MULTICARE GOOD SAMARITAN HOSPITAL KITCHEN

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DIVISION 01 – GENERAL REQUIREMENTS

01 10 00 – SUMMARY

A. The Project includes materials, labor, transportation, security, temporary facilities, and other items identified in, or reasonably inferable from the construction Drawings and these Specifications.

B. Definitions: For purposes of clarity within these specifications, the following definitions apply:
1. "Tenant": Capitalized term referring to Architect's client.
2. "Building owner": Not capitalized term referring to that entity or its representative.

C. Project Information:
1. Project Identification: MultiCare Good Samaritan Hospital Kitchen
a. Project Location: 401 15th Ave SE,
Puyallup, WA 98372

2. Building Owner: MultiCare Health System
315 Martin Luther King, Jr. Way,
Tacoma, WA 98405

a. Owner's Representative: Turner & Townsend
920 Fifth Avenue,
Seattle, WA, 98104
Contact: Jennifer Everett
Jennifer.Everett@turntown.com

b. Contractor: Abbott Construction
3408 1st Ave S,
Seattle, WA 98134

D. Work Covered by Contract Documents:
1. The Work of the Project is defined by the Contract Documents and consists of the following:
a. Tenant Improvement Office
2. Type of Contract:
a. Project will be constructed under a single prime contract.

E. Construction Drawings:
1. Architectural and Engineering Drawings are complementary to each other. Contractor, Subcontractors, and vendors shall accept Architectural and Engineering Drawings and include all work necessary to achieve a complete working installation for any device or equipment which may be shown on one Drawing but not shown on another. Subcontractors are not permitted to exclude portions of the complementary Drawing subset.
2. Where elements are indicated or described in any Drawing, it is the intent that all related construction associated with such elements is to be included in order to result in a complete installation. The same criteria apply to demolition and new construction.
3. Dimensions shown are finish face to finish face unless noted otherwise.
4. Vertical dimensions shown are above the finished floor or below finished ceiling unless noted otherwise. When the floor elevation varies at locations where elements horizontal to the floor plane are to be installed (such as millwork, drywall, soffits, movable or demountable partitions, etc.), the vertical dimension shown is to be maintained at the point of highest floor elevation and the element is to be installed level. Where the floor elevation varies greater than 1/4 inch in 10 feet, obtain a clarification from Architect regarding the height above the floor that the element in question is to be installed.
5. Architectural locations and dimensions shall take precedence over Engineering Drawings for locations of wall and floor outlets, light fixtures, plumbing fixtures, and other similarly noted items. Floor outlets are to be located by dimension. No outlets are to be installed back-to-back (offset by one stud). Unless noted otherwise, new wall outlets in walls abutting the exterior enclosure are to be located per typical dimensions indicated on plan (from face of exterior enclosure drywall sill). All other outlets are to be scaled for location unless dimensioned or noted otherwise.

F. Specifications: Imperative language is used generally in the Specifications. Except as otherwise indicated or specified, requirements expressed imperatively are to be performed by Contractor. For clarity of reading at certain locations, contrasting subjective language is used to describe the responsibilities which must be fulfilled either indirectly by Contractor or, when so noted, by other entities as indicated.

G. Owner-Furnished Work:
1. Items noted NIC (Not in Contract) will be supplied and installed by building owner, Contractor or others as indicated, concurrent with or after Substantial Completion.

H. Project Warranty: Refer to the Construction Services Agreement for warranty provisions applicable to this Contract.
1. Project warranty period is governed by the State in which the Project is located state statutes and other provisions of the Construction Services Agreement.

I. Tenant Occupancy During Construction: The project Tenant may occupy all or a portion of the work area, and other tenants may occupy adjacent portions of the existing building during the entire construction period.
1. Construction Operations: Minimize interference with normal functioning of building and occupants.
2. Limit noise. If construction activities produce noise which is detrimental to the operation of the facility, schedule these activities during non-occupied hours.
3. Do not impede emergency building evacuation with construction, equipment, materials, and procedures at building entrances and exits.
4. Protect entrances, exits, walkways, and other areas in the vicinity of construction.
5. Except as specifically indicated in the Contract Documents, do not permit interruption of mechanical and electrical services, shut down of building systems, services, and utilities without prior approval of building owner or Owner's Project Manager.

J. Construction Operations: Limited to tenant finish lease space indicated on Drawings, unless otherwise specifically indicated on Drawings.
1. Additional work scope may include but not be limited to multi-tenant corridors, minor exterior or roof-top improvements, and other non-tenant common area as specifically noted on Drawings; identify cost of such work scope separately from tenant finish lease space.

K. Delegated Design: Design of building systems, or components of systems, specified to be provided by Contractor. See Section 01 40 00 for additional delegated design requirements. Systems, or components of systems, include:
1. Acoustical ceilings
2. Mechanical systems.
3. Plumbing systems.
4. Electrical systems.
5. Fire sprinkler systems.
6. Fire alarm systems.
7. Telecommunications systems.
8. Ceiling system including suspended system and seismic restraints
9. Other electronic safety and security systems indicated on Drawings.

L. Contractor Duties:
1. Except as specifically noted, provide and pay for:
a. Labor, materials, and equipment.
b. Tools, construction equipment and machinery
c. Water, heat, and utilities required for construction.
d. Other facilities and services necessary for proper execution and completion of work.
e. Testing

M. Comply with all applicable local Building Codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance of Work.

01 20 00 - PRICE AND PAYMENT PROCEDURES

A. Applications for Progress Payments:
1. Payment Period: As stipulated in construction Services Agreement, or as otherwise specified in Tenant's lease.
2. Form: Contractor's electronic media driven form acceptable to Owner, including continuation sheets when required.
3. Execute certification by signature of authorized officer.
4. Use data from the approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed.
5. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.
6. Provide backup data as necessary for Architect to review Applications for Payment. If multiple items must be tabulated to arrive at a scheduled value, provide a worksheet to indicate these calculations.
7. Submit e-mail digital copies of each Application for Payment.
8. Include the following with the application:
a. Construction progress schedule revised and current as specified in Section 01 30 00.
b. Unless otherwise restricted by Tenant's lease agreement, provide conditional release of liens from each Subcontractor and vendor for the current month's payment application, and unconditional release of liens from each Subcontractor and vendor for the previous month's payment application.
c. Affidavits attesting to off-site stored products, if any.
9. When Architect requires substantiating information, submit data justifying dollar amounts in question.

B. Application for Final Payment:
1. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.
2. Application for Final Payment will not be considered until the following have been accomplished:
a. Closeout procedures specified in Section 01 70 00.
b. Receipt of final Certificate of Occupancy from jurisdictional authority.
c. Acceptance or Work by Owner and Architect.

C. Modification Procedures:
1. Requests for Information: Use for requesting supplemental information or an interpretation of the Contract Documents. Contractor is required to research the Contract documents thoroughly and only request information or an interpretation for an item that is not clearly indicated in, or reasonably inferable from, the Contract Documents.
a. Allow number of calendar days as stipulated in Construction Services Agreement for Architect to provide a response to requests for information, and number of calendar days as stipulated in Construction Services Agreement when response includes the Architect's consultant.
b. Architect's response to a request for information does not constitute a modification of the Contract Documents if response is generally consistent with work scope and intent of Contract Documents.
c. If a response requires a modification of the Contract Documents, prepare a request for change order or other modification according to applicable modification procedures specified.
2. Supplemental Instructions: For minor modifications not involving an adjustment to the Contract Sum or Contract Time; Architect will issue instructions directly to Contractor.
a. Architect's issuance of supplemental instructions may constitute a modification of the Contract Documents involving an adjustment to the Contract Sum or Contract Time. If Architect's supplemental instructions require such a modification of the Contract Documents, prepare a request for change order or other modification according to applicable modification procedures specified in this Section.
3. Proposal Request: For modifications for which advance pricing is desired, Architect will issue a document which includes a detailed description of a proposed modification with supplementary or revised drawings and specifications, a modification in Contract Time for executing modification. The contractor shall prepare and submit a fixed price quotation within the number of working days as stipulated in the Construction Services Agreement.
4. Contractor may propose a change by submitting a request for change order or modification to Architect, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation.
5. Computation of Change in Contract Amount: As specified in the Construction Services Agreement.
6. Execution of Change Orders: Contractor will issue Change Orders for signatures of parties as provided in the Construction Services Agreement
7. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
8. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
9. Promptly enter changes in Project Record Documents.

D. Allowances:
1. Include scheduled allowances in the project cost; allowance is for cost of materials only, delivered and unloaded at the site. Installation and all other costs are to be included in the base price and separate from allowance amounts.
2. Submit invoices to indicate actual quantities of materials delivered and costs. Indicate amounts of applicable trade discounts.
3. Schedule of Allowances:
a. Allowance No. 1. (Lump-sum cost proposal) Include: budget amount for replacing existing receptionist desk on Level 3 as specified in Section 06 60 00 Decorative Plastic Fabrications, and as shown on the drawings.

01 30 00 - ADMINISTRATIVE REQUIREMENTS

A. General Submittal Procedures:
1. Provide a web-based portal access project management system for processing all RFI's and Submittals.
a. Provide direct log in access for Architect, Architect's consultants, and Owner.

2. Transmit each submittal with a copy of the approved submittal form.
a. Submittal Format: Electronic, except sample submittals.
b. Sample Submittals: Submit as physical submittals as specified.

3. Submittal Schedule: Establish and maintain a submittal schedule, numbering each submittal by corresponding Specification Section number, and clearly identifying all submittals with project name.
a. Coordinate submittal schedule with Contractor's construction progress schedule.
b. Schedule submittals to expedite the Project, and coordinate submission of related items.
c. For each submittal for review, allow the number of calendar days as stipulated in the Construction Services Agreement for review, excluding delivery time from and back to Contractor.
d. The contractor is required to identify submittals that require expedited review and Architect's action in submittal schedule and shall notify Architect when review completion is required prior to sending those submittals to Architect for review.
4. Special Submittal Restrictions:
a. Submittals not requested may not be recognized or processed.
b. Submittals not reviewed and approved by Contractor before submitting to Architect may be rejected and may not be reviewed by Architect until Contractor's review and approval is complete. Claims for delay as the result of submittals not reviewed by Contractor may not be allowed.
5. Submittal Review Stamps:
a. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents. Submittals provided without Contractor's review will be subject to rejection without Architect's review.
b. Provide space for Contractor, Architect, and consultant review stamps.
6. Manufacturer's Catalog Submittals: If manufacturer's published catalog that is specifically applicable to the proposed products for this Project.
7. Resubmittals:
a. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.
b. When revised for resubmission, identify all changes made since previous submission.
c. Make resubmissions under procedures specified for initial submittals.
8. Submittal Distribution: Distribute reviewed and approved submittals to all affected parties. Instruct parties to promptly report any inability to comply with indicated requirements.

B. Submittals - Architect's Action:
1. Architect will review each submittal, mark it with appropriate "action," and return to Contractor within 5 working days or as mutually agreed between Architect and Contractor for initial review, and 2 calendar days for each resubmittal.
2. Where submittals include materials, products, systems, or manufacturers not specified, approved by Addendum prior to execution of the Contract, Architect reserves the right to exceed the specified time allowance to allow sufficient time to determine the acceptability of such items, and no claim for delay by Contractor will be allowed.
3. Where submittals include a material, product, system, or manufacturer substitution which has not been previously accepted or approved in writing, Architect reserves the right to reject such submittal and require a compliant submittal or may direct that other action be taken by Contractor to achieve compliance with Contract Documents, and no claim for delay by Contractor will be allowed.
4. Where submittals approved by Architect may include a material, product, or system that is in error, inconsistent with intent of Contract Documents, or may be incorrectly specified by Contractor's delegated design subcontractor, Architect is not responsible for consequences of any kind.
5. Architect's review is for general conformance only and does not relieve Contractor from full compliance with the Contract Documents.

C. Submittals for Review:
1. When the following are specified in individual Sections, submit them for review:
a. Product data.
b. Shop drawings.
c. Samples for selection.
d. Samples for verification.
e. Other types specified.
2. Submit to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.
3. Samples will be reviewed only for aesthetic, color, or finish selection as applicable.
4. Coordinate submittals into logical groupings to facilitate interrelation of the several items:
a. Submit a complete package of specified submittals for each product or system, generally associated with an individual specification Section. Partial submittals will not be reviewed, and no delay claim will be considered as the result of a partial submittal being returned for proper resubmittal.
b. Submit interior finishes samples and product data as a single package, including but not limited to finishes items specified in Divisions 09, 10, and 12.
c. Submit all door, frame, and hardware product data, schedules, and other specified submittal information in a single package as specified in Division 08.

D. Submittals for Information:
1. When the following are specified in individual Sections, submit them for information:
a. Design data.
b. Certificates.
c. Test reports.
d. Inspection reports.
e. Manufacturer's instructions.
f. Manufacturer's field reports.
g. Other types specified.
2. Submit for Architect's knowledge as contract administrator for Architect. No action will be taken.

E. Submittals for Project Closeout:
1. When the following are specified in individual Sections, submit them at project closeout:
a. Project record documents.
b. Operation and maintenance data.
i. Prepare and submit operation and maintenance manuals for building operating systems and equipment.
ii. Prepare and submit instruction manuals covering the care, preservation, and maintenance of architectural products and finishes.
c. Maintenance materials: for list of specific maintenance materials required, see MAINTENANCE MATERIALS at end of specifications below.
d. Warranties.

F. Construction Progress Schedule:
1. Within 7 days after date of the Agreement or as required by Owner's authorized representative, submit preliminary schedule for the Work.
2. If the preliminary schedule requires revision after review, submit a revised schedule within 3 days.
3. Within 3 days after joint review, submit complete schedule.
4. Include written certification that major Subcontractors have reviewed and accepted proposed schedule.
5. Submit updated schedule as may be necessary from time-to-time Design data. Indicate work that is leading and lagging behind the critical path of the approved schedule and propose remedies to achieve approved schedule.

G. Project Meetings:
1. Except as otherwise indicated, schedule and conduct meetings.
2. Preconstruction Conference: Architect will schedule and conduct the preconstruction conference.
3. Project Closeout Conference: No later than 30 days prior to the scheduled date of Substantial Completion.
4. Progress Meetings: At regular intervals, coordinated with preparation of payment requests.
5. Preinstallation Conferences: Before each construction activity that requires coordination.
6. Coordination Meetings: At regular intervals, in addition to specific meetings held for other purposes.

01 32 33 – PHOTOGRAPHIC DOCUMENTATION

A. Digital Photographs: Submit image files within three days of taking photographs.
1. Submit photos electronically. Include copy of key plan indicating each photograph's location and direction.
2. Identification: Provide the following information with each image description in a web-based Project management software site:
a. Name of Project.
b. Name of Contractor.
c. Date photograph was taken.
d. Description of location, vantage point, and direction.
e. Unique sequential identifier keyed to accompanying key plan.
3. Formats and Media:
a. Digital Photographs: Provide color images in JPG format. Photographs should be clear, free from obstruction with appropriate lighting, and easily viewable.
b. Digital Images: Submit digital media as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
4. Construction Photographs:
a. General: Take photographs with maximum depth of field and in focus.
b. Maintain key plan with each set of construction photographs that identifies each photographic location.
c. Preconstruction Photographs: Before commencement of the Work, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Architect.
d. Take photographs of existing buildings either on or adjoining property, to accurately record physical conditions at start of construction.
5. Concealed Work Photographs: Before proceeding with installing work that will conceal other work, take photographs sufficient in number, with annotated descriptions, to record nature and location of concealed Work.
6. Periodic Construction Photographs: Take photographs at weekly intervals coinciding with the cutoff date associated with each Application for Payment. Select vantage points to show the status of construction and progress since the last photographs were taken.
7. Final Completion Construction Photographs: Take photographs after the date of Substantial Completion for submission as Project Record Documents. Architect will inform photographers of desired vantage points.
8. Additional Photographs: Architect may request photographs in addition to periodic photographs specified. Additional photographs will be paid for by Change Order and are not included in the Contract Sum.
a. Three days' notice will be given, where feasible.
b. In emergency situations, take additional photographs within 24 hours of request.

01 40 00 - QUALITY REQUIREMENTS

A. Quality Control: Maintain quality control over subcontractors, subcontractors, suppliers, manufacturers, products, services, site conditions, and workmanship to produce Work of specified quality according to the requirements of the Contract Documents.

B. Quality Assurance:
1. Become completely familiar with applicable requirements of codes and regulations.
2. Verify that materials and equipment used in the Work meet or exceed code requirements.

C. References and Standards:
1. For products and workmanship specified by reference to a document or documents not included in the specifications, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
2. Conform to reference the standard of date of issue current on date of Contract on date of Contract Documents, except where a specific date or edition is established by applicable code.
3. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.

D. Delegated Design Requirements:
1. Performance and Design Requirements: Where professional design services or certifications by a licensed design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with performance and design requirements specified in individual specification Sections.
2. If specified performance or design requirements are not sufficiently complete to perform required services or provide required certifications, submit a written request for additional information to Contractor.
3. Refer to Section 01 10 00 for a listing of specification Sections that include delegated design requirements.
4. Delegated-Design Submittals: For products indicated to comply with performance requirements and design criteria, include analysis data signed and sealed by Structural (Professional) Engineer licensed in the jurisdiction of the State of Washington and responsible for their preparation.

E. Mock-Ups:
1. Assemble and erect individual system or product mock-ups as specified individual specification Sections.
2. Accepted mock-ups shall be a comparison standard for the remaining Work.

01 50 00 - TEMPORARY FACILITIES AND CONTROLS

A. Temporary Barriers:
1. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, and to protect existing facilities and adjacent areas from damage from construction operations.
2. Protect vehicles, stored materials, site, and structures from damage.
3. Protect freight/service elevators or other facilities used to deliver or remove materials as outlined in the building owner's rules, regulations, and construction procedures.

B. Temporary Utilities:
1. Contractor or building owner will provide the following:
a. Electrical power and metering, consisting of connection to existing facilities.
b. Water supply, consisting of connections to existing facilities.

C. Temporary Sanitary Facilities:
1. Use of existing facilities is not permitted unless otherwise permitted by the building owner in the building owner's rules, regulations, and construction procedures.

D. Waste Removal:
1. Provide waste removal facilities and services as required to maintain the construction area in clean and orderly condition.
2. Provide containers with lids. Remove trash from site daily.
3. Materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

01 60 00 - PRODUCT REQUIREMENTS

A. Existing Products:
1. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.
2. Existing materials and equipment indicated to be removed but not to be re-used, relocated, reinstalled, delivered to the Contractor or building owner, or otherwise indicated to remain the property of the Contractor or building owner, shall become the property of the Contractor; remove from site. If not stated in the building owner's rules and regulations, obtain clarification from the building owner.

B. New Products:
1. Provide new products unless specifically required or permitted by the Contract Documents.
2. Do not use products having any of the following characteristics:
a. Made using or containing CFC's or HCFC's.
b. Containing lead, cadmium, asbestos.
c. VOC restricted products as specified in individual specification Sections.

C. Samples: Material samples shall be sent to client and Architect for approval.

D. Product Options:
1. Products Specified by Reference Standards or by Description Only: Use product meeting those standards or description.
2. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
3. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.
4. Products Specified by Naming a Basis of Design Manufacturer or Product with a Provision for Substitutions: Submit a request for substitution for any other manufacturer listed under Other Acceptable Manufacturers, or for a manufacturer not named.

E. Substitution Procedures:
1. Substitutions are required to be verified by client, client's project manager, and Architect.
2. Architect may consider requests for substitutions when one or more of the following conditions exist, as determined by Architect. If one or more of the following conditions are determined not to exist, Architect may not consider request further and may take no action except to record the request and its non-compliance. Consideration may be made if substitution request:
a. Offers Owner substantial advantage in cost, time, energy conservation, or other consideration, after deducting additional responsibilities Owner must assume as the result.
b. Is consistent with intent of Contract Documents and will produce intended work results.
c. Is fully documented and properly submitted.
d. Will not adversely affect Contractor's construction schedule.
e. Becomes unavailable through no fault of the Contractor.
f. Cannot be provided within the Contract Time; Architect will not consider substitution if Product cannot be provided as the result of Contractor's failure to schedule and coordinate the Work as required by Contract Documents.
3. Substitutions for Convenience: Not Allowed, unless otherwise indicated.
4. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
5. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
6. Substitution Submittal Procedure:
a. Submit one digital copy of request for substitution for consideration. Limit each request to one proposed substitution.
b. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
c. The Architect will notify the Contractor in writing of decision to accept or reject request.

F. Storage and Protection of Products:
1. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
2. Store and protect products in accordance with manufacturers' instructions.
3. Provide the proper environmental conditions for all materials to be installed. Allow for adequate time for materials to "acclimatize" to job site conditions prior to installing. Provide adequate protection at areas which may be exposed to exterior environmental conditions to avoid temperature and humidity fluctuations in interior materials (new and existing/installed or stored).
4. Provide bonded off-site storage and protection when the site does not permit on-site storage or protection.
5. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

G. Coordination:
1. Coordinate affected work as necessary to integrate work of approved comparable products and approved substitutions.

H. Product Warranty:
1. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
a. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
b. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for the Owner.
2. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
a. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
b. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
c. See other Sections for specific content requirements and particular requirements for submitting special warranties.

01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

A. General Installation Requirements:
1. In addition to compliance with regulatory requirements, conduct construction operations in compliance with NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations.
2. Install products as specified in individual Sections and in accordance with manufacturer's instructions and recommendations.
3. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
4. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
5. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
6. Make neat transitions between different surfaces, maintaining texture and appearance.

B. Protection of Installed Work:
1. Protect installed work from damage by construction operations.
2. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
3. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
4. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
5. Failure to protect installed and existing work may result in the withholding of payments to Contractor as determined by Architect. Damage resulting from failure to protect installed and existing work must be fully repaired or replaced as applicable to the satisfaction of Architect at no additional cost to Owner.

C. Protection of Final Cleaning:
1. General Project Requirement: Cleaning materials, products, and applications must be Green Seal-compliant; materials, products, and applications that are not Green Seal- compliant are not permitted.
2. Maintain areas free of waste materials, debris, and rubbish. Maintain the site in a clean and orderly condition.
3. Remove debris and rubbish from wall cavities, pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
4. Broom and vacuum clean interior areas prior to the start of surface finishing and continue cleaning to eliminate dust.
5. Execute final cleaning after Substantial Completion but before making final application for payment.
6. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
7. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
8. Replace filters of operating equipment with new filters.
9. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.
10. Clean Architect-occupied areas of work.

D. Closeout Procedures:
1. Notify Architect in writing when work is considered ready for Substantial Completion.
a. Contractor's punch needs to be complete before Substantial Completion.

PRCTI20250548

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1200 6th Ave #1620, Seattle, WA 98101

STRUCTURAL
PCS
1011 Western Avenue, Suite 810
Seattle WA 98104

CONTRACTOR
ABBOTT CONSTRUCTION
3408 1st Ave S,
Seattle, WA 98134

PLUMBING
MACDONALD MILLER
1004 Madison St,
Seattle, WA 98104

MECHANICAL
MACDONALD MILLER
1004 Madison St,
Seattle, WA 98104

ELECTRICAL
EBD SERVICES
14900 Interurban Ave S. #143
Seattle, WA 98168

PROJECT MNGR
TURNER & TOWNSEND
920 Fifth Avenue, Seattle, WA, 98104

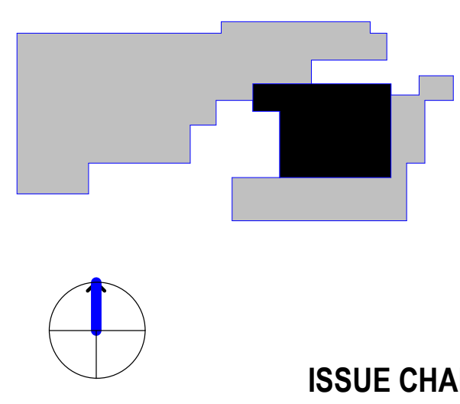
ISSUED FOR CONSTRUCTION DRAWINGS 06.30.2025

MultiCare Good Samaritan Hospital Kitchen
401 15th Ave SE,
Puyallup,
WA 98372

MultiCare Good Samaritan Hospital

MULTICARE

KEY PLAN



ISSUE CHART

MARK	ISSUE	DATE

Job Number 162433.000

TITLE

SHEET SPECIFICATIONS - 01

SHEET NUMBER

G10-01

6/30/2025 3:40:30 PM Autodesk Docs://MultiCare - Good Samaritan Hospital Kitchen Expansion/ARCH-MultiCare-Kitchen-R25.rvt

b. Prerequisite for Substantial Completion: In addition to definition of Substantial Completion in the Owner to fully occupy or utilize tenant space for intended use in all respects.
2. Accompany Architect and Tenant on preliminary final inspection to determine items to be listed for completion or correction in Contractor's Notice of Substantial Completion.
3. Make submittals that are required by governing or other authorities.
4. Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's review.
5. Correct items of work listed in executed Certificates of Substantial Completion and comply with requirements for access to Architect-occupied areas.
6. Notify Architect when work is considered finally complete.
7. Complete items of work determined by Architect's final inspection.

01 73 29 - CUTTING AND PATCHING RESTRICTIONS

A. Cutting:
1. Whenever possible, execute the work by methods that avoid cutting or patching.
2. Perform whatever cutting and patching is necessary to:
   a. Complete the work.
   b. Fit products together to integrate with other work.
   c. Provide openings for penetration of mechanical, electrical, and other services.
   d. Match work that has been cut to adjacent work.
   e. Repair areas adjacent to cuts to required condition.
   f. Repair new work damaged by subsequent work.
   g. Remove samples of installed work for testing when requested.
   h. Remove and replace defective and non-conforming work.
3. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
4. Employ skilled and experienced installers to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
5. Cut rigid materials, resulting in clean and neat edges, using masonry saw or core drill. Cutting rigid materials using chisels, impact or pneumatic tools is not allowed without prior approval.
6. For assemblies with existing warranties, obtain and follow instructions from manufacturers to maintain warranty after cutting and patching.
7. Restore work with new products in accordance with requirements of Contract Documents.
8. Fit work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
9. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 13 and 07 84 43 to full thickness of the penetrated element.

B. Patching:
1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish the entire unit.
2. Match color, texture, and appearance.
3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

01 78 39 – PROJECT RECORD DOCUMENTS

A. Items submitted to Architect for review prior to distribution to Owner:
1. Marked-up copies of Contract Drawings.
2. Addenda and Change Orders.
3. Record information on Work that is recorded only schematically, when part of record documents.
4. Complete set of RFI's.

B. Items delivered directly to Owner:
1. Orders.
2. Marked-up copies of Shop Drawings.
3. Marked-up Product Data submittals.
4. Record Samples.
5. Field records for variable and concealed conditions.
6. Project photographs.
7. Copies of change orders, submittal, substitutions, warranties and other forms that are part of this Project.

C. Record Documents: During construction, maintain a set of prints of Contract Documents, including drawings, specifications, and Shop Drawings.
1. Mark Record Documents to identify changes and as-built conditions clearly.
   a. Mark record drawings to show the actual installation where the installation varies from the installation shown originally.
   b. Where Shop Drawings are used, cross-reference the corresponding location on the Contract Drawings.
   c. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
   d. Furnish As-Built drawings to the Architect at substantial completion.
   e. Note alternate numbers, change-order numbers, and similar identification.
2. Responsibility for Markup: The individual or entity who obtained record data, whether the individual or entity is the Installer, subcontractor, or similar entity, shall prepare the markup on record drawings.
3. Submit PDF electronic files of scanned record documents to the Owner. Include all documents, whether changes were made or not.

D. Record Drawings: Compile PDF electronic drawing sets.

E. Record Specification: One PDF electronic file.

F. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.

G. Miscellaneous Record Submittals: Categories of requirements resulting in miscellaneous records specified in other Sections.

01 79 00 – DEMONSTRATION AND TRAINING

A. Complete training program shall be developed by the Contractor for systems and machinery installed at the Project and to be operated by Owner's personnel. Training program, in its entirety, shall become property of the Owner.

DIVISION 02 - EXISTING CONDITIONS AND DEMOLITION

02 10 00 - EXISTING CONDITION DOCUMENTATION

A. Existing Facility Record Drawings:
1. A copy may be available upon request; inquire of Architect or building owner regarding existence and availability of record drawings, if any.
2. Contractors are required to visit the existing facility and become acquainted with existing conditions.
3. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only. Confirm all dimensions on plans specifically noted as "Field Verify"
   a. Verify that construction and utility arrangements are as shown.
   b. Report discrepancies to Architect before disturbing existing installation.
   c. Beginning of Work constitutes acceptance of existing conditions.

02 26 00 – HAZARDOUS MATERIALS

A. Hazardous Materials: If hazardous materials are discovered during tenant finish operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCBs, and mercury.
1. Comply with 29 CFR 1926 and state and local regulations.
2. The owner will remove hazardous materials under separate contract.

02 41 19 – SELECTIVE STRUCTURE DEMOLITION

A. General:
1. Demolition and removal of selected portions of building or structure, including salvaging of existing items.
2. Definitions
   a. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
   b. Remove and Salvage: Detach items from existing construction and deliver them to Owner ready for reuse.
   c. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
   d. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.
3. Submittals:
   a. Schedule of Selective Demolition Activities indicating:
      i. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure building manager's and building tenants' on-site operations are uninterrupted.
      ii. Interruption of utility services. Indicate how long utility services will be interrupted.
      iii. Coordination for shutoff, capping, and continuation of utility services.
      iv. Use of elevator and stairs.
      v. Locations of proposed dust- and noise-control temporary partitions and means of egress.
      vi. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
      vii. Means of protection for items to remain and items in path of waste removal from building.
4. Quality Assurance:
   a. Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
   b. Standards: ANSI A10.6 and NFPA 241.
5. Project Conditions
   a. The owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
   b. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
   c. Notify Architect of discrepancies between existing conditions and Drawings before proceeding.
   d. Hazardous Materials: It is unknown whether hazardous materials will be encountered in Work.
      i. If materials suspected of containing hazardous materials are encountered, do not disturb; Refer to Section 02 26 00 - Hazardous Materials.
   e. Storage or sale of removed items or materials on-site is not permitted.
   f. Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations. Maintain fire-protection facilities in service during selective demolition operations.

B. Execution:
1. Examination
   a. Verify that utilities have been disconnected and capped.
   b. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
   c. Inventory and record condition of items to be removed and reinstalled or salvaged.
   d. When unanticipated elements that conflict with intended function or design are encountered, investigate and measure nature and extent of conflict. Promptly submit a written report to Architect.
   e. Perform surveys as Work progresses to detect hazards resulting from selective demolition activities.
2. Utility Services and Mechanical/Electrical Systems
   a. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
      i. Comply with requirements for existing services/systems interruptions.
   b. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
      i. Building manager will arrange to shut off indicated services/systems when requested by Contractor.
      ii. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
      iii. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing. Where the entire wall is to be removed, existing services/systems to be removed with removal of wall.
3. Preparation
   a. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
      i. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
      ii. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
      iii. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
      iv. Cover and protect furniture, furnishings, and equipment that have not been removed.
      v. Comply with requirements for temporary enclosures, dust control, heating, and cooling.
4. Selective Demolition, General
   a. Demolish and remove existing construction only to extent required by new construction and as indicated. Comply with requirements of Section 01 73 29 - Cutting and Patching. Use methods required to complete Work within limitations of governing regulations and as follows:
      i. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
      ii. Cut or drill from exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
      iii. Do not use cutting torches until the work area is cleared of flammable materials. At concealed spaces, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
      iv. Maintain adequate ventilation when using cutting torches.
      v. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
      vi. Remove structural framing members and lower to the ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
      vii. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
      viii. Dispose of demolished items and materials promptly
   b. Removed and Salvaged Items:
      i. Clean salvaged items.
      ii. Pack or crate items after cleaning. Identify contents of containers.
      iii. Store items in secure area until delivery to Owner.
      iv. Transport items to Owner's storage area on-site designated by Owner.
      v. Protect items from damage during transport and storage.
   c. Removed and Reinstalled Items:
      i. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
      ii. Pack or crate items after cleaning and repairing. Identify contents of containers.
      iii. Protect items from damage during transport and storage.
      iv. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
   d. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.
5. Disposal of Demolished Materials
   a. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them.
      i. Do not allow demolished materials to accumulate on-site.
      ii. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
      iii. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
   b. Transport items to Owner's storage area on-site designated by Owner.
   c. Protect items from damage during transport and storage.
6. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

02 41 19 16 – SELECTIVE INTERIOR DEMOLITION

A. Alterations Procedures:
1. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
   a. Provide, erect, and maintain temporary dustproof enclosures.
2. Remove existing work as indicated and as required to accomplish new work.
   a. Where electrical floor boxes, poke-throughs, conduit, plumbing, piping, or other equipment or devices are removed, fire-seal floor penetrations. Refer to structural drawings for holes greater than 1-1/2 inches in diameter and Division 07 (Thermal and Moisture Protection) for firestopping of smaller openings. Coordinate interrelated subcontractor work associated with firestopping and filling floor openings.
   b. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
   c. Remove all residual base adhesive remaining after demolition of base. Prepare the wall surface as required for specified finish.
3. Existing Facility Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
   a. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
   b. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
   c. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
      i. Disable existing systems only to make switchovers and connections; minimize duration of outages. Provide 5 days advance notice to Owner of any planned outages.
      ii. Provide temporary connections as required to maintain existing systems in service.
   d. Verify that abandoned services serve only abandoned facilities.
   e. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.
   f. Ensure that existing fire-rated and smoke-resistant partitions to remain are constructed accordingly and make repairs or corrections needed to ensure functional integrity.
   g. Some existing fire-rated partitions may be de-rated. Refer to drawings for location(s). Items such as existing fire or fire-smoke dampers shall be demolded and above ceiling labels changed.
4. Protect existing work to remain.
   a. Prevent movement of structure; provide shoring and bracing if necessary.
   b. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   c. Repair adjacent construction and finishes damaged during removal work.
5. Adapt existing work to fit new work. Make as neat and smooth a transition as possible. Comply with requirements of Section 01 73 29 - Cutting and Patching Restrictions.
   a. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
   b. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
   c. Where a change of plane of 1/4 inch (6 mm) or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.
   d. Trim existing wood doors as necessary to clear the new floor finish. Refinish the trim as required.
6. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish. Comply with requirements of Section 01 73 29 - Cutting and Patching Restrictions.
7. Refinish existing surfaces as indicated:
   a. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
   b. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.
8. Clean existing systems and equipment.
9. Remove demolition debris and abandoned items from alterations areas and dispose of off-site.

02 50 00 - EXISTING STRUCTURE LIMITATIONS

A. Existing Structure Limitations:
1. Existing Building Structure: Protect existing building structural elements indicated to remain. Alteration of existing building structural elements is strictly prohibited, unless specifically indicated otherwise on Drawings. If existing structural elements must be modified to complete design intent, notify Architect for direction and possible modifications that may be required by the Structural Engineer.
2. Core Drilling: Core drill slabs as required to install new items as detailed on Drawings. If required based on existing slab conditions or by building owner's construction rules and regulations, employ methods of detecting existing tensioned and un-tensioned reinforcing, and other embedded items, that will not be hazardous to humans or damage Owner's existing facilities and equipment. If the building owner has specific requirements, comply with those requirements.
3. Powder-actuated Fasteners and Post-installed Anchors: Verify existing slab conditions employing methods of detection specified for core drilling; locate fasteners and anchors to avoid structural damage to existing slabs and existing tensioned reinforcing. See structural Drawings for additional requirements and limitations. Avoid exceeding allowable floor loading capacity at any location by any construction process and specifically by the moving and storage of
   a. construction materials or operation of any hoist, vehicle or crane device. Obtain floor capacities from building owner.

DIVISION 03 – CONCRETE

Refer to MCHS Master Specifications, Hospital Campuses issued 31 March 2014 and MultiCare General Finishes Standards issued January,2021.

DIVISION 05 – METALS

Refer to MCHS Master Specifications, Hospital Campuses issued 31 March 2014 and MultiCare General Finishes Standards issued January,2021.

DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES

Refer to MCHS Master Specifications, Hospital Campuses issued 31 March 2014 and MultiCare General Finishes Standards issued January,2021.

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

Refer to MCHS Master Specifications, Hospital Campuses issued 31 March 2014 and MultiCare General Finishes Standards issued January,2021.

DIVISION 08 – OPENINGS

08 11 13 - HOLLOW METAL DOORS AND FRAMES

Refer to MCHS Master Specifications, Hospital Campuses issued 31 March 2014 and MultiCare General Finishes Standards issued January,2021

08 12 16 – INTERIOR ALUMINUM DOORS AND FRAMES

Refer to MCHS Master Specifications, Hospital Campuses issued 31 March 2014 and MultiCare General Finishes Standards issued January,2021.

08 38 00 TRAFFIC DOORS (FLEXIBLE PVC IMPACT TRAFFIC DOORS)

A. Section Includes: Recommended jamb is ¼" thick and 4" wide minimum steel frame.

B. Submittals:
1. Product data: Submit manufacturer's data indicating products provided.
2. Shop Drawings: Show fabrication and installation details; include door elevations, head, jamb, and meeting stile details including full or partial gaskets.

C. Delivery, Storage and Handling
1. Store products in the manufacturer's unopened packaging until ready for installation.
2. Acceptance at sight: Inspect work upon delivery of damage; rejecting any damaged items.

D. Warranty
1. Manufacturer's standard one-year warranty that products are free of defects in material and workmanship, guaranteeing to replace (exclusive of freight and labor) parts proven defective within one year after the date of shipment to purchaser. The stainless-steel hardware has a lifetime warranty against corrosion.

E. Products
   a) Acceptable Manufacturers: Curtron Products, 5350 Campbells Run Road, Pittsburgh, PA 15205

F. Substitutions: Discuss with architect/owner if substitution required.

G. Materials:
1. Door Type: Polar-Pro Flexible Traffic Doors
2. Traffic Type: Retail/ cart traffic, light duty.
3. Sizes: 17" to 60" wide; up to 108" high
4. 4. Panels: Constructed of 1 ply of .080" thick smooth clear PVC with a 3" overlap at leading edge; Standard (0°-150°F) or Low Temp (-20°-140°F) panels
5. available. 3" high anti curl strip to prevent cupping.
6. Panel Options: Option: .120" Thick smooth clear PVC Standard (0°-150°F) or Low Temp (-20°-140°F) available. Consult manufacturer for available colors. 24" high vision panel for colored doors.
7. Hardware: Stainless Steel (400C/300), fully adjustable hinges swing open and closed on an even plane. Hinges are fully adjustable for jamb alignment and Closing speed of each panel. Hinges also include a metal air lock seal to seal the hinge area. 300 Series Stainless steel door leafs. Universal hardware mounts in-jamb or on the wall.

H. Execution
1. Examination:
   a. Do not begin installation until substrates have been properly prepared.
   b. Verify that jambs are plumb and square.
   c. Substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   d. Submit copy of installer's report to Architect of record within 72 hours of report receipt.

2. Preparation
   a. Clean surfaces thoroughly before installation.
   b. Prepare surfaces using the methods recommended by the manufacturer for achieving the best results for substrate under the project conditions.

3. Installation
   a. Install in accordance with the manufacturer's instructions.
   b. Minimum jamb construction of double studded 2" by 4" wood or equivalent.
   c. Reinforce hollow metal jambs at hardware locations.

4. Protection
   a. Protect installed products until completion of the project.
   b. Touch-up, repair or replace damaged products before substantial completion

08 71 00 – DOOR HARDWARE

A. Section Includes: The complete hardware requirements for the project. Quantities listed are for the contractor's convenience only and are not guaranteed. Items not specifically mentioned, but necessary to complete the work shall be furnished, matching the items specified in quality and finish.

B. Related Sections:
1. Section 08 Hollow Metal Doors and Frames
2. Section 08 Wood Doors
3. Section 08 Aluminum Entrances and Storefronts
4. Section 26 Electrical
5. Section 28 Electronic Security and Safety

C. Quality Assurance
1. Product Qualification:
   a. To assure a uniform high quality of materials for the project, it is intended that only specified items be furnished.
   b. Hardware to be new, free of defects, blemishes and excessive play. Obtain each kind of hardware (Mechanical latch and locksets, exit devices, hinges and closers) from one manufacturer except where specified.
   c. Fire-Rated opening in compliance with NFPA80. Hardware UL10C/UBC-7-2 (positive pressure) compliant for given type/size opening and degree of label. Provide proper latching hardware, non-flaming door closers, approved bearing hinges and smoke seal. Furnish openings complete.

2. Supplier Qualifications:
   a. Hardware supplier will be a direct factory contract supplier who employs a certified Architectural Hardware Consultant (AHC) available at all reasonable times during the work for project hardware consultation to the owner, architect and contractor.
   b. Supplier will be responsible for detailing, scheduling and ordering of finish hardware.
   c. Conduct pre-installation conference at jobsite. Initiate and conduct with supplier, installer and related trades. Coordinate materials and techniques and sequence complex hardware items and systems installation.
   d. Key Conference shall be initiated and conducted with owner to determine system, keyway(s) and structure.

D. Installer Qualifications:
1. Installer to have not less than 3 years' experience specializing in installation of work in this section. The company must maintain qualified personnel trained and experienced in installing hardware.

E. References
1. IBC – International Building Code
2. NFPA80 – Fire Doors and Windows
3. NFPA101 – Life Safety Code
4. NFPA105 – Smoke and Draft Control Door Assemblies
5. ANSI A117.1 - Accessible and Usable Buildings and Facilities
6. BHMA – Builders Hardware Manufacturers Association
7. DHI – Door Hardware Institute

F. Submittals
1. Hardware schedule: Submit digital copies of schedule. Organize vertically formatted schedule into Hardware Sets with index of doors and headings, indicate complete designations of every item required for each door or opening. Include the following:
   a. Type, style, function, size, quantity and finish of hardware items.
   b. Name, part number and manufacture of each item.
   c. Fastenings and other pertinent information.
   d. Explanation of abbreviations, symbols and codes contained in schedule.
   e. Door and frame sizes, materials and degrees of swing.

2. Product Data: Submit digital copies for each product indicated.
3. Templates: Obtain and distribute templates for doors, frames, and other specified works to be prepared for installing door hardware.
4. Wiring/Riser diagrams: As required for electric hardware indicated.
5. Maintenance Data: For each type of door hardware to include in maintenance manuals specified in Division 1.
6. Keying Schedule: Prepared by or under the supervision of supplier, after receipt of the approved finish hardware schedule, detailing Owner's final keying instructions for locks.
7. Samples: Upon request, submit material samples.

G. Delivery, Storage, And Handling
1. Deliver, store, handle and protect products to project site under provisions of Division 1 and as specified herein.
2. Tag each item or package separately, with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
3. Deliver keys to Owner by registered mail.

E. Warranty
1. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
   a. Warranty Period: Years from date of Substantial Completion, for durations indicated.
      i. Closers: Thirty years
      ii. Automatic Operators: Two years
      iii. Exit Devices, Electrical: Three years
      iv. Exit Devices, Mechanical: Ten years
      v. Locksets, Electrical: Three years
      vi. Locksets, Mechanical, Cylindrical: Ten years
      vii. Locksets, Mechanical, Mortise: Ten years

F. Maintenance
1. Maintenance tools:
   a. Furnish the complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

G. Products
1. Material And Fabrication
   a. Provide all door hardware for complete work, in accordance with the drawings and as specified herein.
   b. Provide items and quantities not specifically mentioned to ensure proper and complete operational installation.

H. Manufacturers
1. Products deviating from those listed in the hardware sets must be approved through a substitution request as described in Division 01.
2. Approval of alternate manufacturers and/or products other than those listed as "Scheduled Manufacturer" or "Acceptable Manufacturers" in the individual article for the product category are only to be considered by official substitution request in accordance with section 012500. Prior bid approval by Architect/Owner.

ITEM	SCHEDULED MANUFACTURER	ACCEPTABLE MANUFACTURER
Hinges	Ives (IVE)	No Substitution
Flush Bolts & Coordinators	Ives (IVE)	No Substitution
Locksets & Deadlocks	Schlage (SCH)	No Substitution
Aluminum Door Locks -Narrow Style	Adams Rite (ADA)	No Substitution
Exit Devices & Mullions	Von Duprin (VON)	No Substitution
Electric Strikes	Von Duprin (VON)	No Substitution
Power Supplies	Von Duprin (VON)	No Substitution
Cylinders & Keying	Best (BES)	No Substitution
Door Closers	LCN (LCN)	No Substitution
Automatic Operators	Nabco	No Substitution
Door Trim	Ives (IVE)	No Substitution
Protection Plates	Ives (IVE)	No Substitution
Overhead Stops	Glynn-Johnson (GLY)	No Substitution
Thresholds & Weatherstrip	Zero (ZER)	No Substitution

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TURNER & TOWNSEND
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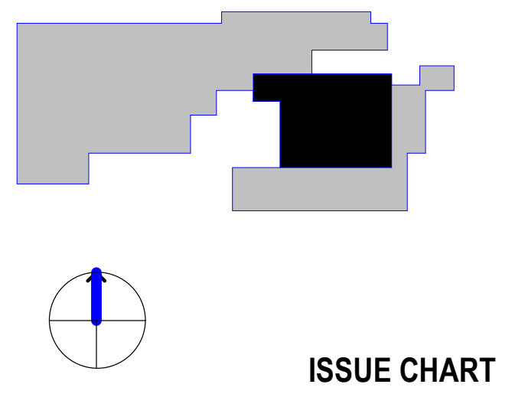
ISSUED FOR CONSTRUCTION DRAWINGS 06.30.2025

MultiCare Good Samaritan Hospital Kitchen
401 15th Ave SE,
Puyallup,
WA 98372

MultiCare
Good Samaritan Hospital

MULTICARE

KEY PLAN



ISSUE CHART

MARK	ISSUE	DATE

Job Number 162433.000

TITLE

SHEET SPECIFICATIONS - 02

SHEET NUMBER

G10-02

I. Hanging
  1. Conventional Hinges: Hinge open width minimum, but of sufficient throw to permit maximum door swing. Steel or stainless-steel pins:
    a. Three hinges per leaf to 7 feet, 6-inch height. Add one for each additional 30 inches in height or any fraction thereof.
    b. Provide standard-weight 4 ½ x 4 ½ for 1 ¾" thick doors up to 3'5". Provide heavy-weight 5 x 4 ½ on doors 36" and over.
    c. Exterior outswing doors to have non removable (NRP) pins.
    d. Pin tips, flat button, finish to match leaves.
    e. Interior doors over 36" – Heavy weight.
    f. Interior doors up to 36" – Standard weight.

J. Locksets, Latch Sets, Deadbolts

  1. Extra Heavy Duty Cylindrical Locks and Latches: Schlage ND Series
    a. Provide cylindrical locks conforming to ANSI A156.2 Series 4000, Grade 1.
    b. UL listed for A label and lesser class single doors up to 4ft x 8ft.
    c. Meets A117.1 Accessibility Codes.
    d. Provide solid steel rotational stops to control excessive rotation of lever.
    e. Provide a completely refunction able lockset that allows lock function to be changed to over twenty other common functions by swapping easily accessible parts.
    f. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2-inch latch throw. Provide proper latch throw for UL listing at pairs.
    g. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
    h. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
    i. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
    j. Lever Trim: Solid cast levers without plastic inserts and wrought roses on both sides.
      i. Lever Design: Schlage Tubular
      ii.

K. Electric Strikes
  1. Manufacturers and Products: Von Duprin 6000 Series
    a. Provide electric strikes designed for use with type of locks shown at each opening.
    b. Provide electric strikes UL Listed as burglary resistant.
    c. Where required, provide electric strikes UL Listed for fire doors and frames.
    d. Provide fail-secure type electric strikes, unless specified otherwise.
    e. Coordinate voltage and provide transformers and rectifiers for each strike as required.

L. Keys, Keying, And Key Control
  1. See Keying Requirements in this section

M. Closers
  1. Surface Closers: LCN 4040XP Series
    a. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certifies closers. Stamp units with date of manufacture code.
    b. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
    c. Cylinder Body: 1-1/2-inch (38 mm) diameter with 3/4-inch (19 mm) diameter double heat-treated pinion journal.
    d. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
    e. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
    f. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
    g. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
    h. Pressure Relief Valve (PRV) Technology: Not permitted.
    i. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117 or has special rust inhibitor (SRI).
    j. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

  2. Surface Closers: LCN 4010/4110 Series
    a. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. Certify surface mounted mechanical closers to meet fifteen million (15,000,000) full load cycles. ISO 9000 certifies closers. Stamp units with date of manufacture code.
    b. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
    c. Cylinder Body: 1-1/2-inch (38 mm) diameter with 11/16-inch (17 mm) diameter double heat-treated pinion journal.
    d. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
    e. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
    f. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
    g. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers. When closers are parallel arm mounted, provide closers which mount within 6-inch (152 mm) top rail without use of mounting plate so that closer is not visible through vision panel from pull side.
    h. Pressure Relief Valve (PRV) Technology: Not permitted.
    i. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI/BHMA Standard A156.4 and ASTM B117 or has special rust inhibitor (SRI).
    j. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

N. Other Hardware
  1. Doorstops: Provide stops to protect walls, casework or other hardware.
    a. Except as otherwise indicated, provide stops (wall, floor or overhead) at each leaf of every swinging door leaf.
    b. Where wall or floor stops are not appropriate, provide overhead holders.

  2. Weatherstrip and Gasket
    a. Provide continuous weather-strip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated or scheduled.
    b. Provide non-corrosive fasteners as recommended by the manufacturer for application indicated.

  3. Thresholds
    a. Except as otherwise indicated, provide standard metal threshold unit of type, size and profile as detailed or scheduled.

  4. Silencers
    a. Hollow metal frames, 3 for single doors, 2 for pairs of doors.

  5. Kickplates
    a. Four-beveled edges, .050 inches minimum thickness, height and width as scheduled. Sheet-metal screws of bronze or stainless steel to match other hardware.

O. Hardware Finish
  1. Provide the following finishes unless noted differently in hardware groups:

Hinges	630 Stainless Steel Exterior, 652 Dull Chrome Interior
Locksets	626 Dull Chrome
Exit Devices	626 Dull Chrome
Closers	689 Aluminum
Kickplates	630 Stainless Steel
Other Hardware	626 Dull Chrome
Thresholds	Aluminum
Weatherstrip/Sweeps	Aluminum

P. Keying Requirements
  1. All keyed cylinders shall be subject to a Best Master key system, purchased/provided by Owner.
  2. Provide a factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.
  3. Cylinders to be furnished with visual key control with key code. Stamped on the face of the keys and marked on the back or side of the cylinders.
  4. Initiate and conduct key conference with Owner to determine correct keyway(s) and structure. Owners' written approval required prior to ordering product.
  5. Key Quantities:

6	EA Master Keys
4	EA Control Keys
2	EA Construction Control Keys
10	EA Construction Keys
3	EA Change Keys per keyed alike group

Q. Execution:
  1. Preparation
    a. Ensure that the walls and frames are square and plumb before hardware installation.
    b. Locate hardware per SDI-100 and applicable building, fire, life-safety, accessibility, and security codes. Notify Architect of any code conflicts before ordering materials.

R. Installation:
  1. Do not install surface mounted items until finishes have been completed on substrate. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate for proper installation and operation.
  2. Locate floor stops not more than 4 inches from the wall.
  3. Drill pilot holes for fasteners in wood doors and/or frames.

S. Adjusting:
  1. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
  2. Occupancy Adjustment: Approximately three to six months after the date of Substantial Completion, Installer's Architectural Hardware Consultant must examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

T. Demonstration:
  1. Demonstrate electrical, electronic and pneumatic hardware systems including adjustment and maintenance procedures.
  2. Protection/Cleaning
    a. Cover installed hardware, protect from paint, cleaning agents, weathering, carts/barrows, etc. Remove covering materials and clean hardware just prior to substantial completion. Clean adjacent walls, frame and door surfaces soiled from installation/reinstallation process.

U. Door Hardware Schedule:
  1. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.
  2. Discrepancies, conflicting hardware, and missing items are to be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application.
  3. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.
  4. Hardware Sets: Refer to architectural drawing set for Door Hardware schedule.

08 71 13 - AUTOMATIC DOOR OPERATORS

A. Section includes automatic door operators.

B. Related Requirements:
  1. Division 26 Sections OR Electrical drawings for electrical connections including conduit and wiring for automatic entrance operators.
  2. Division 28 Sections OR Electrical drawings for connections including conduit and wiring for automatic entrance access control entrances.

C. Coordination:
  1. Coordinate hardware for doors with operators to ensure proper size, thickness, hand, function, and finish.
  2. Electrical System Roughing-in: Coordinate layout and installation of automatic door operators with connections to power supplies and access-control system.

D. Submittals:
  1. Product Data: For each type of product.
    a. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for automatic door operators.
    b. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
  2. Shop Drawings: For automatic door operators.
    a. Include plans, elevations, sections, hardware mounting heights, and attachment details.
    b. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
  3. Indicate locations of activation and safety devices.
  4. Include diagrams for power, signal, and control wiring.
  5. Include plans, elevations, sections, and attachment details for guide rails, if required.
  6. Maintenance Data: For automatic door operators, safety devices, and control systems, to include in maintenance manuals.

E. Automatic Door Operators, General:
  1. General: Provide operators of size recommended by manufacturer for door size, weight, and movement; for condition of exposure; and for long-term, maintenance-free operation under normal traffic load for occupancy type indicated; and according to UL 325. Coordinate operator mechanisms with door operation, hinges, and activation and safety devices.
    a. Fire-Rated Doors: Provide door operators for fire-rated door assemblies that comply with NFPA 80 for fire-rated door components and are listed and labeled by a qualified testing agency.
  2. Electromechanical Operating System: Self-contained unit powered by permanent-magnet dc motor; with closing speed controlled mechanically by gear train and dynamically by braking action of electric motor, connections for power and activation- and safety-device wiring, and manual operation including spring closing when power is off.
  3. Hinges: Reference Section 08 71 00 "Door Hardware" for hinge type for each door that door operator shall accommodate.
  4. Cover for Surface-Mounted Operators: Fabricated from 0.125-inch- (3.2-mm-) thick, extruded or formed aluminum; manufacturer's standard width; with enclosed end caps, provision for maintenance access, and fasteners concealed when door is in closed position.
  5. Brackets and Reinforcements: Fabricated from aluminum with nonstaining, nonferrous shims for aligning system components.
  6. Fire-Door Package (if required): Consisting of UL-listed latch mechanism, power-reset box, and caution signage for fire-rated doors. The latch mechanism shall allow door to swing free during automatic operation; when fire is detected, latch actuator shall cause exit hardware to latch when door closes. Provide latch actuators with fail-secure design.
  7. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

F. Low Energy Power Door Operators
  1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    a. NABCO GT 400/800
    b. ASSA ABLOY; SW100 Operator.
  2. Standard: BHMA A156.19.
  3. Performance Requirements:
    a. Opening Force if Power Fails: Not more than 15 lbf (67 N) required to release latch if provided, not more than 30 lbf (133 N) required to manually set door in motion, and not more than 15 lbf (67 N) required to fully open door.
    b. Entrapment-Prevention Force: Not more than 15 lbf (67 N) required to prevent stopped door from closing or opening
  4. Configuration: As scheduled at end of Section.
    a. Operator to control single swinging door or pair of swinging doors.
    b. Traffic Pattern: Two way or double egress.
    c. Operator Mounting: Surface.
  5. Operation: Power opening and spring closing. Provide time delay for door to remain open before initiating closing cycle as required by BHMA A156.19. When not in automatic mode, the door operator shall function as manual door closer, with or without electrical power.
  6. Operating System: Electromechanical.
  7. Microprocessor Control Unit: Solid-state controller.
  8. Features:
    a. Adjustable opening and closing speed.
    b. Adjustable opening and closing force.
    c. Adjustable backcheck.
    d. Adjustable hold-open time from zero to 30 seconds.
    e. Adjustable time delay.
    f. Adjustable acceleration.
    g. Adjustable limit switch.
    h. Obstruction recycle.
    i. Automatic door re-opens if stopped while closing.
    j. On-off/hold-open switch to control electric power to operator; key operated.
  9. Controls: Activation and safety devices according to BHMA standards.
    a. Activation Devices: Activate doors by the following equipment. Refer to the Door Schedule for locations.
      i. Card scanners (by others) on each side of door to activate door operator.
    b. Motion sensor mounted on ingress side of door header to detect pedestrians in activating zone and to open door.
      i. Push-plate switch Push-button switch on each side of door to activate door operator.
      ii. Access by remote switch at Nurse's Station.
  10. Safety Device: Presence sensor mounted on door header to detect pedestrians in presence zone and to prevent door from closing.
  11. Exposed Finish: Finish matching door and frame.
  12. Color: As indicated by manufacturer's designations.

G. Materials:
  1. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
    a. Extrusions: ASTM B 221 (ASTM B 221M).
    b. Sheet: ASTM B 209 (ASTM B 209M).
  2. Expanded Aluminum Mesh: Expanded and flattened aluminum sheet according to the geometry of ASTM F 1267.
  3. Fasteners and Accessories: Corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.

H. Controls:
  1. General: Provide controls, including activation and safety devices, according to BHMA standards; for condition of exposure; and for long-term, maintenance-free operation under normal traffic load for occupancy type indicated. Coordinate activation and safety devices with door operation and door operator mechanisms.
  2. Motion Sensors: Self-contained, K-band-frequency, microwave-scanner units; fully enclosed in plastic housing; adjustable to provide detection field sizes and functions required by BHMA A156.10.
    a. Provide capability for switching between bidirectional and unidirectional detection.
    b. For one-way traffic, the sensor on egress side shall not be active when doors are fully closed.
  3. Presence Sensors: Self-contained, active-infrared scanner units; adjustable to provide detection field sizes and functions required by BHMA A156.10. Sensors shall remain active at all times.
  4. Push-Plate Switch: Momentary-contact door control switch with flat push-plate actuator with contrasting-colored, engraved message.
    a. Configuration: Rectangular push plate with 2-by-4-inch (50-by-100-mm) junction box.
      i. Mounting: Recess mounted, semi flush in wall.
    b. Push-Plate Material: Stainless steel.
    c. Message: "Push to Open."
  5. Key Switch: Recess-mounted, door control switch with key-controlled actuator; enclosed in 2-by-4-inch (50-by-100-mm) junction box. Provide faceplate engraved with text indicating switch functions.
    a. Faceplate Material: Stainless steel.
    b. Functions: Two-way automatic, hold open, one-way exit, and off.
    c. Mounting: Recess mounted in door jamb.
  6. Wireless or Remote Radio-Control Switch: Radio-control system consisting of header-mounted receiver and wall-mounted transmitter switch. Wall-Mounted Transmitter Switch: One red-button, momentary-contact actuator enclosed in 4-by-4-inch (100-by-100-mm) junction box. Provide blue plastic cover engraved with "Press Button to Open" in white text and with international symbol of accessibility.
  7. Electrical Interlocks: Unless units are equipped with self-protecting devices or circuits, provide electrical interlocks to prevent activation of operator when door is locked, latched, or bolted.

I. Installation:
  1. General: Install automatic door operators according to manufacturer's written instructions and cited BHMA standard for type of door operation and direction of pedestrian travel, including signage, controls, wiring, remote power units if any, and connection to building's power supply.
    a. Do not install damaged components. Fit joints to produce hairline joints free of burrs and distortion.
    b. Install operators true in alignment with established lines and door geometry without warp or rack. Anchor securely in place.
  2. Controls: Install activation and safety devices according to manufacturer's written instructions and cited BHMA standard for operator type and direction of pedestrian travel. Connect control wiring according to Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables."
  3. Signage: Apply on both sides of each door as required by cited BHMA standard for type of door operator and direction of pedestrian travel.

08 83 00 – MIRROR

A. Submittals
  1. Include product data.

B. Section includes:
  1. Convex Safety Mirror Units: Convex mirror on adjustable swivel mount designed to be mounted at blind corner locations where indicated on Drawings.
    a. Basis-of-Design Product: Uline; Convex Safety Mirror.
    b. Size: As indicated on the Drawings.
    c. Mounting: Wall-mounted.

C. Installation:
  1. General: Install safety mirrors according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by safety mirror manufacturer. Install units' level, plumb, and firmly anchored in locations and at heights indicated

DIVISION 09 – FINISHES

09 51 10 - ACOUSTICAL CEILINGS

A. Basis of Design Manufacturer:
  1. Provide products to match existing unless otherwise indicated.
  2. Substitutions: Section 01 60 00 - Product Requirements.

B. Submittals:
  1. Product Data: Submit product data and shop drawings.
  2. Delegated Design Submittal: For seismic restraints for ceiling systems. Include design calculations for seismic restraints, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

C. Section Includes:
  1. Acoustical tile ceilings.

D. Acoustical Ceilings - General:
  1. Coordinate ceiling applications with installation requirements for existing ceilings and other ceiling applications.
  2. Where tile panels may be specified or existing as tegular installations, do not shim grid at deck to grid partitions. Each tile shall be neatly cut flush to the drywall partition. Exposed cut edges shall be painted to match the face of tile. Tiles shall not be continuous above deck to grid partitions.
  3. Installed System: Conform required UL ratings for floor/ceiling, roof/ceiling, and designated ceiling assemblies; tested in accordance with ASTM E119 as applicable.
  4. Fire Resistance Rating: Ceiling system identical to that used in tested assembly for the UL design and rating specified, with each panel bearing the UL label.
  5. Acoustical Units - General: ASTM E1264, Class A.
    a. Units for Installation in Fire-Rated Suspension System: Listed and classified for the fire-resistive assembly as part of suspension system.
    b. Provide units with manufacturer's proprietary anti-humidity, sag-resistant composition and anti-microbial treatment to inhibit the propagation of mold and mildew.

E. Acoustical Tile Ceilings
  1. Acoustical Tile Standard: Provide
    a. manufacturer's standard tiles of configuration indicated that comply with ASTM E1264 classifications as designated by type, form, pattern, acoustical rating, and light reflectance unless otherwise indicated.
    b. Color: As indicated on Drawings.
    c. Edge/Joint Detail: As indicated by manufacturer's designation.
    d. Size: As indicated on Drawings.
    e. Basis of Design Manufacturer:
      i. Products: As scheduled on Drawings.
      ii. Substitution: Section 01 60 00 - Product Requirements

F. Suspension Systems:
  1. General: Complying with ASTM C635/C635M; die cut and interlocking components, with stabilizer bars, clips, splices, perimeter moldings, and hold down clips as required.
  2. Coordinate suspension systems with ceiling systems.
    a. Suspension System: Basis of Design: Provide Interlude XL HRC Dimensional Tee by Armstrong World Industries, or comparable product by approved manufacturers.
    b. Metal Edge Moldings and Trim: Basis of Design: Provide Shadow Molding 7874 by Armstrong World Industries, or comparable product by approved manufacturers.
  3. Exposed Steel Suspension System: Formed steel, commercial quality cold rolled; intermediate duty.
    a. Profile: Tee; 15/16 inch (24 mm) or 9/16-inch-wide face as indicated for specified acoustical panel type.
    b. Finish: White painted.

G. Acoustical Insulation: Refer to section 07 21 00 - Thermal and Acoustical Insulation.

H. Installation:
  1. Install suspension system and ceiling systems in accordance with ASTM C636/C636M and manufacturer's instructions.
  2. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.
  3. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
  4. Locate system on room axis according to reflected plan.
  5. Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.
  6. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.
  7. Lay acoustical insulation for a distance of 24 inches (610 mm) on both sides of acoustical partitions.

SECTION 09 51 33 - ACOUSTICAL METAL PAN CEILINGS

A. Section Includes:
  1. Acoustical metal pans and associated suspension system for interior ceilings.

B. Submittals:
  1. Product Data: For each type of product.
  2. Samples: For each component indicated and for each exposed finish required, prepared on Samples of size indicated below:
    a. Metal Pans: Set of 6-inch- (150-mm-) square Samples of each type, finish, color, pattern, and texture. Show pan edge profile.
  3. Delegated -Design Submittal: For seismic restraints for ceiling systems.
    a. Include design calculations for seismic restraints, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

C. Quality Assurance:
  1. Testing Agency Qualifications: Qualified according to NVLAP for testing indicated.
  2. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
    a. Build mockup of typical ceiling area as directed by Architect, minimum size of mock-up, 10'x10'
    b. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

D. Acoustical Metal Pans, General:
  1. Basis of Design Product and Additional Requirements: Refer to finish legend.
  2. Complying with ASTM E 1264 classifications as designated by types, patterns, acoustical ratings, and light reflectance unless otherwise indicated.
  3. Sheet Metal Characteristics: For metal components exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, roughness, stains, or discolorations.
  4. Sound-Absorbent Pads: Provide width and length to completely fill concealed surface of pan, with surface-burning characteristics for flame-spread index of 25 or less and smoke-developed index of 50 or less, as determined by testing according to ASTM E 84.
  5. Adhesive: Manufacturer's standard nonflammable adhesive for sound-absorbent pads.
    a. Adhesives shall have a VOC content of 70 g/L or less.

E. Metal Suspension Systems, General:
  1. General: Complying with ASTM C 635/C 635M; die cut and interlocking components, with stabilizer bars, clips, splices, perimeter moldings, and hold-down clips as required.
  2. Suspension Systems: Provide systems complete with carriers, runners, splice sections, connector clips, alignment clips, leveling clips, hangers, molding, trim, retention clips, load-resisting struts, and other suspension components required to support ceiling units and other ceiling-supported construction.
  3. Attachment Devices: Size for 5 times the design load indicated in ASTM C 635/C 635M, Table 1, Direct Hung, unless otherwise indicated.
  4. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:
    a. Zinc-Coated, Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
    b. Size: Select wire diameter so its stress at 3 times the hanger design load indicated in ASTM C 635/C 635M, Table 1, Direct Hung, is less than yield stress of wire, but provide not less than 0.106-inch- (2.69-mm-) diameter wire.
  5. Hold-Down Clips: Manufacturer's standard hold-down clips spaced to secure acoustical metal pans in place to molding and trim at perimeter.
  6. Exposed Metal Edge Moldings and Trim: Provide exposed members as indicated or as required to comply with seismic requirements of authorities having jurisdiction.
  7. Seismic Design Category: Refer to structural drawings for seismic design category and requirements.

F. Direct-Hung, Standard-Grid, Metal Suspension System for Acoustical Metal Pan Ceiling:
  1. Manufacturers:
    a. Armstrong World Industries, Inc.
    b. CertainTeed (Hunter Douglas Architectural Products, Inc.)
    c. USG Corporation
  2. Suspension System: For lay-in and torsion-spring-hinged pans.
  3. Wide-Face, Capped, Double-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet, prepainted, electrolytic zinc-coated or hot-dip galvanized according to ASTM A 653/A 653M, G30 (Z90) coating designation, with prefinished, cold-rolled, 15/16-inch (24-mm-) wide sheet metal caps on flanges.
    a. Structural Classification: Intermediate-duty system.
    b. End Condition of Cross Runners: Override (stepped) or butt-edge type.
    c. Face Design: Flat, flush.
    d. Cap Material: Aluminum cold-rolled sheet.
    e. Cap Finish: Painted to match color of metal pan.
  4. Suspension System for Torsion-Spring-Hinged Metal Pans: Provide runners with factory-cut slots fabricated to accept torsion-spring-hinged attachment.

G. Acoustical Sealant:
  1. Comply with requirements in Section 07 92 00 - Joint Sealants.

H. General Finish Requirements:
  1. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

I. Aluminum Finishes:
  1. Color-Coated Finish: Manufacturer's standard powder-coat baked paint complying with coating manufacturer's written instructions for surface preparation, pretreatment, application, baking, and minimum dry film thickness.
  2. Architect to select color from manufacturer's full range.

J. Metallic-Coated Steel Sheet Finishes:
  1. Color-Coated Finish: Manufacturer's standard powder-coat baked paint complying with coating manufacturer's written instructions for surface preparation, pretreatment, application, baking, and minimum dry film thickness.
    a. Architect to select color from manufacturer's full range.

K. Installation:
  1. Proceed with installation only after unsatisfactory conditions have been corrected.
  2. Comply with ASTM C 636/C 636M and seismic design requirements indicated, according to manufacturer's written instructions.
  3. Suspend ceiling hangers from building's structural members and as follows:
    a. Install hangers plumb and free from contact with insulation or other objects.
    b. Splay hangers only where required to miss obstructions.
    c. Secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns.
    d. Do not support ceilings directly from permanent metal forms or floor deck.
    e. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
    f. Do not attach hangers to steel deck tabs.
    g. Do not attach hangers to the steel roof deck. Attach hangers to structural members.
    h. Space hangers not more than 48 inches (1200 mm) o.c. along each member supported directly from hangers unless otherwise indicated.
    i. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.
  4. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns.
  5. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical metal pans.
  6. Install suspension-system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
  7. Cut acoustical metal pan units for accurate fit at borders and at interruptions and penetrations by other work through ceilings.
  8. Install acoustical metal pans in coordination with suspension system and exposed moldings and trim. Comply with installation tolerances according to CISCA's "Metal Ceilings Technical Guidelines."
  9. Install sound attenuation panels in areas indicated by reflected ceiling plans or room finish schedules.
  10. Install hold-down clips where indicated.

09 60 00 – FLOORING

Refer to MCHS Master Specifications, Hospital Campuses issued 31 March 2014 and MultiCare General Finishes Standards issued January,2021

09 90 00 - PAINTING AND COATING

Refer to MCHS Master Specifications, Hospital Campuses issued 31 March 2014 and MultiCare General Finishes Standards issued January,2021

DIVISION 10 –SPECIALTIES

10 26 00 – WALL, DOOR AND CORNER PROTECTION

A. Section Includes:
  1. Corner guards.
  2. Wall Protection Sheet
  3. Crash guards

B. Submittals:
  1. Submit product data, samples, shop drawings.

C. Basis of Design Manufacturer:
  1. Inpro
  2. C-S Group - Acrovyn
  3. Substitutions: See Section 01 60 00 - Product Requirements.

D. Surface-Mounted, Metal Corner Guards: Material: Stainless-steel sheet, Type 304.Fabricated as one piece from formed or extruded metal with formed edges; with 90- or 135-degree turn to match wall condition; in dimensions and profiles indicated Interior Finish Legend.
  1. Thickness: Minimum 0.0500 inch (1.3 mm).
  2. Finish: Directional satin, No. 4.
  3. Mounting: Adhesive.

E. Wall Protection Sheet - Surface Mounted:
  1. Standard Vinyl Material: High impact vinyl, color as selected from manufacturer's standard colors.
  2. Surface Burning Characteristics: Provide assemblies with flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E84.
  3. Sizes: As indicated Finish Legend.
  4. Thickness: 0.60 inches.
  5. Acceptable Products:
    a. Provide product indicated on Finish Legend.
    b. Substitutions: See Section 01 60 00 - Product Requirements.

F. Crash Guards - Surface Mounted:
  1. Standard Vinyl Material: High impact vinyl on aluminum retainer, color as selected from manufacturer's standard colors.
  2. Surface Burning Characteristics: Provide assemblies with flame spread index of 25 or less and smoke developed index of 450 or less, when tested in accordance with ASTM E 84.

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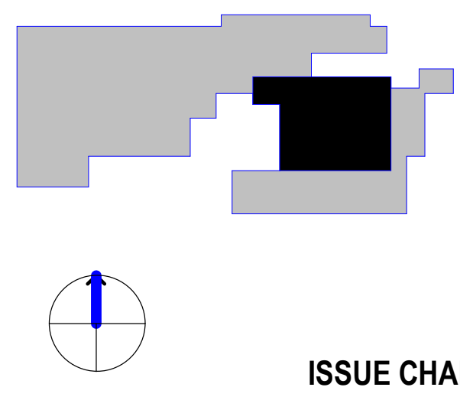
ISSUED FOR CONSTRUCTION DRAWINGS 06.30.2025

MultiCare Good Samaritan Hospital Kitchen
401 15th Ave SE,
Puyallup,
WA 98372

MultiCare
Good Samaritan Hospital

MULTICARE

KEY PLAN



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SHEET SPECIFICATIONS - 03

SHEET NUMBER

G10-03

   3. Sizes: As indicated in Finish Legend.
   4. Retainer Material Thickness: 0.80 inch.
   5. Provide with color-matched end caps.
   6. Acceptable Products:
      a. Provide product indicated on Finish Legend.
      b. Substitutions: See Section 01 60 00 – Product Requirements.

G. Installation: Install components in accordance with manufacturer's instructions, level and plumb, secured rigidly in position to wall framing members only.
   1. Coordinate installation of wall coverings with corner guard frame and cover.
   2. Provide vertical butt joints with color fill sealant. No trim.
   3. Provide clear sealant at top edge of wall protection. No trim.

10 28 00 - TOILET ROOM/KITCHEN ACCESSORIES

A. Section includes requirements for Owner Furnished/Contractor Installed (OFCI) and contractor Furnished/ Contractor Installed (CFCI) toilet and bath accessories.

B. Products: Refer to drawings.

C. Submittals:
   1. Submit product data, samples, shop drawings for CFCI accessories.

D. Installation:
   1. Install accessories in accordance with manufacturers' instructions in locations indicated.
   2. Install plumb and level, securely and rigidly anchored to substrate.
   3. Mounting Heights: As required by accessibility regulations, unless other indicated on Drawings.
   4. Use concealed fasteners wherever possible.
   5. Where exposed mounting devices and fasteners are necessary, provide such devices finished to match accessory; use security type fasteners for all exposed accessory mountings.
   6. Unless otherwise indicated, align accessory units with adjacent fixtures and other elements within the same area. Conform to ANSI/ICC A117.1 for positions and mounting heights.

10 44 00 FIRE PROTECTION SPECIALTIES

A. General:
   1. Provide Fire protection cabinets for the following:
      a. Portable fire extinguishers or Fire hose valves.
      b. Fire Extinguishers.

B. Submittals: Submit Product Data, Maintenance Data.

C. Quality Assurance: fire extinguishers and cabinets through one source from a single manufacturer.

D. Products:
   1. Fire Protection Cabinet: Recessed type, constructed of cold rolled steel with baked, black matte finish and sized to house fire extinguisher of types and capacities specified and as indicated on drawings. Weld joints and grind smooth. Miter and weld perimeter door frames.
      a. Trim less with hidden flange of same metal and finish as box (tub) that overlaps surrounding wall finish and is concealed from view by an overlapping door.
         i. Door: Manufacturer's standard door construction, of material indicated, coordinated with cabinet types and trim styles selected.
         ii. Door Glazing: Clear float glass complying with ASTM C1036, Type I, Class 1, Quality q3.
         iii. Door Style: Manufacturer's standard design.
         iv. Door Hardware: Manufacturer's standard door-operating hardware of proper type for cabinet type, trim style, and door material and style specified. Exposed doors pull and friction latch. Concealed continuous-type hinge permitting door to open 180 deg.
         v. Products: Larsens Manufacturing Company: Occult Series Fire Extinguisher Cabinets, Model O-2409 with vertical duo door or Potter-Roemer: Dana Series Fire Extinguisher Cabinets, 7220-DV or Camino Series Semi-recessed 1.5-inch trim with vertical duo door or comparable cabinets by Potter Roemer.
   2. Fire extinguisher: UL-rated 3A:40-B:C, 5-6 LB nominal capacity, with monoammonium phosphate-based dry chemical in enameled steel container.

E. Execution:
   1. Prepare recesses for recessed fire protection cabinets as required by type and size of cabinet and trim style.
   2. Install fire protection cabinets in locations and at mounting heights indicated or, if not indicated, at heights acceptable to authorities having jurisdiction. Fasten cabinets to structure, square and plumb.
   3. Adjust fire-protection cabinet doors to operate easily without binding. Verify that integral locking devices operate properly. Examine fire extinguishers for proper charging and tagging. Remove and replace damaged, defective, or undercharged units.
   4. On completion of installation, clean interior and exterior surfaces as recommended by manufacturer.
   5. Place fire extinguishers in cabinets prior to Substantial Completion.

DIVISION 11 - EQUIPMENT

11 31 00- APPLIANCES

A. Sections include ice maker, water dispenser, refrigerator, dishwasher

B. Submittals:
   1. Submit product data, samples, shop drawings.

C. Electrical work in conjunction with food services equipment shall be fabricated and assembled in strict conformity with the requirements of the Underwriter's Laboratories, Inc., and shall provide under and over voltage protection.

D. Basis of Design: Provide products selected by Architect/Owner.
   1. Size: Manufacturer's standard.

E. Substitutions: Section 01 60 00 - Product Requirements.

11 40 00 - FOODSERVICE EQUIPMENT

Refer to Specifications and drawings provided by consultant.

DIVISION 12 - FURNISHINGS

12 36 00 – COUNTERTOPS

A. Fabricator Qualifications: Company specializing in the fabrication of specified countertops with a minimum of three years of documented experience.
   1. Same fabricator as for cabinets on which tops are to be installed where applicable.

B. Submittals:
   1. Submit product data, samples and shop drawings.

C. Delivery, Storage, and Handling: Comply with requirements of Section 06 40 00.

D. Countertops - General:
   1. Fabricate in accordance with manufacturer's standard requirements, and in accordance with same AWI or AWMAC/WI(NAAWS) grade as specified for cabinet on which countertop is to be installed.
   2. Edge Treatment and Other Features: As detailed or noted on Drawings.

E. Solid Surfacing Countertops: Solid surfacing sheet or plastic resin casting over continuous substrate.
   1. Flat Sheet Thickness: 1/2-inch (12 mm) minimum unless otherwise indicated on drawings.
   2. Solid Surfacing Sheet and Plastic Resin Castings: Complying with ISFA-2 and NEMA LD 3; acrylic or polyester resin, mineral filler, and pigments; homogenous, non-porous and capable of being worked and repaired using standard woodworking tools; no surface coating; color and pattern consistent throughout thickness.
      a. Manufacturer, Color, and Pattern: As scheduled on Drawings.
   3. Quartz Agglomerate: Solid sheet consisting of quartz aggregates bound together with matrix of filled plastic resin and complying with the "Physical Characteristics of Materials" Article of ANSI SS1.
      a. Manufacturer, Color, and Pattern: As schedule on Drawings.

F. Plastic-Laminate Countertops:
   1. Comply with AWI Section 400 requirements for high-pressure decorative laminate countertops. AWI Custom Grade.
   2. High-Pressure Decorative Laminate Grade: HGS.
   3. Colors, Patterns, and Finishes: As scheduled.
   4. Edge Treatment: Same as laminate cladding on horizontal surfaces.
   5. Core Material: Particleboard or medium-density fiberboard.
   6. Core Material at Sinks: Particleboard made with exterior glue, medium-density fiberboard made with exterior glue, or exterior-grade plywood.
   7. Form countertops to 3/4" minimum thickness in one-piece lengths with integral OE adhesively bonded 1/2" thick Backsplashes.
   8. Form edges to profiles shown. Use 2 sheets of countertop sheet material laminated together using manufacturer's standard adhesive to form edges. Laminated sections in close contact throughout. Adhesive stains are not permitted.

G. Fabrication:
   1. Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
      a. Join lengths of tops using the best method recommended by manufacturer.
      b. Fabricate to overhang fronts and ends of cabinets 1 inch (25 mm) except where top butts against cabinet or wall.
      c. Prepare all cutouts accurately to size; replace tops having improperly dimensioned or unnecessary cutouts or fixture holes.
   2. Provide back/end splash wherever counter edge abuts vertical surface at wet locations only or unless otherwise indicated on Drawings.
   3. Solid Surfacing: Fabricate tops up to 144 inches (3657 mm) long in one piece; join pieces with adhesive sealant in accordance with manufacturer's recommendations and instructions.
   4. Wall-Mounted Counters:
      a. Provide skirts, aprons, brackets, and braces as indicated on Drawings, finished to match countertop unless otherwise indicated, particularly where under-cabinet lighting is specified.
      b. Provide concealed-in-wall metal brackets as shown on Drawings.
   5. Countertop Supports: Refer to Section 05 50 00 – Metal Fabrications.

H. Installation:
   1. Securely attach countertops to cabinets using concealed fasteners. Make flat surfaces level; shim where required.
   2. Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop.
      a. Align adjacent solid-surfacing-material countertops and form seams per manufacturer's written recommendations using adhesive in color to match countertop. Carefully dress joints smooth, remove surface scratches, and clean the entire surface.
      b. Install countertops with no more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line.
      c. Caulk space between backsplash and wall with silicone sanitary sealant specified in Division 7 "Joint Sealants."

DIVISION 22 – PLUMBING

Refer to Specifications and drawings provided by consultant.

DIVISION 23 - HEATING, VENTILATING, AND AIR CONDITIONING

Refer to Specifications and drawings provided by consultant.

DIVISION 26 –ELECTRICAL

Refer to Specifications and drawings provided by consultant.

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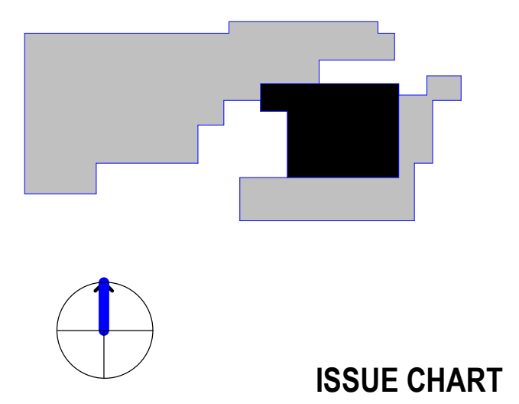

ISSUE CHART

MARK	ISSUE	DATE

Job Number 162433.000

TITLE

SHEET SPECIFICATIONS - 04

SHEET NUMBER

G10-04

DAMPER SCHEDULE & LEGEND

TAG	DESCRIPTION	NOTES
FD-1 1 1/2	1 1/2 HOUR DYNAMIC FIRE DAMPER: CURTAIN STYLE, VERTICAL OR HORIZONTAL, 165°F FUSABLE LINK, BLADE IN AIR STREAM, 4000 FPM UP TO 24X24 VERTICAL, 2000 FPM ALL OTHERS, UL555, GREENHECK DFD 150 TYPE A OR EQUAL.	
BDD BD	BACKDRAFT DAMPER: GREENHECK WD 330 (VERT) OR WD-100 (HORIZONTAL) OR EQUAL.	
	VOLUME DAMPER: SHOP FABRICATED, W/LOCKING QUADRANT.	
RD-1 RD	REMOTE OPERATED VOLUME DAMPER: 2000 FPM, UP TO 1" WG, 9V ACTUATOR TO RJ11 REMOTE CONNECTION, GREENHECK RBDR-50	
RD-2 RD	REMOTE OPERATED VOLUME DAMPER: 2000 FPM, UP TO 1" WG, 9V ACTUATOR TO RJ11 REMOTE CONNECTION, GREENHECK RBD-10	

TAG	DESCRIPTION	NOTES
SD S	SMOKE DAMPER. SEE MOTORIZED DAMPER SCHEDULE.	
MD M	MOTORIZED CONTROL DAMPER. SEE MOTORIZED DAMPER SCHEDULE.	
FSD-1 1 1/2	1 1/2 HOUR FIRE/SMOKE DAMPER. SEE MOTORIZED DAMPER SCHEDULE.	
FSD-2 3	3 HOUR RATED FIRE SMOKE DAMPER. SEE MOTORIZED DAMPER SCHEDULE.	

NOTES

MOTORIZED DAMPER SCHEDULE

UNIT NO.	MFR. & MODEL NO.	MOUNTING POSITION	FIRE RATING	LEAKAGE CLASS	ACTUATOR		CONTROL		NOTES
					FAIL	VOLT/PH	TYPE	BY	
SD-1	GREENHECK SMD-201	VERT	-	-	CLOSE	120V/1	2 POSITION	EC	1
SD-2	GREENHECK SMD-201	VERT	-	-	CLOSE	120V/1	2 POSITION	EC	1
SD-3	GREENHECK SMD-201	VERT	-	-	CLOSE	120V/1	2 POSITION	EC	1
SD-4	GREENHECK SMD-201	VERT	-	-	CLOSE	120V/1	2 POSITION	EC	1
SD-5	GREENHECK SMD-201	VERT	-	-	CLOSE	120V/1	2 POSITION	EC	1
SD-6	GREENHECK SMD-201	VERT	-	-	CLOSE	120V/1	2 POSITION	EC	1
SD-7	GREENHECK SMD-201	VERT	-	-	CLOSE	120V/1	2 POSITION	EC	1
SD-8	GREENHECK SMD-201	VERT	-	-	CLOSE	120V/1	2 POSITION	EC	1
MD-1	GREENHECK VCD-23	VERT	-	-	IN-PLACE	24V	2 POSITION	CC	2

NOTES:
1. LIFE-SAFETY MOTORIZED DAMPER
   - TWO POSITION WITH SPRING RETURN
   - OPEN WHEN BLDG IN FIRE ALARM MODE (BY FIRE ALARM CONTRACTOR), NORMALLY (SPRING) OPEN/POWERED CLOSED
   - 120V DAMPER ACTUATOR, MODEL BASED ON TORQUE REQ'S FOR DAMPER SIZE & LOCATED EXTERNAL TO DAMPER SLEEVE (UNO)
   - INTERLOCK WITH FIRE ALARM SYSTEM BY FIRE ALARM CONTRACTOR
   - PROVIDED WITH OPEN/CLOSED INDICATOR
   - EMERGENCY POWER REQUIRED.
   - UL 555S LISTED
2. MOTORIZED CONTROL DAMPER
   - 24V DAMPER ACTUATOR BY CONTROLS CONTRACTOR, LOCATED EXTERNAL TO DAMPER SLEEVE (UNO)

DIFFUSER/GRILLE SCHEDULE

SYMBOL	MANUFACTURER & MODEL NUMBER	SIZE	TYPE	NOTES
A SIZE CFM	TITUS MCD-3	AS NOTED	T-BAR MOUNT MODULAR CORE DIFFUSER	BORDER TYPE 3, WHITE FINISH
B SIZE CFM	TITUS MCD-1	AS NOTED	SURFACE MOUNT MOD CORE DIFFUSER	BORDER TYPE 1, WHITE FINISH
C SIZE CFM	TITUS 350RL	AS NOTED	SURFACE MOUNT RET/EXH GRILLE	BORDER TYPE 1, WHITE FINISH
D SIZE CFM	TITUS 50F	AS NOTED	T-BAR LAY-IN EGGCRATE (RETURN/EXH)	BORDER TYPE 3, WHITE FINISH
E SIZE CFM	HALTON KCD	AS NOTED	T-BAR MOUNT KITCHEN CEILING DIFFUSER	

DUCTWORK SCHEDULE

SERVICE / USAGE	LOCATION	MATERIAL	WORKING PRESSURE (IN. WC)	SMACNA PRESSURE CLASS (IN. WC)	SMACNA SEAL CLASS	NOTES
MEDIUM PRESSURE SUPPLY AIR	BETWEEN AHU AND TERMINAL UNITS	GALV. STEEL	2.5	4	A	1
LOW PRESSURE SUPPLY AIR	FROM TERMINAL/FAN COILS UNITS TO GRD'S	GALV. STEEL	1	2	B	1
FLEXIBLE DUCT	CONN TO GRD'S	PREINSUL. FLEX	0.5	RATED +6", -1"	NA	2
RETURN AIR	FROM GRD'S TO AHU & FCU'S	GALV. STEEL	1	2	B	1
TRANSFER AIR	FROM GRD TO GRD	GALV. STEEL	0.05	1	B	1
GENERAL EXHAUST	FROM GRD TO FAN AND AMBIENT	GALV. STEEL	-1	-2	B	1
GREASE EXHAUST	FROM HOOD TO FAN	16 GA WELDED STL	-2	-4	A	4,5
DISHWASHER & POTWASH EXHAUST	FROM HOOD TO FAN	STAINLESS STEEL	-1	-2	A	5,6

DUCTWORK INSULATION SCHEDULE

SERVICE	LOCATION	INSULATION TYPE	THICKNESS	R-VALUE	NOTES
OUTDOOR AIR ≥ 2800 CFM	CONDITIONED SPACE AND UPSTREAM OF AUTOMATIC SHUTOFF DAMPER	WRAP	6"	R-16	9
OUTDOOR AIR ≥ 2800 CFM	CONDITIONED SPACE AND DOWNSTREAM OF AUTOMATIC SHUTOFF DAMPER	WRAP	3"	R-8	9
OUTDOOR AIR < 2800 CFM	CONDITIONED SPACE	WRAP	3"	R-7	9
SUPPLY OR RETURN AIR	OUTSIDE OF THE BUILDING	LINING	2"	R-8	10,11
SUPPLY OR RETURN AIR	UNCONDITIONED SPACE OUTSIDE OF THE CONDITIONED BUILDING ENVELOPE	LINING OR WRAP	2"	R-6	10
SUPPLY OR RETURN AIR	UNCONDITIONED SPACE AND CONVEYING AIR WITHIN 15 DEG F OF SPACE TEMPERATURE (I.E. SUPPLY OR RETURN AIR PLENUMS)	WRAP	1"	R-3.3	9
SUPPLY AIR	CONDITIONED SPACE AND CONVEYING AIR LESS THAN 55F OR GREATER THAN 105F	WRAP	1"	R-3.3	9
SUPPLY AIR	CONDITIONED SPACE AND CONVEYING AIR BETWEEN 55F AND 105F	NONE	NONE	NONE	
RETURN, RELIEF OR EXHAUST AIR	CONDITIONED SPACE, DOWNSTREAM OF ENERGY RECOVERY AND UPSTREAM OF AUTOMATIC SHUTOFF DAMPER	WRAP	3"	R-8	9
RETURN, RELIEF OR EXHAUST AIR	CONDITIONED SPACE, DOWNSTREAM OF AUTOMATIC SHUTOFF DAMPER	WRAP	6"	R-16	9
EXHAUST AIR	CONDITIONED SPACE, UPSTREAM OF ENERGY RECOVERY DEVICE OR AUTOMATIC SHUTOFF DAMPER	NONE	NONE	NONE	
EXHAUST AIR	UNCONDITIONED SPACE OUTSIDE OF THE CONDITIONED BUILDING ENVELOPE, UPSTREAM OF ENERGY RECOVERY DEVICE	LINING OR WRAP	2"	R-6	10
EXHAUST AIR	OUTSIDE OF THE BUILDING, UPSTREAM OF ENERGY RECOVERY DEVICE	LINING	2"	R-8	10,11

NOTES:
1. SHEET METAL GAUGES AND FITTINGS PER SMACNA AND MACDONALD-MILLER DUCT CONSTRUCTION STANDARDS.
2. THERMAFLEX "GKM" OR EQUAL, WITH 12 FOOT MAXIMUM LENGTH.
3. INSTALL PER MFG. GUIDELINES AND INSTRUCTIONS.
4. UL 300 HOOD TO BE PROVIDED IN KITCHEN BY KITCHEN CONSULTANT. DUCTWORK SPRINKLERS NOT REQUIRED.
5. SLOPE AT 1/4" PER FOOT BACK TO SOURCE.
6. SEAMS TO BE CAULKED OR WELDED TO PREVENT CONDENSATION FROM LEAKING THROUGH.
7. INSULATE ONLY SINGLE WALL METALIC DUCT IN ACCESSIBLE LOCATIONS UP TO 7' AFF.
8. DUCT SYSTEMS GREATER THAN 3" WC SHALL BE LEAK TESTED IN ACCORDANCE WITH WSEC C403.10.2.3
9. WRAP INSULATION WEIGHT = 0.75 PCF
10. WRAP INSULATION WEIGHT = 1 PCF
11. INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED FROM DAMAGE INCLUDING THAT DUE TO SUNLIGHT, MOISTURE, EQUIPMENT MAINTENANCE AND WIND, AND SHALL PROVIDE SHIELDING FROM SOLAR RADIATION THAT CAN CAUSE DEGRADATION OF THE MATERIAL.

GENERAL NOTES:

- INSULATION THICKNESS SHOWN ABOVE IS EQUAL TO TOTAL MINIMUM REQUIRED R-VALUE. ALTERNATE INSULATION WITH EQUAL R-VALUE IS ALLOWED.

- All CONCEALED DUCTWORK TO BE PER MMFS EXPOSURE 0 (SEALANT, LABELS AND OTHER ITEMS VISIBLE ON OUTSIDE OF DUCTWORK. MAY HAVE SCRATCHES AND MINOR DENTS).
- All INTERIOR EXPOSED DUCTWORK WITHIN OCCUPIED AREAS TO BE PER MMFS EXPOSURE 1 (NO VISIBLE SEALANT, LABELS, DENTS OR WRITING. EXTERIOR WELDS CLEANED AND PAINTED).

MECHANICAL GENERAL ABBREVIATIONS

ABBR	FULL NAME	ABBR	FULL NAME	ABBR	FULL NAME
AC	AIR CONDITIONING UNIT	EWT	ENTERING WATER TEMPERATURE	NO	NORMALLY OPEN
AFF	ABOVE FINISHED FLOOR	FCU	FAN COIL UNIT	NOM	NOMINAL
AHU	AIR HANDLING UNIT	FD	FIRE DAMPER	NTS	NOT TO SCALE
AL	ALUMINUM	FLA	FULL LOAD AMPS	OBD	OPPOSED BLADE DAMPER
BAS	BUILDING AUTOMATION SYSTEM	FOB	FLAT ON BOTTOM	OD	OUTSIDE DIMENSION
BDD	BACK DRAFT DAMPER	FOT	FLAT ON TOP	POC	POINT OF CONNECTION
BI	BLACK IRON	FSD	FIRE SMOKE DAMPER	PRV	PRESSURE REDUCING VALVE
BOD	BOTTOM OF DUCT	GALV	GALVANIZED	PVC	POLYVINYL CHLORIDE
BOD	BOTTOM OF DUCT	GALV	GALVANIZED	PVC	POLYVINYL CHLORIDE
BOTT	BOTTOM	GC	GENERAL CONTRACTOR	REQ'D	REQUIRED
BTU	BRITISH THERMAL UNITS	GENX	GENERATOR EXHAUST	RPBA	REDUCED PRESSURE BACKFLOW ASSY
BTUH	BRITISH THERMAL UNITS PER HOUR	GLVNL	GALVANNEAL	RTU	ROOFTOP UNIT
CAT1	CATEGORY ONE VENT	GPM	GALLONS PER MINUTE	SA	SUPPLY AIR
CAT4	CATEGORY FOUR VENT	GREASE	GREASE DUCT	SD	SMOKE DAMPER
CFM	CUBIC FEET PER MINUTE	GWB	GYPSUM WALL BOARD	SL	SOUND LINED
CPVC	CPVC MATERIAL	HP	HORSE POWER, HEAT PUMP	SM	SHEET METAL
DB	DUCTBOARD	HVAC	HEATING, VENTILATION AND AIR COND.	SP	STATIC PRESSURE
DDC	DIRECT DIGITAL CONTROLS	HX	HEAT EXCHANGER	SS	STAINLESS STEEL
DEMO	DEMOLISH	ID	INSIDE DIMENSION	SUSP	SUSPENDED
DP	DIFFERENTIAL PRESSURE	LAT	LEAVING AIR TEMPERATURE	T	THERMOSTAT
DPM	DIFFERENTIAL PRESSURE MONITOR	LBS	POUNDS	TOD	TOP OF DUCT
DIFF	DIFFUSER	LWT	LEAVING WATER TEMPERATURE	TV	TURNING VANES
DMPR	DAMPER	MAT	MIXED AIR TEMPERATURE	TYP	TYPICAL
DN	DOWN	MBH	ONE THOUSAND BTUH	UNO	UNLESS NOTED OTHERWISE
E	EXISTING	MCA	MINIMUM CIRCUIT AMPACITY	VAV	VARIABLE AIR VOLUME
EAT	ENTERING AIR TEMPERATURE	MD	MOTORIZED DAMPER	VD	VOLUME DAMPER
EC	EGGCRATE	MIN	MINIMUM	VFD	VARIABLE FREQUENCY DRIVE
EER	ENERGY EFFICIENCY RATIO	MFR	MANUFACTURER	W	DUCT INSULATION WRAP
EF	EXHAUST FAN	M-M	MACDONALD-MILLER	W/	WITH
ELEV	ELEVATION	NC	NORMALLY CLOSED	WELD	WELDED
ESP	EXTERNAL STATIC PRESSURE	NIC	NOT IN CONTRACT	Ø	VOLTAGE PHASE & DUCT DIAMETER

PIPING SYSTEM ABBREVIATIONS

ABBR	FULL NAME	ABBR	FULL NAME	ABBR	FULL NAME
C	CONDENSATE INDIRECT DRAIN	GLWR	GLYCOL WATER RETURN	NGV	NATURAL GAS VENT
CA	AIR COMPRESSED	GLWS	GLYCOL WATER SUPPLY	PA	AIR PNEUMATIC
CDWR	CONDENSER WATER RETURN	HHWR	HEATING HOT WATER RETURN	PC	CONDENSATE PUMPED
CDWS	CONDENSER WATER SUPPLY	HHWS	HEATING HOT WATER SUPPLY	PCHR	CHILLED WATER (PROCESS) RETURN
CHRV	CHILLER RELIEF VENT	HPC	STEAM CONDENSATE HIGH PRESS	PCHS	CHILLED WATER (PROCESS) SUPPLY
CHWR	CHILLED WATER RETURN	HPS	STEAM HIGH PRESS	RGAS	REFRIGERANT HOT GAS
CHWS	CHILLED WATER SUPPLY	HRR	HEAT RECOVERY RETURN	RLIQ	REFRIGERANT LIQUID
CLN STM	STEAM CLEAN	HRS	HEAT RECOVERY SUPPLY	RSUC	REFRIGERANT SUCTION
CLR	CLOSED LOOP WATER RETURN	LPC	STEAM CONDENSATE LOW PRESS	SCHR	CHILLED WATER (SECONDARY) RETURN
CLS	CLOSED LOOP WATER SUPPLY	LPG	LIQUID PROPANE	SCHS	CHILLED WATER (SECONDARY) SUPPLY
COMB-PVC	AIR COMBUSTION PVC	LPS	STEAM LOW PRESS	SCV	STEAM CONDENSATE VENT
CRYV	CRYO VENT	LTCR	CHILLED WATER (LOW TEMP) RETURN	SPC	STEAM CONDENSATE PUMPED
DTWS	DUAL TEMP WATER SUPPLY	LTCS	CHILLED WATER (LOW TEMP) SUPPLY	SV	STEAM VENT
DTWR	DUAL TEMP WATER RETURN	MPC	STEAM CONDENSATE MEDIUM PRESS	VAC	VACUUM
FOC	FUEL OIL SECONDARY CONTAINMENT	MPS	STEAM MEDIUM PRESS	VAC-E	VACUUM EXHAUST
FOF	FUEL OIL FILL	MUW	MAKE-UP WATER	VRFG	VRF HOT GAS
FOR	FUEL OIL RETURN	NG-CONDUIT	NATURAL GAS CONDUIT	VRFL	VRF HIGH PRESS LIQUID
FOS	FUEL OIL SUPPLY	NG-H	NATURAL GAS HIGH PRESS	VRFS	VRF LOW PRESS SUCTION
FOV	FUEL OIL VENTS	NG-L	NATURAL GAS LOW PRESS		
GENX	GENERATOR EXHAUST	NG-M	NATURAL GAS MEDIUM PRESS		

HVAC SYSTEM ABBREVIATIONS

ABBR	FULL NAME	ABBR	FULL NAME	ABBR	FULL NAME
COMB-GALV	COMBUSTION AIR	EA AL	EXHAUST ALUMINUM	OA	OUTSIDE AIR
SA	SUPPLY AIR LP	EA SS	EXHAUST SS 304	OA-KOOL	OUTSIDE AIR KOOLDUCT
SA-KOOL	SUPPLY AIR LP KOOLDUCT	EA AL WELD	EXHAUST ALUMINUM WELDED	RLF	RELIEF AIR
SA AL	SUPPLY AIR LP ALUMINUM	EA GALV WELD	EXHAUST GALV WELDED	RA	RETURN AIR
SA SS	SUPPLY AIR LP SS 304 2B	EA GLVNL WELD	EXHAUST GALVANNEAL WELDED	DB	DUCTBOARD
SA AL WELD	SUPPLY AIR LP ALUMINUM WELDED	EA SS WELD	EXHAUST SS 304 WELDED	FLU-CAT1	FLUE VENT - CATEGORY 1
SA GALV WELD	SUPPLY AIR MP GALV WELDED	EA BI GREASE	EXHAUST GREASE BLACK IRON WELD	FLU-CAT4	FLUE VENT - CATEGORY 4
SA GLVNL WELD	SUPPLY AIR MP GALVANNEAL WELD	EA GALV GREASE	EXHAUST GREASE GALV WELDED	FLU-CPVC	FLUE VENT - CPVC MATERIAL
SA SS WELD	WELDED SUPPLY AIR LP SS 304 2B	EA GALV SS GREASE	EXHAUST GREASE SS 304 WELDED	FLU-SS	FLUE VENT - SHOP BUILT SS 304
EA	EXHAUST AIR	MUA	MAKE-UP AIR	FLU-GALV	FLUE VENT - SHOP BUILT GALV

PIPING SYMBOL LEGEND

SYMBOL	FULL NAME	ABBR	SYMBOL	FULL NAME	ABBR
	VALVE TWO-WAY CONTROL	2WAY	BTU	METER BTU	BTU MTR
	VALVE THREE-WAY CONTROL	3WAY	M	SUB-METER WATER FLOW	MTR
AF	VALVE AUTOMATIC FLOW CONTROL	AF		PRESSURE / TEMPERATURE PORT	P&T
	VALVE BALANCING	BALV	DP	SENSOR PRESSURE DIFFERENTIAL	DP
	VALVE BALANCING AUTOMATIC	ABALV		STRAINER	STRN
	VALVE BALL - FULL PORTED	BV		SUCTION DIFFUSER	SUC DIFF
	VALVE BALL - W/ 3/4" HOSE ADAPTOR	BV W/ HA		UNION	UNION
	VALVE BUTTERFLY	BFV		HOSE BIBB	HB
	VALVE BUTTERFLY - W/ MEMORY STOP	BFVM		PIPE BREAK - PIG TAIL	
	VALVE CHECK	CV		POINT OF CONNECTION	POC
	VALVE CIRCUIT SETTER	CS		CONCENTRIC REDUCER	CR
	VALVE GAS COCK	GC		ECCENTRIC REDUCER	ER
	VALVE GATE	GV	6" CHWS	PIPE - EXISTING	
	VALVE GLOBE	GLV		PIPE - DEMO	
	VALVE PRESSURE REDUCING	PRV	6" CHWS	PIPE - NEW	
	VALVE PRESSURE RELIEF	RV	6" CHWS	PIPE - FUTURE	
S	VALVE SOLENOID	SV	6" CHWS	PIPE - SIZE & ABBREVIATION	
	AUTOMATIC AIR VENT	AV	6" CHWS-W	PIPE - SIZE & ABBREVIATION WITH INSULATION	
	MANUAL AIR VENT	MAV		THERMAL EXPANSION DEVICE	EXP
	WATER HAMMER ARRESTOR	WHA		FLEXIBLE CONNECTION	
	DOUBLE CHECK BACKFLOW PREVENTER	DCBP		FLEXIBLE PIPE	
	REDUCED PRESS. BACKFLOW PREVENTER	RPBP		PIPE - HEAT TRACE	
	BULB WELL	BW		PUMP	
	FLOW DIRECTION ARROW			AIR SEPARATOR	AIR SEP
P	PRESSURE INDICATOR	PRESS		CHEMICAL POT FEEDER	CPOT
S	SENSOR	SNSR		HEAT EXCHANGER	HTX
	TEMPERATURE INDICATOR	THERM		EXPANSION TANK	ET

HVAC SYMBOL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
14x12 SA	BARE RECTANGULAR SHEETMETAL		RECTANGULAR SIDE-WALL GRILLE WITH / WITHOUT OBD
14x12 SA-SL	SOUNDLINE SHEETMETAL (GENERAL NOTES)		SUPPLY DUCT UP/DOWN
14x12 SA-W	SHEETMETAL W/ INSULATION (GENERAL NOTES)		EXHAUST DUCT UP/DOWN
12ø SA	BARE ROUND SHEETMETAL		RETURN DUCT UP/DOWN
12ø SA-W	ROUND SHEETMETAL W/ INSULATION (GENERAL NOTES)		SUPPLY AIR TERMINAL RECTANGULAR AND SQUARE
14x12ø SA	OVAL SHEETMETAL W/ INSULATION (GENERAL NOTES)		RETURN AIR TERMINAL RECTANGULAR AND SQUARE
14x12ø SA-W	EXAMPLE OF EXISTING		EXHAUST AIR TERMINAL RECTANGULAR AND SQUARE
14x12 SA	EXAMPLE OF EXISTING		SUPPLY AIR SLOT DIFFUSER
	EXAMPLE OF DEMO		RETURN AIR SLOT DIFFUSER
14x12 SA	EXAMPLE OF NEW		EXHAUST AIR SLOT DIFFUSER
14x12 SA	EXAMPLE OF FUTURE (NIC)		POINT OF CONNECTION
14x12 SA-Q	EXPOSED QUALITY SHEETMETAL		CENTER LINE
14x12 SA-C	CLEANROOM QUALITY DUCTWORK	T	THERMOSTAT
14x12 SA-DB	DUCTBOARD (1" FIBERGLASS)	CO	CARBON MONOXIDE SENSOR
	CONTINUATIION OF ROUND DUCT	NO2	NITROGEN DIOXIDE SENSOR
	CONTINUATION OF RECTANGULAR DUCT	H	HUMIDITY SENSOR
	AIR FLOW IN SYMBOL	S	OTHER SENSOR
	AIR FLOW OUT SYMBOL	SD	SMOKE DETECTOR
AHU-001	MECHANICAL EQUIPMENT TAG	$	ELECTRICAL SWITCH
1	KEYED NOTE		MITERED ELBOW WITH TURNING VANES
	ACCESS DOORS	- -	DOUBLE NEGATIVE PRESSSURE
	RATED ENCLOSURE	+ +	DOUBLE POSITIVE PRESSSURE
14ø 14ø	FLEX DUCT	NEUT	NEUTRAL PRESSSURE
24ø	EQUIPMENT FLEX ROUND CONNECTOR	-	SINGLE NEGATIVE PRESSSURE
24x24	EQUIPMENT FLEX RECTANGULAR CONNECTOR	+	SINGLE POSITIVE PRESSSURE
	VOLUME DAMPER / REMOTE DAMPER	DPM	DIFFERENTIAL PRESSURE MONITOR
	RADIAL AIR TERMINAL		DPM SENSOR SYMBOL
	T-BAR LAY-IN METAL EGGCRATE (RETURN/EXH)		ROOM AIRFLOW ARROW

HVAC GENERAL NOTES - 2021 WSEC

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET WHICH MAY BE REQUIRED. THE HVAC CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS, AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE 2021 EDITIONS OF THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE 2021 WSEC, AND LOCAL CODES AND ORDINANCES.
3. ALL DUCT SIZE ANNOTATIONS REPRESENT ACTUAL OUTSIDE DIMENSIONS OF THE SHEET METAL (UNO). IF APPLICABLE, INTERIOR INSULATION WILL NEED TO BE ACOUNTED FOR WHEN DETERMINING ACTUAL DUCT FREE AREA. SEE DUCTWORK INSULATION SCHEDULE FOR ADDITIONAL SPACE REQUIRED FOR EXTERIOR (WRAP) INSULATION.
4. DUCT CONSTRUCTION AND HANGING SHALL COMPLY WITH CHAPTER 6 OF THE 2021 IMC AND WITH CURRENT SMACNA STANDARDS. EARTHQUAKE BRACE ALL DUCTS 28" DIA AND LARGER WHICH ARE SUSPENDED MORE THAN 12" BELOW STRUCTURAL SYSTEM.
5. JOINTS OF MEDIUM AND HIGH VELOCITY DUCT SYSTEMS SHALL BE SEALED WITH GASKETS OR LISTED MASTIC TYPE DUCT SEALANT.
6. DUCTS SHALL BE INSULATED AS INDICATED ON PLANS, PER 2021 WASHINGTON STATE ENERGY CODE, COMMERCIAL PROVISIONS. SEE DUCTWORK INSULATION SCHEDULE.

   - ACOUSTICAL SOUND LINING, WHERE INDICATED, SHALL BE 1" FIBER-FREE DUCT LINING.
7. FLEX DUCTS SHALL CONSIST OF A REINFORCED VAPOR BARRIER, 1 1/2" FIBERGLASS INSULATION, AND NON-PERFORATED INTERIOR LINER WITH WIRE HELIX. DUCT SHALL BE A UL 181 LISTED CLASS 1 AIR DUCT. FLEX DUCTS SHALL ONLY BE USED WHERE SHOWN AND SHALL NOT EXCEED 12' IN LENGTH UNLESS NOTED OTHERWISE.
8. PROVIDE EARTHQUAKE RESTRAINT FOR HVAC EQUIPMENT IN ACCORDANCE WITH SECTION 1613 OF THE 2021 IBC.
9. PROVIDE FIRE DAMPERS, SMOKE DAMPERS AND FIRE/SMOKE DAMPERS WHERE INDICATED ON PLANS AND AS REQUIRED BY SECTION 717.5 OF THE 2021 IBC AND SECTION 607.5 OF THE 2021 IMC. PROVIDE CEILING FIRE DAMPERS WHERE INDICATED ON PLANS AND AS REQUIRED BY SECTION 717.6 OF THE 2021 IBC AND SECTION 607.6 OF THE 2021 IMC. INSTALL FIRE DAMPERS SMOKE DAMPERS AND FIRE/SMOKE DAMPERS IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS, THE TERMS OF THEIR LISTING, AND THE REQUIREMENTS OF THE CODE.
10. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOORS SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
11. PROVIDE RETURN DUCT SMOKE DETECTOR AUTOMATIC SHUT DOWN OF ALL NEW HEATING, COOLING, OR VENTILATION EQUIPMENT MOVING IN EXCESS OF 2000 CFM IN ACCORDANCE WITH SECTION 606 OF THE 2021 IMC. POWER AND INTERLOCK WIRING WITH THE BUILDING FIRE ALARM SYSTEM IS BY THE ELECTRICAL CONTRACTOR. BAS TO MONITOR FIRE ALARM CONTROL PANEL AND SHUT DOWN ALL FAN TERMINAL UNITS DURING ANY BUILDING FIRE ALARM EVENT, IN ACCORDANCE WITH 2021 IMC 606.2.2.
12. HVAC EQUIPMENT, VALVES AND DAMPERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS. UNLESS SHOWN ON ARCHITECTURAL DRAWINGS, REQUIRED ACCESS PANELS SHALL BE PROVIDED AND INSTALLED BY THE GENERAL CONTRACTOR. MINIMUM ACCESS DOOR SIZE FOR VALVES AND DAMPERS TO BE 18" X 18".
13. MOTORS STARTERS NOT LISTED AS BEING PROVIDED IN THE HVAC EQUIPMENT SCHEDULES ARE TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
14. WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS OF THE ACTUAL INSTALLATION TO BE PROVIDED TO THE BUILDING OWNER. RECORD DRAWINGS SHALL INCLUDE AS A MINIMUM THE LOCATION AND PERFORMANCE DATA ON EACH PIECE OF EQUIPMENT, GENERAL CONFIGURATION OF DUCT AND PIPE DISTRIBUTION SYSTEM, INCLUDING SIZES, AND THE TERMINAL AIR AND WATER DESIGN FLOW RATES.
15. OPERATING AND MAINTENANCE MANUALS TO BE PROVIDED TO THE BUILDING OWNER THAT INCLUDE: SUBMITTAL DATA, NAMES AND ADDRESSES OF AT LEAST ONE SERVICE AGENCY, HVAC CONTROLS SYSTEM MAINTENANCE AND CALIBRATION INFORMATION AND A COMPLETE OPERATIONAL NARRATIVE FOR EACH SYSTEM.
16. COMMISSIONING IS REQUIRED ON THIS PROJECT IN ACCORD WITH 2021 WASHINGTON STATE ENERGY CODE (WSEC), COMMERCIAL PROVISIONS AND SECTION C408. SEE SCHEDULED COMMISSINING AND BALANCING SCHEDULE FOR FURTHER DETAIL.
17. A COMPLETE REPORT OF TEST PROCEDURES AND RESULTS SHALL BE PREPARED AND FILED WITH THE OWNER
18. DAMPERS USED FOR OUTDOOR AIR INTAKE, EXHAUST, OR RELIEF SHALL HAVE THE FOLLOWING MAXIMUM LEAKAGE RATES AT 1" W.G. (PER AMCA STANDARD 500D): MOTORIZED DAMPERS: 4 CFM/S.F. GRAVITY DAMPERS: 20 CFM/S.F. (40 CFM/S.F. FOR DAMPERS SMALLER THAN 24" IN EITHER DIMENSION) PER 2021 WSEC C403.7.8.3.
19. OUTSIDE AIR INTAKE, EXHAUST, AND RELIEF DAMPERS SERVING CONDITIONED SPACES MUST BE MOTORIZED (FAIL CLOSED) PER 2021 WSEC SECTION C403.7.8. EXCEPT AS ALLOWED BY WSEC.
20. MATERIALS WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL BE LISTED AND LABELED AS HAVING A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84 OR UL 723, EXCEPT AS NOTED IN SECTION 602.2.1 OF THE 2021 IMC.
21. ALL MECHANICAL WORK SHOWN ON DRAWINGS INTENDED TO BE INSTALLED SOLELY BY MACDONALD -MILLER FACILITY SOLUTIONS. MACDONALD-MILLER FACILITY SOLUTIONS SHALL NOT BE HELD ACCOUNTABLE FOR ANY DESIGN OR CONSTRUCTION DEFICIENCIES IF WORK IS PERFORMED BY AN OUTSIDE PARTY.

LEGAL DESCRIPTION

PARCEL NUMBER: 9810000015

LEGAL DESCRIPTION:

Section 34 Township 20 Range 04 Quarter 23 WOODS 1ST CANNOT BE SOLD OR SUBD WITHOUT 001-4 & 001-6 LOT 1 OF BLA 2010-06-15-5001 DESC AS BEG AT A PT 30 FT E & 151.05 FT N OF INTER OF 15TH AV SE & 3RD ST SE TH N 322.08 FT TH N 305.27 FT TH E 692.45 FT TH S 78 DEG 58 MIN 52 SEC E 0.44 FT TH S 49.97 FT TH E 40.98 FT TH S 43.29 FT TH N 41.04 FT TH S 181.78 FT TH W 30 FT TH S 196.6 FT TO BEG CURVE CONCAVE TO NW HAVING A RAD OF 19.5 FT & C/A OF 59 DEG 50 MIN 20 SEC & BEING SUBTENDED BY A CHORD WHICH BEARS S 56 DEG 53 MIN 06 SEC W 19.45 FT TH SWLY & WLY ALG SD CURVE 20.37 FT TO PT OF REVERSE CURV TH WLY & SWLY & SLY 90.9 FT CONCAVE TO SE HAVING A RAD OF 60.5 FT & C/A OF 86 DEG 05 MIN 15 SEC TH S 3.26 FT TH SLY, SWLY & WLY 14.92 FT ALG CURVE CONCAVE TO NW HAVING A RAD OF 9.5 FT & C/A OF 89 DEG 59 MIN 59 SEC TH W 107.24 FT TO BEG OF CURVE CONCAVE TO NW HAVING A RAD OF 55.98 FT & C/A OF 81 DEG 57 MIN 04 SEC & BEING SUBTENDED BY CHORD WHICH BEARS S 49 DEG 34 MIN 17 SEC W 73.42 FT TH SLY, SWLY & WLY ALG SD CURVE 80.07 FT TH W 6.43 FT TH S 131.8 FT TH SLY & SELY 14.27 FT ALG SD CURVE CONCAVE TO E HAVING A RAD OF 25 FT & C/A OF 32 DEG 42 MIN 11 SEC TH N 88 DEG 06 MIN 01 SEC W 77.46 FT TO BEG OF CURVE CONCAVE TO N HAVING A RAD OF 40 FT & A C/A OF 43 DEG 31 MIN 52 SEC & BEING SUBTENDED BY CHORD WHICH BEARS S 70 DEG 08 MIN 03 SEC W 29.66 FT TH SWLY & WLY ALG SD CURVE 30.39 FT TH N 88 DEG 06 MIN 01 SEC W 238.87 FT TO BEG OF A CURVE CONCAVE TO NE HAVING A RAD OF 63 FT & A C/A OF 65 DEG 47 MIN 29 SEC & BEING SUBTENDED BY CHORD WHICH BEARS N 48 DEG 11 MIN 19 SEC W 68.43 FT TH WLY, NWLY & NLY ALG SD CURVE 72.34 FT TH N 12 DEG 28 MIN 32 SEC W 81.31 FT TO POB EXC THAT POR DETER TAXABLE & THAT POR DETER EXEMPT PER DOR REG # 09663-004 TOG/W VAC ORD 2958 EASE OF RECORD OUT OF 04-20-34-2-019, 981000-001-3, 055-0, 056-0, 059-0, 060-0, 061-0, 062-0 SEG 2011-0091 BB 10/11/10 BB DC00354165 5/2/2014 KG

MECHANICAL SCOPE OF WORK

PROJECT IS A TWO PHASE TENANT IMPROVEMENT WITH THE PURPOSE OF UPGRADING THE FACILITIES KITCHEN AND FOOD PREPARATION CAPABILITIES.

PHASE 1:
INSTALLATION OF NEW DUCTWORK, HEATING WATER PIPING, GRILLES AND DIFFUSERS PER DRAWINGS. INSTALLATION OF NEW ROOFTOP MAKEUP AIR UNIT, GREASE HOOD EXHAUST FAN, DISHWASHER EXHAUST FAN, POTWASH EXHAUST FAN, AND GENERAL KITCHEN EXHAUST FAN. INSTALLATION OF NEW HVAC SHAFTS, DUCTWORK, AND TERMINAL UNITS PER DRAWINGS. DEMOLITION OF EXISTING HVAC SYSTEMS PER DRAWINGS.

PHASE 2:
INSTALLATION OF DUCTWORK, GRILLES AND DIFFUSERS PER DRAWINGS. INSTALLATION OF NEW GREASE DUCT AND MAKEUP AIR DUCT USING EXISTING HVAC SHAFTS AND FANS. INSTALLATION OF NEW AND REUSED TERMINAL UNITS. DEMOLITION OF EXISTING HVAC SYSTEMS PER DRAWINGS.

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DRAWING SHEET INDEX - HVAC

NUMBER	TITLE
TM0.01	SCHEDULES - MECHANICAL
TM0.02	SCHEDULES - MECHANICAL
TM0.03	SCHEDULES - MECHANICAL
DM2.01	LEVEL 01 OVERALL DEMOLITION FLOOR PLAN - MECHANICAL
DM2.01A	LEVEL 01 DEMOLITION FLOOR PLAN - PHASE 1 AREA A - MECHANICAL
DM2.01B	LEVEL 01 DEMOLITION FLOOR PLAN - PHASE 1 AREA B - MECHANICAL
DM2.01C	LEVEL 01 DEMOLITION FLOOR PLAN - PHASE 2 AREA C - MECHANICAL
DF2.01A	LEVEL 01 DEMOLITION FLOOR PLAN - PHASE 1 AREA A - FITTING
DF2.01B	LEVEL 01 DEMOLITION FLOOR PLAN - PHASE 1 AREA B - FITTING
TM2.01	LEVEL 01 OVERALL FLOOR PLAN - MECHANICAL
TM2.01A	LEVEL 01 FLOOR PLAN - PHASE 1 AREA A - MECHANICAL
TM2.01B	LEVEL 01 FLOOR PLAN - PHASE 1 AREA B - MECHANICAL
TM2.01C	LEVEL 01 FLOOR PLAN - PHASE 2 AREA C - MECHANICAL
TF2.01A	LEVEL 01 FLOOR PLAN - PHASE 1 AREA A - FITTING
TF2.01B	LEVEL 01 FLOOR PLAN - PHASE 1 AREA B - FITTING
TM2.02	LEVEL 02 FLOOR PLAN - PHASE 1 - MECHANICAL
TM2.03	LEVEL 03 FLOOR PLAN - PHASE 1 - MECHANICAL
TM2.04	LEVEL 04 FLOOR PLAN - PHASE 1 - MECHANICAL
TM2.05	LEVEL 05 FLOOR PLAN - PHASE 2 - MECHANICAL
TM3.01	LEVEL 01 SMOKE CONTROL FLOOR PLAN - MECHANICAL
TM4.01	AIRFLOW DIAGRAMS - PHASE 1 - MECHANICAL
TM4.02	AIRFLOW DIAGRAMS - PHASE 2 - MECHANICAL
TM6.01	DETAILS - MECHANICAL

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100% CD SET 06/30/2025

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MultiCare
Good Samaritan Hospital

MULTICARE

KEY PLAN

ISSUE CHART

MARK	ISSUE	DATE

Job Number 7725-4055

TITLE

SCHEDULES - MECHANICAL

SHEET NUMBER

TM0.01

ROOM CONDITIONING SCHEDULE

ROOM DATA					ASHRAE 170 REQUIREMENTS						DESIGN								
NAME	CODE SIMILAR	FLOOR AREA (SF)	HEIGHT (FT)	ROOM VOLUME (CUFT)	PRESSURE TO ADJACENT SPACE	MIN OUTSIDE ACH	MIN TOTAL ACH	100% EXHAUST	HUMIDITY (%RH)	ROOM TEMP (°F)	PRESSURE TO ADJACENT SPACE	OUTSIDE ACH	MIN OUTSIDE AIRFLOW (CFM)	TOTAL ACH	SUPPLY AIR (CFM)	RETURN AIR (CFM)	EXHAUST AIR (CFM)	HUMIDITY (%RH)	ROOM TEMP (°F)
PHASE 0 AREAS																			
TEMP LINEN STORAGE	CLEAN LINEN STORAGE	838	7.75	6495	POSITIVE	NR	2	NR	NR	72-78	POSITIVE	2.3	250	2.3	250	0	250	NR	72-78
TEMP DRY STORAGE	FOOD AND SUPPLY STORAGE	1380	7.75	10695	NR	NR	2	NR	NR	72-78	NR	2.1	370	2.1	370	0	370	NR	72-78
PHASE 1 AREAS																			
DRY STORAGE	FOOD AND SUPPLY STORAGE	976	7.75	7564	NR	NR	2	NR	NR	72-78	NR	4.8	600	4.8	600	0	600	NR	72-78
PREP AREA	FOOD PREPERATION AREAS	474	7.75	3674	NR	2	10	NR	NR	72-78	NR	18.3	1120	18.3	1120	0	1120	NR	72-78
COOK AREA RIGHT	FOOD PREPERATION AREAS	445	7.75	3449	NR	2	10	NR	NR	72-78	NR	27.5	1580	55.7	3160	0	3200	NR	72-78
COOK AREA LEFT	FOOD PREPERATION AREAS	850	7.75	6588	NR	2	10	NR	NR	72-78	NR	22.6	2480	46.5	4960	0	5100	NR	72-78
JANITOR CLOSET	ENVIRONMENTAL SERVICES	72	7.75	558	NEGATIVE	NR	10	YES	NR	NR	NEGATIVE	0.0	0	16.1	0	0	150	NR	NR
WAREWASH	WAREWASH	988	7.75	7657	NEGATIVE	NR	NR	YES	NR	NR	NEGATIVE	30.6	3900	31.7	3900	0	4045	NR	NR
TUBE FEEDING STORAGE	FOOD AND SUPPLY STORAGE	138	7.75	1070	NR	NR	2	NR	NR	72-78	NR	2.8	50	2.8	50	0	0	NR	72-78
EVS BREAKROOM	OFFICE BREAKROOM	1230	7.75	9533	NR	NR	NR	NR	NR	NR	NR	5.5	875	5.5	875	0	870	NR	NR
EVS SUPERVISOR OFFICE	OFFICE	141	7.75	1093	NR	NR	NR	NR	NR	NR	NR	7.7	140	7.7	140	0	140	NR	NR
EVS PRIVATE OFFICE	OFFICE	112	7.75	868	NR	NR	NR	NR	NR	NR	NR	5.2	75	5.2	75	0	75	NR	NR
DIETITIAN OFFICES	OFFICE	363	7.75	2813	NR	NR	NR	NR	NR	NR	NR	6.0	280	6.0	280	0	280	NR	NR
WORKROOM	OFFICE	220	7.75	1705	NR	NR	NR	NR	NR	NR	NR	3.5	100	8.8	100	0	250	NR	NR
NUTRITION MGR OFFICE	OFFICE	164	7.75	1271	NR	NR	NR	NR	NR	NR	NR	4.0	85	4.0	85	0	85	NR	NR
TOUCHDOWN 1111	OFFICE	85	7.75	659	NR	NR	NR	NR	NR	NR	NR	6.8	75	6.8	75	0	0	NR	NR
TOUCHDOWN 1112	OFFICE	85	7.75	659	NR	NR	NR	NR	NR	NR	NR	6.8	75	6.8	75	0	0	NR	NR
PHASE 2 AREAS																			
COOK AREA PODS 1 & 2	FOOD PREPERATION AREAS	966	7.75	7487	NR	2	10	NR	NR	72-78	NR	7.2	900	26.8	3060	0	3345	NR	72-78
COOK AREA PODS 3 & 4	FOOD PREPERATION AREAS	1390	7.75	10773	NR	2	10	NR	NR	72-78	NR	5.1	910	18.8	3130	0	3370	NR	72-78
BEVERAGE & HOLDING	FOOD PREPERATION AREAS	421	7.75	3263	NR	2	10	NR	NR	72-78	NR	2.6	140	9.7	525	0	0	NR	72-78
PRODUCTION MGR OFFICE	OFFICE	100	7.75	775	NR	NR	NR	NR	NR	NR	NR	1.5	20	5.8	75	0	0	NR	NR
CHEF OFFICE	OFFICE	120	7.75	930	NR	NR	NR	NR	NR	NR	NR	1.3	20	4.8	75	0	0	NR	NR

1. "NR" INDICATES NO REQUIREMENT.
2. DOH LICENSED HOSPITALS: ROOM AIRFLOW REQUIREMENTS ARE BASED ON ASHRAE 170-2021 AS ADOPTED BY THE 2022 FGI GUIDELINES.

2021 WASHINGTON STATE ENERGY CODE COMMISSIONING AND BALANCING SCHEDULE

COMMISSIONING IN COMPLIANCE WITH 2021 WASHINGTON STATE ENERGY CODE (WSEC) SECTION C408 SHALL BE REQUIRED FOR ALL NEW SYSTEMS OR MODIFIED PORTIONS OF SYSTEMS UNLESS THE SYSTEMS MEET ONE OR MORE OF THE FOLLOWING EXCEPTIONS:

EXCEPTION 1: INSTALLED TOTAL MECHANICAL EQUIPMENT THAT ARE NOT REQUIRED TO COMPLY WITH SECTION C403.3.5 WHERE THE CAPACITY IS LESS THAN 180,000 BTU/H (15 TONS) COOLING CAPACITY AND LESS THAN 240,000 BTU/H (20 TONS) HEATING CAPACITY AND ENERGY RECOVERY VENTILATION (ERV) EQUIPMENT IS LESS THAN 300 CFM CAPACITY.

EXCEPTION 2: SERVICE WATER HEATING SYSTEMS IN BUILDNGS WITH SERVICE WATER HEATING SYSTEMS CAPACITY LESS THAN 200,000 BTU/H AND THERE ARE NO POOLS OR PERMANENT SPAS, SOLAR THERMAL HEATING, RECIRCULATION PUMPS, AND HEAT PUMP WATER HEATERS (EXCEPT PACKAGED UNITS FOR RESIDENTIAL USE).

EXCEPTION 4: REFRIGERATION SYSTEMS LIMITED TO SELF CONTAINED UNITS.

THE COMMISSIONING PROFESSIONAL SHALL MEET ONE OF THESE MINIMUM REQUIREMENTS:

1) AN INDIVIDUAL WHO IS CERTIFIED BY AN ANSI/ISO/IEC 17024:2012 ACCREDITED ORGANIZATION TO LEAD, PLAN, COORDINATE AND MANAGE COMMISSIONING TEAMS AND IMPLEMENT THE COMMSSIONING PROCESS.

THE COMMISSIONING PROFESSIONAL SHALL PERFORM THE FOLLOWING TASKS:

1) DEVELOPMENT AND EXECUTION OF THE COMMISIONING PLAN, INCLUDING ALL SUBSECTIONS OF WSEC SECTION C408.1.2.
2) REVIEW OF BUILDING DOCUMENTATION AND CLOSE OUT SUBMITTALS.
3) PREPAIRING THE FINAL COMMIISSIONING REPORT IN ACCORDANCE WITH WSEC SECTION C408.1.3.

ALL EQUIPMENT/SYSTEMS LISTED IN DRAWING EQUIPMENT SCHEDULES SHALL BE COMMISSIONED UNLESS LISTED AS AN EXCEPTION WITHIN THIS SCHEDULE.

WHERE THE CERTIFIED COMMISSIONING PROFESSIONAL'S CONTRACT OR EMPLOYMENT IS OTHER THAN DIRECTLY WITH THE BUILDING OWNER, AN IN-HOUSE COMMISSIONING DISCLOSURE AND CONFLICT MANAGEMENT PLAN SHALL BE A PART OF THE COMMISSIONING PROCESS. A COPY SHALL BE INCLUDED IN THE COMMISSIONING PLAN. THIS PLAN SHALL DISCLOSE THE CERTIFIED COMMISSIONING PROFESSIONAL'S CONTRACTUAL RELATIONSHIP WITH OTHER TEAM MEMBERS AND PROVIDE A CONFLICT MANAGEMENT PLAN DEMONSTRATING THAT THE CERTIFIED COMMISSIONING PROFESSIONAL IS FREE TO IDENTIFY ANY ISSUES DISCOVERED AND REPORT DIRECTLY TO THE OWNER.

FUNCTIONAL PERFORMANCE TESTING SHALL BE CONDUCTED FOR MECHANICAL SYSTEMS IN WSEC SECTIONS C403; SERVICE WATER HEATING SYSTEMS IN WSEC SECTION C404; EQUIPMENT, APPLIANCES AND SYSTEMS INSTALLED TO COMPLY WITH WSEC SECTION C406 OR C407; ENERGY METERING IN WSEC SECTION C409; AND REFRIGERATION SYSTEMS IN WSEC SECTION C410. WRITTEN PROCEDURES WHICH CLEARLY DESCRIBE THE INDIVIDUAL SYSTEMATIC TEST PROCEDURES, THE EXPECTED SYSTEM RESPONSE OR ACCEPTANCE CRITERIA FOR EACH PROCEDURE, THE ACTUAL RESPONSE OR FINDINGS, AND ANY PERTINENT DISCUSSION SHALL BE FOLLOWED. THIS TESTING SHALL INCLUDE CONTROL SYSTEMS WHICH WILL BE TESTED TO DOCUMENT THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT, AND SYSTEMS ARE CALIBRATED AND ADJUSTED TO OPERATE IN ACCORDANCE WITH APPROVED CONSTRUCTION DOCUMENTS. TESTING SHALL AFFIRM THE CONDITIONS REQUIRED WITHIN WSEC SECTIONS C408.2 THROUGH C408.7 UNDER SYSTEM TESTING.

FOR PROJECTS WITH SEVEN OR FEWER SIMILAR SYSTEMS, EACH SYSTEM SHALL BE TESTED. FOR PROJECTS WITH MORE THAN SEVEN SYSTEMS, TESTING SHALL BE DONE FOR EACH UNIQUE COMBINATION OF CONTROLS TYPE. WHERE MULTIPLES OF EACH UNIQUE COMBINATION OF CONTROL TYPES EXIST, NO FEWER THAN 20 PERCENT OF EACH COMBINATION SHALL BE TESTED UNLESS THE CODE OFFICIAL OR DESIGN PROFESSIONAL REQUIRES A HIGHER PERCENTAGE TO BE TESTED. WHERE 30 PERCENT OR MORE OF THE TESTED SYSTEM FAIL, ALL REMAINING IDENTICAL COMBINATIONS SHALL BE TESTED.

A COMMISSIONING REPORT SHALL BE COMPLETED AND CERTIFIED BY THE CERTIFIED COMMISSIONING PROFESSIONAL AND DELIVERED TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT. THE REPORT SHALL BE ORGANIZED WITH MECHANICAL, SERVICE WATER HEATING, CONTROLLED RECEPTACLE AND LIGHTING CONTROL SYSTEMS, ENERGY METERING, AND REFRIGERATION FINDINGS IN SEPA-RATE SECTIONS TO ALLOW INDEPENDENT REVIEW. THE REPORT SHALL RECORD THE ACTIVITIES AND RESULTS OF THE COMMISSIONING PROCESS AND BE DEVELOPED FROM THE FINAL COMMISSIONING PLAN WITH ALL OF ITS ATTACHED APPENDICES. THE REPORT SHALL INCLUDE:

1) RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
2) DISPOSITION OF DEFIIENCIES FOUND DURING TESTING, INCLUDING DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED.
3) FUNCTIONAL PERFOMANCE TEST PROCEDURES USED DURING THE COMMSIONING PROCESS INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE, PROVIDED HEREIN REPEATABILITY.

4) COMMSIONING PLAN.
5) TESTING, ADJUSTING AND BALANCING REPORTS.

EXCEPTION: DEFERRED TESTS WICH CANNOT BE PERFORMED A THE TIME OF REPORT PREPARATION DUE TO CLIMATE CONDITIONS.

PRIOR TO THE FINAL MECHANICAL AND PLUMBING INSPECTIONS OR OBTAINING A CERTIFICATE OF OCCUPANCY, THE CERTIFIED COMMISSIONING PROFESSIONAL SHALL PROVIDE EVIDENCE OF BUILDING COMMISSIONING IN ACCORDANCE WITH WSEC SECTION C408.1.4.1.

THE CODE OFFICIAL SHALL BE PERMITTED TO REQUIRE THAT A COPY OF THE COMMISSIONING REPORT BE MADE AVAILABLE FOR REVIEW BY THE CODE OFFICIAL.

MECHANICAL EQUIPMENT AND CONTROLS SUBJECT TO WSEC SECTION C403 SHALL BE INCLUDED IN THE COMMISSIONING PROCESS REQUIRED BY SECTION C408.1. THE COMMISSIONING PROCESS SHALL MINIMALLY INCLUDE ALL ENERGY CODE REQUIREMENTS FOR WHICH THE CODE STATES THAT EQUIPMENT OR CONTROLS SHALL "BE CAPABLE OF" OR "CONFIGURED TO" PERFORM SPECIFIC FUNCTIONS.

HVAC SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING STANDARDS. AIR AND WATER FLOW RATES SHALL BE MEASURED AND ADJUSTED TO DELIVER FINAL FLOW RATES WITHIN THE TOLERANCES PROVIDED IN THE PROJECT SPECIFICATIONS. TEST AND BALANCE ACTIVITIES SHALL INCLUDE AIR SYSTEM AND HYDRONIC SYSTEM BALANCING.

EACH SUPPLY AIR OUTLET AND ZONE TERMINAL DEVICE SHALL BE EQUIPPED WITH MEANS FOR AIR BALANCING IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 6 OF THE INTERNATIONAL MECHANICAL CODE. DISCHARGE DAMPERS USED FOR AIR SYSTEM BALANCING ARE PROHIBITED ON CONSTANT VOLUME FANS AND VARIABLE VOLUME FANS WITH MOTORS 10 HP (18.6 KW) AND LARGER. AIR SYSTEMS SHALL BE BALANCED IN A MANNER TO FIRST MINIMIZE THROTTLING LOSSES THEN, FOR FANS WITH SYSTEM POWER OF GREATER THAN 1 HP (0.74 KW), FAN SPEED SHALL BE ADJUSTED TO MEET DESIGN FLOW CONDITIONS.

EXCEPTION: FANS WITH FAN MOTORS OF 1 HP OR LESS.

INDIVIDUAL HYDRONIC HEATING AND COOLING COILS SHALL BE EQUIPPED WITH MEANS FOR BALANCING AND MEASURING FLOW. HYDRONIC SYSTEMS SHALL BE PROPORTIONATELY BALANCED IN A MANNER TO FIRST MINIMIZE THROTTLING LOSSES, THEN THE PUMP IMPELLER SHALL BE TRIMMED OR PUMP SPEED SHALL BE ADJUSTED TO MEET DESIGN FLOW CONDITIONS. EACH HYDRONIC SYSTEM SHALL HAVE EITHER THE CAPABILITY TO MEASURE PRESSURE ACROSS THE PUMP, OR TEST PORTS AT EACH SIDE OF EACH PUMP.

EXCEPTION: THE FOLLOWING EQUIPMENT IS NOT REQUIRED TO BE EQUIPPED WITH MEANS FOR BALANCING OR MEASURING FLOW:
1) PUMPS WITH PUMP MOTORS OF 5 HP (3.7 KW) OR LESS.
2) WHERE THROTTLING RESULTS IN NO GREATER THAN FIVE PERCENT OF THE NAMEPLATE HORSEPOWER DRAW ABOVE THAT REQUIRED IF THE IMPELLER WERE TRIMMED.

FUNCTIONAL PERFORMANCE TESTING SHALL DEMONSTRATE THE COMPONENTS, SYSTEMS, AND SYSTEM-TO-SYSTEM INTERFACING RELATIONSHIPS ARE INSTALLED AND OPERATE IN ACCORDANCE WITH APPROVED CONSTRUCTION DOCUMENTS. WHERE FULL LOAD TESTING IS NOT POSSIBLE OR PRACTICAL PER BUILDING LOAD OR SYSTEM SET UP, FUNCTIONAL PERFORMANCE TESTING SHALL BE PERFORMED IN A MANOR THAT ALLOWS INDIVIDUAL EQUIPMENT TO SHOW FULL LOAD CAPABILITIES. EQUIPMENT SHALL BE TESTED TO SHOW INTENDED STAGING BETWEEN COMPONENTS. 100% FULL LOAD FROM ALL COMPONENTS SIMULTANEOUSLY WILL NOT BE REQUIRED. TESTING SHALL INCLUDE THE SEQUENCE OF OPERATION, AND BE CONDUCTED UNDER FULL LOAD, PART LOAD AND THE FOLLOWING CONDITIONS:

1) ALL MODES AS DESCRIBED IN THE SEQUENCE OF OPERATION.
2) REDUNDANT OR AUTOMATIC BACK-UP MODE.
3) PERFOMANCE OF ALARMS.
4) MODE OF OPERATION UPON LOSS OF POWER AND RESTORATION OF POWER.

SERVICE WATER HEATING EQUIPMENT AND CONTROLS SUBJECT TO WSEC SECTION C404 SHALL BE INCLUDED IN THE COMMISSIONING PROCESS REQUIRED BY WSEC SECTION C408.1. THE COMMISSIONING PROCESS SHALL MINIMALLY INCLUDE EQUIPMENT AND COMPONENTS INSTALLED TO MEET ALL ENERGY CODE REQUIREMENTS FOR DEVICES TO "START," "AUTOMATICALLY TURN OFF," "AUTOMATICALLY ADJUST," "LIMIT OPERATION," AND "LIMIT THE TEMPERATURE" AND "BE CONFIGURED TO."

FUNCTIONAL PERFORMANCE TESTING SHALL DEMONSTRATE THAT HEATERS, PIPING, DISTRIBUTION SYSTEMS, AND SYSTEM-TO-SYSTEM INTERFACING RELATIONSHIPS ARE INSTALLED AND OPERATE IN ACCORDANCE WITH APPROVED CONSTRUCTION DOCUMENTS. TESTING SHALL INCLUDE THE SEQUENCE OF OPERATION, AND BE CONDUCTED UNDER AT LEAST 50 PERCENT WATER HEATING LOAD, PART-LOAD AND THE FOLLOWING CONDITIONS:

1) NORMAL OPERATION.
2) REDUNDANT OR AUTOMATIC BACK-UP MODE.
3) PERFOMANCE OF ALARMS.
4) MODE OF OPERATION UPON LOSS OF POWER AND RESTORATION OF POWER.

EQUIPMENT, COMPONENTS, CONTROLS OR CONFIGURATION SETTINGS FOR SYSTEMS WHICH ARE INCLUDED IN THE PROJECT TO COMPLY WITH WSEC SECTIONS C406 OR C407 SHALL BE INCLUDED IN THE COMMISSIONING PROCESS REQUIRED BY WSEC SECTION C408.1.

FUNCTIONAL PERFORMANCE TESTING FOR THESE APPLIANCES, EQUIPMENT, COMPONENTS, CONTROLS AND/OR CON-FIGURATION SETTINGS SHALL DEMONSTRATE OPERATION, FUNCTION AND MAINTENANCE SERVICEABILITY FOR EACH OF THE COMMISSIONED SYSTEMS IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

ENERGY METERING SYSTEMS REQUIRED BY SECTION C409 SHALL COMPLY WITH WSEC SECTION C408.6 AND BE INCLUDED IN THE COMMISSIONING PROCESS REQUIRED BY SECTION C408.1. THE COMMISSIONING PROCESS SHALL INCLUDE ALL ENERGY METERING EQUIPMENT AND CONTROLS REQUIRED BY WSEC SECTION C409.

FUNCTIONAL PERFORMANCE TESTING SHALL DEMONSTRATE THAT ENERGY SOURCE METERS, END-USE METERS, DATA ACQUISITION SYSTEMS, AND ENERGY DISPLAYS ARE INSTALLED AND OPERATE IN ACCORDANCE WITH APPROVED CONSTRUCTION DOCUMENTS. AT A MINIMUM, TESTING SHALL CONFIRM THAT:

1) THE METERING SYSTEM DEVICES AND COMPONENTS WORK PROPERLY UNDER LOW AND HIGH LOAD CONDITIONS.
2) THE METERED DATA IS DELIVERED IN A FORMAT THAT IS COMPATIBLE WITH THE DATA COLLECTION SYSTEM.
3) THE ENERGY DISPLAY IS IN A LOCATION WITH ACCESS TO BUILDING OPERATION AND MANAGEMENT PERSONNEL.
4) THE ENERGY DISPLAY MEETS CODE REQUIREMENTS REGARDING VIEWS REQUIRED IN SECTION C409.4.3. THE DISPLAY SHOWS ENERGY DATA IN IDENTICAL UNITS (E.G., KWH).

ALL INSTALLED REFRIGERATION SYSTEMS SUBJECT TO WSEC SECTION C410 SHALL BE INCLUDED IN THE COMMISSIONING PROCESS REQUIRED BY WSEC SECTION C408.1.

EXCEPTIONS: SELF-CONTAINED REFRIGERATION SYSTEMS ARE EXEMPT FROM THE COMMISSIONING PROCESS OR TOTAL INSTALLED CAPACITY FOR REFRIGERATION IS EQUAL TO OR LESS THAN 240 KBTU/H.

FUNCTIONAL PERFORMANCE TESTING SHALL DEMONSTRATE THAT COMPRESSORS, HEAT EXCHANGERS, PIPING, DISTRIBUTION SYSTEMS, AND SYSTEM-TO-SYSTEM INTERFACING RELATIONSHIPS ARE INSTALLED AND OPERATE IN ACCORDANCE WITH APPROVED CONSTRUCTION DOCUMENTS. TESTING SHALL INCLUDE THE SEQUENCE OF OPERATION AND BE CONDUCTED UNDER FULL LOAD, PART LOAD AND THE FOLLOWING CONDITIONS:

1) NORMAL MODE.
2) REDUNDANT OR AUTOMATIC BACK-UP MODE.
3) PERFORMANCE OF ALARMS.
4) MODE OF OPERATION UPON LOSS OF POWER AND RESTORATION OF POWER.

MAKE-UP AIR UNIT SCHEDULE

											ELECTRICAL				
UNIT NO.	MFR. & MODEL NO.	NOM TONS	HEAT MBH	CFM	ESP	FAN HP	OA CFM	COP	IEER	ISMRE	VOLT/PH	AUX HTR KW	MCA	WT LBS	NOTES
MAU-1	GREENHECK / MSX-1115-H22	-	250	2050	1.0	5	2050	-	-	-	208/3	NONE	-	1500	EXISTING, 1
MAU-2	CAPTIVEAIRE CAS	31.0	260	8120	1.5	15	8120	3.5	17.8	4.8	208/3	150	543.5	5554	NEW, 2-7

NOTES:
1. EXISTING UNIT TO BE REUSED, BALANCE UNIT TO NEW SCHEDULED CFM. UNIT IS EQUIPPED WITH FAN VFD, HEATING HOT WATER COIL, MERV 8 FILTERS.
2. POWER WIRING AND DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR.
3. W/ SINGLE POINT POWER CONNECTION.
4. MCA LISTED IS TOTAL MCA .
5. FACTORY CONTROLS. INTEGRATION WITH BMS BY CONTROLS CONTRACTOR.
6. UNIT SUPPLIED WITH 2" MERV 8 PRE-FILTERS AND 2" MERV 13 FINAL FILTERS.
7. WEIGHT INCLUDE FACTORY ROOF CURB.

DUCT HEATING COIL SCHEDULE

UNIT NO.	AREA SERVED	MFG & MODEL NO.	AIRFLOW (CFM)	SIZE (W"xH")	EAT (°F)	LAT (°F)	AIR PD (IN WC)	GPM	WATER PD (FT HD)	EWT (F)	LWT (F)	NOTES
DHC-20	WAREWASH	RAE	3900	30x16	55	85	0.30	12.5	9.59	160	140	1,2
DHC-21	OFFICE	RAE	250	10x10	55	85	0.04	1.0	0.56	160	140	1,2
DHC-22	OFFICE	RAE	415	10x10	55	85	0.13	1.5	1.16	160	140	1,2
DHC-23	EVS BREAK	RAE	1090	20x10	55	85	0.23	3.5	6.87	160	140	1,2
DHC-24	STORAGE	RAE	600	12x12	55	85	0.14	2.0	2.99	160	140	1,2
DHC-25	HALLWAY	RAE	505	12x10	55	85	0.20	1.5	1.23	160	140	1,2

1. IF NO EXISTING 24V POWER IS AVAILABLE, ELECTRICAL CONTRACTOR TO PROVIDE POWER FOR CONTROLS. 24V WIRING BY CONTROLS CONTRACTOR.
2. 2-WAY HYDRONIC CONTROL VALVE, WALL THERMOSTAT, SENSORS, AND INTEGRATION WITH THE BMS BY CONTROLS CONTRACTOR.

SERIES VAV BOX SCHEDULE

UNIT NO.	AREA SERVED	MFR. MODEL NO.	INLET SIZE	FAN CFM	VALVE CFM		HEATER					FAN		NOTES
					MAX	MIN	KW	DT	CFM	VOLT/PH	STGS	HP	SPD	
FTU-101	PHASE 2	NAILOR 35SE SIZE 3	6	525	525	260	1	16	200	277/1	1	1/2	ECM	EXISTING, 4,5
FTU-102	PHASE 2	NAILOR 35SEST SIZE 6	14	2550	2550	1705	5.5	10	1705	208/3	1	2@3/4	ECM	EXISTING, 4,5
FTU-103	PHASE 2	NAILOR 35SE SIZE 7	14	2620	2620	1705	5.5	10	1705	208/3	1	2@3/4	ECM	EXISTING, 4,5
FTU-106	PHASE 2	NAILOR 35SE SIZE 1	6	150	150	75	1	21	150	208/1	2	1.4 FLA	ECM	NEW, 1,2,3,5

NOTES:
1. POWER WIRING AND DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR
2. SERIES FAN POWERED TERMINAL UNIT WITH HEAT -, SIZE AS LISTED, PRESSURE INDEPENDENT, FACTORY OPTIONS INCLUDE:
   - EXTENDED DAMPER 1/2" DIAM. SHAFT
   - FACTORY INSTALLED 1" THROW-AWAY FILTERS
   - CONTROLS BY OTHERS - FACTORY PROVIDE WIRING HARNESS WITH LOW VOLTAGE INTERLOCK CONDUCTORS EXTENDED FROM HIGH VOLTAGE CABINET TO LOW VOLTAGE CONTROLS CABINET.
   - 1" FIBER-FREE INSULATION
   - VARIABLE SPEED FAN CONTROL
   - 24V TRANSFORMER, 50 VA MIN RATING
   - HEAT STAGING & FAN CONTROL THROUGH FACTORY WIRED RELAYS
   - AUTO RESET 120°F HIGH LIMIT T'STAT
3. CONTROLS AND INTEGRATION WITH THE BMS BY THE CONTROLS CONTRACTOR.
4. EXISTING TERMINAL UNIT. REBALANCE TO SCHEDULED CFM VALUES.
5. PROVIDE FILTER BLANK-OFF PANELS FOR INDUCED AIR INLET(S). PANELS SHALL BE PERMANENTLY ATTACHED, CONSTRUCTED OF RIGID MATERIAL, AND COMPLETELY...

HOOD SCHEDULE

UNIT NO.	CONNECTED EXH FAN	MFR. & MODEL NO.	DIMENSIONS (IN)	WEIGHT (LBS)	EA CFM	EA ESP (IN WC)	EA COLLAR SIZE (IN)	SA COLLAR SIZE (IN)	NOTES
B11L	KEF-2	HALTON KVE (TYPE 1)	142L X 68W X 24H	1120	1544	0.16	10x10	12x12	1,2,3,4
B11R	KEF-2	HALTON KVE (TYPE 1)	142L X 68W X 24H	1120	1656	0.21	12x12	16x12	1,2,3,4
B38L	KEF-2	HALTON KVE (TYPE 1)	142L X 68W X 24H	1091	2320	0.33	16x12	-	1,2,3,4
B38R	KEF-2	HALTON KVE (TYPE 1)	142L X 68W X 24H	1091	2781	0.45	12x10	-	1,2,3,4
B61	DEF-1	HALTON CH (TYPE 2)	57L X 56W X 24H	221	475	0.37	8x8	-	1,2
C4L	KEF-1	HALTON KVE (TYPE 1)	101L X 57W X 24H	715	1936	0.43	13x12	18x12	1,2,3,4
C4R	KEF-1	HALTON KVE (TYPE 1)	101L X 57W X 24H	715	1404	0.27	12x10	14x12	1,2,3,4
D12L	KEF-1	HALTON KVE (TYPE 1)	101L X 57W X 24H	715	1431	0.28	12x10	14x12	1,2,3,4
D12R	KEF-1	HALTON KVE (TYPE 1)	101L X 57W X 24H	715	1936	0.43	13x12	18x12	1,2,3,4

NOTES:
1. PROVIDED BY KITCHEN CONSULTANT. INSTALLED BY MECHANICAL CONTRACTOR.
2. 120V POWER FOR LIGHTING AND CONTROLS BY ELECTRICAL CONTRACTOR.
3. MFG'S FIRE SUPPRESSION SYSTEM, GREASE BAFFLES, HOOD WASHDOWN SYSTEM, AND MAKE-UP AIR PLENUM WHERE INDICATED BY "SA COLLAR" COLUMN.
4. MFG'S HOOD CONTROLS WITH DCKV SYSTEM. INTEGRATION WITH THE BMS BY CONTROLS CONTRACTOR.

EXHAUST FAN SCHEDULE

UNIT NO.	AREA SERVED	MFR. & MODEL NO.	TYPE	CFM	ESP	RPM	FLA	FEI	BHP	HP	VOLT/PH	BDD	WT LBS	NOTES
KEF-1	PHASE 2 TYPE I HOODS	GREENHECK / VECTOR-H-24-18	HIGH PLUME UPBLAST	7270	2	-	-	-	-	10	208/3	-	1095	EXISTING, 1
DEF	EXISTING DISHWASHER	EXISTING	-	-	-	-	-	-	-	-	-	-	-	DEMO
KEF-2	PHASE 1 TYPE I HOODS	CAPTIVEAIRE USBI36DD-RM	UTILITY SET	8300	2	715	24.5	1.16	4.5	7.5	208/3	-	1718	NEW, 2,5
DEF-1	PHASE 1 DISHWASHER AND POTWASH (TYPE II)	CAPTIVEAIRE DU85HFA	CENTRIFUGAL UPBLAST	1225	2	1630	11.6	1.34	0.77	1	115/1	Y	125	NEW, 2,3,5
EF-4	PHASE 2 KITCHEN AREA	CAPTIVEAIRE DU180HFA	CENTRIFUGAL UPBLAST	3000	2	1520	9.5	0.98	2.4	3	208/3	-	244	NEW, 2,4,5

NOTES:
1. EXISTING UNIT TO BE REUSED, BALANCE UNIT TO NEW SCHEDULED CFM.
2. POWER WIRING AND DISCONNECT SWITCH BY ELECTRICAL CONTRACTOR. UNIT PROVIDED WITH FACTORY MOUNTED VFD.
3. UNIT TO REPLACE EXISTING DISHWASHER EXHAUST FAN DEF. EXISTING UNIT TO REMAIN OPERATIONAL UNTIL PHASE 1 IS COMPLETE AND NEW DEF-1 IS INSTALLED.
4. VARIABLE VOLUME FAN. PROVIDE WITH CLASS I MOTORIZED SHUTOFF DAMPER.
5. LISTED WEIGHTS INCLUDE FACTORY CURBS.

PIPING GENERAL NOTES

PIPING MATERIAL SCHEDULE

PIPING	SIZE	MATERIAL	JOINT
HEATING HOT WATER	1/2" - 2"	COPPER TYPE L	LEAD FREE SOLDER, PRESSED MECH JOINT
	2-1/2" - 10"	SCH 40 BLK STL, ASTM A53 A OR B	GROOVED, FLANGED, BUTT WELDED
INDIRECT DRAIN	1/2" - 2-1/2"	COPPER TYPE L	LEAD FREE SOLDER, PRESSED MECH JOINT
REFRIGERATION	1/8" - 4-1/8"	COPPER TUBE, ACR	BRAZED

PIPING INSULATION SCHEDULE

PIPING TYPE	PIPE SIZE	INSULATION TYPE	INSULATION THICKNESS	CONDUCTIVITY RANGE
HEATING HOT WATER (105°-140°F)	1/2" - 1-1/4"	FIBERGLASS, ELASTOMERIC FOAM	1"	0.21 - 0.28
	1-1/2"+	FIBERGLASS, ELASTOMERIC FOAM	1-1/2"	0.21 - 0.28
HEATING HOT WATER (141°-200°F)	1/2" - 1-1/4"	FIBERGLASS, ELASTOMERIC FOAM	1-1/2"	0.25 - 0.29
	1-1/2"+	FIBERGLASS, ELASTOMERIC FOAM	2"	0.25 - 0.29
COIL CONDENSATE PIPING	1/2" - 1-1/4"	FIBERGLASS, ELASTOMERIC FOAM	1/2"	0.21 - 0.27
	1-1/2" +	FIBERGLASS, ELASTOMERIC FOAM	1"	0.21 - 0.27
REFRIGERATION SUCTION	1/8" - 1"	ELASTOMERIC FOAM	1/2" (1" IF LOCATED OUTSIDE BLDG ENV.)	0.21 - 0.27
	1-1/8" +	ELASTOMERIC FOAM	1"	0.21 - 0.27
REFRIGERATION MIXED (DOWNSTREAM OF TXV)	1/8" - 7/8"	ELASTOMERIC FOAM	1"	0.21 - 0.27

- ALL PIPING INSULATION AND COVERINGS SHALL HAVE AN ASTM FLAME SPREAD RATING OF 25 OR LESS AND AN ASTM SMOKE DEVELOPED RATING OF 50 OR LESS.
- ELASTOMERIC INSULATIONS SHALL BE CLOSED CELL.
- ELASTOMERIC INSULATIONS WHICH MEET THESE RATINGS MAY BE USED AS A SUBSTITUTE FOR FIBERGLASS.
- PROVIDE A VAPOR BARRIER COVERING ON ALL CHILLED WATER PIPING AND COIL CONDENSATE PIPING INSULATION.
- PROVIDE A COVERING FOR ALL FIBERGLASS INSULATION WITHIN THE BUILDING.
- PROVIDE A VINYL JACKET FOR ALL INSULATION EXPOSED TO SIGHT WITHIN THE BUILDING EXCEPT MECHANICAL ROOMS.
- PROVIDE REMOVABLE LACED INSULATION PAD OVER ALL CONTROL VALVES, WHERE NOT LOCATED WITHIN A MECHANICAL ROOM.
- PROVIDE ALUMINUM JACKET ON ALL INSULATED PIPING OUTSIDE BUILDING.
- AT PIPE HANGERS PROVIDE RIGID INSULATION BETWEEN PIPE AND HANGER.

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET WHICH MAY BE REQUIRED. THE MECHANICAL CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
2. MATERIALS, METHODS, AND INSTALLATION SHALL COMPLY WITH THE PROVISIONS OF THE 2021 INTERNATIONAL BUILDING CODE (IBC), INTERNATIONAL MECHANICAL CODE (IMC), INTERNATIONAL ENERGY CODE (IEC) AND UNIFORM PLUMBING CODE (UPC) AS AMENDED BY THE STATE OF WASHINGTON AND LOCAL AUTHORITIES.
3. ALL PIPE SIZES NOTED ON DRAWINGS ARE MINIMUMS.
4. SLOPE ALL INDIRECT DRAINS AT 2% UNLESS OTHERWISE NOTED ON DRAWINGS. OBTAIN APPROVAL FROM THE CODE AUTHORITY BEFORE INSTALLING PIPING AT LESS THAN 2% (EVEN IF LESSER SLOPE IS INDICATED ON DRAWINGS).
5. HANGERS AND SUPPORTS FOR PIPING SHALL BE IN ACCORDANCE WITH THE 2021 IMC AND IBC AS AMENDED BY THE STATE OF WASHINGTON AND LOCAL AUTHORITIES.
6. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOORS SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
7. PROVIDE CHROME PLATE ESCUTCHEON PLATES AT ALL EXPOSED WALL AND CEILING PENETRATIONS.
8. PROVIDE SHUT-OFF VALVES AT ALL EQUIPMENT CONNECTIONS.
9. PROVIDE UNION, GROOVED OR FLANGED CONNECTION AT EQUIPMENT FOR FUTURE REMOVAL AND SERVICING.
10. FOR CONDENSATE PIPING PROVIDE TRAPS WITH A MINIMUM SEAL 2" GREATER THAN THE FAN OPERATING STATIC PRESSURE AT ALL COOLING COIL CONNECTIONS.
11. PROVIDE MINIMUM 1" AIR BREAK FOR ALL CONDENSATE PIPE TERMINATIONS AT DRAINS.
12. PROVIDE DIELECTRIC CONNECTIONS BETWEEN DISSIMILAR METALS.
13. HEAT TRACING OF PIPING, WHERE INDICATED, SHALL BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR. COORDINATE ELECTRICAL SUPPLY FOR HEAT TRACE WITH ELECTRICAL CONTRACTOR.
14. TRENCHING, BACKFILLING AND COMPACTING FOR UNDERGROUND PIPING SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR UNLESS STATED OTHERWISE IN CONTRACT DOCUMENTS.

DESCRIPTION OF OPERATIONS

PHASE 1

MAKEUP AIR UNIT (MAU-2)
SERVES: MAKE-UP AIR FOR PHASE 1 KITCHEN AREA
CONTROL TYPE: DDC SYSTEM MONITORING AND INTERLOCK WITH KEF-2
SETPOINTS: COOLING DAT: 60ºF (ADJ), HEATING DAT: 72°F (ADJ), ROOM TEMPERATURE: 70°F (ADJ)
NOTES: PROVIDES TEMPERATURE CONTROL AND MAKE-UP AIR TO PHASE 1 KITCHEN.
SUMMARY: VARIABLE VOLUME MAKE-UP AIR FOR PHASE 1 KITCHEN. TEMPERATURE REGULATION BY INTEGRAL HEAT PUMP AND ELECTRIC BACKUP HEAT. VFD MODULATES FAN BASED ON INPUT FROM DEMAND CONTROL KITCHEN VENTILATION SYSTEM. UNIT WILL MODULATE BETWEEN ITS MINIMUM AND MAXIMUM CFM SETPOINTS IN CONJUCTION WITH KEF-2. MINIMUM CFM SETPOINT SHALL PROVIDE AT LEAST A 50 PERCENT REDUCTION IN MAKE-UP AIR IN ACCORDANCE WITH 2021 WSEC C403.7.7.1.3. UNIT SHALL USE HEAT PUMP AS FIRST STAGE OF HEATING AND THE ELECTRIC COIL AS THE SECOND STAGE OF HEATING. UNIT OPERATES TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT BASED ON CALL FOR HEATING OR COOLING AT ZONE THERMOSTAT.

KITCHEN EXHAUST FAN (KEF-2)
SERVES: TYPE I GREASE EXHAUST FOR PHASE 1 KITCHEN
CONTROL TYPE: DDC SYSTEM MONITORING AND INTERLOCK WITH MAU-2
SUMMARY: VFD MODULATES FAN BASED ON INPUT FROM DEMAND CONTROL KITCHEN VENTILATION SYSTEM. UNIT WILL MODULATE BETWEEN ITS MINIMUM AND MAXIMUM CFM SETPOINTS IN CONJUCTION WITH MAU-2. MINIMUM CFM SETPOINT SHALL PROVIDE AT LEAST A 50 PERCENT REDUCTION IN EXHAUST AIR IN ACCORDANCE WITH 2021 WSEC C403.7.7.1.3.

DISHWASHER EXHAUST FAN (DEF-1)
SERVES: TYPE II POTWASH HOOD AND DISHWASHER
CONTROL TYPE: DDC SYSTEM MONITORING AND INTERLOCK WITH DISHWASHER

SUMMARY: FAN RUNS CONTINUOUSLY TO MAINTAIN MINIMUM CFM REQUIRED FOR POT WASH EXHAUST HOOD. UPON SIGNAL FROM DISHWASHER VFD SHALL SPEED UP FAN TO ITS DESIGN CFM SETPOINT TO PROVIDE REQUIRED EXHAUST AT BOTH THE POTWASH HOOD AND DISHWASHER.

HYDRONIC HEATING COILS (DHC-20 THRU DHC-25)
SERVES: VARIOUS SPACES SERVED FROM THE EXISTING AHU-1 SUPPLY DUCT SYSTEM.
CONTROL TYPE: DDC
SPACE TEMPERATURE SETPOINTS: 70ºF HEATING (ADJ)

SUMMARY: WHEN SPACE TEMPERATURE FALLS 2ºF BELOW SETPOINT, THE HOT WATER CONTROL VALVE SHALL MODULATE TO MAINTAIN THE SPACE TEMPERATURE SETPOINT.

MOTORIZED DAMPER (MD-1)
SERVES: WAREWASH SUPPLY AIR DUCT.
CONTROL TYPE: DDC
SETPOINTS: MAXIMUM 3900 CFM, MINIMUM 3150 CFM

SUMMARY: TWO-POSITION MOTORIZED DAMPER. WHEN DAMPER IS FULL OPEN SYSTEM SHALL BE BALANCED TO DESIGN FLOW RATE AS INDICATED ON PLANS. UPON SHUTOFF OF DISHWASHER EXHAUST DAMPER SHALL RESTRICT AIRFLOW TO MINIMUM CFM SETPOINT.

PHASE 2

EXISTING MAKEUP AIR UNIT (MAU-1)
SERVES: MAKE-UP AIR FOR PHASE 2 KITCHEN AREA
CONTROL TYPE: DDC SYSTEM MONITORING AND INTERLOCK WITH KEF-1
DISCHARGE AIR TEMPERATURE SETPOINT: HEATING: 65°F (ADJ)
NOTES: EXISTING UNIT TO BE REBALANCED.
SUMMARY: VARIABLE VOLUME MAKE-UP AIR FOR PHASE 2 KITCHEN. HEAT PROVIDED BY HYDRONIC HEATING COIL. VFD MODULATES FAN BASED ON INPUT FROM DEMAND CONTROL KITCHEN VENTILATION SYSTEM. UNIT WILL MODULATE BETWEEN ITS MINIMUM AND MAXIMUM CFM SETPOINTS IN CONJUCTION WITH KEF-1. MINIMUM CFM SETPOINT SHALL PROVIDE AT LEAST A 50 PERCENT REDUCTION IN MAKE-UP AIR IN ACCORDANCE WITH 2021 WSEC C403.7.7.1.3.

EXISTING KITCHEN EXHAUST FAN (KEF-1)
SERVES: TYPE I GREASE EXHAUST FOR PHASE 2 KITCHEN
CONTROL TYPE: DDC SYSTEM MONITORING AND INTERLOCK WITH MAU-1
NOTES: EXISTING UNIT TO BE REBALANCED.
SUMMARY: VFD MODULATES FAN BASED ON INPUT FROM DEMAND CONTROL KITCHEN VENTILATION SYSTEM INSTALLED ON NEW PHASE 2 TYPE I HOODS. UNIT WILL MODULATE BETWEEN ITS MINIMUM AND MAXIMUM CFM SETPOINTS IN CONJUCTION WITH MAU-1. MINIMUM CFM SETPOINT SHALL PROVIDE AT LEAST A 50 PERCENT REDUCTION IN EXHAUST AIR IN ACCORDANCE WITH 2021 WSEC C403.7.7.1.3.

GENERAL KITCHEN EXHAUST FAN (EF-4)
SERVES: PHASE 2 KITCHEN AREA
CONTROL TYPE: DDC SYSTEM MONITORING
SETPOINT: -0.02 INCHES WATER COLUMN (ADJ)
NOTES: UNIT MAINTAINS NEGATIVE SPACE PRESSURE.
SUMMARY: VFD MODULATES FAN TO MAINTAIN NEGATIVE SPACE PRESSURE SETPOINT. IF SETPOINT IS MAINTAINED FOR A PERIOD OF 15 MINUTES AND VFD IS AT MINIMUM SPEED, FAN SHALL TURN OFF. FAN SHALL TURN ON IF SETPOINT IS NOT MAINTAINED FOR A PERIOD OF 15 MINUTES.

SERIES FAN POWERED TERMINAL UNITS (FTU-101, 102, 103, AND 106)
SERVES: PHASE 2 KITCHEN AND OFFICES
CONTROL TYPE: DDC
SPACE TEMPERATURE SETPOINTS: COOLING: 75ºF (ADJ), HEATING: 70°F (ADJ)
NOTES: FTU-101 THRU FTU-103 ARE EXISTING, FTU-106 IS NEW. UNITS PROVIDE TEMPERATURE CONTROL AND MAKEUP AIR TO PHASE 2 KITCHEN.

SUMMARY: THE SERIES FAN RUNS CONTINUOUSLY AND THE PRIMARY AIR DAMPER IS MODULATED TO MAINTAIN THE ZONE COOLING SETPOINT. WHEN HEATING CALL EXISTS, THE PRIMARY AIR DAMPER IS SET TO THE MINIMUM POSITION AND THE ELECTRIC HEAT IS CYCLED AS NEEDED TO MAINTAIN THE ZONE HEATING SETPOINT

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Good Samaritan Hospital

MULTICARE

KEY PLAN

ISSUE CHART

MARK	ISSUE	DATE

Job Number 7725-4055

TITLE

SCHEDULES - MECHANICAL

SHEET NUMBER

TM0.02

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PROJECT RESPONSIBILITY MATRIX

UNIT NO.	DESCRIPTION	BMS		NON BMS					PROVIDED BY	INSTALLED BY	POWER WIRING BY	CONTROLS WIRING BY	FIRE ALARM WIRING BY	TEST AND BALANCE BY	NOTES
		S/S	TC	T'STAT	INTERLOCK	24 HOUR	FIRE/LIFE SAFETY	OTHER							
PART A: NEW MECHANICAL EQUIPMENT															
A1	MAKEUP AIR UNITS	X	-	X	X	X	-	13,16	MC	MC	EC	CC	-	MC	3,5,11,47,49
A2	TYPE I GREASE EXHAUST FANS	X	-	-	X	X	-	-	MC	MC	EC	CC	-	MC	3,5,47,49
A3	TYPE II DISHWASHER EXHAUST FANS	-	-	-	X	X	-	16	MC	MC	EC	CC	-	MC	3,5,47,49
A4	GENERAL EXHAUST FANS	X	-	-	-	X	-	16	MC	MC	EC	CC	-	MC	3,5,47,49
A5	HYDRONIC HEATING COILS	-	-	X	-	X	-	-	MC	MC	-	CC	-	MC	11,47
A6	FAN POWERED VAVS	X	-	X	-	X	-	-	MC	MC	EC	CC	-	MC	3,11,49
A7	WALK-IN COOLER / FREEZER REFRIGERATION EQUIPMENT AND ASSOCIATED PIPING	-	-	X	-	X	-	2	KEC	KEC	EC	KEC	-	KEC	7,11,21,49
A8	TYPE I GREASE EXHAUST HOODS	-	-	-	X	X	X	1	KEC	MC	EC	CC	FAC	MC	8
A9	ANSUL FIRE PROTECTION SYSTEM FOR TYPE I HOODS	-	-	-	X	X	X	6	KEC	KEC	EC	EC	FAC	KEC	-
A10	TYPE II POTWASH HOODS	-	-	-	X	X	-	-	KEC	MC	EC	CC	-	MC	-
PART B: MECHANICAL EQUIPMENT ANCILLARIES															
B1	HVAC EQUIPMENT MOTORS	-	-	-	-	-	-	-	MC	MC	EC	CC	-	MC	-
B2	MAGNETIC MOTOR STARTERS; AUTOMATICALLY CONTROLLED WITH OR WITHOUT HOA SWITCHES	-	-	-	-	-	-	-	EC	EC	EC	CC	-	-	47
B3	MAGNETIC MOTOR STARTERS; MANUALLY CONTROLLED	-	-	-	-	-	-	-	EC	EC	EC	EC	-	MC	-
B4	MAGNETIC MOTOR STARTERS (FURNISHED W/ MECH. EQUIPMENT)	-	-	-	-	-	-	-	MC	MC	EC	CC	-	MC	-
B5	AIRFLOW PROVING SWITCH AS NEEDED BY EQUIPMENT	-	-	-	-	-	-	-	MC	MC	MC	CC	-	MC	48
B6	DISCONNECT SWITCHES, 120V RECEPTACLES	-	-	-	-	-	-	-	EC	EC	EC	-	-	-	-
B7	HYDRONIC VALVES AND DAMPER MOTORS	-	-	-	-	-	-	-	CC	CC	EC	CC	-	MC	16,45
B8	DDC CONTROL SYSTEM (LOW VOLTAGE)	-	-	-	-	-	-	-	CC	CC	EC	CC	-	CC	45
B9	DDC CONTROL PANEL(S)	-	-	-	-	-	-	-	CC	CC	EC	CC	-	CC	45
B10	ROOF CUTTING, PATCHING AND WATERPROOFING	-	-	-	-	-	-	-	GC	GC	-	-	-	-	-
B11	MOTOR SPEED CONTROLLERS, 120V	-	-	-	-	-	-	-	MC	EC	EC	EC	-	MC	-
B12	DUCT SMOKE DETECTORS (ACTIVATION OF LOCAL SMOKE DAMPERS)	-	-	-	-	-	-	-	EC	MC	EC	FAC	-	FAC	50
B13	AREA SMOKE DETECTORS	-	-	-	-	-	-	-	EC	EC	EC	EC	-	EC	-
B14	FIRE DAMPERS	-	-	-	-	-	-	-	MC	MC	-	-	-	MC	17
B15	DUCT SMOKE DETECTORS (SHUTDOWN OF MECHANICAL EQUIPMENT OVER 2000 CFM)	-	-	-	-	-	X	-	EC	MC	EC	FAC	-	FAC	17
B16	COMBINATION FIRE/SMOKE DAMPERS AND SMOKE DAMPERS	-	-	-	-	-	X	-	MC	MC	EC	FAC	-	FAC	17
B17	EQUIPMENT CRANE PICKS	-	-	-	-	-	-	-	GC	-	-	-	-	-	23
B18	SLEEPERS FOR MECHANICAL EQUIPMENT	-	-	-	-	-	-	-	GC	GC / MC	-	-	-	-	-
B19	SHEETMETAL ACCESS DOORS IN MECHANICAL EQUIPMENT AND DUCTS	-	-	-	-	-	-	-	MC	MC	-	-	-	-	-
B20	ARCHITECTURAL ACCESS DOORS/PANELS FOR MECHANICAL EQUIPMENT ACCESS	-	-	-	-	-	-	-	GC	GC	-	-	-	-	17
B21	SHEETMETAL FLASHING CAPS OVER CURBS AND SLEEPERS	-	-	-	-	-	-	-	GC	GC	-	-	-	-	24
B22	FLASHING AND COUNTERFLASHING AROUND MECHANICAL UNITS	-	-	-	-	-	-	-	GC	GC	-	-	-	-	24
B23	CONCEALING ENCLOSURES AROUND MECH. EQUIPMENT	-	-	-	-	-	-	-	GC	GC	-	-	-	-	17,5,38
B24	BOLLARDS FOR PROTECTION OF MECHANICAL EQUIPMENT	-	-	-	-	-	-	-	GC	GC	-	-	-	-	25
B25	PIPE SLEEVES	-	-	-	-	-	-	-	MC	MC	-	-	-	-	26,27
B26	FIRE SAFING AROUND MECHANICAL EQUIPMENT: PIPING, DUCTWORK, ETC.	-	-	-	-	-	-	-	MC	MC	-	-	-	-	-
B27	CAULKING FOR WEATHER PROTECTION AROUND EXTERIOR MECHANICAL DEVICES (LOUVERS, PIPE AND DUCT PENETRATIONS, ETC.)	-	-	-	-	-	-	-	GC	GC	-	-	-	-	28,40
B28	FLOOR DRAINS	-	-	-	-	-	-	-	MC	MC	-	-	-	MC	30,29
B29	FIRE-RATED DUCT ENCLOSURES	-	-	-	-	-	-	-	GC	GC	-	-	-	-	17,38
B30	WALL/CEILING SOUND MITIGATION	-	-	-	-	-	-	-	GC	GC	-	-	-	-	49
B31	FALL PROTECTION	-	-	-	-	-	-	-	GC	GC	-	-	-	-	-
Part D: DEMOLITION															
D1	CUT CAP AND MAKE SAFE OF EXISTING MECHANICAL EQUIPMENT AND ASSOCIATED UTILITIES	-	-	-	-	-	-	-	MC	MC	EC	CC	FAC	-	-
D2	CUT CAP AND MAKE SAFE OF EXISTING WALK-IN COOLER / FREEZER EQUIPMENT AND ASSOCIATED UTILITIES	-	-	-	-	-	-	-	KEC	KEC	EC	CC	FAC	-	-

ABBREVATIONS:

AFF	**ABOVE FINISHED FLOOR**	**GC**	**GENERAL CONTRACTOR & OTHER TRADES**	**TC**	**TIME CLOCK**
CC	**CONTROL CONTRACTOR**	**MC**	**MECHANICAL CONTRACTOR**	**VAV**	**VARIABLE AIR**
EC	**ELECTRICAL CONTRACTOR**	**KEC**	**KITCHEN EQUIPMENT CONTRACTOR**	**VFD**	**VARIABLE FREQUENCY DRIVE**
FAC	**FIRE ALARM CONTRACTOR**	**S/S**	**START/STOP**	**BMS**	**BUILDING MANAGEMENT SYSTEM**

NOTES:

1. HOODS ARE CONTROLLED BY HALTON DEMAND CONTROL KITCHEN VENTILATION (DCKV) SYSTEM. HARDWIRE INTERLOCK FROM DCKV CONTROLLER TO KITCHEN EXHAUST FAN VFD. DCKV CONTROLLER MONITORED BY BMS WHICH SENDS SIGNALS TO THE MAKEUP AIR UNIT.
2. UNITS CONTROLLED VIA LINE VOLTAGE THERMOSTAT LOCATED IN WALK-INS. SYSTEM REQUIRES MONITORING ONLY FROM BMS.
3. EC TO PROVIDE MAGENTIC MOTOR STARTERS FOR START/STOP OPERATION OF EQUIPMENT AND PROVIDE SERVICE DISCONNECT SWITCH WHEN REQUIRED. INTERLOCKING RELAYS PROVIDED BY CC.
4. EQUIPMENT SLEEPERS PROVIDED AND INSTALLED BY GC. SHEETMETAL SLEEPER CAPS PROVIDED AND INSTALLED BY MC.
5. GC TO ALTER CONSTRUCTION TO MEET CODE REQUIRED CLEARANCES AND DIRECT OTHER TRADES TO MEET INSTALLATION REQUIREMENTS.
6. LINE-VOLTAGE THERMOSTAT SET TO 80 F. INSTALL THERMOSTAT 48" AFF.
7. EC TO PROVIDE POWER AND SERVICE DISCONNECT SWITCH WHEN REQUIRED.
8. KEC TO PROVIDE DEMAND CONTROL KITCHEN VENTILATION SYSTEM FOR CONTROL OF HOODS, GREASE EXHAUST FANS, AND MAKEUP AIR UNITS.
9. PART OF THE SMOKE CONTROL SYSTEM. EMERGENCY POWER REQUIRED.
10. SMOKE DAMPER FOR FAN SYSTEM TO BE POWERED CLOSED, FAIL OPEN ON LOSS OF POWER. SEE SMOKE CONTROL FAN PRESSURE SWITCH.
11. THERMOSTAT. INSTALL 7-DAY PROGRAMMABLE THERMOSTAT 48" AFF.
12. PROVIDED WITH AN INTERNAL FACTORY INSTALLED THERMOSTAT.
13. THERMOSTAT SUPPLIED BY EQUIPMENT SUPPLIER. EC TO PROVIDE POWER CONNECTION TO UNIT WITH SERVICE DISCONNECT SWITCH. MC TO COORDINATE LOCATIONS AND POWER REQUIREMENTS TO EC.
14. SUPPLIER ASSEMBLED CONTROL PACKAGE, EC TO SET PANEL & FAN VFD, PROVIDE SERVICE DISCONNECT SWITCHES AND POWER WIRING AS REQUIRED. EC TO INTERLOCK VIBRATION SAFETY SWITCH TO SHUTDOWN VFD. EC TO POWER WIRE SUMP HEATER AND CONTACTOR. EC TO WIRE WATER LEVEL FLOAT SENSOR TO DRAIN SOLENOID AT WATER TREATMENT STATION.
15. EC TO FURNISH AND INSTALL BOILER POWER WIRING AND EMERGENCY SHUTDOWN SWITCHES. WIRING OF BOILER CONTROLS BY CC.
16. ALL EXHAUST AND INTAKE DAMPERED OPENINGS INTO THE BUILDING SHALL BE POWERED CLOSED DURING BUILDING UNOCCUPIED HOURS, UNLESS 24/7 OPERATION.
17. MC TO COORDINATE LOCATIONS OF ACCESS DOORS, GC TO FURNISH AND INSTALL ACCESS DEVICES.
18. SERVICE AND MAINTENANCE OUTLETS FOR POWER TOOLS.
19. MC TO PROVIDE THERMOSTAT, CONTACTOR AND/OR RELAY. EC TO PROVIDE POWER AND HEAT TRACE CABLE. MC TO COORDINATE LOCATIONS AND POWER REQUIREMENTS.
20. DAY TANK SUPPLIED BY EC.
21. REFRIGERANT PIPING PROVIDED AND INSTALLED BY KEC. MC TO PROVIDE AND INSTALL CONDENSATE PIPING FROM INDOOR EVAPORATOR COIL TO DRAIN.
22. MC TO COORDINATE LOCATION WITH GC. EC TO PROVIDE METHODS/MATERIALS SPECIFICATIONS.
23. GC TO PROVIDE STANDARD WORKING HOURS FOR CRANE PICKS. MC TO COORDINATE WEIGHTS OF MECHANICAL EQUIPMENT TO GC. GC TO PROVIDE SCHEDULE FOR PICKS, CHANGES MUST BE IN WRITING NO LESS THEN 24 HOURS PRIOR TO PICK.
24. ROOFING AND FLASHING BY GC.
25. POSITIONING SUGGESTED BY MC. FINAL INSTALLATION BY GC.
26. POSITIONING SUGGESTED BY MC, INSTALLATION IN SLABS BY MC. REVIEW BY GC TO CONFIRM LAYOUT WITH MC.
27. SLEEVES THROUGH STRUCTURAL BEAMS COORDINATED BY MC BUT FURNISHED BY GC.
28. SEE LOUVER INSTALLATIONS.
29. MC TO COORDINATE LOCATION, TOP OF DRAIN ELEVATION AND MEMBRANES IF REQUIRED WITH GC. SLOPE TO DRAIN BY GC.
30. MC TO COORDINATE LOCATION, ELEVATION AND OTHER FIXTURE REQUIREMENTS WITH GC.
31. MC TO PROVIDE AND INSTALL. STRUCTURAL DESIGN AND REVIEW BY GC AND GC'S STRUCTURAL ENGINEER AT NO COST TO MC.
32. PIPE TRENCHING AND IMPORT/EXPORT OF SOILS IS BY GC.
33. PIPE BEDDING MATERIAL AND PIPE BEDDING IS BY MC. CLOSURE OF TRENCH BY GC.
34. PIPE PENETRATION AND SEAL BY MC.
35. BOOT AND DRAIN SUPPLIED BY GC. MC CONNECTS TO BOOT AND ROUTES TO FOUNDATION DRAINS AS INDICATED ON THE CIVIL DRAWINGS. FOUNDATION DRAINS BY GC.
36. THE MC SHALL COORDINATE EQUIPMENT ACCESS WALKWAYS AND WALK-ON MATS SERVING THE AC EQUIPMENT WITH THE GC. FINAL STRUCTURAL DESIGN OF THE WALKWAYS SHALL BE BY THE STRUCTURAL ENGINEER AND THE ARCHITECT. THE CONSTRUCTION OF THE WALKWAYS SHALL BE BY THE GC AS INDICATED ON THE ARCHITECTURAL AND MECHANICAL DRAWINGS AND AS REQUIRED BY THE MANUFACTURER.
37. SHAFTS AND HORIZONTAL ENCLOSURES USED FOR RETURN AIR, EXHAUST AIR, OR ARE PART OF THE SMOKE CONTROL SYSTEM SHALL BE CONSTRUCTED AIRTIGHT. SHAFTS SHALL BE CONSTRUCTED TO WITHSTAND NEGATIVE OR POSITIVE PRESSURE OF 10 PSF.
38. THE MC SHALL COORDINATE DUCT ENCLOSURE REQUIREMENTS WITH THE GC.
39. TOILET ROOM ACCESSORIES SUCH AS GRAB BARS, TOILET PAPER DISPENSERS, SEAT GUARD DISPENSERS, ETC., SHALL BE FURNISHED BY THE GC. SUPPORTS FOR ACCESSORIES AND PARTITIONS SHALL BE INSTALLED BY THE GC. INSTALLATION LOCATIONS SHALL BE COORDINATED WITH THE ARCHITECT AND AS REQUIRED BY CODES AND ADA STANDARDS. INVENTORY, RECEIPT AND DELIVERY TO DESTINATION/ROOMS BY GC.
40. WEATHERPROOFING AND WATERPROOFING BY GC.
41. UTILITY PIPING PENETRATING THE BUILDING TO WITHIN 5 FEET PERPENDICULAR FROM THE BUILDING BY MC. MC TO COORDINATE LOCATIONS AND ELEVATIONS WITH GC.
42. CC TO SIZE AND INSTALL THE ACTUATOR. VERIFY CONTROL OPTIONS WITH DAMPER USE.
43. GC TO PROVIDE J-BOLTS, REBAR, IMBED PLATES, IMBED BOLTS, ETC. AS REQUIRED FOR CURB AND PAD CONSTRUCTION. MC SHALL PROVIDE DIMENSIONAL REQUIREMENTS TO GC.
44. GC SHALL CONSTRUCT CONCRETE FORMING AND FRAMING AS REQUIRED TO SUPPORT MECHANICAL EQUIPMENT. MC SHALL COORDINATE SIZES AND LOCATIONS WITH GC.
45. CC SHALL COORDINATE LOCATION AND SIZE OF TRANSFORMER WITH EC.
46. SEE ALSO SMOKE CONTROL/PRESSURIZATION FAN.
47. EC SHALL PROVIDE AND INSTALL CONTROL VOLTAGE TRANSFORMER WITH ANY REQUIRED STARTERS.
48. SWITCHES PROVIDED WITH EQUIPMENT BY EQUIPMENT SUPPLIER.
49. MECHANICAL EQUIPMENT NOISE ASSESSMNET TO BE PROVIDED BY PROJECT ACCOUSTITION. ALL EQUIPMENT ISOLATION AND OTHER DUCT/PIPING MITIGATION BY MC. ALL ROOM MITIGATION BY G.C.
50. FAC TO COORDINATE LOCATION AND ACCESS, GC TO FURNISH AND INSTALL ACCESS DEVICES.

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MULTICARE

KEY PLAN

ISSUE CHART

MARK	ISSUE	DATE

Job Number 7725-4055

TITLE

SCHEDULES - MECHANICAL

SHEET NUMBER

TM0.03

ELECTRICAL SPECIFICATIONS:

PART 1 - GENERAL

1.1 GENERAL CONDITIONS

A. THE WORK UNDER THIS DIVISION INCLUDES FURNISHING ALL PERMITS, MATERIALS, EQUIPMENT, LABOR, SUPERVISION, TOOLS, EXPENSES, TRAVEL, AND ITEMS NECESSARY FOR THE CONSTRUCTION, INSTALLATION, CONNECTION, TESTING AND OPERATION OF ALL ELECTRICAL WORK FOR THIS PROJECT, AS INTENDED BY THE CONTRACT DOCUMENTS.

B. THE GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS AND SPECIAL CONDITIONS ARE A PART OF THIS CONTRACT AND APPLY TO THIS SECTION AS FULLY AS IF REPEATED HEREIN.

1.2 SCOPE

A. THE SCOPE OF THIS PROJECT INCLUDES A PHASED REMODEL OF EXISTING KITCHEN WHICH WILL INCLUDE ELECTRICAL CONNECTIONS TO NEW KITCHEN APPLIANCES, LIGHTING FIXTURES, AND HVAC EQUIPMENT IN AN EXISTING BUILDING. LIGHTING CONTROLS AND LOW VOLTAGE SYSTEMS WILL BE UPDATED IN THE REMODEL AREAS AS NECESSARY. AS A PART OF THIS EFFORT NEW ELECTRICAL DISTRIBUTION WILL BE ADDED AS NECESSARY TO SUPPORT ADDED LOAD.

B. PROVIDE BRANCH POWER AND ASSOCIATED BRANCH CIRCUITING AND CONTROLS.

C. PROVIDE ALL ASSOCIATED ELECTRICAL WORK AS REQUIRED TO EXTEND POWER CONNECTIONS TO NEW MECHANICAL EQUIPMENT.

1.3 CODES AND REGULATIONS

A. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND THE UTILITY FURNISHING SERVICES FOR THE SPECIFIC FACILITY LOCATION.

B. CODES GOVERNING THIS WORK INCLUDE BUT ARE NOT LIMITED TO THE LATEST ADOPTED EDITION OF THE FOLLOWING:
  1. NFPA 70 (NATIONAL FIRE PROTECTION ASSOCIATION) NATIONAL ELECTRICAL CODE (NEC) AS AMENDED BY WASHINGTON CITIES (2023 WCEC)
  2. NFPA 72 (NATIONAL FIRE PROTECTION ASSOCIATION) NATIONAL FIRE ALARM AND SIGNALING CODE
  3. NFPA 101 (NATIONAL FIRE PROTECTION ASSOCIATION) LIFE SAFETY CODE
  4. CITY OF PORT ORCHARD ORDINANCES AND REGULATIONS
  5. WSEC - 2021 COMMERCIAL

1.4 STANDARDS

A. ELECTRICAL MATERIAL AND EQUIPMENT SHALL BE UNDERWRITER'S LABORATORIES LISTED AND INSTALLED IN ACCORDANCE WITH THE LISTING AND LABELING OF THE EQUIPMENT.

B. INSTALLATION SHALL CONFORM TO THE NECA (NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION) STANDARD OF INSTALLATION.

1.5 SUBMITTALS

A. ELECTRONIC COPIES, IN .PDF FORMAT, OF MATERIALS LIST, SHOP DRAWINGS AND DATA SHEETS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. SUBMITTALS SHALL BE MADE, AND FAVORABLE REVIEW SECURED BEFORE MATERIAL AND EQUIPMENT IS INSTALLED.

B. MATERIALS LIST SHALL INCLUDE: DEVICES, DISCONNECTS, LIGHT FIXTURES, LIGHTING CONTROL DEVICES AND OTHER ITEMS SPECIFIED OR CALLED FOR ON THE DRAWING. THE LIST SHALL INCLUDE MANUFACTURE, TYPE AND SUCH OTHER DESCRIPTIVE DATA AS MAY BE REQUIRED TO DETERMINE THE ACCEPTABILITY OF EACH ITEM.

C. SHOP DRAWINGS AND DATA SHEETS FOR EQUIPMENT AND SYSTEMS SHALL BE SUBMITTED WHERE REQUIRED IN THE SPECIFICATIONS FOR THOSE ITEMS. INCLUDE INFORMATION ON EACH COMPONENT, WIRING DIAGRAMS, LAYOUTS, DIMENSIONS AND SUFFICIENT OTHER DATA TO ESTABLISH COMPLIANCE WITH THE SPECIFICATIONS AND ACCEPTABILITY OF THE EQUIPMENT OR SYSTEM.

D. SHOP DRAWINGS SHALL BE SUBMITTED IN EITHER HALF OR FULL SIZE AS FOLLOWS:

  1. HALF SIZE SHALL BE 15 INCHES BY 21 INCHES MINIMUM. MINIMUM HALF SIZE FONT HEIGHT SHALL BE 1/16 INCH. WIDTH SHALL BE PROPORTIONAL NO LESS THAN 70 PERCENT OF THE HEIGHT.
  2. FULL SIZE SHALL BE 30 INCHES BY 42 INCHES MINIMUM. MINIMUM FULL-SIZE FONT HEIGHT SHALL BE 1/8 INCH. WIDTH SHALL BE PROPORTIONAL NO LESS THAN 70 PERCENT OF THE HEIGHT.

E. PROVIDE CLEARLY MARKED AND LEGIBLE DATA SHEETS FOR EACH ITEM OF EQUIPMENT BEING INSTALLED ON THE PROJECT. THIS SHALL INCLUDE EACH MAJOR REPLACEABLE COMPONENT THAT IS PART OF A LARGER ASSEMBLY. DATA SHEETS SHALL CLEARLY INDICATE:
  1. EQUIPMENT MANUFACTURER, MAKE, MODEL NUMBER, SIZE, NAMEPLATE DATA, ETC.
  2. UL, FM, AND ETL LISTING AND CATEGORY.

F. PROVIDE PRODUCT DATA AND SHOP DRAWINGS FOR THE FOLLOWING:
  1. PANELBOARDS
  2. WIRING DEVICES
  3. CIRCUIT BREAKERS AND DISCONNECTS
  4. LIGHTING FIXTURES
  5. LOW VOLTAGE LIGHTING CONTROLS
    5.1. SHOW INSTALLATION DETAILS FOR OCCUPANCY AND LIGHT-LEVEL SENSORS.
    5.2. LIGHTING PLAN SHOWING LOCATION, ORIENTATION, AND COVERAGE AREA OF EACH SENSOR. THIS PLAN SHALL TAKE INTO CONSIDERATION THE SIZE AND USE OF EACH SPACE AS WELL AS THE SPECIFIC CAPABILITIES OF SUBMITTED MANUFACTURER'S EQUIPMENT TO PROVIDE PROPER COVERAGE TO THE AREAS OF CONTROL.
    5.3. INTERCONNECTION DIAGRAMS SHALL SHOW FIELD-INSTALLED WIRING.

G. COMMISSIONING RESULTS: SUBMIT A COPY OF THE COMPLETED COMMISSIONING DOCUMENTS.

1.6 SUBSTITUTIONS

A. NO SUBSTITUTIONS ARE ALLOWED. ALTERNATIVE MANUFACTURERS WILL BE CONSIDERED FOR ELECTRICAL EQUIPMENT SPECIFIED AND SHOWN HEREIN. THE SPECIFIED MANUFACTURER'S EQUIPMENT SETS THE LEVEL OF QUALITY FOR THE WORK. WORK AND EQUIPMENT NOT MEETING THE LEVEL OF QUALITY SHALL BE REJECTED. THE ENGINEER HAS DISCRETION TO ACCEPT OR REJECT THE ALTERNATIVE MANUFACTURER'S EQUIPMENT.

1.7 PERMITS AND DRAWINGS

A. PERMITS AND INSPECTIONS SHALL BE OBTAINED, COORDINATED AND PAID FOR BY THE ELECTRICAL CONTRACTOR.

B. THE CONTRACTOR SHALL PAY ALL FEES AND TAXES FOR THE TOTAL COST OF CONSTRUCTION, INCLUDING CONTRACTOR AND OWNER FURNISHED MATERIALS AND EQUIPMENT AS SHOWN AND SPECIFIED.

C. THE CONTRACTOR SHALL OBTAIN AND PAY THE PLAN REVIEW FEE.

D. THE CONTRACTOR SHALL PAY FOR PLAN REVIEW FEES AND RE-INSPECTIONS RESULTING FROM SUBSTITUTIONS. FEES DUE TO SUBSTITUTIONS SHALL BE AT NO COST TO THE OWNER.

E. THE CONTRACTOR SHALL INCLUDE APPLICABLE PLAN REVIEW FEES AND RE-INSPECTION FEES IN CHANGE ORDER PROPOSALS.

1.8 RECORD DRAWINGS

A. ON A SET OF CONTRACT DRAWINGS KEPT AT THE SITE DURING CONSTRUCTION, MARK ALL WORK THAT IS INSTALLED DIFFERENTLY FROM THAT SHOWN, INCLUDE ANY REVISED CIRCUITRY, MATERIAL OR EQUIPMENT. UPON CONCLUSION OF THE WORK, DELIVER TO THE OWNER REPRESENTATIVE A SET OF SIGNED AND DATED “AS-BUILT” DRAWINGS IN CAD/REVIT AND PDF FORMAT.

1.9 WARRANTY

A. ALL WORK SHALL INCLUDE A WARRANTY FOR A MINIMUM PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER. THE WARRANTY PERIOD FOR CERTAIN ITEMS SHALL BE LONGER, AS INDICATED IN THE SPECIFICATIONS FOR THOSE ITEMS.

B. SHOULD ANY MALFUNCTION DEVELOP DURING THE WARRANTY TIME PERIOD DUE TO DEFECTIVE MATERIAL, FAULTY WORKMANSHIP, OR NON-COMPLIANCE WITH PLANS, SPECIFICATIONS, CODE OR DIRECTIONS OF THE OWNER OR OWNER'S REPRESENTATIVE, THE CONTRACTOR SHALL FURNISH ALL NECESSARY LABOR AND MATERIALS TO CORRECT THE MALFUNCTION AT NO ADDITIONAL COST TO THE OWNER.

PART 2 - PRODUCTS

2.1 MATERIAL

A. MATERIALS SHALL BE NEW, FREE OF DEFECTS AND OF CURRENT MANUFACTURE. EXISTING MATERIALS SHALL NOT BE REUSED UNLESS SPECIFICALLY NOTED OTHERWISE.

2.2 WIRE AND CABLE (600 VOLT AND LESS)

A. PRODUCTS SHALL COMPLY WITH UL 44 AND UL 83 SINGLE CONDUCTOR INSULATED WIRE.

B. WIRE AND CABLE FOR USE ON SYSTEMS OF 600 VOLTS AND LESS SHALL BE 600 VOLT WITH NEC TYPE THHN/THWN OR XHHW INSULATION FOR BRANCH CIRCUITS AND FEEDERS. 75 DEGREES INSULATION SHALL BE USED TO DETERMINE AMPACITY FOR #2AWG AND LARGER FEEDER CONDUCTORS.
  1. USE TYPE THHN/THWN CONDUCTORS FOR ALL BRANCH POWER AND LIGHTING CIRCUITS.
  2. USE TYPE XHHW IN AMBIENT TEMPERATURES BELOW 32°F. USE TYPE XHHW-2 FOR ALL WIRING CONNECTED TO GFCI BREAKERS
  3. USE OF MC OR HCF-MC CABLE NOT ALLOWED.

C. ALL CONDUCTORS SMALLER THAN 100A SHALL BE COPPER.

D. ALL GROUNDING CONDUCTORS SHALL BE INSULATED.

2.3 RACEWAY AND BOXES

A. RIGID STEEL CONDUIT, ZINC COATED; ANSI C80.1: ALL FITTINGS SHALL BE SCREW THREAD TYPE, COUPLINGS, LOCKNUTS, BUSHINGS, ETC. SHALL BE HOT DIPPED GALVANIZED.

B. ELECTRICAL METALLIC TUBING, ZINC COATED: ANSI C80.3: COUPLINGS AND CONNECTORS SHALL BE STEEL GALVANIZED, COMPRESSION TYPE WITH GLAND SEALING RINGS.

C. FLEXIBLE METAL CONDUIT: UL 1: FLEXIBLE METAL CONDUIT SHALL BE GALVANIZED STEEL OR ALUMINUM. WHERE EXPOSED TO DAMP OR WET LOCATIONS FLEXIBLE CONDUIT SHALL BE LIQUID-TIGHT WITH OUTER SUITABLE LIQUID-TIGHT FITTINGS LISTED FOR THE PURPOSE.

D. OUTLET AND JUNCTION BOXES: OUTLET AND JUNCTION BOXES SHALL BE GALVANIZED, ONE-PIECE PRESSED OR WELDED STEEL, KNOCKOUT TYPE EXCEPT AS OTHERWISE NOTED OR SPECIFIED.

E. PROVIDE FIRE-STOPPING WHERE CONDUIT PASSES THROUGH A RATED ASSEMBLY.

2.4 WIRING DEVICES (PROVIDE DEVICES PER DRAWINGS)

A. RECEPTACLES:
1. PROVIDE 20 AMP RECEPTACLES IN ALL CONVENIENCE AND DEDICATED LOCATIONS. PLUG TAIL ACCEPTABLE.
2. ALL RECEPTACLES SHALL BE HOSPITAL GRADE.
3. RECEPTACLES COVERS TO BE STAINLESS STEEL TYPE OR AS APPROVED BY OWNER.
4. GROUND PIN/NEUTRAL LOCATION TO BE CONSISTENT WITH FACILITY IN ALL RENOVATION OR EXPANSION PROJECTS, AND FOR NEW PROJECTS SHALL BE GROUND PIN DOWN.
5. HEAVY DUTY SPECIFICATION GRADE.
6. TAMPER PROOF IN PUBLIC AREAS.

B. SWITCH COVER PLATES TO BE STAINLESS STEEL TYPE OR AS APPROVED BY OWNER.

C. CIRCUITING:
1. CONVENIENCE DUPLEX RECEPTACLES - MAXIMUM OF SIX PER 20A CIRCUIT.
2. HOMERUN CONDUIT - MAXIMUM 4 CIRCUITS.
3. POWER AND LIGHTING SHALL NOT BE ON THE SAME CIRCUITS (EXCEPT UNDER-CABINET LIGHTING).
4. 480/277V BRANCH CIRCUIT WIRING SHALL BE IN SEPARATE CONDUITS FROM 208/120V CIRCUIT WIRING.

2.5 FUSIBLE SWITCHES

A. TYPE GD, GENERAL DUTY, SINGLE THROW, 100 A AND SMALLER: UL 98 AND NEMA KS 1, HORSEPOWER RATED, WITH CARTRIDGE FUSE INTERIORS, LOCKABLE HANDLE WITH CAPABILITY TO ACCEPT TWO PADLOCKS, AND INTERLOCKED WITH COVER IN CLOSED POSITION.

B. TYPE HD, HEAVY DUTY, SINGLE THROW, LARGER THAN 100 AMP: UL 98 AND NEMA KS 1, HORSEPOWER RATED, WITH CLIPS OR BOLT PADS TO ACCOMMODATE FUSES, LOCKABLE HANDLE WITH CAPABILITY TO ACCEPT THREE PADLOCKS, AND INTERLOCKED WITH COVER IN CLOSED POSITION.

C. ACCESSORIES:
1. CLASS R FUSE KIT: PROVIDES REJECTION OF OTHER FUSE TYPES WHEN CLASS R FUSES ARE SPECIFIED.

2.6 NONFUSIBLE SWITCHES

A. TYPE GD, GENERAL DUTY, SINGLE THROW, 100 A AND SMALLER: UL 98 AND NEMA KS 1, HORSEPOWER RATED, LOCKABLE HANDLE WITH CAPABILITY TO ACCEPT TWO PADLOCKS, AND INTERLOCKED WITH COVER IN CLOSED POSITION.

B. TYPE HD, HEAVY DUTY, SINGLE THROW, LARGER THAN 100 AMP. UL 98 AND NEMA KS 1, HORSEPOWER RATED, LOCKABLE HANDLE WITH CAPABILITY TO ACCEPT THREE PADLOCKS, AND INTERLOCKED WITH COVER IN CLOSED POSITION.

C. TYPE HD, HEAVY DUTY, DOUBLE THROW, 1200 A AND SMALLER: UL 98 AND NEMA KS 1, HORSEPOWER RATED, LOCKABLE HANDLE WITH CAPABILITY TO ACCEPT THREE PADLOCKS, AND INTERLOCKED WITH COVER IN CLOSED POSITION.

2.7 TOGGLE SWITCHES

A. COMPLY WITH NEMA WD 1, UL 20, AND FS W-S-896.

B. SWITCHES, 120/277V, 20A:

1. DIMMER SWITCHES: MODULAR, FULL-WAVE, SOLID-STATE UNITS WITH INTEGRAL, QUIET ON-OFF SWITCHES, WITH AUDIBLE FREQUENCY AND EMI/RFI SUPPRSSION FILTERS.
2. THREE-WAY DIMMER: PROVIDES MULTI-LOCATION CAPABILITY USING STANDARD 3-WAY AND 4-WAY MECHANICAL SWITCHES.
3. CONTROL: CONTINUOUSLY ADJUSTABLE PADDLE SWITCH WITH SINGLE-POLE OR 3-WAY SWITCHING. COMPLY WITH UL 1472.
4. LED LAMP DIMMER SWITCHES: MODULAR; COMPATIBLE WITH DRIVERS AND FIXTURE LOAD. TRIM POTENTIOMETER TO ADJUST LOW-END DIMMING; DIMMER-DRIVER COMBINATION CAPABLE OF CONSISTENT DIMMING WITH LOW END DESCRIBED IN THE FIXTURE SCHEDULE.

2.8 INDOOR OCCUPANCY SENSORS

A. GENERAL OPERATION
1. THE OCCUPANCY SENSOR SYSTEM SHALL SENSE THE PRESENCE OF HUMAN ACTIVITY WITHIN THE DESIRED SPACE AND FULLY CONTROL THE ON/OFF FUNCTION OF THE LOADS AUTOMATICALLY. SENSORS SHALL TURN ON THE LOAD WITHIN 2 FEET OF ENTRANCE AND SHALL NOT INITIATE "ON" OUTSIDE OF ENTRANCE.

B. SWITCH-BOX OCCUPANCY SENSORS

1. GENERAL
  1.1. SENSOR MUST NOT PROTRUDE OUT FROM THE COVER PLATE MORE THAN 0.37 INCHES, AND RECESS INTO THE SWITCH BOX MORE THAN 1 INCH. SENSOR MUST SURFACE MOUNT TO SINGLE GANG SWITCH BOX AND ACCEPT ACCESSORY PLATES FOR MULTI-GANG INSTALLATIONS. SENSOR MUST PROVIDE AN OFF/AUTO OVERRIDE SWITCH, (2 SWITCHES IF 2-POLE DEVICE).
  1.2. OPTIONAL 2-POLE UNITS MUST BE AVAILABLE. MANUAL OR AUTO ON SHALL BE CONFIGURABLE FOR BOTH POLES.
2. DUAL TECHNOLOGY (DT)
  2.1. SENSING MUST INCORPORATE PIR WITH ULTRASONIC MONITORING. BOTH PIR AND ULTRASONIC MOTION SENSING SHALL INITIATE AN ON CONDITION AND EITHER TECHNOLOGY SENSING MOTION SHALL KEEP THE ON STATE.
  2.2. EITHER TECHNOLOGY SHALL BE ABLE TO BE DISABLED DURING COMMISSIONING IF NECESSARY FOR THE SPECIFIC APPLICATION.

A. CEILING OR WALL MOUNTED OCCUPANCY SENSORS

1. GENERAL
  1.1. SENSOR SHALL BE CEILING OR WALL MOUNTED DEVICE, MOUNTED TO EITHER A SINGLE GANG ENCLOSURE, OR SURFACE MOUNTED TO A ROUND SURFACE RACEWAY PANCAKE BOX.
  1.2. DETECTION COVERAGE OPTIONS SHALL INCLUDE COVERAGE AREAS OF A RANGE OF CIRCULAR AREAS FROM 600 SQ. FT. TO 2000 SQ. FT.
2. DUAL TECHNOLOGY (DT)
  2.1. SENSING MUST INCORPORATE PIR WITH ULTRASONIC. BOTH PIR AND ULTRASONIC MOTION SENSING SHALL INITIATE AN ON CONDITION AND EITHER TECHNOLOGY SENDING MOTION SHALL KEEP THE ON STATE.

2.9 DAYLIGHT-HARVESTING DIMMING CONTROLS

A. SYSTEM DESCRIPTION: SENSING DAYLIGHT AND ELECTRICAL LIGHTING LEVELS, THE SYSTEM SHALL ADJUST THE INDOOR ELECTRICAL LIGHTING LEVELS. AS DAYLIGHT INCREASES, THE LIGHTS SHALL BE DIMMED.

B. PHOTO SENSORS SHALL PROVIDE AN ON-SET POINT AND A SEPARATE OFF SET POINT, THEREBY CREATING A DEAD BAND TO PREVENT UNNECESSARY CYCLING OF THE ELECTRIC LIGHTS. SET POINT SETTING SHALL BE VERIFIED WITH A DIGITAL VOLT METER CONNECTED TO TEST LEADS PROVIDED BY THE SENSOR. SENSOR SHALL SEND AN ELECTRONIC, LOW VOLTAGE SIGNAL TO A REMOTE POWER PACK OR OTHER CONTROL DEVICE WHICH IS DIRECTLY CONNECTED TO THE LOAD. FOOTCANDLE LEVEL SHALL BE SET 30 FC (300 LUX) OR AS NOTED IN DOCUMENTS.

2.10 STAND ALONE ROOM AUTOMATIC CONTROLS

A. INTELLIGENT ROOM CONTROLLERS
  1. ROOM CONTROLLERS MUST BE DESIGNED TO POWER AND ACCEPT SIGNALS FROM REMOTE LOW VOLTAGE SENSORS, OR OTHER CONTROL DEVICES, AND DIRECTLY SWITCH THE LINE VOLTAGE OF THE DESIRED LOAD CONTROLLED.
  2. ROOM CONTROLLERS MUST ACCEPT 120, 240, OR 277 VAC UTILIZING A DUAL TAP TRANSFORMER.
  3. ROOM CONTROLLERS SHALL ALLOW POWER FOR AUXILIARY DEVICES, DEPENDING ON MODEL.
  4. ROOM CONTROLLER SHALL EMPLOY ZERO CROSS CIRCUITRY FOR EACH LOAD, AND SHALL BE CAPABLE OF SWITCHING A 20A LOAD AND DIMMING 0-10V LOADS. IN ADDITION, CONTROLLERS SHALL BE CAPABLE OF DIMMING ALTERNATE METHODS, INCLUDING BUT NOT LIMITED TO INCANDESCENT DIMMING, MAGNETIC LOW VOLTAGE, FORWARD PHASE OR REVERSE PHASE LED DRIVERS, AND DIMMABLE TWO-WIRE AND THREE-WIRE LOADS.
  5. ROOM CONTROLLERS SHALL HAVE 1-4, BUT NO MORE THAN A 20A LOAD PER DEVICE.

B. ROOM CONTROL COMPONENTS

  1. PROVIDE ALL COMPONENTS, (INCLUDING BUT NOT LIMITED TO) OCCUPANCY SENSORS, PHOTOCELLS AND WALL CONTROLS AS SHOWN ON DRAWINGS AND/OR IN CONTROLS MATRIX.

2.11 U.L. 924 BI-PASS DEVICE

A. THE EMERGENCY LIGHTING CONTROL UNIT (ELCU) SHALL PROVIDE ALL REQUIRED FUNCTIONALITY TO ALLOW ANY STANDARD LIGHTING CONTROL DEVICE TO CONTROL EMERGENCY LIGHTING IN CONJUNCTION WITH NORMAL LIGHTING IN ANY AREA WITHIN A BUILDING.

B. THE DEVICE SHALL HAVE AN INTEGRAL TOP MOUNTED MOMENTARY TEST SWITCH. PRESSING AND HOLDING THIS SWITCH SHALL INSTANTLY FORCE THE UNIT INTO EMERGENCY MODE AND TURN ON EMERGENCY LIGHTING. RELEASING THE TEST SWITCH SHALL IMMEDIATELY RETURN THE UNIT TO NORMAL OPERATION.

C. UNIT HOUSING SHALL BE UL94 V-O PLENUM RATED AND SHALL BE EQUIPPED WITH COMPRESSION WIRE TERMINALS RATED FOR #14 - #12 SOLID OR STRANDED COPPER WIRE.

D. THE UNIT SHALL BE UL AND CUL LISTED AND LABELED FOR CONNECTION TO BOTH NORMAL AND EMERGENCY LIGHTING POWER SOURCES.

2.12 PHOTO SENSORS

A. THE PHOTO SENSOR SHALL INTERFACE WITH MULTI-INPUT DIGITAL ADDRESSABLE DIMMING DRIVERS. DIMMING SENSOR SHALL CONNECT DIRECTLY TO THE DRIVER OR MODULE WITH 4 LOW VOLTAGE WIRES. PHOTO SENSING ELEMENT SHALL BE A PHOTOELECTRIC SENSOR. SENSORS SHALL BE CLOSED LOOP FOR SINGLE ZONE CONTROL OR OPEN LOOP FOR MULTI-ZONE CONTROL.

2.13 CONDUCTORS AND CABLES

A. POWER WIRING TO SUPPLY SIDE OF REMOTE-CONTROL POWER SOURCES: NOT SMALLER THAN NO. 12 AWG, COMPLYING WITH SECTION 260519 - LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES.

B. CLASSES 2 AND 3 CONTROL CABLE: MULTICONDUCTOR CABLE WITH STRANDED COPPER CONDUCTORS NOT SMALLER THAN NO. 22 AWG, COMPLYING WITH SECTION 260519 - LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES. PROVIDE PLENUM RATED AS REQUIRED.

2.14 ENCLOSURES

A. ENCLOSED SWITCHES AND CIRCUIT BREAKERS: NEMA AB 1, NEMA KS 1, NEMA 250, AND UL 50, TO COMPLY WITH ENVIRONMENTAL CONDITIONS AT INSTALLED LOCATION.
  1. INDOOR, DRY AND CLEAN LOCATIONS: NEMA 250, TYPE 1.
  2. OUTDOOR LOCATIONS: NEMA 250, TYPE 3R.
  3. WASH-DOWN AREAS: NEMA 250, TYPE 4X, STAINLESS STEEL.
  4. OTHER WET OR DAMP, INDOOR LOCATIONS: NEMA 250, TYPE 4.
  5. INDOOR LOCATIONS SUBJECT TO DUST, FALLING DIRT, AND DRIPPING NONCORROSIVE LIQUIDS: NEMA 250, TYPE 12.

2.15 GROUNDING

A. PROVIDE COPPER GROUNDING.

B. PROVIDE DEDICATED NEUTRAL (NO SHARED NEUTRALS) WITH ALL BRANCH CIRCUITS IN EACH CONDUIT. USE OF MULTI-POLE BREAKERS OR BREAKER TIES IN LIEU OF DEDICATED NEUTRALS IS NOT PERMITTED.

C. ALL CONDUITS WILL BE PROPERLY BONDED WITH INSULATED GROUND WIRE RUN WITH CONDUCTORS.

D. ALL PANELS AND TRANSFORMERS MUST HAVE A DEDICATED EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO ELECTRODE OR BUILDING GROUNDS AS REQUIRED PER CODE.

2.16 CIRCUIT BREAKERS

D. CIRCUIT BREAKERS SHALL BE THE SAME MANUFACTURER AS THE PANELBOARD OR SWITCHBOARD IN WHICH THEY ARE INSTALLED.

E. CIRCUIT BREAKERS SHALL BE MOLDED-CASE BOLT-ON TYPE. PLUG-IN TYPES ARE NOT ACCEPTABLE. MULTI-POLE BREAKERS SHALL HAVE INTERNAL TRIP AND SINGLE HANDLE OPERATION.

F. PROVIDE ALL NECESSARY MOUNTING HARDWARE, ACCESSORIES AND CLOSURE DEVICES AS NECESSARY.

G. SHORT CIRCUIT INTERRUPTING CAPACITY SHALL BE AS INDICATED ON PLANS OR TO MATCH RATING OF THE EXISTING PANELBOARD INTO WHICH THE CIRCUIT BREAKER IS TO BE INSTALLED.

2.17 PANELBOARDS

A. MANUFACTURERS:
1. SCHNEIDER ELECTRIC (SQUARE-D)
2. EATON (CUTLER-HAMMER)
3. SIEMENS
4. GENERAL ELECTRIC
5. ABB

B. CONSTRUCTION: GALVANIZED STEEL ENCLOSURE, MANUFACTURES STANDARD GRAY PAINT, BOLT ON CIRCUIT BREAKER, COPPER BUS. SURFACE MOUNTED WITH DOOR-IN-DOOR COVER.

C. CIRCUIT BREAKERS: MOLDED CASE, NEMA AB 1, BOLT ON TYPE WITH INTEGRAL THERMAL AND INSTANTANEOUS TRIP IN EACH POLE (COMMON TRIP).

D. PROVIDE ARC FLASH STICKERS ON ALL NEW EQUIPMENT.

2.18 EQUIPMENT IDENTIFICATION

A. PANELBOARDS: PER BUILDING STANDARDS. MATCH EXISTING NAMING CONVENTION

B. RECEPTACLES AND LIGHT SWITCHES: PRINTED LABEL WITH (PANEL) NAME AND CIRCUIT NUMBER. (EXAMPLE: “PP4-23” FOR PANEL PP4, CIRCUIT 23)
NORMAL POWER: ¼" BLACK LETTERS
EMERGENCY POWER: ¼" RED LETTERS

PART 3 - EXECUTION

3.1 INSTALLATION OF ELECTRICAL EQUIPMENT

A. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, NECA STANDARD OF INSTALLATION AND IN ACCORDANCE WITH THE UL LISTING FOR THE EQUIPMENT OR MATERIAL.
ALL DISCONNECTS, FUSES, CIRCUIT BREAKERS SHALL BE PROVIDED AS INDICATED AND FOR PROPER PROTECTION OF THE EQUIPMENT SERVED. PROVIDE ALL FLEXIBLE CONDUIT, BOXES, PULL BOXES, FITTINGS, SEALS, AND OTHER MATERIALS REQUIRED FOR A COMPLETE AN OPERATIONAL SYSTEM. THE WORK UNDER THIS DIVISION INCLUDES FURNISHING ALL PERMITS, MATERIALS, EQUIPMENT, LABOR, SUPERVISION, TOOLS AND ITEMS NECESSARY FOR THE CONSTRUCTION, INSTALLATION, CONNECTION, TESTING AND OPERATION OF ALL ELECTRICAL WORK FOR THIS PROJECT, AS INTENDED BY THE CONTRACT DOCUMENTS.

3.2 INSTALLATION OF RACEWAY AND FITTINGS

A. INSTALL RIGID STEEL CONDUIT WHERE EXPOSED TO WEATHER, PLACED UNDERGROUND, IN OR UNDER CONCRETE OR MASONRY CONSTRUCTION, IN CONTACT WITH EARTH AND AS INDICATED ON PLANS.

B. EMT MAY BE USED IN ABOVE GRADE INTERIOR DRY LOCATIONS AND WHERE PROTECTED FROM PHYSICAL DAMAGE.

C. FLEXIBLE METAL CONDUIT SHALL BE USED WHERE REQUIRED TO MAKE CONNECTIONS TO VIBRATING OR ROTATING EQUIPMENT.

D. ALL RIGID STEEL CONDUIT INSTALLED IN CONTACT WITH EARTH SHALL BE PVC COATED OR OTHERWISE PROTECTED WITH A BITUMASTIC MATERIAL.

E. MINIMUM SIZE OF CONDUIT SHALL BE CODE SIZE FOR THE NUMBER AND SIZE OF CONDUCTORS UNLESS A LARGER SIZE IS INDICATED ON THE PLANS.

F. WHERE PENETRATIONS ARE MADE THROUGH PARTITIONS, PROVIDE SEALING MATERIAL TO MAINTAIN THE FIRE RATING OF THE PARTITION. FOR EXTERIOR WALLS PROVIDE SLEEVES AND SEALING TO PREVENT WATER AND MOISTURE PENETRATION AND TO PREVENT VARMINT AND INSECT INTRUSION.

3.3 INSTALLATION OF CONDUCTORS AND EQUIPMENT CONNECTIONS

A. ALL WIRING SHALL BE INSTALLED IN CONDUIT, WIREWAYS, OR GUTTERS EXCEPT WHERE OTHER RACEWAY SYSTEMS ARE SPECIFICALLY CALLED FOR.

B. INSTALL WIRING ONLY AFTER RACEWAY INSTALLATION HAS BEEN COMPLETED CLEANED AND DRIED.

C. PULLING LUBRICANTS APPROVED BY THE WIRE OR CABLE MANUFACTURE MAY BE UTILIZED.

D. MAKE ALL CONNECTIONS AND SPLICES REQUIRED FOR COMPLETE AND OPERABLE ELECTRICAL INSTALLATION. CONNECTIONS AND SPLICES SHALL BE MADE ONLY IN JUNCTION, PULL OR OUTLET BOXES OR IN WIREWAYS, SWITCHBOARDS AND PANELBOARDS HAVING CODE SIZED GUTTER SPACE OR CROSS-SECTIONAL AREA. WIRES #8 AND SMALLER CONNECTIONS SHALL BE MADE WITH SPRING TYPE CONNECTORS; WIRES #6 AND LARGER, CONNECTIONS SHALL BE MADE WITH SPLIT-BOLT OR COMPRESSION TYPE SOLDERLESS CONNECTORS, INSULATED AND TAPED.

E. UPON COMPLETION OF WORK, UPDATED ALL PANEL DIRECTORIES WITH CORRECT CIRCUIT INFORMATION. PROVIDE PRINTED CIRCUIT DIRECTORIES IN PANELS AFFECTED BY THE PROJECT. PEN AND INK CHANGES TO THE EXISTING DIRECTORIES ARE NOT ACCEPTABLE.

3.4 SENSOR INSTALLATION

A. COORDINATE LAYOUT AND INSTALLATION OF CEILING-MOUNTED DEVICES WITH OTHER CONSTRUCTION THAT PENETRATES CEILINGS OR IS SUPPORTED BY THEM, INCLUDING LIGHT FIXTURES, HVAC EQUIPMENT, SMOKE DETECTORS, FIRE-SUPPRESSION SYSTEMS, IT SYSTEMS, AV AND PARTITION ASSEMBLIES.

B. INSTALL AND AIM SENSORS IN LOCATIONS TO ACHIEVE AT LEAST 90 PERCENT COVERAGE OF AREAS INDICATED. INSTALL SENSORS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. DO NOT EXCEED COVERAGE LIMITS SPECIFIED IN MANUFACTURER'S WRITTEN INSTRUCTIONS.

3.5 DEVICE INSTALLATION

A. DIMMERS:
1. INSTALL DIMMERS WITHIN TERMS OF THEIR LISTING AND PER MANUFACTURER'S DEVICE LISTING CONDITIONS IN THE WRITTEN INSTRUCTIONS

3.6 WIRING INSTALLATION

A. WIRING WITHIN ENCLOSURES: COMPLY WITH NECA 1. SEPARATE POWER-LIMITED AND NONPOWER-LIMITED CONDUCTORS ACCORDING TO CONDUCTOR MANUFACTURER'S WRITTEN INSTRUCTIONS.

B. PROVIDE PLENUM RATED CABLING FOR ALL CABLES INSTALLED IN RETURN AIR PLENUMS.

3.7 SYSTEM STARTUP AND COMMISSIONING

A. COMMISSIONING SHALL TAKE PLACE PRIOR TO DEMONSTRATION OF SYSTEM TO OWNER AND SHALL COMPLY WITH ENERGY CODE REQUIREMENTS.

3.8 GROUNDING

A. PERMANENTLY AND EFFECTIVELY GROUND ALL CONDUIT, BOXES, ENCLOSURES AND EQUIPMENT TO COMPLY WITH NEC 250 AND ALL APPLICABLE CODES AND REGULATIONS.

B. PROVIDE AN INSULATED EQUIPMENT GROUNDING CONDUCTOR IN ALL RACEWAYS SIZED IN ACCORDANCE WITH NEC TABLE 250.122 WHETHER SPECIFICALLY CALLED FOR ON THE PLANS OR NOT.

3.9 PROTECTION OF PREMISES

A. CONTRACTOR SHALL CLEAN WORK AREA AND REMOVE ALL CONSTRUCTION DEBRIS DAILY PRIOR TO LEAVING THE PREMISES.

B. THE CONTRACTOR SHALL PROTECT ALL EXISTING SURFACES, MATERIALS, EQUIPMENT AND PROPERTY FROM DAMAGE AS RESULT OF CONSTRUCTION ACTIVITIES. DAMAGED SURFACES, MATERIALS, EQUIPMENT AND PROPERTY SHALL BE REPAIRED TO EXISTING CONDITIONS AT NO COST TO THE OWNER.

3.10 TESTING OF ELECTRICAL SYSTEMS

A. EQUIPMENT INSTALLED OR MODIFIED UNDER THIS SECTION SHALL BE INSPECTED AND TESTED FOR PROPER OPERATION IN ACCORDANCE WITH APPLICABLE NETA ACCEPTANCE TESTING STANDARDS.

B. SYSTEMS SHALL BE TESTED FOR SHORT CIRCUITS, OPEN CIRCUITS, PHASE ROTATION AND SHALL BE FREE FROM MECHANICAL AND ELECTRICAL DEFECTS.

C. THE CONTRACTOR SHALL CORRECT DEFICIENCIES AND PROVIDE RETESTING AT NO EXPENSE TO THE OWNER AND ENGINEER UNTIL THE EQUIPMENT AND SYSTEM IS SATISFACTORY TO THE OWNER AND THE ENGINEER.

3.11 DIVISION 27 LOW VOLTAGE INSTALLATION

A. PATHWAYS FOR DIVISION 27 TO COMPLY WITH SECTION 2.3.

B. DIV 27 CONTRACTOR TO PROVIDE CAT-6 BASED CABLING SYSTEM, INCLUDING CABLING, CONNECTORS, PATCH PANELS, OUTLETS AND ALL COMPONENTS NECESSARY FOR A COMPLETE SYSTEM. REFER TO SYSTEM PLANS FOR QUANTITY AND LOCATION OF LOW VOLTAGE CONNECTIONS.

C. ALL LOW VOLTAGE CABLING TO TERMINATE IN IDF ROOMS AS INDICATED PER PLANS, UNLESS OTHERWISE DIRECTED BY OWNER'S IT TEAM.

D. CLASS 2 LOW VOLTAGE CABLES MAY BE ROUTED IN FREE-AIR.

E. FOR ALL TELECOM OUTLETS PROVIDE A 4-SQUARE BOX WITH SINGLE GANG MUD-RING. PROVIDE 1" CONDUIT FROM BOX UP TO ACCESSIBLE CEILING SPACE ABOVE.

F. COORDINATE LABELING REQUIREMENTS WITH OWNER. AT MINIMUM LABEL ALL OUTLETS WITH A TAG THAT IDENTIFIES IDF ROOM, PATCH PANEL, AND A JACK NUMBER.

G. PROVIDE CODE COMPLAINT GROUNDING, WITH BONDING WIRE FROM ALL COMM EQUIPMENT (RACKS, CABLE TRAYS, CONDUITS) TO THE NEAREST GROUND BAR. WIRE SIZE AS INDICATED PER DRAWINGS.

H. PROVIDE HORIZONTAL SUPPORTS FOR LOW VOLTAGE CABLING. J-HOOKS SHALL BE SPACED AT NO MORE THAN 4 FEET ON CENTER.

3.12 GENERAL NOTES:

1. COMPLY WITH NEC AS ADOPTED AND AMENDED BY LOCAL AHJ.
2. ALL EXISTING WORK IS BASED ON RECORD DRAWINGS AND HAS NOT BEEN FIELD VERIFIED IN FULL. THE ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING INFORMATION RELEVANT FOR THE SCOPE OF THIS PROJECT.
3. ALL SCOPE NOT IDENTIFIED FOR DEMOLITION OR MODIFICATIONS IS EXISTING TO REMAIN. REFER TO MECHANICAL DRAWINGS FOR DEMOLITION SCOPE OF WORK.
4. ALL WORK SHALL BE DONE WITH MAXIMUM CARE EXERCISED DURING DEMOLITION AND MODIFICATIONS PROCESS. ANY ACCIDENTAL OR INTENTIONAL DAMAGE TO EQUIPMENT TO REMAIN SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.
5. UNLESS OTHERWISE REQUESTED BY THE OWNER ALL REMOVED ELECTRICAL EQUIPMENT, DEVICES, AND MATERIALS SHALL BE DISPOSED OF BY THE ELECTRICAL CONTRACTOR.
6. ALL WORK SHALL BE DONE ON DE-ENERGIZED EQUIPMENT ONLY AND ALL LOTO (LOCK-OUT TAG OUT) PROCEDURES SHALL BE FOLLOWED AS REQUIRED PER NEC AND OSHA.

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6/30/25

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Hospital Kitchen
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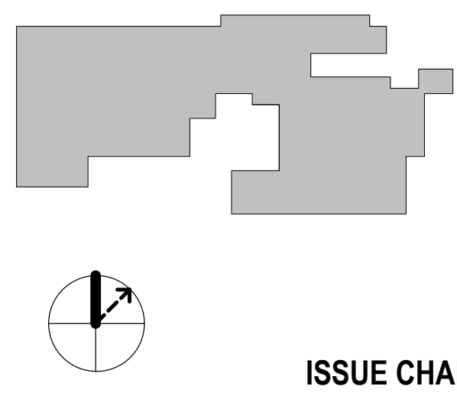
WA 98372

MultiCare
Good Samaritan Hospital

MULTICARE

KEY PLAN



ISSUE CHART

MARK	ISSUE	DATE

Job Number B24-1111

TITLE

SPECIFICATIONS

SHEET NUMBER

E00-01

PLUMBING GENERAL ABBREVIATIONS

ABBR	FULL NAME	ABBR	FULL NAME	ABBR	FULL NAME
AAV	AIR ADMITTANCE VALVE	DN	DOWN	NIC	NOT IN CONTRACT
ABV	ABOVE	DS	DOWNSPOUT	NSF	NATIONAL SANITATION FOUNDATION
AFF	ABOVE FINISHED FLOOR	DWG	DRAWING	NTS	NOT TO SCALE
AP	ACCESS PANEL	E	EXISTING	ORD	OVERFLOW ROOF DRAIN
BEL	BELOW	ELEV	ELEVATION	POC	POINT OF CONNECTION
BFP	BACKFLOW PREVENTER	ET	EXPANSION TANK	PRV	PRESSURE REDUCING VALVE
BOP	BOTTOM OF PIPE	EWH	ELECTRIC WATER HEATER	PVC	POLYVINYL CHLORIDE
BV	BALL VALVE	F	FIRE	RD	ROOF DRAIN
BWV	BACK WATER VALVE	FCO	FLOOR CLEAN OUT	RPBA	REDUCED PRESSURE BACKFLOW ASSY
CB	CATCH BASIN	FD	FLOOR DRAIN	TOG	TOP OF GRATE
CFF	CAP FOR FUTURE	FU	FIXTURE UNIT	UG	UNDER GROUND
CI	CAST IRON	GCO	GRADE CLEANOUT	UNO	UNLESS NOTED OTHERWISE
CL	CENTER LINE	GI	GREASE INTERCEPTOR	VTR	VENT THRU ROOF
CO	CLEAN OUT	GPM	GALLONS PER MINUTE	W/	WITH
CPVC	CPVC MATERIAL	GWH	GAS WATER HEATER	WCO	WALL CLEAN OUT
DCBP	DOUBLE CHECK BACKFLOW PREVENTER	HB	HOSE BIBB	WH	WALL HYDRANT
DCVA	DOUBLE CHECK VALVE ASSEMBLY	HP	HIGH PRESSURE	WHA	WATER HAMMER ARRESTOR
DCW	DOMESTIC COLD WATER	IE	INVERT ELEVATION	WM	WATER METER
DHW	DOMESTIC HOT WATER	MFR	MANUFACTURER	WSFU	WATER SERVICE FIXTURE UNIT
DEMO	DEMOLISH	MH	MANHOLE	YH	YARD HYDRANT
DFU	DRAINAGE FIXTURE UNIT				

PLUMBING SYSTEM LEGEND

LINE TYPE	FULL NAME	ABBR	LINE TYPE	FULL NAME	ABBR
DOMESTIC WATER			**SANITARY SEWER**		
—— – —— – ——	DOMESTIC COLD WATER	CW	——GD——	GARAGE DRAIN	GD
—— – – —— – – ——	DOMESTIC HOT WATER	HW	——GW——	GREASE WASTE	GW
—— – – – —— – – – ——	DOMESTIC HOT WATER CIRC	HWC	——IW——	INDIRECT WASTE	IW
—— – ——HP—— – ——	DOMESTIC COLD, HIGH PRESSURE	CW-HP	——PW——	PUMPED WASTE	PW
—— – – ——HP—— – – ——	DOMESTIC HOT, HIGH PRESSURE	HW-HP	— — — — — — —	SANITARY VENT	V
—— – – – ——HP—— – – – ——	DOMESTIC HOT CIRC, HIGH PRESSURE	HWC-HP	————————	SANITARY WASTE	W
—— – – ——HT—— – – ——	DOMESTIC HOT, HIGH TEMP (>140)	HW-HT			
—— – – – ——HT—— – – – ——	DOMESTIC HOT CIRC, HIGH TEMP (>140)	HWC-HT	**STORM**		
——FW——	FILTERED WATER	FW	—— —— ——FTDR—— —— ——	FOOTING DRAIN	FTDR
——TW——	TEMPERED WATER	TW	——ORL——	OVERFLOW RAIN LEADER	ORL
——TWC——	TEMPERED WATER CIRC	TWC	——RL——	RAIN LEADER	RL
——TP——	TRAP PRIMER	TP	——PRL——	PUMPED RAIN LEADER	PRL
FUEL GASES					
——NG-L——	NATURAL GAS LOW PRESSURE	NG-L			
——NG-M——	NATURAL GAS MEDIUM PRESSURE	NG-M			
——NG-H——	NATURAL GAS HIGH PRESSURE	NG-H			
— — — NG-V— — —	GAS VENT	NG-V			
——LPG——	LIQUID PROPANE GAS	LPG			
——FLU——	FLUE VENT	FLU			
——COMB——	COMBUSTION AIR	COMB			

PLUMBING SYSTEM LEGEND

SYMBOL	FULL NAME	ABBR	SYMBOL	FULL NAME	ABBR
⋈	VALVE TWO-WAY CONTROL	2WAY	——W——	PIPE - EXISTING	
⋈	VALVE THREE-WAY CONTROL	3WAY	- - - -W- - - -	PIPE - DEMO	
AF ⋈	VALVE AUTOMATIC FLOW CONTROL	AF	——W——	PIPE - NEW	
◸	VALVE BACKWATER VALVE	BWV	- - - -W- - - -	PIPE - FUTURE	
∅	VALVE BALANCING	BALV	6" W	PIPE - SIZE & ABBREVIATION	
∅	VALVE BALANCING AUTOMATIC	ABALV	6" DHW-W	PIPE - SIZE & ABBREVIATION WITH INSULATION	
⋈	VALVE BALL - FULL PORTED	BV	∿∿∿	FLEX PIPE	
⋈	VALVE BALL - W/ 3/4" HOSE ADAPTOR	BV W/ HA	∞∞∞	PIPE - HEAT TRACE	
◣	VALVE CHECK	CV	◀	PUMP	
⋈	VALVE GAS COCK	GC		EXPANSION TANK	ET
⋈	VALVE GATE	GV	⌒	60° OFFSET FOR SUDS	60° OFST
⋈	VALVE GLOBE	GLV	╥╥╥	DOMESTIC PEX MANIFOLD	MFLD
	VALVE PRESSURE REDUCING	PRV		PLUMBING TRAP	TRAP
	VALVE PRESSURE RELIEF	RV	←FLTR-1	PLUMBING FIXTURE N.I.C. TAG	
S ⋈	VALVE SOLENOID	SV	←(WC-1)	PLUMBING FIXTURE TAG	
	WATER HAMMER ARRESTOR	WHA	⊣	PLUMBING FIXTURE	
◀	DOUBLE CHECK BACKFLOW PREVENTER	DCBP	←WH-1	PLUMBING EQUIPMENT TAG	
◀◀	REDUCED PRESS. BACKFLOW PREVENTER	RPBP	1/2% SLOPE	1/16" PER FOOT PIPE SLOPE	
Ⓟ	PRESSURE INDICATOR	PRESS	1%SLOPE	1/8" PER FOOT PIPE SLOPE	
	TEMPERATURE INDICATOR	THERM	2% SLOPE	1/4" PER FOOT PIPE SLOPE (TYP. UNO)	
M	SUB-METER WATER FLOW	MTR	◎	VENT THROUGH ROOF	VTR
T	PRESSURE / TEMPERATURE PORT	P&T	○	FLOOR CLEANOUT	FCO
	STRAINER	STRN	○⊣	WALL CLEANOUT	WCO
÷	UNION	UNION	○ ⊘	FLOOR DRAINS	FD
— - —⊣	HOSE BIBB	HB	▥	FLOOR SINKS	FS
∿	PIPE BREAK - PIG TAIL		⌓	ROOF DRAIN (RISER)	RD
⊕	POINT OF CONNECTION	POC	⌓	OVER-FLOW DRAIN (RISER)	OD
<	FLOW ARROW		◎ ⦿ ◎⦿	ROOF, OVERFLOW, & COMBINATION DRAINS	OD/RD
▷	CONCENTRIC REDUCER	CR	◎	PLANTER DRAIN	
	THERMAL EXPANSION DEVICE	EXP			

PLUMBING EQUIPMENT SCHEDULE

NO.	EQUIPMENT DESCRIPTION
SA-A	SHOCK ARRESTOR - SIOUX CHIEF 652-A, PDI RATED SIZE A, 1/2" THREADED CONNECTION, SEALED CHAMBER WITH PISTON RATED FOR WALL CLOSURE.
TP-1	TRAP PRIMER - PRECISION PLUMBING PRODUCTS MODEL MP-500-115V, MINI-PRIME ELECTRONIC TRAP PRIMER, 115 VOLT/1 PHASE, ADJUSTABLE RECYCLE TIMER, SOLENOID OPERATED, WITH AIR GAP. MAX 4 DRAINS. HORIZONTAL LINES SLOPE TO DRAIN. MAX 20' RECOMMENDED. ELECTRICAL TO PROVIDE DISCONNECT.

BALANCING VALVE & CIRCUIT BALANCING VALVE SCHEDULE

UNIT NO.	MFR. MODEL NO.	VALVE SIZE	GPM	VALVE POSITION	Cv RATING FULL OPEN	PRESSURE DROP IN PSI	NOTES
BV-1	VICTAULIC TA SERIES 78BL	3/4"	0.94-12.48	1-20	6.67	? PSI	1, 2
BV-2	VICTAULIC TA SERIES 78BL	1"	1.56-19.30	1-20	10.32	? PSI	1, 2
BV-3	VICTAULIC TA SERIES 78BL	2"	6.18-85.00	1-20	45.3	? PSI	1, 2
CBV-1	CIRCUIT SOLVER CSUAS-1/2-115-CV1	1/2"	0.50	FACTORY SET	0.6	.69 (1.60' TDH)	1, 2, 3
CBV-2	B&G CIRCUIT SETTER PLUS RF-1/2S LF	1/2"	1/2	FIELD SET			2, 4, 5

NOTES:

1. THREADED CONNECTION.
2. COMPLIES WITH NSF/ANSI STANDARD 61 FOR LEAD CONTENT.
3. INCLUDES FACTORY SUPPLIED STRAINER, CHECK VALVE, (2) SHUT-OFF VALVES AND UNION.
4. SWEAT CONNECTION.
5. INCLUDES FACTORY SUPPLIED CAPPED READOUT VALVES, CHECK VALVES AND DRAIN PORT.

BACKFLOW PREVENTER SCHEDULE

SYMBOL	LOCATION	TYPE	SYSTEM SERVICED	MFR. & MODEL NO.	SIZE	AIR GAP MODEL	MAX DESIGN FLOW PRESSURELOSS	WEIGHT (LBS)	NOTES
BFP-01	KITCHEN	REDUCED PRESSURE	-	WATTS LF009-QT-FS	1/2"	909AGA	17 PSI @ 5 GPM	6	1, 2
BFP-02	KITCHEN	REDUCED PRESSURE	-	WATTS LF009-QT-FS	3/4"	909AGC	13 PSI @ 3-20 GPM	8	1, 2
BFP-03	KITCHEN	DOUBLE CHECK	-	WATTS LF007QT-FZ	1/2"	-	3 PSI @ 10-40 GPM	5	3

NOTES:

1. PROVIDE WITH PRESSURE DIFFERENTIAL RELIEF VALVE LOCATED BETWEEN TWO INDEPENDENTLY OPERATED SPRING LOADED CHECK VALVES, TWO RESILIENT SEAT BALL VALVES AND FOUR RESILIENT SEATED BALL TEST COCKS, AND A "Y" STRAINER. W/ AIR GAP.
2. BRONZE CONSTRUCTION, ASSE 1013 & NSF-61 LISTED.
3. BRONZE CONSTRUCTION, ASSE 1015 & NSF-61 LISTED.

MIXING VALVE SCHEDULE

UNIT NO.	LOCATION	SERVICE	MFR. & MODEL NO.	TYPE	INLET SIZE	OUTLET SIZE	OUTLET TEMP	GPM RANGE	PSI LOSS	NOTES
MV-1	AT ALL LAVS	DOMESTIC LAVS	WATTS LFUSG-B-M2	THERMOSTATIC	1/2"	1/2"	105°F	0.35-1	-	1, 2
MV-2										

NOTES:

1. POINT OF USE, ASSE 1070 VALVE. W/ TAMPER RESISTANT LOCKING CAP
2. BRONZE CONSTRUCTION.

2021 WASHINGTON STATE ENERGY CODE COMMISSIONING AND BALANCING SCHEDULE

COMMISSIONING IN COMPLIANCE WITH 2021 WASHINGTON STATE ENERGY CODE (WSEC) SECTION C408 SHALL BE REQUIRED FOR ALL NEW SYSTEMS OR MODIFIED PORTIONS OF SYSTEMS UNLESS THE SYSTEMS MEET ONE OR MORE OF THE FOLLOWING EXCEPTIONS:

EXCEPTION 2: SERVICE WATER HEATING SYSTEMS IN BUILDNGS WITH SERVICE WATER HEATING SYSTEMS CAPACITY LESS THAN 200,000 BTU/H AND THERE ARE NO POOLS OR

PERMANENT SPAS, SOLAR THERMAL HEATING, RECIRCULATION PUMPS, AND HEAT PUMP WATER HEATERS (EXCEPT PACKAGED UNITS FOR RESIDENTIAL USE).

EXCEPTION 4: REFRIGERATION SYSTEMS LIMITED TO SELF CONTAINED UNITS.

THE COMMISSIONING PROFESSIONAL MUST MEET ONE OF THESE MINIMUM REQUIREMENTS:

1) AN INDIVIDUAL WHO IS CERTIFIED BY AN ANSI/ISO/IEC 17024:2012 ACCREDITED ORGANIZATION TO LEAD, PLAN, COORDINATE AND MANAGE COMMISSIONING TEAMS AND IMPLEMENT THE COMMSSIONING PROCESS.

THE COMMISSIONING PROFESSIONAL SHALL PERFORM THE FOLLOWING TASKS:

1) DEVELOPMENT AND EXECUTION OF THE COMMISIONING PLAN, INCLUDING ALL SUBSECTIONS OF WSEC SECTION C408.1.2.
2) REVIEW OF BUILDING DOCUMENTATION AND CLOSE OUT SUBMITTALS.
3) PREPAIRING THE FINAL COMMIISSIONING REPORT IN ACCORDANCE WITH WSEC SECTION C408.1.3.

ALL EQUIPMENT/SYSTEMS LISTED IN DRAWING EQUIPMENT SCHEDULES SHALL BE COMMISSIONED UNLESS LISTED AS AN EXCEPTION WITHIN THIS SCHEDULE.

WHERE THE CERTIFIED COMMISSIONING PROFESSIONAL'S CONTRACT OR EMPLOYMENT IS OTHER THAN DIRECTLY WITH THE BUILDING OWNER, AN IN-HOUSE COMMISSIONING DISCLOSURE AND CONFLICT MANAGEMENT PLAN SHALL BE A PART OF THE COMMISSIONING PROCESS. A COPY SHALL BE INCLUDED IN THE COMMISSIONING PLAN. THIS PLAN SHALL DISCLOSE THE CERTIFIED COMMISSIONING PROFESSIONAL'S CONTRACTUAL RELATIONSHIP WITH OTHER TEAM MEMBERS AND PROVIDE A CONFLICT MANAGEMENT PLAN DEMONSTRATING THAT THE CERTIFIED COMMISSIONING PROFESSIONAL IS FREE TO IDENTIFY ANY ISSUES DISCOVERED AND REPORT DIRECTLY TO THE OWNER.

FUNCTIONAL PERFORMANCE TESTING SHALL BE CONDUCTED FOR MECHANICAL SYSTEMS IN WSEC SECTIONS C403; SERVICE WATER HEATING SYSTEMS IN WSEC SECTION C404; EQUIPMENT, APPLIANCES AND SYSTEMS INSTALLED TO COMPLY WITH WSEC SECTION C406 OR C407; ENERGY METERING IN WSEC SECTION C409; AND REFRIGERATION SYSTEMS IN WSEC SECTION C410. WRITTEN PROCEDURES WHICH CLEARLY DESCRIBE THE INDIVIDUAL SYSTEMATIC TEST PROCEDURES, THE EXPECTED SYSTEM RESPONSE OR ACCEPTANCE CRITERIA FOR EACH PROCEDURE, THE ACTUAL RESPONSE OR FINDINGS, AND ANY PERTINENT DISCUSSION SHALL BE FOLLOWED. THIS TESTING SHALL INCLUDE CONTROL SYSTEMS WHICH WILL BE TESTED TO DOCUMENT THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT, AND SYSTEMS ARE CALIBRATED AND ADJUSTED TO OPERATE IN ACCORDANCE WITH APPROVED CONSTRUCTION DOCUMENTS. TESTING SHALL AFFIRM THE CONDITIONS REQUIRED WITHIN WSEC SECTIONS C408.2 THROUGH C408.7 UNDER SYSTEM TESTING.

FOR PROJECTS WITH SEVEN OR FEWER SIMILAR SYSTEMS, EACH SYSTEM SHALL BE TESTED. FOR PROJECTS WITH MORE THAN SEVEN SYSTEMS, TESTING SHALL BE DONE FOR EACH UNIQUE COMBINATION OF CONTROLS TYPE. WHERE MULTIPLES OF EACH UNIQUE COMBINATION OF CONTROL TYPES EXIST, NO FEWER THAN 20 PERCENT OF EACH COMBINATION SHALL BE TESTED UNLESS THE CODE OFFICIAL OR DESIGN PROFESSIONAL REQUIRES A HIGHER PERCENTAGE TO BE TESTED. WHERE 30 PERCENT OR MORE OF THE TESTED SYSTEM FAIL, ALL REMAINING IDENTICAL COMBINATIONS SHALL BE TESTED.

A COMMISSIONING REPORT SHALL BE COMPLETED AND CERTIFIED BY THE CERTIFIED COMMISSIONING PROFESSIONAL AND DELIVERED TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT. THE REPORT SHALL BE ORGANIZED WITH MECHANICAL, SERVICE WATER HEATING, CONTROLLED RECEPTACLE AND LIGHTING CONTROL SYSTEMS, ENERGY METERING, AND REFRIGERATION FINDINGS IN SEPARATE SECTIONS TO ALLOW INDEPENDENT REVIEW. THE REPORT SHALL RECORD THE ACTIVITIES AND RESULTS OF THE COMMISSIONING PROCESS AND BE DEVELOPED FROM THE FINAL COMMISSIONING PLAN WITH ALL OF ITS ATTACHED APPENDICES. THE REPORT SHALL INCLUDE:

1) RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
2) DISPOSITION OF DEFICIENCIES FOUND DURING TESTING, INCLUDING DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED.
3) FUNCTIONAL PERFOMANCE TEST PROCEDURES USED DURING THE COMMSIONING PROCESS INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE, PROVIDED HEREIN REPEATABILITY.

4) COMMSIONING PLAN.
5) TESTING, ADJUSTING AND BALANCING REPORTS.

EXCEPTION: DEFERRED TESTS WHICH CANNOT BE PERFORMED AT THE TIME OF REPORT PREPARATION DUE TO CLIMATE CONDITIONS.

PRIOR TO THE FINAL MECHANICAL AND PLUMBING INSPECTIONS OR OBTAINING A CERTIFICATE OF OCCUPANCY, THE CERTIFIED COMMISSIONING PROFESSIONAL SHALL PROVIDE EVIDENCE OF BUILDING COMMISSIONING IN ACCORDANCE WITH WSEC SECTION C408.1.4.1.

THE CODE OFFICIAL SHALL BE PERMITTED TO REQUIRE THAT A COPY OF THE COMMISSIONING REPORT BE MADE AVAILABLE FOR REVIEW BY THE CODE OFFICIAL.

MECHANICAL EQUIPMENT AND CONTROLS SUBJECT TO WSEC SECTION C403 SHALL BE INCLUDED IN THE COMMISSIONING PROCESS REQUIRED BY SECTION C408.1. THE COMMISSIONING PROCESS SHALL MINIMALLY INCLUDE ALL ENERGY CODE REQUIREMENTS FOR WHICH THE CODE STATES THAT EQUIPMENT OR CONTROLS SHALL "BE CAPABLE OF" OR "CONFIGURED TO" PERFORM SPECIFIC FUNCTIONS.

SERVICE WATER HEATING EQUIPMENT AND CONTROLS SUBJECT TO WSEC SECTION C404 SHALL BE INCLUDED IN THE COMMISSIONING PROCESS REQUIRED BY WSEC SECTION C408.1. THE COMMISSIONING PROCESS SHALL MINIMALLY INCLUDE EQUIPMENT AND COMPONENTS INSTALLED TO MEET ALL ENERGY CODE REQUIREMENTS FOR DEVICES TO "START," "AUTOMATICALLY TURN OFF," "AUTOMATICALLY ADJUST," "LIMIT OPERATION," AND "LIMIT THE TEMPERATURE" AND "BE CONFIGURED TO."

FUNCTIONAL PERFORMANCE TESTING SHALL DEMONSTRATE THAT HEATERS, PIPING, DISTRIBUTION SYSTEMS, AND SYSTEM-TO-SYSTEM INTERFACING RELATIONSHIPS ARE INSTALLED AND OPERATE IN ACCORDANCE WITH APPROVED CONSTRUCTION DOCUMENTS. TESTING SHALL INCLUDE THE SEQUENCE OF OPERATION, AND BE CONDUCTED UNDER AT LEAST 50 PERCENT WATER HEATING LOAD, PART-LOAD AND THE FOLLOWING CONDITIONS:

1) NORMAL OPERATION.
2) REDUNDANT OR AUTOMATIC BACK-UP MODE.
3) PERFOMANCE OF ALARMS.
4) MODE OF OPERATION UPON LOSS OF POWER AND RESTORATION OF POWER.

EQUIPMENT, COMPONENTS, CONTROLS OR CONFIGURATION SETTINGS FOR SYSTEMS WHICH ARE INCLUDED IN THE PROJECT TO COMPLY WITH WSEC SECTIONS C406 OR C407 SHALL BE INCLUDED IN THE COMMISSIONING PROCESS REQUIRED BY WSEC SECTION C408.1.

FUNCTIONAL PERFORMANCE TESTING FOR THESE APPLIANCES, EQUIPMENT, COMPONENTS, CONTROLS AND/OR CONFIGURATION SETTINGS SHALL DEMONSTRATE OPERATION, FUNCTION AND MAINTENANCE SERVICEABILITY FOR EACH OF THE COMMISSIONED SYSTEMS IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

ENERGY METERING SYSTEMS REQUIRED BY SECTION C409 SHALL COMPLY WITH WSEC SECTION C408.6 AND BE INCLUDED IN THE COMMISSIONING PROCESS REQUIRED BY SECTION C408.1. THE COMMISSIONING PROCESS SHALL INCLUDE ALL ENERGY METERING EQUIPMENT AND CONTROLS REQUIRED BY WSEC SECTION C409.

FUNCTIONAL PERFORMANCE TESTING SHALL DEMONSTRATE THAT ENERGY SOURCE METERS, END-USE METERS, DATA ACQUISITION SYSTEMS, AND ENERGY DISPLAYS ARE INSTALLED AND OPERATE IN ACCORDANCE WITH APPROVED CONSTRUCTION DOCUMENTS. AT A MINIMUM, TESTING SHALL CONFIRM THAT:

1) THE METERING SYSTEM DEVICES AND COMPONENTS WORK PROPERLY UNDER LOW AND HIGH LOAD CONDITIONS.
2) THE METERED DATA IS DELIVERED IN A FORMAT THAT IS COMPATIBLE WITH THE DATA COLLECTION SYSTEM.
3) THE ENERGY DISPLAY IS IN A LOCATION WITH ACCESS TO BUILDING OPERATION AND MANAGEMENT PERSONNEL.
4) THE ENERGY DISPLAY MEETS CODE REQUIREMENTS REGARDING VIEWS REQUIRED IN SECTION C409.4.3. THE DISPLAY SHOWS ENERGY DATA IN IDENTICAL UNITS (E.G., KWH).

ALL INSTALLED REFRIGERATION SYSTEMS SUBJECT TO WSEC SECTION C410 SHALL BE INCLUDED IN THE COMMISSIONING PROCESS REQUIRED BY WSEC SECTION C408.1.

EXCEPTIONS: SELF-CONTAINED REFRIGERATION SYSTEMS ARE EXEMPT FROM THE COMMISSIONING PROCESS OR TOTAL INSTALLED CAPACITY FOR REFRIGERATION IS EQUAL TO OR LESS THAN 240 KBTU/H.

FUNCTIONAL PERFORMANCE TESTING SHALL DEMONSTRATE THAT COMPRESSORS, HEAT EXCHANGERS, PIPING, DISTRIBUTION SYSTEMS, AND SYSTEM-TO-SYSTEM INTERFACING RELATIONSHIPS ARE INSTALLED AND OPERATE IN ACCORDANCE WITH APPROVED CONSTRUCTION DOCUMENTS. TESTING SHALL INCLUDE THE SEQUENCE OF OPERATION AND BE CONDUCTED UNDER FULL LOAD, PART LOAD AND THE FOLLOWING CONDITIONS:

1) NORMAL MODE.
2) REDUNDANT OR AUTOMATIC BACK-UP MODE.
3) PERFORMANCE OF ALARMS.
4) MODE OF OPERATION UPON LOSS OF POWER AND RESTORATION OF POWER.

FIXTURE CONNECTION SCHEDULE

NO.	FIXTURE	LOCAL CONNECTION WASTE	VENT	HOT	COLD
KS-1	ADA KITCHEN SINK - ELKAY DAYTON D12521-3 SELF-RIMMING STAINLESS STEEL SINGLE COMPARTMENT 3 HOLE SINK, W/ELKAY LK1000CR SINGLE HANDLE FAUCET SWING SPOUT, 1.5 GPM, BRASSCRAFT G2CR19 STOPS, FLUIDMASTER B1F20 20" CONNECTORS, 1/2 HP BADGER 5 GARBAGE DISPOSER, 115V/1PH, ELECTRICAL TO PROVIDE SWITCHED RECEPTACLE BELOW SINK.	2"	1 1/2"	1/2"	1/2"
KS-2	KITCHEN SINK - RELOCATED EXISTING SINK. EXISTING FAUCET, DRAIN, TAILPIECE & STOPS TO BE REUSED.	2"	1 1/2"	1/2"	1/2"

DRAIN CONNECTION SCHEDULE

NO.	DRAIN DESCRIPTION	LOCAL CONNECTION WASTE	VENT	STORM
FF-1	FUNNEL FLOOR DRAIN - WATTS FD-102-A7-7 WITH F4-1, EPOXY COATED CAST IRON BODY WITH ANCHOR FLANGE, 7" ROUND ADJUSTABLE NICKEL BRONZE STRAINER, REVERSIBLE CLAMPING COLLAR WITH WEEPHOLES AND 4" ROUND NICKEL BRONZE FUNNEL. WITH TRAP PRIMER.	2"	2"	-
FD-1	FLOOR DRAIN - WATTS FD-323-7, EPOXY COATED CAST IRON BODY WITH ANCHOR FLANGE, BODY COLLAR WITH WEEPHOLES AND 8" DIA ADJUSTABLE TOP WITH DUCTILE IRON GRATE. WITH TRAP PRIMER.	3"	2"	-
FS-1	FLOOR SINK - WATTS FS-722-150, 8" ROUND x 6" DEEP, CAST IRON WITH A.R.E. INTERIOR & GRATE, 1/2 GRATE, AND ANTI-SPLASH POLYPROPYLENE BOTTOM DOME STRAINER. INSTALL FLOOD LEVEL RIM FLUSH WITH FIN FLR. WITHOUT TRAP PRIMER.	2"	2"	-
FS-2	FLOOR SINK - WATTS FS-763-150, 12" ROUND x 8" DEEP, CAST IRON WITH A.R.E. INTERIOR & GRATE, 1/2 GRATE AND ANTI-SPLASH POLYPROPYLENE BOTTOM DOME STRAINER, INSTALL FLOOD LEVEL RIM FLUSH WITH FIN FLR. WITHOUT TRAP PRIMER.	3"	2"	-

PLUMBING GENERAL NOTES - WASHINGTON

1. THIS PROJECT WAS DESIGNED UNDER THE FOLLOWING CODES:
   - 2021 UNIFORM PLUMBING CODE WITH WASHINGTON STATE AMENDMENTS (UPC)
   - 2021 WASHINGTON STATE FUEL GAS CODE (WSFGC)
   - 2021 WASHINGTON STATE ENERGY CODE (WSEC)
   - 2021 WASHINGTON STATE BUILDING CODE (WSBC)
   MATERIALS, METHODS AND INSTALLATION SHALL COMPLY WITH THESE PROVISIONS.
2. WATER SYSTEM IS DESIGNED PER THE FOLLOWING PARAMETERS AND REQUIREMENTS:
   -STATIC WATER PRESSURE TO FIXTURES SHALL NOT EXCEED 80 PSIG (608.2)
   -DESIGNED MAXIMUM DCW VELOCITIES SHALL NOT EXCEED 8 FPS & DHW SHALL NOT EXCEED 5 FPS (610.6 and 610.12)
   -PRESSURE LOSSES FOR IN-LINE DEVICES HAVE BEEN INCLUDED IN THE ABOVE PRESSURE CALCULATIONS (610.2)
   -WATER SIZING IS AS PER APPENDIX A (Table 103.1)
   -WATER CONNECTIONS TO MECHANICAL EQUIPMENT, STEAM PRODUCING EQUIPMENT, DISHWASHERS THAT INJECT DETERGENT INTO THE WATER LINE, CARBONATORS, OR ANY OTHER CONDITION WHERE A CROSS CONNECTION OF THE MAIN WATER SYSTEM MAY OCCUR, A REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY AND ASSOCIATED DRAIN PIPING MUST BE PROVIDED.
   -WATER DISINFECTION TEST SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 609.9 PRIOR TO FINAL APPROVAL OF PLUMBING PERMIT.
   -ALL ITEMS IN THE DOMESTIC WATER DISTRIBUTION SYSTEM MUST SHOW COMPLIANCE WITH NSF-61 LEAD FREE REQUIREMENTS. DOCUMENTATION MUST BE AVAILABLE ON SITE.
   -PROVIDE WATER PIPING IDENTIFICATION ON PIPING PER TABLE 601.3.2.
   -LIMITATION OF HOT WATER TEMPERATURE TO PLUMBING FIXTURES SHALL BE IN ACCORDANCE WITH UPC CHAPTER 4 .
3. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW EXACT ROUTING OR EVERY OFFSET WHICH MAY BE REQUIRED. THE PLUMBING CONTRACTOR IS TO COORDINATE WITH ALL OTHER TRADES AND IS TO VERIFY ALL CLEARANCES BEFORE COMMENCING WORK.
4. ALL PIPE SIZES NOTED ON DRAWINGS ARE MINIMUMS.
5. SLOPE ALL RAIN LEADER, STORM, AND WASTE PIPING AT 2% UNLESS OTHERWISE NOTED ON DRAWINGS. OBTAIN APPROVAL FROM CODE AUTHORITY BEFORE INSTALLING WASTE PIPING AT LESS THAN 2% (EVEN IF LESSER SLOPE IS INDICATED ON DRAWINGS).
6. HANGERS AND SUPPORTS FOR PIPING SHALL BE IN ACCORDANCE WITH SECTION 313 AND TABLES 313.3 AND 313.6 OF THE 2021 UNIFORM PLUMBING CODE WITH WASHINGTON STATE AMENDMENTS.
7. PIPING PENETRATIONS OF FIRE RATED WALLS OR FLOORS SHALL BE SLEEVED AND FIRE STOPPED WITH LISTED MATERIALS SO AS TO MAINTAIN THE INTEGRITY AND RATING OF THE FLOOR OR WALL.
8. FOR EXACT ROUGH-IN LOCATIONS AND ELEVATIONS OF PLUMBING FIXTURES REFER TO ARCHITECTURAL DRAWINGS.
9. PROVIDE STOPS OR ANGLE VALVES AT ALL FIXTURES
10. PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS.
11. PROVIDE DIELECTRIC CONNECTIONS BETWEEN DISSIMILAR METALS.
12. CLEANOUTS SHALL BE INSTALLED SO THEY ARE EASILY ACCESSIBLE.
13. PLUMBING EQUIPMENT, VALVES AND TRAP PRIMERS SHALL BE LOCATED IN EASILY ACCESSIBLE LOCATIONS. UNLESS SHOWN ON ARCHITECTURAL DRAWINGS, REQUIRED ACCESS PANELS SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
14. FLOORS SHALL SLOPE TO FLOOR DRAINS WHERE DRAINAGE OCCURS ON A REGULAR BASIS. PLUMBER TO COORDINATE WITH GENERAL CONTRACTOR FOR EXACT ELEVATION OF DRAIN. (EXAMPLES TOILET ROOMS, KITCHENS AND LAUNDRY ROOMS)
15. THE PLUMBER SHALL PROVIDE AND LOCATE ALL REQUIRED FLOOR, WALL, AND FOOTING SLEEVES.
16. HEAT TRACING OF PIPING, WHERE INDICATED, SHALL BE PROVIDED AND INSTALLED BY THE PLUMBING CONTRACTOR. THE PLUMBING CONTRACTOR IS TO COORDINATE THE HEAT TRACE WIRING SUPPLY WITH THE ELECTRICAL CONTRACTOR.
17. TRENCHING, BACKFILLING, AND COMPACTING FOR UNDERGROUND PIPING SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR UNLESS STATED OTHERWISE IN CONTRACT DOCUMENTS.
18. PIPING BURIED IN THE SLAB TO HAVE A PROTECTIVE SLEEVE.
19. PROVIDE EARTHQUAKE RESTRAINT FOR PLUMBING PIPING AND EQUIPMENT IN ACCORDANCE WITH SECTION 1613 OF THE 2021 IBC AND ASCE 7.
20. VENTS FROM FLOOR MOUNTED FIXTURES SHALL RISE VERTICALLY TO AT LEAST 6" ABOVE THE FLOOD RIM OF THE FIXTURE, UNLESS STRUCTURAL CONDITIONS PROHIBIT A CONTINUOUS VENT. WHERE A "FLAT VENT" IS USED, IT SHALL BE INSTALLED WITH DRAINAGE FITTINGS AND SLOPE BACK TO THE FIXTURE AT STANDARD 2% SLOPE.

PIPING INSULATION SCHEDULE - WASHINGTON

PIPING TYPE	PIPE SIZE	INSULATION TYPE	INSULATION THICKNESS	CONDUCTIVITY RANGE
UNDERSIDE OF ROOF DRAIN BODIES	ALL	FIBERGLASS	1/2"	-
OVERHEAD RAIN LEADERS	ALL	FIBERGLASS	1/2"	-
VERTICAL RAIN LEADERS	NOT REQUIRED			
OVERFLOW RAIN LEADERS FIRST 10'	ALL	FIBERGLASS	1/2"	-
COLD WATER OVERHEAD AND EXPOSED TO SIGHT	ALL	FIBERGLASS	1/2"	0.21 - 0.27
COLD WATER WITHIN WALLS AND SHAFTS	NOT REQUIRED			
RECIRCULATED HOT WATER (105°F TO 140°F)	1/2" - 1-1/4"	FIBERGLASS	2"	0.21 - 0.28
	1-1/2" - 6"	FIBERGLASS	2-1/2"	0.21 - 0.28
UNCIRCULATED HOT WATER PIPING (105°F TO 140°F)	1/2" - 1-1/4"	FIBERGLASS	1"	0.21 - 0.28
	1-1/2" - 6"	FIBERGLASS	1-1/2"	0.21 - 0.28
RECIRCULATED HOT WATER (141°F TO 200°F)	1/2" - 1-1/4"	FIBERGLASS	2-1/2"	0.25 - 0.29
	1-1/2" - 6"	FIBERGLASS	3"	0.25 - 0.29
UNCIRCULATED HOT WATER PIPING (141°F TO 200°F)	1/2" - 1-1/4"	FIBERGLASS	1-1/2"	0.25 - 0.29
	1-1/2" - 6"	FIBERGLASS	2"	0.25 - 0.29
HOT WATER UNDERGROUND	1/2" - 2"	THERMA-CEL	1"	0.21 - 0.28
HORIZONTAL COIL CONDENSATE PIPING	ALL	ARMAFLEX	1/2"	

- ALL HOT WATER PIPING INSULATION SHALL MEET THE REQUIREMENTS OF THE WASHINGTON STATE ENERGY CODE, 2021 EDITION, TABLE C403.10.3.
- ALL PIPING INSULATION AND COVERINGS SHALL HAVE AN ASTM FLAME SPREAD RATING OF 25 OR LESS AND AN ASTM SMOKE DEVELOPED RATING OF 50 OR LESS.
- ELASTOMERIC INSULATIONS WHICH MEET THESE RATINGS MAY BE USED AS A SUBSTITUTE FOR FIBERGLASS.
- PROVIDE A VAPOR BARRIER COVERING ON ALL ROOF DRAIN, RAIN LEADER, AND COLD WATER PIPING INSULATION.
- INSULATE THE OVERFLOW DRAIN BODY AND PIPE 10 FEET DOWN STREAM FROM THE DRAIN.
- PROVIDE A COVERING FOR ALL INSULATION EXPOSED TO SIGHT WITHIN THE BUILDING.
- PROVIDE AN INCOMPRESSIBLE INSULATED PAD WITH A MINIMUM THERMAL RESISTANCE OF R-10 UNDER ALL ELECTRIC WATER HEATERS IN UNCONDITIONED SPACES OR ON CONCRETE FLOOR.

LEGAL DESCRIPTION

PARCEL NUMBER: 9810000015

LEGAL DESCRIPTION: Section 34 Township 20 Range 04 Quarter 23 WOODS 1ST CANNOT BE SOLD OR SUBD WITHOUT 001-4 & 001-6 LOT 1 OF BLA 2010-06-15-5001 DESC AS BEG AT A PT 30 FT E & 151.05 FT N OF INTER OF 15TH AV SE & 3RD ST SE TH N 322.08 FT TH N 305.27 FT TH E 692.45 FT TH S 78 DEG 58 MIN 52 SEC E 0.44 FT TH S 49.97 FT TH E 40.98 FT TH S 43.29 FT TH N 41.04 FT TH S 181.78 FT TH W 30 FT TH S 196.6 FT TO BEG CURVE CONCAVE TO NW HAVING A RAD OF 19.5 FT & C/A OF 59 DEG 50 MIN 20 SEC & BEING SUBTENDED BY A CHORD WHICH BEARS S 56 DEG 53 MIN 06 SEC W 19.45 FT TH SWLY & WLY ALG SD CURVE 20.37 FT TO PT OF REVERSE CURV TH WLY & SWLY & SLY 90.9 FT CONCAVE TO SE HAVING A RAD OF 60.5 FT & C/A OF 86 DEG 05 MIN 15 SEC TH S 3.26 FT TH SLY, SWLY & WLY 14.92 FT ALG CURVE CONCAVE TO NW HAVING A RAD OF 9.5 FT & C/A OF 89 DEG 59 MIN 59 SEC TH W 107.24 FT TO BEG OF CURVE CONCAVE TO NW HAVING A RAD OF 55.98 FT & C/A OF 81 DEG 57 MIN 04 SEC & BEING SUBTENDED BY CHORD WHICH BEARS S 49 DEG 34 MIN 17 SEC W 73.42 FT TH SLY, SWLY & WLY ALG SD CURVE 80.07 FT TH W 6.43 FT TH S 131.8 FT TH SLY & SELY 14.27 FT ALG SD CURVE CONCAVE TO E HAVING A RAD OF 25 FT & C/A OF 32 DEG 42 MIN 11 SEC TH N 88 DEG 06 MIN 01 SEC W 77.46 FT TO BEG OF CURVE CONCAVE TO N HAVING A RAD OF 40 FT & A C/A OF 43 DEG 31 MIN 52 SEC & BEING SUBTENDED BY CHORD WHICH BEARS S 70 DEG 08 MIN 03 SEC W 29.66 FT TH SWLY & WLY ALG SD CURVE 30.39 FT TH N 88 DEG 06 MIN 01 SEC W 238.87 FT TO BEG OF A CURVE CONCAVE TO NE HAVING A RAD OF 63 FT & A C/A OF 65 DEG 47 MIN 29 SEC & BEING SUBTENDED BY CHORD WHICH BEARS N 48 DEG 11 MIN 19 SEC W 68.43 FT TH WLY, NWLY & NLY ALG SD CURVE 72.34 FT TH N 12 DEG 28 MIN 32 SEC W 81.31 FT TO POB EXC THAT POR DETER TAXABLE & THAT POR DETER EXEMPT PER DOR REG # 09663-004 TOG/W VAC ORD 2958 EASE OF RECORD OUT OF 04-20-34-2-019, 981000-001-3, 055-0, 056-0, 059-0, 060-0, 061-0, 062-0 SEG 2011-0091 BB 10/11/10 BB DC00354165 5/2/2014 KG

PLUMBING SCOPE OF WORK

PROVIDE NEW DOMESTIC WATER PIPING TO NEW COMMERCIAL KITCHEN FIXTURES. DOMESTIC WATER WILL CONNECT TO EXISTING SERVICES. EXISTING DOMESTIC HOT WATER IS PROVIDED BY EXISTING STEAM HEAT EXCHANGERS. NEW KITCHEN FIXTURES WILL BE SERVED BY NEW SANITARY/GREASE WASTE AND VENT PIPING. SANITARY/GREASE WASTE AND VENT WILL CONNECT TO EXISTING UTILITIES. AN EXISTING GREASE INTERCEPTOR THAT IS AT END OF LIFE WILL BE REPLACED WITH A NEW 1500 GALLON HYDROMECHANICAL POLYETHYLENE GREASE INTERCEPTOR.

DRAWING SHEET INDEX - PLUMBING

NUMBER	TITLE
TP0.01	SCHEDULES - PLUMBING
TP0.02	SCHEDULES - PLUMBING
TP0.03	SCHEDULES - PLUMBING
DP2.01	LEVEL 01 OVERALL DEMOLITION FLOOR PLAN - PLUMBING
DP2.01A	LEVEL 01 DEMOLITION FLOOR PLAN - PHASE 1 AREA A - PLUMBING
DP2.01B	LEVEL 01 DEMOLITION FLOOR PLAN - PHASE 1 AREA B - PLUMBING
DP2.01C	LEVEL 01 DEMOLITION FLOOR PLAN - PHASE 2 AREA C - PLUMBING
DP2.01D	LEVEL 01 DEMOLITION FLOOR PLAN - PHASE 2 AREA D - PLUMBING
TP2.00	LEVEL 01 OVERALL UNDERGROUND PLAN - PLUMBING
TP2.00A	LEVEL 01 UNDERGROUND PLAN - PHASE 1 AREA A - PLUMBING
TP2.00B	LEVEL 01 UNDERGROUND PLAN - PHASE 1 AREA B - PLUMBING
TP2.00C	LEVEL 01 UNDERGROUND PLAN - PHASE 2 AREA C - PLUMBING
TP2.00D	LEVEL 01 UNDERGROUND PLAN - PHASE 2 AREA D - PLUMBING
TP2.01	LEVEL 01 OVERALL FLOOR PLAN - PLUMBING
TP2.01A	LEVEL 01 FLOOR PLAN - PHASE 1 AREA A - PLUMBING
TP2.01B	LEVEL 01 FLOOR PLAN - PHASE 1 AREA B - PLUMBING
TP2.01C	LEVEL 01 FLOOR PLAN - PHASE 2 AREA C - PLUMBING
TP2.01D	LEVEL 01 FLOOR PLAN - PHASE 2 AREA D - PLUMBING
TP4.01A	DOMESTIC WATER RISER
TP4.01B	DOMESTIC WATER RISER
TP4.01A	WATER AND VENT RISER
TP4.02B	WATER AND VENT RISER
TP4.03A	NATURAL GAS RISER
TP4.03B	NATURAL GAS RISER
TP5.01	ENLARGED FLOOR PLAN - STEP 2 AREA B - PLUMBING
TP6.01	DETAILS - PLUMBING

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100% CD SET 06/30/2025

MultiCare
Good Samaritan
Hospital Kitchen
401 15th Ave SE,
Puyallup,
WA 98372

MultiCare
Good Samaritan Hospital

MULTICARE

KEY PLAN

ISSUE CHART

MARK	ISSUE	DATE

Job Number	7725-4055

TITLE

SCHEDULES - PLUMBING

SHEET NUMBER

TP0.01

6/26/2025 2:17:18 PM Autodesk Docs://MultiCare - Good Samaritan Hospital Kitchen Expansion/PLUM-MultiCare-Kitchen-R25.rvt

GREASE INTERCEPTOR SCHEDULE

SYMBOL	LOCATION & SERVICE	TYPE	MFR & MODEL NO.	IN/OUT SIZE	VENT SIZE	FLOW RATE	GREASE CAP (LBS)	WATER CAPACITY	OPER WEIGHT (LBS)	SIZE LxWxH	NOTES
GI-1	MECHANICAL ROOM	HYDRO-MECHANICAL	SCHIER GB-500-B	4"	4"	100 GPM	10,061	500 GAL	4,706	95"x46"x39"	1, 2, 3, 4
GI-2	MECHANICAL ROOM	HYDRO-MECHANICAL	SCHIER GB-500-B	4"	4"	100 GPM	10061	500 GAL	4,706	95"x46"x39"	1, 2, 3, 4

NOTES:
1. POLYETHYLENE BODY, POLYPROPYLENE COVER.
2. PUMP OUT PORT/KIT REQUIRED.
3. INDOOR INSTALLATION ONLY.
4. INTERCEPTOR TO BE CERTIFIED TO ASME A112.14.3 (TYPE D) AND CSA B481.1 AS WELL AS CERTIFIED TO IAPMO/ANSI Z1001-2021.

FOOD SERVICE EQUIPMENT PLUMBING SCHEDULE - PHASE 1 AREA A

NO.	DESCRIPTION	DRAINAGE						COLD WATER					HOT WATER					NATURAL GAS			REMARKS
		SANITARY WASTE (DIRECT)	SANITARY WASTE (INDIRECT)	GREASE WASTE (DIRECT)	GREASE WASTE (INDIRECT)	DRAIN DISCHARGE (GPM)	VENT SIZE	PIPE SIZE	FILTERED WATER PIPE SIZE	GPM	TEMP (°F)	PRESSURE (PSIG)	PIPE SIZE	GPM	GPH	TEMP (°F)	PRESSURE (PSIG)	PIPE SIZE	MBH INPUT	PRESSURE (INCH WC)	
A31	S/S STANDARD FLOOR TROUGH W/ GRATE	4"					2"														
A32	HAND SINK	2"					2"	1/2"					1/2"								PROVIDE W/ "MV-1" ASSE1070 THERMOSTATIC MIXING VALVE.
A34	PREPARATION TABLES W/ SINKS		2"				2"														
A34.1	SPLASH MOUNT FAUCET							1/2"					1/2"								
A36	PREPARATION TABLES W/ SINKS		2"				2"														
A36.1	SPLASH MOUNT FAUCET							1/2"					1/2"								
A40	REVERSE OSMOSIS SYSTEM							1/2"													PROVIDE WITH 3/4" BFP-02" & WATER HAMMER ARRESTER. IW PIPE TO RECEPTOR WITH APPROVED AIR GAP.
A42	PREPARATION TABLE W/ SINK		2"				2"														
A42.1	SPLASH MOUNT FAUCET							1/2"					1/2"								
A45	PREPARATION TABLE W/ SINKS		2"				2"														
A45.1	SPLASH MOUNT FAUCET							1/2"					1/2"								
A47	PREPARATION TABLE W/ SINK		2"				2"														
A47.1	SPLASH MOUNT FAUCET							1/2"					1/2"								
A51	EYEWASH STATION	1-1/2"					1-1/2"	1/2"					1/2"								

NOTES:
1. THE ABOVE SCHEDULE CONTAINS OWNER FURNISHED FOOD SERVICE EQUIPMENT & FIXTURES THAT REQUIRE PLUMBING UTILITIES. REFER TO THE FOOD SERVICE / KITCHEN CONSULTANT'S DOCUMENTS FOR ROUGH-IN REQUIREMENTS & EXACT LOCATIONS OF ALL FOOD SERVICE FIXTURES & EQUIPMENT.
2. WHERE INDIRECT DRAINS ARE REQUIRED, CONTRACTOR MUST ROUTE INDIRECT DRAIN PIPING FROM FIXTURES & EQUIPMENT TO ADJACENT FLOOR RECEPTOR(S) AS REQUIRED. INDIRECT DRAIN DISCHARGE OVER FLOOR RECEPTOR(S) MUST CONTAIN APPROVED AIR BREAK(S). CONTRACTOR MUST PROVIDE A MINIMUM OF 1" THICK INSULATION (WITH APPROVED SANITARY BARRIER WRAP) FOR CONDENSATE AND / OR REFRIGERATED WASTE PIPING DISCHARGING INTO INDIRECT RECEPTORS TO PREVENT SWEATING (I.E. ALL PIPING WITH A TEMPERATURE LOWER THAN 6O°F). REFER TO FOOD SERVICE / KITCHEN CONSULTANT'S DOCUMENTS FOR ADDITIONAL REQUIREMENTS.
3. PLASTIC OR STAINLESS STEEL MATERIAL MUST BE USED FOR WASTE PIPING INSTALLED TO RECEIVE CARBONATED LIQUID WASTE. THE PLASTIC OR STAINLESS STEEL MATERIAL MUST BE INSTALLED TO A POINT DOWNSTREAM OF THE NEAREST FREQUENTLY USED DRAIN BRANCH TO ENSURE PROPER DILUTION OF THE CARBONATED LIQUID WASTE & PREVENT DOWNSTREAM CORROSION OF INCOMPATIBLE PIPE MATERIAL.
4. PROVIDE EMERGENCY DRAIN PAN ASSEMBLY DIRECTLY UNDERNEATH ALL DRAINAGE PIPING LOCATED ABOVE FOOD SERVICE AREAS. PROVIDE MINIMUM 1" COPPER DRAIN PIPE CONNECTION AT DRAIN PAN LOW POINTS, & ROUTE TO NEAREST FLOOR RECEPTOR WITH APPROVED AIR GAP & EMERGENCY SIGNAGE.
5. PROVIDE DEDICATED ISOLATION VALVE & UNIONS AT UTILITY CONNECTIONS FOR EACH APPLIANCE & EQUIPMENT ITEM IN ADDITION TO SPECIALTIES & DEVICES LISTED ABOVE.
6. PROVIDE WATER HAMMER ARRESTER AT ALL WATER SUPPLY CONNECTIONS TO EQUIPMENT.

FOOD SERVICE EQUIPMENT PLUMBING SCHEDULE - PHASE 1 AREA B

NO.	DESCRIPTION	DRAINAGE						COLD WATER					HOT WATER					NATURAL GAS			REMARKS
		SANITARY WASTE (DIRECT)	SANITARY WASTE (INDIRECT)	GREASE WASTE (DIRECT)	GREASE WASTE (INDIRECT)	DRAIN DISCHARGE (GPM)	VENT SIZE	PIPE SIZE	FILTERED WATER PIPE SIZE	GPM	TEMP (°F)	PRESSURE (PSIG)	PIPE SIZE	GPM	GPH	TEMP (°F)	PRESSURE (PSIG)	PIPE SIZE	MBH INPUT	PRESSURE (INCH WC)	
B13	DOUBLE COMBI OVEN				1-1/2"			3/4"	3/4"	CW: 0.26 F: 2.64		30-90						3/4"	98	5.5-14	PROVIDE WITH 3/4" DCVA "BFP-03", PRV-1 & WATER HAMMER ARRESTER AT WATER SUPPLY INLET. CONNECT FILTERED WATER FROM A40. IW PIPE TO RECEPTOR WITH APPROVED AIR GAP.
B15	DOUBLE STEAMER				3"			(2) 3/4"		1.5		30-60						1/2"	58	5-14	PROVIDE WITH 3/4" DCVA "BFP-03", PRV-1 & WATER HAMMER ARRESTER AT WATER SUPPLY INLET. CONNECT FILTERED WATER FROM A40. IW PIPE TO RECEPTOR WITH APPROVED AIR GAP. PROVIDE 1/2"CW FOR DRAIN TEMPERING KIT.
B16	TRUNNION KETTLE				1-14"								3/8"					1/2"	200	5-14	PROVIDE WITH 3/4" DCVA "BFP-03", PRV-1 & WATER HAMMER ARRESTER AT WATER SUPPLY INLET. CONNECT FILTERED WATER FROM A40. IW PIPE TO RECEPTOR WITH APPROVED AIR GAP. PROVIDE 1/2"CW FOR DRAIN TEMPERING KIT.
B17	40 GAL TILTING KETTLE							1/2"					1/2"					1/2"	100	4.5-14	
B18	SS ANTI SPILL FLOOR TROUGH W/ GRATE				4"		2"														
B19	HAND SINK	2"					2"	1/2"					1/2"								PROVIDE W/ "MV-1" ASSE1070 THERMOSTATIC MIXING VALVE.
B21	40 GAL TILTING BRAISING PAN							1/2"					1/2"					1/2"	144	4.5-14	
B27	COUNTER TOP GRIDDLE																	1/2"	80	8-14	
B28	PREPARATION TABLE W/ SINK		2"				2"														
B28.1	SPLASH MOUNT FAUCET							1/2"					1/2"								
B31	COUNTER TOP CHAR BROILER																	1/2"	114	8-14	
B32	6 BURNER RANGE W/ CONVECTION OVEN																	1/2"	22	8-14	
B33	POT FILLER							1/2"													
B35	DOUBLE CONVECTION OVEN																	(2) 1/2"	63	8-14	
B42	BAKER'S TABLE W /SINK		2"				2"														
B42.1	SPLASH MOUNT FAUCET							1/2"					1/2"								
B60	POT WASH MACHINE W/ BOOSTER HEATER		2"					1/2"				15-65	3/4"				15-65				PROVIDE WITH 3/4"HW BFP-02", PRV-1 & WATER HAMMER ARRESTER. IW PIPE TO RECEPTOR WITH APPROVED AIR GAP. UNIT IS PROVIDED WITH DRAIN TEMPERING KIT. PROVIDE 1/2"CW AND 1/2"CW BFP-01" FOR DRAIN TEMPERING KIT.
B62	ULTRA WASH 3 COMPARTMENT SINK			2"	1-1/2"			(1) 1/2" (2) 3/4"					(1) 1/2" (1) 3/4"								
B64	EYE WASH STATION							1/2"					1/2"								PROVIDE 3/4" TEMPERED WATER TO EYEWASH
B65	HAND SINK W/ SIDE SPLASHES	2"						1/2"					1/2"								PROVIDE W/ "MV-1" ASSE1070 THERMOSTATIC MIXING VALVE.
B67	MOP SINK/CAN WASH			2"				(2) 1/2"					1/2"								
B73	STANDARD S/S FLOOR TROUGH W/ GRATE				4"		2"														
B74	WALL MOUNTED HOSE REEL W/ MIXING CABINET							1/2"					1/2"								PROVIDE WITH ELEVATED VACUUM BREAKER.
B77	SOILED DISH TABLE W/ TROUGH / CONVEYOR																				
B78	TROUGH COLLECTOR		2"					1/2"					1/2"								
B83	HIGH TEMP. DISH MACHNE		2"					1"				30-35	1"				30-35				PROVIDE WITH (2) 3/4" BFP-02", PRV-1 & WATER HAMMER ARRESTER. IW PIPE TO RECEPTOR WITH APPROVED AIR GAP. UNIT IS PROVIDED WITH DRAIN TEMPERING KIT. PROVIDE 1"CW & 3/4"CW BFP-02" FOR DRAIN TEMPERING KIT.
B85	WATER SOFTENER		(2) 1/2"					3/4"			35-160	15-125					15-125				FEED WATER REQUIREMENTS: pH Range - 5 – 10 SU Free Chlorine Cl2 (Max.) - 2.0 mg/l Hardness as CaCo3 (Max.) -40 gpg
B92	DOUBLE CONVECTION OVEN (EXISTING)																	3/4"	50	8-14	

NOTES:
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2. WHERE INDIRECT DRAINS ARE REQUIRED, CONTRACTOR MUST ROUTE INDIRECT DRAIN PIPING FROM FIXTURES & EQUIPMENT TO ADJACENT FLOOR RECEPTOR(S) AS REQUIRED. INDIRECT DRAIN DISCHARGE OVER FLOOR RECEPTOR(S) MUST CONTAIN APPROVED AIR BREAK(S). CONTRACTOR MUST PROVIDE A MINIMUM OF 1" THICK INSULATION (WITH APPROVED SANITARY BARRIER WRAP) FOR CONDENSATE AND / OR REFRIGERATED WASTE PIPING DISCHARGING INTO INDIRECT RECEPTORS TO PREVENT SWEATING (I.E. ALL PIPING WITH A TEMPERATURE LOWER THAN 6O°F). REFER TO FOOD SERVICE / KITCHEN CONSULTANT'S DOCUMENTS FOR ADDITIONAL REQUIREMENTS.
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4. PROVIDE EMERGENCY DRAIN PAN ASSEMBLY DIRECTLY UNDERNEATH ALL DRAINAGE PIPING LOCATED ABOVE FOOD SERVICE AREAS. PROVIDE MINIMUM 1" COPPER DRAIN PIPE CONNECTION AT DRAIN PAN LOW POINTS, & ROUTE TO NEAREST FLOOR RECEPTOR WITH APPROVED AIR GAP & EMERGENCY SIGNAGE.
5. PROVIDE DEDICATED ISOLATION VALVE & UNIONS AT UTILITY CONNECTIONS FOR EACH APPLIANCE & EQUIPMENT ITEM IN ADDITION TO SPECIALTIES & DEVICES LISTED ABOVE.
6. PROVIDE WATER HAMMER ARRESTER AT ALL WATER SUPPLY CONNECTIONS TO EQUIPMENT.

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Good Samaritan Hospital

MULTICARE

KEY PLAN

ISSUE CHART

MARK	ISSUE	DATE

Job Number 7725-4055

TITLE

SCHEDULES - PLUMBING

SHEET NUMBER

TP0.02

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FOOD SERVICE EQUIPMENT PLUMBING SCHEDULE - PHASE 2 AREA C

NO.	DESCRIPTION	DRAINAGE						COLD WATER					HOT WATER					NATURAL GAS			REMARKS
		SANITARY WASTE (DIRECT)	SANITARY WASTE (INDIRECT)	GREASE WASTE (DIRECT)	GREASE WASTE (INDIRECT)	DRAIN DISCHARGE (GPM)	VENT SIZE	PIPE SIZE	FILTERED WATER PIPE SIZE	GPM	TEMP (°F)	PRESSURE (PSIG)	PIPE SIZE	GPM	GPH	TEMP (°F)	PRESSURE (PSIG)	PIPE SIZE	MBH INPUT	PRESSURE (INCH WC)	
C11	PASTA COOKER							3/4"													
C13	COUNTER TOP GRIDDLE																	3/4"	120	6	
C15	COUNTER TOP CHAR BROILER																	1/2"	76	8-14	
C16	COUNTER TOP 6 BURNER RANGE																	1/2"	180	8-14	
C17	POT FILLER							1/2"													
C33.1	HAND SINK W/ SIDE SPLASHES	2"						1/2"					1/2"								PROVIDE W/ "MV-1" ASSE1070 THERMOSTATIC MIXING VALVE.
C45	HAND SINK W/ SIDE SPLASHES	2"						1/2"					1/2"								PROVIDE W/ "MV-1" ASSE1070 THERMOSTATIC MIXING VALVE.
C46	COFFEE BREWER W/ URNS								1/4"												FILTERED WATER FROM C47.
C47	WATER FILTERS							3/8"													CONNECT FILTERED WATER TO C46 & C54.

NOTES:
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2. WHERE INDIRECT DRAINS ARE REQUIRED, CONTRACTOR MUST ROUTE INDIRECT DRAIN PIPING FROM FIXTURES & EQUIPMENT TO ADJACENT FLOOR RECEPTOR(S) AS REQUIRED. INDIRECT DRAIN DISCHARGE OVER FLOOR RECEPTOR(S) MUST CONTAIN APPROVED AIR BREAK(S). CONTRACTOR MUST PROVIDE A MINIMUM OF 1" THICK INSULATION (WITH APPROVED SANITARY BARRIER WRAP) FOR CONDENSATE AND / OR REFRIGERATED WASTE PIPING DISCHARGING INTO INDIRECT RECEPTORS TO PREVENT SWEATING (I.E. ALL PIPING WITH A TEMPERATURE LOWER THAN 60°F). REFER TO FOOD SERVICE / KITCHEN CONSULTANT'S DOCUMENTS FOR ADDITIONAL REQUIREMENTS.
3. PLASTIC OR STAINLESS STEEL MATERIAL MUST BE USED FOR WASTE PIPING INSTALLED TO RECEIVE CARBONATED LIQUID WASTE. THE PLASTIC OR STAINLESS STEEL MATERIAL MUST BE INSTALLED TO A POINT DOWNSTREAM OF THE NEAREST FREQUENTLY USED DRAIN BRANCH TO ENSURE PROPER DILUTION OF THE CARBONATED LIQUID WASTE & PREVENT DOWNSTREAM CORROSION OF INCOMPATIBLE PIPE MATERIAL.
4. PROVIDE EMERGENCY DRAIN PAN ASSEMBLY DIRECTLY UNDERNEATH ALL DRAINAGE PIPING LOCATED ABOVE FOOD SERVICE AREAS. PROVIDE MINIMUM 1" COPPER DRAIN PIPE CONNECTION AT DRAIN PAN LOW POINTS, & ROUTE TO NEAREST FLOOR RECEPTOR WITH APPROVED AIR GAP & EMERGENCY SIGNAGE.
5. PROVIDE DEDICATED ISOLATION VALVE & UNIONS AT UTILITY CONNECTIONS FOR EACH APPLIANCE & EQUIPMENT ITEM IN ADDITION TO SPECIALTIES & DEVICES LISTED ABOVE.
6. PROVIDE WATER HAMMER ARRESTER AT ALL WATER SUPPLY CONNECTIONS TO EQUIPMENT.

FOOD SERVICE EQUIPMENT PLUMBING SCHEDULE - PHASE 2 AREA D

NO.	DESCRIPTION	DRAINAGE						COLD WATER					HOT WATER					NATURAL GAS			REMARKS
		SANITARY WASTE (DIRECT)	SANITARY WASTE (INDIRECT)	GREASE WASTE (DIRECT)	GREASE WASTE (INDIRECT)	DRAIN DISCHARGE (GPM)	VENT SIZE	PIPE SIZE	FILTERED WATER PIPE SIZE	GPM	TEMP (°F)	PRESSURE (PSIG)	PIPE SIZE	GPM	GPH	TEMP (°F)	PRESSURE (PSIG)	PIPE SIZE	MBH INPUT	PRESSURE (INCH WC)	
D1	HAND SINK W/ SIDE SPLASHES	2"						1/2"					1/2"								PROVIDE W/ "MV-1" ASSE1070 THERMOSTATIC MIXING VALVE.
D17	POT FILLER							1/2"													
D18	PASTA COOKER							3/4"													
D23	COUNTER TOP 6 BURNER RANGE																	3/4"	180	6	
D25	COUNTER TOP GRIDDLE																	1/2"	120	8-14	
D27	COUNTER TOP CHAR BROILER																	1/2"	76	8-14	
D45	WATER FILTER								1/4"												CONNECT FILTERED WATER TO D46.
D46	COFFEE BREWER W/ URNS								1/4"												FILTERED WATER FROM D45.
D51	HAND SINK W/ PEDESTAL BASE	2"						1/2"					1/2"								PROVIDE W/ "MV-1" ASSE1070 THERMOSTATIC MIXING VALVE.
D61	S/S STANDARD FLOOR TROUGH W/ GRATE			4"			2"														
D63	CUBE ICE MAKER	3/4"							1/2"												PROVIDE WITH 1/2" RPBA "BFP-01" & WATER HAMMER ARRESTER. IW PIPE TO RECEPTOR WITH APPROVED AIR GAP.
D64	WATER FILTER							1/2"													CONNECT FILTERED WATER TO D74.
D68	AMBIENT CARBONATOR							1/2"													FILTERED WATER FROM D71.
D71	WATER FILTER							1/2"													CONNECT FILTERED WATER TO D68.
D74	ICE CUBE MAKER							1/2"													FILTERED WATER FROM D64.

NOTES:
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ISSUE CHART

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