



The Orange County Library System Capital Improvement Building Standard Design Guidelines

September 2023

OCLS County wide Building Standard Design Guidelines

PURPOSE OF THE GUIDELINES:

These design guidelines are for use by design professionals and contractors to facilitate design of projects for the Orange County Library System (OCLS) Library Capital Improvement Program (CIP). These guidelines intend to use the knowledge of problems that have occurred on past design, construction, operations and renovation of OCLS owned and leased properties, and acts as a guide to assist in eliminating numerous concerns, build in consistencies, with regards to construction and renovation of facilities and to identify fail safety for CIP projects. Additionally, these guidelines are meant to define a standard for products and installation based the following priorities:

- Utilization of quality materials and proper installation;
- Creation of easier maintenance and operation standards;
- Identification of sustainable programs (energy efficiency and water conservation);
- Aggressive review of safety;
- Developing theft and vandal resistance programs;
- FF&E standards; and
- Cost saving programs.

These design guidelines are not meant to be comprehensive instructions for design. Other essential references for design include the Building Program(s), Applicable Codes, as well as experience of the designers and interaction in the design process. The guidelines are meant to be complementary with other design references. If there is any conflict between the guidelines and the Code or Building Program, then the Code shall prevail. It is of the utmost importance the design guidelines be effectively communicated to the different Continuing Service Contractors. This information will also need to be communicated to the different library branches.

This OCLS CIP program includes “specialty” Consultant Services for the IT Department. This is to ensure the proper cabling, hardware and other IT devices are included in the construction process. The IT Department has been tasked to develop their standards for IT library equipment needs and has been incorporated into this document.

Products and installations provided in the guidelines are to serve as an example of the Library’s intent and to define an acceptable level of quality. Equivalent products may be available and may be submitted to the Library for approval. The designer must submit documentation clearly verifying the equivalency of the alternate in comparison with the example provided in the guidelines.

Furniture/Fixtures & Equipment (FF&E) is being considered on a case-by-case basis. FF&E needs will be vetted by the Library’s Facility Operations Division, in conjunction with the OCLS Administrative Division. FF&E will be owner direct purchased via Contract. The process for developing these “specialty” standards will also occur during architectural design of projects as a coordinated effort.

Compliance with this guideline is mandatory. The Library’s Contractors and Consultants are expected to notify the Library’s Facilities and Operations Division of any deviation from the standards. The Library’s Construction and Contract, and Facility Operation Division Managers are responsible for review of all submittals to vet the items in question, with regards to the Library’s standards.

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1. SITE IMPROVEMENTS:

1-1 UTILITIES:

Separate metered connections are to be provided for the following utilities:

- 1) Electrical Service
- 2) Domestic Water
- 3) Fire Sprinkler System, including any new fire hydrants
- 4) Irrigation (If required) Located and configured according to local requirements, near the road
- 5) If required, Natural Gas

Run all utilities crossing site below grade rather overhead.

See Electrical Section 8 for more information about Electrical Utilities and Site Electrical.

1-2 LANDSCAPE:

Intent:

The landscape environment will be designed and installed to create an attractive environment for the users of the facility. The landscape will be coordinated to complement the function of the facility, creating a safe buffer between pedestrian and automobile traffic, while allowing visual contact needed to maintain safety and crime prevention through environmental design (see section 12 for more details). Additionally, the landscape will provide places with shade and isolation from wind and noise. The plants will be selected and placed to be low maintenance, non-invasive species that promote the conservation of water.

Preferences:

- Reduce the area of site disturbance as much as practical.
- Use Native/Local, readily available species of plants that are drought tolerant and low maintenance. See Florida Native Plant Society List for reference (available on the web).
- Specify 1-year Installer warranty for replacement of non-viable plant material.
- Avoid placing deciduous plants around the main entrance or mechanical equipment.
- Leave watering bags on trees at least 6 months beyond substantial completion. Remove watering bags prior to warranty inspection.
 - Design to minimize need for irrigation.
 - Where irrigation is to be required use high-efficiency systems.
 - Irrigation system will be locally controlled, via onsite timer. irrigation.
 - Irrigation controller is to be surface mounted just inside the mechanical room.

- Locate rain sensor in full exposure to rain and away from trees or anything that may drop debris, thus will eliminates the clogging of the sensor.
- The building footprint is to be pre-treated for termites using chemicals that are in accordance with Florida Department of Agriculture.
- Consider a Rainwater Catchment System. Locate near raised planting beds where hand watering may be practical.
- Reduce lawn area that requires mowing as much as possible.
- Fences, where required, shall be designed and specified in accordance with OCLS Standard Specifications attached at the end of this section.

1-3 PAVEMENT:

Intent:

Site paving shall be provided to facilitate pedestrian and vehicular access related to the use and operation of the library. Bicycle traffic is included with pedestrian circulation. Buses and heavy trucks will be included in vehicular traffic onsite. The design of site pavements will be based on coordinated geotechnical engineering, utilities locations, storm water drainage management, traffic, and owner maintenance considerations and allow for parking approximately 150 cars. All paving must be designed with positive drainage with no ponding. The basic dimensions and configuration of parking shall be as follows:

- Parking Space Width: 9'-0" (minimum)
- Parking Space Length: 18'-0"
- Parking Angle: 90 degrees (preferred)
- Drive Aisle: 24'-0" (two-way)
- Stripe Width 0'-4"
- Stripe Color: White for general parking. yellow for no parking, handicapped parking per accessibility code. Red curb at fire lane.
- Lighting: 0.5fc minimum on pavement surface

Vehicular Paving Preferences:

- Unless geotechnical studies dictate other materials, pavement for vehicular traffic shall be asphaltic concrete in accordance with Florida Department of Transportation "Standard Specification for the Construction of Roads and Bridges", current edition.
- Pervious or porous asphalt pavements may be used only where approved by the City of Orlando and/or Orange County.
- Recycled Asphalt Products may be used under conditions specifically approved by the County.
- Curbing is required where pedestrian sidewalk is within 5 foot from the edge of driveway. All curbs are to be concrete, accordance with FDOT Construction Standards and Details FL-STD 9032B, 6-inch curb with 18-inch gutter is allowed where such section provides adequate drainage volume. Wheel stops where required shall be concrete.
- Speed bumps and traffic tables will be identified on "as need basis".
- Paver systems are strongly discouraged.
- Provide a place for an 80-gallon trash bin, and a separate recycling bin of the same size, located on a concrete slab along vehicular pavement near the staff entrance and away from public view. These

bins are to be within an enclosure that matches the appearance of the building and prohibits unauthorized dumping. Dumpster location will vary by location, but should be out of view of public (ie: back of house or behind privacy enclosure) and on a concrete slab.

- Site Bollards are to be placed where vehicular traffic is within 3 feet of the building. Standard bollards will be minimum 6-inch minimum diameter hot dipped galvanized steel pipe, painted yellow. Bollards will be 4-foot-tall, plumb with building and extend at least 3 feet below the pavement surface in a concrete footing. Bollards are to be concrete filled or have steel I-beam center.

Pedestrian Paving Preferences:

- An accessible sidewalk must be provided for handicapped parking, and passenger loading zone to the main entrance and staff entrance in accordance with accessibility (ADA) requirement.
- Sidewalks are to be cast-in-place concrete. Each concrete placement shall be tested to attain a minimum compressive strength of 3000 psi at 28 days.
- Surface is to be a light broom finish. Edges and joints shall be tooled to produce a frame effect.
- Expansion joint fillers are to be installed perpendicular to the run of the sidewalk at intervals equal to twice the width of the sidewalk, and at intersections with other sidewalks. Expansion joint fillers shall be resin impregnated fiberboard.
- Clean and seal all joints, including expansion joints.
- **DO NOT** use color concrete admixtures or concrete stains on exterior concrete paving. Paver systems with color concrete are acceptable. Stamped concrete is acceptable with Library approval.

1-4 SITE FURNISHINGS, FF&E: (Note: Owner may supply and install)

Outdoor Bench Preferences:

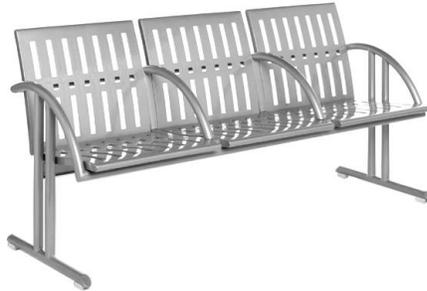
The Site furnishings shall be consistent in appearance for all new branches. Equivalent commercially fabricated product shall be available from at least three manufacturers. The finish colors of the site furnishings shall be selected from the manufacturer's standard and must allow for all furnishings to match. The standard basis of design for each type of site furnishings shall be as follows:

The quantity of racks shall be enough as determined by specific project conditions.

Rack(s) are to be located near the main entrance, but not between the benches and the entrance.

Intent:

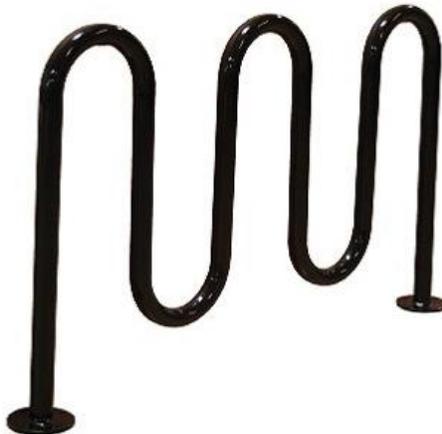
Benches are to have backs, approximately 4 to 6-foot-long, constructed of recycled materials or metal with an "arm" in the middle to discourage patrons from laying down. Installation shall be tampered proof bolted through flange on surface of concrete surface. See example below. Benches are to provide a comfortable sitting position for guests to relax and read. Benches are to be located near the main entrance to the library.



Outdoor Bench example

Bicycle Parking Rack Preferences:

Bicycle parking racks are to be “wave” type with 5 loops (parking for 7 bikes per rack). Rack(s) shall be constructed of minimum 2 inch outside diameter steel pipe with a powder coated finish. The installation is to be tamper proof bolted through flange on surface of concrete surface. See example below. Other designs for bike racks may be acceptable that are sturdy, practical for bike parking, and acceptable to the Library.



Bicycle Parking Rack example

Outdoor Trash Receptacle Preferences:

Trash receptacles are to be fabricated with ¼ inch thick by 1 ½” wide vertical plate steel strips with flared top, welded to tube steel hoops to cover a 30-gallon metal can liner finish to match plate steel. The can liner shall have a nearly flat top cover with a 10-inch diameter hole. The height and clearance around the receptacle shall meet accessibility requirements. The liner should be accessible for maintenance from the top only. Finish of all components will be powder coated polyester. The receptacle shall be bolted to

concrete slab. See example product below. A trash receptacle should be in an unobtrusive, but convenient location for use while approaching the main entrance.



Outdoor Trash Receptacle Example

<END OF SITE FURNISHINGS>

1-5 STANDARD FENCING SPECIFICATIONS:

1-5-A ORNAMENTAL FENCES AND GATES SECTION:

1-5-A-1.0 DESCRIPTION OF WORK: This standard covers the fabrication and furnishing of all materials and labor for installation of an ornamental iron fence. Related demolition and removal of existing fencing may be required to support work.

1-5-A-2.0 QUALITY

1-5-A-2.1 Construction Contractor is responsible to locate and avoid underground utilities. Any damages shall be promptly repaired by the Contractor at no expense to the Library.

1-5-A-2.2 The Construction Contractor shall employ an adequate number of skilled workers who are trained and experienced with the type of work they are assigned.

1-5-A-2.3 All completed work shall meet basic visual standards: Post shall be properly aligned, posts shall be plumb and vertical, materials shall be consistent in quality, material shall not be damaged, gates shall not sag, and finishes shall be uniform.

1-5-A-2.4 All completed work shall meet basic structural standards: Posts shall not wobble or move within the footings and hardware shall be appropriate for the use and be tightened secure.

1-5-A-2.5 The Construction Contractor shall remove all debris and unused materials from the job site at the completion of the job. Soil excavated for footing must be removed or spread evenly as may be directed by the Architect.

1-5-A-3.0 PRODUCT

1-5-A-3.1 General: Fence shall be height as noted on drawings and to top of pickets. Post shall be spaced at eight feet on center. Pickets shall be spaced 6" on center. In locations where there is a 30" drop or more, the pickets shall be 4" on center.

1-5-A-3.2 Posts: Shall be fabricated of 4" minimum square tubing, of appropriate gauge thickness of material to height. Steel tubing is to be hot-dipped galvanized and painted where indicated on drawings.

1-5-A-3.3 Channel Rails: Shall be 1" x 2" flat iron bar stock with holes punched for pickets. The number of rails shall be appropriate to height of pickets, with a top rail with 12" from the top of each picket, and a bottom rail within 6" of the bottom of each picket.

1-5-A-3.4 Pickets: shall be minimum 5/8" square/diameter solid steel, or larger hollow, heavy gage tubing finished to match posts.

1-5-A-3.5 Hinges: Shall be structurally capable of supporting the gate leaf without sagging.

1-5-A-3.6 Concrete: Concrete for setting posts and footings shall be 3000 psi.

1-5-A-4.0 EXECUTION

1-5-A-4.1 Fabrication: Attach channel to post with solid welds. Weld pickets at underside of channel on each side of pickets (continuously) using solid welds. Spot welds are not acceptable. Grind all welds smooth.

1-5-A-4.2 Painting: Painting may be shop or field applied. Touch up as necessary in the field with a brush.

1-5-A-4.3 Installation: Set line posts as in locations and as detailed on drawings. Justify fences sections with grade as directed by Architect.

1-5-A-4.4 Gates: Install gates plumb, level and secure for opening without interference. Attach hardware by means which will prevent unauthorized removal. Adjust hardware for smooth operation.

< END OF ORNAMENTAL FENCES AND GATES SECTION >

1-5-B CHAINLINK FENCE SECTION

1-5-B-1.0 DESCRIPTION OF WORK: This standard covers the fabrication and furnishing of all materials and labor for installation of chain link fence. Related demolition and removal of existing fencing may be required to support work.

1-5-B-2.0 QUALITY

1-5-B-2.1 Construction Contractor is responsible to locate and avoid underground utilities. Any damages shall be promptly repaired by the Contractor at no expense to the Library.

1-5-B-2.2 The Construction Contractor shall employ an adequate number of skilled workers who are trained and experienced with the type of work they are assigned.

1-5-B-2.3 All completed work shall meet basic visual standards: Post shall be properly aligned, posts shall be plumb and vertical, materials shall be consistent in quality, material shall not be damaged, gates shall not sag, and finishes shall be uniform.

1-5-B-2.4 All completed work shall meet basic structural standards: Posts shall not wobble or move within the footings and hardware shall be appropriate for the use and be tightened secure.

1-5-B-2.5 The Construction Contractor shall remove all debris and unused materials from the job site at the completion of the job. Soil excavated for footing must be removed or spread evenly as may be directed by the Architect.

1-5-B-3.0 PRODUCT

1-5-B-3.1 Fencing consist of modular woven wire fabric fence panel supported by tubular steel posts and framing constructed in accordance with applicable structural criteria, and the Chain-link Manufacturer's Institute Product Manual. See drawings for special finishes and accessories to be installed with fencing.

1-5-B-3.2 Vinyl Coated Finish: Where vinyl coated fence is indicated on drawings, all fabric, framing and fasteners are to be PVC coated 7 mil thick thermally fused per ASTM F668. Except line posts, top rails and gates shall be PVC coated 14 mil thickness.

1-5-B-3.3 Posts: shall be placed at 10' maximum spacing. Post shall be sized and gauge appropriate to height and shall be hot-dipped galvanized with a minimum of 1.8 oz per square foot coated surface area.

1-5-B-3.4 Fence framing members: shall be located within the plane of fencing, coordinated with gates and opening locations in fabric. All framing members are to be sized and gauged according to structural requirements. All members are to be galvanized. Framing members that are heavy enough shall be hot dipped galvanized.

1-5-B-3.5 Fence Fabric: shall be 9 gages with 2-inch woven mesh. All fabric shall be hot-dipped galvanized after weaving. Wire shall have a minimum break load of 1,290 lb. Selvedge edges of fabric shall be knuckle top and bottom.

1-5-B-3.6 Caps & Hardware: All hollow tube framing members and post shall be capped with formed steel or alloy fittings. Standard post cap shall be domed and mechanically fastened to the fence post. Top rail sleeves shall be 6-inch length and allow for expansion. Use zinc coated steel screws, nuts, bolts and washers. Fastening wire may be Stainless Steel, Aluminum, or Zinc Coated. Install 7-gauge tension wires continuous along the bottom of fence fabric. Install a 1-5/8" diameter tube steel top rail along top of fence fabric.

1-5-B-3.7 Barbed Wire and Supporting Arms (if applicable): Where indicated on drawings, provide double strand of 12-1.2 gauge twisted galvanized steel barbed wire. Each strand is to have 4-point barb at 5 inches on center with staggered location (between two strands). Support arms shall be galvanized pressed steel with provision for supporting three strands of barbed wire. Each arm shall withstand minimum 250 lbs. downward pull at the outer end.

1-5-B-3.8 Gates: Framing, fasteners and fabric on gates are to match material and finish of the fence in which the gate is located. Gaps between edge of gate and edge of gate opening are to be a maximum of 2 inches. Use gate latch, hasp, cane bolt and/or locking mechanism as indicated on drawings.

1-5-B-3.9 Gate Hinges: Use U-bolt and tooth fitting (Bulldog type) hinges that are structurally capable of supporting the gate leaf with 250 lbs. downward force on the end of gate over the course of full swing.

1-5-B-3.10 Concrete: Use 3000 psi strength concrete for setting posts and fence related foundations.

1-5-B-4.0 EXECUTION

1-5-B-4.1 Fence Framing: Install in accordance with Chain-link Fence Manufacturer's Institute Product Manual and ASTM F567. Locate and detail fencing as indicated on drawings.

1-5-B-4.2 Gates: Install gates plumb, level and secure for full opening without interference. Attach hardware by means which will prevent unauthorized removal. Adjust hardware for smooth operation.

1-5-B-4.3 Fasteners: Fasten all accessories tightly. Face dome head of fastener toward fabric side of fence framing, and place nuts on the framing side of fabric.

1-5-B-4.4 Accessories: Fasten all accessories tightly. Install extension arms for barbed wire perpendicular to the run of fence and parallel to other arms. Run barbed wire strands parallel to one another with staggered barbs. Pull wire taught and attach clips or slots in each extension arm.

<END OF CHAIN-LINK FENCE SECTION>

1-5-C WOOD FENCE SECTION (Least Preferred Of Fencing Options)

1-5-C-1.0 DESCRIPTION OF WORK: This standard covers the fabrication and furnishing of all materials and labor for installation wood fence. Related demolition and removal of existing fencing may be required to support work.

1-5-C-2.0 QUALITY

1-5-C-2.1 Construction Contractor is responsible to locate and avoid underground utilities. Any damages shall be promptly repaired by the Contractor at no expense to the Library.

1-5-C-2.2 The Construction Contractor shall employ an adequate number of skilled workers who are trained and experienced with the type of work they are assigned.

1-5-C-2.3 All completed work shall meet basic visual standards: Post shall be properly aligned, posts shall

be plumb and vertical, materials shall be consistent in quality, material shall not be damaged, gates shall not sag, and finishes shall be uniform.

1-5-C-2.4 All completed work shall meet basic structural standards: Posts shall not wobble or move within the footings and hardware shall be appropriate for the use and be tightened secure.

1-5-C-2.5 The Construction Contractor shall remove all debris and unused materials from the job site at the completion of the job. Soil excavated for footing must be removed or spread evenly as may be directed by the Architect.

1-5-C-3.0 PRODUCT

1-5-C-3.1 Fence shall be height indicated on drawings. Posts shall be spaced at a maximum distance of 8 feet apart. Vertical alternating "shadow box" 1 x 6 wood boards shall be attached to 2 x 6 wood nailers. A 2 x 6 wood cap shall be installed continuously along the top of fence with a 1 x 6 wood trim member fastened below the cap on each side of vertical boards.

1-5-C-3.2 Posts: Post shall be 6 x 6 Southern Yellow Pine #2 Grade, AWPA C2/C9 standard pressure treated with .40/lb./cubic foot, rated for in ground use.

1-5-C-3.3 Lumber: vertical boards, trim and nailers of fence are to be Southern Yellow Pine #2 Grade, AWPA C2/C9 Standards, Preservative Retention of .25 lb./ cubic foot rated for above ground use.

1-5-C-3.4 Fasteners: Nails shall be hot dipped galvanized ring shank nails for pressure treated wood. Any and all screw used in fence construction are to be Stainless-Steel.

1-5-C-3.5 Gates: Construction of gates shall be of like materials to fence in which the gate is located. "Z" or "X" bracing shall be on interior side (same side as nailers), supported to posts.

1-5-C-3.6 Hardware: hinges and latches shall be factory finished of type and location indicated on drawing.

1-5-C-3.7 Concrete: Use 3000 psi strength concrete for setting posts and fence related foundations.

1-5-C-4.0 EXECUTION

1-5-C-4.1 Installation: Space line posts at 8 feet on center along a straight line. Concrete set all posts in holes with a diameter at least 4 times greater than the outside dimension of post. Slope top surface of concrete away from post. Concrete post footing is to be minimum of 42 inches deep with post set in minimum of 36 inches below grade. Post tops are to be angular cut to shed water on the framing side of fence. All wood members are to be straight and true to shape indicated on drawings.

1-5-C-4.2 Gates: Install gates plumb, level and secure for full opening without interference. Attach hardware by means which will prevent unauthorized removal. Adjust hardware for smooth operation.

< END OF WOOD FENCE SECTION >

2 -BUILDING ENVELOPE

2-1 EXTERIOR WALLS & FLOORS

Intent:

The exterior walls and floors are to provide the interior of the building thermal and moisture protection from the exterior; acoustically isolate the inside of the building from outside noise. The walls should require minimal maintenance. Exterior finishes must consider graffiti and vandal resistance. The exterior walls are to reflect an aesthetic quality befitting a library.

2-1-A Concrete Preferences:

- Design, transport, and place concrete and formwork according to American Concrete Institute (ACI) standards.
- See Building program for floor loading criteria.
- Floor Flatness in areas with shelving shall be 40 overall, 30 minimums.
- Vapor barrier is to be detailed for all interior floor slabs with moisture tightness of less than 0.3 perms.
- A sheet waterproofing and drainage system is to be installed for all sub-grade walls and floors enclosing occupied space. Specify Manufacturer's warranty for such system against defects in materials and workmanship for a period of 5 years.

2-1-B Masonry Wall Preferences:

- Design brick walls to be built according to Brick Industry Association Standards
- All exposed face brick is to be FBX-SW grade.
- Show locations of all expansion joints on building elevation drawings and dimension locations on plans.
- All shelf/ledger angles are to be of low maintenance and paintable materials.
- All masonry accessories are to be Stainless Steel #316 or non-corrosive material.
- Width of air space shall be 2 inches or greater, and less than 4 inches.
- Use cavity mesh or other measures to ensure proper wall cavity drainage.

2-1-C Stucco Wall Preferences:

- Hard coat stucco system may be applied to masonry or concrete back up or metal framing per latest version the Portland Cement Associations Stucco Manual.
- Metal framing system must be structurally designed by an engineer licensed in the State of Florida.
- All Control joint locations are to be indicated on elevation drawings.
- Exterior Insulation Finishing System (EIFS) over exterior metal framing systems is an option with the Library's approval.

2-1-D Panel wall systems or cladding:

- Metal, or fiber cement panel wall systems may be used on metal framing that is structurally designed by an engineer licensed in the State of Florida to meet code required structural criteria.
- The panel wall system must either be waterproof or act as a veneer /cladding on a water proof wall system.
- Wood or Plastic is not acceptable for framing or paneling in any application.

- Panels are to be designed not to deflect or show “oil canning”.
- Size panels relative to manufactured dimensions to reduce waste.
- Finish of panels is to be maintenance free high-performance fluoropolymer, anodized aluminum or natural finish of materials that will not decay in less than a 20-year period.

2-1-E Waterproofing Preferences:

- Water proofing must be in place to protect insulation during construction from moisture that would lower that value of the insulation.
- Water proofing must prevent water from condensing on the insulation that would lower the insulation value.
- Bituminous damp proofing that is roll or brush applied (not sprayed applied) may be used on the interior base of cavity walls; flashing must be detailed to complete water tightness of wall.

2-2 ROOFING

Intent:

The roof must provide a waterproof, insulated covering over the building. The roof shall be designed to drain all water off the top and away from the building, leaving no standing water for more than one dry day. The roof is a significant part of the overall appearance of the building. The design of the roof must reflect the character of the community in which the building is located, as well as that community’s perception of what a library should look like. The roof must accommodate secured access and some foot traffic. At a minimum, the roof is to have a 25 year no dollar limit (NDL) manufacturer warranty and a two (2) year no charge materials and labor warranty from the contractor.

2-2-A General Roofing Preferences:

- Adhere to design and detailing guidelines of the National Roofing Contractors Association (NRCA) Guide for Commercial Roofing, and the Sheet Metal and Air Conditioning Contractor’s National Association (SMACNA) Manual.
- Large areas of occupied roof that allows regular access are strongly discouraged.
- Specify only nationally established roofing product manufacturers.
- Roofing design to support plant life, wood shakes, or other organic roof covering over interior space will not be considered acceptable.
- Selection of roofing material shall be reviewed with the Library, regarding maintenance requirements.
- Roof top equipment, piping, conduit and roof penetrations are to be kept to an absolute minimum. All such items are to be shown on roof plans.
- Mechanical, Electrical and Plumbing Designers are to attend roofing design reviews.
- Avoid situations where leaves or other debris can fall on the roof surface.
- All drainable roof edges will be provided with a gutter or rain leader and down spout that conveys drainage away from the building.
- All gutters, rain leaders and roof drains are to be covered with a solid cover that drains only water into gutter to keep debris from clogging the system.
- Gutters must be designed to be adequate for the amount or run off from the roof they serve. Gutters must be covered with a material that prevents leaves and such debris from getting inside the gutter system to prevent clogs and backups.
- Insulate first 6 feet of roof drain piping inside building. If exposed, rigid insulation is required. Also, if

exposed rigid insulation the entire length in public spaces.

- Overflow scuppers are preferred to be located incorporated in rain leaders rather than through parapet walls.
- Rainwater collection systems are encouraged in association with some practical onsite use for the water.
- Surface roof with light color, high albedo materials.
- Pre-roofing conference to be attended by a manufacturer's representative is to be included in the specifications prior to start of any roofing construction.
- Indicate location of roof service walkways (minimum two (2) foot wide) to all roof accessories requiring maintenance on roof plan.

2-2-B Roofing Warranty Preferences:

- Specify roofing system with a minimum 25-year manufacturer's warranty. The warranty shall have no dollar limit, and no exclusions for hail events with stones less than 3 inches in diameter.
- Specify 2-year no charge materials and workmanship warranty from contractor.
- In addition to warranties specified, the roofing contractor must enter into an agreement with the Library to maintain the roof in watertight condition for a period of 5 years from the date of final acceptance of the roof. Repairs made subject to this agreement will be of no cost to the Library.
- Asphalt Shingles must be specified with a 30-year manufacturer's warranty.

2-2-C Built-up Roof Preferences:

- Single ply is generally preferred to Built-up roofing.
- Hot applied, 4-ply built-up roofing with glass-fiber/inorganic felt plies, and a ceramic granular impregnated (white) cap sheet is the most preferred built up roof system.
- Extend cap sheet under coping at parapet walls rather than terminate below.
- Minimize use of pitch pockets; cover top of all pitch pockets with metal flashing.
- Loose laid ballast or aggregate roof surface is not acceptable.

2-2-D Single-ply Membrane Roofing Preferences

- EPDM, white surface in rolls no less than 6-foot-wide with a minimum 0.60 mil thickness that is fully adhered is the first choice for single ply roofing.
- Mechanically fastened TPO is acceptable as well.
- Lap joints should run along slope or as manufacturer recommends.
- Extend ply under copings at parapet walls rather than terminate below.

2-2-E Metal Roofing Preferences:

- Structural standing seam metal roofing with minimum 24-gauge panel thickness, prefinished with PVDF finish (Kynar 500 or equal) is most preferred for sloped roof applications.
- Metal panels may be installed over sheathing faced with ice & water shield or according to manufacturer's recommendations.
- No exposed fasteners.
- Metals that are in high demand (therefore commonly subject to theft), such as copper, should not be used as a primary roofing material, gutters and /or downspouts.

2-2-F Asphalt Shingle Roofing Preferences:

- Asphalt Shingle Roofing is not a preferred type of roofing for this program, however is acceptable if it is an impact resistant, glass fiber reinforced shingle with a minimum weight of 300 lbs. per square over peel and stick underlayment.
- Minimum slope for shingle roof is 6 inches per foot.

2-3 INSULATION:

Intent:

Insulation is necessary within the detailing of the building envelope to resist the passage of thermal and acoustical energy. (This portion of the guide does not address insulation for fire resistance). The thermal insulation shall, at a minimum, exceed the requirements of ASHRAE 90.1. Acoustical insulation shall be detailed to exceed values given in the building program between various spaces in the library.

2-3-A Thermal Insulation Preferences:

- Insulation must be applied according to the manufacturer's intended use.
- See Building Standard Guidelines for WINDOWS for insulation in the design of windows and glazing.
- Detail insulation to avoid thermal pathways through framing members or other wall components that may transfer thermal energy.
- Insulation laid on top of suspended acoustical ceiling is unacceptable.
- Do not use Insulation that use CFCs or HCFCs in the manufacturing or installation of the product.
- Consider products with recycled content.

2-3-B Acoustical Insulation Preferences:

- Fiberglass Sound Attenuating Batt (SAB) Insulation or another acoustical batt insulation may be installed in walls that run from top of floor to bottom of deck with caulking in any voids allowed by corrugation of deck.
- Fiberglass SAB are not to be exposed to return air plenum.
- Insulation laid on top of suspended acoustical ceiling is unacceptable.
- Do not use Insulation that use CFCs or HCFCs in the manufacturing or installation of the product.
- Consider products with recycled content.

< END OF BUILDING ENVELOPE SECTION >

3 -INTERIOR FINISHES

3-1 GENERAL

Interior design for the library will be a coordinated effort that is initiated with finishes suggested for the various spaces in the library in the building program. These must be developed relative to the design of the building. The furniture, fixtures and equipment (FF&E) design standards are coordinated by the library

personnel.

A comprehensive finish board submitted with a finish plan (coded in relation to the board) will be submitted with the Design Development Submittal. The finish board must be labeled with the title of the project and must be assembled so that the board can be transported without samples falling off. Maximum size of the finish board is 30" x 42". Digital images of the finish board will be submitted with the board. The list of samples and minimum suggested sizes of the samples are as follows:

- Flooring Carpet sample 8" square
- Resilient flooring 2" square
- Seamless or Terrazzo 3" square (larger if larger aggregate is used)
- Wood Floor Base 4" length
- All other floor base 2" length
- Paint Finishes 2" square
- Tile (under 8" square) Actual tile size
- Tile (over 8" square) 4" square
- Grout ¼" wide x 3" length
- Wall Covering 2" square
- Countertop 4" square
- Cabinet material 2" square
- Glazing/Translucent 4" square
- Window treatments 4" length
- Toilet partitions 4" square
- Ceiling Tile 4" square
- Ceiling grid 3" length
- Window Framing 2" length (if applicable)

Select high quality materials that are durable and require low maintenance. Avoid using imported finish materials with long delivery times that will make it difficult to replace portions of the installation consistently. Specify materials that are expected to remain in stock and are readily available.

Specify only finishes that meet code required flame spread and smoke development ratings for their application.

3-2 FLOORING

Intent:

Flooring and base molding play a large part in the experience of using the library. The flooring should be used to reflect the qualities befitting a library. Many potential types of flooring are represented in these guidelines, and there may be other types of flooring that would be appropriate (and are not listed in the guideline). Flooring must be designated for applications that do not require extra maintenance (i.e. carpet should not be indicated for restrooms). Flooring must be designed to maximize crack suppression. OCLS has preferred flooring materials to be used in the different applications (See below).

3-2-A Concrete Flooring Preferences:

- All Interior exposed concrete floors are to be sealed, stained or painted. Utilities and mechanical rooms with exposed concrete are to be sealed. Trowel finish floors are to be stained.

- Protect concrete floors to be stained from grease, chipping and cracking and construction vehicles that leave wheel marks.

3-2-B Resilient Flooring Preferences:

- Luxury Vinyl Tile (LVT) is acceptable in 5mm with integral colored patterns.
- Sheet vinyl is not acceptable. OCLS's preferred LVT: Interface

3-2-C Carpet Preferences:

- Standard specification to be delivered to the Consultant, during design, by OCLS.
- 24-inch square tile or 25cm X 1m planks preferred.
- Tufted textured loop construction.
- Heavy Traffic classification.
- 15 year minimum warranty.
- The preferred method to adhere carpeting is via the use of nontoxic, low odor, low VOC, solvent free adhesives with no alcohol, glycol or ammonia. Tac-Tiles are also allowed for certain applications.
- Carpet shall be aired out in a warehouse prior to installation to minimize odors and off-gassing.
 - OCLS's common carpets:
 - Interface AE311 Aerial, Iron;
 - Interface AE317 Aerial, Azure;
 - Interface AE311 Aerial, Smoke;
 - Interface AE315 Granite Azure.
 - Interface AE317 Grass.
 - Interface AE311 Greige.
 - Interface SS218, Street Smart, Sidewalk/Naranja.
 - SR899 Walk off tile, color Granite
 - Studio Set LVT, color 00703
 - MillWork base 6" Grey

3-2-D Shower Floor & Wall Tile Preferences (Used at Main Library Only):

- Onyx Sand 12' X24" Glazed Porcelain Floor and Wall Tile

3-2-E Wood Flooring Preferences (If Applicable):

- Hardwood or Bamboo Flooring in strips or parquet application are acceptable.
- Hardness of the wood must be between 1300 and 2200 on the Janka Hardness Scale.
- Greater than ½" thickness flooring is preferred that can be sanded and refinished multiple times over the life of the floor.
- Edges/joints are to be square, not beveled, or eased.
- All flooring edges must be detailed on drawings.
- Cork flooring is not acceptable.
- OCLS does not have a preferred wood flooring preference.

3-2-F Tile Flooring Preferences:

- Porcelain tile is preferred with epoxy adhesive grout in preferred colors listed below.
- Tile installation is to be detailed and specified according to Tile Council of North America Handbook (current edition).

- Stone flooring may be used specifically as approved by the Library's Administration team. Designer must clarify all maintenance requirements of the product to the Library prior to approval.
- Any variation in tile size should be accomplished by saw cutting tiles rather than different manufactured tile sizes.

- OCLS's typical tile:
 - Crossville, Empire, Cream PF07, Unpolished, 12"X24" (PFT-1)
 - Crossville, Empire, Grigio P402, Unpolished, 12"X24" (PFT-2)
 - Crossville, Shade, Tobacco 403, Unpolished, 6"X24" (PFT-3_
 - Crossville, Empire, Corsican Crème Vs80 Wall Base, Unpolished, 4"X24" Bullnose (PWB-1)
- Grout: Maple Epoxy, Un-sanded, 11Sahara Beige. Used with: PFT-2, PFT-3 (ONLY); grout joints no longer than 1/8" THK., TYP. N/A. GT-2 Grout: Mapei Epoxy, Un-sanded, 39 Ivory. Use with: PFT-1 & PWT-1(ONLY); grout joints no longer than 1/8" THK., TYP. N/A.

3-2-G Terrazzo Preferences:

- Terrazzo flooring is not preferred in the branch libraries; however, it is heavily used in the Main Library and is acceptable if detailed and specified to be installed according to the National Terrazzo and Mosaic Association.
- Integral base should be used with terrazzo.
- All edge conditions are to be detailed on drawings

3-3 INTERIOR WALLS

Intent:

Interior wall surfaces need to be rugged while maintaining a nice appearance. Other wall materials and finishes than what is listed below may be considered. All wall materials must have the code required flame spread and smoke development rating.

Interior walls around restrooms are to extend from top of floor to bottom of deck and be sheetrock both sides and fully insulated. Interior walls that separate public and staff spaces are to extend from top of floor to bottom of deck and be sheetrock both sides and fully insulated.

3-3-A Corner Guards & Impact Protection:

- Specify Corner guards for walls in any location where a book truck may travel.
- Corner guards are to be 3-inch stainless wing, surface mounted from top of base molding to 42 inches above base molding. Color to match walls or as selected by designer.
- Consider using a nice-looking column cover on columns in public areas rather than 4 corner guards.

3-3-B Gypsum Wall Board Preferences:

- Framing shall be Galvanized (G-60), with a deflection of L/240 at 5 PSF. With minimum 0-gauge galvanized steel blocking.
- All gypsum wall board to be a minimum of 5/8 inches thick.
- All Gypsum board walls in restrooms or near plumbing fixtures are to be moisture resistant.

- Tile walls are required on public restroom plumbing walls.
- Finishes are to be according the Gypsum Association GA 214-96 as follows:
 - All Exposed Level 5
 - Mechanical Rooms Level 1
 - Unexposed/Above Ceiling Level 1
 - Substrate for Tile..... Level 2
- Fire rated assemblies to be related to “UL” Fire Resistance Directory Number(s).

3-3-C Wall Tile Preferences (Also See Floor Tile Preferences):

- Architectural CMU, Ceramic Tile, or Stone are acceptable wall finishes for accent walls. Such wall finishes will be required to be full height on plumbing “wet-walls”.
- Use cementitious backer board as substrate for tile on frame walls.
- Dark colored epoxy adhesive grout is preferred.
- Tile installation is to be detailed and specified according to Tile Council of North America Handbook (current edition).
- Stone, architectural CMU may be used specifically as approved by the Library’s Construction & Contract Manager and the Administration for restroom walls. Designer must clarify all maintenance requirements of the product to the Library prior to approval. Designer must clarify all maintenance requirements of the product to the Library prior to approval.

3-3-D Wall Covering (Paint) Preferences:

OCLS’s preferred paints: Sherwin Williams

- 1. Steamed Milk – SW7554
- 2. Secure Blue - SW6508
- 3. Outgoing Orange - SW6641
- 4. Anew Gray - SW7030
- 5. Online – SW7072

3-3-E Paints and Protective Coatings Preferences:

- Specify paints and protective coatings for the full range of materials included in the project.
- Standard finish for paint on wall surfaces may vary. Trim paint may match walls or may be semi-gloss or gloss finish. Variance from these finishes are to be submitted to the Construction & Contract Manager and the Administration for approval. (See Wall Covering Preferences for preferred paints).

3-4 CEILINGS:

Intent:

Ceilings in the library are highly visible, therefore, have a significant impact on the public perception of the library. Ceiling should reinforce the general aesthetic of the library or space within the library. There are many utilities that will be mounted in the ceiling that must be organized so the ceilings do not appear to be cluttered. All lighting and utilities mounted on the ceiling should be indicated on the reflected ceiling plans. Acoustical properties of ceilings must be considered to isolate noise and minimize reverberation.

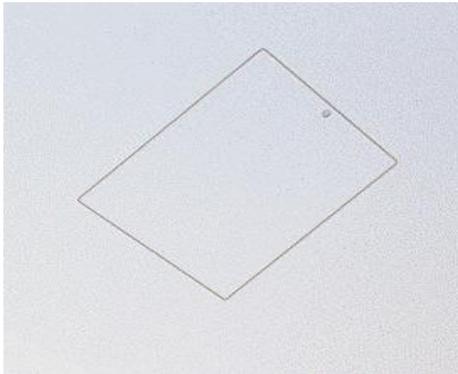
3-4-A Suspended Acoustical Tile (Grid) Preferences:

1. Ceiling Tile: 2x2 lay-in tile with regular ceiling tile edge that is easily removable is the

- preferred. All ceiling tile is to be resistant to high humidity. Basis for preference in staff or modestly finished spaces are Armstrong Cortega RH99 with tegular ceiling tile edge.
2. Ceiling Grid: Standard 15/16" wide "T" grid and suspension cables to be hot-dipped galvanized, stainless steel or aluminum material. Grid may be installed without tile to suspend ceiling fixtures or lighting.
 3. Apply spring locks on all non-horizontal tiles, and in public areas where the ceiling is below 10 feet above floor.
 4. Suspended acoustical tile ceiling is not allowed in public toilet rooms.
 5. No insulation or loose materials are to be laid on top of ceiling tiles.
 6. Consider using products manufactured with recycled materials.

3-4-B Hard Ceiling Preferences:

1. Suspended or framed gypsum ceiling system may be used. Maximum allowable deflection shall be specified to be less than $L/240$.
2. Detail ceilings in toilet rooms that do not allow the public to access space above ceiling.
3. Access panels, where required, are to be flush mounted with a concealed frame and painted to match ceiling. See example basis of a preference is Bauco Access Panel Solutions.
4. OCLS's preferred ceiling paint: SW-7006 (Extra White).



Access door in hard ceiling

3-5 CABINETS AND COUNTERS:

3-5-A Cabinet Preferences:

- Cabinets, counters and sinks must meet accessibility (ADA) requirements. Consider installing pipe protection with knee space apron panel at all sinks, rather than a cabinet with an integral base.
- Designers will work with the Library in consideration of what (generally) will be stored in each cabinet, drawer and shelf.
- Millwork shall conform to the Architectural Woodworking Institute (AWI) "Quality Standards" and specifications. Use Custom grade for millwork in staff areas, and Premium Grade for millwork in public areas.
- All Cabinets are to be flush overlay construction with frameless hinges and basic wire pulls. Extend

wall cabinet doors past lip of bottom shelf to allow the door to act as a pull.

- OCLS's preferred cabinet hardware: Blum Clip Top 120* Hinges; Wire Pulls- Brushed Dull Chrome 96mm; KV 332 Shelf Support Pins; 8800 Heavy Duty Full Extension Drawer Slides.
- OCLS's preferred laminate: Wilsonart Shadow Zephyr 4857

3-5-B Countertop Preferences:

- Countertops are to be solid surface quartz acrylic material, minimum ½" thick with 1 ½" thick bullnose or eased edges. Examples of products Zodiac from Corian, Silestone, Avonite. Use of solid surface counters with recycled contents is encouraged.
- Counter tops are to be one piece if possible, otherwise seam locations are to be shown on design drawings.
- Custom precast concrete countertops with integral sink(s) are acceptable, also. The maintenance requirements are to be review with Library prior to detailing.
- OCLS's preferred countertop: Wilsonart Solid Surface "Hidden Space" 9227SS.
- 3mm vinyl edge banding is to be used with all laminate top products.

<THE END OF INTERIOR FINISHES>

4 -DOORS & WINDOWS

4-1 DOORS

Intent:

The doors shall allow convenient access, privacy and security. The design and detailing of the doors will be an effort that must be coordinated with the Technology Consultant's program for building security. Access control will be considered. Information regarding the types of doors to be installed in various parts of the library is included in the Building Program. Weather seal around doors/frames shall be per the Florida State Supplements and Amendments to the International Energy Code. Doors must be rugged as they will get many cycles of use and abuse.

4-1-A Automatic Door Preferences:

- Entry doors shall be automatic, motion sensor activated bi-parting or swinging doors with a minimum opening width of 6 feet wide x 7 feet high.
- If applicable, two (2) sets of automatic doors are to be placed on each side of the vestibule, spaced far enough apart to operate as an air lock. Consider staggering the opening so that both sets of doors will not create a clear, straight path for air to pass in or out of the building
- Doors are to be constructed of glass and aluminum.
- Consider tinting glass if there is potential for glare.
- Break out panels are acceptable if required for egress.

4-1-B Exterior Door Preferences:

- In addition to the automatic main entry doors, exterior doors are to be provided at the staff entrance

(that should be the same as the receiving door), the receiving doors, and other locations required for utilities and egress.

- Receiving/Staff Entrance doors are to be a pair of one 3'-10" door and one 2'-2" leaf's that latch against a keyed removable mullion in order to use the full width of both open-door leaves. The door shall be operated by a lever on the outside that latches to the mullion. A manual hold-open is to be provided for both doors. The staff door will be provided with a peep hole.
- The quantity of exterior doors is to be kept to the minimum by code.
- The standard exterior door is to be flush face, with no lite, insulated composite metal door, Grade 3, 16-gauge, heavy duty, seamless construction 1 3/4" thick. Door is to be set in a 14-gauge welded steel frame with a continuous hinge. Standard door height shall be 7 foot.
- Provide an accessible threshold that seals to the inside face of the door and weather stripping.
- Exterior trim on exterior "exit only" doors is not acceptable.

4-1-C Interior Door Preferences:

- Interior fire rated doors are to specify and installed according to the UL label required.
- Standard interior doors are to be solid core wood doors with a glazed lite, to be sized and located by the Architect. The door is to set in a welded steel frame.
- All solid wood doors that require access control are to be factory prepped with raceways.
- Finish top edge of doors.
- Frameless glass interior doors may be used in specific applications approved by the Library as long as they meet access control and security alarm requirements.
- Doors are to provide a 6-inch margin on the top and sides, and 12 inches on bottom between edge of door and internal lite.
- Core material for all doors will be non-combustible mineral fill.
- Veneer is to be factory finished, plain sawn hard wood with consistent matching of grain throughout.
- OCLS's preferred interior wood door: Masonite Architectural, Natural Birch, Rotary Cut, Cane Finish

4-1-D Door Hardware Preferences:

- The hardware specification will be defined in the design process as a coordination effort with the Technology Consultant, the Library and the County to meet the Libraries' specific requirements. Meetings will be required and attended by design personnel with the required specific knowledge of door hardware options and requirements to determine the hardware specifications.
- Specify door hardware to be in accordance with the Florida Accessibility Code and the ADA.
- The standard door latching mechanism shall be mortise lockset, grade 1, with a 7-pin removable lock core. Acceptable manufacturers include Corbin-Russwin at Main and Yale at branch locations.
- Use heavy-duty butt hinges with 5 knuckle, ball bearings that are mortised to door and frame, or pivot hinges with a built-in hold-open.
- Use door closer that is surface mounted on the door with parallel arm. Where possible mount closers on non-public side doors. Closers for pivot hinges should be concealed in head of door frame.
- Interior doors that are regularly held open should have hold-open closers.
- Use rim type exit device.
- Kick Plate shall be provided on each side of staff room doors.
- Floor and wall mounted stops are to be located so they are unobtrusive and do not become a trip hazard.
- OCLS's preferred door hardware: Yale Tubular Lockset with Yale GA Keyway

4-2 WINDOWS

Intent:

The windows are very important to the library experience, the maintenance of the collection and the appearance of the library. Refer to the Building Program for more information about importance of window configuration. The windows must be secure and as vandal-resistant as possible. Weather seal around window frames per the Florida State Supplements to the 2015 IECC ICC. The windows must meet or exceed thermal performance required by ASHRAE 90.1. Interior windows and window/door combinations to be storefront. Minimize the hollow metal frame. VUE glass is preferred choice for exterior glazing.

4-2-A Window Preferences:

- All exterior windows are to be aluminum frame design to meet applicable wind loading and to minimize deflection of framing system. Steel may be employed as part of the internal structure of the framing.
- Window, Storefronts and Curtain wall shall meet the following performance criteria:
 - Air Infiltration: Test per ASTM E283, at less than 6.24 PSF, air infiltration shall not exceed 0.60 cfm/sf of wall surface.
 - Water Penetration: Field test per ASTM E331; at a pressure of 8 PSF, no water shall penetrate on any side.
 - Wind Loading: per Building Code Maximum deflection of L/175 of clear space.
 - Condensation Resistance (CRF) for the system shall not be less than 56.
- Design consideration must include cleaning and maintenance required for windows.
- Do not use curtain wall where storefront glazing can be used.
- Framing for inside glazing should be used where access to the outside face of windows would be difficult.
- Windows installed in doors shall use metal window kits with nonreversible screws that are located on non-public side of door. Wire glass is not acceptable.

4-2-B Glazing Preferences:

- Exterior glazing units are expected to have the greatest possible visible transmittance and the lowest possible solar heat gain/shading coefficient.
- Typical exterior glazing should use tinted, 1" thick insulated glass composed of 2 panes of 1/4" thick annealed glass with Low-E coating on interior faces (#2 & #3 faces). Glass performance would be expected in the following range:
 - Visible Transmittance > 70%
 - Solar Heat Gain Coefficient < 0.65
 - Shading Coefficient < 0.55
 - U-value < 0.68
- Specify glazing to comply with code requirements.
- Use readily available, easily replaceable glazing products.
- Interior glazing may be glass or plastic sheet material that meets flame spread, and smoke developed properties required by code and visual transparency required for application.
- Deflection of interior glazing is to be less than L/175.

4-3 Operable Partitions

Intent:

Operable Partitions may be provided as suggested by the building program or as part of an architectural concept in exterior or interior applications. The operable partition should be design and manufactured for the purpose that it will serve in the library. The configuration and operation of the partition should be simple. The finishes and construction of the partition must be abuse resistant. The Sound Transmission Coefficient (STC) of all operable partitions and the walls (above ceiling, also) in which they are mounted must be at least 52.

4-3-A Exterior Operable Partition Preferences:

- Doors may be aluminum and glass or solid; insulated consistent with adjacent walls or windows. Wood frame is not acceptable.
- Use panel folding or pocket doors with a recessed bottom and top track. The elevation change at the sill must be in accordance with accessibility codes (1/2-inch max elevation change).
- Operation and locking from the interior side only (no exterior trim) locking in open & closed position.
- Air infiltration test per ASTM E283, at less than 6.24 PSF, air infiltration shall not exceed 0.60 cfm/sf of wall
- Water Penetration test per ASTM E331; at a pressure of 8 PSF max no water shall penetrate exterior side.
- Structural design for local wind loading criteria with maximum deflection of L/175.
- Warranty: 10 years on roller and seal operation, and 2 years on all other parts.
- Basis of design, Nanawall SL60

4-3-B Interior Operable Partitions Preferences:

- Ideally use similar panels as on the 4th floor of Main with white board and magnetic features.
- Doors may be aluminum and glass, or solid panel hung from top rail only (no bottom track).
- Use manual pair panel operation with matching doors on the pocket to conceal stack of partition panels.
- Use manual drop seals along base of partition.
- Accordion partitions are not acceptable
- Panel and trim finishes are to be selected by designer.
- Avoid nested personnel doors.

4-3-C Interior Portable Partitions Preferences:

- Evolve Fully-Glass 66”H panels with 18”H Glass stackers

<THE END OF DOORS AND WINDOWS>

5 -INTERIOR ACCESSORIES

This portion of the standard includes various manufactured items that must be installed in the building to serve a specific function and would be used or operated directly by the occupants of the building.

5-1 WALK-OFF CARPET & ENTRANCE MAT

Intent:

Walk-Off carpet should be used in the staff entrance, delivery entrance and the lobby (if the lobby is not terrazzo). The entry mat should only be used in the lobby if the lobby is terrazzo. Both products are to be designed to remove water and dirt off shoes so library patrons will be less likely to slip on the floor or bring dirt and wetness into the library. The walk-off carpet and entry mat should be consistent with the design décor of the library.

Walk-Off Carpet Preferences:

- Locate directly inside main entrance, staff entrance and delivery entrances.
- Walk-off carpet color is to compliment the other carpeting colors in the facility.
- Preferred walk-off carpet manufacture is Interface color is Granite.

Entry Mat Preferences:

- Locate directly inside main entrance if lobby is terrazzo.
- Main Entrance: Provide recess mount in 7/16-inch-deep recess (non-piped drainage) with aluminum frame construction with roll-back capability.
- Tread shall be slip resistant tufted monofilament or rubber. Consider using recycled material.
- Indicate a channel formed, or cut a channel in the walkway paving, to drain the recessed area under the mat.

5-2 TOILET PARTITIONS

Intent:

The toilet partitions will provide privacy for each toilet or urinal in each group toilet. The partitions must be manufactured and installed to operate in accordance with the Florida Accessibility Code and the ADA. The partition material and construction must be sturdy, vandal resistant and easy to clean.

Stainless-Steel Toilet Partitions Preferences:

- Partition material is to be Stainless Steel.
- Partitions around toilets (other than urinals) shall be floor to wall hung. Steel framing for partition supports must be included in the design drawings.
- Urinal partitions may extend to the floor with connector running in a full height Stainless-Steel shoe.
- OCLS's preferred interior restroom partitions: (American Sanitary, ASI Global
- Partitions or compatible. OCLS must approve.
- 6" Stainless-Steel Toilet Compartments, Floor Mounted Headrail Braced
- 1 Wall Hung Urinal Privacy Screen (24"X42")
- 72" high Panels and Doors, zero sightline
- With Stainless-Steel Hardware and Continuous Brackets
- Panel connectors are to be Stainless-Steel flanges with non-reversable fasteners that are not exposed on the outside of toilet stalls.
- Hinges on stall doors are to be integral, self-closing.
- Latches and strikes shall be Aluminum or #316 Stainless Steel.

5-3 RESTROOM ACCESSORIES

Intent:

Serve the needs associated with the use of the restrooms. Accessories will be installed as part of the construction contract (not by paper/soap suppliers). Designers will provide location and color selection of such fixtures. All Accessories are to be Bobrick brand and stainless steel.

Toilet Paper Dispenser Preferences:

- Bobrick Multi-Roll Toilet Tissue Dispenser
- B-2888
- Centerline of roll per code



Electric Hand Dryer:

- Bobrick Electric Hand Dryer
- B-7128
- Controls @ 48"-AFF



Surface MTD. Soap Dispenser:

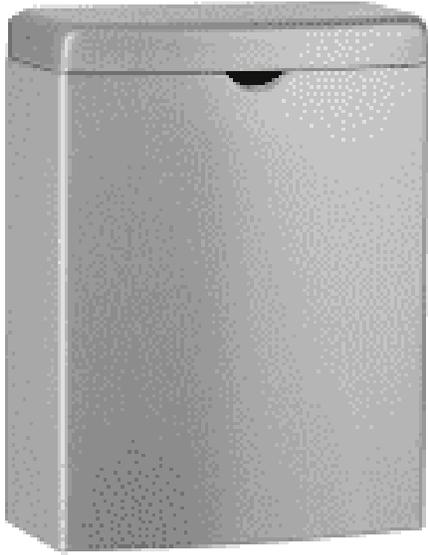
Toilet Seat Cover Dispenser Preference (Only in Staff Restroom):

- Bobrick Surface Mount Seat Cover
- B-221
- 2" Below side Grab Bar



Surface Mount Sanitary Napkin Disposal Preferences:

- B-270
- Women's or Staff (Only)



Trash Receptacle Preference:

- Bobrick Surface Mount Waste Receptacle
- B-277
- Top @ 24"-36"- AFF

Soap Dispenser

- Bobrick B-40 Surface-Mounted Soap Dispenser, Two Tone Black and Grey



Mirror Preferences:

- Lux- LED Stainless Steel Mirrors
- B-1652436
- BTM @ 39" -AFF
- Bobrick B-165-1836 Contemporary Metal Wall Mirror (18"x36")
- Bobrick 293 304 Stainless Steel Frame Fixed-Position Tile Mirror, Satin Finish, 18" Width x 30" Height, for ADA locations

Handicapped Access Grab Bars Preferences:

- Bobrick Stainless Steel Grab Bars with Snap Flange.
- B-5806

Grab Bags Preference:

- | | |
|-----------------------------|---------------------------|
| ➤ Bobrick Grab Bag | Bobrick Grab Bag |
| ➤ B-6806 X 36" Stain Finish | B-6806 X 42" Stain Finish |
| ➤ Top @ 33"-36"- AFF | Top @ 33"-36"- AFF |

Coat Hook Preferences

- Bobrick Double Surface Mount Robe Hook
- B-6727

Baby Changing Table:

- Koala Kare KB200-01 Horizontal Wall Mounted Baby Changing Station, Grey
- Handle Centerline

<END OF INTERIOR ACCESSORIES>

5-4 FIRE EXTINGUISHER & AED CABINETS

Intent:

Fire Extinguishers and AEDs are to be installed in obvious but unobtrusive locations as required by code (including accessibility codes).

5-4-A: Fire Extinguishers & Cabinet:

Typical fire extinguisher is to be 8 lbs. Ammonium Phosphate Powder, Class ABC. Fire Extinguishers in public areas are to be in a Semi-recessed (3.5-inch maximum projection) Stainless Steel cabinet, appropriate for the size of the extinguisher, with a clear, flat glass door and keyed lock. Extinguishers in staff only areas may be mounted on a standard wall bracket.

5-4-B: AED & CABINET (Applicable for Branches)

An Automatic External Defibrillator (AED) shall be located near the circulation desk, in public space. The AED is to be housed in a Stainless Steel with glass front cabinet that is key lockable, with a strobe light and audible alarm. Wall mounted sign shall be located 80 inches above floor directly over the AED cabinet.

5-5 MARKER/TACK BOARDS

Intent:

Marker, Chalk and/or Tack Boards are to be provided where indicated in the Building Program or where proposed by the Library personnel. Writing surfaces may be a durable metallic or plastic surface that covers an entire wall or may be a manufactured marker board of a specific standard shape to be permanently mounted to the wall surface. Dry erase markers with a housing/holder must be provide with

each writing surface.

Where applicable, dry erase wall can be utilized in the different classroom settings. It is the responsibility of the Library personnel to identify the specific location for the dry erase wall.

5-6 FACILITY DEDICATION PLAQUE (New Item)

Intent:

Library specification of dedication plaques as follows:

- A dedication plaque shall be provided on all new facilities and extensive renovations (where the renovation exceeds 50 percent of the replacement value of the facility or when the facility undergoes a change in use or purpose
- The dedication plaque will be furnished as a part of the construction of the new facility.
- The plaque will be mounted on the exterior of the building near the entrance more precisely located by the design Architect.
- The design for the plaque and location must be approved by the Executive Director of the Library. A plan showing the location of the plaque, and elevation drawing of the plaque showing the design for text and graphics on the plaque, textures, finishes and borders and the wall material on which the plaque is mounted.
- Dedication plaques shall be 24 inches x 24” cast bronze with raised polished letters on a Dark Brown/Oxide color, leatherette textured background with a 1” wide straight-line border. An example of the text and graphic form of the plaque is provided on the Guide Sheet, attached.

Sample of Dedication Plaque information (See Chickasaw Location For Concept):



Branch Name

List Governing Board Members (Mayor, 6 BCC and 1 City Rep)

List Board of Trustees (list President, VP and 3 Trustees)

CEO, Name

CFO, Name

Construction Manager

Architect

Dedicated Date

6 -PLUMBING

This portion of the standard provides information regarding the scope of the plumbing systems involved in this program, as well as the Library's preferences for water efficiency and the quality level of fixtures and maintenance requirements. The designer is responsible to apply engineering principals to define a system that meets applicable code requirements and functions according to this standard. The designer is welcome to suggest alternatives or improvements to the standard for acceptance by the Library. Some alternatives may require Life Cycle Cost Analysis from the designer for Library acceptance.

Scope:

This portion of the standard applies to piping, and plumbing fixtures for potable water and sanitary sewer between the site utilities connection to each fixture in the building. Piping and fixtures related to Storm Water Drainage, HVAC systems, Natural Gas or Liquid Propane Systems and Fire Protection are included in other portions of the standard.

6-1 General System Requirements:

- All fixtures, valves and plumbing accessories used on a project for a similar application are to be identical.
- All Room Numbers are to be indicated on Plumbing Plans.
- All toilets and urinals are to be white in color with minimal gap between fixture and wall filled with white caulking.
- Supports for wall mounted fixtures including urinals, and toilets are to be heavy-duty carriers with welded steel plate connections anchored to floor.
- Hot water shall be provided only where required by code, except if showers are provided; then hot water shall be provided in each shower. *Note that IPC (2009 version) does not require hot water in restroom lavatories in a library.*
- Access shall be provided to all working parts of plumbing system.
- Isolation/shut-off valves are to be provided at all toilets, kitchen, wall hydrants and other areas where it may be necessary to isolate fixtures for maintenance or replacement. The valve locations must be clearly marked and accessible to staff onsite, in above ceiling location. Individual supply stops valves on faucets that are not concealed should have removable handle or key operation to prevent tampering.
- No piping is to be installed in locations subject to freezing temperatures. All hot and cold-water piping is to be insulated.
- Do not run water or drain lines above electrical or communications closets.
- Before installing any plumbing fixtures, toilet, or showers, the drain line(s) are to be inspected via camera and snaked. The results of the camera and snake are to be placed in a written report to OCLS.
- All faucets and fittings in domestic water supply are to be completely lead-free.

6-2 PIPING:

6-2-A Water Supply Preferences:

- Must have easily accessible building shutoff valve at the building, in addition to at the meter.
- Use hard drawn Type "L" Copper piping (ASTM B-88) for all locations within the building envelope with less the 3-inch diameter (OD) pipe. Use Type "K" for all other locations.
- Use copper piping where larger than 3-inch diameter pipe is required.

- Insulate hot and cold-water piping. Fittings and elbows are to be insulated with pre-formed insulation of the same type as adjacent pipe. All joints and ends of pipe insulation shall be covered with sealing strips.
- Water hammer arresters shall be installed at the top of each riser and on each fixture branch.
- Plastic piping shall not be used for water supply.

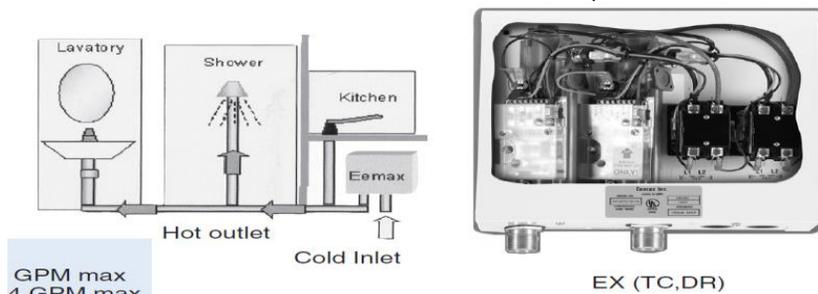
6-2-B Sanitary Sewer & Vent Preferences:

- Use PVC or ABS piping as allowable by code.
- Vent piping is to be minimum 4" diameter pipe with hub & spigot joints with neoprene gaskets to vent through roof/exterior.
- Air admittance valves are not permitted within the building envelope.
- Horizontal drain runs shall be no less than 2 inches in diameter. Use a minimum of 3-inch diameter where multiple sinks are connected.
- All fixtures and drains are to be provided with vented traps and automatic trap primer. The primer valve is to be in an accessible concealed location.
- Cleanouts shall be provided at the base of each stack and at where piping changes direction. Cleanouts are to be 4-inch diameter with cast brass screw plug with raised nut. Cleanouts in floor slabs shall be recessed with flush access plate. Located cleanouts in floors strategically to be unobtrusive, but accessible for maintenance.
- Floor drains shall be provided in all restrooms, janitor closets, mechanical rooms and at water fountains. Floor drains are to be sized according to application; made of cast iron with an adjustable mounting height nickel-bronze strainer with tamper proof fasteners. The entire floor of each room with a drain is to slope to the drain.
- In new construction and renovations, floor drains are to be reviewed with a camera. With all renovation projects, all drains are to be snaked, prior to the install of the plumbing accessories.

6-3 FIXTURES

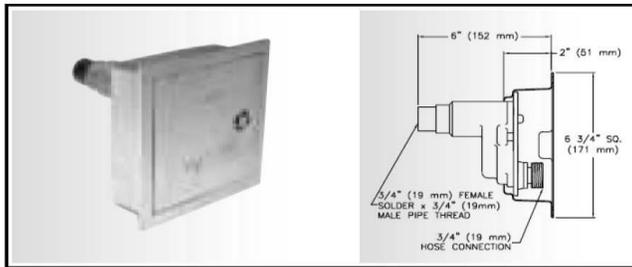
6-3-A Water Heater Preferences:

- Use tankless electric water heater capable of serving multiple fixtures in a group. Locate under counter and below the level of the faucet (or water outlet) near the fixtures served.
- Hot water temperature is to be between 110- & 120-Degrees F.
- Water Heater Basis: Eemax Series 3 (other manufacturers; Bosch, Chromonite, Rinnai, Rheem)



6-3-B Wall Hydrants Preferences:

- Specify self-draining wall hydrants with vandal-resistant integral vacuum breaker with heavy metallic box for moderate climate installations and keyed valve operation.
- Provide wall hydrants on the exterior of the building, one for each 100 lineal feet of perimeter and in each restroom.
- Wall Hydrant Basis: Zurn Z1330-C (other manufacturers; JR Smith, Josam, T&S Brass)



Wall Hydrant

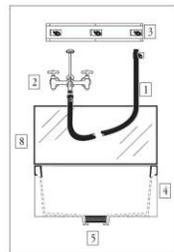
6-3-C Mop Sink Preferences:

Mop Sink shall be floor mounted 24-inch square X 12-inch-deep precast terrazzo with Stainless Steel rim guard and dome strainer over the drain.

Mop Sink Basis: Acorn TSH-24-SSP (other manufacturers; Fiat, Florestone)

Mop sink faucet to be provided with a vacuum breaker, hot & cold stops, bucket hook with top brace.

Faucet to be installed with a 5/8" diameter rubber hose 5-foot-long with a clamp.



Mop sink

6-3-D Toilets Preferences:

- Public and Staff toilets are to be wall hung, top spud flush valve type vitreous china with elongated bowl design for a water consumption of not more than 1.28 gallons per flush.
- Provide compatible hard-wired, auto-sensor flush valve with mechanical override button and chrome plated finish.
- Seat is to be heavy duty, white, solid plastic, open front (no cover) with stainless steel internal self-checking hinge (no slamming).
- Toilet Basis: Kohler K-4325 (Kingston) (other manufacturers; Crane, American Standard, Eljer, Gerber, Toto)
- Flush Valve Basis Zurn EZ Flush, Zurn ZTR flush (other manufacturers; Kohler, Metro flush, Sloan)



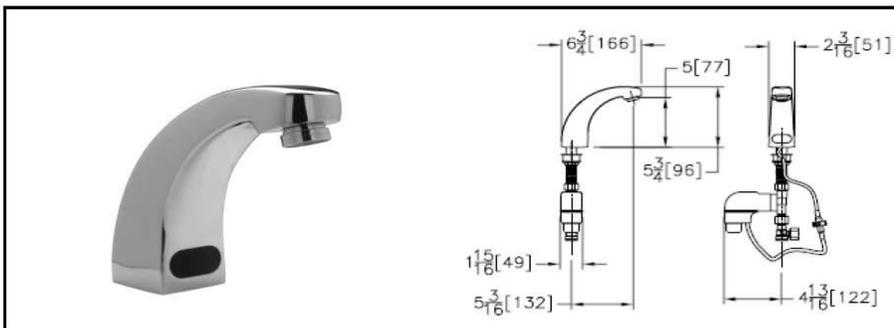
Wall Mounted Toilet & Flush Valve

6-3-E Urinal Preferences:

- Urinals are to be water efficient wall hung vitreous china fixtures mounted on foot supported carrier. All urinals are to be accessible, and all are to be installed at accessible height.
- Urinals that use a disposable liquid sealant cartridge are not acceptable.
- Acceptable Manufacturers include: American Standard, Duravit, Ecotech, Kohler, Urimat, Zero Flush, Zurn

6-3-F Restroom Hand Sink Preferences:

- Sinks may either be **Trough Sink:** B-Shea company- 2CM CAMBRIA HADLEY
- QUARTZ. Or Duravit Washbasin #231060..00/231060..30 23 inch, Alpine WHite
- Restroom faucets are to be cast brass spout infrared sensor operated with maximum 1.5 gallons per minute flow rate and vandal resistant, readily replaceable aerator.
- Basis: Zurn Aquasense Z6913-ACA (other manufacturers; Chicago Faucets, Eljer, Kohler only if approved by Library).



Lavatory faucet

6-3-G Public Craft/Kitchen Sink Preferences:

- Sinks in public areas may be integral with countertop, or self rimming Stainless-Steel counter mounted unit with sound shielding. Sinks are to be single bowl with an approximate length and width of 22 inches and a depth of 10 inches.
- Faucet is to be (lab type) sink mounted with swivel gooseneck spout with one side stop paddle (cold water only) with low flow 1.5 gpm vandal resistant readily replaceable aerator. Provide inline vacuum breaker if hose connection is included. Finish to be selected by designer.
- Basis: Speakman 7114-GB (other manufacturers; Chicago Faucets, Kohler, T&S Brass).

6-3-H Staff Kitchen Sink Preferences:

- Sinks in staff area may be integral with countertop, or self rimming Stainless-Steel counter mounted unit with sound shielding. Sinks are to be double bowl with approximate dimension of 34" W x 22" L x 9" D.
- Faucet is to be (lab type) sink mounted with swivel gooseneck spout with side stop paddles each side (hot & cold) with 2.2 gpm flow and readily replaceable aerator. Finish to be selected by designer.
- Basis: Speakman 7124 (other manufacturers; Chicago Faucets, Kohler, T&S Brass).

6-3-I Staff Shower Preferences (Main Only):

- Locate shower(s) near, but not directly accessible from staff restrooms.
- Use transfer type accessible shower with ½ inch curb, shower pan floor with center drain, and tile to the ceiling on 3 walls.
- Use folding, wall mounted transfer seat with capacity of at least 400 lbs. with satin finish Stainless Steel seat.
- Shower is to provide clothes changing area that includes an accessible approach to the shower. The changing area shall be equipped with clothes hanging rod, shelf and towel bar.
- Provide a hookless plastic shower curtain with weighted bottom fringe with Stainless Steel Rod.
- Fiberglass or plastic shower enclosures are not acceptable.
- Shower controls basis: Speakman SM 3040 (Other manufacturers; Acorn, Bradley, Kohler)
- Seat basis; Swanstone BF2300 (other manufacturers Bobrick, Bradley, Brey-Krause, E.L. Mustee)
- Grab bars Stainless Steel configured per the Georgia Accessibility Code.

6-3-j Interior Water Fountain Preferences:

- Double (dual height) accessible (ADA Compliant) wall mounted fountain Stainless Steel, enamel painted cast iron, or vitreous china with one accessible water bottle filler.
- Stainless Steel construction must be heavy gage resistant to denting.
- Either cold or tepid water fountain is acceptable.



<THE END OF PLUMBING>

7 - MECHANICAL (HVAC SYSTEMS)

The mechanical system is to be designed specifically related to the building that it serves to provide a thermally comfortable interior environment, maintain healthy air quality, and control humidity in order to protect the library collection and other sensitive contents of the building.

Reliability is the highest priority of the mechanical (HVAC systems). The operation of the library facility depends on the continual operation of the mechanical systems. The mechanical system should be as simple as possible; operating with minimal preventative maintenance or intervention by onsite staff. When maintenance is required the system shall be configured for quick diagnosis, and easy access for maintenance or repair. The system should also have a level of redundancy so that if an AHU is down it does not effect the entire facility.

Performance shall be in accordance with environmental parameters set in the design process, based on ASHRAE Standard 55 and the considerations stated in the Building Program related to the specific design of the building, under actual seasonal conditions. Among the design considerations that are important to the performance mechanical systems are energy efficiency and quiet operation.

Security from tampering with the equipment or the operation of the system is critical to the reliability of the system. All components of the system are to be placed in secure locations with robust protection against theft that do not affect the optimal operation or maintenance of the system.

Scope: This portion of the standard applies to Heating, Ventilation, Exhaust, Cooling, Air Conditioning, and humidity controls equipment and all related pumps, piping, air distribution devices and control systems. Relays required for interface with Fire Alarm Systems are to be located and specified as a part of the mechanical system design.

7-1 General System Requirements:

The mechanical systems of the library building will be designed to operate on a daily cycle of control for each zone of the building. The separate zones of the building will include, at a minimum

- (1) Staff zone
- (2) Collections and Reading Rooms Zone
- (3) Entry Lobby and Meeting Rooms Zone

Additional zones may be provided based on sun exposure conditions or separation of spaces within the zones described based on intended use. Each zone will have environmental control set points (temperature, humidity, etc....) for two modes of operation based on whether the zone is occupied or not (open/closed). The entire building will generally operate in occupied mode when the library is open. All zones will generally maintain the set points for occupied mode when the building is open. The day-to-day operation of the system will be based on a timed sequence input from a centralized digital control system with onsite, or remote override capability for each zone.

The parameters for the mechanical design will be established with the designers based on code requirements, considerations stated in the Building Program and the specific design of the building. The mechanical systems will be determined with Life Cycle Cost Analysis as a basis, assuming if practical life

span of the system. Replacement of the parts of the mechanical system must not require major building demolition and repairs. Readily replaceable parts shall be used throughout the system. HVAC equipment should be sized for average load rather than peak load. An energy recovery unit as part of the system should be considered as a life cycle cost option.

Avoid location of any equipment, air intakes or exhaust vents on the roof of the building.

Avoid gas heat. The library does not have any other use for gas utility and does not wish to establish and maintain a gas connection solely for heating.

Geothermal Heat Pump systems may be considered. Geotechnical investigation must be done early in the design to determine the feasibility and configuration of the proposed system. Confirmed incentives that are available for the installation of the proposed system may be included in the life cycle cost analysis.

System warranties are to be considered during design, based on the type of system specified.

7-2 HVAC EQUIPMENT

7-2-A Chiller/Condenser Preferences:

- For A/C loads less 200 tons (but greater than 60 tons), an air cooled, a reciprocating chiller is preferred.
- For A/C loads under 60 tons a split system heat pump with series of large commercial grade, semi-hermetic condensers may be considered.
- Chiller(s) should be mounted on a concrete pad, above grade, adjacent to the building in a location out of prominent view or hearing by the public.
- The chiller, as well as any other exterior mechanical equipment must be protected from unauthorized access with a strong burglar proof enclosure system. The enclosure must include a concrete floor that does not allow entry by digging under enclosure; walls and a lid that are consistent with the appearance of the building, and allows free flow of air required by the equipment.
- Chillers shall have self-diagnostic panel equipped to display chiller water and condenser water temperatures (entering/leaving); Evaporator and condenser refrigerant pressure; Evaporator and condenser water pressure (entering/leaving); Oil pressure and sump oil temperature, motor operation and amperage; read faults. Use Variable Frequency Drive (VFD) on Pumps over 5 HP, unless the system is shown to be more efficient without the VFD. Acceptable Manufactures: Carrier, Johnson/York McQuay and Trane.
- Any chiller design will require redundancy in case of breakdown or routine maintenance.

7-2-B Energy Recovery Unit Preferences:

An energy recovery or heat recovery unit can be considered as part of the mechanical/ventilation system to

increase the efficiency of the HVAC system. The cost of the installation and replacement parts over time must be considered relative to the efficiency of the system.

7-2-C Air Handler Units Preferences:

- The preferred configuration for air handlers is for multiple units to be located in one central mechanical room, serving different portions of the building with short runs of duct work. Otherwise air handlers should be located in separate mechanical rooms central to the chiller.
- Air handler shall be insulated double-wall construction, metal faced construction.
- Set Air Handler on 4" high concrete housekeeping pad with vibration isolators provide as part of the AHU.
- Provide and indicate clearance required for coil and filter replacement and maintenance access to air handlers on mechanical details.
- Filters are to be standard, readily available sizes. Prefer MERV 13 or better filtration.
- Do not install disconnects and related electrical devices on the air handling unit(s).
- Provide condensate drain with cleanouts per ASHRAE 62.1 and per code.
- Acceptable manufacturers; Carrier, Johnson/York, McQuay, Trane.

7-2-D Exhaust Preferences:

- Indicate exhaust in all restrooms and kitchens.
- Exhaust fans not permitted in IDF/Communication closets, AC supply only with an undercut door or door vent.
- Couple or gang exhaust ducts to reduce the number of fans and building penetrations.
- Use centrifugal fan(s) with motorized damper(s) or wall caps located away from public areas. Avoid placing fans or outlets on roof.
- Locate exterior exhaust outlet remote from exterior public areas.

7-2-E Ceiling/Wall Fans Preferences:

- Fans may be considered to supplement air circulation, or as a part of a ventilation system that would operate if the building mechanical system breaks down.
- Consider high volume low speed fans in high bay area's only. Basis of preference; Isis, from Big Ass Fans, other manufactures; Macroaire, Rite Hite, or comparable supplier.
- Small diameter fans may be used on exteriors; covered area must be manufactured for exterior use and must be mounted in locations protected from vandalism.

7-2-F Ductwork Preferences:

- Ductwork is preferred to be run above ceilings low enough to access without extending a ladder above ceiling height.
- Access doors are to be hinged.
- Supply ductwork in concealed locations is to be insulated externally with a vapor barrier jacket.
- Return air is not required to be ducted, however, portions of return air should be ducted to reduce noise. Return air ductwork is to be lined internally with sound attenuating insulation.
- Exposed ductwork must be insulated double wall construction with a paintable exterior finish.
- Avoid using square elbows on supply ductwork.
- Use running vanes in supply ductwork; do not use turning vanes in return ductwork.
- Limit flex duct to straight runs less than 6 feet in length. Flex duct is not to be visible.

7-2-G Air Distribution Device Preferences:

- Fan powered terminal units or VAV boxes shall be located away from noise sensitive areas (including circulation and service desks).
- Provide space to access terminal units and VAV boxes.
- Sound traps are to be provided to transfer air through meeting room walls, and walls between public and staff areas

7-2-H Mechanical Piping Preferences:

- Chilled water piping to be Schedule 40 for pipe diameters 2 inches or less with threaded connections and Ductile Iron with mechanical fittings or welded connection for pipe diameters greater than 2 inches.
- Run mechanical piping above ceiling. Avoid running mechanical piping below slab or grade.
- Specify strainer or filter in front of pumps or bypasses with temporary pumps to protect the equipment during construction.

7-3 ENVIRONMENTAL CONTROL SYSTEM(S) (OR BAS)

7-3-A System General Description:

The Library currently uses several different proprietary controls or building automation systems. The mechanical designers and the Library will confirm the appropriate control system during design. The controls must be consistent with the Library's Energy Management Strategy. The following is a system description:

The system is intended to provide direct digital control of multiple building/facilities including such building functions as HVAC, alarm systems, along with lighting, door access and fire alarm systems. The control system shall be web accessible, and shall be capable of displaying, printing and archiving current, and historical data regarding the operating functions listed above.

The system is to include software, controls hardware, input/output devices, wiring and control power, actuators for dampers, valves, and equipment, operations and maintenance training, special maintenance tools and warranty.

The direct digital control Building Automation System (BAS) shall have open protocol (BACNET) compatibility. The system shall be built of standard components that can be replaced within 48 hours. The system shall not require any customizing of the hardware.

If an "integrator framework" is considered to link various building control systems and devices into one interface, then the framework will be considered for multiple projects to reap the benefit of a unified interface.

The BAS system display should be menu-driven graphical interface that groups all controlled or monitored elements in a clear and logical system. The system display shall have tutorial prompts for zone-by-zone control of temperature, scheduling, and equipment failure reporting for each facility under control. Individually assigned password security system to prevent unauthorized use shall be written into the software with at least 4 levels of access/control responsibility.

7-3-A-1 System Architecture: The system shall be modular architecture, permitting expansion through the addition of processing units, input/output devices, sensors, actuators and control stations.

- Onsite controls shall not be dependent on external communication. Control station shall not be necessary to sustain building operation.
- Controller point monitoring must have the capability to process at the full range of possible input protocols (including binary, analog, floating point)

7-3-A-2 Basic System Functions:

- Equipment monitoring and alarm function including information related to diagnosing equipment problems.
- Automatic outbound dialing with emergency escalation.
- Time based scheduling controls and holidays on facility on a global basis
- All system points programmed to report alarm conditions identifying facility location and point location.
- Display set points, adjustable settings for alarms, and preset overrides for equipment controls.
- Auto-reset without operator intervention.
- Individual controllers shall be programmed to override schedule or energy efficiency settings and be preset amounts so that equipment will not be damaged, and/or health and safety compromised.
- Various programmable alarm notices. microprocessor and batter power supply with automatic converter

7-3-A-3 Controllers/ Sensors: Controllers and sensors shall operate on building electric current; a program control station shall have its own maintain operation in stand-alone mode for 48 hours. Upon restoration of power, the control unit shall resume full operation without operator intervention.

Sensors that are vandal resistant shall be in each zone of public areas with no on-the-spot control function. Finish of housing is to be Stainless Steel US-32D.

Controllers shall operate as a part of the building-wide control system and as an independent entity when not in communication with other controllers or the control system.

Minimum Set Points: The following commands, display and data shall be available at operator terminal or connection:

1. Set points (for occupied or un-occupied mode and Summer/Winter mode)
2. Air Handler Unit Status/Control
3. Heat exchanger, energy recovery unit status
4. Fan status/control (w/ percent of full speed measure)
5. Outside air temperature
6. Mixed air temperature
7. Supply air temperature
8. Return air temperature
9. Coldest and warmest zone
10. Static pressure of ducts, FTUs or VAV boxes
11. Freeze protection status
12. Alarms (temperature, airflow, pressure)

13. VFD (Output)
14. Damper position (with percent of full open)
15. Valve Positions (with percent of full open)
16. Pump status/control

Acceptable Manufacturers; Siemens/Johnson, Trane,

See other sections of the standard guidelines for functionalities other than mechanical operation (such as lighting, power).

7-4 Identification Pipes & Valves:

1. Stencil paint or use permanent adhesive back vinyl sign to identify type of service and direction of flow.
2. Place arrow indicating direction of flow near all valves on chiller piping and water supply piping.
3. Letter size should be large enough to be readable by a person standing on the floor.

7-5 System Start-up

Hydronic System Cleaning:

1. Design engineer to specify and detail thorough flushing and cleaning of the hydronic piping system to be performed prior to system operation.
2. Remove construction strainers and protection of existing equipment.

Air Handling System Cleaning:

1. Replace all air filters after the final rebalancing of the mechanical system.

7-6 System Test & Balance

TAB Preferences:

1. The Architect's mechanical designer is to provide detailed specifications for Testing and Balancing (TAB) and adjusting of the mechanical system. This work shall be clearly indicated to be included in the construction contractor or Construction Manager's scope of work.
2. The TAB is to be provided by a firm certified by the National Environmental Balancing Bureau (NEBB) or the Associated Air Balance Council (AABC). The TAB scope of work is to be coordinated with the scope of the Architect's Commissioning Agent and the LEED certification process.
3. The TAB firm shall not be associated with the design or construction of the project in any other way but the TAB.
4. The test shall begin immediately after equipment has been started and re-balanced prior to Substantial Completion.

5. Mechanical systems are to remain in full operation once TAB is started.
6. Re-Balance and Re-test(s) shall be performed after the building has been occupied for a period less than 30 days to rebalance the system to meet required temperature settings based on actual occupied conditions.
7. The TAB firm shall schedule two visits after the rebalance in order to make seasonal adjustments.
8. The installation shall not be considered complete until a final report has been submitted by the TAB firm and by the Architect.
9. Specify distribution panels with a minimum of 10 percent space capacity.
10. Branch panels may be flush mounted on walls in staff areas. Otherwise, branch panels are to be in lockable closet(s).

<THE END OF MECHANICAL (HVAC SYSTEMS)>

8 -ELECTRICAL

The electrical system is to be designed to safely (per NFPA 70 & NEC) provide power to the facilities of the Library, including lighting, mechanical and Library equipment used by the staff and the public. The function of the lighting and portions of the power system will be controlled by a Building Automation System. Power may be required for access control doors with electrified trim. It will be important to coordinate the electrical design with many other related Consultants (Communication, security, ...etc.....).

The design for the power distribution and lighting systems must reflect the county's commitment to energy-efficiency in operation of Library facilities.

8-1 Power

8-1-A Electrical Utility Connection Preferences:

1. Clarify location of transformer with utility provider. Locate away from public access and close to the electrical switchgear to reduce the length of the secondary connection as much as possible.
2. Maintain clearances around transformer as required by utility provider.
3. Clarify scope of transformer installation in the design phase. Detail any items needed to set the transformer that are not provided by the utility provider.
4. Secondary power connection is to be run in rigid steel conduit buried a minimum of 48 inches deep with warning tape buried above. Radius bends conduit twelve times the diameter.
5. Use COPPER conductors enough to carry the electrical load for service connection.
6. Exterior Building Lightning protection is not specifically required. If lightning protection is provided it shall be detailed on drawings. Grounding is required per NEC requirements and IEEE guides for the type of system.

8-1-B Main Electrical Room Preferences:

1. Provide dedicated electrical room for location of main service disconnect, distribution panels (switchgear) in a high and dry location. The electrical room is to be accessible from the interior of the building.
2. Main Electrical Room is to be sized to fit panels and equipment required, in accordance with NEC requirements. Provide wall and floor space for two (2) additional future panels equal to the size included in the design.
3. Install submeters on all equipment that contributes to 10% or more of the building's electrical load (ie: Chillers, Elevators, etc.)

8-1-C Electrical Panel Preferences:

Specify labeling of panel with plastic engraved sign above panel doors and machine printed letters on adhesive-back table with circuit information on the inside of panel door indicating circuit number, amperage of the circuit and the utility served. Install panel boards and accessories in accordance with NEMA requirements. Specify insulation resistance test for each panel board, bus, feeder and control circuit.

Accepted manufacturers: Cutler-Hammer, General Electric, and Square D.

8-1-D Raceway and Conductor Preferences:

1. All interior power conductors are to be jacketed copper wire listed and labeled by a nationally recognized testing laboratory. Wire up to No. 10AWG is to be single solid, large wire is to be stranded.
2. All power wiring is to be run in conduit or duct with appropriate fittings.
3. Conduit is not to be exposed outside the utility room (electrical, mechanical, janitorial).
4. Conduit installation is to be organized. Similar runs are to be grounded and ran parallel.
5. Conduit is to be vertically and horizontally square with the structure.
6. Specify conduit and raceway to be galvanized. Secure conduit to structure with support system, clamps or split ring hangers.
7. Conduit is to be loaded per NEC guidelines (40%). Provide full length pull string in empty conduit.
8. Site conduit per NEC 300-5 with trace tape.

8-1-E Pull and Junction Box Preferences:

1. Boxes shall be galvanized metal conforming to NEMA OS 1 with screw-on cover plate.
2. Boxes are not to be installed back-to-back, provide 6 inches of separation between boxes on opposite sides of the wall.
3. Secure all boxes to substrate or to stud/joist on each side if located in frame wall.
4. Floor boxes shall be set so the face plate is level and flush with finished floor and shall be tamper resistant. Boxes will need to be coordinated with IT for future use.

8-2 Lighting

Refer to the building program for lighting philosophy and desired levels. Glare is a major concern for reading, and computer use. Task lighting will be selected with the development of the Furniture, Fixtures

and Equipment Design.

8-2-A General Design Considerations:

- Consider maintenance, including bulb, ballast or fuse changing in the design. Do not locate lamps that require tall ladders or lifts to change bulbs/lamps.
- Use standard light fixtures with readily replaceable lamps, lenses, ballasts. Fixtures that require the replacement of the entire fixture rather than the damaged component are not to be specified.
- Unless otherwise avoidable, or against code, all lighting is to be LED based.
- Avoid mercury-vapor light fixtures. Incandescent lighting should be at a minimum, if at all.
- Emergency lighting is to be provided for all means of egress at the level of illumination and duration required by code. Use Emergency Ballast with battery back-up to provide power for required lighting to lights normally AC powered. Emergency ballast is to be “no maintenance product the charge indicator light for battery and test switch. Emergency pack “bug-eye” type lights are not preferred.

8-2-B Lighting Controls Preference:

- All lighting shall be connected to a lighting control system that can be controlled remotely through the web-based Building Automation System or by onsite switches.
- The Central onsite controls should be centrally located in staff-controlled location determined by the architect and engineers for each project.
- Where occupancy sensor/motion detection is called for in the building program for lighting control; provide ultrasonic type ceiling mounted sensors.
- On/Off Light Switches are to be grey toggle with Stainless Steel US32 cover plate.
- Dimmer Switches, where called for in the Building Program, are to be grey slide, with preset graduations, with a grey plastic molded cover plate.

8-2-C Exterior Lighting Preferences:

- Specify building mounted or pole mounted LED with cut-off so no lighting is projected above horizontal.
- Except where design requirements dictate otherwise, provide standard box/cylinder type fixture mounting, on a ±20-foot aluminum pole, finish to be selected by architect.
- Consider mature tree growth in lighting fixture placement.
- Select light fixtures to allow re-lamping to be accomplished quickly without specialized tools.
- Lighted bollards, and façade/up-lighting of the building or trees is discouraged.

8-2-D Office/General Lighting Preferences for Suspended Ceilings:

- Low profile 2x2 lay-in type fixtures with parabolic reflectors or LED troffer.

8-2-E General Collection (Shelving) Areas:

- Pendant Mounted linear LED indirect (up light) fixtures with some down lights for shelf lighting.

8-2-F Down Lighting Preferences:

- Recessed or surface mounted down LED lights are to be specified for down lighting.

8-2-G Exit Signage Preference:

- Edge lit LED product on clear/mirror media with green letters and battery back-up power in compliance with Life Safety requirements.

- Consider visibility in the direction of egress travel when locating signs.
- Basis of preference is Lithonia EDG, other acceptable manufacturers; Juno, Light controllers, many others

8-2-H Outlet and Switch Plate Preferences:

- Wall mounted outlets and switch cover plates are to be Stainless-Steel, US32D finish with matching screw mount.
- Toggles and outlets connected to normal power are to be grey (Emergency power is to be red).
- Wall mounted telecommunications outlets are to be 4-port with 2 integral labels holders with telephone jacks color grey, and data jacks color black.
- Floor boxes and electrical and data will be specified by IT Department.
- Print the circuit for each electrical outlet on the back side of the cover plate.
- See Lighting Controls Sector of this guideline for light switch designation.
- Locate switches for general lighting in staff-controlled areas.

8-2-I Low Voltage Cabling Preferences:

- The use of low voltage cabling falls under the responsible of OCLS's IT Department. Specific standards for the equipment, wiring and other hardware can be found as an attachment 11 (IT Department Standards).

<THE END OF ELECTRICAL>

9 -FIRE PROTECTION & FIRE ALARM SYSTEMS

The Fire Protection and Fire Alarm Systems are to be design specifically to meet or exceed life safety requirements of authorities having such jurisdiction over the project. These guidelines are to be followed to the extent they do not overrule local requirements.

9-1 FIRE PROTECTION

9-1-A System Design Preferences:

- Automatic fire protection is assumed to be necessary in all the facilities included in this program. The designer should review any consideration of omitting fire protection as part of the design with the Library prior to negotiating with the local code authority.
- The preferred automatic fire protection system is wet pipe system with a separate metered water connection and flow switches on feeder lines that are tied to the fire alarm and electronic Building Automation System (BAS).
- The design drawings should include the locations of the following components of the Fire Protection System (for review and approval by the Library):
 - Fire Department Connection(s)
 - Pump(s), where required
 - Manual Valves
 - System Drains
 - Inspection Station(s)
- Assume the design drawings are to include location of main lines with all sprinkler heads located. Piping design of the feeder lines, and laterals and final hydraulic calculations may be deferred to construction. Submittal requirements for deferred design is to be specified in detail.
- Maximum length of flexible piping is 5 foot.

- Design systems to easily accommodate expansion of the library. Verify the extent of future expansion with the Library prior to beginning of design.
- Designer is to define hazard level based on understanding of the Library Program. Ordinary Hazard is expected for this facility.
- Coordinate required signage for the system with Wayfinding Consultant.
- The system is to be designed to conduct water with no additives such as glycol, and anti-freezing agents.

9-1-B FP System Product & Installation Preferences:

- Wall mounted fire department connection (FDC) near the fire protection service entrance to the building with rough chrome finish is preferred unless AHJ prefers free standing type.
- All piping is to be hot-dipped galvanized, black iron pipe designed for applicable pressure. Thin wall or plastic pipe is not acceptable.
- Insulate fire protection where required by exposure.
- Welded, screw threaded, or roll-groove (Victaulic) pipe connections are acceptable.
- All sprinklers are to be quick response UL and/or FM approved products.
- Typical Sprinkler heads are to be quick response frangible or fusible, semi-recessed with a chrome body and white ceiling cup.
- Fully recessed sprinkler heads shall be quick response with flush cover plate to match ceiling finish.
- Upright sprinkler heads are to be rough brass body.
- Paint all fire protection piping exposed to view in public areas.
- Basis of preference for sprinkler heads are Tyco, Reliable, or Viking.

9-1-C System Testing Preferences:

- All testing required by the local authority (AHJ) are to be included in the specifications.
- Testing is to be witnessed and/or results are to be reviewed by the Architect and Library representative for construction.
- The Architect is to deliver a letter to the Library representative prior to final completion stating that the Fire Protection System has been tested according to the specifications, and that no deficiencies were found.

9-2 FIRE ALARM

9-2-A System Design Preferences:

- Each Library is to be equipped with an automatic fire detection and alarm system (Silent Knight is the preferred system). This system is to be connected the Building Automation System (BAS) to provide supervisory control and status as outlined in these guidelines.
- Design is to provide location of Fire Alarm Control Panel, surge protection and secondary (battery back-up) power supply, and all detection and notification devices.
- Dual rate battery charger with low voltage and defective cell alarms and amp meter.
- All addressable loops have loop isolation protection devices to maintain partial fire alarm system integrity should a fault occur. A loop isolation device shall not exceed 20 devices.
- A maximum of 80% capacity of initiating devices is allowed per loop. Additionally, the system shall easily accommodate a future addition to the building. Power supply/Battery to be designed for ultimate number of devices.

- All fire alarm system wiring is to be run in dedicated raceway/conduit system.
- Fire Alarm Control Panel (FACP) is to be specified to be provided with permanent labels. Writing on tape or adhered paper will not be acceptable.
- All components of the system shall be standard, readily replaceable parts.

9-2-B FA Detection Device Preferences:

- The type of detector and the sensitivity of the detector is to be set specifically for its application. The vendor shall verify that the sensitivity/configuration is in accordance with their recommendations.
- Protect Smoke and Heat detectors from dust during construction.
- Testing is to be witnessed and/or results are to be reviewed by the Architect and Library representative for construction and AHJ, when required.

9-2-C FA Notification Device Preferences:

- Strobes and speakers/horns should be combined in one device where both are required.
- Ceiling strobes and horns are preferred to wall mounted. Finish is to be white.
- Fire Alarm notification devices are to be design in terms of addressability, loudness, brightness, and weather resistance required by code for the conditions in which the device is installed.
- Manual pull stations are to be point addressable, surface mounted, double action device in red housing with white letters or another color that contrasts with the wall on which the pull station is mounted. Basis of preference is Silent Knight PS-SATK. Other acceptable products Edwards, Kidde, Potter, Simplex Grinnell. The FACP is to indicate which station was pulled until manually reset.

9-2-D FA Control Device Preferences:

- Flush mounted Fire Alarm Control Panel (FACP) is to be installed near building security controls. The FACP shall be software controlled with the capability of owner programming.
- The FACP shall have audible and LED display indicating "Alarm", "Trouble" and "Supervisory" conditions with each have a separate distinguishable sound. The FACP shall communicate alarm, status and controls off-site via digital communication with electronic building management system.
- Pre-set "Fire Drill" function.
- Auto reset capability for controlled systems.
- Bypass function for specific controlled systems.
- Locate power supply/battery with control panel.
- FACP Basis: Silent Knight (Honeywell), other acceptable manufacturers include Simplex 4100ES, Edwards, Potter.

9-2-E FA Testing Preferences:

- Specify function tests to verify the compliant operation of the following:
 - Smoke and/or Heat Detectors
 - Duct Detectors
 - Flow Switches
 - Strobes and/or Horns
 - Magnetic Releases
 - Relays (including AHU shutdown, Fire Protection, Elevator Recall, Exhaust Fans).
 - Panel and Remote Operation
- Specify test to verify system functions according to the specifications regarding the following:
 - Decibel level of audible devices

- Transition from AC to battery power
- The Architect is to deliver a letter to the Library representative stating that the Fire Alarm System has been tested according to the specifications, and that no deficiencies were found.

<THE END OF FIRE PROTECTION AND FIRE SYSTEMS>

10. Video Surveillance and Badge Access

10-1 General:

- Cameras must be compatible with VI Monitor viewing system.
- Cameras are to be placed to provide the most coverage with the least number of cameras needed.
- Cameras must have their own dedicated network switch.
- Camera NVR must be able to hold at minimum thirty days of history for existing cameras with additional room for expansion.
- Camera NVR and network switch are to be connected to an uninterruptable power system.
- All wiring run for cameras is to CAT 6E or better and white in color.

10-2 Interior Cameras:

- Interior security cameras are to be Panasonic WV-U2540L network camera or equivalent.
- Interior cameras at a minimum should be 4MP
- Have a fixed focal length
- Have an Ethernet 10Base-T/100Base-TX interface with a RJ-45 network port.

10-3 Exterior Cameras:

- Exterior cameras should be Advidia B-51 Vandal and Weather proof camera or equivalent.
- Camera should be at a minimum 4MP.
- Camera must be vandal and weather proof.
- Must have day and night capabilities.
- Have an Ethernet 10Base-T/100Base-TX interface with a RJ-45 network port.

10-4 Badge Access:

- Badged access must be used to access non-public space
- The Library uses Keri system with PVC proximity card format H10301/26bit facility code 12
- Current standard card readers is HID Thinline Proximity Reader
- Current standard card reader controller is SPM-LP 1502.
- Access Control switch gear can be co-located in the Communication Closet with other data connectivity.
- Access Control sever has to be located in its own secure and HVAC controlled area (Main Only)
- Two badge making machines are required at Main only, one in HR and one in Facility Operations.

11. Information Technology Standards

11-1 MDF Room

- Climate optimal temperature range is between 68 and 71 Fahrenheit and should be installed according to directional data rack inlet/outlet placement.
- MDF to have AC supply only, no exhaust fan or return.
- In a data center or computer room, maintaining ambient relative humidity levels between 45% and 55% is imperative.
- The allowable range for dew point standards is between the limits of 41.9F and 59F.
- Three 3" pass-through conduits from any ground floor external services demarcation room/location into the Communications room to accommodate dedicated services.
- Four separate dedicated 30amp power circuits within the MDF to accommodate dedicated voice, data, video systems and networks (120/220 volt services & associated receptacle types dependent on specific requirements). Circuits are to be connected to the emergency generator via an ATS switch. UPS power supply to last 1/2 hour minimum also required.
- All external building devices shall have inline surge and/or lightning protection on the device or the cabling connection from the device.
- BAS system to set off an alarm/alert when temperature exceeds 75 degrees.
- Accommodations for the distribution of cable television services can be located within the MDF room. RG6 Coaxial cable for this purpose will be installed throughout the space as part of the facility construction.
- Communications room wall shall be covered with a minimum 3/4" 4'x8' piece of plywood finished with fire-retardant paint.

11-2 IDF Communications Closet

- Secured and climate controlled spaces required
- IDF to have AC supply only, no exhaust fan or return.
- Centralized 10'x15' space on ground floor as Main Distribution Frame (MDF) for primary distribution for voice, data and video services.
- Centralized 10'x10' space per 10,000 sq ft of total space on every other floor at Main and ground floor for branch locations for Intermediate Distribution Frame (IDF) for local distribution.
- Climate optimal temperature range is between 68 and 71 Fahrenheit and should be installed according to directional data rack inlet/outlet placement.
- In a data center or computer room, maintaining ambient relative humidity levels between 45% and 55% is imperative.
- The allowable range for dew point standards is between the limits of 41.9F and 59F.
- Recommended locations to minimize impact on Local Area Network wiring distances.
- Three 3" pass-through conduits from any ground floor external services demarcation room/location into the Communications room to accommodate dedicated services.
- Two separate, dedicated 30amp power circuits within each IDF, connected to emergency power supply via ATS Switch. UPS power supply to last 1/2 hour minimum also required.
- One common ground buss bar within the communication room shall be grounded as required by the NEC Article 250 and any local code in effect.

- All ferrous/nonferrous metal cables or connections to the communications closet from an outside entity such as device(s) on the roof of the building, connected to flag poles or any other location should be properly grounded according to the State of Florida Building Codes.
- All external building devices shall have inline surge and/or lightning protection on the device or the cabling connection from the device.
- Accommodations for the distribution of cable television services can be located within the communications room. RG6 Coaxial cable for this purpose will be installed throughout the space as part of the facility construction.
- Communications room wall shall be covered with a minimum ¾" 4'x8' piece of plywood finished with fire-retardant paint.
- Finished/drop ceiling
- Sealed/non-static floor covering.
- Communication Closet should be located at least ten (10) feet from nearest water pipes with no water source directly above the communications room with respect to the fire suppression codes.
- Access control/security system primary facility controls can be located within the communications room. Individual electronic card readers, switches, locks, etc. will be installed throughout the space as part of the facility construction to OCLS specifications.
- MDF and IDF's should be vertically adjacent/stacked floor to floor at Main.

11-3 Server Room

- Climate optimal temperature range is between 68 and 71 Fahrenheit and should be installed according to directional data rack inlet/outlet placement.
- In a data center or computer room, maintaining ambient relative humidity levels between 45% and 55% is imperative.
- The allowable range for dew point standards is between the limits of 41.9F and 59F.
- BAS system to set off an alarm/alert when temperature exceeds 75 degrees.
- Three 3" pass-through conduits from any ground floor external services demarcation room/location into the Communications room to accommodate dedicated services. Raised flooring preferred to allow for clean data cable runs.
- Four separate dedicated 30amp power circuits within the Server Room to accommodate dedicated voice, data, video systems and networks (120/220 volt services & associated receptacle types dependent on specific requirements). Circuits are to be connected to the emergency generator via an ATS switch. UPS power supply to last 1 hour minimum also required.
- All external building devices shall have inline surge and/or lightning protection on the device or the cabling connection from the device.

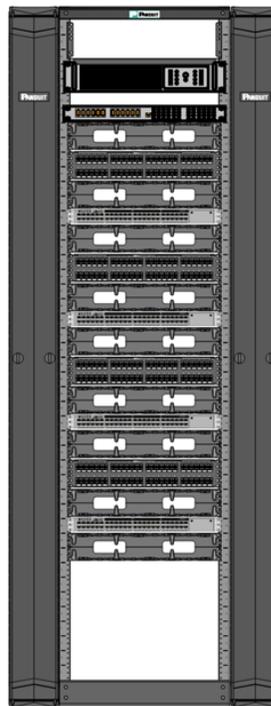
11-4 Cabling Standards

- The data wires will be connected to individual jacks conforming to the T568A configuration. All data wires will be terminated on a CAT 6A patch panel located in the communications room. Data jacks are to be orange in color.
- All jacks, patch panels and wiring blocks will be labeled as designated and tested for standards compliance. Assign identifiers to each cable from a given telecom room using letters starting with the letter A. Hand written labels are not acceptable. Multiple jacks in the same plate shall be Axxx and Bxxx.

- OCLS standard voice/data infrastructure parts:
 - Cat 6A jacks-or-S225E00 (2-rj45 T568a/b)
 - Surface mount outlet box OR-40300185
 - Blank module OR40300164
 - Single gang faceplate OR40300158
 - Dual gang faceplate OR40300159
- Cat 6A patch panels sized to meet needs for voice/data jack counts. The patch panels shall be rack-mount type and shall be installed in an equipment rack.
- Standard 20 inch, 45U communication rack, with 6-inch vertical wire management at each side, including ladder sections secured to a communications room wall, must be bolted to the floor, properly grounded as required by the NEC article 250 and include appropriate vertical and horizontal wire management features. Will need to accommodate at least 22 inches behind the rack to account for network switch depth.
- Power outlet high enough behind the rack to be reachable by the UPS power cable. Typically, 8 foot cord length from the back of the UPS.
- All cabling shall be Cat 6 or better.

45U 2-Post Rack

-
- 3U Rack Shelf
 - 2U Network UPS
 - 1U Free Space
 - 1U WLAN Router
 - 2U Horiz Wire Mgmt
 - 2U 48-port Patch
 - 2U Horiz Wire Mgmt
 - 1U Data Switch
 - 2U Horiz Wire Mgmt
 - 2U 48-port Patch
 - 2U Horiz Wire Mgmt
 - 1U Data Switch
 - 2U Horiz Wire Mgmt
 - 2U 48-port Patch
 - 2U Horiz Wire Mgmt
 - 1U Data Switch
 - 2U Horiz Wire Mgmt
 - 2U 48-port Patch
 - 2U Horiz Wire Mgmt
 - 1U Data Switch
 - 2U Horiz Wire Mgmt
-



6" Vert Wire Mgmt on each side, front and back.

Network Rack Layout Example

11-5 Displays

Minimum Standard Specifications:

- Samsung TV with built in wifi and Smart TV turn on and off options.
- 75" screen size, TV depth not to exceed 6".
- Low-profile bezel.
- Device shall support both vertical and horizontal orientation.
- IR and remote lockout functions.
- HDMI-CEC
- 4 HDMI input ports located on the rear, not the side.
- 1 audio out port (e.g. for sound bar).
- LED-backed screen.
- Energy Star certified.
- 1080p resolution.
- 16:9 aspect ratio

12 Crime Prevention Through Environmental Design (CPTED)

The Orange County Library System wishes to thank the City of Orlando for sharing these crime prevention design tips which they developed. The City's CPTED has been slightly modified to fit the needs of the Library.

What Is CPTED:

Crime Prevention Through Environmental Design (CPTED) is a set of crime reduction principles. CPTED emphasizes the proper *design* and effective *use* of the built environment to reduce crime and enhance the quality of life. There are overlapping strategies in CPTED that apply to any development: Natural Surveillance, Natural Access Control, Target Hardening and Territorial Reinforcement.

12-1 Natural Surveillance Strategies:

- Lighting plays a very important role in CPTED. It is crucial that lighting sends the right messages to the public about the safe and appropriate use of space at different times of the day and night.
 - All lighting shall meet or exceed the guidelines in City/County Code.
 - In order to create a sense of safety, pedestrian-scale lighting should be used in all high-pedestrian traffic areas to include building entrances, pedestrian promenades, parking facility entrances, common areas, parks spaces/courtyards, walkways and service areas.
 - Appropriate lighting should be included in all areas anticipated to be used after-dark.
 - Lighting should not be screened out by landscaping or building structures such as overhangs, awnings and tree canopies.
 - Uniformity of light is crucial to avoid 'dark' spots, especially in parking areas, service and dumpster enclosures.
 - Any illumination shall not cause a glare or excessive brightness that adversely affects the vision of pedestrians or motor vehicle operators on public or private property.

- Pedestrian walkways, back lanes and access routes open to public spaces should be lit so that a person with normal vision is able to identify a face from 30 feet away during nighttime hours.
- Lighting fixtures should be shielded or full-cutoff, reliable, easy to maintain, withstand the elements, and be vandal-resistant.
- If there is a wall or opaque fence around the parking facility, at a minimum the gates should meet CPTED, see-through standards.
- The use of anti-graffiti coating or liquid repellent paint on the walls is a good option to discourage unwanted behavior in these areas.
- Convex mirrors or reflective materials can also be used throughout the facility at interior corners or to enhance surveillance around blind corners, low traffic areas, or hallway intersections.

12-2 Natural Access Control Strategies:

- Entrances should be clearly defined by walkways, signs, and landscaping. Landscaping used around entrances should create clear way-finding, be well lit and not impede site lines or create ambush points.
- There should be no easy access to any roofs on the property.
- Way-finding should provide clear guidance for authorized users while discouraging potential offenders. Signs should clearly indicate - using words, international symbols, colors and maps - the location of authorized entrances and exits to the substation from the facility lobby and exterior, emergency access and authorized parking.

12-3 Target Hardening Strategies:

- Doors leading from the exterior, lobby, offices, and common areas should contain a minimum 180° viewers or small windows with security glass, interior or security hinges, single cylinder deadbolt locks with a minimum one-inch throw, metal frames with three-inch screws in the strike plates, and be made of solid core material.
- The facility must be included in the uniform access control system for the property and contain a video surveillance system at all access points. Only authorized personnel should have access to the facility after hours and in restricted areas. All doors or gates with access to the facility should have locks that have an option to automatically lock when closed.
- The alarm or security system is installed, each unique space should be clearly identified with a monitoring center and should be regularly tested and maintained by the authorized users. During working hours, commercial alarm systems should be programmed so that a short beep is sounded if an exterior door opens or is left open for a predetermined amount of time.
- The facility must be covered by the video surveillance system of the property and should be capable of recording and retrieving an image to assist in offender identification and apprehension. Cameras should be mounted at an optimal height to capture offender identification. Cameras should be considered in

several locations throughout the parking areas, all entry and exit points, any outdoor seating areas and anyplace with limited or no natural surveillance such as sheer walls.

- Non-public access points should always be kept locked from the outside. Internal business policy should prohibit the “propping open” of exterior doors.
- Tempered, impact resistant, or security glass must be used for all large glass doors and windows around throughout the facility. Impact resistant glass must be included in the following areas:
 - All doors leading to restricted areas into and within the facility.
 - Barriers and framing throughout the facility.
 - Any transparencies and fiberglass used within the facility.

12-4 Territorial Reinforcement Strategies:

- Fences can add security, delineate property lines, allow transparency for surveillance, be unobtrusive, and create a sense of community. CPTED no-climb fencing made of commercial grade steel or iron is a good option to consider around the facility. This fencing should include vehicle (and possibly pedestrian) gates that are part of the overall access control for the property.
- A landscape buffer *which includes hostile vegetation or security landscaping* can be used to further delineate public from private spaces. The fencing and landscape buffer may be used together to further define and control spaces.
- Bollards are a good feature for discouraging or controlling access. Use bollard styles that are appropriate for the application; that is, bollards designed to stop vehicle traffic are a different density and strength than those used to direct pedestrian flow. Bollards can also serve a dual purpose when incorporated with lighting and/or way-finding. They can be used in key locations around the property to protect pedestrians, life-safety elements, critical utilities and control or direct traffic.