H. LIGHTING DESIGN NARRATIVE

Introduction

The lighting for the Mary Lowell Center will support the variety of activities that will take place here. The presence of the building at night will be defined in part by the glow from within the building's public spaces and from lighting at entries to identify them. Interior lighting will be tailored to each space type to provide effective and efficient illumination.
Alaska does not have an energy code but we will use ASHRAE 90.1 2004 as a baseline for this project.

All light sources will be high color quality and long life. Every effort will be made to minimize the number of lamp types. The primary light sources will be metal halide and fluorescent lamps. Use of incandescent or tungsten halogen lamps will be minimal and limited to art or displays, stage lighting or similar applications. Ceramic metal halide lamps (CMH) with electronic ballasts will be used for all metal halide lamps. T5 or T8 lamps will be the linear fluorescent lamps with 32 watt triple tube compact fluorescent lamps where lower wattage lamps are needed. All fluorescent lamps will have electronic ballasts.

Lighting will be developed to maximize visibility with the minimum energy use. This will be accomplished with energy efficient sources in fixtures with high quality reflector systems and the use of high color rendering lamps.

Room	**Illumination target**
Lobby reception	20-30 fc
Retail Sales	50-100 on merchandise 20-30 ambient
Multi-purpose rooms	30-50
Exhibit hall	Varies with exhibits
Offices	30-40
Atrium	10-25
Restrooms	10-20
Stairs	10-20
Auditorium	10-20
Large Meeting Rooms	30-50
Back of House/Service spaces	10-20

Design Narrative

Exterior

The project is located on a very prominent corner of downtown Seward and there is a strong desire to have the building project a warm and welcoming glow at night. In addition, we would like to achieve the LEED point for exterior lighting so all of the exterior fixtures will be full cut-off fixtures which direct the light downward. The lighting will be kept close to the building perimeter so as not to trespass onto neighboring properties. Because the public spaces have large glazed areas, the interior lighting will provide most of the building's glow at night. At each entry, lighting incorporated into the canopy will delineate the entry. Metal halide fixtures will be used.

An interpretive story or timeline is planned around the building entry. Metal halide wall wash fixtures suitable for exterior use will be incorporated. Lampposts or bollards will illuminate the pathways or other open space.

Building exits will have metal halide security lighting to get people safely away from the building.

Lobby/Reception/ Retail Sales

The lobby/reception area is the heart of the building. From there people will gather travel information, be directed to other parts of the building or acquire necessary permits. General illumination will be provided by fluorescent or metal halide sources that will be integrated into the architectural system. Adjustable metal halide fixtures will provide the feature lighting needed for the retail sales area. Similar lighting may also be provided for directional signage or interpretive material located in this area. Decorative pendant fixtures may be incorporated to assist in way finding or to enhance the architectural envelope.

Auditorium

The primary use of this room will be to show a film every 15 minutes after a short introduction by park service personnel. On occasion it will have learning programs or large staff meetings. As such there will need to be two separate lighting systems. One system will light a podium or small stage, and then dim for the movie. A second system will provide meeting level lighting and illuminate the walls. The system for movies and presentations will consist of a pipe that can house dimmable lights. Low level lighting around the perimeter from recessed wall lights will provide emergency egress lighting during a film. For meetings and other large gatherings, a system that provides downlight and wall washing with fluorescent sources will be used. These will be dimmable so they can accommodate a variety of activities. A four-scene preset system will be used in this

room to make room set up easy for a variety of users. Lighting controls will be separate from AV and window shade controls.

Multi-purpose room

The multi-purpose room will be used during the day and also for evening events. It will be used as a classroom and community meeting room. There will be projection in the room at times. Daylight will provide the illumination whenever possible. Electric lighting will be dimmable but not controlled automatically with daylight because of the many different functions that might occur here.

Direct/indirect pendant mounted fixtures will provide the general and task illumination. The downlight component will be controlled separately so that low levels of illumination can be provided in projection situations. Since most of the wall surface is glazed, there will not be any wall washing in these rooms. The rooms can be subdivided into smaller rooms with a movable partition. Because the rooms are relatively small and have only one type of light, we are not recommending a dimming system for these rooms, only wall box dimmers. This means that to control the room as one, lights will have to be adjusted at two locations. Since the entry doors are close together, this should not be a problem.

Exhibit Hall

Traditional exhibit hall lighting has historically been incandescent because of the multiple lamp styles and wattage options available and their ease of dimming and control. We are proposing to use more metal halide (MH) and fluorescent sources here for better energy efficiency and reduced maintenance. Where exhibit lighting needs to be focused and provide high color quality textured light and is always "on" during operating hours MH sources will be used. For softer more diffuse light situations fluorescent sources will be used. Where lights need to be dimmable or frequently change from "off" to "on" tungsten halogen (incandescent) or fluorescent lamps will be used. Fixture selection will depend on the exhibit plan. At this time we anticipate track mounted accentlight fixtures with metal halide and some incandescent lamps, monopoint mounted fixtures where dimming is required and possibly some concealed fluorescent striplights for washes of light. Control will be important to the function of the room as there is intent to alternate projected images with static images and the static images will require tightly controlled lighting that does not spill onto the projected images.

Open Offices and adjacent circulation

For the highest levels of user satisfaction and energy efficiency, we are recommending a "one fixture per workstation" lighting system. The system will have separately controlled direct and indirect components with photo cell dimming control for the indirect component and individual desktop dimming control for the downlight component. The

fixtures will be controlled through a network that can shut some or all lights off during unoccupied times. They will also have occupancy sensors that turn off the downlight component if a work station is unoccupied for a period of time. The indirect component will be controlled as a whole for a particular area so it will always feel as though the space is illuminated when it is occupied. Networked software with controls at each work station computer will allow individual users to adjust their lighting according to their preference. Studies have shown that this level of control leads to a high degree of user satisfaction and that often, people use less light than full output when they are allowed to control it themselves.

Enclosed Offices

The enclosed offices vary in size but they will typically have the same lighting as the open office areas with the same controls. Larger offices will also have fluorescent wallwash fixtures.

Atrium

The atrium will have general ambient lighting provided by fluorescent and metal halide sources. Wallwashing and accentlighting will light the tallest wall and any art or interpretive features will also have directed lighting.

Small Conference Rooms

These rooms will have a fixture similar to the office fixtures over the conference table except that it will be a stand alone fixture without network control or photocell control. Non-glazed walls will have fluorescent wallwash fixtures.

Restrooms

Restrooms will be illuminated with linear fluorescent fixtures along the stalls and over the sinks. The fixtures may be recessed in coves or wall mounted, depending on the ceiling selected for these rooms. Compact fluorescent (CFL) downlights will illuminate the circulation areas.

Open Stairs

These stairs are open to encourage people to use them rather than elevators. As such they need to have a higher degree of finish than exit stairs. The lighting may have a decorative nature such as pendant fixtures or accentlight for special features such as interpretive displays, special handrails or upgraded materials. The light source will most likely be metal halide within the stairs and fluorescent sources at the landings.

Enclosed exit stairs.

These stairs have a more utilitarian nature and are required building exits. As such the lighting will be on emergency power and will be fluorescent.

Large Divisible Meeting rooms and adjacent Circulation/Pre-function Space

The large meeting room areas will have high ceilings and a view out towards the bay that is one of the best in Seward. As such, these rooms will depend on daylight during the times it is available. They will also have a multipurpose nature to them and could be used for dining or a party as well as meetings and presentations. To maximize the view, all of the lighting will be well shielded, recessed fluorescent fixtures. This will also work well with ceiling mounted projectors and recessed projection screens. General down lighting will be dimmable and controlled in multiple zones. Non-glazed, permanent walls will be illuminated with recessed fluorescent wallwashers.

A four scene preset control with room combine features and an RS232 AV interface will be incorporated into this room.

Back of house spaces (non-public corridors, catering, janitors, etc.)

Rooms with lay-in tile ceilings will have recessed, two-lamp 2x4 lensed fixtures. Spaces with no ceiling will have surface or pendant mounted two-lamp fluorescent striplights.

Alternatives to Address the Percentage of Available Budget

100% Alternative:

- All of the lighting and controls described above will be the 100% alternative

90% Alternative:

- This alternative will eliminate the personal control at the desk for employees at their work stations. Dimming and photocell control will remain the same.
- Four-scene preset in the auditorium will be replaced with wall box switches and dimmers.

75% Alternative:

- All fluorescent dimming will be eliminated.
- Where dimming is combined with photocells, the photocells will remain but only control the lights in an on/off mode.

End of section

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