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The Little Sprouts Pre-school and Elementary school is located in a suburban area and the (~50) children who attend are aged 3-8 years of age. The school has its own kitchen, with limited storage and cooling space (one freezer and one industrial size refrigerator).

The facility prepares most menu items on site, and also receive some items from a central Commissary kitchen, that serves other camps and schools in the area. On occasion they can purchase Assembly/Serve and Ready-Prepared items, but because they are more expensive, they need to keep those items limited.

The school employs a Chef, a sous-chef, and two other staff that both help in the kitchen with simple prepping (chopping, thawing, etc) as well as cleaning and sanitizing.

The hours of the school are 9 am- 3 pm and lunch, the only meal served on site, is from Noon-1:30 pm. The school also sends meals to a neighboring school which does not have a kitchen to prepare meals, but has re-heating equipment.

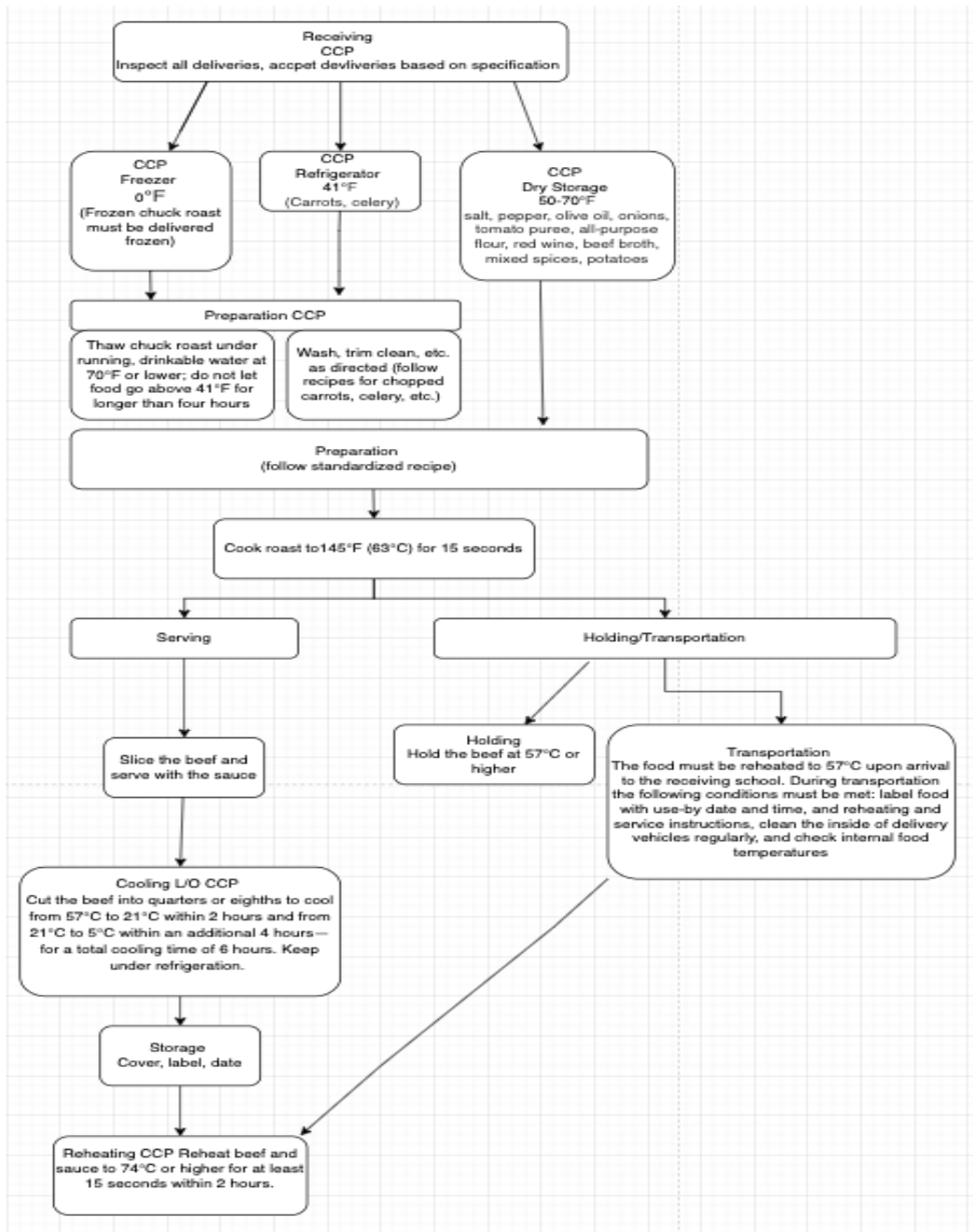
1. **(5 points) What are some considerations in conducting the Hazard Analysis for the “Little Sprouts” school?** Consider Suppliers, Personnel, Customers, Inventory, Flow of Food (Receiving Service), Equipment/Equipment Capacity?

Limited capacity is an area that reaches concern. Because they only have one freezer and one industrial sized refrigerator, there is a risk for not all food items to fit. If there is a week where they have more refrigerated items, there is a risk that the fridge/freezer may be overpacked, not allowing for proper refrigeration for all food items. Additionally, TCS food can become a concern– with limited refrigerator space, the kitchen must be able to hold TCS foods at the proper temperatures and have enough space to store these foods. Based on the menu items, the school also needs to ensure that they are purchasing their foods from reputable suppliers with approved inspection reports. This makes the flow of food very important– deliveries must be inspected (temperature checked, etc.) and rejected if necessary.

The school only staffs a chef, sous chef, and two food service kitchen workers. This raises personnel concern because there is no food service manager who is responsible for the daily operations of the facility. Making sure that every employee follows proper handling procedures, ensuring that employees are maintaining personal hygiene, and overseeing and managing the facility to ensure that it runs efficiently are all duties that a food service manager would have. Therefore, these 4 employees have to be held responsible to make sure it all runs smoothly and accurately while following correct food safety procedures.

Since The Little Sprouts school also sends food to a neighboring school, transportation methods are very important. The deliveries to this school must be kept under proper temperatures to ensure that it does not reach the temperature danger zone.

2. **(5 points) Evaluate the Menu Mix by looking at each Menu item and its recipe and categorize the menu items as Simple/No bake, Same Day or Complex.** Keep in mind that they can fall into more than one category.
(10 points) Identify any **potential hazards**, (including allergies). Be specific regarding any Pathogen pathogens.
(10 points) Note the **CCPs for the 10 Recipes under the School Menu Mix**. For the recipes that are linked to the USDA, the CCPs are noted in the recipes. Make sure, however that you also check the “Notes” below each recipe regarding Serving guidelines, as they may incorporate additional CCPs.
***Answers are in the School Lunch Menu Mix table below.**
3. **(10 points)** Then by focusing only on the **Pot Roast Recipe: Indicate the correct times and temperatures on the Recipe**
***Answers are under the Pot Roast Recipe.**
4. **(10 points)** Prepare a **Flow Chart from Receiving to Serving**, separating out all the ingredients, as necessary.
You can use Word, PPT, other design program or app e.g. Creatly, Miro, Draw, <https://app.diagrams.net/>



****Link to Flowchart (for easier reading):**

[**5. \(20 points\) Complete the Hazard Analysis template and decide on CCPs**](https://viewer.diagrams.net/?tags=%7B%7D&highlight=0000ff&edit= blank&layers=1&nav=1&title=Untitled%20Diagram.drawio#R7VxZd5tKev41Osd%2Bwlc6TGW7eROMjO5SWYy9iClmCcaNK0LCu%2FfQoXdiOhW8iyiZ4kigaauqgr5zmZE2XT%2B8pSsO%2FkwdHI1MPnkbW3cg0TcOy4idTnpiJWLYIKQsaBypWEr5Gv7Ak2oq4jgKc1cYxQmIWPXWIT5IE%2B6xGQ5SSdX3YnMT1h6ZogVuErz6K29TVUcBCS2ZM9ZL%2BAUeLUD3ZnagT5SSPVYQsRAFZV0iW%2FciaUkKY%2FLd8muKY8y7nvc%2FNT%2FITz%2Fc93%2F7M%2Fuj%2Fnx78ds%2F2Fq3JmzOckncXhQn7Nm3vv%2F18e5LammTj8x16Z%2FJyExDufHFk8Uu9S7sk3OPxwAO9UhoSwkC5Kg%2B6k3IKySglMH6PDUtnmFvEpEA0g%2Fg8ztlGggVaMACKlv1id7f1%2BarlZVWVf7xinFIYhusBsx8srufiXrkiK4t57TJaY0QOMoDhGLHqs6xNSarkoxpW8hz%2BK%2FQdl2WqJ4gv2cfQYIYUR6allsPl2mWwP4lcbw4vdzji8W%2FB%2F0%2Bnn%2FYp%2BSLKUrZCYVJgOrHR4KxrB6jSnnOr7KWbixGN5Rp%2BhDlR6iThzic7RPPiB4bw4%2BYjG7pTagYX8zqMGP6aliG8NVibuhbMScKuihgghttFjLIMKVXGKPIRrF8%2BuliN%2BsEKBG%2FEG8NNOkednXaUjyvbIh%2Bv5kFi2ooVVI6K%2FXEI2qWxtvUoxc%2B7VmO%2F%2BxJH8hJYvr6DAYaZPkntUoCpUqEveE6jBaalEbp%2FtG3kNHhZOUF5liidnKUrKv85nFBA%2F06KEYQpGROP%2BQ%2FODCZp5Fta8%2BYyuefZc10w8trVg5jm%2B7Y29Y061X6nmxDZvBldDewi%2B0MXsviHkQih%2Fr8VdYAn4PxZCmbXKJYwiWFFK6W6FbwJWPVjalfnNvktYQb4cmhC6RHHHKlWypaEM%2FrcHcj2FIRZrKl4W6jxfjHGU4E4RHkOXRNzdkS%2FtCxaIPnVltopgVli2NMN9d7hF67Wz5QimgPuWfd9tiTuvE5A2tienVrYkza5sQwT2lOzB7uPwnecRQGRZ5nldfobi4fzrq9nrfCGKeDLzmtt4NWT%2FhMlrFACozbkivX4LdEHOqqKsRq3kg3uwWc30hCktaNgMfoUxmW8gHJzjglbjQmbNegHf%2BQdS8UoePp8XZm8BjLETxH7D7%2F8xlfH%2F62cuXtdxYHm2fpyBVNdr63fWuY2C1TYzyuvbRQ7j26vzx2j1TIAFBw2Q%2FUIx%2F4R6%2BxZ8HX9%2F2eVVvPUfiKN7IU1PwszMaSv%2BwW%2FXMvDgcZn6rWV6h6%2BrdwUsvngqZlJfmdPeD1f%2BD84cAtPk4fNK%2F2MxwGWilKGlurJedY1eFkwMFHG9Wxa24cXxKM7cffiXfSu90%2B8WAnbo%2B3oLQGTGLVlUO8OyG0rxDg8cTa3uGOrnn66BLm%2FaXCvAwBQfAmxWnK3T3%2FT7gv579RahRJRVl%2BzGvRIDe4IovQASVUipDj05tkvHLSjG5QHICuo1f0fxPMN4zn8glAwlZrK9ITFZGvI5fioDB7Bj04TX56Fw7HNHkGj2%2BVvrKecitHOGn%2BmGF5dJQV1YWFokZIN710k7yrMNCdmm5nD8bKd9n2h9%2BZL4kGh2rsPOH7E3LqM2vlv4C3dvODKheBDEXh8pek3huPmlDLKEkeb6tFnsH3ACLAQz4EOezP0xnldMuc3Di7o7S%2BKMnqhPBWE64cKVUAU65P2NN3z6s5fnlYelMs4QSRCaAerp1o0bXlB2G2Ovobe5mA7W22aaorCgJ0LHhtMS%2FbcQrTsCUCSevo9XSSJqaBxCBDRKfaBzPHIGeXAPHRXjNf8WwU2Q2ytmCOB46i%2BRCisuZGIOPBgAIayGcvi3LcnBAORacimZEYLcvtHlv%2Bc7VhJOFYB8LxfPnAtzpfkxL3P%2BA63FF6AerwNvOR0ooRkpH8tIGP87vhTUjmbC%2Bb6H2MuCE7Bzl%2BR0wBtjij2mcDSV3MSe54Je%2BJHqSjuSMH6IQGYz8f47XpOec%2Fr4xd8X1XQhcB2CdrqsMuDCTpHADug9b5ovBRxIAsiBoAG4NC4tdvXGDNiWl3CMv2OlbmcBU089WgSAW%2Fj41JA7%2FrrncG%2BD1X5zPB0bbXxO8t2N07S9i6ld2EVAMilbNP3nf4Ct1ANmFvWc7s2%2BVI0i118OhtXt3TGV%2FE1kts3nmJr2nmRJSiTCYMXh7iCuB8ivXepVnT68LEMIDmZ3DPkmCt4BmFbdtsidX%2FmSRv%2FrN%2Fc2j5pZV1Zta%2Bna74ians6X3CikVwHY7FL9oi6oqfIMNdZf72p5%2FYOU3%2BvrlYfnpfitMvYHEgdC8R%2B2BiYoqSEFFtee4Emy90frd2fvtnnAl5BKupj4biNyxHvgWikKszCdW03QoDiGSWSJRxHW810ETcOEqFTVERGkEb5pPiIYvmsWOC3zQ0Jinue6W1FJYg12qKktkQO4egkYrIsXePAka8u%2FjlxmokdUlpL64jXpPVVhrUZV48A2MSnlwheQfCsSt1JULBRPKISMM7fX5EFGSMrnXWlsXVxk7NEs5HgSiv81K4apnaCJ0NlxiaifsviGi8ab6UD%2FFlvGdt1KUC2d4mfje%2FRXFLORkQ60vp1EG81yVd0G6q9uOMSTDecWKbNhtalm1ftcbfZKf7%2B55Qcvy%2BUczxNzFTtmT5P0cev6io2fW%2FpvgH5h3GwTHzihY7WnoVlBp6fqaKwLka7RtS5XtGwivAxBPvstGbDg8tb7%2FVMrpUeriwsCPOikXfaetA4ZRw6dvkiayt%2BPg3LjRjDseqCGXeFLyfdYWN1tXOexpscxuOzsdYenqRbclp3ntxGpt6lidOz9u%2Fd9xqjfiuhaPHrc%2FqkzKnuulw8rrndv3afcfwnU9WV%2EVAOf9Rnw7r8XhsezPDk83W9eO7mjdzPQ3bCAV4jF3kmVXfvq27eK2W%2FrtKJ%2FO2PuW08za8vVnLcg748biLYhLUJco0RiX7ne62KmiSDPCGFkW1Nocg4jWb83ov7vEdQl38p9ntlgXPAICTYeUZ9TDd7Wmt8%2BCD2RagH2imgHJUANukfngb%2BRTCXmqafJd%2F0dl9e125xC21CnF3G%2FDXGvWB MNgmngzuWfkwQAI7dtSYwu3iPhk%2BK0D3ovEhu3lruAYotKnHXQxpzfdGdMdnHQpobmGmcaFx276NhgOsbD3oizQ8QwsmFVRcbKvFOU8KKAQxs556JfXub3sYJnaBAFr1EccgurN69ORro4kt%2B3eQ0EwmvxfBcBLXlj05eZ8qrbR4w50i%2B2WRRfhaLn3BwhiQjcxikraW86UTn7kpa11803KZO%2Fy981Wtnvku2%2B%2B9DR9Fla7KaD31v0pecy3dqut9giIOrcc51gslkoqecpN79qvcdL0fa4Nta82li0AIU%2FobPVO3Y4nSsBgb8%2B21SQrnzhq5enlkPueCDc8eGG0c12MfzpnWgVE1pSK5iU626NY7DviglvtzafHvWxOcs0Y9U5Wwxgb7TUz6Vgz3mSndOuVbY9zaUKVlabHbux1cRpo0Deu86dLX3NpyqKHf1bRYf31oxe6TtyvRS0T7QXqvGzo4lnPFOnGmOXyGG%2B2B3QTN%2Bz5IOPwIIPgVbXPAYfmxzbzm8%2FGK6df9%2F</p></div><div data-bbox=)

****See Template Below**

6. (20 points) Complete the HACCP Plan Summary template

****See Template Below**

7. (10 points) Unfortunately, several of the Little Sprouts' students and staff have come down with symptoms of diarrhea, vomiting and fever. Some food samples have been sent to the health department for laboratory analysis. Can you identify some potential pathogen(s) that could be the cause of their symptoms? After performing this HACCP analysis, can you consider some steps that could be improved for the food safety of the Little Sprouts School customers?

Some potential pathogens that could cause these symptoms include: E. Coli and Clostridium Perfringens.

Some steps that can be taken to improve the food safety of customers may include: buying from safe, reputable

suppliers to ensure that the raw meat is properly sourced, time and temperature control (cook meat to proper temperature), cleaning hands with soap and water (before and after food preparation, after any animal contact, after using the toilet or changing diapers), avoid consuming water from untreated sources, and making sure that food service workers who may become infected or ill are sent home and removed from the operation so that there is no further contamination in the facility.

School Lunch Menu Mix -- Identify Hazards and CCPs

Menu Mix	Menu Categorization	Indicate any Potential Hazards	Indicate any CCPs
	Simple/No Cook Same Day Complex	Biological (B) Chemical (C) Physical (P) Allergens (A)	
Grilled Chicken <i>(for immediate Service)</i>	Same day	- Biological: Salmonella, Campylobacter Jejuni - Physical: bones	1. Cook to 165°F for <1 sec
Grilled Chicken <i>(pre-grilled and held cold for use in sandwiches or salads)</i>	Same Day Complex	- Biological: Salmonella, Campylobacter Jejuni - Physical: bones	1. Cook to 165°F for <1 sec 2. Cool to 41°F or lower within 4 hours 3. Hold for Cold service at 41°F or lower
Oven Fried Chicken (USDA) <i>(see "Serving it Safe" pdf)</i>	Same Day	- Biological: Salmonella, Campylobacter Jejuni - Physical: bones - Allergens: eggs, milk	1. Heat to 165 °F or higher for at least 15 seconds. 2. Hold for hot service at 135 °F or higher.
Creamy Coleslaw (USDA)	Same Day	- Biological: Listeria monocytogene, Bacillus cereus, Salmonella, Cyclospora cayetanensis - Allergens: Milk (yogurt), egg (mayonnaise)	1. Cool to 41 °F or lower within 4 hours. 2. Hold at 41 °F or below.
Grilled Vegetables <i>(made to order with choice of: mushrooms, peppers, broccoli, onions)</i>	Complex	- Biological: Bacillus Cereus, Salmonella, E.coli, Listeria	1. 135 °F minimum internal cooking temperature (no minimum time).

Ground Turkey Lasagna (USDA)	Same Day	- Biological: E.coli, Staph Aureus	1. Heat to 165 °F or higher for at least 15 seconds. 2. Hold for hot service at 135 °F or higher.
Oven Roasted Tilapia (USDA)	Same Day	- Biological: Anisakis Simplex? - Allergens: Fish, Milk (sour cream) - Physical: bones	1. Heat to 155 °F or higher for at least 15 seconds. 2. Hold for hot service at 135 °F or higher
Mediterranean Quinoa Salad (USDA)	Simple/No cook	- Allergens: Milk (feta cheese)	1. Cool to 41 °F or lower within 4 hours. Cover and refrigerate until service.
Tuna Salad on a Roll (USDA)	Same Day	- Biological: Staphylococcus aureus - Physical: metal shavings from can - Allergens: Fish, Eggs, Wheat	1. Cool to 41 °F or lower within 4 hours. 2. Hold at 41 °F or below.
Vegetable-Tofu Stir Fry (USDA)	Same Day	- Biological: Nontyphoidal Salmonella - Allergen: Soy	1. Heat to 135 °F or higher. 2. Hold for hot service at 135 °F or higher.
Vegetable Frittata (USDA)	Same Day	- Biological: Nontyphoidal Salmonella, Bacillus Cereus - Allergens: Milk, Eggs, Wheat	1. Heat to 165 °F or higher for at least 15 seconds. 2. Hold for hot service at 140 °F or higher.
Waldorf Fruit Salad	Simple/ No cook	- Biological: Cyclospora cayetanensis	1. Cool to 41 °F or lower within 4 hours. 2. Hold at 41 °F or below.

(USDA)			
Pot Roast (Recipe follows)	-----	- Allergens: wheat	-----

****All recipes have the potential to experience chemical contaminants based on the handling of food and preparation areas by chefs/staff. Sources of chemical contaminants may include: cleaners, sanitizers, polishes, machine lubricants, pesticides, deodorizers, first-aid products, health and beauty products, certain types of kitchenware and equipment.**

In case any of the USDA recipe links don't open, you can search for the recipes here: <https://theicn.org/cnr/recipes-for-schools/>

Classic Pot Roast

Servings: 50 servings

Ingredients

- 25 lb chuck roast, shoulder cut (received frozen)
- table salt and black pepper, to taste
- 1 cup olive oil
- 5 lb onions
- 5 lb carrots
- 5 lb celery
- 2 lb tomato puree
- 16.67 tbsp all-purpose flour, GF flour, cassava flour* (see note of GF and Whole30)
- 1 Qt red wine
- 4 Qt beef broth
- 5 lb small yellow potatoes.
- 5 T mixed spices

Instructions— [Note: Fill in the XX's with the correct numbers]

After serving lunch to the preschoolers, part of the, prepared and still hot, pot roast needs to be transported to a neighboring school, a 15 minute drive, for the elementary students' lunch period, where there is no temperature control.

Preparing

1. Thaw the beef under **the following** conditions: **Submerge the food under running, drinkable water at 70 °F (21 °C) or lower; use a clean and sanitized food-prep sink, use water flow strong enough to awash away food bits, never let the temperature of the food go above 41 °F (5 °C) for longer than four hours.**
2. Wash Carrots, onions, celery, potatoes and tomatoes.
3. Chop carrots, onion and celery (this mix of vegetables is the Mirepoix). Refrigerate.
4. Finely chop the tomatoes to make the puree. Refrigerate.
5. Trim the beef and season it with salt and pepper. Refrigerate.
6. Peel the potatoes and set aside immersed in cold water. Refrigerate.

Cooking

7. Sear the thawed beef in hot oil; remove it and hold it at 57°C or higher.
8. Add the mirepoix; sauté until browned.
9. Add the flour; cook it out for 3 to 4 minutes.
10. Add the tomato puree and pincé (caramelize by sautéing).
11. Place the beef on a bed of mirepoix.
12. Add the wine, stock, potatoes and spices. Cover the pan and braise the beef until it is 63°C or higher for at least 4 minutes and fork-tender.
13. Remove the beef and hold it at 57°C or higher. Degrease the sauce and strain it. Simmer the sauce to reduce it, if necessary and maintain the temperature of the sauce at 57°C or higher. Adjust the seasoning with salt and pepper to taste.

Holding

14. Hold the beef at 57°C or higher.

Serving

15. Slice the beef and serve with the sauce.

Cooling

16. Cut the beef into quarters or eighths to cool from 57°C to 21°C within 2 hours and from 21°C to 5°C within an additional 4 hours—for a total cooling time of 6 hours. Keep under refrigeration.

Reheating

17. Reheat beef and sauce to 74°C or higher for at least 15 seconds within 2 hours.

Transporting

Holding/Serving

18. Serve the beef with the sauce. Time and temperature conditions: The food must be reheated to 57°C upon arrival to the receiving school. During transportation the following conditions must be met: label food with use-by date and time, and reheating and service instructions, clean the inside of delivery vehicles regularly, and check internal food temperatures (as described above).

Template 1- HAZARD ANALYSIS – Pot Roast

Flow of Food Operating Step	Identify Potential Hazards (P) Physical (C) Chemical (B) Biological (A) Allergens BE SPECIFIC	Is this Hazard likely to occur and significant? (Y/N)	Justification of Decision that hazard needs to be addressed in the plan	What Preventative / Control measures can be applied for these hazards	Questions 1—4 in Decision Tree Is the Step a CCP? (Y/N)
Receiving	<ul style="list-style-type: none"> - Physical: Damaged packaging - Biological: Correct temperature control to limit pathogen growth 	<ul style="list-style-type: none"> - (P): Yes - (B): Yes 	<ul style="list-style-type: none"> - (P): Packing can be damaged through carelessness during the transportation process; delivery trucks could be infected with pests. - (B): There can be time and temperature abuse during the transportation process. 	<ul style="list-style-type: none"> - (P): Inspection before accepting a delivery; buying from approved, reputable suppliers. - (B): Correct temperatures must be met when holding food during transportation. 	<ul style="list-style-type: none"> - (P): No - (B): No
Storing	<ul style="list-style-type: none"> - Physical: Risk for pests to eat up packaging/ food while stored - Chemical: Cannot be stored in the same area as sanitizers and cleaners - Biological: Must be stored in correct temperature 	<ul style="list-style-type: none"> - (P): No - (C): No - (B): Yes 	<ul style="list-style-type: none"> - (P): There could be a pest issue within the operation. - (C): Storing and labeling could be improperly implemented. - (B): Refrigerator/freezers/dry storage areas must be kept at correct temperatures. 	<ul style="list-style-type: none"> - (P): Pest management system needs to be implemented. - (C): A proper storing of a labeling system must be implemented— staff training. - (B): A thermometer needs to be kept in each storage location to ensure the proper temperature is being monitored. 	<ul style="list-style-type: none"> - (P): No - (C): No
Thawing	<ul style="list-style-type: none"> - Biological: Time and temperature control; thaw under proper conditions 	<ul style="list-style-type: none"> - (B): Yes - (C): No 	<ul style="list-style-type: none"> - (B): Thawing incorrectly (leaving meat on top of kitchen counter can leave room for 	<ul style="list-style-type: none"> - (B): Making sure to follow proper thawing guidelines. (If thawing in 	<ul style="list-style-type: none"> - (B): Yes - (C): Yes

	(for thawing under water– water needs to be running, potable, and drinkable) - Chemical: Must be thawed within sanitized conditions.		bacteria to grow during the thawing process) - (C): There can be thawing transpiring in unsanitized conditions which can lead to bacteria growth.	microwave, must cook right after) - (C): Making sure that surfaces and equipment used for thawing are properly sanitized and not previously contaminated	
Preparing	- Biological: Eliminate any risk of cross contamination; Make sure food preparers are wearing gloves, practice proper personal hygiene, and are free from foodborne illness symptoms. - Chemical: Prepare food on cleaned and sanitized surfaces - Physical: No physical hazards should be available to the food products– food preparers need to be wearing gloves, their nails should be kept short and unpolished, and a	- (B): Yes - (C): Yes - (P): Yes	- (B): There can be instances where a worker’s illness germs contaminates the food - (C): A dirty surface can easily contaminate food with bacteria. For example: if a cutting board was not sanitized correctly after cutting poultry. - (P): Food may be contaminated by a worker’s fingernails or hair if they are not wearing the proper attire.	- (B): Utilizing active managerial control to ensure that any worker who is ill, takes the correct precautions (leaving the facility if necessary). - (C): Making sure that all surfaces and equipment are correctly cleaned and sanitized accordingly. - (P): Preparing food in a clean environment, as well as ensuring that all staff are dressed appropriately as well as keeping up with their personal hygiene.	- (B): No - (C): No - (P): No

	hair net should be worn.				
Cooking	<ul style="list-style-type: none"> - Biological: Time and temperature control - Physical: Workers must be dressed appropriately (hair net, gloves, etc.,) so there is no risk for physical objects to fall in food while cooking 	<ul style="list-style-type: none"> - (B): Yes - (P): Yes 	<ul style="list-style-type: none"> - (B): The food could be cooked to incorrect temperatures which can cause pathogens to be present within food, and thus, foodborne illnesses have the potential to occur; food could be held for too long without reheating measures. - (P): Workers could be improperly trained and have physical objects that get into food. 	<ul style="list-style-type: none"> - (B): Proper time and temperature control needs to be implemented; thermometers need to be made available to food service workers. - (P): Food service workers must practice proper personal hygiene and be trained adequately. 	<ul style="list-style-type: none"> - (B): Yes - (P): No
Holding/Serving	<ul style="list-style-type: none"> - Biological: Time and temperature control; food cannot be left out for four hours without being reheated. Physical: Food servers must wear gloves when serving food. - Chemical: Chemical cleaners, polishers, and sanitizers must be kept away from the food service area. - Allergens: Allergens and ingredients for each 	<ul style="list-style-type: none"> - (B): Yes - (P): Yes - (C): Yes - (A): Yes 	<ul style="list-style-type: none"> - (B): Food could be cooked to incorrect temperatures or be held without time and temperature control. - (P): Food service handlers could be using improper personal hygiene. - (C): There would be chemicals that contaminate food products if they are in too close contact with the food service area. - (A): There could be potential allergens that cause reactions upon consumption. 	<ul style="list-style-type: none"> - (B): Time and temperature control must be used. - (P): Food service handlers must be trained to ensure they are practicing proper hygiene. - (C): Chemicals must have designated storage areas away from food service and food prep areas. - (A): Allergens present within foods must be labeled and disclosed to consumers. 	<ul style="list-style-type: none"> - (B): Yes - (P): No - (C): No - (A): No

	food item must be noted and made available to consumers.				
Cooling/Chilling	- Biological: Time and temperature control	- (B): Yes	- (B): Mismanagement of cooling and chilling can result in a risk of foodborne illnesses as pathogens will begin to grow if the food enters the temperature danger zone too quickly or too slowly.	- (B): Using ice paddles, separating food into separate containers, or using an ice bath to cool and chill foods correctly.	- (B): Yes
Reheating	- Biological: Must reach specific internal temperature when reheating - Physical: Workers who reheat food must be dressed appropriately to reduce risk of physical contaminants.	- (B): Yes - (P): Yes	- (B): Food products could be reheated to improper temperatures. - (P): Workers could be mistrained and not understand proper protocol in relation to personal hygiene.	- (B): Proper time and temperature control must be implemented; thermometers must be provided to food service workers. - (P): Food handlers must be trained properly and practice appropriate personal hygiene.	- (B): Yes - (P): No
Hot Holding	- Biological: Time and temperature control	- (B): Yes	- (B): Food products could be held at incorrect temperatures or their temperature could not be monitored throughout the service time.	- (B): Time and temperature control must be implemented; food service workers must have thermometers available and the temperature of the food must be reevaluated throughout the serving period.	- (B): Yes

<p>Transport</p>	<p>- Biological: Must be transported in correct temperature to eliminate risk of pathogen growth - Allergens: Labeling food items will reduce the risk of cross-contamination of different allergens.</p>	<p>- (B): Yes - (A): Yes</p>	<p>- (B) Any food that is transported in incorrect temperatures has the potential to enter the temperature danger zone and spoil. - (A): If not labeled properly, may give risk to customers with intolerances</p>	<p>- (B): insulated, food-grade containers that are leak proof should be used when transferring catering food.. The containers should be held at appropriate temperatures. Label them with use-by date and time, and reheating and serving instructions. - (A): Labeling food will make sure that cross-contamination within allergies does not transpire.</p>	<p>- (B): Yes - (A): No</p>
<p>Service</p>	<p>- Allergens: Risk of cross-contamination when serving multiple food items. - Physical: Properly cover to reduce risk of physical objects (hair, dirt, etc..) from entering in the food - Biological: Food handlers could carry foodborne illnesses and thus contaminate the food they are serving.</p>	<p>- (A): Yes - (P): Yes - (B): Yes</p>	<p>- (A): There could be allergens present within food products and this could be unlabeled for consumers. - (P): Food service handlers could be improperly trained and unable to practice proper hygiene. - (B): Food handlers carrying foodborne illnesses can contaminate the food being served.</p>	<p>- (A): Allergens need to be labeled and disclosed to consumers. - (P): Food service handlers must be adequately trained and must practice proper hygiene. - (B): Food service handlers must be excluded from the operation if they are experiencing any symptoms of a foodborne illness.</p>	<p>- (A): No - (P): No - (B): No</p>

Operational Step in Flow of Food	Principle 1: Potential Significant Hazards (B, P, C, A)	Principle 2: CCPs	Principle 3: Critical Limits for Preventive Measure	Principle 4: Monitoring				Principle 5: Corrective Action (s)	Principle 6: Verification Procedures	Principle 7: Record Keeping Procedures
				What	How	Frequency	Who			
Receiving	- Physical: damaged packaging - Biological: Correct temperature control to limit pathogen growth	CCP/ Preventative	When frozen roast is received, it must be fully frozen with no indications of defrosting/thawing (no water puddles, ice crystals, etc.)	Monitoring the delivery status of frozen food products.	Use a thermometer and visually monitor packaging of delivered items.	Check each time there is a delivery	Trained delivery-accepter employee	Do not accept the delivery if the meat is not properly frozen.	Purchase from reputable, safe suppliers	Keep a record of working with suppliers (invoices, specifications, etc.)
Storing	- Physical: Risk for pests to eat up packaging/ food while stored - Chemical: Can not be stored in the same area as sanitizers and cleaners - Biological: Must be stored in correct temperature	CCP/ Preventative	Frozen pot roast must be stored in a freezer (monitored by a thermometer)	Monitoring temperature	Using a thermometer in the freezer	Checking thermometer temperature daily	Food Service Worker	If the temperature goes higher than 0 °F, then you must discard food.	Use of thermometers in freezers and fridges	Keep record of freezer and fridge temperatures, it will be easier to track if something goes wrong if temperatures are kept on record.
Thawing	- Biological: Time and temperature control; thaw under proper conditions (for thawing under water-water needs to be running, potable, and drinkable) - Chemical: Must be thawed within sanitized conditions.	CCP	If thawing food in a cooler, keep its temperature at 41°F (5°C) or lower. If submerging food under running water, it must be at. 70°F (21°C) or lower. If thawing food in a microwave, it must be cooked immediately after thawing.	Monitoring temperature and time of thawing	Using a thermometer, and keeping a record of how long it is thawing for.	If thawing in a refrigerator, the refrigerator temperature should be checked 2-3 times a day.	Chef/ food workers.	If temperature exceeds the danger zone or if food is thawed for too long, food should be discarded.	The use of thermometers to tell the temperature should be used	Record of how long food has been thawing for should be taken.

Preparing	<ul style="list-style-type: none"> - Biological: Eliminate any risk of cross contamination; Make sure food preparers are wearing gloves, practice proper personal hygiene, and are free from foodborne illness symptoms. - Chemical: Prepare food on cleaned and sanitized surfaces - Physical: No physical hazards should be available to the food products— food preparers need to be wearing gloves, their nails should be kept short and unpolished, and a hair net should be worn. 	Preventative	Use proper personal hygiene when preparing food	Eliminating cross contamination	Prepare food on sanitized, clean surfaces; prepared by trained individuals who practice proper personal hygiene; prepare food away from chemical/physical contaminants.	Every time food is prepared	Responsibility of food service workers	Exclude a food service worker from the operation if they do not meet training protocols and responsibilities.	Food Service manager may inspect that proper hygiene and sanitation is transpiring throughout the operation.	If a worker is diagnosed with an illness, a record should be kept.
Cooking	<ul style="list-style-type: none"> - Biological: Time and temperature control - Physical: Workers must be dressed appropriately (hair net, gloves, etc.,) so there is no risk for physical objects to fall in food while cooking 	CCP	Hold beef at 57°C or higher.	Cook to proper temperature	By making sure to check the internal temperature of food to check for readiness.	Check the temperature as many times until internal temperature reaches correct degree.	Trained food service cook	Cook meat until it has reached the proper internal temperature. Do not serve if it has not reached that temperature.	Cook is responsible for making sure meat has reached proper temperature before it is served; Calibrate thermometers to proper temperature.	Keep record that the pot roast has reached the correct temperature before serving.
Cooling/Chilling	<ul style="list-style-type: none"> - Biological: Time and temperature control; food cannot be left out for four hours without being reheated. Physical: Food servers must wear gloves when serving food. 	CCP	Cool beef from 57°C to 21°C within 2 hours and from 21°C to 5°C within an additional 4 hours—for a total cooling time of 6 hours. Keep under refrigeration.	Cool under proper temperature zone	use a thermometer to monitor temperature	Check the temperature of the beef during the cooling process	Trained food service worker	Continue to cool the meat until it reaches the proper temperature.	- Calibrate thermometers to proper temperature.	Keep record of how long the cooling process lasts as well as a record of the date it was put to cool.

	<ul style="list-style-type: none"> - Chemical: Chemical cleaners, polishers, and sanitizers must be kept away from the food service area. - Allergens: Allergens and ingredients for each food item must be noted and made available to consumers. 									
Reheating	- Biological: Time and temperature control	CCP	Reheat beef and sauce to 74°C or higher for at least 15 seconds within 2 hours.	Reheat to proper temperatures for proper amount of time	use a thermometer to monitor temperature	Check temperature of beef to make sure it has reheated to the correct temperature	Trained food service worker	Continue to reheat until the proper temperature is reached	Calibrate thermometer	Record record of the temperature the beef reaches
Hot Holding	<ul style="list-style-type: none"> - Biological: Must reach specific internal temperature when reheating - Physical: Workers who reheat food must be dressed appropriately to reduce risk of physical contaminants. 	CCP	Hold the beef at 57°C or higher.	Hold under proper temperatures	Monitor with a thermometer	Check temperature before serving	Trained food service worker	Check temperatures every two hours to leave time for corrective action.	Check temperatures at least every 4 hours.	Keep record of how long food has been out under hot holding circumstances.
Serving	<ul style="list-style-type: none"> - Biological: Time and temperature control; food cannot be left out for four hours without being reheated. Physical: Food servers must wear gloves when serving food. - Chemical: Chemical cleaners, polishers, and sanitizers must be kept away from the food service area. - Allergens: Allergens and ingredients for each food product labeled. 	CCP	Must be served at 57°C or higher.	Temperature control	Monitor with a thermometer	Temperature of beef must be checked at least every four hours	Trained food service worker	Reheat if necessary	Thermometer needs to be calibrated	Keep record of the time and the temperature of the beef at various time points throughout the serving process

Template 2- HACCP Plan Summary - Pot Roast