

## QUALIFICATION FILE

### Road Construction Engineer

Short Term Training (STT)  Long Term Training (LTT)  Apprenticeship

Upskilling  Dual/Flexi Qualification  For ToT  For ToA

General  Multi-skill (MS)  Cross Sectoral (CS)  Future Skills  OEM

NCrF/NSQF Level:

Submitted By:

**Additional Skill Acquisition Programme Kerala (ASAP Kerala)**  
**KINFRA Film and Video Park, Sainik School P.O.,**  
**Trivandrum, Kerala, India - 695585**

## Table of Contents

Section 1: Basic Details .....	3
NOS/s of Qualifications .....	5
Mandatory NOS/s: .....	5
Elective NOS/s: NA .....	6
Optional NOS/s: NA .....	6
Assessment - Minimum Qualifying Percentage .....	6
Section 3: Training Related .....	7
Section 4: Assessment Related .....	7
Section 5: Evidence of the need for the Qualification .....	7
Section 6: Annexure & Supporting Documents Check List .....	9
Annexure 1: Evidence of Level .....	9
Annexure 2: Tools and Equipment (Lab Set-Up) .....	11
Annexure 3: Industry Validations Summary .....	12
Annexure 4: Training & Employment Details .....	14
Annexure 5: Detailed Assessment Criteria .....	15
Annexure 6: Assessment Strategy .....	17
Annexure 7: Acronym and Glossary .....	19

## Section 1: Basic Details

1.	<b>Qualification Name</b>	Road Construction Engineer													
2.	<b>Sector/s</b>	Construction													
3.	<b>Type of Qualification:</b> <input checked="" type="checkbox"/> New <input type="checkbox"/> Revised <input type="checkbox"/> Has Electives/Options <input type="checkbox"/> OEM	<b>NQR Code &amp; version of existing/previous qualification:</b> <i>(change to previous, once approved)</i> NA	<b>Qualification Name of existing/previous version:</b> NA												
4.	<b>a. OEM Name</b> <b>b. Qualification Name</b> <i>(Wherever applicable)</i>	NA													
5.	<b>National Qualification Register (NQR) Code &amp;Version</b> <i>(Will be issued after NSQC approval)</i>	QG-5.5-CO-03517-2025-V1-ASAP	<b>6. NCrF /NSQF Level: 5.5</b>												
7.	<b>Award (Certificate/Diploma/Advance Diploma/ Any Other)</b> <i>(Wherever applicable specify multiple entry/exits also &amp; provide details in annexure)</i>	Certificate													
8.	<b>Brief Description of the Qualification</b>	Road construction Engineers are professionals responsible for the overseeing, costing, estimating, planning as well as implementation of construction projects of roads that connect cities, towns, and states. They play a pivotal role in overseeing all aspects of road construction, from the initial planning and design stages to construction and project completion. Their work ensures that roads are built safely, efficiently, and in compliance with the regulations.													
9.	<b>Eligibility Criteria for Entry for Student/Trainee/Learner/Employee</b>	<b>a. Entry Qualification &amp; Relevant Experience:</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">S. No.</th> <th style="width: 60%;">Academic/Skill Qualification (with Specialization - if applicable)</th> <th style="width: 30%;">Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>B. Tech in Civil Engineering</td> <td>Experience not mandatory</td> </tr> <tr> <td>2.</td> <td>Completed 2-year diploma in Civil Engineering after 12<sup>th</sup> standard.</td> <td>Three -year experience</td> </tr> <tr> <td>3.</td> <td>Completed 3-year diploma in Civil Engineering after 10<sup>th</sup> standard.</td> <td>Five-year experience</td> </tr> </tbody> </table> <b>b. Age: 22 years</b>		S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1.	B. Tech in Civil Engineering	Experience not mandatory	2.	Completed 2-year diploma in Civil Engineering after 12 <sup>th</sup> standard.	Three -year experience	3.	Completed 3-year diploma in Civil Engineering after 10 <sup>th</sup> standard.	Five-year experience
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)													
1.	B. Tech in Civil Engineering	Experience not mandatory													
2.	Completed 2-year diploma in Civil Engineering after 12 <sup>th</sup> standard.	Three -year experience													
3.	Completed 3-year diploma in Civil Engineering after 10 <sup>th</sup> standard.	Five-year experience													
10.	<b>Credits Assigned to this Qualification, Subject to Assessment</b> <i>(as per National Credit Framework (NCrF))</i>	21 credits													

11.	<b>Common Cost Norm Category (I/II/III) (wherever applicable):</b>	II																						
12.	<b>Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)</b>	NA																						
13.	<b>Training Duration by Modes of Training Delivery (Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)</b>	<input checked="" type="checkbox"/> Offline <input type="checkbox"/> Online <input type="checkbox"/> Blended <table border="1"> <thead> <tr> <th>Training Delivery Modes</th> <th>Theory (Hours)</th> <th>Practical (Hours)</th> <th>OJT Mandatory (Hours)</th> <th>OJT Recommended (Hours)</th> <th>Total (Hours)</th> </tr> </thead> <tbody> <tr> <td>Classroom (offline)</td> <td>150</td> <td>30</td> <td>450</td> <td></td> <td>630</td> </tr> <tr> <td>Online</td> <td>NA</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(Refer Blended Learning Annexure for details)</p>					Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)	Classroom (offline)	150	30	450		630	Online	NA				
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)																			
Classroom (offline)	150	30	450		630																			
Online	NA																							
14.	<b>Aligned to NCO/ISCO Code/s (if no code is available mention the same)</b>	2142.0600																						
15.	<b>Progression path after attaining the qualification (Please show Professional and Academic progression)</b>	Senior Engineer> Deputy Project Engineer> Project Engineer> Senior Project Engineer> Deputy Manager – Projects> Manager - Projects																						
16.	<b>Other Indian languages in which the Qualification &amp; Model Curriculum are being submitted</b>	Hindi																						
17.	<b>Is similar Qualification(s) available on NQR-if yes, justification for this qualification</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No URLs of similar Qualifications:																						
18.	<b>Is the Job Role Amenable to Persons with Disability</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes", specify applicable type of Disability:																						
19.	<b>How Participation of Women will be Encouraged</b>	10% of the seats will be allotted for women																						
20.	<b>Are Greening/ Environment Sustainability Aspects Covered (Specify the NOS/Module which covers it)</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No NOS - ASP/CON/N0206 Health and Safety in Road construction																						
21.	<b>Is Qualification Suitable to be Offered in Schools/Colleges</b>	Schools <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Colleges <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																						
22.	<b>Name and Contact Details of Submitting / Awarding Body SPOC (In case of CS or MS, provide details of both Lead AB &amp; Supporting ABs)</b>	Name: Dr. Usha Titus IAS (Rtd) Email: cmd@asapkerala.gov.in <span style="float: right;">Contact No.: 04712772500</span> Website: www.asapkerala.gov.in																						
23.	<b>Final Approval Date by NSQC: 18<sup>th</sup> February 2025</b>	24. Validity Duration: 3 years			25. Next Review Date: 18 <sup>th</sup> February 2028																			

## Section 2: Module Summary

### NOS/s of Qualifications

(In exceptional cases these could be described as components)

### Mandatory NOS/s:

Specify the training duration and assessment criteria at NOS/ Module level. For further details, refer to the curriculum document.

*Th.-Theory Pr.-Practical OJT-On the Job Man.-Mandatory Training Rec.-Recommended Proj.-Project*

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/NS QF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
1.	Overview on Road Design and Construction	ASP/CON/N 0201 Version 1	Core	5.5	3	22	15	53	0	90	30	69	0	1	100	
2.	Overview of Construction Tools, Machinery and Practices	ASP/CON/N 0202 Version 1	Core	5.5	4	18	15	87	0	120	20	78	0	2	100	
3.	Construction of Embankment and Granular Layers	ASP/CON/N 0203 Version 1	Core	5.5	4	13	0	107	0	120	15	83	0	2	100	
4.	Construction of Pavement Upper Layers and Safety Measures	ASP/CON/N 0204 Version 1	Core	5.5	4	20	0	100	0	120	20	77	0	3	100	
5.	Geotechnical Investigations, Construction of Bridges and Cross Drainage Structures	ASP/CON/N 0205 Version 1	Core	5.5	3	12	0	78	0	90	15	83	0	2	100	
6.	Health and Safety in Road construction	ASP/CON/N 0206 Version 1	Core	5.5	1	5	0	25	0	30	10	40	0	0	50	

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/NS QF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
7.	Employability Skills	DGT/VSQ/N 0102 Version 1	Core	4	2	60	0	0	0	60	50	0	0	0	50	
<b>Duration (in Hours) / Total Marks</b>					<b>21</b>	<b>150</b>	<b>30</b>	<b>450</b>	<b>0</b>	<b>630</b>	<b>160</b>	<b>430</b>	<b>0</b>	<b>10</b>	<b>600</b>	

### Elective NOS/s: NA

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/NS QF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
1.	NA															

### Optional NOS/s: NA

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/NS QF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
1.	NA															
<b>Duration (in Hours) / Total Marks</b>																

### Assessment - Minimum Qualifying Percentage

Please specify **any one** of the following:

**Minimum Pass Percentage – Aggregate at qualification level:** 50% (Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)

**Minimum Pass Percentage – NOS/Module-wise:** 50% (Every Trainee should score specified minimum passing percentage in each mandatory and selected elective NOS/Module to successfully clear the assessment.)

### Section 3: Training Related

1.	<b>Trainer's Qualification and experience in the relevant sector (in years)</b> (as per NCVET guidelines)	<b>M Tech in civil engineering or B Tech in civil engg with 5years Experience in construction industry more than 5 years or Diploma in civil engg with more than 7 years' experience.</b>
2.	<b>Master Trainer's Qualification and experience in the relevant sector (in years)</b> (as per NCVET guidelines)	<b>M Tech in civil engineering or B Tech in civil engg with Experience in construction industry more than 7 years or Diploma in civil engg with more than 10 years' experience.</b>
3.	<b>Tools and Equipment Required for Training</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If "Yes", details to be provided in Annexure)
4.	<b>In Case of Revised Qualification, Details of Any Upskilling Required for Trainer</b>	NA

### Section 4: Assessment Related

1.	<b>Assessor's Qualification and experience in relevant sector (in years)</b> (as per NCVET guidelines)	<b>M Tech in civil engineering or B Tech in civil engg with Experience in construction industry more than 5 years or Diploma in civil engg with more than 7 years' experience.</b>
2.	<b>Proctor's Qualification and experience in relevant sector (in years)</b> (as per NCVET guidelines)	<b>M Tech in civil engineering or B Tech in civil engg with Experience in construction industry more than 5 years or Diploma in civil engg with more than 7 years' experience.</b>
3.	<b>Lead Assessor's/Proctor's Qualification and experience in relevant sector (in years)</b> (as per NCVET guidelines)	<b>M Tech in civil engineering or B Tech in civil engg with Experience in construction industry more than 7 years or Diploma in civil engg with more than 10 years' experience.</b>
4.	<b>Assessment Mode</b> (Specify the assessment mode)	<b>Offline</b>
5.	<b>Tools and Equipment Required for Assessment</b>	<input checked="" type="checkbox"/> Same as for training <input type="checkbox"/> Yes <input type="checkbox"/> No (details to be provided in Annexure-if it is different for Assessment)

### Section 5: Evidence of the need for the Qualification

Provide Annexure/Supporting documents name.

1.	<p><b>Latest Skill Gap Study (not older than 2 years) (Yes/No):</b>  Report: Skilled employment in construction sector in India published in 2023 by Knight Frank  The key findings of the report are:</p> <ul style="list-style-type: none"> <li>With the advent of technology, the construction sector has also adapted itself to improve productivity, raising the demand for skilled manpower. India's construction sector is the second largest employment generator and as of 2023, 71 million of the workforces is estimated to be employed in</li> </ul>
----	--

	<p>the construction sector. However, 81% of this workforce is unskilled. Only 19% i.e. 1.3 million of the workforce in the real estate sector are skilled employees. Thus, the need for skilled employees is required in the coming years.</p> <ul style="list-style-type: none"> <li>● Between 2012-21, the cumulative supply of core skilled employees i.e. civil engineers, was 8,96,864. Owing to demographic advantage and the increased leaning towards education, an estimated 17 lakh civil engineers are estimated to seek employment by FY 2029-30, growing at a CAGR of 10.4% with an average annual increment of 1.8 lakhs. However, as per industry discussions only 50% of the civil engineers get absorbed into employment as             <ul style="list-style-type: none"> <li>a) fresh graduates find it challenging to match up to industry requirements</li> <li>b) it is convenient to seek employment in other related industries.</li> </ul>             This emphasizes the need for skilling the civil engineers to cater to the rising needs of the industry.           </li> </ul>
2.	<p><b>Latest Market Research Reports or any other source (not older than 2 years) (Yes/No):</b> Yes</p> <p>Reports:</p> <p>1)What India should do to bridge skilled manpower shortage in infra published by Economic Times in August 2023 2) Road Industry report published by IBEF</p> <p>The key findings of the studies are:</p> <ul style="list-style-type: none"> <li>● According to IBEF report, the infrastructure sector in India is predicted to grow at a CAGR of 8.2 per cent by 2027. With the anticipated pace of infrastructure development, growth of skilled manpower will be the key factor in the growth of the sector.</li> <li>● The demand-supply gap of skilled professionals will become a serious bottleneck in terms of quality, costs and timely completion of projects if there are no serious efforts from the government, academia, and corporate sector in the immediate future.</li> <li>● Highway construction in India increased at 17.00% CAGR between FY16-FY21. Under the Union Budget 2023-24, the Government of India has allocated Rs. 2.7 lakh crore (US\$ 33 billion) to the Ministry of Road Transport and Highways. In FY23 (until December), the Ministry of Road Transport and Highways constructed national highways extending 6,318 kms. In FY24 (until July), cumulatively, 2,670 km of National Highways have been constructed and has been 1,125 km awarded. A total of 202 national highway projects worth Rs. 79,789 crore (US\$ 9.59 billion) are at the implementation stage in the country and are 6,270 km in length.</li> </ul>
3.	<p><b>Government /Industry initiatives/ requirement (Yes/No):</b> Yes</p>
4.	<p><b>Number of Industry validation provided:</b> 21</p>
5.	<p><b>Estimated nos. of persons to be trained and employed:</b> Approximately 100 in a year</p>
6.	<p><b>Evidence of Concurrence/Consultation with Line Ministry/State Departments:</b> Yes, Concurrence from Kerala PWD attached.</p>

## Section 6: Annexure & Supporting Documents Check List

*Specify Annexure Name / Supporting document file name*

1.	<b>Annexure:</b> NCrF/NSQF level justification based on NCrF level/NSQF descriptors <i>(Mandatory)</i>	Annexure 1
2.	<b>Annexure:</b> List of tools and equipment relevant for qualification <i>(Mandatory, except in case of online course)</i>	Annexure 2
3.	<b>Annexure:</b> Industry Validations Summary	Annexure 3
4.	<b>Annexure:</b> Training and Employment Details	Annexure 4
5.	<b>Annexure:</b> Detailed Assessment Criteria <i>(Mandatory)</i>	Annexure 5
6.	<b>Annexure:</b> Assessment Strategy <i>(Mandatory)</i>	Annexure 6
7.	<b>Annexure:</b> Multiple Entry-Exit Details <i>(Mandatory, in case qualification has multiple Entry-Exit)</i>	NA
8.	<b>Annexure:</b> Acronym and Glossary <i>(Optional)</i>	Annexure 7
9.	<b>Supporting Document:</b> Model Curriculum <i>(Mandatory – Public view)</i>	Supporting Document 1
10.	<b>Supporting Document:</b> Career Progression <i>(Mandatory - Public view)</i>	Supporting Document 2
11.	<b>Supporting Document:</b> Occupational Map <i>(Mandatory)</i>	Supporting Document 3
12.	<b>Supporting Document:</b> Assessment SOP <i>(Mandatory)</i>	Supporting Document 4
13.	<b>Any other document you wish to submit:</b>	NA

### Annexure 1: Evidence of Level

NCrF/NSQF Level Descriptors	Key requirements of the job role/ outcome of the qualification	How the job role/ outcomes relate to the NCrF/NSQF level descriptor	NCrF/NSQF Level
<b>Professional Theoretical Knowledge/Process</b>	Understand the road construction principles and practices, pre commencement activities of road construction projects and basic understanding of the road design and construction standards.	The basic knowledge and skills to understand DPR and alignment in the field are imparted to the trainees.	5.5

<b>Professional and Technical Skills/ Expertise/ Professional Knowledge</b>	Understand the principles and practices in construction of subgrade, embankment, granular layers, and earth retaining works, principles and practices involved in construction and maintenance of upper layers of pavements and understand the principles, techniques, and practices involved in geotechnical investigations and the construction of cross drainage structures.	The course equips the trainees with the skills required to construct and manage embankments and granular layers in road projects as per the prevailing standards and specifications. The skills to construct and maintain pavement upper layers that conforms with the standards for safety and performance and the practical skills for geotechnical investigations and construction of cross drainage structures are gained by the trainees post completion of this course.	5.5
<b>Employment Readiness &amp; Entrepreneurship Skills &amp; Mind-set/Professional Skill</b>	The training is provided as on the job training in the highway construction sites which ensures that the trainees gain professional skills.	Hands on experience in the construction sites enhances the employability of the trainees.	5.5
<b>Broad Learning Outcomes/Core Skill</b>	<ul style="list-style-type: none"> <li>● Understand the basics of DPR preparation.</li> <li>● Involved in the preparatory works of highway construction projects.</li> <li>● Understand the principles and practices of technical works in road construction projects.</li> </ul>	The candidate will be able to contribute to the entire highway construction projects with the skills acquired through this course.	5.5
<b>Responsibility</b>	The trainees will be responsible for planning, designing, and supervising projects that keep road networks working efficiently. This includes designing local road schemes and construction of the road network, including structures such as bridges.	<ul style="list-style-type: none"> <li>● Takes complete responsibility for delivery and quality of own work and output as also the subordinates.</li> <li>● Shares responsibility for the group tasks.</li> </ul>	5.5

## Annexure 2: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment

Batch Size: 30-35

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1	Total Station		6
2	Auto level instrument	To establish or check points in the same horizontal plane and to measure height differences as well as to transfer, measure, and fix the heights of known objects or markers.	6
3	Dynamic Shear Rheometer	SmartPave 102e modular compact rheometer to find the rheological properties of the binder.	1
4	Brookfield viscometer	Measuring the viscosity of bituminous binders at different temperatures	1
5	Corelok machine	Performs all specific gravity tests	1
6	Wheel rut shaper and tester	To prepare bituminous specimen for wheel rut testing.	5
7	Bitumen mixer machine	To blend bitumen with aggregates to create a uniform mixture, asphalt.	5
8	Moisture Induced Stress Tester	To condition the bituminous samples for testing moisture resistance of bituminous mixtures	1
9	Digital Marshall test apparatus	To determine the stability, flow and tensile strength of bituminous mixtures.	1
10	pH conductivity TDS meter	To find the salinity and pH of soil	5
11	Plastic Shredder	To process waste plastic into a suitable form for mixing with asphalt	3
12	DO meter	To find the dissolved oxygen content in water	3
13	Hydraulic extruder	To extrude the soil samples for testing	1
14	Buoyancy balance	To measure the weight of the specimen under buoyant force, for specific gravity determination	2
15	Fall cone apparatus	To find the liquid limit of soil and penetration value of bitumen	1

**Classroom Aids**

The aids required to conduct sessions in the classroom are:

1. Video Presentations
2. Whiteboard
3. Markers
4. Software like MX Road, Civil 3D, Auto CAD, HDM 4, Auto Turn, VISSIM, VISTRO, VISUM, MATLAB, SPPS- MOX, 3DS Max, Arc GIS, ERDAS Imagine, CUBE, Nlogit, TransCAD

### Annexure 3: Industry Validations Summary

Provide summary information of all the industry validations in table. This is not required for OEM qualifications.

S. No	Organization Name	Representative Name	Designation	Contact Address	E-mail ID	LinkedIn Profile (if available)
1	Vishwa Samudra Engineering Pvt. Ltd	Rajasekaran R	Vice President	Viswa Samudra Oachira Expressway Pvt Ltd.	rajasekaran.ramanujam@vishwasamudra.in	
2	Uralungal Labour Contract Cooperative Society	Shaju S	MD	ULCCS, Madapally College P O, Vatakara, Kozhikkode.	secretary@ulccsltd.com	
3	Sreedhanya Construction Company	Sreedhanya Babu	MD	Sreedhanya Construction Company, TC 9/875, Sasthamangalam, Thiruvannathapuram.	sreedhanya.babu@gmail.com	
4	Habog Consultants Pvt. Ltd.	Hariharan Parameswaran	MD	Habog Consultants Pvt. Ltd., Srirampura, Bangalore.	hariharan.p@habog.in	
5	EKK Infrastructure Ltd.	Reshma John	Assistant Engineer	EKK Infrastructure Ltd., Perumbavoor, Ernakulam	reshmajohnmaliyil@gmail.com	
6	RDS Projects Pvt Ltd	Col. M R Raveendran Nair (Rtd)	Vice President, Projects	RDS Projects Ltd, Thiruvananthapuram	colonel.nair@rdsproject.com	

7	Bendichal Group Constructions	Nidheesh V T	Engineer	Bendichal Group Constructions, Bendichal , Kasargode.	nideesh659@gmail.com	
8	PMR Construction Company	Ajmal P M	Contractor	PMR Construction Company, PM Arcade, Melmuri, Malappuram	ajmal@pmrinfos.com	
9	Oruvil Constructions	Ajmal O	Technical Staff	Oruvil Constructions, Parambil Peedika, Malappuram	ajmaloruvil999@gmail.com	
10	PWD Contractor	K K Shyju	Contractor	Chalakkudy, Thrissur	shyjukk80@gmail.com	
11	PWD Contractor	E A Thomas	Contractor	Angamaly, Ernakulam	thomasearaly411@gmail.com	
12	H K Constructions	Ajeesh	Site Engineer	H K Constructions, Kottanad, Palakkad.	ajeeshcpattambi@gmail.com	
13	PWD Contractor	Siby K P	Contractor	Kalady, Ernakulam	sibykanoppilly@gmail.com	
14	PWD Contractor	Ahammed Kabeer P H	Contractor	Shoranur, Palakkad	-	
15	PWD Contractor	Mohammed Ali P S	Contractor	Palakkad	-	
16	Sirajal Mujtaba Constructions	Ashkar Ali	Contractor	Wayanad	-	
17	E K Constructions	Yasser E K	Contractor	Wayanad	-	
18	K C K Constructions	Najimuddin KCK	Contractor	Wayanad	-	
19	Best Constructions	Arjith V T	Managing Partner	Chungam, Sulthan Bathery, Wayanad	bestconstructions@gmail.com	
20	Shaji Constructions	Shaji K C	MD	Sulthan Bathery, Wayanad	shajisalinibathery@gmail.com	
21	P K Sulpheeker and Company	Mohammed Salim	Contractor	Kozhikode	salim@ernad.in	

## Annexure 4: Training & Employment Details

### Training and Employment Projections:

Year	Total Candidates		Women		People with Disability	
	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities
2025	100	60%-70%	30	60%	NA	NA
2026	100	70%-75%	50	60%	NA	NA
2027	100	75%-80%	65	60%	NA	NA

Data to be provided year-wise for next 3 years

### Training, Assessment, Certification, and Placement Data for previous versions of qualifications:

Qualification Version	Year	Total Candidates				Women				People with Disability			
		Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed

Applicable for revised qualifications only, data to be provided year-wise for past 3 years.

### List Schemes in which the previous version of Qualification was implemented:

1. NA

### Content availability for previous versions of qualifications: NA

Participant Handbook  Facilitator Guide  Digital Content  Qualification Handbook  Any Other:

### Languages in which Content is available:

English

## Annexure 5: Detailed Assessment Criteria

Detailed assessment criteria for each NOS/Module are as follows:

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>ASP/CON/N0201 - Overview on Road Design and Construction</b>	PC 1 – Assess the basic understanding of road construction principles	5	0	0	1
	PC 2 – Evaluate proficiency in conducting topographic surveys using GPS, Total Station, and Auto Level, including accurate site setting out.	5	25	0	
	PC 3 – Assess an overall knowledge of DPR Preparation	5	10	0	
	PC 4 – Assess the knowledge in interpretation of Drawings in the DPR	5	15	0	
	PC 5 – Evaluate the proficiency in the Geometric and Pavement Design	5	10	0	
	PC 6 – Assess the knowledge about Labour Laws, Project Management- CPM, PERT, MS Project, Primavera, Building Information Modeling (BIM)	5	9	0	
<b>Total Marks</b>		<b>30</b>	<b>69</b>	<b>0</b>	<b>1</b>
<b>ASP/CON/N0202 - Overview of Construction Tools, Machinery and Practices</b>	PC 1 – Evaluate the understanding of Quality Management Plan -Setting up of Field laboratory, Quality Assurance & Quality Control	3	10	0	2
	PC 2 – Assess the understanding of Site Clearance-Earthwork, Erosion Control and Drainage- Quality Control	5	23	0	
	PC 3 – Assess the knowledge of Construction Tools and Machinery- Types, Applications, Suitability and Selection. Assess the knowledge on Full Depth Reclamation (FDR), precast pavements, white topping and surface dressing	6	20	0	
	PC 4 – Evaluate the knowledge of Material Selection and Management, Utility Management	6	25	0	
	<b>Total Marks</b>		<b>20</b>	<b>78</b>	
<b>ASP/CON/N0203 - Construction of Embankment and Granular Layers</b>	PC 1 – Check the understanding of Embankment and Subgrade - Design Criteria, Construction and Quality Control	3	16	0	2
	PC 2 – Assess the knowledge about Field and Laboratory Testing of Soil, Aggregates and Other Additives/ Stabilizing Agents	5	21	0	
	PC 3 – Assess the understanding of Earth Retaining Works- Types, Basic Design Principles and Construction Practices	2	23	0	
	PC 4 - Assess the knowledge about Sub-Bases, Bases (Non-Bituminous)	5	23	0	

	and Shoulder - Types, Material Specifications and Construction Practices				
	<b>Total Marks</b>	<b>15</b>	<b>83</b>	<b>0</b>	<b>2</b>
<b>ASP/CON/N0204- Construction of Pavement Upper Layers and Safety Measures</b>	PC 1 - Assess the knowledge about Bituminous Bases and Surface Courses - Specifications and Construction Practices. Evaluate Local/New/Alternate/Modified Construction Materials and Technologies - Use of Waste Plastic, Full Depth Reclamation (FDR), Reclaimed Asphalt Pavement (RAP) etc; Bitumen testing- and Test on mixes- Marshall stability, etc.	5	15	0	3
	PC 2 - Evaluate the knowledge of Concrete Pavement - Specification and Construction Practices	5	22	0	
	PC 3 – Understanding of Traffic Signs, Markings and Other Road Appurtenances	5	20	0	
	PC 4 - Understanding of Construction Equipments and Machinery for base and surface courses	5	20	0	
	<b>Total Marks</b>	<b>20</b>	<b>77</b>	<b>0</b>	<b>3</b>
<b>ASP/CON/N0205 - Geotechnical Investigations, Construction of Bridges and Cross Drainage Structures</b>	PC 1 - Assess the knowledge of Surface and Sub-Surface Geotechnical Investigations- Principles and Practices	5	13	0	2
	PC 2 - Assess the knowledge of Foundations - Types, Material Specifications, Testing and Construction Practices	2	15	0	
	PC 3 – Evaluate the understanding of Construction of Substructures and Super Structures of Bridges and Cross Drainage Structures, Formworks	4	25	0	
	PC 4 – Evaluate Steel Reinforcement, Pre stressing, Bearings, Expansion Joints, Appurtenances, Repair and Retrofitting of Structures	2	25	0	
	PC 5 – Assess the knowledge of Completion of Work and Site Handing Over	2	5	0	
	<b>Total Marks</b>	<b>15</b>	<b>83</b>	<b>0</b>	<b>2</b>
<b>ASP/CON/N0206 - Health and Safety in Road construction</b>	PC 1 – Evaluate the knowledge of Safety Practices in Construction	5	20	0	0
	PC 2 - Evaluate the knowledge of Precautionary Measures for Safeguarding the Environment, Traffic Management Measures During Construction	5	20	0	
	<b>Total Marks</b>	<b>10</b>	<b>40</b>	<b>0</b>	<b>0</b>
<b>DGT/VSQ/N0102- Employability Skills</b>	PC 1- Evaluate the overall application of Employability Skills	2	0	0	0

	PC 2 - Assess knowledge of Constitutional values - Citizenship	2	0	0	0
	PC 3 – Evaluate the knowledge of Becoming a Professional in the 21st Century	6	0	0	0
	PC 4 – Assess knowledge of Basic English Skills	6	0	0	0
	PC 5 -Assess knowledge of Career Development & Goal Setting	3	0	0	0
	PC 6 – Evaluate Communication Skills	4	0	0	0
	PC 7 - Assess Diversity & Inclusion	2	0	0	0
	PC 8 – Assess Financial and Legal Literacy	5	0	0	0
	PC 9 - Assess Essential Digital Skills	8	0	0	0
	PC 10 - Assess knowledge of Entrepreneurship	4	0	0	0
	PC 11 – Evaluate Customer Service	3	0	0	0
	PC 12- Assess knowledge on Getting ready for apprenticeship & Job	5	0	0	0
	<b>Total Marks</b>	<b>50</b>	<b>0</b>	<b>0</b>	<b>0</b>
	<b>Grand Total</b>	<b>160</b>	<b>430</b>		<b>10</b>

### Annexure 6: Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the Candidate on the required competencies of the program.

*Mention the detailed assessment strategy in the provided template.*

#### 1. Assessment System Overview:

- Batches assigned to the assessment agencies for conducting the assessment through email.
- Assessment agencies send the assessment confirmation to VTP/TC looping ASAP Kerala.
- Assessment agency deploys the ToA certified Assessor for executing the assessment.
- ASAP KERALA monitors the assessment process & records.

#### 2. Testing Environment:

- Check the Assessment location, date and time.
- If the batch size is more than 30, then there should be 2 Assessors.
- Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.

#### 3. Assessment Quality Assurance levels/Framework:

- Question bank is created by the Subject Matter Experts (SME) are verified by the other SME.
- Questions are mapped to the specified assessment criteria.
- Assessor must be ToA certified & trainer must be ToT Certified

4. Types of evidence or evidence-gathering protocol:

- Time-stamped & geotagged reporting of the assessor from assessment location.
- Centre photographs with signboards and scheme specific branding.

5. Method of verification or validation:

- Surprise visit to the assessment location.

6. Method for assessment documentation, archiving, and access

- Hard copies of the documents are stored.

**On the Job:**

- Each module will be assessed separately.
- The candidate must score 60% in each module to successfully complete the OJT.
- Tools of Assessment that will be used for assessing whether the candidate is having desired skills and etiquette of dealing with customers, understanding needs & requirements, assessing the customer and perform Soft Skills effectively:
  - Videos of Trainees during OJT
- Assessment of each Module will ensure that the candidate is able to:
  - a) Effective engagement with the customers
  - b) Understand the working of various tools and equipment

NSQC Approved

## Annexure 7: Acronym and Glossary

### Acronym

Acronym	Description
AA	Assessment Agency
AB	Awarding Body
ISCO	International Standard Classification of Occupations
NCO	National Classification of Occupations
NCrF	National Credit Framework
NOS	National Occupational Standard(s)
NQR	National Qualification Register
NSQF	National Skills Qualifications Framework
OJT	On the Job Training

### Glossary

Term	Description
<b>National Occupational Standards (NOS)</b>	NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
<b>Qualification</b>	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
<b>Qualification File</b>	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
<b>Sector</b>	A grouping of professional activities on the basis of their main economic function, product, service or technology.
<b>Long Term Training</b>	Long-term skilling means any vocational training program undertaken for a year <a href="https://ncvet.gov.in/sites/default/files/NCVET.pdf">https://ncvet.gov.in/sites/default/files/NCVET.pdf</a>