Mobile Food Establishments

Guidance Document

Conference for Food Protection **3/28/25** **Based off the FDA 2022 Food Code**

Prepared by the Plan Review Committee
2023-2025 Conference for Food Protection

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Table of Contents

PREFACE **4**

DEFINITIONS **4**

INTRODUCTION **5**

Mobile FOOD ESTABLISHMENT Types *5*

SUBMITTING AND REVIEWING PLANS **6**

COMMISSARY OR SERVICING AREA **7**

STRUCTURAL REQUIREMENTS - PREMISES **7**

Overhead Protection 7
Walls 8
Floors 8
Ventilation and Fire Protection 8
Lighting 8
Handwashing Facilities 9
Toilet and Handwashing Facilities 9
Garbage 9

EQUIPMENT **9**

Food Contact Surfaces 10
Cooking and Reheating Equipment 10
Hot Holding Equipment 10
Cold Holding Equipment 10
Counters/Shelves 11
Warewashing Facilities 11

WATER SUPPLY, CAPACITY AND WASTEWATER DISPOSAL **11**

Water 11
Water Systems 11
Wastewater Disposal 11

POWER SOURCE **12**

PERSONNEL **12**

Person in Charge 12
Handwashing 12
Employee Health 12
Hygiene 13
No Bare Hand Contact on RTE Foods 14

FOOD DEFENSE **14**

FOOD SOURCE AND TEMPERATURE CONTROL 14

Approved Source 14
Temperature Measuring Devises 14
Holding Temperatures 15
Cooking Temperatures 15
Cooling 17
Thawing 17

FOOD EQUIPMENT AND UTENSIL REQUIREMENTS, STORAGE & HANDLING 17

Cross Contamination 17
Cross-Contact 18
Dry storage 18
Food Display 18
In-use Utensil Storage 18

CLEANING AND SANITIZING 19

Warewashing 19
Sanitizing 19
Wiping cloths 19

PREMISES 20

Personal Belonging Storage 20
Toxic materials 20
Pests 20

APPENDIX I 21

APPLICATION TO OPERATE A MOBILE FOOD ESTABLISHMENT 21

APPENDIX II 23

MOBILE FOOD ESTABLISHMENT PROPOSED DESIGN LAYOUT & EXAMPLE 23

APPENDIX III 27

SERVICING AREA/COMMISSARY AGREEMENT 27

APPENDIX IV 28

Chart 4-D - FDA Food Code Mobile Food Establishment Matrix 28

FDA Model Code Mobile Food Establishment Matrix 29

APPENDIX V 30

POWER SUPPLY 30

PREFACE

This document is intended to assist an understanding by REGULATORY AUTHORITIES and the FOOD industry in the review, APPROVAL, and operation of a Mobile FOOD ESTABLISHMENT (MFE). However, it does not establish regulatory requirements, and the recommendations contained herein are not intended to supplant, or otherwise serve as, the rules and regulations applicable to FOOD ESTABLISHMENTS in a given Federal, State, local, or tribal jurisdiction. Definitions found within the FDA Food Code have been identified in SMALL CAPS within this document. Terminology with respect to the word "shall" is based on the recommendations within the 2022 FDA Food Code, herein referred to as Food Code. A link to the Food Code is included for reference. http://www.fda.gov/FOOD/GuidanceRegulation/RetailFOODProtection/FOODCode/ucm374275.htm

This document:

- Describes effective processes for reviewing plans and applications for mobile FOOD ESTABLISHMENTS.
- Is intended as a training tool for individuals responsible for conducting plan reviews.
- Is intended to be consistent with the recommendations of the FDA as contained in the 2022 FDA Food Code. The FDA Food Code contains requirements for safeguarding public health and ensuring FOOD is safe and honestly presented when offered to the consumer.
- Was developed by the Conference for Food Protection's Plan Review Committee to replace the 2014 Recommended Guidance for Mobile FOOD ESTABLISHMENTS document.

DEFINITIONS

The following definitions may be referenced along with the definition of a FOOD ESTABLISHMENT as defined in the Food Code.

Mobile FOOD ESTABLISHMENT (MFE) means a FOOD service operation that is operated from a movable motor driven or propelled vehicle, portable structure, or watercraft and that can change location.

Permanent FOOD ESTABLISHMENT (PFE) means a FOOD ESTABLISHMENT operating in a permanently constructed structure permitted and operated for the purpose of storing, preparing, serving, packaging, or otherwise handling FOOD at the retail level. Permanent FOOD ESTABLISHMENT does not include a TEMPORARY FOOD ESTABLISHMENT or Mobile FOOD ESTABLISHMENT.

SERVICING AREA means an operating base location to which a mobile FOOD ESTABLISHMENT or transportation vehicle returns regularly for such things as vehicle and EQUIPMENT

cleaning, discharging liquid or solid waste, refilling water tanks and ice bins, and boarding FOOD.

Commissary refers to an APPROVED FOOD ESTABLISHMENT where FOOD is stored, prepared, portioned, or PACKAGED for service elsewhere. It is also a place where WAREWASHING and other SERVICING AREA type activities could occur if APPROVED. Make sure to check with local jurisdictions for commissary APPROVAL and licensing.

TIME/TEMPERATURE CONTROL FOR SAFETY FOOD (TCS) means FOOD that requires temperature controls to limit pathogenic microorganism growth or toxin growth. Refer to the FDA Food Code for the complete definition.

INTRODUCTION

Mobile FOOD ESTABLISHMENTS vary in size and complexity, from large modular units to pushcarts. While they frequently operate at temporary FOOD events, such as festivals or fairs, many seek to be permitted as year-round or seasonal FOOD ESTABLISHMENTS. **This guidance document is designed to address the process for APPROVAL and the unique support service requirements that need to be met to obtain year-round or seasonal APPROVAL as a mobile FOOD operation.** The one unique characteristic of these units is that they are not situated in a fixed location with permanent water and sewage connections but remain mobile and transitory by design.

There are three (3) general categories of MFEs. Each becomes more complex needing more equipment to produce more complex FOOD products.

Mobile FOOD ESTABLISHMENT Types

MFE Type 1

- Commercially processed, packaged FOOD in its original package (Receive-Store-Hold).
- The local REGULATORY AUTHORITY may require the MFE to operate in conjunction with a SERVICING AREA or commissary.
- Example FOODS: PACKAGED Ice Cream, Single Serving Size PACKAGED Snacks

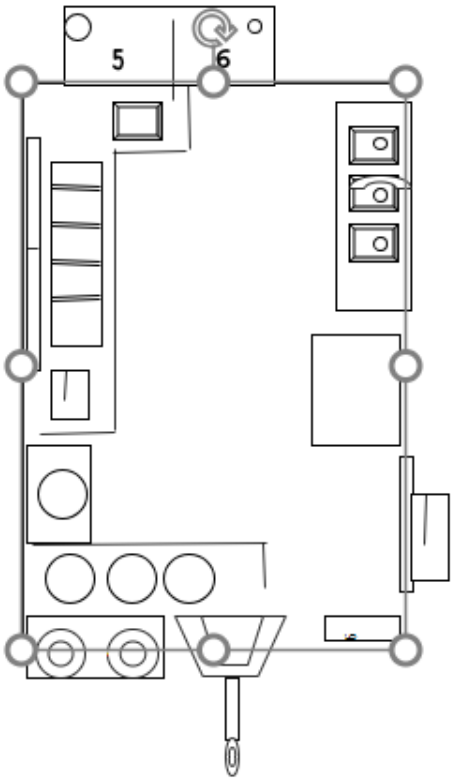
MFE Type 2

- Unpackaged FOOD.
- Food Preparation with no cook step (Store-Prepare-Serve).
- Preparation for same day service (Store-Prepare-Cook-Serve).
- Reheating of a commercially processed FOOD item (Store-Reheat-Hold-Serve).
- As determined by the REGULATORY AUTHORITY, MFEs may be required to return to a SERVICING AREA, or commissary and may operate in conjunction with a Permanent FOOD ESTABLISHMENT that may or may not have a SERVICING AREA on-site.
- Example FOODS: Hot dogs, Grilled Sandwiches, Salads, Shaved Ice, Kettle Corn, Nut Roasting

MFE Type 3

- Complex FOOD preparation (Store-Prepare-Cook-Cool-Reheat-Hot Hold-Serve).
- Includes FOOD that must be prepared pursuant to a HAZARD ANALYSIS CRITICAL CONTROL POINT (HACCP) Plan or VARIANCE as APPROVED by local jurisdiction.
- Based on the REGULATORY AUTHORITY, MFEs may be required to return to a SERVICING AREA, and/or commissary and may operate in conjunction with a Permanent FOOD ESTABLISHMENT that may or may not have a SERVICING AREA on-site.
- Example FOODS: full menu (i.e. kitchen on wheels)

SUBMITTING AND REVIEWING PLANS



No person, firm, or corporation should be allowed to operate a mobile FOOD ESTABLISHMENT (MFE) where FOOD or BEVERAGES are served to the public without a PERMIT or license from the REGULATORY AUTHORITY.

Operators seeking APPROVAL for a MFE must submit a set of drawings or plans for review consistent with the criteria provided in Sections *8-201.11 and 8-201.12* of the Food Code. The plans and specifications for an MFE should include all the information necessary, such as outlined in this document, to demonstrate conformance with, and an understanding of, FOOD safety provisions within the Food Code. The REGULATORY AUTHORITY may determine that a VARIANCE and/or a HACCP plan is necessary based on the type of proposed operation, proposed menu items or proposed EQUIPMENT, or may restrict the menu based upon the limitations of the MFE unit – the same as for any other FOOD ESTABLISHMENT operation.

Prior to giving APPROVAL to and issuing a PERMIT or license for a MFE, the local REGULATORY AUTHORITY is responsible for performing a pre-operational plan review and one or more pre-operational inspections consistent with Section *8-203.10* of the Food Code. The pre-operational review provides the REGULATORY AUTHORITY the opportunity to discuss areas of concern with the applicant and should be conducted prior to the issuance of a PERMIT.

COMMISSARY OR SERVICING AREA

The REGULATORY AUTHORITY may require that a Mobile FOOD ESTABLISHMENT operate in conjunction with a commissary or SERVICING AREA and should be based on the menu, type of operation, and availability of the on-board or on-site EQUIPMENT.

The operation must be in compliance with the Food Code and applicable regulations. As some SERVICING AREAS/commissaries may be located in different jurisdictions, a copy of the current license/PERMIT and the most recent inspection report for the SERVICING AREA that will be used by the MFE must be provided to the REGULATORY AUTHORITY with the MFE application, if applicable.

The scope and frequency of services provided by both the SERVICING AREA and the MFE unit must be determined at the time of plan review and included in the application and must be based on the:

- menu;
- frequency of the MFE operation;
- limitations of the MFE and the SERVICING AREA; and
- frequency of the MFE returning to the SERVICING AREA.

For more complex operations (MFE Type 3 for example), a commissary shall be a fixed facility – not a temporary establishment, nor a mobile type establishment. The SERVICING AREA may provide a variety of services to the MFE such as: storage and preparation facilities for FOOD products (including refrigeration and cooking facilities), the supply of potable water, the availability of adequate plumbing and discharging solid and liquid waste, storage and cleaning facilities for EQUIPMENT and UTENSILS; storage and maintenance of other supplies, and personnel resources. The commissary must be of such size and scope as to accommodate its own operation, as well as those of the MFE.

A SERVICING AREA can be as simple as a storage location for PACKAGED FOOD or as complex as a licensed catering kitchen; however, this will depend on the type of Mobile FOOD ESTABLISHMENTS it is providing services to.

If the MFE is used at a fair, carnival or other event where it does not or cannot return to the SERVICING AREA, the MFE must comply with the requirements of a Temporary FOOD ESTABLISHMENT and be able to completely function without the need for a SERVICING AREA.

STRUCTURAL REQUIREMENTS - PREMISES

Overhead Protection

a. Each individual piece of cooking and hot and cold holding EQUIPMENT must be separately covered (cooker top, lidded holding compartment, etc.) or the

structure of the MFE must have overhead protection (ceiling) (*§§ 6-202.16; 6-201.12A; 3-305.11)*.
- Examples of acceptable overhead protection are roofs or other permanent structures, canopies, awnings, or attached umbrellas for units such as pushcarts.
- Overhead protection may not always be suitable for use over frying or grilling operations that generate airborne grease. State/local fire codes may dictate specific limitations.

b. For MFE Type **2** and **3** units that have self-service components, additional protection of individual FOOD dispensing containers that are located beneath an awning or similar structure may be necessary (§ *3-306.12*). Examples would be lidded dispensing containers and sneeze guards.

Walls

a. For self-contained MFEs, walls are required to protect against the elements, wind-blown dust and debris, insects or other sources that may contaminate FOOD, FOOD CONTACT SURFACES, UTENSILS, EQUIPMENT, LINENS, SINGLE-SERVICE OR SINGLE--USE ARTICLES, and EMPLOYEES.
b. Walls must be SMOOTH, durable, EASILY CLEANABLE and non-absorbent. Pass-through windows may be installed in the walls and may require screening to prevent the entrance of insects *(§§ 6-101.11; 6-201.11; 6-202.15; 6-202.16; 6-501.11*).

Floors

a. Unless otherwise APPROVED, floors of self-contained MFEs must be designed, constructed, and installed so they are SMOOTH, durable, and EASILY CLEANABLE. Examples of acceptable floors are vinyl composition tile, commercial grade linoleum, or similar finish *(§§ 6-101.11; 6-201.11; 6-501.11*).
b. The floor and wall junctures are to be coved and SEALED *(§ 6-201.13).*
c. Push carts, FOOD delivery, and dispensing units must be located on concrete, asphalt, or a similar non-absorbent surface that minimizes dust and mud. The service sites should be graded to drain away from the MFE.

Ventilation and Fire Protection

a. Local regulations shall govern ventilation and fire protection requirements in a MFE.
b. Enclosed MFEs must comply with Section *6-304.11* of the Food Code, in which adequate ventilation shall be provided to keep the MFE free of excessive heat, steam, condensation, vapors, odors, smoke and fumes.

Lighting

a. Adequate lighting by artificial or natural means is required.
b. MFEs shall be provided with artificial lighting according to local regulations.
c. Adequate lighting must be provided in a MFE. The lighting intensity shall be in accordance with Section *6-303.11* of the Food Code and lights shall be adequately shielded in accordance with Section *6-202.11*.

Handwashing Facilities

a. At least one HANDWASHING SINK must be located in all FOOD ESTABLISHMENTS, this would include MFEs selling anything other than pre-PACKAGED non-TCS FOODS. *(§ 5-203.11)*
b. Each HANDWASHING SINK must be provided with suitable hand cleanser, individual disposable towels, and a waste receptacle. A reminder handwashing sign is to be posted at the HANDWASHING SINK. *(§§ 6-301.11; 6-301.12; 6-301.14)*
c. HANDWASHING SINKS shall be equipped to provide potable water at a minimum temperature of at least 85°F through a mixing valve or combination faucet. *(§ 5-202.12)*
d. HANDWASHING SINKS must be provided at all toilet facilities used by the FOOD EMPLOYEES. *(¶5-204.11 B)*

Toilet and Handwashing Facilities

a. Toilet and handwashing facilities must be available for MFE EMPLOYEES along their route of service. *(§ 5-204.11)*
b. The toilet facilities must be conveniently located to the FOOD preparation and WAREWASHING areas and meet all applicable sections of the Food Code and applicable regulations. *(§ 6-402.11)*
c. Check with the local REGULATORY AUTHORITY for any requirements for public toilet rooms. A written agreement for EMPLOYEE toilet room usage may be required by the local REGULATORY AUTHORITY.

Garbage

a. An adequate number of non-absorbent, EASILY CLEANABLE garbage containers must be provided at the MFE. *(§ 5-501.13)*
b. Garbage containers must be rodent-resistant, non-absorbent, and covered when not in use. *(§ 5-501.15)*
c. Fats, oil and grease must be disposed of properly and shall not be dumped onto the ground surface or into the sanitary sewer system.
d. Final disposal facilities for garbage, grease, and other waste materials must be identified, APPROVED by the REGULATORY AUTHORITY, and used.

EQUIPMENT

Construction, maintenance, and cleaning of all EQUIPMENT shall be in accordance with Chapter 4 of the Food Code and with the manufacturer's instructions. EQUIPMENT may be movable; however, it must be capable of being secured when the MFE is in transit to and from its service locations. (Note: NSF/ANSI 59 addresses Mobile FOOD Carts)

Hot and cold holding EQUIPMENT, cooking facilities, preparation surfaces, and dispensing EQUIPMENT must be appropriate for the types and quantities of FOOD items being prepared and served at the MFE. Check with the local authority for additional requirements.

EQUIPMENT installed in a fully enclosed MFE must be sealed to facilitate cleaning as required in sections *4-402.11 and 4-402.12*.

Food Contact Surfaces

a. All FOOD-CONTACT SURFACES used in an MFE shall be designed, constructed, and maintained in accordance with Chapter 4 of the Food Code.
b. Materials used in the construction of FOOD-CONTACT SURFACES shall comply with Parts 4-1 and 4-2 of the Food Code.
c. Surfaces shall be non-toxic, SMOOTH, EASILY CLEANABLE, free of rust, dents or pitting, and durable under the conditions to which they will be exposed.

Cooking and Reheating Equipment

a. Cooking and reheating EQUIPMENT shall be installed and used in accordance with the manufacturer's instructions and shall meet all fire safety code requirements.
b. The reheating EQUIPMENT used by the MFE must be capable of heating all of the TCS FOODS offered by the MFE to their required reheating temperature within two hours or less. *(§ 3-403.11)*
c. The local fire safety or other designated authority may have to APPROVE all cooking devices and their location within the MFE in accordance with local authority.
d. If cooking and reheating temperatures cannot be attained using the EQUIPMENT on the MFE, then cooking and reheating must occur at the commissary or SERVICING AREA.

Hot Holding Equipment

a. EQUIPMENT used at the MFE for hot holding must be capable of maintaining TCS FOODS at 135° F or above*. (§ 3-501.16)*
b. Hot holding EQUIPMENT shall be installed and used in accordance with the manufacturer's instructions and shall meet all the local authority's code requirements as applicable.

Cold Holding Equipment

a. EQUIPMENT used for cold holding at the MFE must be capable of maintaining TCS FOODS at 41° F or below. *(§ 3-501.16)*
b. Refrigeration, such as mechanical, absorption or thermoelectric, shall be installed and used in accordance with the manufacturer's instructions.
c. Each refrigeration unit must have a numerically scaled thermometer accurate to ±3° F to measure the air temperature of the unit. *(§ 4-204.112)*
d. If ice is used to cold hold TCS FOODS at 41° F or below, it must come from an APPROVED SOURCE and be protected from contamination. *(§ 3-202.16)*
e. UNPACKAGED FOODS may not be stored in direct contact with undrained ice, except as allowed for raw fruits and vegetables, and raw POULTRY and raw FISH that are received on ice in shipping containers. *(§ 3-303.12)*
f. Ice used as a coolant for FOODS shall not be used for BEVERAGE ice. *(§ 3-303.11)*
g. Low ambient air temperature, such as during colder months, should not be considered an acceptable alternate to cold holding EQUIPMENT.

Counters/Shelves

a. All FOOD-CONTACT SURFACES shall be safe, corrosion-resistant, non-absorbent, SMOOTH, EASILY CLEANABLE, durable, and free of seams and difficult to clean areas.
b. All other surfaces shall be finished so that they are SMOOTH, non-absorbent, corrosion-resistant, and EASILY CLEANABLE.
c. Surfaces shall be constructed in compliance with Parts 4-1 and 4-2 of the Food Code.

Warewashing Facilities

a. An MFE that is classified as a TYPE **2** may be required to install a three-compartment sink or submit a VARIANCE to modify or waive the requirement. *(§ 4-301.12)*
b. An MFE that is classified as a TYPE **3** is required to install a three-compartment sink with drainboards, utensil racks or tables for soiled and clean equipment. *(§§ 4-301.12; 4-301.13)*
c. Three compartment sinks shall be large enough to accommodate immersion of the largest EQUIPMENT and UTENSILS. *(§ 4-301.12)*

WATER SUPPLY, CAPACITY AND WASTEWATER DISPOSAL

Water

a. An adequate supply of potable water (DRINKING WATER) meeting the requirements specified under Subparts *5-101, 5-102, and 5-103* of the Food Code shall be available on the MFE for cooking and drinking purposes; for cleaning and SANITIZING EQUIPMENT, UTENSILS, and FOOD-CONTACT SURFACES; and for hand washing.
b. Water must come from an APPROVED public water source or an APPROVED well water source.

Water Systems

a. The water supply system and hoses carrying water must be constructed with APPROVED FOOD-contact materials and must be installed to preclude the backflow of contaminants into the potable water supply. (§§ 5.205.12; 5-301.11; 5-302.11; 5-302.14; 5-302.15; 5-302.16)
b. All hose and other connections shall be installed, handled and stored so that no contamination is created. (§§ 5-303.12; 5-304.13)
c. Water supply to an MFE is to be under pressure, unless otherwise approved by your regulatory authority.

Wastewater Disposal

a. EQUIPMENT and facilities that generate liquid waste must be disposed of in an APPROVED manner. *(§ 5-403.11)*
b. Wastewater shall be disposed in an APPROVED wastewater disposal system in accordance with Section *5-401.11* of the Food Code. SEWAGE holding tanks in a MFE shall be sized 15% larger in capacity than the water supply tank.

c. Wastewater must be removed from an MFE at an APPROVED waste SERVICING AREA or by a SEWAGE transport vehicle. (§ 5-402.14)
d. Wastewater may not be dumped onto the ground surface, into waterways, or into storm drains, but shall be collected and dumped into an APPROVED receptacle. *(§ 5-402.13)*

POWER SOURCE

a. If electrical EQUIPMENT is used on a MFE, a source of power will be necessary. Depending on the location, in most cases this will be a gas generator. A generator can only produce a certain amount of electricity so an operator will need a model that will be able to cover the MFE's power requirements for all the EQUIPMENT used.
    - It is possible to use the vehicle engine and/or batter for power, this is less common due to the drain on the power.
    - Another option would be to run an extension cord for the unit or an electrical generator, but this would only be possible if a fixed electrical source is available.

b. While MFEs are in transit, they may not be connected to a power source. TCS FOODS must be maintained at the proper holding temperatures (41°F or below) while the MFE is in transit. (See Appendix V- Power Source)

PERSONNEL

Person in Charge

a. The MFE must have a PERSON IN CHARGE present during all hours of its operation. The PERSON IN CHARGE shall be responsible for the overall operation of the MFE and for compliance with all health code requirements in accordance with Subparts *2-101 (Supervision responsibility), 2-102 (Knowledge), 2-103 (Duties of the PIC), and 2-201(Employee Health, responsibilities)* of the Food Code.
b. The PIC shall be a Certified Food Protection Manager (CFPM), unless it is not required by the Regulatory Agency. (§2-102.12)

Handwashing

a. A FOOD EMPLOYEE shall clean their hands and exposed portions of their arms, including surrogate prosthetic devices for hands and arms, immediately before engaging in FOOD preparation including working with exposed FOOD, clean EQUIPMENT and UTENSILS, unwrapped SINGLE-SERVICE AND SINGLE-USE ARTICLES and as often as necessary to remove soil and contamination and to prevent cross contamination. *(§§ 2-301.11, 2-301.12, 2-301.14, 2-301.15)*

Employee Health

a. EMPLOYEES with communicable diseases which can be transmitted through FOOD shall be EXCLUDED and/or RESTRICTED from FOOD activities. *(§§ 2-201.11, 2-201.12, 2-201.13, 2-401.12)*
b. FOOD EMPLOYEES who have a lesion containing pus such as a boil or infected

wound that is open or draining on their hands or arms must have it properly bandaged and covered with an impermeable bandage if on the arms or an impermeable cover such as a glove and finger cot if it is on the wrists or hands.

c. There must be EMPLOYEE practices and behaviors established that can help prevent the spreading of viruses and bacteria to FOOD. The Centers for Disease Control and Prevention (CDC) and FDA cite six (6) highly infective pathogens that can be easily transmitted by FOOD EMPLOYEES and cause severe illness. These six pathogens known as the Big Six are:
    - Norovirus,
    - Hepatitis A virus,
    - *Salmonella* Typhi,
    - *Salmonella* non-typhoidal,
    - *Shigella* spp., and
    - *Escherichia coli* (E. col) 0157:H7 or other Enterohemorrhagic or Shiga toxin-producing E. coli.

d. Interventions must be used to prevent the transmission of foodborne illness. These interventions include:
    - RESTRICTING or EXCLUDING ill FOOD EMPLOYEES from working with FOOD;
    - using proper handwashing procedures; and
    - eliminating bare hand contact with FOODS that are READY-TO-EAT (RTE).
e. Proper management involves ensuring that FOOD EMPLOYEES do not work when they are ill and having procedures for identifying EMPLOYEES who may transmit foodborne pathogens to FOOD, other EMPLOYEES, and CONSUMERS. The PIC should be concerned with EMPLOYEES having the following symptoms:
    - vomiting
    - diarrhea
    - jaundice (yellow skin or eyes)
    - sore throat with fever
    - infected cuts and burns with pus on hands and wrists
f. Information and forms to aid in complying with EMPLOYEE Health can be found in the **2022 FDA Food Code and the Employee Health and Personal Hygiene Handbook.**
(https://www.fda.gov/food/retail-food-industryregulatory-assistance-training/retail-food-protection-employee-health-and-personal-hygiene-handbook)
An additional resource for the FDA Employee Health Policy Tool can be found at https://www.fda.gov/food/retail-food-protection/fda-employee-health-policy-tool

Hygiene

a. FOOD EMPLOYEES shall maintain a high degree of personal cleanliness and shall conform to good hygienic practices during all working periods. *(Subparts 2-301 and 2-302)*
b. FOOD EMPLOYEES shall have clean outer garments, aprons and effective hair restraints. *(§§ 2-304.11, 2-402.11)*
c. FOOD EMPLOYEES are not allowed to eat (including chewing gum), drink, or use

any TOBACCO PRODUCTS in the FOOD preparation and SERVICE AREAS. A FOOD EMPLOYEE may drink from a closed BEVERAGE container if the container is handled to prevent contamination of the EMPLOYEE'S hands; the container; and exposed FOOD, clean UTENSILS, EQUIPMENT, LINENS, and SINGLE-SERVICE/SINGLE-USE ARTICLES. *(§ 2-401.11)*

d. Unauthorized people are not allowed in FOOD preparation and SERVICE AREAS. *(§ 2-103.11)*

No Bare Hand Contact with RTE Foods

a. EMPLOYEES preparing FOOD may not contact exposed, READY-TO-EAT FOOD with their bare hands and shall use suitable UTENSILS such as deli paper, spatulas, tongs, single-use gloves or dispensing EQUIPMENT. *(§ 3-301.11)*

FOOD DEFENSE

a. The MFEs must be secured to prevent unauthorized access to FOOD, EQUIPMENT, UTENSILS, and related items. *(§ 2-103.11)*
b. Trucks or storage areas away from the MFE should be secured with locks.
c. Self-service operations at MFEs must be supervised at all times. *(§ 3-306.13)*
d. Unauthorized personnel shall not be allowed at or in the MFE. *(§ 2-103.11)*

FOOD SOURCE AND TEMPERATURE CONTROL

Approved Source

a. The source of FOOD on an MFE must be from an APPROVED SOURCE and in compliance with Subparts *3-201*, *3-202* and *3-203* of the Food Code. All MEAT and POULTRY must come from USDA or other acceptable government regulated APPROVED SOURCES.
b. Home canned FOODS are NOT allowed, nor shall there be any home cooked or prepared FOODS offered at the MFE. Note: Check with the REGULATORY AUTHORITY regarding any cottage FOOD or home FOOD preparation rules.
c. Ice for use as a FOOD or a cooling medium shall be made from potable water.
d. A private home may not be used for the storage of FOOD or related items. FOOD and related items can only be stored on the secured MFE unit, at the SERVICE AREA, at the commissary or at a permanent FOOD ESTABLISHMENT.
e. There shall be no preparation of ice or other FOOD items in a home or other unregulated location.

Temperature Measuring Devises

a. TEMPERATURE MEASURING DEVICES, appropriate to the operation, must be used for monitoring temperatures for the types of TCS FOODS prepared and held at the MFE as specified in the Food Code. *(§ 4-302.12)*
b. A thermocouple, thermistor or metal stem thermometer shall be provided to check the internal temperatures of TCS hot and cold FOOD items. The TEMPERATURE MEASURING DEVICE must be appropriate for the type of FOOD served such as for thin FOODS. *(§ 4-302.12)*
c. FOOD TEMPERATURE MEASURING DEVICES shall be accurate to ±2°F if scaled only in

Fahrenheit (accurate to ±1°C if scaled only in Celsius or dually scaled in Celsius and Fahrenheit) in the intended range of use. *(§ 4-203.11).*

d. Regular calibration of the TEMPERATURE MEASURING DEVICES shall be accomplished to ensure accurate FOOD temperature measurements.

Holding Temperatures

a. TCS FOOD must be maintained at 135°F or higher or 41°F or below *(§ 3-501.16),* unless it utilizes Time as a Public Health Control (TPHC) as specified in Section *3-501.19*. Reminder, TPHC requires strict written procedures that must be followed.

Cooking Temperatures

a. Only MFEs that are classified as a Type 2 or Type 3 may be approved to cook FOODS.
b. FOOD must be cooked to at least the minimum temperatures and times specified below**, unless a CONSUMER advisory is provided.
c. Roast (whole beef, pork, cured pork (ham) and corned beef) must be cooked using the parameters specified in Section *3-401.11*. It is recommended that the REGULATORY AUTHORITY be contacted for additional time/temperature options. If not utilizing the above cooking parameters, please reference Section *3-603.11* regarding specific consumer advisory language as applicable.

**Internal Cooking Temperature Specifications for Raw Animal Foods	
Raw Animal Foods	**Internal Cooking Temperature/Time**
• Raw eggs cooked for immediate service • Fish, except as listed below • Intact meat • Commercially raised game animals and game animals under a voluntary inspection • Fish, Pork, and Meat not otherwise specified in this chart or in ¶3-401.11 (B)	63°C (145°F) for 15 seconds
• Ratites (Ostrich, Rhea and Emu) • Non-intact meat • Raw eggs not intended for immediate service • Comminuted fish and commercially raised game animals, and game animals under a voluntary inspection program	63°C (145°F) for 3 minutes 66°C (150°F) for 1 minute 68°C (155°F) for 17 seconds 70°C (158°F) for < 1 second (instantaneous)
• Poultry • Baluts • Stuffed fish; stuffed meat; stuffed pasta; stuffed poultry; stuffed ratites; or stuffing containing fish, meat, poultry, or ratites • Wild game animals	74°C (165°F) for <1 second (instantaneous)
• Food cooked in a microwave oven	Rotated or stirred throughout cooking for even distribution of heat, covered to retain surface moisture, 74°C (165°F) in all parts of the food, and held covered for 2 minutes after cooking
• Commercially packaged food	Follow manufacturer's cooking instructions before use in ready to eat foods or offered in unpackaged form for human consumption, unless the manufacturer's instructions specify that the FOOD may be consumed without cooking.
• Plant foods cooked for hot holding including fruits, vegetables, grains	57°C (135°F)

Cooling

a. All TCS FOODS that are cooled on the MFE, the SERVICING AREA, or at the commissary should be pre-APPROVED by the local REGULATORY AUTHORITY.
b. The MFE or PERSON IN CHARGE will be required to provide their process on how to properly and safely cool FOODS in accordance with Sections *3-501.14* and *3-501.15* of the Food Code.
c. Cooling shall be done in compliance with Sections *3-501.14* and *3-501.15* of the Food Code. Cooked TCS FOOD shall be cooled from 135° F to 70°F within 2 hours; and from 135°F to 41° F within a total of 6 hours or less. TCS FOOD shall be cooled within 4 hours to 5°C (41°F) or less if prepared from ingredients at ambient temperature.
d. Though not required in the Food Code, the REGULATORY AUTHORITY may require time/temperature logs for TCS FOODS that are cooled.

Reheating for Hot Holding

a. Reheating shall be done in compliance with Section *3-403.11* of the Food Code. If proper reheating at the MFE cannot be accomplished, reheating TCS FOOD must take place at the SERVICING AREA or commissary and the products hot held on the MFE unit at 135° F or greater. *(§ 3-501.16)*
b. TCS FOOD that is cooked, cooled, and reheated for hot holding shall be rapidly reheated so that all parts of the FOOD reach a temperature of at least 165° F for 15 seconds within 2 hours or less. *(§ 3-403.11)*
c. Commercially processed and PACKAGED FOODS shall be reheated to 135°F within 2 hours or less for hot holding *(§ 3-403.11)*

Thawing

a. Thawing shall be done using a method outlined in Section *3-501.13* of the Food Code.
b. Thawing under running water in an MFE can be challenging. Check with your REGULATORY AUTHORITY on options to consider.

FOOD EQUIPMENT AND UTENSIL REQUIREMENTS, STORAGE & HANDLING

Cross Contamination

a. Cross contamination prevention shall be in accordance with Section *3-302.11* of the Food Code.
b. FOOD shall be protected from cross contamination during transportation, storage, preparation, holding, and display by separating different types of raw animal FOODS from READY-TO-EAT FOODS.
c. EQUIPMENT and UTENSILS (including knives, cutting boards, and FOOD storage

containers) must be thoroughly cleaned and sanitized after being used for raw animal FOODS and before being used for RTE. *(§§ 4-601.11; 4-702.11)*

d. Wash, rinse and sanitize appropriate sink basins before thoroughly washing raw fruits and vegetables in water to remove soil and other contaminants before being cut, combined with other ingredients, cooked, served, or offered for human consumption in RTE form. (§3-302.15)

Cross-Contact

- PICs need to be aware of the serious nature of FOOD allergies, including allergic reactions, anaphylaxis, and death; to know the nine MAJOR FOOD ALLERGENS; to understand FOOD allergen ingredient identities and labeling; and to avoid cross-contact during FOOD preparation and service.
- The PIC shall ensure that EMPLOYEES are properly trained in FOOD safety, including FOOD allergy awareness, as it relates to their assigned duties. (§2-103.11(O))

Dry storage

a. Storage shall be in compliance with Sections *3-305.11 & 4-903.11* of the Food Code.
b. All FOOD, EQUIPMENT, UTENSILS, LININS, AND SINGLE-SERVICE AND SINGLE USE ARTICLES shall be properly stored including storage which is at least 6" off the ground or floor, protected from contamination, and provided with effective overhead protection.

Food Display

a. All FOOD shall be protected from CUSTOMER handling, coughing, sneezing or other contamination by wrapping, the use of FOOD shields or other effective barriers. *(§ 3-306.13)*
b. Condiments must be dispensed in single-service type packaging, in pump-style dispensers, or in protected squeeze bottles, shakers, or similar dispensers which prevent contamination of the FOOD items by FOOD workers, patrons, insects, or other sources. *(§ 3-306.12)*

In-use Utensil Storage

a. In-use UTENSIL storage shall be in compliance with Section *3-304.12* of the Food Code.
b. Back-up UTENSILS must be stored clean, dry and in a protected location. *§ 4-903.11)*

CLEANING AND SANITIZING

WAREWASHING shall be done in compliance with Part 4-6 of the Food Code. EQUIPMENT FOOD-CONTACT SURFACES and UTENSILS shall be cleaned and sanitized:

- when changing from working with raw FOODs to working with RTE FOODS;
- between uses with raw fruits and vegetables and with TCS FOOD;
- before using or storing a FOOD TEMPERATURE MEASURING DEVICE;
- if used with TCS FOOD shall be cleaned throughout the day at least every 4 hours; and
- at any time during the operation when contamination may have occurred. *(§ 4-602.11)*

Warewashing

a. WAREWASHING methods must be available to wash, rinse, and sanitize EQUIPMENT and UTENSILS coming into contact with FOOD. (§4-501.16)
   - MFE Type 1 – No WAREWASHING sink required.
   - MFE Type 2 – The SERVICING AREA should be used by the MFE for the cleaning and sanitizing of EQUIPMENT and UTENSILS if manual WAREWASHING is not available on the MFE. Adequate spare UTENSILS must be available within the MFE.
   - MFE Type 3 – A three compartment sink for manual WAREWASHING that is supplied with hot and cold running water and approved wastewater disposal system must be available within the mobile FOOD ESTABLISHMENT.

b. WAREWASHING EQUIPMENT (cleaning frequency) shall be:
   - cleaned before use, if used, at least every 24 hours, and throughout the day as necessary to prevent recontamination. (§4-501.14)
   - washed, rinsed, sanitized before and after washing fruits and vegetables.

Sanitizing

a. Approved sanitizers must be provided for sanitizing FOOD-CONTACT SURFACES, EQUIPMENT, and wiping cloths. *(§ 7-204.11)*
b. Sanitizers are to be used in accordance with the EPA-registered label use instructions. *(§ 7-202.12)*
c. An appropriate test kit must be available and used to accurately measure the concentration of sanitizing solutions. *(§§ 4-501.116, 4-703.11)*

Wiping cloths

a. Wiping cloths that are in use for wiping FOOD spills shall be used for no other purpose and shall be stored clean and dry or in a clean solution at the approved sanitizer concentration. *(§ 3-304.14)*

PREMISES

Personal Belonging Storage

a. Personal clothing, belongings and any PERSONAL CARE ITEMS must be stored in a designated place in the MFE away from FOOD preparation, FOOD service, dry storage areas, UTENSIL and SINGLE-SERVICE AND SINGLE-USE ITEM storage, and WAREWASHING areas. *(§ 6-403.11)*

Toxic materials

a. Materials necessary for the operation of an MFE shall be properly stored, labeled and used.
b. POISONOUS OR TOXIC MATERIALS are to be properly labeled and stored so they cannot contaminate FOOD, UTENSILS, EQUIPMENT, LINENS, AND SINGLE-SERVICE AND SINGLE-USE ARTICLES.
c. Only those chemicals necessary for the FOOD operation shall be provided.
d. Toxic materials must be labeled and located in accordance with Parts 7-1 and 7-2 of the Food Code.

Pests

a. The MFE must be maintained free of insects, rodents, and other pests. Premises, EQUIPMENT and fixtures shall be of construction, design and material to prevent and control entry and harborage of pests. Harborage means any condition that provides shelter or protection for rodents, insects or other pests. (§ 6-202.15)
b. When possible, Integrated Pest Control should be used.
c. Employees should not apply any pest control methods that could contaminate FOOD, UTENSILS, EQUIPMENT, LINENS, SINGLE-USE OR SINGLE-SERVICE ARTICLES. A pest control operator should be consulted if necessary.

APPENDIX I

APPLICATION TO OPERATE A MOBILE FOOD ESTABLISHMENT

TYPE or PRINT IN INK. Enter N/A where requested information does not apply. Leave NO BLANK SPACES.

Please indicate which Mobile Unit permit type you are applying for: (reference the MFE guidance document for reference)		☐ Type 1 – Commercially packaged foods ☐ Type 2 – Non-complex food preparation ☐ Type 3 – Complex food preparation	
Owner Information (Responsible Party)	Entity Type	☐ Sole proprietor ☐ Corporation ☐ Other:	
	Owner/Corporation Name:		
	Owner Mailing Address:		
	Owner Billing Address:		
	Owner Phone Number:		
	Owner Alternate Phone Number:		
	Owner email address:		
Business Information	DBA (doing business as, name on the truck, trailer, cart, booth):		
	Location/address of Operation:		
	Cell phone Number:		
	Which Months is Unit in Operation:		
	Days of Operation:		
	Hours of Operation:		
Additional Information	Commissary Name:		
	Commissary Address:		
	Commissary Services Utilized (check all that apply)	☐ Food Storage ☐ Food Preparation ☐ Filling Fresh Water Tank ☐ Vehicle Storage	☐ Wastewater Disposal ☐ Garbage Disposal ☐ Grease Disposal ☐ Vehicle Cleaning
	Is Food Prepared/Stored at Location Other Than Commissary Provided Above?	☐ Yes ☐ No (if yes, please provide address and permit # below)	
	Address Where Food is Prepared/Stored:		
	Permit # Where Food is Prepared/Stored:		

Please provide the following supporting documents for review with this application:

- ☐ Proposed menu(s) with consumer advisory (if applicable)
- ☐ Commissary Agreement (must be provided prior to permit issuance)
- ☐ Complete set of plans
  - ☐ Plans are to be full size, printed to scale as indicated on the plan/drawing, and legible. Plans shall be a minimum of 8.5" X 11". Check with your RA to see if electronic plans are acceptable.
  - ☐ Plans shall include a top and side view of the unit.
  - ☐ Plumbing layout shall include the following: sizes of fresh water and wastewater tanks, size of water heater, sink dimensions, inner diameter of the freshwater inlet and wastewater outlet, and flow rate at the sinks.
  - ☐ Plans shall contain all lighting, ventilation, and locations of sinks and equipment.
- ☐ Plumbing and finish materials (if not already indicated on the plans)
- ☐ Equipment specification/manufacturer sheets for all equipment, including any custom-built equipment.
- ☐ Location(s) of operation/route sheet.

A mobile food establishment permit will not be issued unless this application meets all applicable requirements found in the FDA Food Code as summarized in the Mobile Food Establishment guidance document and the permit has been signed and approved by the local regulatory authority. Additionally, the undersigned is aware that non-compliance may result in closure of the mobile food establishment. Approval of a permit by this regulatory authority does not indicate compliance with any other code, law, or regulation that may be required – federal, state, local.

Name	Signature	Date

DO NOT COMPLETE INFORMATION BELOW – FOR OFFICE USE ONLY

Application Approved ☐ Yes ☐ No* See reason below.	Risk Category ☐ Food Service Type 1 ☐ Food Service Type 2 ☐ Food Service Type 3	Reviewer Signature/Title: Date: Contact Email:

*Reason(s) for Disapproval:	

APPENDIX II

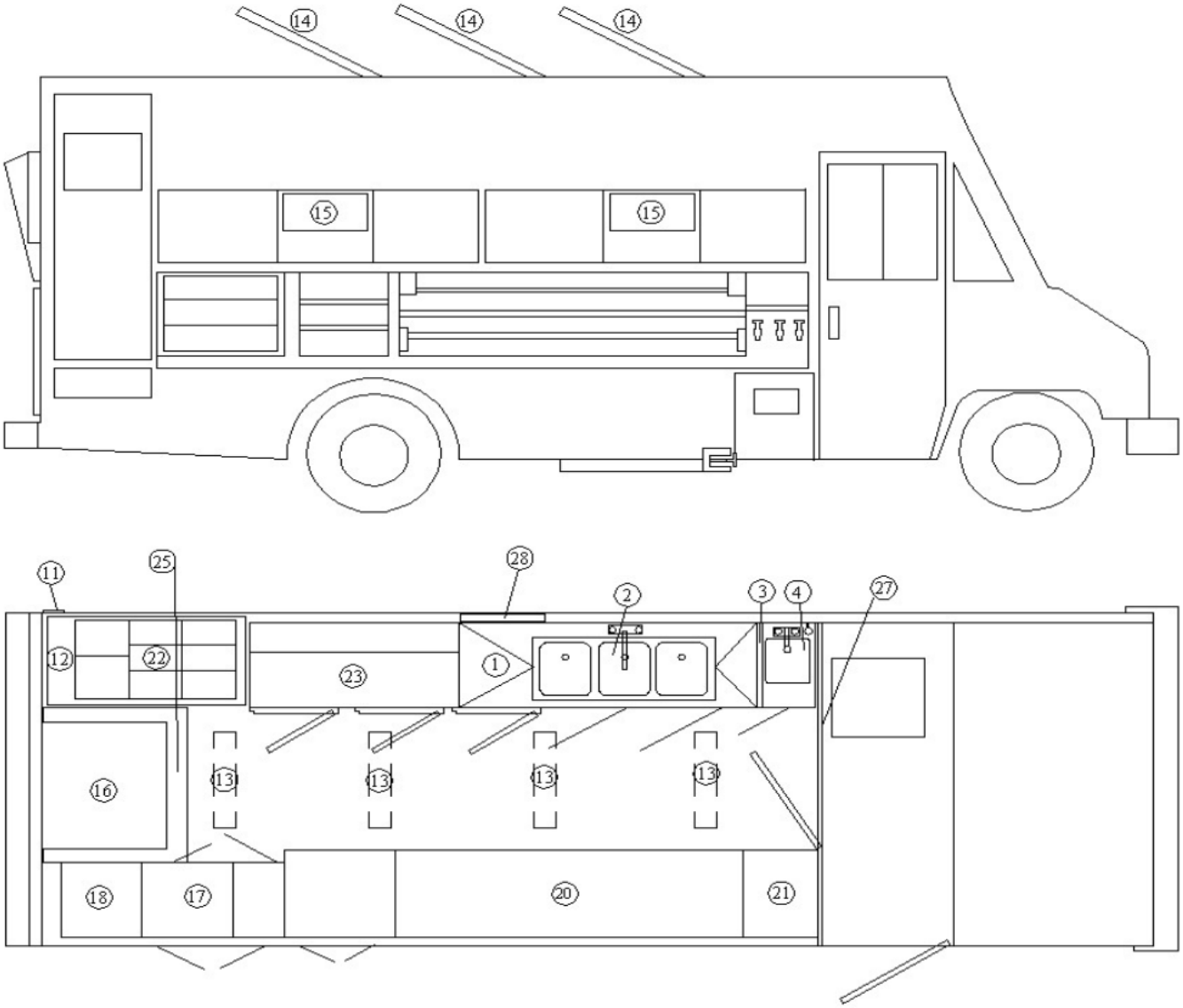
MOBILE FOOD ESTABLISHMENT PROPOSED DESIGN LAYOUT & EXAMPLE

The following will need to be provided for review:

- ☐ Complete set of plans to scale that are legible on 8.5”X11” paper. Check to see if electronic plans are acceptable.
- ☐ Top View Layout/Equipment
- ☐ Side View Plumbing Schematic
- ☐ Proposed Menu (describe concepts)
- ☐ Fresh Water Tank Dimensions
- ☐ Waste Water Tank Dimensions
- ☐ Equipment specification sheets from the manufacturer
- ☐ Hand Wash Sink Dimensions (must be large enough to adequately wash hands)
- ☐ Fresh Water inlet no greater than ¾ inch with fill connection at top/highest point
- ☐ Wastewater drain valve 1 inch in inner diameter or greater that is located at the lowest point of the tank, equipped with shut-off valve, and sloped to drain.
- ☐ 3-Compartment Sink, if applicable to operation.
    - Basin capacity (must be large enough to allow for immersion of largest equipment/utensils)
- ☐ Minimum flow rate of ½ gallon per minute is recommended.
- ☐ Water temperature at least 110°F or as specified by manufacturer for cleaning agent.
- ☐ Drainboard or equivalent equipment
- ☐ All plumbing connections must be different sizes (to prevent cross contamination)
- ☐ Water heater or other approved hot water source to meet peak demands.
- ☐ Design & construction materials used.
- ☐ Food contact surface materials used.
- ☐ Food protection, sneeze-guards location and materials used.
- ☐ Outer opening protection (must be protected against entry of insects and rodents) details.
- ☐ Storage and holding equipment.
- ☐ All equipment specifications to confirm NSF/ANSI approved or equivalent.
- ☐ Lighting (minimum 50-ft candles)

Plan Submittal Example

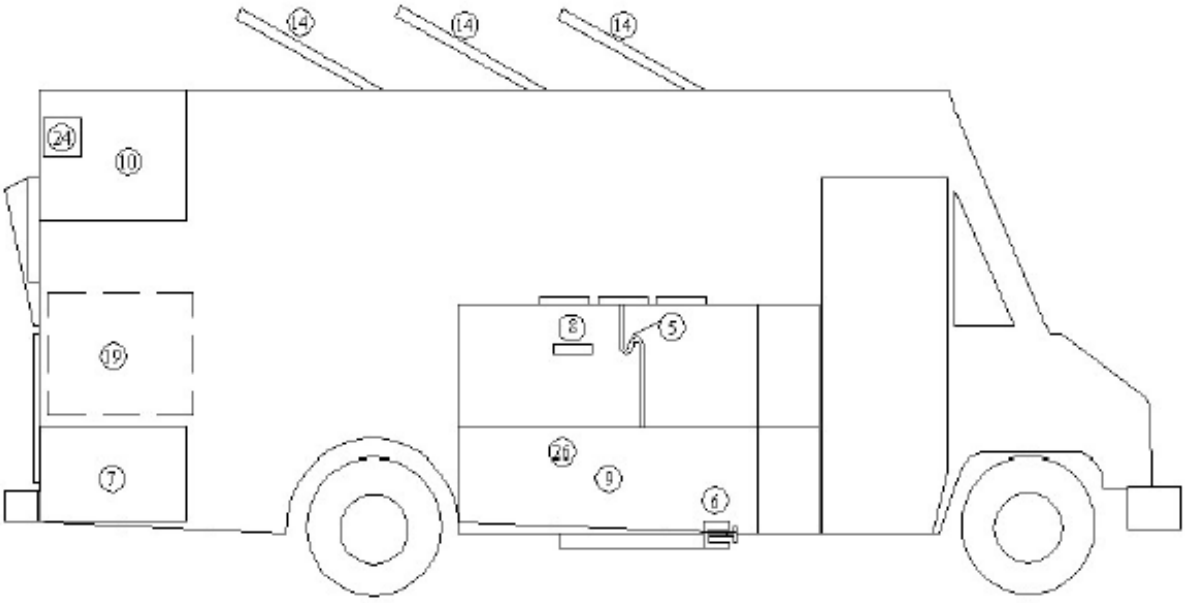
ES Foods (Page 1 of 3)

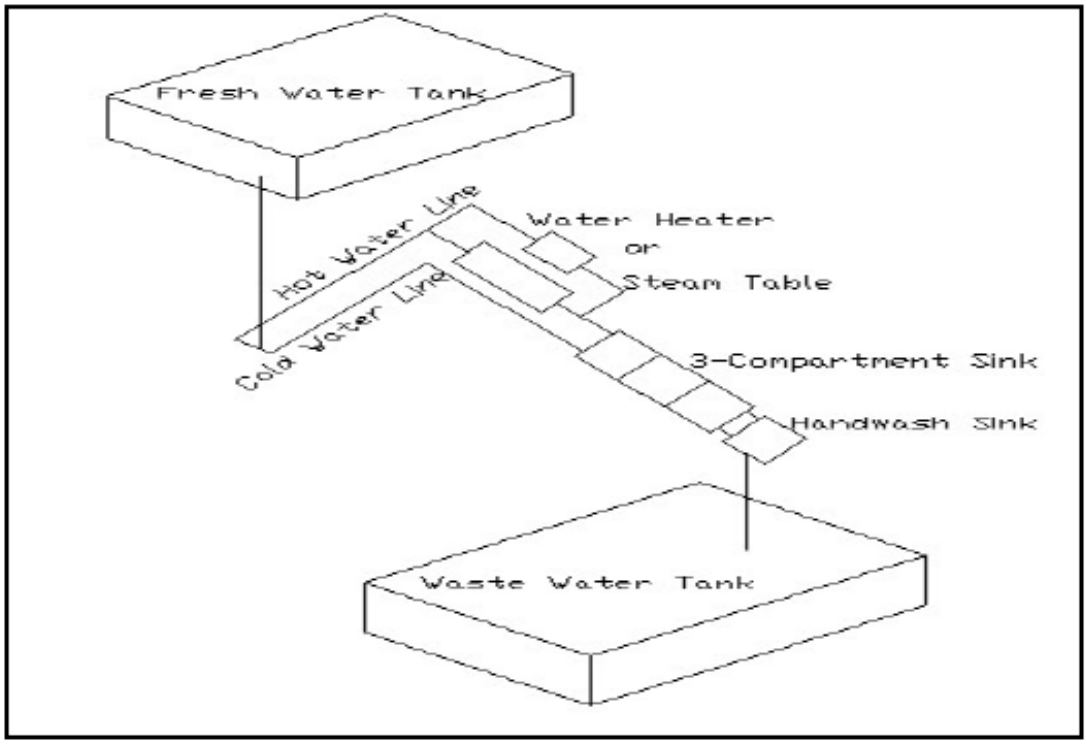


Plan Submittal Example

Plumbing Schematic Examples

ES Foods (Page 2 of 3)





Plan Submittal Example

ES Foods (Page 3 or 3)

1. Steel storage compartment for chemical storage
2. NSF approved, 3-compartment sink with 12” x 12”x 10” compartments, 12” faucet, and two (12” x 12” = 144” square inches) drain boards sloped to drain.
3. 12” splashguard between hand sink and 3-compartment sink
4. Hand sink with 9” x 9” x 5” with 4” faucet
5. P-trap assembly
6. 4” drain valve
7. 6-Gallon water heater (on floor)
8. Demand Pump—1.34 gpm with check valve.
9. 45-Gallon wastewater tank, sloped to drain at 1/2 inch per foot.
10. 30-Gallon steel potable water tank, food grade, corrosion resistant
11. Potable water fill - 3/4” inlet valve with screw cap, check valve, water inlet is 2” above vent line.
12. Vent line. Both the vent line exit and potable water fill inlet are in a stainless-steel box with door. The vent line terminates downward.
13. Shielded dome lights that deliver 50-foot candles.
14. Sky lights with screens—16 mesh per inch. Sky lights can be opened for make-up air for hood.
15. Serve out windows (12” H x 18 W” with 16 mesh per inch self-closing screen doors).
16. Propane grill (36” W x 36” H x 18” D with waste container beneath).
17. NSF approved refrigerator (24” W x 24” D x 36” H).
18. Steel table (24” W x 24” D x 36” H).
19. Steel enclosed generator compartment, completely sealed from interior of trailer.
20. Dry storage steel shelving unit.
21. Approved freezer unit (24” W x 24” D x 36” H).
22. Approved hot holding cabinet (30” W x 36” H x 18” D).
23. Approved refrigerator (30” W x 48” H x 18” D).
24. Overflow device located 2” below water inlet on tank.
25. Type one high velocity hood assembly. Hood has a 6” overhang of grill and is made completely with steel. Base of hood to cooking surface is 3 feet. Hood uses vertically positioned hood baffles sloped to at least a 45-degree angle from horizontal. A grease collection tray and cup are used. Hood in accordance with latest edition of uniform mechanical code.
26. Outlet for vent line from waste tank.
27. Partition separating cabin and kitchen area.
28. “Screened” vent window.

APPENDIX III

SERVICING AREA/COMMISSARY AGREEMENT

TYPE or PRINT IN INK. Enter N/A where requested information does not apply. Leave NO BLANK SPACES.

TYPE OF MOBILE FOOD ESTABLISHMENT:
☐ TYPE 1 ☐ TYPE 2 ☐ TYPE 3

MOBILE FOOD ESTABLISHMENT NAME:_____

OWNER(S) NAME:_____**PHONE NO:**_____

TO BE COMPLETED BY SERVICING AREA / COMMISSARY OWNER/OPERATOR

The below listed facility will be providing the following services to the above mentioned business owner/operator on a ☐ DAILY BASIS ☐ WEEKLY BASIS
☐ OTHER, EXPLAIN:_____

- ☐ Approved Potable Water Source
- ☐ Waste Water Disposal
- ☐ Cleaning Area for MFE
- ☐ Overnight Storage of MFE
- ☐ Overnight Refrigeration
- ☐ Food Preparation Area
- ☐ Food Storage Area
- ☐ Utensil Washing Area
- ☐ Equipment and Utensil Storage Area
- ☐ Prepackaged Foods for Retail Sale

SERVICING AREA/ COMMISSARY NAME:_____

OWNER/MANAGER:_____

ADDRESS:_____**CITY/STATE**_____**ZIP:**_____

PHONE NUMBER:_____**FAX NUMBER:**_____

EMAIL ADDRESS:_____

FOOD ESTABLISHMENT PERMIT ISSUED BY:_____**PERMIT #:**_____

(ATTACH COPY OF PERMIT/LICENSE ISSUED BY REGULATORY AGENCY)

I give permission to the above listed Mobile Food Establishment Operator to use my establishment located at the above address.

SIGNATURE:_____**DATE:**_____

TITLE:_____

APPENDIX IV

Chart *4-D - FDA Food Code Mobile Food Establishment Matrix*

(FDA Food Code, 2022, Annex 7)

The table entitled “FDA Food Code Mobile Food Establishment Matrix” is a plan review and inspectional guide for mobile food establishments based on the mobile unit's menu and operation. Mobile units range in type from push carts to food preparation catering vehicles.

To use the table, read down the columns based on the menu and operation in use. For example, if only prepackaged time/temperature control for safety food is served, then requirements listed in the **TCS Food Menu - *Prepackaged*** column apply. Likewise, if only food that is not time/temperature control for safety food is prepared on board, then requirements listed in the **Not TCS Menu - *Food Preparation*** column apply. Note that if a mobile food establishment has available for sale to the consumer both prepackaged time/temperature control for safety food and time/temperature control for safety food prepared on board, then the more stringent requirements of the **TCS Menu - *Food Preparation*** column apply.

It is important to remember that mobile units may also be subject to all Food Code provisions that apply to food establishments. Consult the local regulatory authority about specific local requirements.

The local regulatory authority's decision to require auxiliary support services such as a commissary or servicing area should be based on the menu, type of operation, and availability of on-board or on-site equipment.

NOTE: The Food Code definition of "Food Establishment" does not include an establishment that offers only prepackaged foods that are not time/temperature control for safety foods.

FDA Model Code Mobile Food Establishment Matrix

Food Code	Time/Temperature for Safety Food (TCS) Menu	Time/Temperature for Safety Food (TCS) Menu	Not TCS Food Menu
Areas/Chapter	Food Preparation	Prepackaged	Food Preparation
Personnel	Applicable Sections of Parts 2-2 - 2-4	Applicable Sections of Parts 2-2 - 2-4	Applicable Sections of Parts 2-2 - 2-4
Food	3-101.11 3-201.11-.16 3-202.16; Applicable Sections of Part 3-3; 3-501.16 3-501.18(A)	3-101.11 3-201.11-.16 3-303.12(A) 3-501.16 3-305.11; 3-305.12 (Applicable to Service Area or Commissary)	3-101.11; 3-201.11 3-202.16; Applicable Sections of Part 3-3
Temperature Requirements	3-202.11; Applicable Sections of Parts 3-4 & 3-5	3-202.11 3-501.16	NONE
Equipment Requirements	Applicable Sections of Parts 4-1 - 4-9 and 5-5	Applicable Sections of Parts 4-1 - 4-2; 4-6 and 5-5	Applicable Sections of Parts 4-1 - 4-2; 4-5 - 4-6 and 5-5
Water & Sewage	5-104.12 5-203.11(A) Part 5-3; 5-401.11 5-402.13-.15	5-104.12 5-203.11(A) Part 5-3; 5-401.11 5-402.13 -.15	5-104.12 5-203.11(A) Part 5-3; 5-401.11 5-402.13-.15
Physical Facility	6-101.11; 6-201.11 6-102.11(A) & (B) 6-202.15; 6-501.11 6-501.12; 6-501.111	6-101.11 6-102.11(A) & (B) 6-202.15 6-501.111	6-101.11; 6-201.11 6-102.11(A) & (B) 6-202.15; 6-501.11 6-501.12; 6-501.111
Toxic Materials	Applicable Sections of Chapter 7	Applicable Sections of Chapter 7	Applicable Sections of Chapter 7
Servicing	6-202.18 / As necessary to comply with the Food Code	6-202.18 / As necessary to comply with the Food Code	6-202.18 / As necessary to comply with the Food Code
Compliance and Enforcement	Applicable Sections of Chapter 8 and Annex 1	Applicable Sections of Chapter 8 and Annex 1	Applicable Sections of Chapter 8 and Annex 1

Reference: 2022 FDA Food Code, Annex 7

APPENDIX V

POWER SUPPLY

Mobile and Temporary Food Establishments

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If electrical equipment is used on Mobile or Temporary Food Establishments (MFE/ TFE) a source of power will be necessary. Choosing the right generator, you need to not only consider your power needs, but additionally fuel efficiency, eco-friendly, and fits into your budget.

Depending on the location, in most cases this will be a gas generator. While it is possible to use the vehicle engine and/or battery for power, this is less common due to the drain on the power. Another option would be to run an extension cord for an electrical generator, but this would only be possible if a fixed source is available.

A generator can only produce a certain amount of electricity so an operator will need a model that will be able to cover the establishments power requirements for all the equipment used.

To know how much power a generator should have, you can calculate the power requirements of all the appliances that will be used at the same time. Power required by an appliance can be found on the equipment specification sheets that should be submitted with the plan review application.

Power requirements of appliances are usually listed in amps while most generators list power outputs in watts so a bit of conversion might be required.

Conversions:
Watts = Volts x Amps
Amps = Watts / Volts

Generators are advertised with "maximum power" and "rated power."

Maximum power is the highest wattage a generator can produce and usually available for up to 30 minutes.

Rated power is the power a generator can produce for extend- ed periods of time, which is typically 90% of maximum power.

Use rated power in determining whether a generator will be able to provide establishment with enough power.

Generators use fossil fuel (usually gas, diesel, or propane) to produce electricity. There are two standard types: Conventional and Inverter.

Conventional Generator:

- Uses a motor attached to an alternator producing AC power
- Requires a constant speed (usually 3600 rpm); fluctuation in engine speed affects energy flow
- Greater power output and extended run time
- Cannot be used in parallel operation
- Larger and heavier than inverter generators
- Less expensive than inverter generators Inverter Generator

Inverter Generators

- Uses advance circuitry to convert multi-phase AC power to DC power then inverts to "cleaner" AC power
- Can adjust engine speed depending on load requirement
- Fuel efficient
- Adequate run time despite compact size
- Portable and lightweight; produces less noise and vibration
- Capable of parallel operation with multiple units
- More expensive than conventional generators

To calculate power needs:

1. Add the power requirements of the appliances you will use at a given time. This will give you the amount of power your generator should at least have.
2. If the load is reactive, calculate using starting wattage, which is typically 3 times the running wattage.
3. If the load is resistive, calculate using the running wattage.

Reactive loads - require additional power to start but consume less once it is running. These are appliances that contain an electric motor like refrigerators, bean grinders, blenders, and air conditioners.

	Resistive Load	Reactive Load
Equipment	Running Wattage	Starting Wattage*
Coffee Maker	600	600
Refrigerator	192	1200
Overheat lights	300	300
Blender	400	850
TOTAL:	1492	2950

**Starting wattage = 3 x Running Wattage if not provided on equipment*

Resistive loads - require the same amount of power to start up and run. These appliances are usually involved in heating or producing heat like light bulbs, coffee makers, toasters, and microwave ovens.

Challenges

Generator Overloading

Generator overloading occurs when the demand on the generator exceeds its capacity, which is common in food trucks because of fluctuating energy needs. Overloading can cause the generator to shut down unexpectedly, leading to service interruptions and potential loss of business. This issue is particularly critical during peak business hours when using multiple appliances simultaneously is necessary. Overloading can also lead to longer-term damage to the generator, requiring costly repairs or replacement.

Tripping Breakers

Tripping breakers is another frequent issue with traditional generators. It typically happens when the electrical load is too high, disrupting power flow and cutting off electricity. This not only stops operations but also poses safety risks, such as the risk of fire or electrical shocks. Additionally, constant tripping may require frequent resets throughout the day, which disrupts the flow of service and can frustrate both staff and customers.

Frequent Breakdowns

Traditional generators, especially those that are not well-maintained, are prone to frequent breakdowns. These mechanical failures can lead to significant downtime, directly impacting a food truck's ability to operate and generate revenue. The unpredictable nature of these breakdowns undermines a food truck’s reputation for reliability and service, potentially turning away repeat customers.

Excessive Noise

The noise produced by traditional generators is not just a nuisance; it can also be a barrier to operating in certain areas where noise levels are restricted. High noise levels can affect the working environment for staff and the dining experience for customers, making it difficult to maintain a pleasant atmosphere. Additionally, excessive noise can limit the locations where a food truck can operate, as some areas have strict noise ordinances prohibiting loud generators during certain hours.

Tips for Choosing the Right Generator for Food Truck [1]

When looking for a generator to power your food truck, make sure to consider the following:

- **Size:** Base the size of the food truck generator on the truck's total power requirements. Consider how many appliances you need to run and how much power each consumes.
- **Noise Output:** Generators with unnoticeable noise output levels are the best, especially if you plan to operate your food truck in residential areas.
- **Power Output:** the generator should generate enough power to run all your food truck's equipment and appliances.
- **Fuel Efficiency:** Look for a fuel-efficient generator that can run for extended periods on less fuel.
- **Cost:** Consider the generator's cost and ensure it fits your budget.

Food Truck Generator FAQs

How many amps does a food truck need?
The amps of a food truck should be at least 50 amps. For basic equipment, like small operating equipment such as fridges or blenders, you'll need a generator with a minimum of 25 amps.

What generator is used for a food truck?
Food trucks generally require 1,000 - 10,000 watts of power to operate their appliances. Small food trucks typically need around 1,000 – 4,000 watts of power, whereas large trucks need 5,000 - 10,000 watts of generator to charge most large appliances.

How to power a food truck without a generator?
Aside from the built-in generator, there are many ways to power a food truck, such as portable generators and Liquefied Petroleum Gas cylinders (LFG).

How do food trucks get power?
Food trucks with inside cooking appliances and exhaust fans need consistent power supply so they can either be plugged into an outlet or run using a portable generator. Reliable solar-powered solutions that can charge most food truck appliances, such as electric grills, mini fridges, ice makers, etc. are an option.

Resources
[1] Jackery, Tips for Choosing the Right Generator for Food Truck
[2] FDA Plan Review for Retail Food Establishments Course, FD207
[3] FDA Temporary Food Establishment Course, FD204