

## **1.5. TEXTUAL DOCUMENTATION**

### **TECHNICAL DESCRIPTION**

#### **1. General data and location of the facility**

The existing business facility, Cultural Center in Mosna is located on cp. No. 2825/2 CO Mosna, municipality of Majdanpek. Floors of the existing facility are P+0, total gross area 219,00 m<sup>2</sup>.

The existing facility is free-standing, and the basic rooms are event hall and local administration offices. By the facility of Cultural Center at the same cadaster lot there is a facility of another beneficiary that is not subject to reconstruction.

The subject of the design is reconstruction and extension. In the past years, there was the need for space to accommodate the staff for emergency situations. The extension of the part on the eastern side outside of the existing facility to place the fire truck has been planned; the extension of the event hall with the supporting contents has also been planned. Extension of the floor intended for the office area is planned above one part of the existing facility. Floors of the newly-designed facility are P+1, total gross area 528,30 m<sup>2</sup>.

#### **2. Power supply and connection to low-voltage 0,4kV network**

At the entrance of the facility, at the porch, it is planned to place a CCB – cable connection box and the main distribution cabinet that would be connected to the existing electro-distribution power supply system. The main supply cable from the place of connection to ED network to the facility is partly laid in earth canal and partly in the tubes under the concrete staircase. Within the main distribution cabinet, there would be sub-distribution line to supply two distribution cabinets in the facility. One cable is to supply the cabinet on the ground floor and the other to supply distribution cabinet on the upper floor.

#### **3. Electric installations and distribution**

The supply cables from GRO to RO-1 and RO-2 are laid in the tubes under mortar.

Electric installations for lighting are distributed through the cables type N2XH-J with the corresponding number of cables diameter 1,5 or 2,5 mm<sup>2</sup> as presented in the graphic documentation.

Electric installations of sockets and electric outlets are distributed through the cables type N2XH-J with the corresponding number of conductors diameter 2,5 mm<sup>2</sup> or larger depending on the power and number of the phases for the consumers.

Installation supply cables are laid in the walls and ceilings under the mortar. Cables laid under the mortar are placed in halogen-free tubes.

#### **4. Installation of lighting**

Built-in luminaires with LED light sources are planned for the facility.

Within the technical premises, there would be built-in luminaires IP65 (in graphic documentation marked as S4), with LED light sources 38W, 4445lm, light color temperature 4000K. Turning on the light is through switches placed by the doors (inside

the room). The switches are built-in, with the level of mechanical protection IP44 or IP55.

Built-in, ceiling luminaires with LED light sources are planned for lighting of the hall. Turning on the light in these rooms is through switches placed by the doors.

Within the offices and meeting room, built-in square luminaires are planned (in graphic documentation marked as S3).

In the supporting rooms (corridors, toilets, kitchenettes), built-in round luminaires are planned (in graphic documentation marked as S2 and S5) power 17W luminaire S2 and 28 W luminaire S5. Light color temperature 4000lm. Level of protection IP54. Turning on the light in these rooms is through switches placed by the doors.

Emergency lighting is planned through built-in luminaries with LED light sources, with their own NiCad battery with 1 hour autonomy. Power of the luminaire is 1W, level of mechanical protection IP65. Above the exit door, the luminaires are labeled with EXIT script, while the luminaries in the corridors are labeled with arrows directing towards the nearest exit. Emergency luminaires are in a stand-by mode.

## **5. Sockets, electric outlets and technological connections of lighting installation**

Sufficient number of electric outlets and connections for general consumers is planned within the facility.

Installation of sockets for connection of hygiene devices is planned for all rooms.

Installation of sockets for connection of computers, cell phones and other mobile equipment is planned for the sitting rooms, relaxation rooms and offices. Sockets for TV sets and projectors are also planned.

There is sufficient number of sockets for connection of other general consumers. The sockets are built-in of modular type, color and material as selected by the Investor.

Kitchens are provided with the sockets for power supply of small kitchen appliances (toaster, coffee makers, etc.), cookers, refrigerators, etc.

Outlets for connection of boilers are planned for toilets and kitchens. Power supply of the air-conditioners for the needs of heating and cooling envisaged in the mechanical design is also provided.

Service sockets IP55 are planned for the technical rooms.

## **6. Protection against electric shock**

As a protection against electric shock there is automatic power supply source turn-off within the defined requirements of voltage and time for the applied TN supply system. For that purpose, cases of all electric devices are connected via protective wire in the cable to the protective bar of the distribution cabinet, i.e. the potential equalizing bar (PEB). Within the distribution cabinet there are the corresponding automatic protective switches, as well as the corresponding electric equipment for overvoltage protection.

## **7. Lightning protection of the facility and additional potential equalizing**

Construction of both inside and outside lightning protection installation is envisaged for the facility.

Outside lightning installation is envisaged as a classical lightning installation implying placing of the galvanized steel strip Fe/Zn 25x4mm on the roof of the facility, on the roof beams. Fe/Zn strip is also placed along the façade of the facility as a lowering conductor. It is necessary to provide reliable galvanized connection between all metal parts in the facility.

Inside lightning installation is performed by equalizing potentials of all metal masses in the facility. Galvanized strip along the perimeter of the technical room (boiler room) is placed. The strip is connected with all metal mass – equipment in the boiler room.

The corresponding overvoltage arresters with the protective fuses are built-in in the main distribution cabinet.

Overvoltage arrester type 2 with the corresponding automatic fuse is placed in the main distribution cabinet at the power supply inlet to the facility.

#### **8. Alternative power sources**

No alternative power source is envisaged for the facility.

Responsible designer:

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