

# RAJKOT URBAN DEVELOPMENT AUTHORITY

TENDER No RUDA/195/2020-21



Empanelment for Testing laboratories/Agencies for  
Samples Collection and Testing for various  
infrastructures projects of RUDA

Last date for Quotation is as under	
1. Downloading of documents from RUDA web site	09.10.2020
2. Last Date of Physical submission of Quotation	27-10-20 up to 18.00 hours
3. Opening of Quotation	28-10-20 16.00 hours

2020 - 21

Director(projects)

RAJKOT URBAN DEVELOPMENT AUTHORITY

SHRI CHIMANBHAI PATEL VIKAS BHAVAN,

JAMNAGAR ROAD, RAJKOT - (GUJARAT)

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Rajkot Urban Development Authority (RUDA) has started number of Infrastructure Work in RUDA area like PMAY Awas yojana, Construction of Ring Road, Bridges, Various Bituminous & Metalling Road, Water Supply Project, Underground Drainage project , Affordable housing project and various civil work total amounting Rupees more than 300 crores.

Authority invites to appoint consultant for testing of material including sample collection as well as field testing with following condition.

1. site visit for sample collection, consultant has to submit site/quality inspection report.
2. In case of deviation/failing of testing /quality of materials or unacceptable quality work, consultant shall have to suggest corrective action also.
3. Consultant shall have valid registration as Approved List of Laboratory from state R&B and NABL (attach Certificate of R & B and NABL)
4. Consultants should have a own or Laboratory their branch within RUDA area.
5. Consultants should have produced the List of Laboratory equipments with tax invoice for testing as well as staff details with c.v. engaged for lab work.
6. Consultants should have produce NABL Registration.
7. Consultants should have produced Govt. or semi Govt. Work order for Testing and type of tests carried out.
8. All Rates should be quoted inclusive of all kind of tax including GST.
9. RUDA will Not Provide vehicle facility for site visit & sample collection. Agency may have to arrange own vehicle.
10. Tender with incomplete document will not be accepted, and without such document bid will be considered as NON-RESPONSIVE.
11. Consultants should submit in hard copy of documents & Rate of Testing in Physical form up to 30/09/2020 in seal cover to chief executive officer Rajkot Urban Development Authority, Chimanbhai Patel Vikas Bhavan, Jamnagar Road, Rajkot.
12. Conditional tender with rate of testing not accepted and rejected our right.

13. જે ટેસ્ટ કરવા માટે NABL અને રાજ્યનાં માર્ગ અને મકાન વિભાગની મંજૂરી હોય તો તેજ ટેસ્ટ માટે ભાવો એજન્સી/લેબોરેટરીએ ભાવો ભરવાનાં રહેશે.
14. એજન્સી/લેબોરેટરી દ્વારા રજુ થયેલ સેમ્પલ કલેક્શન અને ટેસ્ટીંગના ભાવો અન્વયે સત્તામંડળ દ્વારા રજુ કરેલ ભાવ પત્રક મુજબ જે એજન્સી દ્વારા રજુ થયેલ ભાવોમાં વધારે આઇટમમાં નીચા ભાવો ભરેલ હશે તેમને L1 ગણવામાં આવશે. બાકીની એમ્પોનલ થતી એજન્સી/લેબોરેટરીને NABL અને રાજ્યનાં માર્ગ અને મકાન વિભાગની મંજૂરીવાળા ટેસ્ટ માટે ન્યુત્તમ ભાવે કામ કરવાનું રહેશે.
15. તમામ લેબોરેટરીઓ/એજન્સીઓ દ્વારા NABL અને રાજ્યનાં માર્ગ અને મકાન વિભાગની મંજૂરીવાળા ટેસ્ટ માટે જુદા-જુદા ટેસ્ટીંગ માટે ભરવામાં આવેલ નીચા ભાવો સત્તામંડળ દ્વારા મંજૂર કરી ભાગ લેનાર એજન્સીઓની સહમતિનુંસાર તેવી એજન્સીઓને એમ્પોનલમેન્ટ કરવા માટે તમામ સત્તા રાજકોટ શહેરી વિકાસ સત્તામંડળની રહેશે. અને માન. મુખ્ય કારોબારીનો નિર્ણય આખરી રહેશે, જે તમામ એજન્સીઓને બંધનકર્તા રહેશે. જે ટેસ્ટ માટે NABL અને રાજ્યનાં માર્ગ અને મકાન વિભાગની મંજૂરી ન હોય તે ટેસ્ટ માટે ભાવ રજુ કરવાનાં થતા. તેમ છતાં મંજૂરી નથી તેવા ટેસ્ટ માટે ભાવો રજુ કરવામાં આવશે તો ધ્યાને લેવામાં નહિ આવે.
16. કામ સોંપવામા આવેલ લેબોરેટરી /એજન્સીએ સ્થળ પર સેમ્પલ કલેક્શન માટે મોકલનાર પ્રતિનીધી ઓછામાં ઓછો ડીપ્લોમાની ડીગ્રી ધરાવતો હોવો જોઇએ અને સેમ્પલ કલેક્શન બાબતનો પાંચ વર્ષનો અનુભવ હોવો જોઇએ. એજન્સી દ્વારા નિયત કરેલ પ્રતિનીધીઓના C.V. અત્રેની કચેરીમાં રજુ કરવાના રહેશે.
17. ઇનીસીયલ સીક્યુરીટી ડીપોઝીટ પેટે કામ કરનાર લેબોરેટરી/એજન્સીને રકમ રૂ.૧,૦૦,૦૦૦.૦૦ રજુ કરવાની રહેશે. સીક્યુરીટી ડીપોઝીટની રકમ લેબોરેટરી/એજન્સીને કામનો કરાર પુર્ણ થયાથી ૬ (છ) માસ બાદ પરત કરવામાં આવશે.
18. આ ટેન્ડર હેઠળ એમ્પોનલમેન્ટની સમય મર્યાદા એગ્રીમેન્ટ થયેથી ૨(બે) વર્ષની રહેશે. સત્તામંડળ અને એજન્સીની સહમતિથી જરૂર જણાયે વધુ ૧(એક) વર્ષ ટેન્ડરમાં કામ કરવા માટે સમય મર્યાદા વધારવાની સત્તા માન. મુખ્ય કારોબારી અધિકારીશ્રીની રહેશે.
19. ભાગ લેનાર એજન્સીઓ/લેબોરેટરીઓ દ્વારા ફિઝીકલ બીડ ડોક્યુમેન્ટ અથવા ટેન્ડર સીલબંધ કવરમાં જમા કરાવતી સમયે સત્તામંડળને ટેન્ડર સાથે અર્નેસ્ટ મની ડીપોઝીટ તરીકે રકમ રૂ.૫૦,૦૦૦/- ની FDR અને ટેન્ડર ફી રકમ રૂ.૧૩૨૮/(૧૮.૦% GST સાથે)- નો DD સીડ્યુલ/રાસ્ટ્રીયક્રુત બેન્ક દ્વારા ઇસ્યુ કરેલ રાજકોટ શહેરી વિકાસ સત્તામંડળ-રાજકોટના નામે આપવાના રહેશે. જમા કરાવેલ ટેન્ડર ફી નોન રીફન્ડેબલ રહેશે. જ્યારે અર્નેસ્ટ મની ડીપોઝીટ પેટેની રકમ રૂ.૫૦,૦૦૦/ કરાર થયા બાદ પરત કરવામા આવશે.

#### **AGREEMENT**

THIS AGREEMENT made this ..... day of ..... by and between **RAJKOT Urban Development Authority, shri Chimanbhai Patel Vikas Bhavan, Jamnagar Road, Rajkot.** (Here in after called "the Employer") of the one part and **Agency M/s .** (Here in after called "the QA/QC Agency") of the other part.

WITNESSETH:

WHEREAS, the Employer is desirous that Quality assurance and material testing of Road projects and housing projects works to be done as per tender scope of works at the rate mentioned.

**Now this agreement witnessed as follows:**

1. In this agreement words and expressions shall have the same meaning as are respectively assigned to them in the scope of work hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of this agreement, viz.
  - a) The Employer's requirements / correspondence
  - b) The contract agreements
  - c) The letter of acceptance
  - d) Amendment and addenda, if any.
  - e) The Scope of Works
3. In consideration of the payment to be made by the employer to the QA/QC Agency as hereinafter mentioned, the QA/QC Agency hereby covenants with the employer to execute the works in conformity in all respects with the provisions of the scope of work.
4. The employer hereby covenants to pay the QA/QC Agency in consideration of the execution of the scope of works therein the rate finalized or such other sum as may become payable under the provisions of the scope of work at the times and in the manner prescribed by the agreement. In WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed on the day and year first above written.

Authorized Signature of QA/QC

Authorized Signature of Employer

SEAL:

SEAL:

Name: \_\_\_\_\_.

Name: \_\_\_\_\_.

Signature:

Signature:

## SCOPE OF WORK

### SCOPE OF WORK FOR QUALITY ASSURANCE OF THE ALL RUDA CIVIL WORKS.

1. For all kinds of the civil project works of RUDA, at the time of issue of the work order to contractor, all the concern DEE will compulsorily send final tender copy and relative drawing, specifications set to HOD of Material Testing Dept. TESTING AGENCY.
2. As per agreement between RUDA and Testing agency, the Quality Assurance team of the Material Testing Dept. of the testing agency shall collect and test all kinds of raw and finish material products of the CIVIL engineering work as per guideline of Bureau of Indian Standards / ASTM / British Code and relative tender specification.
3. Nos. of frequency sample collection and testing shall be as per guide line of the BIS. (Depending in quantity of work) and ASTM
4. The authorized person from Testing agency for sample collection and site inspection shall be a degree holder with 1 year of experience or diploma holder with 5 years of in the material testing sector.
5. For all kinds of the Civil Eng. Project works of the RUDA, it is mandatory for all concern AE/AE to send SMS on daily basis of work progress to,
  - a. HOD-Material Testing agency
  - b. Concern-RUDA DEE,

24 hours before execution of all civil works of RUDA for random sample should collection for testing purpose by Testing Agency. (In case of bituminous mix work of ready Mix Concrete the details of each dispatched truck from plant must send SMS to Testing Agency, while dispatching trunk from plant and weigh bridge)

In the SMS AE/AE shall be mention clearly – Site location, execution date, time, type of material, weight of material and detail about execution of work etc., In all works, if the concerned AE/AE fails to send SMS to Testing Agency, he will be fully responsible for such negligence.

6. At the time of execution of work, Testing Agency shall visit site randomly and frequently to collect samples randomly. That team shall perform following duties while visit the site.
  - a. Sample collection method should be follow as per guide line of the BIS/ASTM.
  - b. All Samples should be collected in 2 sets. One set for routine testing and another set for 2<sup>nd</sup> test in sample failure condition.
  - c. TESTING AGENCY shall collect sample randomly from current mixing materials (especially in cement concrete / Bitumen mix). TESTING AGENCY will never collect any finish product sample which is prepared after reaching the site.
  - d. Sample shall be collect in presence of the RUDA-WA/AE/AE/DEE/PMC/TPI and agency representative.
  - e. Sample collection note with site inspection check list shall be sign by the authorized engineer of testing agency, RUDA – WA/AE/AE/DEE/PMC/PMC/TPI and agency representative.
  - f. In addition that sample note collections date sheet with check list to varify site execution workmanship/quality of works by every means. (That sample collection date sheet or

note with site inspection check list for R.C.C work / bitumen mix road work / WBM road work / water works / drainage works will be preparing by Testing Agency team before starting of work and shall take approval of the RUDA chairman)

- g. Every sample of raw material of all kinds like cement, steel, Aggregate, Sand, bricks AAC block, soil, water etc., shall be collected as per guidelines of BIS/ASTM with date sheets.
  - h. At the time of site visit if any major variations in quality of material or in workmanship found, Testing Agency team shall immediately send SMS to the CEO, RUDA directly.
  - i. Specifically in cement concrete cube sample Testing Agency team shall compulsorily mark sample details by engraving identifications mark writing on cementing surface of the sample and take photograph of the same. That photograph of hand written cube should match with real mark on cube at the time of the testing. To prevent malpractice of the changing cubes samples during curing time at site.
  - j. All necessary sample collection apparatus / instrument etc. all tools & tackles including water should be arranged by Testing Agency.
  - k. For work executions on holidays, Testing Agency team should compulsorily remain present for sample collection.
7. Very important aspect for quality assurance & control of on-going project is to test sample as earlier as possible , to ensure quality in remaining project work. Considering that TESTING AGENCY team must inform concerned RUDA DEE/PMC/TPI about earliest testing date to perform witness test. At per-decided date and time if RUDA concern person is not present at Testing Agency Lab., in that situation Testing Agency team shall perform test of 1<sup>st</sup> set of sample.
8. In case of testing results,
- a. All acceptable result shall be send to director of the RUDA in sealed cover with collection note copy which showing site inspection note with acceptance criteria.
  - b. All result within lower tolerance limit of failure must be compulsorily send to CEO of the RUDA in sealed cover with covering letter showing total numbers of samples taken for the particular work among them how many have failed? And how many have passed within lower tolerance limit and opinion / reasoning of the failure. Also mentioning about further action of improvement. The sample must also be attached for further reference.
  - c. The rates educes / rejection of material policy should be compulsorily implemented in case of the failure / passed sample within lower tolerance limit test result considering IS provision.
9. For each civil work RUDA, concerned DEE/PMC and director of RUDA will be fully responsible to manage continuous quality control on project work by agency and, quality assurance of the material testing and site inspection by Testing Agency team.
10. For sample testing payment purpose, bill shall be sent on monthly work basis to director/Executive Engineer of RUDA.

**Kindly send your proposal in following format on/before Dt. 30-09-20 upto 18.00 hours Rate for sample collection**

Sr.no.	Description	Rate (in Rs.)Per One No. of sample	Rate (in words) Per One No. of sample
A	Site visit for collection of sample as per BIS & inspection report (Up to 3 No. sample collection per Day per site		
B	Site visit for collection of sample as per BIS & inspection report (up to 5 No. sample collection per Day per site		
C	Site visit for collection of sample as per BIS & inspection report (up to 10 No. sample collection per Day per site		
D	Site visit for collection of sample as per BIS & inspection report (More than 10 No. sample collection per Day par site.		

**Rate for Test As per BIS/ASTM/BC**

Sr. No.	Name of Material	Name of Test	Unit	Rate (in Rs.)	Rate (in words)
1	SOIL	I.S.CLASSIFICATION	NO		
		OMC & MDD	NO		
		BOX SHEAR	NO		
		LIQUID LIMIT & PLASTIC LIMIT	NO		
		GRADATION	NO		
		CBR	NO		
		PERMREABILITY	NO		
		CONSOLIDATION	NO		
		UCS	NO		
		FREE SWELL INDEX	NO		
		SPECIFIC GRAVITY	NO		
		SHRINKAGE LIMIT	NO		
		HYDROMETER ANALYSIS	NO		
		RELATIVE DENSITY	NO		
		FIELD CBR	NO		
		FIEDL DENSITY & MOISTURE	NO		
Deleterious Constituents of soil	NO				
PLATE LOAD	NO				

2	SOIL FOR SBC	DISTRUB SAMPLE			
		Carrying out soil investigation – including drilling of 100mm diameter Borehole in Rock/soil up to the maximum depth of 10 m below ground level or up to hard stratum with N-value 50 whichever encountered earlier, conducting standard penetration test where ever necessary /collection of disturbed/undisturbed sample, and necessary laboratory testing, grain size analysis, LL, PL etc required for evaluation of safe allowable Bearing Capacity among the scope of the Work.	PER BORE HOLE		
3	FINE AGGREGATE	BULK DENSITY	No.		
		SOUNDNESS	No.		
		SILT CONTENT	No.		
		SPECIFIC GRAVITY & WATER ABSORPTION	No.		
		FINNESS MODULUS	No.		
4	COARSE AGGREGATE	GRADETION	No.		
		IMPECT	No.		
		SOUNDNESS	No.		
		LOSS ANGELS ABRASION	No.		
		CRUSHING VALUE	No.		
		SPECIFIC GRAVITY & WATER ABSORPTION	No.		
		FLAKINESS INDEX	No.		
		ELONGATION INDEX	No.		
		BULK DENSITY	No.		
		Alkali reactivity	No.		
	Silt Content	No.			



5	BRICKS	COMPRESSIVE STENGTH (5NO.OF BRICK)	No.		
		WATER ABSORPTION(5NO.OF BRICK)	No.		
		EFFLORESCENCE (5NO.OF BRICK)	No.		
		DIMENSION & TOLERANCE (20NO.OF BRICK)	No.		
6	BUILDING STONE	COMPRESSIVE STRENGTH	No.		
7	CEMENT	CONSISTANCY TEST	No.		
		INITIAL & FINAL SETTING TIME	No.		
		COMPRESSIVE STENGTH	No.		
		FINENESS BY SIEVING	No.		
		FINENESS BY BLAINS	No.		
		COMP. STR. OF CEMENT MORTAR CUBE (FOR 3 NOS)	No.		
		COMP. STR. OF C.C.CUBE (FOR 6 NOS)	No.		
8	CONCRETE	CONCRETE MIX DESIGN WITH CUBES (INLUding DLC)	No.		
9	STEEL	TENSILE STRENGHT INCLUDING YEILD STRENGTH & %ELONGATION	No.		
		BEND & REBEND	No.		
10	TILES/PAVER BLOCK/FLOORING(SET OF 6 NOS)	FLEXURE TEST	No.		
		DIMENSION	No.		
		WATER ABSORPTION	No.		
		FLATNESS OF TILES SURFACE	No.		
		DETERMINATION OF STRAIGHTNESS OF CEMENT CONCRETE FLOORING	No.		

11	WATER	SUSPENDED MATTER,ORGANIC MATTER,CHLORIDE CONTENT,INORGANIC MATTER & pH VALUE	No.		
12	RCC PIPE (PER PIPE)	HOOP TEST-CRACK, LOAD TEST, % REINFORCEMENT	No.		
13	BITUMEN	SPECIFIC GRAVITY	No.		
		SOFTENING POINT	No.		
		VISCOSITY	No.		
		PENETRATION	No.		
		LOSS ON HEATING	No.		
		DUCTILITY	No.		
		BINDER CONTENT	No.		
14	BITUMENOUS MIX	Individual gradation	No.		
		Dry mix gradation	No.		
		Binder content of mix material	No.		
		Marshal Stability & flow test	Per set.		
		GMM test	No.		
		Density of compacted layer	No.		
		Stripping test	No.		
		Stone polising value	No.		
		Tray test for spreading rate of bitumen.	No.		
16		Surface regularity test by straight edge method	Any layer	Per km per lane	
17	WET MIX MACADAM – MIX DESIGN	WMM AS PER IRC	No.		
18	BITUMINOUS MIX DESIGN	BM/SDBC/BC	No.		
19	Crust Design of flexible Pavement	AS per IS/IRC	Per lane per KM.		
20	Crust Design of Rigid Pavement	AS per IS/IRC	Per lane per KM.		
21	Hammer rebound test	As per IS	No		
22	Carrying out detail topography level work using DGPS and preparation of site plan and taking cross section ,longitudinal section details at 30 m interval on straight road and	AS per IS/IRC	Per KM.		

	15m at curve portion survey including details of centre of BT B.T end shoulders, drains right of way, trees ,electric posts, building and any other man made structure within survey limit including preparing L/S, C/S level sheet with all necessary calculations of cutting filling & layer wise with optional quantity etc. should be provided complete as per instruction of engineer incharge.				
	a) Two lane(upto 10.0 M)	AS per IS/IRC	Per KM.		
	b) Four lane	AS per IS/IRC	Per KM.		
	c) More than four lane	AS per IS/IRC	Per KM.		
20	Bump integrator test	AS per IS/IRC	Per KM./per lane		
21	Ultrasonic Pulse Velocity This test is done to assess the quality of concrete by Ultrasonic Pulse Velocity Method as per IS:13311(part-1)-1992 the underlying principle of this test is The method consists of measuring the time of travel of an ultrasonic pulse passing through the concrete being tested . Comparatively higher velocity is obtained when concrete quality is good in terms of density, uniformity, homogeneity etc...	AS per IS/IRC	Per point		
22	Thermoplast (Titanium dioxide) Determination of TiO2 pigment in the thermoplastic paint using chemical analysis percent Titanium Dioxide by chemical analysis	AS per IS/IRC	Per Test		
23	Glass bead Gradation as per MoRTH, Sec 803.4.3.3	AS per IS/IRC	Per Test		
24	Paint Consistency (IS 101, part-1 sec. 5-1989)	AS per IS/IRC	No.		
25	Drying time (IS 101, part-3 sec. 5-1986)	AS per IS/IRC	No.		
26	Finish (IS 101, part-3 sec. 4-1987)	AS per IS/IRC	No.		
27	Flexibility & Adhesion after 48 Hrs (IS 101, part-5 sec.2-1988)				

28	Flyash Test (physical test as per IS 3812)	AS per IS/IRC	No.		
29	Flyash Test (chemical test as per IS 3812)	AS per IS/IRC	No.		
30	Lime Cao content	AS per IS/IRC	No.		
31	Road safety audit	AS per IS/IRC	Per Km.		
32	Axle load survey	AS per IS/IRC	Per location.		

**Deputy Executive Engineer**  
**Rajkot Urban Development Authority**  
**Rajkot**

**Director (Project)**  
**Rajkot Urban Development Authority**  
**Rajkot**

