Contents

Abstract
1
Program
2
Site Analysis
6
Building Type Analysis
11
Design Directions
13
Problem Statements
14
Schematic Design
15
Design Dev.
18
Final Design
22
Appendix
30
Abstract

A thesis project is the final test of the theories and processes which have been developed over the first four years of architecture school. This book will follow the processes and discuss the theories which I used in successfully completing my particular project.

My project is a performing arts center for Coronado, California. This 90,000 sq. ft. facility is located in a resort/retirement community of about 20,000 people. Additional information provided in the program and site analysis will establish a sound basis for understanding the project.

This book is broken down into the steps that I followed during my design process. The first half is devoted to the steps involved in problem definition. An extensive amount of research and analysis was done before any final conclusions could be drawn. The second half of the book looks at my design at three different stages within my design process. These are merely breaking points as there were numerous other levels at which my design was evaluated.
Program
Program

There is no shortage of canned entertainment in the home and one of the distinctive characteristics of a visit to a place of live entertainment is a sense of occasion. There are times when people go to the opera, the theatre or the concert hall as much to be seen as to see. This idea of creating a place is just as important as the functional solution that provides for a good performance.

In fulfilling the functional requirements, many physical considerations must be carefully dealt with. The most important one being the acoustic quality within the auditorium. Considering the sophistication of acoustics, a consultant should be used. In addition to hearing a performance, clear sight lines should be developed for its full enjoyment.

Just the idea of a performing arts center suggests a certain amount of flexibility. In addition to flexibility which will accomodate a wide variety of performances, it must also be flexible in terms of community functions and activities.

Circulation within the building exists in two distinct and separate circuits: the public into the auditorium and the performers backstage. Circulation backstage should be direct and clearly defined with a major node occurring at the green room. The public circulation should be made into an event with some type of a procession beginning outside and carrying all the way in to the auditorium. When these two circuits cross the result is a performance.

Parking should be sufficient to handle the 2,300 people in the audience and the performers and staff. The large volume of traffic created by a performance can be a problem and should be considered. The approach to the building should be a procession ending in a drop-off. The drop-off should be such that it does not conflict with pedestrian traffic.

There are certain outdoor spaces that will help to increase the activity on the site. A small (500 seat) well landscaped amphitheatre will not only add to the beauty of the site, but will provide a space that could accomodate a wide variety of community activities. In order not to limit its usefulness it should be equipped with a lighting system for night use.
### Space Summary

#### Public Spaces

<table>
<thead>
<tr>
<th>Space</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>lobby</td>
<td>18,000</td>
</tr>
<tr>
<td>box office</td>
<td>80</td>
</tr>
<tr>
<td>cloakroom</td>
<td>400</td>
</tr>
<tr>
<td>bar</td>
<td>100</td>
</tr>
<tr>
<td>auditorium</td>
<td>20,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>38,580</strong></td>
</tr>
</tbody>
</table>

#### Performers Spaces

<table>
<thead>
<tr>
<th>Space</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>principal's dressing rooms 4 at 140</td>
<td>560</td>
</tr>
<tr>
<td>minor principal's dressing rooms 5 at 175</td>
<td>875</td>
</tr>
<tr>
<td>commercial dressing rooms 3 at 500</td>
<td>1500</td>
</tr>
<tr>
<td>conductor's dressing room</td>
<td>160</td>
</tr>
<tr>
<td>musician's changing rooms 4 at 200</td>
<td>800</td>
</tr>
<tr>
<td>Instrument storage</td>
<td>250</td>
</tr>
<tr>
<td>green room</td>
<td>500</td>
</tr>
<tr>
<td>stage door-keeper</td>
<td>150</td>
</tr>
<tr>
<td>rehearsal room</td>
<td>4000</td>
</tr>
<tr>
<td>practice studios 2 at 100</td>
<td>200</td>
</tr>
<tr>
<td>orchestra assembly</td>
<td>400</td>
</tr>
<tr>
<td>orchestra pit</td>
<td>600</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9,845</strong></td>
</tr>
</tbody>
</table>

#### Administration Spaces

<table>
<thead>
<tr>
<th>Space</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>theatre board</td>
<td>250</td>
</tr>
<tr>
<td>artistic director</td>
<td>250</td>
</tr>
<tr>
<td>assistant director</td>
<td>120</td>
</tr>
<tr>
<td>associate director</td>
<td>100</td>
</tr>
<tr>
<td>musical director</td>
<td>150</td>
</tr>
<tr>
<td>interview room</td>
<td>120</td>
</tr>
<tr>
<td>production manager</td>
<td>120</td>
</tr>
<tr>
<td>designer</td>
<td>150</td>
</tr>
<tr>
<td>stage manager</td>
<td>100</td>
</tr>
<tr>
<td>assistant stage mgr.</td>
<td>100</td>
</tr>
<tr>
<td>administrator</td>
<td>150</td>
</tr>
<tr>
<td>house manager</td>
<td>120</td>
</tr>
<tr>
<td>press &amp; publicity</td>
<td>100</td>
</tr>
<tr>
<td>general office</td>
<td>150</td>
</tr>
<tr>
<td>storage</td>
<td>50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,050</strong></td>
</tr>
<tr>
<td>Production Spaces</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>---</td>
</tr>
<tr>
<td>stage</td>
<td>3500</td>
</tr>
<tr>
<td>carpenter's workshop</td>
<td>1500</td>
</tr>
<tr>
<td>paintshop</td>
<td>1000</td>
</tr>
<tr>
<td>scenery storage</td>
<td>1000</td>
</tr>
<tr>
<td>property storage</td>
<td>600</td>
</tr>
<tr>
<td>wardrobe</td>
<td>900</td>
</tr>
<tr>
<td>electrician's workshop</td>
<td>400</td>
</tr>
<tr>
<td>control room</td>
<td>500</td>
</tr>
</tbody>
</table>

**Total:** 9,400

**NET TOTAL** 59,875

`mechanical, circulation, structure, unassigned spaces 40%` 23,950

**GROSS TOTAL** 83,825
Space Relations

production spaces

scenery dock

direct delivery to stage

administration

visitors

orchestra pit

auditorium

performers spaces

musician spaces

public spaces

service entry

public entry
Site Analysis
Site Analysis

Coronado is a long thin peninsula that reaches up from the south and forms the elegant San Diego Bay. The Coronado Bridge, finished in 1969, connects the 'island' with the mainland. Before the bridge, transportation to and from the island consisted of a ferry or a long drive south through Silver Strand, Imperial Beach and Chula Vista.

The triangular site is a beautiful parcel of land that fronts the San Diego Bay on its longest side. An extensive position paper has been produced on the development of this area. It calls for open spaces with limited building in an attempt to create a community area. The advent of the Coronado Performing Arts Center with surrounding open spaces would use this site to its fullest potential.

The triangular site has a definite edge of all of its sides: a bridge, the San Diego Bay, and a street. Access to the site will come primarily from the side with the street, but entering the site from the bay should not be ignored.
SAN DIEGO BAY MAP

LAND AND WATER USE ELEMENT
Building Type Analysis
National Theatre
London, England
Architect: Denys Lasden & Partners
Completed: 1976

This scheme has two auditoriums which share all support spaces and even have connecting lobbies.

Circulation is clearly broken into public and private with the auditoriums acting as the separating device.

The primary entries are on a forty-five to the major orientation of the building.

The structural system is a very simple grid which breaks when it gets to the auditorium spaces.

The building's response to the waterfront is fairly sensitive, but all of the other sides seem to have ignored some of the major contextual issues.

Scale & Proportion
The building type and program demand consideration of scale just from the standpoint of the great variety of scales required in the different spaces, i.e. auditorium vs. dressing room

Unique Features
The fact that the building has two large theatres is a unique feature in itself. The use of outdoor areas and decks probably is what sets this building apart from others.

Image
While the building doesn't necessarily say theatre it does say public as it opens up towards the water. The strong horizontal bands give the complex an image that is easily retained.
Hamilton Place
Ontario, Canada
Architect: Ron Thom
Completed: 1978

This scheme is simply an auditorium surrounded by its support spaces.

The public and private circulation paths are separated and contained by the auditorium.

The entry occurs in the only recessed area in the building. One entry is from the street and the other from an adjacent plaza.

The structural system is very simple and is only interrupted for the main (auditorium) space.

The building's facades all relate to a strong organizational system based on a grid.

The building takes advantage of the plaza and relates to the adjacent streets and buildings.

Scale & Proportion
The large scale building is dealt with by trying to break down the main facades to a somewhat more human scale.

Unique Features
The exterior expression of the structural grid gives the building a true sense of order and uniqueness.

Image
The building is very inviting and its simple volumes suggest the idea of a theatre.
Design Directions
Design Directions

Building Type Analysis
From the analysis of two similar building types it is evident that the building is broken into public (audience) and private (performers & production) zones which meet in a main space (auditorium). This suggests an organization where the private and public spaces are separated by a main space.

Site Analysis
The triangular site's three sides are very diverse and together pose an interesting design direction. With one hard edge, one soft edge and the third edge offering an outstanding view and access to the San Diego Bay, the site suggests a building which opens up towards the view while responding to the soft edge.

Program
The program is clearly broken into three distinct processes: the production process, performer preparation and public progression. All three are independent, but end at the same point (auditorium/stage) suggesting an organization of the three major parts all working off of a central space.
Problem Statements
Problem Statements

* In addition to being a place to enjoy a performance the performing arts center should be a place where people can enjoy social interaction. (a place to go)

* The building should provide an identifiable image for the community without being obtrusive or offensive.

* While the building type is fairly introverted, the building should relate to the site in a way that both the building and the site can benefit.
Schematic Design
Schematic Design

The schematic design phase is very critical as it is the first time all of the research and analysis is brought together to generate initial ideas or concepts.

During this phase I tried to deal with all of the issues which I had developed earlier. My first major concern was to get an organizational layout that satisfied the program functionally. While in schematics I dealt with the program in very general terms, therefore producing functional relationships that could be easily adjusted. While I was still working with programmatic layouts I began the process of establishing where on the site the building should go. The major determinates were site access and the physical advantages of the water edge.

The next major issue was that of image and form. This early in the game I was dealing more with pieces and total form and not so much their interrelationships. I also dealt with some site issues with an emphasis on orienting the building’s public space toward the best views.

One of the major drawbacks at this point was that my plan and form were very programmatic in response, but took little else into consideration. This was partially due to the fact that I hadn’t started to experiment with the form of the auditorium or the relationship of the lobby to the auditorium.
Design    Development
Design Development

Now that most of the major issues have been confronted it becomes necessary to reevaluate the decisions that have been made. This phase also includes considering some of the less critical restraints that are yet to be dealt with. During this phase I worked with adjusting my plans to work with the program and the site. Once a general plan was achieved I started getting into more detail. Detailed plans and sections helped me to study the inerrelationships of spaces and also to establish spaces oriented to the best views.

Refinement of form and more elevation studies allowed me to restudy the image I was creating. The form studies resulted from an intense study of the theatre space, its shape, its volume and its relation to other major areas.

At this point my design was beginning to have a definite direction. Many things were starting to work themselves out. Still many of the little problems were yet to be resolved. There were still some problems with the form and the logic behind it. The area which still needed the most work was the site development and its relationship with the building.
Final Design
Final Design

This phase dealt mainly with the refinement of the areas that still had problems and the polishing of all other areas. At this point a final look was taken at all decisions made and the rationale behind them.

My main concern was the connections and the interfaces between the actual building and other site related activities. The forms of the building were reflected in the form of these activity areas.

Final plans and sections were constructed making any necessary minor adjustments. From these, final elevations could be constructed and the issue of material joints looked at.

After the benefits of refinement the project reached a high level of consistency. The ideas of image and place have been successfully treated and the plan flows with the processes of production, performance and audience.

This project proved to be a valuable learning tool in that I was able to confront all of the problems involved in a project from the early programming stages through the entire design process. Learning to deal with as many issues as possible during all phases proved to be a difficult and challenging task.
Coronado Performing Arts Center
West Elevation

North Elevation
Longitudinal Section

Transverse Section
Appendix
CORONADO BAYFRONT: Planning District 6

Precise Plan Concept

The Coronado Bayfront tidelands are surrounded by one of the most attractive communities on San Diego Bay. The adjacent population and housing areas are in the higher socio-economic ranges which tend to influence higher real estate values and a desire for more productive utilization of tidelands. A significant portion of the planning area is either involved in long-term leases where the use activity is well-established and accepted, or in narrow areas with little or no development potential unless landfill occurs. The remaining uncommitted and undeveloped area is of interest to the citizens of Coronado, and has been the focal point of development planning and controversy for several years. The undeveloped area involves three planning subareas — Orange Avenue, Second Street shoreline and Tidelands Park.

Identifiable land use problems and concerns related to potential tideland development include: the existing circumstance of heavy peak traffic loads on local streets and a concern that additional development will aggravate the perceived traffic problem; the highly visible aspects of the tidelands and the potential impact of insensitive development on views and community appearance; and the competing demands for high-value land between the commercial potential of the marketplace and a localized desire for parks and community play fields. In an effort to resolve issues and following a joint meeting of the Coronado City Council and the Board of Port Commissioners, an ad hoc committee composed of two City Council members and two Port Commissioners was established. The ad hoc committee met over a dozen times in publicly attended workshops and received and reviewed written information from Coronado citizens. An agreement was reached which provides the basis of a plan that divides the 52.76-acre undeveloped area into equal allocations for commercial development and for park and recreational use. The total street right-of-way area located on tidelands, except for the Loop road under the Bay Bridge, will be equally assigned to the major use groups or subtracted from the total area. The development proposal includes the maintenance of the shoreline for pedestrian access where feasible; the provision of parks, recreational activities and facilities; the retention and expansion of marine facilities; and the introduction of a wide array of visitor serving facilities; and encourages the integration of open space into all commercial development. Provision will be made for direct traffic ingress and egress to the tidelands.

Land and Water Use Allocations

The planning area of the Coronado Bayfront Planning District includes a total area of 265 acres, consisting of 162 acres of tidelands and 103 acres of submerged tidelands. Long-term use commitment, such as the golf course, absorbs a significant portion of the planning area. The remaining uncommitted area consists of a total of 90.36 acres, divided into 52.76 acres of tidelands and 37.62 acres of submerged tidelands.

Project Feasibility

Coronado Bayfront Planning Subareas

The relationship of planning proposals and specific sites is discussed in the following text. The Planning District has been divided into six subareas to better facilitate the explanation. (See Figure 18.)

Tidelands Park

The public park planned for a twenty-acre site north of the Bay Bridge Toll Plaza is to include a multiple use playfield providing turf area for different seasonal play such as four baseball fields or four playing fields for organized sports. Playing field development will include structures to accommodate maintenance equipment storage and restrooms; however, no permanent structures other than restrooms will be placed on the playing fields. Temporary structures and fencing necessary for seasonal sports may be placed in the park during the appropriate season. Pedestrian-bicycle routes and shoreline promenade provide access to the beach. A linkup with other tideland areas by a routing under the bridge is subject to negotiation with CALTRANS. Public parking, picnic facilities, and play equipment are proposed in a landscaped setting. The maintained, landscaped park area and shoreline promenade are intended to retain and expand the open space character of the golf course along this subarea shoreline. The area for the proposed loop road, located on the north side of the San Diego-Coronado Bridge right-of-way, is allocated as part of the 20-acre park development. The Fort District is not involved in the construction or financing of the loop road as it is the responsibility of the City.