



STATE SECRETARIAT FOR INFRASTRUCTURE AND ENVIRONMENT

**ANNEX IV - EXECUTIVE RESTORATION PROJECT AND USE AND CONSERVATION MANUAL**

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## 1. INTRODUCTION

The object of the report hereunder is to provide the Descriptive memorandum for Conservation and Use of the Executive Projects for the Restoration of the Monuments in *Caminhos do Mar*, an integral part of the (*Serra do Mar* State Park) PESM Executive Restoration Project, Itutinga Nucleus, Pilões - Caminhos do Mar, located on Rodovia SP-148, Estrada Caminho do Mar, Km 51, Cubatão - SP.

## 2. DEFINITIONS

In order to facilitate the understanding of this Guide, we clarify the meaning of the terminology used:

**ABNT NBR 5674** - Standard of the Brazilian Association of Technical Standards that establishes the requirements for the management system of constructions maintenance.

**ABNT NBR 14037** - Standard of the Brazilian Association of Technical Standards that establishes the minimum requirements for the elaboration and presentation of the contents of the User Manual, Operation and Maintenance of Constructions, prepared and delivered by the constructor and/or developer to the condominium upon delivery of the project.

**ABNT NBR 15575** - Standard of the Brazilian Association of Technical Standards that establishes and evaluates the requirements and performance criteria that apply to residential constructions, both as a whole and in isolation for one or more specific systems.

**ABNT NBR 16280** - Standard of the Brazilian Association of Technical Standards that establishes the requirements for management control systems for processes, projects, implementation and safety measures to be used when implementing renovations in constructions.

**Certificate of Conclusion** - Public document issued by the competent municipal authority where the construction is located, confirming the completion of the construction work in the conditions set forth in the approved project and in inhabitable conditions. Also known as "*Habite-se* (certificate of occupancy)".

**Company authorized by the manufacturer** - Organization or self-employed professional whose role requires specific training and technical competence, and which are appointed and trained by the manufacturer.

**Qualified company** - In accordance with ABNT NBR 5674, organization or person who has received training, guidance and responsibility from a qualified professional and that works under the responsibility of a qualified professional.

**Specialized company** - In accordance with ABNT NBR 5674, organization or self-employed professional whose role requires specific training and technical competence.

**Local maintenance staff** - In accordance with ABNT NBR 5674, people who carry out services in constructions and who have received guidance and are knowledgeable about prevention of risks and accidents. Observation: Work should only be carried out in case it is in conformity with an employment contract and collective labor agreement and in conformity with the professional role carried out.

**Qualified professional** - Individual and/or legal entity, service provider, legally qualified, with a valid registration under the competent legal entities for professional practice, prevention of the respective risks and implications of its activity in the other systems of the building project.

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**Maintenance** - In accordance with ABNT NBR 15575, a set of activities to be carried out over the useful life of the construction in order to preserve or recover its functioning capacity and that of its constituent systems and meet the needs and safety of its users. In accordance with IPHAN (National Institute of Historic and Artistic Heritage), a set of preventive operations designed to maintain, especially constructions, in good working order and use. Examples: routine inspections, daily or periodic cleaning, painting, immunization, replacement of damaged roof tiles, inspection of the hydro-sanitary, electrical, and other systems.

**Routine maintenance** - In accordance with ABNT NBR 5674, it is defined as a constant flow of services, which are standardized and cyclical, for example, total cleaning and washing of common areas.

**Corrective maintenance** - In accordance with ABNT NBR 5674, it is defined as services that demand immediate action or intervention in order to enable the continued use of systems, elements or components of the constructions, or to avoid serious individual and/or property risks or damages to its users or owners.

**Preventive maintenance** - In accordance with ABNT NBR 5674, it is defined as services which are scheduled in advance, that give priority to requests from users, the estimates for the expected durability of the systems, elements or components of the constructions in use, severity and urgency, and periodic reports to verify their state of deterioration.

**Restoration** - Specialized projects and construction works that aim to conserve and consolidate a construction, as well as preserve or replace all or part of its original concept or that corresponds to the most significant moments of its history.

**Conservation** - a set of actions that aim to prolong the lifespan of a specific cultural asset. It encompasses one or more types of intervention.

**Repair** - a set of operations to fix incipient and minor damages. For example: replacement or recovery of ironware, metals and accessories for installations, replacement of roofing elements, recomposing small areas of flooring and pavements, and others.

**Rehabilitation** - a set of operations designed to make the building project suitable for new uses, other than that for which it was originally designed.

**Reconstruction** - a set of actions that aim to restore a construction or part of it, which is destroyed or at risk of destruction, but not yet in ruins. Reconstruction is acceptable in a few special cases and shall be based on historical evidence or indisputable documentation. For example: constructions destroyed by fire, floods, war, or even on the verge of being destroyed, as in the case of constructed dams.

**Consolidation / Stabilization** - a set of operations designed to maintain the structural integrity, in part of or in the entire construction.

**Restoration** – a set of operations that aim to restore the unity of the construction, in relation to the original design or significant interventions throughout its history. The restoration shall be based on unquestionable analyses and surveys and the implementation shall allow for the distinction between the original and the intervention. Restoration is the type of conservation that requires the largest number of specialized actions.

**Revitalization** - a set of operations developed in deteriorated urban areas or groups of constructions that possess historical value that supports the “rehabilitation” of local social, economic, and cultural structures, interests, in search of the consequential improvement in the general quality of these urban areas or complexes.

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**Surroundings** - an area neighboring a National Monument, under regulatory standard in order to guarantee its visibility and ambience.

**Preliminary Study** - a technical study, based on collected data and utilization plan, in order to determine the feasibility and choose the solutions that best meet the proposed objectives.

**Basic Project** - a set of necessary and sufficient elements and information, with a level of precision considered adequate to define the intervention, elaborated based on the indications of the preliminary technical studies, which ensure the technical and executive viability of the proposed system.

**Executive Project** - definition of all construction or executive details, necessary and sufficient to implement the proposed system.

**Preservation Project** - preservation is defined as any action which benefits cultural Heritage in the fields of Identification, Protection, Conservation and Promotion. A Preservation Project may occur within any of these areas. However, for the specific purpose of this Manual, Preservation Project comprises the development of a project involving physical intervention in built heritages or in public urban spaces.

### 3. WARRANTIES AND TECHNICAL ASSISTANCE

The constructor contracted for the implementation of the restoration construction works shall provide: warranties for building materials, construction systems and equipment being deployed, which constitute the Definitive Warranty. It shall be delivered in the Receipt Act

Building. The terms in the Warranty Term - Acquisition and Definitive Warranty Term are appointed in conformity with technical standard ABNT NBR 15575.

### 4. SUPPLIERS

Upon conclusion of construction, the constructor shall deliver the final version of the descriptive Memorandum for Conservation and Use, which comprises a specific document for each monument.

This document shall list the suppliers of products, materials and equipment used in the construction.

### 5. OPERATION, USE AND CLEANING

#### 5.1. HYDRO-SANITARY SYSTEMS

The hydro-sanitary systems are composed of a set of cold-water installations and sanitary installations.

Cold water installation systems comprise a set of tubes, connections, valves, reservoirs, meters, electromechanical devices, fixtures, equipment and other components meant to conduct cold drinking water from the source of supply to points of use, maintaining the potability standard, and can be direct, when the water comes directly from the source of supply, or indirect, when the water comes from a reservoir in a construction.

The sanitary installations system is composed of a set of tubes, connections, valves, sanitary appliances, drains, ventilation pipes, collection, siphoned, inspection, and separation boxes, among other components intended to conduct drainage products to sanitary treatment stations.

This system can be found in the following monuments: *Pouso do Paranapiacaba*; *Rancho da Maioridade*; *Padrão do Lorena Monument*; *Ruina*.

#### 5.1.1. OBSERVATIONS FOR PROPER USE

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5.1.1.1. EQUIPMENT:

- Do not obstruct the overflow pipe or warning system pipes;
- Do not pull the submerged pumps by the power cable, so as not to disconnect it from the motor;
- Do not over-tighten the registers, taps, mixers;
- When installing filters, taps, showers, pay attention to over-tightened connections to avoid damage to components;
- Do not make changes to the regulation of pressure reducing valves;
- In the case of a water pressurization system, the equipment shall be adjusted to maintain the pressure parameterization and not compromise the other components of the system.

5.1.1.2. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturers' recommendations, ABNT NBR 5674 guidelines and standards specific to the system, if any;
- Only use original parts or parts which have proven equivalent performance;
- Keep the main stop valve in wet areas closed when absent from property for long periods;
- Carry out the proper cleaning without using chemicals, solvents, abrasives of the saponaceous type, steel wool, double sponge, especially on components of the sanitary fixtures that have a metallic finish;
- Pay attention to foreign objects inside the equipment or in the pipes that impair or impede its proper operation. This item contemplates the cleaning in the aerators, which may cause the accumulation of residues in them. In this case, adequate procedures shall be carried out for the removal of the foreign objects, without delay after the identification of the problem;
- Observe the conditions for use such as: misuse, improper handling, installation of inadequate equipment in the system, improper maneuvers of stop valves, valves and pumps. In this case, action plans shall be drawn up to modify the conditions of use, without delay after the identification of the problem;
- Observe damage resulting from impact or perforation in pipes (exposed, embedded or lined). In this case, adequate procedures shall be implemented to repair the damage without delay after the identification of the problem. Leakages or leaks shall be identified, and the stop valve of the monument shall be closed until the problem is resolved;
- Check the functioning of the seals (leather) on the taps and replace them in case of malfunction.
- Changes shall not be made to the pressures defined in construction works, so as not to cause deregulation of pressure reducing valves or pressurization systems, etc., which differ from those established in the project.

PERIODICITY TABLE

FREQUENCY	ACTIVITY	RESPONSIBLE PARTY
Once a week	Check the level of the reservoirs, the operation of the float taps and the float switch for level control.	Local maintenance staff
Every 6 months	Check if the reservoirs' overflow pipe is working properly, to avoid clogging by encrustation or dirt.	Local maintenance staff

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	Check internal mechanisms of closed-coupled toilets for Special Needs Individuals.	Local maintenance staff
	Open and completely close the stop valves in penthouses in order to avoid lodging and keep them in good working condition.	Local maintenance staff
	Clean and check the regulation of flush mechanisms.	Local maintenance staff
	Clean the aerators (removable nozzles) of the taps.	Local maintenance staff
Once a year	Check the flush valve and tap for leaks.	Local maintenance staff
	Check drinking water pipes to detect obstructions, leaks and fixation of seals, and fix it where necessary.	Local maintenance staff/ Qualified company
	Check and if necessary, replace tap seals, mixers and pressure stop valves to ensure sealing and prevent leakage.	Local maintenance staff/ Qualified company

## 5.2. EFFLUENT TREATMENT STATION

Infrastructure that treats wastewater for later drainage through an outfall with an acceptable level of pollution, in accordance with the legislation in force for the receiving environment. The infrastructure is divided into the following parts: pre-treatment, primary treatment, secondary treatment, tertiary treatment, nutrient removal and disinfection.

This system can be found in the following monuments: *Pouso do Paranapiacaba; Rancho da Maioridade; Padrão do Lorena Monument; Ruína.*

### 5.2.1. OBSERVATIONS ON PROPER USE

- Never pour grease or solid residue into the drains of sinks or basin;
- Do not use rods, hot water, acids or similar solutions to unclog sewage.
- Do not overtighten the valves;
- During equipment installation, pay attention to the excessive tightening of connections to prevent damage to components.

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5.2.2. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturers' recommendations and ABNT NBR 5674 guidelines;
- Only use original parts or parts which have proven equivalent performance;
- Since it is a system with a high risk of contamination, a specific plan shall be devised the components, complexity and size of the Effluent Treatment Station for the undertaking, containing the minimum definition of the actions, terms and individuals who shall carry out the activities in conformity with the guidelines in ABNT NBR 5674 and the specific legislation of the location of the venue and where the waste will be deposited.

5.3. GROUND DRAINAGE SYSTEMS

- The rock for the drainage system consists of a set of rainwater installations.
- The ground drainage system is composed of a set of pipes intended to bring rainwater to the appropriate discharge point.
- This system can be found in the following monuments: *Pouso do Paranapiacaba*);
- *Belvedere Circular*.

5.3.1. OBSERVATIONS FOR PROPER USE

It is necessary to clean the water inlet to remove dirt that may obstruct the pipes. Cleaning may be implemented every 6 months, or, in the case of noticeable puddles of water that indicate the system is obstructed, implementation may be anticipated.

5.3.2 PERIODICITY TABLE

FREQUENCY	ACTIVITY	RESPONSIBLE PARTY
Every 6 months or as needed	Clearing obstructions from rainwater the conduction pipes.	Local maintenance staff

5.4. WATERPROOFING

It is the set of operations and construction techniques whose purpose is to protect constructions against the harmful action of fluids or vapors and moisture in wet areas.

"Dry clean" basement floors. Cleaning with water may be implemented only in essential cases, provided that, immediately after its implementation, drying is carried out with the use of squeegee mops and water is disposed of in spillways.

This system can be found in the following monuments: *Pouso do Paranapiacaba*; *Rancho da Maioridade*; *Padrão do Lorena Monument*; *Ruína*.

5.4.1. OBSERVATIONS FOR PROPER USE

- Do not allow the installation of antennas, lampposts or other equipment, by means of fastening with dowels, screws, nails or anchors on waterproofed slabs. For any type of installation of equipment on waterproofed surface, the service must be performed through a company that is

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- specialized in waterproofing, with the proper registration of construction works, in conformity with ABNT NBR 5674;
- Keep drains, grills and spillways in uncovered areas always clean;
- Only clean reservoirs with suitable and recommended chemicals, according to the type of waterproofing used;
- Keep the reservoir empty only as long as necessary for cleaning;
- Do not use high pressure machines, products that contain acids or tools like spatula, wire brush or any type of pointy material. It is recommended that cleaning be carried out by a specialized company with duly registered services, in conformity with ABNT NBR 5674.

### 5.4.2. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturers' recommendations and ABNT NBR 5674 guidelines and norms specific to the system, if any;
- Use only original components or components which have proven equivalent performance;
- In case of damage to the waterproofing, do not carry out repairs with materials and systems different than the ones originally applied, since incompatibility may compromise system performance;
- In case of damage to waterproofing, a specialized company shall carry out repairs.

### 5.4.3. PERIODICITY TABLE

FREQUENCY	ACTIVITY	RESPONSIBLE PARTY
Once a year	Check for damages and restore indoor and outdoor grouting on floor, walls, windowsills, sills, drains, toilet parts, bathtub edges, chimneys, ventilation grilles and other elements	Specialized company
	Inspect possible obstructions in the pipeline and clogging drains or grids; carry out cleaning.	Local maintenance staff
	Check for damages on the waterproofing systems and restore mechanical protection, infiltrations or exposed waterproofing faults	Specialized company

### 5.5. ELECTRICAL SYSTEMS



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The electrical system is designed to distribute electricity in a safe and controlled manner in a construction, according to a specific project developed within the standards described in Brazilian technical standards (ABNT) and analyzed by a local concessionaire.

This system can be found in the following monuments: *Pouso do Paranapiacaba; Rancho da Maioridade; Padrão do Lorena; Ruína.*

### 5.5.1. OBSERVATIONS FOR PROPER USE

#### POWER DISTRIBUTION PANELS

- Do not change the specifications of the circuit breakers (differential, main or secondary)
- located in the construction power distribution panels, as these are sized in accordance with the capacity of the circuits and are in conformity with the Brazilian standards and have the purpose of protecting the circuits from electrical overload. The panels shall contain identification of the circuits and their respective supported currents (amperage);
- Do not drill holes near the power distribution panels;
- Use only equipment with shielded resistances, as the panels have a DR (Differential Residual) switch, whose purpose is to measure currents flowing in and out of the electrical circuit and, if there is an eventual leakage of current, as is the case during an electric shock, the component automatically shuts off. Its main purpose is to protect people who use electricity;
- In the event of a momentary overload, the affected circuit breaker will automatically shut off
- In this case, restart the component. If it disconnects again, it means there is a continuous overload or short circuit in a device or in the circuit itself, which makes it necessary to request an assessment from a qualified professional;
- Do not connect devices directly to the power distribution panels.

#### CIRCUITS, OUTLETS AND LIGHTING

- Check the load of the devices to be installed, in order to avoid overloading the circuit that powers the outlet and to ensure its operation in the conditions specified by the manufacturers and provided for in the construction project;
- Do not use adaptors (devices that allow the connection of several devices into one outlet) or extensions with multiple outlets as they may cause overloads;
- Use individual protection, such as stabilizers and power filters in more sensitive equipment, such as computers, home theaters, call center, etc.;
- Equipment, light fixture or similar installations must be carried out by a qualified company, observing grounding, voltage, gauge and quality of wires, in addition to insulation, sockets and plugs to be used;
- Do not connect devices with a voltage other than those specified in the outlets;
- Maintenance must be carried out after disconnecting circuit breakers and by a qualified or trained professional, depending on the complexity of the task;
- Whenever maintenance is carried out on installations, such as changing lamps, cleaning, and retightening of the components, turn off the corresponding circuit breakers.

#### ADDITIONAL INFORMATION

- In case of fire, turn off the general circuit breaker of the power distribution panel;
- When installed on staircases, time delay switches or motion-activated sensors with sensors
- shall never be halted after being activated, as they can burn when kept on for a long time;
- Only install lamps compatible with the voltage of the project (in the case of 110-volt circuits, preferably use 127-volt lamps, in order to prolong their useful life);
- Do not put liquids in contact with the electrical components of the system;

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- Feeder cables, which come out of the meter panels and reach the different electrical panels, shall not have a power supply derivation;
- In case of breakdown or any occurrence in the substation (if there are any in the construction), the concessionaire shall be contacted immediately;
- Only allow access of qualified professionals or accredited agents of the concessionaire of electrical company to the premises of the electrical meter;
- Only qualified professionals should have access to the facilities, equipment and technical areas of electricity, avoiding short-circuit, shock, life-threatening conditions, etc.;
- Do not use the electrical meter location as a deposit or store flammable products which may pose a fire hazard;
- Do not hang objects on visible installations;
- Only clean external areas of the electrical installations (mirrors, panel doors, etc.) with a dry cloth;
- Indirect lighting from lamps which are too close tends to stain the surface of the ceiling plaster. Therefore, constant cleaning or painting is necessary in this location;
- Light fixtures used in exposed or outdoor areas with excessive humidity may have their life span reduced, requiring maintenance such as sealing and insulation.

5.5.2. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturers' recommendations and ABNT NBR 5674 guidelines and norms specific to the system, if any;
- Use only original parts or parts which have proven equivalent performance;

5.5.3. PERIODICITY TABLE

FREQUENCY	ACTIVITY	RESPONSIBLE PARTY
Every 2 months	Test the DR type circuit breaker by pressing the button located on the device itself. When pressing the button, the power will be interrupted. If this does not occur, change the DR.	Local maintenance staff
Once a year	Review the insulation of spliced wires and, in case of problems, provide fixing	Specialized Company
	Check and, if necessary, retighten the connections in power distribution panel	Specialized Company
	Check the condition of electrical wiring. In case of wear, replace parts (sockets, switches, light spots and others)	Specialized Company
Every 2 years		Qualified Company/Specialized Company

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	Retighten all connections (sockets, switches, light spots, and others)	
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## 5.6. ATMOSPHERIC DISCHARGE PROTECTIVE SYSTEMS (SPDA)

System designed to protect the constructions and structures of the building project against incidence and direct impact from lightning in the region. Protection also applies against direct incidence of lightning on equipment and people inside these constructions and structures, as well as inside the protection imposed by the installed SPDA.

The lightning arrestor system does not prevent lightning strikes and does not it can ensure the absolute protection of a structure, people and goods; however, it reduces the risk of damage caused by lightning strikes.

The system does not include the protection of electrical and electronic equipment against electromagnetic interference caused by lightning strikes.

This system can be found in the monuments: *Pouso do Paranapiacaba; Rancho da Maioridade; Padrão do Lorena; Ruína.*

### 5.6.1. OBSERVATIONS FOR PROPER USE

- All metallic constructions that are added to the structure after the original installation, such as antennas and covers, must be connected to the system and adjusted for its capacity. This adjustment should be done through technical analysis of a qualified professional. The location of the installation should also be assessed, and must stay within the area covered by the SPDA protection;
- Never approach the elements that make up the system and the areas where they are installed during rain or imminent rain.

### 5.6.2. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturers' recommendations and ABNT NBR 5674 guidelines and norms specific to the system, if any;
- Only use original parts or parts which have proven equivalent performance;
- Within a maximum term of one month from the incidence of atmospheric discharge on
- SPDA, inspections should be carried out by a qualified professional who shall check
- the condition of the system components, fixation and corrosion in connections and if the value of the grounding resistance remains compatible with the grounding subsystem conditions and soil resistivity;
- The following shall be kept on site or in the possession of those responsible for SPDA maintenance: technical documentation, measurement certificate with record of measurement
- values for grounding resistance to be used in inspections, any modification or repairs to the system and new projects, if any.

### 5.6.3. PERIODICITY TABLE

FREQUENCY	ACTIVITY	RESPONSIBLE
Once a month	Check the status of surge protection devices (DPS), which, in the event it is activated, disarms to protect	Local maintenance staff

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	installations, without discontinuity. Manual override is required in order to ensure protection in the event of a new incident	
Every 3 months	Complete inspections in conformity with ABNT standard NBR 5419	Specialized Company
Once a year	Inspect for damages and replenish the resistance measurement system in accordance with current legislation	Specialized Company

## 5.7. ELECTRONICS, COMMUNICATIONS AND LOGIC SYSTEMS

### 5.7.1. ELEVATORY PLATFORM

Defined as a set of equipment with electromechanical or hydraulic drive, intended for vertical transport of passengers or cargo between the floors of a construction project.

This system can be found in the following monuments: Pouso do Paranapiacaba; Padrão do Lorena.

#### 5.7.1.1. OBSERVATIONS FOR PROPER USE

- Press the buttons only once;
- Avoid using water to clean doors and cabins, use soft flannel or burlap, slightly moistened with non-abrasive products, suitable for the type of cabin finish;
- Avoid using chemicals on plastic parts to avoid causing discoloration;
- In the event of a power failure or sudden stop of the platform, request external assistance through the intercom or alarm, without trying to exit the elevator;
- In cases of abnormal noise and vibration, communicate to the local maintenance staff / responsible party;
- Avoid accumulation of water, liquids or oil in the elevator pit;
- Avoid draining water into the elevator running box / pit;
- Do not throw garbage in the well and in the elevator openings, as it damages the parts that are in the equipment box, causing damage and system malfunction;
- Avoid jumping or sudden moves inside the elevator;
- Avoid overweight cargo and / or maximum number of passengers allowed appointed inside the elevator;
- Never try to remove passengers from the cabin when the elevator stops between floors, as there are great risks of serious accidents occurring; always call the maintenance company or the Fire Department;
- Never use the elevators in case of fire;
- Do not remove or damage the visual safety communication fixed onto the elevators;
- Do not misuse the alarm, as it is a safety device;
- Watch your step between the floor and the elevator floor.

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5.7.1.2. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturers' recommendations and ABNT NBR 5674 guidelines and norms specific to the system, if any;
- Only use original parts or parts which have proven equivalent performance;
- It is mandatory to carry out maintenance with a specialized company authorized by the manufacturer, who shall have a maintenance contract and meet the requirements defined by ABNT NBR 16083 - Maintenance of elevators, escalators and moving walkways - Requirements for maintenance and current legislation.

5.7.1.3. PERIODICITY TABLE

FREQUENCY	ACTIVITY	RESPONSIBLE PARTY
Every 6 months	Carry out testing of the automatic operation of lifting platforms with electricity from emergency generators	Specialized Company

5.7.2. CLOSED-CIRCUIT TELEVISION - CCTV

A component of the security system, for surveillance, monitoring and following occurrences in certain locations of the common areas, but that, in isolation, does not guarantee the property security of the construction project.

This system can be found in the following monuments: *Pouso do Paranapiacaba; Rancho da Maioridade; Padrão do Lorena; Ruína.*

5.7.2.1. REMARKS FOR PROPER USE

- In the event of system expansion, do not use multiple devices in the same circuit (adaptors, etc.);
- The use of UPS or auxiliary power is recommended in order to avoid discontinuity of the system in case of interruption of energy supply;
- Keep equipment clean and unimpeded in the image capturing areas;
- Avoid dropping, overheating, humidity and inadequate handling of equipment;
- Follow the manufacturer recommendations;
- Comply with current legislation regarding the use and conservation of images captured by the system.

5.7.2.2. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturers' recommendations and ABNT NBR 5674 guidelines and norms specific to the system, if any;
- Only use original parts or parts which have proven equivalent performance;

5.7.2.3. PERIODICITY TABLE

	ACTIVITY	
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FREQUENCY		RESPONSIBLE PARTY
Every 1 month	Check operation according to supplier instructions	local maintenance Staff /Qualified company
Every 6 months	Complete inspection of the installed system and carry out maintenance	Specialized Company

### 5.7.3. PROPERTY ALARM

- A Security system which monitors from a set of motion-activated sensors and a control panel.
- This system can be found in the following monuments: *Pouso do Paranapiacaba; Rancho da Maioridade; Padrão do Lorena; Ruína.*

#### 5.7.3.1. PREVENTIVE MAINTENANCE

- Every 6 months, the company hired for monitoring, shall check the alarm system, both the sensors and the main control panel.
- Observe the placement of objects and equipment in front of the sensors,
- which may block your field of view.

#### 5.7.3.2. PERIODICITY TABLE

FREQUENCY	ACTIVITY	RESPONSIBLE PARTY
Every 6 months	Company contracted for monitoring shall check the alarm system.	Contracted specialized company

### 5.8. FIRE SYSTEMS

#### 5.8.1. EXTINGUISHERS

The portable fire extinguisher is a manual device, consisting of a container and accessory, containing the extinguishing agent, intended to combat initial fire.

Fire extinguishers shall be used according to the nature of the fire, as follows:

Agent	Recommendation
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Water	For class A fires. Works by cooling and should never be used in class B and C fires.
Carbon dioxide	For class B and C fires. Works by muffling, extinguishing oxygen and causing the materials to cool.
Chemical Powder B / C	For class B and C fires. Extinguishes the fire through chemical reactions.
Chemical Powder A / B / C	For fires and class A, B and C. Extinguishes the fire through chemical reactions and muffling. Can be used for putting out fires of almost any nature
Mechanical foam	For class A and B fires. Works by cooling and muffling and should never be used in class C fire.

Class	Nature of Fire
A	Fire originating from solid combustible materials such as paper, wood, plastics thermostable, fabrics, rubbers and organic fibers
B	Caused by the combustion of flammable liquids and / or gases, greases and plastics that burn on its surface without leaving residues.
C	Burning of energized electrical installations, such as power panels, transformers, wiring, etc.
D	Caused by combustible metals such as magnesium, potassium, lithium, sodium and zirconium.

The following equipment is determined for the monuments:

- 3A pressurized water extinguisher
- 5BC carbon dioxide extinguisher
- Dry chemical fire extinguisher 40BC

This system can be found in the following monuments: *Pouso do Paranapiacaba; Rancho da Maioridade; Padrão do Lorena; Ruína.*

#### 5.8.1.1. OBSERVATIONS FOR PROPER USE

- There is no partial charge, so do not save charge. Use it fully to make sure the fire is completely extinguished.
- Do not test the extinguisher, as even small discharges can compromise future operations and lead to pressure loss.

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- Keep the extinguisher clean and well maintained.
- Keep the extinguisher, whenever possible, away from adverse weather.
- Do not pierce or incinerate the container / cylinder: content under pressure, risk of serious accidents.
- Do not trigger the fire extinguisher unnecessarily, only in the event of a fire.
- Check that the pressure indicator pointer is within the range of operation, if it is below the range, the extinguisher will not work properly.
- Check that the outlet (discharge) hole is unobstructed.
- If the fire extinguisher has the following characteristics, have it inspected: corrosion; mechanical / dented damage from knocking; thermal damage/voltaic arc marks.
- Maintenance shall only be performed by companies certified by entities accredited by INMETRO.
- Maintenance shall be carried out strictly in accordance with the respective Applicable Technical Standards.
- Do not use thinners or solvents to clean the extinguisher or its components.

5.8.1.2. PREVENTIVE MAINTENANCE

- The terms for maintenance, recharge and hydrostatic test provided by the respective Brazilian technical standards shall be respected, however if the fire extinguishers are subject to adverse conditions, bad weather and / or aggressive conditions, these terms shall be reduced, being more frequent according to the frequency of the aggressive / adverse environment in which the equipment is installed.
- Careful periodic inspection of the extinguisher, performed by a qualified person, through visual and periodic examination, in order to check its accessibility and if it remains in original operating conditions. The purpose is to ensure that the extinguisher is fully loaded and operable. During the inspection, at least the following items shall be checked: If the extinguisher has not been activated, violated or tempered with; If there is no visible physical damage that prevents its operation; If the extinguisher is clean and well maintained; If the pressure indicator pointer
- is within the operating range; If the tamper-resistant seal is intact; If the exit orifice is clear; If the hose is free of cracks, splits and / or strangles that prevent the passage of the extinguishing agent. If hose connectors are intact, and if the internal part is completely free from foreign objects; If the container/cylinder shows any signs of corrosion, dropping or crushing of any
- nature; If the instruction board is legible and complete; The expiration date of the load warranty; The expiration date of the hydrostatic pressure.

5.8.1.3. PERIODICITY TABLE

FREQUENCY	ACTIVITY	RESPONSIBLE PARTY
Once a month	Visual, periodic inspection of the extinguisher.	Local maintenance staff
As appointed by manufacturer	Replacement of the contents of the extinguisher, as well as a review of its pressure.	Local maintenance staff/ qualified company

5.8.2. EMERGENCY LIGHTS

A system designed to brighten the construction areas, specific and provided for in the project (for example, halls, staircases, basements, escape routes and others) in case of interruption of electricity supply from the concessionaire.



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This system can be found in the following monuments: *Pouso do Paranapiacaba; Rancho da Maioridade; Ruína.*

### 5.8.2.1. OBSERVATIONS FOR PROPER USE

- Maintain the equipment permanently activated so that the emergency lighting is automatically activated in the event of interruption of electricity;
- Change the lamps of the light fixtures with the same power and voltage when necessary;
- Do not use the place where the equipment is installed as a deposit, especially do not to store flammable products that can pose a risk of fire;
- Only use components or equipment that meet the criteria in ABNT NBR 10898.
- When handling batteries, wear rubber gloves, goggles and use an isolated screwdriver.

### 5.8.2.2. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturers' recommendations and ABNT NBR 5674 guidelines and norms specific to the system, if any;
- Only use original parts or parts which have proven equivalent performance;

### 5.8.2.3. PERIODICITY TABLE

FREQUENCY	ACTIVITY	RESPONSIBLE PARTY
Every 15 days	Perform system function testing as instructed by the supplier	Local maintenance staff
Every 2 months	Check if the fuses are properly fixed or burned and, if necessary, carry out repairs	Local maintenance staff/qualified company

## 5.9. FOUNDATIONS AND STRUCTURE

Monuments shall be inspected every two and a half years to check possible damage to foundations and structure (whether stone, concrete or metal). Inspections shall be carried out by a staff specialized in engineering services and generate a Stability Report of the Monument, presenting the results of the inspection. Maintenance and local administration staffs will be able to carry out minor inspections to look for cracks and splits in the monuments or any settlement of the land. In the event of finding changes to the monument, the maintenance staff shall notify the administration so that specialized restoration or engineering shall carry out inspection and produce a report. These systems can be found on all monuments.

### 5.9.1. PERIODICITY TABLE

FREQUENCY	ACTIVITY	RESPONSIBLE PARTY
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Often	Inspection by maintenance staffs and local administration.	Local maintenance staff and local administration
Every 2 and a half years	Monument stability report - foundations and structure	Engineering specialized staff

#### 5.10. TOP FLOOR / PENTHOUSE

A set of elements / components with the purpose of ensuring no-leak and salubrity of rainwater, protect the other residential construction systems or protect elements and components from deterioration by natural agents, and contribute positively to the thermoacoustic comfort of the residential construction, including the following components: tiles, complementary pieces, gutters, trusses, flashings, ceilings etc. This system can be found in the following monuments: Pouso do Paranapiacaba (wood and ceramic tiles); Rancho da Maioridade (wood and ceramic tiles); Ruína (metallic structure with glass shutters).

##### 5.10.1. OBSERVATIONS FOR PROPER USE

- Working at high levels requires special safety precautions;
- Only technically trained and safe persons should travel about coverage.

##### 5.10.2. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturers' recommendations and ABNT NBR 5674 guidelines and norms specific to the system, if any;
- Only use original parts or parts which have proven equivalent performance;
- Carry out frequent inspection for possible leaks or leakages in the event of rain. Leaks shall be adequately halted as soon as possible.
- Check the position of the ceramic roof tiles for possible shifting. The roof tiles shall be repositioned and secured by a staff specialized in top floor services.
- Periodic cleaning of ceramic roof tiles to avoid accumulation of organic matter and dirt, which can damage the top floor.
- The wood in the top floors which have ceramic tiles shall be hydrated with flaxseed oil and immunized with termiticide every 5 years, because properties are located inside the forest.
- Check the safety conditions of the maintenance staff when cleaning glass-built top floors.

##### 5.10.3. PERIODICITY TABLE

FREQUENCY	ACTIVITY	RESPONSIBLE PARTY
Every 3 months	Cleaning glass-built top floors.	Local maintenance staff
Every 6 months	Check gutters, tiles and thermal protectors for damages and, if necessary, clean and repair to ensure good working condition, as needed. During periods of heavy	Qualified company / specialized company

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	rain, a weekly inspection of the gutter is recommended	
Once a year	Check the structural integrity of the components, seals, fixings, tiles, and reconstitute and fix, as necessary	Qualified company / specialized company
Every 2 years	Periodic cleaning of ceramic roof tiles for removal of dirt and organic matter.	Qualified company / specialized company
Every 5 years	Reapplication of termiticide for protection against attacks from xylophagous insects / reapplication of hydrating flaxseed oil	Qualified company / specialized company

## 5.11. SEALS

### 5.11.1 DRYWALL

Plasterboard overlays with internal metallic structure used as a vertical seal. This system can be found in the following monuments: Pouso do Paranapiacaba; Ranch Maioridade; Ruína.

#### 5.11.1. PREVENTIVE MAINTENANCE

- In case of need for drilling to fix equipment or objects to the walls, it is first necessary to predict the weight of the equipment.
- Light equipment can be attached to the walls using nails and screws suitable for drywall. In the case of heavy equipment, provision should be made for internal metal reinforcement structure to plasterboard.
- In the event of the appearance of mold stains or deterioration of plasterboard, these shall be removed from the cutout of the installed plate, it may be only part of the plate or the entire plate. In the case of replacement of plaster, the same type of plaster used previously must be used again (Standard (white); RU (moisture resistant - green) or RF (fire resistant - pink).
- Cleaning shall be carried out with a slightly damp cloth. Any and all excess water should be removed with a dry cloth. Under no circumstances detergents containing soaps, steel sponges of any kind or abrasive material shall be used;
- Avoid using sharp or piercing material to clean edges or corners.

#### 5.11.2. PERIODICITY TABLE

FREQUENCY	ACTIVITY	RESPONSIBLE PARTY
Every 2 months	Cleaning with a slightly damp cloth.	Local maintenance staff

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Every 2 years	Repainting.	Local maintenance staff
As needed	Plasterboard replacement	qualified company

### 5.11.3. GLASS

Glass-sealing system used in facades and roofs, with the purpose of protecting environments from the weather, while allowing light to pass through. This system can be found in the following monuments: *Pouso do Paranapiacaba; Rancho da Maioridade; Padrão do Lorena; Ruína.*

#### 5.11.3.1. OBSERVATIONS FOR PROPER USE

- Glasses thickness is compatible with the necessary resistance for normal use. For this reason, avoid any kind of impact on its surface or frames;
- For cleaning, use only mild soap and water. Do not use abrasive materials, for example, steel wool or brushes with stiff bristles. Use only a soft cloth or sponge;
- In case of replacement, use glass with the same characteristic (color, thickness, size etc.);
- Avoid rainwater infiltration by trying to properly stop possible leaks;
- Avoid exerting force at odds with the specific surface.

#### 5.11.3.2. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturers' recommendations and ABNT NBR 5674 guidelines and norms specific to the system, if any; ;
- Only use original parts or parts which have proven equivalent performance;
- Cleaning should be done using a slightly damp and adherent cloth
- specifications for care of use;
- In case of shattering or cracking, change immediately to avoid accidents.

#### 5.11.3.3. PERIODICITY TABLE

FREQUENCY	ACTIVITY	RESPONSIBLE PARTY
Once a year	In complexes with tempered and laminated glass, carry out inspection of the metallic fixings system	Specialized company
	Check the performance of the seals and window fixings	Local maintenance staff / qualified company

### 5.12. OVERLAYS (FLOORS, WALLS AND LININGS)

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5.12.1. MORTAR AND PAINTING

The mortar strip shall be cleaned with water using a damp cloth and lightly brushed, so as not to damage the mortar or its paint. This simple cleaning method should take place every 2 months in order to keep the place clean. In the case of reappearing lichens and fungi, sodium hypochlorite sodium (bleach) and fungicide may be applied occasionally, especially in places containing microbial colonies. The products may be dissolved in water according to manufacturer guidelines. Complete cleaning and removal of the product with water shall be implemented.

Pay attention to mixing products, which may generate other components harmful to the environment or construction.

Any application of herbicide, fungicide or biological eradication products must have a system for draining contaminated water to a safe stock, which shall undergo cleaning and proper disposal of chemicals for water purification and its return to nature. It is important to note that this system shall protect the natural environment surrounding the monument, as well as the soil and possible water courses or springs. Once every 2 years, the monument must be repainted.

The paint color shall always be the same as that used in the construction works, according to the architectural design and pictorial projections carried out during the design stage of the project.

It is prohibited to drill or alter the façades of the monument (additions or removal of elements), without due authorization from the preservation agency. These monuments are property protected as cultural heritage by the Council for the Defense of Historical, Archaeological, Artistic and Tourist Heritage.

Using other chemicals not recommended by the monument Restoration Staff is prohibited, so as not to incur losing the properties of the elements or color change of overlays. In the event of unidentified pathologies not listed in this report, an inspection by a staff specialized in restoration services shall be carried out and generate a confirmatory report to be used for other monument products.

This system can be found in the following monuments: Pouso do Paranapiacaba; Rancho da Maioridade; Padrão do Lorena; Ruína; Belvedere Circular.

5.12.2. STONE - WALLS AND FLOORS

Monuments may be cleaned periodically with high pressure water jets, every 6 months, in order to keep the monument clean, on the outdoor vertical walls and outdoor floors. Indoor stone coverings shall be cleaned without hydro-jetting, only use brushing and non-running water.

In the case of reappearing lichens and fungi, sodium hypochlorite (bleach) and fungicide may be applied occasionally, especially in places containing

microbial colonies. The products may be dissolved in water according to manufacturer guidelines. Complete cleaning and removal of the product with water shall be implemented.

Pay attention to mixing products, which may generate other components harmful to the environment or construction.

In case of reappearing vegetation, manual removal of plants shall be done first. If they persist, sterilizing herbicide may be applied to a specific place so that the plant does not appear again.

Any application of herbicide, fungicide or biological eradication products must have a system for draining contaminated water to a safe stock, which shall undergo cleaning and proper disposal of chemicals for water purification and its return to nature. It is important to note that this system shall protect the natural environment surrounding the monument, as well as the soil and possible water courses or springs. The importance of this maintenance is:

- In the case of ground floors: clogging of existing rain channels may occur below the ground.
- In the case of walls: plants, lichens and fungi may reduce the resistance of construction materials, leading to greater depreciation.

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It is prohibited to drill or alter the façades of the monument (additions or removal of elements), without due authorization from the preservation agency. These monuments are property protected as cultural heritage by the Council for the Defense of Historical, Archaeological, Artistic and Tourist Heritage.

Using other chemicals not recommended by the monument Restoration Staff is prohibited, so as not to incur losing the properties of the elements or color change of overlays. In the event of unidentified pathologies not listed in this report, an inspection by a staff specialized in restoration services shall be carried out and generate a confirmatory report to be used for other monument products.

This system can be found in the following monuments: Pouso do Paranapiacaba; Rancho da Maioridade; Padrão do Lorena; Ruína; Belvedere Circular, Monumento do Pico, Marco Quinhentista (Cruzeiro).

### 5.12.2.1. NEW CERAMICS

Overlay commonly used in wet or wettable areas, which protects surfaces, in addition to their decorative function.

This system can be found in the following monuments: Pouso do Paranapiacaba; Rancho Maioridade; Padrão do Lorena; Ruína.

### 5.12.2.2. OBSERVATIONS FOR PROPER USE

- Before drilling any part, consult the installation plans, in order to avoid accidental punctures in pipes and waterproofed layers;
- To fix down furniture, accessories or equipment, use appropriate screws and bushings and avoid impact on overlays, which may cause damage or impairment to system performance;
- Do not use a high-pressure water-jetting machine, piassava brooms, brushes with hard bristles, sharp parts, sponges or steel wools, metal spatulas, sharp or piercing objects for cleaning, because they can damage the overlay system;
- Only clean the overlay with appropriate products;
- Do not drag furniture, equipment or heavy materials, to avoid excessive wear or damage to the surface of the overlay;
- Only wash areas considered wettable areas.

### 5.12.2.3. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturers' recommendations and ABNT NBR 5674 guidelines and norms specific to the system, if any;
- Only use original parts or parts which have proven equivalent performance;
- In wet or wettable areas, keep the environment ventilated to avoid the appearance of fungus or mold.

### 5.12.3. CERAMIC TILES

Original overlay of monuments, used in wet or wettable areas, that protects surfaces, in addition to its decorative function.

This system can be found in the monuments: Pouso do Paranapiacaba; Rancho Maioridade; Ruína.

### 5.12.3.1. OBSERVATIONS FOR PROPER USE

- Only clean the overlay only with appropriate products;
- Do not use a high-pressure water-jetting machine, piassava brooms, brushes with hard bristles, sharp parts, sponges or steel wools, metal spatulas, sharp or piercing objects for cleaning, because they can damage the overlay system;

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- Do not drag furniture, equipment or heavy materials, to avoid excessive wear or damage to the surface of the overlay;
- It is prohibited to fix down furniture, vases and other equipment onto the tiles, except for external electrical, hydraulic and fire pipes set forth in the restoration project.
- It is recommended to observe moving furniture and other shifts that may impact the parts.

### 5.12.3.2. PREVENTIVE MAINTENANCE

- Only use original parts or parts which have proven equivalent performance;
- In wet or wettable areas, keep the environment ventilated to avoid the appearance of fungus or mold.
- Ceramic tiles can be polished according to the wear of the upper coating of polish, an industrial floor polisher suitable for the surface to be cleaned and the appropriate product shall be used;
- Some types of liquids can cause stains upon contact with overlays, therefore it is necessary to use only the products recommended for cleaning. The contact of overlays with grease, oil, glass mass, paint, and plant pots can cause damage to the surface.

### 5.12.4. DECORATIVE TILES

Original overlay of the monuments, with decorative paintings (pattern or not unique designs). They are part of the movable assets attached to the listing monuments protected as cultural heritage.

This system can be found in the following monuments: Pouso do Paranapiacaba; Rancho Maioridade; Padrão do Lorena; Marco Quinhentista (Cruzeiro).

#### 5.12.4.1. OBSERVATIONS FOR PROPER USE

- Only clean the overlay only with appropriate products;
- Do not use a high-pressure water-jetting machine, piassava brooms, brushes with hard bristles, sharp parts, sponges or steel wools, metal spatulas, sharp or piercing objects for cleaning, because they can damage the overlay system;
- Do not drag furniture, equipment or heavy materials, to avoid excessive wear or damage to the surface of the overlay;
- It is prohibited to fix down furniture, vases and other equipment onto the tiles, except for external electrical, hydraulic and fire pipes set forth in the restoration project.
- It is recommended to observe moving furniture and other shifts that may impact the parts.

#### 5.12.4.2. PREVENTIVE MAINTENANCE

- Only use original parts or parts which have proven equivalent performance;
- In wet or wettable areas, keep the environment ventilated to avoid the appearance of fungus or mold.

### 5.12.5. WOOD

Wood overlays used for finishing floors and structural parts. Since it is a natural product, pieces may present variations in shades and dimensions of the pieces due to the changes in the humidity and brightness of the surroundings and, occasionally, appearance of cracks in the caulking.

This system can be found in the following monuments: Pouso do Paranapiacaba; Rancho Maioridade.

#### 5.12.5.1. OBSERVATIONS FOR PROPER USE

- Avoid the direct incidence of sunlight, which can cause cracks, splits or other damage to the overlay;
- Areas covered in wood should not get wet;



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- If you drop or apply any type of liquid to the overlay, clean immediately with a dry cloth;
- Only clean the overlay with appropriate products that meet the requirements and characteristics of the overlay;
- Do not drag furniture, equipment or heavy materials, to prevent excessive wear or damage to the overlay surface;
- Whenever possible, use door mats or rugs at entrances to avoid the volume of solid particles on the floor;
- The contact of overlays with greases, oil, glass paste, paint, plant pots may damage the surface;
- Use felt protectors and / or rubber covering on the bottom of furniture;
- Do not put pressure on the floor with pointed loads, such as dropping pointy elements, heavy shelves, etc., as they may damage the floor.

### 5.12.5.2. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturers' recommendations and ABNT NBR 5674 guidelines and norms specific to the system, if any; ;
- Only use original parts or parts which have proven equivalent performance;
- Cleaning should be done with a soft-bristled broom and according to specific procedure.
- Wood must be hydrated with flaxseed oil and immunized with termiticide every 5 years, since properties are located inside the forest.

### 5.12.6. MONOLITHIC LINING

Monolithic lining consists of finishing used to hide pipes, structural parts, etc. It allows for the allocation of light points in the environment and enables diverse lighting projects.

This system can be found in the following monuments: Rancho da Maioridade; Padrão do Lorena.

#### 5.12.6.1. OBSERVATIONS FOR PROPER USE

- To fix down furniture, accessories or equipment, use suitable screws and bushings and avoid impact on overlays that may damage or impair system performance;
- In the case of plaster ceilings, do not fix supports for hanging vases, televisions or any other objects, since they are not designed to support weight. For fixing luminaires, check recommendations
- and weight restrictions;
- Avoid the impact caused by slamming doors;
- Do not wash the walls and ceilings;
- Only clean the lining with appropriate products;
- Never wet the plaster lining, since contact with water causes plaster to decompose;
- Avoid impact on the plaster lining that could damage it;
- Keep the rooms well ventilated, to avoid mold or mildew.

#### 5.12.6.2. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturers' recommendations and ABNT NBR 5674 guidelines and norms specific to the system, if any; ;
- Only use original parts or parts which have proven equivalent performance;

### 5.12.7. PAINTING

Final finish with the purpose to provide surface protection or aesthetic effect.

This system can be found in the following monuments: Pouso do Paranapiacaba; Rancho Maioridade; Padrão do Lorena; Ruína; Belvedere Circular.



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5.12.7.1. OBSERVATIONS FOR PROPER USE

- Do not use chemical products for cleaning, especially acidic or caustics products;
- If cleaning is necessary, never use coarse sponges, brushes, steel wool, sandpaper and pressurized hydro-jetting machines;
- In painted indoor areas, avoid prolonged exposure to the sun.
- For cleaning and removing dust, stains or dirt, use dusters, dry flannels or a slightly damp flannel cloth moistened with water and mild soap.
- Avoid putting too much pressure on the surface;
- In case of contact with substances that cause stains, clean immediately with mild soap and water;
- Avoid friction, scratches or bumps on painted surfaces, as it may remove paint and cause stains or cracks;
- Keep the rooms well ventilated, to avoid mold or mildew.

5.12.7.2. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturers' recommendations and ABNT NBR 5674 guidelines and norms specific to the system, if any;
- Only use original parts or parts which have proven equivalent performance;
- Cleaning should be done using a slightly damp cloth and in accordance with a specific procedure;
- In case paint needs touching up, the entire wall shall be repainted (the section from corner to corner or from frieze to frieze), to avoid differences in shade between the old and the new paint on the same wall;
- Repaint areas and elements in accordance with the same specifications of the original paint.

5.12.8. GRANITE BLEND

Composition of cement mass with pieces of stones such as marble, limestone, quartz, among others, in several different sizes or granulometries, designed to give a final finish to a surface. Granite blend is a durable material that withstands high temperatures and withstands weathering well.

This system can be found in the following monuments: Pontilhão Raiz da Serra.

5.12.8.1. OBSERVATIONS FOR PROPER USE

- The contact of overlays with grease, oil, glass paste, paint, plant pots may damage the surface;
- Do not use sharp, piercing or pointed objects to assist cleaning.
- Do not use a high-pressure water-jetting machine, piassava brooms, brushes with hard bristles, sharp parts, sponges or steel wools, metal spatulas, sharp or piercing objects for cleaning, because they can damage the overlay system;

5.12.8.2. PREVENTIVE MAINTENANCE

- Surfaces shall not receive strong impacts, such as high-pressure from hydro-jetting machines;
- Constant and frequent cleaning shall be carried out, using only brushing and neutral cleaning materials.
- Procedure carried out by using a rubber hammer to search for hollow sounds in the material, which indicate the lack of adhesion of the material to its supporting structure.

5.12.9. BURNT CEMENT

Defined as especially prepared mortars or concrete, intended to regularize and give final finish. This system can be found in the following monuments: *Ruina*.

STATE SECRETARIAT FOR INFRASTRUCTURE AND ENVIRONMENT

5.12.9.1. OBSERVATIONS FOR PROPER USE

- The contact of overlays with grease, oil, glass paste, paint, plant pots may damage the surface;
- Do not use sharp, piercing or sharp objects to assist cleaning.
- Do not use a high-pressure water-jetting machine, piassava brooms, brushes with hard bristles, sharp parts, sponges or steel wools, metal spatulas, sharp or piercing objects for cleaning, because they can damage the overlay system.

5.12.9.2. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturer recommendations and ABNT NBR 5674 guidelines and norms specific to the system, if any;
- Only use original components or components which have proven equivalent performance;
- In case of damage, proceed to the immediate recovery of the cemented overlay, due to risk of gradual increase of the damaged area.

5.12.10. PERIODICITY TABLE

FREQUENCY	ACTIVITY	RESPONSIBLE PARTY
Every 2 months	Cleaning the mortar strip with running water and light brushing.	Local maintenance staff
Every 6 months	High pressure hydro-jetting of stone overlays.	Local maintenance staff
Once a year	Check and, if necessary, carry out maintenance and maintain the overlay system free of leaks.	Qualified company/ Specialized company
	Check for damages and replenish the indoor and outdoor floor grouts, walls, windowsills, sills, drains, toilet parts, bathtubs edges, chimneys, ventilation grids and other elements.	Qualified company/ Specialized company
	Repaint bathroom linings and wet areas.	Qualified company/ Specialized company
	Check the caulking and fixation of flashings, lightning rods, antennas, frames, decorative elements etc.	Qualified company/ Specialized company

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Every 2 years	Check the painting of dry areas and, if necessary, repaint them to avoid aging, loss of brightness, peeling and possible cracks	Qualified company/ Specialized company
Every 3 years	Repaint walls and ceilings in dry areas	Qualified company/ Specialized company
	Painting on outdoor areas shall be revised and, if necessary, repainted, to avoid aging, lack of shine, peeling and any cracks that may cause infiltration	Qualified company/ Specialized company
	Washing the walls is recommended external areas, for example, terraces or balconies, to remove the accumulation of dirt, soot, fungi and their proliferation. Use neutral soap for washing.	Qualified company/ Specialized company
Every 5 years	Reapplication of termiticide to maintain protection against attacks from xylophagous insects /reapplication of hydration with flaxseed oil	Qualified company/ Specialized company
As needed	Application of sodium hypochlorite and fungicide when lichen and fungi stains are noticed, both on the mortar strip and on the stone floors and walls.	Local maintenance staff
	Application of sterilizing herbicide when plants show resistance to manual withdrawal both on the stone floors and walls.	Local maintenance staff

5.13. FRAMES

5.13.1. METAL

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Aluminum construction component whose main function is to allow or prevent people, animals, objects, lighting and ventilation to pass through between spaces or environments.

Frames also include handrails, guardrails, stops, railings, hatches, facade panels and other architectural elements.

This system can be found in the following monument: *Ruina*.

### 5.13.1.1. OBSERVATIONS FOR PROPER USE

- Avoid abruptly shutting frames due to extreme weather conditions;
- Frames shall run smoothly and shall not be forced;
- Hardware shall be handled with care, avoiding excessive force ;
- It is recommended to keep the doors permanently closed, to avoid damage from impact;
- Cleaning frames and their components shall be carried out with a slightly moistened cloth. Any excess must be removed with a dry cloth. Under no circumstances shall detergents containing
- soaps, steel sponges of any kind or abrasive material be used;
- Avoid using sharp or piercing material to clean edges or corners;
- The lower tracks of frames and drainage holes shall be frequently cleaned to ensure the perfect working conditions of components;
- Frames are not designed to support sports equipment that cause additional strain;
- Avoid placing or fixing objects onto frames;
- Avoid using petroleum jelly, remover, thinner or any other product derived from petroleum, because, in addition to drying out plastics and rubbers, they cause the loss of its sealing function;
- Avoid removing rubbers or sealing compounds;
- Retighten exposed screws, adjust the brake and lubricate (when applicable);
- Utilize safety procedures for use, operation and maintenance, especially when working at height, according to current legislation.

### 5.13.1.2. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturers' recommendations and ABNT NBR 5674 guidelines and norms specific to the system, if any;
- Only use original parts or parts which have proven equivalent performance;
- Modern frames are manufactured with articulating accessories (arms, latches and hinges) and sliding wheels (pulleys and bearings) of nylon, which require any type of lubrication, as moving parts, shafts and pins are surrounded by a layer of this special, self-lubricating material, of great resistance to friction and bad weather.

### 5.13.1.3. PERIODICITY TABLE

FREQUENCY	ACTIVITY	RESPONSIBLE PARTY
Every 6 months	Check the frames for oxidation points and, if necessary, carry out necessary repairs	Local maintenance staff
Once a year	Check and, if necessary, perform services following the same specifications as the original painting or protective layers of aluminum.	Qualified company/ specialized company

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	Check for cracks, faults in sash and fixation of the frames, and fix it as necessary.	Qualified company/ specialized company

### 5.13.2. WOOD

Wooden construction component whose main function is to allow or prevent people, animals, objects, lighting and ventilation to pass through between spaces or environments.

Frames also include handrails, guardrails, stops, railings, hatches, facade panels and other architectural elements. This system can be found in the following following monument: Pouso do Paranapiacaba; Rancho Maioridade, Padrão do Lorena.

#### 5.13.2.1. OBSERVATIONS FOR PROPER USE

- Avoid abruptly shutting frames due to extreme weather conditions;
- Frames shall run smoothly and shall not be forced;
- Hardware shall be handled with care, avoiding excessive force;
- It is recommended to keep the doors permanently closed, to avoid damage from impact;
- Cleaning frames and their components shall be carried out with a slightly moistened cloth. Any excess must be removed with a dry cloth. Under no circumstances shall detergents containing soaps, steel sponges of any kind or abrasive material be used;
- Avoid using sharp or piercing material to clean edges or corners;
- The lower tracks of frames and drainage holes shall be frequently cleaned to ensure the perfect working conditions of components;
- Frames are not designed to support sports equipment that cause additional strain;
- Avoid placing or fixing objects onto frames.

#### 5.13.2.2. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturers' recommendations and ABNT NBR 5674 guidelines and norms specific to the system, if any;
- Only use original parts or parts which have proven equivalent performance.

#### 5.13.2.3. PERIODICITY TABLE

FREQUENCY	ACTIVITY	RESPONSIBLE PARTY
Every 1 year	Check for damage to sealing, frame fixation, guardrails and fix them, as required	Qualified company/ specialized company
	Carry out general cleaning of frames, including drains. Retighten apparent screws and regulate brake and lubrication	Qualified company/ specialized company

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	Check the sealing and fixation of the windows	Qualified company/ specialized company
Every 3 years	Repaint with suitable paint. Use the color described in the architectural projects, which are in accordance with the Pictorial Project previously used in other projects.	Specialized company

### 5.13.3. GLASS

A sealing system using glass on window frames and windowsills, with the purpose of protecting the environments from extreme weather, while at the same time allowing for light to pass through.

This system can be found in the following monuments: *Pouso do Paranapiacaba; Rancho da Maioridade; Padrão do Lorena; Ruína.*

#### 5.13.3.1. OBSERVATIONS FOR PROPER USE

- The thickness of the glass is compatible with the necessary resistance for
  - normal use. For this reason, avoid any kind of impact on surface or sills;
- Do not open windows or doors by pushing on the glass part. Use handles
  - and clasps;
- For cleaning, use only mild soap and water. Do not use abrasive materials such as steel wool or brushes with stiff bristles. Use only a soft cloth or sponge;
- In case of replacement, exchange for glass with the same characteristics (color, thickness,
  - size etc.);
- Avoid infiltration of water in the spring box of tempered glass doors and, in the case of cleaning the floors, protect the boxes so that there is no infiltration;
- Avoid exerting pressure at odds with the specific use of the surface.

#### 5.13.3.2. PREVENTIVE MAINTENANCE

- This construction system requires a specific maintenance plan, which meets manufacturers' recommendations and ABNT NBR 5674 guidelines and norms specific to the system, if any;
- Only use original parts or parts which have proven equivalent performance;
- Cleaning should be done using a slightly damp and adherent cloth in accordance with the specifications for care of use;
- In case of breakage or cracking, replace immediately in order to avoid accidents.

#### 5.13.3.3. PERIODICITY TABLE

FREQUENCY	ACTIVITY	RESPONSIBLE PART
Once a year	In sets with tempered glass, carry out	Specialized company

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	inspection of operating spring and hinges system and check the need for lubrication	
	Check the performance of the seals and fixation of the windows to the frames.	Local maintenance company/ Qualified company

## 6. MAINTENANCE

### 6.1. MAINTENANCE PLAN

Property is planned and constructed to serve its users for many years. This requires maintenance of the property and its various components, which, according to their nature, have different characteristics and require different types, terms and forms of maintenance. However, maintenance shall not be improvised and casual: it shall be understood as a technical service and carried out by qualified or specialized companies trained or staff, or even by local maintenance staff, according to the complexity of the task.

For maintenance to obtain the expected conservation results and create conditions so that the useful life of the property is reached, the implementation of a maintenance management system is necessary, which includes planning activities and resources, as well as the implementation of each one of them according to the specificities of each undertaking. Maintenance should start as soon as the construction starts.

The criteria for developing the maintenance management system shall be in conformity with ABNT NBR 5674 and ABNT NBR 14037 standards. The plan consists of determining essential maintenance activities, their periodicity, the responsible parties for the implementation and the necessary resources.

Contracting specialized companies, qualified professionals and the adequate training of the maintenance staff to perform the services is extremely important. Using high-quality materials in the construction is also recommended, preferably following its specifications. Use original components when replacing spare equipment parts.

### 6.2. MAINTENANCE PLAN CHART

This table combines all tables regarding periodicity of operation, use and cleaning.

FREQUENCY	ACTIVITY	RESPONSIBLE PARTY
Often	Inspection by local maintenance staff and management team.	Local maintenance staff and management team.
Once a week	Check the level of the reservoirs, the operation of float taps and the key float for level control.	Local maintenance staff
Every 15 days	Perform a test run of the emergency lighting system as instructed by the Supplier.	Local maintenance staff

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Once a month	Periodic inspection of the situation of fire extinguishers, through visual examination.	Local maintenance staff
	Check the working condition of the Closed-Circuit TV system as instructed by the supplier.	Local maintenance staff / Qualified company
	SPDA - check the status of surge protection devices (DPS), which, in the event it is activated, disarms to protect installations, without discontinuity. Manual override is required in order to ensure protection in the event of a new incident	Local maintenance staff
<b>Every 2 months</b>	Mortar cleaning with running water and light brushing. (mainly Belvedere Circular).	Local maintenance staff / Qualified company
	Drywall cleaning with light, moistened cloth.	Local maintenance staff
	Check if the fuses for emergency lighting are well fixed or burnt and, if necessary, carry out repairs.	Local maintenance staff / Qualified company
	Test the DR type circuit breaker for electrical systems by pressing the button on the device. When pressing the button, the power should be interrupted. If this is not the case, change the DR.	Local maintenance staff
Every 3 months	Cleaning glass-built top floor at Ruina.	Local maintenance staff
	SPDA - Complete inspections in conformity with standard ABNT NBR 5419.	Specialized company
Every 6 months	Check the frames for oxidation and, if necessary, proceed with repairs.	Local maintenance staff
	High pressure hydro-jetting on stone overlays.	Local maintenance staff



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	Check working conditions of spouts, tiles and thermal protectors and, if necessary, clean and repair to ensure good working conditions, as necessary. During heavy rain periods, weekly spout inspection is recommended.	Qualified company / specialized company
	Checking property alarm system by the company contracted for monitoring.	Contracted specialized company
	Complete inspection and maintenance of the CCTV system and installed monitoring.	Specialized company
	Carry out test of the automatic system for operating elevator platforms with electrical energy from generators in case of an emergency.	Specialized company
	Check the working condition of overflow valves of reservoirs, to prevent clogging from incrustations or dirt.	Local maintenance staff
	Check internal mechanisms of the close-coupled toilets for Special Need Individuals.	Local maintenance staff
	Open and completely close the stop valves in penthouses in order to avoid lodging and keep them in good working condition.	Local maintenance staff
	Clean and check the regulation of the flushing mechanisms.	Local maintenance staff
	Clean the aerators (removable nozzles) of the taps.	Local maintenance staff
Every 6 months or as needed	Clearance of rainwater conduction pipes.	Local maintenance staff
Once a year	In complexes that have tempered glass, inspect working condition of springs and hinges system and check the need lubrication	Specialized company

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	Check the performance of seals and fixation of glass onto sills.	Local maintenance company / Qualified company
	Check sealing for faults, fix frames, guardrails and fix, as necessary	Qualified company / Specialized company
	Carry out general cleaning of frames, including drains. Retighten apparent screws and regulate brake and lubrication	Qualified company / Specialized company
	Check the sealing and fixation of glass.	Qualified company / specialized company
	Check and, if necessary, carry out services following the same specifications as the original painting or of the protective aluminum layers of the window frames.	Qualified company / specialized company
	Check for cracks, faults in the sealing and fixation frames and fix it, as needed.	Qualified company / specialized company
	Check for leaks and, if necessary, carry out maintenance to maintain the tightness of the system.	Qualified company / specialized company
	Check working conditions of overlays and reconstitute the outdoor and indoor grouting on floors, walls, windowsills, thresholds, drains, sanitary fixtures, edges of bathtubs, chimneys, ventilation grids and other elements.	Qualified company / specialized company
	Repaint bathroom linings and damp areas.	Qualified company / specialized company
	Check the caulking and fixation of flashings, lightning rods, antennas, frames,	Qualified company / specialized company

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	decorative elements etc.	
	In complexes that have tempered glass and laminates, carry out inspection of the metallic fixation system	Specialized company
	Check the performance of sealing and fixation for glass	Local maintenance staff / Qualified company
	Check the structural working condition of the components, seals, fixings, tiles, and fix, as necessary	Qualified company / Specialized company
Once a year	SPDA - Inspect working conditions and replenish the resistance measurement system in accordance with legislation	Specialized company
	Review isolation of wire splices and, in case of problems, fix electrical systems.	Specialized company
	Check and, if necessary, retighten connections of the power distribution panel of the electrical systems.	Specialized company
	Check the condition of the electrical connections. In case of wear, replace parts (sockets, switches, light points and others) of electrical systems.	Specialized company
	Check the working condition and reconstitute indoor and outdoor grouting on floors, walls, windowsills, sills, drains, sanitary fixtures, edges of bathtubs, chimneys, grills, ventilation and other waterproofing elements.	Specialized company
	Inspect possible obstructions in the pipeline and clogging of drains or grates; clean.	Local maintenance staff
	Check the working conditions of waterproofing and restore	Specialized company

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	mechanical protection, signs of infiltration or exposed faults in the waterproofing.	
	Check the valve for leaks in drain and tap.	Local maintenance staff
	Check drinking water pipes to detect obstructions, lack of tightness and its fixation, and fix, as necessary.	Local maintenance staff / Qualified company
	Check and, if necessary, replace seals, taps, mixers and pressure stop valves to ensure sealing and prevent leakage.	Local maintenance staff / Qualified company
Every 2 years	Check the painting of dry areas and, if necessary, repaint them, thus avoiding aging, loss of shine, peeling and eventual cracks.	Qualified company / Specialized company
	Drywall repainting.	Local maintenance staff
	Periodic cleaning of ceramic tiles to remove dirt and organic matter.	Qualified company / Specialized company
	Retighten all electrical systems connections (sockets, switches, light points and others).	Qualified company / Specialized company
Every 2 ½ years	Report on the stability of Monuments - foundations and structure.	Engineering Specialized company
Every 3 years	Repaint with suitable paint. Use the color described in the architectural projects, in accordance with Pictorial Projects previously used in a project.	Specialized company
	Repaint walls and ceilings in dry areas.	Qualified company / Specialized company
	External areas shall have their painting revised	Qualified company / Specialized company

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	and, if necessary, repainted, to avoid aging, lack of brightness, peeling and any cracks that may cause infiltration	
	Washing external walls, for example, terraces or balconies, to remove accumulated dirt, soot, fungi and their proliferation is recommended. Use mild soap for washing.	Qualified company / Specialized company
Every 5 years	Reapplication of termiticide to maintain protection against attacks by xylophagous insects / reapplication of flaxseed oil for hydration	Qualified company / Specialized company
As appointed by manufacturer	Replacement of the contents of the extinguisher, as well as a review of its pressure.	Local maintenance staff / Qualified company
As deemed necessary	Application of sodium hypochlorite and fungicide when lichen and fungi stains are apparent, both in the mortar strip and in stone floors and walls.	Local maintenance staff
	Application of sterilizing herbicide when plants are resistant to manual withdrawal, both on stone floors and walls.	Local maintenance staff
	Replacement of drywall plasterboard.	Qualified company

### 6.3. CHECKING THE MAINTENANCE PLAN

Maintenance plan checks or inspections are periodic evaluations of the state of a construction and its constituent parts and are carried out to serve as a guide to the maintenance activities. They are fundamental and mandatory for managing the maintenance plan, in conformity with ABNT NBR 5674.

Defining the periodicity of the inspection and their form of implementation are part of developing a construction maintenance plan, which must be done immediately after the official completion of the construction, according to responsibilities defined in ABNT NBR 14037 and ABNT NBR 5674.

The inspection reports assess any performance losses and classify maintenance services according to the degree of urgency in the following categories:

- Emergency services for immediate attention;
- Services to be included in a maintenance program.

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The elaboration of inspection (checklist) tables shall follow the model made specifically for each construction, with its characteristics and degree of complexity, and include the definitions for actions, terms and responsible parties, in conformity with ABNT NBR 5674 and ABNT NBR 14037.

Periodic checks allow for the responsible parties for managing the constructions to quickly notice small changes in the performance of materials and equipment, thus expediting repairs and lowering costs of repairs, not to mention improving the quality of life and safety of residents and attaching more value to the undertaking.

The following are considered records: invoices, contracts, reports, certificates, warranty terms and other proof of rendered services or proof of the ability of the companies or professionals to carry out the services.

Legible and available records must be kept in order to provide evidence of the effective implementation of the maintenance plan, planning, inspections and the actual implementation of maintenance during the useful life of the construction systems of the construction, for the occasional confirmation as needed.

### 6.4. INSPECTIONS

The maintenance plan shall contain guidelines for carrying out the inspection. The manual should indicate the implementation of inspection reports regarding maintenance, use and operation, to be carried out periodically by qualified professionals registered under the competent professional council. These reports shall be attached to the documentation and construction records and may be requested by the developer, constructor, owner or condominium and follow the definitions of the specific regulations for the subject.

## 7. ADDITIONAL INFORMATION

### 7.1. SECURITY

#### 7.1.1. RECOMMENDATIONS FOR EMERGENCY SITUATIONS

These are basic recommendations for situations that require quick and immediate measures, for the purpose of the personal and patrimonial security of the tenants and users, at the moment of delivery of the construction project. We emphasize the importance of disclosing the Security recommendations from the Fire Department, concessionaires, manufacturers and service providers to users.

#### FIRE

In the event of a fire, call the Fire Department and activate the fire alarm. Automatically, firefighters shall act. Go to escape routes; turn off general power switches or circuit breakers.

In extreme situations, stay calm and follow the instructions of the firefighters.

#### LEAKAGE IN HYDRAULIC PIPES

In the event of leakage in a hot or cold-water pipe, the first measure is to close the corresponding stop valves. If the leak persists, shut-off the sector that supplies the water. When necessary, notify local maintenance personnel and contact a specialized company immediately.

#### CLOGGED SEWER PIPES AND RAINWATER PIPES

In case of clogging in the sewage and rainwater pipelines, notify the local maintenance staff and immediately call, if necessary, a company specialized in unclogging clogged pipes.

#### SHORT-CIRCUIT IN ELECTRICAL INSTALLATIONS

In the event of a short circuit, the circuit breakers (from the power distribution panel) turn off automatically and consequently, the parts affected by the short-circuit also turn off. To correct the situation, switch the corresponding circuit breaker to its original position. But first, check the cause for the circuit breaker shut

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down. Immediately call the company responsible for the maintenance of the condominium facilities, through the caretaker / building manager and / or administrator.

In the event of a short circuit in equipment or apparatus, manually disarm the corresponding circuit breaker or main switch. In case of prolonged absence, for example, on trips, disconnect the power supply in the unit.

### INTERRUPTION OF ELEVATOR OPERATION

In the event the elevator suddenly stops, the company responsible for maintenance and conservation of the elevator shall be called, or the Fire Department, when necessary.

The name and telephone number of the company responsible for emergency care must be available in an easily accessible location.

For your safety, follow the instructions provided by the company responsible for the maintenance and conservation of the elevators.

### SECURITY SYSTEM

In case of intrusion, attempted theft or assault, follow the recommendations of the specialized security company, if any, or call the police.

### OCCUPATIONAL SAFETY

Compliance with the health and safety standards of the Ministry of Labor. Among the 36 standards currently in existence, the following have wide implications for monuments:

- The regulatory standard of the Ministry of Labor 7 (NR 7) sets forth the mandatory implementation of the Occupational Health Medical Control Program - PCMSO;
- The regulatory standard of the Ministry of Labor 9 (NR 9) sets forth the mandatory implementation of PPRA (Environmental Risk Prevention Program), with the purpose to minimize any risks in the workplace;
- The regulatory standard of the Ministry of Labor 10 (NR 10), which deals with
- safety in electrical installations and services, establishes the minimum requirements and conditions, aiming at the implementation of control measures and preventive systems, to
- ensure the safety and health of workers who, directly or indirectly, interact within
- electrical installations and provide electricity services;
- The regulatory standard of the Ministry of Labor 18 (NR 18), referring to working conditions and environment in the construction industry, shall be considered in relation to the risks to which employees and specialized companies are exposed to when exercising their activities;
- The regulatory standard of the Ministry of Labor 35 (NR 35), referring to working at height, shall also be considered in relation to the risks to which employees from specialized companies are exposed to while carrying out their activities. In case of accidents at work, the construction building manager is held responsible. Therefore, attention to occupational safety is extremely important. The remaining regulations shall also be analyzed and fully complied with.

## 7.2. TECHNICAL AND LEGAL DOCUMENTATION

The table below lists the main documents that shall be part of the documentation for the monument. Some of them are delivered by the construction company or the developer. The rest must be provided by the holder of the rights to use the Monument.

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Document	Duty for initial supply	Duty for renewal	Periodicity for renewal
Warranty certificate for installed equipment	Construction company	Forest Foundation	Upon each new acquisition/maintenance
Invoices for equipment	Construction company	Forest Foundation	Upon each new acquisition/maintenance
Technical manuals for use, operation and maintenance of installed equipment	Construction company	Forest Foundation	Upon each new acquisition/maintenance
Conclusion certificate ( <i>habite-se</i> )	Construction company	None	None
Construction approval and implementation permit	Designer	None, provided construction remains unaltered	None
Approval of property governing bodies	Designer	None, provided construction remains unaltered	None
Elevator Installation Permit	Construction company	None, provided construction remains unaltered	None
Elevator operating permit	Construction company	Forest Foundation	None
Fire Department Inspection report ( <i>AVCB</i> )	Construction company	Forest Foundation	Check specific state legislation
Legal projects (city hall and fire)	Designer	None, provided construction remains unaltered	None
Projects approved in Concessionaires	None	None	None
Executive projects	Designer	Construction company (as built)	Conclusion of construction
Environmental licenses	Construction company	None	Conclusion of construction
Term of Environmental Conduct adjustment (TAC)	None	None	None
Potability Certificate for Clean and disinfected, drinking water reservoirs	None	Forest Foundation	Every 6 months



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<b>Statement for Cleaning of sewage pit, wastewater pit, drainage box, and sewage</b>	None	Forest Foundation	Every 6 months
<b>Construction work delivery inspection report</b>	Conclusion of construction/ Forest Foundation	None	Conclusion of construction
<b>Certificate of hydraulic facilities and other construction project installations</b>	Construction company	Forest Foundation	Check specific state legislation
<b>Certificate of electrical installations</b>	Construction company	Forest Foundation	Check specific state legislation
<b>Certificate of Atmospheric Discharge Protection System - SPDA</b>	Construction company	Forest Foundation	Check specific state legislation
<b>Ohmic measurement (with earth meter calibrated and verified by INMETRO)</b>	None	Forest Foundation	Three years for constructions with large public agglomerations
<b>Risk prevention program (PPRA) (according to NR 09 of the MTE)</b>	Construction company	Forest Foundation	Every year
<b>Medical control program for occupational health (PCMSO) (according to NR 07 of the MTE)</b>	Construction company	Forest Foundation	Every year, when applicable
<b>Fire Department Certificate</b>	Forest Foundation	Forest Foundation	Every year
<b>Annual inspection report for elevators (RIA)</b>	Forest Foundation	Forest Foundation	Every year
<b>Elevator maintenance contracts</b>	Forest Foundation	Forest Foundation	Contract term

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<b>Contract for System and instruments for fire prevention and fire fighting</b>	Forest Foundation	Forest Foundation	Every year
<b>Certificate of testing of fire-fighting equipment</b>	Forest Foundation	Forest Foundation	Check legislation in force
<b>Certificate of extermination of mice and rats and debugging</b>	Forest Foundation	Forest Foundation	Every 6 months

Important: The periodicity for renewal and the contents of the table itself shall be adjusted individually, according to the local municipal, state or federal legislation.

### 7.3. ELABORATION AND DELIVERY OF THE MANUAL

At the end of the construction, the construction company shall deliver the final version of the Conservation and Utilization Descriptive Memorandum, which entails a specific document for each monument.

The Conservation and Utilization Manual shall include the technical characteristics of the construction, recommended and mandatory procedures for conservation, use and maintenance of the monument. The document also determines the operation of equipment, the obligations with regard to carrying out maintenance and conservation actions and conditions for using the construction, as well as guidance on preventing faults or accidents resulting from improper use and contributions for the construction to reach the useful life of the project, in addition to guiding the development of the management system for the maintenance of the undertaking. This document shall also contain the warranties for installed equipment and materials.

### 7.4. UPDATING THE MANUAL

This manual shall be kept up to date, in conformity with NBR 05674 and NBR 14037 standards, and shall be reviewed on the following occasions:

- After completion of renovations to the monument;
- After repairs to the structures and foundations of constructions;
- After replacing the types of electrical systems;
- After replacing parts and components of the electrical systems;
- After replacing the type of hydro-sanitary system;
- After replacing parts and components of the hydro-sanitary system;
- After new restoration projects.
- Any other repairs that justify revision of this manual.

The revisions shall be carried out as attachments to the body of this memorandum. In case parts included in this document are replaced, the excerpts of this descriptive memorandum that contain the part being eliminated, should be crossed out.

The review should include the review and correction of all technical descriptions and projects for the construction, in addition to the revised manual. Every update is a technical service, and therefore, it shall be implemented by a company or accountable, duly qualified technician.



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It is advisable that when updating the Conservation and Use Manual, the previous revisions are clearly identified as inactive and are stored as a source of information for the technical memory of the construction.

São Paulo, September 12th, 2019.

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