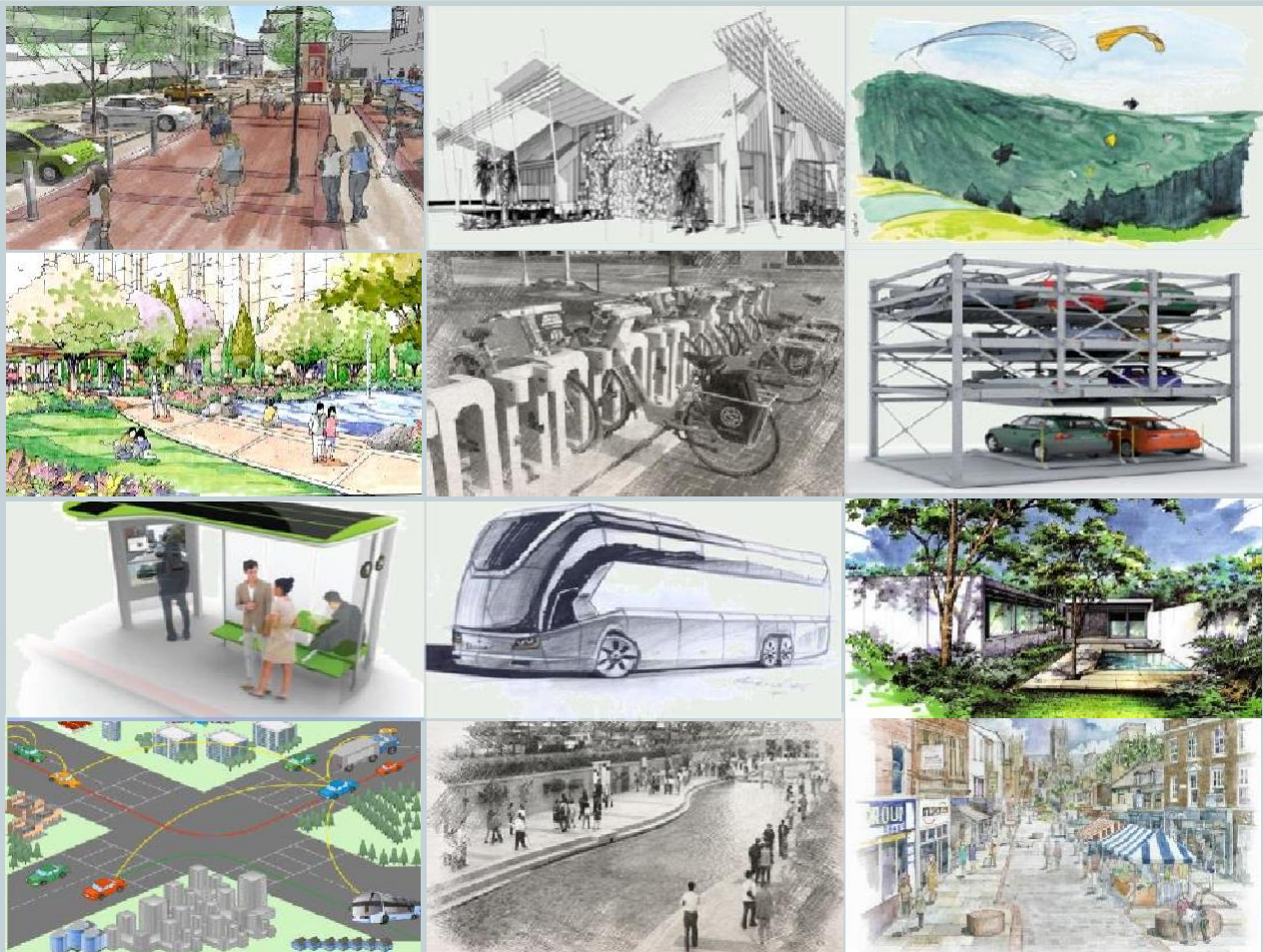




DHARAMSHALA SMART CITY LTD.



Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala

Project Development and Management Consultant



In Joint Venture with



2021, RV-0, Volume-I, Doc No:

Smart City Lighting Solutions for Dharamshala

VOLUME – I

Name of Work:

Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala

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**Dharamshala Smart City Limited
Old HIMUDA Building, Chilgari,
Dharamshala, Himachal Pradesh,
176215, Phone: 01892 – 226677**

NOTICE INVITING TENDER (NIT)

REF No.DSCL/Smart Street Lighting System/108/2020/-1751 Date: 30.12.2020

DHARAMSHALA SMART CITY LIMITED (hereafter referred to as "AUTHORITY"), invites online bids from the eligible bidders through www.hptenders.gov.in for **"Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala"**.

Detailed tender notice along with complete tender documents can be downloaded from the above website.

BID INFORMATION		
Sr. No.	Particulars	Information
1	RFP No	DSCL/11/2020
2	Scope of work	Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala
3	Location of Work	Dharamshala
4	Estimated Cost of the work	24,92,47,827/-
5	Time of completion of the work	18 Months
6	Operation and maintenance including Defect Liability Period	5 Years
7	Type of Contract	Item Rate Contract
8	Date of issue of Tender documents online	11 th January 2021 at 17:00 hrs.
9	Last date for sending pre-bid queries *	21 st January 2021, till 17:00 hrs. at dscltender@gmail.com
10	Date, Time & Place of Pre-bid	29 th January 2021 at 15:00 hrs.

BID INFORMATION

Sr. No.	Particulars	Information
	Meeting	Pre Bid Meeting to be held through VC mode Interested Bidder shall furnished there detail & mail id to DSCL at dscltender@gmail.com
11	Last date for Online Purchase of Tender Document.	15 th February 2021 till 12:30 hrs.
12	Last date of Online submission of Bids	15 th February2021 till 17:00 hrs.
13	Last date of EMD + Hard Copy (Pre-Qualification & Technical proposal) Submission of Bids.	16 th February2021 till 12:00 hrs.
14	Date & Time for Opening of Pre-Qualification & Technical Proposal	16 th February2021 at 15:00 hrs.
15	Date & Time for Opening of Financial Proposal	To be informed later to technically qualified bidders
16	Tender document Fee	Rs.25,000/- (Rupees Twenty Five Thousand only), to be paid through Demand Draft (DD) in favour of "Dharamshala Smart City Limited"
17	Bid Security/Earnest Money Deposit (EMD)	Rs.50,00,000/- (Rupees Fifty Lakhs only)
18	Security Deposit/Performance Bank Guarantee (PBG)	5% of Contract Amount(by the successful bidder to be furnished within 15 days of issue Letter of Acceptance
19	Project Award Criteria	QCBS (Quality and Cost Based selection)
20	Bid Validity Period	180 days

***Note: -No Pre-Bid Queries will be entertained after 21st January 2021 till 17:00 hrs.**

For further details and general enquiries, prospective bidders may contact MD cum CEO, Dharamshala Smart City Limited, Old HIMUDA building, Chilgari, Distt. Kangra, PIN 176215, Himachal Pradesh during working hours before the last date and time of submission of tender document.

Any modification / corrigendum / Addendum made in Tender documents will be hosted on website. Bidders are advised to visit the website regularly till the date of submission and opening of bids.


MD-CUM-CEO

DHARAMSHALA SMART CITY LIMITED

Definitions

#	Term	Definition
1.	Agreement/ Contract	The Agreement entered between DSCL and the Systems Integrator including all attachments, schedules, annexure thereto and all documents incorporated by reference therein and all amendments, corrigendum/corrigenda, changes thereto
2.	Authority	The use of term Authority in the RFP means "Dharamshala Smart City Limited"
3.	Bidder	The use of the term "SI" in the RFP means the System Integrator or the Lead Member of the consortium of firms not exceeding three, who participate in the bidding process.
4.	Bid/Proposal	Offer by the SI to fulfil the requirement of the Client/Authority under the RFP/Contract for an agreed price. It shall be a comprehensive technical and commercial response to the RFP.
5.	Breach	A breach by SI of any of its obligations under this RFP.
6.	Client	Refers to Dharamshala Smart City Limited (DSCL)
7.	Confidential Information	All information including Departmental data (whether in written, oral, electronic or other Format) which relates to the technical, financial and business affairs, dealers, suppliers, products, developments, operations, processes, data, trade secrets, design rights, know-how, plans, budgets and personnel of each department and its affiliates which is disclosed to or otherwise learned by the other Party in the course of or in connection with this RFP (including without limitation such information received during negotiations, location visits and meetings in connection with this RFP).

8.	Consortium	The consortium consist of multiple members (not more than 3 parties including the lead bidder) entering into a Consortium Agreement for a common objective of satisfying the Authority's requirements & represented by Lead Member of the consortium.
9.	Control	In relation to any business entity, the power of a person to secure: a) by means of the holding of shares or the possession of voting power in or in relation to that or any other business entity, or b) by virtue of any powers conferred by the articles of association or other document regulating that or any other business entity, that the affairs of the first mentioned business entity are conducted in accordance with that person's wishes and in relation to a partnership, means the right to a share of more than one half of the assets, or of more than one half of the income, of the partnership.
10.	Deliverables	Products, infrastructure and services agreed to be delivered by the SI in pursuance of the agreement as defined more elaborately in the RFP Implementation and the Maintenance phases and includes all documents related to the user manual, technical manual, design, process and operating manuals, service mechanisms, policies and guidelines (such as security related, data migration related), inter alia payment and/or process related etc., source code and all its modifications.
11.	e-procurement Portal	Means the electronic tendering system of the Authority.
12.	Intellectual Property Rights	Intellectual property rights include patents, copyright, industrial design rights, trademarks, plant variety

		rights, trade dress, and geographical indications.
13.	Month	The Month shall mean calendar month & Week shall mean calendar week.
14.	Operating Cost	Operating Cost is the cost incurred by Authority after the Go-Live of the project.
15.	Parties	Authority and Bidder for the purposes of this RFP and "Party" shall be interpreted accordingly.
16.	Performance Bank Guarantee	Unconditional guarantee provided by the Bidder from a Nationalized/Scheduled Commercial Bank in favour of the Authority for 5% of the Total Project Cost.
17.	Project Implementation	Project Implementation as per the testing standards and acceptance criteria prescribed by Authority or its nominated agencies.
18.	Request for Proposal/ RFP Document	Written solution that conveys to the Bidder, requirements for products/ services that the Authority intends to buy and implement.
19.	Service Level	The level of service and other performance criteria which will apply to the Services delivered by the Bidder.
20.	SLA	Performance and Maintenance SLA executed as part of Master Service Agreement; as specified in Volume III .
21.	Software	Software designed, developed / customized, tested and deployed by the Bidder for the purposes of the Project and includes the source code (in case of Bespoke development) along with associated documentation, which is the work product of the development efforts involved in the Project and the improvements and enhancements effected during the term of the Project, but does not include the third party software products (including the COTS products used for the product), proprietary software

		components and tools deployed by the Bidder.
22.	Successful Bidder	The bidder who is qualified & successful in the bidding process and is given the award of Contract and will be referred to as Master Systems Integrator (SI)
23.	Operations and Maintenance	Operations and Maintenance services for the street light system, software, hardware and other IT and Non-IT infrastructure installed as part of the project after Phase wise 'Commissioning/Go-Live'and for a period of 5 years from the date of phase wise Go-Live.

1. Section:1

1.1 Disclaimer

The information contained in this Request for Proposal document ("**RFP**") whether subsequently provided to the SI ("SI's,") verbally or in documentary form by Dharamshala Smart City Limited (henceforth referred to as "**DSCL**" in this document) or any of its employees or advisors, is provided to Bidders on the terms and conditions set out in this Tender document and any other terms and conditions subject to which such information is provided.

This RFP is not an agreement and is not an offer or invitation to any party. The purpose of this RFP is to provide the SI or any other person with information to assist the formulation of their financial offers ("**Bid**"). This RFP includes statements, which reflect various assumptions and assessments arrived at by DSCL in relation to this scope. This Tender document does not purport to contain all the information each SI may require. This Tender document may not be appropriate for all persons, and it is not possible for the MD cum CEO, DSCL and their employees or advisors to consider the objectives, technical expertise and particular needs of each Bidder. The assumptions, assessments, statements and information contained in the Bid documents, may not be complete, accurate, adequate or correct. Each SI must therefore conduct its own analysis of the information contained in this RFP and to seek its own professional advice from appropriate sources.

Information provided in this Tender document to the Bidder is on a wide range of matters, some of which may depend upon interpretation of law. The information given is not intended to be an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. DSCL accepts no responsibility for the accuracy or otherwise for any interpretation of opinion on law expressed herein.

DSCL and their employees and advisors make no representation or warranty and shall incur no liability to any person, including the SI under law, statute, rules or regulations or tort, the principles of restitution or unjust enrichment or otherwise for any loss, cost, expense or damage which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise, including the accuracy, reliability or completeness of the RFP, and any assessment, assumption, statement or information

contained therein or deemed to form part of this RFP or arising in any way in this Selection Process.

DSCL also accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any SI upon the statements contained in this RFP. DSCL may in its absolute discretion, but without being under any obligation to do so, can amend or supplement the information in this RFP.

The issue of this Tender document does not imply that DSCL is bound to select a SI or to appoint the Selected SI (as defined hereinafter), for implementation and DSCL reserves the right to reject all or any of the SI's or Bids without assigning any reason whatsoever.

The SI shall bear all its costs associated with or relating to the preparation and submission of its Bid including but not limited to preparation, copying, postage, delivery fees, expenses associated with any Proof of Concept (PoC), demonstrations or presentations which may be required by DSCL or any other costs incurred in connection with or relating to its Bid. All such costs and expenses will remain with the SI and DSCL shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a SI in preparation for submission of the Bid, regardless of the conduct or outcome of the Selection process.

2. Section:2

2.1 List of Abbreviation

Abbreviation	Description
API	Application Programming Interface
AMI	Advance Metering Infrastructure
BoM	Bill of Material
BOQ	Bill of Quantity
BIS	Bureau of Indian Standard
CA	Chartered Accountant
CAPEX	Capital Expenditure
CB	Capacity Building
CCA	Controller of Certifying Authorities
CCC	Command and Control Centre
CCMS	Centrally Controlled Monitoring System
CEIG	Chief Electrical Inspector to Government (India)
CV	Curriculum Vitae
DSCL	Dharamshala Smart City Limited
DMC	Dharamshala Municipal Corporation
DC	Data Centre
DLF	Defect Liability period
DSC	Digital Signature Certificate
EMD	Earnest Deposit Money
ERP	Enterprise Resource Planning
GIS	Geographic Information System
GPRS	General Packet Radio Service
GPS	Global Positioning System
GSM	Global System for Mobile Communications
GST	Goods and Service Tax
HIMUDA	Himachal Pradesh Urban Development Authority
HPSEBL	Himachal Pradesh State Electric Board Limited

HPPWD	Himachal Pradesh Public Works Department
HPERC	HP Electricity Regulatory Commission
HD	High Definition
HDPE	High Density Polyethylene
IBMS	Integrated Building Management System
ICCC	Integrated Command & Control Centre
ICT	Information and Communication Technology
IEC	Information, Education and Communication
INR	Indian Rupee
IP	Internet Protocol
IR	Infra-Red
IRC	Indian Road Congress
ISP	Internet Service Provider
ISO	International Organization for Standardization
KPI	Key Performance Indicator
KVM	Keyboard, Video display unit and Mouse unit
LAN	Local Area Network
LED	Light Emitting Diode
LOI	Letter of Intent
LOA	Letter of Award
MIS	Management Information System
MoU	Memorandum Of Understanding
MPLS	Multi-Protocol Label Switching
MSME	Micro, Small and Medium Enterprises
NDA	Non-Disclosure Agreement
NSP	Network Service Provider
NLC	National Lighting Code
OEM	Original Equipment Manufacturer
OPEX	Operating Expenditure
OH	Overhead
O & M	Operation and Maintenance

PAN	Permanent Account Number
POC	Proof of Concept / Pilot Demonstration
PKI	Public Key Infrastructure
QCBS	Quality and Cost Based Solution
RFID	Radio-Frequency Identification
RFP	Request for Proposal
ROW	Right of Way
SI	Systems Integrator
SCADA	Supervisory control and data acquisition
SLA	Service Level Agreement
TIA	Tender Inviting Authority
TPA	Third Party Auditor
UAT	User Acceptance Testing
UPS	Uninterrupted Power Supply
UG	Underground

3. Section: 3

3.1 Structure of RFP

Dharamshala Smart City Ltd hereby invites for RFP for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala under the smart city initiatives. The Request for Proposal (RFP) consists of three volumes viz.

1. **RFP Volume 1: Instruction to Bidders**

Volume 1 details the instructions with respect to the bid process management, technical evaluation framework, and the technical & financial forms.

2. **RFP Volume 2: Scope of work including Functional & Technical Specifications**

Volume 2 of the RFP provides information regarding the project components, scope of services, functional and technical specifications, design guidelines, Project Implementation Plan, details of the existing infrastructure and project geographical coverage.

3. **RFP Volume 3: General condition of contract, SCC and Service Level Agreement**

Volume 3 contains the contractual, legal terms & conditions and service levels applicable for the proposed engagement.

4. Section:4

4.1 Introduction of Dharamshala Municipal Corporation

The Municipality of Dharamshala is one of the oldest municipalities. In 1849, Dharamshala was founded by Britisher's and used as a cantonment for the troops; it was earmarked as the summer capital. In 1855 it was declared as headquarter of Kangra District. On 6 May 1867, the municipality was established. On October 5, 2015 it was declared as a Municipal Corporation under the Himachal Pradesh Municipal Act 1994 by merging 9 adjacent villages.

The total area of Dharamshala Municipal Corporation is 27.6 Sq. Km consisting of 17 wards. The total population of the city is 53,543 as per 2011 census with 18,000 households.

4.2 Introduction of Dharamshala Smart City Limited

Dharamshala is one of the shortlisted cities for the smart city initiative under Ministry of Urban Development, Government of India. Under the Smart Cities Project of Government of India, Dharamshala city in the state of Himachal Pradesh has been selected for implementation of Smart City solutions.

Government of Himachal Pradesh has created a Special Purpose Vehicle known as "Dharamshala Smart City Limited" (DSCL) for the purpose of overall coordination for planning, coordination and the implementation of the Smart Cities Initiative of the government of India.

The Smart City solutions are envisaged at identified locations across the Dharamshala City which would cover Market places, Government Offices, Recreation Spots, Parks, Bus Stands and City Bus stops, Tourist locations, Holy places, Educational Institutions, Traffic junctions, Entry and Exit points of the city, Parking Locations etc.

5. Section:5– Key Events & Dates

5.1 Key Events

S. No.	Activity	Deadline
1	Date of issue of Tender documents online	11 th January 2021 at 17:00 hrs.
2	Last date for sending pre-bid queries *	21 st January 2021, till 17:00 hrs. at dscltender@gmail.com
3	Date, Time & Place of Pre-bid Meeting	29 th January 2021 at 15:00 hrs. Pre Bid Meeting to be held through VC mode Interested Bidder shall furnished there detail & mail id to DSCL at dscltender@gmail.com
4	Last date for Online Purchase of Tender Document.	15 th February 2021 till 12:30 hrs.
5	Last date of Online submission of Bids	15 th February2021 till 17:00 hrs.
6	Last date of EMD + Hard Copy (Pre-Qualification & Technical proposal) Submission of Bids.	16 th February2021 till 12:00 hrs.
7	Date & Time for Opening of Pre-Qualification & Technical Proposal	16 th February 2021 at 15:00 hrs.

6. Section:6– Project Background

6.1 Implementation & Integration Scope of work for SI

S.no	System Description	Implementation	Integration with ICC
1	Proposed SmartLED Light	Yes	Yes
2	Existing Smart LED lighting	Yes	Yes
3	Proposed CCMS Panel System	Yes	Yes
4	Underground Cabling	Yes	Yes
5	Overhead Cabling	Yes	Yes
6	Earthing Protection System	Yes	Yes
7	IT Control-cum-Call Centre 24X7	Yes	Yes
8	GIS Mapping	Yes	Yes

6.2 Dismantling, Transportation and Re-installation of Infrastructure.

The System Integrator shall be responsible for dismantling the temporary infrastructure of field locations, within DMC Dharamshala limits. The SI shall be expected to share a strategy for execution of dismantling works and their reinstallation with minimum damage as part of their approach and methodology document submitted in technical bid.

6.3 GIS Mapping Integration

The System Integrator shall be responsible for integration of all layers mentioned in above table in section 6.1 on GIS. Also show all layers on CCMS Dashbaord.

7. Section:7

7.1 Instructions for Registration and Online Bid submission

These conditions will over-rule the conditions stated in the tender documents, wherever relevant and applicable.

- 1) Instructions to the Bidders to submit the bids online through the Central Public Procurement Portal for e-Procurement at <https://hptenders.gov.in/nicgep/app>
- 2) Registration of the Contractors on the website '<https://hptenders.gov.in/nicgep/app>'
- 3) All the SI registered / intending to register with DSCL, intending to buy the tender document online, are required to register for Electronic Tendering on the website <https://hptenders.gov.in/nicgep/app> order to participate in the tenders floated using the Electronic System.
- 4) The System Integrator registered with other department's electronic systems who are also eligible to participate in the tenders are also required to be registered on the Electronic System in OPEN category.
- 5) For more details, please see the information in Registration Info link on the home page.

7.2 Obtaining a Digital Certificate:

- 1) The bids submitted online should be signed electronically with a Digital Certificate to establish the identity of the bidder bidding online. These Digital Certificates are issued by an approved certifying authority, authorized by the controller of Certifying Authorities, Government of India.
- 2) A Digital Certificate is issued upon receipt of mandatory identity proofs and verification letters attested by the banker with whom the contractor maintains the account with. Only upon the receipt of the required documents, a digital certificate can be issued.
- 3) The registered SI may obtain (Class II or Class III Certificates with signing key usage) issued by SIFY/TCS/nCode/eMudra or any Certifying Authority or Sub-Certifying Authority authorised by the Controller of Certifying Authorities (CCA) India on eToken/Smart Card, should be registered, or may obtain information and application format and documents required to issue of digital certificate from:

- 4) Bid for a particular tender may be submitted only using the digital certificate, which is used to encrypt the data and sign the hash during the stage of bid preparation and hash submission. In case, during the process of a particular tender, the user loses his digital certificate (i.e. due to virus attack, hardware problem, operating system problem); he may not be able to submit the bid online. Hence, the users are advised to back up to certificate and keep the copies at safe place under proper security to be used in case of emergencies.
- 5) In case the digital certificate issued to the authorised user of a firm is used for signing and submitting a bid it will be considered equivalent to a no-objection certificate/power of attorney to that user. The firm has to authorize a specific individual via an authorisation certificate signed by all partners to use the digital certificate as per Indian Information Technology Act 2000. Unless the certificate is revoked, it will be assumed to represent adequate authority of the user to bid on behalf of the firm for DSCL tenders as per Information Technology Act 2000. The digital signature of this authorized user will be binding on the firm. It shall be the responsibility of management/partners of the registered firm to inform the certifying authority or Sub Certifying Authority, if the authorized user changes, and apply for a fresh digital certificate and issue a 'authorization certificate' for the new user. The procedure for application of a digital certificate will remain the same for the new user.
- 6) The same procedure holds true for the authorized users in a private/public limited company. In this case, the authorization certificate will have to be signed by the directors of the company.

7.3 Set up of machine

In order to operate on the electronic tender management system, a user's machine is required to be set up. A help file on setting up of the system can be obtained from the home page of the website - ['https://hptenders.gov.in/nicgep/app'](https://hptenders.gov.in/nicgep/app).

7.4 Online Viewing of Detailed Notice Inviting Tenders:

The contractors can view the detailed NIT and the detailed time schedule (Key Dates) on the website - ['https://hptenders.gov.in/nicgep/app'](https://hptenders.gov.in/nicgep/app)

7.5 Purchase of Tender Documents:

Online Purchase / Download of Tender Document: The tender documents can only be downloaded from the electronic tendering website [`https://hptenders.gov.in/nicgep/app`](https://hptenders.gov.in/nicgep/app) after logging in with a valid Username and Password. It is to be noted that it is mandatory that the tender document is downloaded from the electronic tendering website to be able to submit electronic bids.

7.6 Submission of Bid Seal (Hash) of online bids:

Submission of bids will be preceded by submission of the digitally signed bid seal (Hash) as stated in the tender time schedule (Key Dates) published in the NIT available on [`https://hptenders.gov.in/nicgep/app`](https://hptenders.gov.in/nicgep/app)

7.7 Generation of Super Hash:

After the time of submission of Bid Seal (Hash) by the contractors has lapsed, the bid round will be closed and a digitally signed tender Super Hash will be generated by authorised DSCL official. This is equivalent to sealing the tender box.

7.8 Submission of actual online bids:

Contractors have to submit their encrypted bids online and upload the relevant documents for which they generated the hash at the stage of hash generation and submission after the generation of Super Hash within the date and time as stated in the Notice Inviting Tenders (Key Dates). The electronic bids of only the contractors who have submitted their bid seals (hashes) within the stipulated time, as per the tender time schedule (Key Dates), will be accepted by the system. A contractor who does not submit his bid seal (hash) within the stipulated time will not be allowed to submit his bid. Submission of Earnest Money Deposit:

The EMD Payment is payable through Demand Draft.

7.9 Key Schedule of Event:

The contractors are strictly advised to follow dates and times as indicated in the Key Events & Dates. The date and time as indicated in the top-right of the web-page is the system time and will be binding on all contractors. All online activities are time tracked

and the system enforces time-locks that ensure that no activity or transaction can take place outside the start and end dates and time of the stage as defined in the Factsheet.

7.10 Scope of Bid

The DSCL as defined in the Appendix to ITB invites online bids (e-tenders) as well as offline bids in sealed cover for the **"Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala"**.

- a) The successful Bidder will be expected to complete the Works by the Intended Completion Date specified in the "Package Details" and do the Project monitoring post award of work till final commissioning & project completion.
- b) Throughout these documents, the terms "bid" and "tender" and their derivatives (bidder/ tenderer, bid/ tender, bidding/ tendering, etc.) are synonymous.
- c) The contractor shall ensure that equipment conforming to latest technology and specifications are proposed.

7.11 Source of Funds

The Dharamshala Smart City LTD Dharamshala shall provide funds for the work.

8. Section 8 Instruction to Bidder

8.1 General

- a. While every effort has been made to provide comprehensive and accurate background information, requirements and envisaged solution(s) specifications, System Integrator must form their own conclusions about the solution(s) needed to meet the DSCL requirements. System Integrator and recipients of this RFP may wish to consult their own legal advisers in relation to this RFP.
- b. All information supplied by SI as part of their bids in response to this RFP, may be treated as contractually binding on the SI, on successful award of the assignment by the DSCL on the basis of this RFP.
- c. No commitment of any kind, contractual or otherwise shall exist unless and until a formal written contract has been executed by or on behalf of DSCL. Any notification of preferred bidder status by DSCL shall not give rise to any enforceable rights by the SI. DSCL may cancel this public procurement at any time prior to a formal written contract being executed by or on behalf of DSCL.
- d. Sealed bids shall be received by the DSCL on the e-Procurement portal <https://hptenders.gov.in/nicgep/app> before the time and date specified in the schedule of the tender notice. In the event of the specified date for the submission of tender offers being declared a public holiday by the Government of Himachal Pradesh, the offers will be received up to the appointed time on the next working day. The DSCL may, at its discretion, extend this deadline for submission of offers by issuing corrigendum and uploading the same on e-Procurement portal.
- e. While every effort has been made to provide comprehensive and accurate background information, requirements and envisaged solution(s) specifications, SI must form their own conclusions about the solution(s) needed to meet the DSCL requirements. SI and recipients of this RFP may wish to consult their own legal advisers in relation to this RFP.
- f. All information supplied by SI as part of their bids in response to this RFP, may be treated as contractually binding on the SI, on successful award of the assignment by the DSCL on the basis of this RFP.

- g. No commitment of any kind, contractual or otherwise shall exist unless and until a formal written contract has been executed by or on behalf of DSCL. Any notification of preferred SI status by DSCL shall not give rise to any enforceable rights by the SI. DSCL may cancel this public procurement at any time prior to a formal written contract being executed by or on behalf of DSCL.
- h. Sealed bids shall be received by the DSCL on the e-Procurement portal <https://hptenders.gov.in/nicgep/appbefore> the time and date specified in the schedule of the tender notice. In the event of the specified date for the submission of tender offers being declared a public holiday by the Government of Himachal Pradesh, the offers will be received up to the appointed time on the next working day. The DSCL may, at its discretion, extend this deadline for submission of offers by issuing corrigendum and uploading the same on e-Procurement portal.

8.2 Eligible Bidders

Bids may be submitted by either of the following categories of bidders only:

The Bidder can be either a Sole Bidder or a Consortium of companies/ corporations as described below.

8.2.1 Sole Bidder

The Sole Bidder must be a company which has the capabilities to deliver the entire scope as mentioned in the RFP. The Sole Bidder cannot bid as a part of any other consortium bid under this RFP.

8.2.2 Consortium of Firms:

Bids can be submitted by a consortium of firms. A consortium should not consist of more than 3 parties (including the Lead Bidder). One of the Firms would be designated as a "Lead Bidder". The Lead Bidder would have the sole responsibility of ensuring the delivery of products and services mentioned in all volumes of this RFP. Each consortium member will only be responsible for their scope of work. The list of Consortium Members needs to be declared in the bid which cannot be changed by the bidder later. Any change in the consortium member will need to be approved by DSCL.

8.2.3 The Lead Bidder will be responsible for:

- a) The management of all consortium members who are part of the bid, and
- b) The Design, supply, installation, Operation and Maintenance of all products and services offered in their bid and as part of the contract.

Bids submitted by a consortium should comply with the following requirements also:

- a. The Lead Bidder shall be authorized to incur liabilities and receive instructions for and on behalf of any and all consortium members. Entire execution of the Contract, including payment, shall be done exclusively by/with the Lead Bidder.
- b. Any firm which is not a Lead Bidder to this RFP cannot be a consortium member in any other bid submitted against this RFP.
- c. Any of the Lead Bidders cannot be a Consortium Member with another bidder in a separate bid.
- d. Internal arrangement between the Consortium Members is left to the bidders. It is the responsibility of the lead Bidder to ensure that all the other Consortium Members in the bid are compliant to all the clauses as mentioned in the bid, failing which bid can be disqualified.

8.2.4 Compliant Bids/Completeness of Response

1. Bidders are advised to study all instructions, forms, terms, requirements and other information in the RFP documents carefully. Submission of the bid shall be deemed to have been done after careful study and examination of the RFP document with full understanding of its implications.
2. Failure to comply with the requirements of this RFP may render the bid non-compliant and the Bid may be rejected. Bidders must:
 - a. Include all documentation specified in this RFP, in the bid
 - b. Follow the format of this RFP while developing the bid and respond to each element in the order as set out in this RFP
 - c. Comply with all requirements as set out within this RFP

8.2.5 Bidder to Inform

The Bidders shall be deemed to have carefully examined the Terms & Conditions, Scope, Service Levels, Specifications, and Schedules of this RFP. If bidder has any doubts/clarifications as to the meaning of any portion of the Conditions or the specifications, he shall, before the last date and time for Submission of Pre-Bid Queries, and submit them to Authority in writing in order that such doubt may be removed or clarifications are provided.

8.2.6 Cost of Bidding

The Bidder shall bear all costs associated with the preparation and submission of his Bid, and the DSCL will, in no case, be responsible or liable for those costs.

8.2.7 Pre-Bid Queries & Clarifications

8.2.7.1 Bidders queries

A prospective Bidder requiring any clarification of the bidding documents may notify the **DSCL** in writing or by email or by facsimile at the **DSCL's** address indicated in the Notice Inviting Tenders. The **DSCL** will respond to any request for clarification received earlier than 06 days prior to the deadline for submission of bids Copies of the DSCL's response will be forwarded to all purchasers of the bidding documents, including a description of the enquiry, but without identifying its source.

All queries/clarifications relating to this RFP must be submitted to the Dharamshala Smart City Limited. These queries should be e-mailed in both editable (MS-Excel) and non-editable Format document (Pdf) on dscltender@gmail.com before the last date as mentioned in the Fact Sheet. The queries should necessarily be submitted in the following Format:

#	RFP Part No.	Section No.	Page no.	Content of the RFP requiring clarification	Clarification Sought

If a pre-bid meeting is to be held, the bidder or his authorized representative is invited to attend it. Its date, time and address shall be intimated in Factsheet. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

Minutes of the meeting, including the text of the questions raised (without identifying the source of the enquiry) and responses given will be transmitted without delay to all purchasers of the bidding documents. Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

8.2.7.2 Responses to Pre-Bid Queries and Issue of Corrigendum

DSCL will organize a pre-bid conference **through Video Conferencing** and will respond to any request for clarification or modification of the bidding documents. DSCL shall formally respond to the pre-bid queries after the pre-bid conference. No further clarifications shall be entertained after the date and time of submission of queries.

DSCL shall endeavour to provide timely response to all queries. However, Authority makes no representation or warranty as to the completeness or accuracy of any response made in good faith. DSCL does not undertake to answer all the queries that have been posed by the SI's.

Any modifications of the RFP Documents, which may become necessary as a result of the Pre-Bid Conference, shall be made by DSCL exclusively through a corrigendum. Any such corrigendum shall be deemed to be incorporated into this RFP. However, in case of any such amendment, the bid submission date may be extended at the discretion of DSCL.

Any corrigendum/notification issued by DSCL, subsequent to issue of RFP, shall only be available/hosted on the website URL <https://hptenders.gov.in/nicgep/app> and <https://dharamshalasmartcity.in/>. Any such corrigendum shall be deemed to be incorporated into this RFP.

8.2.8 RFP Document Fee

RFP can be downloaded from the website www.hptenders.gov.in. RFP Document Fee as per the Bid Information Sheet shall be paid through Bank Demand Draft only. The RFP document fee shall be non-refundable. Without the payment of tender fee the bids will be taken as incomplete and non-responsive and shall not be considered.

8.2.9 Earnest Money Deposit

- 1 In terms of this RFP, a Bidder is required to submit EMD as per the Bid Information Sheet in the form of Demand Draft/ Fixed Deposit Receipt(s)/ Bank Guarantee issued by any nationalized/ scheduled commercial bank in favor of "MD cum CEO, DHARAMSHALA SMART CITY LIMITED", Dharamshala.
- 2 The EMD of unsuccessful bidders will be returned within 90 (ninety) days from the date of opening of the financial proposal. The Bid Security, for the amount mentioned above, of the Successful Bidder would be returned upon submission of Performance Bank Guarantee for an amount equal to 5% of Total Contract Value in the format provided in Annexure 8 of the RFP.
- 3 No interest will be paid by AUTHORITY on the EMD amount and EMD will be refunded to all the bidders (including the Successful Bidders) without any accrued interest on it.

- 4 The bid submitted without EMD, mentioned above, will be summarily rejected.
- 5 For Successful bidders: The Success bidder may request DSCL to adjust his/her EMD against the PBG, if he/she submit a written request to DSCL to do so.
- 6 The EMD may be forfeited:
 - a. If a bidder withdraws its bid or increases its quoted prices during the period of bid validity or its extended period, if any.
 - b. In case of a Successful Bidder, if the bidder fails to sign the contract in accordance with the terms and conditions or furnish the required Performance Bank Guarantee/Performance Bank Guarantee/Performance Security.
 - c. If during the bid process, a bidder indulges in any such deliberate act as would jeopardize or unnecessarily delay the process of bid evaluation and finalization.
 - d. If, during the bid process, any information is found false/ fraudulent/ mala fide, and then AUTHORITY shall reject the bid and, if necessary, initiate action.
 - e. If the Bidder does not accept the correction of the Bid Price, pursuant to Sub Clause 8.2.21
- 7 The decision of AUTHORITY regarding forfeiture of the EMD shall be final and binding upon bidders.

8.2.10 Bid Validity Period

- 1) Bids shall remain valid for a period of 180 days after the deadline date for bid submission. A bid valid for a shorter period shall be rejected by the DSCL as non-responsive.
- 2) In exceptional circumstances, prior to expiry of the original time limit, the DSCL may request that the bidders may extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing. A bidder may refuse the request without forfeiting his Earnest Money. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his earnest money for a period of the extension.

8.2.11 Authentication of Bids

An authorized representative (or representatives) of the SI shall initial all pages of the Pre-Qualification, Technical and Commercial Bids.

Bid should be accompanied by an authorization in the name of the signatory (or signatories) of the Bid. The authorization shall be in the form of a written power of attorney accompanying the Bid or in any other form demonstrating that the representative has been duly authorized to sign.

8.2.12 Amendment of Request for Proposal

At any time prior to the due date for submission of bid, Authority may, for any reason, whether at its own initiative or in response to a clarification requested by prospective SI's, modify the RFP document by amendments. Such amendments shall be uploaded on the e-procurement

Portal website, through corrigendum and shall form an integral part of RFP document. The relevant clauses of the RFP document shall be treated as amended accordingly.

8.2.13 Bid Price

Commercial Bid shall be as per the format provided in Section 8. Bidders shall give the required details of all applicable taxes, duties, other levies and charges etc. in respect of direct transaction between DSCL and the SI.

SI shall quote for the entire scope of contract on a "overall responsibility" basis such that the total bid price covers SI's all obligations mentioned in or to be reasonably inferred from the bidding documents in respect of providing the product/services.

Prices quoted by the SI shall remain firm during the entire contract period and not subject to variation on any account. A bid submitted with an adjustable price quotation shall be treated as non-responsive and rejected.

8.2.14 Deviations and Exclusions

Bids shall be submitted strictly in accordance with the requirements and terms & conditions of the RFP. The SI shall submit a No Deviation Certificate as per the format mentioned in Deviation Certificate [in section 17 Annexure 1.6](#) The bids with deviation(s) are liable for rejection.

8.2.15 Total Responsibility

SI should issue a statement undertaking total responsibility for the defect free operation of the proposed solution as per the format mentioned [in Total Responsibility certificate in section-17 Annexure 1.11](#)

8.2.16 Late Bids

Late submission will not be entertained and will not be permitted by the e-Procurement Portal.

The bids submitted by telex/telegram/fax/e-mail etc. shall not be considered. No correspondence will be entertained on this matter.

DSCL shall not be responsible for any non-receipt/non-delivery of the documents due to technical snag whatsoever at SI's end. No further correspondence on the subject will be entertained.

DSCL reserves the right to modify and amend any of the above-stipulated condition/criterion.

8.2.17 Right to Terminate the Process

DSCL may terminate the RFP process at any time and without assigning any reason. DSCL makes no commitments, express or implied, that this process will result in a business transaction with anyone. This RFP does not constitute an offer by Authority.

8.2.18 Non-Conforming bids

A bid may be construed as a non-conforming bids and ineligible for consideration:

- a. If it does not comply with the requirements of this RFP.
- b. If a bid does not follow the format requested in this RFP or does not appear to address the particular requirements of the solution.

8.2.19 Acceptance/Rejection of Bids

- a. DSCL reserves the right to reject in full or part, any or all bids without assigning any reason thereof. DSCL reserves the right to assess the Bidder's capabilities and capacity. The decision of DSCL shall be final and binding.
- b. Bid should be free of over writing. All erasures, correction or addition must be clearly written both in words and figures and attested.

In the event of any assumptions, presumptions, key points of discussion, recommendation or any points of similar nature submitted along with the Bid, DSCL reserves the right to reject the Bid and forfeit the EMD.

If there is any discrepancy in the commercial bid, it will be dealt as per the following:

- a. If, in the price structure quoted for the required goods/services/works, there is discrepancy between the unit price and total price (which is obtained by multiplying

the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly.

- b. If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected.
- c. If there is a discrepancy between words and figures, the amount in words shall prevail.
- d. If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date up to which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of Authority, the bid is liable to be disqualified.

8.2.20 Confidentiality

All the material/information shared with the Bidder during the course of this procurement process as well as the subsequent resulting engagement following this process with the successful bidder, shall be treated as confidential and should not be disclosed in any manner to any unauthorized person under any circumstances. The employees of the successful Lead bidder and Consortium members who are proposed to be deployed on the project need to furnish a Non-Disclosure Agreement (NDA) as per RFP Volume III.

8.2.21 Disqualification

The bid is liable to be disqualified in the following cases or in case bidder fails to meet the bidding requirements as indicated in this RFP:

- a. During validity of the bid, or its extended period, if any, the bidder changes its quoted prices
- b. The bidder's bid is conditional and has deviations from the terms and conditions of RFP
- c. Bid is received in incomplete form
- d. Bid is not accompanied by all the requisite documents
- e. Information submitted in technical bid is found to be misrepresented, incorrect or false, accidentally, unwittingly or otherwise, at any time during the processing of the contract (no matter at what stage) or during the tenure of the contract including the extension period if any
- f. Financial bid is enclosed with the same document as technical bid.

- g. Bidder tries to influence the bid evaluation process by unlawful/corrupt/fraudulent means at any point of time during the bid process
- h. In case any one party submits multiple bids or if common interests are found in two or more bidders, the bidders are likely to be disqualified, unless additional bids/bidders are withdrawn upon notice immediately
- i. If any of the Lead Bidder is also partner in any other bid, then all the affected bids shall be disqualified

8.2.22 Bid Prices

- 1)** System Integrator Scope of Work, as described in Section 6.1 to 6.3 of this document and section 5 to 6 of Volume 2 of RFP.
- 2)** The Bidder shall adopt the Item Rate Method as specified in the Price Schedule. Item Rate Method requires the bidder to quote rates and prices for all items of the Works described in the Price Schedule. The items for which no rate or price is entered by the Bidder will not be paid for by DSCL when executed and shall be deemed covered by the other rates and prices in the Price Schedule.
- 3)** All duties, taxes, royalties and other levies payable by the System Integrator under the Contract, or for any other cause, shall be included in the rates, prices, and total Bid price submitted by the Bidder.
- 4)** The rates and prices quoted by the Bidder shall be fixed for the duration of the Contract.

8.2.23 Site Visit

The Bidder, at his own cost, responsibility and risk, is encouraged to visit, examine and familiarise himself with the Site of Works availability of power supply etc. and obtain all information that may be necessary for preparing the Bid and entering into a contract for Project Work. He may contact the person whose contact details are given in the Package Details.

The Bidders are deemed to have made the assessment of actual quantities of various items required to be carried out to complete the **“Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala”**.

8.2.24 Currencies of Bid

The unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees.

8.2.25 One Bid per Bidder

- 1) Each Bidder shall submit only one Bid for one work. The Bidder shall submit Bid online as well as offline in sealed envelope.
- 2) A Bidder who submits more than one Bid will cause the proposals to be disqualified.

8.2.26 Amendment of Bidding Documents

- 1) Before the deadline for submission of bids, the DSCL may modify the bidding documents by issuing addenda.
- 2) Any addendum thus issued shall be part of the bidding documents and shall be displayed online on the website <https://hptenders.gov.in/nicgep/app> and <http://dharamshalasmartcity.in/>
- 3) To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the DSCL shall extend, as necessary, the deadline for submission of bids.

8.2.27 Inclusion of MSMEs in Project Delivery

Bidders should include Micro, Small and Medium Enterprises (MSMEs) in the delivery of the project. Bidders should earmark a minimum of 20 % of the total contract for procuring goods and services from MSMEs. Activities that can be sub-contracted to MSME/MSE partners are restricted to those defined under Sub-Contracting Clause **8.2.29**

8.2.28 Corrupt or Fraudulent Practices

The DSCL requires the bidders/Contractors to strictly observe the laws against fraud and corruption in force in India, namely, Prevention of Corruption Act, 1988.

8.2.29 Subcontracting

No sub-contracting shall be allowed except for the tasks / areas mentioned below:

- a) Lux level and infrastructure surveys
- b) Civil work during implementation.
- c) Cabling and fixtures work, electric work during implementation
- d) Facility Management staff for Non-IT support during post implementation

Sub-contracting would need to adhere to the following conditions:

1. All sub-contract in g arrangements shall be signed contracts, entered by the bidder (lead bidder in case of consortium) with the concerned parties.
2. Any changes in sub-contractors must be approved by DSCL prior to conclusion of

any contract between the bidder and the sub-contractor.

3. DSCL retains the right to request discontinuation of sub-contracting of activities, if the work being carried out is not as specified in the RFP.
4. DSCL reserves its right to subject the sub-contractors to security clearances, as it deems necessary.
5. Sub-contracting shall not dilute the responsibility and liability of the bidder. The lead bidder shall be held responsible for any delay /error / non-compliance etc. by its sub-contracted vendor.
6. Sub-contracting shall be allowed only with prior written approval of Authority. However, even if the work is sub-contracted, the sole responsibility of the work shall lie with the lead bidder. The lead bidder shall be held responsible for any delay/error/non-compliance etc. of its sub-contracted vendor. The details of the sub-contracting agreements (if any) between both the parties would be required to be submitted to Authority.

8.2.30 Eligible Goods and Services, and OEM Criteria:

S.no	OEM Criteria	Qualification Documents
1	For purposes of this Clause, the term "goods" includes commodities, raw material, machinery, equipment, and industrial plants; and "related services" includes services such as insurance, transportation, supply, installation, integration, and testing, commissioning, training, and initial maintenance.	
2	The OEM for each products or technology quoted should be in the business of that product or solution or technology for at least 5 years as on the date of release of the RFP.	
3	Bidder must quote products in accordance with above clause "Eligible goods and related services".	
4	OEM should have an average annual turnover of INR 80 Crore from lighting business in last 3 years.	Submitted Annual Turnover as per annexure 1.7

5	OEM shall have minimum 10 years experience in LED Fixtures/Luminaries, Street Light controllers, street light gateways, Smart Feeder panels, and Central street light management system.	Submit Experience Certificate as per annexure 1.12
6	OEM should have cumulative sale of 1,00,000 number of street light luminaire in last 3 years.	Submit Experience Certificate as per annexure 1.12
7	OEM should have supplied / installed minimum 3,000 Smart Street Lighting fixtures in last 3 years.	Submit Work order
8	OEM Shall have experience in supply and successful commissioning of RF/ 6 LoPAN / LPWAN / LORA /NBIOT / GSM / ZigBee / PLC etc based communication technology in India for minimum 200 points / nodes in street light system or any other urban smart application. Urban smart application is defined as smart components like Smart Solid waste management (Smart Bins), smart parking, Smart environment sensors, Smart Poles etc.	Submit Work order
9	The OEM of each product or technology should have quality certifications like ISO 9001/ ISO 20000/ISO 14001/ISO 27001 or equivalent.	Issuing By: Issuing Date: Validity Date:
10	All the OEMs should have authorized presence in India either directly or indirectly.	Registration certificate
11	OEM should not have been blacklisted by any State/ Central Government Department or Central/State PSUs as on bid submission date.	Reference No: Date of Letter: as per annexure 1.8
12	The bidder's proposed OEM should not have filed for bankruptcy.	Submit Certificate
13	Bidder should submit OEM undertaking with all above details.	Submit undertaking

14	Proposed OEMs of major critical components, infrastructure should have spare depots in same or nearby states. Bidder should maintain sufficient spares locally, to adhere to SLAs & uptime as per RFP.	
15	Bidder's solution shall adhere to the model framework of cyber security requirements set for Smart City (K-15016/61/2016-SC-1, Government of India, and Ministry of Urban Development).	

9. Section:9

9.1 BID Submission checklist Formats

9.1.1 Pre-Qualification Checklist Format

S.no	List of Document	File Name	Submitted (Yes/No)	Description
1	<p>The Bidder (Sole Bidder or together as a Consortium) should have an average annual turnover of minimum INR 40 crore for the last three audited financial years out of which average annual turnover of minimum INR 50% (of last three audited financial years) should be from lighting business.</p> <ul style="list-style-type: none"> Refer format given in Annexure 1.7. 	•	<ul style="list-style-type: none"> Certificate from the Chartered Accountant on turnover details from the lighting business / street lighting business / smart city IT/ITES business, as applicable, over the last three audited financial years. Refer format given in Annexure 1.7. Work Orders of lighting projects completed in 	

			<p>last 3-years.</p> <ul style="list-style-type: none"> In case, audited report for F.A. 2017-18 is not available, certificate from Statutory Auditor / CA to this effect of fulfil this requirement be provided, and the audited report be provided within 30 days of its availability. 	
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2	<p>The Bidder (Sole Bidder or together as a Consortium) should have successfully “supplied” or “installed and commissioned” till Go-Live / Completed;</p> <ul style="list-style-type: none"> • One no. of Smart Led based street lighting project consisting of 21,000 or more than fixtures. or • Two no. of Smart Led based street lighting project consisting of 14,000 to 20999 fixtures. or • Three no. of Smart Led based street lighting project consisting of 7,000 TO 13,999 fixtures. 		<ul style="list-style-type: none"> • Copy of work order (Scope and Bill of Quantity Clearly mentioned) + Completion Certificate. • Copy of Phase Completion/ Go-live Certificates issued from the competent Authority (Scope and Bill of Quantity Clearly mentioned in case of ongoing project). 	
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3	The Bidder shall have been engaged in Operation & Maintenance Contract of minimum 5000 nos. of LED Street Lighting Poles with Centralized Control and Monitoring System In last 5 (Five) years		Completion certificate, work order for ongoing contracts as per attached format duly certified by the competent authority	
4	Minimum number of relevant workers employed with the applicant (Sales, Creative and Technical Design, Estimation, Purchase, Installation and maintenance of permanent lighting and illumination)		The applicant should have a minimum of 20 full time workers either permanently employed or under long term contract for the business of lighting and illumination. The applicants shall produce qualifying documents establishing last 6 months of continuous employment with the applicant	

			attested by their auditors / chartered accountants.	
5	The Bidder (Each of consortium members in case of consortium) should have a positive net worth as on last date of latest audited financial years and Lead Bidder should have positive net worth of at least 20 Crores.		Supporting Document Required: Completion certificate SI to provide supporting documents along with third party Reports refer to Annexure 1.12	
6	The Bidder shall have in the past three financial years Minimum experience of supply and installation of Street Lighting Network minimum 30 km and above in Rural/Greenfield/Urban Areas/Local ULB or any Smart cities in india".		SI to provide Certificate from the CA/Company Secretary clearly specifying the Net Worth for latest Audited financial years to be provided. refer to Annexure 1.12	
7	Minimum experience of supply and			

	installation of overhead Cabling/underground cabling in Street Lighting minimum 100 KM in Rural/Greenfield/Urban Areas/Local ULB or any Smart cities in india"			
8	Proof of Tender Fee and EMD submitted		Reference No: Date of Letter:	
9	Pre-Qualification Bid Cover Letter As per format provided at Annexure 1.1		Name of bidder(s):	
10	Particulars Bidders' information or consortium member As per format provided at Annexure 1.2			
11	Bidders' Project Citation As per format provided at Annexure 1.3		Date of PoA:Name of Authorized Person:	
12	Power of Attorney in favour of Authorized signatory As per format provided at Annexure 1.4			
13	Consortium Agreement As per format provided		Reference No: Date of Letter:	

	at Annexure 1.5			
14	No Deviation Certificate Bidders' As per format provided at Annexure 1.6		Reference No: Date of Letter:	
15	Declaration for Not blacklisted by Central/State Government/ PSU entity in India or similar agencies globally for unsatisfactory past performance, corrupt, fraudulent or any other unethical business practices as on date of submission of the proposal. As per Annexure 1.8			
16	Format of EMD As per Annexure 1.9			
17	Lead Bidder and Consortium Members Details As per Annexure 1.10		Reference No: Date	
18	Certificate of Total Responsibility as per Annexure 1.11		Issuing By: Issuing Date: Validity Date:	
19	Valid copy of the ISO 9001 or higher certification		Reference No	



Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala



DharamshalaSmart city Ltd.

20	Valid Copy of PAN		Reference No: Date	
21	Valid Copy of GSTIN Registration			

9.1.2 Technical BID Format checklist

S.no	List of Document	File Name	Submitted (Yes/No)	Description
1	Technical BID cover Letter Bidders' As per format provided at Annexure 2.1		Reference No: Date of Letter:	
2	Project Plan As per Annexure 2.2		Reference No: Date of Letter:	
3	Manufacturer Authorization Form As per Annexure 2.3		Reference No: Date of Letter:	
3	For Unpriced Bill of Material as per Annexure 2.4		Reference No: Date of Letter:	
4	Information about the Software Component being proposed as per Annexure 2.5		Reference No: Date of Letter:	
5	Anti-Collusion Certificate as per Annexure 2.6		Reference No: Date of Letter:	

Financial BID Format Checklist

S.no	List of Document	File Name	Submitted (Yes/No)	Description
1	Financial BID cover Letter Bidders' provided at as per format Annexure 3.1		Reference No: Date of Letter:	
2	Financial BOQ download from HP e-procurement Portal https://hptenders.gov.in/nicgep/app		Only Online submission	

2	Project Plan as per Annexure 3.2		Reference No: Date of Letter:	
3	Manufacturer Authorization form as per Annexure 3.3		Reference No: Date of Letter:	

Physical Cover (To be Submitted in Hard Copy) Document Checklist

S.no	List of Document	File Name	Submitted (Yes/No)	Description
1	Original Bank Guarantee for EMD			
2	Tender Fee Receipt		Demand Draft	
3	Original Power of Attorney			

All bidders shall provide Forms of Bid and Qualification information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.

- 1) All bidders shall include the following information and documents with their bids, Qualification Information unless otherwise stated in the **Appendix to ITB**:
- 2) Copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the Bid to commit the SI.
- 3) Experience in works in the last five years, and details of works in progress or contractually committed with certificates from the concerned officer of the rank of Executive Engineer or equivalent or Authorized Signatory;
- 4) Details of the technical personnel proposed to be employed for the SI work.
- 5) Reports on the financial standing of the SI, such as profit and loss statements and auditor's reports for the past three years;
- 6) The proposed methodology and programme of System Integration work, backend with manpower planning and deployment, duly supported with broad calculations and Quality Management Plan proposed to be adopted, justifying their capability of carrying out the SI work as defined under the Scope of work and within the stipulated period of completion.
- 7) Each bidder/ Lead bidder in case of consortium must produce:

An affidavit that the information furnished with the bid documents is correct.

8) Each bidder / Lead bidder in case of consortium must demonstrate:

Availability of technical personnel for the work as stated in the Technical criteria of Tender document.

9) The bidder must not have in his employment:

- a) The near relations (defined as first blood relations, and their spouses, of the bidder or the bidder's spouse) of persons listed in the Appendix to ITB.
- b) Without Government permission, any person who retired as gazetted officer within the last two years of the rank and from the departments listed in the Appendix to ITB.

10. Selection10 BID opening & Evaluation

10.1 Bids Opening

- a) The Bids shall be opened by DSCL in presence of those Bidders or their representatives who may be present at the time of opening.
- b) DSCL reserves the rights at all times to postpone or cancel a scheduled Bid opening
- c) There will be two bid-opening events
 - a. **Stage 1**-RFP Document fee & Bid Security/EMD, Pre-Qualification Proposal, Presentation and Technical Proposal
 - b. **Stage 2**- Financial Proposal
- d) The venue, date and time for opening the Pre-qualification bid are mentioned in the Fact sheet.
- e) The date and time for opening of Technical & Commercial bid would be communicated to the qualified bidders.
- f) The Technical Bids of only those bidders will be opened who clears the Pre-qualification stage.
- g) The Financial Bids of only those bidders will be opened who score equal to or more than qualifying marks in Technical Bid.

10.2 Evaluation Process

- 10.2.1** DSCL will constitute a Bid Evaluation Committee (BEC) to evaluate the responses of the bidders.
- 10.2.2** The BEC constituted by DSCL shall evaluate the responses to the RFP (Cover 1 and Cover 2) and all supporting documents / documentary evidence. Inability to submit requisite supporting documents / documentary evidence, may lead to rejection.
- 10.2.3** The decision of the BEC in the evaluation of responses to the RFP shall be final. No correspondence shall be entertained outside the process of negotiation/discussion with the Committee.
- 10.2.4** The BEC may ask for meetings with the Bidders to seek clarifications on their proposals and may visit Bidder's Site to validate the credentials/ citations claimed by the bidder.
- 10.2.5** The BEC reserves the right to reject any or all proposals on the basis of any deviations.
- 10.2.6** Each of the responses shall be evaluated as per the criteria and requirements specified in this RFP.
- 10.2.7** Please note that BEC may seek inputs from their professional, external experts in the Bid evaluation process.

The decision of the Tender Evaluation Committee in the evaluation of bids shall be final. No correspondence will be entertained outside the process of evaluation with the Committee. The Tender Evaluation Committee may ask for meetings or presentation with the Bidders to seek clarifications or conformations on their bids.

The Tender Evaluation Committee reserves the right to reject any or all bids. Each of the responses shall be evaluated as per the criteria and requirements specified in this RFP.

The steps for evaluation are as follows:

(a) Stage 1: Evaluation of Pre-Qualification

- a. Authority shall validate the Set 1 "Tender Document Fee & Bid Security/Earnest Money Deposit (EMD)".

- b. If the contents of the Stage 1 are as per requirements, Authority shall open the "Pre-Qualification Bid". **Each of the Pre-Qualification condition mentioned in Section 11.1 is MANDATORY.** In case, the Bidder does not meet any one of the conditions, the bidder shall be disqualified.

Bidders would be informed of their qualification/disqualification based on the Pre-Qualification criteria through Email and Phone and subsequently, the Bid Security amount shall be returned as per section 8.2.9.

- c. Technical and Financial bids for those bidders who don't pre-qualify will not be opened. Financial bid will not be opened for those bidders, who don't qualify the technical evaluation. EMD/Bid Security amount shall be returned for those who don't qualify the financial evaluation stage and after PBG is submitted by successful bidder.

(b) Stage 2: Evaluation of Technical Proposal

The evaluation of the Technical Proposals will be carried out in the following manner:

- a) DSCL will review the technical bids along with the presentation of the short-listed bidders to determine whether the technical proposals are substantially responsive. Bids that are not substantially responsive are liable to be disqualified at DSCL discretion.
- b) The bidders' technical solutions proposed in the bid document shall be evaluated as per the requirements specified in the RFP
- c) Bidders may be asked to give demonstration of the envisaged solution to Authority as per the demo scripts that shall be shared with the Bidders who qualify the Pre-Qualification Stage.
- d) Bidders submit in detailed- "**Approach & Methodology & Solutions proposed**"
- e) Each Technical Bid will be assigned a technical score out of a maximum of 100 marks. (Refer Section only the bidders who get an Overall **Technical score of 70%** or more and minimum 50% in each section of the Technical Evaluation Framework as given in **Section 12.1** will qualify for commercial evaluation stage. Failing to secure minimum marks shall lead to technical rejection of the Bid.

Analysis of Technical bid

In this part, the technical bid will be analysed and evaluated and the technical; bid marks (**TS**) shall be assigned to each bid on the basis of following evaluation matrix.

Technical Bid Score: The Technical Bid Score "TS" of the Bidder shall be derived as under:

$$\mathbf{TS = TM / TH \text{ where}}$$

TS is the Technical Bid Score

TM= Total Technical bid marks of the bidder under consideration

TH= Highest total Technical bid marks amongst all evaluated bids

The Bid Evaluation Committee reserves the right to modify the evaluation process at any time during the Tender process, without assigning any reason, whatsoever, and without requirement of intimating the Bidder of any such changes. At any time during the process of evaluation the Bid Evaluation Committee may seek specific clarifications from any or all Bidders.

(c) Stage 3: Evaluation of Financial BID

In this phase, the Financial Bids of the Bidder, who are technically qualified, shall be opened. Formula to determine the scores for the Financial Bids shall be as follows.

Quality and Cost based Selection (QCBS) method shall be used for evaluation of the bids, as per the formula given below:

$$\mathbf{FS = (FL/F) \times 100}$$

Where,

FS is the Financial Score.

FL is the value of the lowest Commercial Bid.

F is the price quoted in the bid under consideration.

10.2.8 Phase III: Combined Evaluation of Technical & Financial Bid

- The Total score of the Bidder will be determined as under:

$$\mathbf{\text{Total Score} = (T) = (0.7 \times \text{TS}) + (0.3 \times \text{FS})}$$

- The bid of the bidder, who obtains the highest **T** value, will be rated as the Most Responsive Bid. In the event of the same T score of bidders, the bid with the highest Technical scores (**TS**) will be rated as the most responsive bid. Beyond

that, Bid Evaluation Committee will decide the matter in its full discretion.

- The MD cum CEO, Dharamshala Smart City LTD, will have the right to negotiate with the successful bidder. The decision of the "The MD cum CEO, Dharamshala Smart City LTD" shall be final and binding on the bidders.

10.3 Demonstration and Technical Bid:

- 10.3.1** The System Integrator has to demonstrate successful operation of the offered LED street light solution as indicated below, failing which the System Integrator shall be rejected. (Conditions to be defined for rejection like Lux levels, watt loss or non—operation of lights within one week, or individual light control, Group Phase Control scheduling or dimming criteria not working)
- 10.3.2** The System Integrators required demonstrating their products for site testing and verification by a committee of DSCL to demonstrate physically that the offered product meets the technical specification.
- 10.3.3** For 45 Watt and above fixture's proof of concept to be shown with minimum 6 fixtures on existing street light poles of the street light segment at locations as directed by the DSCL Committee with the individual on-off/dimming/ individual data points (On/Off/Fault) addressing controlled LED Street light fixtures
- 10.3.4** For 45 Watt below Smart LED fixture's proof of concept to be shown with minimum 3 fixtures of each wattage on existing street light poles of the street light segment at locations as directed by the DSCL Committee with the feeder panel level group on-off with optional dimming and individual data points (On/Off/Fault) addressing controlled LED Street light fixtures.
- 10.3.5** The proposed proof of concept of smart led to be on the basis of the demonstration, Lux Level measurements and watt loss of the installed fixtures will be checked and verified which will be documented by DSCL Committee.
- 10.3.6** The venue and time of testing shall be communicated after opening of Technical Bid.
- 10.3.7** DSCL or third party (appointed by DSCL) will provide required measurement devices for the measurement of different parameters like total consumption including watt loss and Lux Levels.

- 10.3.8** The System Integrator who fail to report for the testing with their products and instruments as specified shall be rejected.
- 10.3.9** The offers of the System Integrator whose product fail to work satisfactorily during the testing shall also be rejected.
- 10.3.10** The offers of System Integrator whose products do not conform to the specifications during the onsite testing shall be out rightly rejected.
- 10.3.11** No cost for the demonstration shall be borne by DSCL. DSCL shall also not be held responsible for accident or for any damage or failure of the products or instruments during the demonstration. Adequate safety arrangements need to be made by the Bidders/System Integrator for safety of human being and equipment.

11. Section 11

11.1 Pre-Qualification Criteria (PQ)

The proposal failing to meet any of the below pre-qualification eligibility criteria shall be disqualified and will not be considered for technical evaluation process.

Sr. No.	Pre-Qualification Criteria	Supporting Documents	Scanned copy to be uploaded
1	<p>The Bidder (Sole Bidder or together as a Consortium) should have an average annual turnover of minimum INR 40 crore for the last three audited financial years out of which average annual turnover of minimum INR 50% (of last three audited financial years) should be from lighting business.</p> <ul style="list-style-type: none"> Refer format given in Annexure 1.7. 	<ul style="list-style-type: none"> Certificate from the Chartered Accountant on turnover details from the lighting business / street lighting business / smart city IT/ITES business, as applicable, over the last three audited financial years. Work Orders of lighting projects completed in last 3-years. In case, audited report for F.A. 2017-18 is not available, certificate from Statutory Auditor / CA to this effect of fulfil this requirement be provided, and the audited report be provided within 30 days of 	PQ-1

		its availability.	
2	<p>The Bidder (Sole Bidder or together as a Consortium) should have successfully “supplied” or “installed and commissioned” till Go-Live / Completed;</p> <ul style="list-style-type: none"> • One no. of Smart Led based street lighting project consisting of 21,000 or more than fixtures. <li style="text-align: center;">or • Two no. of Smart Led based street lighting project consisting of 14,000 to 20999 fixtures. <li style="text-align: center;">or • Three no. of Smart Led based street lighting project consisting of 7,000 TO 13,999 fixtures. 	<ul style="list-style-type: none"> • Copy of work order (Scope and Bill of Quantity Clearly mentioned) + Completion Certificate. • Copy of Phase Completion/ Go-live Certificates issued from the competent Authority (Scope and Bill of Quantity Clearly mentioned in case of ongoing project. 	PQ-2
3	<p>The Bidder shall have been engaged in Operation & Maintenance Contract of minimum 5000 nos. of LED Street Lighting Poles with</p>	<p>Completion certificate, work order for ongoing contracts as per attached format duly certified by the competent</p>	PQ-3

	Centralized Control and Monitoring System In last 5 (Five) years	authority	
4	Minimum number of relevant workers employed with the applicant (Sales, Creative and Technical Design, Estimation, Purchase, Installation and maintenance of permanent lighting and illumination)	The applicant should have a minimum of 20 full time workers either permanently employed or under long term contract for the business of lighting and illumination. The applicants shall produce qualifying documents establishing last 6 months of continuous employment with the applicant attested by their auditors / chartered accountants.	PQ-4
5	The Bidder (Each of consortium members in case of consortium) should have a positive net worth as on last date of latest audited financial years and Lead Bidder should have positive net worth of at least 20 Crores.	SI to provide Certificate from the CA/Company Secretary clearly specifying the Net Worth for latest Audited financial years to be provided.	PQ-5
6	The Bidder shall have in the past three financial years Minimum experience of supply and installation of Street Lighting Network minimum 30 km and above in Rural/Greenfield/Urban	Supporting Document Required: Completion certificate	PQ-6

	Areas/Local ULB or any Smart cities in india”.		
7	Minimum experience of supply and installation of overhead Cabling/underground cabling in Street Lighting minimum 100 KM in Rural/Greenfield/Urban Areas/Local ULB or any Smart cities in india”	SI to provide supporting documents along with third party Reports	PQ-7
8	Proof of Tender Fee and EMD submitted		PQ-8
9	Pre-Qualification Bid Cover Letter As per format provided at Annexure 1.1	Reference No: Date of Letter:	PQ-9
10	Particulars Bidders’ information or consortium member As per format provided at Annexure 1.2	Name of bidder(s):	PQ-10
11	Bidders’ Project Citation As per format provided at Annexure 1.3		PQ-11
12	Power of Attorney in favour of Authorized signatory As per format provided at Annexure 1.4	Date of PoA: Name of Authorized Person:	PQ-12
13	Consortium Agreement As per format provided at Annexure 1.5		PQ-13

14	No Deviation Certificate Bidders' As per format provided at Annexure 1.6	Reference No: Date of Letter:	PQ-14
15	Declaration for Not blacklisted by Central/State Government/ PSU entity in India or similar agencies globally for unsatisfactory past performance, corrupt, fraudulent or any other unethical business practices as on date of submission of the proposal. As per Annexure 1.8	Reference No: Date of Letter:	PQ-15
16	Format of EMD As per Annexure 1.9	Reference No: Date of Letter:	PQ-16
17	Lead Bidder and Consortium Members Details As per Annexure 1.10		PQ-17
18	Certificate of Total Responsibility as per Annexure 1.11	Reference No: Date of Letter:	PQ-18
19	Valid copy of the ISO 9001 or higher certification	Reference No: Date	PQ-19
20	Valid Copy of PAN	Issuing by: Issuing Date:	PQ-20
21	Valid Copy of GSTIN Registration	Reference No Date	PQ-21



Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala



DharamshalaSmart city Ltd.

12. Section 12

12.1 Technical Evaluation :(TQ)

Sr. No.	Parameter	Max Marks	Required Document
1.	Previous project experience (Refer below table for detailed point system)	60	Proof of experience in the form of client citations, work orders, completion certificates to be submitted.
2.	Technical Presentation & POC (Refer below table for detailed point system)	20	Technical proposal and Technical presentation of bidder.
3.	Company Profile and Competence (Refer below table for detailed point system)	20	Proof of Work orders Completion Certificate and experience of Manpower to be submitted.
Total Marks		100	
Cut Off Marks for qualifying		60	

At 60% Marks are compulsory in each of the above three sections. Otherwise the bids are

1. Previous project experience

Sr. No.	Qualification Criteria	Supporting Documents	Scanned copy to be uploaded	Marks
1.	<p>The Bidder (Sole Bidder or together as a Consortium) should have an average annual turnover of minimum INR 40 crore for the last three audited financial years out of which average annual turnover of minimum INR 50% (of last three audited financial years) should be from lighting business.</p> <ul style="list-style-type: none"> Refer format given in Annexure 1.7. 	<ul style="list-style-type: none"> Certificate from the Chartered Accountant on turnover details from the lighting business / street lighting business / smart city IT/ITES business, as applicable, over the last three audited financial years. Work Orders of lighting projects completed in last 3-years. In case, audited report for F.A. 2017-18 is not available, certificate from Statutory Auditor / CA to this effect of fulfil this requirement be provided, and the audited report be 	20	<p><u>Average Annual Turnover of for the last three audited financial years</u></p> <p>60 Cr & Above= 10/10</p> <p>50 Cr- 59.99 Cr=8/10</p> <p>40 Cr- 49.99 Cr = 6/10</p> <p><u>Average annual turnover from lighting for the last three audited financial years</u></p> <p>30 Cr & Above= 10/10</p> <p>25 Cr- 29.99 Cr=8/10</p> <p>20 Cr- 24.99 Cr = 6/10</p>

		provided within 30 days of its availability.		
2	<p>The Bidder (Sole Bidder or together as a Consortium) should have successfully "supplied" or "installed and commissioned" till Go-Live / Completed;</p> <ul style="list-style-type: none"> • One no. of Smart Led based street lighting project consisting of 21,000 or more than fixtures. or • Two no. of Smart Led based street lighting project consisting of 14,000 to 20999 fixtures. or • Three no. of Smart Led based street lighting project consisting of 7,000 TO 13,999 fixtures. 	<ul style="list-style-type: none"> • Copy of work order (Scope and Bill of Quantity Clearly mentioned) + Completion Certificate. • Copy of Phase Completion/ Go-live Certificates issued from the competent Authority (Scope and Bill of Quantity Clearly mentioned in case of ongoing project. 	20	<p>21,000 fixtures & poles with cabling=20/20</p> <p>14,000 to 20999 fixtures & poles with cabling=15/20</p> <p>7,000 to 13,999 fixtures & poles with cabling.</p> <p>10/20</p>

3	The Bidder shall have been engaged in Operation & Maintenance Contract of minimum 5000 nos. of LED Street Lighting Poles with Centralized Control and Monitoring System In last 5 (Five) years	Completion certificate, inwork order for ongoing contracts as per attached format duly certified by the competent authority	10	Min 5000 nos. of LED street lights - 6/10 Above 5000 nos. up to 7499 nos. LED street lights- 8/10 Above 7499 nos. LED street lights- 10/10
4	Minimum number of relevant workers employed with the applicant (Sales, Creative and Technical Design, Estimation, Purchase, Installation and maintenance of permanent lighting and illumination)	The applicant should have a minimum of 20 full time workers either permanently employed or under long term contract for the business of lighting and illumination. The applicants shall produce qualifying documents establishing last 6 months of continuous employment with the applicant attested by their auditors / chartered accountants.	10	50 and above Workers=10/10 40-49 worker=8/10, 30-39 workers =6/10,

2.0	Technical Presentation & POC	20
2.1	Understanding of Scope of work and requirements, Approach & Methodology for carrying out Design & Development of the Street light Network.	3
2.2	Solution to Shift Existing Street Light System (Luminaries, Poles, Electric Panel), Solution for Undergrounding Cables in Different Scenarios, Planning to Remove or Minimise Bottlenecks in Fast Implementation of Project, Erection of poles for establishing & maintaining Street Lighting & CCMS Centre, Reports and Monitoring and Compliance of SLA condition,	4
2.3	Approach & Methodology for Risk Management, Generating various Reports and Monitoring and Compliance of SLA condition, Security Management, Contingency Management and Revenue Generation etc.	3
2.4	Proof of Concept (POC): Live demonstration of Street lighting and various other field components. CCMS, Pre Alert for luminaire life expire, GIS Mapping and Integration etc, any other Details to be shared post bidding to Bidders who clear Pre-Qualification Stage.	10

3	Company Profile and Competence	20
3.1	The Bidder (Each of consortium members in case of consortium) should have a positive net worth as on last date of latest audited financial years and Lead Bidder should have positive net worth of at least 20 Crores 60 Cr & Above= 10/10 40 Cr to 59.9 Cr= 8/10 20 to 39.99 Cr = 6/10 SI to provide Certificate from the CA/Company Secretary clearly specifying the Net Worth for latest Audited financial years to be provided.	10
3.2	The Bidder shall have in the past three financial years Minimum experience of supply and installation of Street Lighting Network minimum 30 km and above in Rural/Greenfield/Urban Areas/Local ULB or any Smart cities in india". Supporting Document Required: Completion certificate	5

	30 Km to 49.99 Km (3 Marks)	50 km and above (5 Marks)	
3.3	Minimum experience of supply and installation of overhead Cabling/underground cabling in Street Lighting minimum 100 KM in Rural/Greenfield/Urban Areas/Local ULB or any Smart cities in india” SI to provide supporting documents along with third party Reports		5
	100 Km to 149.99 Km (3 Marks)	150 km and above (5 Marks)	

Note:

1. Work Order/ Purchase Order/ Agreement and Completion Certificate/ Partial Completion Certificate/ Documentary Evidence to be submitted in support for clauses set in Technical Qualification Criteria.
2. In case the work is ongoing, certificate from Chartered Accountant/ Company Secretary certifying the amount of work completed as set out in the Technical Qualification Criteria, shall be submitted.
3. DSCL reserves the right to demand additional clarification, accept or reject the documents on the basis of recommendation of the Technical Committee.
4. DSCL reserves the right to increase or decrease the quantity of equipment by **50%**.
5. The price quoted by the SI should be **valid for 6 months** from the date of signing of contract.
6. DSCL reserves the right to procure more quantity of equipment on the same rate post signing of contract for the 60 months.

13. Section 13 Award of Contract

13.1 Award Criteria

- 1) All the technically qualified bidders will be notified through email to participate in Financial Proposal opening process.
- 2) The cost indicated in the Financial Proposal shall be deemed as final and reflecting the total cost of services and should be stated in INR only. Omissions, if any, in costing of any item shall not entitle the Bidder to be compensated and the liability

to fulfil its obligations as per the Scope of Work and Technical Specifications within the total quoted price shall be that of the Bidder. The Bidder shall bear all taxes, duties, fees, levies and other charges imposed under the Applicable Law as applicable.

13.2 DSCL's Right to accept any Bid and to reject any or all Bids

The DSCL reserves the right to accept or reject any Bid, and to cancel the bidding process and reject all bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the DSCL's action.

13.3 Letter of Acceptance (LOA)

Prior to the expiration of the period of bid validity, DSCL will notify the Successful Bidder in writing or by fax or email, to be confirmed in writing by letter, that its bid has been accepted. LoA will constitute the formation of the contract. Upon the Successful Bidder's furnishing of Performance Bank Guarantee, DSCL will promptly notify each unsuccessful bidder.

13.4 Signing of Agreement

The bidder whose Bid has been accepted will be notified of the acceptance by the DSCL prior to expiration of the Bid validity period by email or facsimile confirmed by registered letter. This letter (hereinafter and in the Part I General Conditions of Contract called the "Letter of Acceptance") will state the sum that the DSCL will pay to the Contractor in consideration of the System Integration work for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").

- 1) The notification of award will constitute the formation of the Contract; will be issued on furnishing of a Performance Bank Guarantee/Performance Security in accordance with the provisions
- 2) The Agreement will incorporate all agreements between the DSCL and the successful Bidder. It will be signed by the DSCL and the successful Bidder after the Performance Bank Guarantee/Performance Security is furnished.

- 3) Upon the furnishing by the successful Bidder of the Performance Bank Guarantee/Performance Security, the DSCL will promptly notify the other Bidders that their Bids have been unsuccessful.

13.5 Performance Bank Guarantee/Performance Security

The successful bidder / contractor shall provide to the DSCL a total Performance Bank Guarantee/Performance Security of 5% of the contract price, for a period until 90 days after the lapse of O&M Liability Period.

- 1) The Performance Bank Guarantee/Performance Security shall be either in the form of a Bank Guarantee or Fixed Deposit Receipt, in the name of the DSCL, from a Scheduled commercial bank. If the Performance Bank Guarantee/Performance Security is in the form of a Bank Guarantee, the period of validity of Bank Guarantee could be one year initially, however, the bidder/contractor shall get this Bank Guarantee extended in such a way that an amount equal to 5% of the contract price is always available with DSCL until 90 days after the lapse of O&M Period. If the bidder/contractor fails to maintain above Performance Bank Guarantee/Performance Security, the DSCL would recover the same from any dues payable to the contractor.
- 2) Failure of the successful Bidder to comply with the requirements shall constitute sufficient grounds for cancellation of the award and forfeiture of the Earnest Money. He will also be debarred from participating in bids under DSCL for a period of one year.

13.6 Advances

The DSCL will provide 5% mobilization advance against Bank Guaranty for equal amount which will be received for subsequent **IPC/ Running Bills payments**@20% of work value.

13.7 Warranty & Maintenance

Bidder shall also provide complete maintenance support for all the proposed integrated solution as outlined in this RFP for a period of Sixty months from the date of go-live i.e. "Go-Live" + 60 months. "Go-live" is the date on which the proposed solution is completely operational as per the requirements provided in this RFP and all the acceptance tests are successfully concluded to the satisfaction of Authority.

During the warranty period, the bidder shall warrant that the goods supplied under the contract are new, unused, of the most recent version/models and incorporate all recent improvements in design and materials unless provided otherwise in the contract. The bidder further warrants that the goods supplied under this contract shall have no defects arising from design, materials or workmanship.

14. Section:14 Roll and Responsibility of stakeholders

The roles of the stakeholders shall change over a period of time as the project will evolve from design to implementation and enter the operations phase. Stakeholders' responsibilities, illustrative organizational structure for the design & implementation phase, operational phase is given below:

Various Stakeholders identified for the Project are as below:

- **DSCL** Dharamshala Smart City Limited
- **PMC** Project Management Consultant
- **SI** Systems Integrator

Responsibilities are shown using **RACI** Matrix which splits project tasks down to four participatory responsibility types that are then assigned to different Stakeholders in the project.

R (Responsible) - Those who do work to achieve the task

A (Accountable) - The Stakeholder that ultimately accountable for the task

C (Consulted) - One who is consulted for opinions and recommendations
(2WAYcommunications)

I (Informed) - Those who are kept up-to-date on progress (1WAY communication)

S.	Activity	SI	PMC	DSCL
1	Signing of the Contract	R	C	R
2	NOC from various stakeholders	A	C	R/I
3	Inception Report	R	C	I/A
4	Supply, Installation of Smart LEDs system including all connected accessories	R/A	C/A	I

5	Testing, Commissioning and Trial run of the installed system	R/A	C/A	I
6	Partial Acceptance Testing & Final Acceptance Testing	R	C/A	I
7	Repair & Maintenance of installed fixtures and poles only for those items commissioned under this RFP	A	C/A	R
8	Installation of LEDs and Controllers and Implementation of CCMS	R	C/A	A
9	Preparation of the Policy Documents for Use & Operations of CCMS functionality	R	R	A
10	Training and Capacity Building for officials from Dharamshala Smart City Limited or nominated Stockholders departments.	R	C/R	A
11	Review and Validation of the Documentation submitted by Implementing Agency	I	C/R	A
12	Providing technical manpower for maintenance of the entire system as per the requirements specified in the Tender	R	C/A	A
13	Comprehensive Warranty Maintenance of the supplied equipment	R	C/A	A
14	Provision of on-site spares	R	C/A	A
15	Hand-over of the system at the end of contractual period along with all documentation required to operate and maintain the system	R	R	R
16	Weekly Progress Reports	R	C/A	I/A
17	Monthly Progress Reports (from SI)	R	C/A	I/A
18	Monthly Progress Reports (from PMC)	I	R	I/A
19	Monitoring and reviewing of the project	I	R	I/A
20	Calculation of Penalty for breach of SLA	R	C	I/A
21	Application of Penalty for breach of SLA	I	C	R

14.1 DSCL Responsibilities

- a) DSCL will not provide built-up space solely for the purpose of storage of spares etc. will be arrange by SI at his own cost. All the electricity, water consumed for providing service to SI will be his own cost.
- b) Facilitate interactions with other Govt. Departments for getting the required information by System Integrator.
- c) Review the documents submitted by System Integrator and provide feedback.
- d) DSCL reserves the right to interview the personnel proposed by the System Integrator that shall be deployed as part of the project team. If found unsuitable, the DSCL may reject the deployment of the personnel. But ultimate responsibility of the project implementation shall lie with System Integrator.
- e) DSCL reserves the right to require changes in personnel which shall be communicated to System Integrator. System Integrator with the prior approval of the DSCL may make additions to the project team. System Integrator shall provide the DSCL with the resume of Key Personnel and provide such other information as the DSCL may reasonably require. The DSCL also reserves the right to interview the personnel and reject, if found unsuitable. In case of change in its team members, for any reason whatsoever, System Integrator shall also ensure that the exiting members are replaced with at least equally qualified and professionally competent members.

14.2 System Integrator Responsibilities

The Responsibilities of the System Integrator throughout the operation and maintenance period shall be as indicated under this Bid document, including:

SI shall perform for the following works:

- 1) Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years with appropriate hardware and software for viewing, analysing, storing and retrieval of the data.
- 2) 24X7 Helpdesk service and Operational for public complaint redressed during Operation & Maintenance Period of the contract period.

- 3) Conducting site survey, obtaining necessary information from DMC/HPSEBL/Govt. Deptt. or other statutory permissions from the concerned departments, developing system requirements, standard operating procedures etc.
 - 4) 24X7 Helpdesk service and Operation and Maintenance of services under this Bid document over the contract period of five Years post GO-LIVE.
 - 5) Responsibility of all consumables will be of the System Integrator.
 - 6) Any Civil work required will be the responsibility of the System Integrator. All the equipment's required for Smart LED based Street Lighting System will be the responsibility of System Integrator.
 - 7) Providing physical layout of the Street lighting (with 3D simulation) & to get it approved from DSCL.
 - 8) Assessment of IT Infrastructure and Non IT Infrastructure requirements, assessment of business processes,
 - 9) Assessment of software requirements, assessment of integration requirement, assessment of connectivity.
 - 10) Formulation of solution architecture, detailed design of smart city solutions, development of test cases (Unit, System Integration and User Acceptance), SOP documentation.
 - 11) IT and Non-IT Infrastructure installation, development, testing and production environment setup.
 - 12) Safety and security of IT and Non IT Infrastructure.
 - 13) Develop provisions for a scalable system
 - 14) Deploying manpower.
- 1)** Submit daily/weekly/fortnight/monthly/quarterly/annual Reports.
 - 2)** At the end of the O&M period of five Years from the date of Go-Live, the **SI** has to hand over all the assets and services belonging to the DSCL in proper working condition. In case of any deficiency noticed at the time of such handing over, the System Integrator has to get it rectified at his own cost within 30 days of such handing over, otherwise, DSCL will get it rectified at the risk and cost of the **SI**. Performance guarantee of System Integrator will be released only after successful

handing over of the all hardware, software, network and services in working conditions to DSCL.

- 3)** All the software licenses to be provided by the System Integrator should be enterprise versions or open source based or open standard based, genuine, perpetual, full use and should provide patches, fixes, security patches and updates directly from the OEM, if applicable. All the licenses and support (updates, patches, bug fixes, etc.) shall be in the name of DSCL.

4) Solution Document:

The System Integrator has to submit detailed solution document for setting up a Smart Led Based Lighting System with detailed layout diagrams indicating the complete integration in the system. These details are to be submitted for approval of DSCL before commencement of installation and commissioning, however the overall responsibility of commissioning within prescribed time-limits and its satisfactory performance during O&M period will be of the System Integrator.

5) Technical Specifications:

All the equipment's quoted should meet the minimum technical specifications as per tender requirement. Technical specifications of any other hardware/ software not mentioned in the Bid document but required to complete the project should also be given.

6) Installation and Commissioning:

The System Integrator shall undertake installation and commissioning of all the items supplied as per the terms and conditions stipulated in the bid document. The Applicant must provide all the accessories and peripherals viz. Wires cables, cords, connectors, fittings, fixtures etc. required for successful installation and commissioning of the new setup even if the same are not explicitly spelt out in the bid document.

System Integrator shall undertake Installation, commissioning strictly in accordance with recommendations and best practices of OEM and by OEM / OEM certified engineers. Any suggestion from DSCL in the overall interest of the project shall be incorporated by the SI.

7) Integration with Redundancy:

The entire solution must be integrated for redundancy so that there is no single point of failure.

8) System Familiarization:

System Integrator shall provide onsite system familiarization to O&M by DSCL officers for 15 working days by certified trainer(s) before the acceptance of entire system as well as at least 3 days every year. Familiarization should cover technical details of all the systems hardware, system software, system configuration and operation. Familiarization is an integral part of the scope of work. System familiarization should cover the following:

- Installation, configuration and administration of Smart Led Based Lighting System hardware/ software.
- Performance analysis & tuning of system
- Operation & Management of the System.
- Maintenance of the system.
- Testing of the System

Note: Comprehensive hardcopy and Soft copy of system familiarization course will be provided to DSCL and to all officers.

9) Documentation:

The System Integrator has to provide a Solution Document (both in hardcopy and softcopy) with details of technical specifications, interconnectivity diagrams, physical layouts, configurations details along with maintenance procedures and periodicity of maintenance for the equipment supplied under this tender. This document needs to be provided before the acceptance of the system by the DSCL after its commencement.

10) Acceptance Testing:

The system, after the integration is completed, will be put on Acceptance tests. As a part of Acceptance Testing, all the components would be powered on for a period of 72 hours before initiating the acceptance procedure. In the acceptance procedure, the Applicant has to demonstrate full and documented functionalities and throughput of the system to DSCL team. The handling of the system and basic troubleshooting must be elaborated to the DSCL systems team for smooth day-to-day operations. DSCL system team and user groups will test the system. On successful completion of the acceptance test after successful completion of the entire scope of work as defined in the Bid document to that stage, DSCL will issue Acceptance Certificate.

Note: Performance Throughput of all Smart LED Software application must be demonstrated on desktops as well as on video walls.

11) Post-Completion Liabilities during warranty:

The System Integrator will provide Post-completion onsite comprehensive Warranty for 5 Years.

12) The SI has to maintain minimum spare in working condition, as recommended by OEM in built-up space provided by the DSCL and manage the same as per the Service Level Agreement (SLA) throughout the contract period.

13) The SI has to depute resident Engineers at Smart Lighting Control Room as per the manpower schedule, during 5 Years of comprehensive O&M period.

14) Engineer has to be physically available onsite and also on call/mail 24x7. Engineer should be certified from OEM. In case Engineer is on leave/no available due to any reason, an alternate resource with similar experience has to be stationed during that time. However, backend support should be available 24 x 7 x 365 days. If the services of the deputed person are not satisfactory, he/she has to be replaced with competent person with immediate effect by the SI.

15) Replacement of any defective item during O&M period of five Years from the date of GO-LIVE.

16) System Integrator should submit profiles of only those resources that shall be deployed on the Project. Any change of resource should be approved by the DSCL and compensated with equivalent or better resource. The DSCL may interview the resources suggested by SI before their deployment on board.

17) All the software licenses that System Integrator proposes should be perpetual software licenses. The software licenses shall not be restricted based on location and the DSCL should have the flexibility to use the software licenses for other requirements if required.

18) The Bidder should have Manufacturer Authorization Form from all the OEMs with back to back support for the duration of project.

19) The DSCL reserves the right to review the terms of the Warranty and Annual Maintenance agreements entered into between SI and OEMs and no such agreement/contract shall be executed, amended, modified and/or terminated without the prior written consent of the DSCL. An executed copy of each of such

agreements/contracts shall, immediately upon execution be submitted by SI to the DSCL.

- 20)** System Integrator shall ensure that none of the components and sub-components is declared end-of-sale or end-of-support by the respective OEM at the time of submission of bid. If the OEM declares any of the products/ solutions end-of-sale subsequently, the System Integrator shall ensure that the same is supported by the respective OEM for contract period.

15. Section 15 Delivery Milestones, Payment Schedule

15.1 MILESTONES AND PAYMENT SCHEDULES FOR IMPLEMENTATION PHASE (CAPEX)

Payments shall be released only on satisfactory acceptance of the deliverables from SI for each Task as per the following schedule:

Milestone	Stage	Payment Milestones for the Implementation % Payment of Time Schedule Phase	Payment Schedule	Time Schedule	Deliverable
M1	Requirement Documentation Phase	<ul style="list-style-type: none"> Submission and Acceptance of Phase Wise Survey Report with Implementation Schedule including Establishment of Store-cum-Yard/Site Office. Design and implementation plan of DATA Centre/ Helpdesk Material Approvals 	5% of Total Project Cost on prorata basis against monthly invoice	D+45 Days	

Milestone	Stage	Payment Milestones for the Implementation % Payment of Time Schedule Phase	Payment Schedule	Time Schedule	Deliverable
		(Make & Model) & Pre Dispatch Inspection and Acceptance test report for all Materials/Items <ul style="list-style-type: none"> Material Purchase Order for '1st Phase after Prior Approval of DSCL Authorities 			
M2	Installation - Phase-I (Installation, Testing & Commissioning of Software & Hardware at Data Centre, along with at	15% of Total Project Cost on prorata basis against monthly invoice - <ul style="list-style-type: none"> In that, 30% shall be payable on supply of all 		Post-Dispatch Inspection and Acceptance test report for all Materials/Items Submission of

Milestone	Stage	Payment Milestones for the Implementation % Payment of Time Schedule Phase	Payment Schedule	Time Schedule	Deliverable
	Pilot)	least 25% of the total LED Street Lights complete in all respects	Materials, <ul style="list-style-type: none"> • 40% on installation of Street Light System including Shifting/ Relocation of Existing Street Light System and Data Centre • 30% on commissioning & First Phase 'Go-Live' of Street Light System & Data Centre 	D+165 Days	the installation and successful commissioning & First Phase 'Go-Live' of Street Light System & Data Centre Material Purchase Order for 2nd Phase after Prior Approval of DSCL Authorities
M3		Installation,	15% of Total Project Cost on prorata basis against monthly		Post-Dispatch Inspection and

Milestone	Stage	Payment Milestones for the Implementation % Payment of Time Schedule Phase	Payment Schedule	Time Schedule	Deliverable
	Installation - Phase-II	Testing & Commissioning of 25% of the total LED Street Lights complete in all respects with Data Centre.	invoice - <ul style="list-style-type: none"> • In that, 30% shall be payable on supply of all Materials. • 40% on installation of Street Light System including Shifting/ Relocation of Existing Street Light System. • 30% on commissioning & Second Phase 'Go-Live' of Street Light System with Data Centre 	D+285 Days	Acceptance test report for all Materials/Items Submission of the installation and successful commissioning & Second Phase 'Go-Live' of Street Light System with Data Centre Material Purchase Order for 3rd Phase after Prior Approval of

Milestone	Stage	Payment Milestones for the Implementation % Payment of Time Schedule Phase	Payment Schedule	Time Schedule	Deliverable
					DSCL Authorities
M4	Installation - Phase-III	Installation, Testing & Commissioning of 25% of the total LED Street Lights complete in all respects with Data Centre.	15% of Total Project Cost on prorata basis against monthly invoice - <ul style="list-style-type: none"> • In that, 30% shall be payable on supply of all Materials. • 40% on installation of Street Light System including Shifting/Relocation of Existing Street Light System. • 30% on commissioning & 	D+405 Days	Post-Dispatch Inspection and Acceptance test report for all Materials/Items Submission of the installation and successful commissioning & Third Phase 'Go-Live' of Street Light System with Data Centre

Milestone	Stage	Payment Milestones for the Implementation % Payment of Time Schedule Phase	Payment Schedule	Time Schedule	Deliverable
			Third Phase 'Go-Live' of Street Light System with Data Centre		Material Purchase Order for 4th Phase after Prior Approval of DSCL Authorities
M5	Installation - Phase-IV	Installation, Testing & Commissioning of 25% of the total LED Street Lights complete in all respects with Data Centre.	15% of Total Project Cost on prorata basis against monthly invoice - <ul style="list-style-type: none"> • In that, 30% shall be payable on supply of all Materials. • 40% on installation of Street Light System including Shifting/ 	D+525 Days	Post-Dispatch Inspection and Acceptance test report for all Materials/Items Submission of the installation and successful commissioning

Milestone	Stage	Payment Milestones for the Implementation % Payment of Time Schedule Phase	Payment Schedule	Time Schedule	Deliverable
			Relocation of Existing Street Light System. <ul style="list-style-type: none"> • 30% on commissioning & Fourth Phase 'Go-Live' of Street Light System with Data Centre 		g & Fourth Phase 'Go-Live' of Street Light System with Data Centre Material Purchase Order for Any Balance Material after Prior Approval of DSCL Authorities
M6	Go-Live	Final Go-Live Certificate by DSCL	5% of Total Project Cost	D+540 Days	Training Completion report Go-Live Report User manuals Detailed plan

Milestone	Stage	Payment Milestones for the Implementation % Payment of Time Schedule Phase	Payment Schedule	Time Schedule	Deliverable
					for monitoring of SLAs and performance of the overall system
M7	Quarterly O&M	O&M (20 quarters)	Various Reports & O&M Phase	1.50% per quarter for 20 quarters (30% of total Project Value)	Quarterly for 5 Years after Final Go Live

- **The schedule of Payments is indicative. The payments shall be made as per the actual work done by the system Integrator in each phase with respect to the contract agreement.**

15.2 MILESTONES AND PAYMENT SCHEDULES FOR IMPLEMENTATION PHASE (OPEX)

The Operations and maintenance phase shall start as soon as Go-Live occur. The SI shall be required to adhere to the SLA and provide post implementations support of warranty and O&M for a period of 5 years after implementation/Phase wise Go-Live.

Milestone	Payment Milestones for the Implementation % Payment of Time Schedule Phase	Payment Schedule	Time Schedule
M8	Years 1 payment for O&M after Go-Live	Equal Quarterly O&M Payments at the starting of each quarter	Payment of Years 1
M9	Years 2 payment for O&M after Go-Live	Equal Quarterly O&M Payments at the starting of each quarter	Payment of Years 2
M10	Years 3 payment for O&M after Go-Live	Equal Quarterly O&M Payments at the starting of each quarter	Payment of Years 3
M11	Years 4 payment for O&M after Go-Live	Equal Quarterly O&M Payments at the starting of each quarter	Payment of Years 4
M12	Years 5 payment for O&M after Go-Live	Equal Quarterly O&M Payments at the starting of each quarter	Payment of Years 5

15.3 PAYMENT TERMS AND SCHEDULE

1. The request for payment shall be made to the Authority in writing, accompanied by invoices describing, as appropriate, the services performed, and by the required documents submitted pursuant to general conditions section no-16 of the RFP vol-3 and upon fulfilment of all the obligations stipulated in the Contract.

2. Due payments shall be made promptly by the Authority, generally within fifteen working days (15) days after submission of an invoice or request for payment by SI.
3. The currency or currencies in which payments shall be made to the SI under this Contract shall be Indian Rupees (INR) only.
4. All remittance charges shall be borne by the SI.
5. In case of disputed items, the disputed amount shall be withheld and shall be paid only after settlement of the dispute.
6. Any penalties/liquidated damages, as applicable, for delay and non-performance, as mentioned in this RFP document, shall be deducted from the due payments of the respective milestones.
7. Taxes, as applicable, shall be deducted / paid, as per the prevalent rules and regulations

16. Section 16 Annexures formats for Pre-Qualification Bid

Annexure 1.1 Pre-Qualification Bid Cover Letter

(To be submitted on the letterhead of the Bidder)

From

.....
.....

To,

The MD cum CEO,
Dharamshala Smart City LTD
Dharamshala (Himachal Pradesh)

Subject: Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala.

Ref: Your Tender Enquiry no. dated.....

Having examined the above mentioned tender enquiry document including amendment/clarification/addenda nos..... dated the receipt of which is here duly acknowledged, we, the undersigned, offer to provide **“Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala”**in conformity to Scope of work, Conditions of contract and for the sum shown in the Financial bid attached herewith and made part of the Bid.

We undertake, if our Bid is accepted, to complete delivery of all items and perform all the services specified in the contract in accordance with the delivery schedule specified in the Package details.

If our bid is accepted, we will provide you with a performance guarantee of a scheduled bank for a sum @5% of the contract value for the due performance of the contract.



We agree to abide by this bid for a period of Days from the date fixed for Bid opening or for subsequently extended period, if any, agreed to by us. This bid shall remain binding upon us up to the aforesaid period and may be accepted at any time before the expiration of that period.

Until a formal Work order of Contract is prepared and executed, this bid together with your written acceptance thereof in your notification of award shall constitute a binding contract between us.

Bid submitted by us is properly protected and prepared so as to prevent any subsequent alteration and replacement.

Dated this day of 2019

(Signature) (In the capacity of)

(Name)

Duly authorized to sign the bid for and on behalf of

(Name and Address of Company) seal/stamp of Bidder

Witness Signature:

Witness Name:

Witness Address:

Annexure 1.2 - Format to share Particulars of the Bidder or All Consortium

Members Information

The Table below provides the format in which general information about the bidder must be furnished.

S.no	Information	Details
1	Name of bidder	
2	Address and contact details of bidder	
3	Firm Registration Number and Years of Registration	
4	Web Site Address	
5	Status of Company (Public Ltd., Pvt. Ltd., LLP etc.)	
6	GST Registration No	
7	Permanent Account Number (PAN)	
8	Turnover for the last 3 Years (Years wise)	
9	Name, Designation and Address of the contact person to whom all references shall be made regarding this RFP:	
10	Telephone number of contact person:	
11	Mobile number of contact person:	
12	Fax number of contact person:	
13	E-mail address of contact person:	

Please submit the relevant proofs for all the details mentioned above (for all the consortium members) along with your bid response.

(Authorized Signatory)

Printed Name

Designation

Seal

Date & Place :

Business Address:

Annexure 1.3. - Format to Project Citation

S.no	Name	Details	Attachment Number
1	Name of Project		
2	Date of Work order		
3	Client details		
4	Scope of Work		
5	Contract Value		
6	Actual Value at which work was completed		
7	Completed Date		

Note: The bidder (including all consortium member projects) is required to use above formats for all the projects referenced by the bidder for the Pre-Qualification criteria and technical bid evaluation.

Annexure-1.4 Format for Power of Attorney for signing the Bid for Lead bidder of Consortium

(On INR 100.00 Non judicial Stamp Paper and duly notarized)

KNOW ALL MEN BY THESE PRESENTS, We _____ (name of the firm and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorize Mr./ Ms. (*name*), _____ son/daughter/wife of _____ and presently residing at _____, who is presently employed with us and holding the position of _____, as our true and lawful attorney (*hereinafter referred to as the "Attorney"*) to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our application for qualification and submission of our bid for the Project-'**Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala'** by the _____ (the "client") including but not limited to signing and submission of all applications, bids and other documents and writings, participate in pre-applications and other conferences and providing information/responses to the client, representing us in all matters before the client, signing and execution of all contracts including the Agreement and undertakings consequent to acceptance of our bid, and generally dealing with the client in all matters in connection with or relating to or arising out of our bid for the said Project and/ or upon award thereof to us and/or till the entering into of the Agreement with the client.

AND we hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE, _____, THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS DAY OF _____.

For _____

(Signature, name, designation and address)

Witnesses:

1. (Notarized)

2.

Accepted

(Signature, Name, Title and Address of the Attorney)

Notes:

- The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.
- Wherever required, the Bidder should submit for verification the extract of the charter documents and documents such as a board or shareholders' resolution/ power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.

In case the bid is signed by an authorized Director / Partner or Proprietor of the Bidder, a certified copy of the appropriate board resolution / document conveying such authorization to client may be enclosed in lieu of the Power of Attorney.

Annexure 1.5 Format for Consortium Agreement

[On Non-judicial stamp paper of INR 100 duly attested by notary public]

This Memorandum of Understanding (MoU) entered into this day of [Date] [Month] 2018 at [Place] among _____ (hereinafter referred to as "_____") and having office at [Address], India, as Party of the First Part and _____ (hereinafter referred as "_____ ") and having office at [Address], as Party of the Second Part and _____(hereinafter referred as "_____"), having office at [Address], as Party of the Third Part and having office at [Address]. The parties are individually referred to as Party and collectively as Parties.

WHEREAS Dharamshala Smart City Limited (DSCL), Himachal Pradesh has issued a Request for Proposal dated [Date] (RFP) from the Applicants interested in **"Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System"** with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala.

AND WHEREAS the Parties have had discussions for formation of a Consortium for bidding for the said Project and have reached an understanding on the following points with respect to the Parties' rights and obligations towards each other and their working relationship.

AS MUTUAL UNDERSTANDING OF THE PARTIES, IT IS HEREBY AGREED AND DECLARED AS FOLLOWS:

- I. The purpose of this Agreement is to define the principles of collaboration among the Parties to:
 - a) Submit a response jointly to Bid for the "Request for Proposal (RFP) for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala." as a Consortium.
 - b) Sign Contract in case of award.
 - c) Provide and perform the supplies and services which would be ordered by the DSCL pursuant to the Contract.
- II. This Agreement shall not be construed as establishing or giving effect to any legal entity such as, but not limited to, a company, a partnership, etc. It shall relate solely towards the DSCL for "Request for Proposal (RFP) for Selection of System

Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala.”for and related execution works to be performed pursuant to the Contract and shall not extend to any other activities.

III. The Parties shall be jointly and severally responsible and bound towards the Authority for the performance of the works in accordance with the terms and conditions of the RFP document, and Contract.

IV. ----- (Name of Party) shall act as Lead Member of the Consortium. As such, it shall act as the coordinator of the Party’s combined activities and shall carry out the following functions:

- a) To ensure the technical, commercial and administrative co-ordination of the work package
- b) To lead the contract negotiations of the work package with the Authority.
- c) The Lead Member is authorized to receive instructions and incur liabilities for and on behalf of all Parties.
- d) In case of an award, act as channel of communication between the Authority and the Parties to execute the Contract
- e) That the Parties shall carry out all responsibilities in terms of the Project Agreement.
- f) That the broad roles and the responsibilities of each Party as per each member’s field of expertise at each stage of the bidding shall be as below:

Party A: _____

Party B: _____

V. That the proposed administrative arrangements (organization chart) for the management and execution of the Project shall be as follows:

VI. That the profit and loss sharing ratio shall be _____

VII. That the Parties agree that all the members of the Consortium shall be jointly and severally liable for all obligations in relation to the Contract until the completion of the Project in accordance with the Contract;

VIII. Parties affirm that they shall implement the Project in good faith and shall take all necessary steps to see the Project through expeditiously.

IX. That this MoU shall be governed in accordance with the laws of India and courts in Himachal Pradesh shall have exclusive jurisdiction to adjudicate disputes arising from the terms herein. In witness whereof the Parties affirm that the information provided is accurate and true and have caused this MoU duly executed on the date and years above mentioned.

(Party of the first part)

(Party of the second part)

Witness

i.

Annexure 1.6 Certificate for No Deviation Certificate

(To be provided on the Company letter head)

Place
Date

To,

The MD cum CEO,

Dharamshala Smart City LTD

Dharamshala (Himachal Pradesh)

Subject: Self Declaration for No Deviation in response to the Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala

Ref: RFP No. <<.....>> dated <<>>

Dear Sir,

This is to certify that our offer is exactly in line with your tender enquiry/RFP (including amendments) no. _____ dated _____. This is to expressly certify that our offer contains no deviation either Technical (including but not limited to Scope of Work, Business Requirements Specification, Functional Requirements Specification, Hardware Specification and Technical Requirements Specification) or Commercial in either direct or indirect form.

(Authorized Signatory)

Printed Name

Designation

Seal

Date:

Place:

Business Address:

Annexure 1.7 Certificate for Turnover of All Bidders/Consortium Members

(This format will be applicable for all type of turnover certificates, regarding various types of works or quantities)

(To be provided on the Company letter head by the bidder or all consortium members with audited Financial Statement)

To,
The MD cum CEO,
Dharamshala Smart City LTD
Dharamshala (Himachal Pradesh)

Subject: Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala

Ref: RFP No. <<.....>> dated <<>>

Dear Sir,

We have examined the books of accounts and other relevant records of <<Bidder >> along with registered address>>. Based on such examination and according to the information and explanation given to us, and to the best of our knowledge & belief, we hereby certify that the annual turnover and the net-worth for the last three audited financial years was as per details given below:

Financial turnover:

Name of Bidder/Consortium member		
Annual Turnover of the firm	FY 2017-18	
	FY 2018-19	
	FY 2019-20	
Net worth as per last audited FY	FY 2017-18	
	FY 2018-19	
	FY 2019-20	

I further certify that I am competent officer in my company to make this declaration.

Yours sincerely,



(Authorized Signatory with Seal)

Printed Name

Designation

Date:

Place:

Business Address:

Phone:

Email Address

Annexure 1.8 Certificate Format for Declaration of Non-Blacklisting

(To be provided on the Company letter head by Bidder or All Consortium Members)

Declaration for Lead Bidder:

To,

The MD cum CEO,

Dharamshala Smart City LTD

Dharamshala (Himachal Pradesh)

Subject: Self Declaration of not been blacklisted in response to the Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala.

Ref: RFP No. <<.....>> **dated** <<>>

Dear Sir,

We confirm that our company or firm, _____, is currently not blacklisted in any manner whatsoever by any Central / State Government Department or Central/State Public Sector Units (PSUs), Government (Central / State / PSU/ World Bank/Asian Development Bank), Other Smart Cities, Local Bodies, Multi-Lateral agency organizations in India on any ground including but not limited to indulgence in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice.

(Signature of the Lead Bidder)

Printed Name

Designation

Seal

Date:

Place:

Business Address:

Annexure 1.9 Format for EMD

Bank Guarantee No -----Dated-----

To,

The MD cum CEO,

Dharamshala Smart City LTD

Dharamshala 176215 (Himachal Pradesh)

Dear Sir

This Guarantee is made and issued on this day----- by-----
-----, a Banking Company incorporated under Banking Regulation Act, having its registered office at----- (herein after called BANK which expression shall unless repugnant to the context or contrary to the meaning thereof include its successors and assignees) in favour of Dharamshala Smart City Limited (DSCL) a Company incorporated under the Companies Act and having its 'Old HIMUDA Building, Chilgari, Dharamshala, Himachal Pradesh-176215 (Hereinafter called "DSCL" which expression shall unless repugnant to the context or contrary to the meaning, thereof, include its successor and assignees)

Whereas <<Name of the bidder>> (hereinafter called 'the Systems Integrator') has submitted the bid for Submission of RFP <<RFP Number>> dated <<Date>> for **'Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala (hereinafter called "the Bid")'** to <<Client>>

Know all Men by these presents that we <<... >> having our office at <<Address>> (hereinafter called "the Bank") are bound unto the << DSCL >> (hereinafter called "the DSCL") in the sum of Rs. <<Amount in figures>> (Rupees <<Amount in words>> only) for which payment well and truly to be made to the said DSCL, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this <<Date>>

The conditions of this obligation are:

- a. If a bidder withdraws its bid or increases its quoted prices during the period of bid validity or its extended period, if any.
- b. In case of a Successful Bidder, if the bidder fails to sign the contract in accordance with the terms and conditions or furnish the required Performance Bank Guarantee/Performance Bank Guarantee/Performance Security.
- c. If during the bid process, a bidder indulges in any such deliberate act as would jeopardize or unnecessarily delay the process of bid evaluation and finalization.
- d. If, during the bid process, any information is found false/ fraudulent/ mala fide, and then AUTHORITY shall reject the bid and, if necessary, initiate action.
- e. If the Bidder does not accept the correction of the Bid Price, pursuant to Sub Clause **8.2.21**

We undertake to pay to the DSCL up to the above amount upon receipt of its first written demand, without the DSCL having to substantiate its demand, provided that in its demand the DSCL will note that the amount claimed by it is due to it owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to <<insert date>> and including <<extra time over and above mandated in the RFP>> from the last date of submission and any demand in respect thereof should reach the Bank not later than the above date.

NOTH WITH STANDING ANYTHING CONTAINED HEREIN:

- I. Our liability under this Bank Guarantee shall not exceed Rs. <<Amount in figures>> (Rupees<<Amount in words>> only)
- II. This Bank Guarantee shall be valid up to <<insert date>>)
- III. It is condition of our liability for payment of the guaranteed amount or any part thereof arising under this Bank Guarantee that we receive a valid written claim or demand for payment under this Bank Guarantee on or before <<insert date>>) failing which our liability under the guarantee will automatically cease.

(Authorized Signatory of the Bank)

Seal:

Date

Annexure 1.10 Format for Lead Bidder and Consortium Member (if applicable) Details)

(To be provided on the Company letter head with audited Financial Statement)

To,
The MD cum CEO,
Dharamshala Smart City LTD
Dharamshala (Himachal Pradesh)

Subject: Lead Bidder and Consortium Details

RFP No. <<.....>> dated <<>>

Dear Sir,

Please find below details of lead bidder and other consortium members for participation in Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala

NOTE: To be filled for the lead bidder and each consortium member.

Bidder Information Sheet

S.no	Particulars	Lead Bidder	Consortium Member ½ (Separate columns)
1.	Name of the Organization		
2.	Type of Organization (Pvt. Ltd./Public Limited)		
3.	Country of Registered Office		
4.	Address of Registered Office		
5.	Company Registration Details		
6.	Date of Registration		

7.	Details of any Global Certifications (ISO/ITIL/CMMi etc.)		
8.	GST Number		
9.	PAN/Equivalent		
10	VAT/Equivalent		
11	Address of Registered Office in India		
12	No. of Years of Operation in India		
13	Stake in Consortium (%)		
14	Authorized Signatory Name		
15	Authorized Signatory Designation		
16	Authorized Signatory Contact Details		

(Authorized Signatory with Seal)

Printed Name

Designation

Date:

Place:

Business Address:

Phone:

Email Address

Annexure 1.11 Certificate for Total Responsibility

(To be provided on the Company letter head)

To,
The MD cum CEO,
Dharamshala Smart City LTD
Dharamshala (Himachal Pradesh)

Subject: Self Declaration for Total Responsibility in response to the **Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala.**

Ref: RFP No. <<.....>> dated <<>>

Dear Sir,

This is to certify that we undertake the total responsibility for the defect free operation of the proposed solutions as per the requirement of the RFP for the duration mentioned in all the volumes of the RFP.

(Authorized Signatory)

Printed Name

Designation

Seal

Date:

Place:

Business Address:

Annexure 1.12 Format for Experience of the Bidder

As per the format below, the bidder should provide information for each project on similar assignments required for Qualification and technical evaluation criteria.

Credential for < Qualification Criteria No. >		
Sr. No.	Name of the Organization - <<Name of the Bidder that have executed / executing the project>>	
	Parameter	Details
General Information		
1.	Customer Name	
2.	Name of the contact person and contact details for the client of the assignment	
3.	Whether client visit can be organized	(YES / NO)
Project Details		
4.	Project Title	
5.	Start Date and End Date	
6.	Government/Private/PSU/Others please specify	
7.	Geographical Coverage (No. of locations the project covers)	
8.	Date of Go-Live	
9.	Total Cost of the project	
10.	Current Status (Live / completed / on- going / terminated / suspended)	
11.	No of staff provided by your company	
12.	Please indicate the current or the latest AMC period with the client (From Month -Year to Month-Year)	
13.	Please indicate whether the client is currently using the implemented solution	
Size of the project		

14.	Order Value of the project (in lakhs)	
15.	Capital Expenditure involved (in lakhs)	
16.	Cost of services provided by the bidder (in Lakhs)	
17.	Cost of services provided by the partners if involved (in Lakhs)	
18.		Total users

1.13 Curriculum Vitae (CV) of Team Members

1	Name of Staff																			
2	Current Designation in the organization																			
3	Proposed Role in the project																			
4	Proposed Responsibility in the project																			
5	Date of Birth																			
6	Education	<ul style="list-style-type: none"> Degree/Diploma, College, University, Year of Passing Degree/Diploma, College, University, Year of Passing 																		
7	Summary of key training and certification																			
8	Language proficiency	<table border="1"> <thead> <tr> <th>Language</th> <th>Reading</th> <th>Writing</th> <th>Speaking</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Language	Reading	Writing	Speaking														
Language	Reading	Writing	Speaking																	
9	Employment record (for total relevant experience)	<table border="1"> <tbody> <tr> <td>From/To:</td> <td></td> </tr> <tr> <td>Employer</td> <td></td> </tr> <tr> <td>Positioned Held</td> <td></td> </tr> <tr> <td>From/To:</td> <td></td> </tr> <tr> <td>Employer</td> <td></td> </tr> <tr> <td>Positioned Held</td> <td></td> </tr> <tr> <td>From/To:</td> <td></td> </tr> <tr> <td>Employer</td> <td></td> </tr> <tr> <td>Positioned Held</td> <td></td> </tr> </tbody> </table>	From/To:		Employer		Positioned Held		From/To:		Employer		Positioned Held		From/To:		Employer		Positioned Held	
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From/To:																				
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10	Total number of year of experience															
11	Total number of year of experience for the Role proposed															
12	<p>Highlight of relevant assignments handled and significant accomplish (use following format for each project)</p> <table border="1"> <tr> <td>Name of assignment or project:</td> <td></td> </tr> <tr> <td>Year:</td> <td></td> </tr> <tr> <td>Location:</td> <td></td> </tr> <tr> <td>Client</td> <td></td> </tr> <tr> <td>Main project feature</td> <td></td> </tr> <tr> <td>Positioned held</td> <td></td> </tr> <tr> <td>Activity performed</td> <td></td> </tr> </table>		Name of assignment or project:		Year:		Location:		Client		Main project feature		Positioned held		Activity performed	
Name of assignment or project:																
Year:																
Location:																
Client																
Main project feature																
Positioned held																
Activity performed																

17. Section 17 Annexures formats for Technical Qualification

Annexure 2.1 Technical Bid Cover Letter

(To be submitted on the letterhead of the Bidder)

From

.....
.....

To,

The MD cum CEO,

Dharamshala Smart City LTD

Dharamshala (Himachal Pradesh)

Subject: Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala.

Ref: Your Tender Enquiry no. dated.....

Having examined the above mentioned tender enquiry document including amendment/clarification/addenda nos..... dated the receipt of which is here duly acknowledged, we, the undersigned, offer to provide **“Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala”** in conformity to Scope of work, Conditions of contract and for the sum shown in the Technical bid attached herewith and made part of the Bid.

We undertake, if our Bid is accepted, to complete delivery of all items and perform all the services specified in the contract in accordance with the delivery schedule specified in the Package details.

If our bid is accepted, we will provide you with a performance guarantee of a scheduled bank for a sum @5% of the contract value for the due performance of the contract.



We agree to abide by this bid for a period of Days from the date fixed for Bid opening or for subsequently extended period, if any, agreed to by us. This bid shall remain binding upon us up to the aforesaid period and may be accepted at any time before the expiration of that period.

Until a formal Work order of Contract is prepared and executed, this bid together with your written acceptance thereof in your notification of award shall constitute a binding contract between us.

Bid submitted by us is properly protected and prepared so as to prevent any subsequent alteration and replacement.

Dated this day of 2019

(Signature) (In the capacity of)

(Name)

Duly authorized to sign the bid for and on behalf of

(Name and Address of Company) seal/stamp of Bidder

Witness Signature:

Witness Name:

Witness Address:

Annexure 2.2 Format for Project Plan

A Detailed Project Plan covering break-up of each phase into the key activities, along with the start and end dates must be provided as per format given below.

Activity-wise Timeline														
S.no	Detail work breakdown Structure	Month Wise Programme												
		1	2	3	4	5	6	7	8	9	10	11	12	
1	Project Plan													
2	Milestone-1													
3	Milestone-2													
4	Milestone-3													
5	Milestone-4													
6	Milestone-5													
7	Milestone-6													

Note: The above activity chart is just for the purpose of illustration. Bidders are requested to provide detailed activity & phase wise timelines for executing the project with details of deliverables & milestones as per their bid.

Annexure 2.3 Format for Manufacturer's Authorization Form
(To be provided on the Company letter head)

To,
The MD cum CEO,
Dharamshala Smart City LTD
Dharamshala (Himachal Pradesh)

Subject: Authorization of <company name of Bidder> to Provide Services Based on Our Product(s)

Ref: RFP No. <<.....>> dated <<>>

Dear Sir,

1. This is to certify that I/We am/are the Original Equipment Manufacturer in respect of the products/solutions listed below. I/We confirm that <name of Bidder> have due authorization from us to provide services to DSCL, that are based on our product(s) listed below as per Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala. We further endorse the warranty and contracting terms provided by bidder to DSCL.
2. I/We also undertake that we will provide support to DSCL in quality of deliverables and in ensuring that the solution is implemented in the best of ways by exploiting all the capabilities offered by the solution, to meet the requirements of DSCL.
3. We herewith certify that the equipment / software products quoted by us are not end of the life and we hereby undertake to support this equipment / software for the duration of minimum 6 Years from the date of Submission of the Bid.

S. No.	Product Name	Remarks

Yours faithfully,

(Authorized Signatory with Seal)



Printed Name

Designation

OEM's company name

CC: Bidder's corporate name

Date:

Place:

Business Address:

Annexure 2.4 Format for Unpriced Bill of Material

The Bidder should provide the proposed Bill of Material (BoM) here. Bidder should refer to the Indicative BoM provided in the Volume II of this tender, and should reproduce the same here. Kindly note that any additional items required should be clearly mentioned under 'additional line items' category towards the end of this table. Also note that details of the make/brand and model against each line item, wherever applicable, should be mentioned. The Bidder may add any additional line item (with adequate details) in the proposed BoM table below (towards the end of the table), that may be required to fulfil the tender and project requirements in totality. Kindly note that the indicative/estimated quantity provided in the RFP would be used for evaluation purposes; however, the payment would be done on actual usage basis.

Unpriced Bill of material for all components (Fixtures, Controllers, Edge devices, Hardware and network, etc.

S.no	BoM Line Item	Unit measurement	Quantity Proposed (repeat the indicative quantity as provided in RFP)	Make Brand	Model Details	Full Compliance with RFP Requirements (Yes / No)
I						
N						

Annexure 2.5 Format for Information about all software components being proposed

S.no	Software Component	Product version technology	Name and	Module	Sub-module	Function Purpose of the line item
I						
N						
	Bidder add line as required					

Annexure 2.6 Format for Anti-Collusion Certificate

[Certificate should be provided by Lead Bidder on letter head]

Anti-Collusion Certificate

(To be submitted by Sole Bidder as well as all members of Joint venture) We hereby certify and confirm that in the preparation and submission of our Bid for **Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala** and operation and maintenance for period of 5 (Five) years on design, build and operate mode in Himachal Pradesh against the RFP issued by DSCL, we have not acted in concert or in collusion with any other Bidder or other person(s) and also not done any act, deed or thing, which is or could be regarded as anti-competitive. We further confirm that we have not offered nor will offer any illegal gratification in cash or kind to any person or organization in connection with this Bid.

(Signature of the Bidder)

Printed Name

Designation Seal:

Date:

Place:

Office Address with contact details:

18. Section 18 Annexures for Financial Bid

Annexure 3.1 Format for Submission of Financial BID Cover Document

(To be submitted on the firm's letter head and signed by an authorized person)

To,

The MD cum CEO,

Dharamshala Smart City LTD

Dharamshala (Himachal Pradesh)

SUBJECT: Financial Bid Documents

Ref: Your Tender Enquiry no. dated.....

Dear Sir

Having examined the above mentioned tender enquiry document including amendment/clarification/addenda no's..... dated the receipt of which is here duly acknowledged, we, the undersigned, offer to provide "**Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala**" as per the of given in and in conformity with the said bidding documents.

We undertake, if our bid is accepted, to deliver the **Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala**" in accordance with the delivery schedule specified in the bidding documents.

We hereby offer to supply the Services at the prices and rates mentioned in the Financial Bid.

We agree to abide by this bid for a period of 120 days after the date fixed for opening and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

1. We have carefully read and understood the terms and conditions of the bid document and the conditions of the contract applicable to the bid document and we do hereby undertake to carry out "Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala" as per these terms and conditions.
2. Certified that the sole bidder is: A company and the person signing the bid document is the constituted attorney.
3. We do hereby undertake, that, until a formal work order is prepared and executed, this bid, together with your written acceptance thereof and placement of letter of intent awarding the work order, shall constitute a binding contract between us.

Period of Delivery:

We do hereby undertake that, in the event of acceptance of our bid, the Goods & Services shall be made as stipulated in the schedule to the Bid document and that we shall perform all the incidental services.

Terms of Delivery:

The prices quoted are inclusive of all charges inclusive of Taxes & Duties etc.

We enclose herewith the complete Financial Bid as required by you. This includes:

- Bid Letter
- Price Schedule complete in all respect
- Statement of deviations (if any) from commercial terms and conditions

We agree to abide by our offer for a period of 120 days from the date fixed for opening of the bid documents and that we shall remain bound by a communication of acceptance within that time.

We have carefully read and understood the terms and conditions of the bid document and we do hereby undertake "**Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street**



Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala” as per these terms and conditions. The Commercial Deviations are only those mentioned in the statement of deviations.

Dated this day of

Signature of Bidder

Name

Full Address:

Telephone No.

Fax No.

E-mail:

COMPANY DETAILS

Annexure 3.2 - Financial Proposal Format & Instructions

(To be submitted on e-Tendering Portal only (i.e. <https://hptenders.gov.in/nicgep/app>))

Instructions:

- a) Bill of Quantities (BOQ) can be downloaded free of cost from the e-Procurement portal <https://hptenders.gov.in/nicgep/app> All bid documents are to be submitted online only and in the designated manner on the e-Procurement portal. Tenders/ bids shall be accepted only through online mode on the e-GP website and no manual submission of the same shall be entertained except for the documents specifically indicated ie Technical proposal and Prequalification documents along with EMD.
- b) The Bidder shall submit their bid online only through the e-Procurement portal web site of Himachal Pradesh (<https://hptenders.gov.in/nicgep/app>) as per the procedure laid down for e-submission as detailed in the web site. For e tenders, the bidders shall download the tender documents including the Bill of Quantity (BOQ) file from the e tendering portal <https://hptenders.gov.in/nicgep/app>. The Bidder shall fill up the documents. and submit the same online using their Digital Signature Certificate. On successful submission of bids, a system receipt can be generated downloaded by the bidder for future reference. Copies of all certificates and documents shall be uploaded while submitting the tender online.
- c) DSCL does not guarantee the quantity for the particular line items given above. The actual quantity for the given items may be more or less. The payment shall be made based on unit cost quoted for the particular item on actual work/item is undertaken / supplied.
- d) All items provided should be under Insurance. The Insurance should be for entire duration of the Project for 5 Years and comprehensive covering damages for Theft, Fire, Natural Calamities, Riots and Terrorists activities etc.
- e) Bidder should provide all prices as per the prescribed format under this Annexure 3.2.
- f) All the prices are to be entered in Indian Rupees ONLY
- g) DSCL reserves the right to ask the Bidder to submit proof of payment against any of the taxes, duties, levies indicated.
- h) DSCL shall take into account all Taxes, Duties & Levies for the purpose of evaluation.

- i) Bidder should refer the RFP document for details on the technical requirements of the system and the benchmark specifications for the items mentioned in the financial formats.
- j) Any component/fixtures/ancillary/adjunct to the specified item shall be deemed to have been included in the unit rates quoted above.

19 Section 19 Annexures for Financial Bid

Annexure 4.1 Format for Performance Bank Guarantee/Performance Security

[On Appropriate Stamp Paper]

Ref: Date

Bank Guarantee No.

To,

The MD cum CEO,

Dharamshala Smart City LTD

Dharamshala 176215 (Himachal Pradesh)

PERFORMANCE BANK GUARANTEE – For <Project Name>

WHEREAS

M/s. (name of Bidder), a company registered under the Companies Act, 1956/2013, having its registered and corporate office at (address of the Bidder), (hereinafter referred to as "our constituent", which expression, unless excluded or repugnant to the context or meaning thereof, includes its successors and assigns), agreed to enter into a Contract dated (Hereinafter,

referred to as "Contract") with you for "**Construction of Intelligent and Barrier Free Bus Queue Shelter (BQS) and Poles Refurbishment of Existing Bus/Rain Shelters at Dharamshala**", in the said Contract.

We are aware of the fact that as per the terms of the Contract, M/s. (name of the bidder) is required to furnish an unconditional and irrevocable Bank Guarantee in your favour for an amount of 10% of the Total Contract Value, and guarantee the due performance by our constituent as per the Contract and do hereby agree and undertake to pay any and all amount due and payable under this bank guarantee, as security against breach/default of the said Contract by our Constituent.

In consideration of the fact that our constituent is our valued customer and the fact that he has entered into the said Contract with you, we, (name and address of the bank), have agreed to issue this Performance Bank Guarantee.

Therefore, we (name and address of the bank) hereby unconditionally and irrevocably guarantee you as under:

In the event of our constituent committing any breach / default of the said Contract, and which has not been rectified by him, we hereby agree to pay you forthwith on demand such sum/s not exceeding the sum of 10% of the Total Contract Value i.e.,.....<in words> without any demur. Notwithstanding anything to the contrary, as contained in the said Contract, we agree that your decision as to whether our constituent has made any such default(s) / breach(es), as aforesaid and the amount or amounts to which you are entitled by reasons thereof, subject to the terms and conditions of the said Contract, will be binding on us and we shall not be entitled to ask you to establish your claim or claims under this Performance Bank Guarantee, but will pay the same forthwith on your demand without any protest or demur.

This Performance Bank Guarantee shall continue and hold valid till 180 (One Hundred and Eighty) days after completion date, subject to the terms and conditions in the said Contract.

We bind ourselves to pay the above said amount at any point of time commencing from the date of the said Contract until 180 (One Hundred and Eighty) days after the completion date.

We further agree that the termination of the said Contract, for reasons solely attributable to our constituent, virtually empowers you to demand for the payment of the above said amount under this guarantee and we would honor the same without demur.

We hereby expressly waive all our rights: Requiring to pursue legal remedies against DHARAMSHALA SMART CITY LIMITED; and for notice of acceptance hereof any action taken or omitted in reliance hereon, of any defaults under the Contract and any resentment, demand, protest or any notice of any kind.

We, the Guarantor, as primary obligor and not merely Surety or Guarantor of collection, do hereby irrevocably and unconditionally give our guarantee and undertake to pay any amount you may claim (by one or more claims) up to but not exceeding the amount mentioned aforesaid during the period from and including the date of issue of this guarantee through the period.

We specifically confirm that no proof of any amount due to you under the Contract is required to be provided to us in connection with any demand by you for payment under this guarantee other than your written demand.

Any notice by way of demand or otherwise hereunder may be sent by special courier, telex, fax, registered post or other electronic media to our address, as aforesaid and if sent by post, it shall be deemed to have been given to us after the expiry of 48 hours when the same has been posted. If it is necessary to extend this guarantee on account of any reason whatsoever, we undertake to extend the period of this guarantee on the request of our constituent under intimation to you.

This Performance Bank Guarantee shall not be affected by any change in the constitution of our constituent nor shall it be affected by any change in our constitution or by any amalgamation or absorption thereof or therewith or reconstruction or winding up, but will ensure to the benefit of you and be available to and be enforceable by you during the period from and including the date of issue of this guarantee through the period.

Not with standing anything contained hereinabove, our liability under this Performance Guarantee is restricted to 10% of the Contract Value, and shall continue to exist, subject to the terms and conditions contained herein, unless a written claim is lodged on us on or before the aforesaid date of expiry of this guarantee.

We hereby confirm that we have the power/s to issue this Guarantee in your favor under the Memorandum and Articles of Association / Constitution of our bank and the undersigned is / are the recipient of authority by express delegation of power/s and has / have full power/s to execute this guarantee under the Power of Attorney issued by the bank in your favor.

We further agree that the exercise of any of your rights against our constituent to enforce or forbear to enforce or any other indulgence or facility, extended to our constituent to carry out the contractual obligations as per the said Contract, would not release our liability under this guarantee and that your right against us shall remain in full force and effect, notwithstanding any further arrangement that may be entered into between you and our constituent, during the entire currency of this guarantee.

Notwithstanding anything contained herein:

Our liability under this Performance Bank Guarantee shall not exceed 10% of the Total Contract Value. This Performance Bank Guarantee shall be valid only from the date of signing of Contract to 180 (One Hundred and Eighty) days after the completion date; and

We are liable to pay the guaranteed amount or part thereof under this Performance Bank Guarantee only and only if we receive a written claim or demand on or before 180 (One Hundred and Eighty) days after the completion date.

Any payment made hereunder shall be free and clear of and without deduction for or on account of taxes, levies, imports, charges, duties, fees, deductions or withholding of any nature imposts. This Performance Bank Guarantee must be returned to the bank upon its expiry. If the bank does not receive the Performance Bank Guarantee within the above-mentioned period, subject to the terms and conditions contained herein, it shall be deemed to be automatically cancelled.

This guarantee shall be governed by and construed in accordance with the Indian Laws and we hereby submit to the exclusive jurisdiction of courts of Justice in India for the purpose of any suit or action or other proceedings arising out of this guarantee or the subject matter hereof brought by you may not be enforced in or by such court.



Dated this day 20....

Yours faithfully,

For and on behalf of the Bank,

(Signature)

Designation

(Address of the Bank)

Note:

This guarantee will attract stamp duty as a security bond.

A duly certified copy of the requisite authority conferred on the official/s to execute the guarantee on behalf of the bank should be annexed to this guarantee for verification and retention thereof as documentary evidence in the matter.

Annexure 4.2 **Format for** Change Control Note

Change Control Note		CCN Number:
Part A: Initiation		
Title:		
Originator:		
Sponsor:		
Date of Initiation:		
Details of Proposed Change		
(To include reason for change and appropriate details/specifications. Identify any attachments as A1, A2, and A3 etc.)		
Authorized By DSCL		
Name		
Signature		
Received by the Bidders		
Name		
Signature		
Change Control Note	CCN Number:	
Part: B Initiation		
(Identify any attachments as B1, B2, and B3 etc.)		
Changes to Services, payment terms, payment profile, documentation, training, service levels and component working arrangements and any other contractual issue.		
Brief Description of Solution:		
Impact:		
Deliverables:		
Timetable:		

<p>Charges for Implementation: (including a schedule of payments)</p>
<p>Other Relevant Information: (including value-added and acceptance criteria)</p>

Authorized by the	Date:
Bidder	
Name:	
Signature:	
Change Control Note	CCN Number :
Part C : DSCL to Proceed	
Implementation of this CCN as	
submitted in Part A, in accordance with	
Part B is: (tick as appropriate)	
Approved	
Rejected	
Requires Further Information (as	
Follows, or as Attachment 1 etc.)	
For DSCL and its nominated	For SYSTEM INTEGRATOR
Agencies	



Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala

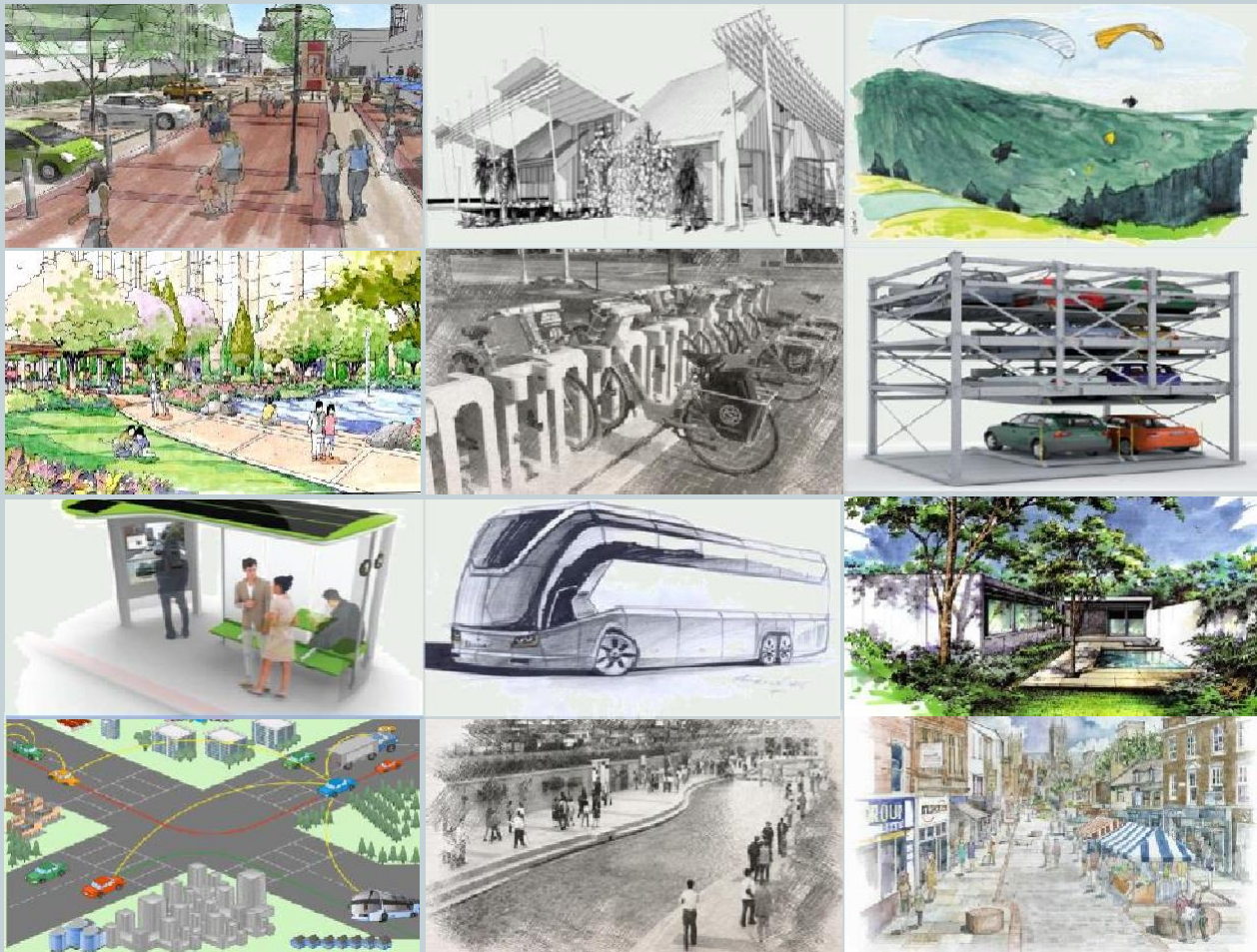


DharamshalaSmart city Ltd.

Signature	Signature
Name	Name
Title	Title
Date	Date



DHARAMSHALA SMART CITY LTD.



Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala

**Project Management
Consultant**



*In Joint
Venture with*

almondz
the infrastructure specialist

2021,RV-00, Volume-II, Doc No:

Smart City Lighting Solutions for Dharamshala

VOLUME – II

Scope of Work

Name of Work:

Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala

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1. Section 1

1.1 Project Objectives

The objective of the project is to improve the overall energy efficiency in street lights for the Dharamshala Municipal Corporation which could lead to substantial savings the electricity consumption, thereby resulting in cost reduction / savings. Also provides the smart features of LED system like Centralized control system, Group Phase Control through Individual / Group Phase controlling functionality, Dimming technology etc. The DSCL intends to improvise and extend the existing street lightings for entire Dharamshala with suitable LED fixture along with Central Control & Monitoring System.

Following are the Goals of the project:

1. Designing and executing the automatic, Power efficient street light system for maximum energy saving.
2. Relocating & connecting all the existing LED street lights / Luminaries into new system.
3. Improved service to residents
4. Improved environmental conditions

2. Section 2

2.1 Stakeholder identification

The project requires collaboration between multiple stakeholders for its successful execution. It is therefore important to understand the various stakeholders envisioned to be the part of this project. Following are the critical stakeholders whose involvement will drive the project and enable the establishment of strong project governance:

1. Dharamshala Municipal Corporation

2. Telecom Service Providers (BSNL/JIO/Airtel/IDEA/VODAFONE)
3. Himachal Pradesh State Electrical Board Limited
4. Police Department (Law & Order, Traffic)
5. Himachal Pradesh Public Works Department
6. Citizens.

3. Section 3

Other Expectation and Consideration from System Integrator.

3.1 Inception Phase

System Integrator will be responsible for preparation of detailed project plan. The plan shall address at the minimum the following:

- i. Define an organized set of activities for the project and identify the interdependence between them.
- ii. Resource planning and loading for each phase/activity. This must also indicate where each resource would be based during that phase, i.e. onsite at the DSCL office or off site at System Integrator premises.
- iii. Establish and measure resource assignments and responsibilities
- iv. Highlight the milestones and associated risks
- v. Communicate the project plan to stakeholders with meaningful reports.
- vi. Measure project deadlines and performance objectives.
- vii. Project Progress Reporting. During the implementation of the project, System Integrator should present weekly reports. This report will be presented in the Board meeting to DSCL. The report should contain at the minimum the under mentioned:
 - a. Results accomplished during the period (weekly)
 - b. Cumulative deviations from the schedule date as specified in the finalized

Project Plan.

- c. Corrective actions to be taken to return to planned schedule of progress
 - d. Plan for the next week.
 - e. Proposed revision to planned schedule provided such revision is necessitated by reasons beyond the control of System Integrator.
 - f. Support needed
 - g. Highlights/lowlights
 - h. Issues/Concerns
 - i. Risks/Show stoppers along with mitigation
- viii. Identify the activities that require the participation of client personnel (including DSCL, the Program Management Unit etc.) and communicate their time requirements and schedule early enough to ensure their full participation at the required time.

3.2 Requirement Phase

System Integrator must perform the detailed assessment of the business requirements and IT Solution requirements as mentioned in this RFP. Based on the understanding and its own individual assessment, System Integrator shall develop & finalize the System Requirement Specifications (SRS) in consultation with DSCL and its representatives. While doing so, System Integrator at least is expected to do following:

- a) System Integrator shall conduct a detailed survey and prepare a gap analysis report, detailed survey report of the physical and field infrastructure requirements. System Integrator shall duly assist the department in preparing an action plan to address the gaps.
- b) System Integrator shall study and revalidate the requirements given in the RFP with DSCL and submit as an exhaustive FRS document. System Integrator shall develop the FRS and SRS documents.
- c) System Integrator shall develop and follow standardized template for requirements capturing and system documentation.

- d) System Integrator must maintain traceability matrix from SRS stage for the entire implementation.
- e) System Integrator must get the sign off from user groups formed by DSCL.
- f) For all the discussion with DSCL team, System Integrator shall be required to be present at DSCL office with the requisite team members.
- g) The infrastructure of existing street lighting system may need to be dismantled and replaced with the new systems which are proposed and required under the scope of the project. The infrastructure such as poles, cantilevers, cabling, aspects etc. should be reused to derive economies for the project with prior approval of DSCL. The dismantled infrastructure shall be delivered at the DSCL designated location without damage at any extra cost.
- h) All existing road signs which are likely to be affected by the works are to be carefully taken down and restored. Signs to be re-commissioned shall be cleaned, provided with new fixings where necessary and the posts re-painted in accordance with DSCL guidelines. Road signs, street name plate, etc. damaged by System Integrator during their operation shall be repaired or replaced by System Integrator at no additional cost.
- i) System Integrator shall directly interact with the HP State Electricity Board Ltd. for provision of mains power supply at all desired locations for field solution. DSCL shall facilitate the same. The recurring electricity charges will be borne by DSCL as per actual consumption.

3.3 Design Phase

System Integrator shall build the solution as per the Design Considerations detailed in Annexure – III. The solution proposed by System Integrator should comply with the design considerations requirements as mentioned therein.

System Integrator should consider to development of solution considering disabled friendly solution center to extend possibilities.

3.4 Development Phase

System Integrator shall carefully consider the scope of work and provide a solution that best meets the project's requirements. Considering the scope set in this RFP,

System Integrator shall carefully consider the solutions it proposes and explicitly mention the same in the technical proposal. The implementation of the application software will follow the procedure mentioned below:

a. Software Products (Configuration and Customization): In case System Integrator proposes software products the following need to be adhered:

- I. System Integrator will be responsible for supplying the application and licenses of related software products and installing the same so as to meet project requirements.
- II. System Integrator shall have provision for procurement of licenses in a staggered manner as per the actual requirement of the project.
- III. System Integrator shall perform periodic audits to measure license compliance against the number of valid End User software licenses consistent with the terms and conditions of license agreements, volume purchase agreements, and other mutually agreed upon licensed software terms and conditions. System Integrator shall report any exceptions to license terms and conditions at the right time to DSCL. However, the responsibility of license compliance solely lies with System Integrator. Any financial penalty imposed on DSCL during the contract period due to license non-compliance shall be borne by System Integrator.
- IV. As per requirement of complex solution implementation System Integrator has to put requirement that OEM own resource & System Integrator best technical resources are deployed in this project.
 - i. OEM to design and implement the complete security policy and workflow as per industry best practice in consultation with Customer to meet their Business requirements.
 - ii. System Integrator shall also supply any other tools & accessories required to make the integrated solution complete as per requirements. For the integrated solution, System Integrator shall supply:
 - a) Software & licenses.
 - b) Supply tools, accessories, documentation and provide a list of the same. Tools and accessories shall be part of the solution.

c) System Documentation: System Documentation both in hard copy and soft copy to be supplied along with licenses and shall include but not limited to following. Documentation to be maintained updated and submitted to DSCL regularly:

- Functional Requirement Specification (FRS)
- High level design of whole system
- Low Level design for whole system
- System Requirements Specifications (SRS)
- Any other explanatory notes about system
- Traceability matrix
- RACI Matrix (Responsible, Accountable, Consulted and Informed)
- Technical and product related manuals
- Installation guides
- User manuals
- System administrator manuals
- Toolkit guides and troubleshooting guides
- Other documents as prescribed by DSCL
- Quality assurance procedures
- Change management histories
- Version control data
- SOPs, procedures, policies, processes, etc. developed for DSCL
- Programs:
 - Entire source codes as applicable
 - All programs must have explanatory notes for understanding
 - Version control mechanism
 - All old versions to be maintained

- Test Environment:
- Detailed Test methodology document
- Module level testing
- Overall System Testing
- Acceptance test cases

(These documents need to be updated after each phase of project and to be maintained during entire project duration. The entire documentation will be the property of DSCL.)

3.5 Integration Phase

The Street lighting system integrated with Command and control Centre in future should be integrated with feeds of all tracks / components deployed under this Project. SI shall provide the testing strategy including traceability matrix, test cases and shall conduct the testing of various components of the software developed / customized and the solution as a whole. The testing should be comprehensive and should be done at each stage of development and implementation to enable DSCL for better decision management and planning.

3.6 Pilot Deployment

- SI shall conduct Pilot deployment and testing for meeting DSCL's business requirements before rolling out the complete system. The pilot will be run for four weeks to study any issues arising out of the implementation. SI shall also review health, usage and performance of the system till it is stabilized during pilot deployment. Based on DSCL's feedback for incorporating changes as required and appropriate, SI shall train staff involved in the Pilot implementation.
- Pilot shall be demonstrated to the DSCL's representatives. If for any reason the pilot is found to be incomplete, these will be communicated to the SI in writing on the lapses that need to be made good. A one-time extension will be provided to the SI for making good on the lapses pointed out before offering the system to Client for review. Failure to successfully demonstrate the Pilot may lead to termination of the contract with no liability to Client.

3.7 Go-Live Preparedness and Go-Live

- SI shall prepare and agree with DSCL, the detailed plan for Go-Live (in-line with DSCL's implementation plan as mentioned in RFP).
- SI shall define and agree with DSCL, the criteria for Go-Live.
- SI shall submit signed-off UAT report (issue closure report) ensuring all issues raised during UAT are being resolved prior to Go-Live.
- SI shall ensure that Go-Live criteria as mentioned in User acceptance testing of Project are met and SI needs to take approval from DSCL team on the same.
- Go-live of the application shall be done as per the finalized and agreed upon Go-Live plan.

3.8 Handholding and Training

In order to strengthen the staff, structured capacity building shall be undertaken for identified resources of DSCL, Municipal Corporation, & UD and stakeholder departments. It is important to understand the training needs to be provided to each and every staff personnel of ICC. These officers shall be handling emergency situations with very minimal turnaround time. The actual number of trainees will be provided at design stage.

- a) SI shall prepare and submit detailed Training Plan and Training Manuals to DSCL for review and approval.
- b) Appropriate training shall be carried out as per the User Training Plan prepared in detail stating the number of training sessions to be held per batch of trainees, course work for the training program, coursework delivery methodologies and evaluation methodologies in detail.
- c) SI shall also be responsible for full capacity building. Training and capacity building shall be provided for all individual modules along with their respective integrations.

Types of Trainings: Following training needs is identified for all the project stakeholders:

I. Administrative Training

- ✓ System Administration Helpdesk, BMS Administration etc.
- ✓ Master trainer assistance and handling helpdesk requests etc.

II. Senior Management Training

- ✓ Usage of all the proposed systems for monitoring, tracking and reporting,
- ✓ MIS reports, accessing various exception reports

III. Post-Implementation Training

- ✓ Refresher Trainings for senior officials
- ✓ Functional/Operational training and IT basics for new operators
- ✓ Refresher courses on System Administration
- ✓ Change Management programs.

3.9 Operations and Maintenance

System Integrator will operate and maintain all the components of the Street Lighting System for a period of five (5) years after Go-Live date. During O&M phase, SI shall ensure that service levels are monitored on continuous basis; service levels are met and are reported to DSCL. After Go-Live, if any system/sub-system/appliance that is deployed during the O&M phase must be added in the System only after proper induction procedures are followed including hardening and security testing. SI needs to implement suitable Performance Improvement Process (PIP) in the project.

3.10 Applications Support and Maintenance

Application support includes, but not limited to monitoring, troubleshooting and addressing the functionality, availability and performance issues, implementing the system change requests etc. The System Integrator shall keep the application software in good working order. Perform changes and upgrades to applications as requested by the DSCL team.

a. Compliance to SLA

System Integrator (SI) shall ensure compliance to SLAs as indicated in this RFP and any upgrades/major changes to the software shall be accordingly planned by SI ensuring the SLA requirements are met at no additional cost to the DSCL.

b. Annual Technology Support

SI shall be responsible for arranging for annual technology support for the OEM products to DSCL provided by respective OEMs during the entire O&M phase.

c. Application Software Maintenance

- i. SI shall provide unlimited support through onsite team/telephone/Fax/E-mail/Video Conferencing/installation visit as required
- ii. SI shall address all the errors/bugs/gaps in the functionality in the solution implemented by the SI (vis-à-vis the FRS, BRS and SRS signed off) at no additional cost during the O&M phase.
- iii. All patches and upgrades from OEMs shall be implemented by the SI ensuring customization done in the solution as per the DSCL requirements are applied. Technical upgrade of the installation to the new version, as and when required, shall be done by the SI. Any version upgrade of the software / tool / appliance by SI to be done after taking prior approval of DSCL and after submitting impact assessment of such upgrade.
- iv. Any changes/upgrades to the software performed during the support phase shall subject to the comprehensive and integrated testing by the SI to ensure that the changes implemented in the system meets the specified requirements and doesn't impact any other function of the system. Release management for application software will also require DSCL's approval. A detailed process in this regard will be finalized by SI in consultation with DSCL.
- v. In case of critical security patches/alerts, the SI shall inform about the same immediately along with his recommendations. The report shall contain SI's recommendations on update/upgrade, benefits, impact analysis etc. The SI shall need to execute updates/upgrades through formal change management process and update all documentations and Knowledge databases etc. For updates and upgrades, SI will carry it out free of cost by following defined process.

d. Problem identification and Resolution

- i. Errors and bugs that persist for a long time, impact a wider range of

users and is difficult to resolve becomes a problem. SI shall identify and resolve all the application problems in the identified solution (e.g. system malfunctions, performance problems and data corruption etc.).

- ii. Monthly report on problem identified and resolved would be submitted to DSCL along with the recommended resolution.

e. Maintain configuration information

SI shall maintain version control and configuration information for application software and any system documentation.

f. Training

SI shall provide training to DSCL personnel whenever there is any change in the functionality. Training plan has to be mutually decided with DSCL.

Maintain System documentation

- i. High level design of whole system
- ii. Low Level design for whole system / Module design level
- iii. System requirements Specifications (SRS)
- iv. Any other explanatory notes about system
- v. Traceability matrix
- vi. Compilation environment

SI shall also ensure updating of documentation of software system ensuring that:

- i. Source code is documented
- ii. Functional specifications are documented
- iii. Application documentation is updated to reflect on-going maintenance and
- iv. enhancements including FRS and SRS, in accordance with the defined standards
- v. User manuals and training manuals are updated to reflect on-going

- vi. changes/enhancements
- vii. Standard practices are adopted and followed in respect of version control and management.

3.11 ICT Infrastructure Support and Maintenance

ICT infrastructure includes servers, storages, back up, networking, load balancers, security equipment, operating systems, database, enterprise management system, help desk system and other related ICT infra required for running and operating the envisaged system. SI shall define, develop, implement and adhere to IT Service Management (ITSM) processes aligned to ITIL framework for all the IT Services defined and managed as part of this project.

3.12 Warranty support

- a. SI shall provide comprehensive and on-site warranty for 5 years from the date of Go-Live for the infrastructure deployed on the project. SI need to have OEM support for these components and documentation in this regard need to be submitted to DSCL on annual basis.
- b. SI shall provide the comprehensive & onsite manufacturer's warranty in respect of proper design, quality and workmanship of all hardware, equipment, accessories etc. covered by the RFP. SI must warrant all hardware, equipment, accessories, spare parts, software etc. procured and implemented as per this RFP against any manufacturing defects during the warranty period.
- c. SI shall provide the performance warranty in respect of performance of the installed hardware and software to meet the performance requirements and service levels in the RFP.
- d. SI is responsible for sizing and procuring the necessary hardware and software licenses as per the performance requirements provided in the RFP. During the warranty period SI shall replace or augment or procure higher-level new equipment or additional licenses/hardware at no additional cost to the DSCL in case the procured hardware or software is not enough or is undersized to meet the service levels and the project requirements.

- e. During the warranty period SI shall maintain the systems and repair/replace at the installed site, at no charge to DSCL, all defective components that are brought to the SI's notice.

3.13 Advisory & Guideline for System Integrator

System Integrator follows the Ministry Advisory Designing/Supplying/ Development and Implementation of Smart solutions in Street lighting Project.

- a. System Integrator shall adhere to the model framework of cyber security requirements set for Smart City (K-15016/61/2016-SC-1, Government of India, and Ministry of Urban Development).
- b. The System Integrator shall adhere each product or technology should have quality certifications like ISO 9001/ ISO 20000/ISO 14001/ISO 27001 or equivalent.
- c. System Integrator shall adhere the Advisory no- 87 issued by the Government of India, and Ministry of Urban Development) for roll of Information and Communication Technology (ICT) in the development of smart infrastructure.
- d. System Integrator shall adhere the Advisory no- 11 issued by the Government of India, and Ministry of Urban Development) for Strategy for ensuring Universal Access IT systems to empower citizens with disability to access these systems with ease for development of street lighting Software.
- e. System Integrator shall adhere the Advisory of Exclusion for restrictions under rule 144 of the general financial rules (GFRS).
- f. System Integrator shall adhere the Advisory no- 18 issued by the Government of India, and Ministry of Urban Development) for (DPPIT) Department of Promotion Preference make in India order 2017 (PP-MII).

4. Section 4

4.1 Current & Desired Solution

One MOU signed in 2016 between EESL and Dharamshala Municipal Corporation for installation of Street lighting system in Dharamshala there is LED 3522 Led lights installed by the EESL mostly on existing electric service line pole at Dharamshala.

4.2 Functioning of Street lighting in Dharamshala Municipal Corporation

Following are the key observations related to functioning of street lights in DMC, Dharamshala.

4.2.1 Process:

- On an average over the year, street lights are operational for about 12hoursperday.
- There is no astronomical timer in place to account for weather day light conditions, i.e., to control the switch on / off time, according to weatherconditions.
- It is a manual process to adjust the timers as per the season. Employee sets the timers manually as per beginning of seasonal change; with no tracking of same and synchronous mode of timer setting is not monitored orguaranteed.
- The power supply to various street lights traverse via mains power supply (single or three phase), to the contactor isolator, which is controlled via digital timer, to the Miniature Circuit Breaker (MCB) or the MCCB, to guard circuit from short circuit & overcurrent.
- IneveryMCB/MCCBathresholdisset,whichbreaksthecircuitwheneverthereisshortci rcuitorexternal current is drawn from particularphase.
- In case there is short circuit or any entity try to draw out / steal power supply from a phase, then the MCB/MCCB trips the circuit instantly. However, there is

no real time reporting of such incident. Manual phone calls and subsequent investigation of MCB / MCCB trip leads to inference and conclusion of power supply theft (if any) or short circuit.

- Most of the feeder panels or switching points consist of contactor isolator along with timer, connected to Molded Case Circuit Breaker (MCCB).
- Every feeder panel's timer is set in synchronous manner, which enables to start mains power supply (single/ three phase) and thereby, switch on / off the street lights, as per timer schedules.

4.2.2 Annual Maintenance Contracts (AMC)

- DMC maintains the street light function through contractor appointed for, as per administrative wards, for the AMCs.
- The broad Scope of Work (SoW) for those AMCs, consist of Operations & Maintenance (O&M) maintenance of the street light and related electrical equipment.
- In case of failure, EESL is to replace the street light and equipment with new ones.
- Contractor is to submit the bills and payment is based on actuals.
- Maintain 100% uptime is expected through special terms and condition set between the DMC and the EESL.
- Cost estimation of final contract is done based on 20% failure rate of street lights and around 6% failure rate of other electrical equipment.

4.2.3 Failure Reporting

- There is no real time reporting of any failures, nor any system automation can send a trigger.
- It is a completely manual process. Citizens, elected representatives calls at helpline number or to junior engineers in case street lights are not operative.

- The EESL are expected to provide one personal for every ward / ward, who takes round across wards and phases to check the uptime of the street lights.

4.2.4 Status of IT / ICT Interventions

There is hardly any deployment of Information Technology (IT) or Information & Communication Technology (ICT) tools and techniques for street lights in DMC. There is no separate stores and inventory module in e-Governance system by DMC; it is handled by the contractors. Human Resource Management System (HRMS) in street light wing of DMC is a part of overall DMC module in e-Governance. Similar to HRMS, financial accounting, is also a part of DMC e-Governance system, Geographical Information System (GIS); was implemented in year 2017.

5. Section 5 Project Scope of Work

Dharamshala Smart City Ltd. intends to implement "**Smart LED based Street Lighting System**" covering almost all its roads, streets, walkways and stairs falling under the Dharamshala Municipal Corporation (DMC) limits, with smart centralized switching, monitoring and reporting features from its upcoming centrally located Integrated Command and Control Centre (ICCC).

The DMC is comprises of 17 Nos. of wards. This project will cover all the 17 No. of wards. Earlier the DMC/EESL has already installed approximately 3,548 Nos. of LED Luminaries within the DMC limits.

The detailed ward wise survey will be conducted by the System Integrator immediately after awarding of the work. The detailed survey along with the SLDs and detailed proposal for the "**Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-years at Dharamshala**" will be submitted to DSCL for approval. The brief summary of the project is as under:

5.1 BRIEF SUMMARY OF STREET LIGHT SYSTEM

- 1) It will cover dedicated street lighting system covering approximately 189 Kmroads, streets, walkways and stairs falling under the Dharamshala Municipal Corporation (DMC) limits with remotely controlled, automatic ON/OFF features from the ICCC.
- 2) Approximately 6,978 no. of new Octagonal type of poles measuring height 5, 6 & 7 m will be installed. The old 314 (approximately) no. of tubular metallic poles will be shifted and re-erected on the nearby appropriate locations of this project. These poles will be evenly spaced as per the BIS 1981 Standards.
- 3) Approximately, 838 no. of pole foundation are under construction or will be constructed under the ongoing DSCL Projects.
- 4) The existing 2280 no. of LED Street Lights installed by the EESL consists of luminaries of 18, 35, 70 & 130 W.
- 5) Approximately 2,280 no. of LED luminaries / Street Lights, already installed by DMC, Dharamshala will be relocated on the new poles, whereas the remaining 5,263 no. of streets lights of various lumens/wattages have been proposed to be installed under new LED street lighting system.
- 6) Approximately, 23% of the street light cabling has been proposed underground and remaining 77% overhead. The underground cabling will also make use of the existing HDPE laid down by HIMUDA, DMC and HPPWD in various streets & walkways under the Smart City Dharamshala project namely- '*Inclusive Streets*'. In addition to above some of the underground cabling has also been proposed through the service corridor proposed under the various DSCL projects.
- 7) Approximately 93% of the street light system has been proposed on 3-phase, 440V, 50 Hz electric power supply, whereas rest of 7% has been proposed on 1-phase, 220V, 50 Hz electric power supply.
- 8) This project will have one-year defect liability period for '*New Light System*' with certain portion of '*New Street Light System with Relocation of Existing Street Light System*' (with 100% new installations) which will be followed by 4-year Operation & Maintenance. Whereas the rest portion of '*New Street Light System with Relocation of Existing Street Light System*' (with a mixture of old

and new installations) and the Legacy Street Light System will have only the Operation & Maintenance for 5 years. This project will cover the technical manpower support for 5-years.

- 9) The whole network of the streetlights will be subdivided into approximately 48 no. of New Smart Feeder Panels/Centrally Controlled and Monitoring System (CCMS) panels which will be remotely controlled by the Central Street Light Management System (CSLMS) through GPRS/Wi-Fi Network (OFC Network).
- 10) The Central Street Light Management System (CSLMS) with Application/Data Server and protected with the Fireball will be located remotely.
- 11) The LED lights will be centrally controlled through server/software. It will give the flexibility to switch off 1/3rd, 2/3rd partially, or even all the street lights of each street light (Group Phase Control on 3-Ø supply system). The switching schedule shall be derived from the annual sunset and sunrise data for each individual day. The switching schedule shall be designed such that the burning hour for all the luminaries at the end of week should be equal. The system will be capable to switch ON or OFF the street lights of a particular street, individually (Group Phase Control).
- 12) The whole electrical system will be protected from overvoltage, thermal, burst, internal/external surge supported by a strong earthing grid protection system designed alongside the street light system.
- 13) The Streetlight Application Software must be capable to handle the modern streetlight functions (also the function which are not part of this project) as specified under **Section 7.6** for future additions or up gradation of system.
- 14) The ICCC project of Smart City Dharamshala is still at the advanced stage of approval by DSCL therefore, the entire application/data server related to this project with all the necessary IT software/hardware will be installed at an alternative location which will be finalized by DSCL. Finally the same will be shifted to the Data Centre of ICCC by the implementing firm.
- 15) All the CCMS panels shall be connected through the GPRS/Wi-Fi (OFC) Network with the centrally controlled software/server. The New Smart Feeder Panels/CSLMS should be future ready for the upcoming OFC network of DSCL and seamless integration with the ICCC.

5.2 CLASSIFICATION OF STREET LIGHT SYSTEM:

The scope of this project will be substantially divided into following four parts:

1. New Street Light System
2. New Street Light System with Relocation of Existing Street Light System
3. Legacy Street Light System
4. IT System (Information Technology)

5.2.1 New Street Light System:

The New Street Light System will comprise of those roads, streets, walkways and stairs of DMC Dharamshala, where there is no street light or luminary has been installed. The approximate length of such new street light system 57 Km. The new proposed street light system will work on 440V, 3 Phase, 50Hz power supply. In these areas this project will cover following components, substantially:

1. Installation of New poles and Luminaries.
2. Cabling of System (Overhead and underground)
3. Installation of New Smart Feeder Panels (CCMS Panel).
4. Providing Earthing Protection as per the project requirements.
5. Civil Work – Pole Foundation, demolition, drilling and laying precast cement.
6. The serial numbers on each lighting fixtures and poles assigned for GIS mapping shall be as per the approval from DSCL.

5.2.2 New Street Light System with Relocation of Existing Street Light System:

New Street Light System with Relocation of Existing Street Light System will be comprising of those roads, streets, walkways and stairs of DMC Dharamshala, where the street lights or luminaries already exists (installed by DMC/EESL). The approximate length of such roads streets, walkways & stairs is approximately 125 Km. The new proposed street light system will work on 440V, 3-Phase, 50Hz or 220V. 1-Phase, 50Hz power supply. In these areas this project will cover following components, substantially:

1. In a certain portion of this street light, Installation of New poles and Luminaries will be done after shifting all the existing street light system.

2. Where as in rest of portion of this street light system existing luminaries (approximately 2,280 Nos.) and metallic poles (approximately 314 Nos.) will be removed and shifted from nearby project locations and re-installed as per the approved project plan.
3. Cabling of New and Relocated Street Light System.
4. Installation of New Smart Feeder Panels (CCMS Panel).
5. Providing Earthing Protection as per the project requirements.
6. Civil Work – Pole Foundation, demolition, drilling and laying precast cement.
7. The serial numbers on each lighting fixtures and poles assigned for GIS mapping shall be as per the approval from DSCL.

5.2.3 Legacy Street Light System:

The Legacy Street Light System will comprise of those roads, streets, walkways and stairs of DMC Dharamshala, which has already been covered under street lighting by DMC/EESL. In these areas the luminaries/street lights have already been installed and there is less scope of up grading the existing street light system. In addition to above this system will also include street light of some Govt. premises.

The approximate length of such Legacy Street Light System is approximately 07 Km. All the system will work on Single Phase, 50Hz power supply.

1. Connecting/Cabling of Legacy Street Light System to nearby New Smart Feeder Panels (CCMS Panel).
2. Providing Earthing Protection as per the project requirements.
3. The serial numbers on each lighting fixtures and poles assigned for GIS mapping shall be as per the approval from DSCL.

5.2.4 IT System(Information Technology) :

The System will be located centrally consisting of the following components:

1. Street Light Application Software
2. Application and data Server with firewall Protection, Vertical Cable Manager.etc.
3. Attend the public complaints register.
4. Develop various reports for monitoring and apprising to DSCL authorities.

Timelines for Project:-

Mile - stone	Stage	Description	Timelines	Deliverables
M1.	Requirement Documentation Phase	<ul style="list-style-type: none"> • Submission and Acceptance of Phase wise Survey Report with Implementation Schedule including Establishment of Store-cum-Yard/Site Office. • Design and implementation plan of DATA Center/ Helpdesk • Material Approvals (Make & Model) & Pre Dispatch Inspection and Acceptance test report for all Materials/Items • Material Purchase Order for `1st Phase after Prior Approval of DSCL Authorities 	D+45 DAYS	<ul style="list-style-type: none"> • Survey Report • Design and implementation • Material Approvals
M2.	Installation - Phase-I (Pilot)	Installation, Testing & Commissioning of Software & Hardware at Data Centre, along with at least 25% of the total LED Street Lights complete in all respects	D+165 DAYS	<ul style="list-style-type: none"> • Post-Dispatch Inspection and Acceptance test report for all Materials/Items • Submission of the installation and successful commissioning & First Phase 'Go-Live' of Street Light System & Data Centre Report • Material Purchase Order for 2nd Phase after

				Prior Approval of DSCL Authorities
M3.	Installation - Phase-II	Installation, Testing & Commissioning of 25% of the total LED Street Lights complete in all respects with Data Centre.	D+285 DAYS	<ul style="list-style-type: none"> • Post-Dispatch Inspection and Acceptance test report for all Materials/Items • Submission of the installation and successful commissioning & Second Phase 'Go-Live' of Street Light System with Data Centre Report • Material Purchase Order for 3rd Phase after Prior Approval of DSCL Authorities
M4.	Installation - Phase-III	Installation, Testing & Commissioning of 25% of the total LED Street Lights complete in all respects with Data Centre.	D+405 DAYS	<ul style="list-style-type: none"> • Post-Dispatch Inspection and Acceptance test report for all Materials/Items • Submission of the installation and successful commissioning & Third Phase 'Go-Live' of Street Light System with Data Centre Report • Material Purchase Order for 4th Phase after

				Prior Approval of DSCL Authorities
M5.	Installation - Phase-IV	Installation, Testing & Commissioning of 25% of the total LED Street Lights complete in all respects with Data Centre.	D+525 DAYS	<ul style="list-style-type: none"> • Post-Dispatch Inspection and Acceptance test report for all Materials/Items • Submission of the installation and successful commissioning & Fourth Phase 'Go-Live' of Street Light System with Data Centre Report • Material Purchase Order for Any Balance Material after Prior Approval of DSCL Authorities
M6.	Go-Live	Final Go-Live Certificate by DSCL	D+540 DAYS	<ul style="list-style-type: none"> • Training Completion report • Go-Live Report • User manuals • Detailed plan for monitoring of SLAs and performance of the overall system
M7.	Quarterly O&M	O&M (20 quarters)	1.50% per quarter for 20 quarters (30% of total Project Value)	Quarterly SLA, O&M, Performance Reports

6. Section 6 Terms of Reference

6.1 Terms of Reference

1. Supply, installation, testing and commissioning of street lighting system consisting of new LED street lights, relocation of existing LED street lights/luminaries & poles connecting some of the existing street lights/luminaries into the new Smart Panels and equipping the these smart CCMS control panel with all hardware, software, smart energy meters, surge protector etc. so as to ensure that the replaced street lighting system conforms to the National Lighting Code, / IS:1944(Part-I&II),1970/ BIS1981 suitable for the width of the road of Dharamshala Municipal Corporation consisting of 1 to17 wards, based on the civil engineering lay out and concept plan.
2. The System Integrator shall be fully responsible for operation, maintenance and monitoring of the project for a period of 5 years (Including Defect Liability Period) after completion of the Project.
3. The System Integrator has to submit the complete implementation plan along with the name of official with contact number and duties who has to deputed in the site for execution of project and after execution maintain the AMC activities up to the project period.
4. The System Integrator should open his site office for smooth execution and maintenance of the project. The System Integrator has to maintain necessary equipment's on site which is required for implementation and maintenance of project activities.
5. The System Integrator should open a store/yard within DMC, Dharamshala limits for storage of new items/material as well as all the items recovered from the project sites (existing lines and structures, light fittings and all equipment) before shifting/re-installation the same to their respective new project sites. This storage can be used for storing the material (ACSR Conductor, Flexible Cables, Feeder Panels etc.) to be disposed off/auctioned/ or transferred to other departments. The SI will be fully responsible for custody of such items. All the expenditure arising from such

a facility will be completely borne by the System Integrator.

6. All the disposal material generated due to breaking of concrete or excavation of earth or related activity will be transported and disposed off by the System Integrator to the Disposal Site as decided by the DSCL without any extra cost.
7. All the machineries and equipment required for implementation of the project is to be arranged by the System Integrator, DSCL/DMC has to provide only authorization and necessary clearance and permission if required.
8. The quality of the luminaries'/ Lux level will be maintained by System Integrator and during the project life. The System Integrator has to follow all necessary safety guidelines/directions issued by Government of Himachal Pradesh / Dharamshala Municipal Corporation/ Himachal Pradesh State Electricity Board (State DISCOM) from time to time.
9. The System Integrator will have full responsibility of warranty of all equipment's such as street light poles, LED's/fixture, CCMS panels, cables etc. for the entire contract period. He will pass on the warranty for remaining period to the client.
10. In case of unsatisfactory performance and/or breakdown due to defective design, workmanship of material, the equipment's of components, or any part thereof, so found defective/failure during warranty period shall be forthwith repaired or replaced free of cost by the System Integrator, to the satisfaction of Engineer in charge, DSCL.
11. The System Integrator will be fully responsible for all kind of theft during implementation and Operation & Maintenance of this project.
12. Packing and transportation from the manufacturer's works to the Site including insurance.
13. Receipt, storage, preservation and conservation of equipment at the site.
14. Pre-assembly, if any, erection, testing and commissioning of all the equipment.
15. Reliability tests and performance and guarantee tests on completion of commissioning,
16. Labeling of information shall distinctly and indelibly marked on the housing

- like, Year of Manufacturing, Batch no., **Serial no.**, Name of manufacturer, Rated wattage and Voltage (Input) & Rated Lumen.
17. The operation & maintenance is free of cost till the completion of Successful commissioning and acceptance. The installation of all equipment's to be taken up as per the directive of DSCL/DMC.
 18. Undertake measurement of the energy usage and lighting level of the street lighting segment after successful installation of the project.
 19. Implementation of National Lighting Code illumination parameters towards safety of motorists & pedestrians.
 20. Operation & Maintenance of the Street Light System in the project area, where in all responsibility from the switching point control Panels to the Lighting Point, including the poles, Cables, Junction Boxes, Servers, Software etc. shall be extended to be covered within the scope of System Integrator for the project life.
 21. The installation of the project shall be done in 18 months and the maintenance period shall be 5 years from the date of successful commissioning of entire smart LED lighting system.
 22. The Control System being centralized shall be operated 24x7 at the designated location to be prescribed by DSCL to always remain accessible to staff of DSCL.
 23. The System Integrator shall maintain the defined minimum Storage Space immediately after commissioning within Dharamshala for storage of standby LED Lighting Fixtures of a minimum 5% of the installed LEDs each type based on all types of installations, and other spares.
 24. After a successful completion of project all kind material/ accessories installed by System Integrator during project will be property of the DSCL/DMC.
 25. Trenchless boring for road crossing if required.
 26. Earthing of lighting poles and earth electrode at every 4th pole, CCMS lighting control panels and junction box, cable trays as per relevant standards and specifications within Project area.
 27. Supply, laying and commissioning of HDPE pipes / DWC pipes and all other materials like cement, steel, sand gravels of suitable size as required shall

be in the scope of System Integrator.

28. De energization of existing lighting circuit after obtaining permission from the DSCL/DMC/HPSEBL and dismantling/shifting of the poles, overhead lines, insulators, cross arms, cables, lighting poles, light fixtures, energy meters and all accessories carefully and handing over the materials to the Stores of System Integrator.
29. The De energization should be planned and optimized for the minimum time possible and for the lenient hours of the day or night.
30. Civil foundations as recommended by the manufacturers of Lighting control panels, lighting pole and junction box etc. shall be done in coordination with firm/contractor of the ongoing projects of DSCL. All the civil works such as excavation of earth for earthing system, erection of poles on J-Bolts (already installed by other ongoing civil work contractor), laying of HDPE pipes/ DWC pipes in concreting, back filling of cable trench, providing man holes and inspection chambers as required for cable laying and jointing as per standards.
31. Liaison with Central/state Government Departments/HPSEBL/CEIG or any other authorities concerned on for matters like work entrustment, vendor approvals, drawing approvals, PTCC, TA&QC approvals and any other matters connected with the work and gets the approvals within the specified time for successful completion of work for all matters including obtaining approved designs & drawings, and commissioning of the Project including all incidental costs incurred thereon. Dharamshala Smart City Limited, however, will provide only all the required administrative supports to the System Integrator in this regard and also would reimburse to the System Integrator all the statutory charges paid to the departments like /CEIG on production of official receipts thereon.
32. Liaison with Himachal Pradesh State Electricity Board Ltd. (HPSEBL) for approval of technical specifications, materials, inspection, testing and calibration of energy meters, quality control, testing and commissioning of newly installed equipment's, total responsibility for the completeness of the project including erection testing and commissioning.
33. Basic design, drawing and layout engineering of Electrical and Civil & structural

work.

34. Preparation of detailed engineering drawings and documents.
35. Submission of QAP and Test certificates.
36. Arranging inspection of the materials by the client/ client representative
37. All the materials installed shall be tested at site and installed after SAT.
38. Submission of as Built drawing after commissioning of project.
39. All materials /machinery/items used in the subject package shall be provided as per the make/ model mentioned under Section-15 of this RFP Volume. All electrical items shall be supplied from the "List of Preferred makes". The approval of these materials (Make/Model) will be followed by the pre-dispatch inspection/Routine tests at the Manufacturers/OEM Site.

6.1.1 Drawing/documents

The System Integrator has to submit all the drawings, data and documents related with the scope of work. A tentative list of drawings, data & documents is indicated below. However, the System Integrator shall note that the list is only suggestive. The final list of drawings shall be finalized with the successful System Integrator.

6.1.2 Drawings/ Data / Documents to be submitted:

1. List of drawings and drawing numbering system.
2. Quality assurance plan (QAP) of all material and Test certificate of each equipment & components including type test certificates.
3. Single Line Diagram with ratings and wiring diagrams of CCMS panel / Lighting distribution panel.
4. Cable route drawings and general arrangement (GA) drawings.
5. Cable schedules, termination schedules and cable routing drawings along with cable tags.
6. Mapping of Poles and lights
7. Any other drawings as required shall be finalized during engineering stage.

6.1.3 Road map for Project implementation:

The details of proposed road width and length for each road, street, walkway and stair falling under the Dharamshala Municipal Corporation (DMC) limits is given in the Section-9 (of Volume-II). The System Integrator has to exhaustive site survey to prepare the detailed project proposal immediately after award of this work. The System Integrator has to propose the wattage of the lamp with system lumens mentioned for each road as per their calculation for each road so as to ensure the illumination level as per National Lighting Code, / IS:1944(Part-I&II),1970/ BIS1981.

6.1.4 Submission of Technical Documents:

Up on award of contract, the System Integrator has to submit the Guaranteed Technical Particulars of all equipments for approval.

6.1.5 Factory Inspection:

Up on approval of Guaranteed Technical Particulars of LED fixtures, poles, CCMS, HDPE pipes, earthing materials etc. the System Integrator has to arrange factory inspection by client with relevant tests of each items are to done prior to dispatch of materials.

The System Integrator will arrange all the facilities to conduct all the requisite tests/factory inspection of all the items/materials at the Manufacturer's site. He will also bear the expenditure of travelling, boarding & Lodging of two no. of Engineers as nominated by DSCL for all the inspection period.

6.1.6 Material Dispatch and Storage of Materials.

The items which pass the relevant factory tests shall be dispatched to the site with proper packaging and the materials are to unloaded with utmost care. The materials received at shall be stored at store maintained by the Contactor. Storage and safe custody of materials are to be the responsibility of the System Integrator.

6.1.7 Site Acceptance Test (SAT)

The item received at project site has to undergo the Site Acceptance Test before installation. The materials are to be subjected to visual inspection and other site test prior to installation.

1. Cable – check for physical damage, insulation damage and megger testing.
2. Poles – Physical damage, galvanization thickness etc.
3. Light fixture – Physical damage, glass breakage etc.
4. CCMS panels – Physical damage, Insulation resistance value etc.

6.1.8 Coordination with Civil Contractors/firm executing other DSCL or other Govt. Deptt. Projects

The civil foundation of light poles, CCMS panels, excavation of cable trench and back filling are to be done in coordination with Civil Contractors/firms executing other DSCL or other Govt. Deptt. Projects.

6.1.9 Timeframe:

Total time for supply, installation, testing and commissioning of LED street lights with street light poles and CCMS and their respective foundation shall be 18 months from the date of signing of agreement. Thereafter operation and maintenance period of 5 years will start after completion of project. Hence total period of contract shall be 5 years plus 18 months. However, if the System Integrator completes the installation before 18 months period, then O&M period shall start from the date of certification of completion of installation work by DSCL.

6.1.10 Operation and Maintenance:

Post installation and commissioning, the System Integrator shall be responsible for operation and maintenance of entire lighting system installed by him for the period of 5 years. The responsibilities of System Integrator shall be as mentioned below:

1. To ensure timely automatic switching On/Off as per the programme.
2. To attend all the public complaints 24X7 through the call centre or manually. A Register of the Public Complaints will be maintained by the SI
3. To ensure that all lighting fixture and associated panels, controls, automation, earthing protection system, servers. software etc. are in working condition all-time.
4. To ensure that if any lighting fixture or component develops any fault, it has to be rectified promptly to escape the penalties mentioned under Service Level Agreement (Section No 37 of this RFP Volume-3).
5. To ensure that the illumination levels on each road are maintained as per design and get it checked periodically with DSCL Engineers.
6. To carry out preventive maintenance of the system as required.
7. To coordinate with DMC/DSCL/HPSEBL to ensure the smooth operations.
8. To ensure the insurance of entire lighting system on his own cost.
9. To replace the damaged component in the lighting system if the same is damaged to accident or any other reason. The System Integrator has to replace the damaged component on his own cost.
10. The System Integrator shall ensure to provide proper tools, tackles, hydraulic trolley vehicles, ladders, vehicles, instruments etc. to ensure smooth running of lighting system.

The System Integrator shall deploy sufficient workmen and engineers in all wards to ensure smooth operation and maintenance. The System Integrator shall submit to DSCL its organization chart for this work and update the same from time to time.

6.1.11 Project Staff

The below table show the minimum requirement of project staff with the essential qualification and experience for implementation of the project within given timeframe. However, DSCL reserve the right to increase or decrease the manpower in order to implement this project within the stipulated timelines.

Sr. No.	Post Name	Qualification	Minimum Experience	Nos.
1	Project In Charge	Degree in Electrical Engineering	10-15 years with at least 03 to 05 years in lighting Projects	01
2	Site Engineers (E)	Degree/ Diploma in Electrical Engineering	At least 3-5 years experience	04
3	Site Engineers (IT)	Degree in Electrical Engineering/Computer Science/ Information Technology/ Electronics Engineering	At least 3-5 years of ITexperience in installation and maintenance of Application/ Data Base Server.	01
4	Supervisor	ITI in Electrician	At least 5-8 years experience	04
5	Technician/ Electrician	ITI in Electrician	At least 3-5 years experience	08
6	Helpers	8 th - 12 th	At least 0-3 years experience	16

6.1.12 Maintenance Work

1. The gangs will work in all days including Sundays, holidays & night hours as per the requirement of Engineer- in-Charge, DSCL.
2. The System Integrator shall provide proper marking and serial nos. on all poles and lighting fixtures (including existing lighting system) with suitable colour code.
3. The System Integrator shall establish store and testing facility to ensure proper stock of spares and facilitate testing of all components of lighting system.
4. All workmen, staff and engineers of System Integrator shall ensure that all installation, operation and maintenance activities are carried out with full safety and by using all safety aids like helmets, gloves, earthing devices, testing gadgets. All electrical safety rules and regulations as per Indian Electricity act, Himachal Pradesh Government electric supply code and regulations, statutory inspection by electrical inspector etc., must be followed

by the System Integrator during the contract period.

5. The System Integrator shall be responsible for all compensation / liability due to any injury or death of any personnel while performing duties related to the work under this contract. DSCL/DMC shall not be responsible in any such case and shall not be liable for any compensation in this regard.

6. All workmen, staff and engineers of System Integrator should follow a proper dress code while on duty.

7. The System Integrator shall establish and maintain a state of art 24x7 command and control cum call centre to receive and address all complaints related to lighting system and to monitor and manage entire smart controls of intelligent LED lighting system during the O&M Period.

8. The System Integrator needs to provide the support during the entire project period through its local representative (1st level support) whose details indicating name, postal address with pin code, e-mail, contact number and fax shall be furnished.

9. The local representative shall extend necessary support to DSCL/DMC for successful implementation of the project. All calls related to the project for resolving any issues shall be registered with the local representative by DSCL/DMC during working hours from 9:00AM to 05:00 PM on all working days.

6.1.13 Load redistribution

Before installation of new LED lighting fixtures, the System Integrator will have to redistribute the load of lighting circuits for optimum control, voltage drop within the permissible limit, reduction in losses, balancing of load as per site requirement. For this new connections, permanent disconnections, load enhancement, load reductions etc. from HPSEBL will have to be carried out. The System Integrator shall carry out all follow up and coordination with DMC/HPSEBL (State DISCOM) on his own cost. The System Integrator shall submit report of load redistribution with single line diagrams to DSCL/DMC.

6.1.14 GPS mapping and tagging

During installation of LED lighting System Integrator shall do GPS mapping of all switching points and street lighting poles. System Integrator should get approval from DSCL on the list of attribute data (Details pertaining to

installations that will be entered along with their coordinates) before initiating the mapping activity. The System Integrator shall also provide unique physical serial numbers (should be defined in a proper format such that the type and location of installations can be easily known; numbering pattern can be alphanumeric) on each lighting fixture and poles. All the Serial Nos. of Switching Points, Poles (including Earthing Pits) Luminaries/Lighting Fixtures should be mapped to their GPS location and same shall be maintained during any replacement or maintenance of these items or material.

6.1.15 Reporting

The System Integrator shall have to submit illumination level report, electrical safety audit report, energy audit report and manpower report every quarter (three months) as per DSCL's format for each road to DSCL duly certified by Engineer in charge.

The System Integrator shall have to submit energy consumption and analysis report, complaints compliance report, spares consumption and stock report every month as per DSCL's format duly certified by Engineer In-charge.

Authorized third party calibration report for all metering instruments will have to be submitted to DSCL every year duly certified by Engineer incharge.

6.1.16 Energymetering

The System Integrator shall be responsible to take LT connection for each street / public light switching panel from HPSEBL (DISCOM) on behalf of DSCL in all cases where new connection is to be taken. The System Integrator has to get all approvals, calibration and testing of meters from HPSEBL and DSCL shall pay charges to be made to DISCOM like connection charges, security deposit etc.

The System Integrator shall be responsible for load reduction or load enhancement of existing LT connections for street / public lighting, however charges for HPSEBL (DISCOM) shall be paid by DSCL.

6.1.17 Contractperiod

Total Contract period is of 18 months + 5 years for O&M from date of signing of agreement but System Integrator must complete supply, installation and commissioning work within 18 months of award of work. The System

Integrator shall be responsible for management, operation & maintenance of tender work awarded to him for a period of 5 years from the date of completion of installation work, (18 months from signing of agreement). During the maintenance period of 5 years, if any damage / failure occurs due to any reason whatsoever the System Integrator will have to repair / replace / maintain / install whatever needed as per site conditions at his own cost & risk basis. The System Integrator shall hand over the project in working condition i.e. 100% lights on after completion of contract period with all accessories / material incomplete.

6.1.18 Obligations of the System Integrator

The System Integrator shall at its own cost and expense:

1. Site survey, study, constructs, operate and maintain the Project Assets/Project Facility in accordance with the provisions of this Agreement, Good Industry Practice and Applicable Laws.
2. Obtain all Applicable Permits in conformity with the Applicable Laws and be in compliance thereof at all times during the Concession Period;
3. Submit to the Engineer-in-Charge with due regard to Project Completion and Scheduled Project Completion Date.
4. Have requisite organization and designate and appoint suitable officers/representatives as it may deem appropriate to supervise the Project and to liaison with the Engineer-in-Charge and to be responsible for all necessary exchange of information required pursuant to this Agreement;

Undertake, do and perform all such acts, deeds and things as may be necessary or required to adhere to the

Project Completion Schedule and to achieve Project Completion underhand in accordance with this Agreement;

5. Submit to the Engineer-in-Charge, reports on the progress of implementation of the Project and any other data / information / details desired by him, at least once every month or more frequently as the situation may warrant.
6. Ensure that services of water supply, sewerage, drainage, electricity,

telephone etc. in the vicinity, encountered during the period of implementation/ operation/ maintenance are not damaged. In case any of the services are damaged for reasons attributable to the System Integrator, necessary repairs shall be immediately carried out by the System Integrator at the System Integrator's cost.

7. Procure and maintain in full force and effect, as necessary, appropriate proprietary rights, licenses, agreements and permissions for materials, methods, processes and systems used in or incorporated into the Project;
8. Provide access to the Project Site, to the authorized representatives of DSCL, HPSEBL and officers of any Government Agency having jurisdiction over the Project, including those concerned with safety, security or environmental protection, to inspect the Project and to investigate any matter within their authority and upon reasonable notice. System Integrator shall provide them reasonable assistance necessary to carry out their respective duties and functions;
9. Provide to the Engineer-in-Charge, reports on a regular basis during the Implementation Period and the Operations Period in accordance with the provisions of this Agreement; Develop, implement and administer a surveillance and safety program for the Project/Project Facility and the users thereof and the workmen personnel engaged in the provision of any services under any of the Project Agreements including correction of safety violations and deficiencies, and taking of all other actions necessary to provide a safe environment in accordance with Applicable Laws and Good Industry Practice;
10. Be responsible for safety, soundness and durability of the Project Facility including all structures forming part thereof and their compliance with the Specifications and Standards;
11. Ensure that the Project Facility remains free from all encroachments and take all steps necessary to remove encroachments, if any;
12. Maintain books of accounts and meet audit requirements as per the Applicable Laws;
13. Be responsible for making good immediately at its own cost, any loss due to theft or damage to the assets created at the project site, and shall continue to keep the project sites operational and available for public use, at all times, within the contract Period;

14. Bear all costs and charges for special or temporary sites required by it in connection with access to the Project Site. The System Integrator shall obtain at its cost such facilities on or

15. Outside the Project Site as may be required by it for the purposes of the Project and the performance of its obligations under this Agreement;

Be responsible for making good the damages if any made in the road, after laying the cable. While laying the new cable, if any cable laid by any other entity which already exists in the place where new cable is being laid is cut, then the System Integrator shall act within a window of eight hours for rectification during the laying phase and six hours during the maintenance phase. During this period, there will not be any penalty to the System Integrator;

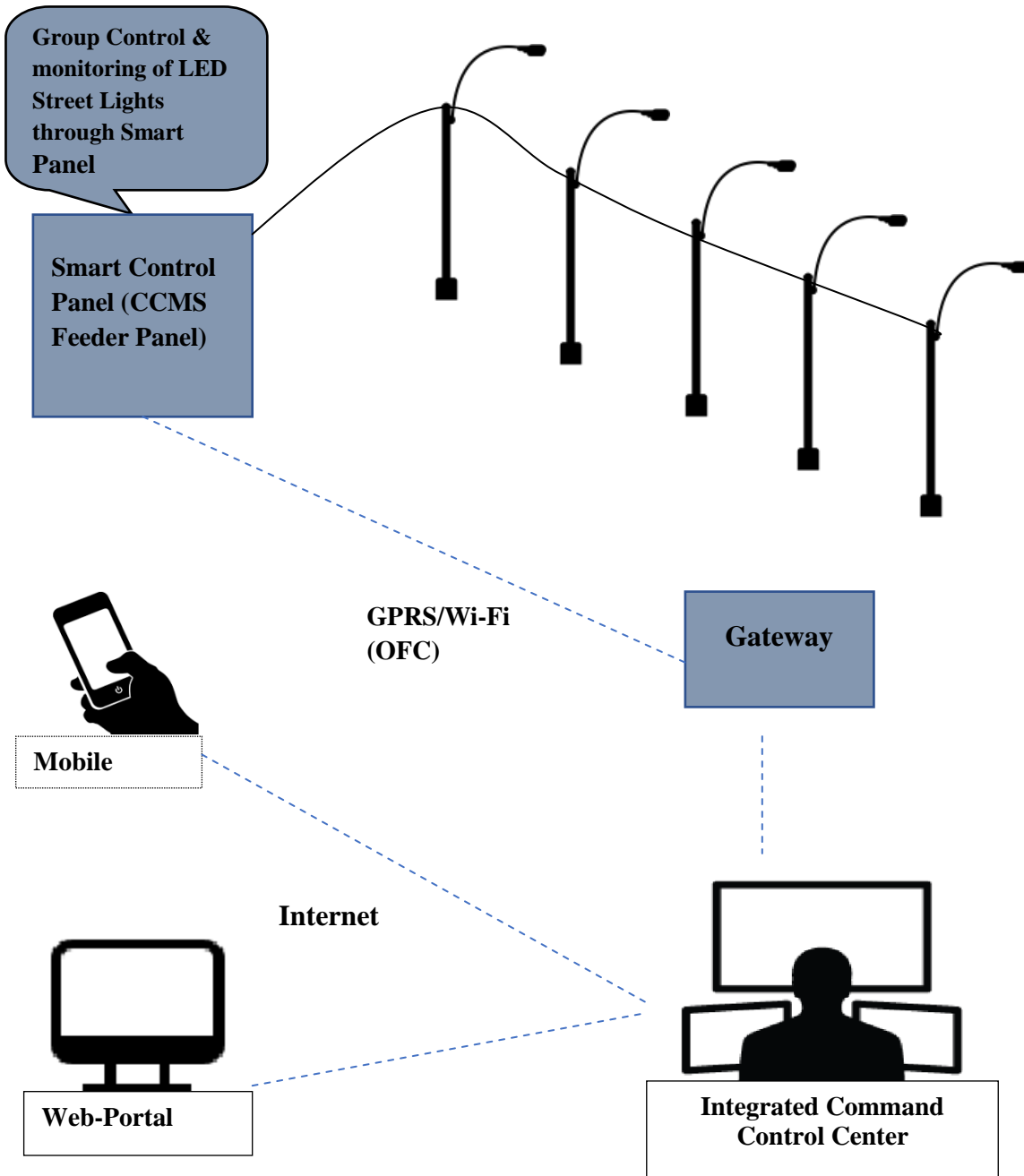
6.1.19 Traffic Management and Safety during construction

1. The Contractor shall at all-time carry out work on the Site in a manner creating least interference to the flow of traffic while ensuring the satisfactory execution of the Project.
2. The Contractor shall take all necessary measures for the safety of traffic during construction and provide, erect and maintain such barricades, including signs, markings, flags, lights and flagmen as may be required for information and protection of traffic approaching or passing through the section of the road where the works have commenced.
3. Proper barricading of the Site for construction shall be done by the Contractor where ever deep excavations / foundation pits are made.

6.1.20 Special Conditions to be noted:

The System Integrator shall be responsible to obtain all necessary statutory approvals/ NOCs from all government or semi government organizations which are necessary for their work at their own cost.

Architecture Diagram:



Architectural Diagram for Smart LED Street Lighting

7. Section 7 TECHNICAL SPECIFICATIONS FOR STREET LIGHTING

7.1 POLE'S & IT'S COMPONENTS

Street Light poles structures are designed to support single or multiple luminaries' configurations. A light pole is required to be strong to withstand the physical forces of the application, capable of providing a long, relatively maintenance-free service life and be pleasing in appearance

7.1.1 FACTORS AFFECTING POLE SELECTION

Common materials used to construct poles include wood, steel, aluminum and fiber glass, with steel being the most common due to its strength and affordability. The following factors shall be considered in pole selection.

- Mounting Height (MH)
- Luminaries Selection and Configuration
- Auxiliary Equipment and Special Loading
- Wind Speed
- Terrain and Special Wind Regions
- Finish
- Special Requirements and Mounting Configurations
- Conformance with the BEE (Bureau of Energy Efficiency)
- BEAP

7.1.2 SPECIFICATION FOR STREET LIGHT POLES

Fabricating, Supplying and Erection of hot dip galvanized mild steel Octagonal Pole of height 5m,6m & 7m with Top – 70mm dia, Bottom – 130mm dia and 3.5mm thickness sheet. Base plate of minimum dimension 220mm X 220mm X 12 mm and foundation-bolts M20 X 600 mm (4 nos. with 3 nos. of nuts and washers in each) common for all three type of pole i.e. 5m,6m & 7m with Single arm bracket for mounting the light fittings. The bottom section shall have open able slot with exterior surface door & shall have suitable locking arrangement for housing three phase 4 wire cable

connection, Bakelite sheet, MCB, loop in and out arrangement for incoming/outgoing cables. There shall also be suitable arrangement for the purpose of earthing protection. The octagonal pole shall be bolted on a pre-cast foundation with a set of four foundation bolts for greater rigidity. The foundation shall be erected over cement concrete M20 of given size to fixed up to a required planting depth below ground level as required:

7.1.3 DETAIL SPECIFICATIONS OF GALVANIZED OCTAGONAL POLES

- 1. Design:** -The Octagonal Poles shall be designed to withstand the maximum wind speed as per IS 875. The top loading i.e. area and the weight of fixtures are to be considered to calculate maximum deflection of the pole and the same shall meet the requirement of BS: 5649 Part VI 1982. In Overhead cabling system the service window should be provided at top of the pole for termination of power cables.
- 2. Pole Shaft:** - The pole shaft shall be made from sheet steel conforming to BSEN 10025. The pole shaft shall have octagonal cross section and shall be continuously tapered with single longitudinal welding. There shall not be any circumferential welding. The welding of pole shaft shall be done by Submerged Arc Welding (SAW) process. All octagonal pole shafts shall be provided with the rigid flange plate of suitable thickness (as per IS 2062) with provision for fixing 4 foundation bolts. This base plate shall be fillet welded to the pole shaft at two locations i.e. from inside and outside.
- 3. Door Opening:** - The Octagonal Poles shall have door of approximate 500 mm length at the elevation of 500 mm from the Base plate. The door shall be vandal resistance and shall be weather proof to ensure safety of inside connections. The door shall be flush with the exterior surface and shall have suitable locking arrangement. There shall also be suitable arrangement for the purpose of earthing. The pole shall be adequately strengthened at the location of the door to compensate for the loss in section.

4. Material: -

Sr.No.	Materials	Conforming Code
1.	Octagonal Poles	HT Steel Conforming to grade S355JO
2.	Base Plate	Fe 410 Conforming to IS 226 / IS 2062
3.	Foundation J- Bolts	EN.8 grade

5. V Pole Sections: - The Octagonal Poles shall be in single section. There shall not be any circumferential weld joint.

6. Galvanization: -The poles shall be hot dip galvanized as per relevant Indian standards with average coating thickness of minimum 70 micron. The galvanizing shall be done in single dipping.

7. Colour: - Pole should be Polyurethane (PU) Painted and Powder coated with suitable colour after galvanization process. The Paint colour will require prior approval from "Engineer-in-charge DSCL", Dharamshala.

8. Fixing Type: -The Octagonal Poles shall be suitable for bolting on a foundation with a set of four foundation bolts for greater rigidity.

9. Bracket for fixing Luminaries: - The brackets shall be made of specified size NB G.I heavy duty pipe with minimum 1000 mm to 1500 mm long, bent at an angle of 100 to 110 degree, with necessary holding brackets, hold fasts etc.

10. Earthing: -All components, frame etc. shall be properly earthed. The copper bonded electrode shall be proposed for the Earthing protection in street lighting system.

11. Marking & Identification: -The Pole's must have Permanent marking on its own separate ID as well as Street ID. As per this the pole identification will be easy and systematic on streets within the Dharamshala Municipal Area:

1. STREET ID -
2. POLE ID -

12. GIS Mapping

GIS Mapping should be done covering all Poles of each switch point shall be viewable in the webapplication software through a Google-map interface or web based digital map.

1. OCTAGONAL STREET LIGHT POLE Specification

S. No.	Item	Minimum Specification	Bidder Compliance (Yes/No)	Remarks
1.	Pole Length	5 m, 6 m & 7 m above foundation		
2.	Foundation	Concrete foundation as per drawing.		
3.	Pole Material	Hot dipped galvanized mild steel.		
4.	Base Plate	220mm x 220mm x12mm(Common for all type)		
5.	Foundation J-Bolts	M20 x 600mm (4 nos. with 3 nos. of nuts and washers in each)		
6.	Shape	Octagonal Type		
7.	Operating Temperature	-10°C to +55°C		
8.	Operating Humidity	5 – 95% non-condensing		
9.	Cut-out at bottom	For MCB & Terminal block		
10.	Compliance Standards	IS: 2629, IS: 2633 , IS: 4759		
11.	Required Test for Pole	Type Test and Routine Test		

2. OCTAGONAL STREET LIGHT POLE'S LIGHT ARM

S. No.	Item	Specification	Bidder Compliance (Yes/No)	Remarks
1.	Arm Length	1 m to 1.5 m long		
2.	Street Light Bracket	Galvanised ERW/ GI pipe		
3.	Light arm angle with the pole	100 to 110 degree		
4.	Operating Temperature	-10°C to +55°C		
5.	Operating Humidity	5- 95% non-condensing		

7.2 LED LUMINARIES

Light Emitting Diode (LED) type light fixture shall be used in the entire zone. LED street lighting is the energy- efficient alternative to traditional street lamps. LED lighting provides a multitude of advantages over conventional lighting: LED street lights are environmentally friendly, energy efficient and overall cost effective. This smart, "green" option for outdoor lighting has emerged on the green scene due to the recent technological advancements of LED illumination.

Under this project the LED luminaries of wattage 24, 36 & 45 Wattage have proposed under this project. The detailed requirements are as per the Bill of Quantities with 5% of spare quantities.

7.2.1 CALCULATION OF WATTAGE OF LUMINAIRES

Based upon the average width (as per the BIS-1981 Standards) most of the roadways, walkways, streets, stairs falling within the DMC limits have been broadly

segregated into four no. of categories (as tabulated in the table given below) and accordingly the lumens level requirements have been evaluated:

$$AI = (E \times w \times d) / (Cu \times mf)$$

AI = Average lumens,

E = The illumination in Lux

w = Width of the roadway

d = Spacing / Distance between luminaries

cu = Coefficient of utilization. (Normally 0.2 to 0.3)

mf = It is the maintenance factor (Normally 0.8 to 0.9)

$$\text{Wattage } W = AI/Le$$

AI = Average lumens

Le = Luminance Efficacy (minimum 90 lumens/watt)

Sr.No	Type of road	Required Lux (E)	Avg. width (w)	Spacing (d)	Coefficient of Utilization (cu)	Maintenance factor (mf)	Avg. Lumens (AI)	Required Wattage (AI/Le)	Proposed lamps
1	Secondary Roads	8	5	25	0.29	0.9	3832	43	1x45W
2	Secondary Roads	8	4	25	0.29	0.9	3066	35	1x36W
3	Residential Streets	6	3.5	25	0.29	0.9	2012	23	1x24W

7.2.2 LED LAMPS AND LUMINAIRE'S

The light source will be of white LED type and be compliant to IEC standards. Single lamp or multiple lamps can be used. The typical specifications for LED street lights are as follows:

Sr.No.	Typical specifications	Supporting Documents	Bidder Compliance (Yes/No)	Remarks
1.	Bright white LEDs shall be used in the luminaries and the wattage of these LEDs shall be < 5W. The LEDs shall be SMD type (Not COB type LEDs)	LED Technical Data sheet		
2.	Life span of LEDs used in the Luminaire shall be more than 50,000 hours at 70% light output	LM-80 / IS16105, L70 & TM 21 Test Report test report including technical data sheet of LED Chip		
3.	All the LED chips shall be with peanut lens made of PMMA to provide a good streetlight distribution. The lens shall be mechanically fixed (not glue pasted)	Confirmation		
4.	Nominal sys Wattage: suitable Wattage with nominal system lumens: > 3500 lumens	LM-79 report		
5.	Colour rendering index (CRI) of the LEDs used in the luminaire shall be greater than 70	LM-80 / IS16105, L70 & TM 21 Test Report test report including technical data sheet of LED Chip		
6.	LED chip	LM-80 / IS16105, L70 & TM21 Test Report including technical data sheet of		

Sr.No.	Typical specifications	Supporting Documents	Bidder Compliance (Yes/No)	Remarks
		LED Chip		
7.	LED chip efficacy shall be more than 135 Lumens/watt at Tj 25° C	LED Technical Data sheet		
8.	Junction Temperature (Tj) should be <105°C	Manufacturer self-certify		
9.	Photo Biological Safety Report for the LEDs as per IEC 62471 and assessment of blue light as per IEC/TR 62778 – Ed. 1.0	Photo Report/Biological/Safety		
10.	Colour temperature of the luminaire shall be in the range of nominal 4000K to 5500K	LM-79reportfor both type of LED's to be submitted by the System Integrator		
11.	Power factor	> 0.95 LM-79 report		
12.	Nominal efficacy(lumen/watt) System	Shall be >105 lumen/watt LM-79 report		
13.	CRI of Luminaries	> 70 LM-79 report		
14.	Lumen depreciation for rated life <30%	LM 80 Report to be submitted and Manufacturer has to self- certify		
15.	The luminaire light output (lumen) shall be constant. The voltage variations / fluctuations	LM-79 report		

Sr.No.	Typical specifications	Supporting Documents	Bidder Compliance (Yes/No)	Remarks
	in the specified voltage range shall not impinge upon the lumen it produces. Maximum +/- 2% is allowed throughout in the input operating voltage range			
16.	Operating voltage: 140 V to 270V universal electronic driver with internal surge protection of 4 KV (Applicability IS 15885, Driver Safety 16104-1/2)	NABL accredited lab report		
17.	Total Harmonic Distortion: < 10% THD - Test Method IEC:610003-2	NABL accredited lab report		
18.	LED Drive current	LM-79 report		
19.	LED driver efficiency	LM-79 report		
20.	Heat dissipation / heat sink: Well-designed thermal management system with defined heat sink	NABL accredited lab report		
21.	The luminaire housing shall be made up of corrosion free High Pressure Aluminium die cast thus conforming the luminaire to minimum IP-66 for all wattages and safety as per IEC 60598/IS10322. (Only single housing fixtures allowed).	NABL accredited lab report		
22.	The luminaire shall be equipped with distortion free, clear, heat	NABL accredited lab report		

Sr.No.	Typical specifications	Supporting Documents	Bidder Compliance (Yes/No)	Remarks
	resistant, toughened, UV stabilized glass / Poly- carbonate cover in the front fixed to the die cast Aluminum frame which shall be fixed to the housing by means of Corrosion resistant or Brass screws for areas not inside IP66 rated chamber. Zinc plated steel or equivalent screws can be applied inside sealed chambers.			
23.	The luminaire shall be built in such a way that it can withstand wind speed of 150 kmph. (Impact resistance \geq IK05)	NABL accredited lab report		
24.	Operating temperature	Range: -10C to +50C	NABL accredited lab report	
25.	Protections	IP66 for all type of lamps to be installed Surge protection 4 kV, IEC61000-4-5	NABL accredited lab report	
26.	Working humidity	5% to 95% RH		
27.	Conformation standards of luminaire (Test	The luminaire should conform to IEC	From NABL Certified TPL Test report	

Sr.No.	Typical specifications		Supporting Documents	Bidder Compliance (Yes/No)	Remarks
	reports of luminaire)	60598/ IS:10322 The luminaire should be tested as per IEC 60598-2-3:2002/ IS:10322 Part 5 Sec-3 standards and following test reports should be submitted: Thermal Test, Ingress Protection Test, Electrical / Insulation Resistance Test, Endurance Test, Humidity Test, Photometry Test (LM79 report), Vibration Test	TEST REPORT as per IS:10322 part-5 Sec-3/IEC:60598-2-3		
28.	Finish	Aesthetically designed	Self - Declaration		

Sr.No.	Typical specifications	Supporting Documents	Bidder Compliance (Yes/No)	Remarks
		housing with corrosion resistant polyester powder coating		
29.	Luminaire configuration /	Side entry type. Shall consist of separate optical and control gear compartments.	Self - Declaration	
30.	Compliance	RoHS/CE/ERTL /ERDI	Confirmation	
31.	Surge Protection	External Surge protection of minimum 10 kV/ 10 kA to be separately installed with the each fixture.	As per ANSI C 136.2-2014	
32.	Mounting height Streetlight	5m, 6 m and 7m from road level		
33.	GIS Mapping	GIS Mapping should be done covering		

Sr.No.	Typical specifications	Supporting Documents	Bidder Compliance (Yes/No)	Remarks
		all Luminary shall be viewable in the webapplication software through a Google-map interface or web based digital map		

7.2.3 MARKING:

The following information shall be distinctly and indelibly marked on the housing:

- Manufacturer's Name. /Year of Manufacturer.
- Rated voltage (Marked "V" or Volt).
- Rated wattage (Marked "W" or Watts)
- Rated lumen.
- Batch No. /Serial No.

"Not for sale - "SMART LED BASED STREET LIGHTINGPROJECT, DSCL-DHARAMSHALA".

7.3 CABLING FOR STREET LIGHTING SYSTEM

7.3.1 SCOPE

Cables shall be designed and manufactured so that damage will not result from transportation, installation and operation under all the climatic and operating conditions to which they may be subjected. Cables shall be suitable for laying conduits, vertical installation, ducts, trenches and trays or for direct burial in ground in both wet and dry locations. All materials used shall be new and shall conform to this specification and relevant Indian Standards. The cables shall be suitable for continuous and reliable service at maximum voltage of 1100 V and at a max. Conductortemp of 85°C.

7.3.2 SPECIFICATION OF CABLES

The conductors shall be annealed, stranded high conductivity Aluminum/Copper high grade, HRPVC insulated, laid up extruded PVC (FRLS) inner sheathed, single

galvanized round steel/Aluminum wire armored and overall jacketed with PVC (FRLS)

Sr.No.	Code	Technical Specifications	Bidder Compliance (Yes/No)	Remarks
1.	IS-1554 Part-I	PVC insulated cable for working voltage up to and including 1100 V		
2.	IS-3961 Part-II & V	Recommended current ratings for cables		
3.	IS-3975	Mild steel wires and tapes for armoring of cables		
4.	IS-4826	Hot dipped galvanized coatings on round steel wires		
5.	IS-5831	PVC insulation and sheath of electric cables		
6.	IS-6380	Specification for Elastomeric insulation and sheathing of electrical cables.		
7.	IS-8130	Conductors for insulated electric cables and flexible chords		
8.	IS-10418	Drum for electric cables		
9.	IS-10810	Methods of test for cables		
10.	IEC-287	Calculation of the continuous current rating of cables (100 % load factor).		
11.	IEC 332-1 & 3	Tests of Electric cables under fire conditions		
12.	IEC-331	Fire resistance characteristics of electrical cables		

Sr.No.	Code	Technical Specifications	Bidder Compliance (Yes/No)	Remarks
13.	IEC-754-1	Tests on gases evolved during combustion of electrical cables.		
14.	ASTM-D-2843	Test method of density of smoke from the burning or decomposition of plastics		
15.	ASTM-D-2863	Test method for measuring the minimum oxygen Concentration to support candle like combustion of plastics (oxygen Index)		
16.	IEEE: 383	Standard for type test of Class-1E Electric cables, field splices and connections for Nuclear power generating stations.		
17.	SS-4241475	Swedish standard for cables testing of flame propagation characteristics		
18.	IEC-189	Low frequency cables and wires with PVC insulation and PVC sheath.		
	Part-I	General test and measuring methods.		
19.	NEWMA-WC-5	Thermoplastic insulated wires and distribution of electrical energy.		

7.3.3 FRLS PVC PROPERTIES

FRLS PVC shall be following properties/characteristics.

1. The Oxygen index of cables shall be more than 30 % at 270°C + 20°C when tested in accordance with ASTM- D-2863.
2. Temperature index shall be more than 2500°C
3. Cables shall have smoke density of less than 50 % Max.
4. The Hydrochloric acid evolution shall be less than 17.5 %
5. Flammability test on finished cable

7.3.3.1 CORE IDENTIFICATION

For 1 Core cable: Red, for 2 Core cables: Red and Black, for 3 Core cable: Red, Yellow, Blue, for 4 Core cables; Red, Yellow, Blue and Black. For cables more than 4 Core, as per NEMA-WC-5 meant for thermoplastic insulated wires and cables for transmission and distribution of electrical energy.

7.3.3.2 CABLE SIZE AND LENGTHS

The size and quantity of cables are as given as per BOQ.

7.3.4 CONSTRUCTIONAL FEATURES

7.3.4.1 CONDUCTOR

The conductors shall be of H2 or H4 grade Aluminum as per latest IS: 8130 and shall be circular shaped. The conductor strands shall be solid and free from any inequalities or defects.

7.3.4.2 INSULATION

Insulation shall be of extruded HR PVC material conforming to the latest IS-5831.

7.3.4.3 SHEATH

Inner sheath

The inner sheath of cable shall be FRLS ST-2 types as per IS-5831 and this should be extruded over the laid up core. The surface of the sheath shall be uniform, continuous and free from defects. Inner sheath shall be as per table- 3 of latest edition of IS-1554 Part-1. Filler material if used shall be non-hygroscopic, thermoplastic material and over this PVC/Plastic/Millar type shall be provided for binding the core.

Thermoplastic material shall be softer than outer sheath.

Outer sheath

The outer sheath of the cable shall be of FRLS PVC-ST-2 type and should be extruded

uniformly over the armouring of cable. Sheath shall conform to IS-1554 Part-I and for dimensional requirement IS- 5831. Outer Sheath shall be black in colour. All markings i.e. Nuclear Power Corporation, year of manufacture, voltage grade shall be embossed on the outer sheath. Sequential no. marking shall be given in printed form at every meter of the cable.

7.3.4.4 ARMOUR

The Armour used shall be galvanized round steel wire and shall conform the latest IS-3975. For single core Cable aluminum wire shall be used.

7.3.5 INSPECTION AND TESTING

QA plan of suppliers shall be approved by purchaser. Manufacturing and quality control of procedure, record shall be properly maintained which shall be offered for review to purchaser's representative.

7.3.5.1 STAGE INSPECTION

Supplier should carry out stage wise inspection as per approved quality control plan and the records shall be shown to DSCL, Engineer for review in case desired by QS Engineer.

7.3.5.2 FINAL TESTS

The supplier shall conduct the final tests in the presence of purchaser's representative. Details of all the test are given below:

- **ACCEPTANCE TEST**

- Tensile Test (IS:8130) (For Aluminium)
- Wrapping Test (IS:8130) (For Aluminium)
- Conductor Resistance Test (IS :8130)
- Test for armour wires (IS:3975)
- Test for thickness of insulation and sheath (IS:5381)
- Physical test for insulation and outer sheath (IS: 5831)
- Insulation Resistance Test (IS: 5831)
- High voltage Test (Water Immersion Test) (IS:1554)
- Critical Oxygen Index Test (ASTM-D 2863)
- Temperature Index Test (ASTM-D-2863)
- Acid Gas Generation Test (To determine percentage of hydrochloric acid

released from the PVC jacket over the cable) (IEC-754-1)

- l) Smoke generation test (ASTM-D-2843/77)
- m) Flammability test for finished cables-IEC-332.
- n) Flammability Test Class F-III Swedish SS-4241475

• **ROUTINE TEST**

1. Conductor Resistance Test (IS-8130)
2. High Voltage Test (IS-1554)
3. Measurement of insulation resistance on the complete supplied length of cable in all the drums.

7.3.6 DRUM LENGTH

Cables shall be supplied in specified non-returnable wooden drums. The System Integrator shall offer the cables in drum lengths specified in BOQ with allowable tolerance of +5%-0%. The System Integrator shall indicate in the offer the maximum length of each size of cable that can be furnished in one drum.

7.3.7 CABLE DRUMS

The drums shall be of heavy construction made up of good quality wood. Ferrous parts used shall be treated with suitable rust preventive finish or coating to avoid rusting during transit or storage. The drums shall be suitable for outdoor storage for long periods without deterioration.

7.3.8 CABLES LENGTHS

Cable lengths as specified in this specification are approximate. Actual requirements will be confirmed to the successful System Integrator at the time of placing the order.

7.3.9 PACKING & MARKING

The cable shall be supplied on suitable sized wooden non-returnable drums of robust construction for each length of cable as per IS: 10418/1982. A layer of water proof paper shall be applied to the surface of the drums and over the outer cable layer. A clear space at least 40mm shall be left between the cable and logging. Wood preservative shall be applied to the entire drum. The word "ELECTRIC DSCL"/SCM and manufacturer's trade mark/ brand, ISI certification

sizes in mm², voltage rating and purchase order date shall be embossed on the outer sheath of the cable at a regular interval of 1 to 1.5 meter. Packing shall be sturdy to protect the cable from any injury during transportation, handling and storage. Both cable ends shall be sealed with PVC/rubber caps to eliminate ingress of moisture. Each cable drum shall have following information stenciled on it: -

- Manufacturer's name, brand name or trade mark.
- P.O. No. & date, year of manufacturing.
- Nominal X-sectional area of conductor.
- Type of cable and voltage grade.
- Length of cable contained in each drum.
- Number of cores.
- ISI Certification Mark.
- No. of lengths in drum (if more than one).
- Cable Code.
- Direction of rotation of drum (by means of an arrow).
- Approximate gross weight in Kg/Km.

7.3.10 GTP OF CABLES

The GTP of Cables is attached in the below table.

Sr.No	Description		
1.	Name of the Manufacturer		
2.	Voltage grade		
3.	No. of Cores		
4.	Armoured / Unarmoured		
5.	Whether suitable for unearthed / earthed system		
6.	Maximum permissible voltage variation		
7.	Maximum permissible frequency variation		
8.	Whether cable will carry ISI mark		
9.	Whether the list of supplies of similar cables enclosed		
10.	Continuous current rating with single cable laid in air in an ambient temperature of 450C and max. Conductor temperature 700C		
11.	Continuous current rating with single cable laid directly in ground temperature of 350C and max. Conductor temperature 700C		
12.	De rating factors for the following shall be indicated: Variation in ambient air temperature (for cables laid in air) from 350C to 500C in step of 50C. Variation in ambient air temperature (for cables laid directly in ground from 150C to 500C in step of 50C		
13.	Grouping: Furnish chart showing de rating factors for different spacing of cables connecting multi core cables installed in horizontal formation in single row as well as in different tiers under the following methods of laying		

	<p>Cables lain in formed concrete cable trenches with removable covers. Cables laid in cable trays side by side without spacing in groups both for vertical and horizontal runs.</p> <p>Cable laid in ground.</p> <p>Cables laid in pipes or unventilated ducts duty.</p>		
14.	<p>Short Circuit capacity</p> <p>Short Circuit current for different duration of short circuit from 0.1 to 1 sec. (Preferably attach) for curves that apply to various cables covered by this specification Amp/sec.</p> <p>Conductor temperature allowed for short circuit duty (0C)</p>		
15.	Loss tangent at normal frequency.		
16.	Dielectric constant at normal frequency.		
17.	<p>Conductor.</p> <p>Material and its hardness No. of stands. Diameter of stands. Overall diameter of conductor</p>		
18.	Normal cross section area		
19.	Temperature coefficient of resistance at 200C / 0C		
20.	Strands tinned (Yes / No).		
21.	No. of twists / unit length		
22.	<p>Insulation</p> <p>Composition of Insulation Thickness of Insulation Tolerance of the Insulation Colour Scheme for identification of cores Electrical properties at 200C</p>		
23.	Conductor resistance to loop.		
24.	Minimum insulation resistance		

25.	High voltage test Conductor to Conductor Conductor to Shield Mutual capacitance		
26.	Power frequency withstand voltage Dry Wet		
27.	Conductor resistance test.		
28.	High voltage test.		
29.	Temperature rise tests on power circuit		
30.	Short time current tests on power circuits		
31.	Annealing Tests		
32.	Test for insulation and sheath		
33.	Test for inner and outer sheaths of cables		
34.	Test for acid gas generation		
35.	Inner Sheath Material Whether extruded Calculated diameter over stranded cores Thickness of inner sheaths Tolerance on thickness of sheath		
36.	Outer Sheath Material Calculated diameter over stranded cores Tolerances of thickness of sheath Colour of Sheath.		
37.	FRLS PVC inner and outer Sheath properties Minimum critical oxygen index value at room temperature of 35 0 C Minimum temperature index (0C)		
38.	Maximum Halogen content by weight (%\$) Maximum smoke density rating (%) Density of FRLS heath material (g/cm3) Tensile strength of sheath material (N/mm2) Elongation of break of sheath material (%) Volume resistivity (Ohm/cm) Dielectric strength at a temperature of 200C (kv/mm) Cold bend temp. (0C)		

	Hot pressure deformation at a temperature of 1000C (%) Typical aging behaviour of FRLS PVC heath material.		
a.	Armour		
b.	Type of Armour		
c.	Nominal diameter of cable over inner sheath (min.)		
d.	Nominal dimensions of round wire		
e.	Tolerance on round wire +mm		
39.	D.C resistance of galvanized steel wire /Alu. Wire at 200C ohm/km		
	Finished cables Overall diameter of the cable (mm) Weight per 1000 meter cable (Kg) Insulation resistance at 200C per 1000 meters Conductor resistance at 200C per 1000 meters Recommended minimum installation radius (mm) Safe pulling force when pulled by pulling eye. Will the cable offered against this specification pass the flammability test as per IEC-332 SS-4241475		
40.	Cable drums (wood)		
a.	Material used		
b.	The dimensions and weights of cable drum		
c.	Relevant IS reference		
d.	Drums assignments		
e.	Maximum length per drum for each size of cable (m)		
41.	Cables are tropicalised and rodent resistant		

7.3.11 CABLE SELECTION CRITERIA

Cable sizes shall be selected considering the following:

1. Permissible current carrying capacity
2. Voltage drop
3. Short time current / overload requirements
4. Fault current carrying capacity
5. Ambient conditions, cable laying and other related criteria.

For loads where available 3-core cables are unable to take load currents, single core cable with trefoil configuration shall be used. All cables shall be de-rated as per the usage/installation factors as recommended by the cable manufacturer considering ambient and laying conditions.

7.3.12 CABLE LAYING SYSTEM

All LV power cable shall be XLPE insulated, PVC sheathed, FRLS with anti-rodent coating with stranded aluminium conductor. In the Street lighting system there are two cables laying method are proposed. The cabling quantity in the

7.3.12.1 Overhead Cabling System:

In this method we have proposed overhead cabling for energizing the LED luminaries of street lighting system. The overhead cabling system shall be conforming to the IS: 5613 Part-1 Sec-1 (1985).

7.3.12.2 Accessories for Overhead Cabling System:

Under this section the accessories require for holding the cables between pole to pole have been covered as under:

Stay clamp & Eye hook etc.

These accessories will help to hang the cable with the poles in street light system.

7.3.12.3 Underground Cabling System:

In this method we have proposed approximately 45 km. bituminous roads & CC roads for underground cabling system. The Power cable shall be laid in HPDE Pipe duct. The underground cabling system shall be conforming to the suitable IS: 1255 (1983).

7.3.13 JOINTING AND TERMINATION OF CABLES:

The cable jointing personnel and his crew shall have good experience in the type of joints and terminations that are used. The jointing work shall commence as soon as

two or three lengths of cables have been laid. All care should be taken to protect the factory-plumbed caps/ seals on the cable ends, and the cable end shall be resealed whenever the end is exposed for tests. Jointing of cables in carriage ways, drive ways under costly paving, under concrete or asphalt surfaces and in proximity to telephone cables and water mains should be avoided wherever possible. Sufficient overlap of cables shall be allowed for making the joints. The joint bay should be of sufficient dimensions to allow the jointers to work with as much freedom of movement and comfort as possible. Sufficient space should be kept below the cable to be jointed. The joints of different phases shall be staggered. All jointing works shall be done by licensed jointers.

7.3.14 TENTS/COVERS:

An enclosure or suitable protection cover shall be used in all circumstances wherever jointing work is carried out in the open irrespective of the weather conditions. The joint shall be made in dust free and clean atmosphere.

7.3.15 PRECAUTIONS BEFORE MAKING A JOINT/ END TERMINATION:

The cable end seals should not be opened until all arrangement have been made for jointing and all necessary precautions have been taken to prevent circumstances arising out of rainy/ inclement weather conditions, which might become uncontrollable. If the cable end seals or cable ends are found to have suffered damage the cables should not be jointed, without tests and rectification.

7.3.16 MEASUREMENT OF INSULATION RESISTANCE:

Before and after jointing, the insulation resistance of both sections of cables shall be checked.

7.3.16.1 IDENTIFICATION:

The identification of each phase shall be clearly and properly noted. The cables shall be jointed as per the design approved by the Employer based on the proposal submitted by the SystemIntegrator. Each cable shall have identification for phase and circuit at joint bays.

7.3.16.2 MAKING A JOINT/ END TERMINATION:

Comprehensive jointing instructions should be obtained from the manufacture of jointing/end kits and meticulously followed. The materials used in the joints/ end kits like ferrules, screen / armour continuity bonds, lugs etc., shall be of good quality and conform to standards. The jointing tools shall be appropriate and as per the requirement of jointing XLPE, PVC cables.

7.3.16.3 CABLE TERMINATIONS:

The cable terminations used are to be of outdoor type. The preparation of the cable end for installing the terminations and the precautions to be taken before fixing the terminations shall be followed as in the case of the cable jointing procedures. The instructions furnished by the termination manufacturer shall be strictly followed. All terminations shall be done by joint manufacturer's jointers or under their supervision. At cable terminating end, the following provisions for supply and erection are to be included.

A terminating structure should be provided where necessary for supporting the cable to be terminated (except at the ring main unit ends) a sufficient length of spare cable shall be left in the ground, for future needs. The rise of the cable immediately from the ground shall be enclosed in suitable size of PVC / GI pipe to protect against direct exposure to the sun.

The cable shall be properly fastened to the support using non-metallic clamps. Appropriate labels shall be fixed identifying the phase circuit, voltage and date of commissioning etc., on the cable supporting structure.

7.4 DWC HDPE CABLE DUCTS:

The high density polyethylene pipe having corrugation on outer wall and plain from inside shall conform to IS – 14930 Part 1 – 11 amended to date. The pipe shall be ISI marked. Manufacturer's test reports of anti-rodent test, toxic test of pipe from Govt. approved test house shall be required for acceptance of DWC HDPE ducts. The advantage of duct bank for laying of cable is the following:

- Increased safety
- Faster installation
- Exact pipe spacing

- Smaller trench size
- Conduit arrives in rebar cage
- Labels make installation simple
- Sturdy enough to walk on (unlike snap-together spacers)
- Road and other closures impacting the general public are shortened
- The following are the basic requirement of duct system:
- Longer life and light weight
- Easy to handle and install
- Ability to take heavy loads
- No sharp edges and flexible for taking bends
- Chemically nonreactive
- Rodent and terminate proof

7.4.1 STANDARDS:

The ducts shall be manufactured in compliance with the following standards:

Sr.No	Test	STANDARAD
1.	Joviality	IS 4984
2.	Reversion	IS 4984
3.	Tensile strength	ISO 6059/ASTM F 2160
4.	Elongation Test	ISO 6059
5.	Environmental stress	ASTM 1693
6.	Melt flow rate	ISO 1133
7.	Density of Raw material	ISO 1133
8.	Color pigment dispersion	ISO 4427/18553
9.	Impact strength	IS 12235 (part 9)/ ASTM D 2444
10.	Outer diameter	ISO 11922

Data sheet of 120 mm DWC HDPE DUCTS:

Sr. No	Test	Test method	Specification
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Sr. No	Test	Test method	Specification
1.	Constructions	BSEN 61386 - 24 As per IS:14930 Part-2	Within the conduit system, there shall be no sharp edges, burrs or surface projections which are likely to damage insulated conductors or cables, or inflict injury on the installer or user."
2.	Outer Diameter	BSEN 61386 - 24 As per IS: 14930 Part-2	120 mm + 1.2 - 0.0 mm
3.	Inner Diameter	BSEN 61386 - 24 As per IS: 14930 Part-2	103 mm
4.	Inner Layer		The Inner layer shall be Silicone
5.	Compression Test	BSEN 61386 - 24 As Per IS:14930 Part-2	>450N @ 5% deflection. There shall be no crack allowing the ingress of light or water between the inside & the outside.
6.	Impact test	BSEN 61386 - 24 As Per IS:14930 Part-2	There shall be no crack allowing the ingress of light or water between the inside & the outside when tested with 5Kg. Load, drop height of 570 mm@ -5 °C.
7.	Length		As per site requirement.
8.	Colour	As per TEC	Black / Orange or Suitable Colour Approved by DSCL, Dharamshala.
9.	Marking		The name and size of the duct manufacturer shall be embossed on the outer surface of the duct

Sr. No	Test	Test method	Specification
10.	Bending Test	BEN 61386-24 As per IS: 14930 Part-2	Samples shall not flatten when bent to 90 degree to a radius of 2 meter at -50C & at ambient temperature. Compliance shall be checked by passing a ball of dia. 95% to the minimum inner dia. of the sample
11.	Accessories	IP67-Water Ingress Test	Couplers with 'O' Ring as per IP 67 for protection from water and soil ingress
12.	ISO Certificate		ISO 9001,14001 &18001certified manufacturer for supply of ducts

7.5 SMARTCONTROL FEEDER PANEL (CCMS FEEDER PANEL)

7.5.1 GENERAL SPECIFICATIONS

The general specifications of outdoor type CCMS (Intelligent Feeder)Panel will be equipped with all necessary device, equipment, software, concentrator, communication module and all other equipment responsible for successful operation of the street lighting system which will have the following features: Smart Control Panel is suitable for centralized control, Fault detection and report, Energy Metering, Burn hour reports for proactive lamp change, High up time & immediate fault rectification, Load balancing and load shedding for selected group of lights, Real time control.

The street light Feeder Panel shall be provided with:

- Incomer MCB of 63 Amps, 16 KA, 4 pole with thermal magnetic release – 1 Nos.
- Outgoing MCB of 6 to 32 Amps, 16 KA, 1 pole with thermal magnetic release – 7Nos.
- Power Contactor of 32 Amps, 2 Pole - 4 Nos.
- Digital Voltmeter 0-500 V –1 Nos.
- Digital Ammeter 0-100 A -1 Nos.
- LED indicator lamps (RYB) with fuse (including fuse fitting) – 3 Nos.

- g) HRC {High Rupture Capacity} Fuses of appropriate ratings (including fuse fitting) – 3 nos.
 - h) Remote Terminal Unit {RTU} must be suitable to communicate the energy meter data (as GPRS Modem, functional specifications are in **Section-6.5.2**) to the server. It must have at least 4 Nos. of control output to control the Power Contactor of 32 Amps, 2 Pole from remotely located ICCS through GPRS/Wi-Fi (Optical Fiber Connection). The RTU must be equipped with a battery backup of not less than 48 hours.
 - i) Surge Protector of type 1+2 protection, $I_{max} = 50kA$, Impulse = 12.5kA, Voltage=1.5kV
 - j) Door open sensor and locking arrangements for Panel
 - k) There shall also be suitable arrangement for the purpose of earthing protection.
 - l) All the necessary mounting installation accessories required to mount the Smart Control Panel.
 - m) Danger plate
1. Each Smart Feeder Panel should be capable of controlling 150 to 200 no. of LED street light points.
 2. It shall be capable of independent feeder switching, i.e. switching off 1/3rd, 2/3rd or all the LED Street lights connected to a particular CCMS Panel.
 3. It shall communicate to the Central Street Light Management Server (CSLMS) through the wireless communication unit over GPRS/Wi-Fi.
 4. The Smart Control Panel be suitable for 415 V, 3 phase, 4 wire, and 50 Hz supply, the cubical will be mounted on the appropriate Pole nearby Distribution Transformer. The Smart Control Panel shall be mounted with suitable angle iron on the pole or Distribution Transformer structure
 5. It shall be provided with incoming and outgoing MCCB/MCB of appropriate rating and in desired quantity depending on the total no. of circuits in use. Outgoing shall have at least one spare circuit at all time. Major switchgear shall have potential free terminals for communication with RTU/ CMS.
 6. It shall be made of CRCA sheet steel and shall be dust and vermin proof providing a degree of protection of IP 66. The thickness of sheet steel

- enclosure shall be 2mm minimum for load bearing and 1.6mm for other members.
7. External hinged door shall be provided with all round neoprene gasket with padlocking arrangement.
 8. All accessible wire connections/metal parts shall be shrouded and it should be possible to change individual fuses, switches, from the front of the panel without any danger of contact with live parts.
 9. Adequate interior cabling space and suitable removable cable gland plats (min.3mm thickness) shall be provided for bottom entry of cables through glands. Necessary number of glands to suite the required cable sizes shall be provided.
 10. Every Smart Control Panel shall have LED type "SUPPLY ON" indicating lamps of clustered LED type and low-watt consumption. The lamps shall be provided with series resistors.
 11. Earth bus of copper bonded 50x6 flat with Zinc plated bolt and nuts shall be provided in the bottom of the panel.
 12. The Smart Control Panel shall be provided with individual labels with equipment rating. The board shall be provided on the front with the label engraved with the designation of the street light Panel. Labels shall be made of 3 ply lamicaid or engraved PVC.
 13. Internal wiring of the panel shall be done using flexible copper cables of appropriate sizes. All the wires shall be numbered and ferrules shall be provided for easy identification.
 14. Proper clip -on stud type terminals of appropriate ratings shall be provided for termination of incoming and outgoing cables inside the street light feeder Panel.
 15. Each street light Feeder Panel shall have an appropriate antenna, GSM modem, feeder interface unit and major switch gears with potential free terminals for communication with feeder interface unit.
 16. Inside the door of the panel a single line circuit diagram shall be fixed for ready reference.
 17. All sheet steel enclosures of panels will be chemically cleaned rinsed, phosphate and dried. After the treatment steel surfaces will be given two coats

of primer and finished with powder coating of shade 631 of IS-5. Coating thickness shall be minimum of 50 microns.

18.The Smart Control Panel shall have battery for 48hours power back up, relay for switching the contactor, modem, MCB, for isolation and protection of feeder interface unit, wiring, Auto/manual bypass switch installed inside the Panel.

19.The street light feeder Panel shall have proper provision for the installation 3-Phase Energy meter.

20.Smart Control Panel shall have provision of receiving incoming and outgoing cables 3.5Cx25 sq.mm/ 4Cx10 sq mm/3Cx6sq mm. cable along with cable gland for proper fixing of cables.

21.GIS Mapping should be done covering all switching points and the details of each switch point shall be viewable in the webapplication software through a Google-map interface or web based digital map

7.5.2 Functional Specification of GPRS Modem of Energy meter

The GPRS MODEM should be an intelligent device and capable of providing the following functionalities on GPRS network:

- a.** The GPRS MODEM should be capable for long duration data transfer to central station as per configuration.
- b.** When the GPRS MODEM is busy in collecting the data from the meter and the request comes to get the data, then priority shall be given to request from central station software.
- c.** Power Outage Notification: In the event of an outage, the GPRS MODEM should be able to send the outage alert to Data centre with date and time of occurrence/restoration.
- d.** The GPRS MODEM should be capable of operating with SIMs of local GPRS/ Service provider in the area.
- e.** GPRS MODEM should be capable for continuous working for 24 hours every day under field conditions, even when enclosed in Metering Cubicles at Consumer sites.
- f.** Modem shall have facility for Auto-Scheduler to enable automatic/Unattended data collection during night hours.
- g.** Modem should support push and pull mode of operation.

7.5.3 SMALL WIRING

All small wiring controls, indication etc. shall be with suitable stranded copper conductor cables PVC insulated conforming to IS: 1554 Part 1. Wiring shall be suitably protected within the switchboard. Runs of wires shall be neatly bunched and suitably supported and clamped. Means shall be provided for easy identification of the wires. Where wires are drawn through PVC conduits, the works shall conform to IS 732. Identification ferrules shall be used at both ends of the wires. All control wiring meant for external connection is to be brought out on terminal block. All wiring shall be minimum 1.5 sq. mm and for CT. Circuits it shall be 4.00 sq. mm. Brass/ copper thimbles, insulation tape etc. shall be provided at joints and terminations as required.

7.5.4 A.C SYSTEM

The order of phase connections shall be Red, Yellow and Blue.

- When the run of the conductors is horizontal, the red shall be on the top or on the left or farthest away as viewed from the front.
- When the run of the conductor is vertical, the red shall be on the left or farthest away as viewed from the front.
- When the system has a neutral connection in the same plane as the phase connections, the neutral shall occupy an outer position.

Unless the neutral connections can be readily distinguished from the phase connections, the order shall be red, yellow, blue and black.

7.5.5 SWITCH-FUSE UNITS

These units shall preferably comprise of switches having integral fuses, called composite units. Alternatively, combination units of separate switch and fuse may also be acceptable. These units shall be provided for general purpose i.e. incoming or outgoing units. The units shall be of the air break air insulated type and designed to ensure safety to operating personnel. Composite units shall have integral fuses i.e. fuse carrier with fuse link (fuse link forming the moving contact). The design shall ensure that the moving contact is not live when switch is open i.e. in OFF position, so as to facilitate removal of fuse. The switch shall be capable making and carrying the system prospective fault current, but limited in magnitude and duration by the cut off characteristics of the largest HRC fuse link that may be fitted to that unit. The fixed

contact shall be so shrouded that maintenance of the unit can be carried out in safety with the bus bars live.

Where one isolating switch is used as the incoming device, the incoming side fixed contacts shall be shrouded to ensure that maintenance can be carried out with the remote fuse and switch closed. Composite switch-fuse or the combination of switch and fuse shall meet the requirements of its components as follows:

Isolating Switch.

Switches shall be air-break, quick make, and quick break heavy duty type conforming to applicable standard. All switches shall have visible ON / OFF position indication and shall be pad lockable in any (ON / OFF) position. Switches shall be door interlocked such that it shall not be possible to gain access to inside the unit unless the isolating switch is in OFF position. The switches shall be suitable for independent manual operation. The switch contacts shall be of silver alloy or silver plated copper and springs of non-corrosive material. Inter-phase barriers shall be provided to prevent possibilities of phase to phase fault in the switch. The switch shall also be shrouded from all sides to prevent access to live parts on the switch after opening the unit door. The barriers and shrouding shall extend up to the height of switch to fully enclose both side terminals of the device. The arrangement shall permit easy maintenance.

7.5.6 CONTACTORS

Compliant to IEC: 60947-1&4 / IS: 13947-1&4

Terminals should be IP20 rated (IP10 for power entry cables).

Mounting type should be screw-type or DIN-rail mounting for fast and easy maintenance. Actuator coils should be wide-band coils so as to have safe operation between 180V- 270V. Alternative, DC coils can also be used. Current rating of Contactor should be selected based on AC3 type loads. Coil operating time at rated coil voltage

- Pick-up time (ms): 10- 30 Drop-out time (ms): 6-20
- Maximum operating frequency: 2500 operations/hour Mechanical durability: 10,000,000 operations Electrical durability: 1,000,000 operations
- Operating ambient temperature: -5C to +55C
- Contactors shall be of the air break type fitted with arc shields.

- The operating coil shall be suitable for satisfactory operation in the range of 85% - 110% of nominal voltage. The coil shall be tropicalized having insulation not less than class 'E'.
- Electrically independent auxiliary contacts not less than 2NO + 2NC for interlocking and indication shall be fitted to individual power contactor.

All springs shall be made out of a corrosion proof material.

7.5.7 MINIATURE CIRCUIT BREAKERS

The use of miniature circuit breakers (MCBs) combining thermal overload and magnetic short circuit protection shall be application for the outgoing circuits. MCBs shall have suitable rating but not less than 20A, 10kA. MCBs shall be suitable for housing in the panel and for connection of copper link bus bar at the incoming and copper lugs at the outgoing ends. The terminals of MCB and ON / OFF positions shall be clearly and indelibly marked.

7.5.8 INDICATION LAMPS

Indication lamps shall be complete with lens covers and holders. Each lamp shall be fitted with a durable resistance integrally wired in series with the lamp. Alternatively, lamps with built in transformers are acceptable. The lamp cover (lens) shall be translucent of appropriate colour. Bulbs and covers shall be interchangeable, easily replaceable from the front without the need for any special means.

7.5.9 TERMINALS

Terminals shall be stud type of copper material. Terminals shall be provided with transparent cover(s). Separate terminals shall be available for each termination of loop-in and loop-out power connections. Terminals shall be suitable for ring type copper cable lugs of size depending upon the circuit rating. Terminals having potential above 120V shall be booted or shrouded to prevent contact with personnel.

7.5.10 CABLE GLANDS

Whether specifically mentioned or not, cable glands of suitable sizes shall be supplied along with each equipment for power and control cables. Rubber components used in the gland shall be of neoprene. Name / trade name of manufacturer, type no. and applicable range of outer diameter of cable shall be engraved / indelibly printed on

the cable gland.

7.5.11 CABLE LUGS

All equipment shall be supplied with the power and control cable lugs of suitable size, whether specifically mentioned or not. Name / trade name and size of lug shall be engraved/ indelibly printed on each cable lug.

7.5.12 CIRCUIT DIAGRAM / DIRECTORY PLATE

A diagram is to be prepared for fixing to the inside cover of every Smart Control Panel giving details of the points controlled by each circuit.

7.5.13 SURFACE TREATMENT FOR PANEL

All metal parts and the surfaces (exterior & interior) of equipment shall be degreased by dipping in hot alkaline solution and rubbed with wire brush to remove oil & scale from them & then rinsed in water. Alternatively, they may be shot / sand blasted.

Parts shall be pickled by dipping in hydrochloric acid tank to remove the rust from the surfaces formed during storage of sheets & then rinsed to remove traces of the acid.

The cleaning and pretreatment of all metal parts shall be as per applicable standard.

The surfaces to be painted shall then be prepared by phosphatizing to protect them from further rusting & to create a good bond with the paint. The pretreatment shall conform to the applicable standard. All parts shall then be subjected to a coat of red oxide primer paint. All inside and outside surfaces of panel shall be spray painted with synthetic enamel of the shade. Electrostatic or powder coating painting shall be done.

Wherever possible, finished parts shall be coated with peel able compound by spraying method to protect the finished product from scratches, grease, dirty and oily spots during handling and transportation.

7.5.14 GUARD FOR OVERVOLTAGE PROTECTION

This module shall provide Overvoltage protection specifically for the CPU, capable of withstanding surge pulses up to ± 6 kV and burst pulses up to ± 4 kV. The module shall consist of four independent protected mains rated channels which each have a built in thermal protection, Surge protection level ± 6 kV according to EN61000 4 5, Burst protection level ± 4 kV according to EN61000 4, Three mains rated phase (line) inputs: L1, L2 and L3 and shall be DIN Rail Mounted.

7.5.15 DIN RAIL BATTERY

The battery module shall supply other modules with emergency power in the event of power failure. All modules in the system shall incorporate RS485 based communication technology used for both power supply and for direct communication between the modules. This Battery module shall be installed together with CPU module, and shall be recharged by the CPU. If the main power fails, Battery shall instantaneously take over the power supply, enabling the CPU module to store data and send a main power failure alarm to the central server via GPRS/SMS before it shuts down safely.

7.5.16 PACKING

Loose items shall be packed, duly labeled in a box and sealed properly to avoid damage during transportation. Packing list shall be pasted on every box, listing the contents of the box.

7.5.17 INSPECTION & TESTING MANUFACTURERS WORK

All the components and completely assembled equipment shall be tested as per the latest edition of standards. Any charges for these shall be deemed to be included in equipment price. All routine tests specified in IS: 8623:1977 shall be carried out and test certificates produced to the Engineer-in-charge. Typical type test certificate shall be furnished.

All the specified tests shall be carried out to verify the rating and performance of the equipment. All manufacturing processes viz. machining, sheet forming, electroplating, wire routing, cleating & crimping, assembly, surface preparation shall conform to good manufacturing practices.

7.5.18 SMART ENERGY METER

7.5.18.1 BASIC REQUIREMENT

The Smart Energy meter installed at the Smart Control Panel shall conform to IS 16444 standards. The energy meter shall have the provision for external communication by using RS 232 port of IRDA for communication to a hand held unit or AMR. Energy meter capable of detecting and recording anti tamper features including neutral missing and abnormal voltage/ frequency protection. The meter shall be from approved make of Himachal Pradesh State Electricity Boards Ltd. (HPSEBL).

All the approvals, testing and installation shall be as per the guidelines of HPSEBL.

The Technical Specifications of Smart Energy meter as per “AMI”.

7.5.18.2 Functional Requirement of Advance Metering Infrastructure (AMI)

AMI shall include Smart meters, communication systems, routers/ access point/ DCU, customer associated systems, Head End System (HES)/ Meter Data Acquisition System (MDAS), Meter Data Management (MDM) software, and businessanalytics.

The main objective of AMI is to enable two-way communication between smart energy meter and Head End System (HES) to enable remote reading, monitoring & control of electrical energy meters (consumer, feeder, DT meters etc.) to serve as repository of record for all raw, validated and edited data. The sanitized data may be subscribed by other utility function for higher order analysis and billing and collection engineetc.

The AMI system shall help utility to manage their resource and business process efficiently. AMI system shall support the following minimumfunctionalities:

- (i) Remote Meter data reading at configurableintervals(push/pull)
- (ii) Time of day (TOD)/TOUmetering
- (iii) Pre-paidfunctionality
- (iv) Net Metering/Billing
- (v) Alarm/Event detection, notification andreporting
- (vi) Remote Load Limiter and connection/ disconnection at defined/on demandconditions
- (vii) Remote firmwareupgrade
- (viii) Integration with other existing systems as defined in thisdocument
- (ix) Import of legacy data from existing modules/ MDAS of RAPDRP where ever possible. The extent and modalities of integration with the existing system including RAPDRP has to be worked out by theSystem Integrator.
- (x) Security features to prevent unauthorized access to the AMI including Smart meter & meter data etc. and to ensure authentication of all AMI elements by thirdparty.
- (xi) This is only an indicative but not exhaustive list. The system should be capable

to support the other functionalities as per the requirement of utilities.

- (xii) The System will accurately maintain system time synchronization across all devices to ensure accuracy of data. The system should support the interfacing with the future Smart Grid functionalities like peak load management, outage management system, distribution automation including self-healing system, GIS, distribution transformer monitoring units, Electric vehicle, distributed energy resources etc.
- (xiii) Communication network shall preferably be able to support multiple applications.
- (xiv) The System Integrator shall submit an approach paper describing overall architecture and operational philosophy of the proposed AMI solution and methodology for achieving different functionalities, specified in this document and also highlight additional features, if any.

7.6 CENTRAL STREET LIGHTING MANAGEMENT SYSTEM

The following functionalities shall be supported by the Central Street Light Management System.

7.6.1 Functional Requirement: -

S. No.	Minimum Requirement
1.	The system shall provide web based central management software (CSLMS) to view, operate & manage the lighting system.
2.	The software provides mechanism for tracking the repairs of the faulty light fixtures or gateways
3.	It shall support multiple users with different privileges.
4.	Only a user with admin privileges shall be able to create, modify or delete users.
5.	The user privileges shall be view, operate and/or administer.
6.	The user privileges shall be to a given set of street lights only
7.	The street lights shall be divided into hierarchical groups called, zones, wards, locality, roads etc.
8.	The street light groups shall be modifiable by the administrator only
9.	Only a user with sufficient privileges shall control lights either at group or individual level.
10.	All user log-in and log-off activity shall be logged.
11.	All user activity that modifies any existing configuration of the CSLMS or gateways or controllers shall be logged.
12.	A logged in user shall be allowed to view, operate and manage the street lights & gateways for which he/she has privileges.
13.	The CSLMS shall assign a unique id for each light fixture, controller and gateway.
14.	The CSLMS shall have the GPS location of light fixtures and gateways.
15.	The light fixtures and gateways shall be shown on Google Maps.
16.	The user shall be able to view the light fixtures on Google Maps either in groups or individually.
17.	The user shall be able to set lighting on/off/dim policies for individual lights through Smart Lighting Controller
18.	The user shall be able to set lighting on/off policies for a group of lights through Smart Panel.
19.	Through the lighting policy the user shall be able to set the date & time when the light should be on and off.
20.	The policies shall be settable for any day within a year.

S. No.	Minimum Requirement
21.	The user shall be able to create, modify, delete, enable and disable policies for a group of lights or individual lights easily.
22.	There shall exist a default global policy that would be used by the Smart lighting controller/ Smart Panel in the absence of any specific light policy for it.
23.	In case of any error during the setting of policies onto each street light, the CSLMS shall highlight the same and shall keep trying until cancelled by the user.
24.	CSLMS also need to notify for power outage and also calculate the percentage power outage per group or individual street lights.
25.	The CSLMS shall communicate with registered Gateways & Smart Panels only.
26.	The gateways shall communicate with registered Smart Panels /Smart Lighting Controllers only.
27.	The communication between the CSLMS and other components in the system is secure so as to prevent eves dropping, device hijack and "man -in-the-middle" attacks.
28.	Faulty gateways or light controllers can be replaced only after initiating that action through the CSLMS.
29.	It shall support the following types of notifications: a. Email b. SMS c. Mobile app alerts
30.	A user shall be registered for notifications only for the street lights that he/she has privileges
31.	The following events shall result in notifications a. Any fault detected by the system in the smart light fixture or controller or gateway. b. Any changes to the configuration of CSLMS, gateway or controllers c. Any manual changes to the lighting schedule d. Any manual control of the lighting
32.	It shall provide the following reports at either a group or individual street light level a. Status of Lights with lux level report (Lux Measurement can be manually measured and data shall be fill in the system to generate report.) b. Energy Consumption c. Power leakages d. Faulty Lights e. Fault rates f. Fault fixing

S. No.	Minimum Requirement
	<ul style="list-style-type: none"> g. High or Low voltage issues h. Pending user actions i. Pending policy
33.	<p>It shall provide the following analytics</p> <ul style="list-style-type: none"> a. Fault trends b. Future energy needs c. Potential energy savings possible by changing lighting policies
34.	All the configuration change activity logs shall be stored for the duration as set by the administrator.
35.	All historical statistics shall be stored for the duration as set by the administrator.
36.	It shall not let the administrator increase the duration if it detects that there would not be sufficient disk space to store the data for such long durations.
37.	It shall automatically back up all the data as scheduled by the administrator
38.	<p>The system shall provide a mobile app with the following features</p> <ul style="list-style-type: none"> 1. View, Operate & Manage the street lights 2. View and act on notifications

S. No.	Minimum Requirement
39	<p>System should provide an end to end IT infrastructure management solution.</p> <p>It should be an appliance based pre-integrated, centralized and consolidated platform, to manage complete IT and non-IT infrastructure on a single dashboard with common helpdesk and incident management system through a single tool.</p> <p>The system should have the service dependency engine that allows to take intelligent decisions, as per the business needs/requirements.</p> <p>Visibility – It should have a single console to proactively monitor IT equipment’s health with correlation with the non-IT infrastructure.</p> <p>Capacity Planning - To Manage dynamic demand of IT services, it should be able to proactively Identify potential area’s which may need to be upgraded (power, storage, etc.).</p> <p>Third Party Integration - It should have Seamless Data Sharing to build a “Collaborative Decision making System”.</p> <p>System with CMDB - Integrate people, process & technology. It should help in reducing likelihood of downtime by facilitating communication across all the facility equipment while Managing SLAs and Asset Lifecycle with IMAC process.</p>
40	<p>The centralized dashboard of the proposed system should provide a monitoring window using the actual views of the facility /server room, where the different devices/equipment are placed. This is required in visual monitoring of the equipment health and quick identification of the fault area in case of alarm generation.</p>

S. No.	Minimum Requirement
	<p>The event records shall be available in the report format, with each event classified by its priority level and shall be tagged with details of the date and time at which the event occurred. Each event shall be displayed and highlighted until the event has been acknowledged and cancelled in the automatic event log, and provided the fault has been satisfactorily rectified in the equipment, which generated the event.</p>
41	<p>In a situation, where, due to a single event, multiple events/alarms arise, the system should be capable to identify the root-cause event asap, while suppressing the other conjugate events to help in minimizing downtime.</p>
42	<p>System should have advance reporting, dashboard and analytical engine with various out of the box dashboards and reports, for constant monitoring of Availability, Performance & Efficiency.</p>
43	<p>The System should be pre-integrated for both Fault and Performance management, so that it allows monitoring fault and performance related issues reporting onto a single console (Viz: by hovering mouse, it should be able to view related services details). It should receive all the alarms from various event sources, unified into a common alarm format, while correlating them and providing a common graphical user interface for alarm analysis and acknowledgement.</p> <p>The tool should provide graphical user interface, which helps physically reaching the equipment whenever need be. Tracking key information and data related to the device performance network traffic and current usage, should be available on hovering the affected equipment. Important trend charts should be displayed on the fly.</p>

S. No.	Minimum Requirement
44	<p>System should be capable Monitoring of the following parameters</p> <p>Downtime of Street light System (Luminaires, Poles, CCMS Smart Panel, Earthing, etc</p> <p>Downtime of Server</p> <p>Downtime of UPS & Batteries</p> <p>Download System Software</p> <p>Downtime of Helpdesk Call Center</p> <p>Downtime of Mobile App</p>

7.6.2 Application Server

S.no	Component	Description	Compliance Yes/No
	Make		
	Model		
1	Chipset	Intel C621	
2	Form Factor	Max. 1U rack mounted with sliding rails	
3	Configured CPU	Up to two Intel® Xeon® Scalable processors, up to 22 cores per processor; min 16 cores with min 22 MB cache and min 2.1 GHz base frequency per processor from day 1	
4	Memory slots	16 DDR4 DIMM slots, speed up to 2666MT/s	
5	Memory configured	Min 32GB RAM from day 1, scalable to 1 TB with 64GB DIMMs	
6	Disks supported	Front drive bays: Up to 8 x 2.5" SAS/SATA (HDD/SSD) or Up to 10 x 2.5"	

S.no	Component	Description	Compliance Yes/No
		SAS/SATA (HDD/SSD) with up to 4 NVMe SSD or up to 4 x 3.5 SAS/SATA HDD	
7	RAID Controller	12Gbps PCIe 3.0 with RAID 1, 5, 10, 50	
8	Disks configured	1 TB 7.2K RPM SATA 2.5 inch and 240GB SSD SATA MU populated from day 1	
9	DVD writer	DVD RW	
10	I/O slots	Up-to 2 Gen 3 x16PCIe Slots	
11	Onboard Ethernet ports	2 x 1G RJ45	
12	Certified for	Windows Server 2016, VMWare, Red Hat Enterprise Linux, SUSE Linux Enterprise Server	
13	OS	Windows Server 2019/ Ubuntu-Linux STANDARD	
14	Power Supply	550W Platinum rated redundant Power Supply	
15	SD Modules slots	Dual SD module slots supporting RAID1 configure	
16	SPEC ratings 2017	minimum SPECrate2017_int_base = 174 and minimum SPECrate2017_fp_peak = 177	
17	Management integration	Support for integration with Microsoft System Centre,/Linux System Centre, VMware vCenter, BMC Software	
18	Power & temperature	Real-time power meter, graphing, thresholds, alerts& capping with historical power counters. Temperature monitoring & graphing	

S.no	Component	Description	Compliance Yes/No
19	Pre-failure alert	Should provide predictive failure monitoring & proactive alerts of actual or impending component failure for fan, power supply, memory, CPU, RAID, NIC, HDD	
20	Configuration & management	<ul style="list-style-type: none"> • Real-time out-of-band hardware performance monitoring & alerting • Agent-free monitoring, driver updates & configuration, power monitoring & capping, RAID management, external storage management, monitoring of FC, HBA & CNA & system health • Out-of-band hardware & firmware inventory • Zero-touch auto configuration to auto deploy a baseline server configuration profile 	
21	Management (continued)	<ul style="list-style-type: none"> • Automated hardware configuration and Operating System deployment to multiple servers • Zero-touch repository manager and self-updating firmware system • Virtual IO management / stateless computing • Support for Redfish API for simple and secure management of scalable platform hardware 	
22	LCD panel	Should display system ID, status information and system error code followed by descriptive text. LCD	

S.no	Component	Description	Compliance Yes/No
		background should light up in different colours during normal system operation & error conditions.	
23	HTML5 support	HTML5 support for virtual console & virtual media without using Java or ActiveX plugins	
24	Server security	Should have a cyber-resilient architecture for a hardened server design for protection, detection & recovery from cyber attacks	
25		Should protect against firmware which executes before the OS boots	
26		Should provide effective protection, reliable detection & rapid recovery using: <ul style="list-style-type: none"> - Silicon-based Hardware Root of Trust - Signed firmware updates - Secure default passwords - Configuration and firmware drift detection - Persistent event logging including user activity - Secure alerting - Automatic BIOS recovery - Rapid OS recovery - System erase 	
27		Configuration upgrades should be only with cryptographically signed firmware and software	
28		Should provide system lockdown feature to prevent change (or "drift") in system	

S.no	Component	Description	Compliance Yes/No
		firmware image(s) & prevent malicious modification of server firmware	
29	Intrusion alert	Intrusion alert in case chassis being opened	
30	Warranty	5 years On-site comprehensive warranty with 24x7x365 remote hardware support. Post installation, 5-year product warranty should reflect in the support web site of the OEM.	

7.6.3 DATABASE SERVER

Component	Description
Chipset	Intel C621
Form Factor	Max. 1U rack mounted with sliding rails
Configured CPU	Up to two Intel® Xeon® Scalable processors, up to 22 cores per processor; min 16 cores with min 22 MB cache and min 2.1 GHz base frequency per processor from day 1
Memory slots	16 DDR4 DIMM slots, speed up to 2666MT/s
Memory configured	Min 16GB RAM from day 1, scalable to 1 TB with 64GB DIMMs
Disks supported	Front drive bays: Up to 8 x 2.5" SAS/SATA (HDD/SSD) or Up to 10 x 2.5" SAS/SATA (HDD/SSD) with up to 4 NVMe SSD or up to 4 x 3.5 SAS/SATA HDD
RAID Controller	12GbpsPCIe 3.0 with RAID 1, 5, 10, 50
Disks configured	1 TB 7.2K RPM SATA 2.5 inch populated from day 1
DVD writer	DVD RW
I/O slots	Up-to 2 Gen 3 x16PCIe Slots
On-board Ethernet ports	2 x 1G RJ45

Component	Description
Certified for	Windows Server 2016, VMWare, Red Hat Enterprise Linux, SUSE Linux Enterprise Server
OS	Windows Server 2019/ Linux STANDARD 16C and Microsoft SQL Server 2017 from day 1
Power Supply	550W Platinum rated redundant Power Supply
SD Modules slots	Dual SD module slots supporting RAID1 config
SPEC ratings 2017	minimum SPECrate2017_int_base = 174 and minimum SPECrate2017_fp_peak = 177
Management integration	Support for integration with Microsoft System Center/ Ubuntu-Linux, VMware vCenter, BMC Software
Power & temperature	Real-time power meter, graphing, thresholds, alerts& capping with historical power counters. Temperature monitoring & graphing
Pre-failure alert	Should provide predictive failure monitoring & proactive alerts of actual or impending component failure for fan, power supply, memory, CPU, RAID, NIC, HDD
Configuration & management	<ul style="list-style-type: none"> • Real-time out-of-band hardware performance monitoring & alerting • Agent-free monitoring, driver updates & configuration, power monitoring & capping, RAID management, external storage management, monitoring of FC, HBA & CNA & system health • Out-of-band hardware & firmware inventory • Zero-touch auto configuration to auto deploy a baseline server configuration profile
Management (continued)	<ul style="list-style-type: none"> • Automated hardware configuration and Operating System deployment to multiple servers • Zero-touch repository manager and self-updating firmware system • Virtual IO management / stateless computing

Component	Description
	<ul style="list-style-type: none"> Support for Redfish API for simple and secure management of scalable platform hardware
LCD panel	Should display system ID, status information and system error code followed by descriptive text. LCD background should light up in different colours during normal system operation & error conditions.
HTML5 support	HTML5 support for virtual console & virtual media without using Java or ActiveX plugins
Server security	<p>Should have a cyber-resilient architecture for a hardened server design for protection, detection & recovery from cyber attacks</p> <p>Should protect against firmware which executes before the OS boots</p> <p>Should provide effective protection, reliable detection & rapid recovery using:</p> <ul style="list-style-type: none"> - Silicon-based Hardware Root of Trust - Signed firmware updates - Secure default passwords - Configuration and firmware drift detection - Persistent event logging including user activity - Secure alerting - Automatic BIOS recovery - Rapid OS recovery - System erase
	Configuration upgrades should be only with cryptographically signed firmware and software
	Should provide system lockdown feature to prevent change (or "drift") in system firmware image(s) & prevent malicious modification of server firmware

Component	Description
Intrusion alert	Intrusion alert in case chassis being opened
Warranty	5 years On-site comprehensive warranty with 24x7x365 remote hardware support. Post installation, 5-year product warranty should reflect in the support web site of the OEM.

7.6.4 Firewall

S.no	Description	Compliance	
		Yes	No
	Make		
	Model		
1	The Firewall should be Hardware based, Reliable, purpose-built security appliance with hardened operating system that eliminates the security risks associated with general-purpose operating systems		
2	The Proposed Firewall Vendor should be in the Leader's Quadrant of Gartner Magic Quadrant for NGFW.		
3	Firewall appliance should have at least 5 x 1GE interfaces		
4	Firewall Throughput should be 5 Gbps		
5	Firewall should support minimum 4 Gbps of VPN throughput		
6	Firewall should support 200 site-to-site & client to site VPN Tunnels.		
7	Firewall should support minimum 200 concurrent SSL VPN users		
8	Firewall should support 35,000 new sessions per second		

9	Firewall should support 700000 concurrent sessions		
10	The solution should support minimum 800 Mbps of NGFW (FW + IPS + AVC) throughput for Mix / production traffic		
11	The solution should support minimum 600 Mbps of Threat Prevention (FW + IPS + AVC + AV) throughput for Mix / production traffic		
12	The Firewall solution should support NAT64, DNS64 & DHCPv6		
13	The proposed system should have integrated Traffic Shaping functionality.		
14	The Firewall & IPSEC VPN module shall belong to product family which minimally attain Internet Computer Security Association (ICSA) Certification.		
15	The proposed system should support		
	a) IPSEC VPN		
	b) PPTP VPN		
	c) L2TP VPN		
16	The device shall utilize inbuilt hardware VPN acceleration:		
	a) IPSEC (DES, 3DES, AES) encryption/decryption		
	b) SSL encryption/decryption		
17	The system shall support the following IPSEC VPN capabilities:		
	a) Multi-zone VPN supports.		
	b) IPSec, ESP security.		
	c) Supports NAT traversal		
	d) Supports Hub and Spoke architecture		

	e) Supports Redundant gateway architecture		
18	The system shall support 2 forms of site-to-site VPN configurations:		
	a) Route based IPSec tunnel		
	b) Policy based IPSec tunnel		
19	The system shall support IPSEC site-to-site VPN and remote user VPN in transparent mode.		
20	The system shall provide IPv6 IPSec feature to support for secure IPv6 traffic in an IPSec VPN.		
	Virtualization		
	The proposed solution should support Virtualization (Virtual Firewall, Security zones and VLAN). Minimum 5 Virtual Firewall license should be provided.		

7.6.5 UPS SYSTEM& BATTERY

S.No	Parameters	Specification	Compliance	
			Yes	No
	Make			
	Model			
1	Phase	Single Phase		
2	Capacity	6000VA		
3	Input			
3.1	Nominal Voltage	208/220/230/240VAC		
3.2	Input Voltage	110-300VAC (Based on Load at 50%)		
		176-300VAC (Based on Load at 100%)		
3.3	Frequency range	46Hz-70Hz		
3.4	Power Factor	≤ 0.99@ nominal Voltage(100% Load)		

S.No	Parameters		Specification	Compliance	
				Yes	No
4	Output				
4.1	Output Voltage		208/220/230/240VAC		
4.2	Voltage Regulation		1% Batt. Mode)		
4.3	Frequency Range (Synchronized Range)		46Hz-54 Hz or 56Hz-64Hz		
4.4	Frequency Range (Batt. Mode)		50Hz or 60Hz \pm 0.1Hz		
4.5	Current Crest Ratio		3:1		
4.6	Harmonic Distortion		\leq 3% THD (Linear Load) \leq 5% THD (Non-linear Load)		
4.7	Waveform (Batt. Mode)		Pure sine wave		
5	EFFICIENCY				
5.1	AC Mode		92%		
5.2	Battery Mode		90%		
6	Battery				
6.1	Long-run Model	Battery Type	VRLA		
		Numbers	16		
		Charging Current	1A/2A/3A/4A/6A \pm 10% (Selectable) for all models		
7	Indicators				
7.1	LCD		Load level, Battery level, AC mode, Battery mode, Bypass mode, and Fault indicators		
8	Alarm				
8.1	Battery Mode		Every 4 seconds		
8.2	Low Battery		Every second		

S.No	Parameters	Specification	Compliance	
			Yes	No
8.3	Overload	Twice every second		
8.4	Fault	Continuous sound		
9	PHYSICAL			
9.1	Dimension, D x W x H (mm)	369 x 190 x 318		
9.2	Net Weight (kgs)	12		
10	ENVIRONMENT			
10.1	Humidity	0-95% RH @ 0-50°C (non-condensing)		
10.2	Noise Level	55dBA @ 1 Meter		
11	MANAGEMENT			
11.1	Smart RS-232/USB	Supports Windows 2000/2003/XP/Vista/2008/7/8, Linux, Unix, and MAC		
11.2	SNMP Card Slot	Supports optional SNMP card for Power Management via SNMP manager/Web-browser		

7.6.6 Rack for Servers

S.No	Parameters	Specification	Compliance	
			Yes	No
	Make			
	Model			
1.	Monitoring	Input and Outlet power monitoring. Circuit/Breaker current monitoring. Environmental monitoring via optional remote Sensors. Daisy chain Ethernet connectivity. Local high visibility		

S.No	Parameters	Specification	Compliance	
			Yes	No
		LED display.		
2.	Input Monitoring	Phase (A) Monitoring (kWh, W, VA, PF, V, A) Power Measurements Compliant with ANSI C12.1 and IEC 62053-21 at 1% Accuracy Class Requirements		
1.	Circuit Monitoring	Circuit / Breaker Monitoring (A) Circuit/Breaker Current Measurements Independently Tested and Verified at 2% Accuracy		
2.	Outlet Monitoring	Outlet Monitoring (kWh, W, VA, PF, V, A) Power Measurements Compliant with ANSI C12.1 and IEC 62053-21 at 1% Accuracy Class Requirements.		
3.	VLC Support	Yes		
4.	Quantity Of Inputs	1		
5.	Voltage	200-240V		
6.	Current	32A		
7.	VA per Input (Load Capacity)	7.3kW (230V)		
8.	Frequency	50/60Hz		
9.	Over Current Protection	(2) 16A Single Pole Magnetic Breakers (10kAIC Rated)		
10.	Switch	Breaker/Switch Combination		
11.	Scrolling / Rotatable	Yes		

S.No	Parameters	Specification	Compliance	
			Yes	No
	Digital Display			
12.	Indicators - LED(s)	36		
13.	Power Cable Wire Gauge	4mm ² H07RN-F		
14.	Power Cable Length	10ft / 3m		
15.	Power Entry Location	Bottom Front		
16.	Plug Type	IEC60309 2P + E, 32A, 250V, Splash proof IP44		
17.	Combined Total Receptacle/Socket Quantity	36		
18.	Receptacle/Socket Type #1	U-Lock IEC C13		
19.	Quantity on Face	30		
20.	Quantity per Breaker	15		
21.	U-Lock Color ID	2 Circuit = Orange, Green		
22.	Style	Individual		
23.	Voltage per Receptacle/Socket	230V		
24.	Receptacle/Socket Type #2	U-Lock IEC C19		
25.	Quantity on Face	6		
26.	Quantity per Breaker	3		
27.	U-Lock Color ID	2 Circuit = Orange, Green		
28.	Style	Individual		
29.	Voltage per Receptacle/Socket	230V		

S.No	Parameters	Specification	Compliance	
			Yes	No
30.	Network Connection	Dual 10/100Mbps Ethernet		
31.	Protocols Supported	DHCP, HTTP, HTTPS, IPv4, IPv6, LDAP, NTP, RSTP, SSH, SMTP, SNMP (v1/v2c/v3), Syslog		
32.	Data Access Formats	CSV datalog, JSON API, JSON datalog		
33.	USB Support	Yes		
34.	IP Reset Button	Yes		
35.	Hard Reboot Button	Yes		
36.	Serial Connection	RS232 via RJ45		
37.	Remote Sensor RJ Connection Jacks	1 (Supports up to 16 Sensors)		
38.	Maximum Operating Temperature	50C / 122F		
39.	Heavy Steel - Powder Coat Finish	Black		
40.	Configuration	Zero U		
41.	7938 Vertical Mounting Bracket Kit	Yes		
42.	Toolless Mounting Hardware -Centre to Center Spacing	61.25in and 64.75in / 1556mm and 1645mm		
43.	Product Warranty	5-year limited warranty if registered within 120 days of purchase.		
44.	Certification/Agency Approvals	CE Marked		
45.	Certification/Agency	Complies with EN 55032 and EN		

S.No	Parameters	Specification	Compliance	
			Yes	No
	Approvals	55024		
46.	Certification/Agency Approvals	Complies with IEC 60950-1 (CB Certificate Available)		
47.	Certification/Agency Approvals	RoHS Compliant		
48.	Certification/Agency Approvals	RCM Mark (EMC Only)		
49.	Chassis Dimensions (LxWxD)	70in x 2in x 2.6in / 1778mm x 51mm x 66mm		
50.	Doghouse (D)	1.4in / 36mm		

7.6.7 Air-condition System Specification

S.no	Parameters	Specification	Compliance	
			Yes	No
1	Make			
2	Model			
3	Type	Split Fix Speed		
4	Capacity	2 Ton		
5	Star Rating	3/4/5 Star as per BEE		
6	Refrigerant	R32 Gas		
7	Rated Cooling Capacity	6550-7250 -Watt		
8	Rated Cooling Capacity	24730-24740 -Btu/hr		
9	Power Consumption	2000-2010 watts		
10	ISEER	3.60-4.89 Watts/Watts		
11	IDU air flow	700-710 CFM		
12	IDU Size	1078*325*246(WxHxD) (mm)		

13	IDU wt	16-17 KG (Net)		
14	ODU SIZE	965*700*396(WxHxD) (mm)		
15	ODU wt	45- 53 Kg		
16	Noise Levels Indoor	35-40 db(A)		

8. Section 8 EARTHING PROTECTION SYSTEM

The Earthing System should be based on use of GI Chemical Earth Electrode (for corrosion resistance) and Ground Enhancement Material (to reduce Soil Resistivity). - It should be capable of providing any ohmic value as specified by the DSCL, by inter-connection of ground rods to form a Grid. - The system shall be totally maintenance free. There shall be no requirement to add water or any other chemical any time after initial installation. - The system shall provide constant low ohmic value for entire life cycle without any consideration for moisture or temperature conditions

8.1 EARTHING ELECTRODE SYSTEM/ CHEMICAL EARTHING

1. In maintenance free earthing GI Rod electrode shall be of 40 mm in diameter and 2 meter length. The rod shall be placed in an augured hole in the ground and then surrounded by ground enhancement material in either a dry form or pre mixed in slurry. Once set, ground enhancement material becomes hard and as such holds positively to the rod as well as surrounding ground. Earth rod offered shall have passed the required Test.
2. Ground enhancement material shall be as per IEEE-80 clause 14.5d. The ground enhancement material shall be permanent and not leach any chemicals in to the ground.
3. Minimum 30 Kg of ground enhancement material shall be provided for each earth electrode.
4. Inspection chamber shall be of 300 x 300 mm with concrete base CI manhole cover with frame painted with bit mastic paint.

8.2 TESTING AT SITE

1. Testing of Earth Continuity Path: The earth continuity conductor including metal conduits and metallic envelopes of cable in all cases shall be tested for electric continuity and the electrical resistance of the same along with the earthing lead but excluding any added resistance of earth leakage circuit breaker measured from the connection with the earth electrode to any point in the earth continuity conductor in the completed installation shall not exceed fiveohm.
2. Earth Resistivity Test: Earth resistivity test shall be carried out in accordance with IS Code of Practice for earthing IS 3043.
3. GIS Mapping should be done covering all EarthingSystem and the details of each switch point shall be viewable in the webapplication software through a Google-map interface or web based digital map.

The earthing pits grid system will be created by introducing an earthing pit at every 4th pole of the LED Street Lighting System. In addition to above all the Smart Panels, Electrical Poles, Cables & Wires, Junction Boxes Servers, ACs and the other electrical equipment's will be thoroughly earthed to provide the maximum protection to the system as per relevant standards and specifications within PAN city (excluding Smart Road) of Dharamshala Smart City.

9. Section 9 WARD –WISE LIST OF STREETS&ROAD DATA

There are total 17 nos. of wards in Dharamshala Municipal Area, which are mentioned in following table below: -

SR.No.	WARD ID	WARD NAME
1.	WARD NO-1	FORSYTHGANJ
2.	WARD NO-2	BHAGSHUNAG
3.	WARD NO-3	MCLEODGANJ
4.	WARD NO-4	KASHMIR HOUSE

5.	WARD NO-5	KHAZANCHI MOHALLA
6.	WARD NO-6	KOTWALI
7.	WARD NO-7	SECRETARIAT
8.	WARD NO-8	KHEL PARISAR
9.	WARD NO-9	SAKOH
10.	WARD NO-10	SHAM NAGAR
11.	WARD NO-11	RAM NAGAR
12.	WARD NO-12	BADOL
13.	WARD NO-13	DARI
14.	WARD NO-14	KAND
15.	WARD NO-15	KHANYARA
16.	WARD NO-16	SIDHPUR
17.	WARD NO-17	SIDHBARI

10. Section 10 DETAILED WARD WISE LED STREET LIGHT DATA AND PROPOSAL

The ward wise detail of the various streets, walkways, stairs roads proposed for the LED Street Lighting, along with their average width and length have been given below. It also includes the details of existing street light luminaries, poles in the each street. Further, the proposed street lights luminaries, poles have also been proposed/estimated for each type of path under this section. Based upon the current street lights scenario in each street, each street has been classified and proposed under one of the following category of the scope of work (Ref. Section 9, SCOPE OF WORK):

- New Street Light System
- New Street Light System with Relocation of Existing Street Light System
- Legacy Street Light System

WARD NO - 1 (FORSYTHGANJ)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER RTS-19&1	PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	FO - 10	NADDI VILLAGE WALKWAY	NO	600	1.25	7	0	24		New System with Relocation	24	17	0	7
2	FO - 1	DAL LAKE TO NEAR ANUPAM HOTEL (VIA-WTP)	YES	1060	2.5	0	0	42		New System	42	42	0	0
3	FO - 2	WADIA INSTITUTE WALKWAY	NO	500	2	0	0	20		New System	20	20	0	0
4	FO- 11	DAL LAKE CORRIDOR	YES	460	1.25	11	11	18		It is already Proposed By HPTDC				
5	FO- 12	NEAR TREEBO HOTEL STAIR	NO	75	1	1	1	3		Legacy System	NO POLE CAN BE INSTALLED			
6	FO- 13	TANGLE WOOD TO BUS SHELTER STREET	50% STREET UG POSSIBALE DUE REMAIN 50% STREET	440	2.25	13	0	18		New System with Relocation	18	5	0	13
7	FO- 14	VALMIKI MOHALLA WALKWAY TO KALAPUL (CAMEL TREK)	NO	1850	1	13	2	74		New System with Relocation	72	61	2	13
8	ROAD	ANUPAM HOTEL TO FORSYTHGANJ ROAD (Upto Tangle Wood)	YES	1600	4	22	0	64		New System with Relocation	64	42	0	22
9	ROAD	ANUPAM HOTEL TO NADDI CHOWK	YES	685	4	11	0	27		New System with	27	16	0	11

WARD NO - 1 (FORSYTHGANJ)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER RTS-1981	PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
										Relocation				
10	ROAD	TANGLE WOOD (NADDI ROAD) TO NEAR GLENMOOR COTTAGE	YES	1100	4	0	0	44		New System	44	44	0	0
11	LINK ROAD-27	FORSYTHGANJ CHOWK TO ST. JOHN CHURCH(MAIN ROAD FORSYTHGANJ CHOWK TO MCLEODGANJ CHOWK)	YES	1200	6.5	20	2	48		New System with Relocation	46	28	2	20
12		ST. JOHN CHURCH COMPOUND	NO	50		2	0	2		Legacy System				
TOTAL				9620		100	16	384	3		357	275	4	86

WARD NO - 2 (BHAGSHUNAG)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER	PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	B -1	SUKEDI VILLAGE STREET	YES	700	3	0	0	28		New System	28	28	0	0
2.	B -2	HIMALAYA PROVISION STORE TO DHARAMKOT CHOWK	YES	600	2.75	12	0	24		New System with Relocation	24	12	0	12
3.	WN-2	DHARAMKOT TO RAKKAR VILLAGE	HDPE ALREADY LAID BY DMC	225	2.75	5	0	9		New System with Relocation	9	4	0	5
4.	PWD-2	DHARAMKOT TO RAKKAR VILLAGE	YES	200	2.75	3	0	8		New System with Relocation	8	5	0	3
5.	B -6	KAITHADI VILLAGE WALKWAY	NO	240	1.25	6	0	10		New System with Relocation	10	4	0	6
6.	B -7	HIMALAYA PROVISION STORE TO RAKKAR VILLAGE	NO	440	1.25	10	0	18		New System with	18	8	0	10

WARD NO - 2 (BHAGSHUNAG)													
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
									Relocation				
7.	B -5	KARTAR SINGH OLD HOUSE	NO	100	1	2	0	4	Legacy System				
8.	B-4	COOL TALK CAFÉ	YES	110	1.5	5	0	4	Legacy System				
9.	B -3	DHARAMKOT CHOWK TO EVER GREEN CAFÉ STREET	ONLY 50% POSSIBLE, NPFP	650	1.25	14	0	26	New System with Relocation	26	12	0	14
10.	B -9	NEAR SHIVLAY STREET	NO	160	1	2	0	6	New System with Relocation	6	4	0	2
11.	B -8	EVERGREEN CAFÉ TO HAINI VILLAGE	ONLY 50% POSSIBLE, NPFP	650	1.25	24	10	26	Legacy System				
12.	B -10	FOOTPATH UPPER BHAGSHU VILLAGE	NO	200	1	5	0	8	New System with Relocation	8	3	0	5
13.	B -11	THE GOLDEN ROCK STREET	YES	190	2.5	6	4	8	New System with Relocation	4	2	4	6
14.	B -12	AYURVEDA HOTEL STREET	YES	75	2.5	3	0	3	Legacy System				
15.	B -13	HOTEL OMNI TO AYURVEDA HOTEL STREET	NO	190	2	5	2	8	New System with Relocation	6	3	2	5
16.	B -14	BHAGSHU PARKING TO GLORY HILL HOTEL STREET	NO	190	2.5	16	5	8	Legacy System				
17.	WN-2	BHAGSHU NAG TO SUKEDI / HAINI Part -I,II & III	YES	895	3	15	2	36	New System with Relocation	34	21	2	15
18.	B -15	BHAGSHU SCHOOL STREET	NO	90	1.2	9	0	4	Legacy System				
19.	B -16	STREET NEAR HOTEL AMAYRA INN	NO	75	1.5	4	0	3	Legacy System				
20.	B -17	BHAGSHU NAG TEMPLE STREET	NO	190	2	8	0	8	New System with Relocation	8	0	0	8
21.	B -18	WALKWAY NEAR PUNJABI DHABHA	NO	60	0.6	3	0	2	Legacy System				
22.	B -19	BHAGHU TEMPLE BACK SIDE STREET	NO	130	1	3	5	5	New System with Relocation	0	2	5	3
23.	B -20	WALKWAY NEAR BHAGSHUNAG TEMPLE	NO	230	1	3	5	9	New System with Relocation	4	6	5	3
24.	S-4	BHAGSHUNAG TEMPLE TO WATERFALL	NO	560	1.75	0	0	22	New System	22	22	0	0
25.	WN-2	BHAGSHUNAG TO CHINU HOUSE (HOTEL SKY HEAVEN STREET)	YES	180	2.5	6	3	7	New System with Relocation	4	1	3	6
26.	M-4	MCLEODGANJ TO TAXI STAND	YES	410	4.58	3	0	16	New System with Relocation	16	13	0	3
27.	ROAD	NEAR GLENMOOR COTTAGE TO MCLEODGANJ TAXI STAND ROAD	YES	800	4.58	0	0	32	New System	32	32	0	0
28.	M-1	MCLEODGANJ CHOWK TO DHARAMKOT BYPASS STREET	YES	965	3.59	0	0	39	New System	39	39	0	0
29.	M-4	CHURCH TO PARAGLADING(MOUNTNEERING	YES	650	3.3	0	0	26	New System	26	26	0	0

WARD NO - 2 (BHAGSHUNAG)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM	
30.	ROAD	MCLEODGANJ END PARKING TO BHAGSHUNAG PARKING	YES	1090	4.5	22	2	44	New System with Relocation	42	22	2	22	
31.	B -21	MCLEODGANJ END PARKING TO HEERU VILLAGE	YES	690	3	8	4	28	New System with Relocation	24	20	4	8	
32.	B -22	TEMPLE STAIR (DUSHLAN VILLAGE)	NO	50	1	1	0	2	Legacy System					
33.	B -23	DUSHALAN VILLAGE WALKAWAY	ONLY 50% POSSIBLE, NPFP	230	1.2	11	3	9	Legacy System					
34.	B -24	DUSHALAN VILLAGE STAIR	NPFP	125	1	5	0	5	Legacy System					
35.	S-7	SHIV SHAKTI JEWELERS SHOP TO UPPER BAGSU NAG	NO	250	1	2	0	10	New System with Relocation	10	8	0	2	
36.	B-25	NEAR WALKWAY JUNGLE RESORT HUT	NO	95	1	3	0	4	Legacy System					
37.	B-26	DHARAMKOT CHOWK TO ASHOK HOUSE WALKWAY	NO	220	1	10	0	9	Legacy System					
38.	B-27	WALKWAY TO MUSIC LIBRARY	NO	70	1	7	0	3	Legacy System					
39.	B-28	WALKWAY UPPER BHAGSU VILLAGE	NO	80	1	5	0	3	Legacy System					
40.	B-29	WALKWAY IN FRONT OF JEWELLER'S SHOP	NO	150	1	3	0	6	Legacy System					
41.	B-30	WALKWAY TO HOTEL 1589	NO	50	1	5	0	2	Legacy System					
42.	PWD-1	MCLEODGANJ CHOWK TO DHARAMKOT	YES	1935	4	12	7	77	New System with Relocation	70	65	7	12	
43.	PWD-2	FROM UPPER DHARAMKOT TO LOWER DHARAMKOT	YES	500	2.5	0	0	20	New System	20	20	0	0	
44.	LINK ROAD-27	ST. JOHN CHUCH TO MCLEODGANJ CHOWK (MAIN ROAD FORSYTHGANJ CHOWK TO MCLEODGANJ CHOWK)	YES	760	6.5	0	0	30	New System	30	30	0	0	
TOTAL				16450		266	52	659	4	528	412	34	150	

WARD NO - 3 (MCLEODGANJ)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM	
1.	M-2	DALAI LAMA TEMPLE STREET	YES	700	3	5	5	28	New System with Relocation	23	23	5	5	
2.	M-3	HOTEL THE BHAGSU HOTEL	YES	320	2.75	13	0	13	New	13	0	0	13	

WARD NO - 3 (MCLEODGANJ)													
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
		STREET							System with Relocation				
3.	M-6	NEAR KCC BANK WALKWAY	NO & 50% NPFP	160	1.2	10	1	6	Legacy System				
4.	M-7	NEGI ORNAMENTS STAIR	NPFP	50	0.8	4	1	2	Legacy System	NO POLE CAN BE INSTALLED			
5.	M-8	HOTEL INDIA HOUSE STAIR	NPFP	50	0.8	1	0	2	Legacy System	NO POLE CAN BE INSTALLED			
6.	M-9	HOTEL DREAM LAND STAIR	NPFP	40	1	1	0	2	Legacy System	NO POLE CAN BE INSTALLED			
7.	M-10	DHAULADHAR UNISEX SALOON STAIR	NPFP	75	0.8	5	1	3	Legacy System	NO POLE CAN BE INSTALLED			
8.	M-11	HOTEL SHARMA COTTAGE STAIR	50% NPFP	100	1.25	3	0	4	Legacy System	NO POLE CAN BE INSTALLED			
9.	M-12	JOGIWARA ROAD TO HOTEL THE NEST STREET	YES	530	3	13	6	21	New System with Relocation	15	8	6	13
10.	W-14	NAROJI GALI WALKWAY	50% NPFP	170	1	7	0	7	Legacy System				
11.	LINK ROAD-15*	KARMU MOD TO STREET MARK J3	YES	1150	4	9	4	46	New System with Relocation	42	37	4	9
12.	LINK ROAD-17	KARMU MOD TO MCLEODGANJ CHOWK	YES	870	3.5	16	4	35	New System with Relocation	31	19	4	16
13.	LINK ROAD-16*	MCLEODGANJ BYPASS ROAD	YES	1100	4	27	5	44	New System with Relocation	39	17	5	27
14.	PWD-4*	KARMU MOD TO DUSHALINI (VIA- HEERU VILLAGE)	YES	545	2.75	16	5	22	New System with Relocation	17	6	5	16
15.	J-3	HOSPITAL TO DALAI LAMA BROTHER HOUSE	NO	212	2	0	0	8	New System	8	8	0	0
16.	LINK ROAD-18	MCLEODGANJ CHOWK TO MCLEODGANJ BAZAR END POINT	YES	800	3	11	0	32	New System with Relocation	32	21	0	11
TOTAL				6872		141	32	275	2	220	139	29	110

WARD NO - 4(KASHMIR HOUSE)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER	PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	J-2	STREET KHALED VILLAGE	NO	240	2	2	0	10		New System with Relocation	10	8	0	2
2.	J-4	STREET KHALED STAIR	NO	85	1	3	0	3		Legacy System				
3.	J-5	STREET KHALED WAL.KWAY	NO	120	1	5	5	5		Legacy System				
4.	J-7	TIBETIYAN LIBRARY WALKWAY	YES	240	2.75	0	0	10		New System	10	10	0	0
5.	J-6	CMO RESIDENCE	YES	175	2	7	0	7		New System with Relocation	7	0	0	7
6.	J-1	CHANDRESH KUMARI KATOCH STREET	YES	1015	3	10	5	41		New System with Relocation	36	31	5	10
7.	LINK ROAD-15**	STREET MARKED J3 TO JUDGE HOUSE	YES	650	4	9	0	26		New System with Relocation	26	17	0	9
8.	LINK ROAD-13	JUDGE HOUSE TO KAJLOT	YES	576	3.5	8	3	23		New System with Relocation	20	15	3	8
9.	WN-4*	MINOCHA HOUSE TO KISHORI LAL HOUSE CHOWK	NO	408	2	0	0	16		New System	16	16	0	0
10.	WN-4	FAWARA CHOWK TO DIG & JUDGE RESIDENCE RD	HPDE PIPE ALREADY LAID BY DMC	275	2.5	9	0	11		New System with Relocation	11	2	0	9
11.	K-10	FAWARA CHOWK TO DIG & JUDGE RESIDENCE RD	YES	160	2.75	6	0	6		New System with Relocation	6	0	0	6
12.	K-9	HIGH COURT GUEST HOUSE	NO	50	2.75	2	2	2		New System with Relocation	0	0	2	2
13.	K-7	PWD REST HOUSE TO KASHMIR HOUSE	YES	162	2.5	8	0	6		Legacy System				
14.	K-20	NEAR FAWARA CHOWK STAIR	NPPF	30	1	1	0	1		Legacy System				
15.	LINK ROAD-14*	KOTWALI BAZAR TO JUDGE HOUSE	YES	632	4.5	7	7	25		New System with Relocation	18	18	7	7
16.	LINK ROAD-	KAJLOT TO KALAPUL	YES	1588	5	31	11	64		New System with Relocation	53	33	11	31
17.	K-23	STREET NEAR DUSTBIN (IN FRONT OF SHIV MANDIR)	NO	100	1.5	3	1	4		New System with Relocation	3	1	1	3
18.	K-24	PATWAR KHANA STREET	NO	100	2	3	1	4		New System with Relocation	3	1	1	3
19.	K-4	NAG TEMPLE STREET (BADI MOHALLA STREET)	NO	220	2	3	1	9		New System with Relocation	8	6	1	3
20.	WN-4	PWD RD TO MOHINDER HOUSE	NO	100	1.5	1	0	4		New System with Relocation	4	3	0	1

WARD NO - 4(KASHMIR HOUSE)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
21.	K-25	C VALIK SCHOOL STAIR	NO	110	1	7	7	4	Legacy System				
22.	LINK ROAD-12	FAWARA CHOWK TO KAJLOT	YES	400	4	9	3	16	New System with Relocation	13	7	3	9
23.	K-11	STAIR INFRONT OF K.K. DEPARTMENTAL STORE	NPFP	40	1	1	0	2	Legacy System				
24.	K-2	FAWARA CHOWK TO HOTEL PANDA (OLD CHADI ROAD)	YES	500	3	19	0	20	New System with Relocation	20	1	0	19
25.	K-12	STAIR NEAR RADHAKRISHAN TEMPLE TO NEELAM ARTIFICIAL JEWELLARY SHOP	NPFP	75	1	4	0	3	Legacy System				
26.	K-13	NEAR CAR PARKING	NO	40	1.2	2	0	2	Legacy System				
27.	K-14	GRACE HOTEL STREET	YES	50	1.5	2	0	2	Legacy System				
28.	K-15	SUDARSHAN LAL GUPTA HOUSE	NO	45	1.5	5	0	2	Legacy System				
29.	WN-4	STAIR GRACE HOTEL TO MCLEODGANJ BYPASS ROAD	NO	290	1	12	6	12	New System with Relocation	6	0	6	12
30.	K-16	INFRONT OF GRACE HOTEL STREET	NO	125	2	5	3	5	New System with Relocation	2	0	3	5
31.	K-17	DIVINE PUBLIC SCHOOL STAIR	NPFP	50	1	5	0	2	Legacy System				
32.	K-18	STAIR INFRONT OF NEELAM ARTIFICIAL JEWELLRY SHOP	NPFP	40	1	2	0	2	Legacy System				
33.	K-19	INFRONT OF GEETA BHAWAN STAIR	NPFP	40	1	3	0	2	Legacy System				
34.	K-22	BATA WALI GALI	NPFP	40	1	3	0	2	Legacy System				
35.	LINK ROAD-24*	FOREST OFFICE TO BYPASS ROAD	YES	3400	6	9	1	136	New System with Relocation	135	127	1	9
36.	K-21	NEAR STP STREET	YES	345	3	9	9	14	New System with Relocation	5	5	9	9
37.		STAIR NEAR STP	NO	60	1	3	3	2	Legacy System				
TOTAL				12576		218	68	505	3	412	301	53	164

WARD NO - 5(KHAZANCHIMOHALLA)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

WARD NO - 5(KHAZANCHIMOHALLA)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM	
1	K-5	NEAR KIRPU MOD TO GAMRU VILLAGE	YES	325	2	10	3	13	New System with Relocation	10	3	3	10	
2	WN-5	ANIL DAVID HOUSE TO HANUMAN TEMPLE	YES (HDPE PIPE IS LAIDING BY DMC)	190	2	0	0	8	New System	8	8	0	0	
3	K-6	KIRPU MOD TO GAMRU SCHOOL STREET	YES	475	2.5	13	6	19	New System with Relocation	13	6	6	13	
4		WALKWAY NEAR GAMRU SCHOOL	YES	100	2.5	2	0	4	New System with Relocation	4	2	0	2	
5	WN-5	FILLA SHOP TO GAMRU VILLAGE	YES (HDPE PIPE IS LAIDING BY DMC)	310	2	12	5	12	New System with Relocation	7	0	5	12	
6	S-8	STAIR FILLA SHOP TO MAYARAM HOUSE	NO	184	1	2	2	7	New System with Relocation	5	5	2	2	
7	S-9	CHUNNILAL HOUSE STAIR	NO	60	1	0	0	2	New System	2	2	0	0	
8		STAIR NEAR GAMRU SCHOOL	NO	150	1.75	5	1	6	New System with Relocation	5	1	1	5	
9	KH-6	KHANZANCHI MOHALLA WALKWAY-2	NO	135	1.5	0	0	5	New System	5	5	0	0	
10	KH-5	KHANZANCHI MOHALLA STAIR	NO	60	1	0	0	2	Legacy System					
11	KH-4	KHANZANCHI MOHALLA WALKWAY-1	NO	135	1.5	0	0	5	New System	5	5	0	0	
12	W-17	MAYARAM HOUSE TO ` JUDGE HOUSE VIA SANGRILLA APARTMENTS	NO	575	2	23	4	23	New System with Relocation	19	0	4	23	
13	W-15	WALKWAY & STAIR CHANGARAM HOUSE TO SARTAJ FARM FRESH PRODUCTS SHOP	NO	360	1.5	6	0	14	New System with Relocation	14	8	0	6	
14	KH-3	WALKWAY KASHMIR HOUSE TO KHAZANCHI MOHALLA	NO	165	1	2	0	7	New System with Relocation	7	5	0	2	
15	KH-11	WALKWAY WITH STAIR FROM END POINT KOTWALI BAZAR TO GAMRU STREET	NO	450	1.5	3	0	18	New System with Relocation	18	15	0	3	
16	KH-2	STREET NEAR DOGRA BHAWAN	NO	132	1.2	1	0	5	New System with Relocation	5	4	0	1	
17		STAIR INFRONT OF GOVT PRIMARY SCHOOL KOTWALI	NO	295	1.5	12	0	12	New System with Relocation	12	0	0	12	

WARD NO - 5(KHAZANCHIMOHALLA)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM	
18	KH-9	DARNU BRIDGE TO GAMRU VILLAGE STREET	YES	675	3.5	20	5	27	New System with Relocation	22	7	5	20	
19	KH-7	GAMRU VILLAGE WALKWAY	NO	176	1	3	0	7	New System with Relocation	7	4	0	3	
20	KH-8	WALKWAY NEAR DARNU VILLAGE TO GAMRU VILLAGE	NO	350	1.2	7	0	14	New System with Relocation	14	7	0	7	
21	KH-10	WALKWAY NEAR DARNU BRIDGE	NO	60	1.2	2	0	2	Legacy System					
22	LINK ROAD-11*	FAWARA CHOWK TO DARNU BRIDGE	YES	1200	3.5	40	14	48	New System with Relocation	34	8	14	40	
23	KH-12	WALKWAY-3	NO	35	1.2	1	0	1	Legacy System					
24	KH-1	WALKWAY TO BACK SIDE OF HOTEL INCLOVER	NO	300	1.2	7	0	12	New System with Relocation	12	5	0	7	
25	W-12	KOTWALI HIGH SCHOOL TO MATA DUGRA TEMPLE	NO	320	1.75	12	0	13	New System with Relocation	13	1	0	12	
26	H-13	H-13	YES	200	1.5	3	0	8	New System with Relocation	8	5	0	3	
27	R-2	ANGANBARI TO KHANYARA RD TO KIRPAL MOMO SHOP	NO	370	2.75	5	0	15	New System with Relocation	15	10	0	5	
TOTAL				7787		191	40	309		264	116	40	188	

WARD NO -6 (KOTWALI BAZAR)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	K-1	BUS STAND BACK SIDE TO KOTWALI BAZAR	YES	418	3	3	0	17	New System with Relocation	17	14	0	3	
2	S-3	STAIR TAXI STAND TO BUS STAND	NO	125	1.2	3	0	5	New System with Relocation	5	2	0	3	

WARD NO -6 (KOTWALI BAZAR)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER	PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
3	KO-10	LIONS CLUB STREET	NO	100	2	4	0	4		New System with Relocation	4	0	0	4
4	LINK ROAD-29*	BUS-STAND TO SOLID WASTE MC LIMITS	YES	500	5.5	20	6	20		New System with Relocation	14	0	6	20
5	KO-11	SOLID WASTE STREET	NO	125	2	2	2	5		New System with Relocation	3	3	2	2
6	KO-12	HRTC COLONY WALKWAY	NO	75	1.2	2	0	3		Legacy System				
7	PWD-5	DMC OFFICE TO GAS AGENCY KOTWALI BAZAR	YES(HPDE LAID BY DMC)	250	3	7	3	10		New System with Relocation	7	3	3	7
8	KO-15	WALKWAY BACK SIDE DMC OFFICE TO POST OFFICE	NO	160	1.5	6	2	6		New System with Relocation	4	0	2	6
9	LINK ROAD-10	GANDHI PARK TO KOTWALI FAWARA CHOWK	YES	640	6	26	3	26		New System with Relocation	23	0	3	26
10	KO-1	MATHURADAS WALKWAY	NO	410	1.5	10	0	16		New System with Relocation	16	6	0	10
11	KO-2	VINNY CLOTH SHOP STAIR	NO	60	1	2	0	2		Legacy System				
12	KO-3	IPP WALKWAY	NO	100	1.5	5	0	4		New System with Relocation	4	-1	0	5
13	KO-4	COMMUNITY HALL STREET	NO	55	2.5	2	0	2		Legacy System				
14	KO-5	STAIR NEAR DR. ANIL KUMAR	NO	40	1	2	0	2		New System with Relocation	2	0	0	2
15	KO-6	STREET WITH STAIR TO SHANTI DHIMAN HOUSE	NO	210	1	11	0	8		New System with Relocation	8	-3	0	11
16	KO-13	MANN SWARUP WALKWAY	NO	100	1	4	0	4		New System with Relocation	4	0	0	4
17	KO-14	WALKWAY BATA SHOP	NO	70	0.8	3	0	3		New System with Relocation	3	0	0	3
18	K- 8	BABA MEDICAL STORE TO KOTWALI STREET VIA GURUDWARA	YES	965	3.2	33	3	39		New System with Relocation	36	6	3	33
19	W-2	NEAR DISTT CONTROLLER FOOD SUPPLY	NO	100	1.2	2	1	4		New System with Relocation	3	2	1	2
20	S - 1	STAIR RAMNAGAR TO DAV SCHOOL	NO	215	1	12	9	9		New System with Relocation	0	-3	9	12
21	S-2	HAPPY HOUSE SCHOOL TO GURUDWARA RD	NO	120	1.2	4	0	5		New System with Relocation	5	1	0	4
22	KO - 8	WALKWAY KOLU MOHALLA	NO	100	2	8	0	4		Legacy				

WARD NO -6 (KOTWALI BAZAR)													
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
									System Legacy System				
23	KO -7	WALKWAY SHIV VIHAR	NO	35	1.2	4	0	1					
24	KO-9	STREET SHIV DEV TEMPLE TO SHIV VIHAR	YES	260	2.25	8	1	10	New System with Relocation	9	2	1	8
25	LINK ROAD - 9*	POLICE STATION TO SHYAM NAGAR CHUNGI	YES	1300	3.5	15	5	52	New System with Relocation	47	37	5	15
26	W-13	NEAR BABA MEDICAL STORE STAIR	NO	100	1.2	2	0	4	New System with Relocation	4	2	0	2
27	KO-16	RAIN BASERA STREET	NO	115	2	5	3	5	Legacy System				
28	KO-17	AYURVEDIC HOSPITAL RESIDENCE STREET	NO	100	2	4	0	4	Legacy System				
29	C-2	RANGE FOREST OFFICE TO DISTT COURT	YES	660	2.5	5	1	26	New System with Relocation	25	21	1	5
30	W-3	CHILGARI PRIMARY SCHOOL TO SANSARI MATA TEMPLE	50% NPFP	231	2	9	3	9	New System with Relocation	6	0	3	9
31	W-4	WALKWAY NEAR PRIMARY SCHOOL (CHILGARI -DEPO BAZAR BYPASS)	NO	220	1.2	6	1	9	New System with Relocation	8	3	1	6
32	C-1	RANGE FOREST OFFICE TO GORKHA GRAM VIKAS SAHBHA	YES	240	2.5	13	4	10	New System with Relocation	6	-3	4	13
33	KO -20	WALKWAY GORKHA GRAM VIKAS SAHBHA	NPFP	70	1	3	0	3	Legacy System				
34	KO -19	WALKWAY CHILGARI RD TO GORKHA GRAM VIKAS SAHBHA	NO	130	1.5	2	0	5	New System with Relocation	5	3	0	2
35	W-1	FOOTHPATH IPH WATER TANK TO CHILGARI PRIMARY SCHOOL	NPFP	540	1	10	3	22	New System with Relocation	19	12	3	10
36	WN-6	IPH WATER TANK TO SMART STREET CHILGARI(BACK SIDE OF SMART CITY OFFICE)	YES (HPDE ALREADY LAID)	575	3	17	6	23	New System with Relocation	17	6	6	17
37	C-8	WARD COUNCILER SACHDEV HOUSE STREET	YES	170	3	5	4	7	New System with Relocation	3	2	4	5
38	C-5*	STREET INFRONT OF SMART CITY OFFICE	YES	565	3	20	4	23	New System with Relocation	19	3	4	20
39	C-7	XEN HOUSE STREET	YES	210	2.5	3	3	8	New System with Relocation	5	5	3	3
40	C-6	CONTACTOR DUTTA HOUSE STREET	YES	240	2.5	6	4	10	New System with Relocation	6	4	4	6
41	C-9	HOUSING BOARD COLONY STREET	NO	100	2.5	3	0	4	New System with Relocation	4	1	0	3
41	K-21	WALKWAY INFRONT OF TEMPLE (CHILGARI)	YES	55	2	2	0	2	New System	2	0	0	2

WARD NO -6 (KOTWALI BAZAR)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABILING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
									with Relocation				
42	L-32	CHIEF ENGINEER RESIDENCE TO CHILGARI ROAD (OFFICER'S RESIDENCE)	YES	700	2.5	15	7	28	New System with Relocation	21	13	7	15
43	PWD-3	FROM BSNL TELECOM COMPLEX NEAR CIRCUIT HOUSE TO LINK WITH GCOM	YES	915	2.5	24	9	37	New System with Relocation	28	13	9	24
44	KO-18	WALKWAY NEAR HOTEL ADIVAHA	YES	60	2	2	0	2	New System with Relocation	2	0	0	2
45	LINK ROAD-25*	LINK ROAD KAINCHI MOD TO NEAR DEPO BAZAR WALKWAY	YES	1900	5	38	16	76	New System with Relocation	60	38	16	38
46	ROAD	KUNAL PATHRI TEMPLE ROAD	YES	550	3	0	0	22	New System	22	22	0	0
47	ROAD	SAKOH ROAD	YES	750	3	0	0	30	New System	30	30	0	0
TOTAL				15729	392	103	630	4		506	244	100	362

WARD NO -7 (SECRETARIAT)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABILING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
1	D-3	LINK TO DEPOT BAZAR STREET LINK -1	NO	185	1.2	6	0	7	New System with Relocation	7	1	0	6
2	D-7	INFRONT OF FOREST COLONY WALKWAY	NO	30	1	1	0	1	New System with Relocation	1	0	0	1
3	D-8	FOREST COLONY WALKWAY	NO	220	1.2	6	1	9	New System with Relocation	8	3	1	6
4	D-9	INFRONT OF RANA ASSOCIATES WALKWAY	NO	40	1.2	2	0	2	New System with Relocation	2	0	0	2
5	D-10	SAI KIRAN COMMRECE ACADEMY	NO	40	1.2	2	0	2	New System with Relocation	2	0	0	2
6	D-12	DR. AJAY GUPTA WALKWAY	NO	30	1	1	1	1	New System with Relocation	0	0	1	1
7	W--8	FOOTPATH TO DEPO BAZAR	NO	245	1.2	6	0	10	New	10	4	0	6

WARD NO -7 (SECRETARIAT)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER	PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
		LINK-4								System with Relocation				
8	D-15	REKHA LAHORI SHOP WALKWAY	NO	50	1.2	2	0	2		New System with Relocation	2	0	0	2
9	D-16	VALMIKI TEMPLE WALKWAY	NO	165	0.8	14	4	7		Legacy System				
10	R-4	POST OFFICE TO FORENSIC LAB & GIRL PG	NO	519	2.75	10	2	21		New System with Relocation	19	11	2	10
11	D17	WALKWAYS ALIFA HALLA CHICKEN SHOP	NO	50	0.8	2	1	2		Legacy System				
12	D-4	CHEELGADI RAOD TO DEPOT BAZAR GIRL SCHOOL LINK 2	YES	195	3	4	3	8		New System with Relocation	5	4	3	4
13	D-23	STAIR NEAR DUSTBIN	NO	50	1.25	2	2	2		New System with Relocation	0	0	2	2
14	D-5	LINK TO DEPOT BAZAR STREET LINK -1	NO	330	1.2	18	1	13		Legacy System				
15	D-20	WALKWAY NEAR CHUNI LAL SHOP	NO	30	1	1	1	1		Legacy System				
16	C-4	CHEELGADI RAOD NEAR DUSTBIN TO DEPOT BAZAR	NO	100	1	2	0	4		Legacy System				
17	W-7	FOOTPATH TO DEPO BAZAR LINK-3	NO	220	1.25	5	3	9		New System with Relocation	6	4	3	5
18	D-11	SCIENCE COMMERCE ACADEMY	NO	40	1.25	2	0	2		New System with Relocation	2	0	0	2
19	C-3	LINK TO DEPOT BAZAR STREET	NO	150	0.85	3	2	6		New System with Relocation	4	3	2	3
20	D-18	AMAR UJALA OFFICE STREET	YES	175	2	7	0	7		New System with Relocation	7	0	0	7
21	W-5	WALKWAY NEAR DHOGRU SWEET SHOP	NO	145	2	6	0	6		New System with Relocation	6	0	0	6
22	LINK ROAD-30	DISTT COURT TO DEPO BAZAR STREET	YES	700	3.5	20	0	28		New System with Relocation	28	8	0	20
23	D-1	CENTER POINT TO DEPOT BAZAR	YES	226	3	9	0	9		New System with Relocation	9	0	0	9
24	W-6	LINK TO DEPOT BAZAR FOOTPATH LINK -2	NO/ NPFP	130	1.2	5	0	5		New System with Relocation	5	0	0	5
25	D-19	TCP OFFICE STREET	YES	145	2.2	3	0	6		New System with Relocation	6	3	0	3
26	D-6	DAYANAND MODEL SS SCHOOL TO CHILD WELFARE OFFICE	YES	290	2.2	12	0	12		New System with Relocation	12	0	0	12
27	D-21	RCC OFFICE STREET	YES	50	1.75	2	0	2		New System	2	0	0	2

WARD NO -7 (SECRETARIAT)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
									with Relocation				
28	D-22	NEAR SAGAR RATNA HOTEL WALKWAY	NO	40	1.5	2	0	2	New System with Relocation	2	0	0	2
29	D-2	CHILD WELFARE COMMITTEE TO DEPOT BAZAR	YES	670	3	17	0	27	New System with Relocation	27	10	0	17
30	W-10	WALKWAY INFRONT OF CONIFER HOTEL	NO	30	1.2	1	0	1	Legacy System				
31	LINK ROAD-25*	LINK ROAD WAR MEMORIAL TO NEAR DEPO BAZAR WALKWAY (Gold Cinema to ShaheedSmark via Chilgadi)	YES	825	5	17	5	33	New System with Relocation	28	16	5	17
32	W-18	EDU. BOARD TO PINGAL NALA STAIR & WALKWAY	NO	215	1.75	9	0	9	New System with Relocation	9	0	0	9
33	D-24	JAWHAR NAGAR STREET	NO	245	2	10	0	10	Legacy System				
34	LINK ROAD-21	LINK ROAD - 21(EDUCATION BOARD TO PINGALNALA	YES	1090	7	26	8	44	New System with Relocation	36	18	8	26
35	D-13	INFRONT OF PWD COLONY WALKWAY	NO	85	1.5	2	0	3	New System with Relocation	3	1	0	2
36	D-14	PWD COLONY WALKWAY	NO	40	1.5	1	1	2	New System with Relocation	1	1	1	1
37	S-6	PARYAS BHAWAN TO SHIV TEMPLE	NO	90	1.25	4	0	4	New System with Relocation	4	0	0	4
38	LINK ROAD-22	LINK ROAD - 22	YES	1300	5	23	3	52	New System with Relocation	49	29	3	23
39	H-1	H-1	YES(HPDE PIPE ALREDY LAID BY HIMUDA)	189	2.1	0	0	8	New System	8	8	0	0
40	H-1+2	H-1+2	YES(HPDE PIPE ALREDY LAID BY HIMUDA)	220	3	0	0	9	New System	9	9	0	0
41	CK-6	TO CIVIL BAZAR WALKWAY-1	NO	75	1	5	4	3	Legacy System				
42	CK-5	INFRONT OF PRASHAR ASHIYANA RIGHT SIDE WALKWAYS	NO	140	1.75	6	0	6	New System with Relocation	6	0	0	6
43	CK-4	INFRONT OF PRASHAR ASHIYANA LEFT SIDE WALKWAYS	NO	140	1.75	6	2	6	New System with Relocation	4	0	2	6
44	CK-7	TO CIVIL BAZAR WALKWAY-2	NO	220	2.5	15	5	9	Legacy System				
45	S-5	RAMDEV SHOP TO BANQUET HALL STAIR	NO	50	2	2	0	2	New System with Relocation	2	0	0	2
46	LINK ROAD -6	KCC BANK TO BHAGSHU RESTAURENT	YES	360	4	8	0	14	New System with	14	6	0	8

WARD NO -7 (SECRETARIAT)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
47	LINK ROAD -7	KACHARI ADDA TO BHAGSHU RESTAURENT	YES	350	4	10	0	14	Relocation New System with Relocation	14	4	0	10
TOTAL				10924		317	49	442	3	359	143	33	249

WARD NO -8 (KHEL PARISAR)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	KP - 1	MAIN RD TO A.I.R COLONY		300	2.5	0	0	12	New System	12	12	0	0	
2	KP - 2	SARAH RD TO NEAR DUSTBIN STREET		290	2.5	0	0	12	New System	12	12	0	0	
3	KP - 3	SARAH RD TO NEAR RAJKUMAR STREET		250	2.5	0	0	10	New System	10	10	0	0	
4	KP - 4	JAWAHAR NAGAR TO STADIUM RD STREET		570	2	16	0	23	New System with Relocation	23	7	0	16	
5	KP - 5	OPP. CENTRAL UNIVERSITY(TEMP. BLOCK)		225	2.5	1	0	9	New System with Relocation	9	8	0	1	
6	KP - 6	B.ED COLLAGE STREET(STADIUM GATE NO-1)		275	3	7	0	11	New System with Relocation	11	4	0	7	
7	KP - 7	NEAR PATWARI OFFICE STREET		500	2	4	0	20	New System with Relocation	20	16	0	4	
8	KP - 8	LINK STREET - 1		50	1	1	0	2	Legacy System					
9	KP - 9	PWD. COLONY STREET		100	2.5	3	0	4	Legacy System					
10	KP - 28	WALKWAY NEAR PWD COLONY		70	1.5	2	0	3	Legacy System					
11	KP - 10	IN FRONT OF PWD COLONY STREET		330	3	3	0	13	New System with Relocation	13	10	0	3	
12	KP - 11	NEAR OVERHEAD TANK TO VILLAGE		215	2	0	0	9	New System	9	9	0	0	
13	KP - 12	NEAR SURAJ GULERIYA HOUSE WALKWAY		300	1.5	0	0	12	New System	12	12	0	0	
14	KP - 13	CHELIYA RD TO STP STREET		325	2	0	0	13	New System	13	13	0	0	

WARD NO -8 (KHEL PARISAR)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
15	KP - 14	NAG MANDIR STAIR		170	1	0	0	7	New System	7	7	0	0
16	KP - 15	UPPER SAKOH WALKWAY		250	2	0	0	10	New System	10	10	0	0
17	KP - 16	LINK STREET - 2		160	1	0	0	6	New System	6	6	0	0
18	LINK ROAD	CHELINYAN ROAD (VIA - STP)		2100	3	14	0	84	New System with Relocation	84	70	0	14
19	KP - 17	KARNAIL RANA STREET		190	1.5	4	0	8	New System with Relocation	8	4	0	4
20	KP - 18	INFRONT OF RAIN SHELTER WALKWAY		370	2.45	7	0	15	New System with Relocation	15	8	0	7
21	LINK ROAD - 23	SARAH ROAD		1000	2.5	0	0	40	New System	40	40	0	0
22	KP - 19	STREET NEAR SSB COLONY		90	2	3	0	4	Legacy System				
23	KP - 20	SSB COLONY WALKWAY		50	2	2	0	2	Legacy System				
24	KP - 21	PRASAR BHARATI (RADIO COLONY) WALKWAY		90	2	3	0	4	Legacy System				
25	LINK ROAD - 2	LINK ROAD - 2		150	4.5	3	0	6	New System with Relocation	6	3	0	3
26	LINK ROAD - 3	LINK ROAD - 3		190	4.5	3	0	8	New System with Relocation	8	5	0	3
27	LINK ROAD - 5	COLLEGE CHOWK TO STADIUM CHOWK ROAD		780	4	14	0	31	New System with Relocation	31	17	0	14
28	LINK ROAD - 33	BHAGSHU RESTAURENT TO WINE SHOP VIA - CRICKET STADIUM		2500	6.5	52	11	100	New System with Relocation	89	48	11	52
29	W-9	NEAR HARI BHAWAN HOUSE TO FRIENDS ZONE CAFÉ		100	1	0	0	4	New System	4	4	0	0
30	KP - 22	BOYS SCHOOL STREET		100	2.5	1	0	4	New System with Relocation	4	3	0	1
31	KP - 23	NEAR NURSERY WALKWAY		40	1	2	0	2	Legacy System				
32	KP - 24	NEAR MAYA DIARY WALKWAY		65	1.2	3	0	3	Legacy System				
33	KP - 25	FLEX PRINTING WALKWAY		65	1.5	4	0	3	Legacy System				
34	KP - 26	POLICE LINE COLONY STREET -2		320	4	12	0	13	New System with Relocation	13	1	0	12
35	KP - 27	POLICE LINE COLONY STREET -1		400	3.5	15	0	16	New System with Relocation	16	1	0	15
36	LINK ROAD - 26*	PINGALNALA TO SAKOH IN WARD NO.8	ELE. SERVICE CORRIDOR	1000	7	10	0	40	New System with Relocation	40	30	0	10
TOTAL				13980		189	11	563	4	525	370	11	166

WARD NO -9 (SAKOH)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	SA - 1	LUCKY TAILOR SHOP STREET	NO	100	2	0	0	4	New System	4	4	0	0	
2	SA - 2	NEAR BUS STOP TO SAKOH VILLAGE	NO	260	1	0	0	10	New System	10	10	0	0	
3	SA - 3	ATTA CHAKKI TO DISPENSARY	NO	260	2	0	0	10	New System	10	10	0	0	
4	SA - 4	NEAR GURUNAM STREET	NO	377	2.5	0	0	15	New System	15	15	0	0	
5	SA - 5	IN FRONT OF ATTA CHAKKI WALKWAY	NO	60	2	0	0	2	New System	2	2	0	0	
6	SA - 6	BIAN GENERAL STORE WALKWAY	NO	145	1	0	0	6	New System	6	6	0	0	
7	SA - 7	SAKOH TO 2nd INDIA RESERVE BATALION	YES	2000	3	17	0	80	New System with Relocation	80	63	0	17	
8	SA - 8	IN FRONT OF PANJLA TENT HOUSE TO SAKOH ROAD	NO	592	1	0	0	24	New System	24	24	0	0	
9	SA - 9	RAJIV KIRANA GENERAL STORE WALKWAY	NO	234	2.5	0	0	9	New System	9	9	0	0	
10	SA - 10	NEAR CHAND KUTIR STREET	NO	100	2	0	0	4	New System	4	4	0	0	
11	SA - 11	NEAR LOWER SAKOH BUS STOP WALKWAY	NO	75	1.5	0	0	3	New System	3	3	0	0	
12	SA - 12	SAKOH ROAD TO TEMPLE MAIN ROAD	YES	135	2.5	0	0	5	New System	5	5	0	0	
13	SA - 13	IN FRONT OF DUSTBIN STREET	NO	126	2	0	0	5	New System	5	5	0	0	
14	SA - 14	NEAR SCHOOL STREET	YES	100	2.5	4	0	4	New System with Relocation	4	0	0	4	
15	SA - 15	DISPENSARY TO CHELIYA ROAD	NO	530	1.5	0	0	21	New System	21	21	0	0	
16	SA - 16	IN FRONT OF SURBJEET HOUSE TO DEV HOUSE WALKWAY	NO	165	2	0	0	7	New System	7	7	0	0	
17	SA - 17	SURBJEET HOUSE TO PRAKASH HOUSE STREET	NO	130	2	0	0	5	New System	5	5	0	0	
18	SA - 18	CHELINYA ROAD	YES	1695	3	12	10	68	New System with Relocation	58	56	10	12	
19	SA - 19	LINK WALKWAY	NO	85	1.5	0	0	3	New System	3	3	0	0	
20	SA - 20	NEAR WATER TANKI TO VILLAGE	NO	195	1.5	0	0	8	New System	8	8	0	0	
21	LINK ROAD - 26*	PINGALNALA TO MC LIMIT NEAR PETROL PUMP	YES	1700	7	32	0	68	New System with Relocation	68	36	0	32	
TOTAL				9064		65	10	361	2		351	296	10	65

WARD NO -10 (SHYAM NAGAR)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	L-8*	SHAMNAGAR CHUNGI TO CHARAN KHAD L-8	YES	1900	5	43	0	76	New System with Relocation	76	33	0	43	
2	L-22	PALAMPUR ROAD FROM NATRAJ TRADERS TO CHARAN KHAD L-22	YES	150	6.5	3	0	6	New System with Relocation	6	3	0	3	
3	Ck1	OPEN CREMATORIUM STREET CHARAN Ck1	YES	220	2.5	3	0	9	New System with Relocation	9	6	0	3	
4	Ck2	CHARAN MAIN ROAD TO PRASHAR HOUSE SHYAMNAGAR Ck2	YES	300	2.5	6	0	12	New System with Relocation	12	6	0	6	
5	Ck3	OVER NALLAH OF GOPAL HOUSE TOWARDS BHEEMA THAPA HOUSE Ck3	NO	60	2	0	0	2	New System	2	2	0	0	
6	WN-10	SMART STREET FROM GYATRI BHAWAN TO MOTI RAM HOUSE(SURYA PG)	NO	185	1.75	4	0	7	New System with Relocation	7	3	0	4	
7	H3	H3	YES(HPDE LAID BY HIMUDA)	167	2	0	0	7	New System	7	7	0	0	
8	H-4	H-4 (WALKWAY)	YES(HPDE LAID BY HIMUDA)	180	1	0	0	7	New System	7	7	0	0	
9	H5	H5	YES(HPDE LAID BY HIMUDA)	140	2	3	0	6	New System with Relocation	6	3	0	3	
10	H6	H6	YES(HPDE LAID BY HIMUDA)	130	2	3	0	5	New System with Relocation	5	2	0	3	
11	H-2	H-2	YES(HPDE LAID BY HIMUDA)	156	2	3	0	6	New System with Relocation	6	3	0	3	
12	H3	H3	YES(HPDE LAID BY HIMUDA)	130	2	3	0	5	New System with Relocation	5	2	0	3	
13	H-4	H-4	YES(HPDE LAID BY HIMUDA)	247	2	2	0	10	New System with Relocation	10	8	0	2	
14	R-3*	PRAYAS BHAWAN TO SHYAM NAGAR	YES	450	3	7	0	18	New System with Relocation	18	11	0	7	
15	MC	C S THAKUR HOUSE TO GORKHA BHAWAN STREET	NO	275	1.75	4	0	11	New System with Relocation	11	7	0	4	
16	WN-10	SMART STREET FROM BAKERI TOWARDS CHOWK (ATUL BHARDWAJ HOUSE)	NO	150	1.83	3	0	6	New System with Relocation	6	3	0	3	
17	H-8	H-8	YES(HPDE LAID BY HIMUDA)	80	2	0	0	3	New System	3	3	0	0	
18	H-8	H-8	YES(HPDE LAID BY HIMUDA)	118	2	0	0	5	New System	5	5	0	0	
19	H-7	H-7	YES(HPDE LAID BY HIMUDA)	132	2	0	0	5	New System	5	5	0	0	

WARD NO -10 (SHYAM NAGAR)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
20	H-9	H-9	YES(HPDE LAID BY HIMUDA)	281	2	2	0	11	New System with Relocation	11	9	0	2
21	H-10	H-10	YES(HPDE LAID BY HIMUDA)	240	2	4	0	10	New System with Relocation	10	6	0	4
22	H-10	H-10	YES(HPDE LAID BY HIMUDA)	60	2	0	0	2	New System	2	2	0	0
23	R-8	NEAR RADHE SHYAM TEMPLE STREET	NO	130	2	1	0	5	New System with Relocation	5	4	0	1
24	H-11	H-11	YES(HPDE LAID BY HIMUDA)	133	2	0	0	5	New System	5	5	0	0
25	H-8A	H-8A	YES(HPDE LAID BY HIMUDA)	48	2	0	0	2	New System	2	2	0	0
26	R-9	ACC CEMENT HOUSE TO NEAR RANA HOUSE WALKWAY	NO	425	2	9	0	17	New System with Relocation	17	8	0	9
27	WN-10	RC SHARMA HOUSE TO EKJOT COLONY	NO	200	1	3	0	8	New System with Relocation	8	5	0	3
TOTAL				6687		106	0	266	2	266	160	0	106

WARD NO -11 (RAMNAGAR)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	H-14	SMART STREET/ PATH SHIV MANDIR GALI(RAJ YOG BHAWAN TO HARIOM SHOP)	YES(HPDE LAID BY HIMUDA)	202	2	8	0	8	New System with Relocation	8	0	0	8	
2	WN-11	SMART STREET VISHAL MISHRA HOUSE	YES	25	3	0	0	1	New System	1	1	0	0	
3	WN-11	SMART STREET FROM WELDING SHOP TO SHARMA HOUSE	50%	150	2.5	0	0	6	New System	6	6	0	0	
4	R-7	CHUHAN SALOON SHOP STREET RAMNAGAR	YES	200	2.43	3	0	8	New System with Relocation	8	5	0	3	
5	R-6	TO RAMNAGAR STREET	NO	80	3	0	0	3	New System	3	3	0	0	
6	R-5	ANGAN BARI TO ANIL GENERAL STORE VIA SHUKLA HOSPITAL	YES	580	4.59	11	0	23	New System with Relocation	23	12	0	11	

WARD NO -11 (RAMNAGAR)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
7	R-13	STREET GURUNG HOUSE	NO	125	2.75	0	0	5	New System	5	5	0	0
8	WN-11	GURUNG HOUSE TO PRADEEP /PRAMOD HOUSE	YES	300	2	8	0	12	New System with Relocation	12	4	0	8
9	H-15	EK JOT-1 GALI NO, DHARAMSHALA WARD NO.11 FROM A TO B & B TO C	YES(HPDE LAID BY HIMUDA)	220	2.5	5	0	9	New System with Relocation	9	4	0	5
10	H-17	EK JOT-1 COLONY TO GALI FROM POINT D TO E WARD NO.11	YES(HPDE LAID BY HIMUDA)	174	2.5	5	0	7	New System with Relocation	7	2	0	5
11	H-16	DOGRA GALI TO VEENA HOUSE, SHYAMNAGAR	YES(HPDE LAID BY HIMUDA)	103	3	4	0	4	New System with Relocation	4	0	0	4
12	WN-11	EK JOT COLONY JR KALIYA HOUSE TO BAKSHI HOUSE	YES	65	2.5	3	0	3	New System with Relocation	3	0	0	3
13	WN-11	PARMAR HOUSE TO PATHANIYA HOUSE	YES	80	2.5	3	0	3	New System with Relocation	3	0	0	3
14	R-10	EK JOT COLONY STREET	YES	410	3	14	0	16	New System with Relocation	16	2	0	14
15	R-12	NEAR LINK MEDICAL HALL STREET	YES	80	2.5	0	0	3	New System	3	3	0	0
16	H-12	SMART STREET/ PATH FROM MAIN GALI TO PURAN HOUSE	YES(HPDE LAID BY HIMUDA)	119	2	0	0	5	New System	5	5	0	0
17	R-1	DARNU BRIDGE TO MAHAJAN CLINIC	YES	825	4.5	17	0	33	New System with Relocation	33	16	0	17
TOTAL				3738		81	0	149	1	149	68	0	81

WARD NO -12 (BADOL)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	BD-1	DHARNU ROAD	YES	1900	2.5	41	0	76	New System with Relocation	76	35	0	41	
2	BD-2	CHARAN BRIDGE TO SANJAY PATHANIA HOUSE	NO	600	2.5	0	0	24	New System	24	24	0	0	
3	BD-3	NEAR EK JOT SHOP TO KARNAIL RANA HOUSE	YES	750	2	3	0	30	New System with Relocation	30	27	0	3	

WARD NO -12 (BADOL)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
4	BD-4	IN FRONT OF MANJEET VILLA	NO	300	1.5	2	0	12	New System with Relocation	12	10	0	2
5	BD-5	ATTRI HOUSE TO CHARAN SCHOOL	NO	700	1.5	0	0	28	New System	28	28	0	0
6	BD-6	IN FRONT OF THAPA COTTAGE TIYALA	NO	460	2	1	0	18	New System with Relocation	18	17	0	1
7	BD-7	NEAR KEWAL KRISHEN TO ANKUSH VERMA HOUSE	NO	110	2	0	0	4	New System	4	4	0	0
8	BD-8	NANDA MANSION	NO	225	2.5	0	0	9	New System	9	9	0	0
9	BD-9	USHA GENERAL STORE TO KISHEN KAPOOR HOUSE	NO	400	2	0	0	16	New System	16	16	0	0
10	BD-10	WALKWAY NEAR SHIV SHAKTI DURGA TEMPLE	YES	200	2	0	0	8	New System	8	8	0	0
11	BD-11	NEAR PARBHAT CHOUDHARY HOUSE	NO	140	2.5	0	0	6	New System	6	6	0	0
12	BD-12	SAJAN HOTEL TO PARDEEP DOGRA HOUSE	YES	270	3	7	0	11	New System with Relocation	11	4	0	7
13	BD-13	PATHAK LODGE HOUSE TO GV THAPA HOUSE	YES	270	3	6	0	11	New System with Relocation	11	5	0	6
14	BD-14	WALKWAY IN FRONT OF MOM TOUCH SCHOOL	NO	125	1	0	0	5	New System	5	5	0	0
15	BD-15	SUMEER COOL COTTEAGE	NO	125	2	0	0	5	New System	5	5	0	0
16	BD-16	NEAR KARKI HOUSE	NO	120	2	0	0	5	New System	5	5	0	0
17	BD-17	SWIGGE HOUSE BACK SIDE	YES	100	2	0	0	4	New System	4	4	0	0
18	BD-18	AJAY AWSTHI HOUSE TO DARNU ROAD	NO	215	1.5	0	0	9	New System	9	9	0	0
19	BD-19	NEAR JAGDIESH HOUSE	YES	230	3	0	0	9	New System	9	9	0	0
20	BD-20	NEAR KARYANA SHOP LOVE KUMAR HOUSE	NO	150	1.5	0	0	6	New System	6	6	0	0
21	BD-21	SOURAV RAGHAV HOUSE	YES	75	3	0	0	3	New System	3	3	0	0
22	BD-22	ON KHANIYARA ROAD NEAR MEERA SHOP TO TIYALA	NO	600	1.5	0	0	24	New System	24	24	0	0
23	BD-23	ON KHANIYARA ROAD TO TIYALA	YES	320	2.5	0	0	13	New System	13	13	0	0
24	BD-24	NEAR BHAGSU TEMPLE STREET	NO	110	1	0	0	4	New System	4	4	0	0
25	BD-25	PALNAIL NIWAS HOUSE	NO	80	1	0	0	3	New System	3	3	0	0
26	BD-26	NEAR END OF DHARNU ROAD PVT TOILET	NO	115	1	0	0	5	New System	5	5	0	0
27	BD-27	NEAR NEHRIA DJ SHOP	NO	115	1.5	0	0	5	New System	5	5	0	0
28	BD-28	ON KHANIYARA ROAD NEAR WINE SHOP	NO	50	1.5	0	0	2	New System	2	2	0	0
29	BD-29	IN FRONT OF ANKUSH VERMA HOUSE (KR SHARMA HOUSE)	NO	180	2	0	0	7	New System	7	7	0	0
30	BD-30	SHIV SHAKTI DURGA TEMPLE	NO	50	2	0	0	2	New System	2	2	0	0
31	BD-31	DOCTOR PARTUSH HOUSE	NO	120	1.5	0	0	5	New System	5	5	0	0
32	BD-32	TIYALA TO VILLAGE	NO	190	1	0	0	8	New System	8	8	0	0
33	BD-33	WALKWAY TIYALA TO VILLAGE	NO	90	1	0	0	4	New System	4	4	0	0
34	BD-34	NEAR BODI WALKWAY	NO	120	1.5	0	0	5	New System	5	5	0	0

WARD NO -12 (BADOL)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABILING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER	PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
35	BD-35	NEAR DUSTBEEN WALKWAY	NO	60	1	0	0	2		New System	2	2	0	0
36	BD-36	IN FRONT OF BHUPINDER HOUSE WALKWAY	NO	75	1.5	0	0	3		New System	3	3	0	0
37	BD-37	BRIDHE TO LUXMI TEA STALL WALKWAY	NO	250	2	0	0	10		New System	10	10	0	0
38	BD-38	SHIV SHAKTI NAGAR STREET	YES	250	2.5	0	0	10		New System	10	10	0	0
39	BD-39	NEAR SHIV MANDIR WALKWAY	NO	75	1.5	0	0	3		New System	3	3	0	0
40	BD-40	NEAR SHIVA CAFÉ	YES	150	3	0	0	6		New System	6	6	0	0
41	L-28	CHARAN KHADD TO ITI BRIDGE (Link Road-28)	YES	977	7	20	0	39		New System with Relocation	39	19	0	20
42	L-31	ROAD	YES	1350	7	25	0	54		New System with Relocation	54	29	0	25
TOTAL				12792		105	0	513	3		513	408	0	105

WARD NO -13 (DARI)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABILING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER	PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	DA-1	NIOS OFFICE TO HIMUDA BLOCK BACK SIDE	YES	190	2	0	0	8		New System	8	8	0	0
2	DA-2	SBI BANK AMPY`S HOUSE STREET	NO	490	2	0	0	20		New System	20	20	0	0
3	DA-3	HANUMAN TEMPLE TO SHARMA SHOP	NO	160	2	2	0	6		New System with Relocation	6	4	0	2
4	DA-4	BABA GENERAL STORE NARINDER SHARMA HOUSE	YES	100	2.5	2	0	4		New System with Relocation	4	2	0	2
5	DA-5	NEAR DISCOVERY SCHOOL STREET	NO	210	2	0	0	8		New System	8	8	0	0
6	DA-6	BEAUTY SALOON TO SURVEY OFFICE	YES	80	3	0	0	3		New System	3	3	0	0
7	DA-7	NIRANJAN GENERAL STORE TO D.R PURAN CHAND HOUSE	NO	100	1.5	0	0	4		New System	4	4	0	0

WARD NO -13 (DARI)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
8	DA-8	I T I CHOWK TO HANUMAN TEMPLE	YES	750	2	10	0	30	New System with Relocation	30	20	0	10
9	DA-9	HANUMAN TEMPLE TO OM PARKESH HOUSE	YES	125	2	5	0	5	New System with Relocation	5	0	0	5
10	DA-10	HANUMAN TEMPLE TO BALBIR SINGH HOUSE	NO	210	1.5	0	0	8	New System	8	8	0	0
11	DA-11	R.K GENARAL STORE TO PAWAN KUMAR HOUSE	NO	120	1.5	3	0	5	New System with Relocation	5	2	0	3
12	DA-12	D.R KC KATOCH TO RAJESH SHARMA HOUSE WALKWAY	YES	100	2.5	3	0	4	New System with Relocation	4	1	0	3
13	DA-13	DHAULADHAR COLONY ALL STREET	YES	1500	3	40	0	60	New System with Relocation	60	20	0	40
14	DA-14	R.K MAHJAN TO VINYAK VIDYA MANDIR	YES	280	2	0	0	11	New System	11	11	0	0
15	DA-15	IPH TO ILENA COTTAGE	YES	250	2	0	0	10	New System	10	10	0	0
16	DA-16	IN FRONT OF HOTEL DH STREET	YES	365	3.5	3	0	15	New System with Relocation	15	12	0	3
17	DA-17	HOTAL DH HOTEL STREET	YES	560	2.5	2	0	22	New System with Relocation	22	20	0	2
18	DA-18	DHARI MELA GROUND TO KAMLA NIWAS	YES	520	2	0	0	21	New System	21	21	0	0
19	DA-19	NEAR DHARI SCHOOL	YES	100	2	0	0	4	New System	4	4	0	0
20	DA-20	ELE.OFFICE DHARI TO HOME GARD OFFICE	NO	375	2	0	0	15	New System	15	15	0	0
21	DA-21	DHARI SCHOOL BACK SIDE TO DHARI BAZAR	NO	100	2	0	0	4	New System	4	4	0	0
22	DA-22	IN FRONT OF SHASHI JEWELER TO POLUTION OFFICE	NO	100	1.5	0	0	4	New System	4	4	0	0
23	DA-23	DHARI GROUND TO ARCHIBER SCHOOL	YES	1450	3.5	0	0	58	New System	58	58	0	0

WARD NO -13 (DARI)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
24	DA-24	MAIN ROAD TO DHARI GROUND ROAD	YES	430	2	0	0	17	New System	17	17	0	0
25	DA-25	NEAR ATTA CHAKI WALKWAY	NO	75	1	0	0	3	New System	3	3	0	0
26	DA-26	RAJESH ENTERPRIZE TO GORKAH NATH TEMPLE	NO	425	1.5	0	0	17	New System	17	17	0	0
27	DA-27	NEAR JALU RAAM SHOUSE MAKER WALKWAY	NO	150	1	0	0	6	New System	6	6	0	0
28	DA-28	NEAR SHIV TEMPLE CREMATORIUM	YES	60	2.5	0	0	2	New System	2	2	0	0
TOTAL				9375		70	0	374	2	374	304	0	70

WARD NO -14 (KAND)

SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
1	KA-1	NEAR PARK TO DARI BAZAR	YES	260	2	0	0	10	New System	10	10	0	0
2	KA-2	ON BY PASS ROAD IPH STREET	YES	270	2	0	0	11	New System	11	11	0	0
3	KA-3	ON MAIN DHARNU ROAD IN FRONT OF HEALTH CENTER DHARI	YES	75	2.5	0	0	3	New System	3	3	0	0
4	KA-4	AD MOTOR TO PRINCIPAL HOUSE	YES	620	2	0	0	25	New System	25	25	0	0
5	KA-5	PRINCIPAL HOUSE TO ATTAMA RAM HOUSE	NO	100	1.5	0	0	4	New System	4	4	0	0
6	KA-6	WALKWAY ATTAMA RAM HOUSE TO GURU KRIPA HOUSE	NO	450	1.5	0	0	18	New System	18	18	0	0
7	KA-7	GURU KRIPA TO GEETA PALLI HOUSE	YES	365	2	0	0	15	New System	15	15	0	0
8	KA-8	PRINCIPAL HOUSE TO DHARNU ROAD	YES	390	2	0	0	16	New System	16	16	0	0
9	KA-9	NEAR ATTAMA RAM HOUSE TO DHARI BY PASS ROAD	NO	275	1.5	0	0	11	New System	11	11	0	0
10	KA-10	SURYA COTTAGE TO L.T KARNAL HEM LETTA SHARMA STREET	YES	490	2	0	0	20	New System	20	20	0	0
11	KA-11	L.T. COL. HEM LATA SHARMA	YES	300	2	0	0	12	New System	12	12	0	0
12	KA-12	GURU KRIPA HOUSE TO VIJAY HOUSE	YES	720	2	0	0	29	New System	29	29	0	0
13	KA-13	SHEETALA MATA MANDIR TO IPH WATER TANK	NO	250	1.5	0	0	10	New System	10	10	0	0
14	KA-14	TEA FACTORY STREET	YES	740	2	0	0	30	New	30	30	0	0

WARD NO -14 (KAND)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM	
									System					
15	KA-15	NEAR SCIENCE ACADEMY STREET	YES	60	2	1	0	2	New System with Relocation	2	1	0	1	
16	KA-16	IN FRONT OF SHIV TEMPLE WALK WAY	NO	100	1.5	0	0	4	New System	4	4	0	0	
17	KA-17	NEAR SEEMA DAILY STORE	YES	100	2	0	0	4	New System	4	4	0	0	
18	KA-18	NEAR SS THAKUR H.R.T.C TO NEAR COLD DRINK STORE	YES	710	2.5	0	0	28	New System	28	28	0	0	
19	KA-19	NEAR PARAGLIDING STREET	NO	90	1.5	0	0	4	New System	4	4	0	0	
20	KA-20	SANJU TENT HOUSE TO SWARN HOUSE	YES	100	2	0	0	4	New System	4	4	0	0	
21	KA-21	UPPER DARI RAKESH KUMAR HOUSE UP TO IPH TANK	YES	360	2.5	0	0	14	New System	14	14	0	0	
22	KA-22	ON KHANIYARA ROAD SHEED MUNISH KHANKA MARG	YES	645	2	0	0	26	New System	26	26	0	0	
23	KA-23	HIMUDA COLONY STREET	YES	400	3	16	0	16	New System with Relocation	16	0	0	16	
24	KA-24	NEAR KULDEEP STORE STREET	YES	220	2	6	0	9	New System with Relocation	9	3	0	6	
25	KA-25	NEAR RAFFA'S KITCHEN STREET(PAVILION HOTEL)	YES	560	2	0	0	22	New System	22	22	0	0	
26	KA-26	PAVILION HOTEL STREET	YES	470	3	0	0	19	New System	19	19	0	0	
27	KA-27	NEAR HEALTH SUB CENTER WALKWAY	NO	150	1	0	0	6	New System	6	6	0	0	
28	KA-28	NEAR HEALTH SUB CENTER WALKWAY-2	YES	200	2.5	0	0	8	New System	8	8	0	0	
29	KA-29	IN FRONT OF HEALTH SUB CENTER WALKWAY	YES	50	2.5	0	0	2	New System	2	2	0	0	
30	KA-30	HOTAL BRADA TO DARI BAZAR	YES	720	2	0	0	29	New System	29	29	0	0	
31	L-28	ITI BRIDGE TO SHEELA CHOWK	YES	1060	7	18	0	42	New System with Relocation	42	24	0	18	
32	L-31	DARI CHOWK TO KAHYARA ROAD VIA KAND	YES	2250	7	15	0	90	New System with Relocation	90	75	0	15	
33	ROAD	KANIYARA ROAD	YES	1700	6	20	0	68	New System with Relocation	68	48	0	20	
34	ROAD	ONE WAY TO SHEELA CHOWK	YES	1100	6	15	0	44	New System with Relocation	44	29	0	15	
TOTAL				16350		91	0	655	4	655	564	0	91	

WARD NO -15 (KHANYARA)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER	PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	KA - 1	NEAR BUS SHELTER STREET	YES	170	2	0	0	7		New System	7	7	0	0
2	KA - 2	PATOLA GROUND STREET/ SH. KISHAN KAPOOR OLD HOUSE	NO	360	2	5	0	14		New System with Relocation	14	9	0	5
3	KA - 3	PADA SERVICE CENTER TO STEEL INDUSTRIES SHOP	YES	1195	3	7	0	48		New System with Relocation	48	41	0	7
4	KA - 4	LINK RD STREET - 1	NO	170	1.5	0	0	7		New System	7	7	0	0
5	KA - 5	LINK RD STREET - 2	NO	100	1.5	0	0	4		New System	4	4	0	0
6	KA - 6	LINK RD STREET - 3	NO	350	1.5	0	0	14		New System	14	14	0	0
7	KA - 7	NEAR PAWAN GENERAL STORE STREET	YES	180	2	1	0	7		New System with Relocation	7	6	0	1
8	KA - 8	NEAR PAWAN GENERAL STORE TO HOLY ANGEL TUTION CENTER STREET	YES	230	2.5	3	0	9		New System with Relocation	9	6	0	3
9	KA - 9	NEAR PAWAN GENERAL STORE WALKWAY	NO	70	1.5	0	0	3		New System	3	3	0	0
10	KA - 10	IN FRONT OF KARTIK GENERAL STORE STREET	YES	450	2	0	0	18		New System	18	18	0	0
11	KA - 11	WALKWAY NEAR MAIN ROAD	YES	150	2	0	0	6		New System	6	6	0	0
12	KA - 12	NEAR STEEL INDUSTRIES SHOP WALKWAY - 1	NO	270	1.5	0	0	11		New System	11	11	0	0
13	KA - 13	IN FRONT OF INDRU NAG STREET	YES	480	2	0	0	19		New System	19	19	0	0
14	KA - 14	TO INDRU NAG STREET	YES	70	3	3	0	3		New System with Relocation	3	0	0	3
15	KA - 15	NEAR HITESH SHOP STREET	YES	160	2	0	0	6		New System	6	6	0	0
16	KA - 16	NEAR DEPO STREET	YES	610	2	0	0	24		New System	24	24	0	0
17	KA - 17	NEAR G.R GENERAL STORE	YES	100	2	0	0	4		New System	4	4	0	0
18	KA - 18	PADA SERVICE CENTER TO STEEL INDUSTRIES SHOP WALKWAY - 2	YES	445	2	0	0	18		New System	18	18	0	0
19	KA - 19	NEAR DAV SS SCHOOL STREET	YES	160	2	0	0	6		New System	6	6	0	0
20	KA - 20	IN FRONT OF PRAKASH TAILOR SHOP STREET	YES	100	2	0	0	4		New System	4	4	0	0
21	KA - 21	IN FRONT OF JK GENERAL STORE STREET	YES	600	2	0	0	24		New System	24	24	0	0
22	KA - 22	IN FRONT OF ANGANBARI STREET	YES	600	2	0	0	24		New System	24	24	0	0
23	ROAD	KHANIYARA ROAD(INDRU NAG TEMPLE ROAD)	YES	2500	4	29	0	100		New System with Relocation	100	71	0	29
TOTAL				9520		48	0	380	3		380	332	0	48

WARD NO -16 (SIDHPUR)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	SL - 1	NEAR SHEELA CHOWK TO ER. ANIL SAINI HOUSE	YES	260	2.75	0	0	10	New System	10	10	0	0	
2	SL - 2	KAUSHAL NIWAS TO NARESH GULERIA HOUSE	YES	225	2.75	0	0	9	New System	9	9	0	0	
3	SL - 3	FASHION PLANET STREET	YES	100	2.5	0	0	4	New System	4	4	0	0	
4	SL - 4	FISH POINT STREET	NO	125	1.5	0	0	5	New System	5	5	0	0	
5	SL - 5	MICRO TAILORS STREET	YES	75	2.5	0	0	3	New System	3	3	0	0	
6	SL - 6	NEAR GOVT. PRIMARY SCHOOL HODAL STREET	YES	520	2.75	0	0	21	New System	21	21	0	0	
7	SL - 7	RESTAURENT DIG GRILL STREET	YES	100	3	0	0	4	New System	4	4	0	0	
8	SL - 8	DR. R.K. MAHAJAN STREET	YES	120	3.5	0	0	5	New System	5	5	0	0	
9	SL - 9	ASHA PRINTING PRESS WALKWAY	YES	150	2.5	0	0	6	New System	6	6	0	0	
10	SL - 10	IN FRONT OF CV TRADING/ BLOSSOM VALLY STREET	YES	760	3	10	0	30	New System with Relocation	30	20	0	10	
11	SL - 11	TRILOKINATH TEMPLE STREET	YES	890	3.5	12	0	36	New System with Relocation	36	24	0	12	
12	SL - 12	NEAR CV TRADING STREET	YES	340	2.5	4	0	14	New System with Relocation	14	10	0	4	
13	SL - 13	PALAMPUR ROAD TO SUKKAD ROAD VIA SHIV NAGAR STREET (INFRONT OF SCART HEART SCHOOL NEAR BUS- SHELTER)	YES	950	4	18	0	38	New System with Relocation	38	20	0	18	
14	SL - 14	SHIV NAGAR / SUKKAD ROAD STREET	YES	410	2.75	7	0	16	New System with Relocation	16	9	0	7	
15	SL - 15	NEAR AROMA BAKERY STREET	YES	180	2.75	0	0	7	New System	7	7	0	0	
16	SL - 16	NEAR MAHAMAI MEGA STORE STREET	YES	220	2	2	0	9	New System with Relocation	9	7	0	2	
17	SL - 17	NEAR MANIK ELECTRONIC SHOP STREET	YES	70	2.5	0	0	3	New System	3	3	0	0	
18	SL - 18	SHIV SHAKTI DRIVING SCHOOL	YES	70	2.5	0	0	3	New System	3	3	0	0	
19	SL - 19	SHIV NAGAR STREET	YES	300	3	0	0	12	New System	12	12	0	0	
20	SL - 20	FOOD CRAFT INSTITUTE STREET	YES	1700	2.5	0	0	68	New System	68	68	0	0	
21	SL - 21	REAL FOOD CAFÉ WALKWAY-1	NO	100	2	0	0	4	New System	4	4	0	0	
22	SL - 22	REAL FOOD CAFÉ WALKWAY-2	NO	75	1.5	0	0	3	New System	3	3	0	0	
23	SL - 23	SHEED SUNIL GUNG MAHAT ROAD	YES	400	3	2	0	16	New System with Relocation	16	14	0	2	

WARD NO -16 (SIDHPUR)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM	
24	L - 28	SHEELA CHOWK TO FATHEHPUR CHOWK ROAD	YES	1640	7	25	0	66	New System with Relocation	66	41	0	25	
25	LINK-34	SHEELA CHOWK TO MC LIMIT	YES	400	7	5	0	16	New System with Relocation	16	11	0	5	
26	ROAD	KHANIYARA ROAD	YES	550	5	0	0	22	New System	22	22	0	0	
27	ROAD	KHANIYARA ROAD	YES	700	5	10	0	28	New System with Relocation	28	18	0	10	
28	ROAD	SUKKAD ROAD	YES	650	5	5	0	26	New System with Relocation	26	21	0	5	
TOTAL				12080		100	0	484	3	484	384	0	100	

WARD NO -17 (SIDHBARI)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	SID - 1	NEAR ST. MARY HIGH SCHOOL STREET	YES	190	2.5	0	0	8	New System	8	8	0	0	
2	SID - 2	CHADAI MATA MANDIR TO MASJID STREET	YES	700	3	10	0	28	New System with Relocation	28	18	0	10	
3	SID - 3	NEAR HOUSING BOARD STREET	YES	240	3	2	0	10	New System with Relocation	10	8	0	2	
4	SID - 4	BLOSSOM VALLY STREET	YES	970	3.5	12	0	39	New System with Relocation	39	27	0	12	
5	SID - 5	IN FRONT OF MASJID STREET	YES	140	2.5	0	0	6	New System	6	6	0	0	
6	SID - 6	IN FRONT OF SH. AKSHAY SOOD (H.A.S) WALKWAY	NO	245	1	0	0	10	New System	10	10	0	0	
7	SID - 7	NEAR DEV SUN FACILITY OFFICE TO NORBULINGA RD WALKWAY	YES	260	2	0	0	10	New System	10	10	0	0	
8	SID - 8	NORBULINGA TO J D KIRANA STORE	YES	300	2.5	2	0	12	New System with Relocation	12	10	0	2	

WARD NO -17 (SIDHBARI)														
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM	
9	SID - 9	NEAR SACHIN PHOTOSTATE SHOP STREET	YES	310	2	0	0	12	New System	12	12	0	0	
10	SID - 10	J D KIRANA STORE TO DOLMALINGASTREET	YES	650	2	0	0	26	New System	26	26	0	0	
11	SID - 11	JD KIRANA STORE TO FUNKEY TOWN SWIMMING POOL STREET	YES	350	2.5	2	0	14	New System with Relocation	14	12	0	2	
12	SID - 12	THE QUARTZ STREET	YES	175	2.5	0	0	7	New System	7	7	0	0	
13	SID - 13	NORBULINGA COLLEGE TO BOY'S HOSTEL STREET	YES	280	2.5	0	0	11	New System	11	11	0	0	
14	SID - 14	HIMUDA OFFICE RD TO RAKKER RD STREET(IN FRONT OF TEMPLE)	YES	400	3.5	0	0	16	New System	16	16	0	0	
15	SID - 15	ANANDINI HIMALAYA TEA PVT. LTD STREET	NO	400	1.5	0	0	16	New System	16	16	0	0	
16	SID - 16	MATA DARUNI TEMPLE STREET	YES	235	2.5	5	0	9	New System with Relocation	9	4	0	5	
17	SID - 17	ROSE VILLA HOME STAY STREET	YES	170	2	0	0	7	New System	7	7	0	0	
18	SID - 18	IN FRONT JANTA VEG. SHOP STREET	YES	175	2	0	0	7	New System	7	7	0	0	
19	SID - 19	IN FRONT OF HARJIT REFRIGERATION CENTER	YES	220	2	0	0	9	New System	9	9	0	0	
20	SID - 20	DADIYAN DA LAHAR RD	YES	330	3	0	0	13	New System	13	13	0	0	
21	SID - 21	HUI HUI STREET	YES	130	2	0	0	5	New System	5	5	0	0	
22	SID - 22	NEAR UNIQUE ACADEMY	YES	350	2	0	0	14	New System	14	14	0	0	
23	SID - 23	IN FRONT OF DEPO WALKWAY	YES	150	2	0	0	6	New System	6	6	0	0	
24	SID - 24	IN FRONT OF TEMPLE STREET(SPITI HOSTEL)	YES	140	3	0	0	6	New System	6	6	0	0	
25	SID - 25	NEAR SAHAB KIRANA STORE STREET	YES	240	3	0	0	10	New System	10	10	0	0	
26	SID - 26	NEAR LOK MITRA CENTRE WALKWAY	YES	80	2	0	0	3	New System	3	3	0	0	
27	SID - 27	NEAR CARPENTER WALKWAY	YES	150	2	0	0	6	New System	6	6	0	0	
28	SID - 28	NEAR WELDING SHOP WALKWAY	NO	75	1.5	0	0	3	New System	3	3	0	0	
29	SID - 29	FROM RAKKAR RD TO PALAMPUR RD	YES	140	2	0	0	6	New System	6	6	0	0	
30	SID - 30	IN FRONT VISHWA RUHANI CENTER	YES	140	2	0	0	6	New System	6	6	0	0	
31	SID - 31	VISHWA RUHANI CENTER STREET	YES	1035	2.5	12	0	41	New System with Relocation	41	29	0	12	
32	SID - 32	NEAR BUS- STOP WALKWAY	NO	180	1.5	0	0	7	New System	7	7	0	0	
33	SID - 33	AADHUNIK PUBLIC SCHOOL STREET	YES	250	3.5	4	0	10	New System with Relocation	10	6	0	4	
34	SID - 34	POST OFFICE TO AADHUNIK PUBLIC SCHOOLWALKWAY	NO	230	1.5	0	0	9	New System	9	9	0	0	
35	SID - 35	GUJAN FM RADIO OFFICE / NEAR IPH REST HOUSE STREET	YES	380	3.5	0	0	15	New System	15	15	0	0	
36	SID - 36	KULPATI NIWAS (CENTRE UNIVERSITY) STREET	YES	350	3	0	0	14	New System	14	14	0	0	
37	L - 28	FATHEHPUR CHOWK TO VIDHAN SABHA CHOWK	YES	1250	7	34	0	50	New System with Relocation	50	16	0	34	
38	L - 35	VIDHAN SABHA	YES	1000	7	10	0	40	New	40	30	0	10	

WARD NO -17 (SIDHBARI)													
SR.NO	STREET ID.	STREET NAME	UNDERGROUND CABLING FEASIBILITY IN THE STREET	LENGTH(M)	WIDTH(M)	EXISTING LUMINAIRES IN STREET (NOS.)	EXISTING DMC POLES IN STREET (NOS.)	REQUIRED POLES/LIGHTS AS PER PROPOSED CCMS PANELS	REMARKS	PROPOSED POLES AS PER SITE FEASIBILITY	PROPOSED LIGHTS AS PER SITE FEASIBILITY	EXISTING POLES TO BE SHIFT IN SYSTEM	EXISTING LIGHTS TO BE SHIFT IN SYSTEM
		CHOWK(CLOCK TOWER) TO VIDHAN SABHA							System with Relocation				
39	ROAD	KHANIYARA ROAD	YES	1100	5	22	0	44	New System with Relocation	44	22	0	22
40	ROAD	MAIN RAKKED ROAD	YES	1750	5	24	0	70	New System with Relocation	70	46	0	24
TOTAL				15860		139	0	635	4	635	496	0	139

Note: - * Length of road/Street has been reduced from original Survey as per the ward area for the proposed CCMS panels.

11. Section 11 WARD WISE SURVEY DATA OF EXISTING & PROPOSED LED STREET LIGHTS AT DMC, DHARAMSHALA:-

Ward wise survey data of existing & proposed Led Street Lights at DMC, Dharamshala:

DETAIL SURVEY DATA OF EXISTING & PROPOSED STREET LED LIGHTING										
SR.NO	WARD ID.	WARD-NAME	LENGTH IN KM.	PROPOSED POLES	EXISTING DMC POLES	TOTAL POLES	PROPOSED LED LIGHTS	EXISTING LED LIGHTS	TOTAL LIGHTS	PROPOSED CCMS PANELS
1	WARD NO-1	FORSYTHGANJ	9.62	357	4	361	275	86	361	2
2	WARD NO-2	BHAGSHUNAG	16.45	528	34	562	412	150	562	4
3	WARD NO-3	MCLEODGANJ	6.872	220	29	249	139	110	249	2
4	WARD NO-4	KASHMIR HOUSE	12.576	412	53	465	301	164	465	3
5	WARD NO-5	KHAZANCHI MOHALLA	7.787	264	40	304	116	188	304	2
6	WARD NO-6	KOTWALI	15.729	506	100	606	244	362	606	4
7	WARD NO-7	SECRETARIAT	10.924	359	33	392	143	249	392	3
8	WARD NO-8	KHEL PARISAR	13.98	525	11	536	370	166	536	4
9	WARD NO-9	SAKOH	9.064	351	10	361	296	65	361	2
10	WARD NO-	SHAM NAGAR	6.687	266	0	266	160	106	266	2

	10									
11	WARD NO- 11	RAM NAGAR	3.738	149	0	149	68	81	149	1
12	WARD NO- 12	BADOL	12.792	513	0	513	408	105	513	3
13	WARD NO- 13	DARI	9.375	374	0	374	304	70	374	2
14	WARD NO- 14	KAND	16.35	655	0	655	564	91	655	4
15	WARD NO- 15	KHANYARA	9.52	380	0	380	332	48	380	3
16	WARD NO- 16	SIDHPUR	12.08	484	0	484	384	100	484	3
17	WARD NO- 17	SIDHBARI	15.86	635	0	635	496	139	635	4
TOTAL			189.404	6978	314	7292	5012	2280	7292	48

12. Section 12 MEASUREMENT FOR UNDERGROUND CABLING

These are the list of following roads & streets in which Underground Cabling has been proposed for the street lighting.

12.1 STREETS ALREADY CONSTRUCTED BY HIMUDA WITH THE PROVISION OF HDPE PIPE:

The following streets have been developed by HIMUDA under the Smart City project namely Inclusive Street. Under the said project HDPE pipe of diameter 160/250mm along with manhole/inspection chambers has already been laid down in the following streets, which are proposed for the underground cabling for the Street Lights to be installed in these streets:

LIST OF STREETS DEVELOPED BY HIMUDA						
SR. NO.	NAME OF STREET	LENGTH OF PATH (m)	AVG. WIDTH (m)	LENGTH OF DUCT PIPE (m)		REMARKS
				160 mm	250 mm	
1.	Smart Street/Path Forensic Lab Road (SH: C/o Path from Point A to MH (Part-I))	189	4	-	189	Work Completed
2.	C/o Path from Ekjot colony to Gali no-2 Dharamshala ward no-11	-	-	-	-	work stopped due to local Public Resentment
3.	Smart Street/Path Forensic Lab Road (SH: C/o Path from Point MH-1 to C (Part-II))	207.6	3	173	-	Work Completed

LIST OF STREETS DEVELOPED BY HIMUDA

SR. NO.	NAME OF STREET	LENGT H OF PATH (m)	AVG. WIDTH (m)	LENGTH OF DUCT PIPE (m)		REMARKS
				160 mm	250 mm	
4.	Ek-Jot-1 Colony to Gali from point D to E Ward No. 11	206	2.5	174	-	Work Completed
5.	Smart Street/Path Rakesh Sharma House Shyamnagar from Point C to D (Part-II)	290	2.7	-	272.8	Work Completed
6.	Smart Street/Path Rakesh Sharma House Shyamnagar from Point A to B (Part-I)	311	2.2	-	301.7	Work Completed
7.	DograGali to Veena House, Shyamnager	144	3	-	99.3	Work Completed
8.	From Forensic Lab from point C to D & E to F	370	2.5	60	-	Work Completed
9.	Smart Street/Path from Main Gali to Puran House	119.3	2	-	-	Work Completed
10.	From Forensic Lab from point G to H	420	2.7	318.5	-	Work Completed
11.	Smart Street/Path ATM of IDBI Bank to SE Residence (Part -	180	2.8	-	133.2	Work Completed

LIST OF STREETS DEVELOPED BY HIMUDA

SR. NO.	NAME OF STREET	LENGT H OF PATH (m)	AVG. WIDTH (m)	LENGTH OF DUCT PIPE (m)		REMARKS
				160 mm	250 mm	
	V)					
12.	construction of path Near RadheyShyamtemple Shyamnagar, Dharamshala ward No.10(part-V)	281.5	2.8	-	310.2	Work Completed
13.	Smart Street/Path Shiv MandirGali, ward no-11	662	2.8	-	201.9	Work Completed
14.	Construction of path from DograGali to Veena House, Shyamnagar, Dharamshala, (sh;- C/o path from Point C to D) Part-II ward no.10	169	2.85	-	133.4	Work in Progress
15.	Smart Street/Path from Ram Nagar Gali to Ward No. 11	230	2.5	-	200.7	Work in Progress
16.	Smart Street/Path Forensic Lab Road ward no-10 (SH: C/o Path from Point C to	277	3	160	-	Work Completed

LIST OF STREETS DEVELOPED BY HIMUDA

SR. NO.	NAME OF STREET	LENGT H OF PATH (m)	AVG. WIDTH (m)	LENGTH OF DUCT PIPE (m)		REMARKS
				160 mm	250 mm	
	B (Part-II)					
17.	Construction of Path from Ek-Jot-1 Gali No. , Dharamshala Ward No. 11 from A to B & B to C	298.3	2.5	326.7	-	Work Completed
18.	Smart Street/Path From Ek Jot 1 Galito Ward No. 11 (SH: C/o Path from Point F to G (Part-I)	185	2.5	224.5	-	Work Completed
19.	Construction of Path from Suresh Kumar House to Rest House, Dharamshala Ward No. 10 Part-VI	439.3	3	281.2	-	Work Completed
SUB- TOTAL				1717.9	1842.2	
TOTAL				3,560.00		

12.2 STREETS ALREADY CONSTRUCTED/UNDER IMPLEMENTATION BY DMC, DHARAMSHALA WITH THE PROVISION OF HDPE PIPE:

The following streets have been developed or are under implementation by DMC, Dharamshala under the Smart City project namely Inclusive Street. Under the said project HDPE has been or is being laid down, along with manhole/inspection chambers in the following streets:

LIST OF STREETS DEVELOPED/IS BEING DEVOLPED BY DMC DHARAMSHALA

SR.N O.	NAME OF WORK	LENGTH OF PATH(in Meter)	HDPE PIPE LAYING IN DMC STREET	HDPE PIPE AS PER REMARKS
	Works to be executed in ward no. 2 of DMC (BHAGSUNAG)	-	-	
1.	Smart Street from Dharamkot to Rakkar Village	531		
2.	Smart Street from Bhagsu Parking to Chinu House	425	NO	
3.	Smart Street from Bhagsu Nag to Sukedi / Haini (Part - I)	1169	NOT STARTED YET	1169
4.	Smart Street from Bhagsu Nag to Sukedi / Haini (Part - II)		YES	
5.	Smart Street from Bhagsu Nag to Sukedi / Haini (Part - III)		YES BUT WORK NOT STARTED YET	
6.	Smart Street from Dharamkot to Gandhi Paradise	155	YES	155
	Works to be executed in ward no. 3 of DMC (MCLEODGANJ)	-	-	
7.	Smart Street from KharaDanda to	350	YES	350

	Gamroo (Khulehar)			
	Works to be executed in ward no. 4 of DMC (KASHMIR HOUSE)	-	-	
8.	Smart Street from Grace Hotel to bye pass road	240	YES	240
9.	Smart Street from DIG residence road to fountain Chowk	428	YES	428
10.	Smart Street from Minocha House to KishoriLal House Chowk	408	YES	408
11.	Smart Street from PWD road to Mohinder House	100	YES	100
	Works to be executed in ward no. 5 of DMC (KHAJANCHI MOHALLA)	-	-	
12.	Smart Street from Filla Shop to Ghamroo Road	232	YES BUT WORK NOT STARTED YET	232
13.	Smart Street from Anil David House to Hanumaan Temple	297	YES BUT WORK NOT STARTED YET	297
14.	Smart Street from Katoch House to VidhyaMandir School	185	YES BUT WORK NOT STARTED YET	185
	Works to be executed in ward no. 6 of DMC (KOTWALI BAZAR)	-	-	
15.	Smart Street from Water Tank to Chilgarhi	363	YES	363
16.	Smart Street from ShaniDev Temple to Sardar House	253		
17.	Smart Street from Architect Studio 14 to colonel House	498		

18.	Smart Street from District Court to Chilgari via mortuary	1208		
19.	Smart Street from Narpalkatoch House to ID Sharma House	90		
	Works to be executed in ward no. 8 of DMC (KHEL PARISAR)	-	-	
20.	Smart Street from Jawahar Nagar to Cricket Stadium	389	YES	389
TOTAL		7321		4,316

12.3 LINK ROAD ALREDY PROPOSED UNDER OTHER DSCL PROJECTS FOR ELECTRICAL SERVICE CORRIDOR:

The service corridor has already been proposed under various projects (under planning stage) of DSCL for the following roads, same has been proposed for routing the underground cabling for the LED Street Light Project:

SR.NO.	LINK ROAD ID.	ROAD NAME	LENGTH (in METER.)
1	L-10	GANDHI PARK TO KOTWALI CHOWK	630
2	L-12	KOTWALI CHOWK TO KOTWALI BYPASS	1350
3	L-22	POST OFFICE TO VIDHAN SHABHA CHOWK TILL MC LIMIT(PALAMPUR ROAD - DHARAMSHALA ROAD)	6500
4	L-24	FOREST OFFICE TO SOLID WASTE MANAGEMENT MC LIMIT	500
5	L-34	SHEELA CHOWK TO MC LIMIT	400
6	L-35	VIDHAN SABHA CHOWK TO MC LIMIT	850
7	L-36	DARI BYPASS ROAD TILL SHEELA BRIDGE	1100
8	L-37	SUKKER ROAD TILL MC LIMIT	700
9	L-38	HPCA STADIUM CHELIAN TOWARDS UNDERGROUND DUSTBIN TOWARDS GOVT COLONY	550
TOTAL			12,580.00

12.4 LINK ROAD/STREETS PROPOSED FOR UNDERGROUNDING UNDER THE LED STREET LIGHT PROJECT:

Following streets and roads have been proposed for laying the under cabling under this project. The service corridor has already been proposed under various projects (under planning stage) of DSCL for the following roads, same has been proposed for routing the underground cabling for this the LED Street Light Project:

SR.NO.	LINK ROAD ID.	ROAD NAME	LENGTH (in METER.)
1	L-2	Education Board to Stadium Chowk	150
2	L-3	ShahidSmark to Stadium Chowk	191
3	L-5	Bhagsu Nag Restaurant to Stadium Chowk	780
4	L-20	Mcleodganj Bazar end point to Bhagsunag	1000
5	L-21	Education Board to PingalNalaSakoh	1100
6	ROAD	KUNAL PATHRI TEMPLE ROAD	550
7	LINK ROAD-30	DISTT COURT TO DEPO BAZAR STREET	700
8	L-23	Cheelgadi circuit house to sakoh	1900
9	L-24	Bus Stand to Kajlot via Bypass Road Cantt. Raod	3400
10	L-25	Gold Cinema to ShaheedSmark via Chilgadi	2950
11	L-26	PingalNallah to MC Limit Near New Petrol Pump on Sakoh Road	2400
12	L-27	McleodganjChowk to ForsythGanj (St. John Church Road)	1950

13	L-33	Dharamshala Cricket Stadium Chowk to ITI Bridge	2000
14	L-32	CHIEF ENGINEER RESIDENCE TO CHILGARI ROAD (OFFICER'S RESIDENCE)	700
15	PWD-3	FROM BSNL TELECOM COMPLEX NEAR CIRCUIT HOUSE TO LINK WITH GCOM	915
16	ROAD	ANUPAM HOTEL TO FORSYTHGANJ ROAD (Up-to Tangle Wood)	1600
17	ROAD	ANUPAM HOTEL TO NADDI CHOWK	685
18	ROAD	TANGLE WOOD (NADDI ROAD) via NEAR GLENMOOR COTTAGE TO MCLEODGANJ TAXI STAND	1900
TOTAL			24,871.00

12.5 SUMMARY OF THE ROADS/STREETS PROPOSED FOR UNDERGROUND CABLING:

PROPOSED UG CABLING		
SR.NO	DESCRIPTION	LENGTH (m)
1	<i>HIMUDA STREET FOR UG CABLING (UNDER INCLUSIVE STREET PROJECT)</i>	<i>3,560.00</i>
2	<i>DMC STREET FOR UG CABLING (UNDER INCLUSIVE STREET PROJECT)</i>	<i>4,316.00</i>
3	<i>ELECTRICAL SERVICE CORRIDOR (UNDER OTHER SMART CITY PROJECTS)</i>	<i>12,580.00</i>
4	<i>LINK ROAD FOR UG CABLE WITH DWC HDPE LAYING (EXCLUSIVELY PROPOSED UNDER THIS PROJECT)</i>	<i>24,871.00</i>

TOTAL	45,327.00
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13. Section 13 LEGACY STREET LIGHT SYSTEM:

The Dharamshala Municipal Corporation has already installed 3,522 no. of LED Street Light Luminaries of wattages 18,35,45,70 & 130W, mostly on the HPSEBL's LT Distribution poles through/s EESL. Out of 3,522 no. of LED Street Light Luminaries 2,280 (65%) will be shifted and installed to the new poles (as finalised by the DSCL at the time of Survey conducted by the implementing firm) in this project, whereas rest of the street lights luminaries have less scope of improvising, therefore such system will be directly connected with the new proposed Smart Lighting Panels (as finalised by the DSCL at the time of Survey conducted by the implementing firm).

In addition to above, DMC has also installed approximately 314 no. of metallic poles which will be removed shifted and re-installation/incorporating to the nearby project locations (as finalised by the DSCL).

14. Section 14 CAPACITY BUILDING & TRAINING

14.1 TRAINING AND CHANGE MANAGEMENT

The objective of Capacity Building (CB) initiatives is to empower the direct users and other stakeholders of DharamshalaSmart City Limited (DSCL) is to optimally use the system and enhance the outcomes in policing, and other core police functions; and also ensure a smooth functioning.

Success of the project, both in short term as well as long term has unswerving dependency on the officials trained on Street Lighting Management tools and applications. Drawing upon the diverse challenges expected for the implementation of the project, specifically the workforce challenges, it is apparent that capacity building is the need of the hour to further ensure that the project is a success.

The challenge will be to empower and support the workforce to understand, learn, and adopt the new ways of working in order to fully realize the potential benefits of this fundamental change.

To manage a large scale implementation, which impacts a large number of users directly or indirectly, a comprehensive and well-structured Capacity Building approach is required. Capacity Building approach would include availability of requisite infrastructure and resources to support the entire program. It would also ensure that the required user groups receive sufficient training to equip them with the skills required to efficiently use or be aware of the new processes and/or systems.

Hence, the objectives of developing a Capacity Building Program are as follows:

- Identify the training audience groups
- Identify Training delivery methods
- Training development and delivery resource
- To motivate, train and capacitate department and police workforce
- To efficiently embark on the revised roles and responsibilities
- Embed sustainability of the project

14.1.1 TRAINING EFFECTIVENESS EVALUATION

SI shall evaluate the effectiveness of all end users trainings using electronic or manual surveys. SI shall be responsible for analyzing the feedback and arrange for conducting refresher training, wherever needed. SI will also be bound by the capacity building SLA. DSCL will periodically monitor the training effectiveness through the performance metrics and Service levels and the SI shall comply with the same.

14.2 DEVELOP OVERALL TRAINING PLAN

The SI shall be responsible for finalizing a detailed training plan for the program in consultation with DSCL covering the training strategy, environment, training need analysis and role based training curriculum with timelines. SI shall own the overall training plan working closely with the DSCL team.

14.3 ROLE BASED TRAINING ON APPLICATION SOFTWARE

1. The training should focus on the police officials getting comfortable to command and control center system workflow as per their role and build skills to use Street lighting applications in day to day operations.

2. This training would be tailored according to the unique requirements of each user category. The training program must ensure to cover the following user categories:

Hierarchy	Rank
Senior Management	<input type="checkbox"/>
Middle Management	<input type="checkbox"/>
Lower Management	<input type="checkbox"/>

14.4 INDICATIVE TRAINING PLAN FOR THE MEMBERS OF DSCL DEPARTMENT

The following is an indicative training plan for members based on the nature of their responsibilities:

#	Name of the Training Programme	Frequency	Indicative Duration (Days)	Average Batch Size	Estimated no. of batches Per Location
1	Orientation to change management	Once	2	10	1
2	Change Management	Once	5	10	1
3	Street lighting Application, functioning and back office	Twice	5	10	2

	operations				
4	Teamwork Skills	Once	2	10	1
5	Project Management	Once	5	5	1
8	Information Security & IT Infrastructure Security	Once	5	5	3
9	Street Lighting Network Administration	Once	5	10	2
10	Hardware component Installation & maintenance	Once	5	5	2
11	Management Information System/Reporting	Twice	3	5	5

15. Section 15 List of Preferred Manufacturer

The below table shows the Preferred Equipment's Manufactures. The Source of materials proposed for the use of project shall be approved by DSCL Authority after pre inspection at manufacturer's site if needed.

Sr.No.	Equipment/ Material/ Item	Preferred Manufactures
1.	DC batteries / POWER PACK	Exide / Amar-Raja / HBL
2.	Battery Chargers	Amar-Raja / Exide / AE /HBL

3.	L.T. & Control Cables	CCI / Universal / RPG / KEI /Finolex/poly cab/ TRACO cables
4.	Lighting Cables	CCI / Universal / RPG / KEI / Finolex/poly cab/TRACO cables
5.	Hot Dip Galvanized Mild Steel Octagonal poles	Bajaj / Valmont / Sumip / Crompton, Surya / Philips / BPP.
6.	Smart Energy Meters	ABB / Schneider / L&T / Secure Meters
7.	Decorative C.I poles	Bajaj, Halomax
8.	Mild Steel and High Tensile Steel	SAIL / Tata Steel
9.	Voltage surge protection	Schneider/Siemens/L&T/Legrand/GE/ABB
10.	Cable Glands	HMI / Gripwel / Comet/ Raychem
11.	Cable lugs	Dowell's / Jainson/ Elcon metal craft/cabend.
12.	PVC terminals & terminal blocks	ELMEX / ESSEN / Phoenix
13.	Annunciators	Minilec / GIC India
14.	Analog type meters	Meco / Rishab / L&T / AE
15.	Modular type switches	GM / MK / MDS / Schneider / Legrand
16.	Indicating meters	Siemens/ Schneider/ABB
17.	Pushing button & indicating light	L&T / BCH / Siemens / C&S
18.	LED (22.5 mm) pilot lamp	Siemens/C&S/GE/ESBEE/ABB/ Schneider /Vaishno /Kaycee
19.	MCCB	Siemens / ABB / Schneider/L&T/Legrand
20.	Switch Sockets & Modular type receptacles	BCH / MDS / Crompton / Schneider
21.	MCB	Siemens / ABB / Schneider/L&T/Legrand
22.	MCB distribution board	Siemens / ALSTOM / Schneider/L&T
23.	Indicating Lamps	Siemens / BCH / / Schneider
24.	Contactors	L&T / Siemens / ALSTOM / Schneider
25.	Portable Fire Extinguishers	Minimax / Mather Platt / Ceasefire

26.	Underground HDPE Ducts	Duraline, Bajaj, Reliance
27.	UPS system	API, Numeric, Amara Raja, Aplab/ Microtek
28.	Earthing Protection System	Excel Earthing, Sobo System, ISG Global
29.	Selector switches	GE/Siemens/C&S/HPL/L&T(SIEZER)/ABB/Schneider.
30.	LED Light Fixture & post top lamps	Philips / Wipro / Bajaj / Crompton / Osram / NERI / Schreder / Havells / Lighting Technologies / HPL

- A. For all other materials for which manufacturer are not in "List of preferred manufacturer", the contractor shall submit credentials of minimum three well renowned/reputed manufacturers for prior approval of DSCL.
- B. The manufacturers in the above list may be substituted if required with prior approval of DSCL. The make shall be equivalent or better than the preferred make.

16. Section 16 Tentative* Bill of Materials for Street lighting *

ABSTRACT OF COST

NAME OF WORK:- Electrical Works of LED Based Street lighting for ABD & PAN city area excluding smart road in Dharamshala Smart City

Sr.No.	Description of Items	Unit	Qty.
Luminaires:			
1	Supplying, installation, Testing & Commissioning of LED light fixture of 45 watt for street lighting complete with all materials, as required. Materials as approved by " DSCL" & As per direction of Engineer-in - Charge.	Each	186
2	Supplying, installation, Testing & Commissioning of LED light fixture of 36 watt for street lighting complete with all materials, as required. Materials as approved by " DSCL" & As per direction of Engineer-in - Charge.	Each	520
3	Supplying, installation, Testing & Commissioning of LED light fixture of 24 watt for street lighting complete with all materials, as required. Materials as approved by " DSCL" & As per direction of Engineer-in - Charge.	Each	4557
4	Removing & Shifting of Existing luminaires from electric service line pole and fixing in Proposed street light pole (Approx.) complete With all accessories as required.	Each	2280
Poles and its accessories:			
5	Supplying and erection of hot dip galvanized Octagonal Pole height- 5 M suitable with Single arm band, including J-bolt & base plate complete with fixing of all materials. Pole should be PU painted (Polyurethane Paint) & Powder	Each	3281

ABSTRACT OF COST

NAME OF WORK:- Electrical Works of LED Based Street lighting for ABD & PAN city area excluding smart road in Dharamshala Smart City

Sr.No.	Description of Items	Unit	Qty.
	coated with suitable colour including carriage of materials with all lead and lifts. Materials as approved by " DSCL" & As per direction of Engineer-in - Charge		
6	Supplying and erection of hot dip galvanized Octagonal Pole height- 6 M suitable with Single arm band, including J-bolt & base plate complete with fixing of all materials. Pole should be PU painted (Polyurethane Paint) & Powder coated with suitable colour including carriage of materials with all lead and lifts. Materials as approved by " DSCL" & As per direction of Engineer-in - Charge	Each	2206
7	Supplying and erection of hot dip galvanized Octagonal Pole height- 7 M suitable with Single arm band, including J-bolt & base plate complete with fixing of all materials. Pole should be PU painted (Polyurethane Paint) & Powder coated with suitable colour including carriage of materials with all lead and lifts. Materials as approved by " DSCL" & As per direction of Engineer-in - Charge	Each	1491

ABSTRACT OF COST

NAME OF WORK:- Electrical Works of LED Based Street lighting for ABD & PAN city area excluding smart road in Dharamshala Smart City

Sr.No.	Description of Items	Unit	Qty.
8	Relocating & erection of existing metallic MS Tubular pole of length/ Height above from ground 6.5 meter and overall is 8.0 meter, with PCC in cement concrete 1:3:6 (1 cement: 3 coarse sand: 6 graded stone aggregate 40 mm nominal size), including RCC work in M20 grade with supplying, fitting and placing HYSD bar for reinforcement foundation including excavation and refilling etc. Pole should be PU painted (Polyurethane Paint) & Powder coated with suitable colour including carriage of materials with all lead and lifts. as required.	Each	314
Civil Foundation works:			
9	Demolition of cement concrete / block pavement / drain etc including disposal of unserviceable materials to all lead and lifts.& As per direction of Engineer-in-Charge.	Cum.	677
10	Providing foundation for Proposed Street Light with RCC M20 including excavation in all types of soil, back filling , dewatering etc. complete as per drawing & specifications.		
10.1	Earth work in excavation of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and backfilling with approved material.	Cum	5698

ABSTRACT OF COST

NAME OF WORK:- Electrical Works of LED Based Street lighting for ABD & PAN city area excluding smart road in Dharamshala Smart City

Sr.No.	Description of Items	Unit	Qty.
10.2	Plain cement concrete 1:3:6 nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days with carriage of materials for all leads and lifts as per Engineer-in-Charge.	Cum	155
10.3	Supplying, fitting and placing HYSD bar (Fe 500) reinforcement in sub-structure complete as per drawing and Technical Specifications including carriage of materials for all leads and lifts as per Engineer-in-Charge.	mt	286
10.4	Reinforced Cement Concrete (RCC Grade M20) in Open Foundation complete as per Drawing and Technical Specifications including carriage of materials for all leads and lifts as per Engineer-in-Charge.	Cum	2379
11	Through Drilling in Road/Street by mechanical mean for laying the HDPE Pipe without damaging/breaking the carriageway. As per Engineer-in-Charge.	R.Mtr.	725
12	Providing and laying heavy duty precast cement concrete inter locking paver blocks vibro compacted upto M-50 grade over service corridor i/c border or kurb block grey or coloured over sub-base of 30mm thick sand bed :- 60mm thick as per design pattern and colour approved	Sqm	875

ABSTRACT OF COST

NAME OF WORK:- Electrical Works of LED Based Street lighting for ABD & PAN city area excluding smart road in Dharamshala Smart City

Sr.No.	Description of Items	Unit	Qty.
Control panel and Switchgears:			
13	Supplying, Installation, Testing and Commissioning outdoor type centralized control and monitoring system (Smart Feeder Panel) consisting of following materials As per Technical Specification. Materials as approved by " DSCL" & As per direction of Engineer-in-Charge.	Each	48
14	Supplying, installation, Testing and commissioning outdoor type Automatic phase selector for street lighting system with its all required accessories. As per Engineer-in-Charge.	Each	15
15	Supplying and Erection of 6 amps. to 32 amps. rating, 10 KA breaking capacity, 240 volts, 'C' curves, miniature circuit breaker of following poles in the existing MCB DB complete with connections etc. as required: - Single pole. Cat-A. Materials as approved by " DSCL" & As per direction of Engineer-in-Charge.	Each	1813
Cables and Its Accessories:			
16	Providing, laying and fixing of one No. aluminium conductor, PVC insulated and PVC sheathed, armoured/XLPE power cable, working voltage 1100 volts grade on surface etc. of the required size:-Armoured cable 25 sq. mm (3.5 core) For CCMS Panel, Materials as approved by " DSCL" & As per direction of Engineer-in-Charge.	R.Mtr.	1200

ABSTRACT OF COST

NAME OF WORK:- Electrical Works of LED Based Street lighting for ABD & PAN city area excluding smart road in Dharamshala Smart City

Sr.No.	Description of Items	Unit	Qty.
17	Providing, laying and fixing of one No. aluminium conductor, PVC insulated and PVC sheathed, armoured/XLPE power cable, working voltage 1100 volts grade on surface etc. of the required size, including suitable size of jointing Kits and aluminium lugs. :- Armoured cable Four Core 10 sq. mm { For Overhead & Underground Cabling system}, Materials as approved by " DSCL" & As per direction of Engineer-in-Charge.	R.Mtr.	193572
18	Providing, laying and fixing of PVC insulated flexible power cable, working voltage 1100 volts grade on surface etc. of the required size, including suitable size of jointing Kits and aluminium lugs. :-3- Core 6 Sq.mm flexible cables for single phase power supply. Materials as approved by "DSCL" & As per direction of Engineer-in-Charge.	R.Mtr.	29407
19	Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc. Direct in ground (75 cm below ground level) including excavation and refilling the trench but excluding sand cushioning and protective coveringetc. , complete as required. 120 mm dia (OD-17 mm & ID-103 mm nominal),Materials as approved by "DSCL" & As per direction of Engineer-in -	Meter	24871

ABSTRACT OF COST

NAME OF WORK:- Electrical Works of LED Based Street lighting for ABD & PAN city area excluding smart road in Dharamshala Smart City

Sr.No.	Description of Items	Unit	Qty.
	Charge.		
20	Providing and fixing of Stay clamp suitable for Poles including with arrangement of fixing the eye hook for Overhead cabling system, Materials as approved by " DSCL" & As per direction of Engineer-in-Charge.	Set	5226
21	Providing and fixing of Eye Hook set with suitable Locking arrangements for Power cable in Overhead cabling system, Materials as approved by " DSCL" & As per direction of Engineer-in-Charge..	Set	5226
Earthing Protection System :			
22	Supplying, Installation, Testing & Commissioning of GI earthing / grounding protection system for LED Based Street Lighting including all these following materials ; { 1. GI earthing rod 40 X 2 Mtr, 2. chemical bag (15kg) in 2 nos, 3. Advance Maintenance free gel chemical (5 Ltr.), 4. GI wire 8 Sq mm, 5. Inspection Cover (300 X 300), 6. Installation & Commissioning charges , 7. Shipping Charges}, Labour Charges & as required. Materials as approved by " DSCL" & As per direction of Engineer-in-Charge.	Set	1872
Hardware & Software for Controlling the Street light System:			

ABSTRACT OF COST

NAME OF WORK:- Electrical Works of LED Based Street lighting for ABD & PAN city area excluding smart road in Dharamshala Smart City

Sr.No.	Description of Items	Unit	Qty.
23	Supplying, Installation, Testing & Commissioning, Web Server Charges/ Sim Charges of Five Year Time duration for street lighting system: As per Engineer-in-Charge.	Each	48
24	Supplying, Installation, Testing & Commissioning NGFW / FIREWALL for Street lighting System including Licences for Five years maintenance, complete with all necessary accessories. : As per Engineer-in-Charge.	Set	1
25	Supplying, Installation, Testing & Commissioning of Street light Application Software including Licence with Five year Maintenance. : As per Engineer-in-Charge.	Set	1
26	Supplying, Installation, Testing & Commissioning of Application Server for the street lighting system, including Licences for Five years maintenance, complete with all necessary accessories. : As per Engineer-in-Charge.	Set	1
27	Supplying, Installation, Testing & Commissioning of Database Server for the street lighting system, including Licences for Five years maintenance, complete with all necessary accessories. : As per Engineer-in-Charge.	Set	1
28	Supplying, Installation, Testing & Commissioning UPS System with minimum 120 minutes Battery Backup on SMF Batteries & suitable arrangements / cabinet for Batteries, complete with all necessary accessories. : As	Set	1

ABSTRACT OF COST

NAME OF WORK:- Electrical Works of LED Based Street lighting for ABD & PAN city area excluding smart road in Dharamshala Smart City

Sr.No.	Description of Items	Unit	Qty.
	per Engineer-in-Charge.		
29	Supplying, Installation, Testing & Commissioning VR Rack, 42u x 800mm x 1100mm, with (1) 77% Perforated Locking Front Door, (2) 77% Perforated Split Locking Rear Doors, (2) pair 19" Mounting Rails, (4) Split Side Panels with locking slam latch, Tool less Removable Top Panel, Casters and Levelling Feet, (2) Full Height PDU/Cable Mgt. Brackets, (1) Baying Kit, (50) M6 Cage Nuts and Screws, Colour RAL 7021 Black complete with all necessary accessories. : As per Engineer-in-Charge.	Set	1
30	Supplying, Installation, Testing & Commissioning Vertical Cable Manager 600mm Wide 42U (Qty 2) complete with all necessary accessories. : As per Engineer-in-Charge.	Set	1
31	Supplying, Installation, Testing & Commissioning Vertical Cable Manager for 800mm Wide 42U (Qty 2) complete with all necessary accessories. : As per Engineer-in-Charge.	Set	1
32	Supplying, Installation, Testing & Commissioning 1U 19" Black Plastic Tool less Airflow Blanking Panel (Qty 10) complete with all necessary accessories. : As per Engineer-in-Charge.	Set	1

ABSTRACT OF COST

NAME OF WORK:- Electrical Works of LED Based Street lighting for ABD & PAN city area excluding smart road in Dharamshala Smart City

Sr.No.	Description of Items	Unit	Qty.
33	Supplying, Installation, Testing & Commissioning Monitored, Unit Level, 32A, 230V, 1 Phase, Vertical, 36 IEC C13, 6 IEC C19, breakered, 3m power cord with 2P+E (IP44) – Socket level Monitoring complete with all necessary accessories. : As per Engineer-in-Charge.	Set	2
34	Supplying, Installation, Testing & Commissioning of Air-conditioning System for the Central Street Light Management System of Street lighting System. The Air-conditioning (AC) is suitable with BEE 5* (Five Star) Rating & complete with all necessary accessories. : As per Engineer-in - Charge: As per Engineer-in-Charge.	Each	2
A	TOTAL INSTALLATION COST		
Operation & Maintenance of the Street light System for 5 years:			
35	O & M Engineer - 3 Nos., : As per Engineer-in-Charge.	Man Month.	180
36	Electrician (Grade - I)- 8 Nos. (for operating the 24x7 call centre), : As per Engineer-in-Charge.	Man Month.	480
37	Operation and Maintenance of street lighting system including posts, arms and luminaries, control Panels switch gears, Hardware and Software and all components, tools & plants, etc., for 4 years ,(excluding DLP), : As per Engineer-in-Charge.	No./Month	374256

ABSTRACT OF COST

NAME OF WORK:- Electrical Works of LED Based Street lighting for ABD & PAN city area excluding smart road in Dharamshala Smart City

Sr.No.	Description of Items	Unit	Qty.
38	Operation and Maintenance of street lighting system including posts, arms and luminaries, control Panels switch gears, Hardware and Software and all components, tools & plants, etc., for 1 years (Other proposed new lights are in DLP for this time duration.) : As per Engineer-in-Charge.	No./Month	33420
B	TOTAL OPERATION & MAINTENANCE COST		
C	TOTAL COST(C=A+B)		
D	Add 3% Contingency Charges and unforeseen works		
E	Electrical Connection Deposit		
F	Total Estimated Amount of LED Based Street Lighting for ABD & PAN City area excluding smart road in Dharamshala (F=C+D+E)		

* Notes:

1. The above Bill of Material quantities are tentative and may the Authority reserves the right to vary the quantity (add or delete) by 50%.
2. The actual quantity of the materials will be decided post award of the tender and will be arrived at by site survey performed by the successful SI.
3. Repeat orders for extra items or additional quantities may be placed, if it is provided in the bidding document, on the rates and conditions given in the contract if the original order was given after inviting open competitive bids. Delivery or completion period may also be proportionally increased.



DHARAMSHALA SMART CITY LTD.



Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-year at Dharamshala

**Project Management
Consultant**



*In Joint
Venture
with*



Smart City Lighting Solutions for Dharamshala

VOLUME – III

Name of Work:

Request for Selection of System Integrator for Supplying, Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5-year at Dharamshala

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A. Section:1-General Conditions of Contract (GCC)

1. Definition and Interpretation

1.1. "Acceptance of System":

The system shall be deemed to have been accepted by the DSCL, subsequent to its installation, rollout and deployment of trained manpower, when all the activities as defined in Scope of Work have been successfully executed and completed to the satisfaction of DSCL.

1.2. "Consignee"

means where the equipment's are required by the acceptance of the tender to be dispatched by rail, road, air or streamer, the person specified in the Acceptance of tender to whom they are to be delivered at the destination.

1.3. "Contract"

Contract means and includes Tender Invitation, Instructions to Tenderers, Tender, Acceptance of Tender, General Conditions of Contract, Special Conditions of Contract, schedule of Requirements, Technical Specification and Annexures particulars and the other conditions specified in the acceptance of tender, and amendments.

1.4. "Applicable Law(s)":

Any statute, law, ordinance, notification, rule, regulation, judgment, order, decree, bye-law, approval, directive, guideline, policy, requirement or other governmental restriction or any similar form of decision applicable to the relevant party and as may be in effect on the date of the execution of this Agreement and during the subsistence thereof, applicable to the Project.

1.5. "DSCL"

It means the Dharamshala Smart City LTD The project shall be executed in Dharamshala and shall be owned by Dharamshala Municipal Corporation.

1.6. "Bidder"

Bidder shall mean organization/ consortium submitting the proposal in response to this RFP.

1.7. "SI"

SI means the System Integrator who is selected by the DSCL at the end of this RFP process. The agency shall carry out all the services mentioned in the scope of work of this RFP.

1.8. "Contract Value"

Contract Value means the price payable to System Integrator under this Contract for the full and proper performance of its contractual obligations.

1.9. "Drawing"

means the drawing or drawings specified in or annexed to the specification.

1.10. "Document"

Means any embodiment of any text or image however recorded and includes any data, text, images, sound, voice, codes, databases or any other electronic documents as per IT Act 2000.

1.11. "Effective Date"

Means the date on which this Contract is signed or LoI is issued by DSCL, whichever is later and executed by the parties hereto. If this Contract is executed in parts, then the date on which the last of such Contracts is executed shall be construed to be the Effective Date.

1.12. "GCC"

Means General Conditions of Contract

1.13. "Goods"

Means all of the equipment, sub-systems, hardware, software, products accessories, software and/or other material / items which SI is required to supply, install and maintain under the contract.

1.14. "Intellectual Property Rights"

Means any patent, copyright, trademark, trade name, service marks, brands, proprietary information whether arising before or after the execution of this Contract and the right to ownership and registration of these rights.

1.15. "Go- Live"

Means commissioning of project after installation and commencement of Street Lighting system components, including training as per scope of work mentioned in RFP. Bidder should have the approval from DSCL for user acceptance testing.

1.16. "Notice"

Means: A notice; or consent, approval or other communication required to be in writing under this Contract.

1.17. "OEM"

Means the Original Equipment Manufacturer of any equipment / system / software / product which are providing such goods to the DSCL under the scope of this RFP.

1.18. "SI's Team"

Means System Integrator's Team who has to provide goods & services to the DSCL under the scope of this Contract. This definition shall also include any and/or all of the employees of System Integrator, authorized service providers/ partners and representatives or other personnel employed or engaged either directly or indirectly by System Integrator for the purposes of this Contract.

1.19. "Consortium"

Means a group of Persons/entities may form a Consortium for submitting a bid under the present RFP. The Consortium shall be headed and represented through a Prime Bidder who shall act as the interface between the Consortium and the DSCL. Unless the DSCL deems fit and the Contract requires otherwise Prime Bidder shall be solely and absolutely accountable to the DSCL for the performance of all obligations under the Contract.

1.20. "Replacement Service Provider"

Means the organization replacing SI in case of contract termination for any reasons.

1.21. "Sub-Contractor"

Shall mean the entity named in the contract for any part of the work or any person to whom any part of the contract has been sublet with the consent in writing of the DSCL and the heirs, legal representatives, successors and assignees of such person.

1.22. "SCC"

Means Special Conditions of Contract.

1.23. "Services"

Means the work to be performed by the agency pursuant to this RFP and to the contract to be signed by the parties in pursuance of any specific assignment awarded by the DSCL.

1.24. "Project Site"

The project Site(S) are the various locations within the limits of Dharamshala Municipal Commission Project site(s). Few project sites as decided by DSCL may be beyond or in adjacency of DMC Limits.

2. Interpretation

In this Contract unless a contrary intention is evident:

- a. References of clauses, headings are for convenient reference only and do not form part of this Contract.
- b. Unless otherwise specified a reference to a clause number is a reference to all of its sub-clauses.
- c. The word "include" or "including" shall be deemed to be followed by "without limitation" or "but not limited to" whether or not they are followed by such phrases;
- d. Unless otherwise specified a reference to a clause, sub-clause or section is a reference to a clause, sub-clause or section of this Contract including any amendments or modifications to the same from time to time.
- e. A word in the singular includes the plural and a word in the plural includes the singular.
- f. A word importing a gender includes any other gender.
- g. A reference to a person includes a partnership and a body corporate.
- h. A reference to legislation includes legislation repealing, replacing or amending that legislation.
- i. Where a word or phrase is given a particular meaning it includes the appropriate grammatical forms of that word or phrase which have corresponding meanings.
- j. In the event of an inconsistency between the terms of this Contract and the RFP and the Bid, the terms hereof shall prevail.

3. Conditions Precedent

This Contract is subject to the fulfilment of the following conditions precedent by System Integrator.

- 3.1.** Furnishing by System Integrator, an unconditional and irrevocable Performance Bank Guarantee (PBG) as per Section 28 of this RFP Volume and acceptable to the DSCL.
- 3.2.** Obtaining of all statutory and other approvals required for the performance of the Services under this Contract. This may include approvals/clearances, wherever

applicable, that may be required for execution of this contract e.g. clearances from Government authorities for importing equipment, exemption of Tax/Duties/Levies, work permits/clearances for Bidder/Bidder's team, etc.

- 3.3.** Furnish notarized copies of any/all contract(s) duly executed by System Integrator and its OEMs existing at the time of signing of this contract in relation to the DSCL's project. Failure to do so within stipulated time of signing of contract would attract penalty as defined in **Penalty Section**.
- 3.4.** Furnishing of such other documents as the DSCL may specify/ demand.
- 3.5.** The DSCL reserves the right to waive any or all of the conditions specified in Clause 3 above in writing and no such waiver shall affect or impair any right, power or remedy that the DSCL may otherwise have.
- 3.6.** In the event that any of the conditions set forth in Clause 3 hereinabove are not fulfilled within 1 month from the date of this Contract, or such later date as may be mutually agreed upon by the parties, the DSCL may terminate this Contract.

In case there is a contradiction between the sections, the below hierarchy of sections in order of precedence:

- (a) Agreement,
- (b) Letter of Award
- (c) Letter of Intent,
- (d) Contractor's Bid,
- (e) Particular Conditions of Contract,
- (f) General Conditions of Contract, including Appendices
- (g) Specifications
- (h) Drawings
- (i) Bill of Quantities, and
- (i) Any other document listed in the RFP as forming part of the Contract

4. Scope of Work

Scope of the work shall be as defined in Section 5 of RFP Volume II and Annexure/Corrigendum thereto of the tender. DSCL has engaged System Integrator to provide services related to implementation of LED Based Smart Lighting System for Dharamshala Smart City solutions using which the DSCL intends to perform its business operations. System Integrator is required to provide such goods, services and support as the DSCL may deem proper and necessary, during the term of this Contract, and includes all such processes and activities which are consistent with the proposals set forth in the Bid, the Tender and this Contract and are deemed necessary by the DSCL, in order to meet its business requirements (hereinafter 'scope of work').

5. Confidential Information

DSCL and the Successful Bidder shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract.

The Successful Bidder shall not use the documents, data, and other information received from DSCL for any purpose other than the services required for the performance of the Contract.

6. Change in Laws and Regulations

Unless otherwise specified in the Contract, if after the date of the Invitation for Bids, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the Successful Bidder has thereby been affected in the performance of any of its obligations under the Contract.

7. Force Majeure

- 1) The Successful Bidder shall not be liable for termination for default if and to the extent that it's delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

- 2) For purposes of this Clause, Force Majeure means an event or situation beyond the control of the Successful Bidder that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Successful Bidder. Such events may include, but not be limited to, acts of DSCL in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- 3) If a Force Majeure situation arises, the Successful Bidder shall promptly notify DSCL in writing of such condition and the cause thereof. Unless otherwise directed by DSCL in writing, the Successful Bidder shall continue to perform its obligations under the Contract as far as it is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

8. Settlement of Disputes

Performance of the contract is governed by the terms and conditions of the contract, in case disputes arise between the parties regarding any matter under the contract, either Party of the contract may send a written Notice of Dispute to the other party. The Party receiving the Notice of Dispute will consider the Notice and respond to it in writing within 30 days after receipt. If that party fails to respond within 30 days, or the dispute cannot be amicably settled within 60 days following the response of that party, Section 15.3 of Volume-I of RFP shall become applicable.

Arbitration:

- a) In the case of dispute arising, upon or in relation to, or in connection with the contract between DSCL and the Successful Bidder, which has not been settled amicably, any party can refer the dispute for Arbitration under (Indian) Arbitration and Conciliation Act, 1996. Such disputes shall be referred to an Arbitral Tribunal consisting of three arbitrators, one each to be appointed by the DSCL and the Successful Bidder, the third arbitrator shall be chosen by the two arbitrators so appointed by the parties and shall act as Presiding Arbitrator. In case of failure of the two arbitrators, appointed by the parties to reach a consensus regarding the appointment of the third arbitrator within a period of 30 days from the date of appointment of the two arbitrators, the Presiding arbitrator shall be appointed by the Managing Director, DSCL. The Arbitration and Conciliation Act, 1996 and any statutory modification or re-enactment thereof, shall apply to these arbitration proceedings.

- b) Arbitration proceedings shall be held in Dharamshala, India and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English.
- c) The decision of the majority of arbitrators shall be final and binding upon both parties. The expenses of the arbitrators as determined by the arbitrators shall be shared equally by DSCL and the Successful Bidder. However, the expenses incurred by each party in connection to the preparation, presentation shall be borne by the party itself. All arbitration awards shall be in writing and shall state the reasons for the award.

9. Extensions of Time

If at any time during performance of the Contract, the Successful Bidder should encounter conditions impeding timely delivery of the Services, the Successful Bidder shall promptly notify DSCL in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Successful Bidder notice, DSCL shall evaluate the situation and may at its discretion extend the Successful Bidder time for performance in writing.

Delay by the Successful Bidder in the performance of its Delivery and Completion obligations shall render the Bidder liable for disqualification for any further bids in DSCL, unless an extension of time is agreed mutually.

10. Termination

- a) DSCL may, without prejudice to any other remedy for breach of Contract, terminate this Contract in case of the occurrence of any of the events specified in Point No. (a) to (k) of this GCC Section 10 In such an occurrence, DSCL shall give a not less than 30 days' written notice of termination to the Successful Bidder.
- b) If the Successful Bidder does not remedy a failure in the performance of its obligations under the Contract, within thirty (30) days after being notified or within any further period as DSCL may have subsequently approved in writing.
- c) If the Successful Bidder becomes insolvent or goes into liquidation, or receivership whether compulsory or voluntary.
- d) If, in the judgment of DSCL has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

- e) If, as the result of Force Majeure, the Successful Bidder is unable to perform a material portion of the Services for a period of not less than 60 days.
- f) If the Successful Bidder submits to the DSCL a false statement which has a material effect on the rights, obligations or interests of DSCL.
- g) If the Successful Bidder places itself in a position of conflict of interest or fails to disclose promptly any conflict of interest to DSCL.
- h) If the Successful Bidder fails to provide the quality services as envisaged under this Contract, DSCL may make judgment regarding the poor quality of services, the reasons for which shall be recorded in writing. DSCL may decide to give one chance to the Successful Bidder to improve the quality of the services.
- i) If the Successful Bidder fails to comply with any final decision reached as a result of arbitration proceedings.
- j) If DSCL, in its sole discretion and for any reason whatsoever, decides to terminate this Contract.
- k) In the event DSCL terminates the Contract in whole or in part, pursuant to GCC Section 10, DSCL may procure, upon such terms and in such manner as it deems appropriate, services similar to those undelivered or not performed, and the Successful Bidder shall be liable to DSCL for any additional costs for such similar services. However, the Successful Bidder shall continue performance of the Contract to the extent not terminated.

11. Payment upon Termination

Upon termination of this Contract pursuant to GCC Section 10, the DSCL shall make the following payments to the Successful Bidder:

If the Contract is terminated pursuant to GCC Section 10 (j), remuneration for Services satisfactorily performed prior to the effective date of termination.

If the agreement is terminated pursuant of GCC Section 10 (a) to c, d, e, f, g, h and i. The Successful Bidder shall not be entitled to receive any agreed payments upon termination of the contract. However, the DSCL may consider making a payment for the part satisfactorily performed on the basis of Quantum Merit as assessed by it, if such part is of economic utility to the DSCL. Applicable under such circumstances, upon termination, the DSCL may also impose liquidated damages. The Successful Bidder will

be required to pay any such liquidated damages to DSCL within 30 days of termination date.

12. Assignment

If Successful Bidder fails to render services in stipulated timeframe and as per schedule, DSCL, at its discretion and without any prior notice to Successful Bidder, may discontinue or minimize scope of work or procure/board any other similar agency to render similar services to complete project in stipulated timeframe.

13. Other Conditions

- a) The Successful Bidder should comply with all applicable laws and rules of Government of Himachal Pradesh/ HPSEBL/ HPERC/CEA.
- b) Support Executive/Supervisor deployed by the Successful Bidder shall not have right to demand for any type of permanent employment with DSCL or its allied Offices.
- c) Managing Director cum Chief Executive Officer (MD-cum-CEO), DSCL reserves the right to withdraw / relax any of the terms and condition mentioned in the RFP, so as to overcome the problem encountered at a later stage for the smooth and timely execution of the project.

14. Risk Purchase

In case the Successful Bidder fails to deliver the project due to inadvertence, error, collusion, incompetency, termination, misconstruction or illicit withdrawal, the MD-cum-CEO, DSCL reserves the right to procure the same or similar services from the alternate sources at risk, cost and responsibility of the Successful Bidder.

15. DSCL Obligations

DSCL or his/her nominated representative shall act as the nodal point for implementation of the contract and for issuing necessary instructions, approvals, commissioning, acceptance certificates, payments etc. to System Integrator.

DSCL shall ensure that timely approval is provided to System Integrator as and when required, which may include approval of project plans, implementation methodology, design documents, specifications, or any other document necessary in fulfillment of this contract.

The DSCL's representative shall interface with System Integrator, to provide the required information, clarifications, and to resolve any issues as may arise during the execution of the Contract. DSCL shall provide adequate cooperation in providing details, coordinating and obtaining of approvals from various governmental agencies, in cases, where the intervention of the DSCL is proper and necessary.

DSCL may provide on Bidder's request, particulars/ information/ or documentation that may be required by System Integrator for proper planning and execution of work and for providing services covered under this contract and for which System Integrator may have to coordinate with respective vendors.

16. Payments

DSCL shall make payments to System Integrator at the times and in the manner set out in the Payment schedule as specified Payment Milestones in Section 15.3 of RFP Volume I subject to the penalties as mentioned under **Clause 37.2 of Section C-** Service Levels of Volume 3. DSCL shall make all efforts to make payments to System Integrator within 15 days of receipt of invoice(s) and all necessary supporting documents.

- 1** All payments agreed to be made by DSCL to System Integrator in accordance with the Bid shall be inclusive of all statutory levies, duties, taxes and other charges whenever levied/applicable, if any, and DSCL shall not be liable to pay any such levies/ other charges under or in relation to this Contract and/or the Services.
- 2** No invoice for extra work/change order on account of change order shall be submitted by System Integrator unless the said extra work /change order has been authorized/approved by the DSCL in writing in accordance with Change Control Note (Annexure I of this section of the RFP) .
- 3** In the event of DSCL noticing at any time that any amount has been disbursed wrongly to System Integrator or any other amount is due from System Integrator to the DSCL, the DSCL may without prejudice to its rights recover such amounts by other means after notifying System Integrator or deduct such amount from any payment falling due to System Integrator. The details of such recovery, if any, shall

be intimated to System Integrator. System Integrator shall receive the payment of undisputed amount under subsequent invoice for any amount that has been omitted in previous invoice by mistake on the part of the DSCL or System Integrator.

- 4** All payments to System Integrator shall be subject to the deductions of tax at source under Income Tax Act, and other taxes and deductions as provided for under any law, rule or regulation. All costs, damages or expenses which DSCL may have paid or incurred, for which under the provisions of the Contract, System Integrator is liable, the same shall be deducted by DSCL from any dues to System Integrator. All payments to System Integrator shall be made after making necessary deductions as per terms of the Contract and recoveries towards facilities, if any, provided by the DSCL to System Integrator on chargeable basis.

17. Intellectual Property Rights

- 17.1 Except for any ownership rights in any intellectual property that have been expressly granted to the System Integrator under the Framework Agreement, the DSCL shall exclusively retain all rights, title and interest in and to any third party licensed technology, including all worldwide technology and Intellectual Property Rights which has been used for the Project.
- 17.2 Preservation of notice: System Integrator shall not remove, efface or obscure any copyright notices or other proprietary notices or legends from any licensed technology or materials provided under the Contract, and shall reproduce all such notices and legends when incorporating licensed technology or materials into any integrated products.
- 17.3 System Integrator must ensure that while using any software, hardware, processes, document or material in the course of performing the Services, it does not infringe the Intellectual Property Rights of any person/Company. System Integrator shall keep the DSCL indemnified against all costs, expenses and liabilities howsoever, arising out any illegal or unauthorized use (piracy) or in connection with any claim or proceedings relating to any breach or violation of any permission/license terms or infringement of any Intellectual Property Rights by System Integrator or System Integrator's Team during the course of performance of the Services. System Integrator's liability is excluded regarding any claim based on any of the following.
- 1) Anything DSCL provides which is incorporated into the solution.

- 2) The DSCL's modification of the solution.
 - 3) The combination, operation, or use of the solution with other materials, if the third party claim has been caused by the combination, operation or use of the solution.
- 17.4 DSCL shall own and have a right in perpetuity to use all newly created Intellectual Property Rights which have been developed solely during execution of this Contract, including but not limited to all processes, products, specifications, reports and other documents which have been newly created and developed by system integrator solely during the performance of Services and for the purposes of inter-alia use or sub-license of such Services under this Contract. System Integrator undertakes to disclose all such Intellectual Property Rights arising in performance of the Services to the DSCL, execute all such agreements/documents and obtain all permits and approvals that may be necessary in regard to the Intellectual Property Rights of the DSCL.
- 17.5 Further, the System Integrator shall be obliged to ensure that all Applicable Permits which are, inter-alia, necessary for use of the Deliverables, Goods, Services, applications work etc. provided/undertaken by the System Integrator / Consortium / Sub-Contractors under the Contract shall be acquired in the name of the DSCL and to use such permits till the term of such permits on behalf of the DSCL solely for the purpose of execution of any of its obligations under the terms of the Contract. However, even subsequent to the Term/expiry of the Contract, such Approvals/Applicable Permits shall endure to the exclusive benefit of the DSCL.
- 17.6 System Integrator shall not copy, reproduce, translate, adapt, vary, modify, disassemble, decompile or reverse engineer or otherwise deal with or cause to reduce the value of the Materials except as expressly authorized by DSCL in writing.

18. Taxes

- 18.1 The System Integrator shall charge and collect the Goods and Service Tax (GST) on the supplies/services made by it to the DSCL. Any change in tax regime or any change in rate of tax would be passed to DSCL.
- 18.2 System Integrator shall bear all personnel taxes levied or imposed on its personnel, or any other member of System Integrator's Team, etc. on account of payment received under this Contract. System Integrator shall bear all corporate taxes, levied

- or imposed on System Integrator on account of payments received by it from the DSCL for the work done under this Contract.
- 18.3 System Integrator shall bear all taxes and duties etc. levied or imposed on System Integrator, subject to Clause 14.1 above, under the Contract including but not limited to Sales Tax, Customs duty, Excise duty, Octroi, Service Tax, VAT, Works Contracts Tax and all Income Tax levied under Indian Income Tax Act – 1961 or any amendment thereof during the entire contract period, i.e., on account of material supplied and services rendered and payments received by him from the DSCL under the Contract. It shall be the responsibility of System Integrator to submit to the concerned Indian authorities the returns and all other connected documents required for this purpose. System Integrator shall also provide the DSCL such information, as it may be required in regard to System Integrator's details of payment made by the DSCL under the Contract for proper assessment of taxes and duties. The amount of tax withheld by the DSCL shall at all times be in accordance with Indian Tax Law and the DSCL shall promptly furnish to System Integrator original certificates for tax deduction at source and paid to the Tax Authorities.
- 18.4 System Integrator agrees that he shall comply with the Indian Income Tax Act in force from time to time and pay Indian Income Tax, as may be imposed/ levied on them by the Indian Income Tax Authorities, for the payments received by them for the works under the Contract.
- 18.5 System Integrator shall fully familiarize themselves about the applicable domestic taxes (such as value added or sales tax, service tax, income taxes, duties, fees, levies, etc.) on amounts payable by the DSCL under the Agreement. All such taxes must be included by Bidders in the financial proposal. (Bidder to find out applicable taxes for the components being proposed.)
- 18.6 Should System Integrator fail to submit returns/pay taxes in times as stipulated under applicable Indian/State Tax Laws and consequently any interest or penalty is imposed by the concerned DSCL, System Integrator shall pay the same. System Integrator shall indemnify DSCL against any and all liabilities or claims arising out of this Contract for such taxes including Interest and penalty by any such Tax DSCL may assess or levy against the DSCL/Prime Bidder.

- 18.7 Supplies of materials from abroad are exempted from levy of Sales Tax/VAT on works/works Contract tax (Central or state). However, the Sales Tax/VAT on works (central or state) if levied on supplies made from indigenous vendors for the works shall be borne by SI within the Contract Price. Service Tax/ Terminal Sales Tax/ Works Contract Tax, etc., if any applicable, shall be payable extra, at actuals by the DSCL in accordance with the conditions of the Contract and upon submission of proof of payment of such taxes.
- 18.8 The DSCL shall if so required by applicable laws in force, at the time of payment, deduct income tax payable by System Integrator at the rates in force, from the amount due to System Integrator and pay to the concerned tax DSCL directly.

19. Indemnity

- 19.1 System Integrator shall indemnify the DSCL from and against any costs, loss, damages, expense, claims including those from third parties or liabilities of any kind howsoever suffered, arising or incurred inter alia during and after the Contract period out of:
- 1) Any negligence or wrongful act or omission by SYSTEM INTEGRATOR or any third party associated with System Integrator in connection with or incidental to this Contract; or
 - 2) Any breach of any of the terms of System Integrator's bid as agreed and up to the extent the System Integrator contributed to the losses, the RFP and this Contract by System Integrator.
 - 3) Any infringement of patent, trademark/copyright or industrial design rights arising from the use of the supplied goods and related services or any part thereof.
- 19.2 System Integrator shall also indemnify the DSCL against any privilege, claim or assertion made by a third party with respect to right or interest in, ownership, mortgage or disposal of any asset, property etc.
- 19.3 Regardless of anything contained (except for System Integrator's liability for bodily injury for which it is legally liable and its liability for patent and copyright infringement in accordance with the terms of this Agreement) the total liability of System Integrator, is restricted to the total value of the contract and System Integrator is not responsible for any third party claims.

20. Warranty

- 20.1 A comprehensive warranty applicable on goods supplied under this contract shall be provided for the period of contract from the date of acceptance of respective system by the DSCL.
- 20.2 Technical Support for Software applications shall be provided by the respective OEMs for the period of contract. The Technical Support should include all upgrades, updates and patches to the respective Software applications.
- 20.3 The System Integrator warrants that the Goods supplied under the Contract are new, non-refurbished, unused and recently manufactured; shall not be nearing End of sale / End of support; and shall be supported by the SYSTEM INTEGRATOR and respective OEM along with service and spares support to ensure its efficient and effective operation for the entire duration of the contract.
- 20.4 The System Integrator warrants that the goods supplied under this contract shall be of the highest grade and quality and consisted with the established and generally accepted standards for materials of this type. The goods shall be in full conformity with the specifications and shall operate properly and safely. All recent design improvements in goods, unless provided otherwise in the Contract, shall also be made available.
- 20.5 The System Integrator further warrants that the Goods supplied under this Contract shall be free from all encumbrances and defects/faults arising from design, material, manufacture or workmanship (except insofar as the design or material is required by the DSCL's Specifications) or from any act or omission of the System Integrator, that may develop under normal use of the supplied Goods in the conditions prevailing at the respective Server Room Sites.
- 20.6 The DSCL shall promptly notify the System Integrator in writing of any claims arising under this warranty.
- 20.7 Upon receipt of such notice, the System Integrator shall, with all reasonable speed, repair or replace the defective Goods or parts thereof, without prejudice to any other rights which the DSCL may have against the System Integrator under the Contract.
- 20.8 If the System Integrator, having been notified, fails to remedy the defect(s) within a reasonable period, the DSCL may proceed to take such remedial action as may be necessary, at the System Integrator's risk and expense and without prejudice to any

other rights which the DSCL may have against the System Integrator under the Contract.

20.9 Any OEM specific warranty terms that do not conform to conditions under this Contract shall not be acceptable.

21. Term & Extension of Contract

21.1 The Contract period shall commence from the date of signing of contract, whichever is later, and shall remain valid for 60 Months from the date of Go Live of the system.

21.2 If the delay occurs due to circumstances beyond control of System Integrator such as strikes, lockouts, fire, accident, defective materials, delay in approvals or any cause whatsoever beyond the reasonable control of System Integrator a reasonable extension of time shall be granted by the DSCL.

21.3 The DSCL shall reserve the sole right to grant any extension to the term abovementioned and shall notify in writing to System Integrator, at least 3 (three) months before the expiration of the Term hereof, whether it shall grant System Integrator an extension of the Term. The decision to grant or refuse the extension shall be at the DSCL's discretion and such extension of the contract, if any, shall be as per terms agreed mutually between the DSCL and System Integrator.

21.4 Where the DSCL is of the view that no further extension of the term be granted to System Integrator, the DSCL shall notify System Integrator of its decision at least 3 (three) months prior to the expiry of the Term. Upon receipt of such notice, System Integrator shall continue to perform all its obligations hereunder, until such reasonable time beyond the Term of the Contract within which, the DSCL shall either appoint an alternative agency/System Integrator or create its own infrastructure to operate such Services as are provided under this Contract.

22. Disputes Resolution

22.1 In case, a dispute is referred to arbitration, the arbitration shall be under the Indian Arbitration and Conciliation Act, 1996 and any statutory modification or re-enactment thereof.

22.2 If during the subsistence of this Contract or thereafter, any dispute between the Parties hereto arising out of or in connection with the validity, interpretation, implementation, material breach or any alleged material breach of any provision of

this Contract or regarding any question, including as to whether the termination of this Contract by one Party hereto has been legitimate, the Parties hereto shall endeavour to settle such dispute amicably and/or by Conciliation to be governed by the Arbitration and Conciliation Act, 1996 or as may be agreed to between the Parties. The attempt to bring about an amicable settlement is considered to have failed as soon as one of the Parties hereto, after reasonable attempts; which attempt shall continue for not less than thirty (30) days, gives thirty (30) day notice to refer the dispute to arbitration to the other Party in writing.

- 22.3 The Arbitration proceedings shall be governed by the Arbitration and Conciliation Act, 1996.
- 22.4 The Arbitration proceedings shall be held in Dharamshala, HP India.
- 22.5 The Arbitration proceeding shall be governed by the substantive laws of India.
- 22.6 The proceedings of Arbitration shall be in Hindi/English language.
- 22.7 Except as otherwise provided elsewhere in the contract if any dispute, difference, question or disagreement arises between the parties hereto or their respective representatives or assignees, at any time in connection with construction, meaning, operation, effect, interpretation or out of the contract or breach thereof the same shall be referred to a Tribunal of three (3) Arbitrators, constituted as per the terms of and under the (Indian) Arbitration and Conciliation Act, 1996. Each party to the contract shall appoint/ nominate one Arbitrator each, the two Arbitrators so appointed/ nominated by the Parties herein shall together choose the third Arbitrator, who shall be the Presiding Arbitrator of the Tribunal. The consortium of the three Arbitrators shall form the Arbitral Tribunal.
- 22.8 In case, a party fails to appoint an arbitrator within 30 days from the receipt of the request to do so by the other party or the two Arbitrators so appointed fail to agree on the appointment of third Arbitrator within 30 days from the date of their appointment upon request of a party, the Chief Justice of the HP High Court or any person or institution designated by him shall appoint the Arbitrator/Presiding Arbitrator upon request of one of the parties.
- 22.9 Any letter, notice or other communications dispatched to System Integrator relating to either arbitration proceeding or otherwise whether through the post or through a representative on the address last notified to the DSCL by System Integrator shall be

deemed to have been received by System Integrator although returned with the remarks, refused 'undelivered' where about not known or words to that effect or for any other reasons whatsoever.

22.10 If the Arbitrator so appointed dies, resigns, incapacitated or withdraws for any reason from the proceedings, it shall be lawful for the DSCL to appoint another person in his place in the same manner as aforesaid. Such person shall proceed with the reference from the stage where his predecessor had left if both parties consent for the same; otherwise, he shall proceed de novo.

22.11 It is a term of the contract that the party invoking arbitration shall specify all disputes to be referred to arbitration at the time of invocation of arbitration and not thereafter.

22.12 It is also a term of the contract that neither party to the contract shall be entitled for any interest on the amount of the award.

22.13 The Arbitrator shall give reasoned award and the same shall be final, conclusive and binding on the parties.

22.14 The fees of the arbitrator, costs and other expenses incidental to the arbitration proceedings shall be borne equally by the parties.

23. Time shall be the Essence

Time shall be of the essence in respect of any date or period specified in this Contract or any notice, demand or other communication served under or pursuant to any provision of this Contract and in particular in respect of the completion of the activities by System Integrator by the specified completion date.

24. Conflict of Interest

System Integrator shall disclose to the DSCL in writing, all actual and potential conflicts of interest that exist, arise or may arise (either for System Integrator or System Integrator's Team) in the course of performing the Services as soon as practical after it becomes aware of that conflict.

25. Delivery

25.1 System Integrator shall bear the cost for packing, transport, insurance, storage and delivery of all the goods for **"Selection of System Integrator for Supplying,**

Installation, Testing, Commissioning of Smart LED based Street Lighting System with Retrofitting of Existing System and operational & Maintenance for 5 years at Dharamshala” at all locations identified by the DSCL in Dharamshala.

25.2 The Goods and manpower supplied under this Contract shall conform to the standards mentioned in the RFP, and, when no applicable standard is mentioned, to the authoritative standards; such standard shall be approved by Dharamshala Smart City LTD.

26. Insurance

26.1. Insurance during Contract Period

The SI shall effect and maintain at its own cost, from the Contract Date till the date of issue of the Completion Certificate, the insurance of Works, Plant and Material for any loss or damage occurring on account of Force Majeure, Malicious Act, Accidental Damage, Explosion, Fire, Terrorism etc. The insurance stated above shall cover the DSCL and the SI against all loss or damage from any cause mentioned above.

26.2. Insurance for SI's Defects Liability

The SI shall effect and maintain insurance cover for the works from the date of issue of the Completion Certificate until the end of the Defects Liability Period for any loss or damage for which the SI is liable and which arises from a cause occurring (as mentioned in clause 1.9.1) prior to the issue of the Completion Certificate. The SI shall also maintain other insurances for maximum sums as may be required under the applicable Laws and in accordance with Good Industry Practice.

26.3. Insurance against injury to Persons and damage to Property

The SI shall obtain insurance cover not less than Rs. 25.00 lakhs (Rupees Twenty five lakhs only) against its liability for any loss, damage, death or bodily injury. Or damage to any property (except things insured under Paragraph 1.9.1 and 1.9.2 of this Schedule) or to any person which may arise out of the SI's performance of this Agreement. This insurance shall be per occurrence of not less than the Rs.5Lakhs with no limit on the number of occurrences. After each occurrence, SI will pay additional premium necessary to make insurance valid for the above insurance cover always.

27. Transfer of ownership

- 27.1 System Integrator must transfer all titles to the assets and goods procured for the purpose of the project to the DSCL at the time of Acceptance of System. This includes all licenses, titles, source code, certificates, hardware, devices, equipment's etc. related to the system designed, developed, installed and maintained by System Integrator. System Integrator is expected to provide source code, transfer IPR and ownership right of only those solutions which would be customized by bidder for the use of DSCL. For any pre-existing work, System Integrator and DSCL shall be held jointly responsible and its use in any other project by System Integrator shall be decided on mutual consent.
- 27.2 Forthwith upon expiry or earlier termination of the Contract and at any other time on demand by the DSCL, System Integrator shall deliver to the DSCL all Documents provided by or originating from the DSCL and all Documents produced by or from or for System Integrator in the course of performing the Services, unless otherwise directed in writing by the DSCL at no additional cost. System Integrator shall not, without the prior written consent of the DSCL store, copy, distribute or retain any such Documents.

28. Exit Management Plan

- 28.1 An Exit Management plan shall be furnished by System Integrator in writing to the DSCL within 90 days from the date of signing the Contract, which shall deal with at least the following aspects of exit management in relation to the contract as a whole and in relation to the Project Implementation, and Service Level monitoring.
- 28.2 A detailed program of the transfer process that could be used in conjunction with a Replacement Service Provider including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during the transfer.
- 28.3 Plans for provision of contingent support to Project and Replacement Service Provider for a reasonable period after transfer.
- 28.4 Exit Management plan in case of normal termination of Contract period

28.5 Exit Management plan in case of any eventuality due to which Project is terminated before the contract period.

28.6 Exit Management plan in case of termination of System Integrator

Exit Management plan at the minimum adhere to the following:

- 1) Three (3) months of the support to Replacement Service Provider post termination of the Contract.
- 2) Complete handover of the Planning documents, bill of materials, functional requirements specification, technical specifications of all equipment's, change requests if any, sources codes, wherever applicable, reports, documents and other relevant items to the Replacement Service Provider/ DSCL
- 3) Certificate of Acceptance from authorized representative of Replacement Service Provider issued to System Integrator on successful completion of handover and knowledge transfer
- 4) In the event of termination or expiry of the contract, Project Implementation, or Service Level monitoring, both Bidder and DSCL shall comply with the Exit Management Plan.
- 5) During the exit management period, System Integrator shall use its best efforts to deliver the services.

B. Section:2 Special Condition of Contract (SCC)

29. Performance Bank Guarantee/ Performance Security

- 29.1 Within fifteen (15) working days from the date of issuance of Letter of Award, the Successful Bidder shall at his own expense submit unconditional and irrevocable Performance Bank Guarantee (PBG) for an amount equivalent to 5% of contract value to DSCL.
- 29.2 Within fifteen (15) working days from the date of issuance of Letter of Award, the Successful Bidder shall at his own expense submit unconditional and irrevocable Performance Bank Guarantee (PBG) for an amount equivalent to 5% of contract value to DSCL.
- 29.3 The PBG shall be from a Nationalized Bank or a Scheduled Commercial Bank in the format prescribed in Annexure 4.1 of RFP Volume-I, payable on demand, for the due performance and fulfilment of the contract by the bidder.
- 29.4 In case of a consortium the PBG shall be drawn mentioning the name of the consortium to whom the work is awarded in the PBG, by any of the consortium partners who is a registered company.

- 29.5 In addition to paper based confirmation system, IT enabled confirmation system will be followed for which the Bank Guarantee will be subjected to.
- 29.6 All charges whatsoever such as premium; commission etc. with respect to the PBG shall be borne by the Successful Bidder.
- 29.7 The PBG may be discharged/returned by DSCL upon being satisfied that there has been due performance of the obligations of the bidder under the contract. However, no interest shall be payable on the PBG.
- 29.8 The PBG shall be valid initially up to 180 days beyond the completion of the Construction Period.
- 29.9 In case the project is extended after the project schedule as mentioned in the RFP, the PBG shall be accordingly extended by the Successful Bidder till 180 days beyond the extended period.
- 29.10 In the event of the Bidder being unable to service the contract for whatever reason DSCL would invoke the PBG. Notwithstanding and without prejudice to any rights whatsoever of DSCL under the contract in the matter, the proceeds of the PBG shall be payable to DSCL as compensation for any loss resulting from the bidder's failure to complete its obligations under the Contract. DSCL shall notify the Bidder in writing of the exercise of its right to receive such compensation 14 (fourteen) days in advance, indicating the contractual obligation(s) for which the Bidder is in default.
- 29.11 DSCL shall also be entitled to make recoveries from the bidder's bills, PBG, or from any other amount due to him, the equivalent value of any payment made to him due to inadvertence, error, collusion, misconstruction or misstatement.
- 29.12 On satisfactory performance and completion of the order in all respects and duly certified to this effect by DSCL, Contract Completion Certificate shall be issued and the PBG would be returned to the Successful Bidder within the time mentioned in the contract.
- 29.13 Out of total 5% of the PBG, 2% will be released to the firm after 'Final Go-Live' (after completing of 1st to 4th Phase of this project), whereas rest of 3% of (total Contract Value) the PBG will be retained up to the completion of the Operation & Maintenance Period in all respects.

30. Liquidated Damages

- 30.1 If System Integrator fails to supply, install or maintain any or all of the goods as per the contract, within the time period(s) specified in the RFP Vol II, the DSCL without prejudice to its other rights and remedies under the Contract, deduct from the Contract price, as liquidated damages, a sum equivalent to 0.1 % per week or part thereof of contract value for a milestone/quarter.
- 30.2 The deduction shall not in any case exceed 10 % of the contract value.
- 30.3 If the total Penalty exceeds beyond 10%, it would be considered as non-conformance to the quality of Services and may lead to termination of the Contract and DSCL may

on their sole discretion terminate the contract. These damages shall not release the SI from its obligation to complete the job or from any duties or responsibilities which he may have under the contract.

30.4 Delay not attributable to System Integrator shall be considered for exclusion for the purpose of computing liquidated damages.

31. Limitation of Liability:

Limitation of Bidder's Liability towards the DSCL:

31.1 Neither Party shall be liable to the other Party for any indirect or consequential loss or damage (including loss of revenue and profits) arising out of or relating to the Contract.

31.2 Except in case of gross negligence or wilful misconduct on the part of SI or on the part of any person or company acting on behalf of SI in carrying out the Services,

SI, with respect to damage caused by SI to DSCL's property, shall not be liable to DSCL:

(i) for any indirect or consequential loss or damage; and

(ii) for any direct loss or damage that exceeds (A) the total payments payable under the Contract to SI hereunder, or (B) the proceeds SI may be entitled to receive from any insurance maintained by SI to cover such a liability, whichever of (A) or (B) is higher.

31.3 This limitation of liability shall not affect SI liability, if any, for damage to Third Parties caused by SI or any person or company acting on behalf of SI in carrying out the Services.

32. Ownership and Retention of Documents

32.1 The DSCL shall own the Documents, prepared by or for System Integrator arising out of or in connection with the Contract.

32.2 Forthwith upon expiry or earlier termination of this Contract and at any other time on demand by the DSCL, SI shall deliver to the DSCL all documents provided by or originating from the DSCL and all documents produced by or for System Integrator in the course of performing the Services, unless otherwise directed in writing by the DSCL at no additional cost. System Integrator shall not, without the prior written consent of the DSCL store, copy, distribute or retain any such documents.

33. Records of contract documents

- 33.1 System Integrator shall at all-time make and keep sufficient copies of the process manuals, operating procedures, specifications, Contract documents and any other documentation for him to fulfil his duties under the Contract.
- 33.2 System Integrator shall keep on the Site at least three copies of each and every specification and Contract Document, in excess of his own requirement and those copies shall be available at all times for use by the DSCL's Representative and by any other person authorized by the DSCL's Representative.

34. Security and Safety

- 34.1 System Integrator shall comply with the directions issued from time to time by the DSCL and the standards related to the security and safety, in so far as it applies to the provision of the Services.
- 34.2 System Integrator shall upon reasonable request by the DSCL, or its nominee(s) participate in regular meetings when safety and information technology security matters are reviewed.

35. Change Control Note (CCN)

- 35.1** This applies to and describes the procedure to be followed in the event of any proposed change to contract, site Implementation, and Service levels. Such change shall include, but shall not be limited to, changes in the scope of services provided by System Integrator and changes to the terms of payment.
- 35.2** Change requests in respect of the contract, the site implementation, or the Service levels shall emanate from the Parties' representative who shall be responsible for obtaining approval for the change and who shall act as its sponsor throughout the Change Control Process and shall complete Part A of the CCN (Annexure 4.2, of the RFP, Volume-I). CCNs shall be presented to the other Party's representative who shall acknowledge receipt by signature of the authorized representative of the DSCL.
- 35.3** System Integrator and the DSCL while preparing the CCN, shall consider the change in the context of whether the change is beyond the scope of Services including

ancillary and concomitant services required The CCN shall be applicable for the items which are beyond the stated/implied scope of work as per the RFP document.

35.4 Quotation

System Integrator shall assess the CCN and complete Part B of the CCN. In completing Part B of the CCN SI/Lead Bidder shall provide as a minimum:

- 1) A description of the change
- 2) A list of deliverables required for implementing the change;
- 3) A timetable for implementation;
- 4) An estimate of any proposed change;
- 5) Any relevant acceptance criteria;
- 6) An assessment of the value of the proposed change;
- 7) Material evidence to prove that the proposed change is not already covered within the scope of the RFP, Agreement and Service Levels.
- 8) Prior to submission of the completed CCN to the DSCL or its nominated agencies, SI shall undertake its own internal review of the proposal and obtain all necessary internal approvals. As a part of this internal review process, SI shall consider the materiality of the proposed change in the context of the Agreement, the sites, Service levels affected by the change and the total effect that may arise from implementation of the change.
- 9) Each Party shall be responsible for its own costs incurred in the quotation, preparation of CCNs and in the completion of its obligations described in this process provided SI meets the obligations as set in the CCN. In the event SI is unable to meet the obligations as defined in the CCN then the cost of getting it done by third party shall be borne by SI. Change requests and CCNs shall be reported monthly to DSCL.
- 10) SI's representative who shall prioritize and review progress.

C. Section3 Service Level Agreement

36 Purpose

The purpose is to define the levels of service provided by System integrator to the DSCL for the duration of the contract. The benefits of this are:

Start a process that applies to DSCL and System Integrator attention to some aspect of performance, only when that aspect drops below the threshold defined by the DSCL

- A. Help the DSCL control the levels and performance of System Integrator's services.
- B. The Service Levels are between the DSCL and System Integrator.

37 Service Level Agreements & Targets

37.1 Fault Rectification

The System Integrator shall have to rectify the fault in the lighting system promptly within a specified time after receipt of complaint in any form like verbal by the concerned DSCL/DMC authority, in written by concerned authority, complaint received in Call Centre, complaint received from Dharamshala helpline etc. The bidder should be fully responsible for maintenance of LED lights and any miss happening /all kind of theft in the project.

The bidder will liable to collect the off light points details from DSCL/DMC in the morning and the bidder will be bound to rectify the fault within the specified time.

The specified time line for fault rectification of various types of faults is as mentioned below:

- Faulty lighting fixture: 48 hrs.
- Faulty lighting control Panel: 24 hrs.
- Fault in smart controls: 24 hrs.
- Fault in Call Centre –cum-Data Centre (software & Hardware): 48 hrs.
- Fault in cable, wire, circuit: 96 hrs.
- Noncompliance of illumination levels on any road: 48 hrs.

37.2 Penalties.

If the System Integrator fails to deliver the desired results in the installed lighting system as per the tender guidelines following penalties shall be applicable for non-compliance:

- The bidder has to ensure a response time of at most 48 hours for attending the calls. In case the call is not responded within 48 hours, it shall be escalated to the next higher authority (2nd level support).
- The bidder has to indicate also the name, postal address with pin code, e-mail, contact number and fax number of 2nd level authority for the purpose. Any change in contact person or their contact details shall be communicated to DSCL/DMC within two days of such change.
- If the bidder do not rectify the fault within the specified period of time then DSCL/DMC shall be forced to deduct a fine of Rs.100 per point per day from running monthly Bill.
- In the event of Bidder not being able to rectify the Daily lapses, Within a period of 3 days, then the said penalty shall stand double i.e. Rs. 200 per point per day.
- In the event of Bidder not being able to rectify the Daily lapses, within a period of 7 days, then the said penalty shall stand four times. I.e. Rs. 400 per point per day.
- The bidder shall bound to provide minimum 98% of the Lights in the City in working condition subjected to availability of electricity. If on any day this condition is not achieved, then a penalty of Rs. 2,000/- per day will be imposed.
- If on second day the above mention condition is not achieved then a penalty of Rs. 4,000/- per day will be imposed.
- If on third day the above mention condition is not achieved then a penalty of Rs. 6,000/- per day will be imposed.
- If on Fourth day the above mention condition is not achieved then a penalty of Rs. 8,000/- per day will be imposed.
- If on Fifth day the above mention condition is not achieved then a penalty of Rs. 10,000/- per day will be imposed.
- If on Sixth day the above mention condition is not achieved then a penalty of Rs. 12,000/- per day will be imposed.
- If on Seventh day the above mention condition is not achieved then a penalty of Rs. 14,000/- per day will be imposed.
- After Seven days if the bidders failed to maintain the street light in working condition then the contract will be terminated with the notice of one month. DSCL/DMC will



take custody of all property which has been used by bidder for implementation/ completion of project and bidder will have no right to raise any objection against DSCL/DMC. The Due payment/ performance security / earnest money of bidder will be forfeited and the bidder will be black listed. The bidder should be bound to switch on/ off the street light point as per the direction given by the office.