

Explanatory Note

for Experimental Puppetry Art Center

Stara Zagora

Concept Abstract

Under the ethereal glow of soft illumination, the enchanting world of puppets comes alive, their delicate movements and heartfelt performances captivating the audience's imagination. Through these mesmerizing displays, the ancient wisdom and cultural heritage of a bygone era are artfully transmitted, preserving the intangible essence of tradition and narrating poignant tales that stir the depths of the soul.

The Experimental Puppet Theater stands as a sanctuary for these captivating performances, transcending its mere role as a stage and transforming into a sacred space for cultural expression and enlightenment. Seamlessly woven into the fabric of history, it harmoniously intertwines with the weathered beauty of the old building, bridging the past and the present in a visual symphony of significance. Within its main hall, a meticulous arrangement of spaces ensures the seamless flow of creativity and functionality, facilitating an efficient and adaptable operational framework that accommodates the multifaceted needs of artistic endeavors.

The idea originates from the captivating interplay of a puppet on a string, which serves as the inspiration for the internal spatial logic of the building. This evolution gives rise to a well-defined division of functions, as each block establishes a clear relationship with one another.

In this captivating realm of artistry and cultural preservation, the Puppet Theater not only beckons audiences to embark on a mesmerizing journey, but also serves as a beacon of cultural pride and enlightenment, celebrating the profound legacy of human creativity and storytelling.

Design Response

In response to various of design requirements, the proposed Experimental Puppetry Art Center offers a well-considered spatial design, consists of six main spaces, they are:

- Entrance Zone,
- Main Performance Hall,
- Offstage Spaces,
- Yard,
- Warehouse and
- Parking Lot.

The building itself has been developed into a six storey building including a basement warehouse storage, the levels starting from:

- basement (elevation -3.10m connect directly to existing puppet center basement rehearsal space),
- ground level (elevation +0.00m connect directly to existing puppet center foyer),
- level 1 (elevation +3.35m),
- level 2 (elevation +5.90m),
- level 3 (elevation +8.45m),
- level 4 (elevation +11.00m including a loft level for apartment twin bedrooms) and
- level 5 (elevation +16.00m).

The built-up area is 598 m² (controlled under 600 m² as per requirement), total floor area including walls is 1,340 m² (controlled under 1344 m² as per requirement) and without walls is 1,270 m², with the entire building volume complies with the provided building envelope, sits within the 3m

setback boundary and the highest point of the building is 20.5m (exclude freight lift overrun) above ground level.

Constraints and Opportunities

The main constraints are: accessibility of the three zones (entrance zone, main performance hall and yard), relationship between existing building and its exit locations, separated access for offstage spaces, other functional requirements, a good separation between public areas and offstage areas, and all of the mentioned points to be designed under built-up area of 600 m².

In order to make the building work for all requirements, the opportunities are to combine all required spaces into one volume, reduce area of corridors and propose effective vertical transport to improve accessibility, a well-integrated design.

Functionality and Usability

Having considered the above constraints and opportunities, the proposal developed two different programs within the building: public space and offstage space.

Public space offers a flexible open floor plate at ground level, with main entry located to the north at immediate proximity to existing puppet center, the entrance zone has a clear height of 7m, flows naturally into the main lobby space and the extension of the yard. While the main performance hall located at west of the building, connects directly to entrance zone and yard through flexible/removable acoustic panel walls, these three spaces could be linked together and form into an open floor plate, designated for event and gathering or other special activities, a café beverage bar sits at the central location of the three spaces with seatings placed at the lobby, functions as an independent. The direct connection from entry to existing puppet center foyer is also an advantage when hosting events, both existing and new buildings could be functional and connected at the

same time. Beyond lobby area, other support rooms are located at the southern end of the building such as restrooms and upgraded boiler room. Upon entry, visitors enter to arrival area, to gather information and tickets from box office, there is a cloak room for them to store any carry on luggage at central lobby area. Further to the southwest of the building a courtyard is introduced, the yard is an open space integrated as part of the overall function of the new building, linked to both main performance hall and entrance zone directly, could accommodate up to 99 seats, with entrance zone open into the yard, the indoor 7m clear height lobby area could turn into a stage for performance purpose.

Other than direct connection from new entry to existing foyer space, the proposal also considered an integration with existing puppet theatre, new glazed timber frame roof structure has been installed above entrance zone area covering the west elevation of existing building, turned the space into indoor area, the existing "U shape" staircase access from doll making studio has been transferred to a linear staircase, provide direct connection from existing doll making studio to ground level entrance zone, same connection route has been linked to existing puppet theatre hall and warehouse decors space. For the existing accesses at basement level rehearsal room, they are now connecting to new basement warehouse, with new staircase exit provided to the southern side of the building from basement to ground level.

For offstage spaces, it is located at the southwest side of the building, a separate access from ground level to the west end directly connect to the wing space which adjacent to the stage where actors/actresses prepare for their cues to enter on stage. Through the offstage staircase, the wing vertically connects to sound light box & technical booth room and storage at level 1, dressing rooms (men and women) and associated toilets at level 2 and 3, also connects to level 4 corridor to rehearsal room and artist apartments, and to level 5 where administration, heater and HVAC (provisional) rooms are located, such vertical connection design maximises the efficiency of the

vertical space, allowing offstage area has its own access and well separated from public areas.

Parking area is located to the southern end of the site, separated from public areas with total area of 158 m² with secured boom gate entry, enough space for accommodate current van owned by theatre. It is designed to connect to basement warehouse space either through a freight lift located to the southwest of the building or an staircase, also connect to entrance zone café storage. Easy for deliveries, load and unload necessary stage equipment. The freight lift also connect to level 4 and 5 where rehearsal room, HVAC and heater rooms located, they may sometimes need to install equipment.

While basement warehouse storage offers less than 600 m² clear area, if more areas needed, could introduce a second basement warehouse storage if required.

Sustainability and Energy Efficiency

The façade of the building is predominantly composed of recycled masonry, using recycled bricks and based on each bricks colour and tone to recreate the elegant façade to reflect a new characteristic to the environment. While masonry is used for external façade, steel and mass timber structure is introduced for structural framing system and internal construction. The whole building massing cascaded from west to east, to create natural cross ventilation using east-west pavilion winds, cold air draws from entrance zone while hot air generated from performance hall rises and exhausts to the west of the building. Current boiler room can be upgraded and continue to support existing and new building before the provisional HVAC system get installed and introduced to new building.

Economically speaking, masonry, timber, and steel construction is very common and affordable, practically suitable for this project, and easy to find different suppliers from different areas with reasonable price.

While basement level is still using concrete construction to build basic building plinth, footing and foundation for the above timber and masonry structure, other construction materials above ground level are all using sustainable or recycled materials. For those materials, can be produced by using Design Modelling for Manufacture and Fabrication methodology, to design and prefabricate timber structural frames and members, such methodology can greatly reduce waste and cost, material and energy efficiency could be brought to maximum level, steel materials such as plates, beams, and associated fixings can all be prefabricated off site. If contractor needs to test certain elements, a prototype can be built at 1:1 scale to understand material's durability, appearance and quality.

In summary, this proposal offers a realistic sustainable construction solution with consideration to economics, aim for maximum material and energy efficiency using Design Modelling for Manufacture and Fabrication methodology.

Feasibility

For constructability, first step is to investigate existing puppet theatre west façade foundation and footings, to understand its condition and extend. Second step is to ask engineers and relevant consultants (multidisciplinary team including geo-tech, stormwater, sewer and electrical etc) to review the design, while the design is simple, however there still remaining some opportunities for them to further optimise the scheme, such as structure member sizes, or opportunity to have less number of columns.

While the consultants are optimising the design, the contractor than can spend some time on looking for different suppliers for recycled bricks, mass timber, steel beams etc, whether these materials can be locally sourced or outsourced, it is worth to compare the price, quality and supply chain to avoid any risks of delay. Given these are common construction materials there should have less issues looking for suppliers.

The following step is to demolish and clear construction site, at this point the contractor could use the yard area as delivery site for storing materials while the excavation is ongoing. During this demolition work, by using the material datasheet and price lists provided by suppliers, contractor now could accurately calculate the material cost using Design Modelling for Manufacture and Fabrication methodology to maximise economic efficiency.

Whenever the basement and ground level concrete construction is completed, all prefabricated materials can be ready and transport to site, they can now be assembled together as planned, again using Design Modelling for Manufacture and Fabrication methodology can greatly reduce labour cost and ensure construction progress aligns with schedule. Every type of material can be planned before transporting to site.

Final step, main building structure is assembled and completed, apply all finishes and make good of the interior, prepare associated furniture, decorations and ready for apply occupation certificate.

Overall, the proposal offers a realistic and feasible solution to the extent of Design Modelling for Manufacture and Fabrication, it is an optimal and thoughtful solution.

Exterior and Environmentally Adequate

The façade of the building is predominantly composed of recycled masonry, exuding an understated elegance and a profound sense of solidity. It carries an air of subtlety and weightiness, reflecting its timeless character, blends into the environment effortlessly.

The connection between the new and old structures is seamlessly achieved through the masonry design, the stone works, colours and tones are developed from existing puppet centre façade, transformed into a new while sophisticated appearance, a calm, subtle and regulated façade beautifully extended from existing building, interacts the surrounding urban environment.

Regarding landscaping, tree number 14, 15, 16, 17, 22, 23 and 26 must be relocated or demolished, other trees potentially could be retained based on detail requirements to the parking area, it has opportunity to be further improved.

Construction cost

(all calculations are approximate estimation, all data is not accurate due to lack of local construction price information)

Concrete walls : $120 \text{ m}^3 \times 7000 = 840,000 \text{ BGN}$

Concrete slabs : $397 \text{ m}^3 \times 2500 = 992,500 \text{ BGN}$

Demolition and Excavation cost: $600 \text{ m}^2 \times 530 = 318,000 \text{ BGN}$

Masonry walls: $330 \text{ m}^3 \times 4000 = 1,320,000 \text{ BGN}$

Timber walls and structures: $295 \text{ m}^3 \times 3500 = 1,032,500 \text{ BGN}$

Finishes: $4500 \text{ m}^2 \times 2000 = 9,000,000 \text{ BGN}$

Labour cost: 1200000 (unable to define) BGN

Total construction cost: 14,703,000 BGN

Conclusion

In conclusion, the Proposed Experimental Puppetry Art Center offers a solution in line with the theatre's activities and functional programme, developed a distinctive and contemporary recycled masonry architectural design while protecting, communicating and promoting the identity of the surrounding areas and the existing theatre. It blends into the surrounding park, studies and takes the characteristics of the existing puppet theatre building and expands its history, feature and feel into the new building façade and spaces. It considers the urban environment and vegetation,

reflects the urban requirements of the location, flow of traffic and pedestrians, respects the rules for level of noise in the proximity of residential buildings. It has brought a brand new image to the performances, culture and activities, taken the legacy of puppet art and extend it to the bright future for the locals, visitors, different users and the people of Stara Zagora.