

2022 WASBO Facilities Management Conference



Designing, Procuring and Upgrading Food Service Facilities – Code Compliance

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GOALS FOR PRESENTATION

- *Important aspects of food service design including:*

Code compliance

Properly sized and configured storage, preparations, cooking, holding, serving areas, ware washing and support areas.

Design and products to help provide for a safe work areas.

- *Writing equipment specifications that allow for competition while not allowing non-compliant equipment to be bid and potentially awarded.*

DESIGN TEAM MEMBERS

- OWNER
- ARCHITECT
- INTERIOR DESIGNER
- ENGINEERING CONSULTANTS
- **FOODSERVICE CONSULTANT**
- GENERAL CONTRACTOR
- TRADE CONTRACTORS – E, P & M
- FOODSERVICE EQUIPMENT CONTRACTOR

SCHOOL DISTRICT ROLE

- WHY DO WE NEED THEM??????

DESCRIBE CONCEPT

ANSWERS THE WHAT QUESTION

DETAIL OPERATIONAL INFO

ANSWERS THE HOW QUESTIONS

PROCUREMENT (STORAGE),
PRODUCTION, SERVICE STYLE

DESIGN CONCERNS

- **SANITATION**

- **WALL, FLOOR AND CEILING MATERIALS**
- **MOVABLE EQUIPMENT, WHENEVER POSSIBLE – EASE OF CLEANING**
- **EQUIPMENT MATERIALS AND CONSTRUCTION – S/S VS GALVANIZED, WELDED VS BOLTED, GAUGES / THICKNESS**
- **LOCATION OF HOUSEKEEPING CLOSETS**
- **FLOOR DRAINS**

DESIGN CONCERNS

- **FOODBORNE ILLNESS (HEALTH DEPT)**
 - **RAW / PREPARED STORAGE**
 - **IN PROCESS FOOD SEPARATION**
 - **FLOW OF WORK**
 - **ADEQUATE WORK STATIONS AND SIZE OF WORK STATIONS**
 - **HAND SINK LOCATIONS – CODE NOT CLEAR – HANDS FREE VS TOUCH FREE**
 - **BLAST CHILLING - REUSE OF LEFTOVERS**
 - **HACCP COMPLIANCE**

DESIGN CONCERNS

- PERSONAL SAFETY
 - AISLE SPACES – MIN. 42”, BACK TO BACK 48”, HEAVY CART TRAFFIC 54”, HOODS (OVEN SWING DOORS) 60”
 - REACHES AND HEIGHTS - ERGONOMICS
 - FLOOR MATERIALS – SLIP RESISTANCE / CLEANABILITY
 - MATS – USE AND DOWNFALLS
 - SKID STRIPS
 - ICE MACHINE LOCATION

DESIGN CONCERNS

- **RELIABILITY**

- **PRODUCT BRANDS - SCHOOL USE IS NOT THE SAME AS RETAIL / RESTAURANTS – NEED FOR LONG SERVICE LIFE**
- **SERVICE AGENCIES – PREVENTATIVE MAINTENANCE IS CHEAPER THAN REPAIRS**
- **ACCESSORIES – IDENTIFY OPTIONS**
- **SERVICE SYSTEM SUPPORT – SOFTWARE TRACKING, ETC.**

DESIGN CONCERNS

- **CLEANABILITY**
 - **MATERIALS**
 - **CASTER – MOBILITY**
 - **ACCESSIBILITY**
 - **WASH DOWN / HOSE DOWN – CAREFUL WITH CONTROL**
 - **CART WASH**
 - **UTILITY CONNECTIONS – UTILITY DISTRIBUTION SYSTEMS**

DESIGN CONCERNS

- **PRODUCTIVITY**
 - **PRODUCTION RATES OF KEY EQUIPMENT – OVER AND UNDER ARE BOTH BAD**
 - **REDUNDANCY**
 - **ACTUAL VOLUME AND PRODUCTION CAPACITIES OF EQUIPMENT**
 - **OVERLOADS – AFFECTS QUALITY**
 - **AUTOMATIC FEATURES – SLICERS, ETC.**

HOW TO GET STARTED

- PROGRAMMING OF OPERATIONAL NEEDS
 - MENUS
 - NARRATION OF SERVICE STYLES
 - MEAL COUNTS / CUSTOMER COUNTS / RATE PER MINUTE – HOUR
 - PURCHASING / STORAGE INTENTIONS
 - FOOD FORMS (FRESH, FROZEN, CANNED OR DRY)
 - DELIVERY FREQUENCY

SERVING EXAMPLES

NUMBER OF SERVING LINES

4500 STUDENT / 50% PARTICIPATION / 2250
CUSTOMERS

2250 CUSTOMERS – THREE LUNCH PERIODS
(15 MINUTE SERVING TIME) = 750 PER LUNCH
PERIOD

50 CUSTOMERS PER MINUTES @ 6 STUDENTS
PER MINUTE = 8 SERVING LINES

PLANNING / STANDARDS

- ❑ ESTIMATE STAFFING / MPLH
- ❑ ESTIMATE SPATIAL REQUIREMENTS
- ❑ CODE REVIEW
 - ❑ FEDERAL, STATE AND LOCAL HEALTH
 - ❑ MECHANICAL, ELECTRICAL AND PLUMBING
 - ❑ AMERICAN WITH DISABILITIES ACT (ADA)

PLANNING

- EQUIPMENT LIST - PREFERENCES
- COST ESTIMATES – SUPPLY CHAIN
- REVIEW AND REVISIONS
 - CAREFULLY LOOK AT LAYOUTS AND SPECIFICATIONS
 - UNDERSTAND THE NEEDS OF EACH WORK STATION AND COMPARE THEM TO THE PLAN
 - BIGGEST CHALLENGE – LACK OF UNDERSTANDING OF DRAWINGS
 - DESIGN REVIEW DURING CONSTRUCTION IS EXPENSIVE

FLOW – BUBBLE DIAGRAMS

- AREA ADJACENCIES
 - RECEIVING
 - STORAGE
 - PREPARATION
 - PRODUCTION
 - FINISHING
 - SERVING – FLOW AND CAPACITY
 - POINT OF SALE – BALANCE OF SERVING AND POINT OF SALE
 - DISHWASHING

FLOW

- KEY IS TO GET THE FLOW CORRECT
 - COMPETING FLOWS
 - EXISTING CONDITIONS (REMODELINGS)
 - STRUCTURAL AND ENGINEERING ISSUES
 - GROSS SPATIAL AREAS
 - OVERALL SPACE CONFIGURATION
 - LONG AND NARROW
 - RECTANGULAR
 - CIRCULATION

DESIGN DEVELOPMENT

- **STARTING WITH A QUALITY SCHEMATIC DRAWING**
 - **MISTAKES CARRY THROUGH AND GET MORE DIFFICULT AND EXPENSIVE TO CORRECT**
 - **ASSIGN UTILITY REQUIREMENTS TO EQUIPMENT – TO ENGINEERS**
 - **DETAILS SPECIAL CONDITIONS –**
 - **FLOOR TROUGHS**
 - **WALK-IN RECESSES**
 - **EXHAUST HOOD CONDITIONS**
 - **WALL BLOCKING / BRACING**

QUALITY ASSURANCE PROCESSES

- DESIGN DEVELOPMENT
 - CODE COMPLIANCE
 - PROGRAM CHECK
 - ADDRESS REVIEW COMMENTS
- 60% CONSTRUCTION DOCUMENTS
 - UTILITY COORDINATION
 - SPECIFICATION COORDINATION
- 100% CONSTRUCTION DOCUMENTS
 - COMPLETE REVIEW BEFORE PRICING

EXAMPLES OF DISCONNECT BETWEEN GOALS AND EXECUTION

INSTALLATION IN CONFLICT WITH WRITTEN SPECIFICATIONS

SOME DUE TO CHANGE IN MANUFACTURER



EXAMPLES



EXAMPLES



EQUIPMENT SPECIFICATIONS

- CLEAR AND CONCISE
 - WHO DOES WHAT
 - RESPONSIBILITIES OF EACH PROJECT PARTICIPANT
 - MATERIALS
 - EQUIPMENT PERFORMANCE / CAPACITY
 - WARRANTY
 - FOLLOW-UP

SPECIFICATIONS

- GENERAL
 - PART ONE – GENERAL
 - PART TWO – PRODUCTS
 - PART THREE – EXECUTION
 - PART FOUR – ITEM SPECIFICATIONS

PART ONE - GENERAL

- **PART I – GENERAL**

- **1.01 SCOPE OF WORK**

- A. FSEC shall furnish all labor, materials and service necessary for the installation of foodservice equipment in strict accordance with the Contract Documents and local codes that is reasonably inferred. The FSEC shall work to meet the schedules and coordination efforts of the GC. Unless otherwise noted all scope within this section is the responsibility of the FSEC. No extra charge will be allowed for that which the Food Service Equipment Contractor (FSEC) should have been familiar. Include all applicable provisions of Division 1 and Governors State University (GSU) Procurement Requirements. **It shall be the responsibility of the FSEC and all trade contractors for this project to review Division 1 specifications and Governors State University Procurement Requirements and all portions of this section to determine scope. See PART FOUR specification for pricing format.**

- B. FSEC shall remove, store and relocate all existing foodservice equipment that will be reused as necessary and specified for remodeling, renovation and reconfiguration of the related project. All existing equipment not scheduled for relocation shall be disposed of by the GC with the cooperation of the FSEC, as directed. Follow Article 3.3 for description of responsibilities.

- C. Coordinate mechanical, electrical and plumbing rough-in services, manufactured equipment and custom fabricated equipment construction, equipment bases, curbs, ceiling heights, depressed areas, sleeves, wall openings, refrigeration lines, service access, existing building conditions that affects equipment, and all other building conditions required to accommodate the Section 11 40 00 equipment including new, existing, Owner furnished and future equipment with other trades. Cut holes in equipment to accommodate pipes, drains, electrical conduit and outlets as required.

PART TWO - PRODUCTS

PART II – PRODUCTS

2.01 COMMERCIALY MANUFACTURED EQUIPMENT

A. All items of standard equipment shall be the latest model available at time of delivery. Items of same type and use shall be by the same manufacturer.

B. Manufacturer's directions shall be followed in cases where the manufacturer of articles used in this contract furnishes direction or covers points not shown on the drawings or specifications.

C. All doors shall be hinged as shown on the drawings.

D. FSEC shall be responsible for execution of all articles of Part II unless otherwise specified.

E. All refrigeration equipment whether self-contained or refrigerated by use of remote equipment shall be designed and installed to maintain the following general temperatures unless otherwise specified:

- 1. Walk-in Refrigerator 35 degrees Fahrenheit
- 2. Walk-in Freezer -10 degrees Fahrenheit
- 3. Reach-in Refrigerator 35 degrees Fahrenheit
- 4. Reach-in Freezer -10 degrees Fahrenheit

2.02 PLUMBING WORK

A. Provide suitable pipe slots, chases and/or do all drilling, punching and cutting of equipment required to provide access for appropriate trade to make connections and/or runs. Such work performed at the job site shall be of the same quality as similar to the factory or fabrication shop.

PART THREE - EXECUTION

PART III – EXECUTION

3.01 DELIVERY AND INSTALLATION

A. Delivery

- A. 1. The equipment shall be delivered and installed on schedule. Coordinate all work with the General Contractor and other divisions as required.
- B. 2. Extra charges resulting from special handling or shipment shall be paid by the FSEC if sufficient time was allowed in placing factory orders to ensure normal shipment.

B. Installation

- C. 1. A competent superintendent or project manager, representing the FSEC, shall be present during progress of FSEC work. The work shall be accomplished so as not to delay the project construction schedule, interfere or conflict with the work being performed by other contractors. Work shall be coordinated and integrated to prevent conflict of work necessitating changes to work already completed. Should conflicts occur, notify the Owner for their coordination in its resolution.

PART FOUR – ITEM SPECIFICATIONS

PART IV – EQUIPMENT

- **GOVERNORS STATE UNIVERSITY
CAFETERIA RENOVATION
UNIVERSITY PARK, ILLINOIS**

- **NOTE 1:** Where multiple names and model numbers of foodservice equipment manufacturers are provided within the Equipment Schedule, the first named manufacturer shall be utilized to determine the design, capacity, materials and performance standards upon which other approved manufacturers shall be tested. Similar equipment types shall be of the same manufacturer.

- **NOTE 2:** Provide pricing in AutoQuotes format with a separate price for each item presented in sequential order. All pricing must include the total cost for each item including equipment, freight, installation, project coordination, warranty and all related costs.

- **NOTE 3:** Schedules of plumbing, electrical and ventilation specifications for foodservice equipment have been provided with the set of construction document drawings. Where the plumbing, electrical or ventilation requirements of equipment provided by the FSEC exceed those requirements or cause any added costs to the owner, construction manager, trade contractor, architect or engineers, the added cost shall be borne by the FSEC.

- **NOTE 4:** All items shall be provided with standard accessories for the first named manufacturer.

SPECIFICATIONS - EXAMPLES

CONVECTION OVEN

ONE REQUIRED

SOUTH BEND OR APPROVED EQUAL MONTAGUE OR VULCAN MODEL

ONE MODEL GS/25SC DOUBLE STACKED CONVECTION OVEN WITH THE FOLLOWING ACCESSORIES:

- A. CASTERS.
- B. S/S SIDES.
- C. 48" LONG FLEXIBLE GAS HOSE.

LACKING:

Stacking kit, gas fired, burner capacity, oven height, type of gas hose, energy star rating, glass doors (dependent), all of which could be omitted to decrease the net cost of the equipment that is bid. Corrections after bid could bring conflicts and increased cost.

Heading in Specification - Part Four helps to protect.

CONVECTION OVEN

ONE REQUIRED

SOUTH BEND OF APPROVED EQUAL MONTAGUE OR VULCAN MODEL

ONE MODEL GS/25SC GAS FIRED, DOUBLE STACKED CONVECTION INSTALLED IN THE LOCATION SHOWN ON THE DRAWING WITH THE FOLLOWING FEATURES AND INCLUDING THE FOLLOWING ACCESSORIES FOR EACH:

- A. 95 MBTU BURNERS
- B. MAXIMUM 67" AFF TO TOP RACK.
- C. STANDARD DIGITAL CONTROLS.
- D. STANDARD DEPTH OVEN CAVITY.
- E. STACKING KIT WITH GAS MANIFOLD
- F. DORMONT MODEL I675KITCF2S48PS FLEXIBLE GAS HOSE KIT. INCLUDE POSI SET WHEEL LOCATORS.
- G. ENERGY STAR COMPLIANT
- H. SOFT START, TWO SPEED, 1/2HP MOTOR.
- I. DEPENDENT GLASS DOORS

SPECIFICATIONS - EXAMPLES

DISPOSER

ONE REQUIRED

IN-SINK-ERATOR OR APPROVED EQUAL
SALVAJOR MODEL

ONE MODEL SS-200-7- AS-101 "SHORT BODY"
COMPLETE DISPOSER PACKAGE COMPLETE
WITH THE FOLLOWING ACCESSORIES:

- A. SYPHON BREAKER.
- B. SOLENOID VALVE.
- C. 208/3.

DISPOSER

ONE REQUIRED

IN-SINK-ERATOR OR APPROVED EQUAL
SALVAJOR MODEL

ONE MODEL SS-200-7- AS-101 "SHORT BODY"
COMPLETE DISPOSER PACKAGE AS FURTHER
DESCRIBED BELOW AND WITH THE FOLLOWING
ACCESSORIES:

- A. SYPHON BREAKER.
- B. 2" CHAMBER OUTLET.
- C. SOLENOID VALVE.
- D. FLOW CONTROL VALVE.
- E. WATER FLOW CONTROL FEATURE
- F. ONE T & S MODEL B-0455 VACUUM
BREAKER ASSEMBLY.
- G. AS-101 CONTROL PANEL, COORDINATE
MOUNTING WITH WELDED CONTROL
BRACKET.
- H. #7 COLLAR ADAPTER.
- I. S/S BODY.
- J. FULL SUPPORT FROM DISPOSER WITH
SUPPORT LEG.
- K. INDUCTION MOTOR WITH THERMAL
PROTECTION.
- L. COORDINATE WATER DISTRIBUTION TO
DISPOSER BODY.
- M. 208/3.
- N. CONFIRM WELDING OF S/S COLLAR WITH
SINK BASIN.

QUESTIONS

COPIES OF
PRESENTATION AND
SAMPLE
SPECIFICATIONS
AVAILABLE UPON
REQUEST

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