

Name of Work:	2216 Housing M & R to Residential Building Maintenance of fire System and Supplying skilled operator & Other Materials for Shyamji Krishna Varma park in sector-7, Gandhinagar.
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SPECIFICATION

Item No.1

Maintenance of fire system and supplying skilled operators to maintain fire system (Engaging sub fire officer for supervising, checking and testing of fix firefighting system, water line at sump rooms and each building with adequate qualification checking frequently water tank, pipes, butte`r fly valves, fire hydrant valves, fire alarm system, pressure of valve, hose reel, hose pipe etc. keeping in work condition as per direction of Engineer in charge at Shyamji Krishnavarma Park in Sector No. 7, Gandhinagar

1.0 SCOPE OF MAINTENANCE GENERAL-

The Contracting Agency is responsible for Maintenance, Cleaning, and texting of fire systems like testing of pump, texting of flow text, lubrication of pump and overhauling as directed by engineer in charge as per schedule attached here with. The Contracting Agency shall maintain all these Installations is perfect working order.

1.2 The Contracting agency will provide round the clock service for following type of work as and when required or instructed by Engineer in charge and or higher authority.

1.2.1 Day to day cleaning and checking of water level/directed by engineer in charge and preventive routine Maintenance shall be carried out and rectify them as directed by engineer in charge.

1.2.2 Maintenance of fire line electrical fittings, fixture and installation

1.2.3 Maintenance service will include up keeping and tightness of all fittings related to fire line, fixture and installations in tidy and perfect working condition.

12.4 Cleaning of all pipe, valve, fire alarm, panel board, cupboard and fixtures as and when required or as per directed by Engineer in charge.

2.0 METHODOLOGY:

2.1 It is presumed that contractor will provide minimum qualified staff at the site, which will be adequate to perform routine maintenance and operational functions. For optimum utilization one person can be responsible for number of services. Also maintenance staff has to be available even on holidays during the contract period However, strength may vary during day and night shifts. System for staff employed shall be got approved by the Engineer in charge.

2.2 Engaged staff will attend the complaints and rectify the complaints. If replacing of material will required, then Engaged staff will take written format for material requirement from staff Engineer in charge and after that department will issue the material to engaged staff which is provided by contracting agency as prescribed in schedule and engaged staff generates work complementation slip duly signed by staff engineer in charge in case of replacement of material.

2.3 The Contracting Agency shall Co-ordinate and liaison with various agencies department /company like Torrent power co. Fire department GUDA on behalf of the department to provide uninterrupted working of fire line.

2.4 The Contractor shall not sublet the work or part of thereof. However, services of specialized agencies for specific work can be obtained.

2.5 Contracting agency should ensure that day to day work is completed should be remain pending on next day.

2.6 A work registered shall be kept up to date on site by the contracting agency and the same shall be available for checking and verification for Engineer in charge.

3.0 ENGAGED STAFF:

3.1 Engaged Staff Qualification

3.1.1 Persons posted at site and in charge of maintenance should possess certificate competency issued recognized by State Government for carrying out required tasks.

3.2 The contractor shall ensure that the workers are punctual and efficient in performance of their duties. Further the Contractor shall engage physically fit persons sand works and their age should not be less than 18 years and not more than 60 years.

3.3 All their personnel workers deployed in this Enquiry office by the contractor shall always wear neat and clean uniform issued by the contractor at his own expenses with view to exhibit high standard at all times. The contractor shall also issue proper laminated Identity card clearly showing his latest photograph, name, address and designation to the personal deployed who shall prominently display their identity cards while on duty O Demand Contractor shall furnish Police verification rolls in respect of personnel/workers Guards deployed in this Enquiry.

3.4 The agency will provide the workers with necessary tools & tackles and testing and safety equipment's like stair, tester, testing lamps, hand lamp, PVC tape, screws, fuse wire hand glows, digital multi-meter, earth loop tester, etc.

3.5 Any accident or damage during maintenance operation will be the responsibility of the agency and the Department will not entertain any claim, compensation, penalty etc. on account or on account of non-observance of any other requirement of law relevant to hit work.

3.6 Agency has to observe and follow all the labour rules and regulation in force.

3.7 The agency has to supply details of the workers likely to be engaged by him before start of the work and get it approved by Executive Engineer.

3.8 The sitting arrangement for the staff engaged by the agency should be arranged the agency at his own cost.

3.9 Since the agency will be doing the maintenance and or operation of critical services like power supply breakup, firefighting, fluctuation in supply, earth fault in internal wiring, etc. responsible and trained person(s) should be placed at site who would initial steps under emergency situation.

3.10 Agency should have round the clock contact telephone number. In case of emergency contractor shall be available at site on short notice make all efforts to make the situation normal at the earliest

3.11 The agency shall issue letters to all the staff engaged by him for duties. And copies of all such letters along with the latest Photos of such person shall be furnished to the executive engineer.

3.12 Department also reserves the right to ask the contracting agency to remove a particular person(s) from the site with immediate effect if in the opinion of person from the department that his behaviour/performance is not up to the mark and or found indulging in unlawful activities. Contracting agency shall immediately comply with such instructions and the vacant post shall be filled by other person with good character immediately.

3.13 The contracting agency should ensure that the person employed by him is not employed/ working at any other place or in this department. If found by Engineer in charge/ D.E.E/ E.E. or any superior authority, then agency will get penalized as decided by Executive engineer or superior authority. And Penalty should be accepted by Agency without any obligation or claim on department.

3.14 The workforce deployed by the Contracting Agency for the said activity of maintenance under the agreement of the Contractor shall not indulge in such activities as which are per prejudicial to the interest of Govt. Property inside the Institute or estate.

4.0 TERMS AND PAYMENT:

4.1 The department reserves the right to terminate the contract by giving show cause notice of one-month duration at any time during the currency of the contract.

4.2. The department reserves the right to extend the contract at the same rate and condition.

4.3 If contracting agency fails to maintain all specified condition in this tender then contract will be terminated by giving show cause notice of one-month duration at any time during the currency of the contract.

4.4 The Department shall have the right to rescind the contract, modification, alteration of the terms and conditions of the contract.

4.5 After the contract period is over the installation has to be duly handed over to Department. The contractor shall be responsible for any discrepancies vis-a-vis, the status of installation at the start of work plus any modification carried out during the currency of the contract.

4.6 In case of unsatisfactory performance during the period, penalty for the unsatisfactorily performance shall be imposed Decision of the Executive Engineer in charge shall be final and binding in this regard

4.7 In case of major accident/ loss on account of negligence on part of the contractor, the contract shall be terminated and SD deposited shall stand forfeited.

4.8 Penalty: The penalty will be imposed on the Constructor for non-cation of ac as per APPENDIX-A.

4.9. Rates are inclusive of all taxes therefore; Taxes shall be paid by the Contractor to the Concern Government Authority. He shall produce the receipt of the paid tax to the Eng. C.P. Div. 1 Gandhinagar

4.10 Testing Certificate of Govt. Fire Officer shall be submitted by Contractor at the time of bill. The N.O.C. from the Govt. Fire Officer/ Municipal Corporation shall be procured by the contractor from the competent authority and testing charges shall bear in the agency.

4.11 The Contractor shall discharge obligations as provided under various applicate statutory enactments including the Employees Provident Fund & Miscellaneous Provisions Act, 1952, the Employees State Insurance (ESI) Act, 1948, the Contract Labour (Regulation & Abolition) Act 1970, the Inter State Migrant workman (Regulation of Employees & conditions of Service) Act, 1979. The minimum Wages Act, 1928, the payment of wages A 1936, the workmen's compensation Act, 1923 and other relevant Act Rules and Regulation instructions etc. issued/enforced from time to time.

The rate shall be unit of one Man Day

The Item shall be measured & payment on a Man day basis.

Item No.2

Maintenance of fire system and supplying skilled operators to maintain fire system (Engaging round the clock 3 fireman with adequate qualification checking frequently water tank, pipes, butter fly valves, fire hydrant valves, fire alarm system, pressure of valve, hose reel, hose pipes etc. keeping in work condition as per direction of Engineer in charge at Shyamji Krishna Varma Park in Sector No.7, Gandhinagar.

The Maintenance of fire system and supplying semi-skilled operators to maintain fire system (Engaging round the clock 6 fireman with adequate qualification checking frequently water tank, pipes, butter fly valves, fire hydrant valves, fire alarm system, pressure of valve hose reel, hose pipe etc. keeping in working condition as per direction of Engineer charge at Shyamji Krishnavarma Park, Sector No. 7, Gandhinagar.

The work shall be carried out as per instruction of Engineer in charge.

The rate shall be for a Man Day basis.

Item No.3

Refilling of Dry chemical powder type fire extinguishers of 5 Kg. /Capacity with ISI mark (IS 2171) including refixing the same as directed.

Materials & Workmanship: -

The item include Refilling of Existing Dry Chemical Powder type fire extinguisher 5 kg/Capacity with ISI mark (IS 2171) including re fixing the same as directed.

Mode of Measurement and Payment: -

The rate shall be include cost of all labour, materials, tools and plant and man for fixing etc., required afire satisfactory completion of this item as specified as certify as Engineer in charge.

The rate shall be for unit of one Number.

Item No.4

Refilling of Carbon Dioxide type fire extinguishers of 4.5 kg capacity with ISI mark including refixing the same as directed.

Material & Workmanship: -

The item include Refilling of Existing Carbon Dioxide type fire ext 4.5KG Capacity with ISI mark including refixing the same as directed.

Mode of Measurement and Payment.

The rate shall be include cost of all labour, materials, tools and plant and material for fixing etc., required after satisfactory completion of this item in specified as certified by Engineer in charge.

The rate shall be for unit of one Number.

Item No.5

Providing and fixing 63 mm parole fire hose confirming to IS 636 type B having 15 mtr length fitting with necessary S.S. 63 mm delivery hose coupling as IS 903 with ISI mark bided with GI wire etc. complete directed.

Material and Construction

- Hose shall be 63 mm nominal internal diameter and 15 m in length.
- Hose shall be woven jacket type made from high strength synthetic yarn with rubber lining suitable for fire fighting application.
- Hose shall conform to Type–B requirements of IS 636 latest revision.
- Hose shall be flexible, durable, resistant to abrasion, weathering and fungal attack.
- Inner lining shall be smooth rubber lining ensuring minimum frictional loss and leakproof performance.

Couplings

- Hose shall be fitted at both ends with 63 mm SS instantaneous delivery couplings conforming to IS 903.
- Couplings shall be corrosion resistant stainless steel with standard male/female instantaneous pattern suitable for fire brigade connections.
- Couplings shall bear ISI certification mark wherever applicable.
- Binding between hose and coupling shall be done with GI wire in approved manner to ensure leakproof and secure joint.

Performance Requirements

- Hose assembly shall be capable of withstanding hydrostatic test pressure as specified in IS 636.
- Hose shall be free from cracks, cuts, manufacturing defects and leakage.
- Finished hose pipe shall be suitable for operation under fire fighting pressure conditions in external/internal hydrant systems.

The rate shall be for unit of one Number.

Item No.6

Providing & fixing first aid Hose reel set with swiving Type 30 mtr long 25 mm dia PVC nylon braided flexible hose of approved quality

Standards

- Hose reel system shall conform to requirements of IS 884.
- Hose pipe shall conform to relevant provisions of IS 12585 or approved equivalent standards applicable for fire fighting hose reels.
- Shut-off nozzle and accessories shall comply with relevant BIS specifications.

Hose Reel Drum

- Hose reel drum shall be swinging type suitable for wall mounting and fabricated from heavy duty mild steel.
- Drum shall be epoxy powder coated/fire red painted for corrosion resistance.
- Reel shall rotate smoothly on spindle with adequate strength and rigidity.

- Swinging arm arrangement shall permit reel movement through approximately 180°.

Hose Pipe

- Hose shall be 25 mm internal diameter and 30 metres in length.
- Hose shall be flexible PVC tubing reinforced with high tensile synthetic nylon braiding.
- Hose shall be capable of withstanding working pressure required for fire fighting applications without leakage, bursting or deformation.
- Hose shall be resistant to abrasion, corrosion, fungus and weathering effects.

Nozzle and Valves

- Hose reel shall be provided with 25 mm dia brass/SS shut-off branch pipe nozzle with jet/spray arrangement.
- Inlet connection shall be through 25 mm gunmetal/bronze stop valve.
- Necessary unions, reducers, clamps and interconnections shall be provided complete.

Mounting and Accessories

- Hose reel shall be supplied complete with wall mounting brackets, hose guide, couplings and all fixing accessories.
- All metallic components exposed to atmosphere shall be treated against corrosion.
- System shall be installed at accessible location as approved by Engineer-in-Charge.

Testing and Commissioning

- Complete hose reel assembly shall be hydraulically tested for leakage and satisfactory operation at specified pressure.
- Hose reel shall ensure smooth unwinding and rewinding operation.
- Entire installation shall be commissioned complete and made ready for fire fighting service.

The rate shall be for unit of one Number.

Item No.7

Providing & fixing 63 mm S S Hydrant lugs of approved quality

Material

- Hydrant lug shall be manufactured from corrosion resistant stainless steel of approved grade suitable for fire fighting applications.
- Material shall possess adequate mechanical strength, durability and resistance against rust, atmospheric corrosion and water exposure.

Size and Compatibility

- Hydrant lug shall be 63 mm nominal size suitable for connection with standard fire hose couplings conforming to IS 903.
- Lug shall be compatible with standard instantaneous male/female fire brigade hose connections used in hydrant systems.

Construction

- Hydrant lug shall be precision machined with smooth finish and leakproof threading/connection arrangement.
- Lug shall be free from cracks, sharp edges, casting defects or manufacturing imperfections.
- Necessary washers, nuts, bolts, clamps or fixing accessories required for proper installation shall be included.

Installation

- Hydrant lug shall be fixed securely on hydrant pipe/work at approved locations ensuring proper alignment and leakproof jointing.
- Jointing shall be carried out using approved sealing material and proper tightening methods.

Testing

- Installed hydrant lug assembly shall be hydraulically tested under operating pressure of the hydrant system to ensure leakproof performance.
- Any leakage or defect observed during testing shall be rectified without additional cost.

The rate shall be for unit of one Number.

Item No.8

Providing & fixing Hydrant valve wheel 63 mm dia of approved quality

Material: Gunmetal/Leaded Bronze body (IS: 318 Grade LTB-2) or Stainless Steel (IS: 3444), high-tensile brass spindle, and a Cast Iron handwheel (minimum 180 mm dia) painted fire-red.

Outlet: 63 mm female instantaneous coupling with dual spring-loaded lugs, complete with a blank cap and GI chain.

Installation: Flange-mounted on the riser main at a height of **1.0 m to 1.2 m** from the floor, secured with a 3 mm rubber gasket and high-tensile bolts.

Finish & Certification: Finished with two coats of Post Office Red enamel paint. The valve must bear a valid **ISI certification mark**.

The rate shall be for unit of one Number.

Item No.9

Providing & fixing Hydrant valve Spindle 63 mm of approved quality

Material: Must be manufactured from high-tensile Brass, Leaded Bronze (IS: 318 Grade LTB-2), or Stainless Steel (IS: 3444), featuring precision-machined square threads conforming to **IS: 5290**.

Fixing & Gland Packing: The new spindle must be perfectly aligned with the internal valve nut. Replace old gland packing with fresh, lubricated asbestos/teflon rope to ensure a watertight seal around the stuffing box.

The rate shall be for unit of one Number.

Item No.10

Providing & fixing S S Ball valve 25 mm dia of approved quality

Material & Standards: Body, ball, and spindle must be made of Stainless Steel **Grade SS-304 or SS-316** conforming to **IS: 11132**. Seals and seat rings must be made of virgin **PTFE (Teflon)** to ensure leak-proof performance and smooth rotation.

Design: Two-piece or three-piece full-bore design with a quarter-turn lever handle (wrapped in a vinyl/PVC sleeve) for manual operation. Ends shall be female screwed/threaded conforming to **IS: 554** (BSP/NPT threads).

Installation: Threaded onto the 25 mm pipeline using Teflon (PTFE) thread seal tape to ensure a tight, leak-proof joint. The valve must be oriented to allow unhindered handle operation.

Approval: The valve must be of an approved manufacturer and bear the size, material grade, and pressure rating clearly cast or stamped on the body.

The rate shall be for unit of one Number.

Item No.11

Providing & fixing S S Shut off Nozzle 25 mm of approved quality

Material & Standards: The nozzle body, tip, and shut-off mechanism must be made of Stainless Steel **Grade SS-304 or SS-316** conforming to **IS: 3444** or **IS: 884** requirements.

- Internal seals must be made of high-grade synthetic rubber (NBR/EPDM) to prevent leakage during high-pressure operations.

Design & Operation: Features a rotary or lever-operated shut-off valve allowing the operator to regulate flow between **Jet, Spray, and Shut-off** modes seamlessly.

- Inlet connection shall be a 25 mm threaded end (conforming to **IS: 554**) or a quick-coupling shank suitable for a 25 mm fire hose reel.

Installation: Firmly fixed to the 25 mm fire hose reel tubing using heavy-duty SS hose clamps or a matching threaded adaptor to ensure a completely leak-proof, high-pressure grip.

Approval: Must be of an approved brand, smoothly finished, and clearly stamped with the manufacturer's mark, size (25 mm), and material grade.

The rate shall be for unit of one Number.

Item No.12

Providing & fixing S S Branch pipe with Nozzle 63 mm ISI of approved quality

Material & Standards: Must strictly conform to **IS: 903** (Specification for fire hose couplings, branch pipes, and nozzles).

- The branch pipe and nozzle must be manufactured from Stainless Steel **Grade SS-304 or SS-316** (conforming to **IS: 3444**), completely free from burrs, pitting, or casting defects.

Design & Components:

- **Inlet:** 63 mm standard male instantaneous coupling architecture to perfectly dock with standard fire delivery hose couplings.
- **Nozzle:** Detachable SS nozzle, typically with a **16 mm or 20 mm** standard orifice diameter, securely threaded onto the branch pipe snout.
- **Washers:** High-grade synthetic rubber or leather washers conforming to **IS: 937**.

Installation: Delivered and securely kept inside the designated fire hydrant cabinet, ready to be coupled to the 63 mm fire hose assembly instantly during emergencies.

Marking & Certification: The body must be clearly stamped/embossed with the manufacturer's name or trademark, year of manufacture, size (63 mm), and a valid **ISI certification mark**.

The rate shall be for unit of one Number.

Item No.13

Providing & fixing M S Double Hose Box of size 750x600x250 mm (18 guage) of approved quality.

Material & Construction: * Fabricated from **18-gauge (1.2 mm thick)** high-quality MS sheet conforming to **IS: 513**.

- The box structure must be securely welded with clean, ground-smooth corners and edges.
- Features a double-door configuration utilizing clear, heavy-duty **4 mm to 5 mm thick glazing (glass)** or wire-gauge mesh for easy internal visibility, protected by a sturdy MS frame.

Hardware & Locking: Fitted with robust piano hinges, a secure locking arrangement (cam lock or latch arrangement), and a quick-release breakout glass mechanism for emergency access.

Installation: Surface-mounted or recess-mounted securely onto the wall or structure using heavy-duty anchor fasteners at a standard operating height, ensuring it is rigid and vibration-free.

Anti-Corrosion & Paint: All MS components must undergo a thorough multi-stage pre-treatment process (degusting and derusting).

Finished with two coats of **Post Office Red (Shade No. 538 of IS: 5)** synthetic enamel paint or powder-coated for superior weather resistance. The words "**FIRE HOSE**" must be neatly stenciled or painted in white block letters on the front glass/door.

The rate shall be for unit of one Number.

Item No.14

Providing & fixing M S Single Hose Box of size 450x450x250 mm (18 guage) of approved quality.

Material & Construction: Fabricated from **18-gauge (1.2 mm thick)** high-quality MS sheet conforming to **IS: 513**.

- Complete box structure must be cleanly welded with ground-smooth corners and edges.
- Features a single-door configuration utilizing clear, heavy-duty **4 mm to 5 mm thick glazing (glass)** or wire-gauge mesh for easy internal visibility, protected by a sturdy MS frame.

Hardware & Locking: Fitted with robust piano hinges, a secure locking arrangement (cam lock or latch arrangement), and a quick-release breakout glass mechanism for emergency access.

Installation: Surface-mounted or recess-mounted securely onto the wall or structure using heavy-duty anchor fasteners at a standard operating height, ensuring it is rigid and vibration-free.

Anti-Corrosion & Paint: All MS components must undergo a thorough multi-stage pre-treatment process (degreasing and derusting).

- Finished with two coats of **Post Office Red (Shade No. 538 of IS: 5)** synthetic enamel paint or powder-coated for superior weather resistance.
- The words "**FIRE HOSE**" must be neatly stenciled or painted in white block letters on the front glass/door.

The rate shall be for unit of one Number.

Item No.15

Providing & fixing CI 150 mm dia Butter fly valve PN16 Sant of approved quality

Material & Standards:

- **Shaft/Spindle:** Stainless Steel (**Grade SS-410 / SS-304**).
- **Seat/Lining:** Integrally molded or replaceable **EPDM / Nitrile rubber** lining to provide 100% bi-directional bubble-tight shut-off.

Design & Operation: Conforming to **IS: 13095** or **BS EN 593**.

- **Type:** Lugged or Wafer type design, sandwiching perfectly between companion flanges.
- **Operation:** Lever-operated or handwheel-driven gear mechanism for smooth quarter-turn (open/close) operation.

Installation: Mounted between 150 mm dia MS/DI companion flanges (drilled as per **IS: 1538** or **ASA-150**). Installed using high-tensile carbon steel bolts, nuts, and washers, ensuring proper disc-clearance alignment before tightening.

Marking & Approval: The valve body must be clearly cast with the manufacturer's name (**SANT**), nominal size (150 mm / 6"), pressure rating (PN16), and heat/batch identification number.

The rate shall be for unit of one Number.

Item No.16

Providing & fixing CI 150 mm NRV flanged of approved quality

Material & Standards:

- **Body & Cover:** High-grade Cast Iron conforming to **IS: 210 Gr. FG 200** or **IS: 5312**.
- **Disc/Door:** Cast Iron or Stainless Steel (**SS-304/CF8**) designed to minimize water hammer.
- **Body Ring & Facing Nuances:** Gunmetal (IS: 318) or Stainless Steel to ensure a corrosion-resistant, leak-proof seating face.
- **Spring/Hinge Pin:** Stainless Steel (**SS-304/SS-410**).

Installation: Mounted horizontally or vertically (with upward flow direction) between 150 mm companion flanges. Bolted securely using high-tensile carbon steel bolts, nuts, and a minimum 3 mm thick reinforced rubber gasket (IS: 638) to guarantee a rigid, leak-proof joint.

Finish & Approval: Finished with anti-corrosive primer and two coats of epoxy or synthetic enamel paint. The valve must be of an approved make and bear the manufacturer's mark, size (150 mm), and pressure rating clearly cast on the body.

The rate shall be for unit of one Number.

Item No.17

Painting one coats (excluding priming coat) on previously painted steel and other metal surface with enamel paint, brushing to give an even shade including cleaning the surface of all dirt, dust and other foreign matter at any height.

Material & Standards:

- **Paint:** High-gloss synthetic enamel paint conforming to **IS: 2932** of approved brand and shade.
- **Thinners:** Standard mineral turpentine oil (MTO) conforming to **IS: 566** (used only if recommended by the manufacturer).

Surface Preparation: The existing painted surface must be thoroughly cleaned of all dirt, dust, grease, rust, scales, and foreign matter.

- Any loose, cracked, or flaking old paint must be completely scrapped off using wire brushes, steel wool, or sandpaper.
- The cleaned surface must be wiped down and completely dry before painting begins. Patches where old paint has peeled off down to bare metal must be spot-primed with an anti-corrosive primer before applying the final coat.

Application & Workmanship: The paint shall be applied uniformly by brushing (or rolling/spraying if approved) to give a smooth, even shade free from brush marks, runs, sags, or holidays.

- Necessary staging, scaffolding, or safety cradles must be erected to execute the work safely at any height, fully complying with standard safety norms (**IS: 3696**).

The rate shall be for Square meter.

Signature of Contractor

Deputy Executive Engineer
Capital Project Sub-Division No. 20
Gandhinagar

Executive Engineer
Capital Project division No. 1
Gandhinagar