NIT No.: NU/Engg/94/2021-22/01

PACKAGE 7B

NOTICE INVITING E-TENDER FOR
HORTICULTURE AND IRRIGATION WORKS FOR WEST PART OF THE
NALANDA UNIVERSITY CAMPUS
AT
RAJGIR, BIHAR.

NALANDA UNIVERSITY, RAJGIR,
DISTRICT NALANDA,
BIHAR-803116, INDIA.

INDEX

TENDER NOTICE

The Registrar, Nalanda University, Rajgir, District – Nalanda, Bihar on behalf of Nalanda University invites online Percentage rate bids basis from reputed, approved, and eligible category contractors of CPWD or any State/Central Govt. Departments /PSUs /Institutions /Autonomous Bodies /other reputed firms fulfilling the set eligibility criteria, in two bid system (Eligibility Bid & Financial bid) for the following work:

NIT No.: NU/Engg/94/2021-22/01

Name of Work: Horticulture and Irrigation Works for West Part of the Nalanda University Campus at Rajgir, Bihar

Estimated Cost: Rs. 14,12,72,351/- for original works and Rs. 3,72,75,840/- for maintenance of 24 months

Earnest Money: Exempted As per OM issued by DG, CPWD, New Delhi DG/CON/Misc./13 dated 23.11.2020. Bid Security Declaration to be submitted as per FORM F

E- Tender Processing fee: Rs 15,000/- (RTGS/NEFT)

Performance Guarantee: 3% of Tendered Value

Security Deposit: 2.5% of Tendered Value

Period of Completion: 12 Months (12 Months for Horticulture and Irrigation work) plus one year Defects Liability Period (DLP) plus two years of Maintenance Period after successful completion of DLP.

Pre- Bid Meeting (Online): 10th August 2021 at 11:00 Hrs

Last date & time of Online submission of Bids: 25th August **up to 15:00 Hrs**

Opening of Eligibility Bids Online: 25th August at 15:00 Hrs

The bid forms and other details can be obtained from the website https://nalandauniv.edu.in/tenders/ and https://nalandauniv.euniwizarde.com/

REGISTRAR
NALANDA UNIVERSITY,
RAJGIR, DISTRICT
NALANDA, BIHAR - 803116,
INDIA

PART-I

GENERAL INFORMATION,

PRE-QUALIFICATION CRITERIA,
&
EVALUTION CRITERIA

1.1. CHECK LIST FOR CONTRACTORS FOR SUBMISSION OF BIDS

1.1.1. The tenderers should read all the instructions, terms & conditions, contract clauses, schedule of items, particular specification of work, special conditions etc. contained in the tender documents very carefully, before quoting the percentage rate. The tenderer should also read the CPWD GCC Construction works 2020, CPWD schedule of rates, Analysis of rates & Specifications (Horticulture & landscaping)-2020 and CPWD works Manual -2019 (with correction slips up to last date of submission of tenders) which will be part of this tender.

1.1.2. The agency shall quote the rate for complete scope of work for Horticulture & Irrigation works including maintenance, both in words and figures in the financial bid.

1.1.3. The contractor shall quote his rates keeping in mind the scope of work, particular specification of works, terms & conditions, special conditions, CPWD GCC construction works 2020, CPWD schedule of rates, Analysis of rates & Specifications (Horticulture & landscaping)-2020 and CPWD works manual -2019 and nothing shall be payable extra whatsoever unless otherwise specified.

1.1.4. The successful bidder on award of contract shall also furnish Performance Guarantee of 3% of the tendered amount in addition to the other deposits mentioned elsewhere in this document for proper performance of the agreement. The Performance Guarantee shall be in the shape of FDR or Bank guarantee as per Performa given. 100% of the performance guarantee shall be released after completion of work.

1.1.5. In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power of attorney authorizing him to do so. Such power of attorney should be produced with the tender, and it must be disclosed that the firm is duly registered under the Indian partnership act, 1952.

1.1.6. The bidder shall quote their rates considering all prevalent taxes/Cess like GST, Labour Cess or any other tax on material/work as applicable as per the Government norms and nothing extra shall be paid to the contractor on this account. The University shall deduct from the R/A bills, the TDS as applicable as per the prevailing rates as prescribed by the Government time to time. The university shall deduct Workers Cess, any other tax as applicable, from the R/A bills & final bill. The CGST @1% + SGST @ 1% will be deducted by University from the Contractor's bill and the rest component of GST will be paid by the contractor to concerned authorities directly and proof of same will be submitted by the contractor to University in next RA Bill failing which subsequent RA bill payment will be withheld till GST is cleared.

1.1.7. The tender, which is not duly signed by authorized signatory or is conditional shall be treated as non-responsive and shall be summarily rejected.

1.1.8 Online bid documents submitted by intending bidders shall be opened only of those bidders, whose EMD declaration proforma along with other documents, scanned and uploaded, are found in order.

1.1.9 Nalanda University will allow the labour camps at site only if feasible and therefore contractor, in unfeasible case, must make his/their arrangement for the stay/ transportation at his/their own cost. Other facilities arrangement confirming to CPWD GCC Construction works -2020 and contract labour regulations, safety measures and health measures as per guidelines issued by Govt. from time to time, needs to be followed by contractor. The Contractor's rate deems to be all inclusive and nothing extra shall be paid to the contractor on these accounts.

1.2. INFORMATION & INSTRUCTIONS FOR BIDDERS FOR e-BIDDING

1.2.1 The Registrar, Nalanda University, Rajgir, District – Nalanda, Bihar on behalf of Nalanda University invites Online Percentage rate basis bids from reputed, approved and eligible category contractors of CPWD or any State/Central Govt. Departments /PSUs /Institutions /Autonomous Bodies /other reputed firms fulfilling the set eligibility criteria, in two bid system (Eligibility Bid & Financial bid) for the following work :

NIT No.	**NU/Engg/94/2021-22/01**
Name of Work	**Horticulture And Irrigation Works for West part of the Nalanda University Campus at Rajgir, Bihar**
Location	Nalanda University Main Campus, Rajgir, District Nalanda, Bihar.
Estimated Cost	**Rs. 14,12,72,351/- for original works and Rs. 3,72,75,840/- for maintenance of 24 months**
E- tender processing fee	Rs 15000/- (RTGS/NEFT/Demand Draft)
Period of Completion	**12 months** (12 Months for Horticulture and Irrigation work) plus one year Defects Liability Period (DLP) plus two years of Maintenance Period after successful completion of DLP
Pre- Bid Conference (Online)	**Pre-bid conference shall be held Online with the intending bidders at 11:00 Hrs on 10th August Only two authorised representatives of the bidders are allowed to attend.**
Last date & time of Online submission of Eligibility & Financial Bids	**Up to 15:00 Hrs. on 25th August 2021 through online in https://nalandauniv.euniwizarde.com/ The tender documents can be viewed and downloaded from Nalanda University website https://nalandauniv.edu.in/tenders/. The tender downloading will only start from 3rd August 2021.**
Time and date of Online opening of Eligibility bid	**15:30 Hrs. on 25th August 2021**
Time and date of Online Opening of Financial bids	Shall be intimated to the qualified bidders only after scrutiny of eligibility documents of the bidders.

1.3 **Eligibility Criteria** : The contractor who fulfil the following eligibility shall be eligible to apply. Joint ventures/ consortium and special purpose vehicles are not accepted. For This purpose, cost of work shall mean gross value of the completed work.

(i) Should have satisfactorily completed the work/s as mentionedbelow during the last seven years ending previous day of last date of submission of Bids :-

Three similar works each costing not less than 40% of estimated cost i.e. Rs. 5.66 Crore.

OR

Two similar works each costing not less than 60% of estimated cost of work i.e. Rs.8.48 Crore.

OR

One similar works each costing not less than 80% of estimated cost ofthe work i.e. Rs 11.31 Crore.

Similar work shall mean – "Horticulture works executed under one agreement in India during past 7 (seven) years"

The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to previous day of last date of submission of tenders. The completion certificate of works shall be signed by not below the rank of Executive Engineer/Project Manager. Qualified similar works, may be physically inspected if required, by a Technical Expert Committee constituted or a representative(s) appointed by the Competent Authority at Nalanda University to ascertain the completion, performance on quality of works for finalising the Eligibility bid and their report will be final and binding.

(ii) In case of works executed in Private Sector, Completion Certificate should be accompanied with TDS certificates

(iii) Should have minimum average annual financial turn over (gross) of Rs 7.07 Cr on horticulture works during the immediate last three consecutive financial years ending on 31st March 2020. (The bidder should upload financial information about turnover as per Form – 'A' only and should not upload any other financial sheets like balance sheets etc.)

(iv) The multiplication factor of 7% per annum simple interest is not applicable on the Annual Financial Turnover figures

(v) Should not have incurred any loss (profit after tax should be positive)in more than two years during the last five consecutive financial years ending on 31st March 2020 duly certified and audited by the Chartered Accountant. For financial year 2020-21, it may be certified by CA, if not audited. The contractor should upload financial information about profit/loss only and should not upload any other financial sheets like Balance Sheets etc.

vi) Should have a minimum solvency of Rs. 5.66 Crore (Scanned copy of original solvency

certificate to be uploaded). Such solvency certificate should not have been issued by the Bank beyond 12 months from the date of last date of submission of bids

vii) The eligibility bid shall be opened first on due date and time , online, as mentioned above. The time and date for online opening of financial bid of contractors qualifying the eligibility bid shall be communicated to them at later date.
   a. Online financial bid document submitted by the bidders shall be opened only of those bidders who on the basis of eligibility documents uploaded by them within the period of bid submission, qualify in accordance with the provision of eligibility bid. The financial bid shall be opened online at the notified time and date in presence of only qualified bidders or their representative.

viii) After submission of the bid, the contractor can resubmit revised bid any number of times but before last time and date of submission of bid as notified. Contractor must ensure to quote his percentage rate in the attached schedule online only. The bids submitted online shall only be considered for evaluation.

ix) The Original Exempted Earnest Money Declaration proforma duly filled shall be scanned and uploaded to the e-Tendering website within the period of bid submission.

1.4 Information and instructions for bidders posted on website shall form part of bid document.

1.5 The bidders can view / download the tender documents, from the www.nalandauniv.edu.in/tenders or https://nalandauniv.euniwizarde.com/ or https://eprocure.gov.in/epublish/app.

1.6 Submission of Bids: The bidders who are desirous of participating in this e-Tender shall submit their price bids in the standard formats prescribed in the Tender documents, displayed at www.nalandauniv.edu.in/tenders or https://nalandauniv.euniwizarde.com/ . The bidder should upload the scanned copies of all the relevant certificates, documents etc., in the https://nalandauniv.euniwizarde.com/ in support of their bids. The bidder shall sign on all the statements, documents, certificates, uploaded by him, owning responsibility for their correctness / authenticity.

1.7 The bid document consisting of schedule of items to be executed and the set of terms & conditions of the contract to be complied with and other necessary documents can be viewed/downloaded free of cost from website https://nalandauniv.euniwizarde.com/ **or** https://nalandauniv.edu.in/tenders/. **The bidder can see and download CPWD GCC construction works 2020 , CPWD works manual 2019 and CPWD schedule of rate , Analysis of rates & specifications (horticulture & landscaping)-2020 from the CPWD publications website** (**www.cpwd.gov.in). All these CPWD mentioned documents is part of the bid, to be totally complied and to be read in conjunction with this bid terms and conditions, Particular specification of work, Special conditions, and Schedule of items. In case of any difference in meaning in any clause in any of these documents, the strictest of clause shall apply.**

1.8 Bidd**e**rs not registered on the Nalanda university related website as mentioned above, are required to get registered themselves beforehand.

1.9 The intending bidder must have valid Class-III digital signature to submit the bid.

1.10 On opening date, the Bidder can login and see the bid opening process.

1.11 Bidder can upload documents in the form of JPG format and PDF format.

1.12 If any information furnished by the bidder is found incorrect at a later stage, his contract shall be terminated with immediate effect and PBG and /or any other security deposit, all will be forfeited and encashed by university and he shall be liable to be debarred from tendering/taking up of works in the University. The University reserves the right to verify the particulars furnished by the applicant independently.

1.13 Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub- soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, electricity, access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and local conditions and other factors having a bearing on the execution of the work

1.14 The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.

1.15 All modifications/addendums/corrigendum issued regarding this bidding process, shall be uploaded on website only and shall not be published in any Newspaper. Therefore, prospective bidders must see the website regularly for any update.

1.16 The university reserves the right to reject any prospective application without assigning any reason thereof and to restrict the list of qualified bidders to any number deemed suitable by it, if too many bids are received satisfying the minimum laid down criteria.

1.17 **Processing of Tenders:** The concerned TEC Committee as appointed by the Competent Authority at Nalanda University will evaluate and process the tenders as per the standard procedure as laid down in this tender. Any correspondences or queries related to this tender shall be submitted to the University in the email address – **phase1.tender@nalandauniv.edu.in** **only**.

1.18 **Financial Bid opening**: The Financial bid of qualified bidders only will be opened online by the TEC Committee at the specified date and time and the result will be displayed on the website www.nalandauniv.edu.in/tenders and https://nalandauniv.euniwizarde.com/.

1.19 The bid submitted shall become invalid and e-bidding processing fee shall not be refunded if:

i) The bidder is found ineligible.

ii) The bidder does not upload all the documents as stipulated in the bid document.

iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the bidder in the office of bid opening authority.

1.20 List of Documents to be scanned and uploaded within the period of bid submission.

(i) Letter of transmittal.

(ii) Financial information (Form “A”).

(iii) Solvency certificate (Form “B”).
(iv) Details of eligible similar works completed during the last seven years (Form “C”) & ongoing works in (Form C-1)
(v) Performance report of works referred in form C (Form “D”)

(vi) Structure & organization (Form “E”).
(vii) Bidding capacity (Form “F”)
(viii) Earnest Money Deposit Declaration (Form “G”)
(ix) Integrity Pact signed by the bidder in the presence of a witness
(x) GST Registration Certificate or proof of applying for the same.
(xi) Permanent Account Number (PAN) as issued by the Income TaxDepartment

1.21 Signing of agreement : After the award of the contract, an agreement will be signed as per standard procedure.

Sd/-

Registrar, Nalanda University

CPWD-6 FOR E-TENDERING

1. The Registrar, Nalanda University, Rajgir, District – Nalanda, Bihar on behalf of Nalanda University invites online Percentage rate basis bids from reputed, approved and eligible category contractors of CPWD or any State/Central Govt. Departments /PSUs /Institutions /Autonomous Bodies /other reputed firms fulfilling the set eligibility criteria, in two bid system (Eligibility Bid & Financial bid) for the following work :

NIT No.	**NU/Engg /94/2021-22/01**
Name of Work	**Horticulture And Irrigation Works for West part of the Nalanda University Campus at Rajgir, Bihar**

2. The Estimated Cost of this work is **Rs. 14,12,72,351/- for original works and Rs. 3,72,75,840/- for maintenance of 24 months**
3. The agencies who fulfil the following eligibility shall be eligible to apply. **Jointventures/ consortium and special purpose vehicles are not accepted.**

(i) Agency should have satisfactorily completed the work/s as mentionedbelow during the last seven years ending previous day of last date of submission of Bids:

Three similar works each costing not less than 40% of estimated cost i.e., Rs. 5.66 Cr.

OR

Two similar works each costing not less than 60% of estimated cost of work i.e., Rs. 8.48 Cr.

OR

One similar work costing not less than 80% of estimated cost of the work i.e., Rs. 11.31 Cr.

Similar work shall mean :–

“Horticulture works executed under one agreement in India during past 7 (seven) years”

The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to previous day of last date of submission of tenders. The completion certificate of works shall be signed by not below the rank of Executive Engineer/Project Manager. Qualified similar works may be physically inspected , if required, by a Technical Expert Committee constituted by the Competent Authority at Nalanda University to ascertain the completion, performance on quality of works for finalizing the Eligibility bid. Decision of TEC is final and binding.

ii) Should have minimum average annual financial turn over (gross) of Rs 7.07 Cr on horticulture works during the immediate last three consecutive financial years ending on 31st March 2020.

iii) Should not have incurred any loss (profit after tax should be positive)in more than two

years during the last five consecutive financial years ending on 31st March 2020 duly certified andaudited by the Chartered Accountant.

iv) Should have a minimum solvency of Rs. 5.66 Crore (Scanned copy of original solvency certificate to be uploaded). Such solvency certificate should not have been issued by the Bank beyond 12 months from the date of last date of submission of bids

v) The bidder must visit the site of work, at his own cost, and examine it and its surroundings to familiarise himself and collect all information that he considers necessary for proper assessment of the prospective assignment. Duly Filled Form G is a mandatory requirement of this tender.

vi) The time allowed for carrying out the work will be **12 months for Horticulture works** from the date of start as defined in Schedule F or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.

vii) The site for the work is 100% available for starting the work immediately.

viii) The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.

ix) The bid document consisting of schedule of items to be executed ,particular specification of works, special conditions and other Terms & conditions of the contract including CPWD GCC Construction works 2020, Schedule of Rates, Analysis of rates & specifications (Horticulture & landscaping)-2020, CPWD works Manual 2019 to be completely complied with and can be seen free of cost from website https://nalandauniv.euniwizarde.com/ **or** https://nalandauniv.edu.in/tenders/ (except for CPWD documents as indicated which can be seen from CPWD publications website)

x) While submitting the revised financial bid, bidder can revise the percentage rate basis quoted bid any number of times but before last time and date of submission of bid as notified.

xi) Bidders have to upload Earnest Money declaration on the proforma given with the tender document.

xii) Copy of work experience and other documents as specified in the tender shall be scanned and uploaded to the e-tendering website within the period of bid submission. Online bid documents submitted by the intending bidders shall be opened only of those bidders, whose scanned and uploaded documents are found in order.

xiii) The bidder shall quote their rates considering all prevalent taxes/Cess like GST, Labour Cess or any other tax on material/work as applicable as per the Government norms and nothing extra shall be paid to the contractor on this account. The University shall deduct from the R/A bills, the TDS as applicable as per the prevailing rates as prescribed by the Government time to time. The university shall deduct Workers Cess, any other tax as applicable, from the R/A bills & final bill. The CGST @1% + SGST @ 1% will be deducted by university from the contractor's bill and the rest component of GST will be paid by the

contractor to concerned authorities directly and proof of same will be submitted by the contractor to university in next RA Bill failing which subsequent RA bill payment will be withheld till GST is cleared.

xiv) The bid submitted shall become invalid and e-bid processing fees shall not be refunded if:

a. The bidder is found ineligible
b. The bidder does not upload all the documents as stipulated in the biddocuments.
c. If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the bidder in the office of bid opening authority.

xv) The bidder whose bid is finally accepted will be required to furnish performance guarantee of 3% (Three Percent) of the bid amount within the period specified in schedule F. This guarantee shall be in the form of Banker's cheque of any scheduled bank / Demand Draft of any scheduled bank or Fixed Deposit Receipts of a Scheduled bank or an irrevocable bank Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the Bidder fails to deposit the said performance guarantee within the period as indicated in schedule 'F' including the extended period if any, the action against bidder shall be taken as per Declaration given by bidder in Annexure A.

xvi) The agency whose bid is accepted will also be required to furnish either copy of applicable licenses/registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC, and BOCW Welfare Board including Provident Fund Code No. if applicable and also ensure the compliance of aforesaid provisions by the sub-agencies, if any engaged by the agency for the said work and Program chart (Time & Progress) with in the period specified in Schedule-F.

xvii) Intending bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra claims / payments consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity, Access, facilities for workers and all other services required for executing the work unless otherwise specificallyprovided for in the contract documents. Submission of bid implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and local conditions and other factors having a bearing on the execution of the work.

xviii) The competent authority does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without assigning any reason. Bids in which any of the prescribed conditions is not fulfilled or any condition including that of conditional rebate is put forth by the bidders shall be summarily rejected.

xix) Canvassing whether directly or indirectly, in connection with bids is strictly prohibited and

the bids submitted by the bidders who resort to canvassing willbe liable to rejection.

xx) The competent authority reserves to himself the right of accepting the whole or any part of the bid and the bidders shall be bound to perform the same at the percentage rate quoted.

xxi) No Engineer of Gazetted rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a Bidder for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. In addition no permanent employee of Nalanda University employed in the Engineering Section or Administration is allowed to work as a contractor for a period of one year after his/her retirement or repatriation from service, without written permission of the Competent Authority at NalandaUniversity. This contract is liable to be cancelled if either the Bidder or any of his employees is found any time to be such a person who has not obtained the permission of the Government of India/Nalanda university as aforesaid before submission of the bid or engagement in the Bidder's service.

xxii) GST or any other tax applicable in respect of inputs procured by the contractor forthis contract shall be payable by the contractor and the University shall not entertain any claim whatsoever in respect of the same. However, component of GST at time of supply of service (as provided in CGST Act 2017) provided by thecontract shall be varied as it may be different from that applicable on the last date of receipt of tender including extension if any. No GST variation (plus /minus) is admissible under any condition .

xxiii) The bid for the works shall remain open for acceptance for a period of Ninety (90) days from the date of opening of eligibility documents. Further the University shall without prejudice to any other right or remedy, be at liberty to debar the said bidder for 01 year from any tender of Nalanda university , if :

a. If after the opening of tender, I/we withdraw or modify my/our bid during the period of validity of tender (including extended validity of tender) specified in the bid documents.
b. If, after the award of work, I/we fail to sign the contract, or to submit performance guarantee before the deadline defined in the bid documents

xxiv) This notice inviting bid shall form a part of the contract document. The successful bidder / bidder, on acceptance of his bid by the Accepting Authority shall within 15 working days from the stipulated date of start of the work, sign the agreement consisting of:

a. The Notice Inviting Bid, all the documents including terms & conditions, schedule of items with percentage rate quoted online at the time of submission of bid, drawings (if & as uploaded at the time of bid invitation) and acceptance thereof together with any correspondence leading thereto.

b. CPWD GCC for Construction Works 2020, CPWD works manual 2019, Schedule of rates, Analysis of rates & specifications (Horticulture & landscaping)-2020 along with all corrections slips issued by the department till last date of submission of Bid.

Sd/- Registrar,
Nalanda University, Rajgir.

BRIEF PARTICULARS OF THE WORK

Nalanda University was established in November 2010. It came into being by an Act of the Indian Parliament – a testimony to the important status that Nalanda University occupies in the Indian intellectual landscape. Nalanda University is a standalone international university unlike any other established in the country. Located in the town of Rajgir, in the northern Indian State of Bihar, Nalanda University is mandated to be "an international institution for the pursuit of intellectual, philosophical, historical and spiritual studies". This new university contains within it a memory of the ancient Nalanda University and is premised on the shared desire of Member States of the East Asia Summit countries to re-discover and strengthen "educational co-operation by tapping the East Asia Regions centres of excellence in education ... [and] to improve understanding and the appreciation of one another's heritage and history"

The proposed site for the University is located at Rajgir in the Nalanda district of Bihar and fronts theState Highway 71. The site for the University is on the South West outskirts of Rajgir town at a distance of 3.5 kilometers from the current urban edge of the town.

1. Construction of New N a l a n d a u n i v e r s i t y c a m p u s Buildings, are under progress in Campus area . In pursuance of sustainable development, it has been decided for horticulture works at Nalanda university campus, Rajgir, Bihar on Percentage rate bid basis.

2. The Bidder has to take care (i.e Not to damage) the existing flora and fauna in thecampus if any, during Horticulture works as per this E-Tender on Percentage rate bid basis .

3. The scope of work , within quoted cost ,also includes the following apart from the mentioned details elsewhere in Financial Bid :

   (i) The drawings/layout /working details etc. for Horticulture & Irrigation works shall got prepared by the bidder through a reputed Landscape Consultant, for university approval before execution.

   (ii) The movement plan of machineries shall first get approved from the University before execution.

   (iii) Bidder has to arrange temporary electric connection either from state electricity board or university or through own DG set as applicable situation , for the execution of Horticulture works. For water requirement for horticulture works, Bidder has to first execute pumping system on irrigation water source and associated Drip irrigation / Pop up Sprinkler system as per this E tender requirement and Bidder will use the said water source for irrigation for the horticulture works. However any guarantee of any equipment used for watering like pumps, panels, drip irrigation/sprinkler system etc will commence only from date of handover of complete horticulture works to university as certified by E-In-C. No extra claim for the same shall be entertained.

PRE-QUALIFICATION CRITERIA, & TECHNICAL EVALUATION

1. General: -

1.1 Letter of transmittal and forms for deciding eligibility are given in this section.

1.2 All information called for in the enclosed forms should be furnished against the relevant columns in the forms. If for any reason, information is furnished on a separate sheet, this fact should be mentioned against the relevant column.Even if no information is to be provided in a column, a "nil" or "no such case" entry should be made in that column. If any particulars/query is not applicable in case of the bidder, it should be stated as "not applicable". The bidders are cautioned that not giving complete information called for in the application forms or not giving it in clear terms or making any change in the prescribed forms or deliberately suppressing the information may result in the bid being summarily disqualified. Bids made by telegram or telex and those received late will not be entertained.

1.3 References, information and certificates from the respective clients certifying suitability, technical knowledge or capability of the bidder should be signed by an officer not below the rank of Executive Engineer or equivalent.

1.4 The bidder may furnish any additional information which he thinks is necessary to establish his capabilities to successfully complete the envisaged work. He is, however, advised not to furnish superfluous information. No information shall be entertained after submission of eligibility criteria document unless it is called for by the Employer.

2. Definitions:

2.1 In this document the following words and expressions have the meaninghereby assigned to them.

2.2 **Employer:** Means the Nalanda University, acting through the Engineer In charge , Nalanda university.

2.3 **Bidder:** Means the individual, proprietary firm, firm in partnership, limitedcompany private or public or corporation.

2.4 **Year:** means "Financial Year" unless stated otherwise.

3. Method of application:

3.1 If the bidder is an individual, the application shall be signed by him above his full type written name and current address.

3.2 If the bidder is a proprietary firm, the application shall be signed by the proprietor above his full typewritten name and the full name of his firmwith its current address.

3.3 If the bidder is a firm in partnership, the application shall be signed by all the partners of the firm above their full typewritten names and current addresses, or, alternatively, by a partner holding power of attorney for the firm. In the later case a certified copy of the power of attorney should accompany the application. In both cases a certified copy of the partnership deed and current address of all the partners of the firm should accompany the application.

3.4 If the bidder is a limited company or a corporation, the application shall be signed by a duly authorized person holding power of attorney for signing the application accompanied by a copy of the power of attorney. The bidder should also furnish a copy of the Memorandum of Articles of Association duly attested by a Public Notary.

4. Final decision making authority:

The University reserves the right to accept or reject any bid and to annul the process and reject all bids at any time, without assigning any reason or incurring any liability to the bidders.

5. Site visit:

The bidder must visit the site of work, at his own cost, and examine it and its surroundings to familiarise himself and collect all information that he considers necessary for proper assessment of the prospective assignment. Duly Filled Form G is a mandatory requirement of this tender. The site visit must be undertake after prior intimation to the Nalanda University and after their due approval for the same.

6. The particulars of work are indicative and are liable to change .

7. Criteria for eligibility:-

The agencies who fulfil the following eligibility shall be eligible to apply. Joint ventures/ consortium and special purpose vehicles are not accepted.-

i) Agency should have satisfactorily completed the work/s as mentionedbelow during the last seven years ending previous day of last date of submission of Bids:-

Three similar works each costing not less than 40% of estimated cost i.e., Rs. 5.66 Cr.

OR

Two similar works each costing not less than 60% of estimated cost of work i.e., Rs. 8.48 Cr..

OR

One similar works costing not less than 80% of estimated cost of the work i.e., Rs. 11.31 Cr.

Similar work shall mean:

"Horticulture works executed under one agreement in India during past 7 (seven) years"

The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to previous day of last date of submission of tenders. The completion certificate of works shall be signed by not below the rank of Executive Engineer/Project Manager. Qualified similar works may be physically inspected , if required, by a Technical Expert Committee constituted by the Competent Authority at Nalanda University to ascertain the completion, performance on quality of works for finalizing the Eligibility bid. Decision of TEC is final and binding.

ii) Should have minimum average annual financial turn over (gross) of Rs 7.07 Cr on

horticulture works during the immediate last three consecutive financial years ending on 31st March 2020..

iii) Should not have incurred any loss (profit after tax should be positive)in more than two years during the last five consecutive financial years ending on 31st March 2020 duly certified andaudited by the Chartered Accountant.

iv) Should have a minimum solvency of Rs. 5.66 Crore (Scanned copy of original solvency certificate to be uploaded). Such solvency certificate should not have been issued by the Bank beyond 12 months from the date of last date of submission of bids.

v) The bidder must visit the site of work, at his own cost, and examine it and its surroundings to familiarise himself and collect all information that he considers necessary for proper assessment of the prospective assignment. Duly Filled Form G is a mandatory requirement of this tender.

8. Evaluation Criteria:

i) The documents submitted by the bidders will be evaluated in thefollowing manner:-

ii) The initial criteria prescribed in para 7.0 above in respect of experience of eligible similar works completed, profit/loss, solvency, Bidding Capacity and financial turn over etc. will first be scrutinised and the bidder's eligibility for the work be determined.

iii) The bidders qualifying the initial criteria as set out in para 7.0 above will be evaluated for following criteria by scoring method on the basis of details furnished by them.

(A)	**Financial strength (Form "A" and "B")** A Turn over B Solvency	**Maximum marks** **20** 16 4
(B)	**Experience in eligible similar nature of Work during last seven years. (Form "C"}**	**Maximum marks** **20**
(C)	**Performance on Works (time Over run) (Form "D")**	**Maximum marks** **20**
(D)	**Performance on quality of eligible similar works executed (Form "D")**	**Maximum marks** **40**
Total		**100 Marks**

Further breakup of marks in each attribute, as mentioned above, is given in tender document. To become eligible for short listing the bidder must secure at least fifty percent (50%) marks in each (Section a, b, c, d & e) and sixty percent (60%) marks in aggregate.

The University, however, reserves the right to restrict the list of such qualified contractors to any number deemed suitable by it.

Note : The average value of performance of works for time over run and quality shall be taken on the basis of performance report and eligible similar works.

9. Financial information :-

Bidder should furnish the Annual financial statement for the last five year in Form "A" and solvency Certificate in Form "B"

10. Experience of similar works :-
Bidder should furnish the List of eligible similar nature of works successfullycompleted during the last seven years in (Form "C") and ongoing works in (Form C-1) and Performance report of the works referred (in Form – "D and D 1")

11. **Organization information:** Bidder is required to submit the information in respect of his organization in Form "E".

12. If required University officials may inspect the eligible works as submitted by the contractor. The contractor shall coordinate such inspections and provide all necessary documents, information as desired by the visiting officer(s).

13 **LETTER OF TRANSMITTAL** - The bidder should submit the letter of transmittal attached with the document.

14 **OPENING OF THE FINANCIAL BID** - After evaluation of applications, a list of short listed agencies qualified in technical evaluation will be prepared. Thereafter, the financial bids of only the qualified and technically acceptable bidders shall be opened at the notified time, date and place in the presence of the qualified bidders or their representatives. The validity of the tenders shall be 90 days and shall be reckoned from the date of opening of the Technical Bid.

15 AWARD CRITERIA –

15.1 The University reserves the right, without being liable for any damages or obligation to inform the bidder, to:

15.1.1 Amend the scope and value of contract to the bidder.

15.1.2 Reject any or all of the applications without assigning any reason.

16 CRITERIA FOR EVALUATION IN QUALITY AND COST BASED SELECTION (QCBS) PROCESS (as per GFR 2017 Rule 192) –

16.1 The quality of proposals received through this tender shall be assessed through QUALITY AND COST BASED SELECTION (QCBS) process (as per GFR 2017 Rule 192). Initially the quality of technical proposals shall be scored as per criteria mentioned under Para 7 & 8 above. Only those responsive proposals that have achieved at least minimum specified qualifying score in quality of the technical proposals shall be

considered further.

16.2 Thus the score achieved by the respective technically qualified bidder, after evaluation of the technical bids based on the criteria stipulated under Para 7 & 8 above, shall be denoted as Tn.

16.3 After opening and scoring the financial proposals of technically qualified responsive bidders, a final combined score shall be arrived at by giving predefined relative weight ages for the score of quality of the technical proposal and the score of financial proposal.

16.4 The Financial Bids of technically qualified bidders will be opened on the prescribed date in the presence of bidder representatives.

16.5 Financial bids which appear to be either grossly under quoted or over quoted are liable to be rejected and this will be at the sole discretion of the Owner.

16.6 The bidder with lowest qualifying financial bid (L1) will be awarded 100% score (amongst the bidders which did not get disqualified on the basis of para 16.5 above). Financial Scores for other than L1 bidders will be evaluated using the following formula –

Normalized Financial Score of a Bidder (Fn) = {(Quoted Price of L1 / Quoted Price of the respective Bidder) X 100} %
(Adjusted to two decimal places)

16.7 Only percentage rate basis financial bids indicating total price for all the deliverables and services specified in this NIT of percentage rate basis tender will be considered.

16.8 The bid price will include all taxes and levies including GST and shall be in Indian Rupees and mentioned separately.

16.9 Any conditional bid would be summarily rejected.

16.10 Errors & Rectification: Arithmetical errors will be rectified on the following basis: “If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected.

16.11 The Tender Evaluation Committee appointed by the Competent Authority at Nalanda University would evaluate the financial bids in isolation and in comparison, with other financial bids to confirm whether all foreseeable & probable risks have been factored in appropriately at the fair market price. Also the ability of the bidder to absorb the adverse risk position shall also be evaluated.

16.12 In case the Tender Evaluation Committee feels that the commercial risks have not factored in all such costs & risks mitigation plan and necessary contingency, the financial bid proposal may be rejected.

16.13 The Tender Evaluation Committee shall also confirm whether any new avenues of costs OR revenues should not be mentioned in the Price Bid, which was not detailed out previously in the Technical Bid.

16.14 **Combined and Final Evaluation**

The technical and financial scores secured by each bidder will be added using weight age of 70% and 30% respectively to compute a Composite Bid Score. The bidder securing the highest Composite Bid Score will be adjudicated as the most responsive Bidder for award of the Project. The overall score will be calculated as follows:

$$Bn = 0.70 * Tn + 0.30 * Fn$$

Where,
Bn = overall score of the Bidder

Tn = Technical score of the Bidder (out of maximum of 100 marks achieved based on technical /eligibility bid evaluation criteria under Para 8 above)
Fn = Normalized Financial score of the Bidder (as mentioned in Para 16.6 above)

16.15 In the event the bid composite scores are tied, the bidder securing the highest technical score will be adjudicated as the Best Value Bidder for award of the Project.

CRITERIA FOR EVALUATION OF THE PERFORMANCE OF CONTRACTORS FOR PRE-ELIGIBILITY

Note:- Information of each attribute mentioned below for evaluation of performance for pre-eligibility is mandatory to be given by the contractor.

Attributes		**Evaluation**
1) Financial Strength -	**(20 marks)**	(i) 60% marks for minimum eligibility criteria (ii) 100% marks for twice the minimum eligibility criteria ormore (iii) In between (i) & (ii) on pro-rata basis
(i) Average annual turnover	(16 marks)	
(ii) Solvency Certificate	(4 Marks)	
2) Experience in similar class of works	**(20 Marks)**	(i) 60% marks for minimum eligibility criteria (ii) 100% marks for twice the minimum eligibility criteria ormore (iii) In between (i) & (ii) on pro-rata basis
i) completed works	(15 marks)	
ii) ongoing works	(05 marks)	

(4) Performance on works (Time Over Run) **(20 marks)**

Parameter	**Calculation for Marks**				**Maximum Marks**
If TOR =	1.00	2.00	3.00	>3.50	20
(1) Without levy of compensation	20	15	10	10	
(2) With levy of compensation	N/A	5	0	-5	
(3) Levy of compensation not decided	N/A	10	0	0	

For the above calculations

TOR = AT/ST

Where, AT = Actual Time taken for completion of the work
ST = Stipulated Time in the agreement (+) justified period of extension of time.

Note: Marks for value in between the stages indicated above is to be determined by straightline variation basis.

(5) Performance ofworks (Quality) as per Assessment in Form D1 **Note:** The evaluation will be done by the expert committee/jury nominated by the Nalanda University for the purpose based on documents submitted and/or other means as decided by the committee/jury who may include submission of photographs of the completed works by the bidder and/or visit of the site of project referred to by the bidder or any other project as deemed fit.	**(40 marks)**	Maximum 40 marks		
		Completed Works	Ongoing Works	Total Marks
		(Max. 25 Marks)	(Max. 15 Marks)	40

LETTER OF TRANSMITTAL

From: …….

To
The Registrar,
Nalanda University,
Rajgir , Bihar -803116

Sub. : Submission of Percentage rate basis Bid for the work of " Horticulture work including Irrigation system and maintenance of the same for 02 years at Nalanda university main campus, Rajgir, District Nalanda , Bihar**.**"

Sir,
Having examined the details given in the bid document for the above work,
I/we hereby submit the relevant information.

1. I/we hereby certify that all the statement made and information supplied in the enclosed forms A to G and accompanying statement are true and correct.
2. I/we have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
3. I/we submitted the requisite certified Solvency certificate/ Net worth certificate and authorize the Nalanda University to approach the Bank/Chartered Accountant issuing the solvency / Net worth certificate to confirm the correctness thereof. I/we also authorize Registrar , Nalanda University.....to approach individuals, employers, firms and corporation to verify our competence and general reputation.
4. I/we submit the following completion certificates in support of our suitability, technical knowledge and capability for having successfully completed the following eligible similar works: -

Name of work	Completion Certificate issued by

Certificate:- It is certified that the information given in the enclosed eligibility bid are correct. It is also certified that I / We shall be liable to be debarred, disqualified / cancellation of participation in any future tender of Nalanda University for 01 year in case any information furnished by me / us is found to be incorrect.

Enclosures:

Date of submission:

Seal of bidder & Signature(s) of Bidder(s)

FORM - A

FINANCIAL INFORMATION

1. Financial Analysis – Details to be furnished duly supported by figures in balance sheet/ profit & loss account for the last five financial years duly certified by the Chartered Accountant, as submitted by the applicant to the Income Tax Department (Copies to be attached).

Figure in lakhs Rs.

Particulars	Financial years				
	2015-16	2016-17	2017-18	2018-19	2019-20
(a) Gross Annual Turn on Horticulture Works (last 03 Financial years as on 31.3.2020)					
(b) Profit/Loss(last 05 Financial years as on 31.3.3020)					

Signature of Chartered Accountant with Seal

Signature of Bidder(s) with seal

FORM "B"

FORM OF BANKER SOLVENCY CERTIFICATE FROM A SCHEDULED BANK

To,

The Registrar
Nalanda University
Rajgir, Bihar – 803116.

This is to certify that to the best of our knowledge and information that M/s/Sh …… having marginally noted address, a customer of our bank are/is respectable and can be treated as good for any engagement up to a limit of `…… (Rupees…).

This certificate is issued without any guarantee or responsibility on the bank or any of the officers. This certificate is valid for 12 months from the date of issue of this letter.

(Signature of Branch Manager)
For the Bank

NOTE:

1. Banker's certificates should be on letter head of the Bank, sealed in cover addressed to tendering authority.

2. In case of partnership firm, certificate should include names of all partners as recorded with the Bank.

FORM - C

DETAILS OF ELIGIBLE SIMILAR NATURE OF WORKS COMPLETED DURING THELAST SEVEN YEARS ENDING PREVIOUS DAY OF LAST DATE OF SUBMISSION OF BIDS

Sr. No	Name of work/project and location	Owner or sponsoring organization	Cost of work in Crores of Rupees	Date of commencement as per contract	Stipulated date of completion	Actual date of completion	Litigation / arbitration cases pending / in progress with details*	Name and address / telephone number of officer to whom reference may be made	Whether the work was done on back to back basis Yes/No
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1									
2									
3									

* Indicate gross amount claimed and amount awarded by the Arbitrator.

Note : Back to back work executed will not be treated as similar works.

Signature of Bidder(s) with Seal

FORM "C-1" PROJECTS UNDER EXECUTION

Sl. No.	Name of work/ project and Location	Owner or sponsoring Organization	Cost of work (in Crore)	Date of commencement as per contract	Stipulated date of completion	Up to Date % Financial Progress	Value of Balance Commitment to Complete work till Period for which Bid Invited (Crore)	Slow Progress if any and reason thereof	Name and address / telephone no./e mail ID of officer of client to whom reference may be made	Remarks
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**

It is to undertake that above is the total list of works under progress and information furnished is true and nothing has been hiding. Further that, if such a violation comes for hiding information or incorrect information to the notice of University, then I/we shall be debarred for bidding in University in future for 01 year.

Note:

1- In Column No 7 above, only the percentage of financial progress shall be mentioned. In substantiation of financial progress, the bidder shall submit the relevant RA bill copy passed for payment as obtained from the Executive Engineer/Project Manager in charge of the work .

2- Total of column No 8 shall be treated as Value "B "for Calculation of the Bidding Capacity as per Formula given in the Eligibility Conditions of NIT Document.

SIGNATURE (S) OF BIDDER (S)

(WITH STAMP)

FORM – D

PERFORMANCE REPORT OF WORKS REFERRED TO IN FORMS "C"

1. Name of work/project & location

2. Agreement no.

3. Estimated cost

4. Tendered cost

5. Date of start

6. Date of completion
(i) Stipulated date of completion
(ii) Actual date of completion

7. Amount of compensation levied for delayed completion, if any
(a) Whether case of levy of compensation for delay has been decided or not Yes/No
(b) If decided, amount of compensation levied for delayed completion, if any

8. Amount of reduced rate items, if any

9. Performance Report

(i)	Quality of work	:	Outstanding/Very Good/Good/Poor
(ii)	Financial soundness	:	Outstanding/Very Good/Good/Poor
(iii)	Technical Proficiency	:	Outstanding/Very Good/Good/Poor
(iv)	Resourcefulness	:	Outstanding/Very Good/Good/Poor
(v)	General Behaviour	:	Outstanding/Very Good/Good/Poor

Dated:

Signature & Stamp
(Executive Engineer or Equivalent)

FORM - E

STRUCTURE & ORGANISATION

1. Name & address of the bidder
2. Telephone no./Telex no./Fax no.
3. Legal status of the bidder (Scan & upload copies of original document defining the legal status)
   (a) An Individual
   (b) A proprietary firm
   (c) A firm in partnership
   (d) A limited Company or Corporation

4. Particulars of registration with various Government Bodies (Scan & upload attested photocopy)

Organisation/Place of registration **Registration No.**

a.
b.
c.

5. Names and titles of Directors & Officers with designation to be concerned with this work.
6. Designation of individuals authorized to act for the organization.
7. Has the bidder, or any constituent partner in case of partnership firm, limited company/ Joint Venture, ever been convicted by the court of Law? If so, give details
8. Any other information considered necessary but not included above.

Signature of Bidder(s) with seal

FORM '–F'

Proforma for Earnest Money Deposit Declaration

To,

Registrar, Nalanda University,
Rajgir, Bihar.

Name of Work: Horticulture works and irrigation system

NIT No.- …….

Whereas, I/We …… (Name of bidder)……. have submitted percentage rate bids for "**Horticulture works and irrigation system "**
I/we hereby submit following declaration in lieu of submitting Earnest Money Deposit.

i) If after the opening of tender, I/we withdraw or modify my/our bid during the period of validity of bid (including extended validity of bid) specified in the bid documents.
ii) If, after the award of work, I/we fail to sign the contract, or to submit performance guarantee before the deadline defined in the bid documents.

I/we shall be suspended for one year and shall not be eligible to bid for University tenders from date of issue of suspension order:

Signature & seal of the bidder

NOTE: Affidavit to be furnished on a 'Non-Judicial' stamp paper worth Rs.100/-(Scanned copy of this notarized affidavit to be uploaded at the time of submission of bid)

FORM G

GENERAL INSTRUCTIONS FOR THE AFFIDAVIT:

- The affidavit shall be executed on appropriate non-judicial **stamp paper** of minimum value as applicable in the State of Bihar and notarized by a Notary Public;
- Scanned copy of the affidavit shall be uploaded at the time of submission of the tender in soft copy.

AFFIDAVIT FOR SITE VISIT

I, _____, aged ___ years, son/daughter of_____, presently residing at _____and authorized by _____ (name of bidder) ("Bidder") to solemn this affidavit on behalf of the Bidder, solemnly affirm on oath as hereunder:

1. The Bidder confirms that the Bidder has duly undertaken the visit of the proposed project site of Nalanda University, located at Rajgir, Bihar.
2. The Bidder has inspected and examined its surroundings and has satisfied itself about the site conditions and site logistics. The Bidder confirms that it is aware of the ground conditions and nature of the site, means of access to the site and the accommodation area required for establishing the labour camp. The Bidder agrees and confirms it shall be solely responsible for arranging and maintaining the afore-mentioned at its own cost including all materials, tools & plants, water, electricity, access, facilities for workers and all other services required for executing the Work unless otherwise specifically provided for in the contract documents.
3. The Bidder confirms and agrees that the submission of the tender implies that the requisite site visit has already been undertaken and that the Bidder has acquainted itself with the local conditions and other factors having a bearing on the execution of the Work.

DEPONENT

VERIFICATION

I, _____, aged ___ years, son/daughter of_____, presently residing at _____and authorized by Bidder verify that the information mentioned above is true and correct to the best of my knowledge and belief.

DEPONENT

INTEGRITY PACT DECLARATION

To,

All Bidders

Sub: NIT No. NU/Engg/94/2021-22/01

Name of work: Horticulture And Irrigation Works for West part of the Nalanda University Campus at Rajgir, Bihar

Dear Sir,

I/We acknowledge that University is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on thecondition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter andspirit and further agree that execution of the said Integrity Agreement shall be separate anddistinct from the main contract, which will come into existence when tender/bid is finally accepted by University. I/We acknowledge and accept the duration of the Integrity Agreement,which shall be in the line with enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, University shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid is accordance with terms and conditions of the tender/bid.

Yours faithfully

(Duly authorized signatory of the Bidder)

To be signed by the bidder and same signatory competent / authorized to sign the relevant contract on behalf of University .

INTEGRITY AGREEMENT

This Integrity Agreement is made at …….. on this …….. day of.....2021.

BETWEEN

Nalanda University represented through the Registrar, Nalanda University (Hereinafter **Principal/Owner',** which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

……
……
(Name and Address of the Individual/firm/Company)

through ...……..……..….
(Hereinafter referred to as the
(Details of duly authorized signatory)
"Bidder/Contractor" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

Preamble

WHEREAS the Principal / Owner has floated the Tender (NIT No. _____) (hereinafter referred to as "Tender/Bid") and intends to award, under laid down organizational procedure, contract for "**Horticulture And Irrigation Works for West part of the Nalanda University Campus at Rajgir, Bihar**" on percentage rate basis (hereinafter referred to as the **"Contract").**

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as **"Integrity Pact"** or **"Pact"**), the terms and conditions of which shall also be read as integral part and parcel of the Tender / Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:-

Article-1:- Commitment of the Principal / Owner:-

1. The Principal / Owner commits itself to take all measures necessary to preventcorruption and to observe the following principles:-

(a) No permanent employee of the Principal / Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or

immaterial benefit which the person is not legally entitled to.

(b) The Principal / Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal / Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.

(c) The Principal / Owner shall endeavour to exclude from the Tender process any person, whose conduct in the past has been of biased nature.

2. If the Principal / Owner obtains information on the conduct of any of its permanent employees which is a criminal offence under the Indian Penal Code (IPC) / Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or ifthere be a substantive suspicion in this regard, the Principal / Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

Article-2:- Commitment of the Bidder(s) / Contractor(s):-

1. It is required that each Bidder/Contractor (including their respective Officers, employees and agents) adhere to the highest ethical standards, and report to the University all suspected acts of **Fraud or Corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.

2. The Bidder(s) / Contractor(s) commits himself to take all measures necessaryto prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:-

a) The Bidder(s) / Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal / Owner's employees involvedin the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtainin exchange any advantage of any kind whatsoever during the Tender processor during the execution of the Contract.

b) The Bidder(s) / Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts,submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.

c) The Bidder(s) / Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s) / Contractor(s) will not use improperly, (for thepurpose of competition or personal gain), or pass on to others, any informationor documents provided by the Principal / Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

d) The Bidder(s) / Contractor(s) of foreign origin shall disclose the names and addresses of agents/representatives in India, if any. Similarly, Bidder(s) / Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participate in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent / parallel tender for the same

item.

e) The Bidder(s) / Contractor(s) will, when presenting his bid, disclose (with each tender as per proforma enclosed) any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediariesin connection with the award of the contract.

3. The Bidder(s) / Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

4. The Bidder(s) / Contractor(s) will not, directly or through any other person orfirm indulge in fraudulent practice **means a wilful misrepresentation or omission of facts or submission of fake / forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and / or to influence the procurement process to the detriment of the University interests.**

5. The Bidder(s) / Contractor(s) will not, directly or through any other person orfirm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use offorce directly or indirectly, where potential or actual injury may befall upon a person, his / her reputation or property to influence their participation in the tendering process).

Article-3:- Consequences of Breach:-

Without prejudice to any rights that may be available to the Principal / Owner under law or the Contract or its established policies and laid down procedures, the Principal / Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s) / Contractor(s) and the Bidder / Contractor accepts and undertakes to respect and uphold the Principal / Owner's absolute right:-

1. If the Bidder(s) / Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal / Owner after giving 14 days notice to the contractor shall have powers to disqualify the Bidder(s) / Contractor(s) from the Tender process or terminate / determine the Contract, if already executed or exclude the Bidder / Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal / Owner. **Such exclusion may be forever or fora limited period as decided by the Principal / Owner.**

2. **Forfeiture of EMD/Performance Guarantee/Security Deposit :** If the Principal / Owner has disqualified the Bidder(s) from the Tender process priorto the award of the Contract or terminated / determined the Contract or terminated / determined the Contract or has accrued the right to terminate / determine the Contract according to Article 3(1), the Principal / Owner apart from exercising any legal rights that may have accrued to the Principal / Owner, may in its considered opinion forfeit the entire amount of Performance Guarantee and Security Deposit of the Bidder / Contractor.

3. **Criminal Liability :** If the Principal / Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of

a Bidder or Contractor which constitutes corruption within the meaning of Indian Penal Code (IPC) / Prevention of Corruption Act, or if the Principal / Owner has substantive suspicion in this regard, the Principal / Owner will inform the same to law enforcing agencies for further investigation.

Article-4:- Previous Transgression:-

1. The Bidder declares that no previous transgressions occurred in the last 5 years withany other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central / State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
2. If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings / holiday listing of the Bidder / Contractor as deemed fit by the Principal / Owner.
3. If the Bidder / Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal / Owner may, at its own discretion, revoke the exclusion prematurely.

Article-5:- Equal Treatment of all Bidders / Contractors / Subcontractors:-

1. The Bidder(s) / Contractor(s) undertake (s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder / Contractor shall be responsible for any violation (s) of the Principles laid down in this agreement / Pact byany of its Subcontractors / Sub vendors.
2. The Principal / Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
3. The Principal / Owner will disqualify Bidders, who do not submit, the duly signed Pact by the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

Article-6:- Duration of the Pact:

This Pact begins when both the parties have legally signed it. It expires for the Contractor / Vendor 36 Months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.

If any claim is made / lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged / determined by the Competent Authority, CPWD.

Article-7:- Other Provisions:-

1. This Pact is subject to Indian Law, place of performance and jurisdiction is the **Headquarters** of the Principal / Owner, who has floated the Tender.
2. Changes and supplements need to be made in writing. Side agreements have not been made.
3. If the Contractor is a partnership , this Pact must be signed by all thepartners or by one or more partner holding power of attorney . In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
4. Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intensions.

5. It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken bythe Owner / Principal in accordance with this **Integrity Agreement / Pact or interpretation thereof shall not be subject to arbitration.**

Article-8:- Legal and Prior Rights:

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contractor and / or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender / Contract documents with regard to any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witness:-

…… (For and on behalf of University)

…….. (For and on behalf of Contractor)

WITNESS :

1. …….. (Signature, name and address)

2. …….. (Signature, name and address)

Place :Dated :

PART-II

Financial Bid

NIT FORM CPWD-7

NALANDA UNIVERSITY , RAJGIR,BIHAR.

Name of Work: "**Horticulture And Irrigation Works for West part of the Nalanda University Campus at Rajgir, Bihar**" on Percentage rate basis.

i) **The tender documents can be viewed and downloaded from Nalanda University website https://nalandauniv.edu.in/tenders/. The tender downloading will start from 3rd August 2021.**

ii) **Opening of Eligibility Bids Online: 25th August 2021 at 15:30 Hrs**

iii) **The bid forms and other details can be obtained from the website https://nalandauniv.edu.in/tenders/ and https://nalandauniv.euniwizarde.com/**

BID

I/We have read and examined the Notice inviting bid, Forms-A, B, C, D, E, F &G , schedules A to F, tentative Layout plan ,Particular Specification of work, Special conditions, Schedule of Items, other terms & conditions, CPWD GCC for Construction Works 2020, CPWD works manual 2019 and Schedule of Rates, Analysis of rates & Specifications (Horticulture & Landscaping)-2020 with amendments up to the last date of submission of bids & other documents and Rules referred to in the conditions of contract and all other contents in the bid document for the work. I understand that all these documents are to be read in conjunction with each other with no precedence and in case of any difference in any clause as appearing in any of these documents, the strictest clause will apply.

I/We hereby bid for the execution of the work specified for the University within the time specified in schedule F , and in accordance in all respect and with such materials as are provided for, by, and in respect of accordance with such conditions so far as mentioned in the Bid document.

We agree to keep the bid open for Ninty **(90) days** from the date of opening of technical bid and not to make any modification in its terms and conditions.

A copy of declaration regarding deposition of earnest money as per Form F is scanned and uploaded. If I/We, fail to furnish the prescribed performance guarantee within prescribed period, I/We agree that the University or their successors, in office shall without prejudice to any other right or remedy, be at liberty to take action as per declaration given by us. Further, if I/We fail to commence work as specified, I/We agree that University or their successorsin office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said performance guarantee absolutely, the said performance guarantee shall be a guarantee to execute all the works referred to in the bid

documents upon the terms and conditions contained or referred to those in excessof that limit at the rates to be determined in accordance with the provision contained in clause 12.2 and 12.3 (as modified) of the bid form.

Further, I/We agree that in case of action taken by University against us as per declaration given , I/We shall be debarred for participation in the re-bidding process of the work.

I/we undertake and confirm that eligible similar work(s) has/have not been got executed through another agency on back-to-back basis. Further that, if such a violation comes to the notice of university, then I/we shall be debarred for bidding in University in future tenders for 01 year. Also, if such a violation comes to the notice of university before date of start of work, the university shall be free to forfeit the entire amount of Performance Guarantee.

I/We hereby declare that I/We shall treat the bid documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived there from to any person other than a person to whom I/We am/are authorized to communicate the same or use the information inany manner prejudicial to the safety of the State.

Dated: ……. **……. **Signature of Bidder ****

Witness: **

Address: ** **Postal Address ****

Occupation: **

[** to be filled by Bidder]

(To be Signed by Authorised signatory of Nalanda University)

The above bid (as modified by you as provided in the letters mentioned hereunder) is accepted by me for on behalf of the Nalanda University for a sum of Rs.……*…….……. (Rupee…….……*…… ……...……...).

The letters referred to below shall form part of this contract agreement: -

(a)
(b)
(c)

For & on behalf of University

Signature ……

Dated:…….. Designation ……

Authorised Signatory

Nalanda University

PROFORMA OF SCHEDULES: A TO F
(Horticulture And Irrigation Works for West part of the Nalanda University Campus at Rajgir, Bihar)

SCHEDULE 'A'

FINANCIAL BID FORMAT on percentage rate basis as per pages Attached (to be quoted online in **https://nalandauniv.euniwizarde.com/)**

SCHEDULE 'B' Schedule of material to be issued to the University.

-NIL-

SCHEDULE 'C' Tools and Plants to be hired by the University.

-NIL-

SCHEDULE 'D' Extra schedule for specific requirements/documents for the work, if any.

-NIL-

SCHEDULE 'E'

Reference to General Conditions of Contract: CPWD General Conditions of Contract for Construction Work 2020 **as amended / modified up to the last date of submission of Bid.**

Estimated Cost **:** Rs. 14,12,72,351/- plus Rs. 3,72,75,840/- per annum for Maintenance for a period of two years

Earnest Money **: Exempted.** Declaration as per Form G to be submitted.

(i)	Performance Guarantee:	3 % of bid amount (100% of this amount will be released after completion of total works of this percentage rate tender as per completion certified by E-In-C).
(ii)	Security Deposit :	2.5% of bid amount (The 100% of this amount will be released after successful completion of DLP of 12 months . To be deducted from each RA bills. Clause 1A applicable for release of security deposit against BGB).

SCHEDULE 'F' (GENERAL RULES & DIRECTIONS)

Officer inviting bid: The Registrar, Nalanda University

Definitions:

(i)	Engineer-in-Charge	The Engineer Officer appointed by the University
(ii)	Tender Accepting Authority	The Registrar, Nalanda University
(iii)	Percentage on cost of materials and Labour to cover all overheads and profits	15%
(iv)	Standard Schedule of Rates	Delhi schedule of rates, Analysis of Rates and Specifications- Horticulture and landscaping 2020 with amendments up to the date of submission of bid and Market Rates
(v)	Department	Nalanda University Engineering Section
(vi)	Standard CPWD Contract Form GCC for Construction work 2020, CPWD Form 7	Modified & corrected up-to the last date of submission of Bid.

Clause 1

(i)	Time allowed for submission of Performance Guarantee, Programme chart (Time and Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof from the date of issue of letter of acceptance.	15 (Fifteen) working days from the date of issuance of Letter of Acceptance (LOA).
(ii)	Maximum allowable extension with late fee @ 0.1% per working day of Performance Guarantee amount beyond the period provided in (i) above	15 (fifteen) working days with late fee @ 0.1% perday of the PG amount (non-refundable)

Clause 2

(i)	Authority under Clause 2 for fixing compensation for delay.	Hon'ble Vice Chancellor, Nalanda University, or his/her successor thereof.

Clause 5

(i)	Number of days from the date of issue of letter of acceptance for reckoning date of start	15 (Fifteen) working days or date of handing over of site whichever is later.

Table of Milestones:

(i) For original work of Horticulture works

Sl. No.	Description of Mile stone (physical progress)	Time allowed in days (From date of start)	Amount to be withheld in case of Non-achievementof mile stone
Sl. No.	Particular of Milestone	Months	Withheld Amount
1	15% of work	5 months	@ 0.5% (Tendered Amount of original work) for failure of each milestone subject to Maximum 2.5% for slippages of Milestones.
2	30% of work	7 Months	
3	50% of work	8 Months	
4	75% of work	10 Months	
5	All complete including the testing & commissioning of automated irrigation system	12 Months	

(ii) For Maintenance work: Not applicable

NOTE:
Withheld amount shall be released if and when subsequent milestone is achieved within respective time specified. However, in case milestones are not achieved by the Bidder for the work, the amount shown against milestone shall be withheld and shall be released only with Final Bill subject to LD clause and conditions of the contract.

Time allowed for execution of work: 12 Months for Horticulture works

Authority to decide:

(i)	Extension of time	Hon'ble Vice Chancellor, Nalanda University or her/his successor thereof.
(ii)	Rescheduling of mile stones	Hon'ble Vice Chancellor, Nalanda University or her/his successor thereof.

(iii)	Shifting of date of start in case of delay in handing over of site	Hon'ble Vice Chancellor, Nalanda University or her/his successor thereof.

Clause 6

(i)	Clause (6)- Computerized Measurement book	Clause 6 applicable

Clause 7

Gross work to be done together with net payment /adjustment of advances for materials collected, if any, since the last such payment for being eligible to interim payment	Rs. 50 lakhs

Clause 7A

(i)	No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable as submitted by the contractor to the Engineer-in-Charge.	Yes

Clause 10A

	List of testing equipment's to be provided by the agency at site lab	Not required

Clause 10B (i) : Applicable

Clause 10B (ii) **:** Applicable. The mobilization advance shall be given as mentioned below:
i) 1st instalment = 5% of awarded cost.
ii) 2nd instalment = 5% of awarded cost.

Note: A separate dedicated Bank Account shall be opened by the agency in any scheduled Bank before release of mobilization advance. Mobilization advance will not be given for any material for which secured advance is payable, T & P advance will not be given for tools & plants equipment, owned by the agency as intimated in the eligibility documents. Instalments of Mobilization advance except the first instalment shall be released only after receiving the utilization certificate supported by bank statement of the said account showing the disbursement of mobilization advance by the agency as per clause 10B(ii) of GCC.

Clause 10C **:** Yes, For original work Component
-- 25% Labour component

Clause 10CA **:** Not Applicable

Clause 10CC **:** Not Applicable

Clause 11

Specifications to be followed for execution of work	CPWD Specifications - Horticulture and landscaping 2020 with amendments up to the date of submission of bid. In items of works where CPWD specifications is not available , work will be done as per standard Engg. Practice or as per manufacture advise available.

Clause 12 Applicable**.**

Clause 12.2, 12.3 **30%**

Clause 16

Competent Authority for deciding reduced rates.	Hon'ble Vice Chancellor, Nalanda University on recommendations of Engineer-In-Charge

Clause 18 Suggestive List of machineries tools & plants to be deployed by the Bidder at site.

It shall be as per the requirement at site.

Clause 25

Constitution of Dispute Redressal Committee (DRC)- The Competent Authority at Nalanda University constitutes a committee to redressal of all disputesarouse out of this Contract. If the matter is not resolved, upon invocation of Clause 25 the SoleArbitrator is appointed by the Competent Authority at Nalanda University.

Place of arbitration: Headquarters of NalandaUniversity at Rajgir, District – Nalanda, Bihar.

Clause 32

Requirement of Technical Representative(s) and Recovery Rates:

Sl. No.	**Requirement ofTechnical Staff**		**Minimum Experience (Years)**	**Designation of Technical Staff**	**Rate of recovery if provision of clause 32 not fulfilled**
	Qualification	**Nos.**			
1	Horticulture Specialist MSc (Horticulture)	1 No	10 years	Project Manager	Rs.40,000/- per Month
2	Horticulture Specialist BSc (Horticulture)	3 No	5 to 10 years	Manager/Supervisor	Rs.35,000/- per Month

Clause 38: Applicable as given below

RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION			
i)	Schedule/statement for determining theoretical quantity of cement & bitumen based on Delhi Schedule of Rates		Delhi Schedule of Rates 2020 with amendments up to the date of submission ofbid.
ii)	Variations permissible on theoretical quantities.		
(a)	Cement		
	Cement for works with estimated cost put to tender more than Rs. 25 Lakh.		3% Plus/Minus
(b)	Bitumen for all works.		2.5% Plus only and nil on minus side.
(c)	Steel reinforcement and structural steel		2% Plus/minus side sections for each diameter, section and category.
(c)	All other materials		Nil

Sl.No	Description of item	Rates in figure and words at which recovery shall be made from the Contractor	
		Excess beyond permissible variation	Less use beyond the permissible variation
1	Cement (PPC)	NIL	Not Permitted
2	Reinforcement bars(TMT) (a)Primary Producer	NIL	Not Permitted
3	Structural steel	NIL	Not Permitted

Registrar, Nalanda university

Particular Specification of Work

1- The contractor has to prepare the concept to working to completion drawings, through a landscape consultant appointed by him, based on the plant species and spacing as directed by the university and obtain approval of the Nalanda University as required prior to execution of work. Once the drawing is approved by the University further activities shall be taken up subsequently.

2- The plants species sample covering specification of plant species like plants height, quality etc shall got approved by contractor from Engineer-in-Charge before bulk procurement.

3- Clearance of site by removal of bushes, vegetation, malba etc., if any & disposal of same outside the project site as directed by the Engineer-in-Charge is in the scope of work within quoted cost. Nothing extra is payable on this account.

4- While excavating/executing the work, the Contractor shall ensure that existing cable/pipelines/structures/fittings are not damaged.

5- The contractor shall co-ordinate his work with other agencies employed by the university if any and ensured that the works of other agencies are not hampered in any way during the execution of the contract

6- The Contractor shall keep the site of works neat and clean during the execution of the work. Any debris generated by horticulture contractor and found at or near the site of work shall be got removed immediately as and when so required by the Engineer-in-Charge.

7- All plant materials used on this work shall conform to the CPWD specifications (Horticulture & landscaping) -2020 .

8- In case of all Items of work in Schedule of Items in this percentage rate tender which are based on DSR 2020 (Horticulture & Landscaping), if there is any discrepancy in schedule of items wordings or rates , the wordings , nomenclature and rates as given in DSR 2020(Horticulture & Landscaping works) shall prevail for DSR 2020 (Horticulture & Landscaping) based items of work.

9- The University can get any item of work executed ,as and if available in DSR 2020 (Horticulture & Landscaping) within the deviation limit as defined in schedule F, at same quoted Percentage .

10- All materials, samples shall be approved by the Engineer-in charge before use on mass scale in order to monitor for the proper and reasonable compliance of the specifications and in the interest of better quality of work.

11- The Contractor shall provide all horticultural operations and services specified in the Schedule of Items as per Financial bid & specifications as specified herein or both, including:

(i) Provide labour, equipment, services and transport.
(ii) Provide all plant material
(iii) Provide fertilizers, chemicals and manure and stakes as specified.
(iv) Preparation of planting locations.
(v) Prepare plants pits, back filling; prepare "saucers" for watering, addingavailable soil after settlement.
(vi) Spraying before planting.
(vii) Staking, supporting, wrapping and tying plant materials.
(viii) Disposal of debris and unused materials.
(ix) Any other required for plantation activities if required.
(x) Establish permanent Drip and Sprinkler system with associated piping work, associated civil and electrical works.

12- Quality and General Requirements of Plant species.

(i) Plants shall be typical of their species and variety, have normal growth habits, well developed branches, densely foliated with vigorous and fibrous root systems.

(ii) The plants should be full of fresh and healthy foliage

(iii) The plants should be free from insect, pest and diseases

(iv) Plant should be well developed and healthy

(v) The height of the plants will be measured from top of the pots/polybags.

(vi) The plants should be well settled and should not be newly shifted/ transplanted.

(vii) The plants should be true to the variety and Variety name should be tagged.

(viii) The rejected plants materials should be removed from the site immediately.

(ix) The Plant should be well stablished and should have good foliage.

(x) Good earth and manure used for filling the pot should be free from any inert material and mixed to proper ratio.

(xi) Pot used for filling the plants should be of proper size.

(xii) There should be proper drainage in pots for plants.

(xiii) All plant should have the tendency of growth and should not be stunted or deshaped.

(xiv) There should be no stagnation of water in the pots
(xv) Plant should not have any physiological disorder

(xvi) The main stem or trunk of the plants should be strong enough of plants to the required height of plant.

(xvii) Tips of the Plants should be intact, there should not be any damages etc.

(xviii) Plants of bigger height should be properly supported/stacked bybamboo stick.

(xix) Plant soil should not be infectious and plant should have free from all kind of diseases.

(xx) Plants shall be free from defects and injuries . Bark shall be free from abrasion.

(xxi) Plants shall be nursery grown. Plants shall have been grown under climatic conditions similar to those in locality of project or have been acclimated for at least 03 months to conditions of project location.

(xxii) Each bundle of plants and all separate plants shall be properly identifiedby weather-proof labels securely attached there to before delivery to project site.

(xxiii) No plants shall be delivered to the project site until sample approval has been accorded by Engineer-in-charge.

(xxiv) B & B (Balled and Burlap) plants must be moved with the root system as solid units in balls of each firmly wrapped with burlap, The diameter and depth of the balls of earth must be sufficient to encompass the fibrous and feeding root system necessary for the healthy development of the plant. No plant shall be used when the ball of earth surrounding its roots have been badly cracked or broken preparatory to or during the process of planting or after the equipment required in connection with its transplanting has been removed. The plant and ball shall remain intact as one unit during all operations.

(xxv) Container grown stock shall have been grown in container long enoughfor the root system to have developed sufficiently to hold its soil together, firm and whole. No plant shall be loose in container.

(xxvi) All trees, soon after planting shall be properly supported with bamboo Stick as per direction of Engineer-in-charge to ensure their safety against wind or other factors which may affect it adversely.

13- All plant shall be equal to or exceed the sizes given in the plant list, which are minimum acceptable sizes. Plants shall be measured before planting, with branches in normal position.

14- Trees shall be minimum length as specified and shall be straight and symmetrical with a crown and having a persistent main stem. The size of the crown shall be in good overall proportion to the height of the tree shall be measured from the top of the root ball or pot.

15- Planting operations shall be conducted under favourable weather conditions**,** the Contractor will be notified by the Engineer-in-charge.

16- Planting shall be done by experienced workmen familiar with planting procedures under the supervision of a qualified Manager/supervisor.

17- Plants Pits shall be excavated with vertical sides. Plants shall be centre ofpits plumb and

straight.

18- Topsoil shall be compacted around basin of balls to fill all voids. Roots shall be properly spread out and topsoil carefully worked in among them.

19- Watering - Immediately after plant pit is backfilled, a shallow base slightly larger than pit shall be formed with a ridge of soil to facilitate and contain watering. After planting, cultivate the soil between plant pit and rake smooth and Spray the soil with water to settle.

20. Due to corona pandemics all safety measures shall be taken by the contractor during the execution of work as per Govt. guidelines and as directed by Engineer-in-Charge & nothing extra will be paid on this account.

21. Material for **Coir based Geotextile 700 gsm (H2M8)** shall be supplied conforming to IS 15868: Part 1 to 6. Contractor is required to provide certification for the same along with sample of material for approval of Engineer-in-Charge before supply of material to site. This item shall be carried out for coir geotextile lining works of excavated areas surrounding water body, as per IS15872:2009 - Application of Coir Geotextiles (Coir Woven Bhoovastra) for Rain Water Erosion Control in Roads, Railway Embankments and Hill Slopes – Guidelines.
Geotextile shall be unrolled downhill from top of slope to be applied.
Overlaps on all sides between two geotextile pieces shall be minimum 15 cm.
Coir geotextile shall be clamped on the steep slopes using U shaped Stainless Steel staples, having minimum 220 mm length and 11 gauge. Geotextile shall be pinned to the ground using these staples at every 0.50m to 0.75m in longitudinal and transverse direction.

22. Measurement
Measurement shall be in square metres of area covered on site by coir-geotextile lining. This work shall include transport, loading, installation. The rate includes the cost of all materials, equipment, labour, carting, loading & unloading, taxes, GST, removal of debris to local specified within the site, involved in all the operations described above.

23. Irrigation system salient details

Piping Materials

General:

All sizes are in metric unit, whereas equivalent imperial unit shall be used in case of imported material.

a) uPVC Pipes and Fittings

The pipes shall be white, round and shall be supplied in straight lengths with socket ends. The internal and external surfaces of pipes shall be smooth, clean, and free from grooving & other defects. The ends shall be cleanly cut and square with the axis of the pipe. The pipes shall be designed by external diameter and shall conform to ASTM D1785 or ASTM D 2241. The pipes shall be of equitant pressure Class as described in BOQ.

b) Fittings

Fittings shall be injection molded and shall be solvent weld type or threaded joint type, suitable to meet the pressure requirement of Pipes rated pressure.

c) Galvanized Iron Pipes & Fittings

The pipes shall be galvanized mild steel welded (ERW) or (HFW) screwed and socketed conforming to the requirements of IS: 1239. The Galvanizing shall confirm to IS:4736, the zinc coating shall be uniform, adherent reasonably smooth and free from such imperfections as flux, ash and drop inclusions, bare patches, black spots, pimples, lumpiness, runs, rust strains, bulky white deposits and blisters. Class of GI Pipe should be C Class.

Laying of pipe work.

a) Pipes will be laid in the routes and sizes as indicated on the drawings and stated in the relevant sections of this specification. In the case where multiple pipes or electrical conduits are laid in the same trench, they must be located side by side, not crossing each other or stacked one upon the other.
b) All pipe laying and jointing will be performed in site in the trench on the prepared bedding; not assembled above ground and placed in the trench at a later stage.
c) At the end of each day's work, all open ends of pipe work and conduit will be plugged and staked to prevent entry of vermin, dirt, water or moisture and movement of the pipe.
d) Where pipe is required to pass over or under drainage pipe, the Contractor is to ensure a minimum clearance of 100 mm between the irrigation pipe and the drainage pipe.
e) Main Line Trench Should be 600 mm + Mainline Size and Sub main should be 450 + Sub main size.
f) Refilling trench with good soil and free from any rock/ stones.
g) Mainline Pipe should be Tested for system pressure for 24 hrs. or for 1.5 times of system pressure for 1 hours.

Crossings at Road or drainage pipe:

Electrical Cables (Common to all crossings)'

a) High voltage cables

i) A separate HDPE electrical conduit will be installed for the high voltage cables.
ii)The high voltage cables must not share a conduit with low voltage cables

b) Low voltage cables

i)This conduit must be separated by minimum 300 mm from the high voltage conduit (if any).

c) Conduit

i)The size of the conduit will allow easy pulling through of cables. In any case, the minimum size conduit used will be 32 mm.

ii)If the conduit is exposed to sunlight, it will be Ultraviolet resistant.

Road crossing

Pressure pipe

Where the pipe work goes under a road, the contractor will install:

a) Ductile sleeve of enough diameter to allow easy installation of the bell-ended PVC pipe or HDPE Pipe

b) Depth

The minimum depth of the sleeve and conduits will be 750 mm measured to the top of Ground or as per site conditions.

c) Ends of sleeve and conduits

These will be clearly marked above ground for ease of future location and End will be closed outer dia with cap to reducer entry of any foreign material in sleeves.

Trench Work:

Excavation

Mixing of soil layers:

When the depth of the trench extends through different soil structures (e.g., sand capping, topsoil, clay, and native earth), the contractor will:

a) Remove each layer and place it separately on the surfaces.
b) Refill the trench to restore the original layers of soil.
c) Mixing of the different soil layers is not limited.

Mainline Excavation

a) Trenching for mainlines will be performed by hand digging only
b) The depth of trench for mainline shall be minimum 750 mm including Pipe diameter from the finish ground level.
c) The material removed whilst digging will be placed no closer than 300 mm to the top edge of the completed trench and there will be a minimum of loose soil left in the bottom of the trench prior to pipe laying.

Sub-main/Lateral line Excavation

a) Trenching for lateral lines will be performed by hand digging or by backhoe with a maximum bucket width of 300 mm, to minimize disturbance to the surrounding area.
b) The depth of trench for sub mainline shall be minimum 600 mm including Pipe diameter from the finish ground level.
c) These trenches will be straight with the bed level and graded.

Back Filling

Where trench work encounters unsuitable bedding material such as hardened clay, rock, shale, loose stones, excessive tree roots, etc. a 100 mm bed of sand or loam will be placed below pipe in the trench prior to pipe laying.

a) This policy will apply to back filling of all trenches, where the pipe will be covered with 100 mm of sand or loam to prevent similar debris coming in contact with the pipe or control cables. Under no circumstances will construction debris of any kind be included

in any back-fill material.

b) Allowances should be made for back filling during the heat of the day to minimize the effects of thermal expansion and contraction on pipe already laid.

c) Trenches will be back filled on the same day as they are excavated. i.e., trenched will not be excavated until required. This is to prevent flooding of trenches and floatation of pipes.

Compaction

a) Compaction should take place only after suitable bedding and back filling has been completed to the satisfaction of the CLIENT'S Representative.

b) Compaction can be achieved by either:
i) plate compaction in layers not exceeding 300 mm
ii) wheel rolling with a suitable vehicle after 450 mm of cover is provided.

c) Regardless of which method is used, it will remain the Contractor's responsibility to ensure reinstatement of trench subsidence during both the contract and the defects liability period.

Staking:

The staking of the mainline, sprinklers, valve and controller will be done by the contractor subject to approval by the CLIENT'S's Representative.

Thrust Blocks

a) Mainline concrete thrust blocks will be placed on all fittings that are subject to unbalanced thrust forces created by pressure and fluid movement. That is, at all mainline bends, tees, reductions, expansion, caps, isolation valves etc.

b) Excavation of the thrust bearing surfaces will be at right angles to the line of thrust and located in either solid, undisturbed soil or soil which has been compacted specifically for that purpose.
c)In case of bigger pipes (80 mm dia and above), thrust blocks of cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate of 20 mm nominal size) shall be constructed on all bends.

d) The thrust blocks must have cured for 24 hours before pressure testing.

Pressure Compensating Dripper Line (In-Line)

a) The drip line tubing shall be extruded from virgin linear low-density polyethylene (LLDPE) tubing with pressure compensating emitters co-extruded at the designed intervals.

b) The pressure compensating dripper shall consist of "dual regulation" utilizing both turbulent flow labyrinth and EPDM diaphragm. The dripper shall be continuously self-cleaning and should have an inlet filter capable of being cleaned by flushing the line. Pressure compensation shall be between 0.5 kg/cm2 to 4 kg/cm2. The coefficient of manufacturing variation of the dripper must be less than 0.04 as determined by an independent organization.

c) The drip line must have warranty against solar radiation damage for 7 years or more.
e) The drip line shall be able to be installed with the dripper in any orientation.
f) Temperature up to 60°C should not affect dripper flow rate.
g) The dripper shall have a large “water path” outlet that acts as a mechanical barrier to root intrusion.
h) The drip line shall have an outer diameter 16 mm and inside diameter of 13.6mm and in dripper flow rates of 2.2 to 2.4 LPH with co extruded dripper spacing 18”
i) Drip line should be brown in color and wall thickness should be minimum 1.2 mm.

Sub-surface Drip Lateral Line

16/17mm OD the inline emitter diaphragm shall have a pressure-regulating diaphragm with a spring action allowing it to self-rinse if there is a plug at the outlet hole. The flexible tubing allows for easy non-linear installations. The inline emitter shall have copper shield technology installed to protect the emitter from root intrusion. The inline emitter inlet shall be raised off the inside tube wall to minimize dirt intrusion.

• Pressure range: 8.5 to 60 psi (0,58 to 4,14 bar)
• Flow rates: 0.6 and 0.9 gph (2,3 l/hr and 3,5 l/h

Sub Surface LDPE pipes would have to be installed in a trench, below paver blocks as directed in the layout / engineer in charge. Trenching & back filling of trench is included the rates & will not be paid separately.

a) The drip line tubing shall be extruded from virgin linear low-density polyethylene (LLDPE) tubing with pressure compensating emitters co-extruded at the designed intervals.
b) The drip line must have warranty against solar radiation damage for 7 years or more.
c) The drip line shall be able to be installed with the dripper in any orientation.
d) The drip line shall have an outer diameter 16 mm and inside diameter of 13.6mm
i) Drip line should be brown in color and wall thickness should be minimum 1.2 mm.

Pressure Compensating Dripper

The Dripper should be pressure compensating type having barbed connectivity to fix directly on Blank Tube. Should give discharge of 5 GPM, and should operate between pressure range of 0.7 bar to 3.5 bar

Barbed Fittings – Submain Tapping and Lateral Connection

17mm Barbed brown fittings to be used. The HDPE/PVC submain to be connected by fixing a branch saddle tee of connecting Pipe size, PP material, having chromed nut bolt and O ring gasket.

Lateral Hold stake

9” Long stake made of 12 Gauge iron rod and hot deep galvanized should be used to hold the lateral on ground.

Mini Root Watering System

4” Día, 18” High made of engineering plastic with 0.5 GPM water discharging Bubbler pre-

installed. RWS units should be installed on Trees own watering zone in order to improve irrigation efficiency and management. Position units evenly spaced, adjacent to the root zone and within the canopy of the tree. Consider filling canisters with pea gravel to fill to provide better top-to-bottom water dispersion and firmness against root compression. Soil sock should be used to prevent particle intrusion into cylinder.

PP Clamp Saddles:
PP Clamp Saddles should be made of high-density Polymer having NBO-ring, Zinc Chromed Steel Nut Bolts Packed in PE Bag individually.

Pop up Sprinkler 3/4" & 1”

a) The sprinkler shall have a minimum 4-inch pop-up stroke. The pop-up sprinkler shall be available with a drain check valve (SAM) to prevent low head drainage and be capable of checking up to 10 feet of elevation change.
b) The body and riser of the sprinkler shall be constructed of non-corrosive, heavy-duty A.B.S. plastic.
c) Rotor shall have mechanism to turn it on/off from the top for easier maintenance.
d) Rotor shall have inbuilt Pressure regulating device which ensures no misting of jets and uniform distribution of water.

a) 3/4" - 9-14 Meter Radius
• Precipitation rate: .20 to 1.04 inches per hour (5 to 27 mm/h)
• Design Radius: (10,0 to 12 m)
• Radius may be reduced up to 25% with radius reduction screw
• Design Pressure – 2.5 Bar
• Flow Rate: 0.22 LPS
• 3⁄4" (20/27) NPT/BSP female bottom threaded inlet

b)1” - 18 Meter Radius
•Precipitation Rate: 0.37 to 1.14 inches per hour (9 to 29 mm/h)
• Design Radius: (15m)
• Design Pressure – 3 Bar
• Flow: 0.43 LPS
• 1" (26/34) female NPT or BSP threaded inlet
• SAM check device holds up to 10 feet (3,1 m) of head
• Nozzle outlet trajectory is 25°
• Overall height: 8-1⁄2" (21,6 cm)
• Pop-up height: 4" (10,2 cm)
• Exposed surface diameter: 2" (5,1 cm)
Note: Pop-up height is measured from cover to center of nozzle.

The flow at desired throw (design radius) should not increased as given above for different pop us used in design.
The Gear Driven Pop-up should have Engineering Plastic body. It should have 3/4” or 1” female Inlet connection for connecting it to sub-main pipeline via Swing Joint. Radius of throw can vary from 8.5 to 18 mtr and varying flow by using different nozzles. The sprinkler should be provided with set of nozzle so that different nozzles can be used as per the requirement. Cost of nozzles if any should be added to the cost of Sprinkler. The sprinkler should be provided with SAM

arrangement of minimum 10 ft to avoid puddling near the sprinkler base after system is shut off.

Pop up Sprinkler Spray Body with Spray Nozzle

a) Working Pressure range of Spray Pop up shall be 1 to 7 Bar.
b) The spray Pop up Sprinkler shall have Check valve at bottom and inlet size of 15 mm.
c) The Spray Pop Sprinkler shall have inbuilt Pressure regulation which ensures no misting of jets and uniform distribution of water.
d) Provides low flow vertical water jet visible from +200' line of sight when a nozzle has been removed/damaged. Height and low flow of vertical water jet causes water to dissipate during descent, reducing puddles and run-off
e) Nozzle should have option in different radius of throw like 6', 8', 10', 12', 15', 18'

Pop up Sprinkler Spray Body with Rotary Spray Nozzle

a) Working Pressure range of Spray Pop up shall be 1 to 7 Bar.
b) The spray Pop up Sprinkler shall have Check valve at bottom and inlet size of 15 mm.
c) The Spray Pop Sprinkler shall have inbuilt Pressure regulation which ensures no misting of jets and uniform distribution of water.
d) Provides low flow vertical water jet visible from +200' line of sight when a nozzle has been removed/damaged. Height and low flow of vertical water jet causes water to dissipate during descent, reducing puddles and run-off
e) Nozzle capable of covering 4.0-7.3m at 1.4 - 3.8 Bars pressure, and the environment. Rotary nozzles shall have hand adjustable (without tools) radius and arc-45 to 270 degree or full circle, true flushing mechanism, Thick streams and large water droplet & Low precipitation rate

1/2" Swing Joint with Saddle

1/2" & 3/4" Pop up Connecting Swing joint Assembly. The tubing shall be made of polyethylene having wall thickness of 2.3mm, a working pressure of 5.5 kg/cm2 at 43oC and a surge pressure of 16.6 kg/cm2. Flex pipe textured for wet conditions. The fittings shall be made of UV resistant thermo plastic with PP Clamp Saddle Chromed Nut Bolt & Nitrile Rubber Gasket

1" Swing Joint with Saddle

1" X 18" LONG Pop up Connecting Swing joint Assembly. The swing joint shall be molded from rigid PVC, Type 1, cell classification 12454-B, conforming to ASTM D1784, with a pressure rating of 315 psi (21,6 bar) at 73° F (22° C) when tested in accordance with ASTM D3139, including 60 minutes at 790 psi (54,1 bar), and short term exposure of1000 psi (68,5 bar) without leakage. All NPT threads, sockets, and spigots shall be Schedule 80 per ASTM D2464 and D2467. All components shall be factory preassembled, available with 1" (2,5 cm), inlet/outlet and in lengths of 18" (45,7 cm). Spigot inlets shall be available for 1" (2,5 cm) swing joints. All rotating joints shall be modified stub ACME threads. All rotating joints shall have two EPDM rubber O-rings for positive sealing and thread protection. The swing joint shall have oversized threaded inlets with large grips and visible thread stops to make hand tightening and blind (underwater) installations easier with with PP Clamp Saddle Chromed Nut Bolt & Nitrile Rubber Gasket.

PVC Butterfly Valves

Mainline isolation points will be achieved by installing butterfly valves at designated locations. These valves will be housed in valve boxes.

PVC Butterfly Valve for Main Line Isolation: EPDM seals, galvanized steel stem, Torque is 25 n/M. Leak and corrosion resistant stem for easy operation.

Gate Valve

The Gate Valve MOC shall be of Brass, having Non-Rising Stem, Full Port. Shall have maximum working pressure of 200PSI / 14 Bar. The connection of the valve shall be female thread and threads shall be BSPT type.

PVC Flush Valve

MOC of valve shall be PVC. Threaded end with openable cap with rubber seal. It shall be connected with compression adopter to submain pipe. Size 40mm

Double Acting Air Valves 1”

1" Double Acting Air cum Vacuum Release Valve, Body: Glass-reinforced Nylon, Float Assembly, Polypropylene, Elastomers: EPDM, operating pressure minimum 0.1 bar, maximum 10 bar, Aerodynamic full-body kinetic shield, Straight flow body with large diameter orifice size 0.787mm dia and area of 0.496 sq.mm.

Combination Air Valves 1”

1" Combination Air Release Valve, Body: Glass-reinforced Nylon, Float Assembly, polypropylene, Elastomers: EPDM, operating pressure minimum 0.1 bar, maximum 10 bar, with advanced aerodynamic design, double orifice, evacuating air during pipeline filling, allows efficient release of air pockets from pressurized pipes, and enables large volume air intake in the event of network draining with large diameter orifice size 0.787mm dia. and area of 0.496 sq.mm.

Quick Coupling Valve 3/4"

The valve body shall be constructed heavy red brass. The cover shall be a durable, protective self-closing rubber cover with five nos. Keys and Swivel Elbow, operating pressure range of Pressure: 0.35 to 8.63 bar)

Wherever required the Quick Coupling Valve will be 25 mm plastic quick coupling turf valves.

b) Each QCV will be secured with proper stake or other method to avoid movement of it.
c) 25 mm brass coupler keys and swivel hose elbows shall also be provided by the contractor to enable use of the QCV’s.
d) Each QCV will be isolated with isolation pvc valve and covered with Lockable Rectangular Valve Box.

12” & 12” Jumbo Rectangular Valve Box

12" Rectangular Standard Commercial grade engineering plastic Valve Box with green lid and

corrugated structure with unique shovel access slot and bolt hole knockout & having Dimensions dimension as given in the BOQ

10” Round Valve Box

10" Round Valve Box with green lid and corrugated structure with unique shovel access slot and bolt hole knockout & Having Dimensions @ Top Opening 10" Día & Bottom Opening 12 13/16" Día, MOC – Engineering Plastic

6” Round Valve Box

6" Round box with green lid Having Dimensions @ Top Opening: 6 1/8" Día & Bottom Opening 8 5/8" Día, MOC – Engineering Plastic

a) All valve boxes shall be made of reinforced fiberglass of similar and lid be green in color.
b) All valve pits will be constructed of bricks.
c) There will be no contact between the pipe and the valve box or valve pit.
d) All valve pits will have a minimum fill of 100 mm of washed pea gravel.
e) Solenoid valves, isolating valves, flush valves and quick couplers shall be installed in an access box of enough size to permit ready removal of the valve inner assemblies without removing the box from the ground. Valve numbers and station numbers must be clearly marked inside and outside to the box with a permanent paint or by using plastic tags.

Irrigation Controller 60-240 Station 230V

The controller shall be housed in a wall-mountable, weather-resistant plastic cabinet with a key locking cabinet door suitable for either indoor or outdoor installation. The controller shall have the ability to be programmed and operated in any of six languages: English, Spanish, French, German, Italian, & Portuguese. The display shall show programming options and operating instructions in the chosen language without altering the programming or operation information. The controller shall have a base station capacity of 60 stations, and the capacity of up to 240 stations. All stations shall have the capability of independently obeying or ignoring a weather sensor as well as using or not using master valves. Station timing shall be from 0 minutes to 96 hours. The controller shall have a Seasonal Adjustment by program which adjusts the station run time from 0 to 300% in 1% increments. The controller shall also have a Monthly Seasonal Adjustment of 0 to 300% by month. Station timing with Seasonal Adjustment shall be from 1 second to 96 hours. Controller shall have 10 separate and independent programs which can have different start times, start day cycles, and station run times. The Controller should expand program count to 40. Each program shall have up to 8 start times per day for a total of 320 possible start times per day. The programs shall be allowed to overlap operation based on user defined settings which control the number of simultaneous stations per program and total for the controller. The controller shall allow up to 8 (or 16) valves to operate simultaneously per program and total for the controller not including the master valves. The controller shall have a 365-day calendar with Permanent Day Off feature that allows a day(s) of the week to be turned off on any user selected program day cycle. (Custom, Even, Odd, Odd31, & Cyclical). Days set to Permanent Day Off shall override the normal repeating schedule and not water on those specified day(s) of the week. The controller shall also have a Calendar Day Off feature allowing the user to select up to 5 dates up to 365-days in the future when the controller shall not start programs. The controller shall incorporate a Rain Delay feature allowing the user to set the number of days the controller should remain off before automatically returning to the auto mode.

The controller shall have Cycle Soak water management software which can operate each station for a maximum cycle time and a minimum soak time to reduce water runoff. The maximum cycle time shall not be extended by Seasonal Adjustment. The controller shall incorporate a FloManager feature providing real-time flow, power, and station management. FloManager shall manage the number of stations operating at any point in time based on water source capacity, station flow rate, number of valves per station; user defined simultaneous stations per program and for the controller. FloManager shall incorporate the ability to provide station priorities to determine the order in which stations shall operate. The controller shall ignore the station number and instead operate the highest priority stations first and the lower priority stations last when FloManager is enabled. FloManager shall be an option that is disabled by default and the controller shall operate zones in order of station number, started with the lowest numbered zone set to irrigate and ending with the highest number zone. The controller shall offer Water Windows for each program. This function sets the allowed start and stop time where watering is allowed. If the watering cannot be completed by the time the Water Window closes, the stations with remaining run time are paused and watering automatically resumes when the Water Window opens the next time. The controller shall include an integrated Flow Smart capability with flow sensing functionality. The controller shall accept sensor input from 1 - 10 flow sensors with no flow scaling device required. A FloWatch Learn Flow Utility which learns the normal flow rate of each station shall be included. Each time a station runs FloWatch compares the current real-time flow rate to the learned rate and takes user-defined actions if high flow, low flow, or no flow is detected. FloWatch shall automatically determine the location of the flow problem and isolate the problem by turning off the affected station(s) or master valve(s). Flo Watch shall be compatible with both normally closed and normally open master valves. A Manual Master Valve Water Window shall be provided to coordinate daytime manual watering with the flow sensing. This Water Window shall offer programmable days of the week and manual watering additional flow rate.

PE39 communication Cable

19 AWG (0.9mm) solid annealed bare copper. Insulation Individual conductors have specified color combinations in accordance with standard telephone industry code. Twisted Pairs: The insulated conductors are twisted with varying lays to minimize crosstalk with no pair lay greater than 6" (15.24 cm.)
Cable Assembly: Individual conductors have specified color combinations in accordance with standard telephone industry code. The twisted pairs are assembled to form a substantially cylindrical core. A fill compound is applied to fill voids and conforming to REA PE-39/PE-54/PE-89 requirements.

Core Covering: Polyester tape is longitudinally applied with an overlap.
Shield Electrically continuous, 0.008" (0.2mm) thick, coated, corrugated aluminium shield, longitudinally applied with an overlap. Flooding compound is applied under and over the shield.
NOTE: Shield is imbedded within the outer jacket on PE-54

Filed Device - DC Solenoid Coil with interface module

This shall be a 2-wire addresses device and shall be pre-coded to eliminate confusion associated with user-defined addressing. This field devices shall be fully encapsulated creating a completely waterproof seal. The device shall be one single unit including of interface module and DC coil.

Electrical input shall be:

Nominal Input Voltage	Nominal Input Frequency	Quiescent Current	In-rush Current
26.5 Vrms	50 Hz	< 0.7 mA (avg.)	< 40mA (peak)

a. Power Draw: 0.7mA (idle)
b. Dimensions: 2 inches in diameter at its greatest width and no more than 3 inches long.
c. Wires: Red and Black to 2-wire path
d. Surge protection shall be required every 500 ft.
e. Should have a black color with yellow label

DC Solenoid Valves

- DC Solenoid Valve 2"/1-12”/1” Glass Filled Nylon. Maximum operating pressure 13.8 Bar
- Body constructed of durable glass filled nylon for long life and heavy-duty performance at 200 psi (13.80 bar) pressure
- Stainless steel studs molded into the body. Bonnet can be attached and removed more easily without damaging threads
- One- piece solenoid design with captured plunger and spring for easy servicing. Prevents loss of parts during field service
- External bleed to protect the solenoid ports from debris when system is flushed • Internal bleed to operate the valve without allowing water into the valve box; allows pressure regulator to be adjusted without turning on the valve at the controller first
- Low flow operating capability
- Slow closing to prevent water hammer and subsequent system damage.
- Electrical Specifications - Power: DC 0.7 MA etc. complete as directed by engineer in charge.

Pressure Regulating device:

Pressure regulator shall regulate and maintain constant outlet pressure between 15 and 100 psi (1.04 to 6.9 bar) within ±3 psi (±0.21 bar). Should have adjustment knob with detents to permit fine-tune setting in 1⁄3 psi (0.02 bar) increments.

Maxi Jacketed Direct Burial Cable

14AWG Tin coated copper conductors, insulated with PVC and having a high-density polyethylene direct burial jacket. Conductor - Soft annealed tin coated solid copper conforming to ASTM B-33. Insulation: Polyvinyl Chloride conforming to UL Standard 493 for TYPE UF/TWU rated 75°C. Outer Jacket: Pressure Extruded High Density PE conforming to ICEA S-61-402, and NEMA WC5 Jacket Thickness 3/64" minimum jacket material to completely fill interstices between the two insulated conductors.

Surge Protection Device

White labeled Waterproof cylinder with two wires to connect with 2 wire path for surge

protection. This shall be placed at every 500 ft or every 15 devices which ever is lesser.

Copper Grounding Rod

Copper coated rods should have a heavy, uniform coating of copper metallurgically bonded to a rigid steel core. Should UL Listed rods and have 10-mil minimum copper plating.

Should be Listed to UL-467 specification.

Size Dia 5/8", Length – 8'

Copper Grounding Rod Clamp

Size 5/8", MOC Cast Bronze, should be suitable to fix on 5/8" Copper Clad Rod

Should be UL Listed

Maxi Grounding Plate

Copper Grounding plate 4" wide and 96" Long.

Maxi Surge Pipe

Waterproof cylinder with surge protection, 2 wired to connect the controller and 2 wire path.

Wire Splice Kit

Direct bury type on wire connector with strain relief, UL486 D certified, with waterproof silicon sealant, fits wire from 22 gauge to 6 gauge as per specifications complete.

Voltage Stabilizer

1 KV voltage stabilizer with inbuilt surge protection and having power back up of 1 hr.

Flow Sensor Valve – Flow Sensor Cum 9-24 VDC Master Valve

Flow Sensor / Meter with accuracy + or - 1%, with LCD display, for flow range 1 to 30 M3/Hr, for velocity 0.10 to 5.0 MPS and it should sustained max 10 bar pressure, with pulse transmitter, Hard Rubber Liner, 150 lb Cast Steel Flanges, Standard Lay Length, Alloy C Electrodes, 316SS Grounding Rings, Remote Mounted Amplifier, Submersible Junction Box, 300 Ft Standard Remote Cable 4", ANSI 150 pressure class, Normally closed, DC Latched with interface module to connect the 2 wire path with (closing speed control), Surge Protection during closure

The Flow Sensor & 9-24DC Master Valve should be in one Single unit (incapsulated in one body)

Sensor Module

Weather proof cylinder with two wire addressed device to connect the sensor out put of Weather station, Master Valve, Flow Sensor, Pump interface or any other device to communicate the Irrigation system 2 wire path.

Filter Station

1. The filter should be ideal for remote installation sites with water driven self-cleaning mechanism that does not require external power source to operate.

2. The filter should start the self-cleaning process when the pressure differential across the screen reaches a preset value or predetermined lapse of time. Cleaning of the filter elements is to be carried out by suction scanners with its spiral rotational movement while removing the filtration cake from the screen and expels it out through the exhaust valve. No back-wash pumps shall be used for cleaning purpose.

3. Filter unit should be designed and installed with specification.

Filtration Degree absolute - The filter screen design shall be 130 microns based on weave wire screen.

Minimum water used for flushing - The water used for flushing shall not exceed 1% of the rated flow and the filter shall always deliver at the outlet of 99% of the rated flow.

Material of Construction - Reinforced Polymer like polypropylene/polyamide or Stainless Steel 304, Screen should be SS 316L.

Cleaning Mechanism - DP based @ 0.5 Bar, DP Switch Input, secondary should be time based.

Screen Type – Moulded weave wire cylinder

Flush Valve – Integral valve. No external valve allowed.

Control Panel – 6/12 VDC with latch relay solenoid. Operation should be Bluetooth control
Approved Make – Rainbird / Yardney / Smartflow / Filternox / Filtaworks

DI Pipes - Ductile Iron Pipes as per IS K9 Class IS 8329

Pumping System:

Pumping System – Comprising of Vertical Multistage Pump having system flow of 45 m3/Hr @ 50 Mtr Head (2 Working + 1 SB) with All Header, Pressure Tank, Pressure switch, NRV and Butter Fly Valve with VFD Control Panel with all GI C Class Pipes and Fittings (Jindal/TATA/Surya) etc. complete as directed by engineer in charge

The contractor shall supply the required / specified pump station of reputed make conforming given specifications. The pump body must be of SS/CI & the rotor is to be copper.
It should be a VFD Based Pump Station mounted on a Power Coated / Hot Deep Galvanized Skid / Header giving flow of 45m3/Hr. at 50 m head complete Set (2 working + 1 stand by) with Suitable

Pressure Tank, Inlet & Outlet Valve, Check Valves. Pressure Gauge, VFD Panel having individual Pump Control from outside of the panel & all required accessories.
All necessary / required accessories & fittings required for the connection / installation / erection of moonset pump set are included in the supply rates.

The moonset pumps are to be installed in the Underground pump rooms specified in the layout / directed by Nalanda University.

Surge Anticipation Cum Quick Pressure Relief Valves

The Surge Anticipating Valve shall open in response to the pressure drop associated with abrupt pump stoppage to dissipate the returning high pressure wave, eliminating the surge. It shall smoothly close drip tight as quickly as the relief feature allows, while preventing closing surge. The valve shall also relieve excessive system pressure.
Main Valve: The main valve shall be a centre guided, diaphragm actuated globe valve of either oblique (Y) or angle pattern design. The body shall have a replaceable, raised, stainless steel seat ring. The valve shall have an unobstructed flow path, with no stem guides, bearings, or supporting ribs. The body and cover shall be ductile iron. All external bolts, nuts and studs shall be Stainless Steel. All valve components shall be accessible and serviceable without removing the valve from the pipeline.
Actuator: The actuator assembly shall be double chambered with an inherent separating partition between the lower surface of the diaphragm and the main valve. The entire actuator assembly (seal disk to top cover) shall be removable from the valve as an integral unit. The stainless-steel valve shaft shall be centre guided by a bearing in the separating partition. The replaceable radial seal disk shall include a resilient seal and shall be capable of accepting a V-Port Throttling Plug by bolting.
Quality Assurance: The valve manufacturer shall be certified according to the ISO 9001 Quality Assurance Standard. The main valve shall be certified as a complete drinking water valve according to NSF, WRAS, and other recognized standards.

Size 2", Double Chamber, Standard Materials: Body & Actuator: Ductile Iron Internals: Stainless Steel, Bronze & coated Steel Diaphragm: NBR Nylon fabric-reinforced Seals: NBR, PN 10/16

OEM supervision & PMC Services

Contractor to ensure quoted cost to include charges / cost for OEM supervision and PMC services for quality installation and commissioning for Irrigation system. OEM to appoint a full-time engineer / executive during the project execution to ensure the desired quality work. The person must have at-least minimum 5 years of work experience of irrigation central control system installation and commissioning and should have OEM's certification to carry out such job.

Aerators

1. Re-circulation – Aeration unit shall be comprising of desired HP as given on the BOQ, Aerator Maintenance free - corrosion resistant marine grade 18 Guage/SS 316 grade stainless steel motor housing, g- type sealed, oil-cooled 1425 RPM motor, Power control center with Industrial Grade Thermoplastic screen to keep debris out. It should be provided with power cable from Aerator motor up to Control Panel. The Aerator Motor unit to be mounted on PE Float. The Aerator should be able to churn / influence the water as per given unit in BOQ / Hr,

High Volume unit having 1.5kg oxygen transfer rate / hr / HP. Should be Approved & listed with ETL & ETL-C, Carrying independent CE Mark.
Approved makes – Otterbine / Rainbird / Smartflow or equivalent

General remark on product specifications:
All products must be as per Irrigation system designed by contractor and approved by Nalanda university . It should be of repute make and must be as per given approved make. Contractor will be responsible for all cost if found to replace the products other than the specified without written consent of Nalanda university.

Testing Procedures

Adjustment of the system:

The contractor will adjust the various components of the irrigation system to ensure the overall operation of the system is efficient. This includes the programming of the irrigation control system and adjustment of part circles sprinkler heads.

a) A static test of two hours at 1.5 times the working pressure of the mainline above 110 mm (but no higher than the pressure rating of the pipe) will be performed if required at the completion of the tapping band installation stage of each section of the mainline.
b) During the period of the static test, the pressure will not drop by more than 0.25 kg/sq.cm
c) All isolation valves and thrust blocks must be in place and cured for the mandatory period.
d) Air valves, quick coupling and lateral valve assemblies must be completed and the lines thoroughly flushed and primed prior to testing.
e) There will be no permissible leaks at any point in the system.
f) All tests will be carried out by the contractor and approved by the Nalanda university.

System Installation & Commissioning:

a) The commissioning of irrigation controller system will be carried out by the OEM's representative in conjunction with the Nalanda university.
b) The commissioning will include, at the time of hand over, a demonstration of all sections and individual elements pertaining to the operation of the irrigation system.
c) System installation should be carried out under supervision of OEM. OEM to appoint his full time person at site during the execution of work.

Hand Over

Before hand over, the Contractor shall ensure the following.

a) In addition to the static pressure test or commissioning, the completed system must be operated without fault for at least fifteen days prior to hand over.
b) Should any major leaks occur during this period; the static pressure test procedure will be repeated once the problem has been rectified.
c) If the system is repaired, then it must operate for at least fifteen days without fault prior to hand over being accepted.
d) In lieu of an official hand over, any works properly tested, commissioned (if applicable) and used by the CLIENT'S for at least fifteen days without fault will be deemed as handed over.

Documentation

As Constructed Drawings

These drawings in suitable scale will include the location of following : (Note : the ACAD of project layout in suitable scale ,will be provided by Nalanda university and these As constructed drg will be based and shown on that layout)

a) Point of Connection
b) All mainline and lateral piping (including sizes)
c) Sprinklers heads
d) All valves
e) Main isolation
f) Quick coupling
g) Section isolation

Electrical Drawings

These drawings will include the location of:

a) Point of connection
b) Mainline and sub-main pipe
c). Sectional Valve
d). Power sources
e) Route of Cable any Junction Box.
f) Cable Joint

Manuals

Three sets of instruction manuals to be provided, a draft copy having been previously submitted for prior approval by the Nalanda university.

These manuals are to be comprehensive and fully descriptive to enable the Nalanda university to properly operate and maintain the system. They are to include a trouble-shooting guide of the problems likely to occur during the lifetime of the system. They must cover:

The irrigation control system operation and maintenance manual.

All irrigation components installed including:

a) Trade literature
b) Local supplier details including:
c) Name of company & contact person
d) Phone number
e) Local technical support
f) Email id

Defects Rectification and Warranty obligations

The Defect Rectification in Defect liability period(DLP) of 12 months and warranty obligations in the Conditions of Contract are applicable for the Irrigation System Works also. In addition to that, the Contractor warrants the Water meter, Fully atomized Screen Filter, Pipes, Drip line, Sprinklers, Solenoid Valves, Cables and Irrigation Controller if any specified in this document.

Upon receipt of written notice from the Client's Representative of rejection of any irrigation material during the Establishment Period and / or the Defects Rectification Period due to its malfunctioning, the materials shall be promptly replaced with the same technical specification & make as originally installed.

The DLP period would start from the date of the signed completion certificate issued. Kindly note, the maintenance period of 2 years will start after the completion of the DLP period.

24 COMPLIANCE TO ENVIRONMENTAL LAWS

The contractor shall comply the directives of Hon'ble National Green Tribunal dated 04.12.2014 & 10.04.2015 and EIA Guidance Manual issued in February 2010 and Construction & Demolition Waste Management Rules, 2016. The compliance of the contractor shall not be limited to the following:

(i) The contractor shall not store/dump construction material or debris on metalled road.

(ii) The contractor shall get prior approval from Engineer-in-Charge for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic or any inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.

(iii) The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes/or are carrying construction material like cement, sand ,earth and other allied material are fully covered. The contractor shall take every necessary precaution that the vehicle are properly cleaned and dust free to ensure that enroute their destination, the dust, sand or any other particles are not released in air/contaminate air.

(iv) The contractor shall provide mask to every worker working on theconstruction site and involved in loading, unloading and carriage ofconstruction material and construction debris to prevent inhalation of dust particles.

(v) The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission.

(vi) The contractor shall ensure that C&D waste is transported to the approved C&D waste site of local authority only as per Construction & DemolitionWaste Management Rules, 2016 and due record shall be maintained by the contractor.

(vii) The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF Guidelines, 2010.

(viii) The contractor shall carry out on-road-inspection for black smoke generating machinery. The contractor shall use cleaner fuel.

(ix) The contractor shall ensure that the DG sets comply emission norms notified by MoEF.

(x) The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 kmph. Speed bumps shall be used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, the contractor shall divert traffic to nearby paved areas.

(xi) The contractor shall ensure that the construction material including earth is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.

(xii) No extra payment will be made for operation/activity mentioned at Sl. No. (i) to (xi) above.

Special Conditions

1.1 The tender shall be written in English language. All other information such as documents and drawings supplied by the bidder shall also be in English language only. Drawings and design shall be dimensioned according to the metric system of measurements. Tender shall be forwarded under cover or a letter typewritten on the bidder's letterhead and duly signed by the bidder. Signature must be in long hand, executed in ink by a duly authorized principal/representative of the bidder. No oral, telegraphic or telephonic tenders or subsequent modifications there to shall be entertained. If a tender is submitted on behalf of the firm, then all the partners shall sign the Tender or the Tender may be signed by one of the partners in whose favour all the remaining partners have given such signing partner a valid General Power of Attorney. In case of tender submitted by a company, the person who has been authorized by the Board of Directors of the company through a resolution shall sign the tender. Copy of power of attorney/resolution as the case may be, and the authority letter in favour of the person signing must accompany the tender.

1.2 The Bidder shall quote the percentage above/below the total estimated cost given in Schedule of Quantities. Incomplete offer under the tender shall be liable for rejection. Quantities shown in the Schedule of Quantities are approximate and can increase or decrease. No claim shall be entertained for any item of work due to variation in the quantities.

1.3 Time of completion for the work is 12 months as per the approved program and instructions of Engineer-in-Charge. Unless otherwise stated, the contract shall be for the whole Work as described in the "Schedule of items of Works" and under the drawings. The Contractor shall be bound to complete the whole Work within such stipulated time as set out in the schedule of items of Works and the drawings, including such additional items as may be necessary, if any, as per drawings and instructions.

1.4 **No cost payable for preparing tender:** The bidders shall not be entitled to claim any costs, charges, expenses in connection with preparation and submission and subsequent clarification of its tender in the event of withdrawal of the invitation of tenders by NU.

1.5 The Contractor shall comply with the provisions of the Apprentices Act, 1961, Minimum Wages Act, 1948, Workmen's Compensation Act, 1923, Contract Labour (Regulation and Abolition) Act, 1970, Payment of Wages Act, 1936, Owner's Liability Act, 1938, Maternity Benefits Act, 1961, and the Industrial Disputes Act, 1947 as may be applicable and the rules and regulations issued there under from time to time. The list of the statutes mentioned above is an indicative list and all enactments applicable for workmen shall be complied with by the bidder. Any failure to comply with such statutes shall amount to breach of the Contract and the Engineer-in-Charge may, at his discretion, terminate the Contract without any prior notice being furnished to the Contractor. The Contractor shall also be liable for any pecuniary liability arising on account of violation of any of the said statutes and shall indemnify and keep the NU indemnified for any loss or damage arising on account of the same.

1.6 Additional Definitions

a. **Nominated Sub-Contractor:** Nominated Sub-Contractor shall mean any person or agency appointed by NU for the execution of any particular Work or providing any services under the Contract.

b. **Samples:** Samples are physical samples, which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

c. **Shop drawings:** Shop drawings means those drawings or other documents which are specifically prepared by or on behalf of the Contractor to illustrate details of construction for the purpose of fabrication or installation or any other construction related works mentioned in the Tender which required by the Architect Consultants and are submitted to the Engineer In charge for the approval/suggestion/verification from Architect Consultants as the Contractor's intended method of achieving the end result required by the Contract Drawings and Specifications.

d. **Submittals:** Submittals includes progress schedules, setting out drawings, shop drawings, testing and inspection reports, and other information required by the Contract Documents to be submitted by the Contractor for information or approval by the Engineer in Charge.

e. **Virtual Completion:** Virtual Completion shall mean completion of the Works as per drawings and specifications to the entire satisfaction of Engineer in Charge, whose decision shall be final and binding on the parties in this regard and particularly the act of securing by the Contractor to get the virtual completion certificate from the Engineer in charge and submission of the same to the NU to start the Defect liability period of the contract.

f. **Final Completion:** Final Completion shall mean the completion of the Works and any necessary rectification directed to be carried out during the Defects Liability Period and any extension thereof by the Contractor and securing of such final completion certificate from the Engineer in Charge/ Architect Consultants/ NU, and also obtaining the final handing over of the Works to the NU, and the acceptance of the same.

g. **Jurisdiction of Courts:** The High Court at Patna in the state of Bihar shall have the Jurisdiction to decide any dispute arising out of or in respect of the contract for this work.

1.7 No material, tools, plants, equipment shall be provided by University and nothing extra shall be paid for this.

1.8 Electricity –

Nalanda University shall not provide electrical power. Contractor has to arrange with necessary permission from relevant authority if any at his own cost electrical power for construction or for general lighting and other usage. The Contractor shall, at his own cost, provide approved temporary electrical connections, cables, distribution boards and related equipment for construction, as required by the Engineer-in-Charge. The Contractor shall permit and enable all sub-Contractors to use his power & distribution facilities. The Sub-Contractor shall pay such amount for the use of power & distribution facilities as may be determined between the Contractors. The Contractor shall, at his own cost and in order to prevent interruption of the Work(s) due to power failures, provide for stand-by diesel generators of sufficient capacity as per the requirements to supply adequate electricity for the Works and for other uses. Disruptions in power supply, whether

due to power failures, load shedding, generator breakdowns, non-availability of Electric Supply or any other reason, shall not be accepted as a valid reason for delays and deficiencies in the Work or for claims for additional payments.

1.9 Insurance – The Contractor shall at his own expense arrange for all insurance policies, including workmen compensation policy and Contractor's All Risk policy (CAR Policy) in the amount of the Contract effective from the date of commencement of Work(s) and until final completion of the Work(s) also taking into consideration the defects liability period, against all of the following risks.

a) Injuries and damage of persons, property, machinery, equipment, vehicles, animals or things, within or outside the site, arising out of his operations or of any sub-Contractors, nominated or otherwise, or out of any actions of his employees, agents or representatives, limited to Rs. 20,00,000 (Rupees Twenty Lakhs) per accident
b) Injuries to his or any Sub-Contractor's employees.
c) Damage to or loss of the property, equipment, and materials at site, of the Owner, Contractor and all Sub-Contractors, as a result of natural causes such as lightning, storm, flood, rain, fire, earthquake, explosion, landslide, etc.
d) Damage and injuries to persons, property and materials arising out of riot and civil commotion, theft, sabotage malicious acts, terrorist activities, flood, water logging etc.

The insurance policy or policies to cover risks of every nature shall be in the joint names of the University and the Contractor, and the original of such policy/ policies shall be lodged with the Engineer-in-Charge. The Contractor shall also lodge the premium receipts with the Engineer-in-Charge, such standing jointly in the names of the University and the Contractor.

1.10 **Site Security –** The Contractor shall be deemed to be in possession of the Works site and shall be responsible for its total security, and shall ensure that all materials, sheds, equipment, plant, tools, etc.; whether his own or belonging to any Sub-Contractor, are well protected.

a) The Contractor shall at his own cost install and maintain sufficient security fences and gates and employ full time round-the-clock security personnel to prevent the Works site from and against the intrusion of the public or any other unauthorized persons or vehicles.

b) Total security of the site, property, and materials shall be the sole responsibility of the Contractor. The presence of his consultants representatives, or the NU's security personnel shall in no way relieve or absolve the Contractor of his responsibilities in ensuring the security and protection of the site and everything stored or lying thereon

1.11 **Warranty/Guarantee -** The Contractor shall be responsible for the proper performance of the Work(s), including installations and systems, as specified under the Contract Documents.

Subject to Clause the Contractor shall, at his own cost and in the shortest possible time, repair and remove any defect or deficiency in the Works, which may appear prior to or during the defect liability period, to the satisfaction of the Engineer-in-Charge.

A guarantee will be given by the Contractor for the complete installation of the Works including its functioning, replacement of parts etc. as specified under the Contract Documents.

The defect liability period will be 12 months for the project from taking over of the system by the University. However, beyond the Defect Liability Period (i.e. after completion of 12 months), if the manufacturer provides the warranty of the appliances for more than one year, in that case, the warranty/guaranty of the system will be valid as per the OEM practice.

All the Guarantees referred above shall commence from the date of Completion Certificate.

1.12 Percentage Rates –

a. The percentage rates quoted by the Contractor are deemed to be inclusive of site clearance, setting out work, profile, setting lay out on ground, establishment of reference bench mark(s), installing various signage, taking spot levels, survey with total station, construction of all safety and protection devices, compulsory use of helmet and safety shoes, and other appropriate safety gadgets by workers, imparting continuous training for all the workers, barriers, preparatory works, construction of clean, hygienic and well ventilated workers housings in sufficient numbers as per drawing supplied by Engineer in charge, working during monsoon or odd season, working beyond normal hours, working at all depths, height, lead, lift, levels and location etc. and any other unforeseen but essential incidental works required to complete this work. Nothing extra shall be payable on this account and no extension of time for completion of work shall be granted on these accounts.
b. The rates quoted by the bidder, shall be firm and inclusive of all taxes and levies as applicable (including works contract tax and GST). Labour cess applicable as per relevant Central/State laws will be deducted from every bill of the contractor and deposited to respective Government department. TDS for Income-tax and Works Contract tax as applicable will be deducted from contractors' bills and deposited to respective Government department. The ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-charge to the contractor on actual basis. Effect of any tax due to new legislation shall be adjusted accordingly as per actual on production of documentary proofs of payment of such tax to concerned Government departments.
c. No foreign exchange shall be made available by the Owner for importing (purchase) of equipment, plants, machinery, materials of any kind or any other items required to be carried out during execution of the work. No delay and no claim of any kind shall be entertained from the Contractor, on account of variation in the foreign exchange rate.
d. All ancillary and incidental facilities required for execution of work like labour camp, stores, fabrication yard, offices for Contractor, watch and ward, temporary ramp required to be made for working at the basement level, temporary structure for plants and machineries, water storage tanks, installation and consumption charges of temporary electricity, telephone, water etc. required for execution of the work, liaison and pursuing for obtaining various No Objection Certificates, completion certificates from local bodies etc., protection works, testing facilities / laboratory at site of work, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary

(for execution of work and as directed by Engineer-in-Charge), shall be deemed to be included in rates quoted by the Contractor, for various items in the schedule of quantities. Nothing extra shall be payable on these accounts. Before start of the work, the Contractor shall submit to the Engineer-in-Charge, a site / construction yard layout, specifying areas for construction, site office, positioning of machinery, material yard, cement and other storage, steel fabrication yard, site laboratory, water tank, etc.

e. For completing the work in time, the Contractor might be required to work in two or more shifts (including night shifts). No claim whatsoever shall be entertained on this account, not with-standing the fact that the Contractor may have to pay extra amounts for any reason, to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the Contractor with them.
f. All material shall only be brought at site as per program finalized with the Engineer-in-Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.
g. Rate shall including of Liaison work required, if any, in this regard with the local bodies.

1.13 Payment of Final Bill

On the intimation to the Engineer-in-charge by the contractor for the completion of the work, the Engineer-in-charge shall arrange for the inspection of works by his representative, PMC and the Architect Consultants. Upon the inspection of works Engineer-in-charge will hand over a list showing the defects in works, if there are any, to the contractor. The final Bill shall not be paid till all such defects are not rectified to the entire satisfaction of the Engineer-in-charge.

The final bill shall be accompanied by:

(1) All-technical documents on the basis of which the Work was carried out.
(2) As-built drawings. Three sets of construction and installation drawings for all Works, and Site development, showing therein modifications, corrections and additions signed and confirmed by the Engineer-in-Charge to be “as built” drawings. The entire documentation shall be submitted in Compact Discs (CD), using latest version of AUTOCAD software.
(3) Completion certificates for embedded and covered-up Works issued by the Engineer-in-Charge.
(4) Certificates for tests carried out for various items of Work.
(5) Manufacture’s operating and maintenance manuals as well as guarantee/warrantee papers, commissioning and handing over reports for whatever equipment/Materials installed.
(6) Security Deposit of 2.5% (Two Decimal Five per cent) of the Contract Value in the form of bank guarantee valid up to the Defect liability period and the Maintenance Period from the date of certificate.

1.14 The contractor shall submit the methodology for Horticulture and Irrigation work as per University approved drawings according to availability of site as per condition of tender document.

1.15 All permissions needed for work shall be taken from competent authority of the University by the contractor.

1.16 The Horticulture contractor shall coordinate with other contractors working on the site.

1.17 Defect liability period (DLP) of 12 months shall commence from the date of completion for each part/type of work" as stipulated in the tender document and shall be recorded separately and its DLP shall be counted from respective completion of each part/type of work.

1.18 The rates quoted by the contractor's should be including all royalty, GST, taxes, all duties/cess , all insurances like CAR policy , workmen compensation policy , carriages, all lead and lifts and stacking etc. complete upto the site of work . Nothing extra shall be payable to contractor on this account unless otherwise stated.

1.19 The location of storing and stacking of material shall be decided by the Engineer-in-charge.

1.20 All malba / rubbish / waste / garbage etc. generated during the day to day from horticulture works execution shall be disposed of on daily basis by the contractor to the specified common disposal point as directed by the Engineer-in-charge

1.21 The contractor has to submit to the Engineer-in-charge, the documentary evidence of compliance of relevant labour regulations with every RA/Final bills and indemnify the Nalanda University from any labour regulation issue .

1.22 The site shall be cleared from all type of rubbish, surplus T & P etc. complete in all respect at the time of completion and handover of work.

1.15 The university shall not be responsible for any injury partial or permanent or death of any worker at site due to accident during functioning of the equipment or by negligence of the staff of the contractor.

1.16 All the engaged workers are to be equipped with photo identity cards issued by the contractor and contractor will maintain their particulars (i.e. Name,Father Name, Local Address, Permanent address, Aadhar card, Covid vaccination details etc.) A copy of the same will be provided to the Engineer-in-charge time to time. The cost incurred, will be borne by contractor and nothing will be reimbursed for it.

1.17 The agency shall provide half jacket (Fluorescent material) written Nalanda University(Hort.) prominently on back side.

1.18 The contractor will have to deploy experienced & qualified PM and supervisor as per enlistment rule having good knowledge of horticulture activities and he should also be available during the inspection of higher officers and also ableto explain & understand about the day to day activities/directions given by University officials.

1.19 Before making supply, the contractor shall be required to get the samples approved by the Engineer-in- Charge

1.20 All the planting materials should be healthy, well developed and free from insect, pest and diseases.

1.21 The good earth (even if available within the campus) should be made free from brick, bats, stones and gravels and fit for horticulture works .

1.22 The Farm yard manure (FYM) should be well rottened ,free from foreign materials etc.

1.23 The contractor shall be responsible for the labour regulations, discipline and decorum and proper liaisoning with the University team.

1.24 The Contractor shall ensure a safe environment on the landscape area at all times. All safety provisions shall be properly maintained. All safety precautions and requirements shall be strictly complied with at all times.

1.25 Appropriate Personal Protective Equipment (PPE) shall be supplied and maintained for all workers. Minimum PPE shall include hi-visibility jacket, safety shoes, Face Mask and gloves. Supervisors shall undertake a pre-inspection of roadside landscaping works to assess risks, including maintaining all Covid protocols , if any.

1.26 Vehicles shall be parked off the roadway so as not to obstruct driver's view of the presence of workers. Vehicles shall not, under any circumstances, be driven against the normal flow of traffic.

1.27 Any vehicles used for landscaping should be registered, roadworthy and well maintained.

1.28 Carting material from one site to another to be under taken in such a manner so as to cause minimum amount of pollution.

1.29 Supervisors should meet the workers and instruct them about the safety aspects of the day's activities prior to commencement of work.

1.30 Particular attention and planning is to be given to ensuring that landscaping works does not impede vehicle flow. Consideration needs to be given to the provision of traffic control/security staff where the work or the location requires the obstruction of the normal roadway.

1.31 100% of workforce and supervisors are to be trained in first aid: Establish and train supervisors in procedures for the rapid acquisition of emergency works in the event of an accident.

1.32 No landscaping or building materials are to be stockpiled or unloaded onto the road surface except while being moved into the work area, and eventhen, only when barricaded and signposted with reflective warning signs.

1.33 Due to corona pandemics all safety measures shall be taken by the contractor during the execution of work as per Govt. guidelines and as directed by Engineer-in-Charge & nothing extra will be paid on this account.

Sd/

Registrar, Nalanda University.

Schedule Of Quantities (Attached separately)