



Supervisor - Roads & Runways

QP Code: CON/Q1004

Version: 1.0

NSQF Level: 6

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CON/Q1004: Supervisor - Roads & Runways

Brief Job Description

This job role is responsible for assisting in activity planning, managing resources and supervising the crew of workmen to achieve planned milestones while performing qualitative checks to the completed works in flexible/ rigid pavement. The individual should possess sound technical knowledge, should be able to monitor and maintain safe and quality working practices

Personal Attributes

This job role requires the individual to be physically and mentally strong enough to oversee the activities involved in construction of pavements. The individual should be having strong organizational, interpersonal and communication skills, along with comprehensive technical knowledge of road laying works and ability to supervise construction crew.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [CON/N1011: Maintain coordination among superior and subordinates](#)
2. [CON/N1012: Organise equipments and complete preparatory works prior to pavement laying](#)
3. [CON/N1013: Supervise construction works in flexible and rigid pavements](#)
4. [CON/N1014: Carry out checks to the completed works in flexible/ rigid pavement](#)
5. [CON/N9002: Manage workplace for safe and healthy work environment](#)

Qualification Pack (QP) Parameters

Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Roads & Runway Construction
Country	India
NSQF Level	6
Credits	NA



Qualification Pack



Aligned to NCO/ISCO/ISIC Code	NCO-2004/7122.50
Minimum Educational Qualification & Experience	Graduate with 5-10 Years of experience as a certified Foreman Roads and Runways OR ITI/Construction Related Trade with 10-15 Years of experience in case of a Non trained worker, in same occupation
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	Recommended training period of 16-20 weeks as per QP of Supervisor Roads & Runways
Minimum Job Entry Age	18 Years
Last Reviewed On	23/08/2015
Next Review Date	31/03/2022
Deactivation Date	31/03/2022
NSQC Approval Date	09/10/2017
Version	1.0
Reference code on NQR	2017/CON/CSDCI/02015
NQR Version	1.0



CON/N1011: Maintain coordination among superior and subordinates

Description

This unit describes the skills and knowledge required to Maintain coordination among superior and subordinates.

Scope

The scope covers the following:

- Provide required inputs for planning of pavement construction
- Brief subordinate workers on work plan, targets, hazards and safe working methods

Elements and Performance Criteria

Provide required inputs for planning of pavement construction

To be competent, the user/individual on the job must be able to:

- PC1.** identify work activities as per GFC drawing requirements and report to concerned superior
- PC2.** provide inputs to concerned engineer regarding time required for completion of identified key activities
- PC3.** provide status report/ update to concerned engineer regarding assigned/ completed works
- PC4.** determine requirement of manpower to complete works in accordance with pavement construction work schedule
- PC5.** ascertain type and capacity of transportation and construction equipments to be used and report to the concerned engineer
- PC6.** provide inputs to concerned engineer regarding requirements for manpower, tools, and materials as per work requirements
- PC7.** determine method of excavation/ grading, route and mode of transportation of excavated or construction material and take necessary approval from concerned engineer
- PC8.** report concerned engineer or departments to obtain electrical power outlets and lighting arrangements
- PC9.** determine type and quantity of safety control equipments, arrangements to be used for pavement construction work
- PC10.** provide inputs to concerned engineer to plan protective arrangements to be provided to stacked construction materials against rain, storm or unauthorized access

Brief subordinate workers on work plan, targets, hazards and safe working methods

To be competent, the user/individual on the job must be able to:

- PC11.** brief subordinate workers about scopes and timelines to be adhered for respective activities
- PC12.** describe about tools/ equipments to be used in material shifting, excavation and paving operations and safe working procedure for working near the same
- PC13.** describe standard procedure of material handling and stacking
- PC14.** provide information about hazards and risks involved in working at proximity to vehicle/ heavy construction equipments, vehicular traffic, deep excavated work spots etc



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- PC15.** provide direction regarding PPEs to be used during lifting and erection operations by respective gangs
- PC16.** brief about standard hand signaling procedure to be adhered and use of communication devices during material handling, monitoring vehicular movement
- PC17.** provide direction for reporting procedure to be maintained during activity and under emergency situations

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standard practices for road and pavement laying works
- KU2.** safety rules and regulations for handling and storing required tools, equipment and materials
- KU3.** personal protection including the use of the related safety gears & safety equipment
- KU4.** service request procedures for tools, materials and equipments
- KU5.** statutory compliance requirement related to working at height
- KU6.** statutory compliance requirement related to workmen engagement
- KU7.** how to read relevant GFC drawings and extract technical specifications related Pavement construction
- KU8.** standard procedure for material handling and stacking
- KU9.** sequence of pavement laying operation as per agreed work plan
- KU10.** precaution to be taken to secure construction materials, equipments against natural calamity
- KU11.** manpower requirement for respective road laying activities
- KU12.** type of lighting arrangement required on the basis of nature of activity
- KU13.** installation of electrical outlets as per work requirement
- KU14.** approved code of practice related construction materials used for pavement construction
- KU15.** standard work method statement and planned milestones
- KU16.** concept of arithmetic and basic geometry applicable to lifting and erection operations
- KU17.** documentation related pavement construction such as filling up check lists, permits, preparation of reports, material requisition and indents etc
- KU18.** documentation required to resource management such as preparation of indents, material and manpower calculation, preparation of daily labour reports
- KU19.** concept of job related safety precautions and deployment of safety policies to be observed at workplace

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write in at least two language, preferably in the local language of the site and basic English
- GS2.** provide clear and simple instructions, details & sketches to sub-ordinate
- GS3.** record and document daily productivity report, daily labour attendance & details regarding work



Qualification Pack



- GS4.** prepare basic status updates for the superiors in the prescribed format
- GS5.** read one or more language, preferably in the local language of the site
- GS6.** read drawing, specification and standards related to relevant work
- GS7.** read key documents including quality standards and standard working methods
- GS8.** read various, sign boards, safety rules and safety tags , instructions related to exit routes during emergency at the workplace
- GS9.** speak in one or more language, preferably in one of the local languages of the site
- GS10.** listen and follow instructions clearly given by the superior
- GS11.** provide clear instructions to subordinates for completion of task as per work plan, time schedule and quality
- GS12.** estimate required material and resources for work
- GS13.** decide alternate course of action in case of hindrance to work
- GS14.** determine type and capacity of road laying equipment required
- GS15.** determine the type, quantity and arrangement of safety control equipment
- GS16.** plan work & organize required resource in coordination with team members and superior
- GS17.** plan work targets, allocate time schedule to sub-ordinates and organize completion of task within allocated time
- GS18.** ensure completion of work as per agreed time schedule and quality
- GS19.** resolve and solve any conflict within the team
- GS20.** identify hazards and risks associated with works and brief the team regarding the same
- GS21.** assess quantity of materials for day work
- GS22.** optimize resources
- GS23.** minimize wastages
- GS24.** assess and identify the suitable method of excavation/ grading, route and mode of transportation
- GS25.** assess complexity of the tasks and provide guidance for carrying out corrective action as per requirement
- GS26.** identify and assess how violation of any safety norms may lead to accidents



Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Provide required inputs for planning of pavement construction</i>	29.5	29.5	-	-
PC1. identify work activities as per GFC drawing requirements and report to concerned superior	3	3	-	-
PC2. provide inputs to concerned engineer regarding time required for completion of identified key activities	3	3	-	-
PC3. provide status report/ update to concerned engineer regarding assigned/ completed works	2.5	2.5	-	-
PC4. determine requirement of manpower to complete works in accordance with pavement construction work schedule	3	3	-	-
PC5. ascertain type and capacity of transportation and construction equipments to be used and report to the concerned engineer	3	3	-	-
PC6. provide inputs to concerned engineer regarding requirements for manpower, tools, and materials as per work requirements	3	3	-	-
PC7. determine method of excavation/ grading, route and mode of transportation of excavated or construction material and take necessary approval from concerned engineer	3	3	-	-
PC8. report concerned engineer or departments to obtain electrical power outlets and lighting arrangements	3	3	-	-
PC9. determine type and quantity of safety control equipments, arrangements to be used for pavement construction work	3	3	-	-
PC10. provide inputs to concerned engineer to plan protective arrangements to be provided to stacked construction materials against rain, storm or unauthorized access	3	3	-	-
<i>Brief subordinate workers on work plan, targets, hazards and safe working methods</i>	20.5	20.5	-	-



Qualification Pack



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. brief subordinate workers about scopes and timelines to be adhered for respective activities	3	3	-	-
PC12. describe about tools/ equipments to be used in material shifting, excavation and paving operations and safe working procedure for working near the same	3	3	-	-
PC13. describe standard procedure of material handling and stacking	3	3	-	-
PC14. provide information about hazards and risks involved in working at proximity to vehicle/ heavy construction equipments, vehicular traffic, deep excavated work spots etc	3	3	-	-
PC15. provide direction regarding PPEs to be used during lifting and erection operations by respective gangs	3	3	-	-
PC16. brief about standard hand signaling procedure to be adhered and use of communication devices during material handling, monitoring vehicular movement	2.5	2.5	-	-
PC17. provide direction for reporting procedure to be maintained during activity and under emergency situations	3	3	-	-
NOS Total	50	50	-	-



Qualification Pack



National Occupational Standards (NOS) Parameters

NOS Code	CON/N1011
NOS Name	Maintain coordination among superior and subordinates
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Roads & Runway Construction
NSQF Level	6
Credits	TBD
Version	1.0
Last Reviewed Date	23/08/2015
Next Review Date	31/03/2022
NSQC Clearance Date	09/10/2017



CON/N1012: Organise equipments and complete preparatory works prior to pavement laying

Description

This unit describes the skills and knowledge required to organise equipments and complete preparatory works prior to pavement laying.

Scope

The scope covers the following:

- Ensure completion of preparatory works
- Ensure availability and safe use of deployed vehicle/ equipments for construction of roads

Elements and Performance Criteria

Ensure completion of preparatory works

To be competent, the user/individual on the job must be able to:

- PC1.** prepare indent for required material, tools and tackles as per requirement and instruction
- PC2.** ensure proper survey points are available at respective locations for pavement construction
- PC3.** check and carry out required measurements to proposed land/ layouts, pavement layers as and when necessary
- PC4.** ensure shifting of construction materials from yard to lifting points in accordance with lifting plan
- PC5.** ensure installation of lighting arrangements and electrical outlets as per work requirement
- PC6.** ensure erection of relevant safety arrangement such as signage, barricading at specified work locations as per work safety plan
- PC7.** deal with clients in order to confirm whether the executed work is as per drawing, specification

Ensure availability and safe use of deployed vehicle/equipments for construction of roads

To be competent, the user/individual on the job must be able to:

- PC8.** coordinate with vehicle/ equipment operators to achieve correct sequencing of activities within planned time line
- PC9.** ensure vehicle movement paths/ ramps are clearly defined, properly leveled/ slopped, compacted, illuminated, provided with adequate signage and free from any potential hazards
- PC10.** deploy transportation vehicles and construction equipments at specified work location as per work requirement
- PC11.** instruct equipment operators for excavation, excavated soil disposal, earth filling, grading and compaction work
- PC12.** ensure borrow pits, trenches and other excavated spots are barricaded and illuminated properly
- PC13.** ensure vehicles and equipments deployed at site comply with statutory requirements
- PC14.** ensure efficient use of vehicle/ equipment by achieving targets and free rotational
- PC15.** report break down and unsafe condition observed in vehicle to concerned authority



PC16. ensure installation of traffic control signage, barriers and their periodical checks

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standard practices for road and pavement laying works
- KU2.** safety rules and regulations for handling and storing required tools, equipment and materials
- KU3.** personal protection including the use of the related safety gears & safety equipment
- KU4.** service request procedures for tools, materials and equipments
- KU5.** statutory compliance requirement related to workmen engagement
- KU6.** work scope to be provided to the workers based on their expertise
- KU7.** type of hazards in pavement construction works and its preventive work methods to be adhered by the workers
- KU8.** standard procedure for material handling and stacking
- KU9.** selection and use of construction equipments and material transportation vehicles based on the work requirement
- KU10.** sequence of pavement construction activities
- KU11.** required specification/ capacity of construction equipments based on the sequence of pavement construction activities
- KU12.** condition of access route to be provided to the equipments used for pavement construction
- KU13.** planned productivity of equipments and effective method of job allocation to the same
- KU14.** selection and use of vehicular traffic control arrangements

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write in at least two language, preferably in the local language of the site and basic English
- GS2.** provide clear and simple instructions, details & sketches to sub-ordinate
- GS3.** record and document daily productivity report, daily labour attendance & details regarding work
- GS4.** prepare basic status updates for the superiors in the prescribed format
- GS5.** read one or more language, preferably in the local language of the site
- GS6.** read drawing, specification and standards related to relevant work
- GS7.** read key documents including quality standards and standard working methods
- GS8.** read various, sign boards, safety rules and safety tags , instructions related to exit routes during emergency at the workplace
- GS9.** speak in one or more language, preferably in one of the local languages of the site
- GS10.** listen and follow instructions clearly given by the superior
- GS11.** provide clear instructions to subordinates for completion of task as per work plan, time schedule and quality
- GS12.** estimate required material and resources for work



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- GS13.** decide alternate course of action in case of hindrance to work
- GS14.** determine whether survey points are available at various locations
- GS15.** determine whether shifting of materials complies with the lifting plan
- GS16.** determine suitability of vehicle movement paths / ramps for the purpose of accessibility and safety
- GS17.** plan work & organize required resource in coordination with team members and superior
- GS18.** plan work targets, allocate time schedule to sub-ordinates and organize completion of task within allocated time
- GS19.** ensure completion of work as per agreed time schedule and quality
- GS20.** engage with the client to confirm execution of work as per plan
- GS21.** resolve and solve any conflict within the team
- GS22.** check for barricading / illumination of trenches / pits and report on the same in case of deviations
- GS23.** report breakdowns / unsafe conditions related to works at site
- GS24.** assess quantity of materials for day work
- GS25.** optimize resources
- GS26.** minimize wastages
- GS27.** assess and evaluate whether vehicles and equipment comply with statutory requirements
- GS28.** assess complexity of the tasks and provide guidance for carrying out corrective action as per requirement
- GS29.** identify and assess how violation of any safety norms may lead to accidents
- GS30.** determine appropriate sequencing of road construction activities



Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Ensure completion of preparatory works</i>	21.5	21.5	-	-
PC1. prepare indent for required material, tools and tackles as per requirement and instruction	3	3	-	-
PC2. ensure proper survey points are available at respective locations for pavement construction	3	3	-	-
PC3. check and carry out required measurements to proposed land/ layouts, pavement layers as and when necessary	3	3	-	-
PC4. ensure shifting of construction materials from yard to lifting points in accordance with lifting plan	3	3	-	-
PC5. ensure installation of lighting arrangements and electrical outlets as per work requirement	3	3	-	-
PC6. ensure erection of relevant safety arrangement such as signage, barricading at specified work locations as per work safety plan	3	3	-	-
PC7. deal with clients in order to confirm whether the executed work is as per drawing, specification	3.5	3.5	-	-
<i>Ensure availability and safe use of deployed vehicle/equipments for construction of roads</i>	28.5	28.5	-	-
PC8. coordinate with vehicle/ equipment operators to achieve correct sequencing of activities within planned time line	3.5	3.5	-	-
PC9. ensure vehicle movement paths/ ramps are clearly defined, properly leveled/ slopped, compacted, illuminated, provided with adequate signage and free from any potential hazards	3	3	-	-
PC10. deploy transportation vehicles and construction equipments at specified work location as per work requirement	3	3	-	-
PC11. instruct equipment operators for excavation, excavated soil disposal, earth filling, grading and compaction work	3.5	3.5	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. ensure borrow pits, trenches and other excavated spots are barricaded and illuminated properly	3	3	-	-
PC13. ensure vehicles and equipments deployed at site comply with statutory requirements	3	3	-	-
PC14. ensure efficient use of vehicle/ equipment by achieving targets and free rotational	3	3	-	-
PC15. report break down and unsafe condition observed in vehicle to concerned authority	3.5	3.5	-	-
PC16. ensure installation of traffic control signage, barriers and their periodical checks	3	3	-	-
NOS Total	50	50	-	-



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National Occupational Standards (NOS) Parameters

NOS Code	CON/N1012
NOS Name	Organise equipments and complete preparatory works prior to pavement laying
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Roads & Runway Construction
NSQF Level	6
Credits	TBD
Version	1.0
Last Reviewed Date	23/08/2015
Next Review Date	31/03/2022
NSQC Clearance Date	09/10/2017



CON/N1013: Supervise construction works in flexible and rigid pavements

Description

This unit describes the skills and knowledge required to supervise construction works in flexible and rigid pavements.

Scope

The scope covers the following:

- Supervise, check and ensure that the executed works are as per drawing

Elements and Performance Criteria

Supervise, check and ensure that the executed works are as per drawing

To be competent, the user/individual on the job must be able to:

- PC1.** supervise placing of aggregates and fines for preparation of base course layers
- PC2.** ensure correct sequence of material placing and degree of compaction is done as per specification
- PC3.** check top level of each finished layers of pavements using appropriate measuring instruments
- PC4.** check curves, slopes, edges of pavements as per drawing/ specification
- PC5.** check physical condition of construction materials such as bitumen, asphalt, soil, aggregate, fillers as per specification
- PC6.** inspect road layers visually for compaction, application of water and co-ordinate with concerned departments for conducting quality checks
- PC7.** monitor application of bituminous coatings (prime coat/ tack coat etc.) for flexible pavement
- PC8.** monitor laying of binding/ wiring course by pavers ensuring achieved surface is as per drawing/ specification
- PC9.** ensure expansion joints are provided at specified locations as per specification in rigid pavement
- PC10.** check and ensure that the reinforcement works are as per drawing/ specification diameter of reinforcement bars are as per drawing spacing of the reinforcement bars are within tolerance limit number of reinforcement bar is per drawing length of reinforcement bars are according to drawing and staggered as per specification reinforcement bars are appropriately bent and bents are free from cracks, shrinks clear cover provided is as per drawing (use of cover blocks at appropriate intervals) proper tying is provided to the reinforcement meshes and binding wires are of specific gauges bars are clean from dirt, mud, grease or any other unwanted materials according to specification

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standard practices for road and pavement laying works



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- KU2.** safety rules and regulations for handling and storing required tools, equipment and materials
- KU3.** personal protection including the use of the related safety gears & safety equipment
- KU4.** service request procedures for tools, materials and equipments
- KU5.** statutory compliance requirement related to working at height
- KU6.** statutory compliance requirement related to workmen engagement
- KU7.** sequence of placing aggregates, fines/ fillers for base course
- KU8.** specification of material to be used for pavement laying based on layers of the pavement
- KU9.** standard procedure of placing aggregates for preparation of base course
- KU10.** details provided in GFC construction drawing profile of the road level of base course layer, binding layer and surface layer location of curves, slopes and their technical specification required degree of compaction for each layer of road reinforcement details for rigid pavement required nature of surface of flexible/ rigid pavement permissible tolerances limit to the road and drainage/ service structures as per applicability specification and location of expansion joints grade and concrete or bitumen depending upon the type of pavement specification of pipes and their accessories to be used for drainage works details of level, orientation and number of pipe segments to be used for drainage works

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write in at least two language, preferably in the local language of the site and basic English
- GS2.** provide clear and simple instructions, details & sketches to sub-ordinate
- GS3.** record and document daily productivity report, daily labour attendance & details regarding work
- GS4.** prepare basic status updates for the superiors in the prescribed format
- GS5.** read one or more language, preferably in the local language of the site
- GS6.** read drawing, specification and standards related to relevant work
- GS7.** read key documents including quality standards and standard working methods
- GS8.** read various, sign boards, safety rules and safety tags , instructions related to exit routes during emergency at the workplace
- GS9.** speak in one or more language, preferably in one of the local languages of the site
- GS10.** listen and follow instructions clearly given by the superior
- GS11.** provide clear instructions to subordinates for completion of task as per work plan, time schedule and quality
- GS12.** estimate required material and resources for work
- GS13.** decide alternate course of action in case of hindrance to work
- GS14.** determine whether degree of compaction is as per specification
- GS15.** determine suitability of physical condition of construction materials
- GS16.** determine whether reinforcement works comply with the drawings
- GS17.** plan work & organize required resource in coordination with team members and superior
- GS18.** plan work targets, allocate time schedule to sub-ordinates and organize completion of task within allocated time



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- GS19.** ensure completion of work as per agreed time schedule and quality
- GS20.** resolve and solve any conflict within the team
- GS21.** assess quantity of materials for day work
- GS22.** optimize resources
- GS23.** minimize wastages
- GS24.** assess and evaluate whether curves, slopes, edges, etc. of pavement are as per drawings
- GS25.** evaluate appropriate locations for expansion joints
- GS26.** assess complexity of the tasks and provide guidance for carrying out corrective action as per requirement
- GS27.** identify and assess how violation of any safety norms may lead to accidents



Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Supervise, check and ensure that the executed works are as per drawing</i>	50	50	-	-
PC1. supervise placing of aggregates and fines for preparation of base course layers	5	5	-	-
PC2. ensure correct sequence of material placing and degree of compaction is done as per specification	5	5	-	-
PC3. check top level of each finished layers of pavements using appropriate measuring instruments	5	5	-	-
PC4. check curves, slopes, edges of pavements as per drawing/ specification	5	5	-	-
PC5. check physical condition of construction materials such as bitumen, asphalt, soil, aggregate, fillers as per specification	5	5	-	-
PC6. inspect road layers visually for compaction, application of water and co-ordinate with concerned departments for conducting quality checks	5	5	-	-
PC7. monitor application of bituminous coatings (prime coat/ tack coat etc.) for flexible pavement	5	5	-	-
PC8. monitor laying of binding/ wiring course by pavers ensuring achieved surface is as per drawing/ specification	5	5	-	-
PC9. ensure expansion joints are provided at specified locations as per specification in rigid pavement	5	5	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. check and ensure that the reinforcement works are as per drawing/ specification diameter of reinforcement bars are as per drawing spacing of the reinforcement bars are within tolerance limit number of reinforcement bar is per drawing length of reinforcement bars are according to drawing and staggered as per specification reinforcement bars are appropriately bent and bents are free from cracks, shrinks clear cover provided is as per drawing (use of cover blocks at appropriate intervals) proper tying is provided to the reinforcement meshes and binding wires are of specific gauges bars are clean from dirt, mud, grease or any other unwanted materials according to specification	5	5	-	-
NOS Total	50	50	-	-



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National Occupational Standards (NOS) Parameters

NOS Code	CON/N1013
NOS Name	Supervise construction works in flexible and rigid pavements
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Roads & Runway Construction
NSQF Level	6
Credits	TBD
Version	1.0
Last Reviewed Date	23/08/2015
Next Review Date	31/03/2022
NSQC Clearance Date	09/10/2017



CON/N1014: Carry out checks to the completed works in flexible/ rigid pavement

Description

This unit describes the skills and knowledge required to carry out checks to the completed works in flexible/ rigid pavement..

Scope

The scope covers the following:

- Supervise check and ensure completed works are as per drawing

Elements and Performance Criteria

Supervise check and ensure completed works are as per drawing

To be competent, the user/individual on the job must be able to:

- PC1.** ensure adequate vibration is done to the wearing coat concrete selecting appropriate vibrating equipment
- PC2.** ensure desired surfacing is done post concreting/ asphalt paving work
- PC3.** monitor curing of RCC works and conduct necessary arrangements for curing
- PC4.** ensure drainage pipelines are laid, fixed and connected as per specification
- PC5.** conduct water leakage tests through the pipeline and suggest remedial measures if leakage observed
- PC6.** suggest remedial measures for faulty or damaged paving/ concreting works and ensure its completion as per specification
- PC7.** seek instruction/ suggestion from superior for corrective actions to be taken for unsolved issues and ensure its implementation

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** standard practices for road and pavement laying works
- KU2.** safety rules and regulations for handling and storing required tools, equipment and materials
- KU3.** personal protection including the use of the related safety gears & safety equipment
- KU4.** service request procedures for tools, materials and equipments
- KU5.** statutory compliance requirement related to working at height
- KU6.** statutory compliance requirement related to workmen engagement
- KU7.** standard procedure of vibration to RCC concrete
- KU8.** curing process of concrete and different method of curing such as ponding, using gunny bags, application of curing compounds



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- KU9.** specification and guidelines of application of materials used for road construction work, such as bitumen, epoxy solutions, admixtures, curing compound, dowel bars etc
- KU10.** method of linear measurement using measuring instruments

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write in at least two language, preferably in the local language of the site and basic English
- GS2.** provide clear and simple instructions, details & sketches to sub-ordinate
- GS3.** record and document daily productivity report, daily labour attendance & details regarding work
- GS4.** prepare basic status updates for the superiors in the prescribed format
- GS5.** read one or more language, preferably in the local language of the site
- GS6.** read drawing, specification and standards related to relevant work
- GS7.** read key documents including quality standards and standard working methods
- GS8.** read various, sign boards, safety rules and safety tags , instructions related to exit routes during emergency at the workplace
- GS9.** speak in one or more language, preferably in one of the local languages of the site
- GS10.** listen and follow instructions clearly given by the superior
- GS11.** provide clear instructions to subordinates for completion of task as per work plan, time schedule and quality
- GS12.** estimate required material and resources for work
- GS13.** decide alternate course of action in case of hindrance to work
- GS14.** select appropriate vibrating equipment for works
- GS15.** determine suitability of surfacing as per requirements
- GS16.** plan work & organize required resource in coordination with team members and superior
- GS17.** plan work targets, allocate time schedule to sub-ordinates and organize completion of task within allocated time
- GS18.** ensure completion of work as per agreed time schedule and quality
- GS19.** resolve and solve any conflict within the team
- GS20.** check for water leakage and suggest remedial measures
- GS21.** assess quantity of materials for day work
- GS22.** optimize resources
- GS23.** minimize wastages
- GS24.** evaluate adequacy of vibrations to the wearing coat concrete
- GS25.** assess complexity of the tasks and provide guidance for carrying out corrective action as per requirement
- GS26.** identify and assess how violation of any safety norms may lead to accidents



Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Supervise check and ensure completed works are as per drawing</i>	50	50	-	-
PC1. ensure adequate vibration is done to the wearing coat concrete selecting appropriate vibrating equipment	7	7	-	-
PC2. ensure desired surfacing is done post concreting/ asphalt paving work	7	7	-	-
PC3. monitor curing of RCC works and conduct necessary arrangements for curing	7.5	7.5	-	-
PC4. ensure drainage pipelines are laid, fixed and connected as per specification	7	7	-	-
PC5. conduct water leakage tests through the pipeline and suggest remedial measures if leakage observed	7	7	-	-
PC6. suggest remedial measures for faulty or damaged paving/ concreting works and ensure its completion as per specification	7.5	7.5	-	-
PC7. seek instruction/ suggestion from superior for corrective actions to be taken for unsolved issues and ensure its implementation	7	7	-	-
NOS Total	50	50	-	-



Qualification Pack



National Occupational Standards (NOS) Parameters

NOS Code	CON/N1014
NOS Name	Carry out checks to the completed works in flexible/ rigid pavement
Sector	Construction
Sub-Sector	Real Estate and Infrastructure construction
Occupation	Roads & Runway Construction
NSQF Level	6
Credits	TBD
Version	1.0
Last Reviewed Date	23/08/2015
Next Review Date	31/03/2022
NSQC Clearance Date	09/10/2017



CON/N9002: Manage workplace for safe and healthy work environment

Description

This unit describes the skill and knowledge required to maintain a healthy & safe working environment for the group of people working under an individual

Scope

This unit/task covers the following:

- Ensure healthy and safe working environment for subordinates.
- Ensure effective implementation of health, safety and environment policies and procedures
- Identify and respond to risks / fire and emergencies associated with the work practices, workplace and ensure related organizational & statutory requirement as followed

Elements and Performance Criteria

Ensure healthy and safe working environment for subordinates

To be competent, the user/individual on the job must be able to:

- PC1.** ensure proper housekeeping at workplace
- PC2.** implement safe handling , stacking methods at workplace / store
- PC3.** ensure that health and safety plan is followed by all subordinates
- PC4.** Identify any hazard in workplace and notify them to appropriate authority
- PC5.** ensure that all safety and protection installation are correctly placed & adequate
- PC6.** ensure safe access is available at work place for movement of workers & materials
- PC7.** ensure safe use of tools and tackles by the workmen as per applicability
- PC8.** ensure appropriate use of following Personal Protective Equipment (PPE) as per applicability: Head Protection (Helmets Ear Protection Fall Protection Foot Protection Face and Eye Protection, Hand & Body Protection Respiratory Protection
- PC9.** maintain entrances & exit from confined spaces , excavated pits and other location in concurrence with safety parameters or instruction from safety personals

Identify and respond to risks / fire and emergencies associated with the work practices, workplace and ensure related organizational & statutory requirement as followed

To be competent, the user/individual on the job must be able to:

- PC10.** ensure organizational policies and procedures are followed for health , safety and welfare, in relation to: methods of receiving or sourcing information dealing with accidents and emergencies associated with the work and environment reporting stooping work evacuation fire risks and safe exit procedures
- PC11.** follow procedures for accident recording and reporting as per organizational and statutory requirements
- PC12.** ensure effective adherence to response to emergency procedures /protocols
- PC13.** report any case of emergency / risks to the concern people at the construction site
- PC14.** report any perceived risk hazards to the superiors / concerned EHS
- PC15.** demonstrate the use of fire protection equipments for different type of fire hazard



PC16. implement control measures to reduce risk & meet legal requirement as per organizational policies

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the policies, procedures and protocol set up by the EHS Department With respect to Health , Safety and Environment at the respective construction site
- KU2.** reporting procedures in cases of breaches or hazards in site safety, accidents or emergency situations
- KU3.** safe working practices for tools, tackles and equipment
- KU4.** workplace policies and health and safety requirements for dealing with potential risks as defined by the EHS department
- KU5.** how to respond to accidents & emergencies
- KU6.** the appropriate personal protective equipment to be used based on various working conditions
- KU7.** how to use necessary material ,tools, tackles and equipment in a safe and appropriate manner as specified by site EHS for each level and respective workman gang
- KU8.** monitoring working in workplace keeping safety & health in mind

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** write in one or more language
- GS2.** read in one or more language
- GS3.** read instructions, rules, guidelines, sign boards related to safety as per the requirements
- GS4.** speak in one or more language, preferably one of the local language at the site
- GS5.** listen and follow instructions shared by site EHS and superiors regarding site safety
- GS6.** communicate reporting of site conditions, hazards, accidents, etc.
- GS7.** decide upon the appropriate application & installation of safety equipments like barricades and nets
- GS8.** decide upon the tools box talks contents
- GS9.** identify any hazards in workplace organize safety equipments prior to commencing work
- GS10.** work to ensure safe and healthy environmental conditions at workplace
- GS11.** identify analysis & report hazards, accidents, health and safety risks, etc. or seek help from the appropriate authorities to address the same as per the guidelines laid down by site EHS
- GS12.** analyze areas of work which are potential safety hazards and could result in damage to life or property for the respective gang at the construction site
- GS13.** respond to critical health risks or accidents on an urgent basis through appropriate actions



Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Ensure healthy and safe working environment for subordinates</i>	25	25	-	-
PC1. ensure proper housekeeping at workplace	2.5	2.5	-	-
PC2. implement safe handling , stacking methods at workplace / store	2.5	2.5	-	-
PC3. ensure that health and safety plan is followed by all subordinates	2.5	2.5	-	-
PC4. Identify any hazard in workplace and notify them to appropriate authority	2.5	2.5	-	-
PC5. ensure that all safety and protection installation are correctly placed & adequate	2.5	2.5	-	-
PC6. ensure safe access is available at work place for movement of workers & materials	2.5	2.5	-	-
PC7. ensure safe use of tools and tackles by the workmen as per applicability	2.5	2.5	-	-
PC8. ensure appropriate use of following Personal Protective Equipment (PPE) as per applicability: Head Protection (Helmets Ear Protection Fall Protection Foot Protection Face and Eye Protection, Hand &Body Protection Respiratory Protection	5	5	-	-
PC9. maintain entrances & exit from confined spaces , excavated pits and other location in concurrence with safety parameters or instruction form safety personals	2.5	2.5	-	-
<i>Identify and respond to risks / fire and emergencies associated with the work practices, workplace and ensure related organizational & statutory requirement as followed</i>	25	25	-	-



Qualification Pack



Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. ensure organizational policies and procedures are followed for health , safety and welfare, in relation to: methods of receiving or sourcing information dealing with accidents and emergencies associated with the work and environment reporting stooping work evacuation fire risks and safe exit procedures	5	5	-	-
PC11. follow procedures for accident recording and reporting as per organizational and statutory requirements	2.5	2.5	-	-
PC12. ensure effective adherence to response to emergency procedures /protocols	3.75	3.75	-	-
PC13. report any case of emergency / risks to the concern people at the construction site	3.75	3.75	-	-
PC14. report any perceived risk hazards to the superiors / concerned EHS	3.75	3.75	-	-
PC15. demonstrate the use of fire protection equipments for different type of fire hazard	3.75	3.75	-	-
PC16. implement control measures to reduce risk & meet legal requirement as per organizational policies	2.5	2.5	-	-
NOS Total	50	50	-	-



National Occupational Standards (NOS) Parameters

NOS Code	CON/N9002
NOS Name	Manage workplace for safe and healthy work environment
Sector	Construction
Sub-Sector	Generic
Occupation	Generic
NSQF Level	6
Credits	TBD
Version	1.1
Last Reviewed Date	23/03/2015
Next Review Date	31/03/2022
NSQC Clearance Date	19/05/2015

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

- 1.Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
5. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.
6. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack

Minimum Aggregate Passing % at QP Level : 70



Qualification Pack



(Please note: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
CON/N1011.Maintain coordination among superior and subordinates	50	50	-	-	100	20
CON/N1012.Organise equipments and complete preparatory works prior to pavement laying	50	50	-	-	100	20
CON/N1013.Supervise construction works in flexible and rigid pavements	50	50	-	-	100	20
CON/N1014.Carry out checks to the completed works in flexible/ rigid pavement	50	50	-	-	100	20
CON/N9002.Manage workplace for safe and healthy work environment	50	50	-	-	100	20
Total	250	250	-	-	500	100



Qualification Pack



Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training



Qualification Pack



Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.



Qualification Pack



Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.