

REPRESENTING CREATORS OF

# Project COMPELLING PLACES & EXPERIENCES Development Guidelines

**Digital Edition** 

# TE A

# **TEA's PROJECT DEVELOPMENT GUIDELINES**

for Experience Design, Themed Entertainment and Related Industries, 3rd (Digital) Edition

#### HOW TO USE THIS GUIDE

#### **Using Interactive Links**

This Guide has been developed to be used primarily as an on-screen, digital publication in PDF format, with a number of interactive and linking features available through the use of Adobe Reader<sup>TM</sup> and Adobe Acrobat<sup>TM</sup> and other PDF viewer software. In general, the cursor will convert to a small hand with pointing finger icon when a link to another page is available. By clicking on text indicated by the small pointing hand icon, you will move to the indicated section within this document. Bookmarks are also available for use at left of screen.

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#### **Printing The Project Development Guidelines**

With the exception of Appendix A - TEA's Project Process Development Chart, all pages in this document have been set for easy printing using standard 8.5 inch x 11 inch paper with margins set to allow for three hole punching. Best results will be obtained by printing the entire book (with the exception of the noted chart) using the two-sided printing option. As the Chart contains a large amount of detail, it is best printed on 11 inch x 17 inch or larger paper. This document may be printed in black ink only, but best results occur when printing in full color.

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# CONTENTS

TEA Standards Development Mission Statement Introduction to the 3rd Edition Acknowledgments/Contributors	i-5 i-5 i-7
<ol> <li>Delivering The Project         <ol> <li>Defining the Project</li> <li>Major Issues to Consider</li> <li>Sequencing of Project activities</li> <li>Contracting Methods</li> <li>Project Organization</li> </ol> </li> </ol>	1-1 1-2 1-3
1.3 Project Delivery Methods	1-7
<ul> <li>2. Project Development Categories &amp; Disciplines</li> <li>2.1 The Seven Project Development Categories Chart of Project Categories &amp; Disciplines</li> <li>2.2 Project Categories &amp; Disciplines Explained <ol> <li>Project Development</li> <li>Project Management</li> <li>Creative Design &amp; Development</li> <li>Venue Design &amp; Development</li> <li>Attraction Design &amp; Production</li> <li>Construction</li> <li>Operations</li> </ol> </li> </ul>	2-1 2-1 2-2 2-4 2-4 2-6 2-8 2-9 2-13 2-18 2-19
3. The Project Development Process Phase I - The Project Program Phase II - The Design Process Phase III - The Implementation Process Phase IV - The Opening	3-1 3-2 3-3 3-4 3-5
<ul> <li>4. Integration Of Project Phases &amp; Disciplines <ul> <li>4.1 Understanding the Bar Graphs, Lists &amp; Flow Charts</li> <li>Phase I - The Project Program <ul> <li>Project Initiation</li> <li>Project Development Planning</li> <li>Master Plan &amp; Concept Design</li> </ul> </li> </ul></li></ul>	4-1 4-2 4-4 4-6
Phase II - The Design Process 4. Schematic Design 5. Design Development 6. Construction/Fabrication Documents Phase III - The Implementation Process 7. Construction/Development	4-8 4-10 4-12
7. Construction/Production/Fabrication 8. Show & Ride Installation Phase IV - The Opening 9. Pre-Opening; Cycling; Training 10. Grand Opening 11. Project Close-out	4-14 4-16 4-18 4-20 4-22

# CONTENTS

5. Standards, Specifications & Codes	5-1
The Enduring Nature of Standards	5-1
5.1 Definitions of Common Standards Terms	5-2
5.2 Codes & Standards for Experience/Entertainment Systems	5-3
5.2 The Evolution of Industry Standards	5 1
5.5 The Evolution of Industry Standards	5-4
5.4 Standards & Codes Commonly Used in the	
Experience design and themed entertainment industries	5-6
5.5 Accessing Industry Standards & Resources on the Internet	5-8
6. Documentation, Forms & Checklists	6.1
6.1 Documentation	6-1
Work Process Documentation Procedures	6-1
Typical Articles of Work Process Documentation	6-2
The Work Process Matrix	6-3
6.2 The REO & REP	6-4
6.2 Checklists	0-4
0.5 Checklists	6 25
Area Davalarment Cheaklist	6 20
Area Development Checklist	0-29
6.4 Forms	0-32
Change Orders	6-33
Acceptance/Certificate of Client Approval	6-35
7. Risk Management	7-1
7.1 What is Risk?	7-1
7.2 What is the Significance of Insurance?	7-2
7.3 Bonds & Bonding	7-5
7.4 Good Housekeeping Tips for Business	7-6
7.1 Good Housekeeping Tips for Dusiness	10
8. Legal Matters & Contracts	8-1
8.1 Contracts	8-1
8.2 Sample Contracts	8-3
9. A Glossary Of Experience Design and Themed Entertainment Industry Terms	9-1
Appendix A - The TEA's Project Development Process Poster	
Appandix P Datailed Process Flow Charts	
Appendix B – Detaned Flocess Flow Charts	
Appendix C – Sample Consultant Contract	
Appendix D – Sample Show Producer Contract	
Appendix E – Sample Producer/Fabricator Contract	





# TEA STANDARDS DEVELOPMENT MISSION STATEMENT

The primary goal of the TEA Standards Development effort is to explore and create programs that guide TEA members, and those who develop projects for our industry, in the delivery of successful projects. By better understanding the entire project development process, and by establishing a standard set of guidelines for the Experience Design and Themed Entertainment Industries, TEA members can improve the way they work together as a team, and broaden their client's understanding of our industry's creative and production processes and possibilities.

# INTRODUCTION to the 3<sup>rd</sup> (Digital) EDITION

In principle, the development of an experience design and/or themed entertainment project is similar to other types of architectural or construction projects. However, an educational, experiential or entertainment project has some significant differences and special nuances that place an added focus on many of the steps employed in traditional project development.

Experience design and themed entertainment project development can be compared to making a movie. It involves the same process of conceptualizing and it provides a total experience for a targeted audience. The experience, or the "story," to be created may be environmental, immersive, passive or interactive, entertaining, educational, or any combination of the above. As with any project, a diverse team of experienced talents and resources are required that share the same understanding and the same ultimate goal of the project.

The TEA, as an international alliance of vendors, clients and creative talent, is committed to advancing excellence in the development of successful experience design and themed entertainment projects. Altruistically, we wish to provide a legacy of high quality, innovative projects that exceed the goals of developer clients and enrich the lives of the audiences that experience our work. Realistically, we seek to continuously push the envelope for the exhibit, attractions and experiences we produce. The audience always wants to experience something more. This situation generates the need for developers and operators to be both competitive and innovative. The entire development process then in turn creates new project opportunities for the members of our association. Ultimately, the success of our projects is critical to the continued advancement of the experience design and themed entertainment Industry.

Originally, the TEA Standards Development Committee was charged with creating a publication that could be used as a guideline for TEA Members as well as for those who develop experience design and themed entertainment projects. In this 3<sup>rd</sup> edition, the contents of that initial project have been updated and converted to digital format to allow for a wider and more diverse distribution of the project guidelines in the hopes of encouraging project excellence worldwide. It has been our experience that the best results in developing and producing a successful project always come from an organized and logical approach to project development. With that premise in mind, the TEA's PDG (Project Development Guidelines), 3rd Edition (Digital), offers the following for your consideration:

#### **Chapter 1 - Delivering the Project:**

Each project has a variety of ways it can be sequenced, organized, designed, contracted, and executed through the application of Budget, Schedule and Quality topics.



#### **Chapter 2 - Project Categories & Disciplines**

Participants and resources, termed "Disciplines," are identified and organized into seven main "Categories." Few projects employ all of the disciplines and some resources fulfill more than one discipline function.

#### **Chapter 3 - The Project Development Process**

Identifying the 4 major phases contained in project development:

- 1. Project Programming
- 2. Design
- 3. Implementation
- 4. Operations.

#### **Chapter 4 - Integration Of Project Phases & Disciplines**

The integration of the resources in Chapter 2, with stages of development in Chapter 3, illustrate:

- 1) The key issues or milestones at each stage
- 2) Who the main participants are in each stage
- 3) What deliverables or results are required in that stage.

#### Chapter 5 - Standards, Specifications & Codes

An overview of, and reference to, some of the many possible international standards, specifications, and codes that may apply to an experience design and/or themed entertainment project.

#### **Chapter 6 - Work Documentation, Forms & Checklists**

Forms, checklists and guidelines that are necessary during the production of an experience design and/or themed entertainment project.

#### **Chapter 7 - Risk Management**

Information on good housekeeping tips and an explanation of the insurance and bonding that is necessary during the production of an experience design and/or themed entertainment project.

#### **Chapter 8 - Legal Matters & Contracts**

Legal issues requiring attention in project contracting and in the execution of responsibilities. Samples of contracts used in experience design and/or themed entertainment projects.

#### **Chapter 9 - Glossary Of Terms**

Common, and not so common, terms used in the experience design and themed entertainment Industry.

- Appendix A The TEA's Project Development Process Poster
- Appendix B Detailed Process Flow Charts
- Appendix C Sample Consultant Contract
- Appendix D Sample Show Producer Contract
- Appendix E Sample Producer/Fabricator Contract

# ACKNOWLEDGMENTS

In developing the original PDG, volunteer members of the TEA Standards Development Committee attended countless meetings, wrote and rewrote untold numbers of pages, poured over reams of standards documentation, and wrestled with a variety of issues that led to the publication of the 2nd Edition of the Project Development Guidelines Book. In converting to digital format for the 3<sup>rd</sup> Edition, knowledgeable volunteers were recruited to review the existing document, re-examine the document's relevance to our evolving industry, update critical areas of the PDG, and expand its usefulness within a global industry.

Many thanks and our grateful acknowledgment must go to all those TEA member volunteers who have contributed to the PDG's evolution over the past twelve years and contributed invaluable time, brilliant ideas and consistent efforts in the creation, assembly, and production of these guidelines.

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# CHAPTER ONE DELIVERING THE PROJECT

#### **INTRODUCTION**

The ultimate goal of an experience design and/or themed entertainment project is to provide the guest with a compelling experience. At the same time the project must also meet the business objectives of the project investors. For the developer of a project, achieving that kind of impact puts a premium on newness and originality. Therefore each project endeavors to be, in some special way, unique and unlike anything that has been done before. The challenge, for those engaged by the project developer in making the project a reality, is to determine how to create a compelling and distinctive experience, and to achieve it in a responsible manner. **Project Development Guidelines** Introduction

- 1 Delivering The Project
  - 1.1 Defining the Project
  - 1.2 Major Issues to Consider
  - 1.3 Project Delivery Methods
- 2 Categories & Disciplines
- **3 Project Process**
- 4 Phases & Disciplines
- 5 Standards, Specs & Codes
- 6 Documentation & Checklists
- 7 Risk Management
- 8 Legal Matters & Contracts
- 9 Glossary of Industry Terms
- Appendix A TEA's Project Chart
- Appendix B Flow Charts

While every project involves a certain aspect of the unknown, it is still possible to draw upon the experience of previous projects. It is also true that not every project can be approached in exactly the same way. Different projects require different strategies. It is important for the project team to consider alternative strategies early on, and then come to an agreement on how their project will proceed. These strategies must then be clearly communicated to everyone who is part of the project team.

To evaluate the different strategies that are possible for project delivery, the team must first agree on a definition of the project. Next, the team must evaluate the critical project management issues. With all of this as background, the project team can then select the optimal approach from several of the typical project delivery methods available





#### **1.1 DEFINING THE PROJECT - Three Basic Parameters**

Edward Bennett Williams, when he was President of the Washington Redskins, once remarked about his coach, George Allen: "We agreed we had an unlimited budget. He's already exceeded it."

As you might imagine, this is the kind of circumstance a project's Owner/Developer seeks to avoid. It's a given fact that no experience design and/or themed entertainment project has unlimited resources. All projects must proceed within a financially responsible envelope. That envelope is defined by three basic parameters, only one of which is money.



#### • <u>Scope</u>

In the context of a project, scope concerns itself with both the product of the effort and the degree of its extent. Defining the proposed scope goes beyond merely describing a project, its venue, and functionality. It also includes the important considerations of quality and scale. Scale defines the magnitude of the individual elements that are to be programmed into the project. Quality requirements influence the materials to be used and the level of craftsmanship sought for construction and production. Projects can vary greatly in how the scope of work is defined. Some projects have very clearly defined scopes even before the initiation of production. Other projects however, often challenged to deliver prototype show systems or cutting-edge entertainment, begin production with a more conceptual scope, relying on the expertise of the project's fabricators and other vendors.

#### • <u>Schedule</u>

Every project seeks to establish a timely schedule. The substantial capital investments create pressure to begin revenue generation as soon as possible. Some may face a completion deadline related to a rigidly scheduled event (for example, the Olympics, a World's Fair, an anniversary celebration, etc.). These requirements determine how flexible the project schedule can be, and whether extraordinary steps must be taken to accelerate the project's schedule.

#### • <u>Budget</u>

The project budget is the target for a project's final cost. It may be divided into several discrete budget components that reflect the different entities which are engaged to produce the project. Other financial considerations that must be weighed include: cash-flow needs; warranted capital investment; general requirements; pre-operational budget requirements; contractual arrangements; and the financial resources that are at the disposal of the Owner/Developer.



The three parameters must exist in a delicate balance and are not mutually exclusive. The project team must agree that the given scope can be achieved, within the proposed schedule and the allocated budget.

Getting to that point early in the life of a project is not an easy task. The Budget, Scope and Schedule elements are always interrelated and are usually weighted by the Owner/Developer's requirements, preferences and priorities.

#### **1.2 MAJOR ISSUES TO CONSIDER**

The following are the major considerations in regard to project delivery, each with a different set of options:

#### THE SEQUENCING OF PROJECT ACTIVITIES

How are the project's design activities sequenced in relation to fabrication, manufacturing, or production and construction?

#### <u>Linear:</u>

In Linear Sequencing the project design activity fully precedes the project's fabrication, manufacturing or production and construction. The Owner/Developer sets the project goals and uses design services to produce extensive documentation about the project. Using these documents, a contracting entity is then selected based on such factors as experience and price.

#### <u>Parallel:</u>

In Parallel Sequencing some aspects of the project's design activities may overlap and may also be concurrent with fabrication, manufacturing, or production and construction.

#### Fast Track:

In Fast Track Sequencing some stages of fabrication, manufacturing, or production and construction precede the completion of the design work. This method is used primarily when time is a critical factor in the project's program.

#### **CONTRACTING METHODS**

What type of contracting method does the Owner/Developer sign with the contracting entity?

#### Fixed Price ("Lump Sum"):

Fixed Price establishes a lump sum fixed price for the project. This is usually the result of a competitive bidding situation. The contracting entity's financial books are closed to any review.

#### Time & Material ("Cost Plus"):

This method is typically used where it is difficult to bid or estimate a project, where the required work is based on the lack of a complete scope of work, or on an accelerated schedule. Direct rates, and the mark-ups for overhead, material handling and profit are negotiated



beforehand. The contracting entity often estimates a "Not-To-Exceed" amount that cannot be exceeded without prior approval of the Owner/Developer.

#### Guaranteed Maximum Price (GMP):

This method sets a cap on the total cost of the project and anything not documented as an expense. The contracting entity's books are open for review and audit by the Owner/Developer. Fees are paid similar to a Time & Material contract, except there is a firm, fixed price that cannot be increased without further negotiation. If the project's actual costs are less than the GMP, the monies are returned to the Owner/Developer. Typically though, a profit sharing distribution is negotiated so the contracting entity has an incentive to bring the total cost of the project in under budget.

#### Fixed Fee:

Similar to Time & Materials, however, instead of a set percentage for overhead and profit, a fixed dollar amount is set, regardless of changes to the budget or schedule (unless it is also negotiated to reflect such changes).

#### **PROJECT ORGANIZATION**

Who controls or administrates the project?

#### **Owner/Developer:**

The Owner/Developer maintains the project development responsibility, directing all efforts and contracting directly with those who provide services and products.



Fig. 1.2

#### Project Manager or Construction Manager as the Owner's Representative:

This option provides counsel to the Owner/Developer, and acts as his representative in dealing with those who provide project services and products. The contracting relationship still remains between the Owner/Developer and the contracting entity.



#### **Project Manager or Construction Manager as Agent:**

This option allows the Project Manager or Construction Manager to act for, and commit for the Owner/Developer.



Fig. 1.4



#### Project Manager or Construction Manager at Risk:

This option provides direct oversight and control of all activities in dealing directly with those who provide products and services. The contracting relationship is directly between the Project Manager or Construction Manager and the contracting entity.



#### Design/Build:

This option combines the design and production responsibilities as a single functional entity.



Fig. 1.6



# 1.3 PROJECT DELIVERY METHODS

### ISSUES

Each delivery method reflects a separate set of assumptions for sequencing, contracting, and project organization. Before selecting the most appropriate method for a particular client and project, it is important to answer some key questions:

- Is there a clear definition of what is to be built?
- Will this definition change as the process of design moves forward?
- Does the owner have staff members who are capable, experienced, and able to participate fully during the entire project development process?
- Is there a realistic schedule for completion of the project?
- Can the design team be provided with enough time to examine alternatives, propose solutions, and produce the appropriate level of production and construction documentation that's needed for the project?

Answers to these questions will assist in choosing the most appropriate delivery alternative that is best suited to each owner's and each project's unique characteristics.

# ALTERNATIVES

### <u>Design/Bid/Build</u>

This method involves a linear sequence of steps beginning with: the development of a project program; selection of architects and designers; preparation of designs and drawings; bidding to a pre-qualified group of general contractors; selection of the contractor; and ultimately the production and construction of the project. In design/bid/build each party functions independently of the others. The designer proposes the design, the contractors offer to build the project for a specific price, and the Owner/Developer accepts or rejects the proposals and bids.

### Design/Negotiate/Build

This is a fast track sequencing method in which the project is awarded to the contractor on a negotiated basis, rather than a competitive bid basis. This method allows for the contractor to provide design phase services to help balance time, cost, and scope factors that are associated with the project. The contractor then oversees the entire production and construction process. This method is more of a "team" arrangement than the design/bid/build method.

### <u>Design/Build</u>

This is an expedited method in which one entity assumes full responsibility for the entire sequence of design and production and construction. This entity is either an integrated firm, or a team consisting of a designer and a contractor, typically led by the contractor. Under this approach, the owner does not usually have the same degree of control over the design under other delivery methods where the architect and designer are contracted directly by the client.

### Design/Build -- Bridging

In this two phase process, known as "bridging", the owner hires a design team to produce schematics, or to produce schematics and a partial design development. The owner then uses these documents to solicit proposals from Design/Build entities that combine a builder and a new designer. The selected entity becomes responsible for elaborating the initial design as well as production and construction.






# **CHAPTER TWO PROJECT DEVELOPMENT CATEGORIES & DISCIPLINES**

# **INTRODUCTION**

The various project disciplines employed in the Project Development Process are described here in very broad and general terms. Each project's needs may differ in the degree of participation required by the project disciplines determined as necessary for that particular project. Individual projects may therefore require an even more detailed description of the necessary project disciplines to accurately portray the project's demands.

## 2.1 THE SEVEN PROJECT PROGRAM DISCIPLINE CATEGORIES

The successful development of a project program requires the participation and cooperation of a multitude Project Development Guidelines Introduction

- 1 Delivering The Project
- 2 Categories & Disciplines
  - 2.1 Seven Categories
  - 2.2 Categories & Disciplines
- 3 The Project Development Process
- 4 Phases & Disciplines
- 5 Standards, Specs & Codes
- 6 Documentation & Checklists
- 7 Risk Management
- 8 Legal Matters & Contracts
- 9 Glossary of Industry Terms
- Appendix A TEA's Project Chart
- Appendix B Flow Charts

categories as follows:
1. PROJECT DEVELOPMENT
2. PROJECT MANAGEMENT
3. CREATIVE DEVELOPMENT
4. VENUE DESIGN & DEVELOPMENT
5. ATTRACTION DESIGN & PRODUCTION
6. CONSTRUCTION

of distinct project disciplines. The project disciplines can be organized under seven major

# 7. OPERATIONS

Numerous disciplines are represented within each of the seven Project Development Categories. Describing the project development process for every possible discipline can be cumbersome and redundant. The seven Project Development Categories are a useful tool in simplifying the discussion, especially when explaining or diagramming the work-flow relationships involved in Project Development.



Different projects will call upon different disciplines, and not every discipline will be relevant to every project. The following list offers a hierarchy of disciplines, organized into the seven categories. It can be used for easy reference and as a checklist when determining which disciplines are most appropriate for a particular project.

#### **1. PROJECT DEVELOPMENT**

- 1.1 Owner's Representative
- 1.2 Strategic Planning
  - Economic Planning; Market and
- Feasibility Analysis
  - Financial Planning and Analysis
  - Marketing
  - Master Planning
  - Land-Use Planning
  - Sponsorship/Participant Affairs
  - 1.3 Legal Affairs
    - Government Relations
    - Project Legal
  - 1.4 Project Funding

#### **2. PROJECT MANAGEMENT**

- 2.1 Project Management & Coordination
  - Project Management
  - Project Coordination
  - Risk Management
- 2.2 Project Administration
  - Project Finance
  - Contract Administration
- 2.3 Project Controls
  - Estimating
  - Planning and Scheduling
  - Project Scope Documentation

#### 3. CREATIVE DESIGN & DEVELOP-MENT

- 3.1 Producing
- 3.2 Directing
- 3.3 Writing
- 3.4 Design

#### 4. VENUE DESIGN & DEVELOPMENT

- 4.1 Area Development
  - Civil Systems
    - Landscape Architecture
    - Landscape Engineering
- 4.2 Facility Development
  - Architecture
  - Architectural Design
  - Interior Architecture
  - Acoustical/Audio Design
  - Architectural Lighting
  - Graphics Design
  - Kitchen Design & Food Service
  - Retail Store Planning
  - Facility Engineering
  - Civil Engineering
  - Structural Engineering
  - Mechanical Engineering
  - Electrical Engineering
  - Communications Engineering

#### 5. ATTRACTION DESIGN & PRODUCTION

- 5.1. Show Design
  - Set Design
  - Lighting Design
  - Sound Design
  - Costume Design
  - Graphic Design
  - Character Design
  - Choreography & Stunts
  - Technical Direction
  - Technical Writing
- 5.2 Show Production
  - Art Direction
  - Exhibitry
  - Sets/Scenery
  - Scenic Painting/Murals
  - Rockwork
  - Artificial Foliage
  - Show Props & Dressings
  - Graphics & Signage
  - Sculpture
  - Animation (Animated/Non-Animated Figures; Animated Props)
  - Special Effects (Fire, Fog, Lighting/ Optical, Mechanical, Projection, Water Features & Effects)
  - Interactive Systems (Hardware)
  - Rigging & Theatrical Stage Equipment
  - Lighting Systems
  - Audio/Video Systems
  - Projection Systems (Non- Effects)
  - Projection Systems Engineering
  - Show Control Systems
  - Technical Systems
- 5.3 Show Mechanical Systems
  - Robotics & Animatronics
  - Show Action Equipment
  - Ride Systems (Ride Control, Ride Engineering, Ride Fabrication)
- 5.4 Media
  - Film/Video/Audio/Multi-Media Production
  - Interactive Software
- 5.5 Live Entertainment Production
- 5.6 Recreational Equipment
  - Arcade/Game Devices
  - Play Structures/Playground Equipment

#### 6. CONSTRUCTION

- 6.1. General Contractor
- 6.2. Construction Manager (At Risk)
- 6.3. Construction Manager (As Representative or Agent)
- 6.4. Design/Builder
- 6.5. Specialty Contractor

#### 7. OPERATIONS

- 7.1 General Operations
  - Attractions/Entertainment
  - Guest Services
  - Wardrobe
  - Custodial
  - Maintenance
  - Security
  - Administration
- 7.2 Food & Beverage
- 7.3 Retail/Merchandise
- 7.4 Marketing
- 7.5 Mgt. Information Systems (MIS)

# 2.2 PROJECT CATEGORIES & DISCIPLINES EXPLAINED

It is important to understand that the term 'discipline' as used here does not necessarily describe a contractual relationship to a project, but rather a project need. An example of this would be that while project may need a 'lighting design,' it may not always require the hiring of a dedicated 'lighting designer' to fulfill that aspect of the project.

#### **1. PROJECT DEVELOPMENT**

The development process contains the vision, or the concept of the Project, and is employed to determine the overall Project goals. The function of Project Development is to provide original analysis that will:

- a) Determine the feasibility and market acceptance of the project (which then provides the project's design direction, guidelines, limitations, and requirements).
- b) Provide financial analysis needed to determine the project budget requirements.
- c) Secure approvals, permits and licenses necessary to develop the project as intended.
- d) Secure the physical space for the project to be developed.
- e) Provide for the development funding required to reach a master plan and to design develop the project.
- f) Provide capital funding to construct and to produce the project.
- g) Provide operating capital necessary to cover pre-opening and working capital for the first year of operation.
- h) Market and secure corporate or other sponsorship participation in the project.

#### **1.1 Owner's Representative**

The Owner's Representative provides general counseling to the Project Developer in understanding and directing the entire project development process. The Owner's Representative can also be responsible for: creating the project development plan; identifying and sourcing the resources required to produce the project; and act in place of the Project Developer when given the proper authority.

#### **1.2 Strategic Planning**

Strategic Planning consists of the efforts and resources that are necessary to analyze all the financial and market elements that are needed to design and program a successful project. The result of these efforts typically leads to such products as: a Market and Feasibility Analysis; a Business Plan; and the Project Development Plan. The resources for Strategic Planning include the following:

#### Economic Planning, Market and Feasibility Analysis

This discipline studies the existing and potential markets for compatibility with the established goals of the project, with the purpose of determining the viability and potential of the project. It also identifies issues (such as land use restrictions, existing or planned competition, capacity requirements, seasonality, visitation patterns and potential, etc.), that result in the project's overall design guidelines, requirements, and considerations.

#### Financial Planning and Analysis

A study of the factors that can affect the capital and operating issues of the project which results in the development of a capital budget and operating performance proformas. This financial analysis determines such issues as: investment rate of return; project pay back; warranted investment, etc.



#### Marketing

The development of an overall Marketing Plan is based on the input and requirements that are iden- tified in the Feasibility Study and Market Analysis. The actual implementation of a marketing effort is a function of the Operations effort. Initially, marketing considerations will consist of: the development of a Preview Center; Sponsorship Program development; Project Identity Program; and Public and Community Relations.

#### Master Planning

Master Planning forms a target scope that includes the nature, theme, size, financial parameters and schedule milestones for the project. This results in the creation of the planning and development strategies that will be used to establish the Project Program.

#### Land Use Planning

Thorough surveying and identification/analysis of all physical and environmental features of the proposed site provide the basis for an environmentally responsive Land Use Plan. Land Use Planning initially creates documentation for site layout, zoning and permitting purposes (including preparing and submitting environmental impact reports). Public hearing strategies are then developed and exercised to gain approvals at the local, regional and national levels.

#### Sponsorship/Participant Affairs

This discipline implements the area of the Marketing Plan that seeks to involve sponsors or participants in the project. Typically sponsorship is sought from corporations or from other entities that recognize the benefits of having their company name associated with and promoted in conjunction with the Project.

#### 1.3 Legal Affairs

Legal Affairs conducts all legal aspects that relate to the Project and typically entail:

#### **Government Relations**

Legal secures the support or the permission that will be necessary to develop the type of project that is being envisioned. Zoning, Conditional Use Permits or Variances are all typical issues that must be resolved before a project can go into development.

#### **Project Legal**

This aspect covers issues involved in setting up the proper legal operating entity for the project and ensuring the correct operating licenses and permits are applied for and received. Project Legal also handles the negotiations and securing of valuable licensing rights of intellectual properties (such as copyrights, trademarks, patents, etc.).

#### 1.4 Project Funding

This aspect of the project development process relates to dealing with investors, banks, donors, or other entities that will provide the capital development funds.

#### 2. PROJECT MANAGEMENT

Project Management is the discipline responsible for orchestrating and managing the project effort to ensure that it meets its program goals. Project Management's basic responsibility is to balance (or to juggle) budgets, schedules and quality issues that will ensure that the Project's goals are met. This category creates the entire project organization including: administration and the planning of resources; project budgets; cost controls; project schedules and the work breakdown structure; and the writing of the project's scope of work and the design and production contracts. Project Management then uses these tools to manage and to track the entire project from beginning to end.

#### 2.1 Project Management & Coordination

#### **Project Management**

Project Management orchestrates the project team to meet the project's goals. The Project Manager usually directs the project development process and has primary responsibility for the scope, bud-get, and schedule of the project. This position is usually the "keeper of the project program." Development of the work breakdown structure, scopes of work, and change order management are also the responsibility of Project Management.

#### **Project Coordination**

Project Coordination has primary responsibility for successful field installationcoordinating the work of contractors and ensuring timely delivery of materials and pre-fabricated elements. The groundwork is laid from the beginning of the project. Throughout the design period, the Coordinator makes sure that all project disciplines are working with current information and that all project quantification lists are updated as needed. This discipline also tracks production, fabrication, storage, and delivery of all owner-furnished items. The Coordinator is expected to be vigilant about catching loose ends.

#### **Risk Management**

It is the responsibility of Risk Management to ensure compliance with the contractual requirements of the project contractors and vendors, once the project's insurance is in place. Risk Management also monitors the project environment to ensure the project is being safely implemented.

#### 2.2 Project Administration

#### **Project Finance**

Project Finance develops and documents the master project budget, updating it periodically to reflect current commitments, costs to date, and budget variances. This discipline is also responsible for budgeting, forecasting, and cash-flow analysis.

#### **Contract Administration**

Contract Administration is primarily responsible for the development of vendor qualifications; the sourcing of resources; the writing and negotiating of project contracts with design and production consultants; and ensuring that all contractual obligations



are met. This discipline also develops the RFP's and any other important documentation that has legal implications. In addition to admin-istration of the project contracts, this discipline handles the legal affairs of the Owner/Developer as they relate to all corporate matters of the project.

#### **2.3 Project Controls**

#### Estimating

Project Estimating is responsible for developing an estimate of probable costs at the end of each design phase of the development process. The estimate will include all project costs and is developed using the project documentation that is produced during each phase of development. Project Estimating develops the overall cost estimates during the planning and development of the project and addresses all project discipline areas and estimating requirements of the project.

#### **Project Planning and Scheduling**

Project Planning & Scheduling is responsible for creating the project master schedule and updating it on a routine basis to reflect progress versus the original plan. Strategic planning of resource usage and the productivity of resources are also determined and documented by this discipline.

#### **Project Scope Documentation**

Project Scope documents define the parameters of the project, focusing on its physical elements and their context. The scope writer collects information from the various disciplines represented on the project team and distills it into a unified document. The process assists the team in achieving a common buy-in to a single version of the project. This can be particularly important in the early stages of the project, when other deliverables are less than fully developed. The Project Scope document becomes the project team's statement of their intentions. It can be used to accompany presentations, submitted for approvals, or re-purposed for bid documents, marketing language, or internal communication. As the project progresses, the scope writer periodically updates the successive iterations of the scope document to reflect the current status of the project's development.



TEA's Project Development Guidelines Categories & Disciplines

#### 3. CREATIVE DESIGN & DEVELOPMENT

The primary task of the Creative Design and Development team is to conceptualize, define, and develop a compelling guest experience within the guidelines established by the Project Program.

#### 3.1 Producing

The Producer's task is to realize the overall attraction objectives within the established scope, budget, and schedule parameters. The Producer oversees the work of the creative and technical teams and typically reports to Project Management.

#### **3.2 Directing**

The Director's task is to interpret and manifest the creative vision of an attraction within established project parameters. The Director leads the creative effort and works with the technical director to implement the creative design. The director typically reports to the Producer.

#### 3.3 Writing

Script Writers translate the creative concepts and designs into stories that define the intended guest experience for the attraction or show. Writers typically report to the Producer and Director during development of initial treatments and script drafts. These written descriptions, along with visualizations, enable the attraction team and project management to understand and review the project designs.

#### 3.4 Design

The Design Team conceptualizes and defines the creative intent of the project programs. Illustrations are used to interpret the overall look and feel of the design and provide a visual tool to review and evaluate the creative intent of the attraction. Models and maquettes are used to express the layout and relationship of components of an attraction, providing a threedimensional visual tool to review and evaluate the design concepts.



#### 4. VENUE DESIGN & DEVELOPMENT

Venue Design & Development involves the planning, and design of the structures and associated utilities that will enclose and support the show and ride installations. Facilities are the underlying "fabric" of the Experience design and themed entertainment experience. Much of the facility infrastructure is invisible to the attraction visitor. The successful functioning and integration of the venue design with all the entertainment elements are critical to the overall experience the guest will experience. Facility Development begins immediately after the master idea plan has been finalized. It is important that the facilities and "back of house" be closely coordinated with the Attraction Design and Production. Failure to coordinate thoroughly during the design stage will result in costly redesign, rework, and delays during the construction and installation phase.

#### 4.1 Area Development

Area Development is a term that applies to project areas that are not part of, attached to, or within an architectural facility. Major items that are usually included in this category are: landscaping, hardscaping, rockwork, planters, waterfalls, lakes, ponds, man-made streams, decorative walls and fences, statuary, decorative lighting, area sound systems, and shade structures. Area Development must coordinate with all facility related infrastructure needs. Whether previously developed land or raw virgin land, Area Development begins with careful site and environmental analysis, demolition, clearing, grubbing, grading, backfill and stabilization and other earthwork activities. Additionally, all drainage, road and access-ways, dams and canals, area sewer systems, and main utility systems are designed and engineered. The following are the disciplines involved:

#### Civil Systems

Civil Engineers are responsible for investigating and analyzing the site. Based on geotechnical services such as borings, test pits, lab analysis, etc., a "soils report" is then published which forms the basis of design for all buildings, paving, excavation, and utilities that are in contact with the earth. Site Surveying includes aerial photogrammetry, and ground level surveying. The aerial surveys are used as a basis for topographic design, site grading, and layout of all major infrastructure systems. Ground level surveying is used for construction staking and layout work. Site Civil Engineering must be completed as a basis for site grading, drainage, roads, and the "infrastructure systems" defined below.

#### Landscape Architecture

Landscape Architecture is responsible for the design, specification, and/or coordination of all physical elements of the project that are not attached to, or contained within, a facility. Based on the Land Use Plan, Landscape Architecture proceeds in conjunction with the Master Concept Plan. Selection of appropriate landscape features and elements follows the guidelines contained in the Land Use Plan. Landscape Architecture designs the overall landscaping and individual areas and refines them as the show or ride and facility design proceeds. This may include roadway and access roads, pedestrian walkways, drainage, curbing, benches, and other hardscape elements, as well as the softscape items such as the plants and trees.



#### Landscape Engineering

The design disciplines required for definition of the physical elements of Area Development are primarily the same as those for Facility Design (i.e., mechanical; electrical; structural, etc.) and maintain the same functions.

#### **4.2 Facility Development**

A Facility can generically be described as an architectural enclosure. Attached or placed within or upon the architectural enclosure are all physical elements of the venue that are not included in Area Development. This would include allowances for containment of utilities, attachment and interface with attraction and ride equipment, as well as the design of all non-attraction areas such as guest services, retail, and food service. Other key areas to be considered during Facility Design and Development include the following:

#### ARCHITECTURE

#### Architectural Design

Architectural Design scope includes: building code assessment and compliance; the Americans With Disabilities Act (ADA is a federal law establishing disabled access as a civil right); the structural and exterior design of the buildings; and other enclosures housing both the show/ride attractions and the ancillary support and concession facilities. Creative designs and specifications for the facilities and site development of the entire project are included in the architectural design. Model work and design standards are developed for use by the design consultants in associated areas. Building systems and materials are evaluated and decided upon. Establishment of a workable interface with all engineering and show disciplines is critical to the project's architectural design.

#### **Interior Architecture**

Interior Architecture scope includes the interior thematic elements, material, finish and color selection and coordination (exclusive of show/ride installation). Interior design must be integrated, and closely coordinated, with both architectural design and show/ride design.

#### Acoustical Design/Audio Design

Acoustical Design scope includes analysis of architectural spaces, materials, vibration, and exterior noise levels, and development of design approaches to achieve desired acoustical qualities within the facilities. Acoustical design evaluates architectural drawings and determines solutions to facility acoustical problems. Acoustical design will also prepare submittals for governmental/ regulatory agency reviews and will consult for show mechanical equipment isolation (for example, pumps, projectors, etc.).

#### Architectural Lighting

Architectural Lighting designs and specifies the facility and project site lighting including: all exteriors, interiors, guest circulation areas, character light fixtures and park-wide illumination. Parameters also include analysis of lighting levels, colors, quality, and architectural features/constraints to develop lighting sources and designs to illuminate, highlight, accent, and complement the facility and area development



design and functional requirements. This also includes development of venue project-wide standards. Architectural lighting design is typically separated from attraction lighting design, but must remain in close coordination to develop unified systems.

#### Graphics Design

Graphics Design develops the design, production and/or purchase and installation of show and project graphics and signage. Graphics Design establishes a detailed graphic identity for the entire project and creates all written displays and their backgrounds. Graphics Design also determines and supervises the overall project graphic production strategy for such elements as: overall project signage, logos, print media fonts, graphics, etc.

#### Kitchen Design & Food Service

Kitchen Design and Food Service scope includes the layout, equipment selection, and interface planning for all food storage, preparation, and serving activities. Food Service Design is closely coordinated with architectural design, mechanical, and electrical engineering.

#### **Retail Store Planning**

The responsibilities of Retail Store Planning include: retail display and fixture selection; storage requirements; overall planning and implementation of merchandise selection, mix, procurement, and inventory strategies. Input to Retail Design by store planning may also include: store layout criteria; location strategies; local and back of house storage solutions; lighting design; retail casework requirements; access and guest flow layouts. Theming suggestions from store planning can also be used to enhance the merchandise product mix.

#### FACILITY ENGINEERING

Where Facility Design deals with the function and appearances of a building, Facility Engineering deals with the process of verifying compliance with codes and standards by mathematical analysis. Facility Engineering also involves the preparation of drawings and specifications for the structural, mechanical, and electrical systems that are used to control construction and installation. The entire facility package of specifications, drawings and calculations (both architectural and specialty design and engineering) must be prepared as submittals for governmental and regulatory agency reviews.

#### Civil Engineering

Civil Engineering provides the design and coordination of codes relative to the earth, water, and bridge support systems. Civil Engineering has no responsibility inside a closed show building; however, Civil would be involved with outdoor shows as noted above under 4.2 Infrastructure Development.

#### Structural Engineering

Structural Engineering provides the supporting systems for all other facility, show, and ride systems. The structural systems include foundations, columns, beams, girders, bearing walls, floors and roofs. The structure provides a complete vertical and



lateral load carrying system for the facility. Structural materials include: steel, aluminum, concrete, wood, composites or plastics, and masonry.

#### Mechanical Engineering

Mechanical Engineering develops all mechanical systems, plumbing, HVAC, fire protection systems, and defines interfaces with other disciplines, giving special attention to the mechanical design interface with the show and architectural disciplines. Mechanical Engineering scope includes: heating; air conditioning; ventilation; dust, fume, odor control; solar heating/cooling; refrigeration; sound attenuation & noise control; plumbing; fire protection; life support systems.

#### Electrical Engineering

Electrical Engineering develops all electrical systems for the buildings, the shows/ attractions facilities, project infrastructure, and incorporates input from Electronics Engineering, Audio/Video, Lighting Designers, etc. Scope includes: power; lighting; instrumentation; equipment; systems reliability analysis; electrical hazard evaluation.

#### Communications Engineering

Communications Engineering defines the technical parameters for all venue wide communication needs. This includes, but is not limited to: Telecommunications Engineering; Voice Communications & Public Address Systems; Data Communication & Advanced Transmission Networks; Closed Circuit Television (CCTV); and Microwave & Satellite Stations.

# 5. ATTRACTION DESIGN & PRODUCTION

Attraction Design & Production is responsible for determining and creating all software and physical elements required to realize the concepts and scripts developed by Creative Design and Development at a dedicated venue site. This includes all interfaces required with Facility and Area Development design and engineering.

# 5.1 Show Design

Show Design is responsible for interpreting and documenting all criteria required to implement the attraction concept developed by Creative Design & Development. Show Design works to maintain and monitor the design integrity of the attraction. Show Design determines: all show design element requirements; the supervision of the art direction of show elements; the resolution of any design problems or conflicts; the development of details for show set design, rockwork design, ride vehicle design, figure development and prop selection. Show Design also maintains and monitors the design integrity of the entire project for all shows and attractions, including such design focuses as Graphics, Characters, Costuming, Choreography/Stunts, Show Sets, etc. This function is continuous and is active through each of the project phases.

These disciplines apply to and are responsible for interpreting and documenting creative direction:

# Set Design

Responsible for the static two- and three-dimensional surfaces and props that form the visual elements of an attraction.

# Lighting Design

Lighting Design is responsible for illuminating, sculpting with light, and setting a mood either through the use of artificial or natural lighting sources.

# Sound Design

Sound Design is responsible for the creation of the aural environment of the attraction.

# Costume Design

Responsible for the creation of the clothing look of all animal, human, or other figures, whether they are live, artificially animated, or static.

# Graphic Design

Graphic Design is responsible for the creation of all directional, display or fanciful signage, as well as the creation of the visual appearance of all printed sign materials.

# Character Design

Responsible for creating the character appearance of artificial human, animal, or other figures, whether live, artificially animated, or static.



#### Choreography & Stunts

Responsible for the creation of live movement of actors, often in conjunction with show action equipment, animated figures, special effects, and overall show controlled environment.

#### **Technical Direction**

Technical Direction ensures that all technical systems are in place to support the integration of all physical elements into an attraction. It is involved with the identification, design, production and/ or purchasing of all systems including: electrical, ride, show, lighting, etc.; and the necessary

#### **5.2 Show Production**

Show Production is responsible for the physical creation and installation of all elements that are determined by Show Design to constitute the parameters of the attraction. Show Production also works in close coordination with the facility contractor or other infrastructure contractors.

#### Art Direction

Art Direction is responsible for interpreting, supervising, and directing the visual appearance of all attraction elements viewed by the guests, based on the Creative Team's design and show script.

#### **Exhibitry**

Exhibitry is responsible for: developing the design of all artistic or technical exhibits and exhibit space requirements; contacting artifact lenders and exhibit benefactors; determining insurance and security requirements; and working closely with all of the appropriate architectural and engineering disciplines.

#### Sets/Scenery

Sets/Scenery develops the design and production of static visual scenes, partitions, scenic elements, etc. seen by the guest. This also includes the design of basesheets and all documentation necessary for show set design, construction, ride layout, and show timing for all the major shows/attractions.

#### Scenic Painting/Murals

Scenic Painting/Murals is responsible for creating the appliqués for a finished surface, and/or for applying hues to visual elements, such as three-dimensional set pieces or scenery, and for two-dimensional items such as backdrops or murals. This also includes the design, production and installation of scenically painted elements that relate to show sets, backdrops, murals, and scenic painting, which are applied in and on all areas requiring surface treatments for various types of show theming.

#### Rockwork

Rockwork develops the design and fabrication strategies for production of all interior and exterior artificial rockwork required for all project and show areas. Rockwork is responsible for the production of all surfaces that are intended to reproduce the look of solid earth elements, whether real or fanciful.

#### Artificial Foliage

Artificial Foliage is responsible for the physical creation of all real or fanciful elements intended to give the impression of plant life. It also includes all activities involved in the design, produc-



tion and/or purchase, and installation of artificial foliage and trees to be incorporated into show sets. Purchased foliage items may also include modifications for scenic adaptability for particular theming.

#### Show Props & Dressings

Props and Dressings develops the design and fabrication processes and/or the purchasing strategies necessary for the production, modification and installation of all show-related prop and dressing items. It is also responsible for the creation of decorations added to the overall scenic elements to create the impression of habitation of the environment that is being created.

#### Graphics & Signage

Graphics & Signage is responsible for the creation of all written displays and their backgrounds and develops the design, production, and/or purchase and installation of show and project graphics and signage. Graphics & Signage determines and implements the overall project graphics production strategy, including such elements as: overall project signage, branding, logos, print media fonts, graphics, identification, way finding, etc.

#### Sculpture

Sculpture is responsible for the three-dimensional molding or carving of materials to create either miniature models (maquettes) for reference, or full-scale figures to be used as scenic elements.

#### Animation

#### Animated/Non-Animated Figures

This discipline's responsibilities include development and/or purchase of animated/non-animated figures from the maquette stage through production, mechanical assembly, wardrobe, figure finishing, and installation.

#### Animated Props

Animated Props responsibilities include all activities involved in the design, fabrication and/or purchase of animated props as they relate to show and attraction areas.

#### Special Effects

Special Effects is responsible for the specification, design, production, and/or procurement of unique, usually custom, mechanical, pyrotechnic, or optical effects. Special Effects includes, but is not limited to the following sub genres: fire and live flame; atmospheric and fog effects: lighting and optical effects; projection-based effects; and water-based features and effects. Special effects also include the development of engineering and artwork that are required for the necessary interfaces with all show and engineering disciplines.

#### Interactive Systems (Hardware)

Interactive Systems is responsible for all activities that are involved in the design, fabrication and/or purchase and modification of any equipment that is controlled or manipulated by guests.

#### Rigging & Theatrical Stage Equipment

Rigging & Theatrical Stage Equipment is responsible for all activities involved in the design, specification, production and/or purchase of theatrical rigging and stage equipment that relate to show areas. It also determines the interfaces necessary with the architectural, facility, and operations disciplines.

#### Lighting Systems

Lighting Systems is responsible for the engineering and procurement of all physical elements of the lighting system as specified by the Facility Design and Show Design Team. Elements here include, but are not limited to: all hardware, software, and interface related to lighting fixtures, control, and installation support of procurement, focus, and programming.

#### Audio/Video Systems

Audio/Video Systems is responsible for the design, production and/or purchase of audio/video hardware. It also includes design documentation and identification of hardware requirements (such as amplifiers, speakers, compact disc players, eproms, interconnects, cabling, synchronized source, laser disc players, etc.) and the interfaces with the show, audio/video and acoustical disciplines while acknowledging the Audio/Video Engineering's input to the overall systems and control discipline's engineers.

#### **Projection Systems (Non-Special Effects)**

Projection Systems (Non-Special Effects) includes design, drawings, production and/or purchase of projection hardware, film projectors, loop cabinets, cameras, and filmstrip projectors, as well as screens and integral sound systems. This also includes producing the projection equipment lists and mock-up requirements of all projection systems and identifying the facility requirements for projectors, screens, etc.

#### **Projection Systems Engineering**

Projection Systems Engineering determines the requirements of all projection systems; identifies facility requirements for projectors, screens, etc.; and provides projection equipment lists and mock-up requirements.

#### Show Control Systems

Show Control Systems provides for the identification, design, production and/or purchase of show control software and hardware; control programming; all show control requirements; documentation and contractor installation; the interfaces with other show and operations disciplines; and the identification of systems hardware and space requirements.

#### **Technical Systems**

Technical Systems provides for the specification, production, and/or procurement of the physical systems required to implement the design direction as defined by Creative and Show Design documents. The technical systems most often include the following specialties: Audio & Video Systems; Lighting Systems; Projection; Show Control; Rigging & Stage Equipment; Interactive; Animation; Animated Figures; Animated Props.

#### **5.3 Show Mechanical Systems**

Show Mechanical Systems consist of the specialty disciplines involved in creating critical moving mechanical elements that are necessary to realize the Creative Design script and story. These elements range from very simple devices in service of the show, to very sophisticated animatronic, show action, and ride systems. Show Mechanical Systems often involve many sub-disciplines and/or a special focus by the facility/show disciplines to create the elements that are required. These would include mechanical, electrical, controls, and structural engineering and design.



#### **Robotics & Animatronics**

Robotics & Animatronics are responsible for the engineering and producing of all structural, sculptural, mechanical, and control elements that are required to create the three-dimensional appearance of a mechanical or living creatures, whether they are real or fantasy.

#### Show Action Equipment

Show Action Equipment is responsible for the specifications, production and/or procurement of mechanical systems required to implement the movement of show system components for the show's movement sequence. It is also responsible for all activities involved in the design, fabrication and/or purchase of show action equipment as they relate to the show areas.

#### Ride Systems

Ride Systems is responsible for the design, engineering, layout, documentation, staging of mockups and demonstrations, production, quality control, programming, and post-opening support for all mechanical elements of any mechanism designed to impart motion while containing guests. This would also include the necessary interfaces with certification and safety agencies, other engineering disciplines, and the show and architectural groups.

Other major sub-disciplines to the Ride Systems discipline are:

#### Ride Control Systems

Ride Control Systems specify the design, production, and/or the purchase of show/ride and central area control systems equipment and determines the equipment lists, space requirements, and necessary interface with the show/ride design and operations disciplines.

#### Ride Engineering

Ride Engineering determines the ride system layouts and schematic documentation; the interface with certification and safety agencies; the development of mock-ups and demonstrations of ride systems; and interfaces with engineering disciplines and the show and architectural groups.

#### **Ride Fabrication**

Ride fabrication refers to the actual manufacturing of the Ride. Various standards are associated with the fabrication of rides depending in which country the manufacture is done, the location that the ride will operate, etc. Germany's DIN (The German Institute for Standards), and the United States' ASTM (American Society of Testing and Materials), offer standards for manufacturing such items. In addition, some locations require independent testing of the system before public use.

#### 5.4 Media

Media consists of the design and production of all elements required to implement the projections, display, and presentation of film, slides, video, or computerized images and the associated audio, as well as all aspects of the interactive software that will be required by the project.

#### Film/Video/Audio/Multi-Media Production

Film/Video/Audio/Multi-Media Production develops all film/video media elements contained in the project, plans for the production of media elements, and addresses all issues involving legal rights, copyrights, and licensing of media elements.



#### Interactive Software

Interactive Software is responsible for developing the computer programs that respond to guest input. This often includes allowing the guest to navigate through a fictional environment (examples might be a video game, a virtual reality environment, etc.) that realizes the design intent of the Creative Design team.

#### **5.5 Live Entertainment Production**

Live Entertainment Production is responsible for the creation of all physical elements required to support an attraction using live actors and/or animals. It typically consists of the following sub-disciplines: Scenery; Lighting; Projection; Props; Rigging; Casting; Costuming; Sound; Special Effects; Technical Direction.

#### **5.6 Recreational Equipment**

Recreational Equipment includes the development, production, procurement, and installation of devices and equipment primarily used as stand-alone entertainment devices for use by a limited numbers of guests.

#### Arcade/Game Devices

Arcade/Game Devices are stand-alone entertainment devices that are typically used in an indoor facility and are commonly coin-operated or token-operated devices.

#### Play Structures/Playground Equipment

Play Structures are structures designed primarily for guests who are under the age of twelve and are intended to encourage the action of the users for the purpose of entertainment.

#### 6. CONSTRUCTION

Construction is responsible for the work required to prepare the project site and construct the project facilities. Due to the potentially unique nature of the Experience design and themed entertainment attraction requirements, special consideration is required to ensure that the facilities are constructed to ensure the venue can be operated as required. There are a number of primary types of construction contracting methods to be considered which include: General Contractor; Construction Manager at-risk; Construction Manager-agency (Owner's Rep); Design/Builder; Specialty Contractor.

#### **6.1 General Contractor**

The General Contractor is responsible for the physical implementation of all venue elements as indicated on an approved set of construction documents produced by the Venue Design and Development Disciplines in conjunction with the interface needs of the Attraction Design and Development disciplines. The General Contractor is responsible for procuring all subcontractors required to contract all elements of the construction documents.

Following preparation of designs and drawings, the general contractor is usually selected by the process of competitive bidding from pre-qualified groups. Selection of the contractor is generally based on price and project approach considerations. The construction of the building proceeds after the bid award phase. The general contractor offers to build the proposed design for a specific price, and the owner either accepts or rejects the various bids.


# 6.2 Construction Manager (At-Risk)

This is a faster track sequencing method in which the project is awarded to the construction manager (CM) on either a negotiated or competitive bid basis. This approach allows for the CM to provide preconstruction services during the design phase, if desired, to help balance the time, cost, and scope factors associated with the project. The CM can propose either a lump sum, or guaranteed maximum price. The CM is then responsible for executing the construction process. This is more of a "team" arrangement, rather than a general contractor's competitive bid.

# 6.3 Construction Management (As Representative or Agent)

This non-financially responsible role is sometimes referred to as Owner's Representative since it involves oversight or coordination of other contractors who are at-risk for all or part of the construction project.

# 6.4 Design/Builder

A single entity, the design/builder, assumes complete responsibility for the entire sequence of design and construction. This entity is either an integrated firm, or a team consisting of a designer and a contractor, typically led by the contractor. Under this approach, the owner does not usually have the same degree of control over the design as under the methods where the architect and designer are contracted directly by the client.

However, in many Experience design and themed entertainment projects, the owner engages the services of venue and show design disciplines to develop the creative package to at least a schematic level. It is also typical for the owner to engage separately or to require the Design/Build firm to engage key disciplines through the project completion in order to maintain design integrity. The design/builder can expedite the progress of the project by overlapping the design and construction sequences to the greatest possible extent.

# 6.5 Specialty Contractor

This discipline would cover the myriad of contractors who would be engaged either directly by the owner or by one of the primary contracting arrangements. There are virtually hundreds of specialty contractor roles, ranging from major building trades such as: concrete, masonry, HVAC, electrical, plumbing, etc. to exotic high tech specialists in telecom, networking, security systems, etc. The specialty contractor can work directly for the client, or can be subcontracted by the construction manager or the general contractor.

# 7. OPERATIONS

Operations is the entity that will ultimately manage the daily operation of all attractions, once they are opened to the public. The operations team may be a direct employee of the owner/developer, or may work under a management agreement with the owner/developer. The operations team is responsible for the safe, efficient, and cost-effective management of the facility, attractions and show areas; the marketing, security, and logistical support of all activities related to the day-to-day business of the attraction. Input from the operations representative, during all phases of the project, is essential to insure the project will function at the desired capacity; it will meet the project's financial objectives; it is maintainable in a safe and cost-efficient manner; and that it provides the intended experience for the public. Input from operations is also used to determine the program elements that directly relate to the public, as well as the back-of-house support and employee facilities.

# 7.1 General Operations

# Attractions/Entertainment

Operations of these areas are concerned with safety issues related to rides, shows, and attractions both for guests and employees. Attractions include: rides, shows, other entertainment venues, and live entertainment facilities. Operations provides staffing, management, and training for all employees who work at these venues and manage the day-to-day operations, and the logistical support for these venues.

## **Guest Services**

Services provided may include ticket sales, group sales, guest relations, lost and found, guest correspondence, information, money services, rental items, infant support services, first aid services, transportation, parking, and special services for the disabled.

# Wardrobe

Wardrobe provides storage, inventory, repair and cleaning services for the themed or specialty costumes that are worn by attraction and maintenance staff. Depending on the scope of the project, this may be the coordination of outside laundry services; simple on-site, touch-up laundry; or a full-scale wardrobe production, repair, and issue warehouse operation.

# Custodial

Custodial manages all aspects of the cleaning services that are needed for the venue. This critical area requires input during project design to insure a workable balance between show and thematic presentation and the resources needed to properly maintain and clean the areas of high guest traffic. Custodial is also involved in determining the special cleaning needs of themed finishes such as areas that require aging and wood graining, specialty rockwork, etc., and areas where there are unique materials such as acrylic windows, etc.

## Maintenance

Maintenance manages the day-to-day repairs and general upkeep of the venue; strategic planning for preventative maintenance; ride or show unit cycle maintenance programs; general facility rehabilitation; spare parts inventories; component replacement strategies; and the support and planning of capital improvements. Critical project input includes component standardization; maintainability reviews; and workspace, equipment, and storage requirements. Maintenance also interfaces with the project team for all maintenance considerations and documents, and details and implements all maintenance facilities and equipment requirements for the project components.

## Security

Security management is responsible for providing a safe environment for visitors and staff. This includes overall venue access control, internal and external theft and vandalism protection programs, and fire and safety issues.

# **Administration**

Administration manages all venue support functions that include: finance; strategic planning; employment; employee programs; contracting; warehousing; purchasing; utilities management; and other support services.



# 7.2 Food & Beverage

This specialized operations group provides management of the day-to-day operation of all food and beverage locations supporting the venue. Food & Beverage provides menu planning, pricing strategies, service standards, employee training and supervision, food preparation guidelines, food supply and storage strategies, and inventory control. Project input for this area is critical to insure adequate food preparation space, equipment layout and selection, capacity of service and seating requirements, and back-of-house support facilities and management requirements. Typically, food and beverage may supply 30% to 50% of all operating revenues for a venue, and is a critical element to the financial success of a project. Proper implementation of these facilities is as essential to the overall success of the project as are the shows and attractions.

# 7.3 Retail/Merchandising

The Retail/Merchandising group is responsible for the operation of all retail locations in the venue. Their responsibilities can also include the implementation and coordination of: retail display and fixture selection; storage requirements; overall planning and implementation of merchandise selection, mix, procurement, and inventory strategies. Input from this group may also include: store layout criteria; location strategies; local and back of house storage solutions; lighting design; retail casework requirements; access and guest flow layouts; and theming suggestions to enhance the merchandise product mix necessary to generate maximum revenues. Typically merchandising provides for the ongoing overall look, feel, and flexibility of a retail location and has a direct impact on retail's ability to generate desired revenue levels.

# 7.4 Marketing

Operational marketing is responsible for generating daily guest attendance levels to meet targeted goals. Working with local, national and international tourism, travel, and media suppliers, the marketing group will have a very vocal and important input to any project. Certain aspects of thematic or show development are more readily marketable to the public and generate more interest from guests. The frequency of guest visitations becomes critical to the success of marketing the venue. Other input suggests that a high level of group-oriented visitations require facilities or accommodations for groups that may have not been initially planned as a part of the venue's audience. Understanding local and tourist visitation patterns, and overall market demographics, may suggest the likelihood that certain forms of entertainment, ride types, thematic content, food and beverage preferences, merchandise mix, and spending patterns will be acceptable. Each of these market-research driven elements have a direct financial impact on the success (or failure) of any project in a given location.

# 7.5 Management Information Systems (MIS)

The Management Information Systems (MIS) group is responsible for planning and implementing all the technical support, communications, tracking, and financial information systems that are needed to effectively manage the venue. Typically centered on computer systems, control systems, programming systems, and communication systems, this group will provide project input that is relevant to systems planning, connectivity, routing, specifications, equipment location requirements, and delivery and installation requirements. Though often a relatively small, and often overlooked integration effort within a project, the budgetary impact of MIS solutions and equipment may be a significant percentage of the overall project budget. MIS will often become a key success factor in the long-term operation and management of the project venue.



# NOTES




# **CHAPTER THREE** TEA's PROJECT DEVELOPMENT PROCESS

# INTRODUCTION

Realizing an experience design and/or themed entertainment project requires planning, design, and execution, a phased approach to a project will provide a framework for sequencing these efforts and coordinating the work of a diverse project team.

Each phase of the project builds upon the work accomplished in previous phases and stages. Assumptions should be confirmed before proceeding to subsequent stages to avoid the need to re-perform expensive tasks. The design stages pass through increasing levels of detail until Project Development Guidelines Introduction

- 1 Delivering The Project
- 2 Categories & Disciplines
- 3 Project Development Process Phase I - Project Program Phase II - Design Process Phase III - Implementation Process Phase IV - Opening
- 4 Phases & Disciplines
- 5 Standards, Specs & Codes
- 6 Documentation & Checklists
- 7 Risk Management
- 8 Legal Matters & Contracts
- 9 Glossary of Industry Terms
- Appendix A TEA's Project Chart
- Appendix B Flow Charts

constructible documentation is produced and provided to the contractor.

The phases and stages outlined here should be considered a model for a typical experience design/themed entertainment project. On simpler projects, it may be expedient to combine and concentrate some of the stages. In more complicated projects, the stages may need to be expanded further.





# Phase I. Project Program

A new idea is developed into a project, establishing the criteria for its design and implementation.

# Stage 1. PROJECT INITIATION

Projects start in a variety of ways. It may find its genesis in a creative idea, a commercial opportunity, or an operational need. The goal of this stage is to massage the idea and determine if it is worth pursuing. Questions to answered are: Does it have popular appeal?; Can it be done?; What are the limitations? Ultimately, a decision is made to either abandon the idea, or proceed on to planning.

# Stage 2. PROJECT DEVELOPMENT PLANNING

The goal of this stage is to establish the criteria of success and to prepare a Project Development Plan that will allow the project to fulfill that criteria. Parameters usually include cost, completion date, site, capacity, operability, entertainment value, and marketability. The plan will typically include a description of the project, a Master Budget, and a Master Schedule.

# Stage 3. MASTER PLAN & CONCEPT DESIGN

This stage conceptualizes the attraction's show and its venue. This includes an initial facility layout and a high-concept show treatment. A Master Plan is developed, documenting a working proposal for the layout, configuration, and operating characteristics of the facility. Where applicable, the guest experience is broken out into different scenes. This stage concludes with the establishment of a final project program.





# Phase II. The Design Process

The show, ride, facility, and media are designed in orderly iterations, with increased detail at each step.

NOTE: At this stage there is a choice of different contracting strategies that affect how the work is to be done. Contracting strategies can consist of either design/bid or design/build. With design/bid, the project team performs all the design and submits it as a package to a contractor, vendor or supplier for bid. With design/ build, the team prepares the initial (typically minimal) design and asks the contractor, vendor or supplier to bid for both design and build. The choice between these two strategies is often critical. There are advantages and disadvantages to each system.

# Stage 4. SCHEMATIC DESIGN

Here, the team identifies all the physical elements of the project, how they integrate with each other, and locates them within the facility envelope. Primary show, ride, and facility systems are identified, but not fully articulated. This design becomes the skeleton on which the Design Development effort is built.

# Stage 5. DESIGN DEVELOPMENT

The schematic design is elaborated with a fully detailed, fully engineered design. All elements are now fixed.

# Stage 6. CONSTRUCTION/FABRICATION DOCUMENTS

Preparation of the final documentation defining how the project will be built and fabricated. These are the documents that will actually be used in the fabrication shop and in the field. They may be prepared by the team and submitted to the contractor, or the contractor may prepare them and submit them to the team for approval. They include both drawings and specifications.





# **Phase III. The Implementation Process**

The project takes physical form as the facilities are built, show and ride elements are fabricated or procured, and all components are installed.

# Stage 7. CONSTRUCTION/PRODUCTION/FABRICATION

The venue is constructed; the ride and show elements are produced and fabricated. All are based on the construction/fabrication documents.

# Stage 8. SHOW & RIDE INSTALLATION

All show and ride system components and technologies are installed, terminated, and programmed. All systems are tested during this stage to ensure they will meet the project's program requirements. This stage concludes when all elements are functioning together correctly and accepted by the Owner.





# Phase IV. The Opening

After a preparation period, the venue is opened to the public. A close-out period concludes all remaining business.

# Stage 9. PRE-OPENING; CYCLING; TRAINING

This stage begins when the project team turns over the facility to the owner. It covers the training of the owner's Operations and Maintenance personnel; establishment of operations and maintenance procedures; load in of Operations' furnishings, fixtures, and equipment; and the stocking of any inventories. To further these objectives, the attraction is cycled to confirm its reliability and provide training opportunities. Unpublicized ÏsoftÓ openings provide an opportunity to test the venue with public visitors.

## Stage 10. GRAND OPENING

The Grand Opening officially offers a fully operational and completely finished project to the public, culminating the entire project development process. Marketing and public relations campaigns are coordinated to maximize public attention and interest. The opening often involves special events and ceremonies.

## **11. PROJECT CLOSE-OUT**

This stage, typically extending beyond the public opening, focuses on finishing out the project and providing the documentation required for its successful operation. Activities at this stage include:

Completing the punch list. Providing Operations and Maintenance manuals. Updating the Construction/Fabrication documents to Ïas-builtÓ conditions. Resolving all outstanding issues with the contractors, the operator, and the owner.





# NOTES




# **CHAPTER FOUR** THE INTEGRATION OF PROJECT PHASES & PROJECT DEVELOPMENT DISCIPLINES

# **INTRODUCTION**

Previous chapters have outlined and described the resources that are typically involved in producing a project and the steps or processes that result in a successful Experience design and themed entertainment project. This chapter illustrates how the project disciplines are integrated into each step of the entire project development process. Project Development Guidelines
Introduction
1 Delivering The Project
2 Categories & Disciplines
3 Project Development Process
4 Phases & Disciplines
4.1 Bar Graphs & Charts
5 Standards, Specs & Codes

6 Documentation & Checklists

7 Risk Management

8 Legal Matters & Contracts

9 Glossary of Industry Terms

Appendix A - TEA's Project Chart

Appendix B - Flow Charts

# 4.1 Understanding Bar Graphs, Lists and Charts

Each section within this chapter examines one stage of the development process. To illustrate the development process in each stage we provide a bar graph, a series of project discipline lists, and a flow chart.

# **Bar Graphs**

The bar graph represents a typical level of effort for the seven major discipline categories. They are meant to be read much like a graphic equalizer on an audio system. Note that the disciplines are not equally active at every stage of a project's development. As you page through each stage, you will notice that the height of the bars will change as some of the disciplines become more active and others will become less active. Do not take the charts here too literally; the bars are only intended to be an approximation of the efforts that are involved at each stage of development.

# Lists: Disciplines, Issues & Typical Deliverables

The project discipline lists include a more specific representation of the most active of the disciplines, a list of the key issues to be resolved, and the typical deliverables that the project must generate. The disciplines are identified below the seven major categories (refer to Chapter 2). The "Driving Disciplines" are those disciplines that set the direction for that stage and which motivates the activities of the other disciplines. The "Primary Disciplines" are those that execute the most critical tasks. The "Support Disciplines" contribute essential efforts and input to the work of the Driving and Primary Disciplines.

# **Flow Charts**

The flow chart at each stage is also spread across the seven major discipline categories. It illustrates what steps are to be taken, in what order they need to proceed, and which of the disciplines carry the primary responsibility. This series of charts is intended only as a high-level description of the development process. Experience design and themed entertainment projects involve a myriad of tasks and only the most significant are highlighted here. No effort has been made to identify administrative tasks that are necessary for project development as these will vary widely from organization to organization.

Graphic shapes found in the flow charts on the preceding pages represent the following:

Circle = Availability or Input Flattened Hexagon = Deliverable Elongated Bubble = Milestone Rectangle = An Activity

# Conclusion

Although some tasks identified here may be condensed on smaller projects, most tasks still have to be addressed directly in some form. It may require that more tasks will be undertaken by fewer people on a shorter schedule, but in most instances very few steps can be eliminated or skipped all together.

## **Phase I - The Project Program Stage 1 - Project Initiation**

# **PROJECT CATEGORIES**



#### CLICK HERE FOR FLOW CHART OR GO TO APPENDIX B

## CLICK ON CHART ICON BELOW FOR PROCESS CHART **OR GO TO APPENDIX A**



#### **DISCIPLINES, ISSUES & DELIVERABLES**

**Driving Disciplines Owner's** Representative

Strategic Planning **Creative Design** Facility Design

**Primary Disciplines** 

# **Support Disciplines**

Legal Affairs Site Development Show Production **General Operations** 

Issues

Define project concept Is there a story to tell? Will it be popular? Who will fund it? Is there a potential site? Intellectual property Legal issues

#### **Typical Deliverables**

Representation of concept: Text Storyboard Art A/V Models



# Phase I - The Project Program Stage 2 - Project Development Planning

# **PROJECT CATEGORIES**



#### CLICK HERE FOR FLOW CHART OR GO TO APPENDIX B

#### CLICK ON CHART ICON BELOW FOR PROCESS CHART OR GO TO APPENDIX A



#### **DISCIPLINES, ISSUES & DELIVERABLES**

Driving Disciplines	-
Owner's Representative	
Strategic Planning	
Producer	

# **Primary Disciplines**

Project Management Project Controls Creative Design Facility Design Site Development

#### Support Disciplines

Legal Affairs Writing Show Production Media Operations

#### Issues

What is the criteria for success? Capacity Feasibility Marketability Warranted investment Budget targets Milestone targets Propose a site

#### **Typical Deliverable**

Capacity Targets ROM Estimate ROM Schedule Investment Analysis Updated Concept Project Development Plan



# Phase I - The Project Program Stage 3 - Master Planning & Concept Design

# **PROJECT CATEGORIES**



#### CLICK HERE FOR FLOW CHART OR GO TO APPENDIX B

#### CLICK ON CHART ICON BELOW FOR PROCESS CHART OR GO TO APPENDIX A



#### **DISCIPLINES, ISSUES & DELIVERABLES**

**Driving Disciplines** 

Project Management Project Controls Producer

#### **Primary Disciplines**

Owner's Representative Writing Creative Design Site Development Facility Design

#### **Support Disciplines**

Legal Affairs Show Production Media Operations

#### lssues

How do we achieve our criteria for success? What's the design? What's the capacity? When does it open? How much does it cost? How do we operate it? How do we manage the project?

### **Typical Deliverables**

Story Treatment/Guest Experience Venue Layout Study Model Concept Art Space Allocation Program Milestone Schedule Project Scope Documentation Conceptual Estimate Project Program



# Phase II - The Design Process Stage 4 - Schematic Design

# **PROJECT CATEGORIES**



#### CLICK HERE FOR FLOW CHART OR GO TO APPENDIX B

#### CLICK ON CHART ICON BELOW FOR PROCESS CHART OR GO TO APPENDIX A



#### **DISCIPLINES, ISSUES & DELIVERABLES**

#### **Driving Disciplines**

Producer Director Facility Design Area Development

#### **Primary Disciplines**

Owner's Representative Project Management Writing Creative Design Facility Engineering Show Design Ride Systems Media

## **Support Disciplines**

Project Controls Project Administration Operations

#### Issues

Establish the basic design scheme Fix in-place significant components Can we commit to scheme? Real estate in hand? Intellectual property rights in hand?

# **Typical Deliverables**

Preliminary Show Script Show Components List Long-lead Items list Schematic Drawings (Facility & Attraction Design) Project Scope Document



# Phase II - The Design Process Stage 5 - Design Development

## **PROJECT CATEGORIES**



#### CLICK HERE FOR FLOW CHART OR GO TO APPENDIX B

## CLICK ON CHART ICON BELOW FOR PROCESS CHART OR GO TO APPENDIX A



#### **DISCIPLINES, ISSUES & DELIVERABLES**

Driving Disciplines Producer

Director Facility Design Area Development Show Design

#### **Primary Disciplines**

Project Management Writing Creative Design Site Development Infrastructure Development Facility Engineering Ride Systems Media

#### Support Disciplines

Owner's Representative Project Controls Project Administration

#### Issues

Elaborate design with increased detail Are we sticking to schematic design? How do we staff and operate the attraction? Has the owner committed to full project funding?

#### **Typical Deliverables**

30% DD Drawings (Venue and Attraction)
60% DD Drawings (Venue and Attraction)
100% DD Drawings (Venue and Attraction)
Prelim. Specifications (Venue and Attraction)
Final Show Script
Attraction Pre-opening Plan
Attraction Staffing Plan
Attraction Operations Plan
Capital Authorization
Approval



Phase II - The Design Process Stage 6 - Construction/Production/Fabrication Documents

## **PROJECT CATEGORIES**



#### CLICK HERE FOR FLOW CHART OR GO TO APPENDIX B

## CLICK ON CHART ICON BELOW FOR PROJECT CHART OR GO TO APPENDIX A



#### **DISCIPLINES, ISSUES & DELIVERABLES**

#### **Driving Disciplines**

Project Management Project Administration

#### **Primary Disciplines**

Site Development Infrastructure Development Area Development Facility Design Show Design Ride Systems

## Support Disciplines

Project Controls Producer Director Writing Creative Design

#### Issues

Can builders and fabricators execute their work based on our documentation? Any remaining ambiguities? Anything unclear? Who will our contractors be?

#### **Typical Deliverables**

100% CD (Venue and Attraction) Final Specifications





Phase III - The Implementation Process Stage 7 - Construction/Production/Fabrication

# **PROJECT CATEGORIES**



#### CLICK HERE FOR FLOW CHART OR GO TO APPENDIX B

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#### **DISCIPLINES, ISSUES & DELIVERABLES**

#### **Driving Disciplines**

Project Management Producer Director Construction Management

#### **Primary Disciplines**

Project Administration Project Controls Show Production Ride Systems Media General Contractor Construction Subcontractors

## **Support Disciplines**

Venue Design

#### Issues

Do the builders, fabricators, and producers "get" the design? How are contractors performing? On time? On budget? Are we safe?

#### Typical Deliverables

Installation-ready building Show components Ride components Completed media



# Phase III - The Implementation Process Stage 8 - Show/Ride Installation

## **PROJECT CATEGORIES**



#### CLICK HERE FOR FLOW CHART OR GO TO APPENDIX B

#### CLICK ON CHART ICON BELOW FOR PROJECT CHART OR GO TO APPENDIX A



#### **DISCIPLINES, ISSUES & DELIVERABLES**

#### **Driving Disciplines**

Project Management Producer Director Show Production Ride Systems

#### **Primary Disciplines**

Owner's Representative Project Administration Project Controls Operations Construction Management Construction Subcontractors Operations Marketing

## **Support Disciplines**

Creative Design Facility Design Media

#### Issues

Is the venue ready? Is it dust free? Contractor performance On time? On budget? Are we safe? Is the venue occupiable? Is it completed to owner's specs?

#### **Typical Deliverables**

Media, physical copies Operations manuals Certificate of occupancy Keys



Phase IV - The Opening Stage 9 - Pre-Opening, Cycling, Training

#### **PROJECT CATEGORIES**



#### CLICK HERE FOR FLOW CHART OR GO TO APPENDIX B

#### CLICK ON CHART ICON BELOW FOR PROJECT CHART OR GO TO APPENDIX A



### **DISCIPLINES, ISSUES & DELIVERABLES**

#### **Driving Disciplines**

Owner's Representative Project Management Operations Marketing

# Project Administration

Project Controls Show Production Ride Systems

#### **Support Disciplines**

Producer Director Facility Design Show Design Construction Management Construction Subcontractors

#### Issues

What still needs to be done? Are we adequately staffed? Have we trained our staff? Have we developed operational experience? Does the public know about our project?

#### **Typical Deliverables**

Media kit and press materials Advertising materials Punch list Updated operations manuals





Phase IV - The Opening Stage 10 - Grand Opening

#### **PROJECT CATEGORIES**



#### CLICK HERE FOR FLOW CHART OR GO TO APPENDIX B

#### CLICK ON CHART ICON BELOW FOR PROJECT CHART OR GO TO APPENDIX A



#### **DISCIPLINES, ISSUES & DELIVERABLES**

#### **Driving Disciplines**

Owner's Representative Marketing Operations

**Primary Disciplines** 

#### **Support Disciplines**

Project Management Producer Director Show Production Ride Systems Media Construction Subcontractors

#### Issues

Have we maximized our potential for public awareness? Is there adequate back-up in case things don't work right while we're in the spotlight? Have we adequately pampered the press and our VIPs?

#### **Typical Deliverables**

Special event entertainment Ribbon Scissors Revenue!





# Phase IV - The Opening Stage 11 - Project Close-Out

# **PROJECT CATEGORIES**



#### CLICK HERE FOR FLOW CHART OR GO TO APPENDIX B

## CLICK ON CHART ICON BELOW FOR PROJECT CHART OR GO TO APPENDIX A



## **DISCIPLINES, ISSUES & DELIVERABLES**

#### **Driving Disciplines**

Project Management Project Administration Project Controls

# **Primary Disciplines**

Facility Design Show Design Show Production Ride Systems Operations

## **Support Disciplines**

Owner's Representative Producer Director Media Construction Management

#### Issues

Have we completed the punch list? Will our "As-built" documentation allow the owner to modify the facility at a later time with confidence? Have we resolved all issues? Have we recorded the lessons learned from our experience?

#### **Typical Deliverables**

Completed Punch List "As-built" Drawings Final version of Operations Manuals Project Post-mortem Final Cost Report







# NOTES


# CHAPTER FIVE STANDARDS, SPECIFICATIONS & CODES

#### **The Enduring Nature of Standards**

The Story of Railroads, Ruts & Romans

The US Standard railroad gauge (the distance between the rails) is 4 feet, 8.5 inches. That's an exceedingly odd number. Why was that gauge used? Because that's the way they built them in England, and the US railroads were built by English expatriates. Why did the English build them like that? Because the first rail lines were built by the same people who built the prerailroad tramways, and that's the gauge they used. Why did "they" use that gauge then? Because the people who built the tramways used the same jigs and tools Project Development Guidelines Introduction

- 1 Delivering The Project
- 2 Categories & Disciplines
- 3 The Development Process
- 4 Project Phases & Disciplines
- 5 Standards, Specs & Codes
  - 5.1 Common Standards Terms
  - 5.2 Codes & Standards
  - 5.3 Evolution of Standards
  - 5.4 Standards & Codes
  - 5.5 Industry Resources

6 Documentation & Checklists
7 Risk Management
8 Legal Matters & Contracts
9 Glossary of Industry Terms
Appendix A -TEA's Project Chart
Appendix B - Flow Charts

that they used for building wagons, which used that wheel spacing. Why did the wagons use that odd wheel spacing? Well, if they tried to use any other spacing the wagons would break on some of the old, long distance roads, because that's the spacing of the old wheel ruts.

So who built these old rutted roads? The first long distance roads in Europe were built by Imperial Rome for the benefit of their legions. The roads have been used ever since. And the ruts? The initial ruts, which everyone else had to match for fear of destroying their wagons, were first made by Roman war chariots. Since the chariots were made for or by Imperial Rome, they were all alike in the matter of wheel spacing. Thus, we have the answer to the original questions. The United States standard railroad gauge of 4 feet, 8.5 inches derives from the original specification for an Imperial Roman army war chariot.

Specifications and Bureaucracies live forever. So, the next time you are handed a specification and wonder what "horse's ass" came up with it, you may be exactly right! Because the

Imperial Roman chariots were made to be just wide enough to accommodate the back-ends of two war horses.



# **INTRODUCTION**

The Standards, Specifications & Codes chapter explores the rules, regulations and codes which define the safety and quality control standards that must be considered when designing, building, installing, testing, operating, and maintaining all Facility, Show, and Ride systems. At the end of this chapter is a valuable listing of both international and USA industry standards resources and their respective web sites that are now readily available on the Internet.

# **5.1 Definitions of Common Standards Terms**

# **Standards**

Standards are produced by professional societies (AIA, ANSI, ASCE, ASME, IEEE, NEC, NFPA, SAE (See Pages 7-9 for websites of these groups), or by trade associations (AISC, PCA, AISI, DFPA, ESTA, PLASA, NEMA, AWS). A number of manufacturer-specific standards, developed by specialty manufacturers of materials and components (such as Lincoln Arc Welding, Master Builders, Unistrut, Seimens, W.R. Grace, Nelson Stud Welding, Hilti, ASCO, Parker Hydraulics, Sika Chemicals and others) have become established as defacto standards and widely endorsed. Note that many other manufacturers (such as producers of electronics, electro-mechanical, and hydraulic devices) could also be added to this list, and that this list is considerably more fluid than that including professional societies and trade associations.

# Specifications

Specifications based upon the above noted standards are written by those who design and purchase Facility, Show, and Ride systems. Specifications writers include Architects, Engineers, specialty consultants, and purchasing agents. The CSI (Construction Specifications Institute) is a group dedicated to establishing standards for specifications written for the construction of facilities systems. This applies mostly to A&E types of specifications. "Guide Specifications" are often provided by manufacturers of materials and components to ensure that their products are correctly used.

The basic function of Specifications is as a guideline in the use of components and materials. Special processes, procedures and standards are usually defined by the specifications. Specifications are often accompanied by a set of drawings, and they also usually provide detailed information that supplements the drawings. Together, drawings and specification are used as "Contract Documents" to enable an owner to obtain bids for, and to build, the Facility, Show, and Ride systems.

Specifications can be written as detailed instructions on how to mix and place concrete, or how to weld metals, as typical examples. Alternatively, specifications can be used to define the end product desired, and to define acceptable products and components by listing three (3) or more suppliers whose products comply with the ultimate design intent.

# Codes

Codes are standards and specifications that have been adopted by governing bodies and turned into legally binding rules and regulations. An example of this is the various Building Codes based upon either the International Building Code or the Uniform Building Code (developed by the International Building Code Council) and the National Electrical Code (developed by the National Fire Protection Association) that are enforced by City or County Building and Safety Departments in the USA, or the similar fire/life safety codes based on NFPA Standards.
s TEA

Using the Building Code as a guide, Building & Safety administrators provide special services such as:

- 1. Plans checking and approvals for specific facility use or construction.
- 2. Building inspections (for both new and existing buildings, including visits to construction sites and fabrication shops).
- 3. Licensing of fabricators and inspectors for specialty work such as welding, concrete, masonry, rebar, etc. Licenses are awarded after appropriate tests and inspections are made by the Building Department supervisors.

#### 5.2 Codes & Standards for Experience/Entertainment Systems

#### **European Standards**

In Europe, standards for the design, manufacturing, and operations related to Ride Systems are well established. The usual format for issuing a use permit for a new ride system is as follows:

- 1. The system is designed according to DIN\* standards, and to appropriate local codes.
- 2. The drawings, specifications, and calculations for the new ride are submitted to the TUV\*\* for technical review.
- 3. Appropriate tests and inspections are made following guidelines defined by the TUV.
- 4. When all reviews and approvals are in place, the permit is issued.

Additionally, CE marking is increasingly required for many entertainment related products sold or installed in Europe. The CE marking is a declaration by the manufacturer that the product meets all the appropriate provisions of the relevant legislation implementing certain European Directives. More information on CE marking is available at http://www.dti.gov.uk/innovation/strd/cemark/page11646.html. The European Commission's "Blue Guide" (Guide to the Implementation of Directives Based on the New Approach and Global Approach) lists Directives where the CE marking will be applicable. This is available for download from the Commission website (http://ec.europa.eu/enterprise/newapproach/legislation/guide/).

#### **USA Standards**

In the USA, standards for the design, manufacturing, and operations of Show and Ride Systems vary widely by locale. As of this publication (July, 2007), 39 states have adopted requirements for the inspection (and insurance) of fixed amusement rides, with three additional states requiring private inspection and/or insurance. Forty-one states have adopted similar requirements for mobile amusement rides. An overview of state requirements can be obtained from the U.S. Consumer Product Safety Commission (http://www.cpsc.gov/cpscpub/pubs/amuse.pdf).

<sup>\*</sup> DIN is the German Institute for Standards (Deutsches Institut Für Normung). The closest equivalents in the USA include ASTM and ANSI.

<sup>\*\*</sup> TUV is a private company in Germany of vast proportions that has an international presence in product testing and certification. TUV stands for "Technical Inspection Association" (in German it is Technischer-berwachungsverein). Headquartered in Munich Germany, the certification division of TUV employs a staff of 2,500 at 110 locations in 30 countries. In many instances, TUV certification is adopted by local or regional authorities as the de facto Code compliance standard.



In most cases, where regulatory authority has been undertaken on the State level, ASTM F24 standards for "Amusement rides and Devices" form the basis for the applicable codes. ASTM F24 guidelines are under constant review and revision by the ASTM F24 Committee, and currently comprise more than nine specific documents related to design, manufacture, testing, operation, and maintenance.

In addition to State level regulation, a number of locales within large ride populations have independently adopted similar regulations. A notable example is the Clark County Building Department in Clark County, Nevada. Their jurisdiction applies to the Las Vegas Strip in the southern portion of Clark County, south of the city of Las Vegas, Nevada beginning at Sahara Road.

In 1993(well before the trend for Statewide regulation), Clark County adopted the ASTM F24 standards for "Amusement Rides and Devices."

There is no USA equivalent to the TUV, where all Building Departments require that all designs must be submitted to a common agency for review, testing, and inspections. Even in states or locales where inspection and insurance of ride systems has been adopted, there is typically no requirement for "third party review" of drawings and calculations, such as performed by the TUV. This service is available in the USA by specialty companies within the TEA and is frequently undertaken by individual owners and operators as a requirement of their risk management procedures.

The work of ASTM Committee F24 is gaining recognition as an international standard. This committee has many sub-committees, and will eventually become the USA equivalent of the DIN/TUV system in Europe.

#### **5.3 The Evolution of Industry Standards**

During the maturation period of the experience design and themed entertainment industry in the second half of the twentieth century, Disney's vast influence tended to establish industry norms. In 1955 Disneyland opened. Codes and Standards for this type of venue were not well defined at that time. Therefore, Disney used available design criteria in the form of Building Codes for Facilities, and Utility Standards for Infrastructure Systems. Standards for Show and Ride Systems (which were then available) applied mainly to circuses and carnivals. The Disney standards evolved based upon standards most familiar to employees and vendors. These included ASME, SAE, IEEE, NEMA and many other standards used by the aerospace and defense industries.

For Walt Disney World (WDW), which opened in Florida 1971, Disney was authorized by the State of Florida to establish the Reedy Creek Improvement District as the building official for WDW. This agency essentially used the same standards used for Disneyland, but improved them based upon the experience gained by 16 years of operating and maintaining Disneyland. These standards were incorporated into the EPCOT Building Code, named for the original prototype community proposed by Walt Disney.

EPCOT Center opened in Florida 1982, and continued the same codes and standards that were established under the EPCOT Building Code name.



Tokyo Disneyland opened in 1983. Disney was responsible for design of the Schematic and Design Development phases of the project. With continuing creative participation and selective management of show production and installation by Disney personnel, the Japanese team completed the design and construction using design/build contractors who ensured compliance with Japanese codes and standards, supplemented by the Disney standards where Japanese standards did not apply.

Disneyland Paris opened in 1993 following the same design and build sequence as used for Tokyo Disneyland. However, for that project, both American and DIN standards were used, and TUV testing and inspection procedures were followed.

Please note that for any work you may do in a foreign country, it is advisable to follow the Disney example. Allow contractors and vendors from that country to comply with their own local codes and standards, by turning the design and construction over to them at the right point in time. In case of any conflicts, the most conservative standards should be applied.

Based upon the history noted above, Disney now has a historical and evolving set of standards that are used for their projects. These standards cover areas that are as yet not well defined outside of the theme park industry, and includes topics such as show systems, signage and graphics, overhead and theatrical rigging, faux rockwork, etc.

Universal Studios, in developing their theme parks in Hollywood, Florida and Japan, has increasingly utilized personnel with significant experience within the Disney organization. As our industry has an ongoing tradition of cross-pollenization of talent and information between various entities, standards established at Universal are essentially consistent with those developed by Disney. The same situation is true of Warner Bros, Six Flags, Paramount Parks, and many other Experience Design and Themed Entertainment Industry developers.

#### **5.4.** Standards & Codes Commonly Used in the experience design/themed entertainment industry

#### An Overview

The table below provides a general overview of the standards and codes commonly utilized in the experience design and themed entertainment industry. We will not attempt to cover in detail any single area here, with the exception of a detailed review of those standards that are presently being developed to improve the safety of show and ride systems.

#### CONCEPT DEVELOPMENT, SCHEMATIC DESIGN

Task No.	Task definition	Major objectives of codes and standards for this task	Types of codes and standards that exist for this task
1A	Concept Development Financial Planning	To set aside a protected fund to cover Quality Control (QC) and safety	None at the present
1B	Creative Design		
1C	Preliminary Design of prototypical Show and Ride systems	To improve safety & reliabili- ty of prototypical systems	Building Codes, ASTM F24, DIN, AISC, ASME, IEEE, AWS, SAE
1D	FILTER #1		

#### A&E DESIGN DEVELOPMENT & CONTRACT DOCUMENTS

Task No.	Task definition	MAJOR OBJECTIVES OF CODES AND STANDARDS FOR THIS TASK	Types of codes and standards that exist for this task
2A	Architecture & Engineering for Facilities Systems	Public safety for building systems	Building Codes, ADA, NFPA, etc.
2B	Design & Engineering for Show and Ride systems	Public safety for Show and Ride systems	Building Codes, ASTM F24, DIN, AISC, AWS, ASME, IEEE, etc.
2C	FILTER #2 Plans checking		
2D	Plans checking for Facility systems		Building Codes. PE
2E	Plans checking for Show and Ride systems		TUV review, 3rd party review. PE stamping



#### CONSTRUCTION & MANUFACTURING

Task No.	TASK DEFINITION	MAJOR OBJECTIVES OF CODES AND STANDARDS FOR THIS TASK	TYPES OF CODES AND STANDARDS THAT EXIST FOR THIS TASK
3A	Construction of buildings and utilities for Facility systems	Quality of building systems	Contract drawings & specifi- cations as approved by the Building Department
3B	Manufacturing & Fabrication of Show and Ride systems	Quality of electro/mechanical systems	ISO, ANSI, DIN, approved contract documents for Show and Ride systems
3C	FILTER #3 Testing and Inspections in shop and at job site		
3D	Testing and Inspections for Facility systems		DIN, ASTM, AWS, and many more
3E	Testing and Inspections for Show and Ride systems		DIN, ASTM F24, AWS

#### INSTALLATION OF FINISHES & EQUIPMENT

Task No.	Task definition	MAJOR OBJECTIVES OF CODES AND STANDARDS FOR THIS TASK	TYPES OF CODES AND STANDARDS THAT EXIST FOR THIS TASK
4A	Installation of Facility finish- es and special systems	Quality of building systems	Contract drawings & specifi- cations as approved by the Building Department
4B	Installation of Show and Ride systems	Durability based upon endurance testing	0
4C	FILTER #4 Performance Testing and Inspections at job site		
4D	Testing and Inspections for Facility systems	· · · · · · · · ·	DIN, ASTM, AWS, and many more
4E	Testing and Inspections for Show and Ride systems		DIN, ASTM F24, AWS

#### OPEN TO THE PUBLIC

Task No.	Task definition	MAJOR OBJECTIVES OF CODES AND STANDARDS FOR THIS TASK	Types of codes and standards that exist for this task
5A	Operations and maintenance	Guest safety, failure prevention by preventative maintenance	OSHA Codes and standards
5B	FILTER #5 Testing and Inspections		Standards are under development at this time



#### 5.5 Accessing Industry Standards & Resources on the Internet

#### A Partial List of Web Sites

#### **General Reference Web Sites**

ARCAT - Architects Catalog, Inc. Business & Design Forum Construction Materials Construction Zone Cyberplaces First Source Online McGraw-Hill Construction Information Group Sweet's Catalog Thomas Register Visualibrary

www.arcat.com www.bdf2001.com www.constructionmaterials.com www.cyberplaces.com www.afson1.com www.construction.com www.sweets.com www.thomasregister.com www.visualibrary.com

#### **International Organizations and Their Web Sites**

	0
ABTT	The Association of British Theatre Technicians (United Kingdom)
APIAS	Association of Italian Manufacturers for the Entertainment Industry
BS	British Standards Institution (United Kingdom)
BV	Bureau Veritas (France)
CGSB	Canadian General Standards Board (Canada)
CSA	Canadian Standards Association (Canada)
DIN	Deutsches Institut fur Normung (German Institute for Standards)
ETSI	European Telecommunications Standards Institute
IAAPA	International Association of Amusement Parks and Attractions (USA)
IEC	International Electrotechnical Commission (Switzerland)
ISO	International Organization for Standardization (Switzerland)
JISC	Japanese Industrial Standards (Japan)
PLASA	Professional Lighting and Sound Association (United Kingdom)
TUV	Technischer -berwachungsverein-Technical Inspection Assoc. (Germany)
VPLT	Professional Lighting and Sound Association of Germany
XX7 11 DOD	

World ETF World Entertainment Technology Federation

#### United States Organizations and Their Web Sites

AA	Aluminum Association
AABC	Associated Air Balance Council
AAMA	American Architectural Manufacturers Association
AASHTC	American Association of State Highway & Transportation Officials
AATCC	American Association of Textile Chemists and Colorists
ABMA	American Bearing Manufacturers Association
ABMA	American Boiler Manufacturers Association
ACI	American Concrete Institute
ACIL	Association of Independent Scientific, Engineering & Testing Firms
ACPA	American Concrete Pipe Association
AGA	American Gas Association
AHAM	Association of Home Appliance Manufacturers
AI	Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALCA	Associated Landscape Contractors of America
AMCA	Air Movement and Control Association International, Inc.
ANSI	American National Standards Institute
APA	APA - The Engineered Wood Association
ART	Air-Conditioning and Refrigeration Institute
ASCE	American Society of Civil Engineers - World Headquarters
ASHRAE	Am. Soc. of Heating, Refrig. & Air-Conditioning Engineers
ASLA	American Society of Landscape Architects
ASME	American Society of Mechanical Engineers
ASQC	American Society for Quality Control
ASSE	American Society of Sanitary Engineering
ASTM	American Society for Testing and Materials
ASTC	American Society of Theatre Consultants

www.abtt.org/uk www.apias.it www.bsi.org/uk www.beaureauveritas.com www.pwgs.ga.ca/cgsb www.csa-international.org www.din.de www.etsi.org www.iaapa.org www.iec.org www.iso.ch www.jisc.org www.plasa.org www.tuvglobal.com www.vptl.org www.plasa.org/html/worldetf.html

www.aluminum.org www.aabchq.com www.aamanet.org www.aashto.org www.aatcc.org www.abma-dc.org www.abma.com www.aci-int.org www.acil.org www.concrete-pipe.org www.aga.com www.aham.org www.asplaltinstitute.org www.aia.org www.aisc.org www.steel.org www.aite-glulam.org www.alca.org www.amca.org www.ansi.org www.apawood.org www.ari.org www.asce.org www.ashre.org www.asla.org www.asme.org www.asqc.org www.asse-plumbing.org www.astm.org www.theatreconsultants.org

Т	EA
2	*1

AWCI	Association of the Wall and Ceiling Industries - International
AWI	Architectural Woodwork Institute
AWS	American Welding Society
AWWA	American Water Works Association
BIA	Brick Institute of America
BIFMA	Business and Institutional Furniture Manufacturer's Association
CAGI	Compressed Air and Gas Institute
CDA	Copper Development Association Inc.
CFFA	Chemical Fabrics & Film Association, Inc.
CGA	Compressed Gas Association
CISCA	Ceilings and Interior Systems Construction Association
CRI	Carpet and Rug Institute
CKSI	Concrete Reinforcing Steel Institute
CSI	Construction Specifications Institute
DASMA	Door and Hardware Institute
DHI FIA	Electronic Industries Association
EIA	EIES Industry Members Association
EINA	Environmental Protection Agency
EIA	Entertainment Services & Technology Association
FTCP	Entertainment Technician Certification Program
ETL	Engineering Testing Laboratory
FCI	Fluid Controls Institute
FM	Factory Mutual System
GA	Gypsum Association
GANA	Glass Association Of North America
GRI	Geosynthetic Research Institute
HEI	Heat Exchange Institute
HI	Hydronics Institute (A Div of Gas Appliance Manufacturers Assn.)
HMA	Hardwood Manufacturers Association
HPVA	Hardwood Plywood and Veneer Association
IAS	International Approval Services
ICIA	International Communications Industries Association
ICBO	International Conference of Building Officials
ICC	International Code Council
IEEE	Institute of Electrical and Electronics Engineers
IESNA	Illuminating Engineering Society of North America
ILDA	International Laser Display Association
ISA	International Society for Measurement and Control
ISS	Iron and Steel Society
ITS	Intertek Testing Services
KCMA	Kitchen Cabinet Manufacturers Association
LACSI	Construction Specifications Institute, Los Angeles Chapter
LIA	Lead Industries Association, Inc.
LMA	Laminating Materials Association
MBMA	Metal Building Manufacturer's Association
MFMA	Maple Flooring Manufacturers Association
MHI	Material Handling Institute
MIA	Marble Institute of America
MIA	Masonry Institute of America
MIDI	Musical Instrument Digital Interface
NAA	National Arborist Association
NAAMM	National Association of Architectural Metal Manufacturers
NAIMA	North American Insulation Manufacturers Association
NCMA	National Concrete Masonry Association
NCRPM	National Council on Radiation Protection and Measurements
NEMA	National Confugated Steel Pipe Association
NETA	Intermetional Electrical Manufacturers Association
NEDA	National Fire Protection Association
NEDC	National Engestration Pating Council Incorporated
NHI A	National Hardwood Lumber Association
NIA	National Insulation Association
NDA	National Particlahoard Association
NPCA	National Paint and Coatings Association
NRCA	National Roofing Contractors Association
NRMCA	National Ready Mixed Concrete Association
NSA	National Stone Association
NSF	NSF International (Formerly: National Sanitation Foundation)
NTMA	National Terrazzo and Mosaic Association
NWWDA	National Wood Window and Door Association

www.awci.org www.awci.org www.amweld.org www.awwa.org www.bia.org www.birma.com www.cagi.org www.copper.org www.taol.com/cffa www.cganet.com www.cisca.org www.carpet-rug.com www.crsi.org www.csinet.org www.dasma.com www.dhi.org www.eia.org www.eifsfact.com www.epa.gov www.esta.org www.etcp.esta.org www.etl.org www.taol.com/fci www.factorymutual.com www.usg.com www.glasswebsite.com/gana www.gri-server.coe-drexel.edu www.heatexchange.org www.gamanet.org www.hardwood.org www.hpva.org www.iasapprovals.org www.icia.org www.iccsafe.org www.iccsafe.org www.ieee.org www.iesna.org www.ilda.wa.org www.isa.org www.issource.org www.itsglobal.com www.kema.org www.lacsi.org www.leadinfo.com www.lma.org www.mbma.com www.maplefloor.com www.mhi.org www.marble-institute.com www.masonryinstitute.org www.midi.org www.natlarb.com www.naamm.org www.naima.org www.ncma.org www.ncrp.com www.ncspa.org www.nema.org www.electricnet.com/neta www.nfpa.org www.nfrc.org www.natlhardwood.org www.insulation.org www.pbmdf.com www.paint.org www.roofonline.org www.nrmca.org www.aggregates.org www.nsf.org www.ntma.com www.nwwda.org



OSHA	Occupational Safety & Health Agency (US Government)
PCA	Portland Cement Association
PCI	Precast/Prestressed Concrete Institute
PDCA	Painting and Decorating Contractors of America
PEI	Porcelain Enamel Institute
PPI	Plastic Pipe Institute (The Society of the Plastics Industry, Inc.)
RMA	Rubber Manufacturers Association
SAE	Society of Automotive Engineers
SDI	Steel Deck Institute
SEFA	Scientific Equipment and Furniture Association
SMACNA	Sheet Metal, & Air Conditioning Contractors National Association.
SMPTE	Society of Motion Picture and Television Engineers
SPI	Society of the Plastics Industry, Inc., Spray Polyurethane Division
SSINA	Specialty Steel Industry of North America
SWI	Steel Window Institute
TEA	Experience design and themed entertainment association
TCA	Tile Council of America
UL	Underwriters Laboratories Inc.
USITT	United States Institute for Theatre Technology
WIC	Woodwork Institute of California
WMMPA	Wood Moulding & Millwork Producers Association

## NOTES

www.osha.gov www.portcement.org www.pci.org www.pdca.com www.porcelainenamel.com www.plasticpipe.org www.rma.org www.sae.org www.sdi.org www.sefalabfurn.com www.smacna.org www.smpte.org www.socplas.org www.ssina.com www.steelwindows.coin www.TEAconnect.org www.tileusa.com www.ul.com www.usitt.org www.wicnet.org www.wmmpa.com



### **CHAPTER SIX** Documentation, Forms & Checklists

#### **INTRODUCTION**

An integral component of the project development process is the creation and use of standard Work Process Documentation procedures. Project documentation must be consistently recorded throughout the project's life span for each of the various disciplines which are involved.

In Section 6.1 we provide a primer on a standardized version of Work Process Documentation procedures and components. Section 6.2 has examples of the Request For Qualifications (RFQ) form and the Request For Proposal (RFP) form. In Section 6.3 are examples

Project Development Guidelines Introduction

- 1 Delivering The Project
- 2 Categories & Disciplines
- **3 Project Process**
- 4 Phases & Disciplines
- 5 Standards, Specs & Codes
- 6 Documentation & Checklists
  - 6.1 Documentation
  - 6.2 The RFQ & RFP
  - 6.3 Checklists
  - 6.4 Forms
- 7 Risk Management
- 8 Legal Matters & Contracts
- 9 Glossary of Industry Terms
- Appendix A TEA's Project Chart
- Appendix B Flow Charts

of generic checklists helpful in the documentation process, including: a Theme Park A & E Services checklist for facility, show, and ride design; an Area Development checklist; and a Chart Of Accounts Checklist. In Section 6.4 are examples of other generic forms for Change Orders and Acceptance/Certificate of Client Approval.

#### 6.1 Documentation

#### WORK PROCESS DOCUMENTATION PROCEDURES

Work Process Documentation procedures have been standardized here in a five-step process that allows for a smooth flow of work and for consistent, accurate, and detailed project documentation. Each of the seven steps considers the involvement of both the Owner/Developer and consultant/vendor companies who ultimately work together to develop a complete Experience design and themed entertainment project.

#### **Work Process Documentation Procedures**

1. THE REQUEST FOR QUALIFICATIONS (RFQ): The Request for qualifications is

prepared and distributed by the Owner/ Developer, or an authorized representative, when seeking possible qualified candidates for the project.

2. QUALIFICATIONS SUBMISSION:

In response to the RFQ a prospective consultant, contractor, or vendor will submit their qualifications and required background information to the Owner/ Developer.







3. THE REQUEST FOR PROPOSAL (RFP): The Request for Proposal is sent by the Owner/ Developer, or an authorized representative, to selected qualified candidates, requesting a proposal for their services and the associated costs required to perform the specific Scope of Work as described in the RFP.

4. PROPOSAL SUBMISSION: In response to the RFP, a prospective consultant, contractor, or vendor will submit a proposal for the Scope of Work and the associated costs to the Owner/Developer.

5. CONTRACTS: Contracts include all of the various types of contracts that are necessary for the purchase of materials, services, or products that are associated with the development and execution of a project.

6. CHANGE ORDERS: Changes in the contracted Scope of Work, and the accompanying compensation, are to be officially documented through the use of Standard change Order forms.

7. WORK ACCEPTANCE: As a project nears the completion of each stage of development, the Owner/Developer shall develop punch lists and acceptance reports for each of the consultants', contractors', or vendors' scopes of work.

#### TYPICAL ARTICLES OF WORK PROCESS DOCUMENTATION

Work Process Documentation generally seeks or includes standard articles of information. The articles listed below are typical. Although some articles appear in all the documentation, most are selectively employed. The Work Process Matrix (Table 1) demonstrates how these articles are commonly assembled into the various documents.

- 1. PROJECT INFORMATION: Background information pertaining to the project's scope, the nature and location of the project and the project team members.
- 2. DESCRIPTION OF WORK: A description of the Scope of Work requested of a given consultant, contractor or vendor.
- 3. SCHEDULE: A detailed schedule for the planning, development and implementation of the project for a given Owner/Developer's Scope of Work.
- 4. COMPANY INFORMATION: Detailed information and qualifications concerning the consultant, contractor, or vendor's company.
- 5. DISCIPLINE/EXPERIENCE: Identification of a specific discipline and the specialized skills and previous experience of a consultant, contractor, or vendor's company.
- 6. PRICE: The price or fees for supplying a given Scope of Work or a specified product.
- 7. NOTICE OF COMPLETION: The approval and acceptance requirements established by the Owner/Developer to arrive at a project's completion.
- 8. QUALITY OF WORK: The minimum standards of workmanship required to perform the project's Scope of Work.



- 9. UNCONTROLLED EVENTS: A description of events that can impact the project outside of the control of either the Owner/Developer, the consultant, contractor or vendor.
- 10. SUBCONTRACTORS: A description of the services and an identification of the elements that shall be subcontracted to others by the prime contractor.
- 11. INSURANCE: A description of the insurance requirements that must be carried for the project by the contracting parties.
- 12. TAXES and PERMITS: A description of the taxes and permits required for the project's Scope of Work.
- 13. CONTRACTOR'S REPRESENTATION: A description of the warranties, authorized personnel and indemnification by the project's contractor.
- 14. OWNER'S REPRESENTATION: A description of the Owner/Developer's Scope of Work and the related responsibilities and indemnification.
- 15. OWNERSHIP OF WORK: The identification of licenses and the establishment fo the ownership of the products produced as part of the Scope of Work and for the project.
- 16. CONFIDENTIALITY: A description of the confidentiality requirements for the project.
- 17. DEFAULT BY CONTRACTOR: Details that specify the procedures to be taken should the contractor default on the project's Scope of Work.
- 18. DEFAULT BY OWNER: Details that specify the procedures to be taken should the Owner/Developer default on the project.
- 19. GENERAL PROVISIONS: A description of the general contractual guidelines and definitions utilized for the project.

	_		
Request For	Contracts	Change Orders	Acceptance
Proposal			
1. Project Information	1. Project Information	1. Project Information	1. Project Information
2. Description of Work	2. Description of Work	2. Description of Work	2. Description of Work
3. Schedule	3. Schedule	3. Schedule	3. Schedule
4. Company Information	4. Company Information	4. Company Information	4. Company Info
5. Discipline/Experience	5. Discipline/Experience	5. Discipline/Experience	5. Discipline/Experience
6. Price	6. Price	6. Price	6. Price
7. Notice of Completion	7. Notice of Completion	7. Notice of Completion	7. Notice of Completion
8. Quality of Work	8. Quality of Work	8. NA	8. NA
9. Uncontrolled Events	9. Uncontrolled Events	9. NA	9. NA
10. Subcontractors	10. Subcontractors	10. NA	10. NA
11. Insurance	11. Insurance	11. NA	11. NA
12. Taxes & Permits	12. Taxes & Permits	12. NA	12. NA
13. Contractors Rep	13. Contractors Rep	13. NA	13. NA
14. Owners Rep.	14. Owners Rep.	14. NA	14. NA
15. Ownership of Work	15. Ownership of Work	15. NA	15. NA
16. Confidentiality	16. Confidentiality	16. NA	16. NA
17. Default by Contractor	17. Default by Contractor	17. NA	17. NA
18. Default by Owner	18. Default by Owner	18. NA	18. NA
19. General Provisions	19. General Provisions	19. NA	19. NA
	Request For Proposal 1. Project Information 2. Description of Work 3. Schedule 4. Company Information 5. Discipline/Experience 6. Price 7. Notice of Completion 8. Quality of Work 9. Uncontrolled Events 10. Subcontractors 11. Insurance 12. Taxes & Permits 13. Contractors Rep 14. Owners Rep. 15. Ownership of Work 16. Confidentiality 17. Default by Contractor 18. Default by Owner 19. General Provisions	Request For ProposalContracts1. Project Information 2. Description of Work 3. Schedule1. Project Information 2. Description of Work 3. Schedule4. Company Information 5. Discipline/Experience 6. Price3. Schedule 4. Company Information 5. Discipline/Experience 6. Price7. Notice of Completion 8. Quality of Work 9. Uncontrolled Events 10. Subcontractors 11. Insurance9. Uncontrolled Events 10. Subcontractors 11. Insurance12. Taxes & Permits 13. Contractors Rep 14. Owners Rep.12. Taxes & Permits 13. Contractors Rep 14. Owners Rep.15. Ownership of Work 16. Confidentiality 17. Default by Contractor 19. General Provisions10. Subcontractor 11. Insurance	Request For Proposal       Contracts       Change Orders         1. Project Information       1. Project Information       1. Project Information         2. Description of Work       2. Description of Work       2. Description of Work         3. Schedule       3. Schedule       3. Schedule         4. Company Information       4. Company Information       4. Company Information         5. Discipline/Experience       5. Discipline/Experience       5. Discipline/Experience         6. Price       6. Price       6. Price         7. Notice of Completion       7. Notice of Completion       7. Notice of Completion         8. Quality of Work       8. Quality of Work       8. NA         9. Uncontrolled Events       9. Uncontrolled Events       9. NA         10. Subcontractors       10. Subcontractors       10. NA         11. Insurance       11. Insurance       11. NA         12. Taxes & Permits       12. Taxes & Permits       12. NA         13. Contractors Rep       13. Contractors Rep       13. NA         14. Owners Rep.       14. Owners Rep.       14. NA         15. Ownership of Work       15. Ownership of Work       15. NA         16. Confidentiality       16. Confidentiality       16. NA         17. Default by Contractor       17. Na

#### Table 1 – The Work Process Matrix



#### 6.2 The RFQ & RFP REQUEST FOR QUALIFICATIONS

The Request for Qualifications (RFQ) consists of a short form version and a long form version. The short form RFQ asks basic questions concerning the consultant/vendor companies' previous experience. The long form RFQ asks the same basic questions, but goes into greater depth by seeking detailed information regarding the consultant/vendor companies' financial history and status.

While both RFQ versions are used in the experience design and themed entertainment Industry, the more common short version RFQ is most likely to be used for smaller projects, where the consultants and vendor companies participate in a limited capacity.

For large scale projects, which seek to engage consultant and vendor companies in a more substantial role, the long form RFQ may be more appropriate. The long form RFQ can be used after consultants and vendor companies have met the project's initial minimum qualifications. On the following pages are typical examples of both versions of the RFQ form and format.

## **REQUEST FOR QUALIFICATIONS**

Subm Addre	nitted To:	_	
Subm Addre	nitted By:	– Date: _ Tel: _ Fax: _ Email:	
Princi Conta	ipal Office: act Person:	– _ CHECK ONE: _ □Partnership □Joint Venture	□Corporation □Individual □Other
1.0	Project Information (To be filled out	by the person requesting	g the RFQ)
	1.1 Name of Project:         1.2 Brief Description of Project:		
	1.3 Project Schedule:		
	1.4 Project Implementation Strategy:		
2.0	Description of Work		
	2.1 Scope of Services Requested:		
	2.2 Scope of Work Requested:		
3.0	Project Schedule		
	3.1 Project Schedule:		
	3.2 Current Stage of Development:		



#### 4.0 Company Information

- 4.1 How many years has your company been in business?
- 4.2 How long has your company been in business under its present business name?\_\_\_\_\_
- 4.3 Describe your company organization, ownership, affiliated companies, etc.
- 4.4 Under what other or former names has your company operated?
- 4.5 If your company is a corporation, answer the following:
  - Date of incorporation: \_\_\_\_\_
  - State of incorporation:
  - President's name: \_\_\_\_\_
  - Vice-President's name: \_\_\_\_\_
  - Secretary's name:
  - Treasurer's name: \_\_\_\_\_
  - Federal or National I.D. Number: \_\_\_\_\_
- 4.6 If your comany is a partnership, answer the following:
  - Date of formation:
    - Type of partnership (if applicable): \_\_\_\_\_
  - Name(s) of general partner(s): \_\_\_\_\_
- 4.7 If your company is a sole proprietorship, answer the following:
  - Date of formation:
  - Name of owner:
  - Taxpayer I.D. Number (T.I.N.):
- 4.8 If the form of your company is other than those listed above, describe it and name the principals:
- 4.9
   Company telephone number: \_\_\_\_\_\_

   4.10
   Company Fax Number: \_\_\_\_\_\_
- 4.11 Contact Person: \_\_\_\_\_

#### 5.0 Disciplines/Experience

5.1 List categories of work that your company normally performs with its own forces:

5.2 Sorvices/disciplines.	ou fool qualified to supply	
(chock as many as are an	oropriate to your company).	
Deroioct Management		This Show Production
	Landscape/Area Develop.	
LProject Planning	LIGraphics	LExhibition
Project Estimating	Lighting/Architectural	□Show/Ride Engineering
Project Business Affairs	Civil Engineering	□Show Control
Participant Affairs	□Structural	□Audio/Video Hardware
	□Electrical	□Show Water Systems
Retail Planning	□Mechanical	Show Mechanical
Generation Food & Beverage Planning	□ Acoustics	□Projection System Hardware
	Project Director	Ride Control
	Show Director	Contract Administration
Project Producer	□Show Lighting	□ Animatronics
Show Producer	Theatrical/Stage Lighting	□Other
Show Writing	□Show Set	
Show System Engineering	Show/Production Design	
	•	

5.3 How many employees do yo normally have in the following categories:

Administrative	Craftsmen
Technicians	Professional

\_\_\_\_\_ Artisans \_\_\_\_\_ Support

5.4 Briefly describe your facilities including size and major departments:

5.5 List major production areas and tooling:

5.6 List labor rates for all disciplines: \_\_\_\_\_



5.7	List software programs that you use:	
	Spreadsheet:	
	Word Processing:	
	Project Management:	
	Project Scheduling:	
	CAD:	
	Etc.:	

#### NOTE: For the long form version RFQ, proceed with ITems L-5.6 through L-5.7.4

- L-5.6 Company Background
  - L-5.6.1 On a separate sheet, list major projects your company has in progress, giving the name of the project, owner, architect/designer, contract amount, percent complete and scheduled completion date. Contact name & Tel:

L-5.6.2 State total worth of work in progress and under contract:

- L-5.6.3 On a separate sheet, list the major projects your company has completed in the past 3 years, giving the nameof the project, owner, architect/designer, contract amount, date of completion and percentage of the cost of the work performed with your own forces. Contact name & Tel.:
- L-5.6.4 On a separate sheet, list the major projects your company has completed in the past 3 years, giving the name of the project, owner, architect/designer, contract amount, date of completion and percentage of the cost of the work performed with your own forces. Contact name & Tel.:

### [NOTE: If answers to items L-5.6.5 - L-5.6.8 are YES, please attach a detailed response.]

L-5.6.5 Has your company ever failed to complete any work awarded to it?

L-5.6.6 Are there any judgments, claims, arbitration proceedings of suits pending or outstanding against your company or its officers?

\_\_\_\_\_YES \_\_\_\_\_NO

L-5.6.7 Has your company filed any lawsuits or requested arbitration with regard to any contracts within the past 3 years? YES NO

L-5.6.8 Within the last 3 years, has any officer or principal of your company ever been an officer or principal of another company when it failed to complete a project?

\_\_\_\_\_YES

#### L-5.7 References, Affiliations and Corporate Materials

L-5.7.1 List the name, address, telephone number and contact name of 4 creditors:

1)_	
_	 
2)	
/_	
-	
3)_	
-	 
4)_	 

L-5.7.2 List the name, address, telephone number and contact at your company's bank:

L-5.7.3 List any professional and civic affiliations your company has:

L-5.7.4 Include any company brochures or other related corporate materials that describe your company in detail along with this completed RFQ.



TEA's Project Development Guidelines Docs, Forms & Checklists

## **REQUEST FOR PROPOSAL**

#### **1.0 THE PROJECT**

 1.01 PROJECT INFORMATION

 Project Name:

 Location:

 Opening Date:

Operating Hours:

Operating Days:\_\_\_\_\_

Operational Life of Component: \_\_\_\_\_

#### 1.02 DESCRIPTION OF PROJECT

Describe the scope and nature of the project

1.03 THE OWNER/DEVELOPER Describe the Owner/Developer of the project.

#### 1.04 THE PROJECT TEAM

Describe current project team members and any other potential members who will interface as part of the Bidder's proposal.

- 1.05 THE OWNER/DEVELOPER'S PLANNING & IMPLEMENTATION STRATEGIES State the Owner/Developer's planning & implementation strategies.
  - 1.05.01 STATEMENT OF THE OWNER/DEVELOPER'S DESIGN STRATEGY State the Owner/Developer's design strategy.
  - 1.05.02 STATEMENT OF THE OWNER/DEVELOPER'S PRODUCTION STRATEGY State the Owner/Developer's production strategy.
  - 1.05.03 STATEMENT OF THE OWNER/DEVELOPER'S SHIPPING STRATEGY State the Owner/Developer's shipping strategy.
  - 1.05.04 STATEMENT OF THE OWNER/DEVELOPER'S INSTALLATION STRATEGY State the Owner/Developer's installation strategy.
  - 1.05.05 STATEMENT OF THE OWNER/DEVELOPER'S MAINTENANCE STRATEGY State the Owner/Developer's maintenance strategy.

#### 1.06 THE BIDDER'S PROPOSAL

1.06.01	The Bidder's proposal in response to this	s Request for Proposal must be received by
	(dd/mm/yy) at	(am/pm).

1.06.02 The Bidder's proposal shall be addressed to:

Name:		
Address:		
City/State/Country/Postal Code:		
Tel:	Fax:	_ Email:

1.06.03 Please submit \_\_\_\_\_ copies of your proposal in the appropriate format.

- 1.06.04 Bidder's response will constitute your offer to enter into a binding contract with the Owner/Developer as described or implied in the Scope of Work and any Exhibits, Drawings, or Contract Documents for the compensation set forth in your Bidder's response.
- As the Bidder and the Owner/Developer both understand the highly prototypical and creative nature of this project, the Owner/Developer shall be able to make reasonable modifications, either written or oral, to any equipment without receiving a change order increasing the Fixed Price as set forth in your Bidder's response. Such modifications may include, without limitation, modifications to design and engineering, facility changes, etc.
- Changes to completed equipment, or additions of equipment, for example, would justify a change order. The Owner/Developer may request changes or additions to the scope of work not covered by the Bidder's contract.

These changes will be considered Change Orders. Bidders will be asked to provide a Change Order Request for all affected work. Bidder will provide the Owner/Developer with all costs pertaining to Change Orders. The Owner/Developer can expect these costs to be fair and reasonable. All change order requests will be submitted in a format approved in writing by the Owner/Developer.

#### 2.0 DESCRIPTION OF WORK

#### 2.01 SCOPE OF SERVICES

The Bidder's response to this Request for Proposal should be developed with the understanding that this is a "turn-key" project. As a "turn-key" project, the total of these prices represents a Fixed Fee that must include all goods and services necessary to accomplish the work, from the inception of the contract trough to the opening of the attraction, whether or not specifically enumerated herein or on any drawings furnished by the Team or Owner/Developer.

These goods and services should include any and all necessary services, labor, materials, equipment and on-site support to facilitate the design, engineering, work or any exhibits, drawings, or contract documents.

The Fixed Fee shall also include all insurance, all labor and materials, all overhead and profit and all travel, per diem and shipping & relocation expenses.

All the Bidder's Sub-Contractors will submit pricing according to the conditions of this section. The Owner/Developer shall expect a fully detailed, itemized proposal in response to the detailed scope outlined in EXHIBIT 2.1-A, 2.1-B, etc.

#### 2.01.01 INTERFACE WITH TEAM MEMBERS

While work is in progress, the bidder, or his/her representatives, are expected to interface with other consultants and/or trades and with the owner/developer, in order to perform the bidder's work.



#### 2.01.02 PRODUCTION MANAGEMENT

1. Bidder is to provide a Production Manager who will be empowered to make decisions on artistic, technical and administrative issues on behalf of the Bidder and his/her Sub-Con-tractors at place of work, and who will be present during installation, on-site programming, test & adjust, rehearsals, and for ten (10) days after opening to the public at the project site.

The Production Manager will be the primary source for all communications with Bidder. The Owner/Developer understands that Bidder may require the presence of Sub-Contractor(s) Representative(s) during project meetings or on-site visits when the scope is outside Bidder's normal area of expertise or ability.

- 2. The scope of work must be coordinated with other entities who are supplying services or products to the Project, and shall at all times be subject to the reasonably established parameters by the Owner/Developer or his/her Representative.
- 3. During development of the Project, the project team needs to be aware that other Consultants, Manufacturers, Vendors, and Suppliers are on-site. Every attempt must be made to perform the work in such a manner as not to impede or interfere with others.
- 4. Bidder is to provide the Owner/Developer with a schedule detailing the time required to compile and verify the facility information requested. Bidder is to provide the Owner/Developer with a schedule of approval milestones prior to each stage of work.
- 5. Provide monthly status reports detailing progress to date and scheduled activities for each upcoming week to Owner/Developer or his/her Representative.

#### 2.01.03 DESIGN

- 1. All design, engineering, and facility information required for show elements shall include, but not be limited to, the items listed in the Scope of Work as stated in EXHIBITS 2.1-A, 2.1-B, etc.
- 2. It shall be understood by the Bidder that verification of facility information must be given the highest priority in scheduling as outlined in Section 3.
- 3. All elements will be designed, engineered, and documented by the Bidder. Owner/Developer reserves the right to make frequent reviews during the design stage and subsequent stages of the project.
- 4. All items to be installed in or near the water shall be designed to meet all submersible or moisture penetration specifications as needed. All items to be installed with an exterior exposure to the weather shall be designed to meet all wind loading and weather protection specifications.
- 5. All items will be engineered to meet acoustic specifications and shall not exceed standard Noise Coefficient (NC) ratings.

- 6. Al equipment will be engineered to accommodate continuous operation.
- 7. All items will be designed to facilitate ease of preventable maintenance, in conjunction with the maintenance manuals described above.
- 8. All equipment must be designed to facilitate easy adjustments of positioning and distances of movements. Adjustments may be necessary during installation, on-site programming, and during the operational life of the attraction.
- 9. Codes and Standards may be provided as guidelines that may apply to he work described in this RFP and any Exhibits, Drawings or Contract Documents. The Bidder should be aware of and consider these Codes and Standards when engineering all equipment. The Owner/Developer shall have no liability for failing to provide an applicable code or standard due to lack of knowledge or inadvertence.

#### 2.01.04 PRODUCTION

- 1. All materials must be of the highest quality and durability to accommodate a permanent installation and long-term maintenance.
- 2. All materials used for fabrication and construction must be fire retardant. Flame proofing chemicals and intumescent paints must be applied by qualified personnel with documented certification.
- 3. All materials including, without limitation, wood products, fabrics and steel, where applicable, will be properly treated for mildew and rust protection. All non-wood or non-metal materials including, without limitation, fiber reinforced plastics, foams, and resins must be accompanied by certification of fire retardation properties.
- 4. Photo documentation of the major stages in the fabrication process for all equipment must be incorporated into the maintenance manuals for identification and assembly references.
- 5. Bidder will number all products according to the specifications provided by the Owner/ Developer.

#### 2.01.05 PROGRAMMING, TEST & BREAK-IN

- 1. Provide personnel and equipment for the programming of all equipment under the direction of the Show Director.
- 2. Provide facilities, monitoring personnel and equipment for the test & break-in of all equipment, including a comprehensive test report.

#### 2.01.06 SHIPPING & STORAGE

1. Bidder will crate & ship all equipment and include detailed manifests and shipping schedule for all manufactured goods, associated equipment and hardware necessary for installation at the project site.



- 2. Bidder will be responsible for providing shipping, storage, and custom house brokerage services from the place of fabrication to the site.
- 3. Bidder will be responsible for preparing all export documentation and equipment according to procedures set forth by Owner/Developer.
- 4. Bidder will assign personnel to supervise packing, crating and domestic shipping. The personnel will also be responsible for daily coordination with the Owner/Developer's Shipping Representative.
- 5. Bidder will provide a representative who will be present at the project site to inspect all incoming shipments with an Owner/Developer's representative at the time of their delivery.
- 6. Bidder will notify Owner/Developer prior to crating of any equipment and an Owner/Developer's Shipping Representative will approve all shipping procedures.
- 7. Bidder will provide comprehensive in-transit insurance, specific to each shipment of Manufacturer supplied goods, guaranteeing full replacement costs assuring prompt payment of claims.

#### 2.01.07 INSTALLATION

- 1. Bidder will provide all supervisory labor and equipment necessary to install, test and adjust, and program, all equipment including without limitation hardware, electrical supplies, and all consumables necessary through opening to the public.
- 2. Bidder will provide all travel, relocation, and per diem for all labor necessary to install equipment at project site.
- 3. As the installation period will include integration of all equipment, sequencing and scheduling are subject to change as deemed necessary by Owner/Developer.
- 4. The Owner/Developer expects the Bidder to work n concert with other on-site trades as necessary to complete entire attractions through opening to the public.
- 5. The Owner/Developer will provide Bidder with offices on site which will include all services for, but not limited to, long distance phone, fax, reproduction services, courier and mail services, transportation, consumables, office supplies and computer services. The costs and requirements shall be identified by the Bidder in EXHIBIT 6.0-A, etc.
- 6. While on site, all Bidder's personnel and Sub-Contractors will abide by the Owner/Developer's Policies and Procedures.
- 7. Reparation of any damage caused by Bidder personnel and/or Sub-Contractors to equipment or materials provided by or belonging to other trades will be the sole responsibility of the Bidder.



- 8. At all times Bidder will keep the premises free from unnecessary accumulation of waste materials or rubbish caused by your operations. At the completion of work, remove all waste materials and rubbish from the Project as well as all tools, installation equipment, machinery and surplus materials. Failure to clean up at the completion of work may result in the Owner/Developer doing so with the cost thereof being charged to Bidder, or deducted from remaining amounts owed.
- 9. Bidder will provide temporary signs and notices, post and maintain all notices, signs and other safeguards as required by law or ordinance. No other signs or advertisements shall be installed on the premises except as authorized by Owner/Developer or its assignees.
- 10. Use of Site: Bidder shall accomplish the Work under this agreement with a constant effort to eliminate unnecessary noise, dust, obstructions and other annoyances. Owner/Developer will designate, at its sole discretion, routes for ingress, egress and areas for storage and equipment. Bidder shall strictly comply with all such designations. Bidder shall at all times protect adjacent property and Owner/Developer or other Manufacturer's equipment. Bidder shall repair any wear or damage caused to the Project as a result of Manufacturer's operation or use.

#### 2.01.08 OPERATIONS/MAINTENANCE

- 2.1.1 Maintenance Manuals: Bidder will provide \_\_\_\_\_ copies of Maintenance Manual(s) with equipment descriptions, periodic maintenance schedules, required maintenance procedures, required spare parts, a parts list and special equipment data sheets necessary for the proper upkeep and scheduling of maintenance servicing of the equipment furnished by the Manufacturer. The daily, weekly, monthly, six (6) month and annual recommended maintenance procedures are to be included in the Maintenance Manual(s). The periodic maintenance schedule and required maintenance procedures provided by the Manufacturer will ensure the proper operation of all equipment supplied by the Manufacturer for this project.
- 2.1.2 Training of the Maintenance Staff. (The Bidder will address both of the Options as they are described below).

#### OPTION I: TRAINING OF MAINTENANCE STAFF BY BIDDER

- 1. Periodic maintenance requirements detailed by the Manufacturer in the Maintenance Manual(s) will be provided with the Manufacturer's equipment as a guideline for use by Owner/Developer's Project maintenance technicians.
- 2. The daily and weekly maintenance checklist shall also be provided by the Manufacturer for use by the Owner/Developer's Project maintenance technicians.
- 3. The on-site training of the Project maintenance staff shall be provided by the Manufacturer to familiarize the maintenance staff will all aspects of the equipment and maintenance procedures.
- 4. Bidder will specify the minimum number of Project maintenance staff personnel required to perform the periodic maintenance procedures/.



#### OPTION II: MAINTENANCE SERVICE CONTRACT PROVIDED BY BIDDER

The Manufacturer will provide a Service Contract to the Owner/Developer for the periodic maintenance of all equipment supplied by the Manufacturer. The Manufacturer's Service Contract will specify the daily, weekly, monthly, six (6) month and annual recommended maintenance procedures to be performed by the Manufacturer's personnel.

#### 2.02 DELIVERABLES

- 1. All Bids must be based on the materials and methods indicated in the Bid Package or on products approved by Addenda as satisfactory substitutions, if any. The Owner/Developer expects the proposal will reflect the use of the highest quality materials and equipment which are new and without defect. The Owner/Developer further expects all work to be performed by competent, professional work persons who will follow standard trade practices for safety and construction methods.
- 2. Each Bid must quote on the designated methods, materials, equipment, and accessories exactly as specified and detailed without exception. No deviations will be accepted in the Base Bid. If the equipment specified is not in accordance with the standard practices and methods of fabrication, the Bidder may submit additional information as an Alternate bid using its standards. When quoting, however, the Bidder shall show all differences of methods used, with a credit (plus) or debit (minus) in dollar amounts to the original proposal for each item. If the Alternate bid would result in no change in the Base Bid, Bidder will indicate so by the words "No Change."
- 3. The Owner/Developer welcomes recommendations for alternative items to the standard manufactured equipment. The Bidder should submit alternatives on a substitution sheet attached to, but not as part of, the Base Bid. Recommendations for proposal alternatives, or options to the proposal, should include the Manufacturer, model number, and description of the item or material, with a plus or minus dollar figure to the original proposal for each item.
- 4. Acceptance of any aspect of a Bid incorporating a suggested alternative will depend on its approval by the Owner/Developer as a satisfactory substitute for the product selected. No request for approval will be considered unless accompanied by comparative evidence, up to and including, but not limited to, technical physical samples as necessary for evaluation.
- 5. Acceptance of any aspects of a Bid incorporating a suggested alternative shall not excuse the Bidder from complying with all of the requirements contained within the Bid Package, including without limitation, all technical and performance specifications and dimensional requirements.

#### 2.03 CHANGE ORDERS

1. Should any Bidder become aware of any discrepancy, error, or omission or be uncertain as to the intent of the Bid Package, the Bidder shall immediately notify the Owner/Developer in writing at the address set forth in paragraph 1.5 of any such question(s). The Owner/Developer will then issue any necessary correction or clarification to all Bidders in writing at



the earliest possible time.

- 2. All requests for clarification must be received in writing by the Owner/Developer prior to the date for receipt of bids.
- 3. Failure to request clarification will not relieve the Bidder of his/her responsibility to perform the work in accord with the intent of the documents. The signing of the Bid will be considered as implicitly denoting that the Bidder has thorough and complete comprehension of the full intent and scope of the specifications.
- 4. Any interpretation or correction will be issued as an Addendum by the Owner/Developer. Only a written interpretation or correction by the Owner/Developer's Addendum shall be binding. No Bidder shall rely upon any interpretation or correction given by any other method.
- 5. Prior to receipt of bids, Addenda will be faxed or delivered to each person or firm recorded by the Owner/Developer as being in the possession of the Bidding Documents.
- 6. Bidder's proposal will constitute an offer to enter into a binding contract with the Owner/ Developer, as described or implied in the Scope of Work, Exhibits, Schedules, RFP or any other Contract Documents for the compensation set forth in the Bidder's proposal.
- 7. The Owner/Developer may require changes or additions to the Scope of Work not covered by Bidder's contract; these changes and any changes to work completed will also be considered Change Orders. The Bidder will then be asked to provide a Change Order Request for all affected work with all costs pertaining to same. The Owner/Developer expects these costs to be reasonable and fair and based on similar pricing as that presented in the Bidder's proposal. All Change Orders will be pre-approved in writing.
- 8. The Owner/Developer reserves the right to add or eliminate individual equipment items as deemed necessary or desirable to complete the work contemplated by this Bid Package. Any individual items added or eliminated shall not affect the cost quoted for the remaining items. In determining the amount to be decreased or added to the Bid, the price quoted for the specified equipment items shall be divided by the quantity specified.
- 9. By submitting this Bid, the Bidder represents that he/she is familiar with the Requirements of the Bid Package.
- a. The Bidder must inform him/herself fully of all conditions relating to the purchase of the specified technical equipment. Failure to do so will not relieve a successful bidder of his/ her obligation to furnish all materials and labor necessary to carry out the provisions set forth in the Bid Package.
- b. Bid Sets may not be accurately collated. The Bidder is responsible for ensuring that all necessary information, as listed in Section \_\_\_\_\_, is included. Upon notification, omitted sheets, pages or other information deemed necessary by the Bidder will then be issued by the Owner/Developer to the Bidder immediately at no charge.
- c. The successful Bidder will not be allowed any extra compensation if he/she discovers



information that was available during the bidding period, but failed to inquire or have clarified by the Owner/Developer before submitting his/her bid.

#### 3.0 SCHEDULE

- 3.01 The Owner/Developer is operating on a fixed schedule. The bid proposal must include a detailed schedule of all stages of work commencing from inception of this agreement through installation and testing of all show equipment. Bidder's schedules should be submitted with the bid proposal. Schedules must incorporate the milestone dates as set forth in Section 3.0 of this RFP.
- 3.02 The Owner/Developer's milestone schedule for the project is detailed in Exhibit 3.1-A, etc. The Bidder must integrate its schedule to the Owner/Developer's schedule. Should any conflicts in scheduling occur, the Owner/Developer's schedule will take precedence.
- 3.03 The Bidder must identify key hold points at which the Owner/Developer's involvement is required. This will be detailed in the Bidder's proposal, and will included as an Exhibit to the contract.
- 3.04 The Owner/Developer has identified key hold points at which time the Bidder must await approval and instructions prior to proceeding. Exhibit 3.1-A details these.

#### 4.0 BIDDER COMPANY INFORMATION

- 4.01 As a Design/Build project, one of the most critical factors to ensure a successful opening is a production team whose efforts are solely dedicated to the tasks necessary to complete the project. Towards this end the Owner/Developer will ask the Bidder to identify key positions and personnel who, while under the employ of Bidder, are to be specifically dedicated to this project. Please identify: List the key positions and personnel that are critical to the project.
- 4.02 Provide a list of holidays observed by Bidder or Unions that may affect Bidder's design, fabrication, or installation work during this project.
- 4.03 Identify an authorized representative who has the ability to direct all of the Bidder's work. The Authorized Representative will participate in all key issues of the project's planning and development.

#### 5.0 BIDDER COMPETENCY

5.01 Bidding documents will be issued to prospective Bidders with the presumption of their capability to perform the prescribed work. The competence and responsibility of the Bidder will be considered in making the award. The Owner/Developer is not obligated to accept the lowest, or any other bid, and will make the choice of successful Bidder at their sole discretion.

- 5.02 The selection process of the successful Bidder will include priorities in the following order:
  - Experience in producing the product being bid Financial stability Proven track record Ability to meet schedule Price
- 5.03 The Bidder will supply evidence of having executed Contracts of a size comparable to this work in its experience and possesses ample financial resources to enable it to perform in a satisfactory manner. The Owner/Developer reserves the right to reject any Bid when available evidence indicates that said Bidder may lack the qualifications necessary to properly carry out the terms of the Agreement.

#### 6.0 BIDDER'S CONTRACT PRICE

- 6.01 The Project is considered a Design/Build project. This assumes that the information provided by the Owner/Developer is to be used as a guideline for the design and production of all equipment as described in this RFP. Bidder will be expected to design and produce all items to satisfy the unique needs of this Project as described by Own-er/Developer.
- 6.02 Please indicate pricing strategy in the following categories:

Unit Prices of Components Shipping Installation Travel Maintenance Special Tools Spare Parts for One (1) Year

- 6.03 Provide labor rates for all personnel Bidder intends to utilize throughout the entire project. This should include all scheduled rate increases provided for in collective bargaining agreements between Bidder and Organized Labor Unions.
- 6.04 Provide material mark-up rates. This rate shall hold true for the duration of the project, including all changes in scope as it relates to the Bidder scope of work.

#### 7.0 APPROVALS AND ACCEPTANCE

- 7.01 All key milestones identified in section 3.0 will be approved in writing by the Owner/ Developer for acceptance of work.
- 7.02 At substantial completion of each stage of work the Owner/Developer will provide the Bidder with a comprehensive "punch list" of outstanding items.
- 7.03 All approvals given by the Owner/Developer shall be made by the Owner/Developer's authorized representative.

#### 8.0 BIDDER'S QUALITY OF WORK

8.01 Bidder shall perform the work in accordance with applicable codes and within the material quality specifications in EXHIBIT 2.1 attached hereto.

#### 9.0 UNCONTROLLABLE EVENTS

- 9.01 Definition: UNCONTROLLABLE EVENTS shall mean any event not reasonably within the control of the party affected, including, without limitation:
  - a. Severe weather, flood, fire, lightning, earthquake, epidemic, or other natural disaster or act of God;
  - b. Strikes, walkouts, or other labor problems;
  - c. Action or inaction by, or inability to obtain authorization or approval from any governmental agency or authority, which party is unable to overcome;
  - d. Failure or threat of failure by any third party which causes a party to exercise its reasonable judgment to reduce work.
- 9.02 Liability. Neither party shall be liable or considered to be in default for failure or delay in performing, if performance is prevented, hindered, or delayed by an "UNCON-TROLLABLE EVENT." In such event, the party which is unable, or anticipates being unable, to perform shall (a) promptly notify the other party in writing of the nature, cause, date of commencement, and expected duration of any such delay, (b) indicate to what extent it will be prevented from performing and (c) exercise due diligence to remove such inability with all reasonable dispatch.

#### 10.0 SUB-CONTRACTORS TO THE BIDDER

- 10.01 The Owner/Developer recognizes that the Bidder may be unable to perform all aspects of work in-house. The Bidder must identify others (Sub-Contractors) as necessary and to represent Sub-Contractors in all matters pertaining to pricing, scheduling, personnel, design, fabrication, manufacture, installation, testing and start-up of this project.
- 10.02 Provide on behalf of Sub-Contractor(s) all key personnel lists and rates as described in sections 4.0, 5.0 and 6.0.

#### 11.0 INSURANCE PROVIDED BY BIDDER AND SUB-CONTRACTORS

- 11.01 Before starting its work or delivering any equipment to the Project site, Bidder shall furnish Certificates of Insurance to the Owner/Developer evidencing that Bidder has placed in force the following valid insurance with insurer acceptable to the Owner/Developer:
  - 11.01.01 Workers' Compensation, covering statutory requirements under local State Workers' Compensation or other governmental authority.
  - 11.01.02 Commercial General Liability and Automobile Liability.
    - A. Commercial General Liability
      - 1. Limits of Insurance Each Occurrence Limit: \$1,000,000
      - 2. Personal and Advertising Injury Limit: \$1,000,000
      - 3. Products & Completed Operation Aggregate Limit: \$1,000,000
    - 4. General Aggregate Limit (other than products-completed operations):
    - \$1,000,000



- B. Comprehensive Automobile Liability. \$1,000,000 each occurrence bodily injury liability or property damage liability or both combined.
- 11.02 The Bidder shall add the Owner/Developer as Additional Insureds under Bidder's General Liability Coverage referred to in section 11.01.02.
- 11.03 Each of the required certificates shall have an endorsement that provides the coverage therein afforded shall not be canceled or reduced, except by written notice to the Owner/Developer, given at least sixty (60) days prior to the effective date of such cancellation or reduction. In the event the coverage evidenced by any such certificate is canceled, Bidder shall procure and furnish to the Owner/Developer certificates conforming to the above requirements at least five (5) days before the effective date of such cancellation. In the event Bidder shall fail to provide such new certificates within the time specified, Owner/Developer shall have the right to procure such insurance and back charge the cost thereof to Bidder.

#### 11.04 OBLIGATION OF OWNER DEVELOPER

Owner/Developer will obtain an all risk insurance policy, including theft, to provide protection for all personal property located at the PROJECT. Said insurance policy will name as additional insured and loss payee as their interest may appear. Owner/Developer shall repair, restore or replace all property or work located at the PROJECT belonging to or provided to Owner/Developer pursuant to this agreement which Owner/ Developer or his/her employees, agents or suppliers may damage or destroy, to the extent such damage is due to the negligence or intentional misconduct of such parties.

#### 12.0 TAXES & PERMITS

- 12.01 Employee Taxes. The Bidder and the Owner/Developer shall be responsible for all taxes to be paid and/or withheld with respect to its own employees.
- 12.02 Other Taxes. All taxes imposed other than those set forth in Section 12.1 and Exhibit 12.2 shall be borne by Owner/Developer.
- 12.03 Permits. All permits required in connection with the work, including all work permits, shall be obtained by Owner/Developer unless provided otherwise as set forth in EX-HIBIT 12.3.

#### 13.0 BIDDER'S WARRANTIES

- 13.01 The Bidder will warrantee all equipment products provided for this project and ensure that they have been thoroughly inspected and tested to perform as designed. All equipment products will further be warranted to be free of defects in materials and work-manship for a period of one (1) year commencing with the Owner/Developer' final buy-off date.
- 14.0 OWNER/DEVELOPER'S SCOPE OF WORK RESPONSIBILITIES14.01 List Owner/Developer's scope of work responsibilities here.



#### 15.0 OWNERSHIP OF WORK

- 15.01 All materials and information provided by the Owner/Developer to Bidder whether oral or written, in connection with the project, shall remain the sole and exclusive property of the Owner/Developer who shall retain all rights, titles, interest in and to such property.
- 15.02 The Bidder hereby transfers and assigns to the Owner/Developer all of Bidder's rights, titles, and interest in and to any and all services and materials, including the results and proceeds thereof, furnished to the Owner/Developer in connection with the project, and agrees that the Owner/Developer shall own in perpetuity throughout the world all of the services and materials, including the results and proceeds thereof, furnished to the Owner/Developer shall own in perpetuity throughout the world all of the services and materials, including the results and proceeds thereof, furnished to the Owner/Developer in connection with the project.
- 15.03 All technologies and products owned by the Bidder previous to this project, and technologies and products which are proven to be under development prior to this contract remain the sole property of the Bidder. The Owner/Developer will be provided irrevocable license to utilize such technologies and products in connection with the project.

#### 16.0 CONFIDENTIALITY

- 16.01 Definition. "CONFIDENTIAL INFORMATION" of each party shall mean all information belonging to, used by, or in the possession of such party, which is not generally available to the public. CONFIDENTIAL INFORMATION includes, but is not limited to, information concerning methods and processes of construction or manufacture, business and financial records and information, information regarding customers and suppliers, and all other information generally regarded as trade secrets.
- 16.02 Obligation. Neither party shall in any manner disclose CONFIDENTIAL INFORMA-TION of the other party, either purposely or inadvertently, to any third party. Each party shall take measures necessary to reasonably protect CONFIDENTIAL INFOR-MATION of the other party, including requiring any employees, Sub-Contractors, consultants, sub-licencees, and other persons or entities with access to CONFIDENTIAL INFORMATION of the other party to execute appropriate nondisclosure agreements.

NOTE: EXHIBITS and ATTACHMENTS to support the Request for Proposal, which include plans, specifications, details, etc., are to be attached here.



TEA's Project Development Guidelines Docs, Forms & Checklists

#### 6.3 Checklists EXPERIENCE DESIGN AND THEMED ENTERTAINMENT

## A&E SERVICES CHECKLIST

#### Scope of Work for Facility, Show, and Ride Design

This checklist can be used for general planning purposes and to identify the total scope of work for experience/educational/entertainment projects in areas that are to be enclosed within a Facility or Building. This checklist originally was developed for the planning and review of Show Facility packages for major theme park projects, but can serve as a useful guide for a wide variety of experience/educational/entertainment projects. Typically TEA member consultants can provide A&E design on projects for all of the systems outlined here.

I. Facility-1

# THOSE ITEMS IN CONTACT WITH, OR IN CLOSE PROXIMITY TO, SHOW SCENES OR SHOW & RIDE EQUIPMENT

Description Of Item Or System Design

- □ 1. Show platforms
- □ 2. Stairs, ladders, & catwalks
- □ 3. Projection rooms
- $\Box$  4. Scene separation partitions and ceilings
- II. Facility-2

#### THE BUILDING SHELL AND ITS UTILITY SYSTEMS

Description Of Item Or System Design

- □ 1. Architectural & structural systems onstage
- □ 2. Exterior building envelope
- □ 3. Ticketing & queue area
- □ 4. Load & unload
- $\Box$  5. Guest convenience
- □ 6. Special doors
- □ 7. Architectural & structural systems backstage
  - □ A. Stairs, corridors
  - □ B. Utility & maintenance rooms
  - $\Box$  C. Office & control rooms
  - $\Box$  D. Employee convenience

#### THE BUILDING UTILITY SYSTEMS

Description Of Item Or System Design

- □ 1. Facility mechanical
  - $\Box$  A. HV/AC system
  - □ B. Plumbing system
  - $\Box$  C. Fire protection system
  - D. Compressed air system
  - □ E. Steam system
  - □ F. CO2 system
  - □ G. Pneumatic systems
  - □ H. Power hydraulic systems



- □ 2. Facility electrical
  - $\Box$  A. Power
    - □ B. Lighting
    - □ C. UPS system for computers
    - □ D. Sound system wiring (to racks only)
    - □ E. Lighting control diagrams
  - $\Box$  F. Circuitry to P.O.C.
- $\square$  3. Show computer
- $\Box$  4. Sound rack
- □ 5. Lighting dimmer rack
- □ 6. Animation control board
- □ 7. Signal & communications
- □ 8. Emergency system
- □ 9. Lightning protection
- $\square$  10. Grounding system
- □ 11. Civil engineering
- □ 12. Landscape architecture
- □ 13. Soils engineering
- □ 14. Methane barrier design
- □ 15. Acoustical design, facility
- □ 16. Central energy plant

#### III. SHOW DESIGN

Description Of Item Or System Design

- □ 1. Concept design
- □ 2. Script writing
- $\Box$  3. Storyboards
- □ 4. Renderings
- $\Box$  5. Models
- □ 6. Research
- □ 7. Show architectural
- □ 8. Set design
- $\Box$  9. Prop & dressing design
- □ 10. Signage & graphics
- □ 11. Operations interface
- □ 12. Ride interface
- □ 13. Facility interface
- □ 14. Show acoustics
- $\Box$  15. Show timing design
- □ 16. Maintenance interface

#### IV. SHOW SYSTEMS DESIGN

Description Of Item Or System Design

- $\Box$  1. Show lighting
- $\Box$  2. Show controls
- $\Box$  3. Show sound
- $\Box$  4. Show animation design



- $\Box$  5. Show animation programming
- $\Box$  6. Show action equipment
  - $\Box$  A. Machine analysis
    - □ B. Machine design
  - □ C. Facility interface
- □ 7. Special effects flame
- $\square$  8. Show water systems
- $\Box$  9. Mockup & testing
- $\square$  10. Show control programming
- □ 11. Technical manuals

#### V. RIDE SYSTEM DESIGN

Description Of Item Or System Design

- $\Box$  1. Vehicle
- $\Box$  2. Track
- $\Box$  3. Propulsion system
- $\Box$  4. Ride control system
- □ 5. Track supports
- $\Box$  6. Stress analysis of track
- □ 7. Stress analysis of vehicles

#### VI. SUPPORT SERVICES

Description Of Item Or System Design

- □ 1. Cost estimating
- $\Box$  2. Scheduling
- □ 3. Reproduction
- $\Box$  4. Fees, permits, testing
- □ 5. Purchasing
- □ 6. Project Installation & Coordination
- $\Box$  7. Inspection & testing
- □ 8. A&E construction services



TEA's Project Development Guidelines Docs, Forms & Checklists


# AREA DEVELOPMENT CHECKLIST

This checklist is to be used for general planning and to identify the total scope of work for experience/educational/entertainment projects in the areas outside of the attractions that are enclosed within buildings. This checklist originally was developed for the planning and review of the Area Development package for a typical experience design/themed entertainment project.

# A. BRIDGES

- □ 1. Pedestrian bridges
- $\square$  2. Vehicle bridges

# B. EARTH SYSTEMS

- □ 1. Berms
- $\square$  2. Planters
- $\square$  3. Retaining walls
- $\Box$  4. Tunnels

# C. ENTERTAINMENT SYSTEMS - OPEN AIR

- $\Box$  1. Show only
- $\square$  2. Show and ride
- $\square$  3. Ride only

## D. GUEST SYSTEMS - PEDESTRIAN ACCESS & CONTROL

- $\Box$  1. Fences
- $\Box$  2. Garden walls
- $\Box$  3. Gates
- $\Box$  4. Handrails
- $\Box$  5. Queue line stanchions and rails
- □ 6. Ramps
- $\Box$  7. Stairs

## E. GUEST CONVENIENCE & SERVICES

- □ 1. Baby care
- $\square$  2. Benches
- $\Box$  3. Restrooms
- $\Box$  4. Seats
- $\Box$  5. Strollers
- □ 6. Wheelchairs

## F. LANDSCAPING AND GARDENS

- □ 1. Irrigation stems
- □ 2. Garden walls
- □ 3. Planters

## G. PAVING SYSTEMS AND COMPONENTS

- $\Box$  1. Curbs
- $\Box$  2. Gutters
- □ 3. Paving, flexible for pedestrians
- □ 4. Paving, rigid for vehicles



- □ 1. Commercial sales and merchandise
- $\square$  2. Food service
- $\Box$  3. Restaurants
- □ 4. Cafeterias
- □ 5. Fast food
- $\Box$  6. Beverage
- $\Box$  7. Snacks

## I. SETS & PROPS - EXTERIOR FACADES

- (Not attached to a building)
- □ 1. Facades
- $\Box$  2. Mountains
- $\Box$  3. Rockwork
- $\Box$  4. Staff rockwork
- $\Box$  5. Staff trees

## J. TRANSPORT SYSTEMS & ANCILLARY COMPONENTS, EXTERIOR

- $\Box$  1. Buses
- $\Box$  2. Boats
- □ 3. Funicular railways
- □ 4. Moving sidewalks
- $\Box$  5. People movers
- □ 6. Skyways (cable)
- $\Box$  7. Trains and monorails
- □ 8. Trams

## K. UTILITIES FOR AREA DEVELOPMENT

- $\Box$  1. Audio systems
- □ 2. Fire hydrants
- □ 3. Irrigation systems
- □ 4. Lighting
- $\Box$  6. Power
- $\Box$  6. Storm drains
- $\Box$  7. Catch basins
- $\square$  8. Curbs
- □ 9. Gutters

## L. UTILITIES FOR BUILDING SERVICES

- □ 1. Central Energy Plant (CEP)
- $\Box$  2. CEP distribution lines
- $\Box$  3. Phones
- $\Box$  4. Power
- $\Box$  5. Sewer
- □ 6. Utility vaults and manholes
- □ 7. Water (potable and fire)

## M. VEHICLE AND TRAFFIC SYSTEMS

- □ 1. Parking lots
- $\Box$  2. Roads
- □ 3. Traffic control



- □ 1. Colonnades
- $\Box$  2. Flag poles
- $\Box$  3. Light standards
- $\Box$  4. Signs

## O. WATER - OPEN SYSTEMS - ONSTAGE

- $\Box$  1. Water structures
- $\Box$  2. Boat docks
- □ 3. Lagoon walls
- $\Box$  4. Lagoon wall facades
- $\Box$  5. Wharves
- $\Box$  6. Water systems
- $\Box$  7. Fountains
- □ 8. Lakes
- □ 9. Lagoons
- $\square$  10. Ponds
- $\Box$  11. Pools
- $\Box$  12. Streams
- □ 13. Waterfalls

## P. OFF SITE - BACKSTAGE SYSTEMS

- □ 1. Support buildings & systems
- □ 2. Energy plant
- □ 3. Fire department
- $\Box$  4. Foods, central kitchen, and warehouses
- $\Box$  5. Hospitals and first aid
- □ 6. Laundry
- □ 7. Parade systems
- $\square$  8. Phone company
- $\Box$  9. Power lines
- $\square$  10. Security
- □ 11. Shower, locker, and wardrobe
- □ 12. Solid waste disposal
- □ 13. Warehouses
- □ 14. Water Plant fresh water
- □ 15. Water Plant waste water

## Q. WATER - OPEN SYSTEMS

- □ 1. Area drains
- $\Box$  2. Catch basins
- $\square$  3. Culverts
- $\Box$  4. Canals
- $\Box$  5. Holding ponds

TEA member companies and consultants have typical details on many of the above noted systems that were developed for a myriad of other projects. Qualified TEA members would be happy to provide these details or any other information that you might need. Contact the TEA for further information.



## 6.4 Forms

## CHANGE ORDERS

Change Orders and Information Clarification are two commonly confused project items. Changes Orders in the Scope Of Work for a project must be accurately documented prior to the beginning of that work. This then becomes a change in scope and compensation, as outlined in a project Change Order. The Change Order document format must be distinctive and easily recognizable.

Project Team members are often requested to offer further details which clarify information previously provided. This then becomes the Information Clarification document, and requires no change in compensation. The clarification of work can be documented in the standard course of the project's documentation.

Change Orders not only require advanced notice for the consideration of both parties involved but a signature from each acknowledging the Change Order. Only then is the Change Order valid, recognized, and ready for implementation.

An example of a typical Change Order form can be found on the next page.



# **CHANGE ORDER**

Client Name:	Date:
Address :	Job #:
Contractor Name:	
Contractor Address:	
Original Agreement:	

OWNER and CONTRACTOR hereby agree to make the following changes to the contract::

## **CURRENT CONTRACT STATUS**

The Original (Contract Sum) (NTE Cost) was:
Net Change by previously authorized Change Order:
The (Contract Sum) (NTE Cost) prior to the Change Order was:
CHANGE ORDER
The (Contract Sum) (NTE Cost) will be (increased) (decreased) (unchanged) by this Change Order:
The new (Contract Sum) (NTE Cost) including the Change Order will be:
The contract Time will be (increased) (decreased) (unchanged) by ( )days:

## **PAYMENT SCHEDULE:**

(Contractor Name)	(Client Name)
By:	By:
(Signature)	(Signature)
(Print Name & Title)	(Print Name & Title)
(Date)	(Date)

# ACCEPTANCE/CONFIRMATION OF CLIENT APPROVAL

The Acceptance of the consultant or vendor company's work hapens at various points throughout the course of the project. The key to Acceptance is to minimize the duration of time between completion and approval. When Acceptance is performed in a timely manner, financial liability and exposure, to both the Owner/Developer and the consulting and vendor companies, is greatly minimized.

At a minimum, Acceptance should be performed at each stage of the project's development. When the project nears the 90% completion stage, or on larger projects at each major stage, a punch list of items to be completed will be prepared by the Owner/Developer for review and signing by the consultant and vendor companies.

An example of a typical Acceptance/Confirmation of Cliet Approval form can be found on the next page.

# ACCEPTANCE/CONFIRMATION OF CLIENT APPROVAL

Client Name:	Date:
Client Address:	Job #:
Scope of Work to be Completed:	
The signing of this document indicates that	hasAgreementfor the above
With the exception of the items listed below, completed all of the services outlined in the Agreement. T shall be made to	has he project is now substantially completed and final payment within day(s).
Work still to be completed:	
(Contractor Name)	(Client Name)
By:	By:
(Signature)	(Signature)
(Print Name & Title)	(Print Name & Title)
(Date)	(Date)






# CHAPTER SEVEN RISK MANAGEMENT

## INTRODUCTION

There are three basic methods for treating risk: 1) avoidance, 2) retention, and 3) transfer are integrated in a process known as Risk Management. In terms of purpose, risk management is described as the effective reduction of the adverse effects of risk. The objective is to preserve the ongoing ability of your organization to provide its custom fabricated goods; provide customized design and consulting services to its clients; to conserve assets, both human and physical; and to protect the earning power of the business.

Risk management is basically a process of decision making for your business. The process begins with recognition of the existence of various risks. Project Development Guidelines Introduction

- 1 Delivering The Project
- 2 Categories & Disciplines
- 3 Project Process
- 4 Phases & Disciplines
- 5 Standards, Specs & Codes
- 6 Documentation & Checklists
- 7 Risk Management
  - 7.1 Risk Management
  - 7.2 Significance of Insurance?
  - 7.3 Bonds & Bonding
  - 7.4 Good Housekeeping TIps

8 Legal Matters & Contracts
9 Glossary of Industry Terms
Appendix A - TEA's Project Chart
Appendix B - Flow Charts

## 7.1 What Is Risk?

Risk is uncertainty of loss. Losses, or decreases in value, are the end result of risk. Recognizing risk and dealing with the potential of loss is the foundation for insurance. Without risk and the potential for loss, there would be no need for insurance. When widespread risks do exist, no one ever reaches the state of absolute certainty. Anyone who owns a business and has property automatically assumes the risk of loss from such things as fire, windstorm, business interruption, or liability lawsuits. The inability to predict risks and potential loss is the risk the business owner acquires with their ownership.

## HOW IS RISK TREATED AND MANAGED?

## Avoiding Risk

One of the most obvious methods of handling risk is to avoid as many risks as possible. If one does not want to have to try to predict economic losses, they can avoid some losses by not exposing themselves to the risk. For example, the risk of airplane accidents, drowning, and sports injuries can be avoided largely by keeping away from airplanes, water, and sports events, respectively.



Photo by Lewis Hine

## Retention of Risk

If risk has not been avoided, but is in existence, one may decide to keep it. Sometimes this is called "Risk Assumption," but Risk Retention seems the better term because one retains rather than assumes. So risks are retained because their existence or significance of the risk is not known. Lack of knowledge, or inability to reach the right decision, may result in retention of risks that you would not normally wish to retain. The most important factor in risk retention is to identify the risk so a decision can be made and to then establish a way of handling it.

## Transfer of Risk

Some of the most important risks and losses faced by attraction vendors cannot be avoided or retained. The method for dealing with this situation is transferring as much of the unpredictability as possible to someone else. This is done by the following methods:

## Contracts Other Than Insurance

Risks may be shifted to other not only by insurance but also by several other methods. One such form is Incorporation. When a business firm incorporates itself, the business firm defines and limits the possible risk of loss for the investors in the corporation. Another common method of shifting some risk is through a lease contract. A wide variety of legal responsibilities are transferred from one party to another in this manner. For example, proper maintenance is often stated in a lease to be under the care of the person (lessee) who rents property from an owner.

Bailees, or persons holding property of others temporarily, often accepts responsibility for the property and therefore accepting the risks of damage which is transferred from the property owner. This property is in the care, custody, and control of the holding vendor. Note, this is same situation you may be placed in when you accept property of others that you may be working on, such as for repair or maintenance work. In these cases you essentially assume the risk of loss or damage.

## <u>Insurance</u>

An insurance contract or policy is used to transfer risk for a premium (price) from one party known as the Insured to another party known as the Insurer. By virtue of his insurance contract, the insured exchanges the possibility of an unknown, potentially large loss for a comparatively small, certain premium. It is not really a guarantee against a loss occurring, but rather a method of assuring that repayment, or indemnity, will be received for losses that do occur as the result of risk through an Insured Peril (defined as: the cause of loss, i.e. fire, earthquake, negligence, etc.).

## 7.2 What is the Significance of Insurance?

Insurance gives you the ability to sign a contract for projects that you have been awarded and allows you to have an insurance company accept those risks that you have contractually obligated yourself to provide protection for the owner/developer or the project producer. Some of the key elements of risk transfer are as follows:

## **Comprehensive General Liability**

This insurance requirement by Owner/Developers, Project Producers, or Contracting Vendors typically includes contractual liability, products and completed operations (normally required to be carried for 3 to 5 years following the completion of the agreement) with minimum lim-



its of \$1,000,000 written on an occurrence form basis, protecting the contracting party from claims for personal injury (including bodily injury and death) and property damage. Let's define these three forms:

• Contractual Liability

Is an agreement between you and the Owner/Developer, Project Producer, or Contracting Vendor, where you agree to provide protection while acting within the scope of your work. Sometimes you may be required to provide more protection than is covered under your insurance policies. You should be aware of these risks and determine if you wish to retain them or avoid them through the amendment of the contract or through increased coverage.

• Products

Products are defined as goods or products (other than real property), sold, handled, or distributed by you or others trading under your name. If you fabricate or modify a custom product for sale to an Owner/Developer, and it is installed by them or a sub-contractor, and an injury to a third party occurs, arising out of that product (not the installation), then you have a responsibility to respond, as you may be held legally liable.

Completed Operation

When the work is done by you, it will be considered "completed" at the earliest of the following conditions:

• When all work contracted to you has been completed and you have vacated the premises, or;

• When all work at a particular site has been completed. This is a case where you are working at several projects sites, or;

- When a portion of work completed at a project site has been put to its intended use by the Owner/Developer for whom the work is being done, or;
- Work which is completed, but which requires service, maintenance, correction or repair, will be considered "completed."

Products coverage takes effect when the products are sold to others. Completed Operation takes effect when completed work is turned over to others.

# **Additional Insured**

A typical contractual condition is to name the Owner/Developer, Project Producer, or Contracting Vendor on your insurance policy as an additional insured. You may see this requirement in a form similar to:

"Vendor will cause its insurance carrier to add owner/developer and its subsidiary, affiliated and related companies as additional insured."

"Vendor shall cause its insurance carrier to add Owner/Developer and its Representative as Additional Insured to its insurance policy."

Adding someone as an Additional Insured provides him/her with a direct relationship to your insurance company caused by your actions and covered under the indemnity/hold harmless agreement condition of the contract.

## **Cross Liability**

When you are naming the Owner/Developer, Project Producer, or Contracting Party onto your policy as an additional insured, there is usually a condition in your contact that asks for "Cross Liability" or "Severability Clause." This treats each insured as though each had a separate policy which would allow one insured to sue another under the same policy. It should be noted that the limits of liability are not increased by this provision and apply to all insured collectively and not separately.

## Per Project Aggregate

You will find this under the section referring to your general liability. It is normal for your liability to have an annual aggregate for all claims during the term of the policy. If you have 10 losses on 5 different projects and it should exceed the aggregate (normally \$2,000,000) then you retain the excess of the \$2,000,000. If you have 5 different projects during a policy term, and your annual aggregate is \$2,000,000, and your policy has been issued on a "per project aggregate," then you have the \$2,000,000 available at each project individually and not collectively.

## **Primary and Not Contributory**

This contract condition states that the Owner/Developer, Project Producer, or Contracting Party's insurance company will not be involved or contribute in any loss until it exceeds/exhausts your collective limits. It changes your insurance policy "Other Insurance Clause" to reflect this amendment.

## Waiver of Subrogation

The contract will usually have a requirement: "The vendor waives all rights of subrogation for claims with respects to bodily injury, personal injury, or losses or damages to real or personal property." An example of what Subrogation involves would be if an Owner/Developer, through their actions, should cause an injury or damage to you or a third party, resulting in your insurance carrier paying a claim for the damages. If this happens, your insurance carrier would naturally want the right to step in your shoes (Surrogate) and go after the Owner/Developer insurance company or them if they are not insured for the monies spent in paying for the claim. When you waive the insurance carrier the right to seek repayment.

In most insurance policies there is a condition which states: "If the insured has rights to recover all or part of any payment we (insurance company) have made under this policy, those rights are transferred to us (the insurance company). The insured (you) must do nothing after the loss to impair them." In signing the contract prior to the loss, you have essentially waived the insurance company's rights of subrogation.

Not all policies allow you to waive these right without first obtaining in writing from the Insurance Company that they accept your contract obligation and ascend to the waiver provision. Two examples are your workers compensation and professional liability policies.

## **Workers Compensation**

Covers employees for injury sustained while acting within the scope of their duties. This condition could read, "Worker's Compensation insurance to the extent required by applicable



law, including Employer's Liability insurance with minimum limits of \$1,000,000 per occurrence." In some cases depending on your scope of work they will include in this condition, "Long Shoreman's and Harbor Workers Act or the Jones Act." This is usually when your scope involves working near or on water.

# Automobile Insurance

Automobile Insurance with minimum limits of \$1,000,000 per person, per accident, including property damage to a third party. They will want owned, non-owned and hired automobile liability coverage to be included. The non-owned insurance provides protection when your employee or someone you ask to use their own vehicle in your business, for example: Asking a staff member to go to the bank and make a deposit and they use their vehicle and they are involved in an accident. Your policy will provide excess over the employee's own automobile insurance. Hired auto liability provides you protection when you rent a vehicle on a short-term basis, while on business, for example, renting a vehicle at the airport.

# **Professional Liability**

Professional Liability condition of the contract states you will provide Professional Liability/ Errors and Omissions insurance to cover the design portion of Vendor's services for the project. The insurance policy insuring agreement reads, "The Company agrees to pay on behalf of the Insured those sums which the Insured shall become legally obligated to pay as damages by reason of any negligent act, or error, or omission in professional services rendered, or which should have been rendered, by an insured, or by any other person for whose acts the Named Insured is legally liable, arising out of the conduct of the Named Insider's business as described in the policy declaration."

# 7.3 Bonds & Bonding

There are three primary types of bonds that you may encounter in your contracts:

# **Bid Bond**

A Bid Bond is required to accompany a bid to your client when you are trying to secure the project. The bond guarantees that the contractor will enter into the contract if he is low bidder. It also guarantees that the surety will issue the required performance and/or payment bond if you are awarded the job. Bid bonds are a percentage of the bid price and are underwritten on the contract price.

# **Performance Bond**

This bond guarantees the performance of all the terms and conditions of the contract they have been awarded. It ensures that your client is going to get what he/she agreed to pay for.

# Payment and /or Labor & Material Bonds

These bonds guarantee that all laborers, sub-contractors and material suppliers will be paid for their services. This bond may be written in conjunction with the performance bonds, or separately.



## 7.4 Good Housekeeping Tips For Business

## TIPS FOR CORRESPONDENCE

## Do:

Track and log all communications. Create and use document control system. Write in business format. Address correspondence to the single point of contact; copy others as required. Include contract number. Respond promptly and within time frames to all correspondence. Be precise, state facts clearly, concisely, and accurately. Use words that the reader can understand. Be clear and specific when asking for action from a contractor. Quote or reference the contract where and when applicable. Attach, as appropriate, any documents referred to in your correspondence. Copy anyone referenced in your correspondence, if appropriate. State your understanding of the facts if they are in question. End correspondence with a request for action, if appropriate. Always include task activities and response dates. Provide target date when applicable.

## Don't:

Use inappropriate language (foul, slang, abbreviations, unfamiliar acronyms, etc.).

Identify internal organizational problems.

Misinterpret the Contract.

Interpret facts or give opinions.

Admit or imply liability or fault.

Sign or accept any release or settlement without consulting legal counsel, if appropriate.

## TIPS FOR PERSONAL INTERFACE

## Do:

Dress appropriately for your audience. Be prepared (documentation). Ensure appropriate players are present for meeting. Be prompt. Prepare agenda for meetings. Take a break in meeting to regroup or to make a decision, if necessary. End meeting with task assignments and due dates. Realize options always exist. Step back and analyze a situation before you render verbal judgment.

## Don't:

Lose your temper.

Speak negatively of a competitor.

Be intimidated by a Client.

Be afraid to defer a decision until you have had adequate time to reflect (stipulate re quired time in meeting minutes to avoid delay claims).

Make rash decisions that may cost more money.

Presume that a personal relationship will affect a client's business judgment.

## TIPS FOR MEETING MINUTES

## Do:

Generate minutes for all meetings.

Generate minutes promptly for review.

Establish reciprocal review and acceptance policy (vendor and owner review).

Include task activities, dates that the tasks are to be completed, and identify the responsible party assigned to complete the task.

## Don't:

Generate word for word notes.

Be precise, but thorough.

Forget to copy all those that were in attendance and anyone else that is involved in project that wasn't in attendance.

Express to sand the notes out often they are n

Forget to send the notes out after they are prepared.



# NOTES



# CHAPTER EIGHT CONTRACTS

# **INTRODUCTION**

Unfortunately, almost every aspect of personal and business life involves legal issues, rights and potential consequences. This chapter provides an overview of important legal issues and matters, as well as some sample documents, so the reader may gain a general understanding of the legal principles which might affect them in our industry. This material is not meant to take the place of consultation sessions with an attorney, and nothing provided here is warranted to be appropriate for the particular use of the reader. Still, there is much useful information that can be found within the pages of this chapter and in the three sample contracts that are included at the end of this chapter.

## 8.1 Contracts

## FORMS OF AGREEMENT:

Project Development Guidelines Introduction

- 1 Delivering The Project
- 2 Categories & Disciplines
- **3 Project Process**
- 4 Phases & Disciplines
- 5 Standards, Specis & Codes
- 6 Documentation & Checklists
- 7 Risk Management
- 8 Legal Matters & Contracts
  - 8.1 Contracts

8.2 Sample Contracts9 Glossary of Industry TermsAppendix A - TEA's Project ChartAppendix B - Flow Charts

1. Oral Agreement: This type of agreement is based on one party verbally agreeing to do something, or forego doing something for a consideration (money, promise, obligation) received from the other party. Relying on a verbal agreement is risky, and not good practice. The reason is obvious--in a dispute the parties are relying on memory and one party's description of the intentions of the other party, as well as facts of which are only known to themselves.

Legally, oral agreements are binding, however most legal systems adopt requirements such as the Statute of Frauds, which requires that, for an agreement to be enforceable, it must be supported by a writing. However, it is also typically recognized that the lack of a writing could create injustice, allowing a party to receive an unjustified benefit; therefore, there are exceptions to the unenforceability of oral agreements:

- Detrimental Reliance: If a party has relied on the oral agreement, and such reliance has created a detriment to this party, then under equitable law a valid contract will have been found.
- Part Performance: If a party has relied on the oral agreement, and takes action to perform his part of the agreement, then under equitable law a valid contract will have been found.

In both cases above, although a court would find a valid contract, the terms of the agreement will have to be determined. This is done by the court through investigation of correspondence, past dealings, industry standards and other things that will allow the court to figure out what the intent of the parties would have been.

2. Letter of Intent: Any writing that describes some or all provisions of a proposed transaction, and in which one or more parties shows some level of interest in, or commitment to, the subject matter or to the process of negotiating a definitive agreement. This document can be either binding or non-binding, depending on the intent of the party writing the letter.

While short of a formal agreement, this letter can be used as a "Notice to Proceed," with the intent of formalizing the agreement within a set period of time.



Courtesy of www.FreeDigitalPhotos.net



<u>4. Letter Agreement:</u> This type of agreement, usually sent by one party, typically outlines the understanding of the party drafting the letter and should be acknowledged and accepted by the other party.

5. Custom-Drafted Agreements: This document, typically prepared with the help of outside counsel, is used when the transaction is complex, and the needs of the parties are specific.

### PRINCIPLES OF CONTRACT CONSTRUCTION

The intent of the parties controls the interpretation of contracts. However, while legal systems differ internationally, when there is a dispute as to the parties' intent, the following principles generally govern contracts:

If possible, a contract is interpreted to give meaning to all of its provisions with the idea that the parties intended the provisions to be lawful, operative, definite, reasonable, and capable of being given effect.

Technical words are interpreted according to their technical meanings, and non-technical words are interpreted according to their ordinary meanings.

If choice of law provisions are not defined, a contract is construed according to the law of the place where it is to be performed, or, if the place of performance is not indicated, where it was made.

Ambiguous or uncertain promises are interpreted according to what the promisor believed the promisee understood the promise to be.

Written terms control printed terms, and printed terms added to a contract control terms on a preprinted form.

Uncertainties are construed against the party that caused the uncertainty (usually the party that drafted the contract), unless there is a provision in the contract to the contrary.

Particular or special provisions control general provisions.

Courts consider trade usage and course of dealing to interpret agreements covered by the Uniform Commercial Code (UCC). This means that even though a particular element or term is not specifically mentioned in a contract, if the parties have a history of dealing in a particular way, this way may be enforceable under the UCC. Express terms of an agreement control trade usage and course of dealing.

#### **CONTRACT DEFENSES**

For a contract to be valid there needs to be an offer which is then accepted; the parties must be authorized and competent to enter into an agreement; must give their consent; must provide sufficient consideration; and, the agreement must have a lawful objective. Defenses to the formation of a contract include:

<u>1. Illusory Contract:</u> A contract that grants one party so much discretion as to render the contract totally lacking in consideration as to the other party is an unenforceable illusory contract.

2. Duress: Duress can take several forms (e.g., physical compulsion, detention of property, economic pressure.)

<u>3. Illegality:</u> A contract for an unlawful purpose, or supported by illegal consideration is void. An unlawful or illegal act is one that is contrary to an express provision of law; contrary to the policy of an express provision of law; or contrary to good morals.



<u>4. Mistake:</u> Mistake can form the basis for rescinding a contract if: a material mistake of fact or law is mutual; or a material mistake of fact or law is unilateral, but it is known to the other contracting party, who encourages or fosters the mistake. Typically, the remedy is a contract reformation to correct the mistake rather than voiding the contract.

<u>5. Contract of Adhesion:</u> Typically a standardized form contract entered into by parties of unequal bargaining power with the weaker party given no opportunity to negotiate terms. This type of agreement is enforceable, subject to the following limitations:

- Terms that frustrate the reasonable expectations of the injured party are unenforceable.
- Terms that are unfair, unconscionable, or contrary to public policy are unenforceable.

<u>6. Unconscionability:</u> Similar to the contract of adhesion above, contracts that are oppressive (i.e., there is an inequality of bargaining power resulting in a lack of meaningful choice); and contain an element of surprise (i.e., hidden terms); or if terms are overly harsh and one-sided, without justification.

7. Impossibility and Impracticability: Results when a contract imposes a substantially greater burden than originally anticipated, if the injured party was unable to avoid the impossibility or impracticability.

<u>8. Undue Influence:</u> Where one party pressures or exerts pressure over the other party to perform in a certain manner under the contract. This occurs when one party takes unfair advantage of another through confidence or authority, or takes advantage of the other's needs, distress or weakness of mind. The result is a lack of true consent, an essential element of a valid contract.

<u>9. Statute of Frauds:</u> Requires that certain agreements be supported by a writing if they are to be enforceable. Some of the agreements generally covered by the Statute of Frauds:

- Agreements incapable of performance within one year.
- A promise to a creditor to meet the obligations of another.
- Certain agreements relating to the purchase, sale, or lease of real property.
- Agreements incapable of performance during the lifetime of the promisor.
- Certain agreements for the assumption of indebtedness secured by a deed of trust on property purchased.
- Certain agreements to make a consumer loan in excess of \$100,000.
- Authorization of another to enter into an agreement that must be in writing.
- Certain agreements for the sale of goods in excess of \$500.
- Certain agreements for the sale of other personal property in excess of \$5,000.
- Certain Equipment Leases.
- Premarital Agreements.

## 8.2 Sample Contracts

Contracts for various projects differ, depending upon the contracting party's relationship to the project. Several different types of contracts are typically used in the Experience Design and Experience design and themed entertainment Industry. Construction oriented design and build work is generally covered by pre-existing documentation that is used in the architecture and construction industries. For example, the architecture industry has many forms which document the planning, design, and construction processes involved in building a project.

Experience design and themed entertainment focuses on the overall project and production work required to create a project. Three examples of typical contracts used in this industry, with their appropriate sub-categories, are outlined here and can be viewed for general reference on the following page.



# SAMPLE CONTRACTS

<u>1. CONSULTANTS CONTRACTS</u>: The contractual responsibility for a consultant, contractor or vendor extends only to the services that they provide for the project.

MANAGEMENT: The Project or Show Management consultants are employed in an advisory capacity. The scope of work for this consultant is typically undertaken on behalf of the Owner/Developer as their representative.

DESIGN: The Project or Show Designer's responsibility is to provide design direction for the contractors and vendors to use to produce the project elements.

1099, THE INDEPENDENT CONTRACTOR: Many consultant companies engage temporary, independent contractors to perform project work. Such contractors work on a limited scope for the project and contract issues generally focus on confidentiality, insurance, taxes, and services to be rendered.

## CLICK HERE TO VIEW A SAMPLE CONSULTANT CONTRACT or GO TO Appendix C

This sample contract document serves as a starting point for the preparation of a Consultant Contract within the experience design and themed entertainment industries. Consultant Contracts are typically executed when the goods and services for a project are to be provided to the client by third parties who have a direct contractual relationship with the consultant.

<u>2. PRODUCERS CONTRACTS</u>: Producers, unlike Consultants, have a responsibility to provide "turn-key" services. Contractual issues are therefore quite extensive. The Producers duties combine design responsibility with the warranty requirements of the contractors and vendors.

PROJECT PRODUCER: The Project Producer's contract encompasses turnkey for the entire project, dealing specifically with the design, construction, and production scopes of work.

SHOW PRODUCER: The Show Producer's contract encompasses turnkey for all show elements, dealing specifically with the design and production scopes of work.

#### CLICK HERE TO VIEW A SAMPLE PRODUCER CONTRACT or GO TO Appendix D

This sample contract document serves as a starting point for the preparation of a Producer Contract within the experience design and themed entertainment industries. Producer Contracts are typically executed by Project Producers and Show Producers. Often the producers contract directly with suppliers of goods and services.

<u>3. PROVIDER/FABRICATOR CONTRACTS</u>: The provider's and fabricator's responsibilities are primarily concerned with the equipment, products, and/or services, as well as the performance, quality and warranty issues pertinent to those products.

HARDWARE: Hardware refers to the equipment and supplies that involve warranty issues.

SOFTWARE: Software refers to the audio, video, film, other media, etc., types of product. Quality and licensing issues are addressed as part of the software issue, but warrantee of workmanship for software does not apply.

## CLICK HERE TO VIEW A SAMPLE PROVIDER/FABRICATOR CONTRACT or GO TO Appendix E

This sample contract document serves as a starting point for the preparation of a Provider/Fabricator Contract within the experience design and themed entertainment industries. Provider/Fabricator Contracts are typically executed when the provider of goods and services has a direct contractual relationship with OWNER/DEVELOPER.



# **CHAPTER NINE** A GLOSSARY OF EXPERIENCE DESIGN AND THEMED ENTERTAINMENT INDUSTRY TERMS

This glossary contains terms commonly used within the experience design and themed entertainment industries. It is intended as a general orientation and reference work and is not meant to be exhaustive.

Project Development Guidelines Introduction

- 1 Delivering The Project
- 2 Categories & Disciplines
- 3 Development Process
- 4 Phases & Disciplines
- 5 Standards, Specs & Codes
- 6 Documentation & Checklists
- 7 Risk Management

8 Legal Matters & Contracts

9 Glossary of Industry Terms

Appendix A - TEA's Project Chart Appendix B - Flow Charts

Quick Navigate (click on letter to jump forward)

# A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

#### ADA

Americans with Disabilities Act. A federal law in the United States establishing disabled access as a civil right.

### A/D (A to D)

Analog to digital conversion. This refers to the process of taking an analog voltage and converting this voltage into a digital signal available for processing.

#### accelerated aging

A test that simulates long time environmental conditions in a relatively short time.

#### act curtain

The main curtain of a proscenium theater.

#### addendum

A written change or a graphic instrument issued before the date bids are opened. An addendum may interpret or modify original bidding documents by making additions, deletions, clarifications, or corrections. An addendum may also be used to modify a contract.

#### AF

Audio Frequency.

#### air change

The frequency or volume of environmental air exchanged within a given chamber of a room. Important for air conditioning ventilation.

#### air-cooled laser

A laser that uses fans to force air over the laser tube and power supply. Air-cooled lasers have the benefit of needing no water supply, though fan noise can sometimes be a disadvantage. Typically small to medium power lasers are air-cooled.

#### allowances

Additional resources included in estimates to cover the cost of known but undefined miscellaneous expenses and requirements for an individual activity, work item, account, or sub account.

#### alternate

A request from the owner/developer for the cost of adding or deleting an item or work element from the basic bid. The cost of adding an item is usually known as an additive alternate, while the savings from deleting an item is known as a deductive alternate.

#### alternating current (AC)

Electric current that periodically reverses its direction. It is expressed in cycles per second (hertz or Hz), and is typically 50Hz or 60Hz. The U.S. Standard is 60Hz.

#### AM

Amplitude Modulation. A broadcasting system in which the carrier waves are maintained by modulating the strength of the signal.

#### ambient

1) An encompassing, baseline condition found in a location, prior to the introduction of people or equipment (e.g., ambient noise, ambient light, ambient temperature). 2) Conditions existing at a test or operating location prior to energizing equipment (e.g., ambient temperature).

#### amplifier

A device used to increase signal power or amplitude.

#### amplitude

The maximum value of a varying wave form.



#### AMX-192

An analog multiplexed data transmission standard for dimmers and controllers.

#### analog

Where one condition or level is proportional to another one in a system. Also may refer to a control that is not an on/off type but allows for smooth and continuous control over the speed of an action. Analog control channels have the ability to move to either end of a range or to stop anywhere in between.

#### anchor

A major department store or entertainment project which creates the principal appeal for visitors to a multi-tenant property such as a mall.

#### animated figure

A figure seemingly brought to life by the precise programming of a series of logical, synchronized movements through the use of hydraulic, pneumatic, electrical, or motorized automation.

#### animated prop

Simulating movement in what would normally be termed an inanimate object, such as a book, using the automation techniques described above.

#### animatronic

An adjective to describe an animated figure with electronic controls.

#### ANSI

American National Standards Institute.

#### APU

Animation Playback Unit. A unit that delivers digital and analog control signals which usually direct the functions of animated figures or other effects.

#### arcade

A covered pavilion or space containing arcade, midway, or electronic games.

#### armature

1) A framework and organization of pedestrian and vehicular circulation. 2) The basic frame or structure of a figure upon which sculptural elements are added to create a final sculpture or figure.

#### as-built

An accurate drawing or set of drawings detailing the final condition or assembly of a structure or system, demonstrating how the structure or system actually exists at the time of commissioning or buy-off. As-built drawings can be interpreted by the courts as being accurate, as opposed to record drawings.

#### ASCII

American Standard Code for Information Interchange. This term is normally used to describe the ASCII character set used by keyboards, video screens, and serial communication devices.

#### astronomical time clock

A time clock which is set relative to its location on the earth, thereby facilitating the recognition of sunrise and sunset based events without reprogramming throughout the year; usually it can be set relative to daylight savings time, where required.

#### attenuation

The decrease in magnitude of a signal as it travels through any transmitting medium, such as a cable or circuitry. Attenuation is measured as a ratio or as the logarithm of a ratio (decibel).

#### attraction

Any ride, exhibit or show can be an attraction.

#### audio

A term used to describe sounds within the range of human hearing. Also used to describe devices which are designed to operate within this range.

#### Audio AnimatronicÙ

Trademarked term by the Walt Disney Company for dimensional animated figures typically produced by their Walt Disney Imagineering division. Also referred to as AA figures.

#### audio frequency

That range of frequencies lying within the range of human hearing: approximately 20 to 20,000 Hz.

#### automated lighting

See intelligent lighting.

#### AWG

American Wire Gage. A wire diameter specification. The smaller the AWG number, the larger the wire diameter.

#### axial

A park circulation system oriented along a single axis. The arrangement maximizes the distances between attractions and subjects visitors to the same views as they repeatedly retrace their steps. This limits circulation interest and "dwell" time.

#### back of house

A service area not open to visitors or the public.

#### backup disk

Program and data disks that are kept to allow recovery from a data loss in a computer.



## backplane

The backplane is a printed circuit board at the back of a card frame with edge connectors that hold other printed circuit boards.

#### backstage

Generally used in reference to those areas other than the main playing area of a theater. (See back of house, offstage).

#### BGA (background audio)

A low level audio track, usually music, continuously played as a show enhancement or as ambient background. Musak is the forerunner of BGA.

#### balanced line

A cable having two identical conductors that carry voltages opposite in polarity and equal in magnitude with respect to ground.

#### barn door

A device consisting of two or four hinged metal flaps that is placed in front of a spotlight to reduce the beam spread in one or more directions.

### barrel distortion

A distortion caused by projecting onto a convex surface. For example, a grid projected on the outside of a dome has outwardly curved edges, where the center curves out and the corners pull in. Single-axis barrel distortion occurs when projecting on the outside of a cylinder. The opposite of barrel distortion is called pin cushioning.

#### base plan

A minimally-detailed, scaled, plan drawing that serves as the starting point for later, more detailed drawings. Used as a reference point for drawings produced by complementary disciplines.

#### baseline

A comparison of the original planned schedule against the actual schedule to track and evaluate a project's performance.

#### basket

A mix of attractions and retail elements.

#### batten

1) A horizontal support unit hung from a line-set of a theatrical fly system, made of either metal (usually a pipe) or wood. 2) Architecturally, a narrow relieved strip covering the seam between adjacent panels. Often used in wood "board and batten" wall siding.

#### battery backed RAM (BBR)

A Random Access Memory (RAM) storage device

used to hold configuration information and program data. Unlike standard RAM, this device's battery feature avoids loss of data during a power interruption. See also RAM.

## baud

Unit of data transmission speed that means bits per second (500 baud = 500 bits per second).

### baud rate

Speed at which serial communications take place. Actually refers to the number of bits per second that a serial channel may transfer. Typical examples would be a 9600 baud modem, or a 250 K baud DMX data channel.

### berm

A raised usually earthen landscape area, often planted with trees or shrubs which limits the view of guests within a park or attraction. Used to hide back of house facilities, maintain show theming, and restrict view into a park or attraction by non-participants.

### bid documents

The advertisement for bids, instructions to bidders, information available to bidders, bid form with all attachments (which may include a scope of work, drawings, specifications, schedule, etc.), and proposed contract documents (including all addenda issued before the receipt of bids).

## bipolar

A signal or voltage that has two ranges, positive and negative.

## bit

The smallest piece of information which a computer can deal with. A binary digit. It is usually represented as a number which can take on a value of 0 or 1.

## black box

A dark ride or theatrical experience within a building.

#### blackout

The switching off or fading out (dimming) of all stage lights.

## blanking

The technique of turning the laser beam on and off with precise control (as opposed to chopping). Blanking can be digital (on/off) or analog (continuous intensity control). The same techniques used for blanking control can be used to control intensity of red, green, and blue beams for color mixing.

## block out

An uncompleted drawing showing guide and vanishing lines.

#### blue screen photography

A type of visual effects photography that allows foreground elements to be mated with a background shot elsewhere. Foreground elements, such as actors, are filmed in front of a brightly illuminated blue screen. In the lab, special filters allow the blue background to be used to generate a photographic matte. The matte is then used to composite the separate foreground and background images in an optical printer.

#### blue sky

1) The earliest stage of concept design, before constraints are imposed by budget, schedule, location, or physics. 2) Broadest possible list of initial concepts for a project.

#### boom (lighting)

A vertical pipe for mounting theatrical lighting fixtures.

#### boom (audio)

An adjustable extension attached to a microphone stand.

#### booting

Start up for a computer, "pulling your computer up by its boot straps."

#### breakaway

Scenery or props rigged to break apart on a specific cue or as the result of a specific action.

#### break out box

An enclosure used to receive (usually) communication wires and provide a local point of access.

#### browser

A computer program that provides access to sites on the World Wide Web (examples of typical browsers would include: Netscape Navigator & Microsoft Internet Explorer).

#### bubble

A physical area that is illustrated by an amorphous circle.

#### bubble diagram

An early, conceptual site diagram in which the primary physical elements are unscaled and represented by simple amorphous circles. See Bubble.

#### buy-off

The owner's written acceptance of a phase of a project. A buy-off authorizes the contractor to proceed to the next phase of design or construction. Upon final buyoff a final invoice or progress payment is issued or a fee retention is released to the contractor.

#### byte

A collection of 8 Bits used by a computer. A byte in the show production system can contain one of the following: An unsigned number from 0 to 255; a signed number from -128 to +128; an unsigned number from 0 to 128 with a relay function switch bit; eight switch bits.

#### CAD

Computer-aided design. Software that automates the drafting process; typically this method has replaced hand drafting for most project documents.

#### candy store

Wish list of projects which may or may not be a part of the final list of program elements. Also referred to as a "laundry list" or as a "grocery list."

#### cart

A way of providing concessions at remote locations or along a path. Usually portable and often temporary.

#### cartoon or cartooning

A scenic painting term to describe a diagram created by drawing a scaled grid onto a picture or a sketch. The cartooned diagram can then used to enlarge the picture or sketch to any size desired, for the purpose of creating a larger version when painting a backdrop or a mural.

#### CCTV

Closed Circuit Television

#### cel

The thin sheet of transparent plastic on which one layer of an animator's art work is recorded prior to photography.

#### CFI

Contractor Furnished and Installed **change order** 

A document requesting a scope change or correction to the contract; a written change by the owner, architect, engineer, producer or project manager made to the contract, drawing and/or specifications after the contract is awarded. Generally, a change order must be approved by both the owner/client and the contractor.

#### character light

An "onstage" light fixture, selected or designed to complement the theme or setting.

#### charette

1) A meeting in which selected participants focus on a particular issue until a solution is found, usually with a rigid deadline and given resources. The key element is a team of players who dedicate their time without distractions. Depending on the complexity of the subject, a charrette may last for minutes, hours, or days.



2) A competition between several firms or individuals to come up with a solution to a given concept design problem within an allocated time and budget.

#### chiller

1) A refrigeration unit used to provide a chilled-water supply to an HVAC system. 2) A refrigeration unit sometimes used with water-cooled lasers that can perform more cooling than a heat exchanger.

#### chips

Programmatic squares representing the building program placed within a plan.

#### chopping

The technique of turning the laser beam on and off at a regular rate (as opposed to blanking). High speed chopping gives a dotted line effect.

#### cinema multiplex

A movie theater complex featuring more than one screen.

#### circuit

A path for electricity from one terminal of a power supply (such as a battery) through wires, and usually through electrical or electronic devices, and back to the other terminal of the power supply. Also used to refer to a group of electric or electronic devices connected together to perform a certain job or function.

#### clear

To remove data and return all circuits to an initial condition.

#### closed loop control

A control channel where the show control computer can monitor how a device responds to its control. In animation, an analog servo where a feedback potentiometer provides a processor with the monitored signal.

#### coaster

From roller coaster. A wood or steel elevated track which carries cars at different speeds. A coaster can vary in size from a small children's ride with virtually no elevation, to a major ride such as the steel Kumba or wood Colossus, with immense hourly carrying capacity and requiring large capital expenditures.

#### codes

Standards and specifications that have been adopted by governing bodies and turned into legally binding rules and regulations.

#### color box

An informal term for a laser projector subsystem using three dichroic filters which pass cyan, magenta, or yellow light. A color box system usually colors the entire image, since actuators are relatively slow. This contrasts with scanner or PCAOM technique which can color different sections of an image.

#### color media

General term for color materials that are added to the beams of lighting or optical equipment for the purpose of changing the hue of the light produced by the fixture; color hues are produced using various techniques and supporting substrates. See also Gel and Dichroic.

#### conductor

A wire suitable for carrying electrical current.

#### conduit

Usually a metal or plastic pipe in which wire is placed to distribute electrical energy from one area to another. The wire may carry power, control, data, etc.

#### connector

A device used to physically and electrically join two conductors.

#### contact closure

A control device which sends a signal to another device in order to initiate an event.

#### contingency

Amount added to an estimate to allow for unexpected changes that may be required by as yet unknown conditions. Amount may be determined either through statistical analysis of past project costs, or by applying experience gained on similar projects. Contingency does not include changes in scope or, major external events such as labor strikes or natural disasters.

#### contract

An agreement between two or more parties involved in a specific transaction.

#### contract documents

The forms, general and special conditions, drawings, specifications, and addenda describing the terms and conditions of a specific binding agreement between two or more parties.

#### contrast

The term for describing the difference in visual brightness (tone) between one part of an image and another. High contrast images exhibit a limited range of tones, and those tend to be polarized toward light or dark. Low contrast images exhibit a limited range of tones, and those tend to range near the same brightness value. Normal contrast images exhibit a wide range of brightness values.

### core

The central district or hub of a project.

## core drilling

The use of a concrete drill to produce a hole through existing concrete.

## cost

The amount a contract item is known or estimated to cost the contractor. See price.

## cost index

A number that relates the cost of an item at a specific time to the corresponding cost at some arbitrarily specified time in the past. A cost index is useful in taking known past costs for an item and relating them to the present.

## CPU (Central Processing Unit).

The part of a computer where arithmetical and logical operations are performed and instructions are decoded and executed. The CPU controls the operation of the computer. See Microprocessor.

## critical mass

The necessary minimum first phase of a project.

#### critical multiple-point failure

Combination of more than one single point failure in which the probability of concurrent failure of the combination of single point failures is equal to or greater than the probability of a normal single point failure. *See single-point failure.* 

#### critical path

A chronological sequence of tasks that must be completed on time to meet the scheduled completion date. Sometimes referred to as CPM or Critical Path Management.

#### crossfade (lighting)

To fade or dim from one lighting set-up to another without going to black.

#### crossfade (film and video)

A change from one scene to another in which the outgoing and incoming visual images are superimposed or blended together for a discernible period of time as one scene fades out while the other fades in.

#### crosstalk

The leakage that is found in one signal path as a result of signals being radiated from another, adjacent, signal path. Often related to audio, where audio signal from one channel can be detected on another channel. The term is loosely used to also include coupling higher frequencies.

### **CRT Terminal**

Cathode Ray Tube Terminal. A computer terminal with a screen similar to that of a television receiver, together with a computer keyboard.

#### crush

A threshold of crowd density where movement becomes difficult or uncomfortable. It may be expected as density approaches 1,300 persons per acre.

#### CTS (Clear To Send)

A serial handshake signal sent from a terminal to the host indicating data transmission is possible.

#### cue

A visual or audible signal from the stage manager or show control computer to execute a predetermined movement of light, scenery or effects.

#### cut sheet

A sheet or multiple sheets which show, usually in pictorial or diagrammatic form, information about a specific product; information on cut sheet is typically supplied by the manufacturer of the product and included in the package produced for the project by the specifying designer.

#### cyclorama

A or temporary continuous background enclosing the rear of a stage, or wrapping around the perimeter of a stage. Used for a variety of reasons and/or effects, it is usually made of fabric and is installed on either a batten or a rolling track. It can also be made of plaster for permanent installation and may cove to the stage at the bottom. (Abbreviated as cyc.)

#### D/A

Digital to analog conversion. A process that translates digital data into a variable voltage analog signal.

#### decibel

One-tenth of a bel. It is equal to 10 times the logarithm of the poser ration, 20 times the log of the current ratio. One decibel is the amount by which the pressure of a pure sine wave of sound must be varied in order for the charge to be detected by the average human ear. The decibel can express an actual level only when comparing with some definite reference level that is assumed to be zero dB.

#### dark ride

Originally meant as a term to describe a ride utilizing ultra-violet paint in a low-light setting, it has become a generic term for any ride enclosed in its own environment and operating within a light-controlled structure.

## DAT

Digital Audio Tape.

#### dead end

A court or pathway which finishes with no outlet. Dead end loops can be a component of a theme park circulation system.

### degrees of freedom (DOF)

Directions in which a motion base can move. There are six degrees of freedom, defined as: heave (up and down); sway (side to side); surge (forward and back-ward); pitch (front to back rolling motion); roll (side-ways rolling motion); yaw (rotation left and right). A DOF number (as "a 4-DOF simulator") indicates how many degrees of freedom a motion base can accommodate.

### density

The calculated number of people within any acre or hectare. For U.S. theme parks 500-700 people per gross acre is a comfortable density. Crush is at 1,300 per gross acre, a time when it is all but impossible to move without constant bumping. Density is used by park designers to calculate total area requirements.

### depth cueing

An effect in 3D graphics where lines appearing further from the viewer are dimmed. This helps enhance the 3D illusion for wireframe images such as those used with lasers.

#### de-scope

To reduce items in a project's scope of work, usually to meet budget constraints.

## design day

The targeted attendance capacity for a venue, used as a design criteria. The number is arrived at by economists after a study of the market, estimated penetration rates of the market, and other financial and physical criteria. The design day is often an average of the ten best days of the year in attendance terms and is used to calculate sizing for attractions, restrooms, physical space allocations, car parking and other sizing components.

#### dichroic filter

A piece of glass with an optical thin-film coating that transmits certain colors (wavelengths), and reflects the remaining colors.

## digital

A function that is able to be directed to either one of only two discrete states. A discrete electronic signal represented by 1 bit worth of information. The signal is often referred to as either ON or OFF, HIGH or LOW, or Logic 1 or Logic 0. Animation digitals will settle at one extreme of movement or the other.

#### dim

To change the intensity of a light, either brighter or darker.

#### dimmer

Apparatus for altering the flow of electric current to cause a light to be more or less bright.

#### dimmer rack

A mechanical rack which is designed to facilitate the distribution of system power through dimmer modules to load circuitry. A dimmer rack often contains or is closely associated with sophisticated processors which facilitate the configuration of a system and the control of the dimming modules.

### diode laser

A solid state laser similar to an LED (light emitting diode). Diode lasers are typically used in compact disc players and pen-type laser pointers.

### direct costs

Costs that can be directly attributed to a particular item of work or activity.

## direct current (DC)

A form of electric current where the electron flow is in one direction only, such as is developed by batteries.

#### dissolve

A change from one scene to another in which the outgoing and incoming visual images are superimposed or blended together for a discernible period of time as one scene fades out while the other fades in.

#### distortion

Any undesired change in a wave or signal.

#### distributable

A cost item that is spread over other cost items, rather than managed as a separate account.

## district

A local region of a project with a distinct character.

#### DMX-512

A digital multiplexed data transmission standard for dimmers and controllers.

#### dog and pony show

An elaborately prepared or staged presentation, event, etc. Also referred to as song and dance.

#### doorway

Arrival point within a project.

## DOS

Disk Operating System. The command set of instructions (operating system) used by IBM compatible personal computers.

#### download

Term used to describe transferring information from a host to another processor.

#### downstage

That area of the stage closest to the audience.

#### dual loop

A park circulation system in which the larger attractions are on the outside of a three hundred and sixty degree loop path, and the smaller attractions are on the inside.

#### dust free

The condition of a facility prior to installation of show equipment or scenic goods which requires a clean environment. All work that would create dust, dirt, sparks, or paint drips, that would damage the finished scenic materials or equipment, needs to be completed. The facility must then be cleaned, with heating, ventilation and air conditioning blown out and operational. This condition is elusive and often mythical.

#### dwell time

The amount of time spent in a project by a visitor. This may vary from minutes to hours. The understanding of dwell time is important to estimate attraction size and variety and mix of attractions, food, and beverage.

#### earth

British terminology for zero-reference ground.

#### effect

A combination of one or more functions that work together to create a visual or other sensory experience.

#### effects animation

Effects animation is used to introduce such phenomena as rain, lightning, stars, or laser blasts into scenes that may otherwise be live action or perhaps the product of miniature photography.

#### EIA-232-D

A standard for the interconnection of data terminal equipment (DTE) and data circuit-terminating equipment (DCE) employing serial binary data interchange.

#### EIA-422-A

A standard that specifies the electrical characteristics of balanced voltage digital interface circuits. Normally implemented in integrated circuit technology that may be specified for the interchange of serial binary signals between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) or in any point-topoint interconnection of serial binary signals between digital equipment.

#### elevation

1) A scaled drawing offering a side view of the interior or exterior of a structure. A typical drawing set includes plans, elevations, and sections. 2) A vertical distance, measured relative to a reference point.

#### ellipsoidal framing spotlight

A theatrical lighting instrument characterized by an ellipsoidal reflector and lensing system which produces a controlled beam of light; it is supplied with framing shutters, usually used with color media and often used with drop in templates and/or rotating effects machines. See Leko.

#### EMF

Electromotive Force (voltage).

#### emitter

A remote device that emits electromagnetic waves to relay data.

#### enable

A signal that is used to advise devices to respond to information being sent them by the system.

#### entertainment capacity unit (ECU)

A method of estimating approximate attraction capacity. Each attraction has an hourly holding capacity, measured by the number of people and number of turns of experience in one hour.

# EPROM (Erasable Programmable Read Only Memory)

Permanent electronic method of storing memory on a computer chip rather than a floppy or laser disc.

#### EER

Electronic Equipment Room.

#### escalation

Provision for an increase in the cost of equipment, material, labor, etc., over the costs specified in the contract, due to continuing price-level changes over time.

#### estimate

An opinion, in itemized form, of the anticipated cost of materials, labor, and/or services for a proposed project.



## E-Stop

Emergency Stop. A condition of an entire attraction, which when invoked, immediately brings the attraction to a safe state.

## f

Frequency.

### fade

In film or video, a gradual optical transition into a scene from black or out of a scene to black.

## fail safe

An attribute of a system, component or circuitry such that every single point failure and critical multiple point failure that may occur in the system, component, or circuit results in a safe state.

## FEC

Family Entertainment Center.

## feedback

An input signal to a control system from an external device. Used to provide closed loop servo control of animation.

## feedback potentiometer

Hardware device for measuring feedback. Used inside an animated character to measure the actual position of an animated move. The controller uses the feedback potentiometer as a voltage divider input in calculating the closed loop servo output to the servo valve.

## FF&E

Furnishings, Fixtures, and Equipment. The items that outfit the interior of a building. This is often provided on separate contract from building construction.

## fiber optic cable

Flexible glass or plastic strands made into a cable, used to carry light from one place to another. There are two main types: 1) Transmission fibers carry the beam with as little loss as possible. They are used to transmit light to remote locations. 2) Display fibers have no cable jacket, so some light scatters out the side of the strands.

## field costs

Indirect costs of engineering and construction associated with the project's field site rather than with the home office.

## film-based

Used to distinguish simulation experiences that utilize a previously filmed image from those that use images generated on a computer as the simulation is occurring.

### firmware

Programs and data stored in EPROMs. See EPROM.

### first article

The first finished unit in a series of identical items to be fabricated. Unlike a prototype, the first article will actually be put to use. Typically, the first article is approved and accepted before beginning a production run on the remaining items.

### flat

A piece of theatrical scenery, usually consisting of a wooden frame that has been covered with fabric and painted.

### flat ride

A circular spinning attraction that stays horizontal to the ground.

## float

Extra time available for an activity either to begin or end because it is not part of the critical path. Also called slack.

### floodlight

A lighting instrument that produces a broad spread of light.

### floodgates

The entrance gates to a venue, typically turnstiled.

#### flume

A water-powered ride which takes riders on an adventure through a track filled with flowing water. Mechanically powered lifts take the boats to the high point. A drain down basin is necessary. Flume water may also need to be cooled to control evaporation and humidity.

#### floating

Referring to a circuit which has no connection to ground.

## FM

Frequency Modulation. A broadcasting system in which the carrier waves are maintained by modulating the interval of the signal.

#### focus

The direction in which a lighting instrument is aimed and adjustments of the size or shape of its beam.

## folded projection

A method of rear-projection in which the projected image is bounced off a series of mirrors to reduce the footprint of the projection throw.

#### foot-candle

A measurement of illumination, the amount of light from one candle that will fall on a surface one foot from the candle. This is important relative to defining safe levels of lighting at critical path areas and for emergency egress.

#### forced perspective

The process of building background elements on a smaller scale than those in the foreground so that they appear farther away.

#### FP

Front Projection.

#### frame

The basic time period for the recording or playback of show data. For example, 16 frames per second would indicate that show data is sampled and stored a maximum of 16 times per second and playback is at a maximum of 16 times per second.

#### frequency

How often regular waves or pulses occur in a circuit or other transmission medium, such as radio. Frequency is measured in hertz (cycles per second) and multiples of hertz.

#### frequency response

The characteristic of a device denoting the range of frequencies over which it may be used effectively.

#### Fresnel

A lighting instrument recognized by the concentric rings of its lens. Not in as much common usage relative to par cans and Lekos.

#### front end

Typically used to refer to the user interface control board used for programming and controlling technical systems.

#### front projection

Film or video projection in which the projector is on the same side of the screen as the audience.

#### front-surface mirror

A mirror in which the reflective coating is on the front surface of the glass, rather than the rear surface. A front surface mirror eliminates secondary reflections from the front surface of the glass.

#### FRP

Fiber Reinforced Plastic.

#### function

A single element of motion or other activity.

#### gaffer

An electrician.

gag

Any kind of special effects trick.

#### gain

1) The increase of voltage, current, or power over a standard or previous reading. Usually expressed in decibels. 2) The ratio of a system's output magnitude to its input magnitude.

#### Gantt Chart

A scheduling tool that uses horizontal bars, spread over a dateline graph, to show the amount of time a task is estimated to take.

#### gate

A control point or an entry way or portal.

#### gather court

An area behind entrance kiosks in which a group or family gathers before entering the complex.

#### GBA

Gross Building Area, typically expressed in square meters or in square feet.

#### gel

A color media originally produced by pouring colored gelatin into flat sheets for the purpose of creating color filters; now often used generically to refer to any color media. See color media.

#### general conditions

A specific portion of the contract documents that state the responsibilities and relationships of all parties to the contract, as well as any conditions applicable to the contract.

#### GFCI

Ground Fault Circuit Interrupter, also called GFI. GFRC

Gypsum Fiber Reinforced Concrete. A lightweight cast stone often used to simulate rock or masonry.

#### GLA

Gross Leasable Area. The net building area in square meters or feet.

#### GMP

Guaranteed Maximum Price.

#### gobo

A metal cut-out or etched or printed tempered glass image used with an ellipsoidal framing spotlight to project a pattern on a surface.



#### goodies

A list of program elements that may be in the candy store.

#### green screen photography

Similar to blue screen, a type of visual effects photography that allows foreground elements to be mated with a background shot elsewhere. Often used with video, whereas blue screen is generally preferred for film. In video, the green background is electronically replaced with the alternate background.

#### grip A stageh

A stagehand.

#### ground (GND)

An electrical connection to the earth, generally through a ground rod.

#### ground loop

A completed circuit between shielded pairs of multiple pair created by random contact between shields. An undesirable circuit in which interference is created by ground currents when grounds are connected at more than one point.

#### ground potential

The potential earth. A circuit, terminal, or chassis is said to be at ground potential when it is used as a reference point.

#### grubbing

1) To dig the surface of the soil. 2) To clear away roots by digging, to dig up by the roots.

#### handshake

A method of two systems verifying the integrity and operation of the other system.

#### hard costs

The costs of materials, labor, and services involved in the production or construction of the tangible elements of a project.

#### hard wired

Pertains to the installation of electrical or electronic equipment where the cabling carrying power to the unit is permanently terminated and installed in protective conduit that is secured in either a surface or sub-surface manner to the structure housing.

#### hardware

The actual physical parts and structure of a system, subsystem, etc., as opposed to software that may control its operation.

#### head

1) A laser tube enclosed in a case: the laser head (as opposed to the laser power supply). 2) A set of X-Y scanners which can produce laser graphics. A projector may have a number of heads. For example, a four-head projector can produce four different sets of graphics simultaneously. 3) An abbreviation for "head pressure" which indicates the resistance caused by pumping air or water.

#### heat exchanger

A heating or cooling unit sometimes used with watercooled lasers. Hot water from the laser is cooled by water-to-water or water-to-air heat transfer. There is no active refrigeration, as in a chiller. Frequently used for energy conservation and exchanging temperatures such as with water to water, air to water or air to air.

#### high definition video (HDTV)

The video standard defined by higher resolution and better picture quality, better suited to projection or large screen viewing. Specifically, conventional video is either 525 (NTSC) or 625 (PAL) scan lines, with an aspect ratio of 1.33:1. HD video range is typically 1125 lines with a 16:9 aspect ratio.

#### high frequency (HF)

The band from 3 to 30 MHz in the radio spectrum, as designated by the Federal Communications Commission.

#### HOA

Hand-Off-Auto, describes the three operating modes for a controller. Hand refers to the mode in which the operator manually activates the device locally. Hand mode, in contrast to Manual mode, only requires the activation of one switch. Off refers to the mode which disables the device from operating regardless of the input signal. Auto refers to the mode which allows the device to operate via the show control or other external operating system. See also MOA.

#### hologram

A light-sensitive film which captures and plays back light wave interference patterns. One of the most striking results is the true three dimensional nature of the recreated holographic image.

#### hot spot

A place on a projected image where the brightness is measurably different from other areas.

#### HTTP

Hypertext Transfer Protocol, usually written as http://.

#### hub and spoke

A park or audience circulation system in which the visitor reaches the core of the complex and radiates out to themed districts or zones. Favored by park designers because of equal loading and service requirements. For example: Disneyland Park.

#### hum

A term used to describe the 60 or 120 cycle per second noise present in the sound of some communications equipment.

#### HVAC

Heating, Ventilation, and Air Conditioning. The mechanical systems of a facility devoted to human comfort.

#### hydraulic

Refers to the operation, movement, or effect created by the resistance offered or the pressure transmitted by means of water, oil, or other liquid.

#### IGMP

Initial Guaranteed Maximum Price.

#### illuminator

A self-contained electrical light source for fiber optics. Usually a metal box containing a lamp, lamp holder, transformer, heat absorbing glass filter and holder, motor, and color wheel.

#### in berm

The public area of a project within the boundaries. Used for capacity calculations.

#### in park design

The projected design day allowing for the entry and exiting of a percentage of visitors. Even on the busiest of days, not all visitors are in the park at the same time.

#### indirect costs

All costs that do not become a final part of the installation, including field administration, direct supervision, capital tools, start-up cost, contractor's fees, insurance, and taxes.

#### input

An information signal coming into a system or part of a system. Can also mean the wire that carries this incoming information.

#### input/output (I/O)

Describes hardware and/or software exchange of data between systems.

#### instrument schedule

A list, usually in spreadsheet form, which itemizes all the information about an individual device. Also called fixture schedule.

#### intelligent lighting

Refers to lighting fixtures which have the capacity to be programmed to operate either autonomously or through reception of signals from manual or preprogrammed control device. Usually consist of one or more mechanical devices for the purpose of moving or changing the characteristics of the lighting beam.

#### interface

When two or more systems or a major and minor system meet and interact with each other.

#### interference

Disturbances of an electrical or electromagnetic nature that introduce undesirable responses into other electronic equipment.

#### iron ride

A generic term for any metal-framed ride.

#### isolated contact

A device that completes an electronic/electrical circuit but is electrically isolated from that circuit. Such a device could be the contacts of a switch or relay to which no other voltage source or ground potential is connected.

#### isolation

The ability of a circuit or component to reject interference, usually expressed in dB.

#### jack

1) The half of a connector that mates with a plug. 2) A bracing device, usually wooden or steel, that is used to support scenery or scenic elements.

## jig saw

A definition for a site or master plan before it is fixed. Also to be made up of many pieces or chips.

#### junction box (J-box)

An enclosure used to route and/or connect wiring, compressed air, water lines, etc.

#### keystoning

The distortion caused when a projector shines onto a screen from off-center. For example, a projector aimed up at a screen produces a wide image at top and a narrow image at bottom. This shape is like that of the keystone at the top of an arch.

#### kilo

Prefix meaning thousand.

#### Klieg Light

Originally, a powerful carbon arc source light on a mechanical device to form sweeping motion through the



air, usually associated with opening events, and originally manufactured by Klieg Brothers. Now generically a term for any powerful lighting device used for similar effect. See also sky tracker.

## KV

Kilovolt (1,000 volts).

KVA Kilovolt Ampere.

#### KW Kilowatt.

#### labor burden

Taxes and insurance costs based on labor payroll that the employer is legally required to pay on behalf of or for the benefit of laborers. In the United States, these include federal social security benefits, unemployment insurance tax, workers' compensation insurance and, in some cases, general liability insurance.

#### labor cost

The base salary, plus all fringe benefit costs and labor burdens associated with labor, that can be definitely assigned to one item of work, product, process area, or cost center.

#### laser

A device which produces a coherent beam of light. The beam remains parallel for long distances and contains one or more extremely pure colors. Light show lasers are usually gas-filled tubes using high voltage current to cause the gas to glow. The gas used determines the color of the beam; the four main types used are a helium-neon mixture, argon, krypton, and mixed gas. The term is derived from light amplification by stimulated emission of radiation.

#### laser light show

A presentation where laser light is the primary attraction (as opposed to laser special effects). The four main elements of a laser light show are; abstracts, graphics, lumia and beam effects presented in various combinations, usually set to music and with other effects such as theatrical lighting and pyrotechnics.

#### laser projector

Laser, scanner head, blanking system, special optical effects, and Scanner amps, all in a single chassis.

#### laser special effects

Any use of lasers where the laser is not the primary attraction (as opposed to laser light show).

#### laser system

A laser projector plus a signal source such as a tape playback unit, computer, or operator console.

#### Leko

Specifically, an ellipsoidal reflector spotlight as built by the Strand Lighting Company. Generically used for any ellipsoidal reflector spotlight; the term ellipsoidal framing projector often used more correctly; usually used with color media and often used with drop in templates and/or rotating effects machines.

#### level

A measure of the difference between a quantity or value and an established reference.

## LFBL

Little flashing, blinking lights. 1) A term used to describe the status indicators typically found in show control equipment.

#### life cycle

1) The entire life of a venue, from the initial idea through construction, years of operation, and, ultimately, abandonment or demolition. 2) Less accurately, the life of a project from the initial idea to grand opening and close-out.

#### line level

Refers to the output voltage of a piece of electronic equipment. Usually expressed in decibels.

#### line set

A group of lines using the same bead block to lift a batten or unit of scenery.

#### line voltage

The value of the potential existing on a supply or power line.

#### lip sync

A term indicating synchronization of a live performer's (or an animated figure's) mouth movements to recorded dialog or lyrics. An average viewer can recognize an out of sync condition if the audible program leads or trails by two or more frames.

#### local mode

A mode where the human operator initiates the control of functions.

#### location based entertainment (LBE)

All those entertainment activities which a consumer must leave his/her home to do: movies, concerts, theme parks, arcades etc. Also called out of home entertainment.

## loop

A circulation system.



A term referring to a film transport system that holds a continuous loop of film.

#### low frequency (LF)

A band of frequencies extending from 30 to 300 KHz in the radio spectrum, designated by the Federal Communications Commission. Compare to high frequency.

#### lumia

A gauzelike laser effect produced by shining a laser beam through distorting material such as rippled glass.

#### manual mode

A mode where the human operator is in direct control of system functions with a minimum of interlocks.

#### maquette

A miniature sculpted figure, often used as a model before producing a larger-scaled sculpture.

#### mark-up

In construction estimating, a percentage added to costs to cover general overhead, profit, and other indirect costs. When mark-up is applied to the bottom of a bid sheet for a particular item, system, or other construction price, any or all of the above items (or more) may be included, depending on local practice.

#### mask (theatrical)

To conceal from the audience, usually by scenic pieces or neutral hangings, any portion of the wings or backstage area.

#### mask (lasers)

A device used to obstruct the laser beam so it is blocked from shining on undesired areas. The mask is usually placed at the final output aperture of the laser projector. Masks are used for aesthetic reasons, to keep light from going off a screen, and as a safety feature, to ensure laser light does not reach the audience. Also called a beam block.

#### matrix

A process whereby signals can be added together for recording or transmission on fewer channels or wires, and later retrieved through a complementary process.

#### maze

A circulation system which twists and turns in very small areas. A useful system but not cost effective if thematic building used for the maze obliges four-sided architecture and leaves no space for service and back of house access.

#### mechanical effects

Also called physical effects or practical effects, but es-

sentially used to describe the use of specifically mechanical devices, such as the various man-made sharks built for the "Jaws" series of films.

#### microprocessor

An integrated circuit containing the entire CPU of a computer. Only memory devices and input-output devices need to be added.

### MIDI

Musical Instrument Digital Interface, a hardware and software specification for the exchange of information between different musical instruments or other devices.

#### mil

A unit of length equal to one-thousandth of an inch (.001").

#### milestone

A key point in the progress of a job or project, such as, but not limited to, the start or end date.

#### miniatures

Small-scale models of landscapes, buildings, vehicles, animals, and even people. Skillfully photographed, they can be strikingly effective in shots where it is not practical or possible to use the real thing.

#### MIS

Management Information Systems.

#### MOA (Manual-Off-Auto)

Describes the three operating modes for a controller. In manual, the operator manually activates the device. This is in contrast to the hand mode which requires the operator to activate additional switches before the device is activated. In the off mode, all activities are shut off. In the auto position the device operates via the show control or other external operating system. See Hand-Off-Auto (HOA).

#### modulation

Altering the characteristics of a carrier wave to convey information. Modulation techniques include amplitude, a frequency phase, plus many other forms of on/ off digital coding.

#### monopolar

A signal or voltage that has one sign, usually positive.

#### motion base

A mechanism that moves a platform to which seats are secured in a motion simulation attraction. The seats may also be mounted inside a cabin constructed onto the motion base.



#### motion envelope

A space defined by the furthest positions to which a motion base can move in each direction. The amount of space necessary around a motion base to prevent collision.

### moving lights

See intelligent lighting. multiplex A technique for putting two or more signals into a single channel.

#### NEC

National Electrical Code.

#### noise

Any signal that isn't supposed to be there. Electrical noise may be caused by small, irregular sparks when a switch is opened or closed or it may be caused by radio waves or by electric or magnetic fields generated by one wire and picked up by another.

#### NTSC

A video playback & transmission standard used primarily throughout North America and parts of Asia.

#### OCC

Operator Control Console. Any of several consoles that exist to provide select modes and initiate manual and local control of functions. The console, located either in a show area or control room, interfaces input devices (buttons/knobs) and output devices (lights, displays, etc.) between the show operators and the show control system. See OCP.

#### OCP

Operator control panel. A wall-mounted operator control console. See OCC

#### OEM

Original Equipment Manufacturer.

#### OFCI

Owner Furnished Contractor Installed.

#### OFI

Owner Furnished and Installed.

#### off-line

Refers to programming or monitoring a system that is not currently operating.

#### offstage

Areas on a stage that are out of the sightlines of the audience.

#### on-line

Refers to programming or monitoring a system that is operating.

#### on-stage

Areas on a stage that are within the sightlines of the audience.

#### open loop control

Refers to show control outputs that are not monitored. Examples are digital animation moves, lighting control, and audio VCA's.

See closed loop control and servo.

#### optical isolation

A method of transmitting data optically without a physical electrical connection. Used to electrically isolate systems, to eliminate ground loops and to provide protection from spikes or other damage.

#### optics plate

A metal plate drilled and tapped with holes, often in a grid configuration. The optics plate is usually the base on which a laser projector is built.

#### O/S

Computer operating system which sets the parameters of the basic functioning of that system.

#### out of home entertainment (OOHE)

All those entertainment activities that a consumer must leave his/her home to do: movies, concerts, theme parks, arcades, etc. Also called location-based entertainment.

#### output

The useful power or signal delivered by a circuit or device.

#### overhead

1) A cost or expense inherent in performing an operation, i.e., engineering, construction, operating, or manufacturing, that cannot be charged to or identified with a part of the work, product, or asset and which, therefore, must either be allocated on some arbitrary basis believed to be equitable, or handled as a business expense independent of the volume of production. 2) A reference to overhead projections or overhead projector equipment.

#### PAL

A video playback and transmission standard that is used primarily in Europe and South America.

## pancake

Large slab for parking under a building or series of buildings.

## PAR

Short for a parabolic reflector spotlight. A type of lighting instrument used for producing washes of light at beam spreads which vary by changing lamps or lenses; typically used with color media.

#### parallel

Refers to the use of one wire (or a pair of wires) for each bit or signal that is to be controlled.

#### parking bank

A parking garage.

#### patchbay

A series of jacks arranged to allow the routing of audio, lighting, or video signals along various signal paths as selected by the operator.

#### Pay One Price

An admission system where the visitor pays for the entire park experience at one time. This method extracts equal gate revenue from each visitor, reduces theft potential and is a secure collection system.

#### PDF file (.pdf file)

An Adobe Acrobat file that is also referred to as Portable Document Format. This format is used in the Adobe Acrobat Program to create "What You See Is What You Get" (WYSIWYG) documents and forms that can be easily posted on a website, or sent to others via e-mail, while maintaining their original layout and appearance.

#### peak

The maximum instantaneous value of a varying current or voltage.

#### people-eater

A high-capacity attraction within a larger venue (usually an amusement or theme park). Named for its ability to pull large numbers of people out of general circulation.

#### people mover

A system which can carry people from a distant site to a featured area. This can be a moving sidewalk, tram, monorail, or other vehicle.

#### Pepper's Ghost

A special effect that uses the reflective and transparent qualities of glass to create the illusion of a ghost-like object in the space beyond the glass. The reflected image can be produced with dimensional objects, film, video projection, or combinations thereof. The illusion depends upon concealing the actual object from guest view. Often mistaken by the public as a hologram, which is actually more limited in viewing angles, size, and detail than a Pepper's Ghost.

#### perf

A measure of the vertical height of a film frame, based on the number of sprocket-hole perforations at the edge of the film. Often used to specify variations of Special Format films. Standard 70mm film, like you would see in a movie theater, is a 5-perf format. IMAXÙ and OmnimaxÙ are 15-perf 70mm formats, sometimes referred to as 15/70.

#### PERT

Project Evaluation Review Technique. A management tool whereby a network of events and activities is established and then sequenced through a logical set of ground rules which allows the determination of important critical and sub-critical paths.

#### photocell

A device which has the capability of measuring the amount of light at its aperture, usually used in conjunction with a control device which uses sensor information to change or modify lighting within a space.

#### pin cushioning

A distortion caused by projecting onto a concave surface; for example, a grid projected on the inside of a dome has inwardly curved edges, where the corners stick out and the center curves inward. Single-axis pincushion distortion occurs when projecting on the inside of a cylinder.

#### PLC

Programmable Logic Controller. A device that monitors and supervises all ride and/or safety related elements of an attraction.

#### plan

1) A scaled drawing offering an overhead view of the interior or exterior of a structure. A typical drawing set includes plans, elevations, and sections. 2) A written sequenced set of future tasks aimed at producing a desired result.

#### plenum

A compartment or chamber to which one or more air ducts are connected and that forms part of the air distribution system.

#### plug

The half of a connector that mates with a jack.

#### pneumatic

The operation, movement, or effect created by the resistance offered or the pressure transmitted by means of a gas.


#### P.O.P

1) (Entertainment Marketing) Pay one price. 2) (Retail Marketing) Point of purchase. 3) Pacific Ocean Park. A now defunct amusement park that was built on a Southern California pier and which pioneered the pay one price concept in the theme park industry in the 1960's.

#### Point of Purchase

The location in a store or concession area where purchases are actually paid for. Marketers often create displays specifically for point of purchase locations where customers are likely to make impulse purchases. Also POS or point of sale.

#### Porte Cochere

Literally Îcoach door', this is the area of hotels where guests typically enter or exit in motor vehicles. It is typically a roofed structure extending from the entrance over the driveway.

#### POS

Point of Sale; usually the cash register area of a retail or food facility. See also Point of Purchase.

#### power supply

A device that accepts one type of power and converts it to a different type of power. For example a device which transforms 120 VAC to 24 VDC.

#### practical lighting

Lighting within a scene that is provided by "on-stage" fixtures, visible to the viewer.

#### preset

1) A pre-arranged lighting set-up held in readiness for later use. 2) To pre-position scenery that will be used later in a scene.

#### preshow

An introduction to the main show, the pre-show takes place before the audience enters the attraction's loading area or main theater. A preshow can range from basic safety instructions to elaborate theming and a complex story line.

#### price

The amount of money asked or given for a product (i.e., the exchange value). The chief function of price is to ration the existing supply among prospective buyers. Price incorporates direct costs, indirect costs, general overhead, profit, and contingency.

#### pricing

Determining the amount to be charged to the owner/ client to fully include direct and indirect cost items as well as contingency and profit.

#### productivity

A relative measure of labor efficiency, either good or bad, when compared to an established base or norm as determined from an area of great experience. Alternatively, productivity is defined as the reciprocal of the labor factor.

#### program

A set of instructions or steps telling the computer how to perform a problem or task.

#### project

Work assigned to one or more people for a limited period of time to accomplish objectives within a defined scope.

#### projector head

Laser scanner head, plus any special optical effects such as beam switchers and lumia, in a finished chassis. Usually used when a laser beam is fed via fiber optic cable.

#### prop

An abbreviation for property. See property.

#### property

A term referring to those items used to decorate a set and/or used by the actors in a scene. See prop.

#### proscenium

The wall surrounding a stage that frames the on-stage action. Often decorated with ornamental elements.

#### prototype

A full-sized, functional example of an item to be fabricated. Used for study and usually not intended to be put into service. Lessons learned from the prototype will be reflected in the first article and subsequent production.

#### punch list

A list of items, prepared as a project nears completion, representing incomplete tasks and contractor deficiencies. Addressing the items on the punch list is a critical effort in preparing a venue for opening.

#### putty

A project envisioned as malleable as in clay or putty. Pressing the putty enables pieces to be moved both horizontally and vertically.

puzzle

The arrangement of the facility program on the site.

#### pyrotechnics

The controlled use of fires and/or explosives.

#### queue

The line in which guests stand prior to participating in the primary presentation of an attraction; often associated with preshow.

#### radio frequency

The frequencies in the electromagnetic spectrum that are used for radio communications.

#### raked

Scenery or stage-flooring that is built at an angle toward the audience.

#### RAM

Random Access Memory. This memory contains transient data. Any data or other information in RAM will be lost when power is lost unless the data has been saved in another medium.

#### real time

Actual effort in reference to programming or work required to solve problems.

#### real time programming

The process of programming show data in actual time to create a finished animation data file.

#### real time system

A system that controls an environment by receiving data, processing it, and returning the results sufficiently quickly to affect the functioning of the environment at that time.

#### rear projection (RP)

Film or video projection in which the projector is on the opposite side of the screen from the audience.

#### record drawings

Drawings or copies of drawings that are kept as file records after the completion of a project. These may or may not include as-built drawings.

### relay

An electrical device in which one electrical phenomenon (current, voltage, etc.) controls the switching on and off of an independent electrical phenomenon.

#### repeater

A receiver and transmitter combination used to regenerate an attenuated signal.

#### resource

The people, materials, and equipment required for a task or project.

#### retention

A percentage of the total fees of a contract withheld (retained) until final buy-off by the client.

#### Request for Proposal (RFP)

A document, sent to pre-selected contractor candidates, soliciting the contractor's proposal and price for a given scope of work. The RFP typically details the scope of work, explains the criteria that will be used in awarding the contract, and specifies the form of the response.

#### Request for Qualifications (RFQ)

A document, sent to prospective contractors, requesting information that will establish the contractors' suitability for a given scope of work, focusing on their experience and capabilities.

#### RF

Radio-frequency.

#### ride envelope

The safety zone established by the ride manufacturer which must remain clear of all obstructions in order to ensure safety of guests when firmly secured in ride vehicle.

#### ride sensor

A device used to sense the location of a ride vehicle for the purpose of interaction with ride system or to trigger other technical systems such as animatronics, audio, lighting.

#### rigging

Any system for the suspension of objects overhead. The rigging system may be static or moving by means of manual or mechanical power.

#### risk

The uncertainty of loss. A business owner is at risk for such things as natural disasters, business interruptions, and liability lawsuits. Risk can be retained or transferred through insurance.

Rough Order-of-Magnitude (ROM) Estimates Estimates made without detailed design or engineering data. Examples include an estimate made from cost capacity curves, an estimate using scale-up or scale-down factors, and an approximate ratio estimate. Order-ofmagnitude estimates are sometimes referred to as ballpark estimates.

#### **RS-232**

Technically defined as levels of +12V (space) and -12V (mark). Normally used to describe an ASCII data format of an 8 bit word and various parties and baud rates. See EIA-232-D.

#### **RS-422**

Technically defined as a differential level format of +5V and ground. Normally used to describe an ASCII data format of an 8 bit word and various parties and baud rates. See EIA-422-A.



#### RS-485

Technically defined as an open collector differential level of +5V and ground. Normally used to describe an ASCII data format of an 8 bit word and various parties and baud rates.

#### scanner

Any device that moves a beam back and forth. This can include polygonal faceted scanners, acousto-optic deflectors, and galvanometers with mirrors. In laser display, scanner usually refers to a galvanometer which rotates a shaft back and forth through part of a circle. Two scanners are needed to draw laser graphics.

#### schematic

A design drawing that captures the basic components and configuration of a facility or product. This becomes the framework for further elaboration. 2) A systematic technical drawing or diagram that shows the layout of parts for a particular item in a set pattern.

#### scope

Scope of work. 1) For contractors supporting a project, the equipment and materials to be provided, and the work to be done, as defined by the contract. 2) For the project as a whole, the product to be delivered to the owner, as defined in the Project Program. (Sometimes called "Project Scope.")

#### search engine

Computer software that is used to search for data (as text or a database) for specified information (examples might include: www.yahoo.com, www.excite.com, www.infoseek.com). This term also refers search engines that are contained within a website.

#### SECAM

A video playback and transmission standard used primarily in France.

#### section

A scaled drawing offering a cut-away, side view through a structure, as though the structure had been cut in two. A typical drawing set includes plans, elevations, and sections.

#### sensor

A mechanical or electrical device that detects a predetermined physical stimulus and communicates that condition to a central system.

#### serial

Data transmission one bit at a time over one or two pair of wires. Examples: RS-232 data, DMX-512.

#### servo

A unit that controls the speed or position of a device by using an electrical correction voltage.

#### servo motor

A variable-speed electrical unit capable of smooth, precise incremental movement over a pre-determined distance. Used for special effects filming, computer printers, any application where an ultra-precise drive motor with variable-speed control capability is required.

#### SFX

An abbreviation for special effects.

#### shear

A distortion where one axis of the image is at an angle while the other is correctly straight. The resulting image is slanted. For example, horizontal shear causes normal text to look like Italic type.

#### shielded pair

A pair of individually insulated wires wrapped together and surrounded by a conductive wire sleeve or wrapping. Usually specified for analog control lines, microphone cables, computer cables and line-level audio cables.

#### show action equipment

A mechanical or electrical unit that moves, drives, or affects show props or sets. Unlike animated props, it usually requires mechanical engineering input for reasons of scale, complexity, or safety.

#### show rotation

A method of controlling the flow of people in a venue through the scheduling of show times in different parts of the property.

#### shutter

1) A mask inside a camera that opens for a predetermined duration when exposing a frame of photographic film. 2) A rapidly moving mask that blocks the light from a film projector lamp while the next frame is advanced. 3) An actuator used to block a laser's beam. Usually positioned between the laser and the laser projector, when activated, the shutter opens, letting the beam pass.

#### single-point failure

An isolated failure in a complex mechanical or electrical system. Although a single-point failure may interrupt the system, it does not generate collateral damage to other components. See critical multiple-point failure.

#### signal

A word used in describing the operation of electric or electronic circuits. It means electrical voltage or current or waves carrying information, or the information itself.

#### simulator

An attraction, usually enclosed, which uses advanced hydraulic/mechanical, electrically powered motion reproduction coupled with film or video to realistically simulate motion-based situations.

#### sinking mode

A circuit design in which the load is connected to the voltage source and the circuit is activated when the return line from the load is connected to the ground potential for the voltage source.

#### sky tracker

A trademarked name for a single or multi-head device consisting of high wattage xenon lamps in a reflector system designed to produce highly collimated light beams. Usually used with a motion device. Often used generically to refer to any similar device. See also Klieg Light.

slab A structural floor, usually of reinforced concrete.

#### SMPTE

Society of Motion Picture & Television Engineers.

#### SMPTE Time Code

A standard code developed by SMPTE to identify specific frames of video or motion picture film. This ten byte FM code repeats each 1/30th second counting each frame of a picture. The base carrier of the time code is 2400 Hz.

#### soft costs

Costs that are not part of actual construction or fabrication, usually relating to design, engineering, and project management. Soft costs are, however, influenced by hard costs. If a project is de-scoped, the reduction in scope should also reduce the cost to design, engineer, and manage the project.

#### software

The stored instructions (or program) that control a programmed system, as opposed to the hardware of which the system is physically constructed.

#### solenoid

A device used to convert electrical energy to mechanical energy.

#### solid-state audio

An audio playback source using computer chips for storing sound. An extremely reliable playback source with no moving parts or degradable media.

#### solid-state laser

A laser where the lasing medium is a solid material such as a ruby rod which is optically pumped by a flashlamp or diodes. Currently solid-state lasers are too expensive for most light show uses.

#### specifications

A detailed statement, prepared by those who design or purchase construction, fabrication, or installation services, prescribing particular requirements for materials, dimensions, or workmanship. Specifications are primarily textual, while drawings are presented graphically. In simple terms, drawings define what is to be built; specifications define how it is to be built. Both are elements of the contract documents.

#### special conditions

Modifications to the general conditions. Special conditions are applicable and unique to a specific project.

#### special format

Novelty films that require non-standard theaters for exhibition and non-standard equipment for projection. Special format films are typically designed to be shown on a very large screen, and are usually shot in 70mm.

#### specialty film

Films produced for venues other than the mainstream motion picture-exhibition circuit.

#### specialty theater

A theater that exhibits special format or custom-made films.

#### spot cooling

Providing comfort air in strategic locations, such as along the course of a ride, rather than throughout the entire attraction facility.

#### spotlight

A lighting instrument with a lens and framing shutters that throws an intense beam of light on a defined area. (See ellipsoidal framing spotlight and Leko.)

#### SS&P

Show Sets and Props.

#### stage left

That side of the stage on the actors' left when facing the audience.



#### stage right

That side of the stage on the actors' right when facing the audience.

#### standards

Rules for design, engineering, construction, fabrication, or installation established by an authority. Standards-setting organizations include professional societies, trade associations, and manufacturers. Standards are often referenced in specifications.

#### street theater

Entertainment performed in outdoor, public circulation areas. Since it requires minimal capital investment and is not anchored to a venue, it permits great flexibility in scheduling performances. Street theater is often provided as additional entertainment on heavy-attendance days when attraction demand is greater than the park norm.

#### strike

To dismantle a show or any part of a show or show element.

#### subsystem

Any function, effect, or set of functions and effects comprising a stand alone and self sufficient ride or show element.

#### subwoofer

An audio speaker designed to reproduce frequencies below the range of human hearing. It is often used to generate rumbling or vibrating sensations. See also tweeter and woofer.

#### sun steering

Sun and wind both play an important part in the psychology of circulation. Ideally, in bright northern hemisphere countries, the entrance should be to the south and away from the sun.

#### SWAG

Scientific Wild-Ass Guess. A gross estimate of cost loosely based on prior experience. A common method of cost estimating, also called a "ballpark" figure. (See WAG).

#### take off

An area or area calculation that is achieved by taking a measurement from design drawings, and sometimes with the use of a planometer, either a manual or an electronic measuring device.

#### task

The smallest measurable unit of work resulting in a predefined output.

#### terminal

A computer terminal is an input and output device operated by a person. Input is usually by a keyboard. Output is usually by a printer or CRT screen.

#### test and adjust

Traditional phrase used to refer to the final phases of show production when technical systems are turned on, reviewed for operation, adjusted for show intent, and programmed for final effect and integration with other systems. Also referred to as T & A.

#### theme (verb)

(also themed, theming) To apply a theme to an object, building, or environment (e.g., "a popcorn cart themed as a streetcar").

#### theme park

An amusement park that provides one or more discrete districts where guests are enveloped in a common setting or theme. The themes are reflected in the park's decor, rides, and special characters.

#### thrill ride

An attraction offering a highly visceral experience, usually through speed or freefall or both.

#### throw

1) The distance between a projector and the projection surface. 2) The desired distance between an air distribution device and an object or person that requires the air conditioning.

#### time-sensitive

A term applied to those elements of cost that will be expended or incurred on a time-unit basis (monthly, weekly, hourly, etc.). They are a subset of indirect costs. A cost engineer's salary on a project is a timesensitive cost as long as that engineer is on the project.

#### tracking (operations)

A course and direction taken by a pedestrian when circulating through a project. Tracking time is part of dwell time.

#### tracking (project management)

A process of entering actual information for project work performed to date.

#### tram

A people mover system which can carry people from an outside and distant satellite car parking to the front gate. Often diesel or gas powered.

#### transducer

A device which converts mechanical motion into analog electrical energy, or vice versa. Common transducers are loudspeakers or microphones.

#### trigger

Hardware and software triggers enable the show systems to respond to operator, track sensor, and other external system inputs.

trim The designated height of a line set.

#### turn-key

A contractual arrangement in which one party takes complete responsibility for design, fabrication, and installation of a system and Îturns over the keys' to another party who will operate the system.

#### turnstile

A mechanical or electronic gate used to count visitors passing through a given circulation point. Data from the turnstiles is often used to track in-park or in-berm capacity. Each visitor is counted when entering and when exiting. Periodic subtractions will identify the arrival and departure flow to accurately calculate the number of people in the venue.

#### tweeter

An audio speaker designed to reproduce the high frequencies of the audio spectrum. See also woofer, subwoofer, and two-way speakers.

#### twisted pair

Refers to a pair of individually insulated wires wrapped together. Usually specified for speakers and simple on/ off control lines.

#### two-way speakers

Audio speakers with both a tweeter and a subwoofer.

#### UHF

Ultrahigh Frequency. The spectrum extending from 300 to 3000 MHz as designated by the Federal Communications Commission.

#### UL

Underwriters Laboratories. A non-profit, independent organization which operates a listing service for electrical materials and equipment. UL approval indicates a product has met strictly defined safety criteria.

#### unbalanced line

A transmission line in which voltages on the two conductors are unequal with respect to ground (e. g., a coaxial cable).

#### unit of beauty

The aesthetic value of an object.

#### upholstering

Filling in of angles, the covering of large uniform structures by thematic facades and other design solutions.

#### upload

Term used for transferring data from a slave unit to a host unit.

#### upstage

That area of the stage farthest away from the audience.

#### URL

The address of a computer or a document on the Internet that consists of a communications protocol followed by a colon and two slashes (written as: http:// www.themeit.com).

#### UTP

Unshielded Twisted Pair(s).

V. Volt.

#### VA

Volt-ampere. A designation of power in terms of voltage and current.

#### VAC

Abbreviation for volts, alternating current.

#### VDC

Abbreviation for volts, direct current.

#### value engineering

1) A process of examining the tradeoffs between the project's initial capital investment versus the asset's long term operational and maintenance costs. The objective is to design a facility or item that will yield the lowest life-cycle costs while satisfying performance criteria. 2) A process of balancing scope against cost to identify the optimal configuration of a project. It is often instigated when a cost estimate must be reduced to meet the budget, with the goal of identifying the most prudent reductions.

#### variable cost

An expense that is determined by multiplying a cost rate over time, such as an hourly rental fee.

#### velocity of propagation

The transmission speed of electrical energy in a length of cable compared to speed in free space. Usually expressed as a percentage.

#### VHF

Very High Frequency The spectrum extending from 30 to 300 MHz, as designated by the Federal Communications Commission.

#### visual effects

Also Photographic Effects, this term describes a wide variety of image manipulations that can be ac-



complished with the aid of optical systems found in cameras, projectors, optical printers, and aerial-image printers. Also a wide variety of peripheral crafts such as model building, effects animation, motion control, electronics and software. Distinguished from Special Effects, which are physical show systems (fog, Pepper's ghost, etc.).

#### VLF

Very Low Frequency. The spectrum extending from 10 to 30 MHz, as designated by the Federal Communications Commission.

#### volt

A unit of electrical pressure. One volt is the electrical pressure that will cause one ampere of current to flow through one ohm of resistance.

#### voltage

Electrical potential or electromotive force expressed in volts.

voltage controlled attenuator (VCA)

In an audio system, the VCA allows the control system to dynamically adjust sound levels.

#### voltage drop

The voltage developed across a component or conductor by the current flow through the resistance or impedance of the component or conductor.

W Symbol for watt or wattage.

#### WAG

Wild Ass Guess. A gross estimate of cost loosely based on prior experience. A common method of cost estimating, sometimes called a ballpark figure. See SWAG.

#### watt

A unit of electrical power. One watt is the equivalent of one volt in a dc circuit, represented by one ampere of current with a pressure of one volt in a dc circuit.

#### wave form

A graphical representation of a varying quantity. Usually, time is represented on the horizontal axis, and the current or voltage value is represented on the vertical axis.

#### WDI

Walt Disney Imagineering; the Experience design and themed entertainment and environment design division of the Walt Disney Company; originally known as WED (Walter Elias Disney) Enterprises.

#### weenie

A focal element which draws the guest toward a location; i.e. the castle is the weenie at the end of Disneyland's Main Street. From dog racing formerly using weenies ahead of dogs to get them to run.

#### white light beam

A laser beam which contains a number of different wavelengths (colors) so the beam appears white. It can be from a single white-light laser or from two or three lasers whose beams have been combined into a single beam. White-light beams are primarily used in RGB laser projectors.

#### white light laser

A white-light laser is designed to give a good balance of red, green, and blue wavelengths. Most white light lasers use an argon/krypton gas mixture.

#### wings

The area offstage to the right and left of the playing area.

#### woofer

An audio speaker designed to reproduce the low frequencies of the audio spectrum.

#### work breakdown structure (WBS)

A dissection of a project into various levels: phases, activities, and tasks, developed in an outline form.

WWW or www The World Wide Web.

#### x-axis

1) The horizontal axis of a Cartesian coordinate system, along which the abscissa is measured. 2) One of the three axes in a three-dimensional rectangular coordinate system.

#### y-axis

1) The vertical axis of a Cartesian coordinate system, along which the ordinate is measured. 2) One of the three axes in a three-dimensional rectangular coordinate system.

#### z-axis

One of the axes in a three-dimensional rectangular coordinate system.

#### zone

A region or area of a plan that may be regulated by development conditions under government agencies.





## Appendix A - TEA's Project Development Process Chart





# Phase I - The Project Program Stage 1 - Project Initiation Flow Chart





## Phase I - The Project Program Stage 2 - Project Development Planning Flow Chart



## Phase II - The Design Process

Stage 4 - Schematic Design Flow Chart







Phase II - The Design Process

Stage 6 - Construction/Production/Fabrication Documents Flow Chart







Phase IV - The Opening Stage 9 - Pre-Opening, Cycling, Training Flow Chart



Phase IV - The Opening Stage 10 - Grand Opening Flow Chart





## THE CONSULTANT CONTRACT

THIS AGREEMENT is made and entered into effective as of \_\_\_\_\_(date/year), by and among "OWNER" (or developer) and \_\_\_\_\_\_" "CONSULTANT".

## THE PARTIES AGREE AS FOLLOWS:

## 1. <u>PROJECT INFORMATION</u>

1.1 Name of the PROJECT. The name of the PROJECT is (the "PROJECT").

1.2 <u>Description of the PROJECT.</u> The PROJECT is described on

## Exhibit 1.2.

1.3 PROJECT Location. The location of the PROJECT is on Exhibit 1.3

1.4 <u>PROJECT Implementation Strategy.</u> The PROJECT implementation strategy is set forth on <u>Exhibit 1.4.</u>

## 2. <u>DESCRIPTION OF WORK.</u>

2.1 <u>CONSULTANT.</u>

a. <u>Services.</u> The services to be provided by CONSULTANT under this AGREEMENT (the "WORK") are described on <u>EXHIBIT 2.1.</u> {If several exhibits are involved, they are numbered <u>EXHIBIT 2.1.a.i, 2.1.a.ii, etc.</u>}.

b. <u>Deliverables.</u> The deliverables to be provided by CONSULTANT under this AGREEMENT (the "WORK") are described on <u>EXHIBIT 2.1.</u> {If several exhibits are involved, they are numbered <u>EXHIBIT 2.1-A, 2.1-B, etc.</u>}.

2.2 <u>OWNER.</u> The services to be performed by OWNER in conjunction with the WORK are set forth on <u>Exhibit 2.2.</u>

2.3 <u>Balance of the TEAM. Exhibit 2.3</u> sets forth the other parties (the "OTHER PARTIES") who will provide services and/or deliverables related to the WORK. (The CONSULTANT, OWNER AND OTHER PARTIES collectively shall be referred to as the "TEAM".)

2.4 <u>Change Orders.</u> From time to time, OWNER and CONSULTANT may change the scope of the WORK by completing a change order in the form attached as <u>Exhibit 2.4</u> attached hereto. All of the terms and conditions of this AGREEMENT shall continue to apply to the WORK as so modified.

2.5 <u>Changes in the TEAM.</u> CONSULTANT shall notify OWNER within 48 hours after there has been an addition, deletion or modification to the TEAM.

## 3. <u>SCHEDULE.</u>

3.1 <u>Per Exhibits.</u> The WORK shall be performed by CONSULTANT in accordance with the schedule set forth on <u>EXHIBIT 3.1 (the "WORK SCHEDULE"</u>). {If several exhibits are involved, they are numbered <u>EXHIBIT 3.1-A, 3.1-B, etc.</u>}.

3.2 <u>Time of the Essence.</u> Time is of the essence in the completion of all obligations contained in this AGREEMENT.

3.3 <u>Delays Beyond Control of CONSULTANT</u>. Should CONSULTANT be delayed in the commencement, prosecution, or completion of the WORK by (a) the request of OWNER to delay performance of the WORK, (b) a change in the TEAM, (c) the act, omission, neglect, or default of OWNER, or (d) the OCCURRENCE of an UNCONTROLLABLE EVENT (as defined in Section 9.1), CONSULTANT shall be entitled to an extension of time to complete the WORK equal to the time lost due to such delay. In addition, CONSULTANT shall be entitled to reimbursement by OWNER for any and all labor and material costs incurred by CONSULTANT due to any such delay. CONSULTANT shall provide OWNER documentation of such time lost and costs incurred before CONSULTANT recommences WORK on the PROJECT.

## 4. COMPANY INFORMATION.

## 4.1 CONSULTANT.

a. <u>Business.</u> The business of the CONSULTANT is described in <u>EXHIBIT 4.1</u> attached hereto.

b. <u>Authorized Representative.</u> is authorized to execute this AGREEMENT and any change orders pursuant to Section 2.4 and such other documents as are necessary to effectuate the intent of this AGREEMENT.

c. <u>Addresses.</u> The address of CONSULTANT and its attorney are as

follows:

CONSULTANT:

Attorney:

## 4.2 <u>OWNER</u>.

a. <u>Business.</u> The business of the OWNER is described in <u>EXHIBIT 4.2</u> attached hereto.

b. <u>Authorized Representative.</u> is authorized to execute this AGREEMENT and any change orders pursuant to Section 2.4 and such other documents as are necessary to effectuate the intent of this AGREEMENT.

c. <u>Addresses.</u> The address of OWNER and its attorney are as follows:

OWNER:

Attorney:

4.3 <u>TEAM.</u> The business of each TEAM member is described in <u>EXHIBIT 4.3</u> attached hereto.

4.4 <u>Addresses.</u> The address of each TEAM member is set forth on <u>Exhibit 4.4</u> attached hereto:

5. <u>COMPETENCY.</u> CONSULTANT represents that CONSULTANT has the knowledge and experience necessary to complete the WORK in a competent and timely manner and that CONSULTANT shall complete the WORK in a competent and timely manner.

## 6. <u>CONTRACT PRICE AND PAYMENT.</u>

6.1 <u>Per Exhibits.</u> As full compensation for the WORK, OWNER shall pay CONSULTANT the sum listed on <u>EXHIBIT 6.1 (the "CONTRACT PRICE"</u>) according to the schedule also contained on <u>EXHIBIT 6.1 (the "PAYMENT SCHEDULE"</u>).

6.2 <u>Waivers and Releases.</u> As a prerequisite to any payments being made to it, CONSULTANT shall execute and deliver to OWNER full and complete waivers and releases of liens from all persons furnishing labor and materials towards the performance of the WORK covered by such payment; provided, however, that such waiver or release shall be conditioned upon the payment of such amount by OWNER to CONSULTANT.

6.3 <u>Claims Against OWNER.</u> If any claim is made or lien filed with or against OWNER by any person claiming that CONSULTANT or any subconsultant or person under it has failed to make payment for any labor, services, materials, equipment, taxes, or other items or obligations furnished or incurred for or in connection with the PROJECT, OWNER shall have the right to withhold from payment to CONSULTANT an amount equal to such claim; provided, (a) OWNER has paid CONSULTANT for such obligation, (b) OWNER has given notice of such claim to CONSULTANT, and (c) CONSULTANT is unable to provide OWNER with a reasonable basis as to why such funds are not due to such claimant.

6.4 <u>Payment as Approval or Waiver.</u> The final payment by OWNER to CONSULTANT shall constitute a waiver of all claims by OWNER against CONSULTANT except those arising out of unsettled liens. The acceptance of final payment by CONSULTANT shall constitute a waiver of all claims against OWNER, except those claims previously made in writing yet still unsettled at the time of final payment.

## 7. DESIGN APPROVAL; ACCEPTANCE; NOTICE OF COMPLETION.

7.1 <u>Design Approval.</u> The WORK SCHEDULE set forth in <u>Exhibit</u> <u>3.1, et. seq.</u> shall provide for design approval by OWNER or its representative when the WORK is 30%, 60% and 90% complete ("DESIGN APPROVAL PROCESS"). If the WORK SCHEDULE does not provide for a DESIGN APPROVAL PROCESS, either party can request OWNER review the WORK when such party believes the work is 30%, 60% or 90% complete. Within five days after CONSULTANT informs OWNER the WORK is substantially complete, OWNER and CONSULTANT shall review the WORK and develop a punch list. The items set forth on the punch list shall be completed within the WORK SCHEDULE or upon the schedule agreed to be the OWNER and CONSULTANT.

7.2 <u>Acceptance of the WORK.</u> The WORK shall be considered accepted by OWNER upon the earlier of:

- a. written notice by OWNER that the WORK is accepted; receipt by CONSULTANT of final payment; or
- b. use of the WORK in conjunction with the PROJECT.

7.3 <u>Notice of Completion.</u> OWNER shall execute, acknowledge, and record in the manner provided by law a notice of completion within 10 days of completion of the WORK. OWNER hereby appoints CONSULTANT as OWNER's agent to sign and record a notice of completion on the OWNER's behalf if OWNER fails to comply with this Section. This agency is irrevocable and is coupled with an interest.

8. <u>QUALITY OF WORK.</u> CONSULTANT shall perform the WORK in accordance with applicable codes and within the material quality specifications identified in <u>Exhibit 2.1</u> attached hereto.

## 9. <u>UNCONTROLLABLE EVENT.</u>

9.1 <u>Definition.</u> "UNCONTROLLABLE EVENT" shall mean any event not reasonably within the control of the party affected, including, without limitation:

a. severe weather, flood, fire, lightning, earthquake epidemic, or other natural disaster or act of God;

b. strikes, walk-outs, or other labor problems;

c. action or inaction by or inability to obtain authorization or approval from any governmental agency or authority, which a party is unable to overcome; and

d. failure or threat of failure by any third party which causes a party to exercise its reasonable judgment to reduce work.

9.2 <u>Liability.</u> Neither party shall be liable or considered to be in default for failure or delay in performing, if performance is prevented, hindered, or delayed by an "UNCONTROLLABLE EVENT". In such event, the party which is unable or anticipates being unable to perform shall (a) promptly notify the other party in writing of the nature, cause, date of commencement, and expected duration of any such delay, (b) indicate to what extent it will be prevented from performing and (c) exercise due diligence to remove such inability with all reasonable dispatch.

## 10. SUBCONTRACTORS.

10.1 <u>Approval of OWNER.</u> OWNER shall have the right to hire third parties (the "SUBCONTRACTORS") to help perform the WORK; provided, however, that CONSULTANT shall first obtain the written approval of OWNER, which consent shall riot be unreasonably withheld.

10.2 <u>Payment.</u> The SUBCONTRACTORS shall be paid in accordance with <u>EXHIBIT 10.2</u>.

10.3 <u>Responsibility.</u> Responsibility for the non-performance of any SUBCONTRACTORS shall be borne in accordance with <u>EXHIBIT 10.2.</u>

11. <u>INSURANCE.</u> Before starting the WORK, OWNER and CONSULTANT shall furnish Certificates of Insurance to the other evidencing that such party has placed in force the insurance described in <u>EXHIBIT 11.1</u>. CONSULTANT shall name OWNER as an additional insured under all policies indicated in <u>Exhibit 11.1</u>. Each of the required certificates shall have an endorsement that provides that the coverage shall not be canceled or reduced except by written notice to OWNER given at least 30 days prior to the effective date of such cancellation or reduction. In the event the coverage is canceled or

reduced, such party shall procure and furnish to the other new certificates conforming to the above requirements before the effective date of such cancellation. In the event such party shall fail to provide such new certificates within the time specified, the other shall have the right to procure such insurance and charge the cost to such party.

## 12. <u>TAXES AND PERMITS.</u>

12.1 <u>Employee Taxes.</u> CONSULTANT and OWNER shall be responsible for all taxes to be paid and/or withheld with respect to its own employees.

12.2 <u>Other Taxes.</u> All taxes imposed other than those set forth in Section 12.1 and <u>Exhibit 12.2</u> shall be born by OWNER.

12.3 <u>Permits.</u> All permits required in connection with the WORK, including all work permits, shall be obtained by OWNER unless provided otherwise as set forth in <u>EXHIBIT 12.3.</u>

## 13. <u>CONSULTANT'S WARRANTIES, REPRESENTATIONS AND</u> <u>INDEMNIFICATION.</u>

13.1 Warranty.

a. <u>WARRANTY PERIOD.</u> CONSULTANT shall provide the WORK free from defects and in accordance with <u>EXHIBIT 2.1</u> for months (the "WARRANTY PERIOD") beginning upon acceptance of the WORK.

b. <u>Repair.</u> If any of the WORK is determined by CONSULTANT to be defective or not in conformance with <u>EXHIBIT 2.1</u> during theWARRANTY PERIOD, CONSULTANT shall make such changes to the WORK as are necessary to repair any defects and render it in conformance with <u>EXHIBIT 2.1</u>. CONSULTANT shall make such changes without cost to OWNER, provided the WORK is returned to CONSULTANT within the WARRANTY PERIOD. The costs of shipping to and from CONSULTANT of any returned WORK under this Section shall be born equally by OWNER and CONSULTANT.

c. <u>Disclaimer of Warranty.</u> Except for the express warranty stated above, CONSULTANT disclaims all warranties, expressed or implied, including, without limitation, any warranty of merchantability or fitness for a particular purpose.

d. <u>LIMITATION OF LIABILITY.</u> CONSULTANT SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSS OF USE, OR OTHER COMMERCIAL LOSS OF ANY NATURE WHATSOEVER. THE REMEDIES OF OWNER SET FORTH IN THIS SECTION ARE EXCLUSIVE AND PROJECT DESIGNER'S LIABILITY ON ANY CLAIM WITH RESPECT TO THE WORK, WHETHER ARISING OUT OF CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR UNDER ANY WARRANTY, OR OTHERWISE, SHALL IN NO EVENT EXTEND BEYOND THE AMOUNT PAID FOR THE WORK INVOLVED. 13.2 <u>Representations.</u>

a. <u>Authority.</u> The person whose name is set forth in Section 4.1.b. is authorized to execute this AGREEMENT on behalf of the CONSULTANT and to execute any other documents, including change orders pursuant to Section 2.4, in conjunction with the performance of the CONSULTANT'S obligations hereunder.

b. <u>The WORK.</u> CONSULTANT represents and warrants that, when delivered, the WORK: (i) will be the original work of CONSULTANT and (ii) will not, to the best knowledge of CONSULTANT, infringe on the copyright, trade secret, patent, or other proprietary right of any third party.

13.3 Indemnity.

a. <u>Representations.</u> CONSULTANT shall indemnify OWNER, and its subsidiaries, affiliates, and agents, and hold them harmless from any and all claims, judgments, rulings, findings, orders, damages, liabilities, actions, demands, costs, expenses, or losses, including reasonable attorneys' fees (collectively "CLAIMS") resulting from the breach of the representations set forth in Section 13.2; provided, however, that CONSULTANT shall not be required to indemnify OWNER with respect to WORK designed or modified by OWNER. If any item is held to be an infringement or misappropriation for which OWNER is indemnified by CONSULTANT, CONSULTANT shall at PROJECT DESIGNER's option and expense, either:

WORK;

i. Procure for OWNER the right to continue to utilize the

ii. Replace or modify the WORK in such a way that it will not continue to constitute such infringement; or

iii. Remove such infringing item and reduce the payments due from OWNER to CONSULTANT hereunder.

## THE FOREGOING STATES THE ENTIRE INDEMNIFICATION OBLIGATION AND LIABILITY OF CONSULTANTS FOR INFRINGEMENT AND MISAPPROPRIATION OF PROPRIETARY RIGHTS.

b. Liens. Except where due to the act or omission of OWNER, CONSULTANT shall indemnify OWNER and hold it harmless from all CLAIMS which OWNER may suffer by reason of the filing of any notices, liens, security interests, or encumbrances against the WORK or from failure of CONSULTANT to obtain cancellation and discharge thereof.

c. <u>General.</u> CONSULTANT shall indemnify OWNER and hold it harmless from and against the following:

i. Any CLAIMS arising out of or resulting from a breach of this AGREEMENT resulting from the acts of CONSULTANT which were not authorized by OWNER.

ii. Any CLAIMS arising out of or resulting from the negligent or intentional acts of CONSULTANT, its employees, or agents.

iii. Any CLAIMS assessed by or entered into by OSHA against PROJECT DESIGNER's work or PROJECT DESIGNER's employees, agents, or representatives.

## 14. <u>OWNER'S REPRESENTATIONS AND INDEMNIFICATION.</u>

14.1 <u>Representation</u>. The person identified in Section 4.2.b is authorized to execute this AGREEMENT on behalf of the OWNER and to execute any other documents, including change orders pursuant to Section 2.4, in conjunction with the performance of OWNER'S obligations hereunder.

14.2 <u>INDEMNIFICATION.</u> OWNER shall indemnify CONSULTANT and hold it harmless from and against the following:

a. Any CLAIMS (as defined in Section 13.3) arising out of or resulting from a breach of this AGREEMENT resulting from the acts of OWNER.

b. Any CLAIMS arising out of or resulting from the negligent, grossly negligent or intentional acts of OWNER, its employees, or agents.

## 15. RISK OF LOSS; OWNERSHIP OF WORK.

15.1 <u>Risk of Loss.</u> All risk of loss shall be born by the party in possession of the WORK. The transferror shall bear the risk of loss until the transferee takes possession of such WORK.

15.2 <u>Title</u>. Subject to the balance of this Section, title to the WORK shall pass to OWNER upon final payment of the CONTRACT PRICE to CONSULTANT ("FINAL PAYMENT").

15.3 <u>INTELLECTUAL PROPERTY.</u> The patents, copyrights, trademarks, trade secrets, and other intellectual property contained in or developed as part of the WORK (collectively, the "INTELLECTUAL PROPERTY") shall be owned as follows:

a. <u>Developed Prior to AGREEMENT.</u> The INTELLECTUAL PROPERTY developed by CONSULTANT or SUBCONTRACTORS prior to this AGREEMENT, including, but not limited to those items on <u>EXHIBIT 15.3.a.</u> shall be owned in its entirety by CONSULTANT (collectively "PREEXISTING PROPERTY"). To the extent PREEXISTING PROPERTY is incorporated into the WORK, upon receipt of the final payment of the CONTRACT PRICE by CONSULTANT, CONSULTANT hereby grants to OWNER a perpetual, royalty-free, non-transferrable license to use such PREEXISTING PROPERTY solely in conjunction with the PROJECT at the PROJECT site. Except as set forth above, OWNER shall have no rights relating to the PREEXISTING PROPERTY. b. <u>Owned by CONSULTANT.</u> The INTELLECTUAL PROPERTY developed by CONSULTANT or SUBCONTRACTORS as part of the WORK identified on <u>EXHIBIT 15.3.b</u> shall be owned in its entirety by CONSULTANT; provided, however, that upon receipt of FINAL PAYMENT, CONSULTANT hereby grants to OWNER a perpetual, royalty-free, non-transferrable license to use such INTELLECTUAL PROPERTY solely in conjunction with the PROJECT at the PROJECT site. Except as set forth above, OWNER shall have no rights to such INTELLECTUAL PROPERTY.

c. <u>Owned by OWNER.</u> Upon receipt of FINAL PAYMENT, the INTELLECTUAL PROPERTY identified on <u>EXHIBIT 15.3.c</u> shall be owned in its entirety by OWNER; provided, however, that CONSULTANT shall be granted an irrevocable, perpetual, royalty-free license to use such items as part of or in any of its subsequent work.

d. <u>Developed by OWNER.</u> Upon receipt of FINAL PAYMENT, the INTELLECTUAL PROPERTY identified on <u>EXHIBIT 15.3.d</u> shall be owned entirely by OWNER. CONSULTANT shall have no rights relating to such items.

## 16. <u>CONFIDENTIALITY.</u>

16.1 <u>Definition.</u> "CONFIDENTIAL INFORMATION" of each party shall mean all information belonging to, used by, or in the possession of such party, which information is not generally available to the public. CONFIDENTIAL INFORMATION includes, but is not limited to, information concerning methods and processes of construction or manufacture, business and financial records and information, information regarding customers and suppliers, and all other information generally regarded as trade secrets.

16.2 <u>Obligation</u>. Neither party shall in any manner disclose CONFIDENTIAL INFORMATION of the other party either purposely or inadvertently to any third party. Each party shall take measures necessary to reasonably protect CONFIDENTIAL INFORMATION of the other party, including requiring any employees, SUBCONTRACTORS, consultants, sublicensees, and other persons or entities with access to CONFIDENTIAL INFORMATION of the other party to execute appropriate nondisclosure agreements.

## 17. <u>DEFAULT BY CONSULTANT.</u>

17.1 <u>EVENTS OF DEFAULT.</u> The occurrence of any of the following events shall be considered a default by CONSULTANT under this AGREEMENT ("EVENT OF DEFAULT"):

a. CONSULTANT defaults in the due observance and performance of any covenant or agreement contained herein and CONSULTANT does not remedy such default within 5 days after written notice of such default has been delivered by OWNER to CONSULTANT, if such default is curable within such period. If it is not curable within such period, OWNER shall have the right to terminate if the default is not cured in a timely fashion.

b. CONSULTANT (i) voluntarily terminates operations or consents to the appointment of a receiver, trustee, or liquidator of CONSULTANT or of

all of a substantial portion of its assets, (ii) is adjudicated bankrupt or insolvent or files a voluntary petition in bankruptcy, or admits in writing its inability to pay its debts as they become due, (iii) makes a general assignment for the benefit of creditors, (iv) files a petition or answer seeking reorganization or an arrangement with creditors or takes advantage of any insolvency law, or (v) takes, or has taken against it, any action for the purpose of effecting any of the foregoing.

17.2 Termination. Upon the occurrence of an EVENT OF DEFAULT, OWNER may, without prejudice to any other remedy it may have at law or in equity, (i) terminate this AGREEMENT, suspend all payments otherwise then due to CONSULTANT hereunder and have no liability with regard to payments not then due, take possession of all materials, tools, equipment, and appliances, and finish the WORK by such means as OWNER may see fit, deducting from any balance due CONSULTANT the cost of finishing the work and paying the excess, if any, to CONSULTANT and in the event the cost of finishing the WORK exceeds the unpaid balance that would have been due CONSULTANT, such excess shall be paid by CONSULTANT to OWNER within 15 working days of invoicing by OWNER, or (ii) at its option, OWNER may remedy any EVENT OF DEFAULT and deduct the cost thereof from any balance due or to be due hereunder to CONSULTANT. The costs and expenses of completing the WORK shall be computed and audited by OWNER's designated representative and reviewed by PROJECT DESIGNER's representative.

17.3 <u>Limitation.</u> Notwithstanding any other provision in this AGREEMENT, PROJECT DESIGNER's liability under this AGREEMENT, including, without limitation, this Section, in no event shall exceed the amount paid by OWNER to CONSULTANT hereunder.

## 18. DEFAULT BY OWNER

18.1 <u>Default.</u> The occurrence of any of the following events shall be considered a default by OWNER under this AGREEMENT:

a. OWNER defaults in the payment of any amount due hereunder and fails to pay such overdue amount within 5 days of receipt of written notice thereof.

b. OWNER (i) fails to work with CONSULTANT to enable CONSULTANT to perform the WORK as contemplated in this AGREEMENT, (ii) violates any other covenant or agreement contained herein, or (iii) unreasonably interferes with PROJECT DESIGNER's activities and OWNER does not remedy such default within 5 days after written notice of such default from CONSULTANT to OWNER.

c. (i) The work on the entire PROJECT or the portion to be provided by CONSULTANT is abandoned or suspended for a period of at least 30 days, or (ii) OWNER informs CONSULTANT that the PROJECT or the portion to be provided by CONSULTANT will be suspended for at least 30 days, provided such abandonment or suspension was not exclusively caused by an act or failure to act of CONSULTANT.

d. OWNER (1) voluntarily terminates operations or consents to the appointment of a receiver, trustee, or liquidator of OWNER or of all or a substantial portion of its assets, (ii) is adjudicated bankrupt or insolvent or files a voluntary petition in bankruptcy, or admits in writing its inability to pay its debts as they become due, (iii) makes a general assignment for the benefit of creditors, (iv) files a petition or answer seeking rate reorganization or an arrangement with creditors or takes advantage of any insolvency law, or (v) takes, or has taken against it, any action for the purpose of effecting any of the foregoing.

18.2 <u>Termination.</u> Upon the occurrence of any of the events identified in Section 15.1, CONSULTANT, without prejudice to any other remedy it may have at law or in equity, may terminate this AGREEMENT at which point OWNER shall immediately pay to CONSULTANT all sums then due and owing plus 20% of the amount of the CONTRACT PRICE which has not yet been paid to compensate CONSULTANT for its lost profits.

18.3 <u>Interest.</u> Whether or not this AGREEMENT is terminated by CONSULTANT, in the event of a default by OWNER, in the event any sum due hereunder is not received by CONSULTANT within 15 days after written notice has been delivered by CONSULTANT to OWNER, interest shall accrue on any amount due but not paid at the rate of 15% per annum, compounded daily, or the maximum legal amount, whichever is less, until such amount is paid.

## 19. GENERAL PROVISIONS.

19.1 <u>Entire Agreement.</u> This AGREEMENT contains the entire and final agreement and understanding of the parties with respect to the subject matter of this AGREEMENT. Any and all prior agreements, understandings or undertakings, whether written or oral, with respect to the subject matter of this AGREEMENT, are hereby superseded by this AGREEMENT.

19.2 <u>Written Modification</u>. No modification to this AGREEMENT, nor any waiver of any rights, shall be effective unless assented to in writing by the party to be charged, and the waiver of any breach or default shall not constitute a waiver of any other right or any subsequent breach or default.

19.3 <u>Governing Law.</u> This AGREEMENT shall be governed and interpreted in accordance with the laws of \_\_\_\_\_\_

19.4 <u>Captions.</u> The captions and headings in this AGREEMENT are for convenience only and shall not be considered a part of, or be deemed to affect the construction or interpretation of, any provision of this AGREEMENT.

19.5 <u>Severability</u>. If any of the provisions of this AGREEMENT are determined to be invalid or unenforceable, the remaining provisions shall be deemed severable and shall continue in full force and effect to the extent the economic benefits conferred upon the parties by this AGREEMENT remain substantially unimpaired.

19.6 <u>Assignment.</u> The rights contained in this AGREEMENT are personal in nature and may not be assigned in whole or in part by either party without the prior written consent of the other party.

19.7 <u>Notices.</u> Any notices required or permitted pursuant to this AGREEMENT shall be given to the appropriate party at the address specified in Section 4 below or at such other address as the party shall specify in writing. Such notice shall be deemed given and received upon personal delivery to the appropriate address or, if sent by certified or registered mail, 5 working days after the date of mailing.

19.8 Independent Contractors. CONSULTANT shall be deemed to have the status of an independent contractor, and nothing in this AGREEMENT shall be deemed TEA - Owner/Developer and Consultant Form Doty, Sundheim & Gilmore - PDG Book, 3rd Edition (digital) - Page 11

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to place the parties in the relationship of employer-employee, principal-agent, partners or joint venturers.

19.9 <u>Arbitration.</u> Any dispute between the parties arising out of this AGREEMENT shall be submitted to final and binding arbitration in the City of

\_\_\_\_\_\_, under the Commercial Arbitration Rules of the American Arbitration Association then in effect (the "AAA RULES"), upon written notification and demand of either party. The following provisions shall be applicable to any such proceedings and shall control to the extent of any inconsistency with the AAA RULES:

a. In the demand for arbitration, the American Arbitration Association shall be requested to submit a list of prospective arbitrators consisting of persons experienced in matters involving business contracts. In any arbitration pursuant to this Section, the award shall be rendered by a single arbitrator appointed jointly by the parties, or if the parties cannot agree to a single arbitrator within 30 days after the commencement of the arbitration proceeding, by an arbitrator appointed in accordance with the AAA RULES. For purposed of this Section, "commencement of the arbitration proceeding" shall be deemed to be the date on which a written demand for arbitration is received by the American Arbitration Association from one of the parties.

b. In making the award, the arbitrator shall award recovery of costs and expenses of the arbitration and reasonable attorney's fees to the prevailing party.

c. Any award may be entered as a judgment in any court of competent jurisdiction. Should judicial proceedings be commenced to enforce or carry out this provision or any arbitration award, the prevailing party in such proceedings shall be entitled to reasonable attorney's fees and costs in addition to other relief.

d. Either party shall have the right, prior to receiving an arbitration award, to obtain preliminary relief from a court of competent jurisdiction to:

(i) avoid injury or prejudice to that party; (ii) or to protect the rights of any party; or (iii) to maintain the status quo as it existed immediately prior to the dispute.

e. Service of any notices in the course of any arbitration shall be sufficient if given as provided in the Notice Section of this Agreement.

19.10 <u>Attorneys' Fees.</u> Should any litigation be commenced between the parties concerning the rights or obligations of the parties under this AGREEMENT, the party prevailing in such litigation shall be entitled, in addition to such other relief as may be granted, to a reasonable sum as and for its attorneys' fees in such litigation, This amount shall be determined by the court in such litigation or in a separate action brought for that purpose.

19.11 <u>Post Judgment.</u> In addition to any amount received as attorneys' fees, the prevailing party or parties also shall be entitled to receive from the party or parties held to be liable, an amount equal to the attorneys' fees and costs incurred in enforcing any judgment against such party or parties. This Section is severable from the other provisions of

this AGREEMENT and survives any judgment and is not deemed merged into any judgment.

IN WITNESS WHEREOF, the parties have executed this AGREEMENT on the date first written above.

OWNER:		
Dy. Name:		
Title:		
CONSULTAN	JT:	
By:		
Name:		 
Title:		 

EXHIBIT 1.1

<u>WORK</u>

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#### EXHIBIT 2.1

#### WORK SCHEDULE
#### CHANGE ORDER

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#### EXHIBIT 3.1

#### CONTRACT PRICE AND PAYMENT SCHEDULE

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#### EXHIBIT 7.3

#### SUB-CONTRACTORS

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### **INSURANCE**

CONSULTANT shall maintain the following insurance with respect to the WORK:

### 1. WORKERS COMPENSATION

- a. Statutory, with Employers Liability of \_\_\_\_\_(\$1,000,000)
- b. Monopolistic States Stop Gap Limit \_\_\_\_\_(\$1,000,000)
- c. Waiver of Subrogation

### 2. COMPREHENSIVE GENERAL LIABILITY

- \_\_\_\_\_(\$1,000,000) General Aggregate
- \_\_\_\_\_(\$1,000,000) Products & Completed Operation Aggregate
- \_\_\_\_\_ (\$1,000,000) Personal & Advertising Liability
- \_\_\_\_\_(\$1,000,000) Each Occurrence
  - \_\_\_\_\_(\$ 50,000) Fire Damage Liability
    - \_\_\_\_\_ (\$ 5,000) Medical Expense

### **BROADENING COVERAGES**

- a. Products & Completed Operation
- b. Contractual Liability
- c. Personal Injury
- d. Primary, Not Contributing Coverage
- e. Owners, Contractors Protective
- f. Additional Insured and/or Their Assigns
- g. Severability of Interest
- h. Additional Insured

### 3. PROPERTY INSURANCE

All Risk Property Insurance, including theft, covering CONSULTANT and SUB-CONTRACTOR property, including Tools, while said properties are:

- a. In Transit
- b. Being Installed
- c. While brought onto PROJECT
- d. In Storage on or off PROJECT
- e. If Leased from Rental House, A Loss Payable in favor of the Rental House for Limits equal to Replacement Cost
- f. Waiver of Subrogation
- g. Ocean Cargo

## 4. BUSINESS AUTOMOBILE LIABILITY

\$ (\$1,000,000)	Bodily Injury - Per Person
\$ (\$1,000,000)	Bodily Injury - Per Accident
\$ (\$1,000,000)	Property Damage - or -
\$ (\$1,000,000)	Each Occurrence Bodily Injury
	Liability or Property Damage
	Liability or Both Combined

Business Automobile includes all owned and will include PROVIDER/FABRICATOR Non-Owned & Hired Automobile.

### 5. FOREIGN INSURANCE

### a. WORKERS COMPENSATION

- i. U.S. Citizens
- ii. Third Country Nationals (TCN)
- iii. Locals
- b. COMPREHENSIVE GENERAL LIABILITY (Same limits as "2")

### c. PROPERTY INSURANCE

i. All-Risks Property Floater including tools ii. Installation Floater

### d. AUTOMOBILE LIABILITY

i. Excess Automobile Liability - \$1,000,000.ii. Employer Non-Owned and Hired Automobile Liability Limits - \$1,000,000.

## 6. COMMERCIAL UMBRELLA - EXCESS

\$\_\_\_\_\_(\$1,000,000) Each Occurrence Bodily Injury Liability or Property Damage Liability or Both Combined

## OWNER:

CONSULTANT shall maintain the following insurance with respect to the WORK:

## 1. PROPERTY INSURANCE

OWNER shall carry property insurance convering that portion of the WORK that is personsal property. such insurance shall apply to such portion of the WORK during the period such WORK is under the care, custody or control of OWNER.

EXHIBIT 8.2

OTHER TAXES

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#### EXHIBIT 8.3

#### PERMITS

Permits

Party To Obtain

Party To Pay

•

#### **INTELLECTUAL PROPERTY OF CONSULTANT**

#### INTELLECTUAL PROPERTY OF CONSULTANT LICENSED TO OWNER

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INTELLECTUAL PROPERTY OF OWNER LICENSED TO CONSULTANT

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#### **INTELLECTUAL PROPERTY OF OWNER**

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## THE PRODUCER CONTRACT

THIS AGREEMENT is made and entered into effective as of \_\_\_\_\_ (date/year) by and among \_\_\_\_\_, (the "OWNER" (or developer)), and \_\_\_\_\_, (the "PRODUCER").

### THE PARTIES AGREE AS FOLLOWS:

1. <u>PROJECT INFORMATION.</u>

1.1 <u>Name of the PROJECT.</u> The name of the project is the Fall Fairy Tale Festival (the "PROJECT").

1.2Description of the PROJECT. The PROJECT is described onEXHIBIT 1.2.

1.3PROJECT Location. The location of the PROJECT is described onEXHIBIT 1.3.

1.4 <u>PROJECT Implementation Strategy.</u> The PROJECT implementation strategy is set forth on <u>EXHIBIT 1.4.</u>

### 2. <u>DESCRIPTION OF WORK.</u>

2.1 <u>Per Exhibits.</u> The services to be performed (the "SERVICES") and the equipment to be provided (the "EQUIPMENT") by PRODUCER under this AGREEMENT (collectively, the "WORK") are described on <u>EXHIBIT 2.1.</u> {If several exhibits are involved, they are numbered <u>EXHIBIT 2.1-A, 2.1-B, etc.</u>}.

2.2 <u>DRAWINGS.</u> OWNER shall provide PRODUCER with sufficient drawings and specifications (collectively, the "DRAWINGS") to enable PRODUCER to perform the WORK.

2.3 <u>Coordination.</u> PRODUCER shall coordinate the WORK with OWNER.

2.4 <u>Change Orders.</u> From time to time, PRODUCER and OWNER may change the scope of the WORK by providing the following information in a written order approved by both parties: (a) a description of the addition, deletion, or change to the WORK, and (b) a description of the change to the CONTRACT PRICE (as defined in Section 6.1) resulting from the change in WORK. All of the terms and conditions of this AGREEMENT shall continue to apply to the WORK as so modified.

## 3. <u>SCHEDULE.</u>

3.1 <u>Per Exhibits.</u> The WORK shall be performed by PRODUCER in accordance with the schedule set forth on <u>EXHIBIT 3.1</u> (the "WORK SCHEDULE"). {If several exhibits are involved, they are numbered <u>EXHIBIT 3.1-A, 3.1-B, etc.</u>}.

3.2 <u>Time of the Essence.</u> Time is of the essence in the completion of all obligations contained in this AGREEMENT.

3.3 Delays Beyond Control of PRODUCER. Should PRODUCER be delayed in the commencement, prosecution, or completion of the WORK by (a) the request of OWNER to delay performance of the WORK, (b) the act, omission, neglect, or default of OWNER, (c) any damage caused by any party other than PRODUCER or those under PRODUCER's control, (d) the failure of contractors to perform their work in a timely manner, or (e) the OCCURRENCE of an UNCONTROLLABLE EVENT (as defined in Section 9.1), PRODUCER shall be entitled to an extension of time to complete the WORK equal to the time lost due to such delay. In addition, PRODUCER shall be entitled to reimbursement by OWNER for any and all labor and material costs incurred by PRODUCER due to any such delay. PRODUCER shall provide OWNER documentation of such time lost and costs incurred within 15 days after PRODUCER recommences WORK on the PROJECT.

3.4 <u>Acceptance.</u>

<u>Acceptance of the WORK.</u> The WORK shall be considered accepted by OWNER upon the earlier of:

- i. written notice by OWNER that the WORK is accepted;
- ii. receipt by PRODUCER of final payment; or
- iii. completion and opening of the PROJECT to the public.

## 4. <u>COMPANY INFORMATION.</u>

4.1 <u>OWNER.</u>

a. <u>Business.</u> The business of the OWNER is described in <u>EXHIBIT 4.1</u> attached hereto.

b. <u>Authorized Representative.</u> is authorized to execute this AGREEMENT and any change orders pursuant to Section 2.4 and such other documents as are necessary to effectuate the intent of this AGREEMENT.

c. <u>Addresses.</u> The address of OWNER and its attorney are as follows:

OWNER:

Attorney:

# 4.2 PRODUCER.

a. <u>Business.</u> The business of the PRODUCER is described in <u>EXHIBIT 4.2</u> attached hereto.

b. <u>Authorized Representative.</u> is authorized to execute this AGREEMENT and any change orders pursuant to Section 2.4 and such other documents as are necessary to effectuate the intent of this AGREEMENT.

c. <u>Addresses.</u> The address of PRODUCER and its attorney are as follows:

PRODUCER:

Attorney:

5. <u>COMPETENCY.</u> PRODUCER represents that PRODUCER has the knowledge and experience necessary to complete the WORK in a competent and timely manner and that PRODUCER shall complete the WORK in a competent and timely manner.

## 6. <u>CONTRACT PRICE AND PAYMENT.</u>

6.1 <u>Per Exhibits.</u> As full compensation for the WORK, OWNER shall pay PRODUCER the sum listed on <u>EXHIBIT 6.1 (the "CONTRACT PRICE")</u> according to the schedule also contained on <u>EXHIBIT 6.1 (the "PAYMENT SCHEDULE")</u>.

6.2 <u>Waivers and Releases.</u> As a prerequisite to any payments being made to it, PRODUCER shall execute and deliver to OWNER full and complete waivers and releases of liens from all persons furnishing labor and materials towards the performance of the WORK covered by such payment; provided, however, that such waiver or release shall be conditioned upon the payment of such amount by OWNER to PRODUCER.

6.3 <u>Claims Against OWNER.</u> If any claim is made or lien filed with or against OWNER by any person claiming that PRODUCER or any subcontractor or person under it has failed to make payment for any labor, services, materials, equipment, taxes, or

other items or obligations furnished or incurred for or in connection with the PROJECT, OWNER shall have the right to withhold from payment to PRODUCER an amount equal to such claim; provided, (a) OWNER has paid PRODUCER for such obligation, (b) OWNER has given notice of such claim to PRODUCER, and (c) PRODUCER is unable to provide OWNER with a reasonable basis as to why such funds are not due to such claimant.

6.4 Payment as Approval or Waiver.

a. <u>Progress Payments.</u> The payments made to PRODUCER during the progress of the WORK shall not be construed as an approval or acceptance of PRODUCER's WORK. (See Section 2.4 regarding acceptance.)

b. <u>Final Payment.</u> The final payment by OWNER to PRODUCER ("FINAL PAYMENT") shall constitute a waiver of all claims by OWNER against PRODUCER except those arising out of (1) unsettled liens, or (2) faulty or defective work. The acceptance of final payment by PRODUCER shall constitute a waiver of all claims against OWNER, except those claims previously made in writing yet still unsettled at the time of final payment.

# 7. DESIGN APPROVAL; ACCEPTANCE; NOTICE OF COMPLETION.

7.1 <u>Design Approval.</u> The WORK SCHEDULE set forth in <u>EXHIBIT</u> <u>3.1, et. seq.</u> shall provide for final design specifications approval by OWNER or its representative to be provided to PRODUCER on or before September 5, 1997. The items set forth on the punch list shall be completed within the WORK SCHEDULE or upon the schedule agreed to by the OWNER and PRODUCER.

7.2 <u>Acceptance of the WORK.</u> The WORK shall be considered accepted by OWNER upon the earlier of:

- a. written notice by OWNER that the WORK is accepted;
- b. receipt by PRODUCER of final payment; or
- c. use of the WORK in conjunction with the PROJECT.

7.3 <u>Notice of Completion.</u> OWNER shall execute, acknowledge, and record in the manner provided by law a notice of completion within 10 days of completion of the WORK. OWNER hereby appoints PRODUCER as OWNER's agent to sign and record a notice of completion on the OWNER's behalf if OWNER fails to comply with this Section. This agency is irrevocable and is coupled with an interest.

8. <u>QUALITY OF WORK.</u> PRODUCER shall perform the WORK in accordance with applicable codes and within the material quality specifications identified in <u>EXHIBIT 2.1</u> attached hereto.

# 9. <u>UNCONTROLLABLE EVENT.</u>

9.1 <u>Definition.</u> "UNCONTROLLABLE EVENT" shall mean any event not reasonably within the control of the party affected, including, without limitation:

a. severe weather, flood, fire, lightning, epidemic, or other natural disaster or act of God;

b. strikes, walk-outs, or other labor problems;

c. action or inaction by or inability to obtain authorization or approval from any governmental agency or authority, which a party is unable to overcome; and

d. failure or threat of failure by any third party which causes a party to exercise its reasonable judgment to reduce work.

9.2 <u>Liability.</u> Neither party shall be liable or considered to be in default for failure or delay in performing, if performance is prevented, hindered, or delayed by an "UNCONTROLLABLE EVENT", provided, however, that OWNER shall pay to PRODUCER all costs, fees and expenses incurred by PRODUCER as a result of the UNCONTROLLABLE EVENT. In such event, the party which is unable or anticipates being unable to perform shall (a) promptly notify the other party in writing of the nature, cause, date of commencement, and expected duration of any such delay, (b) indicate to what extent it will be prevented from performing, and (c) exercise due diligence to remove such inability with all reasonable dispatch.

9.3 <u>Destruction of PROJECT</u>. Should all or any part of the PROJECT be destroyed by an UNCONTROLLABLE EVENT or other cause not the exclusive fault of PRODUCER, any work done or materials furnished by PRODUCER in restoring or rebuilding the PROJECT shall be paid for by OWNER as extra work performed by PRODUCER pursuant to a schedule and modification of the CONTRACT PRICE submitted by PRODUCER and approved by OWNER.

10. <u>SUB-CONTRACTORS.</u>'

10.1 <u>Approval of OWNER.</u> PRODUCER shall have the right to hire third parties (the "SUBCONTRACTORS") to help perform the WORK.

10.2 <u>Payment.</u> The SUBCONTRACTORS shall be paid in accordance with <u>EXHIBIT 10.2</u>.

10.3 <u>Responsibility.</u> Responsibility for the non-performance of any SUBCONTRACTORS shall be borne in accordance with <u>EXHIBIT 10.2.</u>

# 11. <u>INSURANCE.</u>

11.1 <u>Certificates.</u> Before starting the WORK, PRODUCER shall furnish Certificates of Insurance to OWNER evidencing that PRODUCER has placed in force the insurance described in <u>EXHIBIT 11.1</u>. Each of the required certificates shall have an endorsement that provides that the coverage shall not be canceled or reduced except by written notice to OWNER given at least 30 days prior to the effective date of such cancellation or reduction. In the event the coverage is canceled or reduced, PRODUCER shall procure and furnish to OWNER new certificates conforming to the above requirements before the effective date of such cancellation. In the event PRODUCER shall fail to provide such new certificates within the time specified, OWNER shall have the right to procure such insurance and charge the cost to PRODUCER.

11.2 <u>Additional Insureds.</u> PRODUCER shall add OWNER as an Additional Insured under PRODUCER's General Liability coverage described in <u>EXHIBIT 11.1.</u>

# 12. <u>TAXES AND PERMITS.</u>

12.1 <u>Employee Taxes.</u> PRODUCER shall be responsible for all taxes to be paid and/or withheld with respect to its employees.

12.2 <u>Other Taxes.</u> All taxes not provided for in Sections 12.1 shall be paid in accordance with <u>EXHIBIT 12.2.</u>

12.3 <u>Permits.</u> All permits required in connection with the WORK shall be obtained in accordance with <u>EXHIBIT 12.3.</u>

## 13. PRODUCER'S REPRESENTATIONS AND INDEMNIFICATION.

## 13.1 <u>Representations.</u>

a. <u>Authority.</u> The person whose signature is set forth below under "PRODUCER" is authorized to execute this AGREEMENT on behalf of PRODUCER and to execute any other documents, including change orders, in conjunction with the performance of PRODUCER's obligations hereunder.

b. Original Work.

i. PRODUCER represents and warrants that, when delivered, the WORK: (1) will be the original work of PRODUCER or SUBCONTRACTORS, and (2) will not, to the best knowledge of PRODUCER, infringe on the copyright, trade secret, patent, or other proprietary right of any third party.

ii. PRODUCER shall indemnify OWNER, and their subsidiaries, affiliates, and agents, and hold them harmless from any and all claims, judgments, rulings, findings, orders, damages, liabilities, actions, demands, costs, expenses, or losses, including reasonable attorneys' fees (collectively "CLAIMS") resulting from the breach of the warranty set forth in Section 13.1; provided, however, that PRODUCER shall not be required to indemnify OWNER with respect to WORK designed or modified by OWNER. If any item is held to be an infringement or misappropriation for which OWNER is indemnified by PRODUCER, PRODUCER shall at PRODUCER's option and expense, either: (1) Procure for OWNER the right to continue to utilize the

WORK;

(2) Replace or modify the WORK in such a way that it will not continue to constitute such infringement; or

(3) Remove such infringing item and reduce the payments due from OWNER to PRODUCER hereunder, minus an amount for wear and tear and obsolescence.

# THE FOREGOING STATES THE ENTIRE INDEMNIFICATION OBLIGATION AND LIABILITY OF PRODUCER FOR INFRINGEMENT AND MISAPPROPRIATION OF PROPRIETARY RIGHTS.

13.2 <u>General Indemnification</u>. PRODUCER shall indemnify OWNER and hold it harmless from and against the following:

a. Any CLAIMS arising out of or resulting from a breach of this AGREEMENT resulting from the acts of PRODUCER which were not authorized by OWNER.

b. Any CLAIMS arising out of or resulting from the negligent or intentional acts of PRODUCER, its employees, or agents.

c. Any CLAIMS assessed by or entered into by OSHA against PRODUCER's work or PRODUCER's employees, agents, or representatives.

13.3 <u>Related to Liens.</u> Except where due to the act or omission of OWNER, PRODUCER shall indemnify OWNER and hold it harmless from all CLAIMS which OWNER may suffer by reason of the filing of any notices, liens, security interests, or encumbrances against the WORK or from failure of PRODUCER to obtain cancellation and discharge thereof.

# 14. <u>OWNER'S REPRESENTATIONS AND INDEMNIFICATION.</u>

14.1 <u>Representations.</u> The person whose signatures are set forth below under "OWNER" is authorized to execute this AGREEMENT on behalf of OWNER and to execute any other documents, including change orders, in conjunction with the performance of their obligations hereunder.

14.2 <u>Indemnification.</u> OWNER shall indemnify PRODUCER and hold it harmless from and against the following:

a. Any CLAIMS arising out of or resulting from a breach of this AGREEMENT resulting from the acts of OWNER.

b. Any CLAIMS arising out of or resulting from the negligent or intentional acts of OWNER, their employees, or agents.

# 15. <u>RISK OF LOSS; OWNERSHIP OF WORK.</u>

15.1 <u>Title and Risk of Loss.</u> Subject to the ownership provisions of Section 15.2, title to the WORK shall pass to OWNER upon final payment of the CONTRACT PRICE to PRODUCER. All risk of loss associated with all or any element of the WORK shall pass to OWNER upon delivery of such element of the WORK to the PROJECT and acceptance of such element by OWNER. (See Section 3.4 regarding acceptance.)

15.2 <u>INTELLECTUAL PROPERTY.</u> The patents, copyrights, trademarks, trade secrets, and other intellectual property contained in or developed as part of the WORK (collectively, the "INTELLECTUAL PROPERTY") shall be owned as follows:

a. <u>Developed Prior to AGREEMENT.</u> The INTELLECTUAL PROPERTY developed by PRODUCER prior to this AGREEMENT, including, but not limited to those items on <u>EXHIBIT 15.2.a.</u> shall be owned in its entirety by PRODUCER (collectively

"PREEXISTING PROPERTY"). To the extent PREEXISTING PROPERTY is incorporated into the WORK, upon receipt of FINAL PAYMENT (as defined in Section 6.4.b), PRODUCER hereby grants to OWNER a perpetual, royaltyfree, non-transferrable license to use such PREEXISTING PROPERTY solely in conjunction with the PROJECT. Except as set forth above, OWNER shall have no rights relating to the PREEXISTING PROPERTY.

b. <u>Owned by PRODUCER.</u> The INTELLECTUAL PROPERTY developed by PRODUCER as part of the WORK identified on <u>EXHIBIT 15.2.b</u> shall be owned in its entirety by PRODUCER; provided, however, that upon receipt of FINAL PAYMENT, PRODUCER hereby grants to OWNER a perpetual, royaltyfree, non-transferrable license to use such INTELLECTUAL PROPERTY solely in conjunction with the PROJECT. Except as set forth above, OWNER shall have no rights to such INTELLECTUAL PROPERTY.

c. <u>Owned by OWNER.</u> Upon receipt of FINAL PAYMENT, the INTELLECTUAL PROPERTY identified on <u>EXHIBIT 15.2.c</u> shall be owned in its entirety by OWNER; provided, however, that PRODUCER shall be granted an irrevocable, perpetual, royalty-free license to use such items as part of or in any of its subsequent work.

d. <u>Developed by OWNER.</u> Upon receipt of FINAL PAYMENT, the INTELLECTUAL PROPERTY identified on <u>EXHIBIT</u> 15.2.d shall be owned entirely by OWNER, as appropriate. PRODUCER shall have no rights relating to such items.

## 16. <u>CONFIDENTIAL INFORMATION.</u>

16.1 <u>Definition.</u> "CONFIDENTIAL INFORMATION" of each party shall mean all information belonging to, used by, or in the possession of such party, which information is not generally available to the public. CONFIDENTIAL INFORMATION includes, but is not limited to, information concerning methods and processes of construction or manufacture, business and financial records and information, information regarding customers and suppliers, and all other information generally regarded as trade secrets.

16.2 <u>Obligation.</u> Neither party shall in any manner disclose CONFIDENTIAL INFORMATION of the other party either purposely or inadvertently to any third party. Each party shall take measures necessary to reasonably protect CONFIDENTIAL INFORMATION of the other party, including requiring any employees, SUBCONTRACTORS, consultants, sublicensees, and other persons or entities with access to CONFIDENTIAL INFORMATION of the other party to execute appropriate nondisclosure agreements.

# 17. <u>DEFAULT BY PRODUCER.</u>

17.1 <u>EVENTS OF DEFAULT.</u> The occurrence of any of the following events shall be considered a default by PRODUCER under this AGREEMENT ("EVENT OF DEFAULT"):

a. PRODUCER defaults in the due observance and performance of any covenant or agreement contained herein and PRODUCER does not remedy such default within 5 days after written notice of such default has been delivered by OWNER to PRODUCER, if such default is curable within such period. If it is not curable within such period, OWNER shall have the right to terminate if the default is not cured in a timely fashion.

b. PRODUCER (i) voluntarily terminates operations or consents to the appointment of a receiver, trustee, or liquidator of PRODUCER or of all of a substantial portion of its assets, (ii) is adjudicated bankrupt or insolvent or files a voluntary petition in bankruptcy, or admits in writing its inability to pay its debts as they become due, (iii) makes a general assignment for the benefit of creditors, (iv) files a petition or answer seeking reorganization or an arrangement with creditors or takes advantage of any insolvency law, or (v) takes, or Section 15.2, title to the WORK shall pass to OWNER upon final payment of the CONTRACT PRICE to PRODUCER. All risk of loss associated with all or any element of the WORK shall pass to OWNER upon delivery of such element of the WORK to the PROJECT and acceptance of such element by OWNER. (See Section 3.4 regarding acceptance.)

15.2 <u>INTELLECTUAL PROPERTY.</u> The patents, copyrights, trademarks, trade secrets, and other intellectual property contained in or developed as part of the WORK (collectively, the "INTELLECTUAL PROPERTY") shall be owned as follows:

a. <u>Developed Prior to AGREEMENT.</u> The INTELLECTUAL PROPERTY developed by PRODUCER prior to this AGREEMENT, including, but not limited to those items on <u>EXHIBIT 15.2.a.</u> shall be owned in its entirety by PRODUCER (collectively "PREEXISTING PROPERTY"). To the extent PREEXISTING PROPERTY is incorporated into the WORK, upon receipt of FINAL PAYMENT (as defined in Section 6.4.b), PRODUCER hereby grants to OWNER a perpetual, royalty-free, non-transferrable license to use such PREEXISTING PROPERTY solely in conjunction with the PROJECT. Except as set forth above, OWNER shall have no rights relating to the PREEXISTING PROPERTY.

b. <u>Owned by PRODUCER.</u> The INTELLECTUAL PROPERTY developed by PRODUCER as part of the WORK identified on <u>EXHIBIT 15.2.b</u> shall be owned in its entirety by PRODUCER; provided, however, that upon receipt of FINAL PAYMENT, PRODUCER hereby grants to OWNER a perpetual, royaltyfree, non-transferrable license to use such INTELLECTUAL PROPERTY solely in conjunction with the PROJECT. Except as set forth above, OWNER shall have no rights to such INTELLECTUAL PROPERTY.

c. <u>Owned by OWNER.</u> Upon receipt of FINAL PAYMENT, the INTELLECTUAL PROPERTY identified on <u>EXHIBIT 15.2.c</u> shall be owned in its entirety by OWNER; provided, however, that PRODUCER shall be granted an irrevocable, perpetual, royalty-free license to use such items as part of or in any of its subsequent work.

d. <u>Developed by OWNER.</u> Upon receipt of FINAL PAYMENT, the INTELLECTUAL PROPERTY identified on <u>EXHIBIT</u> 15.2.d shall be owned entirely by OWNER, as appropriate. PRODUCER shall have no rights relating to such items.has taken against it, any action for the purpose of effecting any of the foregoing.

17.2 <u>Termination.</u> Upon the occurrence of an EVENT OF DEFAULT, OWNER may, without prejudice to any other remedy it may have at law or in equity, (i) terminate this AGREEMENT, suspend all payments otherwise then due to PRODUCER hereunder and have no liability with regard to payments not then due, take possession of all materials, tools, equipment, and appliances, and finish the WORK by such means as OWNER may see fit, deducting from any balance due PRODUCER the cost of finishing the work and paying the excess, if any, to PRODUCER and in the event the cost of finishing the WORK. exceeds the unpaid balance that would have been due PRODUCER, such excess shall be paid by PRODUCER to OWNER within 15 working days of invoicing by OWNER, or (ii) at its option, OWNER may remedy any EVENT OF DEFAULT and deduct the cost thereof from any balance due or to be due hereunder to PRODUCER. The costs and expenses of completing the WORK shall be computed and audited by OWNER's designated representative and reviewed by PRODUCER's representative.

17.3 Limitation. Notwithstanding any other provision in this AGREEMENT,

PRODUCER's liability under this AGREEMENT, including, without limitation, this Section, in no event shall exceed the amount paid by OWNER to PRODUCER hereunder.

#### 18. DEFAULT BY OWNER

18.1 <u>Default.</u> The occurrence of any of the following events shall be considered a default by OWNER under this AGREEMENT:

a. OWNER defaults in the payment of any amount due hereunder and fails to pay such overdue amount within 5 days of receipt of written notice thereof.

b. OWNER (i) fails to work with PRODUCER to enable PRODUCER to perform the WORK as contemplated in this AGREEMENT, (ii) violates any other covenant or agreement contained herein, or (iii) unreasonably interferes with PRODUCER's activities and OWNER does not remedy such default within 5 days after written notice of such default from PRODUCER to OWNER

c. (i) The work on the entire PROJECT or the portion to be provided by PRODUCER is abandoned or suspended for a period of at least 30 days, or (ii) OWNER informs PRODUCER that the PROJECT or the portion to be provided by PRODUCER will be suspended for at least 30 days, provided such abandonment or suspension was not exclusively caused by an act or failure to act of PRODUCER.

d. OWNER (i) voluntarily terminates operations or consents to the appointment of a receiver, trustee, or liquidator of OWNER or of all or a substantial portion of its respective assets, (ii) is adjudicated bankrupt or insolvent or files a voluntary petition in bankruptcy, or admits in writing its inability to pay its debts as they become due, (iii) makes a general assignment for the benefit of creditors, (iv) files a petition or answer seeking rate reorganization or an arrangement with creditors or takes advantage of any insolvency law, or (v) takes, or has taken against it, any action for the purpose of effecting any of the foregoing.

18.2 <u>Termination.</u> Upon the occurrence of any of the events identified in Section 18.1, PRODUCER, without prejudice to any other remedy it may have at law or in equity, may terminate this AGREEMENT at which point OWNER shall immediately pay to PRODUCER all sums then due and owing plus 20% to compensate PRODUCER for its lost profits.

18.3 <u>Interest.</u> Whether or not this AGREEMENT is terminated by PRODUCER, in the event of a default by OWNER, in the event any sum due hereunder is not received by PRODUCER within 15 days after written notice has been delivered by PRODUCER to OWNER, interest shall accrue on any amount due but not paid at the rate of 15% per annum, compounded daily, or the maximum legal amount, whichever is less, until such amount is paid.

# 19. <u>GENERAL PROVISIONS.</u>

19.1 <u>Entire Agreement.</u> This AGREEMENT contains the entire and final agreement and understanding of the parties with respect to the subject matter of this AGREEMENT. Any and all prior agreements, understandings or undertakings, whether written or oral, with respect to the subject matter of this AGREEMENT, are hereby superseded by this AGREEMENT.

19.2 <u>Written Modification.</u> No modification to this AGREEMENT, nor any waiver of any rights, shall be effective unless assented to in writing by the party to be charged, and the waiver of any breach or default shall not constitute a waiver of any other right or any subsequent breach or default.

19.3 <u>Governing Law.</u> This AGREEMENT shall be governed and interpreted in accordance with the laws of the State of California.

19.4 <u>Captions.</u> The captions and headings in this AGREEMENT are for convenience only and shall not be considered a part of, or be deemed to affect the construction or interpretation of, any provision of this AGREEMENT.

19.5 <u>Severability.</u> If any of the provisions of this AGREEMENT are determined to be invalid or unenforceable, the remaining provisions shall be deemed severable and shall continue in full force and effect to the extent the economic benefits conferred upon the parties by this AGREEMENT remain substantially unimpaired.

19.6 <u>Assignment.</u> The rights contained in this AGREEMENT are personal in nature and may not be assigned in whole or in part by either party without the prior written consent of the other party.

19.7 <u>Notices.</u> Any notices required or permitted pursuant to this AGREEMENT shall be given to the appropriate party at the address specified in Section 4 below or at such other address as the party shall specify in writing. Such notice shall be deemed given and received upon personal delivery to the appropriate address or, if sent by certified or registered mail, 5 working days after the date of mailing.

19.8 <u>Independent Contractors.</u> PRODUCER shall be deemed to have the status of an independent contractor, and nothing in this AGREEMENT shall be deemed to place the parties in the relationship of employer-employee, principal-agent, partners or joint venturers.

19.9 <u>Arbitration.</u> Any dispute between the parties arising out of this AGREEMENT shall be submitted to fmal and binding arbitration in the City of Santa Monica, California, under the Commercial Arbitration Rules of the

American Arbitration Association then in effect (the "AAA RULES"), upon written notification and demand of either party. The following provisions shall be applicable to any such proceedings and shall control to the extent of any inconsistency with the AAA RULES:

a. In the demand for arbitration, the American Arbitration Association shall be requested to submit a list of prospective arbitrators consisting of persons experienced in matters involving business contracts. In any arbitration pursuant to this Section, the award shall be rendered by a single arbitrator appointed jointly by the parties, or if the parties cannot agree to a single arbitrator within 30 days after the commencement of the arbitration proceeding, by an arbitrator appointed in accordance with the AAA RULES. For purposed of this Section, "commencement of the arbitration proceeding" shall be deemed to be the date on which a written demand for arbitration is received by the American Arbitration Association from one of the parties.

b. The provisions of California Code of Civil Procedure Section 1283.05 and the laws of the State of California are incorporated herein and shall be applicable to the arbitration.

c. In making the award, the arbitrator shall award recovery of costs and expenses of the arbitration and reasonable attorney's fees to the prevailing party.

d. Any award may be entered as a judgment in any court of competent jurisdiction. Should judicial proceedings be commenced to enforce or carry out this provision or any arbitration award, the prevailing party in such proceedings shall be entitled to reasonable attorney's fees and costs in addition to other relief.

e. Either party shall have the right, prior to receiving an arbitration award, to obtain preliminary relief from a court of competent jurisdiction to: (i) avoid injury or prejudice to that party; (ii) or to protect the rights of any party; or (iii) to maintain the status quo as it existed immediately prior to the dispute.

f. Service of any notices in the course of any arbitration shall be sufficient if given as provided in the Notice Section of this Agreement.

19.10 <u>Attorneys' Fees.</u> Should any litigation be commenced between the parties concerning the rights or obligations of the parties under this AGREEMENT, the party prevailing in such litigation shall be entitled, in addition to such other relief as may be granted, to a reasonable sum as and for its attorneys' fees in such litigation, This amount shall be determined by the court in such litigation or in a separate action brought for that purpose.

19.11 <u>Post Judgment.</u> In addition to any amount received as attorneys' fees, the prevailing party or parties also shall be entitled to receive from the party or parties held to be liable, an amount equal to the attorneys' fees and costs incurred in enforcing any judgment against such party or parties. This Section is severable from the other provisions of this AGREEMENT and survives any judgment and is not deemed merged into any judgment.

IN WITNESS WHEREOF, the parties have executed this AGREEMENT on the date first written above.

OWNER:
By:
Name:
Title:
PRODUCER:
By:
Name:
Title:

# **DESCRIPTION OF PROJECT**

# LOCATION OF PROJECT

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# PROJECT IMPLEMENTATION STRATEGY

<u>WORK</u>

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## EXHIBIT 3.1

# WORK SCHEDULE

### EXHIBIT 4.1

# **BUSINESS OF OWNER**

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## EXHIBIT 4.2

# **BUSINESS OF PRODUCER**

## EXHIBIT 6.1

# CONTRACT PRICE AND PAYMENT SCHEDULE

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# **SUB-CONTRACTORS**

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### **INSURANCE**

PRODUCER shall maintain the following insurance with respect to the WORK:

### 1. WORKERS COMPENSATION

- a. Statutory, with Employers Liability of \_\_\_\_\_(\$1,000,000)
- b. Monopolistic States Stop Gap Limit \_\_\_\_\_(\$1,000,000)
- c. Waiver of Subrogation

## 2. COMPREHENSIVE GENERAL LIABILITY

- \_\_\_\_\_(\$1,000,000) General Aggregate
- \_\_\_\_\_(\$1,000,000) Products & Completed Operation Aggregate
- \_\_\_\_\_(\$1,000,000) Personal & Advertising Liability
- \_\_\_\_\_(\$1,000,000) Each Occurrence
- \_\_\_\_\_ (\$ 50,000) Fire Damage Liability
- \_\_\_\_\_(\$ 5,000) Medical Expense

### **BROADENING COVERAGES**

- a. Products & Completed Operation
- b. Contractual Liability
- c. Personal Injury
- d. Primary, Not Contributing Coverage
- e. Owners, Contractors Protective
- f. Additional Insured and/or Their Assigns
- g. Severability of Interest
- h. Additional Insured

## 3. PROPERTY INSURANCE

All Risk Property Insurance, including theft, covering CONSULTANT and SUB-CONTRACTOR property, including Tools, while said properties are:

- a. In Transit
- b. Being Installed
- c. While brought onto PROJECT
- d. In Storage on or off PROJECT
- e. If Leased from Rental House, A Loss Payable in favor of the Rental House for Limits equal to Replacement Cost
- f. Waiver of Subrogation
- g. Ocean Cargo

### 4. BUSINESS AUTOMOBILE LIABILITY

\$ (\$1,000,000)	Bodily Injury - Per Person
\$ (\$1,000,000)	Bodily Injury - Per Accident
\$ (\$1,000,000)	Property Damage - or -
\$ (\$1,000,000)	Each Occurrence Bodily Injury Liability or Property Damage Liability or Both Combined

Business Automobile includes all owned and will include PROVIDER/FABRICATOR Non-Owned & Hired Automobile.

### 5. FOREIGN INSURANCE

#### a. WORKERS COMPENSATION

- i. U.S. Citizens
- ii. Third Country Nationals (TCN)
- iii. Locals

### b. COMPREHENSIVE GENERAL LIABILITY (Same limits as "2")

#### c. PROPERTY INSURANCE

i. All-Risks Property Floater including tools ii. Installation Floater

### d. AUTOMOBILE LIABILITY

i. Excess Automobile Liability - \$1,000,000.

ii. Employer Non-Owned and Hired Automobile Liability Limits - \$1,000,000.

### 6. COMMERCIAL UMBRELLA - EXCESS

\$\_\_\_\_\_(\$1,000,000) Each Occurrence Bodily Injury Liability or Property Damage Liability or Both Combined

### OWNER:

PRODUCER shall maintain the following insurance with respect to the WORK:

### 1. PROPERTY INSURANCE

OWNER shall carry property insurance convering that portion of the WORK that is personsal property. such insurance shall apply to such portion of the WORK during the period such WORK is under the care, custody or control of OWNER.
# EXHIBIT 12.2

# OTHER TAXES

<u>Tax</u>

Party to Pay

# EXHIBIT 12.3

## PERMITS

**Permits** 

Party To Obtain

Party To Pay

## EXHIBIT 15.2.a

# **INTELLECTUAL PROPERTY OF PRODUCER**

# EXHIBIT 15.2.b

# INTELLECTUAL PROPERTY OF PRODUCER LICENSED TO OWNER

## EXHIBTI 15.2.c

# INTELLECTUAL PROPERTY OF OWNER LICENSED TO PRODUCER

## EXHIBIT 15.2.d

# INTELLECTUAL PROPERTY OF OWNER

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### THE PROVIDER/FABRICATOR CONTRACT

THIS AGREEMENT is made and entered into effective as of	(date and year)
by and among	"OWNER"
(or developer),	
"PROJECT MANAGER", and	
"PROVIDER/FABRICATOR".	

(In this AGREEMENT, the Owner or Developer is taking on the functions of a Project Producer. If there is no PROJECT MANAGER, all references to the PROJECT MANAGER shall be deemed to refer to the OWNER.)

### THE PARTIES AGREE AS FOLLOWS:

**<u>1. PROJECT INFORMATION.</u>** 

1.1 <u>Name of the PROJECT.</u> The name of the project is \_\_\_\_\_(the "PROJECT").

1.2 <u>Description of the PROJECT.</u> The PROJECT is described on EXHIBIT 1.2.

1.3 <u>PROJECT Location.</u> The location of the PROJECT is described on EXHIBIT 1.3.

1.4 <u>PROJECT Implementation Strategy.</u> The PROJECT implementation strategy is set forth on <u>EXHIBIT 1.4.</u>

### 2. DESCRIPTION OF WORK.

2.1 <u>Per Exhibits.</u> The services to be performed (the "SERVICES") and the equipment to be provided (the "EQUIPMENT") by PROVIDER/FABRICATOR under this AGREEMENT (collectively, the "WORK") are described on <u>EXHIBIT 2.1.</u> {If several exhibits are involved, they are numbered <u>EXHIBIT 2.1-A, 2.1-B, etc.</u>}.

2.2 <u>DRAWINGS.</u> PROJECT MANAGER shall provide PROVIDER/ FABRICATOR with sufficient drawings and specifications (collectively, the "DRAWINGS") to enable PROVIDER/FABRICATOR to perform the WORK.

2.3 <u>Coordination.</u> PROVIDER/FABRICATOR shall coordinate the WORK with PROJECT MANAGER.

2.4 <u>Change Orders.</u> From time to time, PROVIDER/ FABRICATOR and PROJECT MANAGER may change the scope of the WORK by providing the following information in a written order approved by both parties: (a) a description of the addition, deletion, or change to the WORK, and (b) a description of the change to the CONTRACT PRICE (as defined in Section 6.1) resulting from the change in WORK. All of the terms and conditions of this AGREEMENT shall continue to apply to the WORK as so modified.

## 3. <u>SCHEDULE.</u>

3.1 <u>Per Exhibits.</u> The WORK shall be performed by PROVIDER/ FABRICATOR in accordance with the schedule set forth on <u>EXHIBIT 3.1</u> (the "WORK SCHEDULE"). {If several exhibits are involved, they are numbered <u>EXHIBIT 3.1-A,</u> <u>3.1-B, etc.</u>}.

3.2 <u>Time of the Essence.</u> Time is of the essence in the completion of all obligations contained in this AGREEMENT.

3.3 Delays Beyond Control of PROVIDER/FABRICATOR. Should PROVIDER/FABRICATOR be delayed in the commencement, prosecution, or completion of the WORK by (a) the request of OWNER or PROJECT MANAGER to delay performance of the WORK, (b) the act, omission, neglect, or default of OWNER or PROJECT MANAGER, (c) any damage caused by any party other than PROVIDER/FABRICATOR or those under PROVIDER/FABRICATOR's control, (d) the failure of contractors to perform their work in a timely manner, or (e) the OCCURRENCE of an UNCONTROLLABLE EVENT (as defined in Section 9.1), PROVIDER/FABRICATOR shall be entitled to an extension of time to complete the WORK equal to the time lost due to such delay. In a d dition, PROVIDER/FABRICATOR shall be entitled to reimbursement by OWNER for any and all labor and material costs incurred by PROVIDER/FABRICATOR due to any such delay. PROVIDER/FABRICATOR shall provide PROJECT MANAGER documentation of such time lost and costs incurred within 15 days after PROVIDER/FABRICATOR recommences WORK on the PROJECT.

3.4 <u>Acceptance.</u>

a. <u>Partial Acceptance</u>. Each element of the WORK shall be accepted by OWNER upon delivery of such element to OWNER and written approval of such element of the WORK by OWNER.

b. <u>Acceptance of the WORK.</u> The WORK shall be considered accepted by OWNER upon the earlier of:

i. written notice by OWNER or PROJECT MANAGER that the WORK is accepted;

ii. receipt by PROVIDER/FABRICATOR of final payment;

Or

iii. completion and opening of the PROJECT to the public.

# 4. <u>COMPANY INFORMATION.</u>

# 4.1 PROJECT MANAGER.

a. <u>Business.</u> The business of the PROJECT MANAGER is described in <u>EXHIBIT 4.1</u> attached hereto.

b. <u>Authorized Representative.</u> is authorized to execute this AGREEMENT and any change orders pursuant to Section 2.4 and such other documents as are necessary to effectuate the intent of this AGREEMENT.

c. <u>Addresses.</u> The address of PROJECT MANAGER and its attorney are as follows:

PROJECT MANAGER:

Attorney:

## 4.2 **PROVIDER/FABRICATOR.**

a. <u>Business.</u> The business of the PROVIDER/FABRICATOR is described in <u>EXHIBIT 4.2</u> attached hereto.

b. <u>Authorized Representative.</u> is authorized to execute this AGREEMENT and any change orders pursuant to Section 2.4 and such other documents as are necessary to effectuate the intent of this AGREEMENT.

c. <u>Addresses.</u> The address of PROVIDER/FABRICATOR and its attorney are as follows:

### PROVIDER/FABRICATOR:

Attorney:

# 4.3 <u>OWNER.</u>

a. <u>Business.</u> The business of the OWNER is described in <u>EXHIBIT 4.3</u> attached hereto.

b. <u>Authorized Representative.</u> is authorized to execute this AGREEMENT and any change orders pursuant to Section 2.4 and such other documents as are necessary to effectuate the intent of this AGREEMENT.

c. <u>Addresses.</u> The address of OWNER and its attorney are as

follows:

OWNER:

Attorney:

5. <u>COMPETENCY.</u> PROVIDER/FABRICATOR represents that PROVIDER/ FABRICATOR has the knowledge and experience necessary to complete the WORK in a competent and timely manner and that PROVIDER/FABRICATOR shall complete the WORK in a competent and timely manner.

# 6. <u>CONTRACT PRICE AND PAYMENT.</u>

6.1 <u>Per Exhibits.</u> As full compensation for the WORK, OWNER shall pay PROVIDER/FABRICATOR the sum listed on <u>EXHIBIT 6.1 (the "CONTRACT PRICE")</u> according to the schedule also contained on <u>EXHIBIT 6.1 (the "PAYMENT SCHEDULE")</u>.

6.2 <u>Waivers and Releases.</u> As a prerequisite to any payments being made to it, PROVIDER/FABRICATOR shall execute and deliver to OWNER full and complete waivers and releases of liens from all persons furnishing labor and materials towards the performance of the WORK covered by such payment; provided, however, that such waiver or release shall be conditioned upon the payment of such amount by OWNER to PROVIDER/FABRICATOR.

6.3 <u>Claims Against OWNER or PROJECT MANAGER.</u> If any claim is made or lien filed with or against OWNER or PROJECT MANAGER by any person claiming that PROVIDER/FABRICATOR or any subcontractor or person under it has failed to make payment for any labor, services, materials, equipment, taxes, or other items or obligations furnished or incurred for or in connection with the PROJECT, OWNER shall have the right to withhold from payment to PROVIDER/FABRICATOR an amount equal to such claim; provided, (a) OWNER has paid PROVIDER/FABRICATOR for such obligation, (b) OWNER has given notice of such claim to PROVIDER/FABRICATOR, and (c) PROVIDER/FABRICATOR is unable to provide OWNER with a reasonable basis as to why such funds are not due to such claimant.

6.4 <u>Payment as Approval or Waiver.</u>

a. <u>Progress Payments</u>. The payments made to PROVIDER/ FABRICATOR during the progress of the WORK shall not be construed as an approval or acceptance of PROVIDER/FABRICATOR's WORK. (See Section 2.4 regarding acceptance.)

b. <u>Final Payment.</u> The final payment by OWNER to PROVIDER/FABRICATOR ("FINAL PAYMENT") shall constitute a waiver of all claims by OWNER against PROVIDER/FABRICATOR except those arising out of (1) unsettled liens, or (2) faulty or defective work. The acceptance of final payment by PROVIDER/ FABRICATOR shall constitute a waiver of all claims against OWNER, except those claims previously made in writing yet still unsettled at the time of final payment.

# 7. DESIGN APPROVAL; ACCEPTANCE; NOTICE OF COMPLETION.

7.1 <u>Design Approval.</u> The WORK SCHEDULE set forth in <u>EXHIBIT</u> <u>3.1, et. seq.</u> shall provide for design approval by OWNER or its representative when the WORK is 30%, 60% and 90% complete ("DESIGN APPROVAL PROCESS"). If the WORK SCHEDULE does not provide for a DESIGN APPROVAL PROCESS, either party can request OWNER review the WORK when such party believes the work is 30%, 60% or 90% complete. Within five days after PROVIDER/FABRICATOR informs O W N E R the WORK is substantially complete, OWNER and PROVIDER/FABRICATOR shall review the WORK and develop a punch list. The items set forth on the punch list shall be completed within the WORK SCHEDULE or upon the schedule agreed to by the OWNER and PROVIDER/FABRICATOR

7.2 <u>Acceptance of the WORK.</u> The WORK shall be considered accepted by OWNER upon the earlier of:

- a. written notice by OWNER that the WORK is accepted;
- b. receipt by PROVIDER/FABRICATOR of final payment; or
- c. use of the WORK in conjunction with the PROJECT.

7.3 <u>Notice of Completion.</u> OWNER shall execute, acknowledge, and record in the manner provided by law a notice of completion within 10 days of completion of the WORK. OWNER hereby appoints PROVIDER/FABRICATOR as OWNER's agent to sign and record a notice of completion on the OWNER's behalf if OWNER fails to comply with this Section. This agency is irrevocable and is coupled with an interest.

8. <u>QUALITY OF WORK.</u> PROVIDER/FABRICATOR shall perform the WORK in accordance with applicable codes and within the material quality specifications identified in <u>EXHIBIT 2.1</u> attached hereto.

# 9. <u>UNCONTROLLABLE EVENT.</u>

9.1 <u>Definition.</u> "UNCONTROLLABLE EVENT" shall mean any event not reasonably within the control of the party affected, including, without limitation:

a. severe weather, flood, fire, lightning, epidemic, or other natural disaster or act of God;

b. strikes, walk-outs, or other labor problems;

c. action or inaction by or inability to obtain authorization or approval from any governmental agency or authority, which a party is unable to overcome; and

d. failure or threat of failure by any third party which causes a party to exercise its reasonable judgment to reduce work.

9.2 <u>Liability.</u> Neither party shall be liable or considered to be in default for failure or delay in performing, if performance is prevented, hindered, or delayed by an "UNCONTROLLABLE EVENT". In such event, the party which is unable or anticipates being unable to perform shall (a) promptly notify the other party in writing of the nature, cause, date of commencement, and expected duration of any such delay, (b) indicate to what extent it will be prevented from performing, and (c) exercise due diligence to remove such inability with all reasonable dispatch. 9.3 <u>Destruction of PROJECT.</u> Should all or any part of the PROJECT be destroyed by an UNCONTROLLABLE EVENT or other cause not the exclusive fault of PROVIDER/FABRICATOR, any work done or materials furnished by PROVIDER/ FABRICATOR in restoring or rebuilding the PROJECT shall be paid for by OWNER as extra work performed by PROVIDER/FABRICATOR pursuant to a schedule and modification of the CONTRACT PRICE submitted by PROVIDER/FABRICATOR and approved by PROJECT MANAGER or OWNER.

# 10. <u>SUBCONTRACTORS.</u>

10.1 <u>Approval of PROJECT MANAGER.</u> PROVIDER/FABRICATOR shall have the right to hire third parties (the "SUBCONTRACTORS") to help perform the WORK; provided, however, that PROVIDER/FABRICATOR shall first obtain the written approval of PROJECT MANAGER, which consent shall not be unreasonably withheld.

10.2 <u>Payment.</u> The SUBCONTRACTORS shall be paid in accordance with <u>EXHIBIT 10.2</u>.

10.3 <u>Responsibility</u>. Responsibility for the non-performance of any SUBCONTRACTORS shall be borne in accordance with <u>EXHIBIT 10.2</u>.

# 11. <u>INSURANCE.</u>

11.1 <u>Certificates</u>. Before starting the WORK, PROVIDER/FABRICATOR shall furnish Certificates of Insurance to PROJECT MANAGER evidencing that PROVIDER/FABRICATOR has placed in force the insurance described in <u>EXHIBIT 11.1</u>. Each of the required certificates shall have an endorsement that provides that the coverage shall not be canceled or reduced except by written notice to PROJECT MANAGER given at least 30 days prior to the effective date of such cancellation or reduction. In the event the coverage is canceled or reduced, PROVIDER/FABRICATOR shall procure and furnish to PROJECT MANAGER new certificates conforming to the above requirements before the effective date of such cancellation. In the event PROVIDER/FABRICATOR shall fail to provide such new certificates within the time specified, PROJECT MANAGER shall have the right to procure such insurance and charge the cost to PROVIDER/FABRICATOR.

11.2 <u>Additional Insureds.</u> PROVIDER/FABRICATOR shall add OWNER and PROJECT MANAGER as Additional Insureds under PROVIDER/FABRICATOR's General Liability coverage described in <u>EXHIBIT 11.1.</u>

# 12. <u>TAXES AND PERMITS.</u>

12.1 <u>Employee Taxes.</u> PROVIDER/FABRICATOR shall be responsible for all taxes to be paid and/or withheld with respect to its employees.

12.2 <u>Other Taxes.</u> All taxes not provided for in Sections 12.1 shall be paid in accordance with <u>EXHIBIT 12.2</u>.

12.3 <u>Permits.</u> All permits required in connection with the WORK shall be obtained in accordance with <u>EXHIBIT 12.3</u>.

### 13. <u>PROVIDER/FABRICATOR'S WARRANTIES, REPRESENTATIONS AND</u> INDEMNIFICATION.

13.1 Warranty.

#### a. <u>WARRANTY PERIOD.</u> PROVIDER/FABRICATOR

shall provide the WORK free from manufacturing defects for months (the "WARRANTY PERIOD").

b. Repair. If any of the WORK is determined by PROVIDER/ FABRICATOR to be defective during the WARRANTY PERIOD, PROVIDER/FABRICATOR shall, at its option, repair or replace such WORK. PROVIDER/FABRICATOR's choice to repair or replace any instance of defective WORK shall not prejudice its right to choose differently in other circumstances. PROVIDER/FABRICATOR shall repair or replace the defective WORK without cost to OWNER, provided the WORK is returned to PROVIDER/FABRICATOR within the WARRANTY PERIOD or if transportation of the WORK to PROVIDER/FABRICATOR's facility is not feasible, within the WARRANTY PERIOD OWNER notifies PROVIDER/ FABRICATOR of such defect and that it is not feasible to transport the WORK to PROVIDER/FABRICATOR's facility. The risk and expense of travel required by PROVIDER/FABRICATOR and the shipping to and from PROVIDER/FABRICATOR of any returned WORK under this Section shall be born equally by OWNER and PROJECT PRODUCER.

c. <u>Disclaimer of Warranty.</u> Except for the express warranty stated above, PROVIDER/FABRICATOR disclaims all warranties, expressed or implied, including, without limitation, any warranty of merchantability or fitness for a particular purpose.

d. <u>Limitation of Warranty.</u> The warranty stated in this Section is conditional upon proper use and service of the WORK, and does not cover WORK which has been modified without PROVIDER/ FABRICATOR's prior written approval, or which has been subject to unusual physical or electrical stress, or which has not been maintained by the OWNER or its agents in accordance with handling or operating instructions supplied by PROVIDER/FABRICATOR, or which has been damaged due to accident, negligence, misuse, or abuse.

e. <u>LIMITATION OF LIABILITY.</u> PROVIDER/FABRICATOR SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSS OF USE, OR OTHER COMMERCIAL LOSS OF ANY NATURE WHATSOEVER. THE REMEDIES OF OWNER SET FORTH IN THIS SECTION ARE EXCLUSIVE AND PROVIDER/FABRICATOR'S LIABILITY ON ANY CLAIM WITH RESPECT TO THE WORK, WHETHER ARISING OUT OF CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR UNDER ANY WARRANTY, OR OTHERWISE, SHALL IN NO EVENT EXTEND BEYOND THE AMOUNT PAID FOR THE WORK INVOLVED. f. <u>Third Party Warranties.</u> Notwithstanding the rest of this Section 13.1, if the EQUIPMENT is provided by a third party and such EQUIPMENT is identified as such by PROVIDER/FABRICATOR to OWNER, PROVIDER/FABRICATOR'S sole responsibility with respect to such EQUIPMENT shall be to attempt to assign the benefit of any warranties on such EQUIPMENT to OWNER or its assignees. OWNER specifically acknowledges that such warranties may not be in effect during the full WARRANTY PERIOD, and hereby agrees to release PROVIDER/ FABRICATOR from any liability or responsibility for the failure of such EQUIPMENT to comply with the warranty provided herein.

## 13.2 Representations.

WORK;

a. <u>Authority.</u> The person whose signature is set forth below under "PROVIDER/ FABRICATOR" is authorized to execute this AGREEMENT on behalf of PROVIDER/ FABRICATOR and to execute any other documents, including change orders, in conjunction with the performance of PROVIDER/FABRICATOR's obligations hereunder:

## b. Original Work.

i. PROVIDER/FABRICATOR represents and warrants that, when delivered, the WORK: (1) will be the original work of PROVIDER/FABRICATOR or SUBCONTRACTORS, and (2) will not, to the best knowledge of PROVIDER/ FABRICATOR, infringe on the copyright, trade secret, patent, or other proprietary right of any third party.

ii. PROVIDER/FABRICATOR shall indemnify OWNER and PROJECT MANAGER, and their subsidiaries, affiliates, and agents, and hold them harmless from any and all claims, judgments, rulings, findings, orders, damages, liabilities, actions, demands, costs, expenses, or losses, including reasonable attorneys' fees (collectively "CLAIMS") resulting from the breach of the warranty set forth in Section 13.1; provided, however, that PROVIDER/FABRICATOR shall not be required to indemnify OWNER or PROJECT MANAGER with respect to WORK designed or modified by OWNER or PROJECT MANAGER. If any item is held to be an infringement or misappropriation for which OWNER or PROJECT MANAGER is indemnified by PROVIDER/FABRICATOR, PROVIDER/ FABRICATOR shall at PROVIDER/FABRICATOR's option and expense, either:

(1) Procure for OWNER the right to continue to utilize the

(2) Replace or modify the WORK in such a way that it will not continue to constitute such infringement; or

(3) Remove such infringing item and reduce the payments due from OWNER to PROVIDER/FABRICATOR hereunder, minus an amount for wear and tear and obsolescence.

# THE FOREGOING STATES THE ENTIRE INDEMNIFICATION OBLIGATION AND LIABILITY OF PROVIDER/FABRICATOR FOR INFRINGEMENT AND MISAPPROPRIATION OF PROPRIETARY RIGHTS.

13.3 <u>General Indemnification.</u> PROVIDER/FABRICATOR shall indemnify OWNER and PROJECT MANAGER and hold them harmless from and against the following:

a. Any CLAIMS arising out of or resulting from a breach of this AGREEMENT resulting from the acts of PROVIDER/FABRICATOR which were not authorized by OWNER or PROJECT MANAGER.

b. Any CLAIMS arising out of or resulting from the negligent or intentional acts of PROVIDER/FABRICATOR, its employees, or agents.

c. Any CLAIMS assessed by or entered into by OSHA against PROVIDER/FABRICATOR's work or PROVIDER/FABRICATOR's employees, agents, or representatives.

13.4 <u>Related to Liens.</u> Except where due to the act or omission of OWNER or PROJECT MANAGER, PROVIDER/FABRICATOR shall indemnify OWNER and PROJECT MANAGER and hold them harmless from all CLAIMS which OWNER and PROJECT MANAGER may suffer by reason of the filing of any notices, liens, security interests, or encumbrances against the WORK or from failure of PROVIDER/ FABRICATOR to obtain cancellation and discharge thereof.

# 14. <u>OWNER AND PROJECT MANAGER'S REPRESENTATIONS AND</u> <u>INDEMNIFICATION.</u>

14.1 <u>Representations.</u> The persons whose signatures are set forth below under "OWNER" and "PROJECT MANAGER" are authorized to execute this AGREEMENT on behalf of their respective parties and to execute any other documents, including change orders, in conjunction with the performance of their obligations hereunder.

14.2 <u>Indemnification.</u> OWNER and PROJECT MANAGER shall indemnify PROVIDER/FABRICATOR and hold it harmless from and against the following:

a. Any CLAIMS arising out of or resulting from a breach of this AGREEMENT resulting from the acts of OWNER or PROJECT MANAGER.

b. Any CLAIMS arising out of or resulting from the negligent or intentional acts of OWNER or PROJECT MANAGER, their employees, or agents.

# 15. RISK OF LOSS; OWNERSHIP OF WORK.

15.1 <u>Title and Risk of Loss.</u> Subject to the ownership provisions of Section 15.2, title to the WORK shall pass to OWNER upon final payment of the CONTRACT PRICE to PROVIDER/FABRICATOR. All risk of loss associated with all or any element of

the WORK shall pass to OWNER upon delivery of such element of the WORK to the PROJECT and acceptance of such element by OWNER. (See Section 3.4 regarding acceptance.)

15.2 <u>INTELLECTUAL PROPERTY.</u> The patents, copyrights, trademarks, trade secrets, and other intellectual property contained in or developed as part of the WORK (collectively, the "INTELLECTUAL PROPERTY") shall be owned as follows:

a. <u>Developed Prior to AGREEMENT.</u> The INTELLECTUAL PROPERTY developed by PROVIDER/FABRICATOR prior to this AGREEMENT, including, but not limited to those items on <u>EXHIBIT 15.2.a.</u> shall be owned in its entirety by PROVIDER/ FABRICATOR (collectively "PREEXISTING PROPERTY"). To the extent PREEXISTING PROPERTY is incorporated into the WORK, upon receipt of FINAL PAYMENT (as defined in Section 6.4.b), PROVIDER/FABRICATOR hereby grants to OWNER, but not the PROJECT MANAGER, a perpetual, royalty-free, non-transferable license to use such PREEXISTING PROPERTY solely in conjunction with the PROJECT. Except as set forth above, neither OWNER nor PROJECT MANAGER shall have any rights relating to the PREEXISTING PROPERTY.

b. <u>Owned by PROVIDER/FABRICATOR.</u> The I N T E L L E C T U A L P R O P E R T Y d e v e l o p e d b y PROVIDER/FABRICATOR *as* part of the WORK identified on <u>EXHIBIT 15.2.b</u> shall be owned in its entirety by PROVIDER/ FABRICATOR; provided, however, that upon receipt of FINAL PAYMENT, PROVIDER/ FABRICATOR hereby grants to OWNER, but not the PROJECT MANAGER, a perpetual, royalty-free, non-transferable license to use such INTELLECTUAL PROPERTY solely in conjunction with the PROJECT. Except as set forth above, OWNER shall have no rights to such INTELLECTUAL PROPERTY.

c. <u>Owned by OWNER.</u> Upon receipt of FINAL PAYMENT, the INTELLECTUAL PROPERTY identified on <u>EXHIBIT 15.2.c</u> shall be owned in its entirety by OWNER; provided, however, that PROVIDER/FABRICATOR shall be granted an irrevocable, perpetual, royalty-free license to use such items as part of or in any of its subsequent work.

d. <u>Developed by OWNER or PROJECT MANAGER.</u> Upon receipt of FINAL PAYMENT, the INTELLECTUAL PROPERTY identified on <u>EXHIBIT 15.2.d</u> shall be owned entirely by OWNER or PROJECT MANAGER, as appropriate. PROVIDER/ FABRICATOR shall have no rights relating to such items.

# 16. <u>CONFIDENTIAL INFORMATION.</u>

16.1 <u>Definition.</u> "CONFIDENTIAL INFORMATION" of each party shall mean all information belonging to, used by, or in the possession of such party, which information is not generally available to the public. CONFIDENTIAL INFORMATION includes, but is not limited to, information concerning methods and processes of construction or manufacture, business and financial records and information, information regarding customers and suppliers, and all other information generally regarded as trade secrets. 16.2 <u>Obligation</u>. Neither party shall in any manner disclose CONFIDENTIAL INFORMATION of the other party either purposely or inadvertently to any third party. Each party shall take measures necessary to reasonably protect CONFIDENTIAL INFORMATION of the other party, including requiring any employees, SUBCONTRACTORS, consultants, sublicensees, and other persons or entities with access to CONFIDENTIAL INFORMATION of the other party to execute appropriate nondisclosure agreements.

### 17. DEFAULT BY PROVIDER/FABRICATOR.

17.1 <u>EVENTS OF DEFAULT.</u> The occurrence of any of the following events shall be considered a default by PROVIDER/FABRICATOR under this AGREEMENT ("EVENT OF DEFAULT"):

a. PROVIDER/FABRICATOR defaults in the due observance and performance of any covenant or agreement contained herein and PROVIDER/ FABRICATOR does not remedy such default within 5 days after written notice of such default has been delivered by OWNER or PROJECT MANAGER to PROVIDER/FABRICATOR, if such default is curable within such period. If it is not curable within such period, OWNER shall have the right to terminate if the default is not cured in a timely fashion.

b. PROVIDER/FABRICATOR (i) voluntarily terminates operations or consents to the appointment of a receiver, trustee, or liquidator of PROVIDER/ FABRICATOR or of all of a substantial portion of its assets, (ii) is adjudicated bankrupt or insolvent or files a voluntary petition in bankruptcy, or admits in writing its inability to pay its debts as they become due, (iii) makes a general assignment for the benefit of creditors, (iv) files a petition or answer seeking reorganization or an arrangement with creditors or takes advantage of any insolvency law, or (v) takes, or has taken against it, any action for the purpose of effecting any of the foregoing.

Termination. Upon the occurrence of an EVENT OF DEFAULT, OWNER may, 17.2 without prejudice to any other remedy it may have at law or in equity, (i) terminate this AGREEMENT, suspend all payments otherwise then due to PROVIDER/ FABRICATOR hereunder and have no liability with regard to payments not then due, take possession of all materials, tools, equipment, and appliances, and finish the WORK by such means as OWNER may see fit, deducting from any balance due PROVIDER/FABRICATOR the cost of finishing the work and paying the excess, if any, to PROVIDER/FABRICATOR and in the event the cost of finishing the WORK exceeds the unpaid balance that would have been due PROVIDER/FABRICATOR, such excess shall be paid by PROVIDER/FABRICATOR to OWNER within 15 working days of invoicing by OWNER, or (ii) at its option, OWNER may remedy any EVENT OF DEFAULT and deduct the cost thereof from any balance due or to be due hereunder to PROVIDER/FABRICATOR. The costs and expenses of completing the WORK shall be computed and audited by OWNER's designated representative and reviewed by PROVIDER/FABRICATOR's representative.

17.3 <u>Limitation.</u> Notwithstanding any other provision in this AGREEMENT, PROVIDER/FABRICATOR's liability under this AGREEMENT, including, without limitation, this Section, in no event shall exceed the amount paid by OWNER to PROVIDER/FABRICATOR hereunder.

### 18. DEFAULT BY OWNER

18.1 <u>Default.</u> The occurrence of any of the following events shall be considered a default by OWNER under this AGREEMENT:

a. OWNER defaults in the payment of any amount due hereunder and fails to pay such overdue amount within 5 days of receipt of written notice thereof.

b. OWNER or PROJECT MANAGER (i) fails to work with PROVIDER/FABRICATOR to enable PROVIDER/FABRICATOR to perform the WORK as contemplated in this AGREEMENT, (ii) violates any other covenant or agreement contained herein, or (iii) unreasonably interferes with PROVIDER/ FABRICATOR's activities and OWNER or PROJECT MANAGER does not remedy such default within 5 days after written notice of such default from PROVIDER/FABRICATOR to OWNER and PROJECT MANAGER.

c. (i) The work on the entire PROJECT or the portion to be provided by PROVIDER/FABRICATOR is abandoned or suspended for a period of at least 30 days, or (ii) OWNER or PROJECT MANAGER informs PROVIDER/FABRICATOR that the PROJECT or the portion to be provided by PROVIDER/FABRICATOR will be suspended for at least 30 days, provided such abandonment or suspension was not exclusively caused by an act or failure to act of PROVIDER/FABRICATOR.

d. OWNER or PROJECT MANAGER (i) voluntarily terminates operations or consents to the appointment of a receiver, trustee, or liquidator of OWNER or PROJECT MANAGER or of all or a substantial portion of its respective assets, (ii) is adjudicated bankrupt or insolvent or files a voluntary petition in bankruptcy, or admits in writing its inability to pay its debts as they become due, (iii) makes a general assignment for the benefit of creditors, (iv) files a petition or answer seeking rate reorganization or an arrangement with creditors or takes advantage of any insolvency law, or (v) takes, or has taken against it, any action for the purpose of effecting any of the foregoing.

18.2 <u>Termination.</u> Upon the occurrence of any of the events identified in Section 18.1, PROVIDER/FABRICATOR, without prejudice to any other remedy it may have at law or in equity, may terminate this AGREEMENT at which point OWNER shall immediately pay to PROVIDER/FABRICATOR all sums then due and owing plus 20% to compensate PROVIDER/FABRICATOR for its lost profits.

18.3 <u>Interest.</u> Whether or not this AGREEMENT is terminated by PROVIDER/ FABRICATOR, in the event of a default by OWNER or PROJECT MANAGER, in the event any sum due hereunder is not received by PROVIDER/FABRICATOR within 15 days after written notice has been delivered by PROVIDER/ FABRICATOR to OWNER or PROJECT MANAGER, interest shall accrue on any amount due but not paid at the rate of 15% per annum, compounded daily, or the maximum legal amount, whichever is less, until such amount is paid.

#### 19. GENERAL PROVISIONS.

19.1 <u>Entire Agreement.</u> This AGREEMENT contains the entire and final agreement and understanding of the parties with respect to the subject matter of this AGREEMENT. Any and all prior agreements, understandings or undertakings, whether written or oral, with respect to the subject matter of this AGREEMENT, are hereby superseded by this AGREEMENT.

19.2 <u>Written Modification</u>. No modification to this AGREEMENT, nor any waiver of any rights, shall be effective unless assented to in writing by the party to be charged, and the waiver of any breach or default shall not constitute a waiver of any other right or any subsequent breach or default.

19.3 <u>Governing Law.</u> This AGREEMENT shall be governed and interpreted in accordance with the laws of the State of California.

19.4 <u>Captions.</u> The captions and headings in this AGREEMENT are for convenience only and shall not be considered a part of, or be deemed to affect the construction or interpretation of, any provision of this AGREEMENT.

19.5 <u>Severability.</u> If any of the provisions of this AGREEMENT are determined to be invalid or unenforceable, the remaining provisions shall be deemed severable and shall continue in full force and effect to the extent the economic benefits conferred upon the parties by this AGREEMENT remain substantially unimpaired.

19.6 <u>Assignment.</u> The rights contained in this AGREEMENT are personal in nature and may not be assigned in whole or in part by either party without the prior written consent of the other party.

19.7 <u>Notices.</u> Any notices required or permitted pursuant to this AGREEMENT shall be given to the appropriate party at the address specified in Section 4 below or at such other address as the party shall specify in writing. Such notice shall be deemed given and received upon personal delivery to the appropriate address or, if sent by certified or registered mail, 5 working days after the date of mailing.

19.8 <u>Independent Contractors.</u> PROVIDER/FABRICATOR shall be deemed to have the status of an independent contractor, and nothing in this AGREEMENT shall be deemed to place the parties in the relationship of employer-employee, principal-agent, partners or joint venturers.

19.9 <u>Arbitration.</u> Any dispute between the parties arising out of this AGREEMENT shall be submitted to final and binding arbitration in the City of , California, under the Commercial Arbitration Rules of the American Arbitration Association then in effect (the "AAA RULES"), upon written notification and demand of either party. The following provisions shall be applicable to any such proceedings and shall control to the extent of any inconsistency with the AAA RULES:

a. In the demand for arbitration, the American Arbitration Association shall be requested to submit a list of prospective arbitrators consisting of persons experienced in matters involving business contracts. In any arbitration pursuant to this Section, the award shall be rendered by a single arbitrator appointed jointly by the parties, or if the parties cannot agree to a single arbitrator within 30 days after the commencement of the arbitration proceeding, by an arbitrator appointed in accordance with the AAA RULES. For purposed of this Section, "commencement of the arbitration proceeding" shall be deemed to be the date on which a written demand for arbitration is received by the American Arbitration Association from one of the parties.

b. The provisions of California Code of Civil Procedure Section 1283.05 and the laws of the State of California are incorporated herein and shall be applicable to the arbitration.

c. In making the award, the arbitrator shall award recovery of costs and expenses of the arbitration and reasonable attorney's fees to the prevailing party.

d. Any award may be entered as a judgment in any court of competent jurisdiction. Should judicial proceedings be commenced to enforce or carry out this provision or any arbitration award, the prevailing party in such proceedings shall be entitled to reasonable attorney's fees and costs in addition to other relief.

e. Either party shall have the right, prior to receiving an arbitration award, to obtain preliminary relief from a court of competent jurisdiction to: (i) avoid injury or prejudice to that party; (ii) or to protect the rights of any party; or (iii) to maintain the status quo as it existed immediately prior to the dispute.

f. Service of any notices in the course of any arbitration shall be sufficient if given as provided in the Notice Section of this Agreement.

19.10 <u>Attorneys' Fees.</u> Should any litigation be commenced between the parties concerning the rights or obligations of the parties under this AGREEMENT, the party prevailing in such litigation shall be entitled, in addition to such other relief as may be granted, to a reasonable sum as and for its attorneys' fees in such litigation, This amount shall be determined by the court in such litigation or in a separate action brought for that purpose.

19.11 <u>Post Judgment.</u> In addition to any amount received as attorneys' fees, the prevailing party or parties also shall be entitled to receive from the party or parties held to be liable, an amount equal to the attorneys' fees and costs incurred in enforcing any judgment against such party or parties. This Section is severable from the other provisions of this AGREEMENT and survives any judgment and is not deemed merged into any judgment.

IN WITNESS WHEREOF, the parties have executed this AGREEMENT on the date first written above.

### OWNER:

By: Name: Title:

### PROJECT MANAGER:

By: Name: Title:

## PROVIDER/FABRICATOR:

By:

#### EXHIBIT 1.2

#### DESCRIPTION OF PROJECT

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#### EXHIBIT 1.3

#### LOCATION OF PROJECT

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#### EXHIBIT 1.4

#### PROJECT IMPLEMENTATION STRATEGY

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#### EXHIBIT 2.1

<u>WORK</u>

#### EXHIBIT 3.1

#### WORK SCHEDULE

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#### EXHIBIT 4.1

#### BUSINESS PROJECT MANAGER

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#### EXHIBIT 4.2

#### BUSINESS OF PROVIDER/FABRICATOR

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#### EXHIBIT 4.3

#### BUSINESS OF OWNER

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#### EXHIBIT 6.1

#### CONTRACT PRICE AND PAYMENT SCHEDULE

#### EXHIBIT 10.2

#### SUB-CONTRACTORS

# EXHIBIT 11.1

# **INSURANCE**

PROVIDER/FABRICATOR shall maintain the following insurance with respect to the WORK:

- 1. WORKERS COMPENSATION
- a. Statutory, with Employers Liability of \_\_\_\_\_(\$1,000,000)
- b. Monopolistic States Stop Gap Limit \_\_\_\_\_(\$1,000,000)
- c. Waiver of Subrogation
- 2. COMPREHENSIVE GENERAL LIABILITY
  - \_\_\_\_\_(\$1,000,000) General Aggregate
- \_\_\_\_\_(\$1,000,000) Products & Completed Operation Aggregate
- \_\_\_\_\_(\$1,000,000) Personal & Advertising Liability
- \_\_\_\_\_(\$1,000,000) Each Occurrence
- \_\_\_\_\_(\$ 50,000) Fire Damage Liability
  - \_\_\_\_\_ (\$ 5,000) Medical Expense

### **BROADENING COVERAGES**

- a. Products & Completed Operation
- b. Contractual Liability
- c. Personal Injury
- d. Primary, Not Contributing Coverage
- e. Owners, Contractors Protective
- f. Additional Insured and/or Their Assigns
- g. Severability of Interest
- h. Additional Insured

# 3. PROPERTY INSURANCE

All Risk Property Insurance, including theft, covering CONSULTANT and SUBCONTRACTOR property, including Tools, while said properties are:

- a. In Transit
- b. Being Installed
- c. While brought onto PROJECT
- d. In Storage on or off PROJECT
- e. If Leased from Rental House, A Loss Payable in favor of the Rental House for Limits equal to Replacement Cost
- f. Waiver of Subrogation
- g. Ocean Cargo

## 4. BUSINESS AUTOMOBILE LIABILITY

(\$1,000,000)	Bodily Injury - Per Person
(\$1,000,000)	Bodily Injury - Per Accident
(\$1,000,000)	Property Damage - or -
(\$1,000,000)	Each Occurrence Bodily Injury
	Liability or Property Damage
	Liability or Both Combined

Business Automobile includes all owned and will include PROVIDER/ FABRICATOR Non-Owned & Hired Automobile.

### 5. FOREIGN INSURANCE

#### a. WORKERS COMPENSATION

- i. U.S. Citizens
- ii. Third Country Nationals (TCN)
- iii. Locals

#### b. COMPREHENSIVE GENERAL LIABILITY (Same limits as "2")

#### c. PROPERTY INSURANCE

i. All-Risks Property Floater including tools ii. Installation Floater

#### d. AUTOMOBILE LIABILITY

i. Excess Automobile Liability - \$1,000,000.

ii. Employer Non-Owned and Hired Automobile Liability Limits -

#### \$1,000,000.

### 6. COMMERCIAL UMBRELLA - EXCESS

(\$1,000,000) Each Occurrence Bodily Injury Liability or Property Damage Liability or Both Combined

#### **EXHIBIT 12.2**

#### **OTHER TAXES**

Tax

Party To Pay

#### EXHIBIT 12.3

#### PERMITS

Permits

Party To Obtain

Party To Pay
### EXHIBIT 15.2.a

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### EXHIBIT 15.2.b

#### INTELLECTUAL PROPERTY OF PROVIDER/FABRICATOR LICENSED TO OWNER

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#### EXHIBIT 15.2.c

### INTELLECTUAL PROPERTY OF PROVIDER/FABRICATOR LICENSED TO PROVIDER/FABRICATOR

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## EXHIBIT 15.2.d

### **INTELLECTUAL PROPERTY OF OWNER**