Community Wellness Center: Providence, Rhode Island

Eva Marie Mercurio
Roger Williams University

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The Community Wellness Center
Providence, Rhode Island

Healing Mind, Body, and Soul

Independent Project submitted to:
Roger Williams University, School of Architecture, Art and Historic Preservation
In fulfillment of the requirements for the Bachelor of Architecture Degree
May 2008

By:

_______________________
Eva Marie Mercurio
Class of 2008

_______________________
Hasan-Uddin Khan
Distinguished Professor

_______________________
Dean Stephen White, AIA
School of Architecture, Art, and Historic Preservation
Abstract

The Wellness Center in Providence, Rhode Island incorporates alternative medicine, medical, and dental facilities for the benefit and education of patients within and around surrounding neighborhoods as well as for others who reside outside the immediate area. These services, all of which are available in one centrally located area have the potential to captivate and entice those who are interested in creating a better lifestyle for themselves.

A predominant focus of this facility is to instill and promote healthy lifestyles while at the same time educating the public who can contribute to a society and become capable of addressing and solving problems and issues before they become too big. City inhabitants regardless of social or economic status can become the promoters of a healthier life once they receive the tools. They too become educators by spreading the word, which is directly influential to those around them and the society in which they live.

The concept of creating buildings that promote balance between mind, body, and spirit will begin a process, which facilitates a realignment of societal values and ethics through the practice and education of medical, dental, and holistic care. As the building radiates the essence of interactions between people and space, and building within its environment, the experience becomes that of probability.

Another important aspect of this project is to create a purposeful building within a city environment with consideration given to existing historical buildings and landscape while at the same time generating a positive influence and effect in a tactful manner consistent with contextual surroundings.
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Introduction

Many of our cities are in distress, plagued with drugs, crime, murder, lack of education and governmental help, spiritual unawareness, etc, etc. Beginning on an individual basis, it is imperative that we teach how to balance the mind, body, and the spirit. We can facilitate these ideals and influence the lives of people in a positive aspect through buildings promoting the same purpose.

The breakdown of values, morality, and ethics can be restored if we implement changes in a constructive manner as opposed to dictating what we feel would be best for individuals or specific situations. By giving people choices with what type of treatment(s) would be best for them, we can encourage growth in responsibility, self-esteem, confidence, and accountability for one's own actions. This idea could be reflected within the building and its programmatic context having a direct effect among the occupants and users.

Problem Statement

By offering healthcare, fitness, and education under one roof and within easy access to neighborhoods an opportunity is given to re-set the values, beliefs, and ethics within one's self as well as integrating these characteristics into society. The components within the facility employ a variety of cultural techniques and methods offering diversity not only for health-care but also for personal development, societal harmony, and a balance between people and their environment. By creatively integrating functions and purposes, occupants can be directed and encouraged with a new understanding of balance.

Currently, besides Rhode Island Hospital, there isn’t a single building attempting to fulfill the aforementioned ideas nor are there separate buildings offering dental and/or alternative medicine along Eddy Street in Providence. Although a proposal to create such a project would be independent of the hospital it is just as important for it to be within close proximity for referrals, emergency cases and for services not offered at the Wellness Center.

The Community Wellness Center

Healing for the Mind, Body, and Soul
Project Statement

This project presents many challenges including but not limited to integrating a diverse program within itself, designing a building whose technical and medical purpose creates a sense of peace, and becoming the center of change for a neighborhood in an attempt to realign and heal adverse conditions that have become a way of life for many.

The chosen site for the proposed project shall dictate an appropriate theme whether it is cultural, technological, spiritual, social, etc., etc. Also playing a role in the selected theme(s) will be interviews conducted on-site polling the opinions and suggestions of residents and those passing through.

The integration of materials and space can have dramatic effects on the psyche when intuitively combined. Although education may appear to be a simple solution to many of our problems, it is the basis of how we interact within society. If we teach balance of the mind, body, and spirit, it will lend itself to peace, harmony, and a society of health, happiness and love.

Architecture can satisfy many objectives, including but not limited to social implications, physical effects, and aesthetic indications. Ideally, any project should strive to accomplish all of these purposes and more. It is my intent to take into consideration all that architecture can satisfy in a logical, orderly, effective, and efficient manner while at the same time benefiting others and their surrounding community. The intentions put forth through this project should serve to satisfy acts of kindness, consideration, and a genuine compassion for others in a manner beneficial to humankind as well as the ecology of this planet.

Project Goals

Integration of People and Purpose
Integration of Space and Program
Integration of Materials and Program

Integration of People and Society
Integration of Health and Education
Integration of Building and Site

The Community Wellness Center

Healing for the Mind, Body, and Soul
Providence, Rhode Island

41° 48’27.85”N   71° 24’12.16”W

United States of America
Providence, Rhode Island
• Established in 1636
• Incorporated in 1832

Demographic Information:
• Total Population: 173618
• Population per Sq. Mi.: 9402
• Occupied Dwelling Units: 62389
• Families: 35859
• Land Area Sq. Miles: 18.5

Demographics
• Hispanic: 41.2%
• Black or African American: 34%
• White: 28.7%
• Other: 24.4%
• Non-Hispanic White: 18.8%
• Claimed 2 or more races: 6.8%
• Asian or Pacific Islander: 2.6%
• Native American: 2.6%

Villages
• Dyerville
• Edgewood
• Elmwood
• Federal Hill
• Fox Point
• Geneva
• Manton
• Mt. Pleasant
• Olneyville
• Silver Lake
• Smith Hill
• Starvegoat Island
• Tockwotton
• Washington Park

Form of Government:
Fifteen member City Council headed by Mayor
Meetings held first and third Thursday at 7:30 pm

Tax Information
• Res. Real Estate Tax/$1000.00: 29.65
• Evaluation: 50%
• Yr. Evaluation: 2004
• Commercial Real Estate 37
• Motor Vehicle Tax: 76.78
• Inventory Tax: 30.7
• Business Personal Property: 49.5
• Notes: Provides a homestead exemption

Median Family Income: $24,656
Median Household Income: $19,112
Families Below Poverty: 36.4%
Households on Public Assistance: 16.0%

Counties
• County: Providence
• Other cities and towns in Providence County:
  o Burrillville
  o Central Falls
  o Cranston
  o Cumberland
  o East Providence
  o Foster
  o Glocester
  o Johnston
  o Lincoln
  o North Providence
  o North Smithfield
  o Pawtucket
  o Providence
  o Scituate
  o Smithfield

City of Providence Statistics
New homes on Eddy Street, about 1885
RI Historical Society   Rhi X3 4573

View from Public Street (c. 1885)

George A. Rickard House (c. 1872)
**Greek Revival**
1830-1860

A: Paneled Corner Pilaster
B: Classical Window Enframement
C: Pedimented Gable
D: Classical Entablature
E: Ionic Portico
F: Three-Bay Facade with Side Hall Plan

---

**Italianate**
1850-1885

A: Window cap
B: Palladian Window
C: Bracket
D: Round-Head Dormer
E: Bracketed Cornice
F: Quoins
G: Door Hood on Consoles
H: Paired Windows
I: Clapboard Siding
J: Three-Bay Facade, Center Hall Plan

---

William H. Dyer House (c. 1842)

William C. Rhodes House (c. 1860)
**Second Empire**  
**1855-1890**

A: Palladian Window  
B: Window Cap  
C: Round-Head Dormer  
D: Mansard Roof  
E: Bracketed Cornice  
F: Window Hood  
G: Bracketed Porch with Paneled Posts  
H: Three-Bay Facade with Center Hall Plan

**Colonial Revival**  
**1895-1930**

A: Classical Portico  
B: Palladian Type Window  
C: Classical Entablature  
D: Hipped Roof  
E: Cresting  
F: Hipped Dormer  
G: Bay Window  
H: Urn Finial  
I: Door with Side Lights  
J: Ramped Balustrade

William H. Dyer House (c. 1842)
Historical Buildings of the Period

Eddy Street  1886

Christ Episcopal Church  1888

Rhode Island Hospital  1886

Buildings of the Period
Site Selection

Site selection depended upon a variety of conditions. Accessibility was an important one as the facility should predominantly serve its surrounding neighborhood while at the same time becoming available and easily found by those traveling by vehicle or public transportation. Because of the medical and dental components of the program, locating the project within close proximity to a hospital or other medical facility became beneficial not only to the users of the building but also from a zoning standpoint. Situating the building where zoning is already approved for this particular use saves much time that would otherwise be needed for variance applications and processes.

Two site choices were compared as shown on page 14. Both sites are located on Eddy Street in South Providence, Rhode Island. Site A was selected because it’s location is closer to residential homes, it’s located on the RIPTA bus-line, zoning is appropriate, and the lot is partially empty.

Located within the property boundaries remains the Historical Herff Jones building. Constructed of masonry, it remains an active, viable business within the community. The proposed project will integrate a purposeful building into the city environment with consideration to it’s existing contextual surroundings.

Also located within the boundaries are two buildings suggested to be demolished. One is a small garage (numbered 2 on page 15) and the other is an older medical building (numbered 1 on page 15). While the garage still conducts business, the medical office building remains empty.
**Site A**

- Empty Lot
- Zoned Medical/Industrial
- Existing Building on Site
- Level Site
- Closer to Residential Dwellings

50000+ sq. ft.

**Site B**

- Hospital Parking Lot
- Zoned Hospital
- Abuts Interstate 95
- Sloped Site
- Closer to Hospitals
- Busier Intersections

132,000+ sq. ft.

**Site Comparison**
Selected Site

Site A

Buildings to be Demolished

Herff Jones to remain Intact
Unselected Site

Site B

Interstate 95 Relocation
Site Evaluation

Topographic and Wind Maps

- **Wind at 30m**
- **Wind at 50m**
- **Wind at 70m**
- **Wind at 100m**

**Site Evaluation**

- **Highest Elevation**: 812 ft Above Sea Level
  - Jerimoth Hill
- **Mean Elevation**: 200 ft above sea level
- **Lowest Point**: Sea Level
  - where RI meets the Atlantic Ocean
Sun-Path Diagram
Weather station PROVIDENCE WSO AP is at about 41.73°N 71.43°W. Height about 15m / 49 feet above sea level.

### Average Rainfall

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
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<th>Dec</th>
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<td>88.7</td>
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<td>76.5</td>
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<td>111.4</td>
<td>1120.1</td>
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<td>1.7</td>
<td>3.0</td>
<td>5.9</td>
<td>4.4</td>
<td>44.1</td>
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</tbody>
</table>

Source: PROVIDENCE data derived from NCDC Cooperative Stations. 1 complete years between 1853 and

Weather station PROVIDENCE WSO AP is at about 41.73°N 71.43°W. Height about 15m / 49 feet above sea level.

### Average Minimum Temperature

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
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<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Year</th>
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<tbody>
<tr>
<td>°C</td>
<td>-6.0</td>
<td>-5.9</td>
<td>-1.3</td>
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<td>14.2</td>
<td>17.7</td>
<td>16.7</td>
<td>12.5</td>
<td>6.8</td>
<td>1.8</td>
<td>-3.8</td>
<td>5.3</td>
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<tr>
<td>°F</td>
<td>21.2</td>
<td>21.4</td>
<td>29.7</td>
<td>38.7</td>
<td>48.6</td>
<td>57.6</td>
<td>63.9</td>
<td>62.1</td>
<td>54.5</td>
<td>44.2</td>
<td>35.2</td>
<td>25.2</td>
<td>41.5</td>
</tr>
</tbody>
</table>

Source: PROVIDENCE WSO AP data derived from GHCN 2 Beta. 1296 months between 1884 and 1996

Weather station PROVIDENCE WSO AP is at about 41.73°N 71.43°W. Height about 15m / 49 feet above sea level.

### 24-hr Average Temperature

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
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<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>°C</td>
<td>-2.0</td>
<td>-1.7</td>
<td>2.5</td>
<td>8.3</td>
<td>14.2</td>
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<td>21.4</td>
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<td>-0.1</td>
<td>9.9</td>
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<tr>
<td>°F</td>
<td>28.4</td>
<td>28.9</td>
<td>36.5</td>
<td>46.9</td>
<td>57.6</td>
<td>65.7</td>
<td>72.3</td>
<td>70.5</td>
<td>63.1</td>
<td>52.7</td>
<td>42.3</td>
<td>31.8</td>
<td>49.8</td>
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</table>

Source: PROVIDENCE WSO AP data derived from GHCN 2 Beta. 1934 months between 1831 and 1996

Weather station PROVIDENCE WSO AP is at about 41.73°N 71.43°W. Height about 15m / 49 feet above sea level.

### Average Maximum Temperature

<table>
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<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
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<td>2.9</td>
<td>7.7</td>
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<td>26.8</td>
<td>22.8</td>
<td>17.1</td>
<td>10.7</td>
<td>4.6</td>
<td>15.0</td>
</tr>
<tr>
<td>°F</td>
<td>38.7</td>
<td>37.2</td>
<td>45.9</td>
<td>57.0</td>
<td>68.0</td>
<td>77.0</td>
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<td>80.2</td>
<td>73.0</td>
<td>62.8</td>
<td>51.3</td>
<td>40.3</td>
<td>59.0</td>
</tr>
</tbody>
</table>

Source: PROVIDENCE WSO AP data derived from GHCN 2 Beta. 1296 months between 1884 and 1996
**Interstate 95 Relocation Project**
- Reconnects interrupted links to both sides of the Providence River
- Smoother flow of traffic congestion

**RIPTA (Rhode Island Public Transit Authority)**
- Busline runs along Eddy Street
- Towards Kennedy Plaza
- Away from Kennedy Plaza

**Pedestrian Travel**
- 5 minute walk to hospital zone
- 15 minute walk to University of RI and Johnson and Wales University
- 30 minute walk to RISD and Brown University
Site Evaluation

Existing and Proposed Public Parks

Street Hierarchy and Framework

Recreation & Street Hierarchy
Existing Zoning Heights

**Industrial Zoning District**

M-1  Industrial District  75’ Height Restriction

(See Section 305 on page 32)
Site Evaluation

Figure-Ground Relationship
Site Evaluation

Site Dimensions

Total Area: 146,173 sq ft

Herff Jones
Hospital Facilities  Residential  Streets and Avenues  Interstate 95

(please refer to pages 15-18 for details)
Site Evaluation

Demolition

Already Demolished

To be Razed

(see attached checklist pg 88)
Spacial Allocations and Effects

**Alternative Medicine** wing consists of treatment rooms used for Chiropractic, Acupuncture, Hypnotherapy, Aroma Therapy services, etc., etc. Also available are lessons, classes and special illustrations for Tai Chi, Yoga and Nutritional Courses. Sauna, Steam, Massage, and Resting Rooms are also available for public or private use. While most of these treatments already exhibit a sense of *quiet and calm*, material selection can enhance these feelings. The nutritional courses are given in a studio environment requiring participation and interactions with others.

**Medical Services** consist of space for a family practice of 3 physicians and support services. The spatial effect should be that of *relaxation* so that patients are not anxious about seeing physicians and staff. A spacious waiting room offering interactive activities could offset the stress.

**Dental Services** consist of space for a general dental practice of 3 or 4 dentists, laboratory and support services. These spaces must produce a feeling and sensation of *peace* so the sounds of dental instruments are not intimidating. The sound of water may counteract the anticipation of frightening sounds.

**The Counseling, Family, and Community Center** focuses on psychological and counseling services for individuals, family planning and counseling and community involvement activities. People visiting this center should get a sense of *closeness* signifying family and community interactions. Warmer colors and comfortable furniture may achieve this affect.

**Physical Therapy** has space available to support 8 private therapy rooms, a rehabilitation room, stretching area, and 3 whirlpools. This aura should exude a feeling of *healing* as opposed to a sterile medicinal environment.

The **Gym/Cardio** area offers floor space for free weights, aerobics, locker rooms, and cardio machines. This space should encourage *interactive* behavior as its underlying purpose suggests.

The **Pool** room offers lessons in swimming, rehabilitative exercising and open time for public access. This space can be a ‘springboard’ to circumstances requiring teamwork requiring a sense and feeling of high and positive *spirit*.

**Parking** spaces have been determined to be 83 required spots according to Providence Code of Ordinances. (1 per 500 feet of GFA)
<table>
<thead>
<tr>
<th>Program</th>
<th>Net Square Footage</th>
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</thead>
<tbody>
<tr>
<td>alternative medicine</td>
<td>9500 sq ft</td>
</tr>
<tr>
<td>dental care</td>
<td>5625 sq ft</td>
</tr>
<tr>
<td>medical care</td>
<td>5550 sq ft</td>
</tr>
<tr>
<td>lecture</td>
<td>1200 sq ft</td>
</tr>
<tr>
<td>retail</td>
<td>2500 sq ft</td>
</tr>
<tr>
<td>counseling and family</td>
<td>4900 sq ft</td>
</tr>
<tr>
<td>fitness and cardio</td>
<td>9025 sq ft</td>
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<tr>
<td>physical therapy</td>
<td>3900 sq ft</td>
</tr>
<tr>
<td>pool</td>
<td>7400 sq ft</td>
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<tr>
<td>parking</td>
<td>15,000 sq ft</td>
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</table>

**Net Square Footage** 64,600

+ **20% Circulation and Additional Support** 12,920

**Total Gross Square Footage** 77,520
<table>
<thead>
<tr>
<th>Alternative Medicine</th>
<th>Program Breakdown</th>
</tr>
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<tbody>
<tr>
<td>reception 12' x 14' 1 = 168</td>
<td>□ reconciliation 12' x 12' 1 = 144</td>
</tr>
<tr>
<td>waiting 18' x 20' 1 = 360</td>
<td>□ parking 24' x 40' 1 = 960</td>
</tr>
<tr>
<td>business 18' x 30' 1 = 540</td>
<td>□ office 12' x 12' 1 = 144</td>
</tr>
<tr>
<td>□ consult 10' x 12' 1 = 120</td>
<td>□ office 12' x 12' 1 = 144</td>
</tr>
<tr>
<td>□ treatment 6' x 12' 1 = 72</td>
<td>□ office 12' x 12' 1 = 144</td>
</tr>
<tr>
<td>□ therapy 6' x 18' 3 = 54</td>
<td>□ office 12' x 12' 1 = 144</td>
</tr>
<tr>
<td>□ staff 7' x 9' 1 = 63</td>
<td>□ office 12' x 12' 1 = 144</td>
</tr>
<tr>
<td>□ storage 8' x 10' 1 = 80</td>
<td>□ office 12' x 12' 1 = 144</td>
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<tr>
<td>□ housekeeping 10' x 15' 1 = 150</td>
<td>□ office 12' x 12' 1 = 144</td>
</tr>
<tr>
<td>□ staff 10' x 12' 1 = 120</td>
<td>□ office 12' x 12' 1 = 144</td>
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<table>
<thead>
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<th>Medical</th>
<th>Program Breakdown</th>
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<td>□ reception 12' x 15' 1 = 180</td>
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<tr>
<td>waiting 18' x 20' 1 = 360</td>
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<tr>
<td>□ exam 12' x 12' 1 = 144</td>
<td>□ office 12' x 12' 1 = 144</td>
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<tr>
<td>Community</td>
<td>Program Breakdown</td>
</tr>
<tr>
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<td>□ reception 12' x 15' 1 = 180</td>
</tr>
<tr>
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<td>□ parking 24' x 40' 1 = 960</td>
</tr>
<tr>
<td>business 18' x 30' 1 = 540</td>
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</tr>
<tr>
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<td>□ office 12' x 12' 1 = 144</td>
</tr>
<tr>
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<td>□ office 12' x 12' 1 = 144</td>
</tr>
<tr>
<td>□ treatment 6' x 12' 1 = 72</td>
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</tr>
<tr>
<td>□ storage 8' x 10' 1 = 80</td>
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</tr>
<tr>
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<table>
<thead>
<tr>
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<td>waiting 18' x 20' 1 = 360</td>
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<tr>
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<td>□ office 12' x 12' 1 = 144</td>
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<tr>
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<tr>
<td>-----------------------</td>
<td>----------</td>
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<tr>
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<table>
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<th>Surgery 12' x 12'</th>
<th>X-ray 12' x 12'</th>
<th>Laboratory 12' x 12'</th>
<th>Sterilizing 12' x 12'</th>
<th>Class 12' x 12'</th>
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<th>X-ray 12' x 12'</th>
<th>Laboratory 12' x 12'</th>
<th>Sterilizing 12' x 12'</th>
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<th>Stretching 12' x 12'</th>
<th>Relapse 12' x 12'</th>
<th>Whirlpools 12' x 12'</th>
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<th>Aerobics 12' x 12'</th>
<th>Cardio 12' x 12'</th>
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720  3376  2928  3144  1088  736  720  2832  2500  4134  totals
Circulation

1  Fitness and Cardio Center
2  Physical Therapy
3  Pool and Aquatics
4  Counseling & Community
5  Alternative Medicine
6  Dental Care
7  Medical Care

- Circulatory Paths
- Primary Connections
- Secondary Connections

Circulation Studies

Least Favorable
-rear circulation draws patrons away from main street
-physical activities, counseling, & alternative medicine grouped together
-medical & dental grouped together

Partly Favorable
-northern circulation draws patrons into site along historical Herff Jones
-fitness and pool grouped together
-physical therapy, counseling, & alternative medicine grouped together
-medical & dental grouped together

Favorable Option 1
-corner circulation draws patrons into building and site from Eddy Street
-physical activities, counseling, & alternative medicine grouped together
-medical & dental separated

Favorable Option 2
-linear circulation draws patrons through site and building
-counseling and alternative medicine grouped together
-physical activities grouped together
-medical & dental grouped together

Favorable Option 3
-front circulation draws patrons along main street
-fitness and pool grouped together
-physical therapy, counseling, & alternative medicine grouped together
-medical & dental grouped together

Most Favorable Option 1
-corner circulation draws patrons into building and site from Eddy Street
-physical activities, counseling, & alternative medicine grouped together
-medical & dental separated

Site Circulation
24 x24 Grid

Site Visibility

Site Axis

Local Traffic Patterns
Massing Studies

Digital Process Models
Physical Process Models
Massing Studies

Physical Process Models
Digital Design Models
Roof Attributes

- Solar Photovoltaics
- Roof Terrace
- Roof Gardens

Mechanical Systems

- Circulation Pipes
- Chimney
- Cooling Tower
- Fan Room
- Central Mechanical/Chilled Water Plant
- Ductwork
- Pool Mechanical

Building Entries

Building Egress

Building Diagrams
Final Models
Physical Models

Final Models
Final Drawings

Level 1 Plan

1" = 16'
Shadows and Structure

Final Drawings
Final Renderings
Final Renderings

Side Views
Interior

Final Renderings
Night Illumination
Music Center and Library

Tel Aviv, Israel

Nili Portugali

Bialik Square

Reconstructed facade

A meaningful *dialogue* between a new building and the historical environment

Music Center and Library
The interrelation between the *Building* and the *Square*

- Façade defines the boundaries of the square
- Orange paint compliments the blue sky and green trees

-Crown provides a graduated link to the sky
-Cement tile has same form of crown
-Railing wall relieves incorporates crown form

The dimensions of the building are in *harmony* with the human scale of the square
The interior of the building and its *Lobby*

-Six columns define public space on each floor

The form, color, and material of each part of the building flow from the *functional* need it serves

Music Center and Library
The interior of the building and its open *Stairs*

- Stairs provide a view to all floors open to it
- The high windows allow penetration of daylight
- Iron balustrades create a melody
- Sunlight creates silhouettes

The details are an *inherent* part of the building
The interior of the building and its *Auditorium*

Lobby and auditorium are separated by a glass wall
- Allows a view of depth immediately upon entry

The similarity between the ceiling, glass, gallery and chairs are *parts to a whole*
The interior of the building and its *Lending Library*

- Catalogues and librarian counter at entrance
- Catalogue sitting area overlooks the square

Colors have the power to give life and *enhance* the qualities
The interior of the building and its Museum

-Glass partitions separate museum, study, and archive

One visual continuum while preserving the identity and uniqueness of each space
The interior of the building and its *Study*

-Sudy and periodicals visually connected to museum
-Furniture derived from the larger whole to enhance

The square, building and back garden form *one continuous whole*
The interior of the building and its Audiovisual Library

*Visual connection* with a view of roof, terrace and the sea
Architecture to create Human Environments for human beings

"Striving towards phenomenological architecture that generates a spiritual experience common to all people, no matter where or from what culture they come from"

Nili Portugali

The overall feeling of inner wholeness and unity stems from proper interrelations among parts
References and Credits

Nili Portugali

The Act of Creation and the Spirit of a Place
A Holistic-Phenomenological Approach to Architecture

Data and Imagery compiled by:
Eva Marie Mercurio

For Educational Purposes Only

The holistic approach to architecture and the relation between the parts and the whole

Music Center and Library
Site

Roof Gardening

- Rainwater Management
- Heating/Cooling Benefits

Improving

- City Climates
- Aesthetics

Chicago City Hall
Chicago, Illinois
Site

aerials of rooftop

building in context

Chicago City Hall
Chicago, Illinois
Site

Natural Light

Nuremberg Prisma
Joachim Eble

Powerpoint Presentation

Ecological Strategies
Rainwater Benefits

- Natural air-conditioning
- Fire-fighting
- Plant watering
- Runoff management
- Aesthetics
- Connection to nature/site

Nuremberg Prisma
Joachim Eble
Site

Heating and Cooling Effects

- Direct relationship with exterior climate
- Waterfalls create light wind for cooling
- Introduces humidity into air

Nuremberg Prisma

Joachim Eble
Site

link to water

Nuremberg Prisma
Joachim Eble
Feilden Clegg Architects
Building Research Establishment (BRE)
Garston, Hertfordshire, UK
- Glazed ventilation stacks w/low velocity propeller fans for assisted stack ventilation
- Intermediate seasoned ventilation by open windows
- Cold weather heating by low pressure hot water w/ underfloor pipes and perimeter radiators
- Temperate Climate
- 12’ floor to floor height
- Low emissivity argon-filled double glazed operable windows (50% facade)
- Trickle ventilation on upper floor
- Outside air controlled by BMS operated windows
ARTICLE I. GENERAL PROVISIONS

Sec. 100. Purpose.
The zones and regulations set forth in this ordinance are in compliance with the Comprehensive Plan and are intended to address the following purposes:

(A) Promoting the public health, safety, and general welfare.

(B) Providing for a range of uses and intensities of use appropriate to the character of the City and reflecting current and expected future needs.

(C) Providing for orderly growth and development which recognizes:
   1. The goals and patterns of land use contained in the Comprehensive Plan as defined;
   2. The natural characteristics of the land, including, but not necessarily limited to, its suitability for use based on topography, potential surface water run-off and susceptibility to surface or groundwater pollution;
   3. The values and dynamic nature of coastal features, riverfronts, freshwater ponds, the shoreline, and freshwater and coastal wetlands;
   4. The values of unique or valuable natural resources and features;
   5. The availability and capacity of existing and planned public and/or private services and facilities;
   6. The need to shape urban development; and
   7. The use of innovative development regulations and techniques.

(D) Providing for the control, protection, and/or abatement of air, water, groundwater, and noise pollution, and soil erosion and sedimentation.

(E) Providing for the protection of the natural, historic, cultural, and scenic character of the city.

(F) Providing for the preservation and promotion of the urban forest, street trees and open space.

(G) Providing for the protection of public investment in transportation, water, stormwater management systems, sewage treatment and disposal, solid waste treatment and disposal, schools, recreation, public facilities, open space, and other public requirements.

(H) Promoting a balance of housing choices, for all income levels and groups, to assure the health, safety and welfare of all citizens and their rights to affordable, accessible, safe and sanitary housing.

(I) Providing opportunities for the establishment of low and moderate income housing.

(J) Promoting safety from fire, flood, and other natural or man-made disasters.

(K) Promoting a high level of quality of design in the development of private and public facilities.

(L) Promoting implementation of the Comprehensive Plan, as it may be amended from time to time.

(M) Providing for coordination of land uses with contiguous municipalities, other municipalities, the state, and other agencies, as appropriate, especially with regard to resources and facilities that extend beyond the city’s boundaries or have a direct impact on the city.

(N) Providing for efficient review of development proposals, to clarify and expedite the zoning approval process.

(O) Providing for procedures for the administration of the zoning ordinance, including, but not limited to, variances and special use permits.

(Ord. 1994, ch. 94-24, § 1, 6-27-94)
Sec. 101. Establishment of zoning districts.
For the purpose of this ordinance, the city is divided into zoning districts designated and described as follows:


R-1 One-Family District: This zone is intended for low density residential areas comprising single-family detached structures located on lots with a minimum land area of six thousand (6,000) square feet.
R-2 Two-Family District: This zone is intended for low density residential areas comprising single-family and two-family detached structures located on lots with a minimum land area of five thousand (5,000) square feet.
R3 Three-Family District: This zone is intended for medium and low density residential areas comprised of structures containing single-family dwelling units, two-family dwelling units and three-family dwelling units located on lots with a minimum land area of five thousand (5,000) square feet and a minimum land area of two thousand (2,000) square feet per dwelling unit.
R-G General Residence District: This zone is intended for medium density residential areas comprised of structures containing single-family dwelling units, two-family dwelling units, three-family dwelling units and four (4) or more family dwelling units located on lots with a minimum land area of five thousand (5,000) square feet and a minimum land area of two thousand (2,000) square feet per dwelling unit.
R-M Multi-Family Dwelling District: This zone is intended for high density residential area comprised of structures containing single-family, two-family and three-family, and four (4) or more dwelling units located on lots with a minimum land area of five thousand (5,000) square feet and a minimum land area of one thousand two hundred (1,200) square feet per dwelling unit.
R-P Residential Professional District: This zone is intended to preserve and enhance the residential integrity of certain heavily travelled streets while permitting compatible professional uses. Compatible professional uses are those that will fit into the existing structure so as to preserve the residential character of the street, including its architecturally attractive and distinctive qualities; provide opportunities for people to live, work, and receive professional services in the same area; and improve public safety by encouraging both day and night time occupancy in the area.

101.2. Commercial Zoning Districts.

C-1 Limited Commercial District: This zone is intended for neighborhood commercial/residential areas that primarily serve local neighborhood needs for convenience retail, services and professional office establishments.
C-2 General Commercial District: This zone is intended for commercial areas that serve citywide needs for retail, services and professional office establishments.
C-3 Commercial: Reserved.
C-4 Heavy Commercial District: This zone is intended for commercial areas for a wide diversity of commercial uses that serve regional needs for retail, service, professional office and automotive establishments.
101.3. Downtown Zoning Districts.

D-1 Downtown: Central Business District: This zone is intended to encourage revitalization and restoration of the historic core business area and to accommodate appropriate expansion of the downtown area. A variety of business, financial, institutional, public, quasi-public, cultural, residential, and other related uses are encouraged in the downtown area. Compatible and appropriate mixed uses are encouraged to promote commercial, retail and other business activity at street levels; residential, retail, and office uses on the upper floors; and to preserve and foster the economic vitality of the downtown. See Downcity District Overlay Zone for additional regulations.

D-2 Downtown: Mill District: This zone is intended to foster expansion of the downtown uses into former manufacturing areas in which commercial, retail, residential, and office uses are being introduced. A variety of business, financial, institutional, public, quasi-public, cultural, residential, light manufacturing and other related uses are encouraged to provide the mix of activities necessary to accommodate the growth of Downtown Providence.

101.4. Industrial Zoning Districts.

M-1 Industrial District: This zone is intended for general industrial uses that accommodate a variety of manufacturing, assembly, storage of durable goods and related activities provided that they do not pose toxic, explosive or environmental hazard in the city; and to support live-work spaces only in those existing underutilized industrial and/or commercial structures that are included in article, V, section 501, Industrial and Commercial Individual Structure District.

M-2 Heavy Industrial District: This zone is intended to provide for areas for heavy industrial uses, especially for those uses that are potentially hazardous, noxious or incompatible with the uses in any other zone.

101.5. Waterfront Zoning Districts.

W-1 Waterfront: Commercial/Residential District: This zone is intended to promote primarily residential development while allowing limited commercial use as well as appropriately scaled mixed use developments; to promote waterfront access and uses which improve the integration of the waterfront and the neighborhoods adjacent to the waterfront.

W-2 Waterfront: Mixed Use District: This zone is intended to promote a balance among appropriately scaled residential, commercial and light industrial development; to enhance compatible development with adjacent areas and surrounding residential neighborhoods; to enhance and create public access to the waterfront as a public resource for the benefit of present and future generations; and, to provide a transition between the Port/Maritime Industrial uses and surrounding neighborhoods.

W-3 Waterfront: Port/Maritime Industrial District: This zone is intended to promote the Port of Providence and related maritime industrial and commercial uses within the areas of Providence’s waterfront; to protect the waterfront as a resource for water-dependent industrial uses; and to facilitate the renewed use of a vital waterfront.
Sec. 102. Zone group classification.

Whenever the terms R Zone, C Zone, D Zone, W Zone, M Zone and I Zone are used, they shall be deemed to refer to all zones containing the same letters in their names: e.g., C Zone shall include C-1, C-2, and C-4 Zones.

(Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 103. Official zoning map.

The official zoning map of the city shall consist of two (2) series of maps as follows:
(A) The boundaries of the R, C, D, M, W, RP, OS, and PS Zones are hereby established as shown on a series of maps in the office of the City Clerk entitled “Providence Zoning District Maps” dated April 26, 1991, adopted on October 24, 1991, and amended from time to time in accordance with Rhode Island General Law (RIGL) Title 45 Chapter 24, consisting of 129 separate maps numbered 1 to 129.
(B) The boundaries and regulating information where applicable, of the overlay zoning districts and floating districts, as defined, are hereby established as shown on a series of maps on file in the office of the City Clerk entitled “Providence Overlay Zoning District Maps,” dated April 26, 1991, adopted on October 24, 1991, and in accordance with Rhode Island General Laws (RIGL) Title 45 Chapter 24.

The “Providence Zoning District Maps” and the “Providence Overlay Zoning District Maps” constitute the official zoning map of the city and are hereby adopted and made part of this ordinance.

(Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 104. Zone boundaries.

Where uncertainty exists as to the boundaries of the zoning districts as shown on the official zoning map, the following rules shall apply:
(A) Zone boundaries are generally intended to follow lot lines.
(B) Zone boundaries, where indicated, are the center lines of streets, parkways, waterways, or railroad rights-of-way.
(C) Where the street layout on the ground varies from the layout as shown on the zoning map, the director shall interpret said map according to the reasonable intent of this ordinance.
(D) Where the zone boundary divides a lot so that the lot’s frontage is in a more restrictive zone or more than fifty (50) percent of its frontage is on a street in a more restrictive zone, the provisions of this ordinance covering the more restrictive portion of the lot shall be extended to the entire lot.
(E) Where the zone boundary divides a lot so that the frontage is in a less restrictive zone or at least fifty (50) percent of its frontage is on a street in a less restrictive zone, the provisions of this ordinance covering the less restrictive portion of such lot may be extended to the entire lot, but in no case for a distance of more than thirty (30) feet. Such extension shall be allowed only in a direction parallel to the street frontage. The remaining portion of the lot shall be developed in accordance with the requirements of the more restrictive zone and of this ordinance.

(Ord. 1994, ch. 94-24, § 1, 6-27-94)
### Section 305 – Dimensional Regulations – Commercial, Industrial and Institutional I-1 and I-2 Districts:

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<tr>
<th></th>
<th>C-1,2,4</th>
<th>M-1</th>
<th>M-2</th>
<th>I-1,2</th>
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<td><strong>Maximum Height</strong></td>
<td>45 feet</td>
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<td>Varies(^2)</td>
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<td></td>
<td>3 stories</td>
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<tr>
<td><strong>Minimum Lot Area</strong></td>
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<td><strong>Minimum Lot Area Per Dwelling Unit</strong></td>
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</table>

### 305.1 – Footnotes for Dimensional Regulations – Commercial, Industrial, Institutional Districts:

1. Maximum height cannot exceed maximum height of any R-Zone which is not overlaid by an Institution Floating Zone within 150 feet of the structure.
2. The allowable height for any building in an Institutional Floating Zone shall be a function of the distance between the proposed building and nearby residential zones. The allowable height for the entire building shall be determined in accordance with the most restrictive height calculated in accordance with the following requirements.

   a. Maximum height shall be 30 feet whenever any part of the institutional building is located on a street line and the property on the opposite side of the street is in an R-zone and shall increase by one foot for every one foot setback from said street line up to a maximum height of 75 feet/six stories.

   b. Maximum height shall be limited to 40 feet whenever any part of the institutional building is located within 30 feet from the property line of a lot in
an R-zone and shall increase by one foot for every additional one foot setback from said property line up to a maximum of 75 feet/six stories.

  c. In all other cases, building height shall not exceed 75 feet/six stories.
  d. Setback distance as outlined in a and b above are not required from lots in R-zones that are overlaid by an I-zone.

3. When a lot is used solely for residential purposes, the minimum lot area shall be 

3,000 sq. ft.

4. Where the block frontage is partly in an R-zone which is not overlaid by an 
Institutional Floating Zone, the front yard requirements of the R-zone shall apply.

5. Where the property on the opposite side of the street is in an R-zone which is not 
overlaid by an Institutional Floating Zone, the front yard requirements of the R-zone 
shall apply.

6. Where the lot abuts a lot in an R-zone which is not overlaid by an Institutional 
Floating Zone, there shall be a minimum yard of 30 feet.

7. Where the side yard of a lot abuts a lot in an R-zone which is not overlaid by an 
Institutional Floating Zone, there shall be a side yard of not less than four feet for 
each story of 12 feet in height, but such yard shall not be less than six feet.

8. Where the rear yard of a lot abuts a lot in an R-zone which is not overlaid by an 
Institutional Floating Zone, there shall be a rear yard of not less than 20% of the lot 
depth, maximum required need not exceed 20 feet.

9. Reserved

10. In the C-1 and C-2 zones, building lines at street level shall be coincident with the lot 
line without setback and main entrances shall be oriented to face the street. On a lot 
with curved lot frontage, the building may be built to the chord or the tangent,

whichever applies. Building fronts may incorporate articulations not to exceed two 
feet in depth. Such articulations shall not encompass more than 30% of the total 
building front. [Ord. 2003-29]
ARTICLE IV. SUPPLEMENTARY REGULATIONS

Sec. 400. Purpose.
   The purpose of supplementary regulations is to set specific conditions for various uses or areas, for dimensional criteria and to set standards for the granting of special exceptions.
   (Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 404. Accessory solar uses.
   An active or passive solar energy system which collects solar energy and provides heating, cooling, light or electricity to a building or end use, is permitted in all zones as an accessory structure. Such system may be located in any required side or rear yard, but shall not be located in any front yard nor exceed eight (8) feet in height. Solar systems erected on a roof shall comply with the requirements of section 412. In an historic district, solar energy systems and solar collectors shall require the approval of the historic district commission in accordance with Article V.
   (Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 406. Screening.

406.1. Screening of trash containers. All commercial, industrial and multifamily residential uses shall provide trash and/or garbage collection areas enclosed on at least three (3) sides by a solid wall, opaque fence or compact planting screen of at least five (5) feet in height if such area is not within an enclosed building or structure. Provisions for adequate vehicular access to and from such area(s) for collection of trash and/or garbage shall be required. Trash areas shall be limited to side or rear yards and must be located at least five (5) feet from any lot line.

406.2. Screening of utilities. Utility substations, telephone exchange substations, television, radio or satellite dish and similar uses shall be enclosed on at least three sides by a vegetative screen of hardy evergreens or shrubs at least three (3) feet high at time of planting and which shall be sufficient to provide a visual screen from adjacent R Zones.
   (Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 412. Roof structures.

412.1. Roof structures permitted above maximum height.
   (A) The following roof structures are permitted above the maximum height as specified in this ordinance, provided that the total area of all such appurtenances is not more than one-third of the total roof area of the building: structures for the housing of elevators and elevator shafts; stairways; fire or parapet walls; skylights; towers; steeples; chimneys; and fully enclosed mechanical equipment rooms.
   (B) The following roof structures are permitted above the maximum height as specified in this ordinance: heating and air-conditioning equipment, ventilating fans, solar collectors, storage tanks for water, television, radio or satellite dish, antennae or masts, or similar equipment required to operate and maintain a building. No such roof structure shall exceed the maximum height for the zone in which it is located, except by the amount allowed herein:
      (1) Buildings from one (1) to six (6) stories--Ten (10) feet.
      (2) Buildings exceeding six (6) stories--Ten (10) feet plus one (1) foot per story above the sixth story to a maximum total of twenty (20) feet.
   (C) If a roof structure exceeds one third of the total roof area, it shall be counted as a story and the building shall conform to the height restriction for the zone in which it is located.
412.2. Structures exempt from height restrictions.
Smokestacks and flag poles, whether or not they are attached to the main structure, are permitted above the
maximum height requirement for the zone in which they are located.

412.3. Roof structure setbacks and screening:
It is intended that permitted roof structures shall not be visible from street level, as provided below:
(A) For all buildings three (3) stories or more in height, all roof structures shall be setback from the edge of
the roof a minimum distance of one (1) foot for every two (2) feet by which the structures extend above
the roof.
(B) For all buildings less than three (3) stories in height and for any building where roof structures cannot meet
the setback requirement of 412.3(A), there shall be either a parapet wall to screen the roof structure, or the
roof structure shall be housed in solid building material which shall be architecturally integrated with the
building and which shall be counted as one (1) story.

Sec. 418. Corner setback.
In all zones except the D Zones, in the triangle formed by the street lines intersecting at an angle of less than
one hundred thirty-five (135) degrees and a line joining points on such lines fifteen (15) feet distant from their point
of intersection, no building or structures may be erected, no parking areas may be created and no vegetation may
be maintained between heights of three and one-half (3 1/2) feet and ten (10) feet above the plane through their curb
grades. Notwithstanding the provisions of this section, poles not exceeding eight (8) inches in outside diameter designed
for the support of lights and signs, may be erected in this triangle.

Sec. 420. Variances for maximum height.
420.1. Maximum height in R-1, R-2, R-3, R-G and R-P. The board, upon application for a variance, as provided in section
902.3, may increase the maximum height allowed in this ordinance to three (3) stories not to exceed forty (40) feet
provided that the use of building is in conformance with Article III.
420.2. Maximum height in R-M, C, I-1, I-2, and W-1 Zones. The board, upon application for a variance, as provided in sec
420.3. Maximum height in M, W-2, and W-3 Zones. The board, upon application for a variance, as provided in section 902.3,
may increase the maximum height allowed in this ordinance by ten (10) feet provided the use of the building is in conformance with Article III.
may increase the maximum height allowed in this ordinance by twenty (20) feet provided the use of the building is in conformance with Article III.
may increase the maximum height allowed in this ordinance by twenty-five (25) percent, but to no more than three hundred (300) feet, whichever is less, provided the use of the building is in conformance with Article III.
ARTICLE VII. PARKING AND LOADING

Sec. 700. Intent.
No land shall be used and no structure shall be erected or used unless off-street parking spaces as required in this ordinance are provided with either accessory use of principal use parking facilities, as applicable. Any structure or use existing prior to the effective date of this ordinance or any amendment thereto, with parking space that does not meet the requirements of this section shall be subject to the requirements of section 205. While it is the intent of this section to require minimum off-street parking facilities, excessive paving of land that provides significantly more than the minimum number of spaces is discouraged.  
(Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 701. Accessory parking.
Accessory parking required by this ordinance shall be located on the same or contiguous lot as the principal structure or use the parking is intended to serve. Parking required for use codes 3.0 (Cultural, Entertainment and Recreation Services) through 8.0 (Manufacturing) as listed in the Use Regulations in Article III, is permitted to extend not more than one hundred (100) feet into an adjacent R Zone.  
(Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 702. Parking as a permitted use.
Parking, as a use, may be located in zones where permitted by right or by special exception in accordance with the use regulations in Article III.  
(Ord. 1994, ch. 94-24, § 1, 6-27-94)

Sec. 703. Parking space requirements.
The following sections specify the minimum number of off-street parking spaces required for each use code as designated in the use regulations in Article III and Appendix A.

703.1. Parking requirements for D Zones. In D Zones, the requirements set forth in section 703.2 shall be reduced by fifty (50) percent, except for institutions that are required to file a master plan in accordance with section 2-256 of the City Code of Ordinances. Parking requirements for eating and drinking establishments in a D Zone shall be zero (0). See section 205.2 for parking requirements for a change of use in an existing building in a D Zone.

703.2. Parking requirements for all other zones. The following Table specifies the minimum number of off-street parking spaces required for each use. All parking facilities shall conform with the Rhode Island State Building Code with respect to number of spaces designated for handicapped persons. In determining parking requirements, all calculations shall be rounded up to the next whole number.

Table Inset: (Partial)

| 24.5 | Medical/Dental Office | 1 per 500 square feet GFA |
Sec. 705. Parking Standards; more than four vehicles.

Every parcel of land which, after the effective date of this ordinance or any amendment thereto, is developed as an accessory or principal use parking facility for more than four (4) vehicles, including automobile or trailer sales area, automotive service station or garage, shall be developed as provided herein, subject to the approval of plans thereof by the traffic engineer.

**705.1.** Minimum size of parking spaces. Parking areas for four (4) or more cars shall meet the following minimum dimensional requirements affecting the width and length of individual parking stalls and the width of aisles exclusive of necessary drives and other access ways:

<table>
<thead>
<tr>
<th>Table Inset:</th>
<th>Compact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car Type Standard</td>
<td></td>
</tr>
<tr>
<td>Minimum Width....................</td>
<td>8.5 ft.</td>
</tr>
<tr>
<td>Minimum Length...................</td>
<td>18 ft.</td>
</tr>
<tr>
<td>Minimum Aisle Width</td>
<td></td>
</tr>
<tr>
<td>90 degree angle..................</td>
<td>24 ft.</td>
</tr>
<tr>
<td>60 degree angle..................</td>
<td>16 ft.</td>
</tr>
<tr>
<td>45 degree angle..................</td>
<td>12 ft.</td>
</tr>
<tr>
<td>30 degree angle..................</td>
<td>11 ft.</td>
</tr>
<tr>
<td>0 degree (parallel).............</td>
<td>12 ft.</td>
</tr>
<tr>
<td></td>
<td>7.5 ft.</td>
</tr>
<tr>
<td></td>
<td>15 ft.</td>
</tr>
</tbody>
</table>

All parking facilities shall conform with the Rhode Island State Building Code with respect to the sizes of spaces for handicapped persons. In D Zones, if valet parking is supplied and approved by the director, aisles will not be required.

**705.2.** Striping. For parking areas of more than four (4) cars, each parking space shall be marked by pavement lines.

**705.3.** Entrance and exit. Each parking space shall be designed with adequate off-street area for approach, turning, and exit with minimal use of any part of a public right-of-way.

**705.4.** Paving. Parking areas, where subject to wheeled traffic, shall be treated with bituminous, concrete, or equivalent surfacing and shall have appropriate bumper or wheel guards where needed. In R Zones the requirements of section 704 shall also be met.

**705.5.** Lighting. Any light used to illuminate said parking area shall be so arranged as to reflect the light away from the adjoining premises in an R Zone and from adjoining streets.
RAZE BUILDING PERMITS

☐ Completed application
  Name & Signature of legal owner
  Recorded use (number of units, etc)

☐ Certificate of Liability insurance with Coinsurance—must say
  (City of Providence & its Employees, Agents and Servants)

☐ Performance bond

☐ Clear boarding plans

☐ Use of Public Funds Declaration

☐ Sewer stamp from DPW

☐ Environmental stamp from DPW

☐ Dig Safe file number (1-888-344-7233)

☐ Statement regarding absence or abatement of asbestos with Plan Number

☐ Statement regarding pest control

☐ Providence Water Supply Board

☐ New England Gas Company

☐ Narragansett Electric Company

☐ Verizon Telephone Company

☐ Cox Cable

☐ PHDC approval in historic district

☐ DRC CCC approval in downcity jurisdiction

*Special Note: If a property is in an overlay district a demolition permit cannot be issued. Owner must apply to the Zoning Board of Review.

Department of Inspection and Standards

MINIMUM REQUIREMENTS TO APPLY FOR MEDIUM TO LARGE COMMERCIAL (MIXED USE)

☐ Two sets of construction drawings to include plans, elevations, cross sections, structural drawings and site plan. For additions and new construction, the site plan must show setbacks and be prepared by a Rhode Island Professional Land Surveyor.

☐ Fire Prevention (233-6060 City) (254-9361) State and Telecommunications 343-6008, approvals of residential and non-residential to attraction, except on to three family dwellings.

☐ City Plan Commission approval of lot line alteration. 351-4300

☐ Traffic Engineer approval of parking area having more than four spaces. 351-4055

☐ Department of Public Works approval for new construction and additions. 467-7950

☐ State DOT, alterations in State ROW (Right of Way), change to traffic intensity. 222-2178 ext. 4820.

☐ Narragansett Bay Commission approval of flow change. 461-8848

☐ Providence Water Supply Board approval of new or increased service. 511-6500

☐ Historic District Commission approval of exterior work. 351-4300

☐ Unwonted Review Committee approval of exterior work. 351-4300

☐ DEM 221-4700 approval of construction within their respective wetland jurisdictions.

☐ State Health Department approval of construction pertaining to restaurants, bars, cafes and similar facilities. 222-2750

☐ Dig Safe # 1-888-DIG SAFE (1-888-344-7233)

☐ Project Certification from Architect and/or Engineer.

☐ Owner/Contractor responsibilities form.
<table>
<thead>
<tr>
<th>Occupancy</th>
<th>General Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A ASSEMBLY</td>
<td>Assembly uses include social, recreational, and civic gatherings of 51 or more persons. Assembly includes five subgroups:</td>
</tr>
<tr>
<td>A-1</td>
<td>This group includes theaters for the viewing of motion pictures, dramatic arts, and performances, usually with fixed seating.</td>
</tr>
<tr>
<td>A-2</td>
<td>This group includes food and drink establishments.</td>
</tr>
<tr>
<td>A-3</td>
<td>This group includes recreational, amusement, and worship uses not specifically falling under other Assembly groups, including, for example, galleries, auditoriums, churches, community halls, courtrooms, dance halls, gymnasiums, lecture halls, libraries, museums, passenger station waiting areas, and the like.</td>
</tr>
<tr>
<td>A-4</td>
<td>This group includes indoor sports arenas with spectator seating.</td>
</tr>
<tr>
<td>A-5</td>
<td>This group includes outdoor sports arenas.</td>
</tr>
<tr>
<td>B BUSINESS</td>
<td>Business uses include office, professional, and service activities, and storage of related records and accounts. Business use also includes education facilities past the 12th grade, but does not include retail or wholesale sales, which are classified as Group M, Mercantile.</td>
</tr>
<tr>
<td>C EDUCATIONAL</td>
<td>Educational uses include schools for grades K through 18 and day care for children older than 2 1/2 years of age, with 5 or more occupants. Day care for no more than 100 children 2 1/2 years of age or less may also be classified as an Educational use when each day care room is located on the level of exit discharge and has an exit door opening directly to the exterior. For day care facilities with 5 or fewer occupants, use Group R-3, Residential. For educational uses above the 12th grade, use Group B, Business.</td>
</tr>
<tr>
<td>D FACTORY</td>
<td>Factory uses include manufacturing and industrial processes, except those considered highly hazardous, which are classified as Group H, Hazardous. Factory use has two subgroups:</td>
</tr>
<tr>
<td>D-1</td>
<td>This group includes moderate-hazard manufacturing processes and materials, such as those involving aircraft, appliances, automobiles, machinery, electronics, plastics, printing, and woodworking.</td>
</tr>
<tr>
<td>D-2</td>
<td>This group includes low-hazard manufacturing processes and materials, such as those involving nonalcoholic beverages, brick and masonry, ceramics, glass, gypsum, tin, and metal fabrication.</td>
</tr>
<tr>
<td>E HAZARDOUS</td>
<td>Hazardous uses include manufacturing, processing, and storage of materials with a high potential for health or physical safety hazard. Hazardous use classifications are specific and detailed about the amounts and types of exposure, flammable, corrosive, or toxic materials involved. If you are considering design of such a facility, you should consult the building code from the very outset of the project to verify requirements.</td>
</tr>
</tbody>
</table>
I INSTITUTIONAL

Institutional uses include facilities where occupants cannot fully care for themselves, including residential care, day care, assisted living, health care, and correctional facilities. Institutional uses are divided into four subgroups:

I-1: This group includes 24-hour residential care facilities for 17 or more occupants, in which occupants are capable of responding to an emergency without physical assistance from facility staff. A facility such as this with 5 or fewer occupants may be classified as Group R-3, Residential, or, with between 8 and 16 occupants, Group R-4.

I-2: This group includes 24-hour medical, psychiatric, and custodial care facilities with 6 or more occupants, in which occupants are not capable of self-preservation in an emergency. A facility such as this with 5 or fewer occupants may be classified as Group R-3, Residential. Group I-2 also includes 24-hour care for 6 or more infants 1% years of age or less.

I-3: This group includes facilities whose occupants are under restraint or security, including prisons, correctional centers, and the like.

I-4: This group includes custodial care on less than a 24-hour basis for 6 or more occupants of any age. Facilities with 5 or fewer occupants may be classified as Group R-3, Residential. Day care for children younger than 2/3 years of age may also be categorized as Group R-2, Educational. In some cases, day care for up to 100 children 2% years of age or less may also be classified as Group E. See Group E in this table for more information.

M MERCANTILE

Mercantile uses include the display and sale of retail and wholesale merchandise and associated stocking of such goods,

R RESIDENTIAL

Residential uses include facilities where people live and sleep when not in a supervised setting that would be classified as an institutional use. Residential uses are subdivided into four subgroups:

R-1: This group includes all residential facilities where the occupants are primarily transient, including hotels, motels, and the like.

R-2: This group includes primarily permanent residential occupancies that contain three or more dwelling units, such as apartment houses, dormitories, fraternity, sorority, and the like.

R-3: This group includes one- and two-family residential occupancies. It also includes adult or child care facilities for 6 or fewer persons.

R-4: This group includes residential care or assisted living facilities for between 6 and 18 occupants.

S STORAGE

This group includes storage not classified as H, Hazardous, and is divided into two subgroups:

S-1: This group includes storage of moderate-hazard items such as books and papers, furniture, grain, lumber, tires, and other materials, as well as motor vehicle repair facilities.

S-2: This group includes parking garages and the storage of goods considered low hazard and nonflammable.

II UTILITY

Utility uses include agricultural buildings and other miscellaneous uses such as aircraft hangars, barns, carpenters, private garages, greenhouses, livestock shelters, retaining walls, sheds, stables, tanks, towers, and the like.
<table>
<thead>
<tr>
<th>Building Use</th>
<th>Occupancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural buildings, barns; livestock shelters</td>
<td>II</td>
</tr>
<tr>
<td>Aircraft hangars</td>
<td>B-1</td>
</tr>
<tr>
<td>Aircraft hangars, accessory to one- or two-family residences</td>
<td>U</td>
</tr>
<tr>
<td>Airport traffic control towers</td>
<td>B</td>
</tr>
<tr>
<td>Alcohol and drug centers, 24-hour, 17 or more persons</td>
<td>I-2</td>
</tr>
<tr>
<td>Amusement arcades</td>
<td>A-3</td>
</tr>
<tr>
<td>Amusement park structures</td>
<td>A-3</td>
</tr>
<tr>
<td>Animal hospitals, kennels, pounds</td>
<td>B</td>
</tr>
<tr>
<td>Apartment houses</td>
<td>R-2</td>
</tr>
<tr>
<td>Art galleries</td>
<td>A-3</td>
</tr>
<tr>
<td>Assisted living, 17 or more persons</td>
<td>I-1</td>
</tr>
<tr>
<td>Assisted living, 3 or fewer persons</td>
<td>R-3</td>
</tr>
<tr>
<td>Assisted living, between 6 and 16 persons</td>
<td>R-4</td>
</tr>
<tr>
<td>Auditoriums</td>
<td>A-3</td>
</tr>
<tr>
<td>Banks</td>
<td>B</td>
</tr>
<tr>
<td>Banquet halls</td>
<td>A-3</td>
</tr>
<tr>
<td>Barber and beauty shops</td>
<td>B</td>
</tr>
<tr>
<td>Barns</td>
<td>R</td>
</tr>
<tr>
<td>Beaches, dunes</td>
<td>A-5</td>
</tr>
<tr>
<td>Boarding houses, not transient</td>
<td>R-2</td>
</tr>
<tr>
<td>Boarding houses, transient</td>
<td>R-1</td>
</tr>
<tr>
<td>Bowling alleys</td>
<td>A-3</td>
</tr>
<tr>
<td>Car washes</td>
<td>B</td>
</tr>
<tr>
<td>Carports</td>
<td>I</td>
</tr>
<tr>
<td>Child care, 5 or fewer children, any age</td>
<td>B-3</td>
</tr>
<tr>
<td>Child care, places of worship during religious functions typically</td>
<td>Included with primary use, usually B</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Building Use</th>
<th>Occupancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child care, 6 or more children</td>
<td>1-4, or E with certain occupant number and express restrictions, 1-2</td>
</tr>
<tr>
<td>Childcare, 6 or more children, 2½ years of age, or less, less than 24-hour</td>
<td>1-2</td>
</tr>
<tr>
<td>Childcare, 6 or more children, 2½ years of age, or less, 24-hour</td>
<td>E or 1-4</td>
</tr>
<tr>
<td>Churches</td>
<td>A-3</td>
</tr>
<tr>
<td>Civic administration</td>
<td>b</td>
</tr>
<tr>
<td>Clinic-outpatient</td>
<td>H</td>
</tr>
<tr>
<td>Community halls</td>
<td>A-3</td>
</tr>
<tr>
<td>Congregate care facilities, 24-hour, 17 or more persons</td>
<td>I-1</td>
</tr>
<tr>
<td>Convalescent facilities, 24-hour, 17 or more persons</td>
<td>I-1</td>
</tr>
<tr>
<td>Courts</td>
<td>R-3</td>
</tr>
<tr>
<td>Correctional centers</td>
<td>R-3</td>
</tr>
<tr>
<td>Courtrooms</td>
<td>A-3</td>
</tr>
<tr>
<td>Dance halls</td>
<td>A-3</td>
</tr>
<tr>
<td>Day care, 5 or fewer adults of any age, less than 24-hour (for children, see Child care)</td>
<td>R-3</td>
</tr>
<tr>
<td>Day care, 6 or more adults of any age, less than 24-hour (for children, see Child care)</td>
<td>R-3</td>
</tr>
<tr>
<td>Department stores</td>
<td>M</td>
</tr>
<tr>
<td>Detention centers</td>
<td>I-3</td>
</tr>
<tr>
<td>Detoxification facilities, 24-hour</td>
<td>I-2</td>
</tr>
<tr>
<td>Drug store</td>
<td>M</td>
</tr>
<tr>
<td>Dry cleaning and laundries</td>
<td>B</td>
</tr>
<tr>
<td>Educational occupancies above the 12th grade</td>
<td>B</td>
</tr>
<tr>
<td>Educational occupancies E through 12</td>
<td>E</td>
</tr>
<tr>
<td>Occupancy Group</td>
<td>Group</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------</td>
</tr>
<tr>
<td>Electronic data processing</td>
<td>B</td>
</tr>
<tr>
<td>Exhibition halls</td>
<td>A-3</td>
</tr>
<tr>
<td>Factories</td>
<td>F-3 or F-2.</td>
</tr>
<tr>
<td>Houses, more than 6 ft (2 m) high</td>
<td>O</td>
</tr>
<tr>
<td>Police stations</td>
<td>B</td>
</tr>
<tr>
<td>Fraternities, sororities</td>
<td>A-3</td>
</tr>
<tr>
<td>Funeral parlor</td>
<td>A-3</td>
</tr>
<tr>
<td>Grandstands, outdoors</td>
<td>A-5</td>
</tr>
<tr>
<td>Greenhouses</td>
<td>O</td>
</tr>
<tr>
<td>Group home, 17 or more persons</td>
<td>I-1</td>
</tr>
<tr>
<td>Gymnasiums</td>
<td>A-3</td>
</tr>
<tr>
<td>Halfway houses, 17 or more persons</td>
<td>I-1</td>
</tr>
<tr>
<td>Hazardous materials processing and storage</td>
<td>H-1 through H-8; consult the code for more information</td>
</tr>
<tr>
<td>Hospitals</td>
<td>I-2</td>
</tr>
<tr>
<td>Hotels</td>
<td>I-3</td>
</tr>
<tr>
<td>jails</td>
<td>I-3</td>
</tr>
<tr>
<td>Laboratories, testing and research</td>
<td>B</td>
</tr>
<tr>
<td>Lecture halls</td>
<td>A-3</td>
</tr>
<tr>
<td>Libraries</td>
<td>A-3</td>
</tr>
<tr>
<td>Markets</td>
<td>M</td>
</tr>
<tr>
<td>Medical care, 24-hour, with 5 or fewer persons</td>
<td>R-3</td>
</tr>
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<td>Medical care, 24-hour, with 6 or more persons</td>
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<td>Motor vehicle service stations</td>
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<td>Motor vehicles showrooms</td>
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<td>Nursing homes</td>
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<td>Parking garages, open or closed</td>
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<tr>
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<tr>
<td>Pool and billiard halls</td>
<td>A-3</td>
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<tr>
<td>Post offices</td>
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<td>Prisons</td>
<td>I-3</td>
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<td>Professional service</td>
<td>B</td>
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<tr>
<td>Radio and television stations, without audience facilities</td>
<td>B</td>
</tr>
<tr>
<td>Radio and television studios, admitting an audience</td>
<td>A-1</td>
</tr>
<tr>
<td>Reformatories</td>
<td>I-3</td>
</tr>
<tr>
<td>Rehabilitation facilities, 12 or more persons, 24-hour</td>
<td>R-1</td>
</tr>
<tr>
<td>Residences, single or two-family</td>
<td>R-3</td>
</tr>
<tr>
<td>Residential care, 17 or more persons, 24-hour</td>
<td>R-1</td>
</tr>
<tr>
<td>Residential care, between 6 and 16 persons, 24-hour</td>
<td>R-3</td>
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<tr>
<td>Residential care, 5 or fewer persons, 24-hour</td>
<td>R-3</td>
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<tr>
<td>Restaurants</td>
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<td>Retail or wholesale stores</td>
<td>M</td>
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<tr>
<td>Retaining walls</td>
<td>U</td>
</tr>
<tr>
<td>Salad rooms</td>
<td>M</td>
</tr>
<tr>
<td>Sheds</td>
<td>U</td>
</tr>
<tr>
<td>Skating rinks, with spectator seating, indoor</td>
<td>A-4</td>
</tr>
<tr>
<td>Sports arenas, indoor</td>
<td>A-4</td>
</tr>
<tr>
<td>Stadiums, outdoor</td>
<td>A-5</td>
</tr>
<tr>
<td>Storage</td>
<td>S-1 or S-2, depending on hazard</td>
</tr>
<tr>
<td>Swimming pools, indoor, with spectator seating</td>
<td>A-4</td>
</tr>
<tr>
<td>Swimming pools, indoor, without spectator seating</td>
<td>A-4</td>
</tr>
<tr>
<td>Tanks</td>
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<tr>
<td>Taverns and bars</td>
<td>A-1</td>
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<tr>
<td>Telephone exchanges</td>
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</tr>
<tr>
<td>Tennis courts, indoor, with spectator seating</td>
<td>A-4</td>
</tr>
<tr>
<td>Tennis courts, indoor, without spectator seating</td>
<td>A-4</td>
</tr>
<tr>
<td>Theaters</td>
<td>A-1</td>
</tr>
<tr>
<td>Towers</td>
<td>U</td>
</tr>
</tbody>
</table>
SECTION 1004
OCCUPANT LOAD

1004.1 Design occupant load. In determining means of egress requirements, the number of occupants for whom means of egress facilities shall be provided shall be determined in accordance with this section. Where occupants from accessory areas egress through a primary space, the calculated occupant load for the primary space shall include the total occupant load of the primary space plus the number of occupants egressing through it from the accessory area.

1004.1.1 Areas without fixed seating. The number of occupants shall be computed at the rate of one occupant per unit of area as prescribed in Table 1004.1.1. For areas without fixed seating, the occupant load shall not be less than that number determined by dividing the floor area under consideration by the occupant per unit of area factor assigned to the occupancy as set forth in Table 1004.1.1. Where an intended use is not listed in Table 1004.1.1, the building official shall establish a use based on a listed use that most nearly resembles the intended use.

Exception: Where approved by the building official, the actual number of occupants for whom each occupied space, floor or building is designed, although less than those determined by calculation, shall be permitted to be used in the determination of the design occupant load.

1004.2 Increased occupant load. The occupant load permitted in any building, or portion thereof, is permitted to be increased from that number established for the occupancies in Table 1004.1.1, provided that all other requirements of the code are also met based on such modified number and the occupant load does not exceed one occupant per 7 square feet (0.65 m²) of occupiable floor space. Where required by the building official, an approved aisle, seating or fixed equipment diagram substantiating any increase in occupant load shall be submitted. Where required by the building official, such diagram shall be posted.

1004.3 Posting of occupant load. Every room or space that is an assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place, near the main exit or exit access doorway from the room or space. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or authorized agent.

1004.4 Exiting from multiple levels. Where exits serve more than one floor, only the occupant load of each floor considered individually shall be used in computing the required capacity of the exits at that floor, provided that the exit capacity shall not decrease in the direction of egress travel.

1004.5 Egress convergence. Where means of egress from floors above and below converge at an intermediate level, the capacity of the means of egress from the point of convergence shall not be less than the sum of the two floors.

1004.6 Mezzanine levels. The occupant load of a mezzanine level with egress onto a room or area below shall be added to that room or area’s occupant load, and the capacity of the exits shall be designed for the total occupant load thus established.

1004.7 Fixed seating. For areas having fixed seats and aisles, the occupant load shall be determined by the number of fixed seats installed therein. The occupant load for areas in which fixed seating is not installed, such as waiting spaces and wheelchair spaces, shall be determined in accordance with Section 1004.1.1 and added to the number of fixed seats.

For areas having fixed seating without dividing arms, the occupant load shall not be less than the number of seats based on one person for each 18 inches (457 mm) of seating length. The occupant load of seating booths shall be based on one person for each 24 inches (610 mm) of booth seat length measured at the backrest of the seating booth.
| TABLE 1004.1.1 |
| MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT |

<table>
<thead>
<tr>
<th>FUNCTION OF SPACE</th>
<th>FLOOR AREA IN SQ. FT. PER OCCUPANT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessory storage areas, mechanical equipment room</td>
<td>300 gross</td>
</tr>
<tr>
<td>Agricultural building</td>
<td>300 gross</td>
</tr>
<tr>
<td>Aircraft hangars</td>
<td>500 gross</td>
</tr>
<tr>
<td>Airport terminal</td>
<td></td>
</tr>
<tr>
<td>Baggage claim</td>
<td>20 gross</td>
</tr>
<tr>
<td>Baggage handling</td>
<td>300 gross</td>
</tr>
<tr>
<td>Concourse</td>
<td>100 gross</td>
</tr>
<tr>
<td>Waiting areas</td>
<td>15 gross</td>
</tr>
<tr>
<td>Assembly</td>
<td></td>
</tr>
<tr>
<td>Gaming floors (keno, slots, etc.)</td>
<td>11 gross</td>
</tr>
<tr>
<td>Assembly with fixed seats</td>
<td>See Section 1004.7</td>
</tr>
<tr>
<td>Assembly without fixed seats</td>
<td></td>
</tr>
<tr>
<td>Concentrated (chairs only—not fixed)</td>
<td>7 net</td>
</tr>
<tr>
<td>Standing space</td>
<td>5 net</td>
</tr>
<tr>
<td>Unconcentrated (tables and chairs)</td>
<td>15 net</td>
</tr>
<tr>
<td>Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas</td>
<td>7 net</td>
</tr>
<tr>
<td>Business areas</td>
<td>100 gross</td>
</tr>
<tr>
<td>Courtrooms—other than fixed seating areas</td>
<td>40 net</td>
</tr>
<tr>
<td>Day care</td>
<td>35 net</td>
</tr>
<tr>
<td>Dormitories</td>
<td>50 gross</td>
</tr>
<tr>
<td>Educational</td>
<td></td>
</tr>
<tr>
<td>Classroom area</td>
<td>20 net</td>
</tr>
<tr>
<td>Shops and other vocational room areas</td>
<td>50 net</td>
</tr>
</tbody>
</table>

| Exercise rooms | 50 gross |
| H-3 Fabrication and manufacturing areas | 200 gross |
| Industrial areas | 100 gross |
| Institutional areas |
| Inpatient treatment areas | 240 gross |
| Outpatient areas | 100 gross |
| Sleeping areas | 120 gross |
| Kitchens, commercial | 200 gross |
| Library |
| Reading rooms | 50 net |
| Stack area | 100 gross |
| Locker rooms | 50 gross |
| Mercantile |
| Areas on other floors | 60 gross |
| Basement and grade floor areas | 30 gross |
| Storage, stock, shipping areas | 300 gross |
| Parking garages | 200 gross |
| Residential | 200 gross |
| Skating rinks, swimming pools |
| Rink and pool | 50 gross |
| Decks | 15 gross |
| Stages and platforms | 15 net |
| Warehouses | 500 gross |

For SI: 1 square foot = 0.0929 m².
1004.8 Outdoor areas. Yards, patios, courts and similar outdoor areas accessible to and usable by the building occupants shall be provided with means of egress as required by this chapter. The occupant load of such outdoor areas shall be assigned by the building official in accordance with the anticipated use. Where outdoor areas are to be used by persons in addition to the occupants of the building, and the path of egress travel from the outdoor areas passes through the building, means of egress requirements for the building shall be based on the sum of the occupant loads of the building plus the outdoor areas.

Exceptions:

1. Outdoor areas used exclusively for service of the building shall have one means of egress.

2. Both outdoor areas associated with Group R-3 and individual dwelling units of Group R-2.

1004.9 Multiple occupancies. Where a building contains two or more occupancies, the means of egress requirements shall apply to each portion of the building based on the occupancy of that space. Where two or more occupancies utilize portions of the same means of egress system, those egress components shall meet the more stringent requirements of all occupancies that are served.

SECTION 1005
EGRESS WIDTH

1005.1 Minimum required egress width. The means of egress width shall not be less than required by this section. The total width of means of egress in inches (mm) shall not be less than the total occupant load served by the means of egress multiplied by the factors in Table 1005.1 and not less than specified elsewhere in this code. Multiple means of egress shall be sized such that the loss of any one means of egress shall not reduce the available capacity to less than 50 percent of the required capacity. The maximum capacity required from any story of a building shall be maintained to the termination of the means of egress.

Exception: Means of egress complying with Section 1025.

SECTION 1006
MEANS OF EGRESS ILLUMINATION

1006.1 Illumination required. The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied.

Exceptions:

1. Occupancies in Group U.
2. Aisle accessways in Group A.
3. Dwelling units and sleeping units in Groups R-1, R-2 and R-3.
4. Sleeping units of Group I occupancies.
1006.2 Illumination level. The means of egress illumination level shall not be less than 1 foot-candle (11 lux) at the walking surface level.

**Exception:** For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface level is permitted to be reduced during performances to not less than 0.2 foot-candle (2.15 lux), provided that the required illumination is automatically restored upon activation of a premises' fire alarm system where such system is provided.

1006.3 Illumination emergency power. The power supply for means of egress illumination shall normally be provided by the premises' electrical supply.

In the event of power supply failure, an emergency electrical system shall automatically illuminate the following areas:

1. Aisles and unenclosed egress stairways in rooms and spaces that require two or more means of egress.
2. Corridors, exit enclosures and exit passageways in buildings required to have two or more exits.
3. Exterior egress components at other than the level of exit discharge until exit discharge is accomplished for buildings required to have two or more exits.
4. Interior exit discharge elements, as permitted in Section 1024.1, in buildings required to have two or more exits.
5. Exterior landings, as required by Section 1008.1.5, for exit discharge doorways in buildings required to have two or more exits.

The emergency power system shall provide power for a duration of not less than 90 minutes and shall consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 2702.

1006.4 Performance of system. Emergency lighting facilities shall be arranged to provide initial illumination that is at least an average of 1 foot-candle (11 lux) and a minimum at any point of 0.1 foot-candle (1 lux) measured along the path of egress at floor level. Illumination levels shall be permitted to decline to 0.6 foot-candle (6 lux) average and a minimum at any point of 0.06 foot-candle (0.6 lux) at the end of the emergency lighting time duration. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded.

**SECTION 1007**

**ACCESSIBLE MEANS OF EGRESS**

1007.1 Accessible means of egress required. Accessible means of egress shall comply with this section. Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress is required by Section 1015.1 or 1019.1 from any accessible space, each accessible portion of the space shall be served by not less than two accessible means of egress.

**Exceptions:**

1. Accessible means of egress are not required in alterations to existing buildings.
2. One accessible means of egress is required from an accessible mezzanine level in accordance with Section 1007.3, 1007.4 or 1007.5.
3. In assembly spaces with sloped floors, one accessible means of egress is required from a space where the common path of travel of the accessible route for access to the wheelchair spaces meets the requirements in Section 1025.8.

1007.2 Continuity and components. Each required accessible means of egress shall be continuous to a public way and shall consist of one or more of the following components:

1. Accessible routes complying with Section 1104.
2. Stairways within vertical exit enclosures complying with Sections 1007.3 and 1020.
3. Exterior exit stairways complying with Sections 1007.3 and 1023.
4. Elevators complying with Section 1007.4.
5. Platform lifts complying with Section 1007.5.
6. Horizontal exits complying with Section 1021.
7. Ramps complying with Section 1010.
8. Areas of refuge complying with Section 1007.6.
Exceptions:

1. Where the exit discharge is not accessible, an exterior area for assisted rescue must be provided in accordance with Section 1007.8.

2. Where the exit stairway is open to the exterior, the accessible means of egress shall include either an area of refuge in accordance with Section 1007.6 or an exterior area for assisted rescue in accordance with Section 1007.8.

1007.2.1 Elevators required. In buildings where a required accessible floor is four or more stories above or below a level of exit discharge, at least one required accessible means of egress shall be an elevator complying with Section 1007.4.

Exceptions:

1. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a horizontal exit and located at or above the level of exit discharge.

2. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a ramp conforming to the provisions of Section 1010.

1007.3 Exit stairways. In order to be considered part of an accessible means of egress, an exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Unenclosed exit stairways as permitted by Section 1020.1 are permitted to be considered part of an accessible means of egress.

2. The area of refuge is not required at unenclosed exit stairways as permitted by Section 1020.1 in buildings or facilities that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

3. The clear width of 48 inches (1219 mm) between handrails is not required at exit stairways in buildings or facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

4. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.

5. Areas of refuge are not required at exit stairways serving open parking garages.

1007.4 Elevators. In order to be considered part of an accessible means of egress, an elevator shall comply with the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1. Standby power shall be provided in accordance with Sections 2702 and 3003. The elevator shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exception: Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages.

1007.5 Platform lifts. Platform (wheelchair) lifts shall not serve as part of an accessible means of egress, except where allowed as part of a required accessible route in Section 1109.7, Items 1 through 9. Standby power shall be provided in accordance with Section 2702.2.6 for platform lifts permitted to serve as part of a means of egress.

1007.5.1 Openness. Platform lifts on an accessible means of egress shall not be installed in a fully enclosed or fire-rated shaft.
1007.6 Areas of refuge. Every required area of refuge shall be accessible from the space it serves by an accessible means of egress. The maximum travel distance from any accessible space to an area of refuge shall not exceed the travel distance permitted for the occupancy in accordance with Section 1016.1. Every required area of refuge shall have direct access to an enclosed stairway complying with Sections 1007.3 and 1020.1 or an elevator complying with Section 1007.4. Where an elevator lobby is used as an area of refuge, the shaft and lobby shall comply with Section 1020.1.7 for smokeproof enclosures except where the elevators are in an area of refuge formed by a horizontal exit or smoke barrier.

1007.6.1 Size. Each area of refuge shall be sized to accommodate one wheelchair space of 30 inches by 48 inches (762 mm by 1219 mm) for each 200 occupants or portion thereof, based on the occupant load of the area of refuge and areas served by the area of refuge. Such wheelchair spaces shall not reduce the required means of egress width. Access to any of the required wheelchair spaces in an area of refuge shall not be obstructed by more than one adjoining wheelchair space.

1007.6.2 Separation. Each area of refuge shall be separated from the remainder of the story by a smoke barrier complying with Section 709 or a horizontal exit complying with Section 1021. Each area of refuge shall be designed to minimize the intrusion of smoke.

Exception: Areas of refuge located within a vertical exit enclosure.

1007.6.3 Two-way communication. Areas of refuge shall be provided with a two-way communication system between the area of refuge and a central control point. If the central control point is not constantly attended, the area of refuge shall also have controlled access to a public telephone system. Location of the central control point shall be approved by the fire department. The two-way communication system shall include both audible and visible signals.

1007.6.4 Instructions. In areas of refuge that have a two-way emergency communications system, instructions on the use of the area under emergency conditions shall be posted adjoining the communications system. The instructions shall include all of the following:

1. Directions to find other means of egress.
2. Persons able to use the exit stairway do so as soon as possible, unless they are assisting others.
3. Information on planned availability of assistance in the use of stairs or supervised operation of elevators and how to summon such assistance.
4. Directions for use of the emergency communications system.

1007.6.5 Identification. Each door providing access to an area of refuge from an adjacent floor area shall be identified by a sign complying with ICC A117.1, stating: AREA OF REFUGE, and including the International Symbol of Accessibility. Where exit sign illumination is required by Section 1011.2, the area of refuge sign shall be illuminated. Additionally, tactile signage complying with ICC A117.1 shall be located at each door to an area of refuge.

1007.7 Signage. At exits and elevators serving a required accessible space but not providing an approved accessible means of egress, signage shall be installed indicating the location of accessible means of egress.

1007.8 Exterior area for assisted rescue. The exterior area for assisted rescue must be open to the outside air and meet the requirements of Section 1007.6.1. Separation walls shall comply with the requirements of Section 704 for exterior walls. Where walls or openings are between the area for assisted rescue and the interior of the building, the building exterior walls within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening shall have a fire-resistance rating of not less than 1 hour. Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than 30 minutes. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the floor level of the area for assisted rescue or to the roof line, whichever is lower.
1007.8.1 Openness. The exterior area for assisted rescue shall be at least 50 percent open, and the open area above the guards shall be so distributed as to minimize the accumulation of smoke or toxic gases.

1007.8.2 Exterior exit stairway. Exterior exit stairways that are part of the means of egress for the exterior area for assisted rescue shall provide a clear width of 48 inches (1219 mm) between handrails.

1007.8.3 Identification. Exterior areas for assisted rescue shall have identification as required for area of refuge that complies with Section 1007.6.5.
Egress Components

Building Codes
**The Exit Access**

- **Exterior Corridors**
- **Dead-End Corridors**
The Exit Access

Maximum Travel Distance

Doors

Building Codes

The Exit Access
Direct Exits

Exit Stairways

The Exit Access
Smokeproof Enclosures

Exit Passageways
Regulatory

The Exit Discharge

Building Codes

Passageway Exit

Vestibule Exit
The authors have compiled a handy manual with general ‘Rules of Thumb for Preliminary Design” with charts and graphs to help determine sizes, types of equipment, and components of design. This book was used primarily for egress components and exit access.

Construction techniques and methods illustrated in this book was and will continue to be helpful for questions concerning what materials can be used, what they are comprised of, and how they are assembled.

This book was used for the historical chapters of this document and was beneficial in understanding the growth and development of surrounding neighborhoods.

This book was also used for the historical chapter and some of the included images.

All information relating to the Internation Building Code was obtained from this publication. It also helped with the understanding of occupant loads, egress design, fixed seating, elevators, etc.

This resource summarized many projects from around the word that had bioclimatic concerns at the forefront. The Building Research Establishment (BRE) was a great precedent study focusing on interior climate control and how to minimize the impact on the ecology.

A step by step guide describing how to incorporate a holistic feeling into architectural projects designed and completed in the Middle East. This book was very informative in explaining “parts to a whole” concept where a dialogue exists between program and environment, materials and use as well as the importance of visual links to the site and beyond.
Bibliography (cont.):

Architectural Graphics Standards was used for technical information regarding ramped parking structures and and other important useful data.

A book predominantly written about spiritual projects based on religious beliefs, this book helped with unique ideas relating to creating a particular feeling within a specific space.

What type of building skin best suits the project can be found in this book. For this document, it was used as a reference manual for different ideas and how to utilize them.

Everything you always wanted to know about modern solar design and how to apply the techniques. The projects depicted within this book varied from across the world from housing to complex projects.

Another book used for construction techniques and ideas relating to steel.

This book will be used in conjunction with the Studio Manual with reference to sizing and determining mechanical and electrical systems. It was also used for egress requirements.

Although this book was mainly about designing building for sport and recreation, I found it helpful for material selections and how texture can add essence to a space.
Bibliography (cont.):

Websites

AWS Truewind, Albany, NY.
http://awstruewind.com
This site was used to generate wind maps and speeds for the Providence area.

City of Providence Department of Planning and Development.
http://www.providenceplanning.org
A comprehensive website offering many directories of data for Providence, Rhode Island. For this
document, the site was used for demographic information, Upper South Providence neighborhood
information, statistical information and links to other useful websites.

Municode.com.
http://www.municode.com
Used to obtain City of Providence Code of Ordinances.

University of Oregon Solar Radiation Monitoring Laboratory.
http://solardat.uoregon.edu
This website was used for solar charting in the Providence area.

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Department of Inspections and Standards. City of Providence.

References