BAHAGIAN L
SENARAI KUANTITI

MENAIK TARAF SISTEM PENCEGAHAN KEBAKARAN DAN LAIN-LAIN KERJA BERKAITAN DI BANGUNAN WISMA MAJLIS BANDARAYA ISKANDAR PUTERI, 81300 SKUDAI, JOHOR

RINGKASAN SENARAI KUANTITI

BIL.	BAHAGIAN	MUKA SURAT	JUMLAH (RM)
1	**PRELIMINARIES**	L/2	
2	**DEMOLITION, DISMANTLE AND DISPOSAL WORKS**	L/7	
3	**MECHANICAL WORKS**	L/11	
4	**ELECTRICAL WORKS**	L/17	
5	**PROVISIONAL SUM**	L/20	
JUMLAH KESELURUHAN			

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
A	PRELIMINARIES **NOTES TO CONTRACTOR** This portion of work for the Preliminaries shall be carried out by a CIDB-Registered Civil or General Works Contractor. All installation and preparatory works must comply with the requirements and regulations set forth by relevant authorities including Majlis Bandaraya Iskandar Puteri (MBIP), Department of Environment (DOE), and any other pertinent regulatory bodies. These regulations must be strictly adhered to as outlined in the approved drawings, project specifications, and national codes to ensure that the site preparation meets safety and environmental standards. All lengths, quantities, and extents indicated are **PROVISIONAL**. Actual works completed shall be measured on site, and payments adjusted accordingly. Tenderers are advised to visit the site prior to tender submission to verify the extent of works required. Refer to the drawings, specifications, and site instructions for scope confirmation. All prices quoted shall include the complete supply, delivery, execution, and making good of the relevant items, complete with all necessary equipment, labor, tools, and disposal arrangements. All works shall be carried out in accordance with the drawings, specifications, and best construction practices, ensuring quality workmanship and proper clearance to the satisfaction of the Engineer and relevant authorities. Unless otherwise stated, all items shall include the cost of providing, executing, maintaining, coordinating, and subsequently removing or handing over the works as required, including all associated labor, materials, equipment, approvals, protection, and compliance with regulations. No separate claims shall be entertained for incidental or related costs not specifically listed.				
A.1	INSURANCES TO PROVIDE ALL INSURANCES REQUIRED UNDER THE CONTRACT, INCLUDING BUT NOT LIMITED TO CONSTRUCTION ALL RISK (CAR) INSURANCE, PUBLIC LIABILITY INSURANCE, WORKMEN'S COMPENSATION (WC), AND ANY OTHER STATUTORY INSURANCES AS REQUIRED BY LAW, THE CONTRACT, OR THE RELEVANT AUTHORITIES. THE INSURANCE POLICIES SHALL BE VALID FOR THE FULL DURATION OF THE CONTRACT PERIOD, INCLUDING ANY APPROVED EXTENSIONS, AND SHALL COVER ALL PERSONNEL, WORKS, EQUIPMENT, AND THIRD-PARTY RISKS. ALL PREMIUMS, DEDUCTIBLES, ENDORSEMENTS, AND DOCUMENTARY SUBMISSIONS SHALL BE BORNE BY THE CONTRACTOR AND SUBMITTED TO THE S.O. OR ENGINEER FOR VERIFICATION AND RECORD.	PUKAL	-		
A.2	PERFORMANCE BOND OR WANG JAMINAN PELAKASANAAN (WJP)				
A.2.1	CONTRACTOR SHALL PROVIDE A PERFORMANCE BOND FOR A SUM NOT EXCEEDING 2.5% OF THE TOTAL CONTRACT VALUE, VALID UNTIL THE EXPIRY OF THE DEFECTS LIABILITY PERIOD.	PUKAL	-		
A.2.2	ALTERNATIVELY, SUBJECT TO THE EMPLOYER'S INSTRUCTION, THE CONTRACTOR MAY OPT FOR A WANG JAMINAN PELAKSANAAN (WJP) ARRANGEMENT WHEREBY 5% RETENTION IS DEDUCTED FROM INTERIM PAYMENTS. NO SEPARATE PRICING IS REQUIRED FOR WJP. THE COST OF FURNISHING A PERFORMANCE BOND, IF OPTED, SHALL BE DEEMED INCLUDED.	PUKAL	-		
A.3	PROJECT SIGNBOARD TO SUPPLY, INSTALL, AND DISMANTLE A PROJECT SIGNBOARD AS PER MBIP REQUIREMENTS AT THE DESIGNATED LOCATION. THE SIGNBOARD SHALL DISPLAY ALL NECESSARY PROJECT INFORMATION INCLUDING PROJECT TITLE, CLIENT, CONSULTANTS, CONTRACTOR DETAILS, AND OTHER STATUTORY INFORMATION AS INDICATED IN DRAWING NO.: TD/NHK/2024/014/M/FP-24. THE BOARD SHALL BE CONSTRUCTED USING APPROVED WEATHER-RESISTANT MATERIALS(E.G..MILD STEEL FOR STRUCTURE,ACM FOR BOARD) WITH CLEAR LETTERING AND LAYOUT AS PER AUTHORITY GUIDELINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SUBMISSIONS, APPROVALS, STRUCTURAL SUPPORTS, PAINTING, LIGHTING (IF REQUIRED), AND MAINTENANCE THROUGHOUT THE CONSTRUCTION PERIOD.	PUKAL	-		
A.4	INSPECTION OF SITE TO CARRY OUT SITE INSPECTION AND PREPARE A COMPREHENSIVE DILAPIDATION REPORT COVERING ALL EXISTING CONDITIONS INCLUDING ACCESS ROUTES, AVAILABLE UTILITIES, ADJACENT STRUCTURES, ROADWAYS, SITE CONSTRAINTS, AND SURROUNDING FACILITIES PRIOR TO COMMENCEMENT OF WORKS. SCOPE INCLUDES ON-SITE MEASUREMENT, PHOTOGRAPHIC DOCUMENTATION, CONDITION ASSESSMENT, AND VERIFICATION WITH RELEVANT STAKEHOLDERS OR AUTHORITIES. CONTRACTOR SHALL ENGAGE A QUALIFIED PROFESSIONAL TO PREPARE AND SUBMIT THE REPORT TO THE S.O. AND RELEVANT PARTIES FOR RECORD AND REFERENCE. (APPROX. 15,400 M²)	PUKAL	-		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
A.5	SITE CLEARING TO CARRY OUT LOCALIZED SITE CLEARING AND ACCESS PREPARATION WORKS FOR RECTIFICATION OF FIRE PROTECTION SYSTEMS AS INDICATED IN DRAWING NO.: TD/NHK/2024/014/M/FP-01, INCLUDING REMOVAL OF LIGHT LANDSCAPING AROUND FIRE TANKS, CLEARING DEBRIS IN SERVICE AREAS (E.G., PUMP ROOMS, RISERS, CEILING VOIDS), AND MINOR INTERNAL OBSTRUCTIONS. WORKS SHALL BE EXECUTED IN STAGES TO COORDINATE WITH OCCUPIED AREAS, AND SHALL INCLUDE PROTECTION, REINSTATEMENT, AND PROPER DISPOSAL. (APPROX. 2,200 M²)	PUKAL	-		
A.6	TEMPORARY STORAGE FOR MATERIALS TO PROVIDE, MAINTAIN, AND LATER REMOVE TEMPORARY STORAGE SPACE FOR MATERIALS AND EQUIPMENT ON SITE, INCLUDING SECURE STORAGE CONTAINERS OR ALLOCATED LOCKED ROOMS. THE STORAGE AREA SHALL BE DRY, WELL-VENTILATED, AND PROTECTED FROM WEATHER, VANDALISM, AND THEFT. THE SCOPE SHALL INCLUDE NECESSARY SUPPORTS, PALLETS, RACKS, COVERINGS, AND ACCESS ARRANGEMENTS. CONTRACTOR SHALL COORDINATE WITH BUILDING MANAGEMENT AND OTHER TRADES TO AVOID OBSTRUCTION AND ENSURE SAFE, ORDERLY HANDLING OF STORED ITEMS. NOTE: LOCATION TO BE APPROVED BY S.O.	PUKAL	-		
A.7	WATER AND ELECTRICAL SUPPLY TO ARRANGE, PROVIDE, AND MAINTAIN TEMPORARY WATER AND ELECTRICAL SUPPLY NECESSARY THROUGHOUT THE CONTRACT PERIOD. THIS SHALL INCLUDE ALL CONNECTION FEES, FITTINGS, CABLING, HOSE LINES, METERING (IF REQUIRED), AND ASSOCIATED ACCESSORIES TO ENSURE UNINTERRUPTED SUPPLY. THE CONTRACTOR SHALL LIAISE WITH THE BUILDING MANAGEMENT OR LOCAL UTILITY AUTHORITIES FOR CONNECTION APPROVAL AND SHALL BEAR ALL COSTS FOR CONSUMPTION, MAINTENANCE, PROTECTION, AND EVENTUAL REMOVAL UPON COMPLETION. (APPROX. 6 MONTHS)	PUKAL	-		
A.8	PROGRESS REPORTS AND PHOTOGRAPHIC DOCUMENTATION TO PREPARE, COMPILE, AND SUBMIT MONTHLY PROGRESS REPORTS AND PHOTOGRAPHIC DOCUMENTATION DETAILING THE STATUS OF ALL WORKS THROUGHOUT THE CONSTRUCTION PERIOD. REPORTS SHALL COVER MILESTONES RELATED TO INSTALLATION, TESTING, COMMISSIONING, MANPOWER DEPLOYMENT, MATERIAL DELIVERIES, AND INSPECTION RECORDS. ALL DOCUMENTATION SHALL INCLUDE PHOTOGRAPHIC EVIDENCE OF KEY ACTIVITIES SUCH AS CONCEALED WORKS, EQUIPMENT INSTALLATIONS, AND RECTIFICATIONS, WITH DATED AND CAPTIONED IMAGES IN HIGH-RESOLUTION DIGITAL FORMAT. THE REPORT SHALL ALSO TRACK REQUESTS FOR INFORMATION (RFIS), MATERIAL APPROVAL SUBMISSIONS (MAS), SHOP DRAWINGS, METHOD STATEMENTS, AND ALL PENDING OR APPROVED DELIVERABLES BY THE S.O. OR ENGINEER. SUBMISSIONS SHALL BE ORGANIZED WITH UPDATED GANTT CHARTS AND SUMMARIES OF KEY ISSUES AND RESOLUTIONS IN BOTH SOFTCOPY AND HARDCOPY FORMATS, AND PROPERLY ARCHIVED BY SYSTEM AND FLOOR LEVEL. (APPROX. 6 MONTHS)	PUKAL	-		
A.9	HOARDING TO SUPPLY, INSTALL, MAINTAIN, AND DISMANTLE EXTERNAL HOARDING TO SEGREGATE ACTIVE CONSTRUCTION ZONES OUTSIDE THE BUILDING, INCLUDING ISOLATION OF PUMP ROOMS, FIRE TANKS, PIPELINES, M&E ROOMS, FCC, ETC. AS INDICATED IN DRAWING NO.: TD/NHK/2024/014/M/FP-01. HOARDING SHALL BE CONSTRUCTED USING FIRE-RETARDANT PLYWOOD WITH SECURE ACCESS DOORS, PROPER SIGNAGE, 3M STICKER FOR ADVERTISEMENT AND NECESSARY SEALING FOR DUST AND NOISE CONTROL. ALL WORKS SHALL BE COORDINATED WITH BUILDING MANAGEMENT TO ENSURE MINIMAL DISRUPTION TO OCCUPANTS AND COMPLIANCE WITH SAFETY AND ACCESS PROTOCOLS. (APPROX. 175 M)	PUKAL	-		
A.10	SITE MANAGEMENT AND SUPERVISION				
A.10.1	TO PROVIDE FULL-TIME SITE MANAGEMENT AND SUPERVISION PERSONNEL INCLUDING A COMPETENT SITE AGENT, SUPERVISORS, C&S ENGINEER AND RELEVANT CONTRACTOR REPRESENTATIVES FOR THE DURATION OF THE WORKS. THE SITE AGENT SHALL BE RESPONSIBLE FOR COORDINATING DAILY SITE ACTIVITIES, LIAISING WITH THE ENGINEER, CONSULTANTS, BUILDING MANAGEMENT, AND RELEVANT AUTHORITIES, ENSURING COMPLIANCE WITH SPECIFICATIONS, SAFETY STANDARDS, AND WORK SCHEDULES. THE CONTRACTOR SHALL ENSURE THAT ALL SUPERVISORY STAFF ARE SUITABLY QUALIFIED AND EXPERIENCED, AND THAT PROPER RECORDS, REPORTS, AND SITE MEETINGS ARE ATTENDED AS REQUIRED.	PUKAL	-		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
A.10.2	TO ENGAGE A CERTIFIED MEDIUM VOLTAGE (MV) COMPETENT PERSON (11KV) REGISTERED WITH SURUHANJAYA TENAGA AND TNB TO SUPERVISE AND ENSURE ELECTRICAL SAFETY DURING FM200 SYSTEM WORKS IN AN ENERGIZED TNB ROOM. SCOPE INCLUDES APPLYING FOR PERMIT-TO-WORK (PTW) FROM TNB, ON-SITE SUPERVISION, VERIFICATION OF ISOLATION PROCEDURES, REVIEW OF SAFETY DOCUMENTS, AND COORDINATION WITH TNB. ALL WORKS SHALL COMPLY WITH ENERGY COMMISSION REGULATIONS, AND ELECTRICITY SUPPLY ACT 1990, WITH FULL DOCUMENTATION SUBMITTED TO THE ENGINEER.	PUKAL	-		
A.11	SAMPLES AND CATALOGUES TO SUBMIT ALL NECESSARY SAMPLES, CATALOGUES, TECHNICAL DATASHEETS, AND PRODUCT CERTIFICATIONS FOR MATERIALS, EQUIPMENT, AND FINISHES PROPOSED FOR USE IN THE WORKS. SUBMISSIONS SHALL BE MADE IN ACCORDANCE WITH THE APPROVED PROCUREMENT SCHEDULE AND PROJECT SPECIFICATIONS, AND SHALL INCLUDE ALL REQUIRED INFORMATION FOR EVALUATION BY THE S.O. OR ENGINEER. ALL SAMPLES SHALL BE CLEARLY LABELED, STORED ON SITE IF NECESSARY, AND MADE AVAILABLE FOR INSPECTION AS DIRECTED. THE CONTRACTOR SHALL BEAR ALL COSTS FOR PREPARATION, DELIVERY, PRESENTATION, AND REPLACEMENT OF NON-COMPLIANT SAMPLES. APPROVAL OF SAMPLES DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR COMPLIANCE WITH SPECIFICATIONS.	PUKAL	-		
A.12	WORK PROGRAMME TO PREPARE AND SUBMIT A DETAILED WORK PROGRAMME USING APPROVED SCHEDULING SOFTWARE (E.G., MICROSOFT PROJECT OR PRIMAVERA), OUTLINING THE COMPLETE SEQUENCE OF WORKS, MILESTONES, CRITICAL PATH, LEAD TIMES, AND DEPENDENCIES. THE PROGRAMME SHALL REFLECT REALISTIC TIMELINES FOR PROCUREMENT, INSTALLATION, TESTING, AND COMMISSIONING, AND SHALL BE COORDINATED WITH OTHER TRADES AND THE OVERALL PROJECT SCHEDULE. REGULAR UPDATES SHALL BE SUBMITTED MONTHLY OR AS DIRECTED BY THE S.O. OR ENGINEER, INCORPORATING ACTUAL PROGRESS AND ANY APPROVED VARIATIONS OR DELAYS.	PUKAL	-		
A.13	LIAISING AND TESTING WITH LOCAL AUTHORITY AND UTILITY AGENCY TO CARRY OUT ALL NECESSARY LIAISON, COORDINATION, AND ARRANGEMENT WITH RELEVANT LOCAL AUTHORITIES AND UTILITY AGENCIES FOR INSPECTIONS, TESTING, APPROVALS, AND CERTIFICATIONS RELATED TO THE WORKS. THIS INCLUDES PREPARATION AND SUBMISSION OF FORMS, DRAWINGS, TEST REPORTS, AND ATTENDANCE DURING INSPECTIONS OR SITE VISITS. THE CONTRACTOR SHALL ENSURE COMPLIANCE WITH ALL STATUTORY REQUIREMENTS AND FACILITATE TIMELY APPROVALS FOR SYSTEM ACTIVATION, COMMISSIONING, AND HANDOVER.	PUKAL	-		
A.14	SHOP DRAWINGS TO PREPARE, SUBMIT, AND OBTAIN APPROVAL FOR ALL REQUIRED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF RELATED WORKS. SHOP DRAWINGS SHALL BE BASED ON THE LATEST APPROVED CONSTRUCTION DRAWINGS AND COORDINATED WITH ALL RELEVANT TRADES TO AVOID CONFLICTS. SUBMISSIONS SHALL INCLUDE DETAILED LAYOUT PLANS, SECTIONS, SCHEMATICS, AND FABRICATION DETAILS AS NECESSARY. THE CONTRACTOR SHALL REVISE AND RESUBMIT AS REQUIRED UNTIL APPROVAL IS OBTAINED, AND ENSURE TIMELY SUBMISSION IN ACCORDANCE WITH THE PROJECT SCHEDULE. APPROVED COPIES SHALL BE KEPT ON SITE FOR REFERENCE.	PUKAL	-		
A.15	OFFICE ACCOMODATION AND CONTRACTOR'S STORAGE WELFARE FOR S.O. AND STAFF TO PROVIDE, EQUIP, AND MAINTAIN OFFICE, MEETING, AND STORAGE SPACES FOR CONTRACTOR, SO, AND PROJECT STAFF USE AS REQUIRED. FACILITIES SHALL INCLUDE LIGHTING, VENTILATION, POWER, FURNITURE, AND INTERNET (WHERE SPECIFIED). WELFARE AMENITIES SUCH AS DRINKING WATER, SANITATION, AND CLEANING SERVICES SHALL BE PROVIDED. OFFICES MUST REMAIN CLEAN, SECURE, AND FUNCTIONAL THROUGHOUT THE CONTRACT. NOTE: SPACE IS PROVIDED BY MBIP AND RENTED BY THE CONTRACTOR. INTERNAL M&E FIXTURES AND FURNITURE SHALL BE SUPPLIED BY THE CONTRACTOR.	PUKAL	-		
A.16	EQUIPMENT FOR USE BY THE S.O. AND STAFF				
A.16.1	PERSONAL PROTECTIVE EQUIPMENT (PPE) SET INCLUDING HELMET, VEST, BOOTS, GOOGLES, EAR PROTECTION AND OTHER NECESSARY EQUIPMENT.	SET	6		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
A.17	MOBILIZATION, DEMOBILIZATION AND TRANSPORT TO CARRY OUT ALL MOBILIZATION AND DEMOBILIZATION ACTIVITIES REQUIRED FOR THE COMMENCEMENT AND COMPLETION OF THE WORKS. THIS INCLUDES TRANSPORTING LABOR, MATERIALS, EQUIPMENT, TOOLS, AND TEMPORARY FACILITIES TO AND FROM THE SITE, SETUP AND REMOVAL OF SITE OFFICES, STORAGE, WELFARE FACILITIES, AND ANY TEMPORARY UTILITIES, ENSURING ALL LOGISTICS ARE EXECUTED IN A SAFE, ORGANIZED, AND EFFICIENT MANNER WITH MINIMAL DISRUPTION TO THE SURROUNDING ENVIRONMENT OR ONGOING OPERATIONS.	PUKAL	-		
A.18	CLEANING SITE ON COMPLETION OF WORKS FOR HANDING OVER TO THOROUGHLY CLEAN AND CLEAR ALL WORK AREAS UPON COMPLETION OF THE WORKS IN PREPARATION FOR FINAL INSPECTION AND HANDING OVER. THIS INCLUDES REMOVAL OF ALL DEBRIS, EXCESS MATERIALS, PROTECTIVE COVERINGS, STAINS, AND CONSTRUCTION RESIDUES FROM INTERNAL AND EXTERNAL AREAS. ALL EQUIPMENT, TEMPORARY WORKS, SIGNAGE, AND STORAGE FACILITIES SHALL BE DISMANTLED AND REMOVED FROM SITE. SURFACES SHALL BE WASHED, FLOORS SWEPT OR MOPPED, AND ALL INSTALLATIONS PRESENTED IN A CLEAN AND OPERATIONAL STATE TO THE SATISFACTION OF THE S.O. OR ENGINEER. FINAL CLEANING SHALL ALSO COMPLY WITH HEALTH AND SAFETY REQUIREMENTS AND BUILDING OPERATIONAL READINESS.	PUKAL	-		
A.19	REMOVAL OF RUBBISH TO REGULARLY COLLECT, REMOVE, AND PROPERLY DISPOSE OF ALL CONSTRUCTION WASTE, PACKAGING, DEBRIS, AND SURPLUS MATERIALS GENERATED THROUGHOUT THE DURATION OF THE WORKS. DISPOSAL SHALL BE CARRIED OUT AT APPROVED DUMPING GROUNDS IN COMPLIANCE WITH LOCAL AUTHORITY REGULATIONS AND ENVIRONMENTAL GUIDELINES. THE CONTRACTOR SHALL PROVIDE SUITABLE BINS, SKIPS, OR CONTAINERS, AND ENSURE THE SITE REMAINS CLEAN, ORGANIZED, AND FREE OF OBSTRUCTION AT ALL TIMES. SPECIAL ATTENTION SHALL BE GIVEN TO MAINTAINING SAFETY AND HYGIENE WITHIN OCCUPIED OR OPERATIONAL BUILDINGS.	PUKAL	-		
A.20	TEMPORARY PROTECTION TO SUPPLY AND INSTALL ALL NECESSARY TEMPORARY PROTECTION TO SAFEGUARD EXISTING STRUCTURES, FINISHES, FITTINGS, AND OPERATIONAL AREAS DURING THE COURSE OF THE WORKS. THIS INCLUDES FLOOR COVERINGS, DUST BARRIERS, CORNER GUARDS, SIGNAGE, AND ANY OTHER PROTECTIVE MEASURES NEEDED TO PREVENT DAMAGE, DUST, OR INTERFERENCE TO OCCUPIED ZONES AND SENSITIVE INSTALLATIONS. THE CONTRACTOR SHALL ENSURE PROTECTIONS ARE MAINTAINED IN GOOD CONDITION, REPOSITIONED AS NEEDED DURING STAGED WORKS, AND FULLY REMOVED UPON COMPLETION WITHOUT LEAVING MARKS OR RESIDUE.	PUKAL	-		
A.21	SITE MEETING TO ATTEND AND PARTICIPATE IN ALL SCHEDULED SITE MEETINGS, COORDINATION MEETINGS, TECHNICAL DISCUSSIONS, AND ANY OTHER PROJECT-RELATED MEETINGS AS REQUIRED BY THE S.O. OR ENGINEER. THE CONTRACTOR SHALL ENSURE THE PRESENCE OF COMPETENT REPRESENTATIVES CAPABLE OF MAKING DECISIONS AND PROVIDING UPDATES ON PROGRESS, TECHNICAL ISSUES, AND COORDINATION MATTERS. MEETING MINUTES SHALL BE REVIEWED AND RESPONDED TO PROMPTLY. (APPROX. 6 MONTHS)	PUKAL	-		
A.22	FIRST AID KITS TO SUPPLY, MAINTAIN, AND REPLENISH FIRST AID KITS AT DESIGNATED LOCATIONS ON SITE IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH (DOSH) AND OTHER RELEVANT REGULATIONS. KITS SHALL BE ADEQUATELY STOCKED WITH APPROVED MEDICAL SUPPLIES, CLEARLY MARKED, EASILY ACCESSIBLE, AND INSPECTED REGULARLY BY A COMPETENT PERSON. THE CONTRACTOR SHALL ENSURE THAT TRAINED FIRST AID PERSONNEL ARE AVAILABLE ON SITE AND THAT INCIDENT REPORTING PROTOCOLS ARE FOLLOWED.	PUKAL	-		
A.23	MOSQUITO PREVENTION TO IMPLEMENT EFFECTIVE MOSQUITO PREVENTION AND CONTROL MEASURES THROUGHOUT THE CONSTRUCTION PERIOD IN ACCORDANCE WITH LOCAL AUTHORITY HEALTH REGULATIONS AND THE GUIDELINES OF THE MINISTRY OF HEALTH (MOH). THIS INCLUDES REGULAR SITE INSPECTIONS, ELIMINATION OF STAGNANT WATER, PROPER STORAGE OF MATERIALS, COVERING OF WATER TANKS OR CONTAINERS, AND SCHEDULED FOGGING OR LARVICIDE TREATMENT AS REQUIRED. THE CONTRACTOR SHALL MAINTAIN RECORDS OF CONTROL ACTIVITIES AND COORDINATE WITH HEALTH OFFICERS WHEN NECESSARY.	PUKAL	-		
A.24	SAFETY MEASURES TO PROVIDE AND IMPLEMENT ALL NECESSARY SAFETY MEASURES ON SITE IN ACCORDANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA), FACTORY AND MACHINERY ACT, AND GUIDELINES BY THE DEPARTMENT OF OCCUPATIONAL SAFETY AND HEALTH (DOSH). THIS INCLUDES SAFETY SIGNAGE, BARRIERS, WARNING LIGHTS, PPE FOR WORKERS AND VISITORS, FALL PROTECTION, FIRE EXTINGUISHERS, EMERGENCY PROCEDURES, AND DAILY SAFETY BRIEFINGS. THE CONTRACTOR SHALL APPOINT A COMPETENT SAFETY AND HEALTH OFFICER (SHO) WHERE REQUIRED, CONDUCT REGULAR INSPECTIONS, AND MAINTAIN A SAFE WORKING ENVIRONMENT THROUGHOUT THE CONSTRUCTION PERIOD.	PUKAL	-		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
A.25	AS-BUILT DRAWING TO PREPARE AND SUBMIT AS-BUILT DRAWINGS UPON COMPLETION OF WORKS, SHOWING ALL FINAL INSTALLED ROUTES, EQUIPMENT LOCATIONS, AND SYSTEM TERMINATIONS FOR ELECTRICAL AND MECHANICAL SERVICES. DRAWINGS SHALL REFLECT ACTUAL SITE CONDITIONS AND INCORPORATE ALL APPROVED CHANGES FROM CONSTRUCTION DRAWINGS. SUBMIT IN SIX (6) SETS: FIVE (5) BLUEPRINT COPIES AND ONE (1) LINEN COPY, ALONG WITH SOFTCOPIES IN AUTOCAD AND PDF FORMATS, FULLY LABELED, SCALED, AND CERTIFIED BY THE S.O.	PUKAL	-		
A.26	SERVICE AND MAINTENANCE DURING DEFECT LIABILITY PERIOD TO PROVIDE ROUTINE SERVICE AND MAINTENANCE DURING THE DEFECTS LIABILITY PERIOD (DLP) FOR ALL INSTALLED SYSTEMS AND EQUIPMENT UNDER THIS CONTRACT. WORKS SHALL INCLUDE PERIODIC INSPECTIONS, TESTING, SERVICING, CLEANING, CALIBRATION, MINOR ADJUSTMENTS, AND SUBMISSION OF MAINTENANCE RECORDS/LOGS TO THE S.O. ALL PREVENTIVE MAINTENANCE SHALL FOLLOW MANUFACTURER'S RECOMMENDATIONS AND COMPLY WITH RELEVANT CODES. INCLUDES ATTENDING TO ANY DEFECTS OR FAULTS REPORTED DURING DLP.	MONTHS	12		
A.27	OPERATION AND MAINTENANCE MANUAL TO PREPARE AND SUBMIT 'BUKU OPERASI' (FIRE SYSTEM OPERATION & MAINTENANCE MANUAL) IN ACCORDANCE WITH THE LATEST BOMBA REQUIREMENTS, INCLUDING SYSTEM DESCRIPTIONS, SCHEMATICS, OPERATING PROCEDURES, MAINTENANCE SCHEDULE, MANUFACTURER DATA SHEETS, CERTIFICATES, TEST REPORTS, AND EMERGENCY CONTACTS. SUBMIT IN FOUR (4) HARDCOPIES AND ONE (1) SOFTCOPY (PDF), COMPLETE WITH INDEXING, COLOR-CODED TABS, AND BOMBA COMPLIANCE FORMATTING.	PUKAL	-		
A.28	FACTORY ACCEPTANCE TEST (FAT) TO CARRY OUT FACTORY ACCEPTANCE TEST (FAT) FOLLOWING MALAYSIA STANDARD (MS) FOR THE WET RISER PUMP AND SPRINKLER PUMP AT THE MANUFACTURER'S FACILITY PRIOR TO DELIVERY. THE FAT SHALL BE WITNESSED BY THE S.O. OR AUTHORIZED REPRESENTATIVE AND SHALL VERIFY COMPLIANCE WITH SPECIFIED PERFORMANCE, INCLUDING FLOW RATE, PRESSURE, POWER CONSUMPTION, AND MECHANICAL INTEGRITY. THE TEST SHALL INCLUDE INSPECTION OF PUMP CASING, MOTOR ALIGNMENT, COUPLING, PRESSURE AND FLOW TESTING, VIBRATION AND NOISE CHECK, AND CONFIRMATION OF BOMBA REQUIREMENTS. CONTRACTOR SHALL ALLOW FOR ALL LOGISTICS, COORDINATION, TRAVEL ARRANGEMENTS FOR THE WITNESSING PARTY, TEST REPORTS, AND DOCUMENTATION FOR SUBMISSION. (FOR 8 PERSONNELS)	PUKAL	-		
A.29	OTHERS ALL OTHER WORKS OR EQUIPMENT WHICH NOT COVERED BY THE ABOVE ITEM BUT ARE REQUIRED OR INDICATED IN THE DRAWING AND SPECIFICATIONS TO COMPLETE THE WORKS AS WHOLE (IF STATED AND ALLOWED) HEREIN SHALL BE DEEM TO BE INCLUDED OR ABSORBED IN THE VARIOUS BREAKDOWN ITEM ABOVE (PLEASE SPECIFY) :- 1) ..... 2) ..... 3)				
JUMLAH KESELURUHAN (BIL A)					

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B	DEMOLITION, DISMANTLE AND DISPOSAL WORKS **NOTES TO CONTRACTOR** This portion of work for the Demolition Works shall be carried out by a CIDB-Registered Civil or General Works and Firefighting Contractor, licensed by BOMBA where required. All works must comply with the regulations and requirements set forth by the relevant Local Authority (PBT), and any other pertinent regulatory bodies. Works shall be executed with full adherence to safety protocols, environmental protection, and infrastructure preservation to minimize disruption and maintain public safety. All lengths, quantities, and extents indicated are PROVISIONAL. Actual works completed shall be measured on site, and payments adjusted accordingly. Tenderers are advised to visit the site prior to tender submission to verify the extent of works required. Refer to the drawings, specifications, and site instructions for scope confirmation. All prices quoted shall include the complete supply,delivery,execution,and making good of the relevant items, complete with all necessary equipment,labor,tools,disposal arrangements. All works shall be carried out in accordance with the drawings,specifications,and best construction practices,ensuring quality workmanship and proper clearance to the satisfaction of the Engineer and relevant authorities. All works shall be carried out carefully, with minimal disturbance to existing finishes and structures. The Contractor shall be held fully responsible for any accidental damage, and shall propose and execute restoration works at their own cost. Prior to demolition, the Contractor shall liaise with the S.O. regarding the protection methods for adjacent finishes or furnishings, and shall reinstate all affected areas to their original condition. Supply materials, labour, locate, excavate, break up, hack take down and demolish the works all in accordance with the Architect's and Engineer's Drawings, Preambles and Conditions of Contract and including removal off site all debris, etc and make good all works disturbed on completion to the entire satisfaction of the Superintending Officer.				
B.1	LANDSCAPE ELEMENTS TO CAREFULLY REMOVE EXISTING LANDSCAPE ELEMENTS (E.G., SHRUBS, SMALL PLANTS, TURF) REQUIRED FOR M&E WORKS AS INDICATED IN DRAWING NO.: TD/NHK/2024/014/M/FP-01, AND CAREFULLY PRESERVE OR REMOVE ENTIRELY TO CONTRACTOR'S OWN DUMPING SITE AND MAKE GOOD TO ALL DISTURBED WORKS AS PER INSTRUCTED BY S.O. OR ENGINEER.	M2	50		
B.2	PAVEMENT TO DEMOLISH EXISTING CONCRETE PAVEMENT SURROUNDING FIRE TANK AREA (FIRE TANK 1) FOR ACCESS AND FUTURE REINSTATEMENTAS AS INDICATED IN DRAWING NO.: TD/NHK/2024/014/M/FP-01, INCLUDING CUTTING, BREAKING, AND REMOVAL OF DEBRIS TO APPROVED DISPOSAL SITE.	M2	20		
B.3	ANTI-CLIMBING WALL TO CAREFULLY DISMANTLE EXISTING ANTI-CLIMBING WALL PANELS OR FENCING OBSTRUCTING ACCESS TO FIRE TANK AS INDICATED IN DRAWING NO.: TD/NHK/2024/014/M/FP-01, STORE SECURELY, AND REINSTALL AFTER TANK RECTIFICATION WORKS ARE COMPLETED. ALL MAKING GOOD INCLUDED.	M	50		
B.4	CEILING				
B.4.1	TO DISMANTLE AND SUBSEQUENTLY REINSTATE EXISTING CEILING PANELS (E.G., GYPSUM BOARD, MINERAL FIBER, OR EQUIVALENT) IN CORRIDORS, RISERS, AND SERVICE AREAS FOR FIRE PROTECTION RECTIFICATION. SCOPE INCLUDES SAFE REMOVAL, TEMPORARY SUPPORT, STORAGE, REINSTALLATION, OR REPLACEMENT WITH MATCHING NEW COMPONENTS IF DAMAGED. JOINTING, PAINTING, AND CLEANING INCLUDED				
B.4.1.1	PLASTER CEILING	M2	1350		
B.4.1.2	MINERAL FIBRE CEILING BOARD (4' X 2') OR EQUIVALENT C/W SUPPORT BRACKET	NO	600		
B.4.1.3	METAL CEILING PANELS	M2	50		
B.5	WALL TO HACK AND MAKE GOOD PLASTERED DRYWALL SURFACES OR WALL PANELS FOR CONCEALED PIPING, FIRE EQUIPMENT AND CONTROL PANEL ACCESS. INCLUDES CUTTING, PROTECTION, AND FULL REINSTATEMENT WITH PLASTER FINISH, PAINT TOUCH-UP, AND REINSTALLATION OF ACCESS COVERS WHERE APPLICABLE.	M2	200		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.6	PORTABLE FIRE EXTINGUISHER TO CAREFULLY DISMANTLE, REMOVE, AND DISPOSE OF DEFECTIVE PORTABLE FIRE EXTINGUISHERS (INCL. DRY POWDER AND CO? CYLINDERS) DEEMED UNSERVICEABLE BY THE S.O., INCLUDING SAFE HANDLING, DEPRESSURIZATION (IF REQUIRED), AND TRANSPORTATION TO AN APPROVED DISPOSAL OR RECYCLING FACILITY. EXCLUDES UNITS INTENDED FOR REFILLING OR RE-TAGGING UNDER SERVICING SCOPE.	NO	110		
B.7	HOSE REEL SYSTEM				
B.7.1	HOSE REEL DRUM				
B.7.1.1	TO DISMANTLE AND REMOVE EXISTING HOSE REEL DRUM ASSEMBLY, INCLUDING DRUM, HOSE, VALVE, NOZZLE, MOUNTING BRACKET, AND SUPPORT FRAME. CONNECTING PIPEWORK TO REMAIN IN PLACE UNLESS OTHERWISE DIRECTED. INCLUDES SAFE HANDLING AND DISPOSAL OR RELOCATION AS INSTRUCTED BY THE S.O.	NO	40		
B.8	WET RISER SYSTEM				
B.8.1	WET RISER PUMPSET TO DISMANTLE AND REMOVE EXISTING WET RISER PUMP SYSTEM, COMPRISING DUTY ELECTRIC FIRE PUMP, STANDBY DIESEL FIRE PUMP, JOCKEY PUMP, CONTROL PANEL, FINAL CIRCUIT WIRING, AND SUBMAIN CABLING FROM POWER SOURCE TO CONTROL PANEL. INCLUDES REMOVAL OF ASSOCIATED GAUGES, SWITCHES, BATTERY SETS, BASEPLATES, FLEXIBLE COUPLINGS, AND FITTINGS. WORKS INCLUDE SAFE ISOLATION, PROPER HANDLING, AND DISPOSAL OR STORAGE AS INSTRUCTED BY THE S.O.				
B.8.1.1	WR PUMPSET 1 AT PUMP ROOM 1 (PUMP ROOM 1 - GROUND LEVEL)	LOT	1		
B.8.1.2	WR PUMPSET 2 AT PUMP ROOM 2 (PUMP ROOM 2 - GROUND LEVEL)	LOT	1		
B.8.2	LANDING VALVE				
B.8.2.1	TO DISMANTLE AND REMOVE EXISTING WET RISER LANDING VALVE ASSEMBLIES INCLUDING VALVE BODY, CAP, CHAIN, AND BACKPLATE WHERE APPLICABLE. PIPE STUBS TO BE CAPPED OFF OR ISOLATED AS DIRECTED. INCLUDES FLUSHING, PROPER TAGGING, HANDLING, AND DISPOSAL OR RELOCATION TO STORAGE AS INSTRUCTED BY THE S.O.	NO	33		
B.8.3	HOSE CRADLE AND CANVAS				
B.8.3.1	TO DISMANTLE AND REMOVE EXISTING FIRE HOSE CRADLES AND CANVAS HOSES, INCLUDING BRACKETS, CLIPS, AND ALL ASSOCIATED MOUNTING ACCESSORIES. ITEMS TO BE REMOVED CAREFULLY FOR DISPOSAL OR SALVAGE AS INSTRUCTED BY THE S.O.	NO	33		
B.9	AUTOMATIC SPRINKLER SYSTEM				
B.9.1	SPRINKLER PUMPSET TO DISMANTLE AND REMOVE EXISTING SPRINKLER PUMP SYSTEM, COMPRISING DUTY ELECTRIC FIRE PUMP, STANDBY DIESEL FIRE PUMP, JOCKEY PUMP, CONTROL PANEL, FINAL CIRCUIT WIRING, AND SUBMAIN CABLING FROM POWER SOURCE TO CONTROL PANEL. INCLUDES REMOVAL OF ASSOCIATED GAUGES, SWITCHES, BATTERY SETS, BASEPLATES, FLEXIBLE COUPLINGS, AND FITTINGS. WORKS INCLUDE SAFE ISOLATION, PROPER HANDLING, AND DISPOSAL OR STORAGE AS INSTRUCTED BY THE S.O.				
B.9.1.1	SPR PUMPSET 1 AT PUMP ROOM 1 (PUMP ROOM 1 - GROUND LEVEL)	LOT	1		
B.9.1.2	SPR PUMPSET 2 AT PUMP ROOM 2 (PUMP ROOM 2 - GROUND LEVEL)	LOT	1		
B.9.2	FLOW SWITCH TO DISMANTLE AND REMOVE EXISTING FLOW SWITCH UNITS FROM INSTALLED PIPE SECTIONS, INCLUDING ASSOCIATED ENCLOSURES, SUPPORTS, CONDUIT, AND TERMINATIONS. INCLUDES SAFE ISOLATION OF WIRING, CAPPING OF EXPOSED CONNECTIONS, TAGGING, AND DISPOSAL OR RELOCATION AS INSTRUCTED BY THE S.O.	NO	10		
B.9.3	BUTTERFLY VALVE TO DISMANTLE AND REMOVE EXISTING BUTTERFLY VALVES INCLUDING TAMPER SWITCHES, POSITION INDICATORS, HANDLES OR GEAR OPERATORS, AND ALL ACCESSORIES. INCLUDES UNBOLTING FROM FLANGES, CAPPING OR BLANKING OFF PIPE ENDS, AND PROPER TAGGING FOR DISPOSAL OR STORAGE AS INSTRUCTED BY THE S.O.	NO	10		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.9.4	SPRINKLER HEAD TO DISMANTLE AND REMOVE EXISTING SPRINKLER HEADS, INCLUDING ROSSETTE OR COVER PLATES WHERE INSTALLED. INCLUDES FLUSHING, UNSCREWING FROM PIPE OUTLETS, ENSURING NO DAMAGE TO ADJACENT PIPING OR CEILING FINISHES, AND TAGGING FOR DISPOSAL OR REUSE AS INSTRUCTED BY THE S.O.	NO	1135		
B.10	FIRE TANK TO DISMANTLE AND REMOVE EXISTING PRESSED STEEL SECTIONAL FIRE TANK, INCLUDING ACCESS LADDER, INTERNAL BAFFLES, DIVIDING PANELS (IF ANY), BALANCING PIPE, DRAIN CONNECTIONS, AND ALL ASSOCIATED FITTINGS. WORKS INCLUDE DRAINING, UNBOLTING, CUTTING, HOISTING, AND SAFE DISPOSAL OR RELOCATION AS INSTRUCTED BY THE S.O. EXCLUDE DEMOLITION AND REMOVAL OF THE EXISTING REINFORCED CONCRETE PLINTH AND BASE SLAB / GROUND BEAM, SURFACE MAKING-GOOD, AND CAPPING OF ALL TANK INLET AND OUTLET PIPE CONNECTIONS.				
B.10.1	WET RISER / HOSE REEL TANK 1 (GROUND LEVEL) (12" X 12" X 16")	LOT	1		
B.10.2	SPRINKLER TANK 1 (GROUND LEVEL) (16" X 12" X 16")	LOT	1		
B.11	FIXED CO2 FIRE SUPPRESSION SYSTEM TO DISMANTLE AND REMOVE EXISTING FIXED CO? FIRE SUPPRESSION SYSTEM, INCLUDING CO? CYLINDERS (MAIN AND PILOT), CONTROL PANEL, MANUAL KEY SWITCH, ALARM BELL, REMOTE INDICATORS, SMOKE AND HEAT DETECTORS, SCHEDULE 40 PIPING, DISCHARGE NOZZLES, AND FIRE-RESISTANT FIBREGLASS CURTAIN. INCLUDES SAFE DEPRESSURIZING OF CYLINDERS, TAGGING, PROPER DISPOSAL OR RELOCATION OF SYSTEM COMPONENTS, REMOVAL OF SUPPORTS/CONDUITS, AND MAKING GOOD OF AFFECTED FINISHES.				
B.11.1	GENSET ROOM 1 + BILIK SUIS (GROUND LEVEL)	LOT	1		
B.11.2	GENSET ROOM 2 (GROUND LEVEL)	LOT	1		
B.11.3	MSB ROOM (GROUND LEVEL)	LOT	1		
B.11.4	SMSB ROOM (GROUND LEVEL)	LOT	1		
B.12	CLEAN AGENT FIRE SUPPRESSION SYSTEM TO DISMANTLE AND REMOVE EXISTING CLEAN AGENT FIRE SUPPRESSION SYSTEM (FM200 OR EQUIVALENT), INCLUDING HFC-227 CYLINDERS, 3-ZONE CONTROL PANEL, BATTERY SET, REMOTE INDICATORS, SMOKE AND HEAT DETECTORS, ALARM BELL, MANUAL KEY SWITCH, SCHEDULE 40 PIPEWORK, NOZZLES, AND FIBREGLASS CURTAIN. WORKS INCLUDE SAFE DEPRESSURIZATION, UNBOLTING, REMOVAL OF CONDUITS AND SUPPORTS, PROPER TAGGING, AND DISPOSAL OR RELOCATION OF ALL COMPONENTS. INCLUDES MAKING GOOD ALL AFFECTED CEILING, WALL, AND FLOOR AREAS.				
B.12.1	TNB ROOM (GROUND LEVEL)	LOT	1		
B.12.2	SERVER ROOM (LEVEL 9)	LOT	1		
B.13	FIRE ALARM SYSTEM				
B.13.1	FIRE ALARM PANEL TO DISMANTLE AND REMOVE EXISTING CONVENTIONAL FIRE ALARM CONTROL PANEL, INCLUDING INTERNAL COMPONENTS, BATTERY SET, SURFACE OR FLUSH-MOUNTED ENCLOSURES, AND ALL CONNECTED WIRING AND CONDUITS. WORKS INCLUDE SAFE ISOLATION, PROPER TERMINATION OF UNUSED CIRCUITS, TAGGING, AND DISPOSAL OR RELOCATION AS DIRECTED BY THE S.O. INCLUDES MAKING GOOD OF ALL AFFECTED WALL OR PANEL OPENINGS.				
B.13.1.1	FIRE ALARM PANEL 1 (BILIK KAWALAN - GROUND LEVEL)	LOT	1		
B.13.1.2	FIRE ALARM PANEL 2 (BILIK KAWALAN - GROUND LEVEL)	LOT	1		
B.13.1.3	REPEATER FIRE ALARM PANEL (GUARD HOUSE - GROUND LEVEL)	LOT	1		
B.13.2	FIRE ALARM INPUT/OUTPUT DEVICE TO DISMANTLE AND REMOVE EXISTING CONVENTIONAL FIRE ALARM SYSTEM DEVICES, INCLUDING ASSOCIATED CONDUIT, BACKBOXES, WIRING, AND SUPPORTS. ALL WORKS SHALL INCLUDE SAFE DISCONNECTION, TAGGING, DISPOSAL OR RELOCATION AS INSTRUCTED BY THE S.O., AND MAKING GOOD OF AFFECTED SURFACES.				
B.13.2.1	MANUAL CALL POINTS	UNIT	40		
B.13.2.2	SMOKE / HEAT DETECTORS	NO	100		
B.13.2.3	ALARM BELLS	NO	40		
B.14	FIREMEN INTERCOM SYSTEM				

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
B.14.1	FIREMEN INTERCOM PANEL TO DISMANTLE AND REMOVE EXISTING FIREMEN INTERCOM PANEL, INCLUDING MASTER HANDSET, INTERNAL COMPONENTS, BATTERY SET, PANEL ENCLOSURE, AND ALL ASSOCIATED CABLING AND CONDUIT. INCLUDES SAFE DISCONNECTION, TAGGING, REMOVAL, AND DISPOSAL OR RELOCATION AS INSTRUCTED BY THE S.O. ALL AFFECTED SURFACES SHALL BE MADE GOOD.				
B.14.1.1	FIREMEN INTERCOM PANEL 1	LOT	1		
B.14.1.2	FIREMEN INTERCOM PANEL 2	LOT	1		
B.14.2	FIREMEN INTERCOM HANDSET				
B.14.2.1	TO DISMANTLE AND REMOVE EXISTING FIREMEN INTERCOM HANDSET UNITS, INCLUDING CALL CRADLE, HOUSING, CABLING, TELEPHONE TERMINATOR AND SURFACE OR FLUSH-MOUNTING ENCLOSURES. INCLUDES SAFE DISCONNECTION, TAGGING, DISPOSAL OR RELOCATION AS DIRECTED BY THE S.O., AND MAKING GOOD OF ALL AFFECTED FINISHES.	NO	55		
B.15	SPKA TO DISMANTLE AND REMOVE EXISTING SPKA (SISTEM PENGAWASAN KEBAKARAN AUTOMATIK) PANEL, INCLUDING TERMINAL CONNECTIONS, WIRING, CONDUITS, AND ALL ASSOCIATED MOUNTING ACCESSORIES. INCLUDES SAFE ISOLATION, DISCONNECTION, TAGGING, AND DISPOSAL OR STORAGE AS DIRECTED BY THE S.O. WORKS SHALL INCLUDE MAKING GOOD OF ALL AFFECTED FINISHES.	LOT	1		
B.16	OTHERS ALL OTHER WORKS OR EQUIPMENT WHICH NOT COVERED BY THE ABOVE ITEM BUT ARE REQUIRED OR INDICATED IN THE DRAWING AND SPECIFICATIONS TO COMPLETE THE WORKS AS WHOLE (IF STATED AND ALLOWED) HEREIN SHALL BE DEEM TO BE INCLUDED OR ABSORBED IN THE VARIOUS BREAKDOWN ITEM ABOVE (PLEASE SPECIFY) :- 1) ……..……..……..…….. 2) ……..……..……..…….. 3) ……..……..……..……..				
JUMLAH KESELURUHAN (BIL B)					

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
C	MECHANICAL WORKS **NOTES TO CONTRACTOR** This portion of work for the Fire Protection System shall be carried out by a Registered Firefighting Contractor, licensed by BOMBA where required. All installation, rectification, and testing works must comply with the requirements and regulations set forth by BOMBA, Suruhanjaya Tenaga, and any other relevant statutory authorities. These regulations must be strictly adhered to as outlined in the approved fire protection drawings, BOMBA fire safety requirements, and relevant national standards including NFPA, Malaysia Standard, and Uniform Building By-Laws (UBBL). All lengths, quantities, and extents indicated are PROVISIONAL. Actual works completed shall be measured on site, and payments adjusted accordingly. Tenderers are advised to visit the site prior to tender submission to verify the extent of works required. Refer to the drawings, specifications, and site instructions for scope confirmation. The prices quoted shall be inclusive of labour, materials, tools, and equipment, including any temporary shoring, scaffolding, needling, strutting, screening, protection to finishes, and multiple handling or debris management. Works may be required to be executed in phased or sectional stages as directed by the S.O. or Engineer. All works shall be carried out carefully, with minimal disturbance to existing finishes and structures. The Contractor shall be held fully responsible for any accidental damage, and shall propose and execute restoration works at their own cost. Prior to demolition, the Contractor shall liaise with the S.O. regarding the protection methods for adjacent finishes or furnishings, and shall reinstate all affected areas to their original condition. Supply materials, labour, locate, excavate, break up, hack take down and demolish the works all in accordance with the Architect's and Engineer's Drawings, Preambles and Conditions of Contract and including removal off site all debris, etc and make good all works disturbed on completion to the entire satisfaction of the Superintending Officer.				
C.1	PORTABLE FIRE EXTINGUISHER TO INSPECT, SERVICE, AND RECHARGE EXISTING PORTABLE FIRE EXTINGUISHERS, AND SUPPLY AND INSTALL NEW UNITS TO REPLACE ONLY DEFECTIVE OR NON-COMPLIANT EXTINGUISHERS AS IDENTIFIED DURING INSPECTION. WORKS SHALL INCLUDE PRESSURE TESTING, LABELLING, E-FIES REGISTRATION, AND PROPER REINSTATEMENT AT DESIGNATED LOCATIONS IN ACCORDANCE WITH BOMBA REQUIREMENTS, MS 1539, AND AS INSTRUCTED BY THE S.O.				
C.1.1	9 KG ABC DRY POWER FIRE EXTINGUISHER	NO	60		
C.1.2	2 KG BC CO2 FIRE EXTINGUISHER	NO	50		
C.2	HOSE REEL SYSTEM				
C.2.1	TO SUPPLY AND INSTALL NEW HOSE REEL DRUM SETS AT DESIGNATED LOCATIONS IN ACCORDANCE WITH BOMBA-APPROVED DRAWINGS. WORKS SHALL INCLUDE WALL-MOUNTED OR RECESSED TYPE DRUM, 30M OF 25MM HOSE, NOZZLE, STOP VALVE, HOSE REEL PIPE CONNECTION, BRACKETS, AND LABELLING. WHERE REQUIRED, REPOSITION OR REALIGN HOSE REELS INCLUDING PIPEWORK MODIFICATIONS AS PER THE S.O.'S INSTRUCTIONS. INSTALLATION SHALL COMPLY WITH MS 1447 AND BOMBA REGULATIONS.	SET	40		
C.3	WET RISER SYSTEM				
C.3.1	WET RISER PUMPSET TO SUPPLY AND INSTALL NEW WET RISER FIRE PUMP SYSTEM, INCLUDING DUTY ELECTRIC PUMP, STANDBY DIESEL PUMP, AND JOCKEY PUMP, COMPLETE WITH PIPE HEADERS, ISOLATING VALVES, NON-RETURN VALVES, PRESSURE SWITCHES, GAUGES, BATTERIES, AND CONNECTION TO EXISTING SUCTION AND DISCHARGE LINES. WORKS INCLUDE PIPE SUPPORTS, FLEXIBLE COUPLING, BASEPLATE, AND ALL NECESSARY ACCESSORIES AS PER MS 1489 AND BOMBA REQUIREMENT.				
C.3.1.1	WET RISER PUMPSET 1 DUTY: 1,500 L/MIN @ 10 BARS - ENDSUCTION (ELECTRIC) STANDBY: 1,500 L/MIN @ 10 BARS - ENDSUCTION (DIESEL) JOCKEY: 150 L/MIN @ 10 BARS - VERTICAL INLINE (ELECTRIC)	SET	1		
C.3.1.2	WET RISER PUMPSET 2 DUTY: 1,500 L/MIN @ 10 BARS - ENDSUCTION (ELECTRIC) STANDBY: 1,500 L/MIN @ 10 BARS - ENDSUCTION (DIESEL) JOCKEY: 150 L/MIN @ 10 BARS - VERTICAL INLINE (ELECTRIC)	SET	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
C.3.2	WET RISER CONTROL PANEL TO SUPPLY AND INSTALL NEW CONTROL PANEL FOR WET RISER PUMP SYSTEM, INCLUDING ALL REQUIRED CONTROL DEVICES FOR DUTY, STANDBY, AND JOCKEY PUMPS, BATTERY SETS, TERMINAL BLOCKS, SELECTOR SWITCHES, INDICATOR LIGHTS, AND HOUSING. PANEL SHALL BE WALL-MOUNTED AS REQUIRED AND INTERFACED WITH THE FIRE ALARM SYSTEM WHERE APPLICABLE.				
C.3.2.1	WET RISER PUMPSET 1 MAIN BREAKER SIZE: 150 A TPN MCCB	LOT	1		
C.3.2.2	WET RISER PUMPSET 2 MAIN BREAKER SIZE: 150 A TPN MCCB	LOT	1		
C.3.3	SUBMAIN CABLING WORKS TO SUPPLY AND INSTALL SUBMAIN CABLE LAID IN HDGI CABLE TRAY / TRUNKING WHERE APPLICABLE, COMPLETE WITH PROPER TERMINATIONS, SUPPORTS, EARTHING, IDENTIFICATION LABELS, AND CONNECTIONS TO BOTH SOURCE DB AND THE WET RISER PUMP CONTROL PANEL. INSTALLATION SHALL COMPLY WITH IEE WIRING REGULATIONS, MS IEC 60364, AND SURUHANJAYA TENAGA REQUIREMENTS.				
C.3.3.1	WET RISER PUMPSET 1 CONTROL PANEL CABLE: 4 X 1C 70MM² FR (CU) + 1 X 1C 35MM² E CABLE	M	120		
C.3.3.2	WET RISER PUMPSET 2 CONTROL PANEL CABLE: 4 X 1C 70MM² FR (CU) + 1 X 1C 35MM² E CABLE	M	150		
C.3.4	POWER AND CONTROL WIRING TO SUPPLY AND INSTALL FINAL POWER AND CONTROL WIRING FROM WET RISER PUMP CONTROL PANEL TO EACH PUMP UNIT (DUTY, STANDBY, JOCKEY), INCLUDING SEPARATE CIRCUITS FOR MOTOR POWER AND CONTROL SIGNAL, LAYING CABLES IN HDGI TRUNKING OR IN GI CONDUIT, FLEXIBLE CONDUIT, TERMINATION, IDENTIFICATION LABELS, EARTHING, AND CONNECTION TO PUMP TERMINAL BOXES.				
C.3.4.1	WET RISER PUMPSET 1 POWER CABLE: 4 X 1C 70MM² FR (CU) + 1 X 1C 35MM² E CABLE SIGNAL CABLE: 8 X 1C 1.5MM² PVC (CU) CABLE	LOT	1		
C.3.4.2	WET RISER PUMPSET 2 POWER CABLE: 4 X 1C 70MM² FR (CU) + 1 X 1C 35MM² E CABLE SIGNAL CABLE: 8 X 1C 1.5MM² PVC (CU) CABLE	LOT	1		
C.3.5	LANDING VALVE TO SUPPLY AND INSTALL NEW LANDING VALVES AT DESIGNATED WET RISER OUTLET POINTS COMPLETE WITH 65MM INSTANTANEOUS MALE OUTLET, WHEEL-OPERATED VALVE, BLANK CAP AND CHAIN, AND BRASS FEMALE ADAPTOR. INCLUDES WALL BRACKETS, AND PIPE RECONNECTION TO EXISTING RISER PIPEWORK AS PER BOMBA-APPROVED LAYOUT AND MS 1210.	NO	33		
C.3.6	HOSE CRADLE AND CANVAS TO SUPPLY AND INSTALL NEW HOSE CRADLE COMPLETE WITH NEW 30M X 65MM DIAMETER CANVAS FIRE HOSE, COUPLING, AND NOZZLE, WALL-MOUNTED AT DESIGNATED RISER OUTLET POINTS. INCLUDES NECESSARY BRACKETS, LABELLING, AND ALIGNMENT WITH EXISTING OR NEW LANDING VALVES. INSTALLATION SHALL COMPLY WITH BOMBA REQUIREMENTS AND MS 1210.	SET	33		
C.4	SPRINKLER SYSTEM				
C.4.1	SPRINKLER PUMPSET TO SUPPLY AND INSTALL NEW SPRINKLER FIRE PUMP SYSTEM, INCLUDING DUTY ELECTRIC PUMP, STANDBY DIESEL PUMP, AND JOCKEY PUMP, COMPLETE WITH PIPE HEADERS, ISOLATING VALVES, NON-RETURN VALVES, PRESSURE SWITCHES, GAUGES, BATTERIES, AND CONNECTION TO EXISTING SUCTION AND DISCHARGE LINES. WORKS INCLUDE PIPE SUPPORTS, FLEXIBLE COUPLING, BASEPLATE, AND ALL NECESSARY ACCESSORIES AS PER MS 1910 AND BOMBA REQUIREMENT.				
C.4.1.1	SPRINKLER PUMPSET 1 (OH1 - 45M) DUTY: 1,360 L/MIN @ 2.7 BARS - ENDSUCTION (ELECTRIC) STANDBY: 1,360 L/MIN @ 2.7 BARS - ENDSUCTION (DIESEL) JOCKEY: 150 L/MIN @ 3.4 BARS - VERTICAL MULTISTAGE (ELECTRIC)	SET	1		
C.4.1.2	SPRINKLER PUMPSET 2 (OH1 - 45M) DUTY: 1,360 L/MIN @ 2.7 BARS - ENDSUCTION (ELECTRIC) STANDBY: 1,360 L/MIN @ 2.7 BARS - ENDSUCTION (DIESEL) JOCKEY: 150 L/MIN @ 3.4 BARS - VERTICAL MULTISTAGE (ELECTRIC)	SET	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
C.4.2	SPRINKLER CONTROL PANEL TO SUPPLY AND INSTALL NEW CONTROL PANEL FOR SPRINKLER PUMP SYSTEM, INCLUDING ALL REQUIRED CONTROL DEVICES FOR DUTY, STANDBY, AND JOCKEY PUMPS, BATTERY SETS, TERMINAL BLOCKS, SELECTOR SWITCHES, INDICATOR LIGHTS, AND HOUSING. PANEL SHALL BE WALL-MOUNTED AS REQUIRED AND INTERFACED WITH THE FIRE ALARM SYSTEM WHERE APPLICABLE.				
C.4.2.1	SPRINKLER PUMPSET 1 (OH1 - 45M) MAIN BREAKER SIZE: 63 A TPN MCCB	LOT	1		
C.4.2.2	SPRINKLER PUMPSET 2 (OH1 - 45M) MAIN BREAKER SIZE: 63 A TPN MCCB	LOT	1		
C.4.3	SUBMAIN CABLING WORKS TO SUPPLY AND INSTALL SUBMAIN CABLE LAID IN HDGI CABLE TRAY / TRUNKING WHERE APPLICABLE, COMPLETE WITH PROPER TERMINATIONS, SUPPORTS, EARTHING, IDENTIFICATION LABELS, AND CONNECTIONS TO BOTH SOURCE DB AND THE WET RISER PUMP CONTROL PANEL. INSTALLATION SHALL COMPLY WITH IEE WIRING REGULATIONS, MS IEC 60364, AND SURUHANJAYA TENAGA REQUIREMENTS.				
C.4.3.1	SPRINKLER PUMPSET 1 CONTROL PANEL CABLE: 4 X 1C 25MM² FR (CU) + 1 X 1C 25MM² E CABLE	M	120		
C.4.3.2	SPRINKLER PUMPSET 2 CONTROL PANEL CABLE: 4 X 1C 25MM² FR (CU) + 1 X 1C 25MM² E CABLE	M	150		
C.4.4	POWER AND CONTROL WIRING TO SUPPLY AND INSTALL FINAL POWER AND CONTROL WIRING FROM WET RISER PUMP CONTROL PANEL TO EACH PUMP UNIT (DUTY, STANDBY, JOCKEY), INCLUDING SEPARATE CIRCUITS FOR MOTOR POWER AND CONTROL SIGNAL, LAYING CABLES IN HDGI CABLE TRAY / TRUNKING OR GI CONDUIT, TERMINATION, IDENTIFICATION LABELS, EARTHING, AND CONNECTION TO PUMP TERMINAL BOXES.				
C.4.4.1	SPRINKLER PUMPSET 1 (OH1 - 45M) POWER CABLE: 4 X 1C 25MM² FR (CU) + 1 X 1C 25MM² E CABLE SIGNAL CABLE: 8 X 1C 1.5MM² PVC (CU) CABLE	LOT	1		
C.4.4.2	SPRINKLER PUMPSET 2 (OH1 - 45M) POWER CABLE: 4 X 1C 25MM² FR (CU) + 1 X 1C 25MM² E CABLE SIGNAL CABLE: 8 X 1C 1.5MM² PVC (CU) CABLE	LOT	1		
C.4.5	FLOW SWITCH TO SUPPLY AND INSTALL FLOW SWITCH, PADDLE TYPE, COMPATIBLE WITH SPRINKLER PIPEWORK SIZE, COMPLETE WITH ELECTRICAL CONTACT FOR INTERFACING WITH FIRE ALARM SYSTEM. INCLUDES CABLING, TERMINAL CONNECTION, WATERPROOF JUNCTION BOX, 600 X 600 ACCESS MANHOLE, AND FLOW SWITCH SIGNAGE. INSTALLATION SHALL COMPLY WITH BOMBA REQUIREMENTS, AND MS 1910.	NO	10		
C.4.6	BUTTERFLY VALVE TO SUPPLY AND INSTALL BUTTERFLY VALVE WITH TAMPER SWITCH, FLANGED OR GROOVED END TYPE AS PER SITE CONDITION, SUITABLE FOR SPRINKLER SYSTEM ZONE ISOLATION. INCLUDES PIPE RECONNECTION, EARTHING, TAMPER SWITCH WIRING TO FAP INPUT MODULE (THE WIRING SHALL INDICATE VALVE 'OPEN/CLOSE' POSITION AT MFAP), AND LABELS. INSTALLATION SHALL COMPLY WITH BOMBA REQUIREMENTS, AND MS 1910.	NO	10		
C.4.7	SPRINKLER RANGE PIPEWORK TO SUPPLY AND INSTALL GI CLASS C PIPE FOR SPRINKLER RANGE PIPEWORK, COMPLETE WITH NECESSARY THREADED FITTINGS, JOINTING COMPOUND, HANGERS, SUPPORTS, PAINTING, AND LABELLING. INSTALLATION SHALL COMPLY WITH MS 1910, AND SHALL BE COORDINATED WITH OTHER SERVICES AND STRUCTURAL ELEMENTS.				
C.4.7.1	25MM DIAMETER	M	360		
C.4.7.2	32MM DIAMETER	M	120		
C.4.7.3	40MM DIAMETER	M	30		
C.4.8	SPRINKLER HEAD TO SUPPLY AND INSTALL STANDARD SPRINKLER HEADS, PENDENT OR UPRIGHT TYPE AS PER SITE CONDITION, COMPLETE WITH CHROME OR BRASS FINISH, ESCUTCHEON PLATE (IF REQUIRED), PROPER ALIGNMENT, AND INSTALLATION HEIGHT IN ACCORDANCE WITH BOMBA-APPROVED FIRE PROTECTION PLAN. INSTALLATION SHALL COMPLY WITH MS 1910, AND TO THE APPROVAL OF THE S.O. *NOTE: RESPECTIVE ZONES SHALL BE DRAINED OFF PROPERLY PRIOR TO THE SPRINKLER REPLACEMENT WORKS. ANY DAMAGES TO THE EXISTING CEILING CAUSED BY WATER SPILLAGE / BURST SHALL BE DEEMED INCLUDED IN THE COST AND TO BE RECTIFIED TO THE SATISFACTION OF S.O.	NO	1210		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
C.5	FIRE TANK				
C.5.1	TO RAISE EXISTING RC PLINTH AND ITS' FOUNDATION OF WET RISER & SPRINKLER TANK 1 TO THEIR ORIGINAL LEVEL (600MM PLINTH ABOVE GROUND) USING POLYURETHANE FOAM INJECTION METHOD OR OTHER METHOD SUGGESTED BY THE CONTRACTOR. EITHER METHOD SHALL BE APPROVED BY A C&S ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.	LOT	1		
C.5.2	TO SUPPLY AND INSTALL HDGI PRESSED STEEL SECTIONAL FIRE WATER TANK INTERNAL AND EXTERNAL ACCESS LADDER, MANHOLE, AIR VENT, FLOAT VALVE, BALANCING PIPE, WATER LEVEL GAUGE, OVERFLOW, DRAIN PIPE, INTERNAL TIE-RODS, SEALING GASKETS, BOLTS, ANTI-CORROSION TREATMENT, AND ALL REQUIRED ACCESSORIES. INCLUDES PIPE RECONNECTION WORKS, SUPPORT BASE COORDINATION, AND PAINTING/MARKINGS AS PER BOMBA REQUIREMENTS AND APPROVED DRAWINGS.				
C.5.2.1	WET RISER TANK 1 DIMENSION: 3.66M X 3.66M X 4.88M (H) NOM. CAPACITY: 65.37M³ PLINTH HEIGHT: 600MM	LOT	1		
C.5.2.2	SPRINKLER TANK 1 DIMENSION: 4.88M X 3.66M X 4.88M (H) NOM. CAPACITY: 87.16M³ PLINTH HEIGHT: 600MM	LOT	1		
C.6	TEMPORARY BYPASS TO SUPPLY AND INSTALL TEMPORARY INLET BYPASS PIPE CONNECTION AND TO BE COMPLETED BEFORE COMMENCEMENT OF FIRE TANK 1 REPLACEMENT WORK AS INDICATED IN DRAWING NO.: TD/NHK/2024/014/M/FP-01. WORKS SHALL INCLUDE ALL REROUTING, ISOLATING VALVE, FLANGES, FITTINGS, PIPE SUPPORTS, ACCESSORIES, AND RECONNECTION WORKS AFTER THE COMPLETION OF NEW FIRE TANK 1 INSTALLATION. INCLUDES PRESSURE TESTING, LABELING, AND MAKING GOOD OF ALL AFFECTED AREAS. NOTES: CONTRACTOR ARE OPENED FOR OTHER METHOD SUGGESTION.				
C.6.1	WR SYSTEM (DOWNSTREAM SECTION BETWEEN WRP-01 & WRP-02) PIPE TYPE: GALVANISED IRON CLASS B PIPE SIZE: 200MM DIAMETER	M	30		
C.6.2	SPR SYSTEM (DOWNSTREAM SECTION BETWEEN SPR-01 & SPR-02) PIPE TYPE: GALVANISED IRON CLASS B PIPE SIZE: 200MM DIAMETER	M	12		
C.7	FIXED CO2 FIRE SUPPRESSION SYSTEM TO SUPPLY AND INSTALL FIXED CO? FIRE SUPPRESSION SYSTEM FOR DESIGNATED HAZARD AREAS, COMPLETE WITH 2 ZONES CONTROL PANEL WITH 12AH X 24VDC BATTERY, SMOKE AND HEAT DETECTORS, RELEASE ACCESSORIES, DISCHARGE NETWORK, REMOTE INDICATOR, MANUAL KEYSWITCH, ALARM BELL AND REQUIRED SAFETY DEVICES. ALL COMPONENTS SHALL BE COORDINATED WITH BOMBA-APPROVED LAYOUT AND INSTALLED IN ACCORDANCE WITH MS 1590. INSTALLATION INCLUDES ROUTING, SUPPORTS, LABELLING, AND INTERFACING WITH BUILDING FIRE ALARM SYSTEM. (BOMBA APPROVED BRAND: GEM CO2)				
C.7.1	GENSET ROOM 1 + BILIK SUIS 6 NOS. 45KG CO? CYLINDER C/W PILOT CYLINDER SCHEDULE 40 PIPE: 25MM, 32MM AND 50MM DIAMETER PIPEWORKS 2 NOS. SMOKE & 2 NOS. HEAT DETECTORS FIBREGLASS CURTAIN & EXHAUST FAN C/W DAMPERS	LOT	1		
C.7.2	GENSET ROOM 2 2 NOS. 45KG CO? CYLINDER C/W PILOT CYLINDER SCHEDULE 40 PIPE: 25MM, 32MM AND 50MM DIAMETER PIPEWORKS 1 NO. SMOKE & 1 NO. HEAT DETECTOR FIBREGLASS CURTAIN & EXHAUST FAN C/W DAMPERS	LOT	1		
C.7.3	MSB ROOM 3 NOS. 45KG CO? CYLINDER C/W PILOT CYLINDER SCHEDULE 40 PIPE: 25MM, 32MM AND 50MM DIAMETER PIPEWORKS 1 NO. SMOKE & 1 NO. HEAT DETECTOR FIBREGLASS CURTAIN & EXHAUST FAN C/W DAMPERS	LOT	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
C.7.4	SMSB ROOM 2 NOS. 45KG CO? CYLINDER C/W PILOT CYLINDER SCHEDULE 40 PIPE: 25MM, 32MM AND 50MM DIAMETER PIPEWORKS 1 NO. SMOKE & 1 NO. HEAT DETECTOR FIBREGLASS CURTAIN & EXHAUST FAN C/W DAMPERS	LOT	1		
C.8	CLEAN AGENT FIRE SUPPRESSION SYSTEM TO SUPPLY AND INSTALL CLEAN AGENT FIRE SUPPRESSION SYSTEM FOR DESIGNATED HAZARD AREAS, COMPLETE WITH 2 ZONES CONTROL PANEL WITH 12AH X 24VDC BATTERY, SMOKE AND HEAT DETECTORS, RELEASE ACCESSORIES, DISCHARGE NETWORK, REMOTE INDICATOR, MANUAL PULL STATION, ALARM BELL, TWIN FLASH LIGHT AND REQUIRED SAFETY DEVICES. ALL COMPONENTS SHALL BE COORDINATED WITH BOMBA-APPROVED LAYOUT AND INSTALLED IN ACCORDANCE WITH MS ISO 14520. INSTALLATION INCLUDES ROUTING, SUPPORTS, LABELLING, AND INTERFACING WITH BUILDING FIRE ALARM SYSTEM. (BOMBA APPROVED BRAND: UNIQUE 227)				
C.8.1	TNB ROOM (FM200) 1 NO. 67.61KG HFC227EA CYLINDER C/W PILOT CYLINDER SCHEDULE 40 PIPE: 25MM, 32MM AND 50MM DIAMETER PIPEWORKS 1 NO. SMOKE & 1 NO. HEAT DETECTOR	LOT	1		
C.8.2	SERVER ROOM (FM200) 1 NO. 76.06KG HFC227EA CYLINDER C/W PILOT CYLINDER SCHEDULE 40 PIPE: 25MM, 32MM AND 50MM DIAMETER PIPEWORKS 4 NOS. SMOKE & 4 NOS. HEAT DETECTORS	LOT	1		
C.9	FIRE ALARM SYSTEM				
C.9.1	ADDRESSABLE FIRE ALARM PANEL TO SUPPLY AND INSTALL ADDRESSABLE FIRE ALARM CONTROL PANEL, MINIMUM 3-LOOP EXPANDABLE TYPE, COMPLETE WITH INTEGRATED LCD TOUCHSCREEN DISPLAY, LIGHTNING SURGE ARRESTOR, BATTERY BACKUP SYSTEM (24V), AND ALL REQUIRED INTERFACE COMPONENTS. PANEL SHALL BE HOUSED IN WALL-MOUNTED CABINET AND BE COMPATIBLE WITH THE FULL SUITE OF ADDRESSABLE FIELD DEVICES. INSTALLATION SHALL COMPLY WITH MS 1745, AND BOMBA REQUIREMENTS.				
C.9.1.1	MAIN FIRE ALARM PANEL AT BILIK KAWALAN C/W BUILT-IN THERMAL PRINTER, MIMIC DIAGRAM, MASTER BELL	SET	1		
C.9.1.2	REPEATER FIRE ALARM PANEL AT GUARD HOUSE	SET	1		
C.9.2	FIRE ALARM SYSTEM DEVICES TO SUPPLY AND INSTALL THE FOLLOWING ADDRESSABLE FIRE ALARM SYSTEM DEVICES, COMPLETE WITH BASE PLATES, ADDRESSING CONFIGURATION, LABELLING, MOUNTING, AND WIRING USING 2 X 1.5MM² PVC INSULATED CABLE IN PVC CONDUIT FOR LOOP AND 2 X 2.5MM² WHERE REQUIRED FOR POWER. DEVICES SHALL BE COMPATIBLE WITH THE CONTROL PANEL AND COMPLY WITH MS 1745. THE ITEMS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:				
C.9.2.1	SMOKE / HEAT DETECTORS	NO	80		
C.9.2.2	MANUAL CALL POINTS (PUSH BUTTON-TYPE)	NO	40		
C.9.2.3	ALARM BELLS	NO	40		
C.9.2.4	INPUT / OUTPUT MODULES	NO	100		
C.10	FIREMEN INTERCOM SYSTEM				
C.10.1	FIREMEN INTERCOM PANEL TO SUPPLY AND INSTALL ADDRESSABLE FIREMEN INTERCOM MAIN CONTROL PANEL, COMPLETE WITH BUILT-IN LCD DISPLAY, ZONE INDICATORS, PAGING / COMMUNICATION CONTROLS, BACKUP BATTERY SYSTEM, AND ALL REQUIRED ACCESSORIES. PANEL SHALL BE COMPATIBLE WITH REMOTE HANDSET UNITS AND BE MOUNTED IN THE FIRE COMMAND CENTER. INSTALLATION SHALL COMPLY WITH BOMBA REQUIREMENTS.				
C.10.1.1	MAIN FIREMEN INTERCOM PANEL	SET	1		
C.10.2	FIREMEN INTERCOM REMOTE HANDSET TO SUPPLY AND INSTALL ADDRESSABLE FIREMEN INTERCOM REMOTE HANDSET UNITS, COMPLETE WITH CRADLE ENCLOSURE, ZONE ADDRESS CONFIGURATION, CALL BUTTON, WIRING TERMINALS, TELEPHONE TERMINATOR, AND COMPATIBLE WITH THE MAIN INTERCOM PANEL. HANDSETS SHALL ALLOW TWO-WAY VOICE COMMUNICATION AND BE INSTALLED AT STRATEGIC FLOOR LOCATIONS AS INDICATED IN FIRE STRATEGY DRAWINGS. INCLUDES CABLING USING 2 X 1.5MM² PVC INSULATED CABLE IN GI CONDUIT. INSTALLATION SHALL COMPLY WITH BOMBA REQUIREMENTS.	NO	55		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
C.11	SISTEM PENGAWASAN KEBAKARAN AUTOMATIK (SPKA) TO SUPPLY AND INSTALL SPKA MONITORING PANEL AND ASSOCIATED COMMUNICATION INTERFACE EQUIPMENT, FULLY COMPLIANT WITH BOMBA'S SPKA SPECIFICATIONS. SYSTEM SHALL BE COMPATIBLE WITH EXISTING FIRE PROTECTION PANELS INCLUDING CONNECTIONS AND TERMINATIONS, AND CONFIGURED FOR COMMUNICATION WITH BOMBA'S CENTRAL MONITORING SYSTEM. INCLUDES INTEGRATION CABLING, SIGNAL CONFIGURATION, INITIAL SYSTEM TEST, LABELING, AND COORDINATION WITH AUTHORIZED SPKA PROVIDER IN MALAYSIA.	LOT	1		
C.12	TESTING AND COMMISSIONING FOR FIRE PROTECTION SYSTEM TO CARRY OUT TESTING AND COMMISSIONING WORKS FOR THE COMPLETE FIRE PROTECTION SYSTEM. SCOPE INCLUDES PRESSURE TESTING, FLUSHING, FUNCTIONAL TESTING, CALIBRATION, AND PERFORMANCE VERIFICATION IN ACCORDANCE WITH MALAYSIA STANDARD, AND BOMBA REQUIREMENTS. INCLUDES ALL TOOLS, INSTRUMENTS, DOCUMENTATION, AND ATTENDANCE TO INSPECTION BY THE S.O. AND AUTHORITIES.				
C.12.1	HOSE REEL AND WET RISER SYSTEM	LOT	1		
C.12.2	SPRINKLER SYSTEM	LOT	1		
C.12.3	FIXED GASEOUS FIRE SUPPRESSION SYSTEM (CO? AND FM200)	LOT	6		
C.12.4	FIRE ALARM, FIREMEN INTERCOM SYSTEM AND SPKA	LOT	1		
C.12.5	FIRE PUMPSET (WR PUMPSET 1 & 2, SPR PUMPSET 1 & 2)	LOT	4		
C.13	SPARE FIRE PROTECTION DEVICES AND EQUIPMENT TO SUPPLY AND HAND OVER A COMPLETE SET OF SPARE FIRE PROTECTION DEVICES, EQUIPMENT, AND COMPONENTS COMMONLY SUBJECT TO WEAR OR REPLACEMENT POST-INSTALLATION. SPARES SHALL BE SUITABLE FOR USE BY THE BUILDING'S MAINTENANCE TEAM AND SHALL MATCH THE INSTALLED ITEMS IN MAKE AND MODEL. ALL SPARES SHALL BE PROPERLY LABELED, PACKAGED, AND DOCUMENTED WITH REFERENCE TO THE RELEVANT INSTALLED SYSTEM AND SUBMITTED TO THE S.O. FOR APPROVAL AND RECORD. ITEMS INCLUDE BUT ARE NOT LIMITED TO:				
C.13.1	ADDRESSABLE SMOKE DETECTORS	NO	5		
C.13.2	ADDRESSABLE HEAT DETECTORS	NO	5		
C.13.3	ADDRESSABLE MANUAL CALL POINTS	NO	5		
C.13.4	ADDRESSABLE INPUT/OUTPUT MODULES	NO	10		
C.13.5	FIRE ALARM BELLS (24VDC)	NO	5		
C.13.6	STANDARD SPRINKLER HEADS	NO	25		
C.13.7	9KG ABC DRY POWDER PORTABLE FIRE EXTINGUISHERS	NO	5		
C.13.8	2KG BC CO? PORTABLE FIRE EXTINGUISHERS	NO	5		
C.13.9	HOSE REEL NOZZLES	NO	5		
C.14	OTHERS ALL OTHER WORKS OR EQUIPMENT WHICH NOT COVERED BY THE ABOVE ITEM BUT ARE REQUIRED OR INDICATED IN THE DRAWING AND SPECIFICATIONS TO COMPLETE THE WORKS AS WHOLE (IF STATED AND ALLOWED) HEREIN SHALL BE DEEM TO BE INCLUDED OR ABSORBED IN THE VARIOUS BREAKDOWN ITEM ABOVE (PLEASE SPECIFY) :- 1) …… 2) …… 3) ……				
JUMLAH KESELURUHAN (BIL C)					

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
D	ELECTRICAL WORKS **NOTES TO CONTRACTOR** This portion of work for the Fire Protection Electrical System shall be carried out by a CIDB-Registered Electrical Contractor, licensed by the Suruhanjaya Tenaga (Energy Commission). All installation, rectification, and testing works must comply with the requirements and regulations set forth by BOMBA, Suruhanjaya Tenaga, and any other relevant statutory authorities. These regulations must be strictly adhered to as outlined in the approved electrical and fire protection drawings, BOMBA fire safety requirements, and relevant national standards including NFPA, Malaysian Standards (MS IEC), and the Uniform Building By-Laws (UBBL). All lengths, quantities, and extents indicated are PROVISIONAL. Actual works completed shall be measured on site, and payments adjusted accordingly. Tenderers are advised to visit the site prior to tender submission to verify the extent of works required. Refer to the drawings, specifications, and site instructions for scope confirmation. The prices quoted shall be inclusive of labour, materials, tools, and equipment, including any temporary shoring, scaffolding, needling, strutting, screening, protection to finishes, and multiple handling or debris management. Works may be required to be executed in phased or sectional stages as directed by the S.O. or Engineer. All works shall be carried out carefully, with minimal disturbance to existing finishes and structures. The Contractor shall be held fully responsible for any accidental damage, and shall propose and execute restoration works at their own cost. Prior to demolition, the Contractor shall liaise with the S.O. regarding the protection methods for adjacent finishes or furnishings, and shall reinstate all affected areas to their original condition. Supply materials, labour, locate, excavate, break up, hack take down and demolish the works all in accordance with the Architect's and Engineer's Drawings, Preambles and Conditions of Contract and including removal off site all debris, etc and make good all works disturbed on completion to the entire satisfaction of the Superintending Officer.				
D.1	POWER AND CONTROL WIRING TO SUPPLY AND INSTALL FINAL POWER WIRING FROM LIFT CONTROL PANEL TO LIFT MOTOR AND CONTROL WIRING FROM LIFT CONTROL PANEL TO MAIN FIRE ALAM PANEL (MFAP) AT FIRE CONTROL ROOM, INCLUDING SEPARATE CIRCUITS FOR MOTOR POWER AND CONTROL SIGNAL, LAYING CABLES IN HDGI TRUNKING OR IN GI CONDUIT, FLEXIBLE CONDUIT, TERMINATION, IDENTIFICATION LABELS, EARTHING, AND CONNECTION TO PUMP TERMINAL BOXES.				
D.1.1	LIF BOMBA 1 (OLD BUILDING - ARAS 12 LIFT MOTOR ROOM) POWER CABLE: 4 X 1C 25MM² FR (CU) + 1 X 1C 16MM² E CABLE SIGNAL CABLE: 3 X 1C 1.5MM² PVC (CU) CABLE	LOT	1		
D.1.2	LIF BOMBA 2 (NEW BUILDING - ARAS 12 LIFT MOTOR ROOM) POWER CABLE: 4 X 1C 16MM² FR (CU) + 1 X 1C 16MM² E CABLE SIGNAL CABLE: 3 X 1C 1.5MM² PVC (CU) CABLE	LOT	1		
D.2	ELECTRICAL FINAL WIRINGS TO SUPPLY AND INSTALL FINAL WIRINGS IN GI CONDUIT LAID IN CEILING VOID C/W PIPE FITTINGS, BRACKETS, SUPPORT AND ALL OTHER ASSOCIATED ACCESSORIES. FOR THE ITEM BELOW:-				
D.2.1	2 X 1.5MM² PVC (CU) + 1 X 1.5MM² E CABLE				
D.2.1.1	EMERGENCY LIGHT	NO	220		
D.2.1.2	EXIT SIGNAGE	NO	80		
D.2.1.3	FIREMEN SWITCH	NO	60		
D.3	ELECTRICAL FINAL FITTINGS TO SUPPLY AND INSTALL ELECTRICAL FINAL FITTING, SURFACE-MOUNTED OR FLUSH-MOUNTED WHERE APPLICABLE, COMPLETE WITH ALL NECESSARY MOUNTING ACCESSORIES, BACKBOXES, BRACKETS, AND PROPER ALIGNMENT AS REQUIRED FOR THE ITEM:-				
D.3.1	EMERGENCY LIGHT	NO	220		
D.3.2	EXIT SIGNAGE	NO	80		
D.3.3	FIREMEN SWITCH	NO	60		
D.4	VOICE ALARM SYSTEM				
D.4.1	VAS EQUIPMENT TO SUPPLY AND INSTALL THE FOLLOWING VOICE ALARM SYSTEM (EVAC) COMPONENTS INCLUDING COMPLETE RACK ASSEMBLY, INTERNAL INTERWIRING, LABELLING, ACCESSORIES, AND INTEGRATION:				
D.4.1.1	EVAC MESSAGE PLAYER	NO	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
D.4.1.2	PRE-AMPLIFIER MIXER	NO	1		
D.4.1.3	PAGING MICROPHONE (CLOSE-TYPE)	NO	1		
D.4.1.4	POWER AMPLIFIER (480W)	NO	4		
D.4.1.5	ZONE SELECTOR PANEL (20-ZONE)	NO	1		
D.4.1.6	AUTO CHANGEOVER UNIT	NO	1		
D.4.1.7	UPS BACKUP BATTERY SYSTEM (1000VA)	NO	1		
D.4.1.8	POWER SUPPLY DISTRIBUTION PANEL	NO	1		
D.4.1.9	EQUIPMENT RACK (22U)	NO	1		
D.4.1.10	6W WALL-MOUNTED SPEAKER	NO	100		
D.4.1.11	6W CEILING-MOUNTED SPEAKER	NO	60		
D.4.2	CABLING WORKS TO SUPPLY AND INSTALL CABLING SYSTEM IN GI CONDUIT INCLUDING ALL NECESSARY JUNCTION BOXES, SUPPORTS, AND ACCESSORIES				
D.4.2.1	16 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 1: ARAS BAWAH (OLD BUILDING)	LOT	1		
D.4.2.2	16 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 2: ARAS BAWAH (NEW BUILDING)	LOT	1		
D.4.2.3	16 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 3: ARAS 1 (OLD BUILDING)	LOT	1		
D.4.2.4	16 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 4: ARAS 1 (NEW BUILDING)	LOT	1		
D.4.2.5	16 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 5: ARAS 2 (OLD BUILDING)	LOT	1		
D.4.2.6	16 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 6: ARAS 2 (NEW BUILDING)	LOT	1		
D.4.2.7	16 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 7: ARAS 3	LOT	1		
D.4.2.8	16 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 8: ARAS 4	LOT	1		
D.4.2.9	16 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 16: STAIRCASE 1	LOT	1		
D.4.2.10	16 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 17: STAIRCASE 2	LOT	1		
D.4.2.11	16 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 18: STAIRCASE 3	LOT	1		
D.4.2.12	14 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 9: ARAS 5	LOT	1		
D.4.2.13	14 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 10: ARAS 6	LOT	1		
D.4.2.14	14 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 11: ARAS 7	LOT	1		
D.4.2.15	14 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 12: ARAS 8	LOT	1		
D.4.2.16	14 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 13: ARAS 9	LOT	1		
D.4.2.17	14 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 14: ARAS 10	LOT	1		
D.4.2.18	14 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 15: ARAS 11	LOT	1		

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
D.4.2.19	14 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 19: STAIRCASE 4	LOT	1		
D.4.2.20	14 AWG LOW VOLTAGE CABLE FOR THE FOLLOWING AREA:- ZONE 20: STAIRCASE 5	LOT	1		
D.5	GENSET PARTS REPLACEMENT				
D.5.1	TO CARRY OUT ONE-OFF SERVICE AND MAINTENANCE FOR STANDBY DIESEL GENERATOR INCLUDING INSPECTION, OIL & FILTER CHANGE, RADIATOR FLUSHING, CONTROL PANEL TEST, AND LOAD TEST, COMPLETE WITH ALL CONSUMABLES, TOOLS, WASTE DISPOSAL AND REPORTING.				
D.5.1.1	GENSET 1 (100KVA) (OLD BUILDING - ARAS BAWAH)	PUKAL	-		
D.5.1.2	GENSET 2 (350KVA) (NEW BUILDING - ARAS BAWAH)	PUKAL	-		
D.5.2	TO SUPPLY AND REPLACE NEW MAINTENANCE-FREE (NICKEL CADMIUM - NI-CD) BATTERY FOR GENERATOR STARTING SYSTEM INCLUDING DISCONNECTION, RECONNECTION, TESTING, AND DISPOSAL OF OLD BATTERY.				
D.5.2.1	GENSET 1 (100KVA) (OLD BUILDING - ARAS BAWAH) BATTERY CAPACITY: 1 X 20 AH (24 VDC)	NO	1		
D.5.2.2	GENSET 2 (350KVA) (NEW BUILDING - ARAS BAWAH) BATTERY CAPACITY: 1 X 40 AH (24 VDC)	NO	1		
D.5.3	TO SUPPLY AND REFILL INDUSTRIAL-GRADE DIESEL FUEL TO GENERATOR TANK BEFORE AND AFTER FIRE CERTIFICATE (FC) INSPECTION.				
D.5.3.1	GENSET 1 (100KVA) (OLD BUILDING - ARAS BAWAH)	LITER	50		
D.5.3.2	GENSET 2 (350KVA) (NEW BUILDING - ARAS BAWAH)	LITER	150		
D.6	TESTING AND COMMISSIONING TO CARRY OUT TESTING AND COMMISSIONING OF ALL ELECTRICAL FINAL WIRING AND FITTINGS. WORKS SHALL INCLUDE IDENTIFICATION, LABELLING, TEST DOCUMENTATION, AND SUBMISSION OF TEST RESULTS TO THE S.O. FOR VERIFICATION.				
D.6.1	CONTINUITY TEST	LOT	1		
D.6.2	INSULATION TEST	LOT	1		
D.6.3	FUNCTIONALITY TEST	LOT	1		
D.6.4	EARTHING TEST	LOT	1		
D.7	OTHERS ALL OTHER WORKS OR EQUIPMENT WHICH NOT COVERED BY THE ABOVE ITEM BUT ARE REQUIRED OR INDICATED IN THE DRAWING AND SPECIFICATIONS TO COMPLETE THE WORKS AS WHOLE (IF STATED AND ALLOWED) HEREIN SHALL BE DEEM TO BE INCLUDED OR ABSORBED IN THE VARIOUS BREAKDOWN ITEM ABOVE (PLEASE SPECIFY) :- 1) …… 2) …… 3) ……				
JUMLAH KESELURUHAN (BIL D)					

BIL.	KETERANGAN	UNIT	KUANTITI	KADAR (RM)	AMAUN (RM)
E	PROVISIONAL SUM				
E.1	CONTINGENCIES THE CONTRACTOR'S SPECIAL ATTENTION IS DRAWING TO THE FOLLOWING NOTES RELATING TO THE PROVISIONAL SUMS IN THIS BILL: ALL PROVISIONAL SUMS ARE TO BE EXPENDED AT THE DISCRETION AND UNDER THE DIRECTION OF THE ARCHITECT / SUPERINTENDING OFFICER AND MAY BE DEDUCTED IN WHOLE OR IN PART IF NOT REQUIRED. THE CONTRACTOR SHALL HAVE NO CLAIM FOR PROFIT OR ATTENDANCE ON UNEXPENDED AMOUNT.				
E.1.1	ALLOW A PROVISIONAL SUM OF RM 100,000.00 (RINGGIT MALAYSIA : ONE HUNDRED THOUSAND ONLY) FOR CONTINGENCIES TO BE EXPENDED AS DIRECTED BY S.O OR DEDUCTED IN WHOLE OR IN PART IF NOT EXPENDED.	PUKAL	-		
JUMLAH KESELURUHAN (BIL E)					