

SOUTH ASIAN UNIVERSITY

Akbar Bhawan, Chanakyapuri, New Delhi



Tender Document

LANDSCAPING, HORTICULTURE AND IRRIGATION WORKS INCLUDING TWO YEAR MAINTENANCE AT SOUTH ASIAN UNIVERSITY(SAU) CAMPUS, MAIDANGARHI, NEW DELHI 110068.



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Notice Inviting e- Tenders

Section- II

**Form of Agreement, General Rules and Directions
for Guidance of Tenderers/Bidders**

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Schedule of Quantities

Rev 1- 23rd October, 2020

NOTICE INVITING TENDER(NIT)**NITNo.:28/NIT/SAU/2020**

Name of work: Landscaping, Horticulture and Irrigation Works including two year maintenance at South Asian University(SAU) Campus, Maidan Garhi, New Delhi 110068.

Estimated Cost:Rs.3,64,19,912/-

Earnest Money	Rs.7,28,000/-
Performance Guarantee	5% of tendered value. (50% of the performance guarantee shall be returned to the contractor after completion of the work (Schedule A & B). Balance 50% shall be retained as security deposit for the maintenance work, which shall be returned on year wise prorata basis)
Security Deposit	2.5 % of tendered value.
Time allowed	01 Year for Landscaping, Horticulture and Irrigation work (Schedule of Quantity, A &B)
Maintenance works (SOQ- C)	02 Years after completion of Landscaping, Horticulture and Irrigation Works (SOQ- A&B)
Defect Liability Period	One year from date of completion

Certified that this NIT contains Part-A from **Page-1 to Page-60** & Part-B from **Page-61 to Page-98** and Part-C from **Page-99 to Page-123** (schedule of quantities A, B &C) with modifications and corrections up to 19th September 2020.

Prepared By

Vetted By :

PA:

SAU:

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South Asian University**Akbar Bhawan, Chanakyapuri, New Delhi-110021****2.0. NOTICE INVITING E-TENDER (Press/ website/CPP Portal Notification)**

Registrar, South Asian University (SAU), New Delhi-21, on behalf of the President, SAU, invites online, percentage rate bids in two bid system (Technical/ Eligibility Bid and Financial Bid) from eligible Tenderers/bidders for the following work/s:

NIT NO: 28/NIT/SAU/2020

Name of work: Landscaping, Horticulture and Irrigation Work including two year maintenance at South Asian University(SAU) Campus, Maidan Garhi, New Delhi, 68.

Estimated Cost Put to Tender (ECPT)	: Rs.3,64,19,912/-
Earnest Money	: Rs.7,28,000/-
Time for Completion	: 01 Year (One Year) For Landscaping, Horticulture and Irrigation Works (Schedule A &B).
Maintenance Period	:02 Years(Two years) from the date of completion of Landscaping, Horticulture and Irrigation Works.
Defect Liability Period	One Year from date of completion
Last Date and Time for Submission of Bids	: 04.11.2020(3:00 PM)

For detailed NIT/Tender Documents/Details/ downloads and for any other correction/amendments/modification/extension of time till the last date of submission of bids, please visit websites: www.sau.int or www.eprocure.gov.in or www.tenderwizard.com/SAU

Tender submissions can only be made through online mode at www.tenderwizard.com/SAU

Registrar

3. PART-A

TECHNICAL BID/ ELIGIBILITY CRITERIA

3.1 INFORMATION AND INSTRUCTIONS FOR TENDERERS/ BIDDERS FOR E-TENDERING (FORMING PART OF TENDER / BID DOCUMENT AND TO BE POSTED ON WEBSITE)

(Applicable to two bid systems)

Registrar, South Asian University (SAU), New Delhi-21, on behalf of the President, SAU, invites online percentage rate bids in two bid system (Technical/ Eligibility Bid and Financial Bid) from eligible Tenderers/bidders for the following work:

DETAILS OF WORK:

1	NIT No.	28/NIT/SAU/2020
2	Name of Work & Location	Landscaping, Horticulture and Irrigation Works including two year Maintenance at South Asian University (SAU) Campus, Maidan Garhi, New Delhi 110068.
3	Estimated Cost put to tender	Rs.3,64,19,912/-
4	Earnest Money	Rs.7,28,000/-
5	<u>Stipulated Period for Completion of work</u>	: 01 Year (One Year) For Landscaping, Horticulture and Irrigation Works (Schedule A&B). :02 Years(Two years) for maintenance work (Schedule C) from the date of completion of Landscaping, Horticulture and Irrigation Works
6	Date of Pre-Bid meeting	21.10.2020(3.00 pm)
7	Last date and time of submission of online bids along with copy of receipt of deposition of original EMD, e-tendering processing fee and other documents as specified in the tender document.	04.11.2020 (3.00 pm)
8	Time & date of opening of Technical/ Eligibility Bid	04.11.2020 (3.30 pm)
9	Time & date of opening of Financial bid	to be informed later

- The intending bidders must read the terms and conditions of NIT/ form CPWD-6 (Notice Inviting e- tender) carefully. They should only submit their bids if they considers themselves eligible and would be able to submit all the documents required. The eligibility criteria are given under para 1.5 of section 3.3 (CPWD-6).

2. Information and Instructions for bidders posted on website shall form part of bid Document.
3. The full bid document consisting of plans, specifications, the schedules of quantities and the set of terms and conditions of the contract to be complied with and other documents (except CPWD GCC) can be seen and downloaded from website www.tenderwizard.com/SAU or www.sau.int or www.eprocure.gov.in free of cost.
4. The bid can be submitted only through website after deposition of original EMD in the office of the Director (Finance), South Asian University, New Delhi within the period of bid submission and uploading the mandatory scanned documents such as Demand Draft or Pay Order or Banker's Cheque or Deposit at Call Receipt or Fixed deposit Receipts towards EMD in favour of **South Asian University, New Delhi** as mentioned in NIT including receipt of deposition of Original EMD to South Asian University and other documents as specified. Format of EMD receipt is attached with at 3.1A.
5. Contractors/bidders not registered on the website mentioned above, www.tenderwizard.com/SAU are required to get registered beforehand. If needed they can seek help in this regard from the website of Ms. Tenderwizard.
6. The intending bidder must have **valid class-III digital signature** to submit the bid.
7. On Tender opening date of the financial bid, the contractor can login and see the bid opening process. After opening of bids, he will receive the competitor bid sheets(comparative statement sheets).
8. Bidders/Contractor can upload documents in the form of **JPG** format and **PDF** format.
9. **List of documents to be scanned and uploaded up to date and time mentioned above is given separately at section 3.2.**
10. The **Part-C** of tender documents contains **Schedule of Quantities (SOQ)**, consisting of **Schedule A -CPWD DSR 2018(Horticulture and Landscaping) items, Schedule –B Non-DSR items** and **Schedule-C Maintenance Works**. Contractor shall quote percentage, above, below or at par for all schedules (A, B and C) separately at the designated place. If any Part of SOQ summary is left blank by the bidder, the bid shall be considered as zero or at par.
11. ***Contractor must ensure to quote percentage against each head. The column meant for quoting percentage in figures appears in pink colour and the moment percentage is entered, it turns sky blue.***
 - i) In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0". Therefore, if any cell is left blank and percentage is quoted by the bidder, rate of such item shall be treated as "0" (ZERO).
 - ii) **However, if a tenderer does not quote any percentage above/below/at par on the total amount of the tender or any section/sub head in percentage rate tender, the tender shall be treated as at par.**

12. The Technical/Eligibility bid shall be opened first on due date and time as mentioned above. The time and date of opening of Financial bid of contractors qualifying the Technical/ Eligibility bid shall be communicated to them at a later date.
13. Pre-Bid conference shall be held in the office of the Registrar, South Asian University, Akbar Bhawan, Chanakyapuri, New Delhi – 110021, on notified date to clear the doubts of intending bidders, if any. The tenderers are requested to submit their questions/ queries in writing in the name of Registrar, SAU or e-mail to registrar@southasianuniversity.org to reach not later than two days before the date of pre-bid conference.
14. If any information furnished by the applicant is found incorrect at a later stage and it is found that tenderer/bidder does not qualify as per terms and condition of the tender, he shall be liable to be debarred from tendering/ bidding for works in South Asian University (SAU). His tender shall be cancelled and EMD forfeited. The SAU reserves the right to verify the particulars and documents furnished by the applicant independently.
15. It shall be mandatory to sign the integrity pact by the bidder failing which bidder may stand disqualified from the tendering processed and his bid would be summarily rejected. Integrity pact of the bid document shall be signed between Registrar SAU and the successful bidder after acceptance of bid.
16. **Dispute Redressal**; The process of dispute redressal shall be as laid down in the CPWD GCC 2020 (construction works) including its further amendments It will be mandatory to constitute Dispute Redressal Committee(DRC) & contractor or SAU can only seek arbitration after exhausting entire due process DRC shall be as mentioned in clause 25 of schedule F(Proforma of schedules).

Self-attested copies of all the documents shall be uploaded and originals kept ready as these can be called for verification.

Registrar,

For and on behalf of the President, SAU

3.1.A FORMAT FOR RECEIPT OF DEPOSITION OF ORIGINAL EMD

Receipt No.....#..... /date.....#.....
<p>1. Name of Work: Landscaping, Horticulture and Irrigation Works including two year maintenance at South Asian University(SAU) Campus, Maidan Garhi, New Delhi.</p> <p>2. NIT No. : 28/NIT/SAU/2020</p> <p>3. Estimated Cost: Rs.3,64,19,912/-</p> <p>4. Amount of Earnest Money Deposit : Rs.7,28,000/-</p> <p>5. Last date of submission of Bid : 4.11.2020 3.00pm</p> <p>(* To be filled by Tender Inviting Authority)</p>
<p>1. Name of Contractor :#.....</p> <p>2. Form of EMD#.....</p> <p>3. Amount of Earnest Money Deposit#.....</p> <p>4. Date of submission of EMD#.....</p> <p style="text-align: center;">Signature, Name and Designation of EMD receiving officer along with Officer stamp</p> <p>(# to be filled by EMD receiving authority)</p>

Note:

- i) The Authority receiving EMD in original form examines the EMD deposited by the bidder and issues receipt of deposition of earnest money to the agency in a given format uploaded by tender inviting authority.
- ii) The authority receiving original EMD also intimates tender inviting authority about deposition of EMD by the agency.

3.2 List of Documents to be filled, scanned and uploaded by the Bidders

Forms as indicated in Section-III, to be scanned and uploaded in JPG format or PDF format within the period of bid submission:

1.	Demand draft/Pay order or Banker's Cheque /Fixed Deposit Receipt of a Scheduled Bank/ Bank Guarantee of any Scheduled Bank towards EMD
2.	Letter of transmittal (4.3.1)
3.	Certificate of Financial Turnover from a Chartered Accountant (Form 'A'). <i>(Refer to Para 9(a) of section 4.3.2)</i>
4.	Solvency Certificate from Scheduled bank (4.3.3 Form 'B').
5.	Integrity Pact
6.	Integrity Agreement
7.	Certificates of Works Experience (Form 'C', 'D' & 'E'). <i>(Section 4.3.4, 4.3.5 & 4.3.6)</i>
8.	Structure & Organization (Form 'F').
9.	Details of Technical & Administrative Personnel (Form 'G'). <i>(Section 4.3.8))</i>
10.	Details of Landscape / Horticulture Equipment Likely To Be Used In Carrying Out The Work (Form 'H') (Section 4.3.9).
11.	Work Experience: List of similar past works and performance on these works during last seven years, but not more than 10 works.
12.	Certificate of Registration for Goods and Service Tax and acknowledgement of up to date filed return.
13.	Affidavit regarding execution of qualifying works, as mentioned under Para1.2(B) of section 3.3
14.	Affidavit as mentioned under Para1.5 of section 4.2 – Guidelines for bidders
15.	Affidavit to the effect of not being black listed by any agency, as mentioned under Para1.7 of section 4.2 – Guidelines for bidders
16.	Certificate of enlistment under Horticulture works category in CPWD/MES/Railways/Telecom or any other Govt. agency in appropriate class
17.	Copy of PAN card.
18.	Copy of receipt for deposition of original EMD issued from authorized person in South Asian University. The Director Finance , South Asian University or his authorized representative is authorized to receive the EMDs and issue the receipt of deposition of original EMD in the prescribed format.

3.3 **NOTICE INVITING e-TENDER – (CPWD-6)**

Registrar, South Asian University (SAU), New Delhi-21, on behalf of the President, SAU, invites online percentage rate bids in two bid system (Technical/ Eligibility Bid and Financial Bid) from eligible Tenderers/bidders for the following work:

“Landscaping, Horticulture and Irrigation Works including two year Maintenance at Permanent Campus, South Asian University, Maidan Garhi, Delhi-110068.”

(Important; The South Asian University is in International University established by eight member states of SAARC region. It has been established by act of parliament 2008 and granted the immunity and privileges at par with united nations organizations as per ministry of External Affairs (MEA) , Govt. of India, Gazette notification dated 15th January 2009. The University is being run by contribution paid by member states, however the capital fund for construction of permanent campus including this work at Maidan Garhi is being provided by Govt. of India and the work is to be carried out as per latest General Financial Rules (GFR)).

General details;

1	1.1	<p>The work is estimated to cost Rs.3,64,19,912/-.</p> <p>The estimated cost is based on CPWD DSR 2018 (HORTICULTURE & LANDSCAPING) and Non-DSR items based on prevailing market rates. This estimated cost, however, is given merely as a rough guide.</p> <p>Intending bidders may submit the bid only after satisfying themselves that they fulfill the following eligibility criteria:</p>
	1.2	Enlistment requirement -Please refer eligibility criteria given in this NIT.
	1.3	Joint ventures are not accepted. The bidder shall not be allowed to sublet the work. Restriction under Rule 144(xi) of the GFR 2017 as conveyed through Deptt. of Expenditure(PPD) dated 23rd July 2020 shall be followed.
	1.4	An intending bidder is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar works of magnitude specified below:
	1.5	Eligibility Criteria Tenderers/bidders who fulfill the following requirements shall be eligible to apply:
	A	Should have satisfactorily completed the works as mentioned below during the last Seven years ending previous day of last date of submission of bids.;
	i.	For Horticulture and Landscape Works:

	a	Three similar works, each of value not less than <u>Rs 88 Lacs</u> or two similar works, each of value not less than <u>Rs 133 Lacs</u> or one similar work of value not less than <u>Rs 177 Lacs</u>.
	b	Similar work means “Horticulture and Landscaping works in a single contract”.
	ii.	For irrigation works : The Bidder should have completed at least any one work of laying irrigation lines (Irrigation works) of value not less than <u>Rs 11 Lacs in a single contract</u> . (This may or may not be part of works mentioned in 1.5A(i) above and will be governed as per para vii, below).
	iii.	For maintenance work : The Bidder should have completed at least any one work of Horticulture and landscaping maintenance of value not less than <u>Rs 22 Lacs per annum in a single contract</u> . This may or may not be part of works mentioned in 1.5A(i) above and will be governed as per para vii, below).
	iv.	For irrigation works, the main contractor should either himself meet the eligibility criteria as defined in the bid document (para iii above) or he will have to associate with an specialized agency for this work after award of work and has to submit details of at least three such agencies conforming eligibility . Agency to be associated shall be approved by Engineer-in-charge.
	v	Important Note -if after opening of financial bid, it is founds that the lowest bidder has not executed similar work given in above paras or does not fulfil eligibility criteria, his bid will be rejected, earnest money deposited will be forfeited and will also be debarred from future tendering in SAU.
	vi	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 the last date of submission of bid.
	vii	Components of work executed other than those included in definition of similar work shall be deducted while calculating cost of similar work. Bidder shall submit certified attested abstract of cost of work in support of this. The bidder may show separately the net value of similar work certified by client.
	viii	To become eligible, the bidder shall have to furnish an affidavit as under: <i>I / We undertake and confirm that eligible similar work(s) has / have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice, then the SAU shall be at liberty to terminate/determine the contract prejudice to its right under other clauses of contract. The bidder/tenderer shall be debarred for bidding in SAU in future . Also, if such a violation comes to the notice of SAU before date of start of work, the Engineer-in-Charge/SAU shall be at liberty to forfeit the entire amount of Earnest Money Deposit / Performance Guarantee.</i>
	ix	The applicant's performance for each eligible work completed in the

		last seven years shall be certified by an officer not below the rank of Executive Engineer or equivalent.
	B	Should have an average annual financial turnover of <u>Rs.182 Lacs</u> on Horticultural works during the immediate last three consecutive financial years ending 31st March 2020 (Scanned copy of Certificate from CA to be up loaded). (At the time of submission of bid, the contractor may upload Affidavit/ Certificate from CA mentioning Financial Turnover of immediate last 5 years ending March 2020. There is no need to upload entire voluminous balance sheet).
	C	Should not have incurred any loss (profit after tax should be positive) in more than two years during the last five years ending 31st March 2020. (Consecutive financial statements duly certified and audited by the Chartered Accountant to be uploaded.)
	D	Should have a solvency of <u>Rs.145 lacs</u> , certified by his banker(Scanned copy of original solvency to be uploaded). The transmittal of solvency certificate should be addressed to the Registrar, SAU.
	1.6	To ensure timely completion and quality of workmanship/ maintenance, the University is inviting tenders in two bid system. Based on the past performance and soundness of the firm, University will qualify/shortlist the bidders for opening of financial bids.
	1.7	The intending bidder must read the terms and conditions of CPWD-6 carefully. He should submit his bid only if he considers himself eligible and can provide all the documents required for establishing his eligibility etc.
2		Agreement shall be drawn with the successful bidder on prescribed Form No. CPWD7/–8 as amended up to the date of submission of tender, which is available as a Govt. of India Publication and also available on website www.cpwd.gov.in or the format in practice in SAU as the case may be. Bidder can see the SAU agreement format as mentioned under Para 5 below. Bidders shall quote his rates as per various terms and conditions of the said form, which will form part of the agreement.
3		The time allowed for carrying out the work, will be (as given in the tender notice) 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. The maintenance period is for Two years from the date of completion of work.
4	i	The site for the work is available but it shall be made available in parts/phases as per priority as building/development works is also in progress. The bidder has to plan and execute work as per priorities decided and fixed by the SAU

		The bidder is advised to visit the site of work, at his own cost, and examine it and its surroundings to satisfy himself and collect all information that he considers necessary for proper assessment of the work and for quoting his rates judiciously.
	ii	The working drawings shall be made available by Project Architect in phased manner, as per the requirement of the same as per approved programme of completion submitted by the contractor after award of work.
	iii	<p>The time allowed for completion of work is as below:</p> <p>a) Horticulture, landscape and irrigation works (schedule A&B);</p> <p style="text-align: right;">One Year</p> <p>b) Maintenance Period (Schedule-C) – 2 Years from the date of completion of Horticulture, landscaping and in irrigation works (Schedule A&B).</p> <p><u>Important: Important: Upkeep, protection and maintenance during the period of execution of Horticulture, landscaping and irrigation works (schedule A&B) till handing over or completion will be the responsibility of the bidder/contractor by deploying additional dedicated manpower, for which nothing extra shall be paid.</u></p>
5		<p>The bid document consisting of drawings/plans, specifications, schedule of quantities of items to be executed and the set of terms & conditions of the contract to be complied with and other necessary documents can be seen free of cost from website www.sau.int, www.eprocure.gov.in and www.tenderwizard.com/SAU. Plans can also be seen in the office of the Executive Engineer, South Asian University, Akbar Bhawan, Chanakyapuri, New Delhi – 110021, on any working day from 10am to 5pm.</p> <p>The tender document is based on CPWD standard publications like General Conditions of Contract 2020 for construction works and maintenance works, Delhi Schedule of Rates and specifications 2018 for Horticulture and Landscaping, DSR 2018 for Civil works, CPWD Specifications 2019, yardstick guidelines of CPWD Maintenance manual 2019 with amendments / correction slips up to the last date of submission of bids can be seen free of cost from “www.cpwd.gov.in” the CPWD website.</p>
6		After submission of the bid, the tenderer/Bidder can re-submit revised bid any number of times but only before last time and date of submission of bid as notified.
7		Earnest Money of Rs. 7,28,000/- in the form of Demand Draft or Pay Order or Banker's Cheque or Fixed Deposit Receipt of a scheduled bank drawn in favour of South Asian University, New Delhi, shall be scanned and uploaded to the e- Tendering website within the period of tender submission.

		<p>The original physical EMD (of the scanned copy uploaded) shall be deposited by the bidder in the office of the Director (Finance), SAU, who will issue a receipt for the same in the format attached with. The receipt shall also be uploaded on the e-tendering website by the intending bidder upto the specified bid submission date and time, failing which the tender shall be rejected.</p> <p>Alternatively, the EMD amount can also be transferred to the SAU account directly. The bank details of SAU are as follows:</p> <p>Beneficiary Name : South Asian University Name of Bank : State Bank of India Bank Address : Old JNU Campus, New Delhi Beneficiary A/C No. : 31238978138 IFSC Code/ RTGS No. : SBIN0001624 MICR Code : 110002056 PAN Number : Not Applicable in view of tax exemption.</p> <p>Online bid documents of only those bidders, whose original EMD deposited with other documents scanned and uploaded and found in order, shall be opened.</p>
8	(i)	Interested bidders who wish to participate in the bid have to also pay the e-Tender Processing Fee, payable to ITI Limited through their e-gateway by credit / debit card / internet banking facility.
	(ii)	Online tender documents submitted by interested bidders shall be opened of only those bidders, who have deposited e- tender processing fee with ITI Limited.
	(iii)	<p>Copy of Enlistment Order (as applicable), certificate of work experience and other documents as specified in the tender document for eligibility shall be scanned and uploaded on the e-tendering website within the period of tender submission.</p> <p>However, certified copy of all the scanned and uploaded documents as specified in tender document shall have to be submitted by the lowest bidder within a week, physically in the office of tender opening authority.</p>
9		The bid submitted shall be opened on 04.11.2020 at 3.30pm .
10.		<p>The bid submitted shall become invalid and e-Tender processing fee shall not be refunded, if:</p> <p>i) The bidder is found ineligible.</p> <p>ii) The bidder does not upload all the documents including PAN card, Goods and Service Tax (GST) registration, as stipulated in the tender document including undertakings, as required /applicable and proof of deposition of original EMD.</p> <p>iii) Any discrepancy is noticed between the documents as uploaded</p>

		<p>at the time of submission of bid and hard copies as submitted physically by the lowest bidder in the office of tender opening authority.</p> <p>iv) The Bidder does not deposit original EMD (physical form) with south Asian University before opening of technical bid.</p> <p>v) If a tenderer quotes NIL rates against any item on item rate tender or does not quote any percentage above/below on the total amount of the tender or any section/sub-head in percentage rate tender, the tender shall be treated as invalid even if he otherwise is found to be the lowest tenderer.</p> <p>In any case, the e-tender processing fee shall not be refunded.</p>
11		<p>After opening of the technical bid/ eligibility bid , SAU shall prepare a list of deficiencies found in the bids of each bidder vis a vis requirements as per NIT and send to individual bidders by Speed Post or Email with a request to furnish required documents within specified time, failing which it will be presumed that the individual bidder does not have any further documents to furnish and decision on bids will be taken accordingly.</p>
12		<p>The tenderer whose bid is finally accepted, will be required to furnish performance guarantee of 5% (Five Percent) of the bid amount within the period specified in schedule F as Banker's cheque of any scheduled bank / Demand Draft of any scheduled bank / Pay order of any Scheduled bank or Fixed Deposit Receipts of Scheduled bank or an irrevocable bank Guarantee Bonds (specimen performa, attached at GCC) of the State Bank of India or any Scheduled Bank in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in schedule 'F' including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor.</p> <p>The Earnest Money deposited along with tender shall be returned after receiving the aforesaid performance Guarantee.</p> <p><i>The contractor 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. as applicable and also ensure the compliance of aforesaid provisions by the sub-contractors, if any engaged by the contractor for the said work.</i></p> <p><i>The contractor shall also submit Programme Chart (Time and Progress) within the period specified in Schedule F.</i></p>
13		<p>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, the form and nature of the site,</p>

		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. Bidders 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, 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 if any, in this tender document and local conditions and other factors having a bearing on the execution of the work.
14		The competent authority on behalf of SAU does not bind itself to accept the lowest or any other bid and reserves to itself the right to reject any or all the bids received without assigning any reason. All 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.
15		Canvassing whether directly or indirectly, in connection with bids is strictly prohibited and the bids submitted by the Bidders who resort to canvassing will be liable to rejection.
16		The competent authority on behalf of SAU 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 rate quoted.
17		The Bidder/tenderer shall not be permitted to bid for works in SAU if any of his near relative is posted as an officer in any capacity (Grade IV or above) in SAU or Ministry of External Affairs, Govt. of India. He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him or are subsequently employed by him and who are near relatives to any officer in the SAU or in the Ministry of External Affairs. Any breach of this condition by the Bidder would render him liable to bid and shall also be debarred from future contracts.
18		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 contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor 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 as aforesaid before submission of the bid or engagement in the contractor's service, as the case may be.

19		<p>The bids for the work shall remain open for acceptance for a period of Seventy Five (75) days from the last day of opening of technical bid. Further;</p> <p>If any tenderer/bidder withdraws his tender/bid before the said period or issue of letter of acceptance, whichever is earlier, or makes any modification in the terms and conditions of the tender/bid which is not acceptable to the SAU, then the SAU shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the bidder shall not be allowed to participate in the rebidding process of the work.</p>
20		<p>This notice inviting tender/bid shall form a part of the contract document. The successful bidder / tenderer, on acceptance of his bid by the Accepting Authority shall within 15 days from the letter of acceptance, sign the agreement consisting of :</p> <ol style="list-style-type: none"> The Notice Inviting Bid, all the documents including special conditions, additional conditions, particular specifications, Schedule of quantities (SOQ), drawings, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto. Standard C.P.W .D. Form-7 (CPWD GCC) or other standard CPWD form as applicable. An agreement on standard SAU Format on a non-judicial Stamp paper of appropriate value. (format available with SAU/attached) Integrity Pact and Agreement as per CPWD GCC 2020.
21		<p>The bid document will include following three components:</p> <ol style="list-style-type: none"> Part A: CPWD-6 (Notice inviting e-Tender), CPWD-7 including schedule A to F, CPWD General Conditions of Contract (GCC) 2020 for construction and maintenance works as applicable with all amendments / modifications up to last date of submission of the bid. Part B: Special Conditions, Additional Conditions, Particular Specifications and Tender Drawings. Part C: Schedule of Quantities (SOQ). (Schedule A,B and C)
22		<p>The agency must read carefully complete NIT including Brief Particulars of work and Guideline for bidders.</p>
23		<p>After acceptance of the bid by competent authority, SAU shall issue letter of acceptance/Intent/award on behalf of the President, SAU. After the work is awarded, the contractor will have to enter into contract</p>

		agreement with SAU.
24		The work shall be treated as complete only when all the components of the work are complete, commissioned and handed over to SAU. The Completion Certificate of the work shall be recorded by authorized person of the university of the rank not less than Executive Engineer.
25.		The employer (SAU) reserves the right to increase or decrease the scope of work before or after the award of work without assigning any reason to the bidder/ contractor. No claim on any account whatsoever in any manner, in this regard shall be entertained by the employer (SAU).
26.		<p>The bidder should keep in mind the post COVID-19 scenario and possibility/chances of future unforeseen calamities/disasters during the contract period. The same shall be dealt as per contract. However, suitable remedy such as Time extension shall be considered by SAU if ;</p> <ol style="list-style-type: none"> I. Any BAN on work is imposed by NGT(National Green Tribunal) or other statutory authorities II. BAN/Lockdown due to Corona or any other epidemic/disaster. <p>The bidder/ contractor is bound to comply all regulations/SOPs/orders/instructions of the statutory authorities/local bodies etc. in this regard, without any additional cost to SAU.</p>
27.		No imported item is allowed in work as per Make in India Policy of Govt. of India.
28		The contract also includes comprehensive maintenance of Trees/Plants/shrubs/lawns etc. up to two years as detailed in Tender Document; After successful completion of SOQ-A and SOQ B works, the main agreement shall be closed and a supplementary agreement will be executed between the contractor and SAU for maintenance works.

3.4 INTEGRITY PACT

To,

M/s XXX

(Name and Address of Bidder)

Sub: NIT No. 28/NIT/SAU/2020for the work of “Landscaping, Horticulture and Irrigation Work including Two Year maintenance at Permanent Campus, South Asian University, MaidanGarhi, New Delhi,68.”

Dear Sir,

It is here by declared that South Asian University is committed to follow the principle of transparency, equity and competitiveness in public procurement.

The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender/bid documents, failing which the bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected.

This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of the SAU.

Yours faithfully,

The Registrar,
South Asian University
Akbar Bhawan, Chanakyapuri,
New Delhi – 110021

3.5 INTEGRITY PACT

To,
The Registrar,
South Asian University
Akbar Bhawan, Chanakyapuri,
New Delhi – 110021

Sub: **NIT No. 28/NIT/SAU/2020**, Submission of Tender for the work of **Landscaping, Horticulture and Irrigation Works including two year maintenance at Permanent Campus, South Asian University, Maidan Garhi, New Delhi, 68.**

Dear Sir,

I/We acknowledge that South Asian 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 the condition 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 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 and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by South Asian University. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the 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, South Asian University shall have unqualified, absolute and unfettered right to disqualify us and reject the tender/bid in accordance with terms and conditions of the tender/bid.

Yours faithfully
(Duly authorized signatory of the Bidder)

3.6 **INTEGRITY AGREEMENT**

This Integrity Agreement is made at on thisday of 20.....

BETWEEN

President, South Asian University represented through Registrar, South Asian University, Akbar Bhawan, Chanakyapuri, New Delhi – 110021, SAU, (Hereinafter referred as the '**Principal/Owner**', which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

M/s XXX , (name and address of Bidder) , through (Hereinafter referred to as the

(Details of duly authorized signatory)

"Bidder" 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. **28/NIT/SAU/2020**) (hereinafter referred to as "Tender/Bid") and intends to award, under laid down organizational procedure, contract for **Landscaping, Horticulture and Irrigation Works including two year maintenance at Permanent Campus, South Asian University, Maidan Garhi, New Delhi, 68.**

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 Bidder(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 prevent corruption and to observe the following principles:

(a) No 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 endeavor 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 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 if there 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 Government / Department 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 necessary to 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 involved in 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 obtain in exchange any advantage of any kind whatsoever during the Tender process or 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)/Contract(s) will not use improperly, (for the purpose of competition or

personal gain), or pass on to others, any information or 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 any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in 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 or firm indulge in fraudulent practice means a willful 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 Government interests.

(5) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force 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 Contractor 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 for a 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 prior to the award of 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 Earnest Money Deposit, 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 IPC 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 with any other Company in any country conforming to the anti-corruption 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 statements 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 by any 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 between the Principal/Owner and 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 12 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, SAU.

Article 7- Other Provisions

(1) This Pact is subject to Indian Law, place of performance and jurisdiction is the Headquarters of the Division 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 or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. 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 intentions.

(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 by the 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 Contract 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 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 witnesses:

.....
(For and on behalf of Principal/Owner)

.....
(For and on behalf of Bidder/Contractor)

WITNESSES:

1.
(signature, name and address)

2.
(signature, name and address)

Place:

Dated :

Part A

3.7 SAU CONTRACT AGREEMENT (Format)

This agreement made this day of **XX Month XX , Year XXXX**, between the **South Asian University**, established through the South Asian University Act 2008 (No. 8 of 2009 dated 11th January 2009) by the Republic of India, having its office at Akbar Bhawan, Chanakyapuri, New Delhi 110021 (hereinafter referred to as the **“the Employer”** which expression shall include its administrators, successors, executors and assignees) of the one part, and **XXXXX**(hereinafter referred to as the ‘Contractor’ which expression shall unless the context requires otherwise include its administrators, successors, executors and permitted assignees) of the other part.

WHEREAS, SOUTH ASIAN UNIVERSITY, is desirous of **“Landscaping, Horticulture and Irrigation Works including two year Maintenance at Permanent Campus, South Asian University, Maidan Garhi, Delhi 110068.”** (hereinafter referred to as the **“PROJECT or the WORK”**) and has accepted a tender submitted by the contractor for the execution and completion of such work/ Project and the remedying of defects there in as per condition of contract.

This agreement is signed between (NAME), **Registrar, SAU** (for and on behalf of the employer) and **XXXX** (Authorized Signatory of Contractor) for and on behalf of the contractor.

NOW THEREFORE THIS DEED WITNESSETH AS UNDER:

ARTICLE 1.0 – AWARD OF CONTRACT

1.1 SCOPE OF WORK

“Landscaping, Horticulture and Irrigation Works including Two year maintenance at Permanent Campus, South Asian University, Maidan Garhi, Delhi-110068.”as per the terms and conditions of the agreement / contract.

In this agreement, words and expression shall have the same meaning as the respectively assigned to them in the condition of contract herein after referred to.

ARTICLE 2.0 – CONTRACT DOCUMENTS

2.1 The contract shall be performed strictly as per the terms and conditions stipulated herein and in the following documents attached herewith (hereinafter referred to as “Contract Documents”).

- a) Agreement Form
- b) Letter of Acceptance
- c) Letter of Commencement of Works duly accepted by the contractor.
- d) Integrity Pact
- e) Integrity Agreement

- f) Tender Document Published on www.tenderwizard.com/SAU, www.sau.int, & www.eprocurement.gov.in .consisting of:
- i. PART A : TECHNICAL / ELIGIBILITY BID
 - ii. PART- B : SPECIAL, ADDITIONAL CONDITIONS AND PARTICULAR SPECIFICATIONS
 - iii. PART-C - SCHEDULE OF QUANTITIES
 - iv. CPWD GCC 2020 (For Construction works and Maintenance works) with up to date correction slip issued up to last date of submission of tender by the bidder. shall be deemed to be part of agreement. (Term SE, CE, ADG, wherever mentioned in the GCC may be read as “appropriate authority in South Asian University, New Delhi”).
 - v. Tender Drawings uploaded on website shall be deemed to be part of agreement.
 - vi. Any Corrigendum/amendment issued by SAU
 - vii. Minutes of Pre-bid Meeting
 - viii. Financial Bid Downloaded from www.tenderwizard.com/SAU
 - ix. Documents uploaded by the contractor and other correspondence with SAU.
 - x. Contractors Acceptance/ Performance Bank Guarantee
 - xi. Power of Attorney document submitted by contractor

ARTICLE 3.0 – CONDITIONS & COVENANTS

3.1 The scope of work shall also include all such items which are not specifically mentioned in the Contract Documents and drawings but which are reasonably implied for satisfactory completion of the entire scope of work envisaged under this contract unless otherwise specifically excluded from the scope of work in the Letter of acceptance and Letter of Commencement.

3.2 Contractor shall adhere to all requirements stipulated in the Contract documents.

3.3 Time is the essence of the Contract and it shall be strictly adhered to. The progress of work shall conform to agreed works schedule/contract documents.

3.4 The rates and prices quoted include all constructional plant, labour, supervision, materials, erection, maintenance, Insurance, profit etc. together with all the general risks, liabilities and obligations set out or implied in the contract.

3.5 The contractor shall adhere to all Labour Laws of Government and as per Contract Documents.

3.6 The total contract price for the entire scope of this contract as detailed in Letter of Acceptance is Rs.XXX (Rupees XXXX only), which shall be governed by the stipulations of the contract documents.

ARTICLE 4.0 – Settlement of Disputes and Arbitration

4.1 Settlement of dispute and Arbitration shall be governed as per clause 25 of General Conditions of Contract, which are a part of this contract .

5.0 Obligation of the Contractor:

5.1 The contractor shall ensure full compliance with tax laws of India with regard to this contract and shall be solely responsible for the same. The contractor shall submit copies of acknowledgements evidencing filing of returns every year and shall keep the Employer fully indemnified against liability of tax, interest, penalty etc. of the contractor in respect thereof, which may arise.

6.0 Notice of Default

6.1 Notice of default given by either party to the other party under the Agreement shall be in writing and shall be deemed to have been duly and properly served upon the parties hereto, if delivered against acknowledgment due or by FAX or by registered mail duly addressed to the signatories at the address mentioned herein above.

IN WITNESS WHEREOF, the parties through their duly authorized representatives have executed this deed (execution whereof has been approved by the Competent Authorities of both the parties) on the day, month and year mentioned in first para above at New Delhi.

Binding Signature of the Contractor

Binding signature of the Owner

(XXX) (XXX)

Registrar

For and on behalf of:

For and on behalf of:

M/s XXX (Contractor)

M/s SOUTH ASIAN UNIVERSITY

WITNESS:

WITNESS:

1.

1.

2.

2.

4.0 PARTICULARS OF WORK

4.1 BRIEF PARTICULARS OF THE WORK

Salient details of the work for which bids are invited are as under:

Name of Work	:	Landscaping, Horticulture and Irrigation Works including two year Maintenance at Permanent Campus, South Asian University, Maidan Garhi, Delhi-110068.
Estimated Cost	:	Rs.3,64,19,912/-
Period of Completion	:	01 Year (One Year) for Landscaping, Horticulture and Irrigation Works (Schedule- A and schedule B). : 02 Years (Two Years) for maintenance work(Schedule-C)from the date of completion of Landscaping, Horticulture and Irrigation Works .

1) The site for the work is at South Asian University Campus is located in MAIDAN GARHI Village, New Delhi 110068 near village-Rajpur Khurd and can be accessed from the Chattarpur-Fatehpur Beri Road.

2) Some of the buildings of the South Asian University Campus have already been constructed and are likely to be occupied very shortly, other buildings are under construction. This work is to be executed around completed and yet to be completed buildings, under Package-II and Package III respectively.

3) **Brief scope(as per SOQ) includes:**

(The brief scope of work given below is for guidance purpose only and does not absolve the contractor from his responsibilities and duties or scope of work as per this content, even if not indicated here)

- A. Supply of Trees/Shrubs/Plants/Creepers & Climbers/Grasses/ground covers/Potted plants/seasonal plants etc. and their plantation, display etc.
- B. Preparation of Earth Mounds with available earth at site.
- C. Creating seasonal/ all season flower beds including Trenching
- D. Supply of Manure/Sand/Earth, mixing and its filling in Planters/pots flowerbeds etc.
- E. Supply and Fixing Precast Tree Guards as per SOQ
- F. Supply and Fixing Tree name plate(Red sand stone 300x1200x75 mm).
- G. Supply and installation of complete irrigation system
- H. Supply of manpower etc. during maintenance period as per SOQ requirement.
- I. Maintenance of Trees/plants/lawn during execution of work till completion (Schedule A & Schedule B) by the contractor for which nothing extra will be paid.

- J. Maintenance of complete works including irrigation system for period of two years from date of completion.
 - K. Supply and installation of Tuflex garden Fencing
 - L. Any contingent/appurtenant work required for completion of the said item/work.
- 4) Work shall be executed according to CPWD Specification 2018 for Horticulture and landscaping works, CPWD General Conditions of Contract (GCC 2020 construction works), CPWD GCC 2020 maintenance works, CPWD maintenance manual 2019 (available free of cost at www.cpwd.gov.in). The bidder may also obtain the address of the outlets from the CPWD website or Engineer-in-Charge.
- 5) The Tree Planting scheme plan, Shrub plantation and landscape plan and irrigation scheme plans, architectural drawings are part of tender document uploaded in the specified websites and are also available for inspection in the office of the Executive Engineer, South Asian University, Akbar Bhawan New Delhi-21 on any working day between 10 AM to 5PM.

4.2 ADDITIONAL GUIDELINES FOR BIDDERS (Information and instructions to the bidder)

1	GENERAL:
1.1	Letter of Transmittal and forms for deciding eligibility/technical competence should be uploaded along with all other tender documents
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 including 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 applicant/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 uploading of eligibility criteria document unless it is called for by SAU.
1.5	The applicant/bidder must submit information of on-going litigations and litigations in which he is involved in the past seven years. In the event that the Bidder has no litigations either in process or in the past Seven years, an affidavit to this effect, duly notarized must be submitted in original.
1.6	The credentials submitted in respect of qualification/eligibility for tender by the bidder may be verified by SAU, if found necessary before opening of the financial bid. The bidder will make necessary arrangement for local transport, arranging meeting with client department, etc. Any information furnished by the bidder found to be incorrect either immediately or at a later date, would render him disqualified and liable for forfeiture of Earnest Money Deposit/ Performance Guarantee and he shall be debarred from tendering/taking up of works in SAU.
1.7	The bidder should not have been black listed by any State/Central Government Department or PSU or Autonomous bodies. The Bidder must submit a duly notarized affidavit to this effect. Applications received without this declaration shall stand automatically rejected.
1.8	The applicant's must submit an <u>undertaking</u> that up to date tax returns have

	been filed along with copies of such returns submitted to the concerned IT department/ Commercial Tax department.
1.9	Minimum requirement of Technical Staff for this work is given in Clause 32 of Schedule F.

2.0	DEFINITIONS:
2.1	In this document the following words and expressions have the meaning hereby assigned to them:
2.2	EMPLOYER: Means the South Asian University (SAU) , acting through the PA/PMC/Authorized representative of SAU , or successor thereof .
2.3	BIDDER: Means the individual, proprietary firm, firm in partnership, limited company (private or public) or corporation. <i>Joint ventures, consortium and special purpose vehicles are not accepted as bidders.</i>
2.4	“Year” means “Financial Year” unless stated otherwise.
2.5	“SAU” means South Asian University, New Delhi
2.6	“Engineer - in - charge” means Project Manager of PMC or any authorized representative of SAU or successor thereof.
2.7	“PMC” means Project Management Consultant, if any appointed by SAU for the above work.
2.8	“PA” means Project Architect appointed by SAU for the above work.
2.9	“Consultant” means Landscape Consultant of PA/SAU.
2.10	<p>i. The words “Tenderer” and “bidder” holds the same meaning so is the word “Tender” and “bid” .</p> <p>ii. The term, contract/agreement, contract agreement wherever used (interchangeably) in this tender documents means the same.</p>

3.0	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 firm with 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 address, or, alternatively, by a partner holding power of attorney for the firm. In the latter 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.
4.0	FINAL DECISION MAKING AUTHORITY
	The employer 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 thereof or incurring any liability to the bidders.
5.0	PARTICULARS OF THE WORK ARE PROVISIONAL
	The particulars of the work given in Section 4.1(Brief Particulars of work) are provisional. They are liable to change and must be considered only as advance information to assist the bidders.
6.0	Site Visit; Please refer point no 4(i) of CPWD-6.
7.0	ELIGIBILITY CRITERIA (TECHNICAL / ELIGIBILITY BID) ; The Eligibility criteria has been defined under para 1.5 of section 3.3., CPWD-6 (Notice Inviting E- Tendering).
7.2	The bidder should own necessary horticultural equipment required for the proper and timely execution of the work. Else, he should certify that he would be able to manage the equipment by hiring etc., and submit the list of firms from whom he proposes to hire.
7.1	The bidder should have sufficient number of Technical and Administrative employees for proper execution of the contract. The bidder should submit a list of these employees stating clearly how these would be involved in this work.

8.0	EVALUATION CRITERIA FOR ELIGIBILITY (TECHNICAL BID)
8.1	The Eligibility details submitted by the bidders will be evaluated in the following manner:
8.1.1	The criteria for eligibility has been defined under para 1.5 of section 3.3, CPWD-6 (Notice Inviting e-Tender). Based on the documents submitted by the agencies, Eligibility Criteria in respect of experience of similar class of works completed, loss, solvency and financial turnover etc. will be first scrutinized and the bidder's eligibility and capability to execute the work be determined.
8.1.2	The SAU, however, reserves the right to restrict the list of bidders qualifying in technical bid evaluation to any number, as deemed suitable by it. The department reserve the right to reject any prospective applicant without

	assigning any reason and to restrict the list of qualified contractors to any numbers deemed suitable by it, if many bids are received satisfying the laid down conditions.
8.2	Even though any bidder may satisfy the above requirements, he would be liable to disqualification if he has:
a)	Made misleading or false representation or deliberately suppressed the information in the forms, statements and enclosures required in the eligibility criteria documents.
b)	Record of poor performance such as abandoning work, not properly completing the contract, or financial failures / weaknesses etc.

9.0	FINANCIAL INFORMATION
	Bidder should furnish the following financial information:
a)	Annual financial statement for the last five years in (Form "A"). This should be supported by audited balance sheets and profit and loss accounts duly certified by a chartered accountant, as submitted by the applicant to the income tax department.
b)	Solvency certificate in (Form "B"). Name and address of the bankers, identification of individuals familiar with the applicant's financial standing and a banker's statement on availability of credit.
10.0	EXPERIENCE IN WORKS HIGHLIGHTING EXPERIENCE IN SIMILAR WORKS , Bidder should furnish the following:
a)	List of all works of similar nature successfully completed during the last seven years (in form "C")for determining the eligibility criteria. Work order/ award letter copies to be submitted as proofs.
b)	Particulars of completed works and performance of the applicant duly authenticated/ certified by an officer not below the rank of Executive Engineer or equivalent should be furnished separately for each eligible work completed (in Form "E").
c)	List of the projects under execution or awarded (in Form "D"). The Tenderer should list at least five work in this category and not more than ten works.
11.0	ORGANISATION INFORMATION
	Bidder is required to submit the information in respect of his organization (in forms 'F'&'G').
12.0	HORTICULTURAL PLANT & EQUIPMENT
	Bidders should furnish the list of horticultural plant and equipment to be used in carrying out the work (in Form "H"). Details of any other plant & equipment

	required for the work not included in form “H” and available with the bidder may also be indicated.
13.0	LETTER OF TRANSMITTAL
	The bidder should submit the letter of transmittal attached with the Tender/Bid document.
14.0	OPENING OF THE FINANCIAL BID
	After evaluation of eligibility documents (technical bid), a list of short listed agencies qualified in eligibility criteria 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.
15.0	AWARD CRITERIA
15.1	The employer reserves the right, without being liable for any damages or obligation to inform the bidder, to:
a)	Amend the scope and value of contract .
b)	Reject any or all of the applications without assigning any reason.
16.0	Essential Submissions and Information
16.1	The bidder shall provide copies of work orders as well as completion certificates from the past Employer as documentary proof for having executed similar works. However, decision with regard to eligibility of the applicant/successful bidder will be taken by the appropriate authority on SAU, only after necessary documents provided by the Bidder have been examined.

4.3 SECTION III - INFORMATION REGARDING ELIGIBILITY CRITERION

4.3.1 Letter of Transmittal

From:

.....

To,

**The Registrar,
 South Asian University Akbar Bhawan, Chanakyapuri,
 New Delhi - 110021**

Sub: Landscaping, Horticulture, Irrigation Works including two year Maintenance at Permanent Campus, South Asian University, MaidanGarhi, New Delhi.

Sir,

Having examined the details given in **Press Notice and Detailed Bid** document available on designated websites 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 H and accompanying statements 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 submit the requisite certified solvency certificate and authorize SAU, New Delhi to approach the Bank issuing the solvency certificate to confirm the correctness thereof. I/W e also authorize SAU, New Delhi to approach individuals, employers, firms and corporation etc. to verify our competence and general reputation.
4. I/We submit the certificates as per the form "E" in support of our suitability, technical knowledge and capability for having successfully completed the following works:-

S. No.	Name of work	Amount	Certificate issued by
1			
2			
3			

5. Technical / Eligibility bid documents are submitted online and Earnest money

amounting to Rs.7,28,000/- in the prescribed form is deposited in the University as per receipt attached herewith.

6. Financial bid is submitted online.

Enclosures:

Seal of bidder

Date of submission

SIGNATURE(S) OF BIDDER(S)

4.3.2 FINANCIAL INFORMATION**Name of the firm / Contractor**

- I. Financial Analysis-Details to be furnished duly supported by figures in balance sheet / profit & loss account for the last five years duly certified and audited by the Chartered Accountants, as submitted by the Bidder to the Income Tax SAU (Copies to be attached).

S. No.	Particulars	Financial Years (Figures in Lakhs Rs)				
		2015-16	2016-17	2017-18	2018-19	2019-20
(i)	Gross Annual Turnover					
(ii)	Turnover on Horticulture Works					
(iii)	Profit / Loss					

- II. Financial arrangements for carrying out the proposed work.
- III. The Firm /Bidder should have not posted loss in more than two financial years during the last Five Years.
- IV Solvency Certificate from Bankers of bidder in the prescribed Form "B".

SIGNATURE OF BIDDER(S)**Signature of Chartered Accountant with Seal**

FORM 'B'**4.3.3. Form of Bankers' Solvency Certificate from a Scheduled Bank**

This is to certify that to the best of our knowledge and information M/s./ Shri.....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 Rs.....(Rupees.....).

This certificate is issued without any guarantee or responsibility on the bank or any of the officers.

(Signature) For the Bank

NOTE:

1. Bankers certificate should be on letter head of the Bank, sealed in cover addressed to the **Registrar, SAU, New Delhi- 110021, the** tendering authority.
2. In case of partnership firm, certificate should include names of all partners as recorded with the Bank.
3. The certificate should not be more than 6 months old.

FORM 'C'**4.3.4. DETAILS OF WORKS OF SIMILAR NATURE COMPLETED DURING THE LAST SEVEN YEARS**

Name of the firm / Bidder.....

SIN.	Name of work /project and location	Owner or sponsoring organization	Cost of work in Rs, Crores	Date of commencement as per contract	Stipulated date of completion	Actual date of completion	cases pending / in progress with details*	Litigation arbitration	(Postal & E- mail) / telephone number of officer to whom reference may be made	Name and Address	Remark
1	2	3	4	5	6	7	8	9	10	11	12

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

SIGNATURE OF BIDDER(S) WITH STAMP

Form 'D'

4.3.5 Projects Under Execution or Awarded (The bidder may furnish the details of not more than ten works)

Name of the Firm/Contractor: _____

Sr No.	Name of work /project and location	Owner or sponsoring organization	Cost of work in Rs, Crores	Date of commencement as per contract	Stipulated date of completion	Up to date percentage progress	Slow progress if, and reason there off	(Postal & E- mail) / telephone number of officer to whom reference may be made	Name and Address	Remark
1	2	3	4	5	6	7	8	9		10
1										
to										
10										
SIGNATURE OF BIDDER(S) WITH STAMP										

FORM 'E'**4.3.6. Performance Report of Works to be Considered for Eligibility**

Name of the Firm/Contractor: _____

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 (as mentioned in work order)	
	ii)	Actual Date of Completion	
7.	i)	Status of Compensation (Not Levied / Levied / Not Decided)	
	ii)	Amount of compensation levied for delayed completion, if any	
8.	Amount of reduced rate items, if any.		
9.	Whether any litigation / arbitration case pending / in progress in respect of this work.		
10.	Performance Report		
	1)	Quality of Work	Very Good / Good / Fair / Poor
	2)	Financial Soundness	Very Good / Good / Fair / Poor
	3)	Technical Proficiency	Very Good / Good / Fair / Poor
	4)	Resource fullness	Very Good / Good / Fair / Poor
	5)	General Behavior	Very Good / Good / Fair / Poor
11	Remarks(if any):		
Dated:			Engineer-in-Charge Equivalent to EE with stamp

4.3.7 STRUCTURE & ORGANISATION OF THE FIRM/BIDDER

1.	Name & Address of the bidder	
2	Telephone No. / Email ID / Telex No. / Fax No.	
3	Legal status of the bidder (attached copies of original document defining the legal status).	
(i)	An Individual	
(ii)	A Proprietary Firm	
(iii)	A Firm in Partnership	
(iv)	A Limited company or Corporation	
4.	Particulars of registration with various Government bodies (attach attested photo-copy).	
	ORGANIZATION / PLACE OF REGISTRATION	
	1.	
	2.	
	3.	
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.	Was the bidder ever required to suspend Horticulture work for a period of more than six months continuously after commencing the Work? If so, given the name of the project and reasons of suspension of work	
8	Has the bidder, or any constituent partner in case of partnership firm, ever abandoned the awarded work before its completion? If so, give name of the project and reasons for abandonment.	

9.	Has the bidder, or any constituent partner in case of partnership firm, ever been debarred/ black listed for tendering in any organization at any time? If so, give details	
10.	Have the bidder, or any constituent partner in case of partnership firm, ever been convicted by a court of law? If so, give details.	
11.	In which field of the bidder has specialization and interest?	
12.	Any other information considered necessary but not included above.	

Signature of bidder(s) with stamp

FORM 'G'**4.3.8 Details of Technical & Administrative Personnel to be deployed on the Work:**

Name of the Firm/Contractor: _____

Sl no.	Designation	Total Number	Number for this work	Name	Qualifications	Professional/ Construction experience and details of work carried out	How these would be involved in this work	Remarks
1	2	3	4	5	6	7	8	9

Signature of bidder (With Stamp)

'FORM H'**4.3.9 Plant And Equipment Required at Site, To Be Owned / Taken On Lease
By The Contractor**

SI No.	Equipment	Minimum Numbers available
	As given in clause 18 of Schedule F	

.....

Signed by an Authorized Signatory of the firm
With stamp

5.0 **PERCENTAGE RATE TENDER & CONTRACT FOR WORKS (CPWD-7)**

Tender for the work of: Landscaping, Horticulture and Irrigation Works including two year maintenance at Permanent Campus, South Asian University, MaidanGarhi, New Delhi.

- a. To be submitted/uploaded up to **15:00 Hrs. on 04.11.2020** on website: www.tenderwizard.com/SAU
- b. To be opened in the presence of bidders who may be present at **15:30 Hrs. on 04.11.2020** in the office of the **Registrar, South Asian University, Akbar Bhawan, New Delhi.**

(* to be filled by University)

TENDER

I/We have read and examined the notice inviting tender, schedule, A, B, & C Specification applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract (CPWD GCC 2020) with up to date amendments up to last date of submission of bid, clauses of contract, Special conditions, Schedule of Rate & other documents and Rules referred to in the conditions of contract/NIT and all other contents in the tender document for the work

“Landscaping, Horticulture and Irrigation Works including two year maintenance at Permanent Campus, South Asian University, MaidanGarhi, New Delhi.”

I/We hereby tender for the execution of the work specified for the SAU within the time specified in Schedule ‘F’, schedule of quantities and in accordance in all respect with the specifications, designs, drawing and instructions referred to in Rule-1 of General Rules and Directions and in **Clause 11 of the General Conditions of contract of 2020 with amendments up to last date of submission of bid.** with such materials as are provided for, by, and in respect of and in accordance with, such conditions so far as applicable.

We agree to keep the tender open for **Sixty (75)** days from the date of opening of **Technical Bid** and not to make any modification in its terms and conditions.

A sum of **Rs _____ (Rupees _____) (in words)** is hereby forwarded in cash/receipt / treasury challan/deposit at call receipt of a scheduled bank / fixed deposit receipt of scheduled bank /demand draft of a scheduled bank or bank guarantee issued by a scheduled bank as earnest money.

EMD is having validity for 6 months or more from the last date of receipt of tenders.

A copy of receipt of deposition of earnest money **Rs.**_____in receipt Treasury Challan/ Deposit at call Receipt of scheduled bank/ Fixed deposit Receipt of scheduled bank /Demand draft or pay order or Banker's cheque of scheduled bank/bank guarantee issued by a scheduled bank along with original instrument of EMD is scanned and uploaded (strike out as the case may be). If I/We, fail furnish to furnish the prescribed performance guarantee within prescribed period, I/We agree that the said President SAU or his successors, in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/We agree that President SAU or the successors in 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 tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in **clause 12** of the tender form.

Further, I/We agree that in case of forfeiture of Earnest Money & Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.

I/We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of SAU, then I/We shall be debarred for tendering in SAU in future . Also, if such a violation comes to the notice of SAU before date of start of work, the SAU shall be free to forfeit the entire amount of Earnest Money Deposit/ Performance Guarantee.

I/We hereby declare that I/We shall treat the tender 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 in any manner prejudicial to the safety of the SAU/State.

Dated:.....**

Signature of Contractor**

Witness:**

Address:**

Postal Address **

Occupation:**

5.1 ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the SAU 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 SAU

Signature*

Designation . Registrar, South Asian University

Dated:*

5.1 PROFORMA OF SCHEDULES

SCHEDULE 'A'	
Schedule of Quantities or SOQ The term schedule of quantities (SOQ) or BOQ means the same wherever mentioned in this NIT.:	From Page No.to Page No.....
SCHEDULE 'B'	
Schedule of materials to be issued to the	NIL
SCHEDULE 'C'	
Tools and Plants to be hired to the contractor:	NIL
<u>SCHEDULE 'D'</u>	
Extra schedule for specific requirements / documents for the work, if any	Nil
<u>SCHEDULE 'E'</u>	
Reference to General Condition of contract (GCC):	<p>For Horticulture, Landscaping and irrigation works : CPWD General Conditions of Contract 2020 for Construction works as amended as per applicability to SAU requirements and amended/modified up to the last date of submission of the tender/bid.</p> <p>For Maintenance works; CPWD General Conditions of Contract 2020 for maintenance works and CPWD maintenance manual 2019 as amended as per applicability to SAU requirements and amended/modified up to the last date of submission of the tender/bid.</p> <p>The Standard CPWD GCC and maintenance manual are amended from time to time through issue of OMs under series DG/CON which are available on CPWD official website at http://www.cpwd.gov.in/Documents/OfficialCirculars/ DG CON.</p> <p>The said Circulars issued up to last date of submission of tender shall also be deemed to be part of tender document.</p>

Name Of Work	Landscaping, Horticulture and Irrigation Works including their Maintenance at Permanent Campus, South Asian University, Maidan Garhi, New Delhi.
Estimated cost of work put to tender	: Rs.3,64,19,912/-
(i) Earnest Money	:Rs.7,28,000/- (To be refunded after receiving of Performance Guarantee.)
(ii) Performance Guarantee	:5% of accepted tendered value (After recording of the completion certificate for the Landscaping, Horticulture and Irrigation Works (Schedule A & B) by the competent authority, 50% of the performance guarantee shall be returned to the contractor, without any interest. Balance 50% of Performance Guarantee shall be retained as Security Deposit for maintenance work(Schedule C), which shall be returned year wise proportionately, without any interest).
(iii) Security Deposit	:2.5% of accepted tendered value of work, to be deducted from each running bill.

SCHEDULE 'F'

General Rules & Directions: -

Officer inviting tender:	: Registrar, South Asian University
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Definitions:

(i)	Engineer-in-Charge	Project Manager of PMC
(ii)	Accepting Authority	President SAU through Building Works Committee (BWC), SAU
(iii)	Percentage on cost of materials and Labour to cover all over heads and profits	15%
(ix)	Standard Schedule of Rates	CPWD DSR2018 (Horticulture and Landscaping works) with amendments up to date of submission of the bids/tender and market rates as applicable.
(v)	Department	South Asian University(SAU)

(vi)	Standard CPWD Contract Form GCC2020, CPWD form 7/8 as modified and corrected up to:	CPWD Form 7 (GCC2020) as modified & corrected up-to last date of submission of bid.
Clause 1		
i)	Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance	:15 (Fifteen) days
ii)	Maximum allowable extension with late fee @ 0.1% per day of performance guarantee amount beyond the period provided in (i) above.	:7 (Seven) days
iii)	Time allowed for submission of 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.	: 30 Days
Clause 2		
Authority for fixing compensation under clause 2		: President, South Asian University or successor thereof
Clause 2A		
Whether Clause 2A shall be applicable(Early Completion)		: Not Applicable
Clause 5		
a)	Number of days from the date of issue of letter of acceptance for reckoning date of start	: 10 (Ten) days or date of handing over of site whichever is later
b)	Time allowed for completion of Horticulture, landscaping and irrigation work works (Schedule- A&B) .	: 1 Year (One Year) .

c) Time allowed for Maintenance works (Schedule-C).	: 2 Years after completion of Horticulture, landscaping and irrigation work works.
-----------------------------------------------------	------------------------------------------------------------------------------------

Table of Milestone(s)			
No .	Description of Milestone (Physical)	Time allowed in days (From date of start)	% Amount of tendered cost to be with-held in case of non-achievement of milestone
A)	For Landscaping, Horticulture and irrigation works (Schedule A and B)		
1	Submission of work program.	30 days	1%
2	Priority 1 Area (As shown in the phasing plan drawing); A. Peripheral Horticulture & Landscape works in and around, I. LSES Building II. Club and Guest House (FC1) III. Faculty & Staff Housing Blocks (F2 & F3) IV. Law and Humanity Building. B. Around the Main spine road C. Amphitheatre area and surroundings. D. Required Irrigation Works pertaining to above areas (Refer Plan showing Priority areas, attached)	6 months	2%
3	Priority 2 Area (As shown in the phasing plan drawing);; A.. Peripheral Horticulture & Landscape works in and around I. Faculty of Art design & Convention Center II. Faculty of Physics, Chemistry, Maths & IT III. Institute of South Asian Studies, IV. Library (L1), V. Administration Building (AD1) , VI. Faculty & Staff Housing Blocks (F4) VII. Utility Building (U1). B. Landscaping along the remaining roads/areas other than that completed in Priority 1.	12 months	1%

	C. Remaining irrigation works other than that completed in Priority 1 area. (Refer Plan showing priority areas, attached)		
B	For maintenance Works (Schedule C)		
1	Satisfactory start of maintenance works including deployment of manpower in place as per contract	12 months	1%
<p>1. The contractor will ensure that all components of the work are executed in time. In case milestones are not achieved by the contractor for the work, the amount shown against milestones shall remain withheld by the Engineer-in-charge as per condition of the contract.</p> <p>2. 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 remain withheld.</p> <p>3. Intending bidder may submit phasing of activities/milestones based on their resources and methodology at the time of bidding corresponding to physical milestones/stages indicated in the above table. These shall form part of the agreement after approval of the accepting authority, otherwise it would be assumed that agency agrees with the above mentioned physical milestones.</p>			

Authority to Decide:	
(i) Extension of time	:President, SAU
(ii) Rescheduling of mile stones	:President, SAU
(iii) Shifting of date of start in case of delay in handing over of site	:President, SAU
Clause 5.2	
Nature of Hindrance Register (either Physical or Electronic)	: Physical
Clause 6, 6A	
Clause applicable - (6 or 6A)	: 6A (Computerized Measurement Book)
Clause 7	
Gross work to be done together with net payment/adjustment of advances for material collected if any, since the, last such payment for being eligible to interim payment.	: Rs.20 Lakhs during execution of work(SOQ A &B) : Quarterly basis during maintenance period.
Clause 7A (EPFO, ESIC and BOCW)	:Applicable

		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 are submitted by the contractor to the Engineer In Charge.	
Clause 10A			
List of testing equipment to be provided by the contractor		As per table below	
SI No.	Equipment	Quantity	
1	At site PH value determination Kit	2	
2	Sieve analysis Set	1	
3	Electronic balance 600gx0.1g., 10kg	1	
4	GI tray 600x450x50mm, 450x300x40mm, 300x250x40mm	1 each	
5	Screw gauge 0.1mm-10mm, least count 0.05	1	
6	Motorized sieve shaker	1	
7	Plastic or G.I. Buckets 15 ltr,	1	
Note: And any other equipment for quality assurance as desired by the engineer in charge.			
Clause 10B			
Whether Clause 10 B (ii) and (iii) is applicable;		:Not Applicable	
Mobilization advance and advance for T&P			
Clause 10C			
		Applicable only for maintenance work. (SOQ, Schedule-C)	
Component of labour expressed as percent of value of work		75% (for maintenance work i.e. Schedule-C only)	
Clause 10CA		Not Applicable	
Clause 10CC (Payment due to increase/decrease in the prices other than material under 10 CA)		Not Applicable	

Clause 11		
Specification & Mode of Measurement to be followed for execution of work	<div><div><div>i)Irrigation works ; CPWD specifications 2019.</div><div>ii)Horticulture and landscape works; CPWD specifications for Horticulture and landscaping 2018.</div><div>iii)CPWD maintenance manual 2019.</div></div><div>Specifications mean amended/ modified up to last date of submission of tender/bid.</div></div>	
Clause 12 (Extra/ deviation)		
Type of Work	:Horticulture, Landscape and irrigation works, including two years maintenance work	
Maximum percentage for quantity of items of work to be executed/Deviation Limit beyond which clauses 12.2 & 12.3 shall apply for Horticultural works	30%	
Clause 16		
Competent Authority for deciding reduced rates	: President SAU, New Delhi-110021 with advice of PRC	
Clause 17		
Defects Liability Period	12 Months after completion of Horticulture, landscaping and irrigation work works (Schedule A &B)	
Clause 18		
List of mandatory minimum machinery, tools & plants to be deployed by the contractor at site:-		
SI No.	Equipment	Minimum Required Numbers
1	Total Station Survey Equipment.	1
2	Auto level &staff.	1
3	Tractor with trolley agriculture equipment	1
4	Sprayers	4
5	Hand Cart/bogies	4
6	Watering Cans	10
7	Spades	10

8	Pick axes	10
9	Khurpis	One with each mali
10	Secateurs	6
11	Baskets	10
12	Shovels	10
13	Motorized Lawn mowers& rubber hose pipes as per requirement of site.	2 working
14	Boring tool(of all sizes)	1 set
15	Water tanker. (5000 Liter)	1 no
16	Screenner for coarse sand and fine sand	5
17	Centrifugal monoblock water pump minimum capacity 2HP	1+1

Note:

1. **The above list is only indicative and not exhaustive.** The contractor is required to deploy necessary equipment for achieving the progress as per Milestone Schedule given in Schedule F, Clause 5 and the completion of Entire Work within the stipulated time. These resources are minimum required. All plants and equipment need not to be mobilized simultaneously, plants and equipment as required as per the progress of work shall be brought at site timely. Any other machinery / equipment / tools and Plants as required as per the agreement / specification laid down in the agreement to be provided by the contractor at no extra cost and as per the actual requirement at site.

Clause 19: Penalty for each default in following cases

Clause 19C	Rs.500/- for each default
Clause 19D	Rs.500/- for each default
Clause 19G	Rs.500/- for each default
Clause 19H	Rs.500/- for each default

Clause 25

Constitution of Dispute Redressal Committee (DRC)	: South Asian University (SAU)
Chairman	OSD/Chief Liaison Officer, SAU or equivalent officer in SAU.
Member	Director Finance, SAU
Member	MEA technical representative
Member	External Technical Expert (BWC member)

Presenting Officer		PA and Engineer in charge from PMC or Executive Engineer/ Superintending Engineer SAU.		
<div>1. The above constitution of Dispute Redressal committee is subject to change, for which necessary notification shall be issued by the competent authority of the SAU (i.e. the President SAU) as may be required.</div> <div>2. The chairman of committee or President, SAU may substitute any member in case of their non-availability</div> <div>3. In addition to above, more BWC Members or expert may be coopted/Nominated by Chairman of the committee or by the President , SAU, whenever such a need arises.</div>				
Clause 32				
Minimum Requirement of Technical Staff and Recovery Rates				
Manpower		Minimum experience In similar works (Years)	Designation	Rate at which Recovery shall be Made from the contractor in the event of not fulfilling provision of clause32(i)
Qualification	Number			
Horticulture Landscaping & Irrigation works (schedule A&B)				
Graduate in agriculture/forestry/Horticulture. 100% deployment during Execution of schedule A &B.	1	8 years (Having experience of similar nature of work)	Project manager	Rs.50000 per month
Maintenance Works (schedule C)				
Diploma in agriculture/forestry/ Horticulture (100% deployment)	1 no	3 Years	Supervisor	Rs.30,000per month

1. Assistant Engineers/ Assistant Director (Hort.) retired from Government services who are holding Diploma will be treated at par with Graduate Engineers.
2. Other Diploma holder with minimum 10 year relevant experience with a reputed company/firm/construction co. can be treated at par with Graduate Engineers for

the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.

3. The contractor shall submit a proof of employment or affidavit/undertaking of the technical representative(s) and shall produce evidence at any time if so required by the Engineer-in-charge.
4. The deployment schedule of technical staff will be in accordance to sequence of work..

Clause 38	
Variation in theoretical quantities.	Not applicable

6.0 PART B
SPECIAL CONDITIONS, PARTICULAR SPECIFICATIONS & ADDITIONAL
CONDITIONS,

Note: CPWD GCC, CONSTRUCTION WORKS 2020 and CPWD GCC MAINTENANCE WORKS 2020 suitably amended by SAU will not be issued along with the tender document but the same shall form part of the agreement to be drawn and signed by both parties after acceptance of tender.

6.1. SPECIAL CONDITIONS

- 6.1.1 SAU may appoint/depute/assign a Project Management consultant (PMC) for supervision of execution of the work. The PMC Project in-charge shall be the Engineer in charge and the contractor shall take necessary instructions from him.
- 6.1.2 The Contractor shall carry out survey of the work area, at his own cost, setting out the layout and fixing of alignment of the layout as per architectural drawings in consultation with the Engineer-in-Charge and proceed further. Any discrepancy between the architectural drawings and actual layout at site shall be brought to the notice of the Engineer-in-charge. It shall be responsibility of the Contractor to ensure correct setting out of alignment. Nothing extra shall be payable on this account. No claims, whatsoever, shall be entertained at a later date for any errors found, on plea that the information provided by the SAU in the tender is insufficient or is at variance with the actual site conditions.
- 6.1.3 The Contractor shall, if required by him, before submission of the tender, inspect the drawings in the Office of the Executive Engineer , SAU, Akbar Bhawan, Chanakyapuri, New Delhi-110021. The SAU shall not bear any responsibility for the lack of knowledge and also the consequences, thereof to the Contractor. The information and data shown in the drawings and mentioned in the tender documents have been furnished for general information and guidance only. The Engineer-in-Charge, in no case, shall be responsible for the accuracy thereof and/or interpretations or conclusions drawn there from, by the Contractor and all consequences shall be borne by the Contractor. No claim, whatsoever, shall be entertained from the Contractor, if the data or information furnished in tender document is different or actual working drawings are at variance with the drawings available for inspection or attached to the tender documents. It is presumed/understood that the Contractor shall satisfy himself for all possible contingencies, incidental charges, wastages, bottlenecks etc. likely during execution of work and acts of coordination, which may be required between different agencies. Nothing extra shall be payable on this account.
- 6.1.4 The nomenclature of the item given in the schedule of quantities gives in general the work content but is not exhaustive i.e. does not mention all the incidental works required to be carried out for complete execution of the item of work. The work shall be carried out, all in accordance with true intent and meaning of the specifications and the drawings taken together, regardless of whether the same may or may not be particularly shown on the drawings and/or described in the specifications, provided that the same can be reasonably inferred there from may be several incidental works, which are not mentioned in the nomenclature of each item but will be necessary to complete the item in all respects. All these incidental works / costs which are not mentioned in item nomenclature but are necessary to complete the item shall be deemed to have been included in the rates quoted by the contractor for various items

in the schedule of quantities. No adjustment of rates shall be made for any variation in quantum of incidental works due to variation / change in actual working drawings (GFC). Also, no adjustment of rates shall be made due to any change in incidental works or any other deviation in such element of work (which is incidental to the items of work and are necessary to complete such items in all respects) on account of the directions of Engineer-in-Charge. Nothing extra shall be payable on this account.

6.1.5 The contractor(s) shall give to the local body, police and other authorities all necessary notices etc. that may be required by law and obtain all requisite licenses for temporary obstructions, enclosures etc. and pay all fee, taxes and charges which may be leviable on account of these operations in executing the contract. He shall make good any damage to the adjoining property whether public or private and shall supply and maintain lights during the work either for illumination or for cautioning the peoples at night.

6.1.6 The Contractor(s) shall take all precautions to avoid accidents by exhibiting necessary caution boards day and night. In case of any accident of labours/ contractual staffs, the entire responsibility will rest on the part of the contractor and any compensation under such circumstances, if becomes payable, shall be entirely borne by the contractor.

6.1.7 The several documents forming the tender are to be taken as mutually complimentary to one another. Detailed drawings shall be followed in preference to small scale drawings and figured dimensions in preference to scale dimensions.

6.1.8 In case of any difference or discrepancy between the description of items as given in the schedule of quantities, specifications for individual items of work (including special conditions, particular specification) and I.S. Codes etc., the following order of preference shall be observed.

- a) Description of items as given in Schedule of Quantities (SOQ)
- b) Particular Specifications / Technical Specifications
- c) Special Conditions
- d) Additional conditions if any.
- e) Tender drawings attached
- f) CPWD Specifications
- g) General Conditions of Contract for CPWD works.
- h) Indian Standards Specifications of B.I.S.
- i) General / Prevalent Industry Practice/ direction of Engineer In Charge.

6.1.9 The works to be governed by this contract shall cover delivery and transportation up to destination, safe custody at site, insurance, erection, testing and commissioning of the entire works. The works to be undertaken by the contractor shall inter-alia include the following:

- a) Preparation of detailed SHOP drawings and AS BUILT drawings wherever applicable and required.
- b) Obtaining of Statutory permissions where-ever applicable and required.
- c) Pre-commissioning tests as per relevant standard specifications, code of practice, Acts and Rules wherever required.

- d) All shop drawings submitted by the Contractor as per approved schedule shall be got approved by Engineer In Charge or his authorized representative before start of work.

6.1.10 The work shall be carried out in accordance with the approved horticulture, landscaping and other drawings to be issued from time to time by the PA/PMC/SAU. Before commencement of any item of work the contractor shall correlate all the relevant Landscape and service drawings, nomenclature of items and specifications etc. issued for the work and satisfy himself that the information available from there is complete and unambiguous. The discrepancy, if any, shall be brought to the notice of the PMC/SAU before execution of the work. The contractor shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and or incomplete information and no claim whatsoever shall be entertained by the SAU on this account.

6.1.11 Unless otherwise provided in the Schedule of quantities vide Part-C, the rates tendered by the contractor shall be all inclusive and shall apply to and nothing extra shall be payable to him on this account

6.1.12 The Contractor(s) shall take instructions from the Engineer-in-Charge regarding collection and stacking of materials at any place. The stacking shall take place as per **stacking plan** however, if any change is required, the same shall be done with the approval of Engineer-in-Charge.

6.1.13 The contractor shall engage specialized agency for carrying out specialized items mentioned in this document. Before engaging such agency, the contractor shall submit the details for the approval of Engineer-in-charge, the name of the agency along with their working experience, presentation on method statement and materials being used for execution of such items etc.

6.1.14 The Contractor shall bear all incidental charges for cartage, storage and safe custody of materials, if any as to those materials also arranged by the contractor.

6.1.15 **No Imported item is allowed in work as per make in India Policy of Govt. of India.**

6.1.16 **Site register & material at site Registers** to be maintained by contractor:

All site registers and material at site registers issued by the PMC/ SAU shall be maintained by the contractor which will be reviewed by the officers of Engineer-in-charge(PMC), or a person authorized by SAU at regular intervals. Frequency of tests will be governed by the CPWD specifications or manufacturer specifications or as directed by Engineer In charge.

The contractor is required to maintain an up to date work Register in chronological form for all kinds of maintenance works and applications as and when performed and the same should be got inspected from the concerned official of the PMC/SAU.

For maintenance work, the attendance register shall be maintained by the contractor. SAU can verify this register at any time. This will be submitted with each RA bill along with particulars as mentioned above.

6.1.17 Prevention of Nuisance And Pollution Control

- I. The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners from pollutants like smoke, dust, noise. The contractor shall use such methodology and equipment so as to cause minimum environmental pollution of any kind during and minimum hindrance to road users or other services running adjacent/near vicinity. The contractor shall make good at his cost and to the satisfaction of the Engineer-in-Charge, any damage to roads, paths, cross drainage works whatsoever caused due to the execution of the work or by traffic brought thereon by the contractor. All waste or superfluous materials shall be carried away by the contractor, without any reservation, entirely to the satisfaction of the Engineer-in-Charge and disposed at designated place only. The Contractor shall take all precautions to abide by the environmental related restrictions imposed by any statutory body having jurisdiction in Delhi as well as prevent any pollution of streams, ravines, river bed and waterways.

The contractor shall follow the guidelines of South Delhi Municipal Corporation, Delhi Pollution Control Board, National Green Tribunal and all other concerned government departments and local/statutory bodies regarding the above work.

- 6.1.18 Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the nearby occupants/users of building(s), if any.
- 6.1.19 The contractor shall ensure strict compliance of Govt. orders regarding precautions to be taken to control of pollution, if required he may be asked to use anti-Smog gun etc, for which nothing extra shall be paid.
- 6.1.20 SAU will earmark suitable land area (approx.. 500 sqm) within SAU site, free of cost for establishing the temporary labour huts on as is where basis. The agency may visit the site to ascertain the feasibility with respect to prevailing labour regulations. The labour camp shall be properly isolated with 3 meters high metal barricading and security arrangements acceptable to SAU. The Contractor shall make his own arrangements to provide such accommodation as per the rules of the local bodies. Nothing shall be paid extra on account of such barricading and security of labour camp.
- 6.1.21 No payment shall be made for any damage caused by rain, snowfall, flood or any other natural calamity, whatsoever during the execution of the work. The contractor shall be fully responsible for any damage to the property and the work for which payment has been advanced to him under the contract and he shall make good the same at his risk and cost. The contractor shall be fully responsible for safety and security of his material, T&P/Machinery brought to the site by him.
- 6.1.22 The contractor shall construct suitable godowns/storage area, yard at the site of work for storing all materials so as to be safe against damage by sun, rain, damages, fire, theft etc. at his own cost and also employ necessary watch and ward establishment

for the purpose at his cost. Some suitable land /areas shall be provided by the SAU on site for setting up of the **Nursery** and store. Before starting such office/ yard the agency will submit a layout plan to SAU for approval. This shall be maintained as per the prevailing norms of DPCC and NGT failing which a suitable penalty may be imposed on the contractor.

6.1.23 The contractor shall set-up and maintain a nursery on site at his own cost for safely stacking sand, manure, tools, plants and other equipment required for undertaking the works, replenishment as required for ongoing and maintenance work. An area of approximately upto 2500 sqm. shall be provided by the SAU on site for setting up of the Nursery. All arrangements for barricading, safety and security of the Nursery shall be responsibility of the contractor. Prior approval of Layout plan and location for the nursery shall be obtained from PA. Nothing extra shall be paid for this.

6.1.24 Proper temporary barricading by fencing with G.I. sheets or any other suitable material, shall be carried out by the Contractor at the start of work to physically define the boundaries of the plot area given to the agency for storing material and yard etc. for restricted entry to only those involved in the work and also to prevent any accidents, at the same time without causing any inconvenience to the traffic and the users of the buildings in the adjacent plots. He shall also provide and erect temporary protective barricades within the plot, if required, to prevent any accident. It shall be dismantled and taken away by the Contractor after the completion of work at his own cost with the approval of the Engineer-in- Charge. Nothing extra shall be payable on this account.

The contractor shall maintain it during the complete period of execution and realign it if required, for execution of works. A suitable penalty/fine per day may be levied for not maintaining the barricading in good condition or breach of any of the above conditions as per the direction of Engineer-in-charge.

6.1.25 The contractor shall be responsible for the watch and ward/guard of the safety of all equipment, services provided by him against pilferage and breakage during the period of Installations and thereafter till the work is physically handed over to SAU. No extra payment shall be made on this account and no claim shall be admissible on this account. The Contractor shall keep himself fully informed of all acts and laws of the Central & State Governments, all orders, decrees of statutory bodies, tribunals having any jurisdiction or authority, which in any manner may affect those engaged or employed and anything related to carrying out the work. All the rules & regulations and bye-laws laid down by Collector / DDA / NDMC/SDMC and any other local/statutory bodies shall be adhered to, by the contractor, during the execution of work. The Contractor shall also adhere to all traffic restrictions notified by the local authorities.

6.1.26 All statutory taxes and levies, charges (including water and sewerage charges, charges for temporary service connections and / or any other charges) payable to such authorities for carrying out the work, shall be borne by the Contractor.

- 6.1.27 The contractor shall ensure strict compliance of Govt. orders/SOP/guidelines etc. regarding precautions/steps to be taken for COVID-19 or similar pandemics/disasters at his own cost and nothing extra on this account shall be payable by SAU.
- 6.1.28 The Contractor shall make all necessary arrangements for protecting the work etc. from rains, fog or likewise extreme weather conditions, the work already executed and for carrying out further work, during monsoon including providing and fixing temporary shelters, protections etc. Nothing extra shall be payable on this account and also no claims for hindrance shall be entertained on this account.
- 6.1.29 In case of flooding of site on account of rain or any other cause and any consequent damage, whatsoever, no claim financially or otherwise shall be entertained notwithstanding any other provisions elsewhere in the contract agreement. Also, the Contractor shall make good, at his own cost, the damages caused, if any. Further, no claims for hindrance shall be entertained on this account.
- 6.1.30 The contractor will take reasonable precautions to prevent his workman and employees from removing and damaging any flora (plant/vegetation) & fauna from the project area as this is prohibited.

6.1.31 Tools and Plants

The bidder should own equipment required for the proper and timely execution of the work. Nothing extra shall be paid on this account.

No tools and plants including any special T&P etc. shall be supplied by the SAU and the Contractor shall have to make his own arrangements at his own cost. No claim shall be entertained on this account.

6.1.32 Royalty

Royalty at the prevalent rates shall have to be paid by the contractor on all the boulders, earth, metals, shingle sand and bajri etc. brought by him for the execution of the work, direct to the Revenue authority or authorized agent of the State Government concerned or Central Government and shall be responsible for any violation or default on this account. Further, contractor may be asked to submit proof of submission of full royalty to the state government or local authority. Nothing extra shall be payable on this account

6.1.33 Responsibility

- a) The contractor shall protect and indemnify SAU and its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives. Nothing extra shall be payable on these accounts.
- b) The Contractor shall assume all liability, financial or otherwise in connection with this contract and shall protect and indemnify SAU from any and all damages and claims that may arise on any account. The Contractor shall indemnify the SAU against all claims in respect of patent rights, royalties, design, trademarks- of name or other

protected rights, damages to adjacent buildings, roads or members of public, in course of execution of work or any other reasons whatsoever, and shall himself defend all actions arising from such claims and shall indemnify the SAU in all respect from such actions, costs and expenses. Nothing extra shall be payable on this account.

- c) The Contractor shall be responsible for any liability imposed by law for any damage to the Work or any part thereof or to any of the materials or other things used in performing the Work or for injury to any person or persons or any property damage in or based under Work limit. The Contractor shall indemnify, keep indemnified and hold, the SAU, harmless against any and all liability, claims, loss or injury, including costs, expenses, and attorney's fees incurred in the defence of the same, arising from any allegations, whether groundless or not, of damage or injury to any person or property resulting from the performance of the Work or from any material used in the Work or from any portion of the Work or Work site or non- payment of statutory dues of any nature and penalty thereon or from any cause whatsoever during the process of the Work.

The Contractor shall provide, during the entire Contract Period, such indemnification in the proforma approved by engineer in charge on a non -judicial stamp paper of appropriate value.

6.1.34 Co-operation With Other Contractors/Specialized Agencies/Sub- Contractors

- a) The Contractor shall cooperate with and provide the facilities to the other agencies working at site for smooth execution of the work. The contractor shall keep indemnify the SAU against any claim(s) arising out of such disputes.
- b) The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer-In- Charge and shall as far as possible arrange his work and shall place and dispose off the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and in a proper co -ordination manner and shall perform it in proper sequence to the complete satisfaction of others.

6.1.35 Supervision of Work

The Contractor shall depute Site Managers & skilled workers as required for the work. He shall submit organization chart along with details of Engineers and supervisory staff. It shall be ensured that all decision making powers shall be available to the representatives of the Contractor at New Delhi itself to avoid any likely delays on this account. The Contractor shall also furnish list of persons for specialized works to be executed for various items of work. The Contractor shall identify and deploy key persons having qualifications and experience in the similar and other major works, as per the field of their expertise. If during the course of execution of work, the Engineer-in-Charge is of the opinion that the deployed staff is

not sufficient or not well experienced; the Contractor shall deploy more staff or better-experienced staff at site to complete the work with quality and in stipulated time limit.

Contractor will carry out regular inspection of maintenance of site in every week along with PMC, PA and SAU and get acquainted with lapses in maintenance & be responsible for rectification of the same. On next weekly round the previous lapses must be rectified in all respect. Nothing in this document shall in any way release the Bidder from any warranty or other obligations under this contract.

6.1.36 RATES; The rates quoted by the Contractor are deemed to be inclusive of;

- a) The 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, Horticulture, landscaping and Irrigation work 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, working during monsoon or odd season, working beyond normal hours, working at all depths, height, lead, lift, levels and location, implementation of green building norms to achieve desired GRIHA Rating 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) Unless otherwise specified in the schedule of quantities, the rates for all items of work shall be considered, as inclusive of pumping out or bailing out water, if required throughout the Horticulture and landscaping work period for which no extra payment shall be made. This shall also include water encountered from any source such as rains, floods, sub soil water table being high and/or due to any other cause whatsoever.
- c) The rates for all items of work, shall unless clearly specified otherwise, include cost of all operations and all inputs of labour, material, T & P, wastages, watch and ward, all incidental charges, all taxes, cess, duties, levies etc. except GST, required for execution of the work except which are exempted as specified in the tender documents.
- d) **Taxes:** The South Asian University is an Inter-Governmental Organization established by the SAARC (South Asian Association for Regional Co-operation) Nations and has been extended the Privileges and Immunities under Section '3' of the United Nations (Privileges and Immunities) Act, 1947 by the Government of India. The University is exempted from paying and collecting all Direct and Indirect Taxes in India. The contractor / agency therefore advised to settle his tax liability accordingly.

In terms of Article 4(1) of the Agreement among SAARC Nations for establishment of South Asian University, "the (South Asian) University and its campuses and centres shall be exempted, in the state where they are located, from paying and from collecting all direct and indirect forms of taxes and duties for the establishment and operations of the University". In terms of Section-3 of the South Asian University Act

2008 (Act No. 8 of 2009) passed by the Parliament of the Republic of India, notwithstanding anything contrary contained in any other law, the provisions of the above referred Agreement among SAARC Nations for establishment of South Asian University shall have the force of law in India.

Goods and Services Tax (GST):

1. SAU is entitled by Govt. of India for reimbursement of GST paid to the contractors to give effect to tax exemption status of the South Asian University for the work of its campus at Maidan Garhi, New Delhi.
 2. The estimated rates in SOQ are as per CPWD, DSR 2018 (Horticulture and landscape) and market rates. The agency may quote their rates without GST. Contractor has to pay GST as per applicable rates and he will be paid for the same by SAU.
 3. As Goods and Services Tax (GST) is reimbursable to SAU, the Contractor shall mention **UIN no; 0717UNO00175UNQ** in all invoices raised to SAU. The invoice should be in conformity with the various provisions of respective GST Act.
 4. The agency shall file GST returns in a timely manner so that the GST reimbursement claims of SAU is not being dishonoured. If this happens the amount will be deducted from the dues of the agency.
- e) **Labour Cess;** Labour Cess @ 1% shall be deducted from the gross value of work done (bill of contractor) from every RA Bill.
- f) **Ancillary and incidental facilities** required for execution of work like labour camp, stores, nursery, offices for Contractor, watch and ward, water storage tanks, installation, electricity, water, sewerage 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 for approval, a site / Horticulture and landscaping work yard layout in the area earmarked by SAU, specifying areas for Horticulture and landscaping work, site office, positioning of machinery, material yard, manure, plant and other storage, nursery, site laboratory, water tank, etc.
- g) **Working in shifts;** 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, notwithstanding 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.

6.1.37 Safety Practices

Warning/ Caution Boards: All temporary warning / caution boards / glow signage display such as "Horticulture and landscaping work in Progress", "Keep Away", "No Parking", Diversions & protective Barricades etc. shall be provided and displayed during day time by the Contractor, wherever required and as directed by the Engineer-in- Charge. These glow signage and red lights shall be suitably illuminated during night also. The Contractor shall be solely responsible for damage and accident caused, if any, due to negligence on his part. Also he shall ensure that no hindrance, as far as possible, is caused to general traffic during execution of the work. This signage shall be dismantled & taken away by the Contractor after the completion of work, only after approval of the Engineer – in – Charge. Nothing extra shall be payable on this account Necessary protective and safety equipment (PPE) shall be provided to the Site Engineer, Supervisory staff, labour and technical staff of the contractor and visitors by the Contractor at his own cost and to be used at site.

6.1.38 Documentation and Submittals

- a) The Contractor shall display all permissions, licenses, registration certificates, bar charts, other statements etc. under various labour laws and other regulations applicable to the works, at his site office. He should also keep at site at least one set of "CPWD Specifications for horticulture and landscaping works 2018" with up to date correction slips, , Analysis of rates and DSR 2018 at site and produce the same if asked for by Engineer- In-Charge. In case of noncompliance, these codes will be purchased from the Market and actual cost of purchase will be recovered from the next RA Bill of the Contractor.
- b) The Contractor shall coordinate and facilitate consultant for preparing Two (02) sets of "As Built Drawings" along with literatures, manuals. Location of tree planted will also be marked thereon.
- c) The contractor shall make available Two (02) sets of computerized Standard Measurement Books (SMBs) having measurement of all the permanent standing.
- d) The contractor shall prepare detailed Landscape, Horticulture and irrigation scheme drawings on the basis of concept drawings provided by the consultant and get it approved by the consultant/SAU before commencement of work.
- e) The contractor shall also prepare the shop drawings for the irrigation system, based on the drawings provided by the consultant and get it approved by the consultant before commencement of work.
- f) The contractor shall prepare coordinated drawings of the plantation plan and irrigation system and get it approved by the consultant/SAU before **commencement of work**.

Note: All Drawings shall be prepared in appropriate scale, two sets shall be submitted for checking and after approval two sets of drawings shall be submitted to the SAU.

6.1.39 Program Chart: (please refer clause 1 and clause 5 in sub head 5.2 (Proforma Schedules))

- a) The Contractor shall prepare and submit a program chart within **30 thirty days** of issue of Letter of Award including details of all activities for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, equipment and machinery required for the fulfilment of the program within the stipulated period for approval of the Engineer-In-Charge. These shall be submitted by the contractor through electronic media besides forwarding hard copies of the same. The integrated program chart so submitted should not have any discrepancy with the physical milestones attached in the contract agreement.
- b) If at any time, it appears to the Engineer-In-Charge that the actual progress of work does not conform to the approved program referred above, the contractor shall produce a revised program showing the modifications to the approved program by additional inputs to ensure completion of the work within the stipulated time.
- c) The submission for approval by the Engineer-In-Charge of such program or the furnishing of such particulars shall not relieve the contractor of any of his duties or responsibilities under the contract. This is without prejudice to the right of Engineer-In-Charge to take action against the contractor as per terms and conditions of the agreement.
- d) Apart from the above integrated program chart, the contractor shall be required to submit Fortnightly Progress Report of the work in a computerized form on 1st and 16th of every month.

6.1.40 Water/ Electricity

- a) The university is intending to use recycled/ water received from Sewage Treatment Plant (STP) for Horticulture, Landscape and maintenance work. As of now such water is not available within SAU campus, so the agency has to make his own arrangement for such water. However during maintenance work, SAU may be able to provide recycled water through the network of already laid pipe line as shown in the drawing (irrigation plan) but **water charges @ 1% of gross value of work done shall be deducted from the bill of contractor.** Contractor shall get the water tested from laboratory approved by the Engineer-in-charge at regular interval as per the CPWD Specifications. All expenses towards collection of samples, packing, transportation etc. shall be born by the contractor. However testing charges will be paid by SAU.
- b) Contractor shall make his own arrangement for electricity/power. Nothing extra shall be paid for this. In case of difficulty in obtaining an electricity connection from independent source (BSES), the agency may request SAU to provide electricity connection from SAU on payment basis through sub metre as per actual consumption on BSES rates prevailing at that time, provided SAU is in the position of giving such connection.

c) SAU shall in no way be responsible for either any delay in getting electric connection or water for carrying out the work or not getting connections at all. No claim of delay or any other kind, whatsoever, on this account shall be entertained from the Contractor. The contractor shall be responsible for contingency arrangement of stand-by water & electric supply for commencement and smooth progress of the work so that work does not suffer on account of power failure or disconnection or not getting connection at all. No claim of any kind whatsoever shall be entertained on this account from the Contractor. Nothing extra shall be payable on this account.

6.1.41 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 paid for.

6.1.42 Cleanliness of Site:

- a) The contractor shall ensure strict compliance of Govt. orders/SOP/guidelines etc. regarding precautions/steps to be taken for COVID-19 or similar pandemics/disasters at his own cost and nothing extra on this account shall be payable by SAU.
- b) The Contractor shall not stack building material / malba/ muck/ material/ earth on the land or road of the local development authority or on the land owned by the others, as the case may be. So the muck, rubbish etc. shall be removed periodically/regularly from the site of work to the approved dumping grounds as per the local byelaws and regulations of the concerned authorities and all necessary permissions in this regard from the local bodies shall be obtained by the Contractor. Nothing extra shall be payable on this account. In case, the Contractor is found stacking the building material/malba as stated above, the Contractor shall be liable to pay the stacking charges/penalty as may be levied by the local body or any other authority and also to face penal action as per the rules, regulations and bye-laws of such body or authority. The Engineer –in-Charge shall be at liberty to recover, such sums due but not paid to the concerned authorities on the above counts, from any sums due to the Contractor including amount of the Security Deposit and performance guarantee in respect of this contract agreement.
- c) The contractor shall take instructions from the Engineer-In-Charge regarding collection and stacking of materials at any place. No excavated earth or rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed.
- d) The site of work shall be always kept clean due to constraints of space and to avoid any nuisance to the users of buildings in the adjacent plots. The Contractor shall take all care to prevent any water- logging at site. The waste water, slush etc. shall not be allowed to be collected at site. It may be directly pumped into the creek with prior approval of the concerned authorities. For discharge into public drainage system, necessary permission shall be obtained from relevant authorities after paying the necessary charges, if any, directly to the authorities. The work shall be carried out in such a way that the area is kept clean and tidy. All the fees/charges in this regard shall be borne by the Contractor. Nothing extra shall be payable on this account.

- e) The site is to be maintained as a tobacco free and no smoke control zone for preventing any harm to site and to maintaining the cleanliness.

6.1.43 Wherever any reference to any Indian Standards occurs in the documents relating to this contract, the same shall be inclusive of all amendments issued thereto or revisions thereof, if any, up to the date of receipt of tenders.

6.1.44 Insurance Policies

- a) Before commencing the execution of work, the Contractor shall, without in any way limiting his obligations and liabilities, insure at his own cost and expense against any damage or loss or injury, which may be caused to any person or property, at site of work. **The Contractor shall obtain and submit to the PMC/Engineer-in-Charge proper Contractor All Risk (CAR) Insurance Policy for an amount 1.25 times the contract amount for this work, with South Asian University(SAU) as the first beneficiary.** The insurance shall be obtained in joint names of SAU and the Contractor (who shall be second beneficiary). Also, he shall indemnify the SAU from any liability during the execution of the work.
- b) **Further, he shall obtain and submit to the SAU, a third party insurance policy for maximum Rs.10 lakh for each accident, with the SAU as the first beneficiary.** The insurance shall be obtained in joint names of SAU and the Contractor (who shall be second beneficiary). The Contractor shall, from time to time, provide documentary evidence as regards payment of premium for all the Insurance Policies for keeping them valid till the completion of the work. The Contractor shall ensure that Insurance Policies are also taken for the workers of his Sub-Contractors / specialized agencies also. Without prejudice to any of its obligations and responsibilities specified above, the Contractor shall within 10 days from the date of letter of acceptance of the tender and thereafter at the end of each quarter submit a report to the SAU giving details of the Insurance Policies along with Certificate of these insurance policies being valid, along with documentary evidences as required by the Engineer-in-Charge.
- c) No work shall be commenced by the Contractor unless he obtains the Insurance Policies as mentioned above. Also, no payment shall be made to the Contractor on expiry of insurance policies until and unless the same is renewed by the Contractor. Nothing extra shall be payable on this account. No claim of hindrance (or any other claim) shall be entertained from the contractor on these accounts.
- d) In case of any mishap during the work in progress, Contractor shall be fully responsible. Any kind of compensation shall not be paid by SAU to Contractor or his staff or worker. The Contractor to submit CAR policy, ESIC and EPF details, if required.

6.1.45 Phasing of Horticulture and Landscaping Work and Facilities to Worker

- a) The contractor shall plan/specify and limit of work (Horticulture, landscaping and

irrigation work), activity in pre-planned/designated areas and shall start the work after securing the approval for the same from the Engineer in Charge. This shall include areas of Horticulture/landscaping/irrigation work, storage of materials and personnel movement.

- i. The owner shall provide adequate land for storage/office to the contractor for his use as per direction of the PMC/Engineer-In-Charge. The space has to be maintained/constructed by the contractor as per his usage requirements.
 - ii. All spaces allotted to the contractor, as described above shall be vacated and all structures removed from site at any time as and when required and directed by the relevant authorities or by the South Asian University, unconditionally and without any reservation. The authorities or the South Asian University will not be obliged to give any reason for such removal. Upon receiving instructions to vacate the space, the contractor shall immediately remove all his structures, materials, etc., from the spaces and clear and clean-up the site to the satisfaction of the Engineer-in-Charge.
 - iii. It shall be the specific responsibility of the Contractor to safeguard the site and ensure that no illegal encroachments are made by outside elements within the area allotted to the Contractor. Upon completion of the work or earlier as required by South Asian University/Authorities, the Contractor shall vacate the land immediately.
- b) **Preserve and Protect Existing Landscape during Horticulture and landscaping work:**
- i. The contractor shall ensure that no trees, existing or otherwise, shall be harmed and damage to roots should be prevented during working, driving or parking equipment, vehicle, dumping of trash, and other materials detrimental to plant health. These activities should be restricted to the areas outside of the canopy of the tree, or, from a safe distance from the tree/plant by means of barricading. Trees will not be used for support; their trunks shall not be damaged by cutting and carving or by nailing posters, advertisements or other material. Lighting of fires or carrying out heat or gas emitting work activity within the ground, covered by canopy of the tree is not to be permitted.
 - ii. The contractor shall take steps to protect trees or saplings identified for preservation within the work site using tree guards of approved specification.
 - iii. Contractor should limit all Horticulture and landscaping work activity within the specified area as per the Horticulture and landscaping work Management Plan approved by Engineer in Charge.
 - iv. The contractor shall avoid cut and fill in the root zones, through delineating and fencing the drip line (the spread limit of a canopy projected on the ground) of all the trees or group of trees. Separate the zones of movement of equipment, parking, or excessive foot traffic from the fenced plant protection zones.

- v. The contractor shall ensure that maintenance activities during Horticulture, landscaping and irrigation work period shall be performed as needed to ensure that the vegetation remains healthy.

c) **Facility to workers;**

- i. The contractor shall provide potable water for all workers.
- ii. The Contractor/agency shall provide proper uniform to the workers with half jacket (fluorescent material) during construction works; Design to be got approved from PA/SAU, nothing shall be paid to the agency on this account.
- iii. The contractor shall provide proper uniform to its maintenance staff which bears the name of agency and SAU (Horti.) prominently. The uniform dress should be neat and clean. All personnel should be in uniforms during the duty hours. Failing which suitable penalty shall be imposed

6.1.46 To ensure energy efficiency during and post Horticulture and landscaping work of all pumps, motors and engines used during Horticulture and landscaping work or installed, shall be subject to approval and as per the specifications of the Engineer in Charge.

6.1.47 Conditions to Be Adhered To As Per Environmental Clearance Obtained From DPCC

- a) Provision shall be made for temporary housing of labour within the site for the execution of work (Schedule A & B of BOQ) only, with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care along with first aid room, crèche etc. The housing may be in the form of temporary structures to be removed after completion of the project.
- b) Health and safety norms of CPWD (as given in the GCC) should be followed during the Horticulture, landscaping Irrigation and maintenance work
- c) Top soil excavated during construction work, shall be preserved and same to be used in horticulture/landscape development.
- d) Proper measures should be adopted to control dust emissions during Horticulture and landscaping work phase by providing adequate numbers of water sprinklers.
- e) Soil and water samples of the site should be tested by the Project Proponent from any laboratory recognized by MOEF/DPCC to ascertain that there is no threat to ground water quality by leaching of contaminants, on quarterly basis for inclusion in the six monthly reports.
- f) Vehicles hired for bringing material for the work to the site should be in good condition, have pollution check certificate, and conform to applicable air & noise emission standards. These vehicles should be operated only during non-peak hours. The material loaded or unloaded should be covered (especially sand, excavated soil, etc.) before transportation to avoid fugitive emissions, air pollution etc.
- g) Ambient noise levels should conform to prescribed residential standards both during

day and night hours. Adequate measures should be made to reduce ambient air and noise level during work and operation phase. So as to conform to the norms stipulated by CPCB/DPCC. Ambient air and noise monitoring should be done by an accredited lab and data should be submitted along with compliance report in every six month.

- h)** Relevant requirements of applicable GRIHA LD 5 STAR rating, should be followed.
- i)** Regular supervision of the above and other measures for monitoring should be in place all through the work phase, so as to avoid disturbance to others.
- j)** Officials from Ministry of Environment & Forests, Regional Office, Chandigarh and Delhi Pollution Control Committee, who would be monitoring the implementation of environmental safeguards, should be given full co-operation to inspect the facilities and documents/data on site during their site inspection. As and if be required, monitoring reports shall be prepared and submitted to Ministry of Environment & Forests, Regional Office Chandigarh & also to DPCC, Delhi.
- k)** Failure to adhere to any of the above mentioned items, shall be deemed as a violation of contract and the contractor shall be held liable for penalty as per terms of the agreement/law.

6.1.49 While executing the work, the contractor shall ensure that existing services on the site, civil work and fittings are not damaged, the same shall be set right at no extra cost to the owner if it is damaged.

6.1.50 All the required machinery/equipment's/water lorry for work / maintenance of manure yard premises should be procured/hired by the Bidder for execution of the work.

6.1.51 The trucks carrying soil, sand, manure, sludge and cow dung etc. will be duly covered to avoid spilling.

6.1.52 The contractor shall at all times during work and during maintenance keep the premises free from accumulated waste material or rubbish caused by his employee on the work and on completion of the work he shall clear away whole site. He will leave the whole site and works clear in a professional/work man like manner. Nothing extra shall be paid to the contractor for this clearing up.

6.2. PARTICULAR SPECIFICATIONS – HORTICULTURE, LANDSCAPE & MAINTENANCE WORK

6.2.1. Scope

1. The contractor shall provide all horticultural operations and services specified in the drawing, schedule of quantities as specified herein or both, including all material, Labour, Equipment, Services and Transport for all plant material, Plants, preparation of final planting locations, planting, Intercultural operations, spraying before planting, pest control of plants etc.
2. Supply and planting of healthy specified Trees, Palms and Cycads, Shrubs, Climbers, Hedges, Ground Covers etc as specified in SOQ, supply of River Sand, Compost Manure. spreading the media, mixing in the desired proportion, surface preparation etc complete.
3. Maintenance for the period of 2 years from the date of completion of works(schedule A and Schedule B), including supply of all manure, fertilizers, insecticides, fungicides and plants and other horticulture items required during this period.
4. Specifically, the scope includes supplying suitable quantity of manure and sand, mixing of media for filling, compacting etc., to achieve slopes / gradient towards road edge, drain etc.

6.2.2. Conditions

1. The contractor shall be responsible to keep all materials including tree guards, plants, manure etc. in his safe custody and in the event of their breakage, damage, misplacement or pilferage/ theft; he shall be responsible to make good without any extra cost.
2. All incidental items not shown or specified but reasonably employed or found necessary for successful completion of the work shall be provided by the agency at his own cost.
3. The plants supplied by the contractor should be of prescribed height & specification and of assorted variety as given in the SOQ and shall be vigorous, healthy, free from diseases, pest and properly packed with proper flagging and should be from reputed nursery duly approved by PMC/SAU.
4. The samples of the Tree Sapling, Shrubs, Climbers, Hedges, Ground Covers etc and other material i.e sand, manure shall be got approved from the Consultant/ Engineer - in-Charge before procurement and execution of the work.
5. All *Malis* and labours should have necessary tools with them for the proper discharge of their duties.
6. "In Case of mortality of tree plants, shrubs, climbers, ground covers etc, the plants of same species, height and quality shall be replaced by the contractor at his own cost. **To avoid delay in replacement, the contractor has to keep additional 5% tree plants of height given in BOQ, and adequate no's of other plants i.e. Shrubs, climbers, ground covers etc. at site nursery for quick replacement. Nothing**

extra shall be paid on this account”

7. On roadside plantation berms should be neatly dressed and free from garden waste/ rubbish and self-grown weeds.
8. The contractor shall, without any additional charge to the SAU renew any dead or defective plant/ material during the entire duration of contract including maintenance period of 2 year from the date of completion, failing which appropriate recovery shall be made from the bills
9. On completion of the Horticulture and Landscaping work, if there is any short fall in the number of plants, either the contractor will make it good or suitable deduction shall be made from the contractor's bill.
10. The contractor shall prepare the final working drawings based on the actual site conditions and the conceptual schematic drawings provided by PA as part of the tender. The contractor shall make the detailed plantation plan with necessary modifications, in consultation with the PA, with respect to the detailed site survey and also prepare the coordinated services drawing showing both plantation and irrigation system and get it approved by the PA, before commencing the work.
11. The contractor shall be wholly responsible for setting out the works and for the correctness of the positions, levels, dimensions, alignment while all the ground preparation works. According to the approved plan/ drawing including the arrangement of all necessary instruments, pegs, poles, pillars material required for the purpose of the satisfaction of Engineer in Charge.
12. Tree shall be straight height/length as specified in the schedule of items and symmetrical with a crown and having a persistent main stem. The size of the crown shall be in proportion to the height of trees.
13. Small Trees and Shrubs are formed with a crown typical of the species and variety.
14. All the numbers of plant material may vary according to site condition and final number of plant material executed only, will be taken into account for billing & payment.
15. The contractor will have to keep plantation area absolutely clean by sweeping and lifting away garbage on regular basis. The contractor will have to segregate the garbage into decomposable & non decomposable on site. The collected garbage, dry leaves, twigs etc. should be chopped & converted into manure in compost bins in a scientific manner, i.e. by adding bacterial culture or appropriate chemicals to the same. However nothing extra will be payable on this account.
16. The contractor has to get satisfactory report from SAU/PMC with respect to quality and quantity of soil, manure, fertilizers, pesticides etc. prior to application on site.
17. Contractor will be responsible for application of rodenticides & insecticides (systemic insecticide, Micro nutrient spray, fungicide, phorate / thimite, termiticide) both on monthly intervals during work period and maintenance period. Regular works like trimming, pruning, chopping of branches should be carried out as and when required. Plants, if found either wilted or in a deceased condition shall be replaced with a new

saplings of respective variety during the period of contract including maintenance period, without any additional payment

18. All the required machinery/equipment's/water lorry for maintenance of manure yard premises should be procured/hired by the Bidder for execution of the work.
19. Contractor shall use recycled or the treated sewage water available to the possible extent by using their own water lorry/pipeline. The contractor will be responsible for all kind of damage or theft of property/damages through animal's or trespassers and will be bound to restore the same within a period of week.
20. The samples of the Plant/Grass/Materials shall be got approved from the Consultant/ Engineer -in-Charge before procurement and execution of the work.
21. The Schedule of Quantities (SOQ) indicates the specification of plant that will be used for the project. All landscape work is to be scheduled so that there is healthy growth of plant material and sufficient grass coverage.
22. The Planting plan may undergo revisions due to a requirement of the SAU or the Landscape Consultant. In such a case all quoted rates will remain the same, irrespective of change in numbers.

6.2.3. General Requirement of trees/ Plants /Shrubs etc

1. All Plants shall be typical of their species and variety, well-developed branches, and well foliated with fibrous root system.
2. The trees/ Plants/shrubs etc. should be free from all pest, defects, injuries, damages and diseases and be very healthy and vigorous growth as specified in the Schedule of Quantity. The main stem or trunk should be strong up to the required height. The Plants should be true to the variety and should be tagged.
3. All Trees, soon after planting, shall be properly supported with stakes made of Casuarina or Bamboo sticks to ensure their safety against wind or any other factor, which may affect it adversely. Protection for plants, trees, shrubs, grass wherever required in form of temporary barricading, bamboo hedge etc. shall be provided by the contractor
4. **Root System:** The root system of all plant used shall be conducive to successful transplantation at site. Where necessary the root-ball shall be preserved by support with hessian or any other suitable materials.
5. Torn or lacerated roots shall be pruned before dispatch. No roots shall be subjected to adverse conditions such as prolonged exposure to heat or drying winds, or water logging-between uprooting and replanting.
6. **Supply and substitution:** Upon submission of evidence that certain materials including plant materials are not available at the time of execution of the contract, the contractor shall be permitted to substitute other materials and plants with a proportional reworking of price. All substitutions shall be of the nearest equivalent

species and variety to the original specified and shall be subject to approval by the Landscape Consultant & Engineer-in-Charge.

7. In case of plants supplied with moss stick. it should be made of plastic pipe and covered with plant..

6.2.4. Top Soil Materials / Ground Preparation

1. Clearing jungle including uprooting of rank vegetation, grass, brush wood and saplings of girth up to 5cm measured at a height of 1m above ground level and removal of rubbish up to a distance of 500m outside the periphery of the area cleared, within the site. Clearing grass and removal of the rubbish up to a distance of 500 m outside the periphery of the area cleared, within the site.
2. **Leveling and Rough Dressing** – Horticulture operation shall be started on ground previously leveled and dressed to required formation levels and slopes. Whenever directed by Engineer-in-Charge, these shall be filled properly with earth brought from within site to bring the depressed surface to the level of the adjoining land and to remove discontinuity of slope and then rough dressed again. In rough dressing soil below shall be broken down to particles of size not more than 10mm in any direction.
3. **Uprooting Weeds from the Trenched areas** - After 10 day and within 15 days, the weeds appearing on the grounds shall be rooted out carefully and the rubbish disposed off as directed by the Engineer-in-Charge.
4. **Fine Dressed Trenched Ground** – Slight unevenness, ups and down and shallow depressions shall be removed by fine dressing the surface to the formation levels of the adjoining land, as directed by the Engineer-in-charge and by adding suitable quantities of good earth, brought from outside the area, if necessary. In fine dressing, the soil at the surface and for 40mm depth below shall be broken down to particles of size not exceeding 6mm, in any direction.
5. **Mounding** – In addition to general spreading of topsoil, additional soil will be added in areas that are to be mounded, and will be treated as indicated areas.
6. **Good Earth** – Good earth/ earth collected from site shall be taken from the stocks and spread evenly over the fine dressed surface as specified by the Engineer-in-charge. It shall be spread with a twisting motion to avoid aggregation and to ensure that spreading is uniform over the entire area. Good earth having a PH range 6.5 – 7.0 to be used. Good Earth shall be a friable loam typical of cultivated top soils of the locality containing at least 2% of delayed organic matter (humus) .It shall be taken from a well drained arable site. It shall be free from subsoil, stones, earth clods, sticks, roots and other objectionable extraneous matter or debits. It shall not contain toxic material.

The contractor shall be allowed to use earth available on site from excavation of buildings, with prior approval from the University. He shall check the quality of the soil, to ensure that the PH level of the soil falls within the range of 6.5 – 8.0, else the PH levels may be modulated using the appropriate technique. He shall be responsible for cartage, handling and filling of the earth to required location on site. No extra payment shall payable on this account.

7. **Fertilizer** - Dry farm yard shall be used. It shall be free from external matter, harmful bacteria, insects or chemicals.
8. **Manure** – Good Compost Manure shall be brought from stocks and spread evenly. It shall be spread with a twisting motion to avoid aggregation and to ensure that spreading is uniform over the entire area.
9. **Mixing of Good Earth, Compost Manure and Fertilizer** – The stocked Earth shall before mixing is broken down to particles of size not exceeding 6mm, in any direction. Good earth shall be thoroughly mixed with Compost Manure and Fertilizer in specified proportion as described in the items or as directed by the Engineer-in-Charge.
10. **Preparation of Pits and beds for Shrubs, Accent shrubs, Trees, and Palms, Ground Covers, Climbers, Hedges and Lawn.**

The pits and beds shall first be excavated to the required depth and the excavated soil shall be stacked on the sides of the beds. After lowering/ placement of Plant 50% of the excavated soil shall then be thoroughly mixed with a mixture of sweet earth/ earth collected from site, Compost manure, sand in the proportion 3:1:1. The mixed Earth, Compost Manure and Soil nutrients shall be refilled over the trenched bed, leveled neatly and profusely flooded so that water reaches the bottom most layers of the trenched depth of the beds and pits. The surface after full subsidence shall again be refilled with the earth and Compost manure mixture. If required anti termite treatment using natural material chemical free should be provided and applied.

6.2.5. Planting Specifications

Height refers to the vertical height of the plant from bottom of the stem to the top. The height of the plant does not include the root system or the height of the polybag in which the plant is supplied.

Spread refers to the dia. of the canopy of the plant at the top of leaf which is determined by the average of the longest and the smallest diameter as viewed from the top of the plant.

1. Shrubs

To be planted in planting beds of size 450 mm dia and 450 mm depth and filled with 50% of Mother Earth and balance 50% filled with a mixture of sweet earth, sand and Compost manure in the ratio of 3:1:1.

A saucer shall be created around the plant to facilitate proper watering of the plant. After installing the sapling, a thorough watering is to be done on the same day to counteract any wilting that may take place. Thereafter, watering is to be done as outlined in the maintenance section of these specifications. Shrubs shall be supplied in poly bags or earthen pots and shall be an average size as given in schedule of quantities above the level of the soil. Any reductions in size shall be approved by the Engineer-in-charge. Shrubs shall be obtained from Nursery Stock approved by the Engineer-in-charge and shall be free of any damaged stems. Whenever possible multi-stemmed planted shall be supplied.

2. Trees / Palms

To be planted in pits 900mm dia x 900mm deep filled with 50% of mother earth and balance 50% filled with a mixture of Sweet Earth/ site available good earth, Sand and Compost Manure in the ratio of 3:1:1.

3. Ground Covers

Planted by spreading garden soil mixed with 50% of mother earth and balance 50% with a mixture of Sweet earth, Sand and Compost Manure in the ratio of 3:1:1, over graded surface to attain a total depth of 200mm or as specified in drawings from the graded surface.

All foliage or flowering ground covers shall be brought to the site in specified size pots with a healthy growth covering the entire pot.

All tall ground covers as identified, in the plant list shall be planted in 20cm, deep pits, which are filled with prepared topsoil. All other ground covers shall be planted in 10 cm deep pits.

If the size of the plant material is reduced, or if the plants do not have sufficient spread when supplied, the Engineer-in-Charge shall determine if the densities have to be increased to achieve sufficient cover.

4. Creepers and Hedges / Edges / Borders

To be planted in pits of suitable size filled with 50% of Mother Earth and balance 50% filled with a mixture of Sweet earth, Sand and Compost Manure in the ratio of 3:1:1. Creepers shall be treated like shrubs and their supply and installation shall be as indicated under shrubs.

The creepers shall have a woody portion as specified in Schedule of Quantity, at the time of planting with at least one healthy growing shoot, and shall be planted in 300mm dia pits 300mm deep.

5. Lawn

Good/Sweet earth mixed with Sand and Compost Manure in the ratio of 3:1:1 (3 parts of sweet earth, 1 part of sand, 1 part of Compost manure) to be spread on graded surface up to a depth specified (150mm) in drawing/BOQ. Surface preparation by digging and mixing to attain a smooth finished surface and then planted with rooted slips of specified grass species.

6. **Grassing:** Prior approval of sample of grass to be taken from the Engineer-in-charge/Landscape architect. The supplied grass may also be inspected at the time of the execution of work. The soil shall be suitably moistened and then the operation of planting grass shall be commenced. The grass shall be dibbled 5cm apart in both direction or other spacing as directed. Dead grass and seeds shall not be planted. The contractor shall be responsible for watering and maintenance of levels of the lawn, ensuring the grass form a thick lawn, free of weed and is fit for mowing and further maintenance till completion of work schedule of quantity, SOQ A& B.

During the maintenance period, any irregularities arising in ground levels due to watering or trampling by labor or cattle straying thereon, shall be constantly made up to the proper levels with available earth as necessary.

6.2.6. Maintenance

1. The maintenance period will be for 2 years from the handing over or date of issuance of completion certificate by Engineer-in-charge, whichever is later. Maintenance will cover irrigation and the general care of the plant material including all necessary consumables.
2. Maintenance as part of the contract is to ensure that the plant material are growing, healthy, and without disease. If any plant dies due to neglect or poor maintenance, the contractor will be held responsible for the replacement of plants free of cost. The replacement will include cost of plant, labour, materials and transportation etc complete.
3. The contractor shall record and inform the client of any damage to plant materials due to causes beyond his control such as the digging of the soil for services and dumping of materials by other agency..
4. Any multiplication of plants during the contract period will belong to the client will be kept on the site for replacement and use in future phases.
5. **Trees:** Necessary support of adequate strength shall be provided for trees wherever required, to protect it from strong winds and to ensure straight growth of the tree.

6. Ground cover:

- a. Between each watering, the soil in the areas planted with ground covers is to be thoroughly hoed to loosen and aerate the soil. Weeds should be removed as soon as they appear.
- b. Pruning or trimming of herbaceous ground covers is to be undertaken on a regular basis to reduce the density of the cover and to control the spreading of the plants from within their established boundaries.
- c. In addition, thinning will be done to remove growth that is injured or weak or showing signs of lanky and unhealthy growth. The intensity of trimming required will vary for each species. Plants that are infested with pests should be removed as soon as they are observed.
- d. Foliage and flowering ground covers shall be maintained on the same basis as during the guarantee period.

7. Lawn:

Besides regular mowing, weeding, fertilizing and rolling at least once a year (preferably before the rains) the lawn surface should be raked or scarified well to break up old roots and aerate the surface of the soil.

The surface of the soil should then be top-dressed with well-decomposed Compost manure and sand to stimulate new growth. In addition, if hard crust forms on the soil, the ground will have to be broken with a spiked hammer to loosen the surface for aeration.

8. During maintenance period, all plants etc should be properly looked after i.e. complete watering, feeding, pruning, weeding, hoeing, staking etc. in proper way and to the satisfaction of Engineer-in-Charge . **Maintenance to include the following minimum operations/ items:**
- a. **Removal of Weeds & Hoeing:** To be carried out on a regular basis, i.e. a minimum of once / twice in a week based on the need. Hoeing is to be carried out when the soil is dry.
 - b. **Watering:** The watering to all plantations should be carried out on alternate days in winter season, on daily basis in summer season & as per requirements in monsoon season for each and every kind of plantation
 - c. **Pruning:** If the plant develops too many shoots or grows lanky, tall and weak, it is essential to retain the leader in most situations and maintain only healthy shoots and remove injured, dead and subsidiary shoots causing overlapping and over crowding. Pruning should be done with a pruning knife or saw and to prevent infection, the open wounds should be tarred. However, over and unnecessary pruning should be avoided, as every tree/plant has its natural crown and symmetry, which should be maintained.
 - d. **Pest Control & Fertilizers Application:** Plants are to be treated once a month, or more frequently as the need arises with organic pesticides and fertilizers (unless unavoidable) for better growth. Diseased plants are to be treated / replaced immediately to prevent spreading of the pest to adjacent plants.
9. Lawn mowers, hoses and any other heavy duty items and all hand tools, insecticides, sprayers, portable sprinklers, pesticides, fertilizer, Compost manure, etc., to be provided by the Contractor during the maintenance period with no additional cost to SAU..
10. During the maintenance period, any irregularities arising in ground levels due to watering or due to trampling by labor or due to cattle straying thereon, shall be constantly made up to the proper levels with earth as available or brought from outside as necessary.
11. **Regular Cleaning of Plantation area :** During the entire period of maintenance, the contractor will keep the site in a tidy, neat and clean condition, free from garbage/ rubbish to the satisfaction of the and the Engineer in Charge. The contractor will have to keep plantation area absolutely clean by sweeping and lifting away garbage on regular basis. The contractor will have to segregate the garbage into decomposable & non decomposable on site. The collected garbage, dry leaves, twigs etc. should be chopped & converted into manure in compost bins in a scientific manner, i.e. by adding bacterial culture or appropriate chemicals to the same. However nothing extra will be payable on this account.
12. All input to be utilized for site maintenance should be recorded and applied after prior intimation to authorized representative to SAU
13. The contractor should provide well experienced Gardeners/ Malis and Supervisors for carrying out essential maintenance work. SAU reserves the right to direct the contractor to replace any or all of the employees of the Bidder on account of poor

- performance, unqualified staff, in case of any complaint of misbehavior or misconduct.
14. No employee / staff shall be permitting to stay in night without specified work/ prior permission.
 15. The staff deployed for plantation and maintenance work must have good knowledge about horticulture works operations like Trees maintenance etc. and the Supervisor should be well behaved, experienced and qualified to communicate with the occupants, staff and officers.
 16. All Malis and labours should have necessary tools with them for the proper discharge of their duties.
 17. All the engaged workers are to be equipped with photo identity cards issued by the contractor and will maintain their particulars (i.e. Name, Father's Name, Local Address and permanent address and police verification etc.). A copy of the same will be provided to the SAU. The expenditure on this account will be borne by contractor and nothing extra will be paid for it.
 18. The contractor shall furnish a list of manpower with description to be deployed for maintenance work prior to start of the work and shall notify the changes in them from time to time.
 19. The contractor has to provide comprehensive maintenance to all tree/plants/shrubs/ground covers/lawn etc adhering the conditions given in the these documents by providing supervisors, malis, beldars etc. for weeding, hoeing, removal of grass, providing anti termite treatment watering including watch and ward tools plants manure, fertilizers etc complete. The agency shall deploy the following minimum manpower (for 9 Hours duty including one hour lunch for 26 days a month) for the maintenance work, however the agency may require to deploy more numbers to ensure the compliance of other condition of contract and proper maintenance work, nothing extra will be paid except the quoted rates under SOQ. The timing of the shift/working may be changed at any time by the SAU.

Minimum Manpower for Maintenance Works				
Sr. No	Category	Nos per day	Experience	Recovery in case of non-availability at site
A	Gardner (<i>Malli</i>)			
	During Two Years of maintenance	14 Nos	Skilled Gardner	Rs. 20,000 per month
B	Supervisor (<i>Horticulture</i>)			
	During Two Years of maintenance	1 no	5yrs of field experience in similar works	Rs. 30,000 per month

20.If, the contractor fails to provide/ deploy/ maintain the minimum manpower (No. of Malis, supervision) as per condition of contract, suitable deduction will be made for the shortfall as compensation for non-deployment/ less deployment & it will not amount as penalty. The agency can depute relievers during absence of Mali having same experience

6.2.7. Cleaning and Handover

Upon completion of maintenance work the contractor shall leave the site in a tidy condition, free from garbage/ rubbish and surplus excavated materials to the satisfaction of the and the Engineer in Charge.

6.3 PERTICULAR SPECIFICATIONS – IRRIGATION SYSTEM

6.3.1 Scope of Work

The general scope of work to be carried out under this contract is illustrated in the drawings, specifications and schedule of quantity attached herewith. The brief is as under;:

1. Watering for the trees shall be done by Garden Hydrants (GH) that are already installed on specific locations on site, further distribution of water from garden hydrants shall be done by the contractor by means of suitable flexible pipes with connection to GH. and spraying nozzle.
2. Watering for shrubs shall be done through drip irrigation system
3. Watering of grasses shall be done by pop-up sprinklers
4. All incidental works connected with irrigation services installation such as excavation of trenches and backfilling, provision of concrete thrust blocks, etc are included in the item.
5. Furnish and install a complete workable irrigation services installation as shown in the drawings and described in the specification and as per the latest Bureau of Indian Standards (BIS), British Standards (BS) specifications, including all that is reasonably inferred.
6. Complete supplying and installation of PVC pipe work, G.I pipe work with all fixtures.
7. Complete installation of sprinkler heads, section valves, isolation valves, quick coupling valves, etc.
8. Complete installation of filtration units, etc. with all fittings and fixtures.
9. Co-ordination with other vendors in putting the installation in place. Any work done without regard or consultation with other agencies, shall be removed by the contractor without additional cost to SAU, to permit proper installation of all other work i.e. work by other agencies, as instructed by the Engineer-in-Charge.
10. Repair all damages done to the premises as a result of this installation and remove all debris left by those engaged for this installation to the satisfaction of Engineer-in-Charge.
11. Cleaning, testing and proving the satisfactory performance of all irrigation fittings and fixtures at the time the project is handed over to SAU.
12. It is the responsibility of the contractor to take care of all the fitting & fixtures fitted until the time of handing over to the Client.
13. Painting of all exposed G.I. pipes as specified.

6.3.2 General Requirements

1. Drawings and Specifications

The drawings and specifications shall be considered as part of this contract and any work or materials shown in the drawings and not called for in the specifications and vice versa shall be executed as if specifically called for in both. The tender drawings indicate the extent and general arrangement of the fixtures, and are essentially diagrammatic. The drawings indicate the points of supply and termination of work, and shall be installed as indicated in the drawings. However, any changes found essential to co-ordinate with this work and other trades shall be made without any additional cost. The drawings and specifications are meant for the assistance and guidance of the contractor, and exact location, distance and levels will be governed by the individual building and site conditions. Therefore, approval of the consultant/Engineer-in-charge shall be obtained before commencement of work.

2. Shop Drawings

The contractor shall submit to the consultant/PA/Engineer-in-Charge three hard copies & Soft Copy of the shop drawings for approval before proceeding with work in the assigned areas. The shop drawings will show any changes in layout of piping plan, pipe sizing, any shift in location of sprinkler heads, valves, etc. The contractor shall also submit coordinated services drawings, showing both plantation and the irrigation system, based on the drawings issued by the architect.

3. As Built Drawings

On completion of works, contractor shall submit one complete set of original tracings to the Client along with three hard prints. Also the contractor shall furnish soft copy of "As-built" drawings. These drawings shall have the following information;

- a) Exact run and sizing of all pipes
- b) Depth of pipe laid from finished level at various locations
- c) Location of sprinkler heads, types of sprinkler heads, valves, hose hydrant points etc.
- d) Location of all mechanical equipment with layout and piping connections.
- e) Contractor shall provide two sets of catalogues, performance data and list of spare parts together with the name and address of the manufacturer for all the fixtures provided by him.
- f) All warranty cards given by the manufacturer duly filled shall be handed over to the Client.

5. Manufacturer's Instructions

Where manufacturers have furnished specific instructions relating to the materials used in this job and methods of Horticulture and landscaping work that are not specifically mentioned in these documents, such instructions shall be followed in all cases.

6. Materials

Materials shall be of approved make and quality specified. They shall conform to the respective Bureau of Indian Standard Specifications and supported by Manufacturing Certificate. Samples of all materials shall be as per the list of approved brand PART – B, TENDER DOCUMENT manufacturer, which shall be got approved before placing order and the approved samples shall be deposited with the consultant/SAU..

7. Conditions

The Contractor shall:

- a) Submit method statement for installation of the system and shall get approval before commencing the work
- b) Ensure that the irrigation & fountain system installed operates to its optimum efficiency.
- c) Ensure that there are no dry patches in the lawn area and water is effectively/uniformly distributed to all the areas it is intended to be.
- d) Ensure that the dry areas like roads, pavements, etc., are not wetted.
- e) Ensure that the valves, sprinklers, PVC pipes, etc. are installed and commissioned as per manufacturers' guidelines.
- f) Submit shop drawings of the area to be installed with proper placement of accessories as indicated in the tender drawing and shall get approval before commencement of work.
- i) Bring to the notice of client any changes to be brought to the irrigation plan/fountain system w.r.t. pipe sizing/ routing, by way of shop drawings duly approved before proceeding with the installation.
- j) Locate hose point positions wherever required as indicated in the tender drawing and get approval from the Consultant/ Client before proceeding.
- k) Ensure that the filter supplied shall give the required head range & discharge, and guarantee its operation to get the desired effect. Space for movement to carry out repairs/maintenance.

6.3.3 Earthwork in Excavation

(General Civil works shall be carried out as per relevant CPWD specifications)

1. Earthwork in Excavation for Trenches

Trenches shall be excavated in all conditions of soil and to such a depth that the irrigation pipe shall rest as described in the several clauses relating thereto. In bad ground, the Engineer-in-Charge may order the contractor to excavate the trench to a greater depth than shown in the drawings and to fill up the excavation to the level of the irrigation pipe with concrete, sand or other materials. For such works the contractor shall be paid extra at the rates laid down for such works in the schedule, if the Engineer-in-Charge in writing ordered the extra work. But if the hold excavate the trench to a greater depth than is required without a specific order to that effect in writing of the Engineer-in-

Charge, the extra depth shall have to be filled up with sand at the contractors own cost to the requirements and satisfaction of the Engineer-in-Charge.

2. Refilling

After the irrigation pipe has been laid and proved to be watertight, the trench or other excavation shall be refilled. Utmost care shall be taken in doing this so that no damage is caused to the pipe and other permanent works. Filling in the trenches up to 30cm. above the crown of the pipe shall consist of the finest selected materials placed carefully and consolidated. After this has been laid, the trench and other excavation shall be refilled carefully in 15cm layers with material taken from the excavation, each layer being watered and consolidated. Wherever hard rock is encountered in the trench, sand shall be used to a level of 100mm from the base of trench and the pipe shall be laid above that.

3. Backfilling of Trench – IS 12288 – 1987

For the purpose of back filling, the depth of the trench shall be considered as divided into the following three zones from the bottom of the trench of its top, for the purpose of refill materials to be used. ZONE A: From the purpose of back filling, the depth of the level of the center line of the pipe. ZONE B: From the level of the center line of the pipe to a level 30cm above the top of the pipe, and ZONE C: From a level 30cm above the top of the pipe to the top of the trench.

4. Backfill Materials

All backfill material shall be free from cinders, ashes slag, refuse, rubbish, vegetable or organic materials, lumpy or frozen boulder, rocks or stone or other materials which in the option of the engineer-in-charge, is unsuitable for deleterious. Fine excavated earth, which shall pass through a sieve of aperture size 20mm can be used for filling in Zone A & B. However, material-containing stones up to 20mm as their greatest dimension may be used in Zone C only unless otherwise specified by the Engineer-in-Charge. Where excavated material is considered by the Engineer-in-Charge not suitable for back filling, clean river sand shall be used for the same.

5. Backfill Sand

River sand used for back fill shall be natural sand graded from fine to coarse. All material shall pass through a sieve of aperture size 20mm (is 2405-1980) and not more than 5 percent shall remain on IS sieve of aperture size 6.30mm.

6. Site Cleaning On Completion of Work

All surplus pipes and fittings, valves, etc., and all tools and temporary structures shall be removed from the site as directed by the PMC/Engineer-in-Charge. All dirt, rubbish and excess earth from the excavation shall be removed and transported and disposed at a suitable place within site as directed by the Engineer – in – Charge and the Horticulture and landscaping works left clean to the satisfaction of the PMC/Engineer-in-Charge.

7. Removal of Water

The contractor shall at all times during the progress of the work keep the trenches and excavations free from water which shall be disposed off by him in a manner as will neither cause injury to public health nor to public or private property, to the work

completed or in progress to the surface of any roads of streets and cause any interference with the use of the same.

8. Trench size (300 mm wide and depth as given below)

The depth of excavated trenches shall be as per the table given below:

Pipe diameter	Upto75mm
Excavated Depth	450mm

9. Protection of Existing Services

All pipes, water mains, cables, etc, met with during the course of excavation shall be carefully protected and supported.

10. Mode of Measurement

As per CPWD Specification

6.3.4 MATERIALS & WORKMANSHIP

1. Polyvinyl Chloride (Pvc) Pipes And Fittings

PVC Pipes & Fittings of diameter as specified in bill of quantities shall be of Class 4, 10 kg/cm² . PVC pipes and fittings shall be jointed with solvent cement. The pipes shall conform to IS 4985 - 2000. PVC Fittings shall be of injection molded PVC conforming to IS 7834.

2. Handling

Because of their lightweight, there may be a tendency for the PVC pipes to be thrown much more. Reasonable care should be taken in handling and storage to prevent damage to the pipes. On no account the pipes should be dragged on the ground. Pipes should be given adequate supports at all times.

3. Laying: shall be laid as per CPWD/manufacturer specification.

4. Valves :

The air release valve shall be a contentious double acting air vent valve for air as well as vacuum release, with cast iron body and cover and stainless steel internal component. Operation is based upon a float lever mechanism that opens the orifice when small air pocket develops.

Air release valve shall be installed on all high points along the main line.

5. Sprinklers

- a. The pop-up sprinklers – rotor, shall be installed as per the manufacturers guidelines. Swing joints shall be used to connect the sprinklers to the lateral lines. The top of the sprinkler shall always be flush with the finished ground level such as to ensure that the sprinkler top is not damaged during lawn mowing.
- b. The positioning of sprinklers and the arc setting shall be done as mentioned in the drawing/as per site condition to ensure maximum coverage of the area to be wetted and to avoid water falling in dry areas. d) As a standard rule, 100% overlap from

sprinkler to sprinkler shall be maintained, i.e., the throw radius of the sprinkler shall be the spacing to be maintained between sprinkler to sprinkler. However, in high windy areas where the wind velocity is very high and in undulating terrains, the sprinkler-to- sprinkler spacing shall be reduced to prevent any dry patches occurring, to ensure effective coverage.

6. Quick Release Couplers

Quick Release Couplers shall be of Aluminium body with a self-closing protective cover and of reputed make as specified. QRC valves shall be fixed on the Irrigation Ring Main by Riser pipes. The top of the QRC shall be flushed with the finished ground level such that the retractable cap shall be above the ground level for easier operation. The quick-coupler valves shall be plug-in type, underground water outlets for the temporary connection of hosepipes. Connection and operation shall be by means of special coupler keys inserted into the valve throat.

7. Drip Irrigation

- a. Irrigation of shrubs shall be carried out by pressure compensating drippers as per BOQ specifications
- b. The shrub plantings shall be irrigated by 16 mm drip tubing with in-built pressure compensating & self flushing drippers spaced at regular intervals of 30 cm c/c. The drip tubes shall be placed on the soil and shall be staked at every 10 mtr intervals to prevent lateral movement. The drip tubing shall be laid such that the pre-fixed drippers on drip tubing shall be facing the ground. The spacing between the drip tubing rows shall not be more than 600 mm or as directed by the Engineer-in-Charge.

6.3.5 Regulations and Standards

The installation shall conform in all respects to the following standards in general: IS 12235 (Part 1 to 11): Methods of test for Un-plasticized PVC pipes IS 4985 – 2000: Specifications for un-plasticized PVC pipe BS 4515: Specification for un-plasticized PVC pipe fittings IS 732 & IS 2274-1963: Indian Standard code of practice for electrical wiring and installation.

The installation shall also be in conformity with the bylaws and requirements of the local authority in so far as these become applicable to the installation. Wherever this specification calls for a higher standard of materials and /or workmanship than those required by any of the above regulations and standards, then this specification shall take precedence over the said regulations and standards. Wherever drawings and specifications require something that may violate the regulations, the regulations shall govern.

6.3.6 Irrigation System Comprehensive Maintenance

The Contractor shall submit his proposed comprehensive maintenance schedule to the PMC/Engineer-in-charge for approval.

6.3.7 Guarantees and Obligations After Acceptance

SECTION1–GUARANTEES

The work included under this contract shall be guaranteed by the Contractor against all defects and malfunctions due to faulty workmanship or defective material for a period of **three year** from the date of issue of completion certificate by the Engineer-in-charge. Upon being informed, in writing, by the Engineer-in-charge of any defects or malfunctions, the Contractor shall effect all necessary repairs and/or replacements in a reasonably expedient manner at no additional cost to the Client. Guarantee bond equivalent to 10% amount of irrigation work shall be submitted by contractor on completion of work.

1. **CLIENT'S RIGHT TO REPAIR** If the Contractor doesn't respond to the Client's request for repair work within a period of ten days, the Client may proceed with such necessary repairs and charge the Contractor for all expenses incurred in the repair work.

2. **TRAINING OF MAINTENANCE PERSONEL IN OPERATION & MAINTENANCE**
Upon issue of completion certificate by the Engineer-in-charge, the Contractor shall be responsible for the training of maintenance personnel in the operation, maintenance and repair of the system as outlined in previous sections of these specifications. The Contractor shall furnish copies of all available parts lists, troubleshooting lists, specification sheets and catalogue sheets to the Engineer-in-charge prior to final payment.

6.3.8 Inspection of Work by PA/PMC/SAU

The Contractor shall demonstrate trouble free functioning of all the services. The Engineer-in-Charge or his authorized representatives shall carry out inspection of the various Horticulture and landscaping work works. Any defect(s) noticed during demonstration shall be rectified by the Contractor at his own cost to the entire satisfaction of the Engineer-in-Charge. Nothing extra shall be payable on this account.

6.4 ADDITIONAL CONDITIONS

1. These additional conditions of contract shall be read along with the general and special conditions of contract, Schedule of Quantities, Particular Specifications, Drawings and other documents relating to the work
2. In case of any causality of shrubs, trees or any other plants, during maintenance period, contractor has to replace those trees/shrubs/other plants of the same height and specification at his own cost and nothing extra shall be paid for the same, Failing which suitable recovery/penalty shall be levied.
3. The staff deployed for horticulture work must have good knowledge about horticulture works operations like hedge cutting, lawn mowing, planting of trees/seedlings, lawn maintenance, plants maintenance etc. and the Supervisor should be well behaved, experienced and qualified to communicate with the occupants, staff and officers.
4. All the T&P, related spare parts, its repairing, fuel, flexible hosepipe, hessian cloth, brooms etc. required for maintenance shall be arranged by the contractor at his own cost, noting extra will be paid.
5. The contractor will be responsible for police verification of the labour & permission of vehicles deployed for the execution of work. They have to follow all the relevant security norms/guidelines of the concerned Department.
6. 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's Name, Local Address and permanent address and police verification etc.). A copy of the same will be provided to the SAU. The expenditure on this account will be borne by contractor and nothing will be reimbursed for it.
7. In order to ensure the suitability of good earth available at site for horticulture purpose, lab test will be required for good earth to be used. This will be done through SAU approved laboratory. SAU will bear the testing charges, rest will be arranged by the contractor.
8. The supply will be taken at site of work. The quantities may be increased or decreased as per actual requirements at site. Good earth and manure used for filling the pots/poly bags should be free from any inert material and mixed to proper ratio.
9. Pots/Poly bags used for planting the Plants should be proper in size with good quality and without any damages.
10. There should be proper drainage in pots for Plants i.e. there should be no stagnation of water in the pots.
11. The height of the plant will be measured from top of the pots/bags.
12. **The contractor will supply the tree plants, shrubs, climbers, ground covers etc in phased manner according to the progress of preparation at site for plantation and as per pre-approved supplying plan by SAU.**

6.5. LIST OF APPROVED MAKES

Note: Contractor shall quote for the best of the materials as specified below, the contractor shall obtain prior approval from Engineer-In charge before placing order for the specific material / agencies.

The Engineer in charge reserves the right to select any of the makes/ brands indicated in the list of approved brand / make. The bidder shall quote his rates on the basis of the price for the best quality product of the brand / make stipulated for the item of work in the schedule of quality / specification /list of approved brand / make.

In case of non-availability of any of the approved / specified materials / agency, during the execution of the work, the Engineer-in Charge may approve suitable equivalent brand / agency and his decision shall be final and binding on the contractor and the prices variations if any shall be adjusted accordingly.

SI No.	ITEM	LIST OF MAKES
1	PVC PIPES	JAIN/FINOLEX/SUPREME/PRINCE
2	G.I. PIPE	TATA / JINDAL HISSAR / SURYA PRAKASH
3	DRIP & ACCESSORIES	JAIN/EPC/NETAFIM
4	SPRINKLER & ACCESSORIES	NETAFIM/JAIN/EPC
5	POLYPROPYLENE SERVICE SADDLE	JAIN/AQVASTAR/SAB/POONAM
6	QUICK RELEASE COUPLING & HYDRANT OPENER	JAIN/EPC/NETAFIM
7	POLYPROPYLENE BALL VALVES	JAIN/AQVASTAR/SAB/POONAM
8	AIR RELEASE VALVE	JAIN/ NETAFIM/HARIT/EPC
9	VALVE BOX	JAIN/NETAFIM/HARIT/EPC
10	SAND & SCREEN FILTER	JAIN /NETAFIM/EPC
11	EPOXY & ENAMEL PAINT	SHALIMAR/ BERGER/ ASIAN

6.6 SCHEDULE OF DRAWINGS

ARCHITECTURAL AND LANDSCAPE DRAWINGS AND DOCUMENTS		
1	LA-A-2.1	PLANTING PLAN – TREES
2	LA-A-2.2	PLANTING PLAN – SHRUBS
3	LA-A-2.3	IRRIGATION PLAN
4	LA-A-2.4	PHASING PLAN

7.0 PART C
SCHEDULE OF QUANTITIES

Name of work: “Landscaping, Horticulture, Irrigation Works including Two year maintenance at Permanent Campus, South Asian University, Maidan Ghari, New Delhi.”

<u>OVERALL ABSTRACT OF SCHEDULES A, B, C</u>		
S.No.	Description of Work	Amount (Rs.)
1	SCHEDULE A - DSR 2018 ITEMS	₹ 121,75,991
2	SCHEDULE B - NON DSR ITEMS	₹ 129,72,135
3	SCHEDULE C - MAINTENANCE WORKS	₹ 112,71,786
	Total	₹ 364,19,912

***GST extra as applicable**

SCHEDULE-A - ABSTRACT OF DSR 2018 ITEMS

Tenderer has to quote % above/below/ at Par for the following grouped items

LANDSCAPE & HORTICULTURE WORKS

S.No.	Description of Work	Amount (Rs.)
	SOFT LANDSCAPE (DSR ITEMS)	
1	Supply of Trees/Shrubs/ Plants/Creepers & Climbers/Grasses / ground covers/Potted plants etc.	₹ 38,63,094.50
2	Plantation of Trees/Shrubs/ Plants/Creepers & Climbers / Grasses / ground covers / Potted plants etc.	₹ 28,73,044.00
3	PREPARATION OF EARTH MOUNDS	₹ 12,03,900.00
4	Creating seasonal/ all season flower beds /Trenching	₹ 1,37,400.00
5	Supply of Manure/Earth/filling in Planters	₹ 40,98,552.60
	TOTAL	₹ 121,75,991.09
	Percentage quoted by the tenderer above/below/at Par of the Total Amount (in %) in figures	
	Percentage quoted by the tenderer above/below/at Par of the Total Amount (in %) in words	
	Total Quoted Amount in Figures (in Rs.)	
	Total Quoted Amount in Words	
*GST extra as applicable		

SCHEDULE A**HORTICULTURE AND LANDSCAPE WORK (DSR 2018)**

Sl. No.	DSR Item No	Common name	Quantity (Nos)	Unit	Rate (Rs.)	Amount (Rs)
1	DSR item no	Supply of Trees/Shrubs/ Plants/Creepers &Climbers/Grasses / ground covers/Potted plants etc.				
		Supplying at site healthy, disease free and well developed Trees/Shrubs/ Plants/Creepers &Climbers/Grasses / ground covers/Potted plants etc. of the prescribed height and spread as per detail below, including cost of transportation, loading and unloading and providing the required intermittent care in the course of transportation and up to plantation. Plants to be supplied in polybag/HDPE bag/ earthen pot of suitable size				
A		TREES				
1	7.3	SIRIS - Providing and stacking of Albizzia lebbek of height 150-165 cm. in bag of size 25 cm as per direction of the officer-in-charge.	5	Nos	65.00	325
2	7.5	NEEM - Providing and stacking of Azadirachta indica (Neem) of height 120-130cm in big polybag of size 25 cm as per direction of the officer-in-charge.	5	Nos	65.00	325
3	7.8	PURPLE BAUHINIA - Providing and stacking of Bauhinia purpurea (Kachnar) of height 150-165 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge.	5	Nos	50.00	250
4	7.7	KACHNAR - Providing and stacking of Bauhinia variegata (Kachnar) of height 120-150 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge.	5	Nos	80.00	400
5	7.9	SILK COTTON - Providing and stacking of Bombax ceiba of height 150-165 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge.	5	Nos	70.00	350
6	7.16	AMALTAS - Providing and stacking of Cassia fistula (Amaltash) of height 120-135 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge.	5	Nos	65.00	325
7	7.21	RESHAM RUI - Providing and stacking of Chorisia speciosa of height 150-165 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge.	21	Nos	80.00	1680
8	7.2	BARNA - Providing and stacking of Adansonia digitata (kalp vrcksh) of ht 150-165 cm in bag size of 25 cm as per direction of the officer-in-charge.	104	Nos	265.00	27560
9	7.23	SHISHAM - Providing and stacking of Dalbergia sissoo (Seasam) of height 120-135 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge.	5	Nos	55.00	275
10	7.24	GULMOHAR - Providing and stacking of Delonix regia (Gulmohar) of height 150-165 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge.	100	no's	60.00	6000
11	7.30	KRISHNA FIG - Providing and stacking of Ficus bengalensis krishna of height 75-90 cm., multibranched in earthen pots of size 30 cm as per direction of the officer-in-charge.	5	Nos	120.00	600
12	7.6	MAHUA - Providing and stacking of Bassia latifolia (Mahua) of height 90-105 cm. in big polybag of size 25 cm as per direction of the officer-in-charge.	5	Nos	65.00	325
13	7.53	MANGO - Providing and stacking of Mangifera indica (Mango-grafted) of height 60-75 cm. in big poly bag of size 25 cm as per direction of the officer-in-charge.	5	Nos	55.00	275
14	7.57	INDIAN CORK TREE - Providing and stacking of Millingtonia hortensis of height 150-165 cm. in big poly bag of size 25 cm as per direction of the officer-in-charge.	110	Nos	70.00	7700
15	7.64	AMLA - Providing and stacking of Phyllanthus emblica (Amla) of height 150-165 cm. in Big HDPE Bag as per direction of the officer-in-charge.	5	Nos	90.00	450

Sl. No.	DSR Item No	Common name	Quantity (Nos)	Unit	Rate (Rs.)	Amount (Rs)
16	7.68	CHAMPA WHITE - Providing and stacking of Plumeria acutifolia of height 150-165 cm. with 3-4 branches in big size HDPE bag as per direction of the officer-in-charge.	157	Nos	200.00	31400
17	7.81	KUSUM - Providing and stacking of Schleicheria trijuga (Kusum) of height 150-165 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge.	79	Nos	70.00	5530
18	7.87	TEAK - Providing and stacking of Tectona grandis (Teak) of height 150-165 cm. in big polybags of size 25 cm as per direction of the officer-in-charge.	25	Nos	110.00	2750
19	7.14	Providing and stacking of Callistemon lanceolatus of height 150-165 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge.	50	No'S	65.00	3250
Total			701			
B	SHRUBS					
1.0	8.2	BAUHINIA -Providing and stacking of Bauhinia tomentosa (yellow) of height 60-75 cm. in earthen pots of size 20 cm as per direction of the officer-in-charge	4846	Nos	45.00	218070
2.0	8.13	RAT KI RANI - Providing and stacking of Cestrum nocturnum (Raat ki Rani) of height 60-75 cm. with 4-5 branches in bag of size 25 cm as per direction of the officer-in-charge.	2620	Nos	40.00	104800
3.0	3.26	GOOD LUCK PALM - Providing and displaying of Chamaedorea elegans palm plant, having ht. 60 cm to 75 cm, well developed with fresh and healthy leaves in 25 cm size of Earthen pot/Plastic pot . & as per direction of the officer-in-charge.	134	Nos	107.65	14425
4.0	3.19	ARECA PALM - Providing and displaying of Areca Palm plant, having ht. 1.20 m to 1.50 m with 5 to 6 suckers, well developed, fresh and healthy with lush green foliage in 25 cm size of Earthen pot/Plastic pot & as per direction of the officer-in-charge.	211	Nos	169.15	35691
5.0	8.30	GANDRAJ - Providing and stacking of Gardenia jasminoides of height 45-60 cm. with 3-4 branches in earthen pots of size 20 cm as per direction of the officer-in-charge.	1382	Nos	50.00	69100
6.0	8.37	HIBISCUS - Providing and stacking of Hibiscus rosinensis of height 90-105 cm., bushy in big size HDPE bag as per direction of the officer-in-charge. (in white 1351 no's, Pink 1390 no's and RED 2221 no's colour)	4962	Nos	90.00	446580
7.0	4.88	MOGRA - Providing and stacking Mogra of height 25 to 30 cm., 2 to 3 branch in earthen pots of size 20 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	1871	Nos	46.15	86347
8.0	8.43	CAPE MYRTLE - Providing and stacking of Lagerstroemia indica of height 90-105 cm. multibranched in poly bags of size 25 cm as per direction of the officer-in-charge.	1895	Nos	40.00	75800
9.0	8.46	KAMINI - Providing and stacking of Murraya exotica of height 45-60 cm. in poly bags of size 15 cm as per direction of the officer-in-charge.	1032	Nos	15.00	15480
10.0	8.47	CURRY LEAF - Providing and stacking of Murraya Koenigii spreng (Kadipatta/meetha neem) of ht 45-60 cm well developed in earthen pots of size 20 cm. per direction of the officer-in-charge.	2428	Nos	25.00	60700
11.0	8.50	KANER PINK TALL -Providing and stacking of Nerium oleander (kaner) of height 60-75 cm. with 5-6 branches in poly bags of size 25 cm as per direction of the officer-in-charge.	2220	Nos	40.00	88800
12.0	8.51	KANER DWARF WHITE - Providing and stacking of Nerium oleander (kaner) dwarf of height 30-40 cm. in earthen pot of size 20 cm as per direction of the officer-in-charge.	3193	Nos	40.00	127720
13.0	8.54	HAR SINGAR - Providing and stacking of Nyctanthes arbor-tristis (Hasingar) of ht. 90-105 cm in Earthen pots of size 20 cm as per direction of the officer-in-charge.	49	Nos	40.00	1960

Sl. No.	DSR Item No	Common name	Quantity (Nos)	Unit	Rate (Rs.)	Amount (Rs)
14.0	3.76	RHAPIS PALM - Providing and displaying of Rhapis Excelsa Palm plant, having ht. 75 cm to 90 cm with 12 to 15 equal suckers, well developed, full of fresh & healthy leaves from bottom to top in 25 cm size Earthen pot/Plastic pot & as per direction of the officer-in-charge.	211	Nos	322.90	68132
15.0	8.66	CHANDANI - Providing and stacking of Tabernaemontana divaricata (Chandni double) of height 90-105 cm., bushy in big size HDPE bag as per direction of the officer-in-charge.	1082	Nos	90.00	97380
16	7.71	Providing and stacking of Plumeria alba dwarf dwarf of height 90-105 cm. with 3-4 branches and thick stem in big size HDPE bags as per direction of the officer-in-charge.	200	No'S	750.00	150000
17	7.72	Providing and stacking of Plumeria rubra of height 120-150 cm. with 3-4 branches and thick stem in big size HDPE bags as per direction of the officer-in-charge.	200	No'S	400.00	80000
			28536			
C	GROUND COVERS					
1.0	6.19	Black mondo grass - Providing and stacking of Ophiopogon, Green/Black full of leaves in 15 cm size of Earthen Pot / Plastic Pot & as per direction of the officer-in-charge.	3694	Nos	20.50	75727
2.0	6.26	Syngonium -Providing and stacking of Syngonium golden of height 30-45 cm. with 2-3 suckers healthy foliage in Earthen Pot/Plastic Pot of size 20 cm. as per direction of the officer-in-charge.	455	Nos	30.75	13991
3.0	6.7	Providing and stacking of Clerodendrum inerme of ht. 20 cm to 30 cm multi branched in 15 cm size of Earthen Pot/Plastic Pot & as per direction of the officer-in-charge.	20000	each	20.50	410000
			24149			
D	Grouped/ornamental					
1.0	5.7	Buddha Belly Bamboo - Providing and Displaying Bamboo Buddha valley with fresh & healthy 3 to 4 suckers having 75 to 90 cm ht. in 25 cm size Earthen Pot/ Plastic Pot as per direction of the officer-in-charge.	78	Nos	461.25	35978
2.0	5.5	Providing and Displaying Adenium Obesum grafted well developed with fresh & healthy 30 to 60 cm ht. in 25 cm size Earthen Pot/ Plastic Pot as per direction of the officer-in-charge.	500	No's	287.00	143500
			578			
E	LAWN					
1	2.35	Supplying & Stacking of Selection No.1 grass at site fresh & free from weeds having proper roots in green including loading, unloading, carriage and all taxes paid etc.and as per direction of the officer in charge.(grass to be supplied in Turf)				
			5300	Sqm	50.80	269240
F	CREEPERS & CLIMBERS					
1.0	9.1	Golden Trumpet Vine -Providing and stacking Allamanda cathartica of height 30 cm to 45 cm. in 20 cm size of Earthen pots / Plastic pots & as per direction of the officer-in-charge.	253	Nos	45.00	11385
2.0	9.9	Yellow Jasmine - Providing and stacking Jasmine humile (Yellow) of height 30 cm to 45 cm. in 20 cm size of Earthen pots / Plastic pots & as per direction of the officer-in-charge.	116	Nos	30.00	3480
3.0	9.12	Madhumalti - Providing and stacking Quisqualis indica of height 30 cm to 45 cm. in 20 cm size of Earthen pots / Plastic pots & as per direction of the officer-in-charge	369	Nos	25	9225

Sl. No.	DSR Item No	Common name	Quantity (Nos)	Unit	Rate (Rs.)	Amount (Rs)
4.0	9.4	Providing and stacking Bougainvillea (Variety Butiana, Lady Mary Baring, Mahara,Mohan,Scarlet Queen, Variegated, Glabra Formosa, Peruviana Odissi, Paratha, Subhra,Thimma, Spectabilis L.N Birla, Refulgens) of height 30 cm. to 45 cm. with 2-3 branches in 20 cm size of Earthen pots / Plastic pots & as per direction of the officer-in-charge. .	800	Nos	25	20000
			1538			
I		Seasonal Plants				
		Winter season				
1	4.1	Providing and Displaying Allyssum white in full bloom well developed fresh & healthy Plant in 20 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	43.05	4305
2	4.3	Providing and Displaying Antirrhinum Hybrid Dwarf variety (3 in one) well developed with fresh & healthy Flower multi branch in full bloom in 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	54.35	5435
3	4.4	Providing and Displaying Antirrhinum Hybrid dwarf variety, specimen (8-10) with fresh & healthy foliage in full bloom well developed in 35 cm Earthen Tray/Challii Pot and as per direction of the officer-in-charge.	100	Nos	538.15	53815
4	4.6	Providing and Displaying Asiatic lilly hybrid variety (3 in one) in each pot having in full bloom 3 to 5 flowers 30 to 45 cm ht. well developed in 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	1603	Nos	129.15	207027
5	4.7	Providing and Displaying Aster Hybrid variety in different colour, well developed with fresh & healthy foliage in full bloom 23 to 30 cm ht., in 20 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	43.05	4305
6	4.11	Providing and Displaying Calendula double variety well developed with fresh & healthy foliage in full bloom in 20 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	54.35	5435
7	4.12	Providing and Displaying Chrysanthemum double variety, well developed, having 45 to 60 cm ht., with 6 and above flowers with half blooming condition, fresh and healthy with bamboo stacking in 25 cm Earthen Pot and as per direction of the officer-in-charge.	100	Nos	118.90	11890
8	4.13	Providing and Displaying Chrysanthemum single variety in different colour well developed having 45 to 60 cm ht., minimum 100 and above half bloom flowers open well stacked with bamboo stick having three layer tiding by thread fresh and healthy foliage in 25 cm Earthen Pot and as per direction of the officer-in-charge.	100	Nos	129.15	12915
9	4.15	Providing and Displaying Cineraria dwarf in different colour with fresh & healthy foliage well developed in 20 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	54.35	5435
10	4.16	Providing and Displaying Cineraria Hybrid dwarf variety in different colour well developed with fresh & healthy foliage in bloom in 25 cm Earthen Pot/ Plastic Pot and as per direction of the officer-in-charge.	100	Nos	64.60	6460
11	4.18	Providing and Displaying Clarkia well developed with fresh & healthy foliage, 5 to 6 branches in full bloom with stacking in 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	107.65	10765
12	4.20	Providing and Displaying Coleus broad leaves having 3 to 4 branches equal well developed with fresh & healthy foliage in different colour in 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	54.35	5435

Sl. No.	DSR Item No	Common name	Quantity (Nos)	Unit	Rate (Rs.)	Amount (Rs)
13	4.22	Providing and Displaying Cyclamen hybrid variety fresh & healthy in full bloom well developed in 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	215.25	21525
14	4.24	Providing and Displaying Dahlia double kenya variety in different colour well developed with 3 to 4 flowers in half bloom, good foliage stacked with Green painted Bamboo sticks, 45 to 60 cm height in 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	86.10	8610
15	4.27	Providing and Displaying Dianthus dwarf in different colour fresh & healthy bloom in 20 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	43.05	4305
16	4.28	Providing and Displaying Dianthus dwarf specimen 6-8 in a pot with fresh & healthy foliage in full bloom well developed in 35 cm Earthen Tray/Nand as per direction of the officer-in-charge.	100	Nos	377.20	37720
17	4.31	Providing and Displaying Gazania hybrid in different colour well developed with fresh & healthy foliage with full bloom in 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	64.60	6460
18	4.32	Providing and Displaying Garenium double in variety having 30 cm ht, in different colour well developed with fresh and healthy foliage(3 in one) well bloomed in 25 cm Earthen Pot/PlasticPot and as per direction of the officer-in-charge.	100	Nos	134.30	13430
19	4.33	Providing and Displaying Gerbera Hybrid, well developed, with fresh and healthy foliage, fully blooms in 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	86.10	8610
20	4.36	Providing and Displaying Marigold jaffri dwarf in different colour well developed with fresh & healthy foliage with 12 to 15 flowers in full bloom specimen plant 23 to 30 cm ht. in 20 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	54.35	5435
21	4.37	Providing and Displaying Marigold jaffri orange/yellow/Russet colour well developed with fresh & healthy foliage with 40 to 50 flowers in bloom specimen plant 60 to 75 cm ht in 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	150.70	15070
22	4.46	Providing and Displaying Pansy Hybrid Sakata in different colour specimen 6-8 in a pot with fresh & healthy foliage in full bloom well developed in 35 cm Earthen Tray/ Nand as per direction of the officer-in-charge.	100	Nos	322.90	32290
23	4.47	Providing and Displaying Pansy Hybrid Sakata well developed with fresh & healthy foliage with 3 to 4 flower in bloom in 20 cm Earthen Pot/ Plastic Pot and as per direction of the officer-in-charge.	100	Nos	54.35	5435
24	4.48	Providing and Displaying Pansy hybrid sakata in different colour with fresh & healthy foliage well developed in 15 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	26.60	2660
25	4.49	Providing and Displaying Petunia hybrid different colour single well developed in full bloom in 20 cm Earthen/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	43.05	4305
26	4.5	Providing and Displaying Petunia hybrid different variety in different colour well developed with fresh and healthy foliage in full bloom in 25 cm Earthen Pot/Plastic Pot as per direction of the officer-in-charge.	100	Nos	64.60	6460
27	4.52	Providing and Displaying Petunia hybrid well developed with fresh & healthy foliage in full bloom 6-8 in 35 cm Earthen Tray/Nand as per direction of the officer-in-charge.	100	Nos	322.90	32290
28	4.53	Providing and Displaying Phlox in different colour well developed with fresh & healthy foliage 30 cm ht., in full bloom with stacking in 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	54.35	5435

Sl. No.	DSR Item No	Common name	Quantity (Nos)	Unit	Rate (Rs.)	Amount (Rs)
29	4.54	Providing and Displaying Poinsettia Dwarf variety different colour well developed 23 to 30 cm ht., 3 to 4 branch full bloom with fresh & healthy foliage in 15 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	183.50	18350
30	4.56	Providing and Displaying Primula Hybrid variety specimen 5-6 in each Pot with fresh & healthy foliage in full bloom different colour well developed in 35 cm Earthen Tray/ Nand as per direction of the officer-in-charge.	100	Nos	430.50	43050
31	4.58	Providing and Displaying Ranunculus Hybrid variety in different colour specimen 5-6 in each Pot with fresh & healthy foliage in full bloom well developed in 35 cm Earthen Tray/ Nand as per direction of the officer-in-charge.	100	Nos	516.60	51660
32	4.60	Providing and Displaying Salvia dwarf variety with fresh & healthy foliage well developed multi branching in blooming stage in 15 cm Earthen Pot/ Plastic Pot and as per direction of the officer-in-charge.	100	Nos	26.65	2665
33	4.61	Providing and Displaying Salvia ht. 45 to 60 cm multi branches stacking with bamboo stick specimen type with full bloom well developed in 30 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	129.15	12915
34	4.65	Providing and Displaying Star of Bethlehem (Chinchi - Rinchi), 5 to 6 plant in each Pot full bloom, with fresh and healthy foliage flower in 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	344.40	34440
35	4.69	Providing and Displaying Tulip Dutch hybrid variety (3 in one) in each pot in full bloom fresh & bright in different colour well developed in 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	No's	183.50	18350
Summer Season						
36	4.72	Providing and Displaying Caladium Hybrid variety 3 to 4 in a pot well developed with fresh & healthy foliage 30 to 45 cm ht. in different colour 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	64.60	6460
37	4.73	Providing and Displaying Cockscomb well developed fresh & healthy 20 to 25 cm ht. attractive colors fully bloomed in 20 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	43.05	4305
38	4.74	Providing and Displaying Cosmos well developed fresh & healthy 20 to 25 cm ht. attractive colors multi branching at blooming stage in 20 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	43.05	4305
39	4.75	Providing and Displaying Gaillardia double hybrid variety well developed 30 to 45 cm ht 20 to 30 fresh & healthy flower with green painted bamboo stick in 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	54.35	5435
40	4.76	Providing and Displaying Gomphrena well developed fresh & healthy 30 to 45 cm ht. bushy plant 15 & above flower in 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	43.05	4305
41	4.78	Providing and Displaying Kochia well developed fresh & healthy 20 to 25 cm ht. lush green well shaped in 20 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	32.80	3280
42	4.79	Providing and Displaying Portulaca hybrid in different colour with bloom well developed fresh & healthy in 20 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	86.10	8610
43	4.82	Providing and Displaying Tapioca variegated (Manihot esculenta) well developed fresh & healthy 30 to 45 cm ht. in bright colour foliage in 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	32.80	3280

Sl. No.	DSR Item No	Common name	Quantity (Nos)	Unit	Rate (Rs.)	Amount (Rs)
44	4.83	Providing and Displaying Vinca different colour 6 to 8 well developed branch in full bloom stacked with green painted Bamboo stick in 25 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	100	Nos	54.35	5435
45	4.85	Providing and Displaying Vinca Hybrid in different colour fresh & healthy 20 to 25 cm ht. with bloom in 20 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	6580	Nos	26.65	175357
46	4.89	Providing and stacking Canna dwarf of height 25 to 30 cm., 2 to 3 suckers in earthen pots of size 20 cm Earthen Pot/Plastic Pot and as per direction of the officer-in-charge.	1000	Nos	35.90	35900
		Rose Plants				
47	4.90	Supplying and displaying of Bush Rose in different colour 2 to 3 healthy branch 30 cm and above ht. well developed with 8 or more flowers / flower buds in 20 cm Earthen pot / Plastic pot as per direction of the officer-in-charge.	1000	Nos	25.65	25650
48	4.91	Providing and Displaying Budded Rose (H.T. variety) 3 to 4 healthy branch 30 cm and above ht. well developed with one and above flower plant in 20 cm Earthen Pot, as per direction of the officer-in-charge.	1000	Nos	32.80	32800
		Total for supply	15483			3863095
2		Plantation of Trees/Shrubs/ Plants/Creepers & Climbers / Grasses / ground covers / Potted plants etc.				
		Plantation of Trees/Shrubs/ Plants/ Creepers & Climbers/Grasses / ground covers/Potted plants etc. including excavating pit of suitable size, mixing and filling the pit with well proportioned mixture of mother earth, sweet earth, sand and organic manure (5:3:1:1), making basin and watering once at the time of plantation simultaneously cartage of plants and trees from the store/nursery within the site to the plantation simultaneously complete in all respect. Including fixing of any support required for keeping the plants in exact position etc. (excluding the cost of supply of plants, sand and organic manure, which shall be paid separately under relevant items.) (The contractor has to maintain all planted items including cost of all operations, fertilisers/organic manure to be used till completion/handing over of area, the agency may quote his rates accordingly).				
2.1	DSR ITEM NO 2.14.2 + 2.57.1	Trees (Hole size: Dia 900mm and 900mm deep)	1343	Nos	136.80	183722
2.2	DSR ITEM NO 2.14.4 + 2.57.2	SHRUBS (Hole size: Dia 450mm and 450mm deep)	71624	Nos	20.30	1453967
2.3	DSR ITEM 2.57.3	Ground Covers (Prepration of bed will be paid seperately under item no 4 below)	70000	Nos	2.15	150500
2.4	DSR ITEM NO 2.14.4 + 2.57.3	Grouped/ornamental (Hole size: Dia 450mm and 450mm deep)	27300	Nos	19.25	525525
2.5	Derived from DSR ITEM 2.14.4+2.57.3	Creepers & Climbers (Hole size: Dia 300mm and 300mm deep)	2666	Nos	8.68	23141
2.7	DSR ITEM NO 2.14.4 + 2.57.2	Harbal Plants/ Medicinal Value Plants/ other (Hole size: Dia 450mm and 450mm deep)/	350	Nos	20.30	7105

Sl. No.	DSR Item No	Common name	Quantity (Nos)	Unit	Rate (Rs.)	Amount (Rs)
2.8	derived from DSR ITEM	Lawn - Preparing the ground with a 150 mm thick filling layer as mentioned above and Flooding the ground with water including making kiaries and dismantling the same, necessary ramming, leveling with required wooden tools then rolling the surface with light roller to make the surface smooth, suitable for plantation of grass and grassing with selection number 1 grass including watering and initial maintenance of lawn for 30 days or more till the grass forms of thick lawn, free from weeds and fit for mowing including supplying good earth, if needed (the supply of grass shall be paid for separately).				
2.8.1	ITEM NO. 2.1+2.7+2.10.1	In rows 5 cm apart in both directions. includes	16443	sqm	29.11	478574
2.8.2	DSR ITEM NO. 2.1+2.7+2.10.2	Grass turf with earth 50mm to 60mm thickness	2000	sqm	25.26	50510
Total for plantation						2873044
3		PREPARATION OF EARTH MOUNDS				
1	DSR 2.28	Preparation of mounds of various size and shape by available excavated /supplied earth in layers not exceeding 20 cm in depth, breaking clods, watering of each layer, dressing etc., lead within SAU campus including all lift complete as per direction of Officer-in-charge. (in all kind of soil) Filling earth(available at site within campus) in layers, compacting, watering, ramming in bringing in required shape as per approved drawings (Final layer 100 mm thick and grassing will be paid separately)	3000	Cum	401.30	1203900
Total Earthwork						1203900
4		Creating seasonal/ all season flower beds /Trenching				
	DSR ITEM NO 2.1	Creating seasonal flower beds at selected locations by preparing the ground by excavating up to 150 mm depth and filling with 100 mm thick layer of soil media consist of well proportioned mixture of mother earth, sweet earth sand and organic manure (5:3:1:1) and necessary ramming, leveling with required wooden tools then rolling the surface with light roller to make the surface smooth, suitable for plantation . (including mixing and all but excluding the cost of supply of plants, sand and organic manure) including trenching in ordinary soil up to required depth including removal and stacking of serviceable materials and then disposing of surplus soil, by spreading and neatly levelling within a lead of 50 m and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or / and manure before and after flooding trench with water.	2000	CUM	68.70	137400
5		Supply of Manure/Earth/filling in Planters				
5.1	DSR ITEM NO 2.25	Supplying and stacking of well decayed cattle manure at site including royalty and carriage upto 5 k.m. lead complete (Cattle manure measured instacks will reduced by 8% for Payment). Supply should be from approved source, including carriage loading & unloading. The agency will get the sample approved from the Engineer-in-charge prior to procurement.	2445	Cum	230.45	563450
5.2	DERIVED FROM CIVIL DSR ITEM NO 2.27 (P101)	Supplying and stacking at site Yamuna sand from approved source, including all lead complete. The agency will get the sample approved from the Engineer-in-charge prior to procurement.				
		Screened through sieve of I.S. designation 20 mm	2445	Cum	855.50	2091698

Sl. No.	DSR Item No	Common name	Quantity (Nos)	Unit	Rate (Rs.)	Amount (Rs)
5.3	DSR ITEM NO. 1.1.1+ 2.20+1.2.2+2.9	Filling & spreading of well proportioned mixture of sand, manure and sweet earth in required thickness in the permanent planters' in all courtyards in academic/residential buildings and in other areas including selection and collection of good earth available within site, mixing with manure sand etc, and transporting by mechanical and manual labour, flooding with water and leveling (cost of supplying sand, manure, will be paid separately) complete as per direction of Engineer-in-charge.	3000	Cum	215.35	646048
5.5	2.28.1	surface dressing of ground including removing vegetation and in-equalities not exceeding 15 cm deep and disposal of rubbish, lead upto 50m and lift upto 1.5 m. (in al kind of soil)	10000	sqm	20.95	209500
5.6	Derived on DSR items	Supplying of Plant and Mechinery on hire basis, including cost of services, operating staff(one operator+ one helper), P.O.L., all other consumables, for running then complete on day basis(one day = 8 working hours)				
5.5.1	0020	JCB OR Hydraulic Excacavator 1 cum,	8	DAYS	8050.00	64400
5.5.2	0039	Tracktor with trolley	16	DAYS	1552.00	24832
5.7	2.58	Providing and fixing of Tuflex Garden fencing Hexagonal net/or equivalent of green colour having contents (Weight grams/sqm. 510 (+/- 8%)) length. The bamboo should be painted with green colour paint of approved brand and manufacture (two or more coats). The net and bamboo should be binded with 2 mm. G.I. Wire at three places properly as per direction of Engineer-in-charge.				
		a) Net Fencing of height 60 cm to 100 cm in height over ground fixed over bamboo of suitable diamenters with minimum 30 cm to 50 cm below ground level and 60 cm to 100cm above ground level respectively at a distance of 1.50 mtrs to 2 metres.	2500	sqm	199.45	498625
		Total				4098553

Net total

12175991

SCHEDULE-B - ABSTRACT OF NDSR ITEMS

Tenderer has to quote % above/below/ at Par for the following grouped items

LANDSCAPE, HORTICULTURE, AND IRRIGATION WORKS

S.No.	Description of Work	Amount (Rs.)
	SOFT LANDSCAPE (NDSR ITEMS)	
1	Supply of Trees/Shrubs/ Plants/ Creepers & Climbers/ Grasses / ground covers/Potted plants etc.	₹ 95,81,452.70
2	Supply and of Tree Guards/Name plate	₹ 4,82,006.64
	TOTAL	₹ 100,63,459.34
2	IRRIGATION WORKS	
A	Pipe Work	₹ 7,44,989.75
B	Drip & Accessories	₹ 14,30,065.50
C	Sprinkler & Accessories	₹ 2,35,210.80
D	Valves & Accessories	₹ 3,91,939.12
E	Filtration Unit	₹ 1,06,470.00
	TOTAL	₹ 29,08,675.17
	NET TOTAL	₹ 129,72,134.51
	Percentage quoted by the tenderer above/below/at Par of the Total Amount (in %) in figures	
	Percentage quoted by the tenderer above/below/at Par of the Total Amount (in %) in words	
	Total Quoted Amount in Figures (in Rs.)	
	Total Quoted Amount in Words	

*GST extra as applicable

SCHDULE B- NDSR ITEMS**BOQ - HORTICULTURE, LANDSCAPE AND IRRIGATION WORKS (NON DSR ITEMS)**

Sl. No.	Common name / Botanical name	Height (m)	Quantity (Nos)	Unit	Rate (Rs.)	Amount (Rs)
1	Supply of Trees/Shrubs/ Plants/ Creepers & Climbers/ Grasses / ground covers/Potted plants etc.					
	Supplying at site healthy, disease free and well developed Trees/Shrubs/ Plants/Creepers &Climbers/Grasses / ground covers/Potted plants etc. of the prescribed height and spread as per detail below, including cost of transportation, loading and unloading and providing the required intermittent care in the course of transportation, storage at site and plantation. Plants to be supplied in polybag/HDPE bag/earthen pot of suitable size					
A	TREES					
1	BABUL / Acacia nilotica	1.2 to 1.35	5	Nos	126.00	630
2	BAEL / Aegle marmelos	1.2 to 1.35	5	Nos	135.00	675
3	MAHARUKH / Ailanthus excelsa	1.5 to 1.65	80	Nos	148.50	11880
4	DHAU / Anogeissus acuminata	1.2 to 1.3	20	Nos	162.00	3240
5	JACK FRUIT / Artocarpus heterophyllus	1.2 to 1.3	22	Nos	148.50	3267
6	KAGHZI NIMBU / Citrus aurantiifolia	0.75 to 0.9	18	Nos	144.00	2592
7	CHAMROR / Ehretia laevis	1.2 to 1.35	5	Nos	142.20	711
8	MYSORE FIG / Ficus drupacea var. pubescens	0.75 to 0.9	50	Nos	144.00	7200
9	GAMHAR / Gmelina arborea	1.2 to 1.35	192	Nos	135.00	25920
10	PHALSA / Grewia subinaequalis	1.2 to 1.35	5	Nos	126.00	630
11	KAIM / Mitragnyna parvifolia	1.5 to 1.65	37	Nos	139.50	5162
12	DRUM STICK / Moringa oleifera	1.2 to 1.35	32	Nos	135.00	4320
13	ANAR / Punica granatum	0.75 to 0.9	18	Nos	144.00	2592
14	JAMUN / Syzigium cumini	1.5 to 1.65	5	Nos	148.50	743
15	BAHEDA / Terminalia bellirica	1.2 to 1.35	5	Nos	166.50	833
16	HERADA / Terminalia chebula	1.2 to 1.35	5	Nos	153.00	765
17	INDIAN WOLLOW / Salix tetrasperma	1.2 to 1.35	18	Nos	162.00	2916
18	PINE TREE(CHIR) / Pine Tree	0.3 to 0.45	20	Nos	144.00	2880
19	POTATO TREE/ solanum grandiflorum	0.75 to 0.90	100	Nos	117	11700
			642			
B	SHRUBS					
1	VASAKA / Adhatoda Vasica (AV)	0.45 to 0.60	1143	Nos	108.00	123444
2	ALOCASIA / Alocasia macrorrhizos	0.45 to 0.60	1010	Nos	108.00	109080
3	INDIAN BIRTHWORT / Aristolochia indica	0.6 to 0.75	1854	Nos	108.00	200232
4	PHILIPPINE VIOLET / Barleria cristata	0.6 to 0.75	342	Nos	108.00	36936
5	VAJRADANTI / Barleria prionitis	0.45 to 0.60	1891	Nos	99.00	187209
6	BUTTERFLY BUSH / Buddleja davidii (BD)	0.60 to 0.75	1854	Nos	108.00	200232
7	POWDER PUFF PINK / Calliandra brevipes 'pink' (CB)	0.45 to 0.60	1854	Nos	108.00	200232
8	POWDER PUFF WHITE / Calliandra	0.45 to 0.60	1854	Nos	108.00	200232
9	YLANG -YLANG / Cananga odorata	0.60 to 0.75	1854	Nos	99.00	183546
10	DIN KA RAJA / Cestrum diurnum (CD)	0.60 to 0.75	3091	Nos	99.00	306009
11	COLOCASIA / Colocasia esculenta	0.45 to 0.60	1010	Nos	99.00	99990
12	MALAY GINGER / Costus speciosus	0.45 to 0.60	1010	Nos	99.00	99990
13	ELAICHI / Eleteria cardamomum	0.45 to 0.60	1010	Nos	148.50	149985
14	WHITE LACED EUPHORBIA / Euphorbia leucocephala(EL)	0.75 to 0.90	3657	Nos	144.00	526608
15	GANDRAJ DWARF / Gardenia dwarf	0.45 to 0.60	1592	Nos	90.00	143280
16	GLORIOSA LILY / Gloriosa superba	0.45 to 0.60	1854	Nos	90.00	166860
17	IXORA WHITE / Ixora odorata	0.45 to 0.60	1791	Nos	99.00	177309
18	NANDINA / Nandina domestica	0.75 to 0.90	1854	Nos	108.00	200232

Sl. No.	Common name / Botanical name	Height (m)	Quantity (Nos)	Unit	Rate (Rs.)	Amount (Rs)
19	KEWDA / Pandanus odorifer	0.75 to 0.90	36	Nos	99.00	3564
20	NILA CHITRAK / Plumbago auriculata	0.30 to 0.45	1576	Nos	108.00	170208
22	STACHYTARPHETA PURPLE / Stachytarpheta indica 'purple' (SI)	0.45 to 0.60	6900	Nos	108.00	745200
23	KHAL-MURIYA / Tridax procumbens	0.45 to 0.60	1854	Nos	50.00	92700
24	NIRGUNDI / Vitex negundo	0.75 to 0.90	2197	Nos	50.00	109850
			43088			
C	GROUND COVERS					
1	Red Ginger Lily / Hedychium rubrum	0.30 to 0.45	1503	Nos	117.00	175851
2	Amaryllis Lily Red / Hippeastrum hybridum 'red' (HH)	0.30 to 0.45	2438	Nos	121.50	296217
3	Spider Lily / Hymenocallis littoralis (HL)	0.30 to 0.45	2303	Nos	45.00	103635
4	Ribbon grass / Ophiopogon variegata	0.15	3694	Nos	63.00	232722
5	Sansevieria /	0.30 to 0.45	455	Nos	148.50	67568
6	Snow flower / Spathiphyllum floribundum (SF) 8" POT	0.20 to 0.30	5197	Nos	144.00	748368
7	Rain lily Pink / Zepharanthes candida 'pink' (ZCP)	0.20 to 0.30	4742	Nos	22.50	106695
8	Rain lily White / Zepharanthes candida 'white' (ZCW)	0.20 to 0.30	4742	Nos	22.50	106695
9	Vinca White/Catharanthus rosea alba (CRA)	0.20 to 0.30	2000	Nos	22.50	45000
10	Vinca Pink/Catharanthus rosea 'Pink' (CRP)	0.20 to 0.30	2000	Nos	22.50	45000
11	Crinum lily/Crinum asiaticum	0.20 to 0.30	500	Nos	22.50	11250
			29574			
D	Grouped/ornamental					
1	Lemon grass / Cymbopogon citratus(CC)	0.30 to 0.45	6553	Nos	63.00	412839
2	Giant bamboo / Dendrocalamus giganteus (DG)	1.8 to 2.0	15	Nos	1980.00	29700
3	Fountain grass purple / Pennisetum setaceum	0.30 to 0.45	6530	Nos	58.50	382005
4	Fountain grass green / Pennisetum species (PSP)	0.30 to 0.45	6530	Nos	63.00	411390
5	Khus / Vetiveria zizanioides	0.30 to 0.45	6474	Nos	67.50	436995
6	Black bamboo	1.5 to 1.8	350	Nos	1080.00	378000
7	Green bamboo	1.5 to 1.8	270	Nos	440.10	118827
			26722			
E	Deleted					
F	CREEPERS & CLIMBERS					
1	Erect clematis	0.30 to 0.45	253	Nos	135.00	34155
2	Juhi	0.30 to 0.45	116	Nos	142.20	16495
3	Passion flower	0.30 to 0.45	253	Nos	135.00	34155
4	Golden shower	0.30 to 0.45	253	Nos	144.00	36432
5	Thunbergia	0.30 to 0.45	253	Nos	148.50	37571
			1128			
G	POTTED PLANTS					
G.1	Pots					

Sl. No.	Common name / Botanical name	Height (m)	Quantity (Nos)	Unit	Rate (Rs.)	Amount (Rs)
	Supply of pots of the below mentioned material and sizes, engraved with approved text, of best quality, sample to be got approved from SAU before procurement. POT should be strong and durable. Including filling with well proportioned mixture of available earth, good earth available at site, sand and cow dung manure(5:3:1:1), plantation, watering etc.(excluding cost of sand, manure, and plant). including placing the pots at desired locations as desired by engineer in charge.					
1	Ferro cement pots of 300mm x 300mm x 450mm		300	Nos	405.00	121500
2	Ferro cement pots of 450mm x 450mm x 600mm		50	Nos	585.00	29250
3	Ferro cement pots of 600mm x 600mm x 750mm		50	Nos	808.20	40410
4	Terracotta pots of 300mm dia & 450mm high		200	Nos	135.00	27000
5	Terracotta pots of 450mm dia & 600mm high		100	Nos	180.00	18000
6	Ceramic pots of 300mm dia & 450mm high		50	Nos	630.00	31500
7	Ceramic pots of 450mm dia & 600mm high		50	Nos	855.00	42750
			800			
H	Harbal Plants/ Medicinal Value Plants (a small(approximate size 10m x 10m) herbal garden is to be created)					
1	Aloe vera / Gritkumari	0.3 to 0.45	10	Nos	72.00	720
2	Tulsi	0.3 to 0.45	10	Nos	72.00	720
3	Mint (Mentha)	0.10 to 0.2	10	Nos	72.00	720
4	Carom / Ajwain	0.15 to 0.3	10	Nos	72.00	720
5	Thyme (Thymus Vulgaris)	0.15 to 0.3	10	Nos	72.00	720
6	Ashwa Gandha	0.3 to 0.45	10	Nos	72.00	720
7	Z. Plant	0.15 to 0.3	10	Nos	72.00	720
8	Bryphyllum	0.15 to 0.3	10	Nos	72.00	720
9	Istevera	0.15 to 0.3	10	Nos	72.00	720
10	Greatbordock	0.3 to 0.45	10	Nos	72.00	720
11	Pippermint (Mentha Pipertia)	0.15 to 0.3	10	Nos	72.00	720
12	Stevia (Stevia Rebaudiana)	0.15 to 0.3	10	Nos	72.00	720
13	Myrrha (Commiphora Myrrha)	0.3 to 0.45	10	Nos	72.00	720
14	Elaichi Cardamom (Elettaria Cardammom)	0.15 to 0.3	10	Nos	72.00	720
15	Nag Champa (Mesua Ferrea)	0.15 to 0.3	10	Nos	72.00	720
			150			
	Total Supply of Plant/ shrub/ creeper etc.					9581453
2	Supply and of Tree Guards/Name plate					

Sl. No.	Common name / Botanical name	Height (m)	Quantity (Nos)	Unit	Rate (Rs.)	Amount (Rs)
2.1	Providing and fixing RCC Precast tree guard of approved design marked with engraved logo of SAU, consist of four panel of size 1860 mm height, 600mm width, (1500mm above ground and 360mm below ground) , 30 mm thick(average), suitable perforaretd including suitable interlocking provision and fixing arrangem complete in all respect as per satisfaction and direction of Officer-in-charge. (model TG01-BTP, make -KK manhole)		150	Nos	2392.75	358913
2.1	Providing and fixing signage made of 75 mm thick red/white sand stone of 1200 mm length and 300 mm width, with printing the name of plant/plant series in engraved lettering (by CNC computerised) filled with approved color as per drawing. The strip/Plate of sand stone to be fixed vertically in manner i.e. 300 mm in ground (in 1:3:6 concrete base of size 450x 300 x 450mm deep) and 900mm above ground as per drawing. complete including the cost of excavation, shuttering, temporary support for stone and backfilling, including painting/ silicon coating all around , all consumables and labour complete in all respect as per satisfaction and direction of Officer-in-charge. (The engraving of common name and botonical name is to be done on both sides)		50	each	2461.87	123094
						482007
	GRAND TOTAL NDSR LANDSCAPE					10063459

BOQ - IRRIGATION WORKS

Sl No.	Description		Qty	Units	Rate	Amount
A	PIPE WORK					
1	Supply, laying & commissioning in position PVC pipe conforming to IS:4985:2000 and suitable for the respective working pressures including all fittings and accessories e.g. couplings, tees, bends, reducers, screwed adapters, flanged tail pieces etc. jointing as per manufacturers' instruction, including Earth work excavation and refilling 300x450mm.	JAIN/FINOLEX/SU PREME/PRINCE				
1.1	PVC pipe 63mm-10 kg/cm ²		900	Rm	260.43	234387.00
1.2	PVC pipe 50mm-10 kg/cm ²		25	Rm	188.87	4721.75
1.3	PVC pipe 40mm-10 kg/cm ²		2400	Rm	140.77	337848.00
1.4	PVC pipe 32mm-10 kg/cm ²		25	Rm	112.62	2815.50
18.10.6	Procuring, supply and fixing of G.I. Pipe 50 mm class C for sleeve. For the above item for connecting the 40mm pipe	TATA / JINDAL HISSAR / SURYA PRAKASH	210	Rm	786.75	165217.50
	TOTAL					7,44,990

Sl. No.	Common name / Botanical name	Height (m)	Quantity (Nos)	Unit	Rate (Rs.)	Amount (Rs)
B	DRIP & ACCESSORIES					
2.1	Supply,Fixing & commissioning of flexible,kink resistant pressure compensating Subsurface inline tubing of 16 mm and resistance to UV damage and algae growth with discharge 2 LPH with 30 cm drip spacing including all required fitting including all related fittings ; to be laid 15 cm below the ground	JAIN/ /NETAFIM/EPC	40,000	Rm	35.19	14,07,600.00
2.2	Supply,Fixing & commissioning of flexible kink resistant lateral pipe of 16mm outer diameter made of L.L.D.PE Class II	JAIN/ /NETAFIM/EPC	500	Rm	16.42	8,210.00
2.3	Supply, Fixing & commissioning of Grometake off Connects Drip Line and Blank Tubing to PVC Mainlines at Low Pressures. UV Stabilized. Easy to Use Ratchet Camp Secures Tubing to Adapter GTO	JAIN/ /NETAFIM/EPC	1,200	Nos	7.04	8,448.00
2.4	Supply,Fixing & commissioning of High Quality Barbs Grab Tubing for a Secure Fit. Unique Barb Design to Reduce Insertion Force. Non - Obtrusive Brown Colored Fittings of 17mm BARB-1/2 MPT - B TEE M ADP	JAIN/ /NETAFIM/EPC	150	Nos	5.87	880.50
2.5	Supply,Fixing & commissioning of High Quality Barbs Grab Tubing for a Secure Fit. Unique Barb Design to Reduce Insertion Force. Non - Obtrusive Brown Colored Fittings of 17mm BARBX BARB ELBOW	JAIN/ /NETAFIM/EPC	200	Nos	7.04	1,408.00
2.6	Supply,Fixing & commissioning of High Quality Barbs Grab Tubing for a Secure Fit. Unique Barb Design to Reduce Insertion Force. Non - Obtrusive Brown Colored Fittings of 17mm BARBX 1/2" MPT ADAPT	JAIN/ /NETAFIM/EPC	200	Nos	5.87	1,174.00
2.6	Supply and fixing of Dripper having 2 L.P.H. discharge of high quality plastic to be fixed at required place.	JAIN/ /NETAFIM/EPC	500	Nos	4.69	2,345.00
	TOTAL					14,30,065.50
C	SPRINKLERS & ACCESSORIES					

Sl. No.	Common name / Botanical name	Height (m)	Quantity (Nos)	Unit	Rate (Rs.)	Amount (Rs)
3.1	Supply,Fixing & commissioning of Pop up gear driven 3/4"; with hand adjustable rotary nozzle having single stream MPR sprayhaving Co-moulded wiper seal is molded into the cap and features an encased plastic 'cage' to provide unmatched resitence to grit, nozzle capable of covering 9-13m radius at 1.4 - 3.8 Bars, pressure, and the enviroment. Additionally, the pressure-activated, multi-function seal design assures a positive seal without excess'flow-by'which enables more heads to be installed on the same valve, Two-piece ratchet mechanism, Features is Precision controlled flush at pop-down clears debris from unit, Construction of time-proven UV_resitant plastic.	NETAFIM/JAIN/EP C	150	Nos	821.18	1,23,177.00
3.2	Supply,Fixing & commissioning of 3/4" Pop up Connecting Swing joint Assembly. The tubing shall be made of polyetylene having wall thickness of 2.3mm ,a working pressure of 5.5 kg/cm2 and a surge pressure of 16.6 kg/cm2. The fittings shall be made of UV resistant thermo plastic.	NETAFIM/JAIN/EP C	150	Nos	211.16	31,674.00
3.3	Supply and Fixing of Polypropylene (P.P) service saddle of varying size complete as per the instructions of the EIC	JAIN/AQVASTAR/SAB/POONAM	500	Nos	123.18	61,590.00
3.4	Supply,Fixing & commissioning of 1.25" Quick Release Coupling (Q.R.C) of Aluminium Body complete as per the instructions of the EIC	NETAFIM/JAIN/EP C	10		1114.46	11,144.60
3.5	Supply,Fixing & commissioning of 1.25" Quick Release Coupling (Q.R.C) Hydrant Opener complete as per the instructions of the EIC	NETAFIM/JAIN/EP C	10		762.52	7,625.20
	TOTAL					2,35,210.80
D	VALVES & ACCESSORIES					
4.1	Supply,Fixing & commissioning of Poly propelene ball Valve of size 63mm	JAIN/AQVASTAR/SAB/POONAM	20	Nos	1114.46	22,289.20
4.2	Supply,Fixing & commissioning of Poly propelene ball Valve of size 50 mm	JAIN/AQVASTAR/SAB/POONAM	10.0	Nos	938.49	9,384.90
4.3	Supply,Fixing & commissioning of Poly propelene ball Valve of size 40 mm	JAIN/AQVASTAR/SAB/POONAM	140	Nos	762.52	1,06,752.80
4.4	Supply,Fixing & commissioning of Poly propelene ball Valve of size 32 mm	JAIN/AQVASTAR/SAB/POONAM	10.0	Nos	645.21	6,452.10
4.3	Supply,Fixing & commissioning of Poly propelene ball Valve of size 20 mm	JAIN/AQVASTAR/SAB/POONAM	600	Nos	258.09	1,54,854.00

Sl. No.	Common name / Botanical name	Height (m)	Quantity (Nos)	Unit	Rate (Rs.)	Amount (Rs)
4.6	Supply,Fixing & commissioning of a double acting air and vaccum release 1/2 " Air release valve The Air release valve shall be capable of both releasing and admitting air from and into the line. The working pressure shall be 5 bar.	JAIN/ NETAFIM/HARIT/E PC	24	Nos	762.52	18,300.48
4.7	Supply,Fixing & commissioning of 12" Rectangular Standard Valve Box with greenlid and corrugated structure with unique shovel access slot and bolt hole knockout & having Dimensions @ Top Opening:18 1/4" L X 13" W & bottom opening :21 1/4" L X 15 15/16"W X 12" H PVB/VB	JAIN/ NETAFIM/HARIT/E PC	24	Nos	1642.36	39,416.64
4.8	Supply,Fixing & commissioning of 6"Round box with greenlid and corrugated structure with unique shovel access slot and bolt hole knockout & Having Dimensions @ Top Opening :6 1/8" Dia & Bottom Opening 8 5/8" Dia PVB/VB.	JAIN/ NETAFIM/HARIT/E PC	140	Nos	246.35	34,489.00
	TOTAL					3,91,939.12
E	FILTRATION UNIT					
5.1	Supply, Fixing & commissioning to the satisfaction of the engineer-in-charge, of Sand Filter having a capacity of 40,000 lietsr/hour, having a metallic body with epoxy/FRP coating. Including all necessary piping, fittings, valves, unions, motors and accessories. The agency shall make the foundation for the filtration unit and provide all the necessary fixing arrangement. The agency shall prepare the shop drawing and get it approved by the Engineer-in-charge, prior to the commencement of work.	JAIN /NETAFIM/EPC	2	Nos	44460.00	88,920.00
5.2	Supply,Fixing & commissioning of Screen Filter having a capacity of 40,000 lietsr/hour, having a metallic body with epoxy/FRP coating. Including all necessary piping, fittings, valves, unions, motors and accessories. The agency shall make the foundation for the filtration unit and provide all the necessary fixing arrangement. The agency shall prepare the shop drawing and get it approved by the Engineer-in-charge, prior to the commencement of work.	JAIN /NETAFIM/EPC	2	Nos	8775.00	17,550.00
	TOTAL					1,06,470.00
	Total IRRIGATION SYSTEM					29,08,675.17

NET NDSR TOTAL IRRIGATION +
LANDSCAPE

12972134.51

SCHEDULE-C - ABSTRACT OF OPERATION AND MAINTENANCE WORKS

Tenderer has to quote % above/below/ at Par for the following grouped items

LANDSCAPE, HORTICULTURE, AND IRRIGATION WORKS

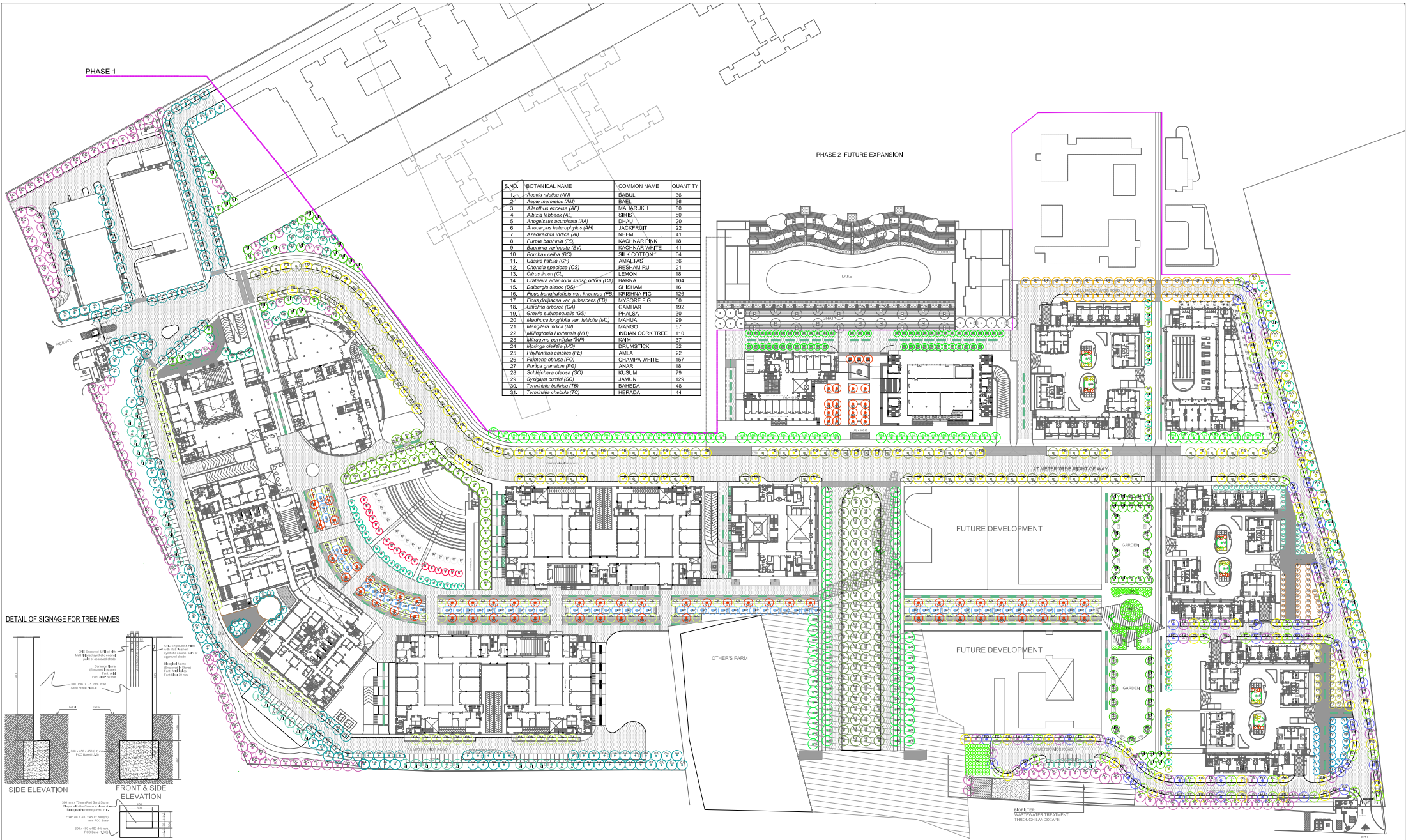
S.No.	Description of Work	Amount (Rs.)
	MAINTENANCE WORKS	
1	DURING OPERATION AND MAINTENANCE PERIOD OF TWO YEARS	₹ 112,71,786.24
	TOTAL	₹ 112,71,786.24
	Percentage quoted by the tenderer above/below/at Par of the Total Amount (in %) in figures	
	Percentage quoted by the tenderer above/below/at Par of the Total Amount (in %) in words	
	Total Quoted Amount in Figures (in Rs.)	
	Total Quoted Amount in Words	

*GST extra as applicable

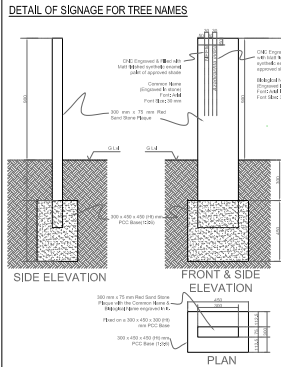
**Schedule -C
MAINTENANCE WORK**

Sl. No.	Common name	Quantity (Nos)	Unit	Rate (Rs.)	Amount (Rs)
1	MAINTENANCE				
1	DURING OPERATION AND MAINTENANCE PERIOD OF TWO YEARS AFTER COMPLETION				
	The contractor has to provide Comprehensive Maintenance to all works excuted under this contract (trees, shrubs, edges,flower beds,foliage, creepers, ground covers etc and as per descroption of item hereunder and also as per the conditions of the contract for the period of 2 year from the date of completion and handing over of the work.				
	By providing adequate supervisors, malies and helpers for all operations including weeding, hoeing, pruning, replacement of plant, removal of garden waste, providing and applying insectisides, pesticides, fertilisers, manure, watering, staking of plants grass cutting and mowing of lawns by providing complete arrangement for power run lawn mower with skilled machine man & labour, (to ensure mowing of lawn at least 3 times/month), watch & ward complete as per the direction of the Engineer-in-charge. It also includes, providing all required tools including Power lawn movers/Engine lawn mover with all accessories, Power Bush cutter, khurpa, phawrah, basket , sword, etc,and uniform to all workers. (The agency will deploy the following minimum manpower : Supervisor -1 No and Malis -14 no's, For full month.	24	MONTH	461676.0	11080224.00
2	MAINTENANCE of IRRIGATION SYSTEM				
5.3	Maintenance of the complete irrigation system for 2 year after completion and handing over, incuding cost of all spare parts/consumables/filter media if any required. (plumber/technician to visit minimum once in week and more if reqd, to ensure smooth working of entire system)	24	Month	7981.76	191562.24
	TOTAL MAINTENANCE				11271786.24

Note: During maintenance period the payment shall be made on quarterly basis.



S.NO.	BOTANICAL NAME	COMMON NAME	QUANTITY
1.	Acacia nilotica (AN)	BABUL	36
2.	Azadirachta indica (AI)	BAEL	36
3.	Albizia excelsa (AE)	MAHARUKH	80
4.	Albizia lebbekia (AL)	SIRIS	80
5.	Anogeissus acuminata (AA)	DHAU	20
6.	Artocarpus heterophyllus (AH)	JACKFRUIT	22
7.	Asplenium nidus (AN)	NEEM	41
8.	Bauhinia variegata (BV)	KACHINAR PINK	18
9.	Bauhinia variegata (BV)	KACHINAR WHITE	41
10.	Bombay casia (BC)	SILK COTTON	64
11.	Cassia fistula (CF)	AMAL TILAS	36
12.	Chorisia speciosa (CS)	KESHAH RUI	21
13.	Citrus limon (CL)	LIMON	18
14.	Crataeva adansonii subsp. odora (CA)	BARNIA	104
15.	Crataeva adansonii subsp. odora (CA)	BARNIA	16
16.	Ficus benghalensis var. krishnae (FB)	KRISHNA FIG	126
17.	Ficus drupacea var. pufescens (PD)	MYSORE FIG	50
18.	Gmelina arborea (GA)	GAMHAR	192
19.	Grewia subinaequalis (GS)	PHALSA	30
20.	Madhuca longifolia var. latifolia (ML)	MAHUA	99
21.	Mangifera indica (MI)	MANGO	67
22.	Millettia Hortensis (MH)	INDIAN CORK TREE	110
23.	Mitragyna parvifolia (MP)	KAM	37
24.	Moronea cuneata (MC)	DRUMSTICK	32
25.	Phyllanthus emblica (PE)	AMLA	22
26.	Pimenta officinalis (PO)	CHAMPA WHITE	157
27.	Portulaca grandiflora (PG)	ANAR	18
28.	Schleichera oleosa (SO)	KUSUM	79
29.	Syzygium cumini (SC)	JAMUN	129
30.	Terminalia bialata (TB)	BAHELA	48
31.	Terminalia chebula (TC)	HERADA	44



NOTES & INFORMATION

- Watering for the trees shall be done by Garden Hydrants, distribution of water from garden hydrants shall be done by means of suitable flexible pipes with connection to G.H. and spraying nozzle.
- Watering for siris shall be done through drip irrigation system
- watering of grasses shall be done by pop-up sprinklers
- Area wise detailed plantation plans and section drawings shall be prepared by the Contractor at suitable scale submitted for approval of the Engineer in Charge by the contractor.
- Shop drawings of these systems shall be prepared incorporating planting details and the above systems

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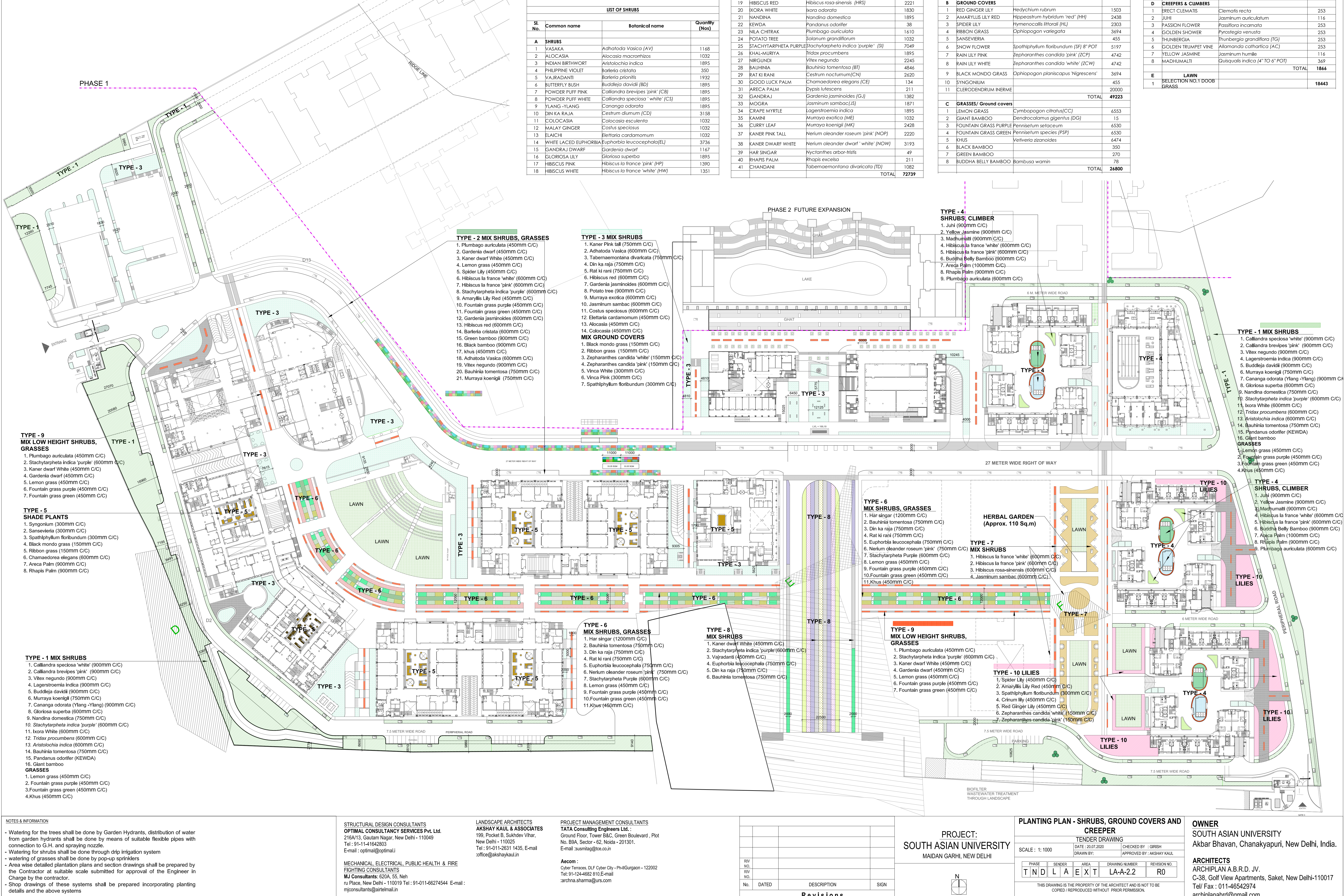
PLANTING PLAN - TREES
TENDER DRAWING
SCALE: 1:1000
DATE: 18/08/2020
DRAWN BY: GORISH
CHECKED BY: GORISH
APPROVED BY: ANSHU KAIL

NO.	REVISION	DATE	BY	DATE	BY
1	LA-A-2.1				

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NOTES & INFORMATION

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PROJECT:

SOUTH ASIAN UNIVERSITY

MAIDAN GARHI, NEW DELHI

PLANTING PLAN - SHRUBS, GROUND COVERS AND CREEPER

TENDER DRAWING

DATE : 20.07.2020

CHECKED BY : GIRISH

DRAWN BY :

APPROVED BY : AKSHAY KAUL

SCALE : 1: 1000

PHASE

SENDER

AREA

DRAWING NUMBER

REVISION NO.

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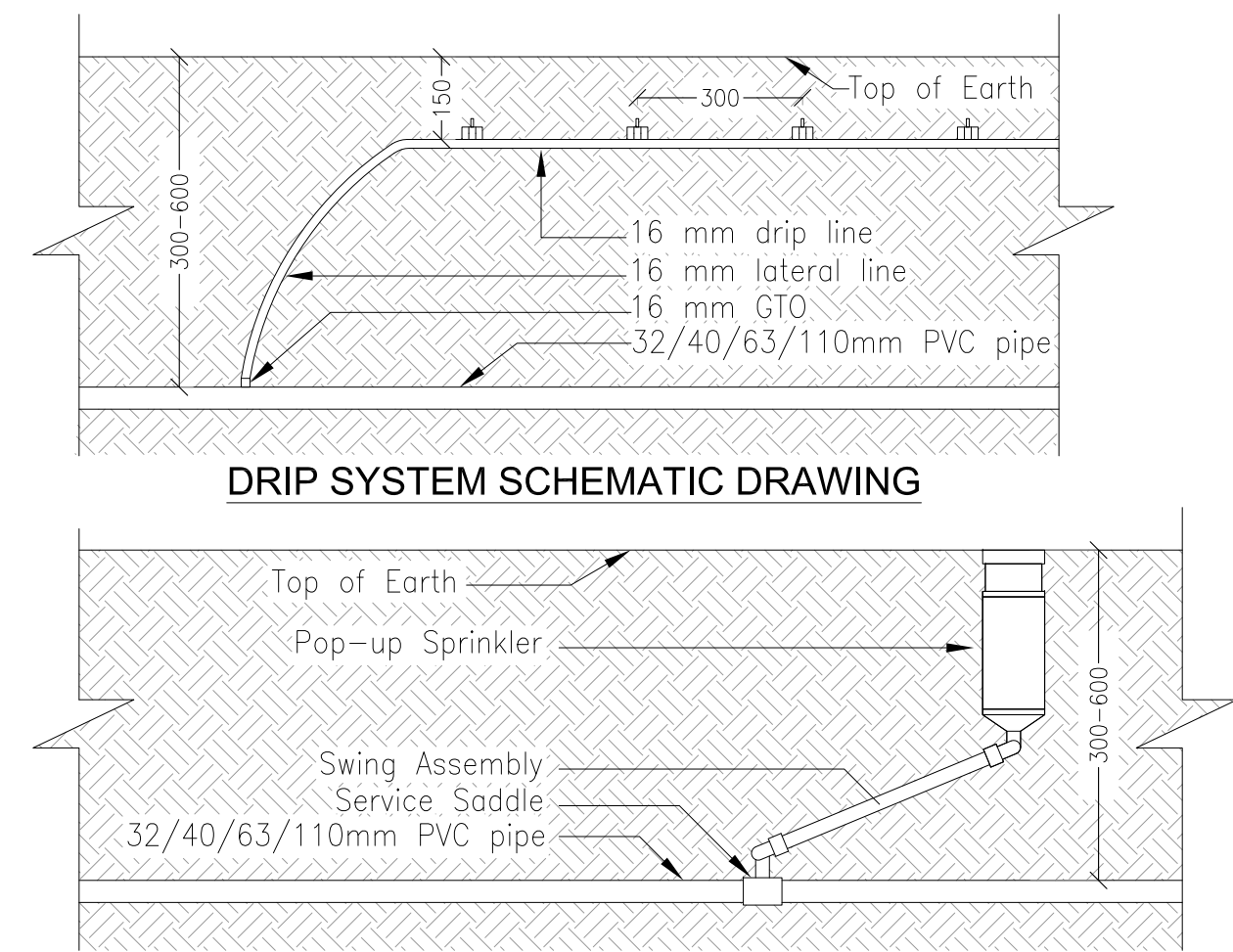
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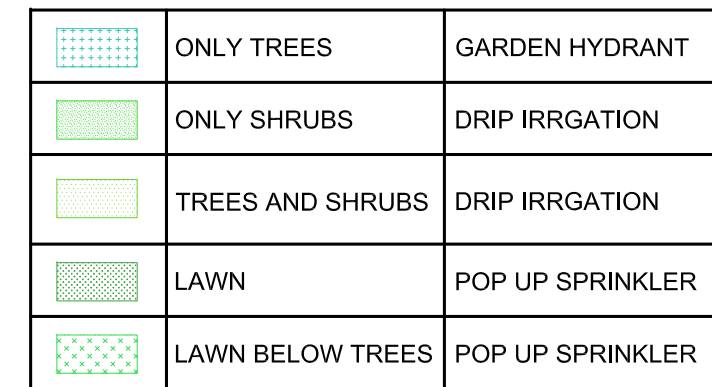
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No.	DESCRIPTION	SIGN
Revisions		

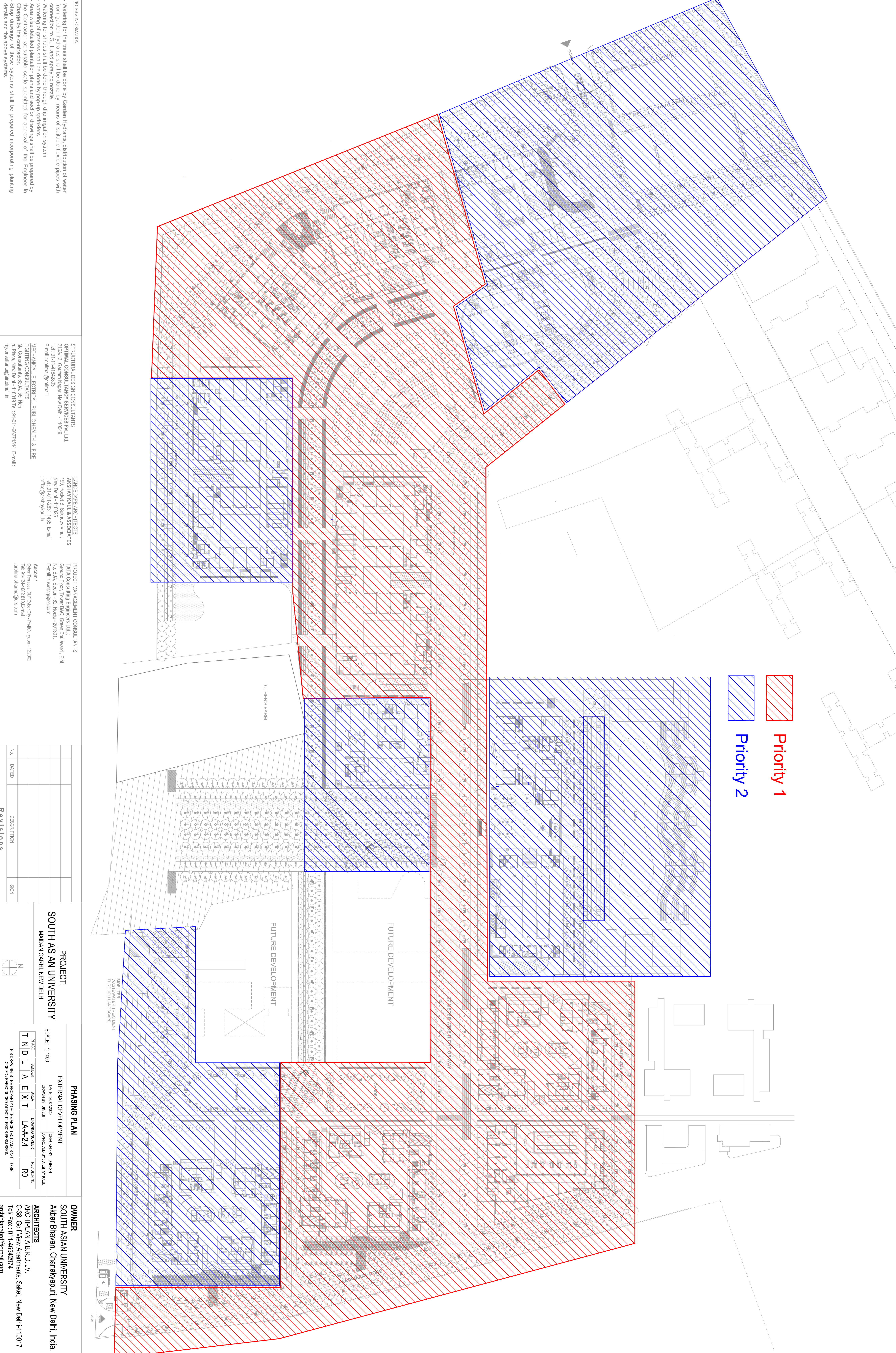


POP-UP SPRINKLER SYSTEM SCHEMATIC DRAWING



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Revisions			



Priority 1

Priority 2

NOTES & INFORMATION

- Watering for the trees shall be done by Garden Hydrants, distribution of water from garden hydrants shall be done by means of suitable flexible pipes with connection to G.H. and spraying nozzle.

- Watering of shrubs shall be done through drip irrigation system

- Area wise detailed plantation plans and section drawings shall be prepared by the Contractor at suitable scale submitted for approval of the Engineer in charge by the contractor.

- Strip drawings of these systems shall be prepared incorporating planting details and the above systems

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PHASING PLAN

EXTERNAL DEVELOPMENT

SCALE: 1: 1000

DATE: 2012/2020

DRAWN BY: DMESH

CHECKED BY: GRIESH

APPROVED BY: AKSHAY KAUL

PHASE

TNDL

SINER

AREA

DRAWING NUMBER

REVISION NO.

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Revisions

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