



GREEN
CLIMATE
FUND

MNSDA



Ministry of Environment
Climate Change & Technology

LOG BOOK



NATIONAL CERTIFICATE III PLUMBING

STUDENT'S DETAILS

Passport Size
3.5cm x 4.5 cm

Student Name

Std ID No.

Mobile

Address

Email

Date

Course

Centre

Batch

Signature

Authorized Signature

Stamp

PEDGE OF THE PARTICIPANTS

As a participant I recognize my roles and responsibilities as follows and I promise that:

1. I am undertaking this Course / Program to learn with confidence and enthusiasm and will strive to keep my level best to apply what I learn in my workplace.
2. I will learn my theory/concept lessons with much care, confidence and enthusiasm.
3. I will not disturb my participants within the classroom and workplaces.
4. I will understand and uphold, in letter and spirit, my behaviors, my attitudes and my perceptions of life and experiences with an open and sincere heart and mind seeking to learn to be a leader tomorrow.
5. I will refrain from bad-mouthing unfairness and disgracing my Employer, my Supervisors, my Trainers and other participants.
6. I will protect and preserve the rights of my family, my Employer, my Trainers, my Society and dignity of others and I will oppose discrimination, exploitation and unfairness.
7. I will report the performance, outcome and problems accurately, honestly with figures, reasons and logics that I face in applying the knowledge and skills I learn from the Course/Program.
8. I will share my knowledge, skills in developing myself and others and help my Employer, my Trainers to develop and improve success of my Employer and my Trainers.
9. I will attend all classes and activities that require attendance

In exercising my Pledge of Participation to the above-mentioned specific points, I recognize that my attitude, behavior and communication must set an example of confidence and enthusiasm and positive attitude. I will remain accountable to my own self, my Employer, my Trainer and my Society for my attitudes, actions and communications with confidence and enthusiasm to uphold these specific 9 points of my Pledge of Participation

.....
(Student Signature)

INFORMATION ABOUT THE QUALIFICATION

1. Endorsement Application for Qualification 01		
2. NATIONAL CERTIFICATE III IN PLUMBER		
3. Qualification code:	Total Number of Credits: 65	
4. Purpose of the qualification The Certificate III in Plumber provides comprehensive training for all plumbing covers the practical and theoretical aspects of the industry. You will gain skills in areas such as welding, water supply, drainage, sanitary, gas fitting, roofing and mechanical services.		
5. Regulations for the qualification		
6. Schedule of Units		
Unit No	Unit Title	Code
Common Competencies		
01	Apply Occupational Health and Safety requirements	
02	Apply work ethics and optimize professionalism	
03	Practice effective workplace communication	
04	Provide effective customer care	
05	Perform computer operations	
06	Provide first aid	
07	Respond to fire	
Core Competencies		
08	Apply Science and Engineering Measurements	
09	Perform safe workshop practice	
10	Carry out simple concreting and rendering	
11	Prepare Estimate and Read layout	
12	Install domestic water pipe systems	
13	Install and fit off sanitary fixtures	
14	Locate, clear blockages and fix leaks	
15	Install below ground domestic waste water	
16	Fabricate and install roof drainage components	
17	Perform plumbing to support rain water harvesting systems	
7. Accreditation requirements		
8. Recommended sequencing of units		

ACKNOWLEDGEMENT OF TRAINING DELIVERY

Unit-1: Apply Occupational Health and Safety Requirements

#	Activities	Mark “√” if completed	Date completed
1	Clean Work Preparation Areas		
1.1	Clean preparation areas using appropriate cleaning agents and equipment according to workplace procedures		
1.2	Remove spillages using appropriate agents, personal protective equipment (PPE) and workplace procedures		
1.3	Collect and segregate wastes in accordance with workplace procedures, relevant codes and regulations		
2	Clean and Store equipment		
2.1	Collect used equipment, inspect for faults and, where necessary, remove from service		
2.2	Use appropriate agents, apparatus and techniques to clean equipment		
2.3	Store clean equipment in the designated locations and manner		
3	Monitor Stocks of materials and equipment		
3.1	Perform stock checks and maintain records of usage as directed		
3.2	Store labelled stocks for safe and efficient retrieval		
3.3	Inform appropriate personnel of impending stock shortages to maintain continuity of supply		
4	Maintain a safe work environment		
4.1	Participate in OHS activities within scope of responsibilities		
4.2	Use established safe work practices and PPE to ensure personal safety and that of other personnel		
4.3	Report potential hazards and/or maintenance issues in own work area to designated personnel		
4.4	Minimise the generation of waste and environmental impacts		
4.5	Dispose of waste in accordance with workplace procedures, relevant codes and regulations		
5	Follow incident and emergency		
5.1	Identify incident and emergency situations		
5.2	Report and record incident and emergency situations according to workplace procedures		
5.3	Follow incident and emergency procedures as appropriate to the nature of emergency using emergency equipment according to workplace procedures		
6	Determine Occupational Health and safety (OH&S) issues relating to immediate work environment		
6.1	Occupational Health and Safety issues in the immediate workplace are assessed and action to rectify the problem is taken or reported to supervisor		
6.2	Understand the aspects of First aid		
6.3	Understand the aspects of Fire Respond		
6.4	Workplace and OH&S procedures are followed to ensure safe working environment		
6.5	Occupational Health and Safety documents are provided to all work stations, this should include a list of personal safety items based on the line of work.		

I declare that theory and practical of the above unit and its elements have been taught

Date:.....

Signature:.....

ACKNOWLEDGEMENT OF TRAINING DELIVERY

Unit-2: Apply Work Ethics and Optimize Professionalism

#	Activities	Mark “√” if completed	Date completed
1	Define the purpose of work		
1.1	One’s unique sense of purpose for working and the whys of work are identified, reflected on and clearly defined for one’s development as a person and as a member of society.		
1.2	Personal mission is in harmony with company’s values.		
2	Apply work values/ethics		
2.1	Work values/ethics/concepts are identified and classified in accordance with company’s ethical standard guidelines.		
2.2	Work policies are undertaken in accordance with company’s policies, guidelines on work ethical standard.		
2.3	Resources are used in accordance with company’s policies and guidelines.		
2.4	Punctuality, absence from work, sick, family and annual leave is maintained alignment to the Employment Act of the Maldives		
3	Deal with ethical problems		
3.1	Company ethical standards, organizational policy and guidelines on the prevention and reporting of unethical conduct/behavior are followed.		
3.2	Work incidents/situations are reported according to company protocol/guidelines.		
3.3	Resolution and/or referral of ethical problems identified are reported/documented based on standard operating procedure		
4	Maintain integrity of conduct in the workplace		
4.1	Personal behavior and relationships with coworkers and/or clients are demonstrated consistent with ethical standards, policy and guidelines.		
4.2	Work practices are satisfactorily demonstrated and consistent with industry work ethical standards, organizational policy and guidelines.		
4.3	Instructions to co-workers are provided based on ethical lawful and reasonable directives		
5	Contribute to workplace efficiency and delivery of quality service		
5.1	Prioritize work load according to level of responsibility		
5.2	Advise supervisor if additional resources or support are required to improve performance		
5.3	Undertake duties in a positive manner to enhance workplace cooperation and efficiency		
5.4	Monitor and adjust work practices to ensure that quality of outputs is maintained		
5.5	Identify and report opportunities for improvements in procedures, processes and equipment in work area		

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ACKNOWLEDGEMENT OF TRAINING DELIVERY

Unit-3: Practice effective workplace communication

#	Activities	Mark “√” if completed	Date completed
1	Obtain and convey workplace information		
1.1	Specific and relevant information is accessed from appropriate sources		
1.2	Effective questioning, active listening and speaking skills are used to gather and convey information		
1.3	Appropriate medium is used to transfer information and ideas		
1.4	Appropriate non- verbal communication is used		
1.5	Appropriate lines of communication with supervisors and colleagues are identified and followed		
1.6	Defined workplace procedures for the location and storage of information are used		
1.7	Personal interaction is carried out clearly and concisely		
2	Speak English and Dhivehi at an operational level		
2.1	Workplace interactions with colleagues appropriately made		
2.2	Verbal instructions or requests are responded to at an operational level		
2.3	Appropriate non-verbal communication used		
2.4	Simple requests are made		
2.5	Routine procedures are described		
2.6	Different forms of expression in English and Dhivehi is identified and used as appropriate		
3	Participate in workplace meetings and discussions		
3.1	Team meetings are attended on time		
3.2	Own opinions are clearly expressed and those of others are listened to without interruption		
3.3	Contact with local communities is maintained		
3.4	Workplace interactions are conducted in a courteous manner		
3.5	Questions about simple routine workplace procedures and matters concerning working conditions of employment are asked and responded to		
3.6	Meetings outcomes are interpreted and implemented correctly		
4	Complete relevant work-related documents		
4.1	Conditions of employment are clear and understood properly		
4.2	Relevant information accessed from appropriate sources		
4.3	Relevant data on workplace forms and other documents filled correctly		
4.4	Instructions and guidelines understood and followed properly		
4.5	Reporting requirements completed properly		
5	Manage workplace calls and messages		
5.1	Operate workplace phones		
5.2	Attend and manage phone calls		
5.3	Read and respond to texts and messages		
5.4	Perform communication in both English and Dhivehi		

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ACKNOWLEDGEMENT OF TRAINING DELIVERY

Unit-4: Provide effective customer care

#	Activities	Mark "√" " if completed	Date completed
1	Greet customers and colleagues		
1.1	Customers and colleagues greeted according to standard procedures and social norms		
1.2	Sensitivity to cultural and social differences demonstrated		
2	Identify and attend to customer needs		
2.1	Appropriate interpersonal skills are used to ensure that customer needs are accurately identified		
2.2	Customer needs are assessed for urgency so that priority for service delivery can be identified		
2.3	Personal limitation in addressing customer needs is identified and where appropriate, assistance is sought from supervisor		
2.4	Customers informed correctly		
2.5	Personal limitation identified and assistance from proper sources sought when required		
3	Deliver service to customers		
3.1	Customer needs are promptly attended to in line with organizational procedure		
3.2	Appropriate rapport is maintained with customer to enable high quality service delivery		
3.3	Opportunity to enhance the quality of service and products are taken wherever possible		
4	Handle inquiries		
4.1	Customer queries handled promptly and properly		
4.2	Personal limitations identified and assistance from proper sources sought when required		
5	Handle complaints		
5.1	Responsibility for handling complaints taken within limit of responsibility		
5.2	Personal limitations identified and assistance from proper sources sought when required		
5.3	Operational procedures to handling irate or difficult customers followed correctly		
5.4	Details of complaints and comments from customers properly recorded		
6	Handle and manage angry customers		
6.1	Apply principles related to anger management		
6.2	Meet with angry customers and console them accordingly		
6.3	Maintain a log book for recording customer service incidents.		

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ACKNOWLEDGEMENT OF TRAINING DELIVERY

Unit-5: Perform Computer operations

#	Activities	Mark "√" " if completed	Date completed
1	Start computer, system information and features		
1.1	Adjust workspace, furniture and equipment to suit user ergonomic requirements		
1.2	Ensure work organization meets organizational and occupational health and safety (OHS) requirements for computer operation		
1.3	Start computer or log on according to user procedures		
1.4	Identify basic functions and features using system information		
1.5	Customize desktop configuration, if necessary, with assistance from appropriate persons		
1.6	Use help functions as required		
2	Organize files using basic directory and folder structures		
2.1	Create folders/subfolders with suitable names		
2.2	Save files with suitable names in appropriate folders		
2.3	Rename and move folders/subfolders and files as required		
2.4	Identify folder/subfolder and file attributes		
2.5	Move folders/subfolders and files using cut and paste, and drag and drop techniques		
2.6	Save folders/subfolders and files to appropriate media where necessary		
2.7	Search for folders/subfolders and files using appropriate software tools		
2.8	Restore deleted folder/subfolders and files as necessary		
3	Print information		
3.1	Print information from installed printer		
3.2	View progress of print jobs and delete as required		
3.3	Change default printer if installed and required		
4	Apply web browsing skills		
4.1	Introduction to WWW		
4.2	Acknowledge to gather relevant information from reliable sources		
4.3	Use of search engines		
4.4	Basic interaction of browser		
4.5	Creating bookmarks in browser		
4.6	Upload and download files		
4.7	Navigation of hyperlink		
5	Shut down Computer		
5.1	Close all open applications		
5.2	Shut-down computer according to user procedures		
6	Basic Microsoft word and excel skills		
6.1	Ensure data is entered, checked and amended in accordance with organizational and task requirements, to maintain consistency of design and layout		
6.2	Format spreadsheet using software functions; to adjust page and cell layout to meet information requirements, in accordance with organizational style and presentation requirements		
6.3	Ensure formulae are used and tested to confirm output meets task requirements, in consultation with appropriate personnel as required		
6.4	Use manuals, user documentation and online help to overcome problems with spreadsheet design and production		
6.5	Format document using appropriate software functions to adjust page layout to meet information requirements, in accordance with organizational style and presentation requirements		
6.6	Use system features to identify and manipulate screen display options and controls		

6.7	Use manuals, user documentation and online help to overcome problems with document presentation and production		
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I declare that theory and practical of the above unit and its elements have been taught

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Signature:.....

ACKNOWLEDGEMENT OF TRAINING DELIVERY

Unit-6: Provide First aid

#	Activities	Mark "√" if completed	Date completed
1	Assess the situation		
1.1	Physical hazards and risks to self and others' health and safety identified		
1.2	Immediate risks to self and casualty's health and safety minimized by controlling hazards in accordance with occupational health and safety requirements		
1.3	The situation assessed and prompt decision taken on actions required		
1.4	Assistance sought from relevant persons/authority, as required and at the appropriate time		
2	Apply basic first aid techniques		
2.1	Casualty's physical condition assessed by visible vital signs		
2.2	First aid provided to stabilize the patient's physical and mental condition in accordance with enterprise policy on provision of first aid and recognized first aid procedures		
2.3	Available first aid equipment used as appropriate		
3	Monitor the situation		
3.1	Back-up services appropriate to the situation identified and notified promptly		
3.2	Information about the patient's condition reported accurately and clearly to emergency services personnel or health professionals		
4	Prepare required documentation		
4.1	Documented emergency situations according to enterprise procedures		
4.2	Clear and accurate reports are provided within required time frames		

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ACKNOWLEDGEMENT OF TRAINING DELIVERY

Unit-7: Respond to Fire

#	Activities	Mark "√" " if completed	Date completed
1	Prepare for fire		
1.1	Procedures related to a fire emergency are accessed, interpreted and rehearsed		
1.2	Location of firefighting equipment is identified and the equipment is checked in accordance with organizational procedures and referred for maintenance/replacement as required		
2	Carry out initial notification and assessment		
2.1	Nature and scope of the fire is identified, confirmed and reported to appropriate personnel		
2.2	Fire situation is assessed and appropriate course of action is determined in keeping with requirements for personal safety		
2.3	Notification of fire threat is undertaken in accordance with authorized procedures		
2.4	Emergency evacuation procedures are followed, where appropriate, and in accordance with organizational procedures		
3	Extinguish fires		
3.1	Fires are extinguished using the appropriate equipment, materials and procedures		
3.2	Extinguisher is applied to ensure fast knockdown of fire		
3.3	Extinguisher is used at the appropriate range and time		
3.4	Extinguisher is used to minimize damage to equipment and facilities and to minimize risk of injury to personnel		

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ACKNOWLEDGEMENT OF TRAINING DELIVERY

Unit-8: Apply science and Engineering measurements

#	Activities	Mark "√" if completed	Date completed
1	Apply basic mathematics		
1.1	Perform simple calculations on: fractions and decimals, calculations to a number of significant figures, decimal places		
1.2	Identify and use the multiples and sub-multiples of units		
1.3	Perform calculations on: perimeter and area of plane figures (i.e. square and rectangle, triangle, circle), volume and surface area (i.e. cube, rectangular prism, cylinder), mass of containers and their contents (i.e. cube, rectangular prism, cylinder)		
1.4	Perform mathematical calculations involving formulas, angles, triangles and geometric construction		
1.5	Identify and use formulas for SI quantities: length, area, volume, mass, density		
1.6	Identify the elements of a circle Parts: radius, diameter, circumference, chord, sector, segment, arc, tangent		
1.7	Identify and use the ratio of sides of 45° and 60° right angled triangles.		
1.8	Identify and use the rules of 3:4:5 and 5:12:13 for the sides of right-angled triangles.		
1.9	Solve simple workshop problems involving Pythagoras and right-angled triangles.		
1.10	Evaluate and transpose simple formulae associated with workshop problems.		
1.11	Convert minutes and seconds to decimal fractions of a degree.		
2	Apply fundamental of science		
2.1	Systems of measurements, Motion in one dimension and two dimensions		
2.2	Newton's Laws I & II		
2.3	Gravity		
2.3	Mechanics of solids and fluids		
3	Demonstrate simple drawing		
3.1	Identify angles, plane figures and types of drawing		
3.2	Identify first and third angle orthographic projections of isometric or oblique views.		
3.3	Identify single plane sectional views of simple components.		
3.4	Perform basic drafting		
3.5	Read and interpret drawings		
3.6	Introduce basics of AUTOCAD		
4	Undertake relevant measurement		
4.1	Identify measuring devices		
4.2	Follow appropriate measuring procedures		
4.3	Keep record of the measurements		

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Signature:.....

ACKNOWLEDGEMENT OF TRAINING DELIVERY

Unit-9: Perform safe workshop practice

#	Activities	Mark "√" " if completed	Date completed
1	Identify and explain functions tools used in mechanical workshop		
1.1	Sketch and name tools used in the mechanical workshop		
1.2	Explain functions of the identified tools and scope of their use		
2	Identify and explain properties of various pipes and their applications		
2.1	Identify types of pipes used in plumbing and sewerage services		
2.2	Interpret functions and their application within plumbing services and sewerage operations		
2.3	Demonstrate joining methods of the pipes		
2.4	Familiarize with fitting used on these different pipes		
3	Use measuring instruments properly		
3.1	Identify names and functions of various measuring instruments used in mechanical workshop		
3.2	Demonstrate use of various measuring instruments		
4	Apply safe electrical skills		
4.1	Interpret electrical safety		
4.2	Familiarize with functions and applications of electrical tools and equipment		
4.3	Perform simple electrical circuits		
4.4	Perform electrical measurements using measuring devices on single phase and three phase equipment.		
4.5	Diagnose faults on electrical connections on electrically operated appliances		
5	Perform basic workshop practices		
5.1	Undertake marking out on pipe		
5.2	Perform pipe cutting methods		
5.3	Perform drilling holes on pipes		
5.4	Perform filing on pipes		

I declare that theory and practical of the above unit and its elements have been taught

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ACKNOWLEDGEMENT OF TRAINING DELIVERY

Unit-10: Carry out simple concreting and rendering

#	Activities	Mark "√" " if completed	Date completed
1	Prepare for work		
1.1	Work health and safety and quality assurance requirements are identified and adhered.		
1.2	Tools and equipment, including personal protective equipment, are selected and checked for serviceability.		
1.3	Sustainability principles and concepts are applied		
2	Place concrete		
2.1	Concrete mixture is prepared to meet job and manufacturer requirements.		
2.2	Formwork or excavation area is cleaned of excess material and debris prior to concrete placement.		
2.3	Concrete is safely transported by an approved method.		
2.4	Concrete is placed in formwork or placement site to specified depth ensuring all cavities are filled.		
2.5	Concrete is screened to the alignment of formwork and project specified datums.		
2.6	Surface of concrete is finished according to specifications		
3	Place rendering		
3.1	Render mixture is prepared to meet manufacturer requirements.		
3.2	Render is safely transported by an approved method.		
3.3	Render is applied in the required location.		
3.4	Surface of render is finished according to specifications.		
4	Clean up		
4.1	Work area is cleared and materials disposed of, reused or recycled according to legislation, regulation, codes of practice and job specification.		
4.2	Tools and equipment are cleaned, checked, maintained and stored according to manufacturer recommendations and workplace procedures.		
4.3	Information is accessed and documentation completed according to workplace requirements.		

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ACKNOWLEDGEMENT OF TRAINING DELIVERY

Unit-11: Prepare Estimates and Read layouts

#	Activities	Mark "√" " if completed	Date completed
1	Determine customer requirements		
1.1	Data required for welding job, collected from the models, sketches or drawings supplied, or by visiting the client's sites (free hand drawing with isometric drawing)		
1.2	Purpose & type of the welding and material required, determined by interpreting sketches/drawings/ models supplied by customer/client		
1.3	Conceptual drawings, work plan, for the job prepared, briefed to client & approval for the production obtained		
2	Develop a sketch and prepare estimates for the fabrication		
2.1	Sketches /drawings prepared with available data		
2.2	Accessories, and other fixtures / components listed as required for the welding of the job listed		
2.3	Machinery & tools required for the welding job listed		
2.4	Material quantified and cost estimated including added percentage for wastage		
2.5	Welding		
2.6	Complete estimate for the welding prepared, by adding full cost of production, cost for transport & logistics, inclusive of overheads and profit, according to company policy		
3	Prepare work plan & obtain clients approval to commence work		
3.1	Work plans/flowcharts for the welding each item of the prepared & due dates for completion estimated		
3.2	Cost of entire welding job & the due date of delivery/handing over informed to the client		
3.3	Approval to commence the welding job obtained from the client, by submitting drawings, cost estimate & other relevant information and by negotiating & agreeing to deliver on targets.		

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ACKNOWLEDGEMENT OF TRAINING DELIVERY

Unit-12: Install Domestic water pipe systems

#	Activities	Mark "√" " if completed	Date completed
1	Plan and prepare		
1.1	Work instructions and relevant information, including plans, specifications, quality requirements and operational details relevant to the tasks, are obtained,		
1.2	Signage requirements are identified and obtained from project traffic management plan and traffic conditions and are implemented.		
1.3	Plant, tools and equipment selected to carry out tasks are consistent with requirements of the job, are checked for serviceability and any faults are rectified or reported.		
1.4	Environmental requirements are identified from project environmental management plan, confirmed and applied to the allotted task.		
2	Set out and excavate		
2.1	Work area and materials are prepared to support efficient installation of the pipe work.		
2.2	Dewatering requirements are determined and applied.		
2.3	Location, alignment direction, level and grade of mains pipe system are determined from job drawings.		
2.4	Works are set out to specification.		
2.5	Plant operator is advised of excavation requirements and levels are monitored.		
2.6	Mains pipe system support mechanism is installed according to plans, specifications and standards		
3	Install pipeline		
3.1	Pipes are lowered joined according to manufacturer specifications using pipe joining methods		
3.2	Pipes are placed and fittings, valves and flow control devices are fitted according to drawings, specifications and installation procedures		
3.3	Alignment level and grade are checked continuously for conformance with design plans and specifications		
3.4	Side support or overlay is positioned beside the pipes.		
3.5	Main pipe system support structure is checked		
3.6	Backfill procedure and concepts are observed when preparing for and undertaking work process		
4	Test pipe System		
4.1	Testing is performed to relevant authorities' requirement as determined by specifications		
4.2	Pipe system test procedure are performed,		
4.3	Test results are recorded and reported		
5	Clean up		
5.1	Work area is cleared and materials disposed of, reused or recycled according to legislation		
5.2	Plant, tools and equipment are cleaned, checked, maintained and stored according to manufacturer recommendations and standard work practices		

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ACKNOWLEDGEMENT OF TRAINING DELIVERY

Unit-13: Install and fit off sanitary fixtures

#	Activities	Mark “√ “ if completed	Date completed
1	Plan system layout		
1.1	Site inspection is undertaken to determine job requirements		
1.2	Quantity, location and type of fixtures are determined from design drawings, plans and elevations and other relevant information.		
1.3	Layout of sanitary plumbing system is planned according to plans and relevant Maldivian standards.		
1.4	Materials and fixtures required are determined from proposed design		
2	Identify Installation requirements		
2.1	Position of sanitary fixtures is determined in accordance with plans, specifications and site requirements.		
2.2	Quantity and type of materials, including pipe materials required, are calculated from design drawings and specifications.		
2.3	Materials and equipment are identified, ordered and collected in accordance with workplace procedures.		
2.4	Materials and equipment are checked for compliance		
3	Install and fir off sanitary fixtures		
3.1	Set out is checked for compliance with design drawings.		
3.2	Fixtures are positioned and installed to comply with plans, specifications and manufacturer requirements.		
3.3	Fixtures, components and pipework are assembled, installed and tested		
3.4	Fixtures are installed and connected without damage or distortion to fixture, pipework, surrounding environment or other services.		
3.5	Completed installation is checked for correct functioning and compliance with specifications		
4	Identify joining requirements		
4.1	Joining materials are selected to comply with plans and specifications.		
4.2	Sealants, fixing materials and sheet metal materials are checked for compatibility and are appropriate for the job.		
5	Install and test pipe system		
5.1	Pipe system is set out to comply with plans, specifications and relevant Maldivian standards.		
5.2	Fixings and supports are installed to manufacturer recommendations, job plans and specifications, and relevant Maldivian standards.		
5.3	Pipes are installed and jointed according to relevant Maldivian standards, without damage or distortion to pipework, surrounding environment and other services.		
5.4	Pipe system is tested to comply with relevant Maldivian standards and adjusted		

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ACKNOWLEDGEMENT OF TRAINING DELIVERY

Unit-14: Locate clear blockages and fix leaks

#	Activities	Mark "√" " if completed	Date completed
1	Prepare for work		
1.1	Plans and specifications are obtained from job supervisor.		
1.2	Work health and safety (WHS) and environmental requirements associated with locating and clearing blockages are adhered to throughout the work.		
1.3	Quality assurance requirements are identified and adhered to in accordance with workplace requirements.		
1.4	Tasks are planned and sequenced in conjunction with others involved in or affected by the work.		
1.5	Tools and equipment, including personal protective equipment, are selected and checked for serviceability.		
1.6	Work area is prepared to support efficient locating and clearing of blockage		
2	Locate and clear blockage		
2.1	Section containing blockage is located and isolated and its material identified.		
2.2	Blockage clearing equipment is selected according to the job.		
2.3	Where necessary, mechanical drain clearing equipment is assembled and used according to manufacturer instructions.		
2.4	Blockage is cleared without causing damage to pipework and fittings.		
2.5	Pipework is tested to confirm blockage is cleared from pipe system.		
2.6	Where required, authorities are advised of work completion.		
2.7	Sustainability principles and concepts are applied throughout the locating and clearing process		
3	Clean up		
3.1	Work area is cleared and materials disposed of, reused or recycled according to legislation, regulations, codes of practice and job.		
3.2	Tools and equipment are cleaned, checked, maintained and stored according to manufacturer recommendations and workplace procedures.		
3.3	Information is accessed and documentation completed according to workplace requirements		

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ACKNOWLEDGEMENT OF TRAINING DELIVERY

Unit-15: Install below ground domestic waste water

#	Activities	Mark "√" " if completed	Date completed
1	Prepare for work		
1.1	Plans and specifications are obtained.		
1.2	Work health and safety, quality and environmental requirements analyzed		
1.3	Tasks are planned and sequenced in conjunction with others involved in or affected by the work.		
1.4	Tools and equipment, including personal protective equipment, are selected and checked for serviceability.		
1.5	Location of underground services is identified.		
1.6	Work area is prepared to support efficient installation of sanitary drainage systems		
2	Identify installation requirements		
2.1	Quantity and type of materials required are calculated from existing plans		
2.2	Materials and equipment are identified, ordered and collected.		
2.3	Materials and equipment are checked for compliance		
2.4	Sustainability principles and concepts are applied throughout the installation process		
3	Install sanitary drainage system		
3.1	Pipework is set out according to plans and specifications, site requirements or job instructions.		
3.2	Pipework is installed according to plans, specifications, standards and workplace procedures.		
3.3	Connections for alterations, additions or repairs to existing systems are made according to standards and manufacturer specifications.		
3.4	Installation is checked for compliance with design drawings, specifications, site requirements, standards and authorities' requirements.		
3.5	Installation is tested to comply with standards and relevant authorities' requirements.		
4	Develop catch pit and oil trap to the guidelines provided by sewerage service providers		
4.1	Obtain drawing and measurements for catch pit from the service provider		
4.2	Arrange the materials to develop the catch pit		
4.3	Develop the catch pit to industry standard		
5	Clean up		
5.1	Installation is backfilled according to standards, and work area is cleared and materials handled		
5.2	Tools and equipment are cleaned, checked, maintained and stored.		
5.3	Information is accessed and documentation completed		

I declare that theory and practical of the above unit and its elements have been taught

Date:.....

Signature:.....

ACKNOWLEDGEMENT OF TRAINING DELIVERY

Unit-16: Fabricate and install roof drainage components

#	Activities	Mark "√" " if completed	Date completed
1	Prepare for work		
1.1	Plans and specifications are obtained and confirmed		
1.2	Tasks are planned and sequenced		
1.3	Tools and equipment, including personal protective equipment, are selected and checked		
1.4	Work area is prepared to support the fabrication		
2	Identify installation requirements		
2.1	Roof drainage components required for installation are identified from drawings and specifications.		
2.2	Fabrication patterns are drawn based on design and freehand sketch of roof drainage.		
2.3	Quantity, type and sizing of drainage components, rainwater materials and accessories required are calculated from drawings and specifications		
2.4	Box gutter support system is fabricated according to relevant Maldivian standard		
3	Fabricate roof drainage components		
3.1	Method of fabrication, tools and machinery requirements are determined to suit job requirements.		
3.2	Materials are marked out from drawings to fabricate roof drainage components.		
3.3	Roof drainage components are fabricated in compliance with relevant Maldivian standards, drawings, specifications and site measurements		
4	Set out and install roof drainage components		
4.1	Roof drainage components are set out to comply with job specifications and site measurements.		
4.2	Roof drainage components are jointed in compliance with job specifications and relevant Maldivian standards.		
4.3	Roof drainage system is installed according to relevant Maldivian standards and job specifications.		
4.4	System is performance tested for satisfactory installation and remedied		
5	Clean up		
5.1	Work area is cleared and materials disposed		
5.2	Tools and equipment are cleaned, checked, maintained and stored		
5.3	Documentation is completed according to workplace requirements		

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Signature:.....

ACKNOWLEDGEMENT OF TRAINING DELIVERY

Unit-17: Perform plumbing to support rain water harvesting systems

#	Activities	Mark "√" " if completed	Date completed
1	Evaluate design parameters		
1.1	Scope of work is established for rainwater harvesting systems for wide span and high-rise building projects.		
1.2	Design requirements are determined from relevant Maldivian standards, codes, plans, specifications and client brief.		
1.3	Potential contamination sources are analyzed and solutions are applied.		
1.4	Rainfall patterns and required rainwater storage volumes are established.		
1.5	Cost-benefit analysis is conducted comparing a range of pipe materials and system designs.		
1.6	Statutory, regulatory requirements and relevant Maldivian standards and codes for the design of rainwater harvesting systems are interpreted, analysed and applied.		
1.7	Manufacturer requirements and trade and technical manuals are interpreted.		
1.8	Additional research, including a desktop study, is conducted to outline design parameters.		
1.9	Performance requirements are established, considering safety of system users or building occupants.		
2	Plan and detail system components		
2.1	Tank type and location are specified.		
2.2	Layout of pipework systems and type and location of fittings, valves and controls are planned.		
2.3	First-flush systems are designed and detailed.		
2.4	Filtration systems and water contamination solutions are specified.		
2.5	Pipe size calculations are completed for a range of applications.		
2.6	Separation of services and backflow prevention devices are designed and detailed.		
2.7	Approved non-contaminating materials and jointing methods for rainwater harvesting are specified and pipe supports are designed.		
2.8	Pump and ancillary requirements are sized and detailed.		
2.9	Installation requirements are specified.		
2.10	Water treatment is specified according to state and territory health requirements.		
2.11	Vermin protection is specified according to manufacturer and state and territory requirements.		
2.12	Allowance for expansion and contraction is provided		
3	Undertake plumbing tasks associated with the system		
3.1	Rainwater harvesting systems are designed and detailed for a range of residential, commercial and industrial applications.		
3.2	Rainwater reuse systems are designed and detailed.		
3.3	Rainwater harvesting systems are designed and sized using calculation and computer software packages.		
3.4	Sustainability principles and concepts are applied throughout the design process		
4	Prepare documentation		
4.1	Client brief of the desired design is prepared.		
4.2	Plans and specifications are prepared for a range of rainwater harvesting systems.		
4.3	Testing and commissioning schedule is prepared.		
4.4	Operation and maintenance manual is produced, including information on how to properly and safely maintain the system.		

I declare that theory and practical of the above unit and its elements have been taught

Date:.....

Signature:.....

DETAILS OF WORK UNDERTAKEN AT WORK SITE/TRAINING LAB

Relevant
Competency
Unit (s):

Date:

Work / Function / Task / Activity Performed

Employer / Supervisor's/Trainer Signature/Stamp

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PLUMBING