

कोलटाकुरा डाँडा लिफ्ट खानेपानी तथा सरसफाई योजना उपभोक्ता समिति, भैरबी - २, दैलेख
खरिद समिति
भैरबी गाउँपालिका
भैरीकालिकाथुम, दैलेख

सिलबन्दी दरभाउपत्र आब्हानको सूचना

प्रथम पटक प्रकाशित मिति: २०८३/०२/०५

सिलबन्दी दरभाउपत्र नं. Bhairabi_LACCP_SQ_002_082/083

भैरबी गाउँपालिका/ जलवायु परिवर्तन स्थानीय अनुकूलन परियोजना, दैलेख अन्तर्गत भैरबी गाउँपालिकामा सञ्चालित माथि उल्लेखित खानेपानी तथा सरसफाई निर्माण योजनाहरूका लागि परियोजनाको खरिद निर्देशिका बमोजिम लिफ्ट योजना निर्माणमा प्रयोग हुने सोलार, विद्युतिय तथा इलेक्ट्रो-मेकानिकल सामग्रीहरू (पम्प, कन्ट्रोलर, तार, फिटिङ्ग्स आदि) खरिद तथा जडान गर्नुपर्ने भएकोले इच्छुक तथा योग्य आपूर्तिकर्ता/फर्महरूबाट प्रस्ताव पेश गर्नका लागि खरिद समितिले खुला आह्वान गर्दछ। तसर्थ, निम्न सर्तहरू अन्तर्गत रहि दरभाउपत्र फाराममा प्रदान गरिएको परिमाण तथा तोकिएको स्पेसिफिकेशन गुणस्तर र तौल अनुसार सामग्री आपूर्ति गर्न इच्छुक भ्याटमा दर्ता भएका तथा सम्बन्धित क्षेत्रमा अनुभव प्राप्त सप्लायर वा फर्महरूबाट सिलबन्दी दरभाउपत्र आब्हान गरिएको छ।

शर्तहरू:

सिलबन्दी दरभाउपत्र नं.	योजनाको नाम	सिलबन्दी दरभाउपत्रको अनुमानित रकम (ढुवानी सहित)	सिलबन्दी दरभाउपत्र खरिद दस्तुर (फिर्ता नहुने गरी)	ढुवानी गर्नु पर्ने स्थान
Bhairabi_LACCP_SQ_002_082/083	कोलटाकुरा डाँडा लिफ्ट खानेपानी तथा सरसफाई योजना उपभोक्ता समिति, भैरबी - २, दैलेख	५८,५९,९८८।०५ (अक्षरुपी रु. अन्डाउन्न लाख उन्नसाठी हजार नौ सय अठासी रुपियाँ जिरो पाँच पैसा मात्र)	३०००।० (अक्षरुपी रु. तिन हजार मात्र)	रावतकोट

- इच्छुक विभिन्न आवश्यक सोलार, विद्युतिय तथा इलेक्ट्रो-मेकानिकल सामग्रीहरू (पम्प, कन्ट्रोलर, तार, फिटिङ्ग्स आदि) खरिद तथा जडान कार्य सम्बन्धी दरभाउपत्र फारम सम्बन्धित भैरबी गाउँपालिकाको कार्यालयबाट वा परियोजना वेवसाइट <https://www.laccp.org.np/> गाउँपालिकाको वेवसाइट <https://bhairabimun.gov.np/>बाट डाउनलोड गर्न सकिनेछ।
- सिलबन्दी दरभाउपत्र पेश गर्दा तोकिएको फारम र विभिन्न आवश्यक सोलार, विद्युतिय तथा इलेक्ट्रो-मेकानिकल सामग्रीहरू (पम्प, कन्ट्रोलर, तार, फिटिङ्ग्स आदि) खरिद तथा जडान कार्य सम्बन्धी दरभाउपत्र फारम प्रति फारामरु. ३००० अक्षरेपी रु. तिन हजार मात्र (पछि फिर्ता नहुने गरी) भैरबी गाउँपालिकाको नाममा रहेको हिमालयन बैंक लि. शाखाको खाता १२०५०७३९२८००९८ (ग-१.१ -आन्तरिक राजस्व खाता) राजस्व शिर्षक (१४२२९) मा LLRP बाट जम्मा गरेको सक्कलै भौचर वा राजश्व शाखा सुत्रमा जम्मा भएको सिर्जित सक्कल भौचर सहित फारम सप्लायरको लिखित निवेदनको साथमा मूल्य अभिवृद्धि कर दर्ताको प्रमाणपत्र, यस आ ब को कर चुक्ताको प्रमाणपत्र सहित यो सूचना प्रकाशित भएको मितिले ८ औं (आठौं) दिनको दिउसो १२:०० बजे भित्र कार्यालय समय भित्र सम्बन्धित गाउँपालिकाको कार्यालय वा जलवायु परिवर्तन स्थानीय अनुकूलन परियोजना सहयोग इकाई बिरेन्द्रनगर सुर्खेत वा विकास व्यवस्थापन सस्था (DMI Pvt. Ltd) प्रा.लि. नुससे मार्ग, शान्तिनगर-११, काठमान्डौमा पेश गरि सक्नु पर्नेछ। यी



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फारमहरू यो सूचना प्रकाशित भएको मितिबाट ७ औं (सातौं) दिनको कार्यालय समय भित्र प्राप्त गर्न सकिनेछ। दरभाउपत्र फाराम सिलबन्दी गरी सम्बन्धित उपभोक्ता समितिको नाम, ठेगाना र सोलार/विधुतिय र इलेक्ट्रो मेकानिकल सामग्रीहरू (पम्प, कन्ट्रोलर, तार, फिटीङ्गस्, आदि) सप्लाई तथा जडान सम्बन्धी दरभाउपत्र भन्ने व्यहोरा उल्लेख गर्नुपर्नेछ।

- सिलबन्दी दरभाउ पत्र पेश गर्दा
 - सप्लायरको आधिकारिक प्रतिनिधि आफै उपस्थित भई वा हुलाक वा कुरियर मार्फत समेत पेश गर्न सक्नेछ।
 - हुलाक वा कुरियर मार्फत पठाएको सिलबन्दी दरभाउपत्र सूचना प्रकाशित भएको मितिले ८ औं (आठौं) दिनको दिउसो १२:०० वजे भित्र प्राप्त भईसक्नु पर्नेछ।
- सप्लाई हुने सामग्रीहरूको भुक्तानी उपभोक्ता समितिहरूको गोदाममा (रावतकोट) मा ढुवानी भै प्राविधिक चेकजाँच भएपछि मात्र हुनेछ। यसैले बोलपत्र सम्बन्धि धरौटी तथा बैंक जमानतको आवश्यकता पर्ने छैन।
- उपरोक्त अनुसार प्राप्त भएका दरभाउपत्रहरू संकलन गरी यो सूचना प्रकाशित भएको मितिले ११ औं (एघारौं) दिन भैरबी गाउँपालिकाको कार्यालय, भैरीकालिकाथुममा दिउसो १२:०० बजे उपभोक्ता समितिका खरिद समितिका प्रतिनिधिहरू, गाउँपालिका कार्यालयका प्रतिनिधिहरू, जलवायु परिवर्तन स्थानीय अनुकूलन परियोजना प्रतिनिधिहरू र दरभाउपत्रदाताहरू वा निजहरूको प्रतिनिधिको रोहवरमा खोलिनेछ। दरभाउपत्रदाताको प्रतिनिधि उपस्थित नभएमा दरभाउपत्र खोल्न बाधा पुग्ने छैन।
- दरभाउपत्र दर्ता गर्ने तथा खोल्ने अन्तिम दिनमा सार्वजनिक विदा पर्न गएमा सो को भोलिपल्ट कार्यालय खुलेको दिन तोकिएको समय भित्र दर्ता गरिने वा खोलिनेछ।
- दरभाउपत्रमा दरेट लेख्दा अंक र अक्षरमा स्पष्ट लेख्नुपर्नेछ। अंक र अक्षरमा फरक परेमा अक्षरमा लेखेकोलाई मान्यता दिइनेछ। अंक र अक्षरमा केरमेट भएकोमा दस्तखत गरेको हुनु पर्नेछ।
- दरभाउपत्र फाराममा तोकिएका लेख्ने स्थानहरू बाहेक, अन्यत्र कुनै पनि थप नोट, संकेत तथा कुनै जानकारी लेख्नु हुँदैन।
- म्याद नाघी वा रीत नपुगी आएको दरभाउपत्र उपर कुनै कारबाही हुने छैन।
- दरभाउपत्र स्वीकृत गर्ने वा नगर्ने वा आंशिक रुपमा स्वीकृत गर्ने सम्पूर्ण अधिकार उपभोक्ता समितिहरूमा सुरक्षित रहनेछ।
- अन्य शर्तहरू परियोजनाको सामुदायिक खरिद कार्यविधि २०८२ बमोजिम हुनेछ। थप शर्तहरू दरभाउपत्र फारम साथै संलग्न गरिएको छ।
- यो सूचनामा केहि संशोधन गर्नु परेमा सो को सूचना गाउँपालिकाको सूचना पाटीमा जानकारी गरिनेछ।
- थप आवश्यक जानकारीहरू सम्बन्धित योजनाहरूको कोटेशन फारम तथा स्पेसीफिकेशनमा उल्लेख गरिएको छ।
- अन्य थप जानकारी चाहिएमा भैरबी गाउँपालिका / परियोजना कार्यान्वयन गर्ने पालिका एकाईको फोन नं. ९८५८०३३३२०/९८४८७३२१२८/९८५१०७४२९४ वा जलवायु परिवर्तन स्थानीय अनुकूलन परियोजना, परियोजना सहयोग एकाई बिरेन्द्रनगर, सुर्खेतमा सम्पर्क गर्न सकिनेछ।



खरिद समिति

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Section I.

Request for Quotation (RFQ)

User Koltakura Dada Lift DWSS

Bhairabi Rural Municipality-2

**Design, Supply, Delivery, Installation, Testing and Commissioning of Electrical Lifting
Water Pumping System**

Date of Notice Publication: Jun 19, 2026

1. **User Committee of Koltakura Dada Lift DWS Scheme** invites sealed quotations from registered suppliers for Design, Supply, Delivery, Installation, Testing and Commissioning of Electrical Lifting Water Pumping System in at Koltakura Dada Lift DWS Scheme, Bhairabi Rural Municipality-2, Dailekh, District.
2. The VAT registered suppliers can obtain the signed quotation form from Bhairabi Rural Municipality (RM), Dailekh or Local Adaptation to Climate Change (LACC) Project, Project Support Unit (PSU), Birendranagar, Surkhet or can be downloaded from official sites of Bhairabi RM (<https://www.bhairabimun.gov.np>) and LACC Project (www.laccp.org.np) within 7 (i.e. 2026/06/25) days from the first publication date.
3. Sealed quotation must be submitted to the Office of Bhairabi RM or LACC Project, PSU, Birendranagar, Surkhet or Liaison Office of LACC Project- DMI Nepal Pvt Ltd. Sanokharibot, Shantinagar, Kathmandu-31 before 12:00 hours on 8th day (i.e. 2026/06/26) of first publication date. Documents received after this deadline shall not be accepted.
4. Quotations must be valid for a period of 90 days from the day of deadline of submission.
5. If the last date of purchasing and opening falls on a government holiday, then the next working day shall be considered the last day.
6. The contractor must sign and stamp all the copies of submission including all the documents mentioned along with Technical Specification and any other document in the Quotation.
7. User committee reserves the right to accept or reject, wholly or partly any or all the quotations without assigning any reason, whatsoever.

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Section II.

RFQ Data

1	Name of the Purchaser: Koltakura Dada Lift DWS Scheme of Bhairabi Rural Municipality-2, Dailekh District
2	Name of Contract: Design, Supply, Delivery, Installation, Testing and Commissioning of Electrical Lifting Water Pumping System
3	Contractor's Eligibility Requirements are: a) Cover Letter for submission of quotation b) Company Profile and experience in design, supply, and installation of electrical and solar pumping schemes. Lift with Dug well is highly relevant to proposed assignment c) Tax Registration/Payment Certificate issued by the Internal Revenue Department evidencing that the contractor is updated with its tax payment obligations, or Certificate of Tax exemption , if any such privilege is enjoyed by the Bidder d) Certificate of Registration of the business , including Articles of Incorporation, or equivalent document if contractor is not a corporation e) Quality Certificate (e.g.,ISO, etc.) and/or other similar certificates, accreditations, awards and citations received by the contractor, if any f) Valid ISO 9001 and ISO 14000 and IEC/IS/NEPQA Quality Assurance Certification of the proposed product especially solar pump & panel.
4	Purchaser's Address: Koltakura Dada Lift DWS Scheme, Ward no. 2 of Bhairabi RM-2, Dailekh District Technical Contact Person Mobile no: 9848732128 Mohan Bahadur Singh (Technical Officer) Contact Person: Khakendra Thapa Position: Chairperson, Koltakura Dada Lift DWS Scheme, Bhairabi RM-2, Dailekh Contact no: 9867957652
5	Language of the Bid: English
6	Quote validity period : 90 days counted from the date of bid submission deadline.
7	Deadline for RFQ submission :

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	<p>Date : 8th day of notice publication</p> <p>Time : 12:00 hours</p> <p>Place : Bhairabi Rural Municipality office, Bhairabi Dailekh or Local Adaption to Climate Change Project, Project Support Unit (PSU), Simalichowk, Birendranagar, Surkhet or Lasion office of LACC Project (DMI Nepal Pvt Ltd. Sanokharibot, Shantinagar, Kathmandu-31)</p> <p>Contact No.: 9851074294</p>
8	Completion of Task as mentioned in the Scope of Work Within 6 Months from the date of Agreement.
9	Estimated Amount of scheme : NRS 5,859,988.05 In Word Fifty Eight Lakhs Fifty Nine thousand nine hundred eighty eight rupees five paise only.
10	<p>Documentary evidence of technical and production capabilities:</p> <p>(i) Minimum Three (3) Years experience in Electrical lifting water supply scheme</p> <p>(ii) At least three water supply lifting schemes (lifting head more than 250 m) design, supply delivery, installation, testing commissioning projects within last five years. Experience letter should be submitted with the sealed quotation.</p>
11	<p>Performance Security</p> <p>Amount: Not needed as payment will be done after material received, verified and technical approval at Road Head.</p>
12	<p>Warranty:</p> <p>Minimum 5 years warranty against manufacturing defects of electrical item. 3 Years Replacement Warranty of electrical pump and standard applicable for other components.</p>
13	Defect liability period : Repair or replace any defects found during the Defect Liability Period of One Year.
14	<p>Payment</p> <p>i. Upon Signing of Agreement and submission of Field verification report: Twenty (20) percent of the Contract Price</p> <p>ii. Upon receiving the materials at road head: Fifty (50) percent of contract price</p> <p>iii. Upon Submission of Installation Completion, Testing & Commissioning report along with handover as per contract: Maximum thirty (30) percent of the Contract Price</p>

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	iv. After Sales Service: The company shall provide regular support and have a field visit atleast once (1) a year up to three years. Thereafter the company shall visit the site atleast once a year on paid basis.
14	Local representative of the company, if any: Name of the representative: Address: Contact no:

1. Design electrical lift pumping system based on the minimum criteria as mentioned in Technical Specification: (I. Minimum Design Criteria- mentioned on the below page).
2. Field verification must be completed to assure the design & **submit the detailed design report** by the contractor's responsible Engineer after the award of the contract & **before the first installment.**
3. After the verification of design, install electrical lift pumping system based on the component recommended at Bills of Quantities (BoQ).
4. Works required for sequential installation of electrical lift Pumping System including necessary civil works (fixing casing pipe) for mounting structures shall be done by the contractor. All the work related to the proper installation and functioning of the system shall have to be carried out by the contractor with the prices offered in the quotation.
5. The contractor will make all necessary arrangements for satisfactory operation, maintenance and performance of the Pumping System for the Warrantee/ Guarantee period.
6. Warrantee/Guarantee will include rectification/replacement of all the defective and consumable components/items. During Warrantee/Guarantee period, all the arrangements for keeping the Electrical Pumping System functional shall be the sole responsibility of the contractor.
7. Coordinate with the NEA for necessary TOD meter and other electrical component design, supply, installation, Testing and commissioning.
8. The contractor shall conduct on-site training of the user committee personnel regarding the assembly, start-up, operation, maintenance and repairs of the electrical lift Pumping System.
9. All necessary Spare parts/Tools should be provided by the contractor.
10. Transport the components to the site till the road head site as per mentioned in the BOQ.
11. Provide Sales Service for an additional 3 years (after 2 year's warrantee period) with a minimum of 1 site visit annually. This visit will be paid by the UC.
12. Contractors should have made representative agents at a provincial level with availability of pumping components sales for the pumping system and must be made linked with user committee.

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Section IV. Technical Specification

4.1 Minimum Design Criteria

SN	Scheme's name and location	Design Data
2.	Koltakura Dada Lift DWS Scheme, Bhairabi-2, Koltakura danda, Dailekh Location: Distribution tank GPS 28.88628° N, 81.64799° E	System that must be able to lift a minimum of = 37170 lpd liters of water per day at 254 m dynamic head with 1396-meter pipe length from well to top DC Single lift system proposed.

Contractor/Firm also need to submit alternative design with more efficient & economic design in single stage lift in different head level than mentioned. The technical evaluation committee will consider if the proposed system justifies required design & installation as per field requirement.

4.2 Submersible Pump Unit

The contractor must design the electrical water pump unit and submit the detailed technical specification and the calculation showing the discharge of the pump to meet the **Minimum Design Criteria**. Contractor/Firm should submit the separate design with justification in change of pumping size meeting minimum require specification of technical part.

SN	Description	Specification	Contractor Proposal	Contractor's Remarks* (Fully Complaint/Nor Complaint)
1	Name of the manufacturer	Grundfos or Pedrollo or Lorentz or equivalent		
2	Brand/Model	Grundfos or Pedrollo or Lorentz or equivalent		
3	Pump Type	Submersible borehole pump or equivalent Water filled (Oil must not be used for lubrication), Submersible centrifugal or positive displacement Electric Pump, fully stainless Steel, with necessary casing and protection.		

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		<p>Pump Performance Curve I.e. Flow Vs Input</p> <p>Pump Power shall be provided at the Head of Project design.</p> <p>Warranty on the motor and pump: 2 years</p>		
4	Minimum Efficiency	Pump motor efficiency must be at least 60 %		
5	Minimum Standard	<p>Submersible borehole pump, suitable for pumping clean water. It can be installed vertically or horizontally. Pump carrying drinking water approval.</p> <p>The pump and controller must be manufactured by the same company.</p> <p>Pumps suitable for applications in groundwater lowering, pressure boosting, fountain applications. The suction interconnector is fitted with a strainer to prevent large particles from entering the pump. The suction interconnector is designed to comply with NEMA standards for motor mounting/dimensions.</p>		
6	Material	All steel components made in stainless steel, EN 1.4301 (AISI 304), ensure high corrosive & wear resistance. Rotors and impellers must be made of stainless steel with a minimum grade of AISI 304 or higher.		
7	Control	<p>The pump controller must have an MPPT control circuit. The pump or pump set must be capable of stopping operation in the event of dry running or insufficient energy supply. Must be equal to or greater than the capacity of the pump.</p> <p>Warranty on the pump controller: 2 years</p>		

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		Must be of the same brand of the Pump. The Bidder must submit the technical datasheet. A Manufacturer's Authorization letter provided by principal manufacturer in their letter head.		
8	Warranty	At least 2 years		
9	Protection Features	Dry run protection, Over and under voltage protection, Overload protection, Temperature Protection		

4.3 Motor Control Panel

Motor Control Panel wall mounted minimum 750 mmx 450 mmx 25 mm size sheet metal enclosure for above motors fabricated and assembled as per instruction with auto/manual start, IP 65 standard each consisting of:

1. 1 no. 32 A 50kA 4 Pole MCCB for motor back-up protection.
2. 1 set fully automatic air-break type Star-Delta Starter for 15 kW motor (min.20 A magnetic contactors) with electronic Timer.
3. Protection of motor against current (8-22A), dry running including float switch with required signal cable, single and opposite phasing
4. High and low water level guard with at least 1500m signal cable
5. Digital Voltmeter with S/S for 3 phases
6. C/T digital Ammeter with S/S for each motor.
7. Indicator Lamps for power supply and faults RYB Neon light indicators to indicate
8. Push button switch for "START" and "STOP"
9. 100 A input and output cable shoes connector.

4.4 11 kV Electric Power Line: Supply, install including poling, stringing, etc., testing & commissioning of the following items as per NEA standard and Engineer's instruction

4.4.1 Transformer structure and all fittings

Complete set of Transformer Structure as per NEA Standard consisting of followings in each set with 1 unit 25 kVA capacity 11/0.415 KV, 3 phase, 50 HZ. low loss copper winded Distribution Transformer), Make: NS and ISO Certificate holder Nepalese Manufacturer

Minimum Accessories required for the transformer supply and installation:

1. 11 kV Pin insulator with pin and nut/washer
2. Steel cross galvanized arm Chanel (50x100x6.4x300) mm
3. Pole Clamp with nut bolt and washers (PC1)

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4. Steel cross arm Chanel (500x100x6.4x1200) mm
5. Pole Clamp with stainless steel nut bolt washer (PC2)
6. Flat Cross Arm galvanized
7. 9 kV Surge Arrestor
8. Distribution cutout with fuse holders.
9. Chanel for LA and DO ISLC 100 2348 mm
10. Platform Chanel (TR1) ISMC100 2500 mm
11. Platform Chanel (TR3) ISMC100 2500 mm
12. Platform Chanel (TR2) ISMC100 1200 mm
13. Platform Chanel (TR4) ISMC100 1200 mm
14. Bracing Angle (TR5) 50x50x5 841 mm
15. Bracing Band (TR6 OR TR 6P) with 2 M16 bolt, nut and washer
16. M16 x250 bolt, nut and washer stainless steel
17. Maintenance free Chemical Earthing using Electrode of size 76 mm dia, 03 meter long connected with 50X6 mm Copper internal strip complete with excavation, civil works, cast iron cover with back fill compound. The earth resistance shall be as per IS 3043.
18. As required quantity copper grounding conductor
19. Preform Ties.
20. Full Galvanized Tubular Steel Pole

4.4.2 Galvanized Steel Tubular Pole

Full Galvanized Tubular Steel Pole : swaged type , confirming to IS: 2713 (Pat-I and III): 1980 as amended up to date , overall length : 11 m , planting depth : 1.8 m ,height above ground : 9.2 m. Thickness of each Section. : Bottom : 165.1x4.50 mm , middle : 139.7x4.50 mm Top : 114.3x3.65 mm, Approximate weight of Pole : 175 Kg

4.4.3 Other Items for 11 KVA Line

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S.N.	Items	Specifications
1	Disconnect Switch	11 kV load disconnect Switch
2	1 ft. Cross Arm	1 feet Galvanized steel cross arm with necessary nut, bolt and washer
3	4 ft. Galvanized steel cross arm	4 feet galvanized steel cross arm with necessary nut, bolt and washer
4	11 kV Disc Insulator	Disc Insulator: IS:731, IS:2544 and IS:5350 or any other authoritative standard. The disc insulators shall be of Ball & Socket type., The cap of disc insulators shall be of Malleable Cast Iron whereas the ball pins shall be of Forged steel and All metal parts shall be of Hot dip galvanized as per IS: 2633., should be supplied in complete set with necessary nut-bolt and washer Nominal system voltage/Working voltage : 11 KV, Highest system voltage : 12 KV
5	11 kV Pin Insulator	Pin Insulator: IS:731, IS:2544 and IS:5350 or any other authoritative standard. Nominal system voltage/Working voltage: 11 KV, Highest system voltage : 12 KV
6	PG Clamp	Medium PG Clamp Suitable for 0.05 sq .in size cable
7	Transmission Wire: ABC Cable	4 core unarmored ABC insulated PVC sheathed 50 Sq mm cable. Standard IEC 60502/NS
8	Cable termination kit	Outdoor/indoor Heat shrink type termination kit suitable for 50 sq.mm size 1.1 kV class 3.5 core XLPE insulated copper conductor
9	Cable Clamp	Cable clamp to clamp 4 core ABC cable in poles
10	Stay set	Galvanized steel heavy stay set with necessary stay wire, stay insulator, binding wire, D-iron. etc all complete
11	Bush Connector	Bush connector for H/T and L/T side of the transformer suitable for 50 mm ² size cable
12	Brass nut bolt	Brass nut bolt, washer for cable connection to transformer
13	Suspension Clamp	Suspension Clamp: Angled, Straight and or Strap type as per requirement
14	Dead end clamp	Dead end clamp : Aluminum alloy strain clamp (bolted type) or other suitable dead end clamp

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4.5 400/230 V Power Line-Supply, Delivery, Installation including fixing, stringing, laying, Testing and Commissioning of Electricity Power Line and Accessories all complete

S.N.	Items	Specifications
1	Armored Copper Power Cable for transformer to main D/B of pump station	4 core 10 sq.mm NS certified 1.1 kV class XLPE insulated armored cable with copper conductor:
2	Outdoor Circuit Breaker	50 - 63 A , 25 kA 3 pole MCCB confirming to IS/IEC 60947-2 in outdoor ss cabinet.
3	KWH meter and Cabinet (Including NEA Processing fee and related works)	TOD KWH meter supplied by NEA and outdoor cabinet with NEA approved design with all necessary accessories and all NEA charge like, shutdown, transformer test, line charge, etc complete.
4	Main Power Distribution Board (MDB)	Main Power Distribution Board , self-supported , suitable size , provision of locking , IP 65 protection, with following components: a) 1 no. 50 -63 A 25 kA three pole MCCB b) 3 no 3P 25 -32 A, 25 kA MCCB c) 1 no.DP MCB 32 A d) Digital Volt meter, C/T Ammeter with S/S, Phase indication lamps e) Copper busbar (25X3)mm busbar
5	Equipment earthing	Maintenance free Chemical Earthing using Electrode of size 76 mm dia, 03 meter long connected with 50X6 mm Copper internal strip complete with excavation, civil works, cast iron cover with back fill compound. The earth resistance shall be as per IS 3043. Copper strip of size 32 mm X 5 mm, length as per required including installation (Cu purity not less than 99.9%) of required length.

4.6 Protection

4.6.1 Lightning Arrestor

The lightning protection system shall be of the enhanced type which is designed to attract lightning to a preferred point and safely convey the lightning energy to ground with minimal risk of side flashing via a pre-determined route.

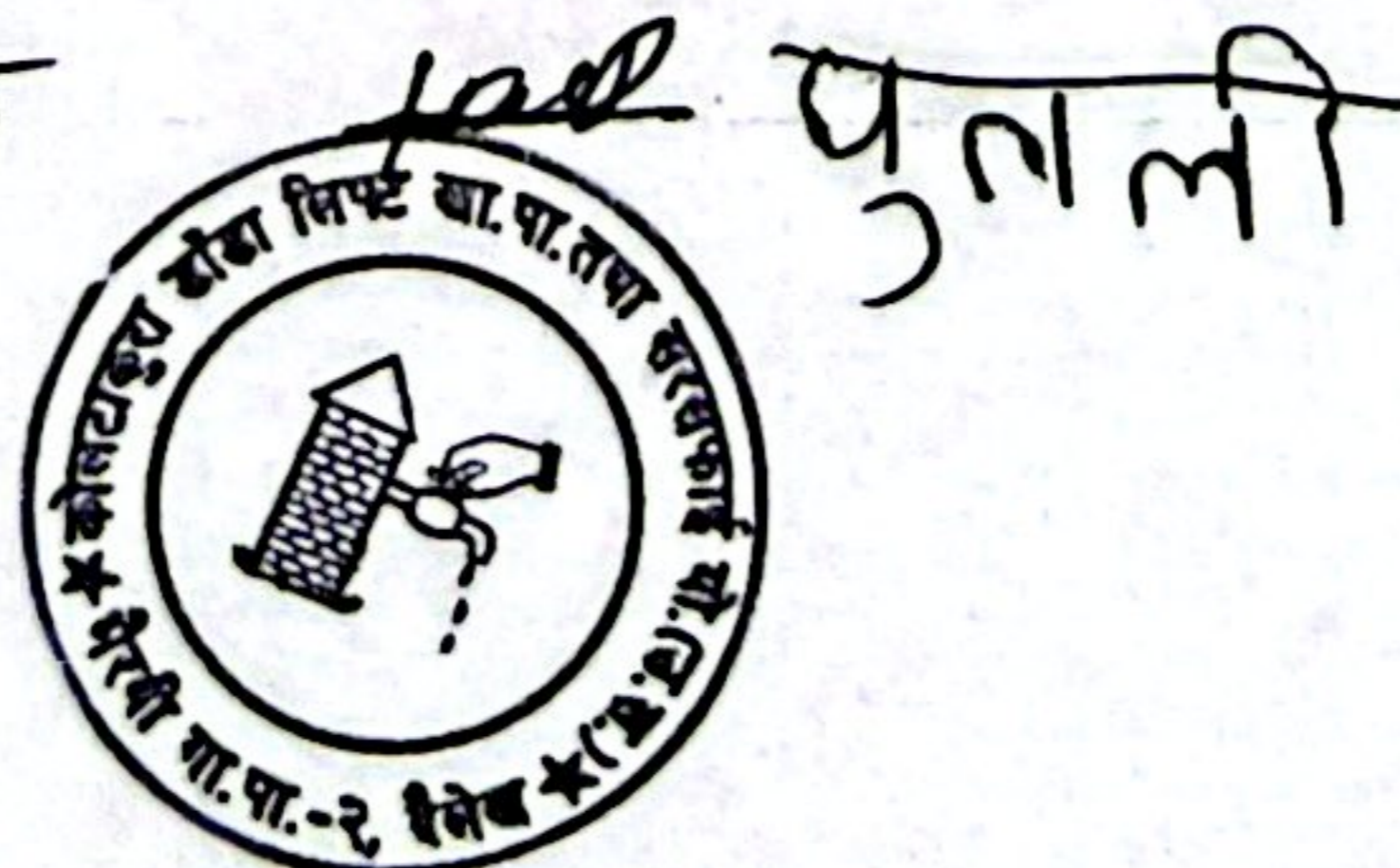
The complete lightning protection system will comprise the following key components.

- Lightning Air Terminal
- Mounting support
- Dedicated down conductor
- Dedicated Earthing system

4.6.2 The Lightning Air Terminal

- The lightning air terminal shall be an Early Streamer Emission terminal which will respond dynamically upon leader activity in the near area.
- The lightning air terminal shall be configured as a spheroid which is comprised of separate electrically isolated panels surrounding an earthed central finial.

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- The degree of protection should be IP20 and inflammability class should be V0.

4.8 Earthing/Grounding for Lightning Arrestor/ For Electrical and Safety Earthing

- The Earthing electrode shall be constructed in Pipe-in-Pipe technology.
- Chemical shall be filled in between the electrodes.
- Earthing electrode shall not be less than 48 mm outer diameter and 27 mm inner diameter.
- The length of the Earthing electrode shall not be less than 1500 mm.
- The hot dipped galvanization or plating of earth electrode shall be of copper and shall be 70 microns to 100 microns.
- Backfill material shall be chemical bag having not less than 25 kg for each earthing electrode.
- The earthing shall be installed in delta type consists of 3 electrodes for one set.
- Earthing inspection pit shall be made of solid concrete with minimum dimension of 320 mm x 320 mm x 200 mm. Cover shall be marked with word "EARTH" or acceptable earthing marking.
- The final impedance reading does not exceed 10 Ohms.
- The use of certified chemical ground resistance improvement material (other than salt and charcoal) shall be applied in order to reduce the resistivity levels of the earthing system.

4.9 Others

The components of the Pumping systems must conform to the latest edition of IEC/ equivalent BoS Standards as specified in table below:

BoS item/component	Applicable Standard	
	Standard Description	Standard
Transmission Cables	NS standard for PVC insulated cables and UV resistant for outdoor installation 3 core 16 sqm or as per design	NS Standard
Switches/Circuit Breakers / Connectors	General Requirements Connectors-safety	NS/ IS standard
Junction Boxes/ Enclosures	General Requirements	IP 65 (for outdoor)/ IP 21 (for indoor) or Equivalent
SPV System Design and Installation Practices	PV Stand-alone System design, verification and electrical installation of building requirements for SPV power supply systems	NS/ IS Standard

4.6 Civil Works

The civil works for the electrical pumping system will be as under:

1. Well and electromechanical and electrical system installation and fixing

Drawings: The details, drawings and calculations must be provided.

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S.No.	Item	Unit	Unit Weight (kg)	Total Quantity	Rate		Amount (Rs)	Remarks
					In Words (Rs)	In figures (Rs.)		
7	Cast Steel Gate Valve: DN 50 Double flanged Class ASA 600 cast steel Gate valve :Hydrostatic Test pressure Body 150 Kg/cm ² , Seat 110 Kg/cm ² : Each valve shall be supplied with MS/GI flange at both ends	Set	2	2				
8	GI Elbow: DN 50 mm GI 900 Heavy class Elbow	Nos	3	2				
9	GI Nipple: DN 50 mm GI Heavy Class 6" long nipple	Nos	1.5	6				
10	Unequal Tee: DN 50mm to 1/2" Unequal Tee	Nos	0.5	1				
11	Flange Set: ND-2"(50mm) 20 mm thick MS flange conforming to IS:6392 for 2.5 N/mm ² having 4 nos 18 mm dia bolt holes for M16 bolts.	Nos	3	6				
12	Gasket Sheet	Nos	0.3	10				
13	Stainless steel nut bolt washer: a) M 16 nom. length : 75mm	Nos	0.1	50				
	Stainless steel nut bolt washer: b) M20 nom. length :100 mm	Nos	5	50				
14	Chain Pulley: 5 ton capacity chain pulley (ISO/ISI Standard)	Set	25	1				
15	GI stand for Chain Pulley block: 1.5" GI Pipe stand for connect the chain pulley as per engineer's instruction	Set	15	1				
16	Joining of GI Pipe by welding: DN 50 mm Medium class ERW GI pipe conforming to IS:1239 , both end threaded with steel socket in one end ,nom. length 6 m each :	Mtr	6	80				
17	Sensor: High & Low water level Guard / Sensor / Level probes; prevent dry running	Nos	1	1				
B	11 kV Electric Power Line : Supply ,install including poling, stringing...etc, testing & commissioning of the following items as per NEA standard and Engineer's instruction							




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S.No.	Item	Unit	Unit Weight (kg)	Total Quantity	Rate		Amount (Rs)	Remarks
					In Words (Rs)	In figures (Rs.)		
1	Transformer structure and all fittings: (Complete set of Transformer Structure as per NEA Standard consisting of followings in each set with 1 unit 25 kVA capacity 11/0.415 KV, 3 phase, 50 HZ. low loss copper wound Distribution Transformer), Make : NS and ISO Certificate holder Nepalese Manufacturer.	Set	210	1.00				
	Transformer Accessories:							
	a) 11 kV Pin insulator with pin and nut/washer	Nos	275	6.00				
	b) Steel cross galvanized arm Chanel (50x100x6.4x300) mm	Nos	15	2.00				
	c) Pole Clamp with nut bolt and washers (PC1)	Nos	15	2.00				
	d) Steel cross arm Chanel (500x100x6.4x1200) mm	Nos	15	2.00				
	e) Pole Clamp with steelness steel nut bolt washer (PC2)	Nos	15	2.00				
	f) Flat Cross Arm galvanized	Nos	15	4.00				
	g) 9 kV Surge Arrestor	Nos	15	3.00				
	h) Distribution cutout with fuse holders.	Nos	15	3.00				
	i) Chanel for LA and DO ISLC 100 2348 mm	Nos	15	1.00				
2								



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S.No.	Item	Unit	Unit Weight (kg)	Total Quantity	Rate		Amount (Rs)	Remarks
					In Words (Rs)	In figures (Rs.)		
	j) Platform Chanel (TR1) ISMC100 2500 mm	Nos	15	2.00				
	k) Platform Chanel (TR3) ISMC100 2500 mm	Nos	15	2.00				
	l) Platform Chanel (TR2) ISMC100 1200 mm	Nos	15	2.00				
	m) Platform Chanel (TR4) ISMC100 1200 mm	Nos	15	2.00				
	n) Bracing Angle (TR5) 50x50x5 841 mm	Nos	15	8.00				
	o) Bracing Band (TR6 OR TR 6P) with 2 M16 bolt, nut and washer	Set	15	2.00				
	p) M16 x250 bolt, nut and washer steel	Nos	15	16.00				
	q) Maintenance free Chemical Earthing using Electrode of size 76 mm dia, 03 meter long connected with 50X6 mm Copper internal strip complete with excavation, civil works, cast iron cover with back fill compound. The earth resistance shall be as per IS 3043.	Set	15	3.00				



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S.No.	Item	Unit	Unit Weight (kg)	Total Quantity	Rate		Amount (Rs)	Remarks
					In Words (Rs)	In figures (Rs.)		
	r) As required quantity copper grounding conductor	LS	15	1.00				
	s) Preform Ties.	Packet	15	6.00				
	t) Full Galvanized Tubular Steel Pole : swaged type	Nos	2	2.00				
3	Disconnect Switch	Set	4	1.00				
4	Galvanized Steel Tubular Pole	Nos	175.00	26.00				
5	1 ft. Cross Arm	Nos	10.00	26.00				
6	4 ft. Galvanized steel cross arm	Nos	10.00	26.00				
7	11 kV Disc Insulator	Nos	4.00	26.00				
8	11 kV Pin Insulator	Nos	2.00	78.00				



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S.No.	Item	Unit	Unit Weight (kg)	Total Quantity	Rate		Amount (Rs)	Remarks
					In Words (Rs)	In figures (Rs.)		
	system voltage/Working voltage : 11 KV, Highest system voltage : 12 KV							
9	PG Clamp Medium PG Clamp Suitable for 0.05 sq .in size cable	Nos	2.00	26.00				
10	Transmission Wire: ABC Cable 4 core unarmoured ABC insulated PVC sheathed 50 Sq mm cable. Standard IEC 60502/NS	KM	2,950.00	1.30				
11	Cable termination kit Outdoor/indoor Heat shrink type termination kit suitable for 50 sq.mm size 1.1 kV class 3.5 core XLPE insulated copper conductor	Set	3.00	4.00				
12	Cable Clamp Cable clamp to clamp 4 core ABC cable in poles	Set	2.00	33.00				
13	Stay set Galvanized steel heavy stay set with necessary stay wire, stay insulator, binding wire, D-iron .. etc all complete	Set	18.00	3.00				
14	Bush Connector Bush connector for H/T and L/T side of the transformer suitable to 50 mm ² size cable	Nos	2.00	7.00				



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S.No.	Item		Unit	Unit Weight (kg)	Total Quantity	Rate		Amount (Rs)	Remarks
						In Words (Rs)	In figures (Rs.)		
15	Brass nut bolt	Brass nut bolt, washer for cable connection to transformer	Nos	14	7.00				
16	Suspension Clamp	Suspension Clamp : Angled, Straight and or Strap type as per requirement	Nos	15	5.00				
17	Dead end clamp	Dead end clamp : Aluminum alloy strain clamp (bolted type) or other suitable dead end clamp	Nos	15	5.00				
C	400/230 V Power Line	Supply, Delivery, Installation including fixing, stringing, laying, Testing and Commissioning of Electricity Power Line and Accessories all complete							
1	Armoured Copper Power Cable for transformer to main D/B of pump station	4 core 10 sq.mm NS certified 1.1 kV class XLPE insulated armoured cable with copper conductor:	Meter	2.95	35				
2	Outdoor Circuit Breaker	50 - 63 A, 25 kA 3 pole MCCB conforming to IS/IEC 60947-2 in outdoor ss cabinet.	Set	2	1				
3	KWH meter and Cabinet (Including NEA Processing fee and	TOD KWH meter supplied by NEA and outdoor cabinet with NEA approved design with all necessary accessories and all NEA charge like,	Work	14	1				



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S.No.	Item		Unit	Unit Weight (kg)	Total Quantity	Rate		Amount (Rs)	Remarks
						In Words (Rs)	In figures (Rs.)		
	related works)	shutdown, transformer test, line charge....etc complete.							
4	Main Power Distribution Board (MDB)	Main Power Distribution Board, self supported, suitable size, provision of locking, IP 65 protection with TS	Set	35	1				
5	Equipment earthing	Maintenance free Chemical Earthing using Electrode of size 76 mm dia, 03 meter long connected with 50X6 mm Copper internal strip complete with excavation, civil works, cast iron cover with back fill compound. The earth resistance shall be as per IS 3043. Copper strip of size 32 mm X 5 mm, length as per required including installation (Cu purity not less than 99.9%) of required length.	Set	105	3				
6	Misc. items	Copper wire of different sizes, Cable shoes, cable socket, screw, nut, bolt, PVC tape, 11 meter	LS	195	1				



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S.No.	Item	Unit	Unit Weight (kg)	Total Quantity	Rate		Amount (Rs)	Remarks
					In Words (Rs)	In figures (Rs.)		
	aluminium ladder etc. misc. unidentified items required for the installation of all above items							
7	Transportation of Goods	kg		13,088.25				
8	Installation Services	LS		1.00				
Sub Total (A+B+C)								
VAT, 13%								
Grand Total								

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Important Note: Contractor/Firm can propose separate economical, efficient design & estimated BoQ by authorized Engineering designer with one of the pumping systems of **Grundfos or Pedrollo or Lorentz** or equivalent. Technical evaluation can consider the new design and proposed costing maintaining the minimum standards of technical specifications.

Transportation (Road Head locations): Koltakura Dada, Bhairabi Rural Municipality-2, Dailekh (Scheme Area)

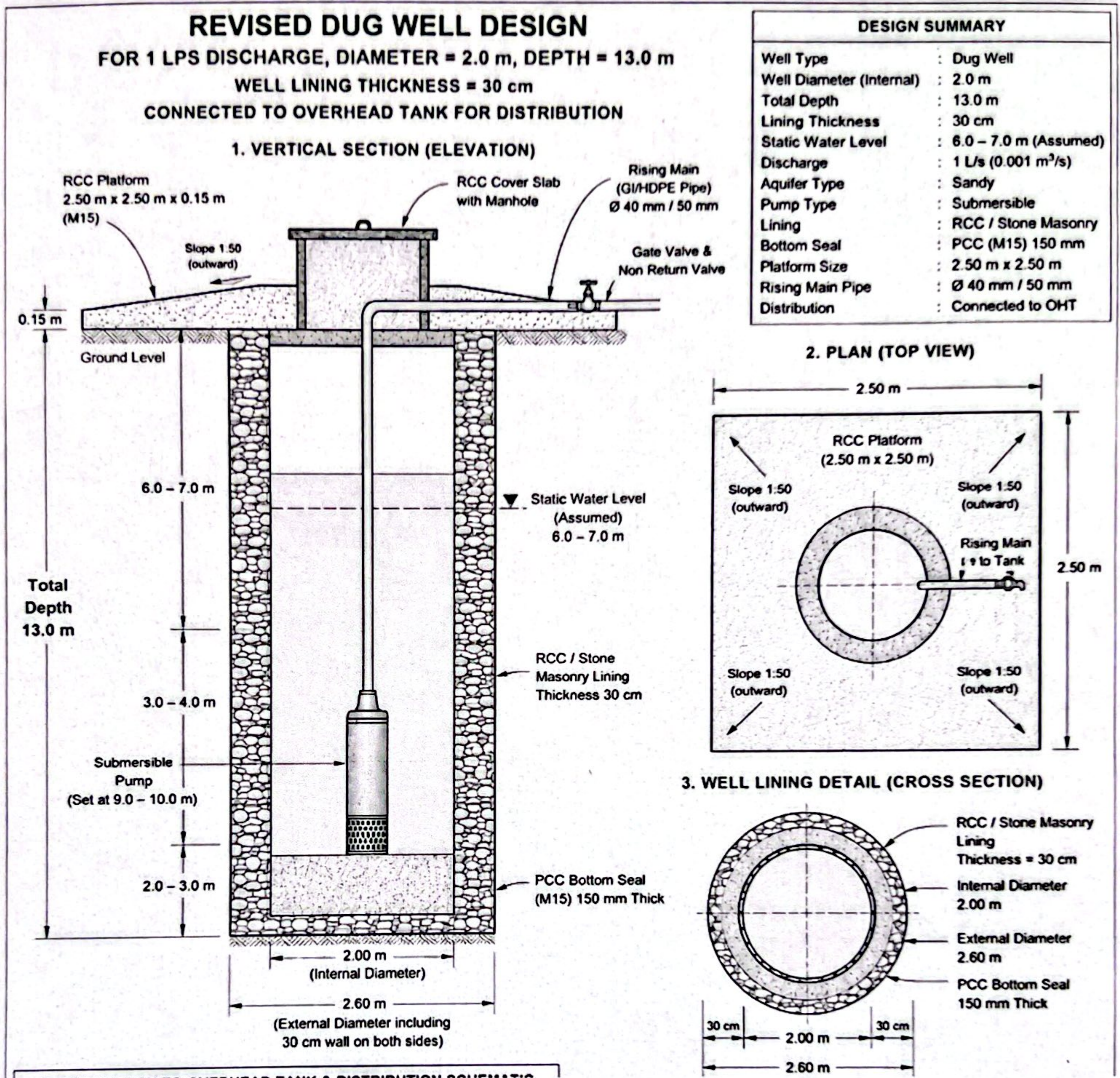
Please tick the following information option as per your capacity:

Availability Pump in the stock	<input type="checkbox"/> Yes <input type="checkbox"/> No
Time required for the contractor to deliver the materials to the sites after agreement with the UC:	<input type="checkbox"/> Within One month <input type="checkbox"/> 1-2 month <input type="checkbox"/> More than 2 months
Availability of spare parts of electric pump, Panel & other accessories in local Market:	<input type="checkbox"/> Available in Dailekh Bazar <input type="checkbox"/> Birendranagar, Surkhet <input type="checkbox"/> Nepalgunj <input type="checkbox"/> Kathmandu
Availability of Local Technical Agent for repair & maintenance of electric pump, Panel & other accessories in region:	Available in <input type="checkbox"/> Dailekha Bazar <input type="checkbox"/> Birendranagar, Surkhet <input type="checkbox"/> Nepalgunj

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Annex :2 Drawing of Dug Well



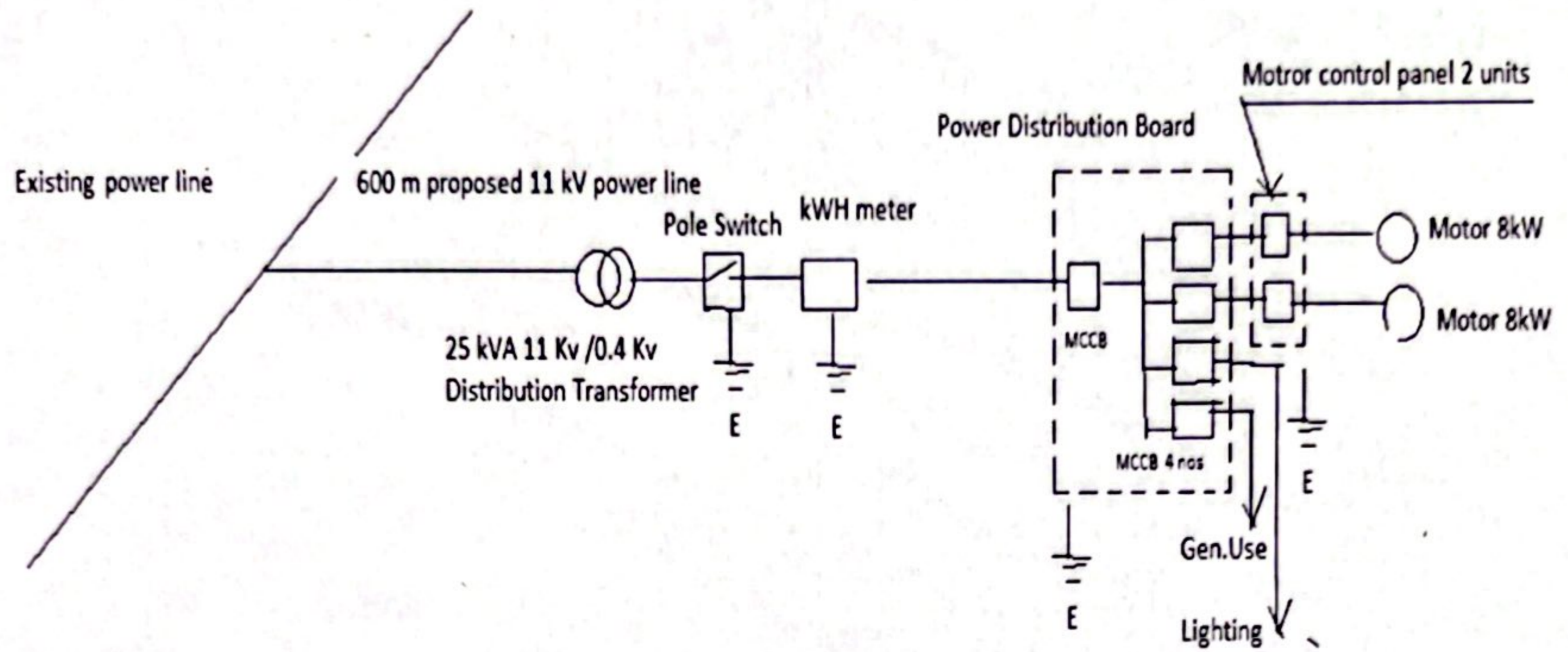
Note: Details Fittings are provided in the BoQ

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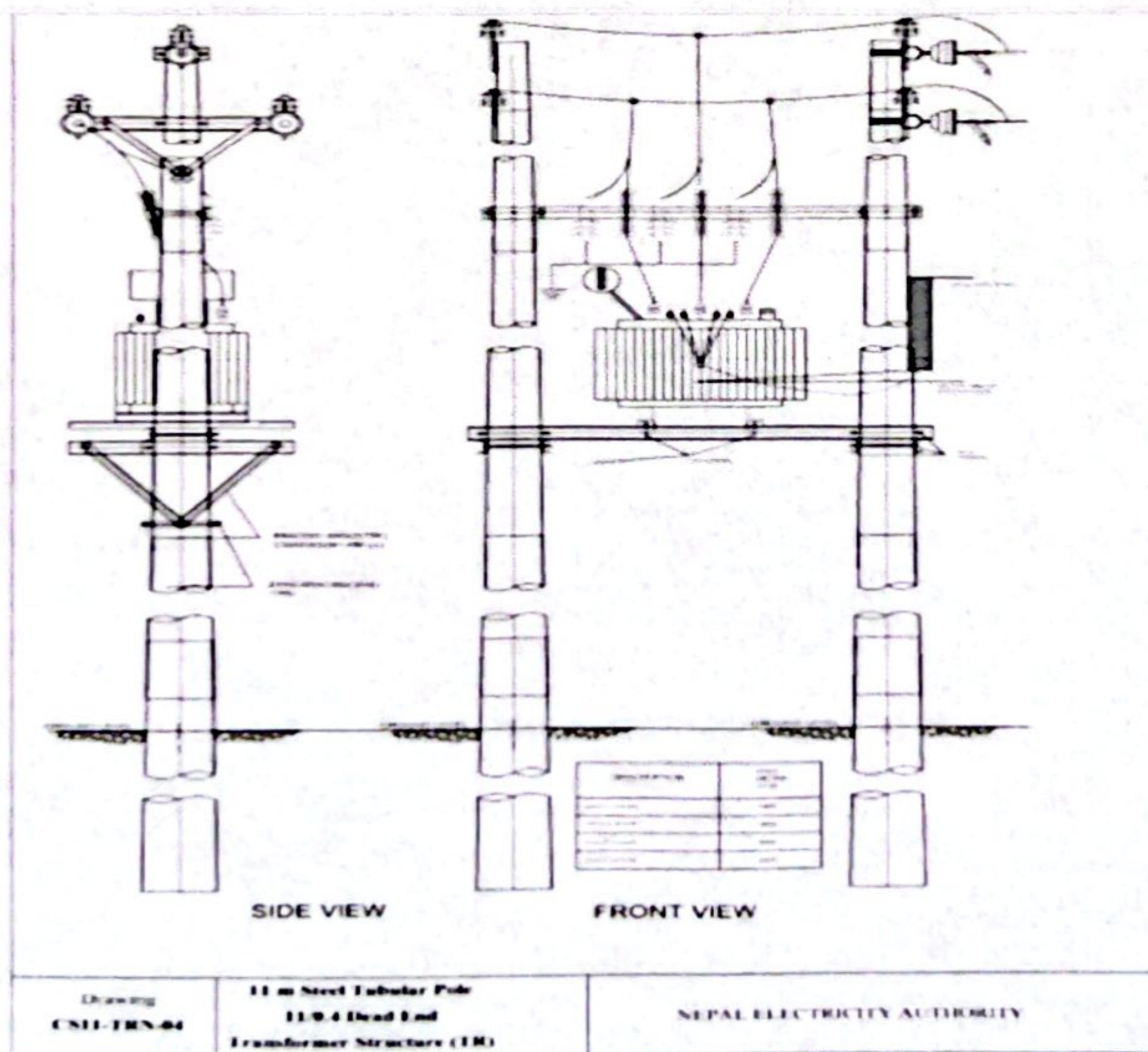


Annex :3 Drawing of Power Distribution System

POWER DISTRIBUTION DIAGRAM



Annex-4: Drawing of Transformer



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Where, $V = 400-415$ V
Therefore current I (in Ampere) :- = 28.87
[$\cos\phi = 0.75$ (for motors)]

Water Hammer Pressure

Since the pump is closed suddenly, which results the water hammer pressure at the delivery pipe. The water hammer pressure, P_h is given by:

Where,

V = velocity of flow in pipe(m/s)
 g = acceleration due to gravity(m/s²)
 w = specific weight of water (N/m³)
 K = Bulk modulus of water(N/m²)
 d = bore of pipe(m)
 t = thickness of pipe(m)
 E = Youngs modulus of elasticity of pipe material(N/m²)
 $1/m$ = Poisson ratio

For galvanised iron pipe and for above condition.

$V = 1.17$ m/s
 $g = 9.81$ m/s²
 $w = 9810.00$ N/m³
 $K = 2060.00$ N/mm²
 $d = 50.00$ mm
 $t = 4.50$ mm
 $E = 210.00$ kN/mm²
 $1/m = 0.270$

Max. water hammer pressure, $P_h = 1.603$ N/mm²
= 16.34 kg/cm²

Max. pressure that should be withstand by conduit material:

(static pressure+water hammer pressure) = 44.21 kg/cm²

This pressure may withstand by GI heavy pipe duty with welded joints.

Provide the Pipe to withstand this pressure immediately out of Pump

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