF PUNJAB

Rate Analysis Road - 9

Description

Fabrication, Supply, testing and commissioning of following Light control panels (LCP), floor standing weather proof, IP 65 Rated of appropriate size, made of MS Sheet 16 SWG with hinged door, handle, catcher, 2 coats of antirust and powder coated paint of approved colour, AC3 megnatic contactor, photocell for automatic operation of lights, CBs, Hand/Off/Auto switch, push button and all necessary accessories complete in all respects. LCP shall be manufactured as per specifications, single line diagram complete in all respect up to the satisfaction of Engineer incharge.

LCP — **Unit.** **Each**

Sr. No.	Ref Input Rate	Detail	Unit Rate (British System) per Each			
			Qty	Rate Per Unit		Amount (Rs.)
1	MR	LCP	1.00 No	203,780	No.	203,780
					Total	**203,780**
		Contractor's Profit	20 %			40,756
		Total				**244,536**
		ITEM RATES				
		Composite rate Set			Rs.	**244,536**

Annexure-C

Project Economic Analysis

TABLE - 9.1
AVERAGE OPERATING SPEEDS

Km/Hr

WITHOUT PROJECT CONDITION

Years	Cars/Jeeps	Hiace Wagon/ Pickup	Coaster/ Mini Buses	Buses	Trucks 2-AXLE	Trucks 3-AXLE & 4-AXLE	Trucks 5-AXLE & 6-AXLE
Base Year(2022)	25	20	20	15	15	15	15
2029	20	15	15	10	10	10	10
2037	15	10	10	10	10	10	10

WITH PROJECT CONDITION

Years	Cars/Jeeps	Hiace Wagon/ Pickup	Coaster/ Mini Buses	Buses	Trucks 2-AXLE	Trucks 3-AXLE & 4-AXLE	Trucks 5-AXLE & 6-AXLE
Base Year(2022)	40	40	40	40	40	40	40
2029	35	35	35	35	35	35	35
2037	30	30	30	30	30	30	30

TABLE - 9.3
VEHICLE OPERATING COSTS
FOR POOR ROAD CONDITIONS
WITHOUT PROJECT

Rs/Km

SPEEDS	MOTOR CYCLE	RICKSHAW	CAR	WAGON	MINI-BUS	BUS	TRUCK 2-AXLE	TRUCK 3-AXLE & 4-AXLE	TRUCK 5-AXLE & 6-AXLE
10	4.94	6.86	56.39	57.04	68.24	97.79	103.44	109.08	114.72
15	4.21	5.89	47.21	47.89	57.70	82.34	86.88	92.52	98.16
20	3.80	5.35	42.43	43.08	52.15	74.07	75.86	81.50	87.14
25	3.53	5.00	39.47	40.32	48.67	68.87	67.55	73.19	78.83
30	3.35	4.76	37.48	38.27	46.28	65.37	61.01	66.65	72.29
35	3.23	4.60	36.09	36.79	44.55	63.00	55.82	61.46	67.10
40	3.16	4.51	35.10	35.70	43.28	61.46	51.79	57.43	63.07
45	3.12	4.47	34.42	34.89	42.35	60.58	48.80	54.44	60.08
50	3.12	4.47	33.99	34.31	41.69	60.28	46.78	52.42	58.07
55	3.16	4.53	33.76	33.91	41.26	60.48	45.70	51.34	56.98
60	3.22	4.64	33.71	33.68	41.03	61.14	45.52	51.16	56.80
65	3.30	4.77	33.82	33.58	40.98	62.24	46.22	51.86	57.50
70	3.42	4.95	34.09	33.62	41.09	63.76	47.80	53.44	59.08
75	3.56	5.18	34.49	33.77	41.36	65.68	50.23	55.87	61.51
80	3.73	5.42	35.02	34.04	41.76	67.99	53.51	59.15	64.79
85	3.93	5.73	35.68	34.41	42.31	70.68	57.63	63.28	68.92

TABLE- 9.4
FOR GOOD ROAD CONDITIONS
WITH PROJECT

Rs/Km

SPEEDS	MOTOR CYCLE	RICKSHAW	CAR	WAGON	MINI-BUS	BUS	TRUCK 2-AXLE	TRUCK 3-AXLE & 4-AXLE	TRUCK 5-AXLE & 6-AXLE
10	3.71	5.12	35.59	34.99	41.42	61.63	65.14	69.34	73.54
15	3.08	4.29	28.49	28.17	33.56	50.94	54.02	58.23	62.43
20	2.73	3.83	24.80	24.60	29.44	45.22	46.71	50.92	55.12
25	2.50	3.53	22.53	22.35	26.84	41.60	41.22	45.42	49.62
30	2.35	3.33	21.00	20.80	25.05	39.13	36.87	41.08	45.28
35	2.25	3.19	19.92	19.67	23.75	37.40	33.40	37.60	41.80
40	2.19	3.11	19.16	18.83	22.77	36.21	30.65	34.85	39.06
45	2.15	3.07	18.62	18.20	22.05	35.43	28.55	32.76	36.96
50	2.15	3.08	18.26	17.73	21.51	35.01	27.06	31.26	35.46
55	2.17	3.12	18.06	17.39	21.13	34.89	26.13	30.33	34.54
60	2.21	3.19	17.99	17.17	20.88	35.05	25.76	29.96	34.16
65	2.28	3.30	18.04	17.06	20.76	35.48	25.92	30.12	34.32
70	2.37	3.44	18.19	17.03	20.74	36.14	26.61	30.81	35.01
75	2.49	3.61	18.45	17.09	20.83	37.04	27.82	32.02	36.22
80	2.62	3.81	18.80	17.23	21.01	38.17	29.54	33.74	37.94
85	2.77	4.04	19.24	17.44	21.29	39.52	31.77	35.98	40.18
90	2.95	4.31	19.77	17.73	21.65	41.08	31.77	35.98	40.18

DESCRIPTION	MOTORCYCLE	CAR	WAGON	COASTER/ FLYING COACH	TRUCK	BUS
TRAVEL TIME VALUE OF PASSENGERS/OCCUPANTS						
Average Income of Passenger (Rs./Month)	40,000	60,000	30,000	22,000	35,000	30,000
Average Income of Passenger (Rs./Annum)	480,000	720,000	360,000	264,000	420,000	360,000
Working Hours /Annum	2424	2424	2424	2424	2424	2424
Rate of passenger Rs./Hour	198	297	149	109	173	149
No. of Occupants	2.00	5.00	16.00	29.00	2.00	45.00
Travel Time Value of occupants---in financial terms (Rs./Hour)	396.04	1485.15	2376.24	3158.42	346.53	6683.17
Travel Time Value of occupants---in economic terms (Rs./Hour) 25%	**99.01**	**371.29**	**594.06**	**789.60**	**86.63**	**1670.79**

NOTE:- 'The value of travel time in a number of studies have been estimated at 25% to 33% of the wage rate due to lack of information on the split of work and non-work travel among passengers and the 'proportion of non-wage earners among passengers.

TABLE - 9.6

Kamalia Chowks (0.9 km)

ANNUAL VEHICLE OPERATING COST

WITHOUT PROJECT

(Million Rs.)

Years	Voc/Km (Rs.)	Traffic Volume ADT	Distance Annual Km	Total Cost Million Rs.
Motor Cycles\Rickshaw				
Base Year(2022)	4.26	1800	329	2.52
2029	4.57	3060	329	4.60
2037	5.05	5508	329	9.14
Cars				
Base Year(2022)	39.47	1000	329	12.97
2029	42.43	1700	329	23.69
2037	47.21	3060	329	47.45
Wagons				
Base Year(2022)	43.08	600	329	8.49
2029	47.89	1020	329	16.05
2037	57.04	1836	329	34.40
Bus				
Base Year(2022)	82.34	203	329	5.49
2029	97.79	345	329	11.09
2037	97.79	621	329	19.96
T.Trolly + Trucks 2-AXLE				
Base Year(2022)	86.88	69	329	1.97
2029	103.44	117	329	3.99
2037	103.44	211	329	7.17
Trucks 3-AXLE & 4-AXLE				
Base Year(2022)	92.52	16	329	0.49
2029	109.08	27	329	0.97
2037	109.08	49	329	1.75
Trucks 5-AXLE & 6-AXLE				
Base Year(2022)	98.16	0	329	-
2029	114.72	0	329	-
2037	114.72	0	329	-
TOTAL				
Base Year(2022)				**31.93**
2029				**60.38**
2037				**119.88**

Note :"VOC" means Vehicle Operating Cost

TABLE - 9.7
Kamalia Chowks (0.9 km)
ANNUAL VEHICLE OPERATING COST
WITH PROJECT

(Million Rs.)

Years	Voc/Km (Rs.)	Traffic Volume ADT	Distance Annual Km	Total Cost Million Rs.
Motor Cycles\Rickshaw				
Base Year(2022)	2.65	1800	329	1.57
2029	2.72	3060	329	2.73
2037	2.84	5508	329	5.14
Cars				
Base Year(2022)	19.16	1000	329	6.29
2029	19.92	1700	329	11.13
2037	21.00	3060	329	21.11
Wagons				
Base Year(2022)	18.83	600	329	3.71
2029	19.67	1020	329	6.59
2037	20.80	1836	329	12.55
Bus				
Base Year(2022)	36.21	203	329	2.41
2029	37.40	345	329	4.24
2037	39.13	621	329	7.99
T.Trolly + Trucks 2-Axle				
Base Year(2022)	22.77	69	329	0.52
2029	23.75	117	329	0.92
2037	25.05	211	329	1.74
Trucks 3-AXLE & 4-AXLE				
Base Year(2022)	34.85	16	329	0.18
2029	37.60	27	329	0.34
2037	41.08	49	329	0.66
Trucks 5-AXLE & 6-AXLE				
Base Year(2022)	39.06	16	329	0.21
2029	41.80	27	329	0.37
2037	45.28	49	329	0.73
TOTAL				
Base Year(2022)				**14.89**
2029				**26.32**
2037				**49.91**

Note :"VOC" means Vehicle Operating Cost

TABLE - 9.8
Kamalia Chowks (0.9 km)

(Million Rs.)

YEARS	VEHICLE OPERATING COSTS		SAVINGS
	WITHOUT PROJECT	WITH PROJECT	
Base Year(2022)	31.93	14.89	17.04
2029	60.38	26.32	34.07
2037	119.88	49.91	69.96
		TOTAL	121.07

TABLE - 9.9
Kamalia Chowks (0.9 km)
ANNUAL VALUE OF TRAVEL TIME COST
WITHOUT PROJECT

(Million Rs.)

Years	VOT Rs/km	Traffic Volume ADT	Distance Annual (Km)	Total Cost Million Rs.
Motor Cycles\Rickshaw				
Base Year(2022)	3.96	1800	329	2.34
2029	4.95	3060	329	4.98
2037	6.60	5508	329	11.94
Cars				
Base Year(2022)	14.85	1000	329	4.88
2029	18.56	1700	329	10.37
2037	24.75	3060	329	24.88
Wagons				
Base Year(2022)	29.70	600	329	5.85
2029	39.60	1020	329	13.27
2037	59.41	1836	329	35.83
Bus				
Base Year(2022)	39.48	203	329	2.63
2029	52.64	345	329	5.97
2037	78.96	621	329	16.11
T.Trolly + Trucks 2-Axle				
Base Year(2022)	5.78	69	329	0.13
2029	8.66	117	329	0.33
2037	8.66	211	329	0.60
Trucks 3-AXLE & 4-AXLE				
Base Year(2022)	5.78	16	329	0.03
2029	8.66	27	329	0.08
2037	8.66	49	329	0.14
Trucks 5-AXLE & 6-AXLE				
Base Year(2022)	5.78	16	329	0.03
2029	8.66	27	329	0.08
2037	8.66	49	329	0.14
TOTAL				
Base Year(2022)				**16**
2029				**35**
2037				**90**

Note :"VOT" means value of Travel Cost

TABLE - 9.10
Kamalia Chowks (0.9 km)
ANNUAL VALUE OF TRAVEL TIME COST
WITH PROJECT

(Million Rs.)

Years	VOT Rs/km	Traffic Volume ADT	Distance Annual (Km)	Total Cost Million Rs.
Motor Cycles\Rickshaw				
Base Year(2022)	2.65	1800	329	1.57
2029	2.72	3060	329	2.73
2037	2.84	5508	329	5.14
Cars				
Base Year(2022)	19.16	1000	329	6.29
2029	19.92	1700	329	11.13
2037	21.00	3060	329	21.11
Wagons				
Base Year(2022)	18.83	600	329	3.71
2029	19.67	1020	329	6.59
2037	20.80	1836	329	12.55
Bus				
Base Year(2022)	36.21	203	329	2.41
2029	37.40	345	329	4.24
2037	39.13	621	329	7.99
T.Trolly + Trucks 2-Axle				
Base Year(2022)	22.77	69	329	0.52
2029	23.75	117	329	0.92
2037	25.05	211	329	1.74
Trucks 3-AXLE & 4-AXLE				
Base Year(2022)	34.85	16	329	0.18
2029	37.60	27	329	0.34
2037	41.08	49	329	0.66
Trucks 5-AXLE & 6-AXLE				
Base Year(2022)	39.06	16	329	0.21
2029	41.80	27	329	0.37
2037	45.28	49	329	0.73
TOTAL				
Base Year(2022)				**14.89**
2029				**26.32**
2037				**49.91**

TABLE - 9.11
Kamalia Chowks (0.9 km)

(Million Rs.)

YEARS	ANNUAL VALUE OF TRAVEL TIME COST (VOTT)		SAVINGS
	WITHOUT PROJECT	WITH PROJECT	
Base Year(2022)	15.90	14.89	1.01
2029	35.07	26.32	8.75
2037	89.65	49.91	39.74
		TOTAL	49.50

TABLE - 9.12
Kamalia Chowks (0.9 km)
TOTAL PROJECT BENEFITS

(Million Rs.)

YEARS	SAVINGS		TOTAL SAVINGS
	VOC	VOTT	
Base Year(2022)	17.04	1.01	18.05
2029	34.07	8.75	42.82
2037	69.96	39.74	109.70
		TOTAL	**171**

Kamalia Chowks (0.9 km)
Calculation of Economic Internal Rate of Return

Million Rs.

Years	PROJECT ECONOMIC COSTS			Project Economic Benefits	Net Benefits Pattern at Economic Prices			
	Investment	O & M	Total Costs		(a)	(b)	(c)	(d)
1	87.26	0.00	87.26	0.00	-87.26	-87.26	-95.99	-95.99
2		0.00	0.00	18.05	18.05	16.24	18.05	16.24
3		0.00	0.00	19.22	19.22	17.30	19.22	17.30
4		0.00	0.00	20.47	20.47	18.42	20.47	18.42
5		0.00	0.00	21.80	21.80	19.62	21.80	19.62
6		0.00	0.00	23.22	23.22	20.89	23.22	20.89
7		0.00	0.00	24.72	24.72	22.25	24.72	22.25
8		0.00	0.00	26.33	26.33	23.70	26.33	23.70
9		0.00	0.00	28.04	28.04	25.24	28.04	25.24
10		0.00	0.00	29.87	29.87	26.88	29.87	26.88
Total :	87.26	0.00	87.26	211.71	124.45	103.28	115.72	94.55

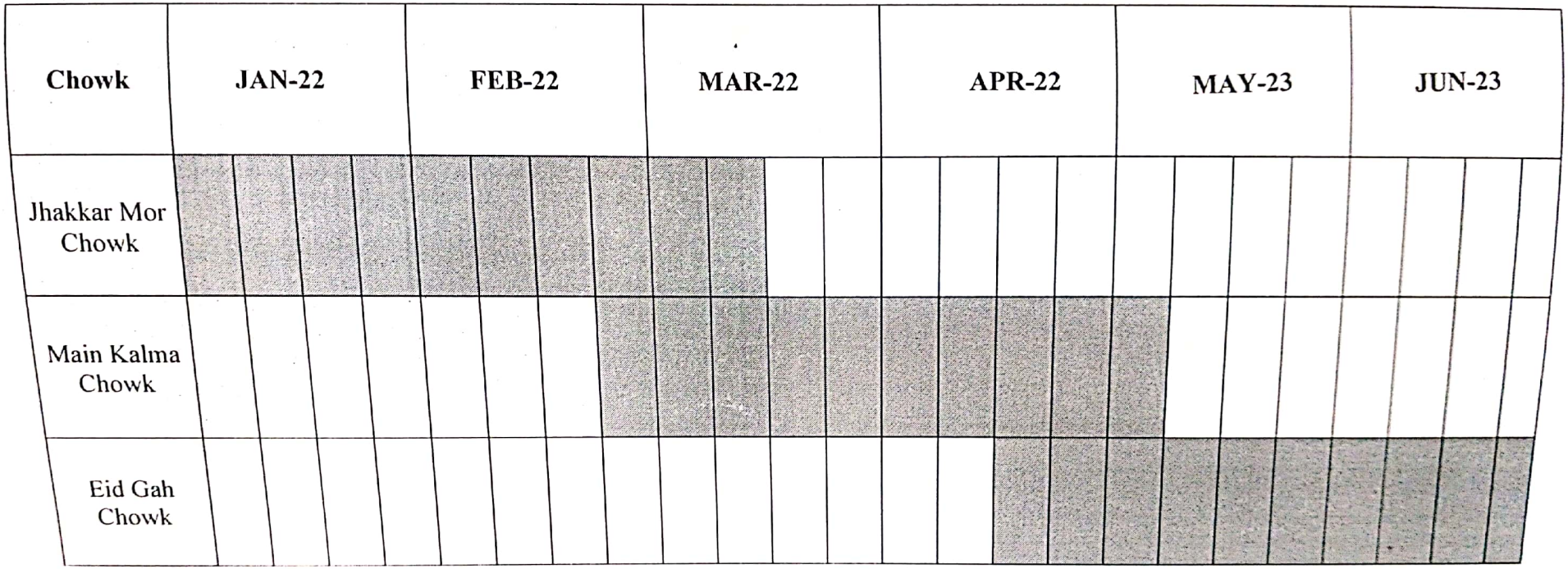
DISCOUNT RATES	PRESENT WORTH OF COST		Present Worth of Benfefit	NET PRESENT WORTH			
10 %	79.33	79.33	94.68	39.02	27.19	31.09	19.25
12 %	77.91	77.91	85.40	28.84	18.16	21.05	10.37
18 %	73.95	73.95	64.11	6.19	-1.83	-1.21	-9.22
20 %	72.72	72.72	58.67	0.62	-6.71	-6.65	-13.98
ECONOMIC INTERNAL RATE OF RETURN 12% DR				20.24	17.32	17.59	14.83
BENEFIT COST / RATIO AT 12 % D.R			1.10				

* A factor of 0.9 has been used for Capital Cost and O&M Cost in the Economics Terms.
(a) Base Case assuming 10 Years period of analysis.
(b) Benefits decreased by 10 %
(c) Cost over-run by 10 %
(d) Benefit reduction and cost over-run both occuring simultaneously.

Annexure-D
Gant Chart

TENTATIVE PROJECT IMPLEMENTATION SCHEDULE FOR IMPROVEMENT & CONSTRUCTION OF CHOWKS IN KAMALIA CITY

YEAR(2022-2023)



Annexure-E

E&S Checklist and SOPs

PUNJAB CITIES PROGRAM

ENVIRONMENT, HEALTH AND SAFETY SOPs FOR LABOR/WORKERS

Labor /workers play key role in the infrastructure development and construction activities. The objective of preparation of the EHS SOPs for Labor/Workers is to address environment, health and safety issues related to the proposed sub-project implementation. These SOPs will provide guidelines to be followed by the contractors for effective management of EHS issues related to labor/workers/daily wagers (including women). These SOPs will be annexed in the general conditions of all the contracts carried out under the PCP. These SOPs are designed for Punjab Cities Program and will be applicable to all types of labor/workers/daily wagers (including women), hired for the construction activities under PCP. Following are the anticipated Environment, Health and Safety issues and their recommended mitigation measures.

Table 1: Construction Camp Management

Activity/ Impact Source	EHS Concerns/issues	Mitigation Measures/ Management Guidelines
Siting and Location of construction camps	Camp sites for construction workers are the important locations that have significant impacts such as health and safety hazards on labor/workers Lack of proper infrastructure facilities, such as housing, water supply and sanitation facilities will increase pressure on the local services and generate substandard living standards and health hazards.	The Contractor shall: Locate the construction camps at areas which are acceptable from environmental, cultural or social point of view. Consider the location of construction camps away from communities in order to avoid social conflict with the surrounding communities. Submit to the relevant MC for approval of a detailed layout plan for the development of the construction camp showing the relative locations of all temporary buildings and facilities that are to be constructed together with the location of site roads, fuel storage areas (for use in power supply generators), solid waste management and dumping locations, and drainage facilities, prior to the development of the construction camps. Local authorities responsible for health, religious and security shall be duly informed on the set up of camp facilities so as to maintain effective surveillance over public health, social and security matters
Construction Camp Facilities	Lack of proper infrastructure facilities, such as housing, water supply and sanitation facilities will generate social issues and impacts on health and environment.	Contractor shall provide the following facilities in the campsites: Adequate ventilation facilities Safe and reliable drinking water supply for personal hygiene (washing or bathing) Adequate housing for all workers Safe and reliable drinking water supply. Water supply from tube wells that meets the Punjab Environment Quality Standards Hygienic sanitary facilities, hand washing facilities and sewerage system. The toilets and domestic waste water will be collected

Activity/ Impact Source	EHS Concerns/issues	Mitigation Measures/ Management Guidelines
		through a common sewerage. Provide separate latrines and bathing places for males and females with total isolation by wall or by location. Female toilets should be clearly marked in language or signage clearly understood by the persons using them to avoid miscommunication. The minimum number of toilet facilities required is one toilet for every ten persons. Storm water drainage facilities. Both sides of roads are to be provided with shallow v drains to drain off storm water to a silt retention pond which shall be sized to provide a minimum of 20 minutes retention of storm water flow from the whole site. Channel all discharge from the silt retention pond to natural drainage via a grassed swale at least 20 meters in length with suitable longitudinal gradient. Paved internal roads. Ensure with grass/vegetation coverage to be made of the use of top soil that there is no dust generation from the loose/exposed sandy surface. Pave the internal roads of at least haring-bond bricks to suppress dusts and to work against possible muddy surface during monsoon. Provide child crèches for women working on the construction site. The crèche should have facilities for dormitory, kitchen, indoor/outdoor play area. Schools should be attached to these crèches so that children are not deprived of education whose mothers are construction workers Provide in-house community/common entertainment facilities. Dependence of local entertainment outlets by construction camps to be discouraged/prohibited to the extent possible.
Disposal of Labor Camp waste	Management of wastes is crucial to minimize impacts on the environment as well as on the health of the workers/labor	The Contractor shall: Ensure proper collection and disposal of solid wastes within the construction camps Insist waste separation by source; organic wastes in one pot and inorganic wastes in another pot at household level. Store inorganic wastes in a safe place within the household and clear organic wastes on daily basis to waste collector. Establish waste collection, transportation and disposal systems at their own. Dispose organic wastes in a designated safe place on daily basis. At the end of the day cover the organic wastes with a thin layer of sand so that flies, mosquitoes, dogs, cats, rats, are not attracted. One may dig a large hole to put organic wastes in it; take care to protect groundwater from contamination by leachate formed due to decomposition. Cover the bed of the pit with impervious layer of materials (clayey, thin concrete) to protect groundwater from

Activity/ Impact Source	EHS Concerns/issues	Mitigation Measures/ Management Guidelines
		contamination. Locate the garbage pit/waste disposal site min 500 m away from the residence so that peoples are not disturbed with the odor likely to be produced from anaerobic decomposition of wastes at the waste dumping places. Encompass the waste dumping place by fencing and tree plantation to prevent children to enter and play with. All solid waste will be collected and removed from the work camps and disposed in approval waste disposal sites.
Fuel supplies for cooking purposes	Illegal sourcing of fuel wood by construction workers will impact the natural flora and fauna	The Contractor shall: Provide fuel to the construction camps for their domestic purpose, in order to discourage them to use fuel wood or other biomass. Make available alternative fuels like natural gas or kerosene on ration to the workforce to prevent them using biomass for cooking. Conduct awareness campaigns to educate workers on preserving the protecting of biodiversity in the project area, and relevant government regulations and punishments on wildlife protection.
Health and Hygiene	There will be a potential for diseases to be transmitted including COVID-19, malaria, exacerbated by inadequate health and safety practices. There will be an increased risk of work crews spreading sexually transmitted infections and HIV/AIDS.	The Contractor shall: Provide adequate health care facilities within construction sites. Provide first aid box facility at the construction site round the clock. Maintain stock of medicines in the first aid facility in camp sites facility and appoint fulltime designated first aider or nurse. Provide ambulance facility for the laborers during emergency to be transported to nearest hospitals and telephone/mobile facility to call for Emergency Services 1122. Initial health screening of the laborers coming from outside areas Train all construction workers in basic sanitation and health care issues and safety matters, and on the specific hazards of their work Provide HIV awareness programming, including STI (sexually transmitted infections) and HIV information, education and communication for all workers on regular basis Provide adequate drainage facilities throughout camps to ensure that disease vectors habitats (stagnant water bodies, puddles) do not form. Regular mosquito repellant sprays in monsoon. Carryout short training sessions on best hygiene practices to

Activity/ Impact Source	EHS Concerns/issues	Mitigation Measures/ Management Guidelines
		be mandatorily participated by all workers. Place display boards at strategic locations within the camps containing messages on best hygienic practices Place display boards of contact information of nearest dispensary/health clinic/hospital
Safety	In adequate safety facilities to the construction camps may create security problems and fire hazards	The Contractor shall: Provide appropriate security personnel (police / home guard or private security guards) and enclosures to prevent unauthorized entry in to the camp area. Maintain register to keep track on a head count of persons present in the camp at any given time. Encourage use of flame proof material for the construction of labor housing/site office. Ensure that these houses/rooms are of sound construction and capable of withstanding storms/cyclones. Provide appropriate type of firefighting equipment suitable for the construction camps Display emergency contact numbers clearly and prominently at strategic places in camps. Communicate the roles and responsibilities of laborers in case of emergency in the monthly meetings with contractor.
Food Safety	There is potential for exposure to poisonous substances by ingestion	Suitable arrangements are to be made for provision of clean eating areas where workers are not exposed to the hazardous or noxious substances
Site Restoration	Restoration of the construction camps to original condition requires demolition of construction camps.	The Contractor shall: Dismantle and remove from the site all facilities established within the construction camp including the perimeter fence and lockable gates at the completion of the construction work. Dismantle camps in phases as the work decreases (do not wait for completion of the entire work. Give prior notice to the laborers before demolishing their camps/units Maintain the noise levels within the national standards during demolition activities Different contractors should be hired to demolish different structures to promote recycling or reuse of demolished material. Reuse the demolition debris to a maximum extent. Dispose remaining debris at the designated waste disposal site by MCs/ESFPs. Handover the construction camps with all built facilities as it is if agreement between both parties (contactor and land-owner) has been made so.

Activity/ Impact Source	EHS Concerns/issues	Mitigation Measures/ Management Guidelines
		Restore the site to its original condition or to an agreed condition with the landowner defined prior to the commencement of the works (in writing). Not make false promises to the laborers for future employment in O&M of the project.

Table 2: Cultural and Religious Issues

Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction activities	Disturbance in performance of religious activities	The Contractor shall: Provide separate prayer facilities (men and women) to the construction workers. Show appropriate and non-biased behavior with all construction workers irrespective of their religious or cultural affinities Allow the workers to participate in praying during construction time Inform the local authorities responsible for health, religious and security duly informed before commencement of civil works so as to maintain effective surveillance over public health, social and security matters In case of working during COVID-19 pandemic, SOPs for prayers in Mosque issued by the Government of Punjab, will be applicable and it will be responsibility of contractor to sensitize the labor/workers about it

Table 3: Workers/Labor Health and Safety at Construction Site

Activity/ Impact Source	Impacts	Mitigation Measures/ Management Guidelines
Construction Activities	Construction works may pose health and safety risks to the construction workers and site visitors leading to severe injuries and deaths. The population in the proximity of the construction site and the construction workers will be exposed to a number of (i) biophysical health risk factors, (e.g. noise,	The Contractor shall: Implement suitable safety standards for all workers and site visitors which should not be less than those laid down on the international standards (e.g. International Labor Office guideline on 'Safety and Health in Construction; World Bank Group's 'Environmental Health and Safety Guidelines') and contractor's own national standards or statutory regulations, in addition to complying with the national acts and rules of the Government of Pakistan Provide the workers with a safe and healthy work environment, taking into account inherent risks in its particular construction activity and specific classes of

Activity/ Impact Source	Impacts	Mitigation Measures/ Management Guidelines
	dust, chemicals, construction material, solid waste, waste water, vector transmitted diseases etc), (ii) risk factors resulting from human behavior (e.g. STD, HIV etc) and (iii) road accidents from construction traffic.	hazards in the work areas, Provide Personal Protection Equipment (PPEs)1 for workers, such as safety boots, helmets, masks, gloves, protective clothing, goggles, full-face eye shields, and ear protection. Maintain the PPE properly by cleaning dirty ones and replacing them with the damaged ones. Safety procedures include provision of information, training and protective clothing to workers involved in hazardous operations and proper performance of their job Appoint an environment, health and safety manager to look after the health and safety of the workers Inform the local authorities responsible for health, religious and security before commencement of civil works and establishment of construction camps so as to maintain effective surveillance over public health, social and security matters
	Child and pregnant labor	The Contractor shall: not hire children of less than 14 years of age and pregnant women or women who delivered a child within 8 preceding weeks, in accordance with the Employment of Children Act (2015)2 and Pakistani Labor Laws and policies respectively .

1 Table 4 presents general examples of occupational hazards and types of PPE available for different purposes.

2 The ECA 2015 defines a child as a person who has not completed his/her 14th year of age. The ECA states that no child shall be employed or permitted to work in any of the occupations set forth in the ECA (such as transport sector, railways, construction, and ports) or in any workshop wherein any of the processes defined in the Act is carried out

Activity/ Impact Source	Impacts	Mitigation Measures/ Management Guidelines
Accidents	Lack of first aid facilities and health care facilities in the immediate vicinity will aggravate the health conditions of the victims	Provide health care facilities and first aid facilities are readily available. Appropriately equipped first-aid stations should be easily accessible throughout the place of work Document and report occupational accidents, diseases, and incidents. Prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work by minimizing, so far as reasonably practicable, the causes of hazards. In a manner consistent with good international industry practice. Identify potential hazards to workers, particularly those that may be life-threatening and provide necessary preventive and protective measures. Provide awareness to the construction drivers to strictly follow the driving rules Provide adequate lighting in the construction area and along the roads
Water and sanitation facilities at the construction sites	Lack of Water sanitation facilities at construction sites cause inconvenience to the construction workers and affect their personal hygiene.	The contractor shall provide separate portable toilets and hand washing facilities at the construction sites, if about 25 people are working the whole day for a month. Location of portable facilities should be at least six m away from storm drain system and surface waters. These portable toilets should be cleaned once a day and all the sewerage should be pumped from the collection tank once a day and should be brought to the common septic tank for further treatment. Contractor should provide bottled drinking water facilities to the construction workers at all the construction sites.
Other issues	Potential risks on health and hygiene of construction workers and general public	The Contractor shall follow the following management measures to reduce health risks to the construction workers and nearby community: Drainage Management Air Quality Management Noise and Vibration Management Road Transport and Road Traffic Management
Trainings	Lack of awareness and basic knowledge in health care among the construction workforce, make them susceptible to potential diseases.	The Contractor shall: Train all construction workers in basic sanitation and health care issues (e.g., how to avoid COVID-193, malaria and transmission of sexually transmitted infections (STI) HIV/AIDS. Train all construction workers in general health and safety matters, and on the specific hazards of their work Training should consist of basic hazard awareness, site specific

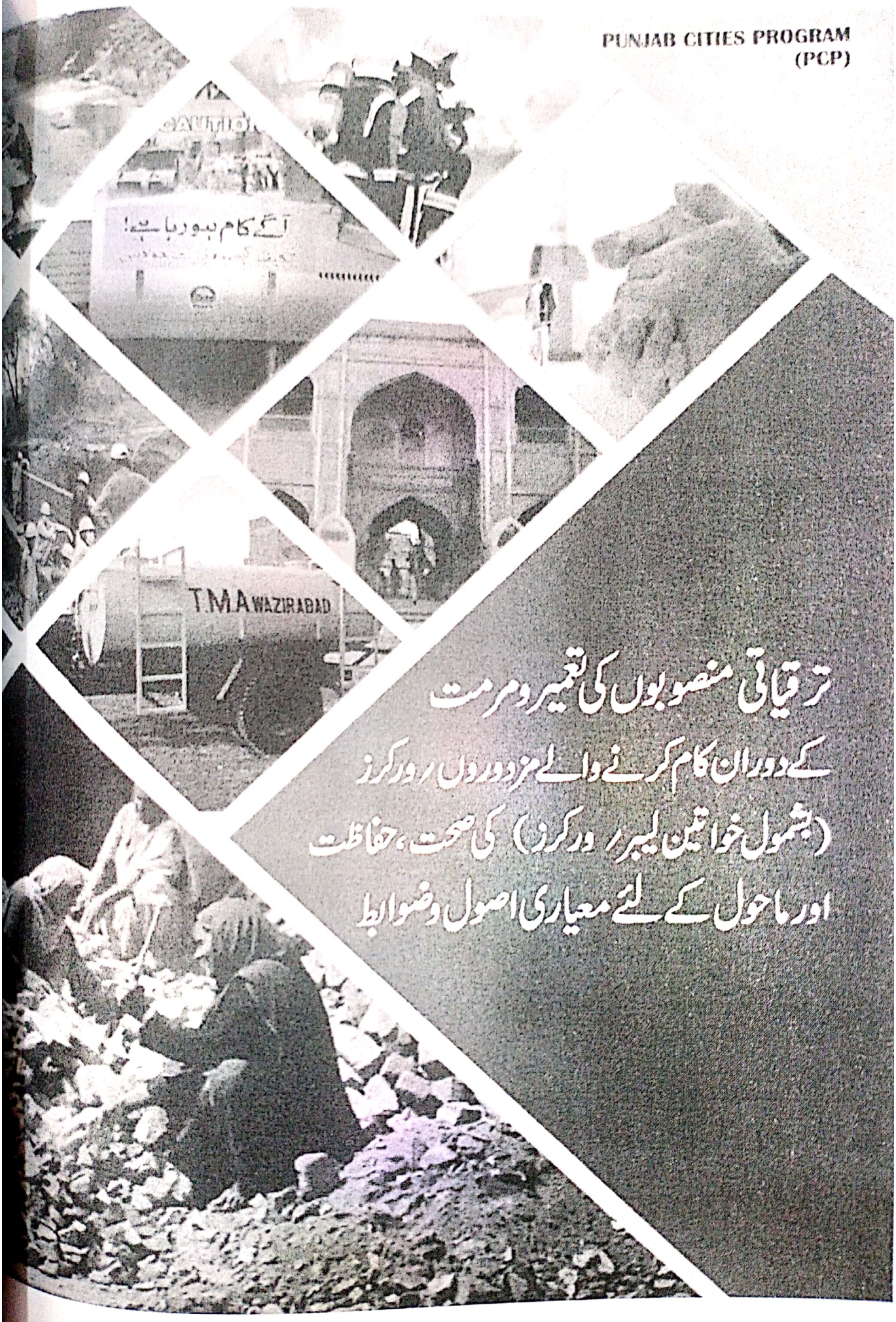
3 .SOPs issued by the GoPunjab during COVID-19 Pandemic will be implemented

Activity/ Impact Source	Impacts	Mitigation Measures/ Management Guidelines
		hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate. Commence the COVID-19, malaria, HIV/AIDS and STI education campaign before the start of the construction phase and complement it with by a strong condom marketing, increased access to condoms in the area as well as to voluntary counseling and testing. Implement COVID-19, malaria, HIV/AIDS and STI education campaign targeting all workers hired, international and national, female and male, skilled, semi- and unskilled occupations, at the time of recruitment and thereafter pursued throughout the construction phase on ongoing and regular basis. This should be complemented by easy access to condoms at the workplace as well as to voluntary counseling and testing.

Table 4: Summary of Recommended Personal Protective Equipment According to Hazard[4]

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.

[4] Source: IFC Environmental, Health, and Safety (EHS) Guidelines



ترقیاتی منصوبوں کی تعمیر و مرمت کے دوران کام کرنے والے مزدوروں / ورکرز (بشمول خواتین لیبر / ورکرز) کی صحت، حفاظت اور ماحول کے لئے معیاری اصول و ضوابط

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پیش لفظ

لوکل گورنمنٹ اینڈ کمیونٹی ڈویلپمنٹ ڈیپارٹمنٹ اور پنجاب میونسپل ڈویلپمنٹ فنڈ کمپنی (PMDFC) نے ورلڈ بینک کے اشتراک سے پنجاب سیٹیز پروگرام (PCP) کا کامیابی سے اجرا کر دیا ہے. اس منصوبے کے تحت صوبہ پنجاب کے 16 چھوٹے بشمول بہاولنگر، بوریوالا، خانیوال، کوٹ ادو، وہاڑی، گوجرہ، جھنگ، کمالیہ، اوکاڑا، ڈسکہ، حافظ آباد، جہلم، کاموکی ترقیاتی کاموں پر کامیابی سے کام جاری ہے۔ ان ترقیاتی منصوبوں میں ویسٹ مینجمنٹ، پانی کی فراہمی مرمت، کمیونٹی پارکس کی بحالی اور قدرتی آفات کی روک تھام کے منصوبہ جات شامل ہیں۔

پنجاب سیٹیز پروگرام (PCP) کے منصوبہ جات کی تکمیل کے دوران سماجی اور ماحولیاتی مسائل کی جانچ پڑتال اور اس کے حل کے لئے انوائرنمنٹل اینڈ سوشل سیف گارڈز (ESSs) ٹیم نے انوائرنمنٹل اینڈ سوشل مینجمنٹ فریم ورک (ESMF) بنایا ہے. مختلف منصوبہ جات اسی فریم ورک کی رو سے پایہ تکمیل تک پہنچ رہے ہیں۔

تعمیراتی اور ترقیاتی کاموں کی تکمیل میں تعمیراتی جگہوں پر کام کرنے والے مزدوروں/لیبر (بشمول خواتین) کی صحت اور کام کرنے کے دوران حفاظت بہت اہمیت رکھتی ہے۔ اس اہم مسئلہ کو ملحوظِ خاطر رکھتے ہوئے، پی ایم ڈی ایف سی کے زیرِ اہتمام پنجاب سٹیز پروگرام کی انوائرنمنٹ اینڈ سوشل مینجمنٹ ٹیم نے "ترقیاتی منصوبوں کی تعمیر و مرمت کے دوران کام کرنے والے مزدوروں، ورکرز (بشمول خواتین لیبر/ورکرز) کی صحت، حفاظت اور ماحول کیلئے بنیادی اصول وضوابط" مرتب کے ہیں تاکہ متعلقہ میونسپل کمیٹیز/کارپوریشنز (MCs) کے عہدیداران اور ٹھیکیداران کو آگاہی فراہم کی جائے۔

اغراض و مقاصد

۱۔ مجوزہ معیاری اصول وضوابط پنجاب سیٹیز پروگرام (PCP) کے تحت پنجاب میونسپل ڈویلپمنٹ فنڈ کمپنی (PMDFC) کے ماہرین ماحولیات نے پروگرام ڈائریکٹر (PCP) اور ڈپٹی پروگرام ڈائریکٹر (PCP) کی زیرنگرانی تشکیل دیئے ہیں۔

۲۔ شہری ترقی کے ترقیاتی منصوبہ جات کی تعمیر ومرمت میں مزدور/ورکرز بنیادی کردار ادا کرتے ہیں۔ ان (SOPs) کا بنیادی مقصد مزدور/ورکرز (بشمول خواتین لیبر/ورکرز) کو تعمیراتی جگہوں (Constrcution sites) اور لیبر کیمپس میں ماحولیاتی اور سماجی تحفظ فراہم کرنا اور صحت، ماحولیات اور کسی خطرناک صورتحال سے بچنے کے لئے حفاظت فراہم کرنا ہے۔

۳۔ یہ SOPs (PCP) پنجاب سیٹیز پروگرام کے تحت 16 شہروں کی میونسپل کمیٹیز/کارپوریشنز میں تعمیر ومرمت کے تمام پراجیکٹس پر لاگو ہوں گے۔

۴۔ یہ SOPs مزدوروں/کام کرنے والوں/دیہاڑی دار (بشمول خواتین) پر بلاتخصیص لاگو ہوں گے۔

۵۔ ان SOPs کو موثر اور یقینی بنانے کے لئے انھیں ٹھیکیداروں کے کنٹریکٹ کا حصہ بنانا اور ان پر عمل درآمد کرانا میونسپل کمیٹیز/کارپوریشنز کی ذمہ داری ہے۔ جسے پی ایم ڈی ایف سی کی متعلقہ پروگرام ٹیم یقینی بنائے گی۔

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پیغام

پاکستان کی ترقی میں تعمیراتی کاموں کے دوران کام کرنے والا مزدور طبقہ نہایت اہمیت کا حامل ہے اور انکے صحت و تندرستی سے متعلق مسائل کا مؤثر حل انتہائی ضروری ہے۔ "ترقیاتی منصوبوں کی تعمیر و مرمت کے دوران کام کرنے والے مزدوروں رورکرز (بشمول خواتین لیبر رورکرز) کی صحت، حفاظت اور ماحول کیلئے بنیادی اصول وضوابط" کی اشاعت و ترویج اوران پر بروقت عمل درآمد بے حد ضروری ہے جس سے اس طبقے کے بنیادی حقوق کا تحفظ یقینی بنایا جا سکے گا اور اس طرح اس طبقے کی کارکردگی میں بھی بہتری نظر آئے گی۔ ان اصولوں کے تحت ہر ٹھیکیدار کو ورکرز کی صحت اور حفاظت کی ذمہ داری دی گئی ہے۔ مزدور تعمیراتی کاموں کے دوران خطرات کے مطابق ذاتی حفاظتی سامان بھی استعمال کریں گے جس سے دوران کام حادثات میں بھی نمایاں کمی نظر آئے گی۔ ماحولیات اور صحت کے اصولوں کو مدنظر رکھتے ہوئے ہر سطح پر ہم اس بات کو یقینی بنانے کی کوشش کریں گے کہ ہماری پالیسیاں اور طرز عمل فعال ہوں۔ ماحولیات، صحت اور حفاظت (EHS) کے اصولوں کو اپنانے میں کسی بھی قسم کا سمجھوتہ نہیں کیا جائے گا۔ میں امید کرتا ہوں کہ ان اصول وضوابط کی روشنی میں مزدور رورکرز (بشمول خواتین لیبر) کے حقوق کی پاسداری کو ایک نیا رخ ملے گا اور حکومتی عہدیداران اور ٹھیکیداران بھی اپنی ذمہ داریوں کا احساس کریں گے۔ اوراس سلسلے میں پی ایم ڈی ایف سی اور پنجاب سیٹیز پروگرام کی انوائرنمنٹ اینڈ سوشل سیف گارڈز (ESSs) ٹیم بلاشبہ مبارکباد کی مستحق ہے اور یہ توقع کی جا سکتی ہے کہ وہ مستقبل میں ان قواعد وضوابط کی نگرانی کے لئے بھرپور اقدامات کریں گے۔

محمد عامر نذیر
پروگرام ڈائریکٹر
پنجاب سیٹیز پروگرام (PCP)

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زیر نگرانی

افتخار رسول
ڈپٹی پروگرام ڈائریکٹر
پنجاب سیٹیز پروگرام (PCP)

عاشق چوھدری
سینئر پروگرام آفیسر (انفراسٹرکچر)
پنجاب سیٹیز پروگرام (PCP)

تکنیکی ٹیم

رضوانہ انجم
پروگرام آفیسر (انوائرنمنٹ اینڈ سوشل سیف گارڈز)
پنجاب سیٹیز پروگرام (PCP)

تہمینہ کرن
ڈپٹی پروگرام آفیسر (ESSs)
پنجاب سیٹیز پروگرام (PCP)

کنزیٰ ندیم
ریسرچ اینالسٹ
پنجاب سیٹیز پروگرام (PCP)

(۱) لیبر کیمپس کے لئے معیاری اصول و ضوابط

سرگرمیاں

۱. مزدور / لیبر کیلئے عارضی کیمپ / رہائش گاہ کے انتظام و قیام کے لئے جگہ کا انتخاب

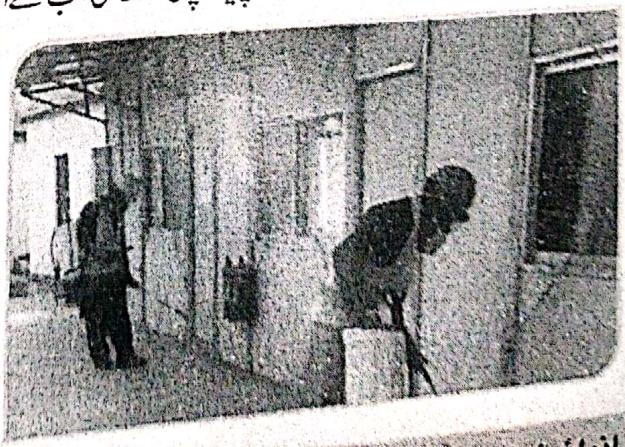
مسائل

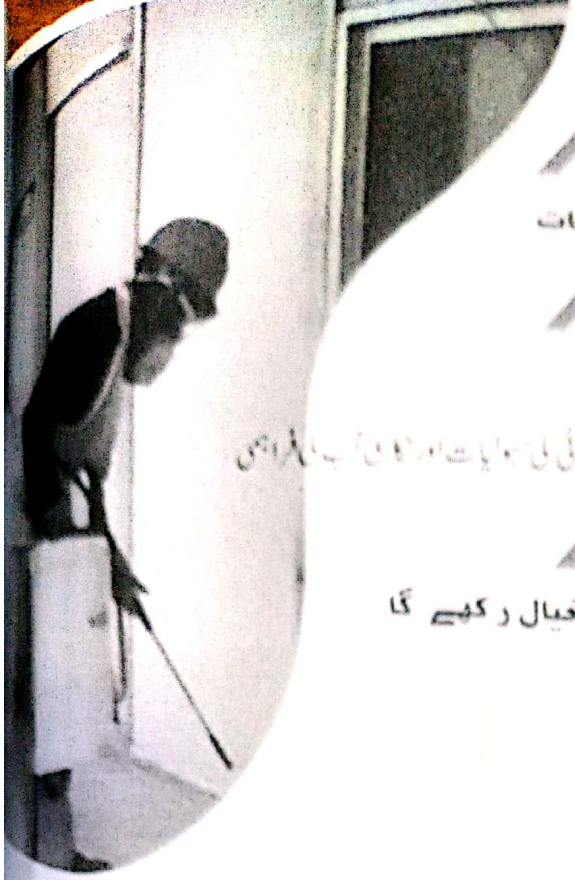
- مقامی آبادی کے وسائل پر اضافی بوجھ
- مقامی آبادی سے تنازعات کا خدشہ
- سماجی، مذہبی، اور سیکورٹی کے مسائل۔

حفاظتی اقدامات

ٹھیکیدار لیبر کیمپس کے قیام کے وقت مندرجہ ذیل باتوں کا خیال رکھے گا:

- کیمپس ایسی جگہوں پر لگائے جائیں جو ماحولیاتی، مذہبی، سماجی اور ثقافتی نقطہ نظر سے قابل قبول ہوں۔
- مقامی آبادی کے ساتھ کسی تنازعہ سے بچنے کے لیئے آبادی سے دور جگہ کا انتخاب کیا جائے
- لیبر کیمپ کی جگہ اور سہولیات سے متعلق ایک تفصیلی نقشہ تیار کر کے متعلقہ میونسپل کمیٹی رکارپوریشن میں جمع کرایا جائے۔
- دیگر مقامی ادارے جیسے صحت، سکیورٹی وغیرہ کو لیبر کیمپ کے مقام اور مدت کے بارے مطلع کیا جائے تا کہ کسی ناگہانی صورتحال سے بچا جائے۔
- لیبر کیمپس کے قیام کیلیئے عارضی جگہ رزمین کا حصول زمین کے مالک کی مرضی، طے کردہ کرایہ اور باقاعدہ تحریری معاہدے کی صورت میں کیا جائے۔
- لیبر کیمپس سے ملحقہ بنیادی سہولتوں جیسے پینے کا پانی اور نکاسی آب کے انتظامات سے ماحولیاتی آلودگی میں اضافہ نہ ہو





سرگرمیاں

۲. لیبر کیمپ میں مہیا کی جانے والی سہولیات

مسائل

- مناسب انفراسٹرکچر کی کمی
- بنیادی ضروریات اور سہولیات جیسے پانی اور بجلی کی فراہمی، رہائشی، حفاظتی کی سہولیات اور نکاسی آب کی فراہمی

حفاظتی اقدامات

ٹھیکیدار کیمپ سائٹس پر درج ذیل باتوں کا خیال رکھے گا

- ہوادار اور صاف ستھری رہائش گاہ
- عارضی کمروں کیلئے ایسے میٹریل کا استعمال جو جلد آگ نہ پکڑیں۔
- نہانے، دھونے اور پانی پینے کیلئے صاف اور مناسب پانی کی فراہمی۔
- تمام مزدوروں کیلئے مناسب جگہ کی موجودگی اور محفوظ ماحولیاتی معیار۔
- صاف ستھرے واش رومز اور نکاسی آب کا مناسب انتظام۔
- خواتین لیبر کیلئے پردے اور پرائیویسی کا انتظام اور الگ کمروں کا قیام مزید براں خواتین لیبر کی موجودگی کی صورت میں انکے لیے علیحدہ واش رومز کا انتظام۔
- بین الاقوامی معیار کے مطابق ہر دس افراد کیلئے مطلوبہ ٹوائلٹ کی سہولت کی تعداد ایک ہے۔
- اگر لیبر کیمپ طویل مدت کیلئے لگایا جانا ہو تو بارشوں/سیلاب کے پانی سے بچنے کیلئے مناسب انتظامات کا ہونا اور نکاسی آب کی فراہمی یقینی بنانا ضروری ہے۔
- نوائلٹس اور عارضی رہائش گاہوں میں بجلی کی فراہمی کو یقینی بنایا جائے۔

سرگرمیاں

۳. لیبر کیمپ سے پیدا ہونے والا سالڈ اور لیکوئڈ ویسٹ

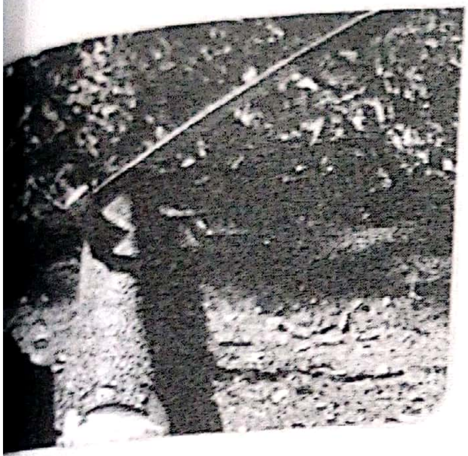
مسائل

- تعفن اور بدبو
- صحت کے لیے نقصان
- ماحولیات کے لیے نقصان
- مقامی آبادی کے لیے نقصان
- بیماریاں پیدا کرنے والے بیکٹیریا اور مچھروں کا ذریعہ

حفاظتی اقدامات

- روزمرہ پیدا ہونے والے کوڑا کرکٹ اور کچن کے ویسٹ کے لیے الگ الگ [illegible] کا انتظام
- میونسپل کمیٹی / کارپوریشن کی جانب سے منتخب کردہ جگہ پر [illegible]
- عارضی ٹوائلٹس سے پیدا شدہ فضلے اور لیکویڈ ویسٹ کو حفظانِ صحت کے اصولوں کے مطابق [illegible]
- فضلے کو ٹھکانے لگانے کے لیے رہائش گاہ سے کم از کم 500 میٹر دور جگہ کا انتخاب کیا جائے [illegible]
- عارضی ٹوائلٹس سے پیدا شدہ فضلے کو ٹھکانے لگانے کے لیے منتخب کردہ جگہ [illegible]
- رہائش داخل نہ ہوں اور مچھر اور بدبو بھی پیدا نہ ہو۔

سرگرمیاں



٤۔ کھانا پکانے کے لیے ایندھن کی فراہمی

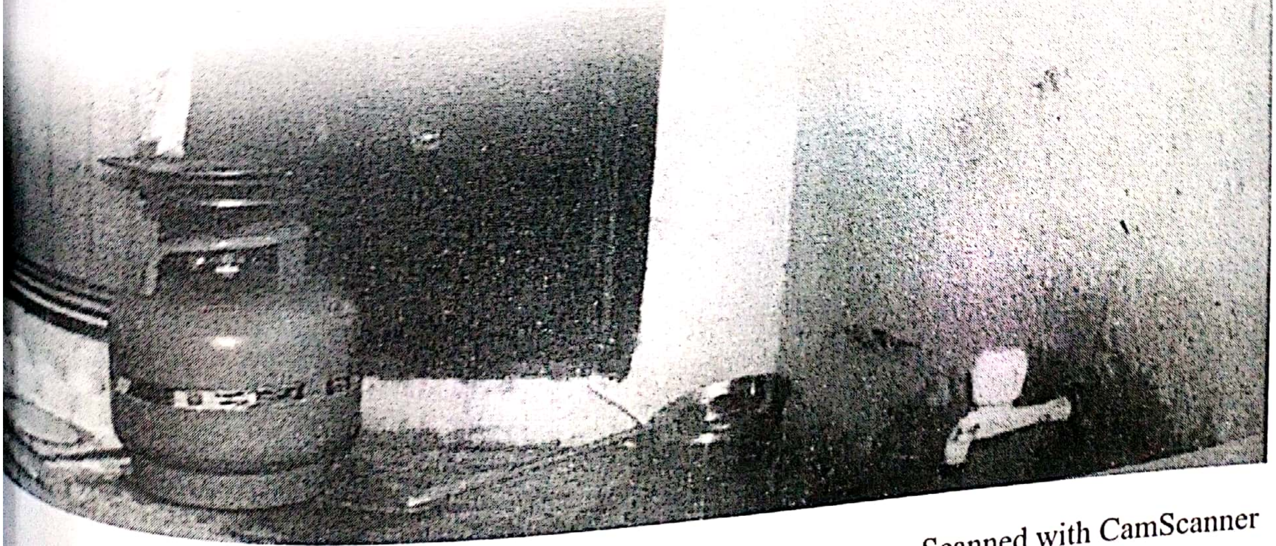
مسائل

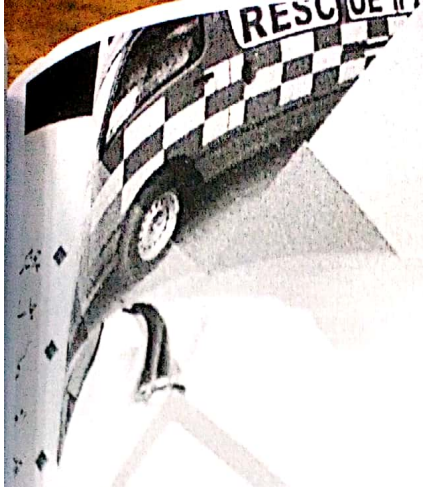
- گیس اور دیگر ایندھن سے چلنے والے چولہوں کے پھٹنے کا اندیشہ
- ایندھن کے لیے لکڑی کے حصول کے لیے درختوں کی کٹائی

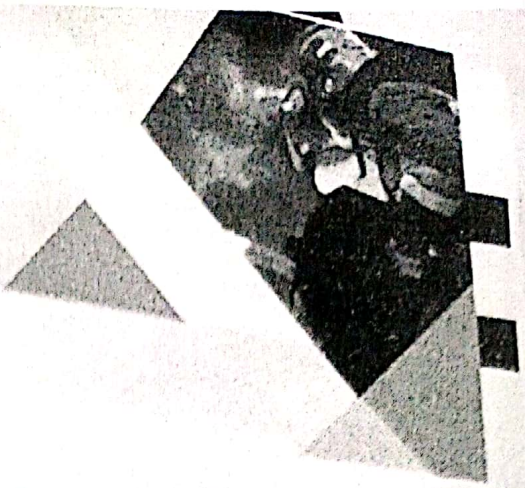
حفاظتی اقدامات

ٹھیکیدار کیمپ سائٹس پر درج ذیل سہولیات مہیا کرے گا۔

- لیبر کیمپس میں کھانا پکانے، کمروں کو گرم رکھنے نیز سردیوں میں نہانے اور دھونے کے لیے گرم پانی کے لیے ایندھن کی فراہمی [illegible] کرنے کی حوصلہ شکنی کریں اور ایندھن کیلیے درختوں کی کٹائی نہ کریں۔
- درختوں اور اردگرد جنگلات کی حفاظت کیلیے مزدوروں / لیبر کو آگاہی دی جائے۔
- کھانا پکانے کے لیئے قدرتی گیس یا مٹی کے تیل کے محفوظ چولہے استعمال کیے جائیں۔







سرگرمیاں

۵۔جانوروں /پرندوں کا شکار خرید و فروخت

مسائل

- جنگلی حیات کو خطرات
- ماحولیاتی وسائل کو خطرات

حفاظتی اقدامات

- لیبر/مزدوروں کو گاہی فراہم کی جائے کیونکہ اردگرد موجود کسی بھی قسم کی جنگلی حیات کو نقصان پہنچانا ،ان کے گھونسلوں/ پناہ گاہوں میں کوئی مداخلت کرنا، شکار کرنا یا جانوروں/ پرندوں کو قید کرنا اور خرید و فروخت کرنا پنجاب وائلڈ لائف (پروٹیکشن ، پریزرویشن، کنزرویشن اینڈ مینجمنٹ ایکٹ 1974 کے مطابق ممنوع اور سزا قابل تعزیر جرم ہے۔

سرگرمیاں

۶۔حفظان صحت کے اصول

مسائل

- حفظان صحت کے رہنما اصولوں پر عملدرآمد کرنے کی صورت میں مختلف بیماریاں مثلاً کرونا وائرس، ایچ آئی وی ایڈز اور دیگر انفیکشز کے پھیلاؤ

حفاظتی اقدامات

ٹھیکیدار لیبر کیمپس میں درج ذیل انتظامات مہیا کرے گا:

- لیبر کیمپس میں صحت و صفائی کی مناسب سہولیات کی فراہمی
- بیرونی علاقوں سے آنے والے مزدوروں کی صحت کی ابتدائی سکریننگ

Scanned with CamScanner

- چوبیس گھنٹے لیبر کیمپس میں پر فرسٹ ایڈ بکس کی سہولت موجود ہو۔ کیمپ سائٹس میں ابتدائی طبی امداد سے متعلقہ دواؤں کا موجود ہونا یقینی بنایا جائے۔ اور طویل المدتی کیمپ کی صورت میں کسی ڈسپنسر/ڈاکٹر کا کیمپ میں موجود ہونا چاہیئے۔
- کسی ایمرجنسی کے دوران مزدوروں کے لیے ایمبولینس کی سہولت فراہم کی جائے اور ایمرجنسی سروسز 1122 یا 15 پر کال کرنے کے لیے ٹیلیفون /موبائل کی سہولت مہیا کی جائے۔
- حفظان صحت کے بہترین اصولوں، صفائی ستھرائی اور صحت کی دیکھ بھال کے امور کیلیے مزدوروں/لیبر کو تربیت فراہم کی جائے جس میں تمام مزدوروں کی شرکت کو یقینی بنایا جائے۔
- جنسی طور پر منتقل ہونے والی بیماریوں اور ایڈز وغیرہ کے بارے میں مزدوروں کو مکمل معلومات فراہم کی جائیں اور ان بیماریوں سے بچنے کے لیے حفاظتی اصول اپنانے پر زور دیا جائے۔
- مچھروں اور دیگر بیکٹیریا کو پیدا ہونے سے روکنے کیلیئے حفاظتی سپرے لازمی کرائے جائیں۔
- کرونا سے بچنے کے لیئے ابتدائی سکریننگ یقینی بنائیں اور بار بار ہاتھ دھونے پر زور دیں اور علامات ظاہر ہونے پر فوری طور پر دیگر مزدوروں سے آئسولیشن کے مکمل اصولوں پر سختی سے عمل کیا جائے۔
- لیبر کیمپس کے اندر مناسب مقامات پر حفظان صحت کے اصولوں سے متعلقہ پیغامات اور طریقے ڈسپلے کیے جائیں اور تربیتی پروگرام کا اہتمام کیا جائے۔
- قریبی ڈسپنسری/ہیلتھ کلینک/ہسپتال کے رابطہ نمبر وغیرہ واضح مقامات پر آویزاں کیئے جائیں۔

سرگرمیاں

۷۔ سکیورٹی اور حفاظت کی سہولیات

مسائل

- سکیورٹی کے مسائل
- چوری کا خطرہ
- دہشت گردی کا خطرہ
- آگ لگنے کے خطرات

حفاظتی اقدامات

- کیمپ کے گرد حفاظتی باڑ کی فراہمی
- حفاظتی اہلکار (پولیس یا نجی سکیورٹی گارڈز/ہوم گارڈز وغیرہ) کی تعیناتی
- کیمپ میں موجود افراد کی صحیح تعداد اور آمد و رفت کا حساب کتاب رکھنے کے لیے رجسٹر میں اندراج۔
- آگ سے بچاؤ کے لیئے لیبر کیمپ بنانے میں ایسا کوئی میٹیریل استعمال نہ کیا جائے جس سے آگ لگنے کا اندیشہ ہو۔
- بارش، طوفان، سیلاب وغیرہ سے بچنے کیلئے اس بات کو یقینی بنایا جائے کہ کیمپ سائٹ اور عارضی کمرے/رہائش گاہیں محفوظ رہیں۔
- لیبر کیمپس میں آگ بجھانے والا آلات موجود ہوں جن پر انکی آخری معیاد کی تاریخ درج ہو۔ اور سکیورٹی گارڈ یا لیبر افسر وغیرہ افراد کو آگ بجھانے والے آلہ استعمال کرنے کی تربیت دی جائے۔
- لیبر کیمپ میں واضح مقامات پر ہنگامی/ایمرجنسی رابطہ نمبر نمایاں درج ہوں۔
- ٹھیکیدار، لیبر کے ساتھ ماہانہ میٹنگز میں ایمرجنسی کی صورت میں ہر ایک مزدور کو اسکی ذمہ داریوں اور تربیت سے آگاہ کرے اور کنسلٹنٹ اور میونسپل کمیٹی/کارپوریشن کو فراہم کرے۔ اور کسی بھی قسم کی شکایات ایک رجسٹر میں درج کرے۔

سرگرمیاں

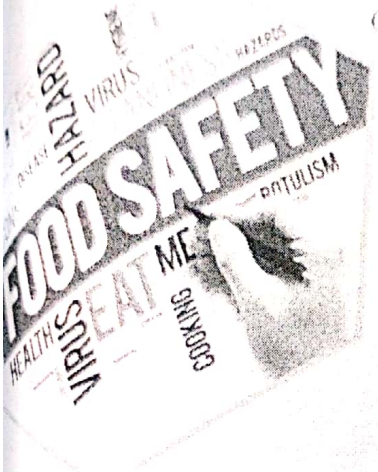
۸۔ حفظان صحت کے اصولوں پر مبنی خوراک (Food Safety)

مسائل

- فوڈ پوائزننگ کا خدشہ
- بیماری کا ڈر

حفاظتی اقدامات

- مزدوروں کو صاف ستھرے اور تازہ کھانے کی فراہمی کو یقینی بنایا جائے۔



سرگرمیاں

۹۔ مذہبی و سماجی میل جول

مسائل

- مذہبی عبادات میں رکاوٹ
- سماجی تعلقات میں دشواری
- سماجی، ثقافتی اور مذہبی خیالات میں شدت پسندی یا لڑائی جھگڑا وغیرہ

حفاظتی اقدامات

- مزدوروں/لیبر کو ان کے مذہب اور فرقے کے مطابق مذہبی عبادات کی سہولیات فراہم کرنا۔
- خواتین لیبر کی موجودگی کی صورت میں ان کے لیے علیحدہ وضو، نماز اور پردے کا اہتمام کیا جائے۔
- تمام مزدوروں کی مذہبی، ثقافتی یا فرقے کی وابستگی سے قطع نظر غیر متعصّبانہ اور برابری کا سلوک کیا جائے۔
- مزدوروں کو تعمیراتی کام کے دوران نماز میں شرکت کرنے یا دیگر عبادات کی اجازت دی جائے اور اس سلسلے میں مذہبی اور سیکورٹی امور
- مقامی حکام کو تعمیراتی کاموں کے آغاز سے پہلے باضابطہ طور پر آگاہ کیا جائے تاکہ صحت عامہ، معاشرتی اور حفاظتی امور پر موثر نگرانی فر

انوائرنمنٹ اینڈ سوشل سیف گارڈز ٹیم

پی ایم ڈی ایف س

سرگرمیاں

10۔ تعمیراتی کام ختم ہونے کے بعد کی ذمہ داریاں

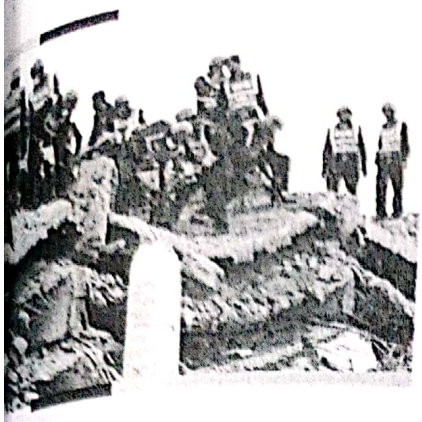
مسائل

- فالتو سامان اور کوڑا کرکٹ کی گندگی

حفاظتی اقدامات

- کیمپ سائٹ کو اصل حالت میں بحال کیا جائے۔
- تعمیراتی کام کے مکمل ہونے پر فریم اور باڑ لگنے والے دروازوں سمیت لیبر کیمپ میں قائم تمام سہولیات کو ایسے ختم کیا جائے
رہے۔
- کام کم ہونے کے ساتھ لیبر کیمپ کو مرحلہ وار ختم کیا جائے (پورے کام کی تکمیل کا انتظار نہ کریں)
- لیبر کیمپ کو مسمار کرنے کے دوران شور اور کسی بھی قسم کی آلودگی مثلاً گرد و غبار، آبی آلودگی وغیرہ پھیلانے سے گریز کریں۔
- مسمار شدہ ملبہ کو دوبارہ استعمال کرنے اور دوبارہ قابل استعمال کرنے کیلیے کسی اوکل ڈیلر/ٹھیکیدار کی خدمات حاصل کریں۔
- کوڑا کرکٹ اور دوبارہ ناقابل استعمال سامان کو متعلقہ میونسپل کمیٹی/کارپوریشن کی جانب سے مقرر کردہ مقام پر مناسب طریقے سے
- لیبر کیمپ کی زمین/جگہ کے مالک کے ساتھ طے شدہ معاہدے کے مطابق کام کریں اور کسی بھی قسم کے اختلاف یا جھگڑے
جگہ کو متفقہ منصوبہ کے مطابق اسکے حوالے کیا جائے۔
- لیبر/مزدوروں سے آئندہ کام یا مراعات کے جھوٹے وعدے ہرگز نہ کیے جائیں۔

Scanned with CamScanner



سرگرمیاں

۱۔تمام قسم کے تعمیراتی سرگرمیاں اور کام

وسائل

- انجریز اور چوٹیں وغیرہ
- نامناسب دیکھ بھال اور بروقت امداد نہ ملنے کے باعث ہلاکت
- دہشت گردی اور سکیورٹی سے متعلق خطرات

حفاظتی اقدامات

- تمام مزدوروں/لیبر سے مقامی/بین الاقوامی معیار کے مطابق مناسب حفاظتی اور قانونی ضوابط کی پیروی کروائی جائے۔
- کام کی جگہ پر اردگرد کے علاقوں میں موجود دہشت گردی اور سکیورٹی کے خطرات کے مطابق حکمت عملی کی بروقت تیاری اور ایک محفوظ ماحول مہیا کیا جائے۔
- مزدوروں/لیبر کیلیے ذاتی حفاظت کے سامان (PPEs) کی فراہمی مثلاً حفاظتی جوتے، ہیلمٹ، ماسک، دستانے، حفاظتی لباس، چشمے، کان کی حفاظت کے سامان وغیرہ کی فراہمی
- تمام مزدوروں/لیبر کو ذاتی حفاظت کے ساز و سامان کے بارے میں مکمل آگاہی اور استعمال کے طریقے کار کے بارے تربیت کا انتظ
- اگر تعمیراتی کام ایک ماہ سے زائد عرصہ کیلیے جاری رہنا ہو تو تمام مدت کے لیے صحت، صفائی اور تربیت یافتہ ماحولیات کی تعیناتی
مزدوروں کی صحت، صفائی اور ماحولیات کے امور کی نگرانی کرے اور انھیں تربیت و آگاہی فراہم کرے۔
- تعمیراتی کاموں کے دوران کسی چوٹ لگنے/انجریز کی صورت میں مزدور/لیبر کے علاج معالجے کی سہولت مہیا کرنا اور بروقت ہسپتا
غیرہ پہنچانا ٹھیکیدار کی ذمہ داری ہے۔
- مزید برآں دوران تعمیر تعمیراتی کام کی وجہ سے لگنے والی چوٹ/انجریز کے نتیجے میں ہلاکت ہو جانے کی وجہ سے مزدور/لیبر کی انشو
بروقت ادائیگی کو یقینی بنایا جائے۔
- ایمرجنسی رابطہ نمبر مثلاً ریسکیو 1122 یا 15 اور دیگر قریبی ہسپتالوں/ڈسپنسری وغیرہ کے نمبر تعمیراتی جگہوں پر واضح درج ہونے چا
سہولت فراہم کی جائے۔
- شہری ترقی کے تعمیراتی منصوبہ جات کے آغاز سے قبل صحت، مذہبی امور اور شہری تحفظ/سکیورٹی فراہم کرنے والے مقامی اداروں کو آ
اور اس سلسلے میں متعلقہ میونسپل کمیٹی/کارپوریشن کے تعاون سے موثر حکمت عملی تشکیل دی جائے۔

انوائرنمنٹ اینڈ سوشل سیف گارڈز ٹیم

پی ایم ڈی ایف

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سرگرمیاں

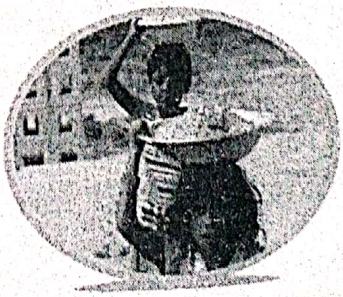
۲۔تمام قسم کی تعمیراتی سرگرمیاں اور کنسٹرکشن کے کام

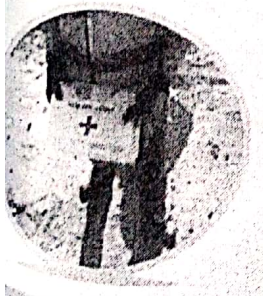
مسائل

- 15 سال سے کم عمر بچوں کی صحت اور تعلیم کا نقصان
- 18 سال اور اس سے کم عمر بچوں کی صحت کا نقصان
- حاملہ مزدور عورتوں کی صحت سے متعلقہ خطرات

حفاظتی اقدامات

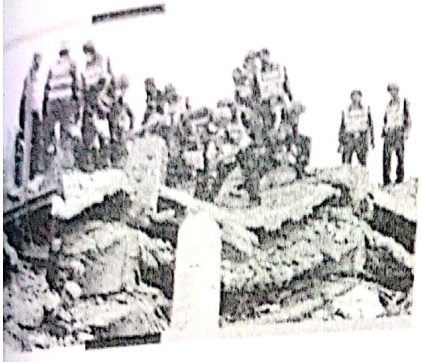
- دی پنجاب رسٹرکشن آن ایمپلائمنٹ آف چلڈرن ایکٹ 2016 کے مطابق 15 سال سے کم عمر بچوں کو مزدوری یا کسی سرگرمی نہیں رکھا جاسکتا۔
- ویسٹ پاکستان میٹرنٹی بینیفٹ آرڈیننس 1958 کے مطابق حاملہ خواتین یا ایسی خواتین جنہوں نے چھ ہفتے قبل بچے کو جنم دیا ہو، کو مزدور کے لیئے کام پر نہیں رکھا جاسکتا۔
- دی پنجاب رسٹرکشن آن ایمپلائمنٹ آف چلڈرن ایکٹ 2016 کے مطابق 18 سال اور اس سے کم عمر کے بچوں کہ محنت مزدوری کے لیے نہیں رکھا جاسکتا جن میں صحت کو نقصان پہنچنے یا چوٹ لگنے یا کسی کیمیائی زہریلے مادے سے نقصان پہنچنے یا جہاں ہڈی ٹوٹنے





سرگرمیاں

۳۔ دوران تعمیر حادثات کا پیش آنا

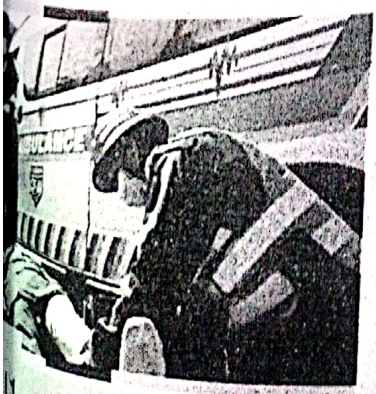


مسائل

- فوری طبی امداد کی کمی
- اردگرد کے علاقوں میں ابتدائی طبی سہولیات اور صحت عامہ کا فقدان

حفاظتی اقدامات

- تعمیراتی جگہ پر فرسٹ ایڈ باکس کی موجودگی کہ یقینی بنایا جائے اور فرسٹ ایڈ باکس میں تمام ضروری ادویات اور طبی امداد کا ضروری سامان موجود ہو۔
- تعمیراتی کاموں کے دوران پیش آنے والے حادثات بیماریوں اور واقعات کا مکمل ریکارڈ رکھا جائے۔ اسی طرح حادثات کی نوعیت و وجوہات کا مکمل ریکارڈ موجود ہو۔
- مزدوروں کی صحت و سکیورٹی سے متعلق ممکنہ خطرات کی بروقت نشاندہی کی جائے خاص کر وہ خطرات جو جان لیوا ثابت ہو سکتے ہیں۔ اور ضروری حفاظتی اقدامات بروقت کئے جائیں۔
- تعمیراتی کاموں سے متعلق مشینری چلانے والے ڈرائیوروں کو دوران ڈرائیونگ قواعد وضوابط پر سختی سے عملدرآمد کرانے کے لئے آگاہی فراہم کی جائے۔
- تعمیراتی علاقوں اور سڑکوں کے ساتھ ساتھ روشنی کا معقول انتظام ہو۔



پی ایم ڈی ایف سی

انوائرنمنٹ اینڈ سوشل سیف گارڈز ٹیم

Scanned with CamScanner

سرگرمیاں

۴.تعمیراتی مقامات پر پانی اور صفائی ستھرائی کی سہولیات اور سالڈ ویسٹ مینجمنٹ

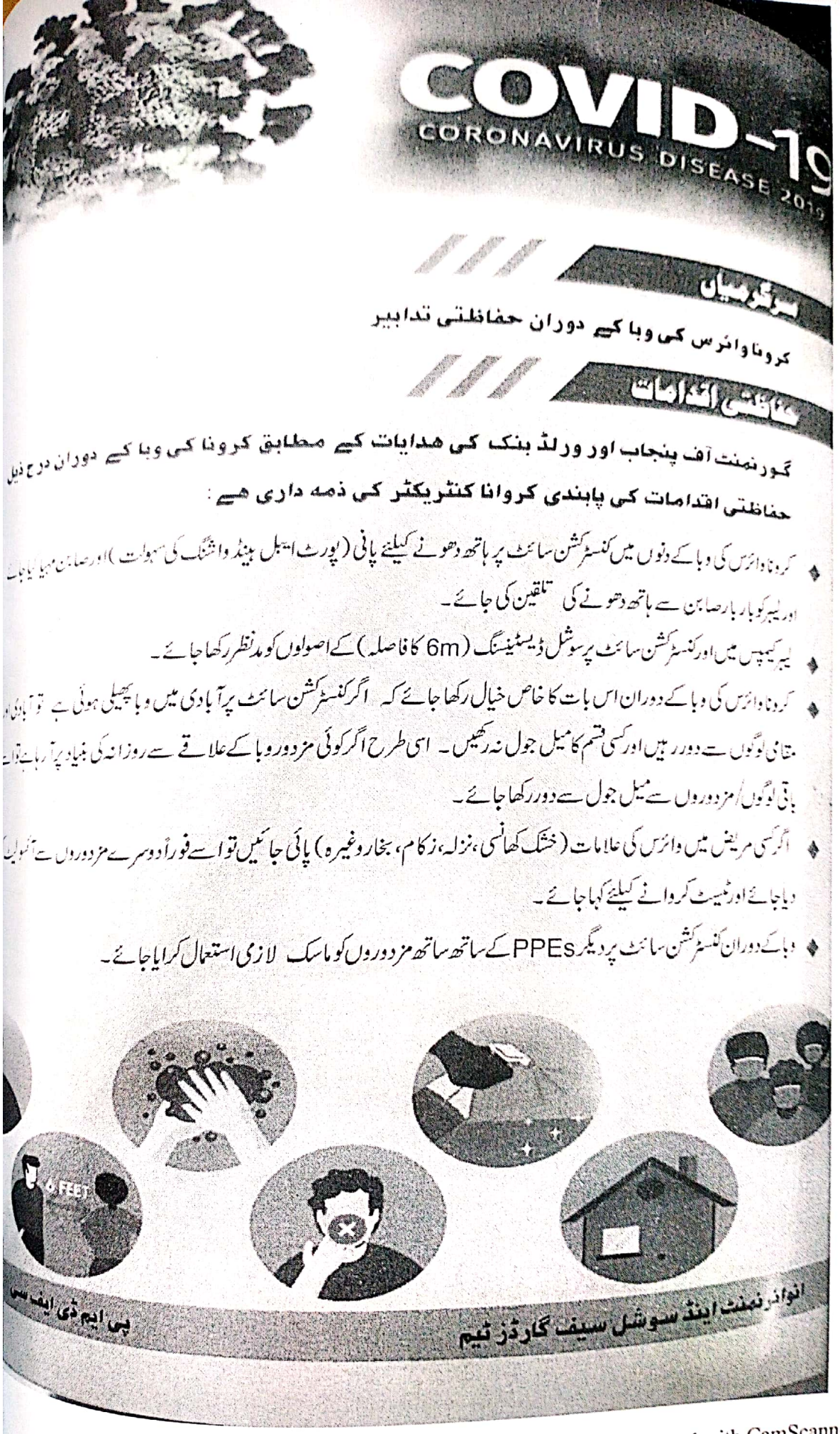
مسائل

- صحت کو خطرہ
- اردگرد علاقے کے لوگوں کے لئے ناگواری کا باعث
- مچھروں اور دیگر بیکٹیریا کی افزائش نسل کا ذریعہ

حفاظتی اقدامات

- تعمیراتی جگہوں پر تمام مزدوروں کے لئے پینے کے لئے صاف ستھرا پانی مہیا کیا جائے۔
- اگر تقریباً 25 مزدور ایک مہینہ کے لئے سارا دن کام کر رہے ہوں تو ان کے لیے تعمیراتی جگہوں پر پورٹ ایبل ٹوائلٹ کا انتظام کیا جائے جو ڈرینج سسٹم سے منسلک ہوں اور مقامی ڈرینج سسٹم کی غیر موجودگی میں مقامی ندی نالوں وغیرہ سے کم از کم 6 میٹر کے فاصلے پر ہوں۔ مزید برآں پورٹ ایبل ٹوائلٹس کی صفائی ستھرائی کو روزانہ کی بنیاد پر یقینی بنایا جائے۔
- تعمیراتی کاموں کے دوران کھدائی سے حاصل شدہ گارا، مٹی، ریت، کنکریٹ وغیرہ کو تعمیراتی جگہ ... دیا جائے۔ اور روزانہ کی بنیاد پر متعلقہ میونسپل کمیٹی/کارپوریشن کی جانب سے مقرر کردہ جگہ پر مناسب ... دن سے زائد مدت کے لئے کوڑا ... تھے سے ٹھکانے لگایا جائے۔

Scanned with CamScanner



سرگرمیاں

کرونا وائرس کی وبا کے دوران حفاظتی تدابیر

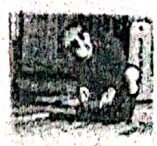
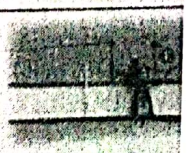
حفاظتی اقدامات

گورنمنٹ آف پنجاب اور ورلڈ بنک کی ہدایات کے مطابق کرونا کی وبا کے دوران درج ذیل حفاظتی اقدامات کی پابندی کروانا کنٹریکٹر کی ذمہ داری ہے:

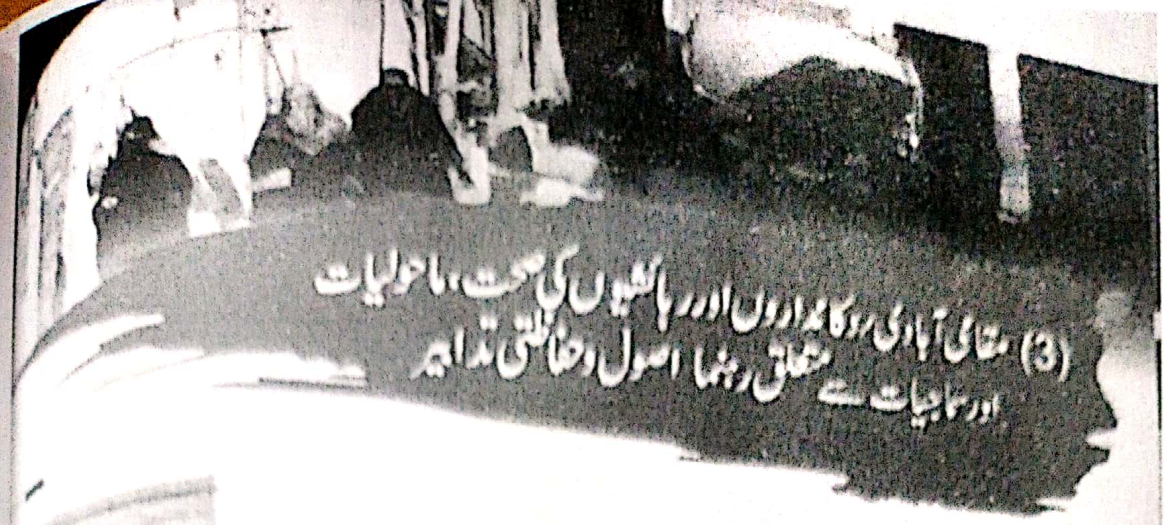
- کرونا وائرس کی وبا کے دنوں میں کنسٹرکشن سائٹ پر ہاتھ دھونے کیلئے پانی (پورٹ ایبل ہینڈ واشنگ کی سہولت) اور صابن مہیا کیا جائے اور لیبر کو بار بار صابن سے ہاتھ دھونے کی تلقین کی جائے۔
- لیبر کیمپس میں اور کنسٹرکشن سائٹ پر سوشل ڈیسٹینسنگ (6m کا فاصلہ) کے اصولوں کو مدنظر رکھا جائے۔
- کرونا وائرس کی وبا کے دوران اس بات کا خاص خیال رکھا جائے کہ اگر کنسٹرکشن سائٹ پر آبادی میں وبا پھیلی ہوئی ہے تو آبادی کو متاثرہ لوگوں سے دور رہیں اور کسی قسم کا میل جول نہ رکھیں۔ اسی طرح اگر کوئی مزدور وبا کے علاقے سے روزانہ کی بنیاد پر آرہا ہے تو اسے باقی لوگوں/مزدوروں سے میل جول سے دور رکھا جائے۔
- اگر کسی مریض میں وائرس کی علامات (خشک کھانسی، نزلہ، زکام، بخار وغیرہ) پائی جائیں تو اسے فوراً دوسرے مزدوروں سے آئسولیٹ کیا جائے اور ٹیسٹ کروانے کیلئے کہا جائے۔
- وبا کے دوران کنسٹرکشن سائٹ پر دیگر PPEs کے ساتھ ساتھ مزدوروں کو ماسک لازمی استعمال کرایا جائے۔

تعمیراتی کاموں کے دوران خطرات/حادثات سے بچنے کیلئے سامان برائے ذاتی حفاظت

مقصد	تعمیراتی کام	تجویز کردہ سامان برائے ذاتی حفاظت	تصویر
آنکھوں اور چہرے کی حفاظت/ تحفظ	اڑنے والے ذرات کا استعمال جیسے پگھلی ہوئی دھات مائع کیمیکل، گیسیں، اور بخارات، روشنی کی شعاعیں۔	حفاظتی عینکیں	
سر کی حفاظت/ تحفظ	ایسے تمام کام جن میں گرنے کا خطرہ ہو، بلندی پر کام کرنا، تعمیراتی کام کو سنبھالنے اور دوسری جگہ پر منتقل کرنے والے کام۔	اوپر اور اطراف سے نقصان سے بچاؤ کیلئے پلاسٹک کے ہیلمٹ	
سماعت کی حفاظت/ تحفظ	کھدائی/شور پیدا کرنے والے کام یا بھاری مشینری استعمال کرنے کی وجہ سے شور۔	سماعت کی حفاظت کے آلہ جات جیسے کن پیس یا ایئر پلگ	
پاؤں کی حفاظت/ تحفظ	تمام تعمیراتی کام جن میں چیزوں کا گرنا یا گھمانا، نوکیلی اشیا شامل ہوں۔ گلانے والا یا گرم مائع، کچرے کے ڈھیر سے کچرا اٹھانا۔	ملنے اور گرنے والی اشیا، سامانات اور کیمیائی مواد سے بچاؤ کیلئے حفاظتی جوتے یا بوٹ	
ہاتھوں کی حفاظت/ تحفظ	جسمانی صحت کیلئے نقصان دہ سامان جیسے کچرے کو سنبھالنا، ایسے کام جس میں کاٹ یا گہرے زخم لگنے کا اندیشہ ہو، ارتعاش، بہت زیادہ درجہ حرارت۔	ربڑ یا مصنوعی مواد (نیوروپین)، چمڑا، سٹیل، غیر موصل مواد سے بنے گلوز	
تحفظ تنفس	دھول، دھند، شعلے، گیسیں، دھواں، بخارات	ایک جگہ سے دوسری جگہ لے جانے والے یا ایک ہی جگہ پڑے مواد کی فراہمی تعمیراتی جگہ پر بچاؤ کا سامان	
	آکسیجن کی کمی	چہرے کے ماسک جن میں دھول ہٹانے اور ہوا کو صاف رکھنے کیلئے (کیمیائی مواد، دھند، بخارات اور گیسوں سے) مناسب فلٹر لگے ہوں	
جسم / ٹانگوں کی حفاظت/ تحفظ	تمام کام جن میں شدید درجہ حرارت، نقصان دہ مواد، حیاتیاتی ایجنٹ، چھوٹے یا گہرے زخم لگنے کا اندیشہ ہو	مناسب میٹریل سے بنے غیر موصل کپڑے، ایپرن وغیرہ	
اونچائی پر کام کرتے ہوئے حفاظت	تمام تعمیراتی کام جو 4 فٹ یا اس سے زیادہ کی اونچائی پر کیے جانے ہوں بشمول سٹریٹ لائٹس وغیرہ	ہیلمٹ، حفاظتی عینکیں، گلوز اور ربڑ کے بوٹ	
اونچائی پر کام کرتے ہوئے حفاظت	تمام تعمیراتی کام جو 4 فٹ یا اس سے زائد اونچائی پر مسلسل ایک دن کیلئے کیے جانے ہوں	اینکر، بیلٹ، رسی، کنیکٹر، ایک ساتھی فرد	

Objective	Workplace Hazards	Suggested PPE	Pictures
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	
Body/leg protection	Extreme temperatures, hazardous materials, biological agents, cutting and	Insulating clothing, body suits, aprons etc.	
Working at *height	Rehabilitation Projects	Helmet, Safety glasses,	
	New Construction Projects	Anchor, lanyard,	

*In general, use of PPEs is required for any height of 4 ft or more. *Ref: OSHA standards*



(3) مقامی آبادی، دکانداروں اور رہائشیوں کی صحت، ماحولیات اور سماجیات سے متعلق رہنما اصول و حفاظتی تدابیر

سرگرمیاں

۱. تعمیراتی کاموں کے لئے منتخب کردہ مقام / جگہ پر کام کا آغاز

مسائل

- مقامی آبادی / رہائشیوں کیلئے تعمیراتی کام کی عدم آگاہی
- پیر / مزدوروں کے داخلے سے رہائشی عورتوں کے پردے اور پرائیویسی کے مسائل
- مقامی آبادی کے ثقافتی، سماجی، مذہبی ورثہ اور تاریخی مقامات / عمارتوں کو نقصان

حفاظتی اقدامات

ٹھیکیدار کو چاہئے کہ:

- متعلقہ میونسپل کمیٹی کے انوائرنمنٹ اینڈ سوشل فوکل پرسن (ز) منتخب کردہ اور متعلقہ ریجنل آفس میں موجود ڈیپٹی پروگرام منیجر (سوشل سیف گارڈز) کی موجودگی میں مقامی آبادی / رہائشیوں اور دکانداروں کو تعمیراتی کام کے آغاز سے قبل تعمیراتی کام کی نوعیت اور اس کی اور تکمیل کی معینہ مدت کے بارے میں مکمل آگاہی فراہم کرے۔
- تعمیراتی کام کے دوران پیش آنے والے ممکنہ سماجی اور ماحولیاتی مسائل اور ان کے مطابق حفاظتی اقدامات کے بارے میں متاثرہ دکانداروں کو کام کے آغاز سے قبل مکمل آگاہی دی جائے۔
- تعمیراتی کام کے آغاز سے پہلے مقامی رہائشیوں اور دکانداروں کو تعمیراتی کاموں کی وجہ سے ماحولیاتی مسائل کی شکایت کی تشہیر کیلئے مندرجہ ذیل رابطہ نمبرز کے بارے میں مکمل آگاہی فراہم کی جائے۔
  - (a) ٹھیکیدار کا موبائل ٹیلیفون نمبر
  - (b) متعلقہ میونسپل کمیٹی / کارپوریشن کے فوکل پرسن (ز) کے رابطہ نمبرز
  - (c) متعلقہ (PCP) ریجنل آفس میں تعینات ڈیپٹی پروگرام آفیسر (ESSs) کے رابطہ نمبرز
- تعمیراتی کام کے آغاز سے پہلے تعمیراتی مقام / جگہ کو فینسنگ کی مدد سے باقی علاقہ سے الگ کر دیا جائے۔

تعمیراتی جگہ پر مقام پر واضح بورڈ نصب کر دیے جائیں، جن پر درج ذیل پیغامات/احکامات لکھے ہوں:

(a) تعمیراتی کام کی نوعیت

(b) ٹریفک میں رکاوٹ کی صورت میں متبادل راستے کا نشان اور عارضی رکاوٹ کا پیغام

(c) ایمرجنسی اور شکایت کیلئے رابطہ نمبرز

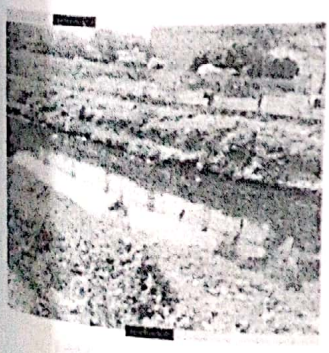
(d) (PMDFC) کی جانب سے جاری کردہ سماجی و ماحولیاتی پیغامات پر مبنی پوسٹرز۔

تعمیراتی کام کی جگہ کے ارد گرد 100 میٹر تک کی حدود میں موجود ثقافتی، سماجی، مذہبی ورثہ، تاریخی عمارتوں اور مذہبی مقامات جیسے قبرستان، مساجد، مندر، گرجا گھروں وغیرہ کو کسی قسم کا نقصان نہ پہنچایا جائے اور ان کی حدود میں کوڑا کرکٹ ڈالنے یا فالتو پانی چھوڑنے سے گریز کیا جائے۔ مزید برآں کھدائی کے دوران کسی نئے آثارِ قدیمہ ملنے کی صورت میں متعلقہ مقامی محکمے سے رجوع کیا جائے اور کھدائی کا کام بند کر کے تعمیراتی کام روک دیا جائے۔

سرگرمیاں

2- کھدائی کی جگہ اور اس سے متعلقہ کام اور نالوں کی صفائی اور اس سے حاصل شدہ بھل وغیرہ

مسائل



کھدائی سے حاصل شدہ مٹی/کنکر کے ڈھیر (Debris) سے رہائشیوں کی آمد و رفت [illegible] میں رکاوٹ

متاثرہ رہائشیوں کیلئے ناگواری کا باعث

مچھروں اور دیگر بیماری پھیلانے والے جراثیم کی افزائش کا ذریعہ

کھدائی کی جگہ پر گرنے اور حادثات کے خطرات

حفاظتی اقدامات

- تعمیر کے دوران کھدائی کے تمام مقامات کے اردگرد حفاظتی ٹیپ / پٹی لگائی جائے اور کھدائی کی جگہ کو عارضی طور پر بند کر دیا جائے تاکہ لوگ اس جگہ سے دور رہنے کیلئے واضح پیغامات لکھے ہوں۔
- کھدائی سے حاصل شدہ مٹی، کنکر، پتھر وغیرہ کو ایک دن سے زیادہ اس جگہ پر موجود نہ رہنے دیا جائے بلکہ روزانہ کی بنیاد پر متعلقہ کمپنی / کارپوریشن کی منتخب کردہ جگہ پر محفوظ طریقے سے ٹھکانے لگایا جائے۔
- نالوں کی صفائی سے حاصل شدہ بھل، ریت وغیرہ کو ایک دن سے زیادہ اس جگہ پر موجود نہ رہنے دیا جائے بلکہ روزانہ کی بنیاد پر متعلقہ ایک جگہ سے دوسری جگہ منتقلی کے دوران ٹریکٹر ٹرالی کو ترپال کی مدد سے ڈھانپ کر لے جایا جائے۔

سرگرمیاں

3-تعمیراتی مشینری / تعمیراتی مٹیریل اور تعمیراتی کاموں کی وجہ سے عارضی بندش

مسائل

- ٹریفک میں رکاوٹ۔

حفاظتی اقدامات

- ٹریفک میں ممکنہ رکاوٹ کے پیش نظر متبادل راستے کا انتخاب اور اس کی نشاندہی کیلئے پیغامات واضح درج کیے جائیں۔
- ٹریفک کونز (cones) کی مدد سے رکاوٹ والی جگہ کو الگ کر دیا جائے تاکہ حادثات سے بچا جا سکے۔
- ٹریفک میں زیادہ دنوں تک مسلسل رکاوٹ کی صورت میں مقامی ٹریفک پولیس کو آگاہ کیا جائے اور ان کے ساتھ مل کر ٹریفک مینجمنٹ پلان ترتیب دیا جائے جس کو واضح مقام پر نصب کیا جائے اور مقامی آبادی / رہائشیوں کو اس کے بارے میں مکمل آگاہی دی جائے۔

سرگرمیاں

4-تعمیراتی کاموں کی وجہ سے راستوں میں عارضی رکاوٹ اور زمین کا عارضی حصول

مسائل

- روزمرہ معمولات اور کاموں میں رکاوٹ
- رہائشی خواتین کیلئے آنے جانے میں رکاوٹ
- دکانداروں کے دکانوں کے آگے رکاوٹیں اور گاہکوں کیلئے مشکلات
- مستقل دکانداروں کا گاہک کم ہو جانے کی وجہ سے مالی نقصان مستقل وعارضی سٹالز لگا کر بیچنے والے چھوٹے بڑے

حفاظتی اقدامات

- تعمیراتی علاقے میں اردگرد موجود تمام چھوٹی بڑی دکانوں، ٹھیلوں، عارضی خوانچہ فروشوں اور گھروں کا مکمل سروے (تعداد اور مالی حیثیت ان پر ممکنہ سماجی اور ماحولیاتی اثرات کا جائزہ لے کر ایک تفصیلی رپورٹ اور متعلقہ پلان میونسپل کمیٹی/کارپوریشن کے دفتر میں موجود جو کہ فوکل پرسنز، متعلقہ علاقائی آفس میں موجود ڈپٹی پروگرام آفیسر (ESSs) کے ساتھ تعمیراتی کاموں کی مالیت کا اندازہ لگا جائیگی۔ اس رپورٹ اور پلان میں موجود سماجی اور ماحولیاتی مسائل کے حل کیلئے مختص رقم اور ان کا صحیح طریقے سے استعمال ٹھیکیدار حصہ ہوگا۔
- رہائشیوں کیلئے آنے جانے اور دکانوں/گھروں تک رسائی کے لیے متبادل راستے مہیا کرنا ٹھیکیدار کی ذمہ داری ہے۔
- دکانوں/تھڑوں/ٹھیلوں وغیرہ کے باہر کسی بھی قسم کے نقصان یا توڑ پھوڑ کی صورت میں ٹھیکیدار طے شدہ ضوابط کے مطابق اس کی قیمت ادا کرے گا۔
- لیبر/مزدور کو تربیت دی جائے کہ وہ اردگرد رہائشی عورتوں اور بچوں کے آنے جانے میں کوئی رکاوٹ نہ بنیں اور رہائشیوں کے ساتھ میل جول نہ رکھیں۔
- تعمیراتی کیمپ لگانے، تعمیراتی کام کرنے [illegible] اور تعمیراتی سامان رکھنے کے لیئے عارضی طور پر حاصل کی گئی زمین کا کرایہ مالک پر ادا کی جائے گا۔ اور تحریری معاہدہ [illegible] ضوابط کا پابند ہوگا۔
- تعمیراتی کاموں/کیمپ وغیرہ لگانے [illegible] کے لئے مقامی رہائشیوں سے مشاورت اور دونوں کے حساب سے اس کا مکمل طریقہ کار وضع کر کے باقاعدہ لکھا جائے گا۔ اور خلاف ورزی کی صورت میں ٹھیکیدار ذمہ دار ہوگا۔

پی ایم ڈی ایف

سرگرمیاں

۵. تعمیراتی کام اور ہیوی مشینری کا استعمال

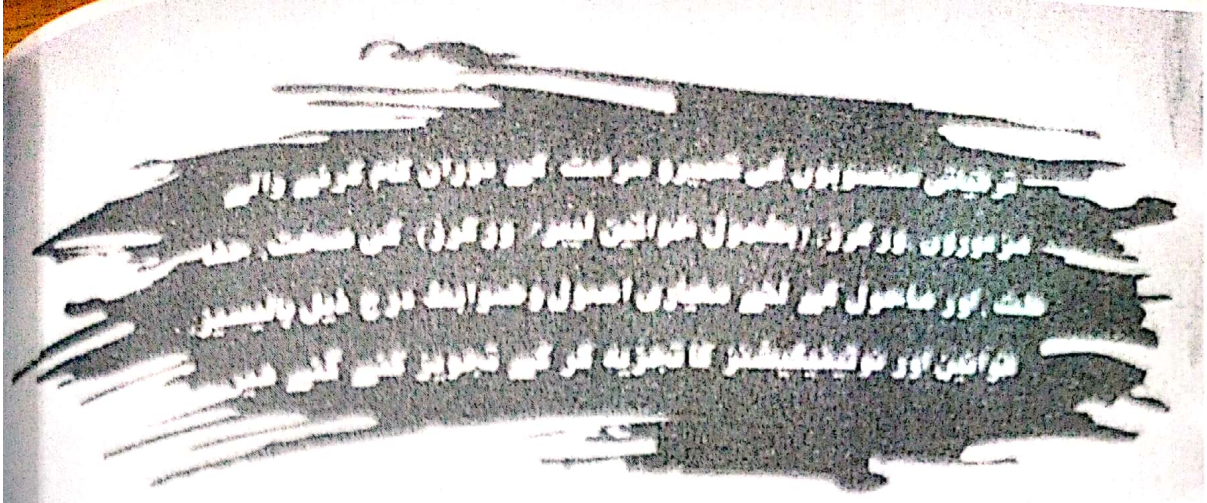
مسائل

- شور غل
- پانی کی آلودگی
- ہوائی آلودگی
- دیگر ماحولیاتی مسائل

حفاظتی اقدامات

- تعمیراتی علاقے میں موجود ہسپتالوں، سکولوں/کالجوں وغیرہ اور رہائشی گھروں/دکانوں کی تمام تفصیلات کی رپورٹ متعلقہ ... موجود ہونی چاہیے جو کہ ٹھیکیدار کے کنٹریکٹ کا حصہ ہوگی۔ اور ٹھیکیدار ان تفصیلات کے مطابق ایسا پلان ترتیب ... رہائشیوں اور دکانداروں کو کم سے کم پریشانی کا سامنا کرنا پڑے مثلاً زیادہ شور پیدا کرنے والے کام دن کے ان ... ہسپتالوں، اور سکولوں/کالجوں وغیرہ کے مصروف اوقات کار نہ ہوں اور ایسے کام جن کی وجہ سے راستوں کی عارضی بندش ضروری ہو ... کیئے جائیں جب رہائشیوں کی آمد و رفت نہ ہو۔
- تعمیراتی کاموں کے دوران پیدا شدہ فاضل پانی یا پورٹیبل ٹوائلٹس کا پانی رفضلہ وغیرہ کا محفوظ اور مناسب طریقے سے ٹھکانے لگانے کا بندوبست ... جائے اور فاضل پانی کو پینے کے صاف پانی کے ساتھ شامل ہونے سے بچانے کا ہر ممکن قدم اٹھایا جائے۔
- واٹر سپلائی کی سکیموں یا ایسی تمام کام جن کی وجہ سے رہائشیوں کو پانی یا سیوریج وغیرہ میں عارضی بندش کا سامنا کرنا پڑ سکتا ہو، ایسے تمام کاموں ... آغاز سے پہلے رہائشیوں کو پیشگی اطلاع دی جائے اور متبادل انتظامات کا خاطر خواہ انتظام کیا جائے۔
- تعمیراتی کاموں کی وجہ سے درختوں کی کٹائی سے ہر حال میں گریز کیا جائے اور ناگزیر صورت حال میں ایک درخت کی کٹائی کے متبادل کے عوض ... چار درخت لگانا ضروری ہیں۔
- تعمیراتی جگہ پر پیدا ہونے والے کوڑا کرکٹ کو ٹھکانے لگانے کیلئے ڈسٹ بن لگائے جائیں اور ان کو روزانہ کی بنیاد پر متعلقہ میونسپل کمیٹی کی طرف سے مقرر کردہ مقام پر ٹھکانے لگایا جائے۔
- کوڑا کرکٹ اور فاضل پانی اردگرد موجود فصلوں اور ندی نالوں میں پھینکنے سے گریز کریں۔
- گرد و غبار اور ہوائی آلودگی کی صورت میں پانی کا باقاعدہ چھڑکاؤ کریں۔
- تعمیراتی کام کی مدت اور نوعیت کے مطابق کام کے آغاز سے پہلے، کام کے دوران اور کام کے بعد ... آلودگی، ہوائی آلودگی اور آبی آلودگی کے نمونہ جات حاصل کر کے ان کی جانچ پڑتال کرانا ٹھیکیدار کی ذمہ داری ہے۔ اس سلسلے میں ریجنل ... میں موجود ڈپٹی پروگرام آفیسر (ESSs) سے مزید رہنمائی حاصل کریں۔
- تعمیراتی کام مکمل ہو جانے کے بعد علاقے کی صفائی ستھرائی اور ماحولیاتی خوبصورتی کا خاص خیال رکھیں اور پہلے سے بہتر حالت میں چھوڑیں۔

★ سپریم کورٹ آف پاکستان کے سوموٹو کیس نمبر 25 بمطابق 2009 حوالہ نمبر "کٹنگ آف ٹریز فار کینال روڈ وائیڈننگ پراجیکٹ لاہور" تعمیراتی کاموں کے دوران ہر ایک درخت کی کٹائی کے متبادل چار درخت لگائے جائیں گے ...



- The Punjab Occupational Health & Safety Act, 2019
- General Environment, Health & Safety (EHS) Guidelines by International Finance Corporation (IFC), World Bank
- International Labour Standards of International Labour Organization (ILO)
- Punjab Tehsil/Town Municipal Administration (Works) Rules 2003 (Amendments 2016)
- The Punjab Restriction on Employment of Children Act, 2016
- The West Pakistan Maternity Benefit Ordinance, 1958
- ESF/Safeguards Interim Note: COVID-19 Considerations in Construction / Civil Works Projects - World Bank Guidelines
- Health & safety SOPs for Construction Workers/Sector for COVID 19
- Punjab Wildlife (Protection, Preservation, Conservation and Management) Act, 1974