Please be advised that the Barry County Board of Commissioners has scheduled a Board of Commissioners meeting on March 15, 2022 at 9:00 a.m. for the purpose of:

AGENDA
for Barry County Board of Commissioners
March 15, 2022; 9:00 a.m.; Commission Chambers
For more information go to: www.barrycounty.org

1. Call To Order at 9:00 a.m.
2. Moment of Silence/Invocation
3. Pledge of Allegiance
4. Roll Call
5. Approval of Written Agenda (including consent items & items for discussion)
6. Reports from State and County Officers
7. Limited Public Comment (3 minutes per person)
8. Various Correspondence
9. Consent Items (voted upon at one time by roll call vote):
   a. Approval of March 8, 2022 Board of Commissioners meeting minutes. **(roll call vote)**
10. Presentations: Sheryl Lewis-Blake – Barry County Blue Zones 2021 Annual Report
11. Public Hearings: None
12. Items for Consideration (roll call vote indicated)

For items "e" through "k", documents may be accessed at the following link:
https://www.barrycounty.org/public_information/arpa_information.php#outer-1214

Approval of transfers and disbursements:

a. Approval to authorize the County Administrator to approve claims on March 22, 2022 **(roll call vote)**
b. Approval of Resolution 22-05, Resolution to Delegate Authority for Maintenance of Lake Level of Crystal Lake. **(roll call vote)**
c. Approval of an additional $380,714 from the American Rescue Plan Act Funds for the Public Safety 800 MHz Infrastructure project due to inflationary increases from Motorola between the budget estimate of $2,400,000 and the final construction contract price of $2,780,714. **(roll call vote)**
d. Approval of Map Change A-2-2022 from Low Density Residential (LDR) to General Commercial (GC) in Section 7 of Barry Township. **(roll call vote)**
e. Approval of the "Subrecipient Agreement for American Rescue Plan Act SLFRF Funds" including Exhibit A; Subrecipient's Application; Exhibit B: Eligible Use of SLFRF Funds; and Exhibit C: SLFRF Reporting Requirements, between the County of Barry and the Barry County Central Dispatch Authority **(roll call vote)**
f. Approval of the "Subrecipient Agreement for American Rescue Plan Act SLFRF Funds" including Exhibit A; Subrecipient's Application; Exhibit B: Eligible Use of SLFRF Funds; and Exhibit C: SLFRF Reporting Requirements, between the County of Barry and Barry Township **(roll call vote)**

g. Approval of the "Subrecipient Agreement for American Rescue Plan Act SLFRF Funds" including Exhibit A; Subrecipient's Application; Exhibit B: Eligible Use of SLFRF Funds; and Exhibit C: SLFRF Reporting Requirements, between the County of Barry and the Barry County Parks and Recreation Commission **(roll call vote)**
h. Approval of the "Subrecipient Agreement for American Rescue Plan Act SLFRF Funds" including Exhibit A; Subrecipient's Application; Exhibit B: Eligible Use of SLFRF Funds; and Exhibit C: SLFRF Reporting Requirements, between the County of Barry and the Barry County Road Commission **(roll call vote)**
i. Approval of the "Subrecipient Agreement for American Rescue Plan Act SLFRF Funds" including Exhibit A; Subrecipient's Application; Exhibit B: Eligible Use of SLFRF Funds; and Exhibit C: SLFRF Reporting Requirements, between the County of Barry and the Village of Freeport **(roll call vote)**
j. Approval of the "Subrecipient Agreement for American Rescue Plan Act SLFRF Funds" including Exhibit A; Subrecipient's Application; Exhibit B: Eligible Use of SLFRF Funds; and Exhibit C: SLFRF Reporting Requirements, between the County of Barry and the Barry Community Foundation **(roll call vote)**
k. Approval of the "Subrecipient Agreement for American Rescue Plan Act SLFRF Funds" including Exhibit A; Subrecipient's Application; Exhibit B: Eligible Use of SLFRF Funds; and Exhibit C: SLFRF Reporting Requirements, between the County of Barry and Rutland Charter Township **(roll call vote)**

13. Unfinished Business

14. New Business

15. County Administrator's Report

16. Chairperson's Report

17. Vice Chairperson's Report

18. Commissioner Reports (for items not on the Agenda)

19. Limited Public Comment (3 minutes per person)

20. Other Business

21. Adjournment

Ben Geiger, Chair
Barry County Board of Commissioners

Next meeting dates:
Committee of the Whole, April 5, 2022 at 9:00 a.m.
Board of Commissioners, April 12, 2022 at 9:00 a.m.

Unless otherwise posted in accordance with the Open Meetings Act, Board of Commissioners meetings are held at the Barry County Courthouse, Commissioners Chambers, 220 W. State St., Hastings, MI 49058. Questions regarding the meeting may be addressed to Michael Brown, Barry County Administrator, Barry County Courthouse, 220 W. State St., Hastings, MI 49058; (269) 945-1284.

Meetings of the Barry County Board of Commissioners are open to all without regard to race, sex, color, age, national origin, religion, height, weight, marital status, political affiliation, sexual orientation, gender identity or disability. Barry County will provide necessary reasonable auxiliary aids and services, such as signers for the hearing impaired and audio tapes of printed materials being considered at the meeting/hearing, to individuals with disabilities at the meeting/hearing upon four (4) business days notice to the County. Individuals with disabilities requiring auxiliary aids or services should contact the County by writing or calling: Michael Brown, County Administrator, Barry County, 220 W. State St., Hastings, MI 49058; 269-945-1284.

Only members of the Barry County Board of Commissioners shall be given the floor to speak during any Board meeting, except 1) Anyone who desires to speak under Limited Public Comment; 2) County officials and/or personnel may speak with the consent of the Chairperson; 3) Any person, with the consent of the Chairperson and/or a majority of the Board; 4) Public comment shall be limited to no more than three minutes per individual and at the times designated as stated above, except where extended privileges are granted by the Chairperson.

Barry County Board of Commissioners
March 8, 2022; 9:00 a.m.; Commission Chambers
MINUTES

1. Chair Ben Geiger called the regular session of the Barry County Board of Commissioners to Order at 9:00 a.m.

2. Moment of Silence/Invocation led by Chair Geiger.

3. Those present stood and said the Pledge of Allegiance to the Flag of the United States of America.

4. Roll Call was taken. The following members were present: Bruce Campbell, Vivian Conner, Ben Geiger, Catherine Getty, Howard Gibson, David Jackson, and Jon Smelker. Also present: Clerk Pam Palmer.

5. Approval of Written Agenda (including consent items & items for discussion)

   The written agenda was approved as written without objection.

6. REPORTS FROM STATE AND COUNTY OFFICERS: None.

7. LIMITED PUBLIC COMMENT (3 minutes per person) –

   - Elden Shellenbarger reminded the board on rule changes that have been suggested and the implications of their Constitutional Rights.
   - Gary White commented on the violation of freedom of speech at last week's meeting. It appears "the rules apply to thee, not me". He also commented on the second round of ARPA Funds.
   - Joel Ibbotson commented on the Rules for Public Comment from two years ago that were recommendations from the county lawyer and attorney general. He believes the rules for the Barry County Commissioners are complete as is.
   - Charles Hertzler invited the commissioners to attend the LGAF meeting at Bowens Mills on March 18, 2022 at 6:00 p.m. to meet the candidates. He also spoke about the county jail and the need for putting money aside to build a jail.
   - Larry Bass stated the public comes to the commissioner meetings to ask questions, but do not get answers. He also quoted Bill Schutte regarding the rules for the Open Meetings Act.
   - Adam Heikkila forgave Commissioner Smelker for interrupting him at last week's meeting during Public Comment, but asks for a real apology because of comments made after the meeting.
   - Michele Peltier supports Vice Chair's changes to the Public Comment section of the By-Laws. She thinks that everyone deserves a peaceful environment to state their views.
   - Jack Miner asked how much money was pumped into Barry County in 2021 by the Covid-19 impact payment. The following facts are from the 2020 census: 62,423 citizens, over 13,000 were under 18 years of age. Over 48,000 were over 18 years of age. He made the assumption that 10% of the Barry County citizens over 18 were not qualified for Covid-19 funds, and everyone under 18 years old was granted $500. Estimated impact of these funds on Barry County residents was over $68,000,000. When you discuss second round ARPA Funding please remember, that's a lot of money.

- Pat Jamison commented that the Brownfield Redevelopment has not been updated on the Barry County website since 2017. He mentioned that today's agenda says someone is being appointed to that board.

8. VARIOUS CORRESPONDENCE: None.

9. CONSENT ITEMS (voted upon at one time by roll call vote):
   a. Approval of February 22, 2022 Board of Commissioners meeting minutes.
   b. Approval of March 1, 2022 Committee of the Whole meeting minutes.
   c. Approval to re-appoint Cindy Vujea to the Brownfield Redevelopment Authority for a three-year term beginning on 1/1/22 and expiring on 12/31/2024.
   d. Approval to amend the Barry County Personnel Policies to reduce the health insurance waiting period for new hires from 60 days to zero days, effective 1/1/22, for General Fund non-represented employees, including department heads and elected officials.
   e. Approval to appoint Emily Wilke to the Barry County Conservation Easement Board position representing Ag Interest, and the re-appointment of Larry Neil to the Barry County Conservation Easement Board position representing Real Estate/Development, for terms that began on January 1, 2022 and end on December 31, 2024.
   (roll call vote)

Moved by Gibson, seconded by Smelker to approve the Consent Items listed above. Roll Call vote. Ayes: Campbell, Conner, Geiger, Getty, Gibson, Jackson, and Smelker. Nays: None. Motion carried.

10. PRESENTATIONS – None

11. PUBLIC HEARINGS - None

12. ITEMS FOR CONSIDERATION (roll call vote indicated)
    Approval of transfers and disbursements:
    a. Approval of pre-paid invoices in the amount of $4,212,226.93 **(roll call vote)**

Moved by Getty, seconded by Gibson for approval of pre-paid invoices in the amount of $4,212,226.93. Roll Call vote. Ayes: Campbell, Conner, Geiger, Getty, Gibson, Jackson, and Smelker. Nays: None. Motion carried.

b. Approval of claims in the amount of $31,934.71 **(roll call vote)**

Moved by Getty, seconded by Smelker for approval of claims in the amount of $31,934.71. Roll Call vote. Ayes: Campbell, Conner, Geiger, Getty, Gibson, Jackson, and Smelker. Nays: None. Motion carried.

c. Approval of commissioner reimbursements (mileage) in the amount of $204.29 **(roll call vote)**

Moved by Getty, seconded by Jackson for approval of commissioner reimbursements (mileage) in the amount of $204.29. Roll Call vote. Ayes: Campbell, Conner, Geiger, Getty, Gibson, Jackson, and Smelker. Nays: None. Motion carried.

13. UNFINISHED BUSINESS: None.

14. NEW BUSINESS: None.

15. COUNTY ADMINISTRATOR'S REPORT: None.

16. CHAIRPERSON'S REPORT: None.

17. VICE CHAIRPERSON'S REPORT: Commissioner Conner reported attending the Orangeville Township meeting.

18. COMMISSIONER REPORTS: (FOR ITEMS NOT ON THE AGENDA) – Each commissioner reported on their various committee boards, events and meetings.

    Commissioner Jackson suggested adding a section for board member comments to address questions that come up during Public Comment.

19. LIMITED PUBLIC COMMENT: (3 MINUTES PER PERSON)

    - Dar Leaf gave jail statistics for the month of February, 2022.
    - Gary White talked about possible ways to fund the jail through ARPA funds, technology funds, and Building Rehabilitation funds, to name a few.
    - Larry Bass reminded the board to give respect if they want respect in return. All six surrounding counties have a rule that says public comments must be germane and pertain to county business. He also spoke about the ARPA FOIA results.
    - Joel Ibbotson asked on behalf of Aaron Gross for night meetings which would include dialog between the commissioners and the public.
    - Pat Jamison asked about the health department continually changing the criteria. He stated that Yankee Springs Township was never notified regarding applying for ARPA Funds, and he would like to see the voting results from the ARPA committee.
    - Adam Heikkila spoke about the contentious public comments. He also mentioned searching for a new location for the meetings to be held.
    - Charles Hertzler asked where to receive a copy of the lawyers report and recommendation. He was told it will be contained in next week's agenda packet.
    - Elden Shellenbarger spoke about the abuse of power.

20. OTHER BUSINESS: None.

21. ADJOURNMENT: at 9:56 a.m.

_____
Ben Geiger, Chair
Barry County Board of Commissioners

_____
Pamela A. Palmer, County Clerk

Approved: _____
Date & Initials

BLUE ZONES®

ACTIVATE BARRY COUNTY

2021 ANNUAL REPORT

January 2022

Table of Contents

Executive Summary

Executive Summary

In September 2019, Barry County launched the Blue Zones Activate Initiative, making the choice and the commitment to transform their community into an environment where healthy behaviors are encouraged - providing residents the support to live better, longer. Over the past two plus years, community leaders and key stakeholders, dedicated and passionate volunteers, experts from Michigan State University Extension and the Michigan Department of Transportation, New Venture Advisors, and Wightman Associates along with numerous experts from the Blue Zones team have been working tirelessly to move the needle on health in Barry County. Together, we are working to optimize Barry County, so the healthy choice is not only the easy choice but at times the unavoidable choice in the places and spaces people spend the most time.

Built upon the foundation of Blue Zones comprehensive 4-D process implemented in Year 1: Discover-Develop-Design-Deploy, the Barry County Activate team rolled up their sleeves and went to work. Action teams were established, volunteer leadership recruited, and working plans developed. These action teams worked together to ensure that work was done collaboratively, building synergistic relationships and coordinating efforts. The following teams were established based on community projects prioritized with dynamic volunteer leaders chosen:

- **County-wide Trail Plan** – Catherine Getty and Jennifer Antel
- **Complete Streets Policy and Implementation** – Brian Urquhart and Nichole Lyke
- **Safe Routes to School Master Plan** – Brian Green
- **County-wide Master Plan Collaborative** – Jim McManus
- **Community Food Center Feasibility Study Team** – Carla Wilson – Neil & Larry Case
- **Hunger Relief/Mobile Food Delivery** – Allison Wiswell & Allison Hinton
- **Culinary Medicine Initiative** – Janine Dalman & Eric Ross
- **School Gardens** – Rhonda Lundquist
- **Food Policy Council** – Maggi Adamek (Blue Zones Expert)

A Marquee Project is intended to be a semi-permanent or permanent visible amenity in a community that promotes and sustains the health and well-being of residents for generations to come. Marquee Charettes, Blue Zones proven process for bringing community members together and building consensus around the visible amenities most important to pursue, were held for each sector: Food Systems and Built Environment.

The Food Systems Charette, held in late 2020, culminated in an overwhelming majority of residents choosing to pursue what it would take to stand up a Community Food Center in Barry County. The community chose to conduct a feasibility study and prepare a business plan that provides a detailed analysis and workable approach to a longer-term plan for moving forward. While not a visible amenity, the community understood the importance of this feasibility study in the context of the significant lift required by their community to stand up a Food Center. New Venture Advisors, paid by dollars raised through local philanthropic foundations and supporting local businesses, was hired to support this effort. Through extensive and thorough interviews, analyses, surveys, and forums for public debate, the first phase of a feasibility study was completed. Upon completion and read-out of the findings, the Steering Committee overwhelmingly chose to move forward with the next phase of site-specific planning and a capital campaign.

The Built Environment Charette, held in June 2021, brought together a group of passionate outdoor enthusiasts who are committed to a more walkable Barry County. Led by Blue Zones expert, Mark Fenton, the Charette included walking audits, site design sessions, education, and presentations. The community members present chose to pursue two amenities: Thornapple Trail connection in Middleville to Caledonia at 108th Street and a River Walk connection from Walmart to McDonald's in Hastings. Two other projects received noteworthy support and will be pursued via specific longer-term action plans: Middleville roundabout at Grand Rapids and Main and a Bike/Ped crossing at M43 by Tyden Park in Hastings.

Community engagement remained a key priority of Blue Zones Activate throughout the year. Newsletter articles, print, and social media campaigns, the Blue Zones themed transit bus, Blue Zones mailboxes housed throughout the county townships that hold new surprises on a routine basis to encourage healthy behaviors, farmers market and local fair information booths, and public presentations, were all deployed to provide persistent nudges to healthier behaviors and encourage all residents to unite in transformation to a healthier Barry County.

Critical to the success of Activate initiatives is the ability to source out local funding and win grant opportunities that align with chosen projects. During 2021, we had notable success in this area, fundraising throughout the community and submitting several well-written grant applications to national, state, and local sources and raising sizable dollars to support our efforts.

- **$30,000 - Safe Routes to School - for programmatic features and infrastructure**
- **$68,000 - Community Food Center Feasibility Study**
- **$24,000 – Countywide Trail Plan**
- **$5,000 – Mobile Food Delivery Landscape Analysis**
- **$100,000 – Community Food Center Planning and Capital Campaign**
- **$50,000 - Blue Cross Blue Shield of Michigan, Michigan Health Endowment Fund & W.K. Kellogg Foundation Grant**
- **$1,000,000 - ARPA Grant - for portions of the Paul Henry Thornapple Trail, grant submitted by the Barry County Parks and Recreation Commission**

Changing the human-made surroundings and systems that significantly impact health is the hallmark of Barry County Activate. Throughout the year, significant progress has been made to drive toward success in the complementary strategies that have been expertly woven together to make Barry County a healthier place to live, work, and play. The Activate project is community chosen, community driven, and community powered. We are deeply grateful for the work of the passionate and motivated members of the community who have driven this project forward and been wholly invested in its success. This passionate dedication to Blue Zones Activate initiatives is the key to making the healthy choice easy in this beautiful community.

BARRY COUNTY STEERING COMMITTEE

STEERING COMMITTEE	
Sheryl Lewis Blake	Chair, Retired CEO Spectrum Health Pennock
Jennifer Heinzman	President/CEO of the Barry County Chamber of Commerce & Economic Development Alliance
Michael Brown	Barry County Administrator
Sarah Moyer-Cale	Hastings City Manager
Janine Dalman	Spectrum Health Pennock Foundation Director/Marketing
Bernie Jore	Spectrum Health Pennock COO
Jim DeCamp	DeCamp Family Foundation Community Liaison
Lani Forbes	United Way/1st responder/Freeport resident
Bonnie Gettys	President/CEO of the Barry Community Foundation-Fiduciary and sponsor
Erin Moore	MSU Extension District 7 Director
Bob Gilbert	Operations Director of Pierce Cedar Creek Institute
Mark Kolanowski	Highpoint Community Bank President
Kim Norris	Creekside Ophthalmology
Colette Scrimger	Barry Eaton District Health Department
Anne Barna	Barry Eaton District Health Department
Tammy Pennington	Commission on Aging Director

"Blue Zones Activate Barry County has been a great way to bring together the thought leaders of many of the wonderful community health and wellness programs that we are known for; as well as assisting with the emphasis on not only Hastings but all of the communities in Barry County. The data collection and consultants have provided a wealth of information to aid with decision-making."

— Angela Ditmar, Spectrum Health Pennock

Built Environment

Built Environment

TOWARDS A HEALTHIER BUILT ENVIRONMENT

WE SHAPE OUR COMMUNITIES; OUR COMMUNITIES SHAPE US.

Over the last 60 years, American cities and counties, both large and small, have focused policy on auto-centric street and land-use practices which have led to sprawl and resulted in many unintended negative effects on individual and community health, economic vitality, social connectedness, and overall well-being.

Blue Zones Activate works with community partners to advocate for policies, principles, and best practices that bring back natural movement and choice in how people access their community.

Community infrastructure like trails, roads, sidewalks, bike lanes, parks, and other public spaces affect our ability to connect socially and remain active. Creating healthier built environments is not solely the business of planners and engineers. Public officials, city planners, transportation decision-makers, architects, landscape architects, builders, real estate developers, members of the public, healthcare professionals, business leaders, and school and service professionals all have a role to play in addressing community design challenges.

We are enhancing the built environment to promote active transportation, social connectedness, and overall well-being through transportation and land use policies and practices.

Countywide Trail Plan

The Countywide Trail Plan Action Team was formed with members from various sectors of the community. Members of the Action Team include:

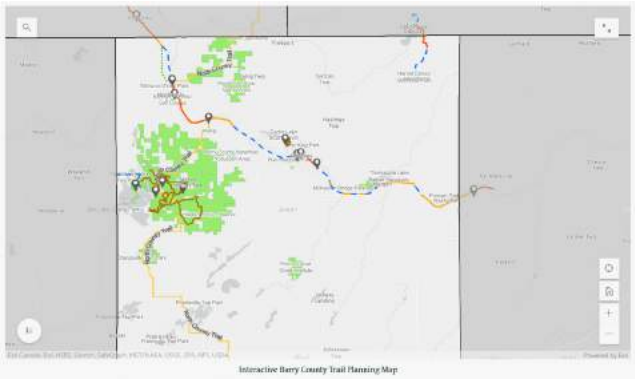
Catherine Getty	Co-Champion, Barry Co Commissioner, County Parks and Rec, Thornapple Area Parks and Rec Commission
Jennifer Antel	Co-Champion, WM Trails and Greenways, Development Coordinator
Mark Fenton	Blue Zones expert
Dan Patton	Barry County Parks Director
Steve DeLong	National Park Service: Rivers, Trails and Conservation Assistance (RTCA) program.
Jon Sporer	Barry County YMCA
Dan King	City of Hastings
Rick Moore	Barry County Parks and Rec Board, PHTT assoc.
Chelsey Foster	Trail enthusiast
Jane Norton	North Country Trail
Wes Knollenberg	Delton area resident
Ron Welton	Staff, Barry County Parks
Brian Green	Nashville area resident
Tom Devries	Village of Middleville resident
Jennifer Heinzman	Barry County Chamber and Economic Dev.
Frank Fiala	Barry County Road Commissioner / Barry County Parks and Recreation Board
Bobbie Taffee	Trail enthusiast
Jim James	City of Hastings DPW
Tyler Kent	MDOT, Transportation Planner
Cynthia Krupp	MDOT
Josh DeBruyn	Pedestrian and Bicycle Coordinator/Specialist
Dave Bee	West Michigan Reg. Planning Comm.
Jill Sell	Southwest Michigan Trail Specialist, Michigan DNR, Parks & Recreation Division
Andru Jevicks	YS Park Manager
Debbie Jensen	Barry County Parks and Rec Board, Trails Committee
Chuck and Mary Schira	Yankee Springs residents - M179 trail planning
Micky Bittner	Wightman Consultant - County wide trail plan
Ben Baker	Wightman Consultant - County wide trail plan

After considering two RFPs, the Barry County Parks and Recreation Commission, with supporting sponsorships from the Paul Henry Trail Association and Blue Zones Activate Barry County, decided to hire the consultant group Wightman to help support and facilitate the creation and development of the plan.

The first opportunity for community engagement around the trail assets, suggestions and popular areas was had at the Barry County Fair in July of 2021. Many fair goers talked about the trails they loved to use and highlighted those areas with push pins on a map. Suggestions for additions were also an option by filling out post it notes on the side of the map.

It is clear that trails are a priority for Barry County, and that resources and priority have been committed to the network already. With various partners, townships and entities engaged and committed to trails development, a critical next step for the county it to create a comprehensive plan for the what, where and when of trail connections, extensions, and improvements.

To gather community input for the Master Plan for trails, a Barry County Trail System Master Plan Public Outreach Website with a survey and interactive maps was created and published in November 2021. The page gives residents three separate ways to interact and provide information to help the county prioritize trails for the current Master Plan as well as identify additional trail needs for the future.



The website includes the Barry County Trail User Survey which lets residents identify trails that are currently being used and the trail connections that are needed. The survey asks the respondents questions including who they are, where they would like to use trails, what activities they enjoy, as well as what places they would like to travel to and from on the trails.

In addition to the Trail User Survey, residents are also provided an interactive Trail Point Input map where they can add points on the trail where they see opportunities for a trail connection or other improvements. Along with the point they add, they can identify or describe the needed improvements by choosing from the following options:

- Trail connection needed
- ADA improvement needed
- Parking improvement needed
- Restroom needed
- Drinking water needed
- Trailhead or wayfinding sign needed
- Trail repair needed

There is also a comment field where respondents may add more information about the point they add to the map as well as the improvements they identify.

A separate Propose a Trail page lets residents propose a new trail for the Master Plan and select from the following options about how they plan to use the proposed trail:

- Running
- Hiking
- Road biking
- Mountain biking
- Rollerblading or skateboarding
- Snowshoeing or cross-country skiing
- Bird watching
- Fishing
- Family outing
- Other

Respondents can also leave a comment with more information on their proposed trail.

Trails and greenways provide a safe avenue for regular movement and activity for people in rural, suburban, and urban areas. Research shows that providing convenient access to activity centers, such as trails connecting to parks or other recreational areas, increases the level of physical activity in a community.

The creation of the County-wide Master Trailplan is on schedule to begin early in 2022 in January.

Safe Routes to School

Safe Routes to School (SRTS) has become a focus for Maple Valley Schools in Nashville, Michigan.

The Maple Valley Schools SRTS Team was formed. The team includes the following members:

Brian Green	Maple Valley School Board President, Action Team Champion
Katherine Bertolini	School District Contact (Required)
Trent Harvey	Fuller Elementary School Principal
Joel Smith	Maplewood School Principal
Landon Wilkes	Maple Valley Jr/Sr High School
Eric Chamberlin	M.V. Transportation Supervisor
Scott Decker	Nashville Public Works
Jenna Burns	Maple Valley SRTS Coordinator
Tanett Hodge	M.V. Teacher, Nashville Village Council
Cody Newton	M.V. Communication Specialist

In October 2021, Maple Valley Schools received a SRTS mini grant for $30,000 in funding from the Michigan Fitness Foundation. The school district is using the grant to form programs and collect data to prepare for the major grant cycle.

Safe Routes to School (SRTS) Mini Grants allow schools and communities to create programs that educate and encourage students to stay healthy and active through physical movement, as well as reduce traffic around schools. Up to $10,000 in mini grant funding is available per school and $100,000 per applicant. This includes a maximum of $5,000 that should be set aside for a Program Coordinator and or personnel work, with an additional $5,000 eligible for non-personal expenses. Applications are competitive and funding is limited.

https://saferoutesmichigan.org/srts-mini-grant/

SRTS major grants provide up to $220,000 per school in infrastructure funds, and up to $10,000 per school in programming non-infrastructure funds. Applying for an SRTS major grant requires an in-depth planning process that typically takes between 6 months to a year. The process must include collaboration from the school as well as the surrounding community. The following are required:

- Gathering an SRTS Team
- Distributing and collecting parent and student survey data
- Conducting walking and biking audits
- Scheduling and holding action plan meetings

An application must then be prepared and submitted through the Michigan Department of Transportation MDOT Grant System (MGS).

Why SRTS is important:

Safe Routes to School (SRTS) programs make it easier to walk or bike to school through street and sidewalk improvements, enforcement, safety education, and incentives. SRTS initiatives increase physical activity for students and improve safety and congestion on the streets during morning rush hour.

Maple Valley School District plans to use the funds to concentrate on SRTS improvements at three schools throughout the 2021-22 school year: Fuller Street Elementary (Kindergarten-Grade 2), Maplewood School (Grades 3-6), and Maple Valley Jr./Sr. High School (Grades 7-12).

The purpose of bringing SRTS to the school district is to increase student activity, improve traffic safety, reduce transportation cost in bussing, build community and local government partnerships, overcome barriers to distance from school, and provide accessible and inclusive education, physical activity, and mobility options for students with and without disabilities.

All three of the schools where SRTS improvements are planned are in close proximity to the Paul Henry Trail, which serves as a natural and existing active transport option for students. While the trail is an asset, it is not without barriers for use. A few examples include:

- Maple Valley Jr/Sr High School is a rural school with a large geographic footprint where a high percentage of students ride the bus or are dropped off by cars. This school is located between the municipalities of Nashville and Vermontville. A partial paved trail exists from Vermontville, but not from Nashville. Students who walk/ride to the Jr./Sr. High School from Nashville often use the busy Nashville Highway rather than Paul Henry Trail.
- Although there is a paved section of the Paul Henry Trail from Vermontville to the Jr./Sr. High School, there are no designated routes connecting the trail to Maplewood School.
- Fuller Street Elementary has significant traffic issues during school start and stop times, with high drop-off rates and no designated satellite drop-off areas.

The school district's longer-term solutions include making improvements to the Paul Henry Trail that encourage active transportation use along this trail for SRTS. These improvements may include the following: a spur trail to the Jr./Sr. High School, a crosswalk on Nashville Highway, developing specifically marked routes from the trail to Maplewood School, a satellite drop-off area for Fuller Street Elementary School, and paving Paul Henry Trail sections for improved connectivity to each school.

"I'm excited about the connections I've made with others across the county that share similar passions in creating ways to make Barry County, our home, a better, healthier place to live. As we move into the implementation phase, our action teams are taking steps to make the great ideas from our community leaders a reality. I can't wait to see what the future brings for our community"

— Brian Green, PE, Senior Staff Engineer at Viking, Maple Valley School Board President

Near-term solutions include activities supporting the SRTS principles of Education and Encouragement, which will build stakeholder buy-in and momentum for pursuing longer-term active transportation infrastructure improvements. Planned Education activities include engaging students, parents, and staff in learning about bicycle/pedestrian safety through on-the-ground project demonstrations of safer route facilities (added sidewalk space, bike lanes, curb extensions), and by promoting learning how to navigate streetscapes by bike and foot using schoolground spaces for students, such as traffic gardens and bike rodeos.

For Encouragement activities, safe routes to implement walking/rolling school buses and bike rodeos on a recurring schedule will be identified, with designated locations in close proximity to schools and use of community and parent volunteers to assist with implementation. Designated meeting and drop-off locations for the routes will ensure that students living farther away will be able to join in at a safe location and walk/roll with their peers to and from school.

What is a Walking School Bus?

A **walking school bus** is a group of children walking to school together. For elementary students, the group is accompanied by one or more adults. It can be as informal as a few families doing a "carpool" without a car or as formal as a mapped out walking route with regular meeting points, times, and volunteers.

A **bike rodeo** is the same concept but with bikes.

The school district will establish crossing guards and paths at appropriate points along the route to ensure walking/rolling safety of participants. It will also alter bell times so that participating students will have the time necessary for walking/rolling participation.

Additional activity options which will be considered along the routes include silly walks, interactive nature signs, geocaching, local habitat identification, and more. Quarterly incentives and/or contests (e.g., Mileage Clubs) will further support student interest and participation.

These proposed activities will reduce traffic congestion at the local buildings and will provide the following benefits for continuing to build SRTS within the district:

- Faster arrival or departure than having to wait in drop-off/pick-up lines,
- Increased safety for students and staff to move about due to fewer cars,
- Increased physical activity can increase student classroom alertness and mental attitudes for the school day,
- Improved student awareness that walking/rolling to and from school is a viable form of transportation and physical activity, and
- Increased student, parent, and staff knowledge about bicycle/pedestrian safety.

Forty years ago, **over 60 percent** of elementary school students in America walked to school. Now, **less than 15 percent** of elementary kids walk to school. Research shows that children who walk to school are more alert and ready to learn.

What are the Benefits of Walking School Buses?

- Increase in daily physical activity for students, helping to form healthy habits
- Pedestrian experience and education for students
- Students who are alert, awake, and ready to learn
- Reduction in traffic congestion around schools
- Increase in family and community engagement and positive social opportunities for students, families, teachers, and community volunteers
- Solution for families concerned about unsafe neighborhoods or safe walking routes

Jenna Burns was hired as the program coordinator to run the SRTS program for Maple Valley Schools. Additional funding benefits the school system and is earmarked for:

1. Safety vests for crossing guards
2. Stop Signs, crossing guard
3. Case of hand warmers for crossing guards
4. Flashlights for walking school bus supplies
5. Printing supplies for marketing material, includes paper, ink, etc.
6. Water bottles for prizes
7. Button maker from Amazon and button supplies
8. Bike for prize
9. Backpacks for books and water bottle, from bulkbags
10. Hats with printing
11. Bike repair station
12. Bike head light and tail lights set
13. Fixed bike rack, 9 bikes
14. Bike Helmet

1. Crossing Guard → Training
2. Walking School Bus → Training
3. SRTS Coordinator → Organize, Meetings, Reporting

Complete Streets

The Complete Streets Action Team was formed including members from various sectors of the community.

Members of the team include:

Brian Urquhart	Village of Middleville
Nichole Lyke	Barry County Chamber & Economic Development Alliance
Dave Bee	West Michigan Regional Planning Commission
Tyler Kent	Grand Region MDOT
Josh DeBruyn	Bike/Ped Coordinator MDOT
Dave Hatfield	City of Hastings Planning Commission
Dave Solmes	Barry County Road Commission
Jeff Keesler	AARP of Michigan
Jim McManus	Barry County Planning and Zoning Administration
Lauren Metcalfe	Barry Eaton District Health Department

Two workshops were held in the Village of Middleville on May 26 and June 23, 2021 for practitioners, community leaders, business owners, council members, and other members of the community. Complete Streets were highlighted as a priority for the community. The Village of Middleville felt like the right place to start within the county as they already have Complete Streets policy in place. It will serve as a model for the rest of the community; workshops will be planned for the future in other areas of the county.

Blue Zones will provide technical assistance to help Middleville deploy its Complete Streets policy by developing practical built environment improvements. Blue Zones will also act as a neutral convener for wider implementation throughout the county with Middleville serving as an example to the entire county. The ultimate goal is for the county to retain its rural feel while providing spaces where people can walk and enjoy downtown areas as well as shop and support the local economy.

The Impact of Complete Streets

Complete Streets can bring a streetscape into the modern times for multiple users and not just singularly for those driving cars. Complete Streets take into consideration all users: motorists, pedestrians, children, ADA, public transit users, freight, businesses, bicyclists, and seniors.

According to the U.S. Department of Transportation, Complete Streets can reduce motor vehicle-related crashes and pedestrian and bicyclist risk. They also promote walking and bicycling by providing safer places to achieve physical activity.

REIMAGINING STREETSCAPES WITH MULTIPLE USES

At the May 26 Complete Streets Workshop, Jeff Keesler from AARP spoke on AARP Livable Communities with a focus on transportation.

In a livable community, people of all ages can:

- Go for a walk,
- Cross the street,
- Ride a bike, and
- Get around without a car.

In a livable community, transportation options aren't limited to cars but allow for other modes of transportation such as:

- Public transit
- Ridesharing
- Bicycling
- Walking
- Mobility scooters

Based on AARP research, people tend to outlive their ability to drive by 7-10 years which means they need other transportation modes to get around for appointments, shopping, activities and entertainment, and other purposes.

After the initial two workshops, follow-up meetings are being planned to align with the Middleville town council on what Complete Streets implementation and funding strategies will be for the year ahead.

Mark Fenton, Blue Zones Built Environment & Walkability Expert, will come to Barry County in early 2022 to work with the Village of Middleville on its implementation steps going forward. He will also ensure Middleville's plans align with the vision for countywide improvements.

Blue Zones Street Transformation (Before and After)

Blue Zones employs the world's top experts on built environment to perform innovative and transformative work in communities across the country. Our built environment experts help communities prioritize and make small changes to the physical environment that result in the biggest impacts for the community as well as individuals, improving not only health and quality of life but also positively affecting local businesses.

More About Mark Fenton - Built Environment & Walkability Expert

Mark Fenton is a public health, land use, and transportation expert who combines a public health perspective with engineering expertise. He studied biomechanics at MIT, did research at the U.S. Olympic Training Center's Sports Science Laboratory in Colorado Springs, Colorado, and was a research engineer at Reebok's Human Performance Laboratory. He is the former host of the PBS series, America's Walking, and is now an adjunct associate professor at Tufts University's Friedman School of Nutrition Science & Policy. He has worked with communities across North America and has consulted for AARP, the Centers for Disease Control and Prevention, and the University of North Carolina Pedestrian and Bicycle Information Center.

Marquee Charette Project — Built Environment

One aspect of the Activate Barry County initiative is to select one or more "marquee" built environment projects.

WHAT IS A MARQUEE PROJECT?

A marquee project is intended to engage those working on the project to build skills, knowledge, and experience which can be applied to additional built environment projects going forward. Each marquee project should also have a high enough profile that it helps to prove the value and effectiveness of making improvements for walking and bicycling, and thus build community enthusiasm so that additional projects are pursued with even greater vigor. Data and other evidence gathered before, during, and after the marquee provides additional learning to the local community.

FOUR PROJECTS INITIALLY CHOSEN IN STAKEHOLDER SURVEY

To narrow down which of the eight marquee suggested projects to prioritize, a survey of key partners and stakeholders in built environment and related policies in Barry County was conducted. The survey results were then used by the Activate leadership team to select the following four projects, two in Hastings and two in Middleville:

- Extending the Riverwalk Trail from McDonalds to Walmart in Hastings
- Crosswalk at M43 in Hastings joining Tyden Park and Hastings Riverwalk
- Trail connection from Middleville at Crane Rd to 108th street in Caledonia
- Roundabout at Grand Rapids/Main in Middleville

GROUP NARROWS DOWN OPTIONS TO TWO MARQUEE PROJECTS

The final step was to convene stakeholders at a day-long marquee charette on June 30, 2021. The charette included a morning of visits and walking audits of each of the four sites, followed by mapping engagements and problem solving in the afternoon. The group then was asked to select their two favorite projects, based on the following criteria:

- Engage interdisciplinary teams.
- Build local skills, knowledge, and experience.
- Be high profile and build community enthusiasm.
- Provide "proof of concept" around built environment improvements.
- Act as a catalyst to other projects around the county.

The two trail development projects — linking downtown to Middleville by a viable bike route to the section of the Thornapple Trail to Caledonia, and connecting the existing River Walk trail to Walmart in Hastings — were chosen because of their high visibility, usefulness, and appeal.

With community-driven participation at its center, an effective marquee project capitalizes on a local community's assets, inspiration, and potential.

What is a Walking Audit?

A walking audit is an assessment of the environment to determine how walkable it is, as well as gauge how accessible it is to pedestrians. Walking audits are often undertaken on streets or trails to consider and promote the needs of pedestrians who walk as a form of transportation.

Walking audits in Barry County done in June 2021 with Blue Zones expert Mark Fenton

WALKABILITY AND ECONOMIC HEALTH

Higher walkability scores are linked to stronger neighborhood economic well-being. A one-point increase out of 100 in Walk Score [based on number of destinations within a short distance] is associated with a significant increase in home values, according to CEOs for Cities.

Food Systems

Food Systems

TOWARDS A HEALTHIER FOOD ENVIRONMENT

How does a community create healthy food environments? How does it build the infrastructure it takes to provide affordable, healthy food for an entire community? How can a community grow the food skills its members need to make healthy choices? Policy changes—implemented within organizations and local units of government – can go a long way in helping communities effectively, proactively respond to these questions. Food Systems is a key facet of this effort to ensure that the healthy choice is the easy choice for all the region's residents and to create healthier food environments across the entire community.

Blue Zones' work in the Food Environment focuses on four areas:

- Food Skills - How do community members acquire the skills needed to prepare healthy foods?
- Food Environments - Comparatively, to what extent are healthy and unhealthy options available in the places where people spend their time?
- Food Culture - What is the current level of food culture and identity?
- Food Infrastructure - To what extent and how sustainable is the current community structure for gardening, farmers markets, local food production, aggregation and distribution and hunger relief?

There is great pride in Barry County and support for its local businesses. Farmers markets are held in three places in the county: Hastings, Middleville, and in front of the Curley Cone in Wayland. Outside of these markets, there are numerous farmstands out in front of farms throughout the community selling their goods. Michigan is blessed to be the number two producer of the most diverse crops, just behind California. In the restaurant sector, we have 23 fast food restaurants and 31 full-service restaurants, 30 percent under the national average. There could be support in more normal times, post COVID pandemic, to increase options in this area based on the support for local restaurants and locally grown food.

Marquee Charette Project — Food Systems

In working to select a Marquee Project to improve the food environment in Barry County, the potential of creating a space in downtown Hastings for a community food center was identified. The facility, envisioned as the Barry Community Food Center, could strategically co-locate multiple spaces and programs under a single facility to allow for synergies across growth and scale, funding and development work, and support of economic development and job creation.

Approximately 75 percent of the votes were in favor of the Community Food Center Feasibility Study to be completed. The community understood that although this center would not be completed within the time of the initiative, the feasibility study was an important next step to exploring the possibility.

Other priorities identified which could potentially be integrated into the food center include health and nutrition education, a year-round farmers market, a commercial kitchen, an incubator, aggregation, and cold storage. A feasibility study was identified as necessary before moving forward with the project.

A Blue Zones Action Team was formed for the Marquee Project. Members include:

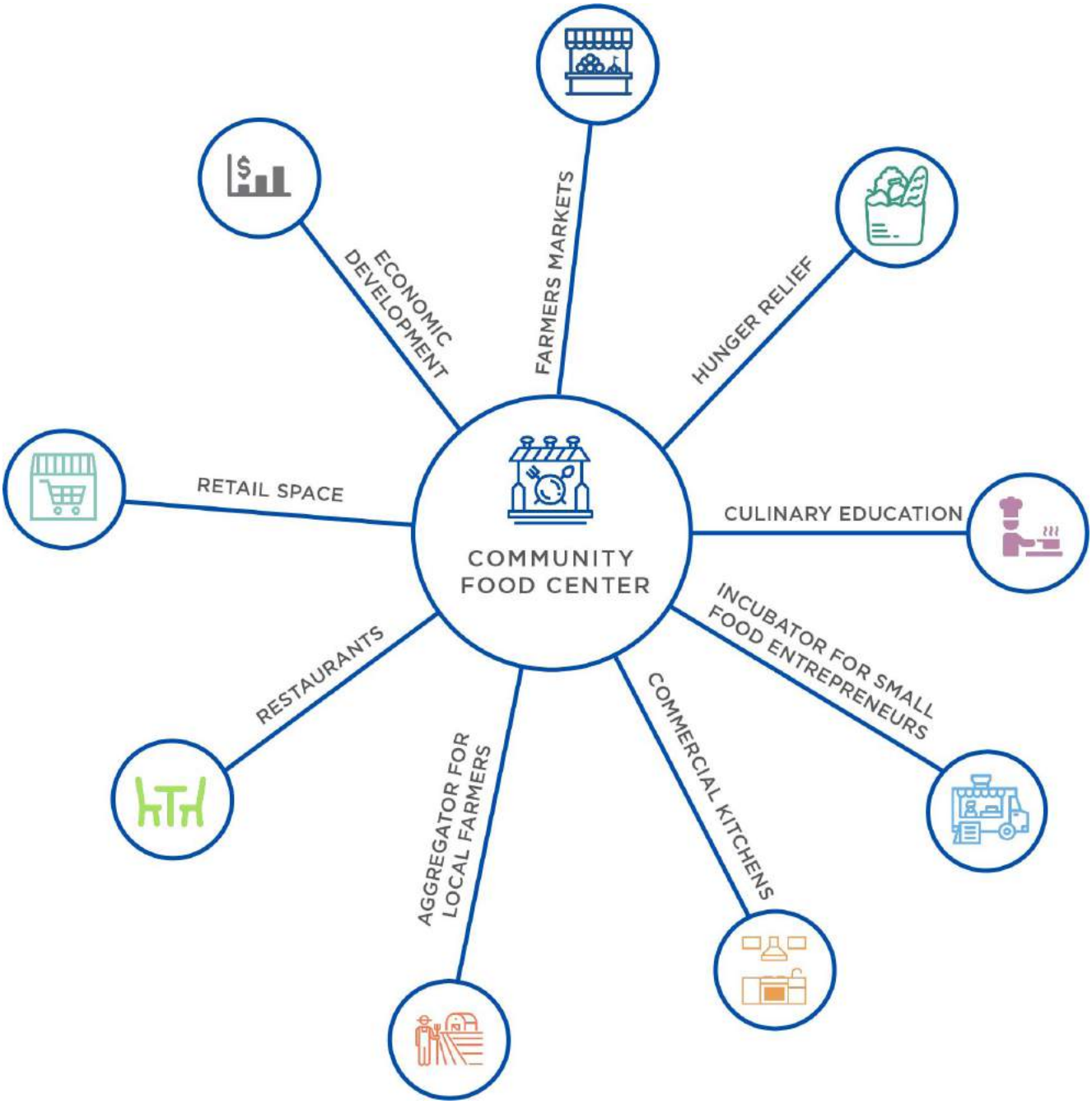
Larry Case: Co-Champion	Retired Engineer
Mayor David Tossava	Mayor of Hastings
Sheryl Lewis Blake	Steering Committee Chair
Jennifer Heinzman	BC Chamber/BCEDA Executive Director
Tammy Pennington	BC COA Executive Director
Sarah Moyer-Cale	City of Hastings City Manager
Garrett Ziegler	MSU Extension–Community Food Systems Educator
** **Team Champion: Carla Wilson-Neil**	Retired COO Spectrum Health Pennock
****Ad Hoc: Allison Troyer-Wiswell**	Blue Zones: Activate Director

"I'm so grateful I was asked to participate in this project! I've met and talked with such great local farmers and food producers, community leaders, and project professionals.

Having grown up on a farm and worked as an engineer in the food industry, this project connected all the dots for me. The exciting vision addresses so many things I care about. It focuses on the success and growth of our local food economy, preserving the rural character of Barry County, creating a vibrant downtown Hastings, and making sure that county residents have easy access to healthy food.

Ultimately, it's about healthy food, food security, and connecting all of us back to our farms and to each other."

— Larry Case, Former Kellogg Engineer



What is a Community Food Center?

A community space where people come together to grow, cook, share, eat, and enjoy food; this type of center brings economic, health, and other benefits to the community.

An RFP was issued and applications assessed in an effort to find an agency to perform a feasibility study on the proposed Community Food Center. The team also sought grant money to fund the feasibility study through the Michigan Department of Agriculture & Rural Development. Although the team did not receive the grant, they did succeed in raising funds to move the project forward through community channels including businesses, civic organizations, and philanthropists. Among those supporting the project were Barry County Lumber, Blue Zones, City of Hastings Downtown Development Authority, Spectrum Health Pennock, Commercial Bank, and the Kiwanis and Rotary Clubs.

In March, New Venture Advisors (NVA) — a leading advisory group and thought leader in food system planning and infrastructure development — was chosen to perform the feasibility study. The scope of their work performed over an 8-month period included:

- Market Study
- Development of Operating Model & Facility Design
- Community Engagement
- Financial Analysis & Finalization
- Outline of Next Steps through Construction and Launch

Community Food Center Feasibility Study

OPERATING MODEL STRAWMAN (FINANCE INPUTS)

USE CASE	REVENUE MODEL	COST CONSIDERATIONS	% Rent Allocation (Full Facility)	SMALL BREAK-EVEN	MEDIUM BREAK-EVEN	LARGE BREAK-EVEN
Commercial Kitchen	• Hourly rentals or Use Fee • Lease (Long Term)	• Time reserved for subsidized community rentals, events, or classes (training)	40%	• 80% utilization • Year 1	• 70% utilization • Year 3	• 45% utilization • Year 2
Retail Hall	• Lease (Pop-Up, Short-Term, or Long-Term)	Dedicated Spaces or Subsidized spaces for: • Food Access/SNAP stall • Dedicated Co-Op or Grocery stall	10%	• Not in Years 1-5	• 100% utilization • Year 5	• 80% utilization • Year 1
Hub **Warehouse Space** **Storage Space**	• Rental (Short or Long Term) based on space use	• Overhead allocations • Labor/ equipment offsets • Subsidized or no-cost access for food access organizations	0%	• 60% utilization • Year 3	• Not in Years 1-5	• Not in Years 1-5
Event Space **Market Space**	• Set time-frame rental based on space use • Lease (long-term) based on space use for market	• Adaptable, multi-functional space	50%	• 40% utilization • Year 1	• 40% utilization • Year 1	• 45% utilization • Year 2

Phase 1 of the feasibility study which included the Market Study was just recently completed in November 2021. The study included community input via 39 interviews with stakeholders, potential tenants, partners, and local inputs; survey responses from 284 community members; community feedback gathered at five on-site opportunities; and two virtual focus groups.

The feasibility study identified more than $3 million in potential federal, state, and private grant sources for funding the community food center. It also included an operating model that outlined the various uses of the center, revenue model, and cost considerations.

The steering committee voted unanimously to continue forward to work out details such as location, operating model, tenants, and capital campaign.

Mobile Market Pilot

The Mobile Market/Hunger Relief Action Team was formed with members from various sectors of the community.

Members of the Action Team include:

Allison Hinton	YMCA of Barry County
Allison Wiswell	Blue Zones Activate (Barry County Activate Director)
Amanda Feighner	South Michigan Food Bank
Alyssa Picone	Barry Eaton District Health Department
Morgan Johnson	Barry County United Way
Marcia Szumkowski	Volunteer and Former Pantry Coordinator
Jayne Flannigan	Manna's Market
Jodi Pessel	Barry Eaton District Health Department
Laurel McCamman	Barry Eaton District Health Department
Marsha Keefer	South Michigan Food Bank

An Activate Barry County Landscape Analysis was performed to identify geographic "hot spots" of high need and low access for county residents struggling with food insecurity. The analysis used available data and mapping tools.

Mapping data of public assistance participation rates (per 1000 people) indicated low participation in Hickory Corners (49060), Johnstown (49050), and Assyria (49021) areas, with some differences between SNAP and WIC. Participation in Commission on Aging free food services was also similar across these areas. The analysis showed a dearth of resources, along with a high need in the lower right corner of the county, primarily the Assyria and Johnstown areas.

The analysis concluded that a mobile pantry service would provide great benefit to Assyria and Johnstown and that either one of these sites would serve as an optimal pilot site.

See Appendix for Full Barry County Landscape Analysis

What is Food Insecurity?

Food insecurity isn't just lack of access to food, but it's the consistent lack of access to healthy, nutritious food that nourishes every person in a household so that they can live an active, healthy life. Food insecurity can be temporary or long-term.

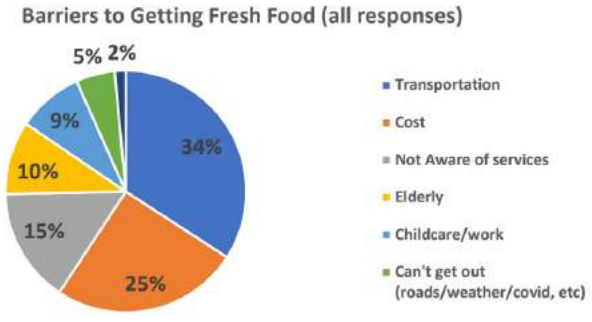
A Blue Zones Activate Barry County Landscape Analysis was conducted to identify geographic "hotspots" of high need and low access for Barry County residents struggling with food insecurity. For the analysis, data was gathered from SNAP participation by zip code; WIC participation by zip code; Commission on Aging program participation including, Home Delivered Meals (HDM); Congregate Dining participation (CONG); Market fresh participation and Senior meal choice participation. Data maps were used to define demographics across Barry County. Participants at existing food distribution sites were also surveyed to determine barriers to accessing fresh food and which areas of the county they saw the highest need for fresh food resources. Transit workers and school officials were also included in the survey.

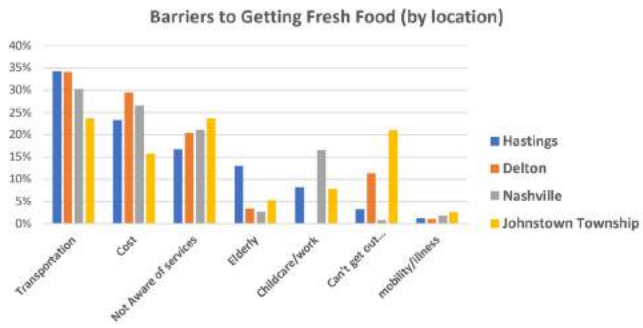
LANDSCAPE ANALYSIS RESULTS AND CONCLUSION

Mapping data of public assistance participation rates (per 1000 people) indicated that there is relatively high participation in the Hastings (49058) and Nashville (49073) areas, medium participation in Woodland (48897), Freeport (49325), Delton (49046), and Middleville (49333) areas, and low participation in Hickory Corners (49060), Johnstown (49050), and Assyria (49021) areas, with some differences between SNAP and WIC. Participation in Commission on Aging free food services was also similar across these areas, although a higher participation in HDM and CONG in Woodland area (48897) was observed.

Survey results indicated that a high percentage of respondents circled or listed Hastings area, and Johnstown area as highest need for free fresh food. Demographic profiles indicated that primarily the Nashville, Assyria, Johnstown, Hickory Corners, Prairieville, and Orangeville areas of the county are highest need in terms of rate of people living in poverty and limited access to SNAP eligible retail locations. Furthermore, overlaying the existing free food resources (food pantries, food distribution sites and soup kitchens) showed a dearth of resources, along with a high need in the lower right corner of the county, primarily the Assyria, and Johnstown areas.

The Landscape Analysis concluded that a mobile pantry service would provide great benefit to the areas identified during this landscape analysis (Assyria, Johnstown), and either one of these sites would serve as an optimal pilot site. Further exploration through community outreach should improve uptake of such a resource and help identify the best delivery model and exact routes of delivery to make the most impact.





Culinary Medicine

A culinary medicine program was one of the identified priorities from community leaders during Activate Barry County's Food Systems Summit. Spectrum Health's Lifestyle Medicine Clinic located in downtown Grand Rapids had already started a program working with healthcare professionals and community members to help them achieve optimal health utilizing food as one of the tools to success. Spectrum Health utilizes a hub and spoke model where created program components can be duplicated in their regional hospitals. Spectrum Health Pennock was able to offer this program to Barry County residents virtually starting in January of 2022.

What is Culinary Medicine?

Culinary medicine is a new evidence-based field in medicine that blends the art of food and cooking with the science of medicine.

Commmunity Gardens

The Community Garden Action Team was formed to help the already active Delton Kellogg Community Group meet its goals and expand the reach of its school and community garden through improved equipment and distribution techniques. Members of the Action Team include:

Rhonda Lundquist	Spectrum Health Pennock
Mikelah Snell	Delton Kellog Alumni/ Volunteer
Cortney Leinaar	Delton Kellog Alumni/ Volunteer
Tess Zettelmaier	Delton Kellog parent/ Volunteer/Rotary Club member
Brad Knobloh	Volunteer, Rotary Club member

The Action Team is currently seeking grant funding through Blue Cross Blue Shield of Michigan Foundation in partnership with the Michigan Health Endowment Fund and the WK Kellogg Foundation. The $10,000 to $75,000 grant would allow the garden group to address food insecurity by expanding its ability to grow production effectively. It would also allow the group to pay a part-time person to structure a school curriculum that it could utilize to partner with school classrooms and also the school nutritional director to utilize the foods.

The community garden team were connected with resources and farmers in the area who practice natural growing techniques. The team traveled to a local farm to learn more about the growing practices.

The team also connected with Sydney Miller from MSU Extension to offer a class called “Grow it, Try it, Like it.” The six-week class was designed to help students become familiar with the process of growing their own food and getting them to try freshly grown fruits and vegetables. An average of 22 kids ages 3-12 years old attended each week, where they tried a new vegetable or fruit. On the last day they harvested and were able to “shop” the garden to take a bag of produce home that included: tomatoes, corn, squash, raspberries, peppers, cabbage, and broccoli.

Food Policy Council

Blue Zones Activate Barry County supported a structured planning process to design and establish a food council for the community. In collaboration with partners across many sectors, the planning team of community leaders participated in numerous planning sessions, facilitated by BZ National Food Policy Expert, Dr. Margaret Adamek. This sequence of meetings generated the roles and responsibilities for this new entity, generated the structure and recruitment plan for the council, and the design of decision-making and meeting agendas. Using a highly interactive approach, the planning team has together produced a clear structure, charge, and proposed membership for the council, which will convene its inaugural meeting in the first quarter 2022, which builds off a legacy of good work and leadership by the B. Healthy Coalition. The newly appointed council will formulate their mission, vision, and values, as well as affirm their key priorities, create a work plan, and finalize their subcommittee structure.

"We are very fortunate to live in a community that subscribes to these efforts - Not only for our physical and mental well-being but also because of the economic impact a healthy society has on our communities. The establishment of a thriving health and wellness industry drives economic growth, improves health outcomes, and promotes a stronger, more productive workforce. Barry County is the place to live better, longer."

— Jennifer Heinzman, Barry County Chamber and Economic Development Alliance President

More About Dr. Maggi Adamek - Blue Zones Food Policy

Dr. Margaret Adamek is the National Food Policy expert, working with Blue Zones communities to identify and achieve policy and systems changes that move the dial on healthy eating across the community. With over 25 years of food systems experience, Maggi is a national leader and content expert working at the intersection of food, health, and agriculture to improve the American food supply. She worked for nearly two decades at the University of Minnesota, most recently as the Local Food Systems Research Fellow.

Maggi has chaired a national, decade-long initiative to improve the quality and sustainability of the American food supply sponsored by the WK Kellogg Foundation that involved over 120 research universities and agricultural colleges. She has developed food hubs, statewide food systems initiatives, university degree programs in food systems, and also conducts food systems training and development for major foundations; large scale, cross sector partnerships; tribal nations; and units of government across the United States and Canada.

Community Engagement

Community Engagement

Involving the community so residents feel like they are vested in the projects initiated through Blue Zones Activate is important. Those who live and work in the community were engaged at a variety of different locations and events in the county in numerous ways. These included:

1. **The YMCA of Barry County and Blue Zones Activate teamed up again in 2021 to distribute USDA Farm to Families Free Food Boxes.** In the summer of 2020, the YMCA of Barry County and Blue Zones Activate distributed 208,000 lbs of fresh produce to Barry County residents over the course of 5 weeks. The Hastings Band Boosters then continued the program for an additional three weeks.

   These distributions were so highly attended that we decided to partner to successfully distribute to the Barry County community again, but this time in the cold of winter. Volunteers came out from across our community to help make this distribution across 6 sites throughout the county a success. In total, over a 5 week period we distributed 313,000lbs of food. Local partners included the Hastings Baptist Church, City of Hastings, Hastings Mutual, Barry County Lumber, Delton Shack and DK Schools, Middleville United Methodist Church, Nashville Assembly of God Church, Johnstown Township, Assyria Township, and the Serenity Club. This effort was a true testament to the statement, “Many hands make light work.”

2. **The Blue Zones Walking Challenge powered by Spectrum Health Pennock kicked off on June 14th.** During a pandemic, everyone needs connection. This partnership allowed for an opportunity to safely gather outdoors for a walk with others two times per week. One sidewalk walk and the other on a local county nature trail. Over 90 participants signed up for the challenge over the summer. Additionally, walkers could walk on their own and track their walks via the provided calendar. Calendars with tips were provided to help residents meet their walking goals and keep track of their progress throughout the summer.



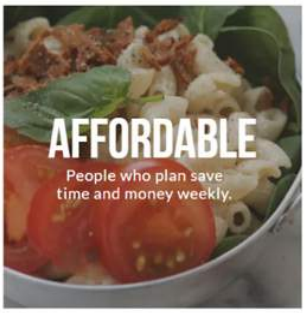

3. **Volunteers prepared and distributed free food samples and recipes for two Blue Zones plant-based dishes at the Middleville and Hastings Famers Markets on July 30 and 31.** The recipes included fresh ingredients that were in season at the time and linked to farmers at the market who were selling the items needed.



4. **A one-day pop-up demonstration to allow residents of the Village of Middleville to experience the Complete Streets concepts in person** was held August 21 on Russell Street during Middleville Heritage Days. The demonstration included a temporary bike lane, crosswalk, and a curbside seating area.

5. **A total of 48 volunteers took shifts to man a booth at the Barry County Fair July 19-24, 2021.** Fair goers were offered the opportunity to engage with a countywide trails map and provide feedback about the trails they liked best. They were also given the opportunity to offer suggestions. Additionally, the concept of a Community Food Center and its possible offerings was shared at the fair. Residents were invited to identify the components they would most value in a food center. Free granola and granola bars were given away and there was also a raffle for two food gift baskets.

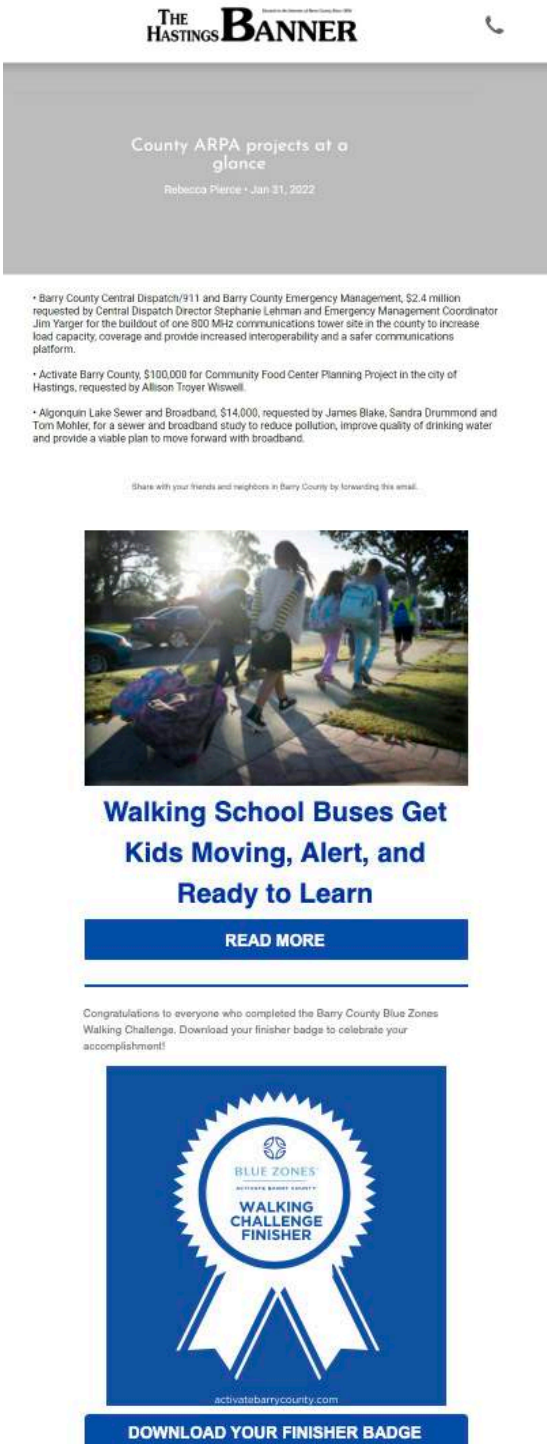
6. **The Blue Zones Meal Planner subscription helps to make eating healthy, nourishing meals both easy and affordable.** The subscription includes support from food coaches, nutritional information and tips for longevity, Blue Zones® recipes, and smart plans and grocery lists to help participants stay on track. From events, interest groups, and giveaways, Barry County residents have the opportunity to be gifted a one-year subscription to the Blue Zones Meal Planner.



7. **At the 11th annual Very Barry Event held June 5 in the Star Elementary School parking lot,** Blue Zones gave away stress dogs, conversation cubes, and sponsored reusable bags that were given away for families to carry their goodies. Blue Zones also contributed two family-friendly recipes to a resource deck handed out to all families and was one of one of several different organizations to donate a child's bike to be raffled. A total of 40 bikes were given away.

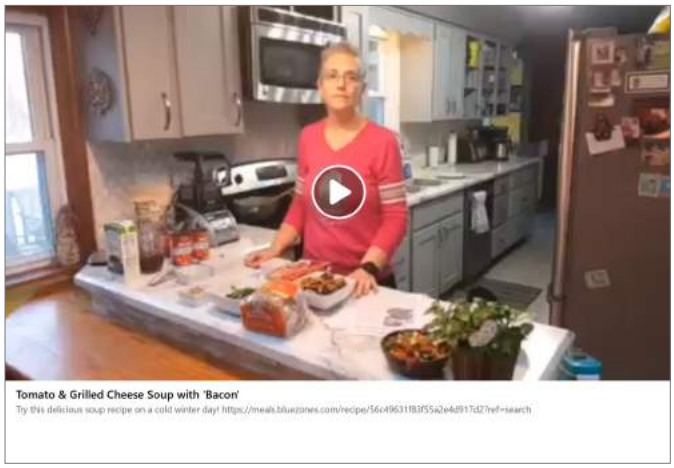
8. **Newspaper articles and community newsletters were published about the project throughout the year.** Activate Barry County Director Allison Troyer Wiswell authored a variety of topics published in The Hastings Banner and The Hasting Reminder to engage the community and update them on events and progress. Email newsletters were sent out regularly throughout the year with education, updates on Blue Zones progress, and community events and activities. The Blue Zones Activate mailing list reaches 2.5% of the adult population of Barry County. We maintain an active social media presence on Facebook, sharing stories, events, and information to connect people to each other and to activities in the community.

Facebook Post



September Newsletter

9. **A series of cooking videos featuring plant-based recipes being made in the kitchen were shared on the Activate Barry County Facebook Page.** Presenters in the videos included Activate Barry County Director Allison Troyer Wiswell and Activate Barry County volunteer Kim Metzger.



10. **Activate Barry County partnered with Barry County United Way to distribute thousands of packets of seeds to community residents.** Due to COVID-19, Blue Zones Activate mailboxes were created and set up at one community center and five libraries throughout the county where residents could safely pick up their free seed packet at their convenience. Each packet included two packets of herb seeds and six packs of vegetable seeds, a letter from Blue Zones and the United Way, and instructions from the Michigan State University Extension on how to build a raised planting bed.

11. **A Blue Zones Purpose Workshop was held for the Women of the Outdoors group.** Purpose Workshops guide participants through activities to help them identify their gifts, values, and passions. The overarching goal is to help individuals discover and develop their sense of purpose.
12. **The Blue Zones Barry County Economic Development Summit 2021 provided an overview of accomplishments by Allison Troyer-Wiswell.** The Summit included a presentation by Blue Zones Vice President of Business Development Dan Buettner Jr. on the ROI from Community Well-Being.

Grants and Add-On Funding

Grants and Add-On Funding for Barry County

South Michigan Food Bank - Landscape Analysis

National Park Service - Rivers, Trails, CA TA grant

ARPA Grant from Barry County for Community Food Center Study

Community Businesses/ Philanthropist fund CFC Feasibility Study

Maple Valley School District, Safe Routes to School Mini Grant

Blue Cross Blue Shield/ WK Kellogg Foundation/ Michigan Health Endowment Fund grant

ARPA Grant from Barry County Parks and Recreation Commission for portions of the Paul Henry Thornapple Trail

PENDING GRANTS

- Americana Foundation

Appendix

REPORT OUTLINE

This report summarizes the process and recommendations around proposed marquee projects being pursued as part of the Activate Barry County Blue Zones initiative. It consists of the following sections:

EXECUTIVE SUMMARY

The Activate Barry County Blue Zones initiative is an effort to create a healthier environment so that all residents of Barry County experience greater well-being, and live healthier, better, longer lives. A central tenet of that work is to create settings where people are likely to get physical activity as a part of their daily lives. One of the simplest ways to do that is through walking, bicycling, and taking transit – collectively termed "active transportation" – for routine tasks and travel, as well as recreation and leisure. One aspect of the Activate Barry County initiative is to select one or more "marquee" built environment projects. A marquee project is intended to engage an interdisciplinary working group and build the skills, knowledge, and experience to be applied to additional built environment projects going forward. It should have a high enough profile that it helps to prove the value and effectiveness of making such improvements for walking and bicycling, and thus build community enthusiasm so that additional projects are pursued with even greater vigor. Data and other evidence gathered before, during and after the marquee provides additional learning to the local community. Participants are encouraged to balance all project options with the timing of funding cycles, current and prospective allocation of resources, and a reasonable likelihood of accomplishing the proposed projects within the timeline. A focused process began with a Blue Zones site visit in autumn of 2019, then continued with virtual planning and policy meetings through 2020 and into 2021, a stakeholder survey, and expert work group meetings. This led to a list of numerous projects that could and should be pursued across the county. A marquee design charrette in June 2021 focused on four projects, of which the first two (listed below) were chosen to be the priority marquee projects. However, all four were deemed well worth pursuing.

1. Trail connection from Thornapple Trail in Middleville to the Caledonia section at 108th Street.
2. Trail connection from Walmart to McDonalds in Hastings, to link to the River Walk network.
3. Roundabout at Grand Rapids and Main Streets in Middleville.
4. Safe pedestrian and bicycle River Trail crossing of M43 (N. Broadway) by Tyden Park in Hastings.


Trail crossing of 108th Street; potential trail segment in Middleville.


Exploring the rail bed behind McDonalds, Hastings.

PROCESS SUMMARY

The goal of this process has been to identify one or more specific built environment projects that the many Activate Barry County partners can work together to complete, with the goal of energizing and advancing the entire Activate movement. A series of built environment projects had been discussed as candidates, beginning with an initial site visit by the Blue Zones built environment team in autumn of 2019. This visit included a tour of communities and possible sites around the county. These were further developed during numerous planning meetings and a virtual multi-day policy summit in 2020 and 2021. This is the list of eight leading candidate marquee projects that resulted:

1. A 0.3-mile section of Paul Henry Thornapple Trail to connect the existing Thornapple Manor Skilled Nursing Facility to the new assisted living expansion.
2. A 0.8-mile section of trail on railbed that connects McKeown Road, and links to the entrance of the McKeown Bridge Park.
3. A trail connection from Thornapple Trail in Middleville to the Caledonia section at 108th Street.
4. A trail connection from McDonalds to Walmart in Hastings, to link to the existing River Walk trail.
5. A roundabout to replace the existing T-intersection (and right turn slip lane) at Grand Rapids and Main Streets in Middleville.
6. A safe pedestrian and bicycle crossing of M43 (N. Broadway) for River Walk users and others, near Tyden Park in Hastings.
7. Improved pedestrian, bike, and trail links from Nashville to the Vermontville Schools.
8. North Country Trail connections in Delton (including a possible trail link to the Car Museum).

This list was presented in a survey to key partners and stakeholders around built environment infrastructure and policies in Barry County. The survey results were then used by a small Activate leadership team to select the following four leading projects, two in Hastings and two in Middleville:

- Trail connection from Thornapple Trail in Middleville to the Caledonia section at 108th Street.
- Trail connection from Walmart to McDonalds in Hastings, to link to the River Walk network.
- Roundabout at Grand Rapids and Main Streets in Middleville.
- Safe River Trail crossing of M43 (N. Broadway) by Tyden Park in Hastings.

The final step was to convene stakeholders at a marquee charrette on June 30th 2021. This included a morning of visits to each of the four sites to observe and discuss opportunities and constraints, followed by a design charrette in which the design approaches were developed and compiled. At this gathering,

the group was asked to select their two favorite projects, based on the proposed designs and the following criteria. The ideal marquee project(s) would:

- Engage interdisciplinary teams.
- Build local skills, knowledge, and experience.
- Be high profile and build community enthusiasm.
- Provide "proof of concept" around built environment improvements.
- Act as a *catalyst* to other projects around the county.

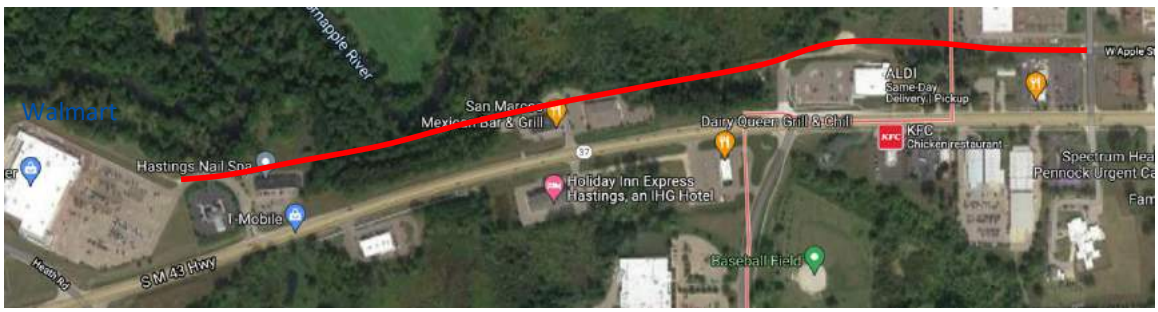
It was widely agreed that all of the eight originally considered projects are worthy of development, and all four of the "finalist" projects should be local priorities. However, the two trail development projects – linking downtown Middleville by a viable bike route to the section of the Thornapple Trail to Caledonia, and connecting the existing River Walk trail to Walmart in Hastings – should be the first undertaken as collective marquee projects because of their high visibility, usefulness, and appeal.

DESIGN RECOMMENDATIONS

The design charrette activity was set up so that each participant could provide input on potential design approaches to each of the four projects. Following is a compilation of the recommendations that were generated for each project, with the two marquee projects presented first.

i. McDonalds to Walmart trail, Hastings.

The Thornapple Trail network in Barry County includes a wonderful River Walk segment in Hastings. The western portion of this trail in Tyden Park then connects to a wide side path on the north side of W. Apple Street. The route then crosses Industrial Park Drive (which is next to McDonalds), where it currently ends. A pedestrian or bicyclist could then connect to sidewalks along W. State Street (M43) for a portion of the route west to Walmart, but those sidewalks are intermittent, and traffic is quite fast on M43, so walking or bicycling on the road is not a good option. However, the old rail bed parallels this route behind the buildings on the north side of W. State Street, and some of that corridor is still in public hands (city or township owned). Portions of the old rail bed are obvious on the ground, and on aerial maps of the area. It passes between McDonalds and the Viking building; west behind the ALDI grocery store; through the rear of the parking for San Marcos Mexican restaurant, Biggby Coffee, and Hastings Best Pizza; and then west to the Walmart area. The rough route is pictured in red, below:

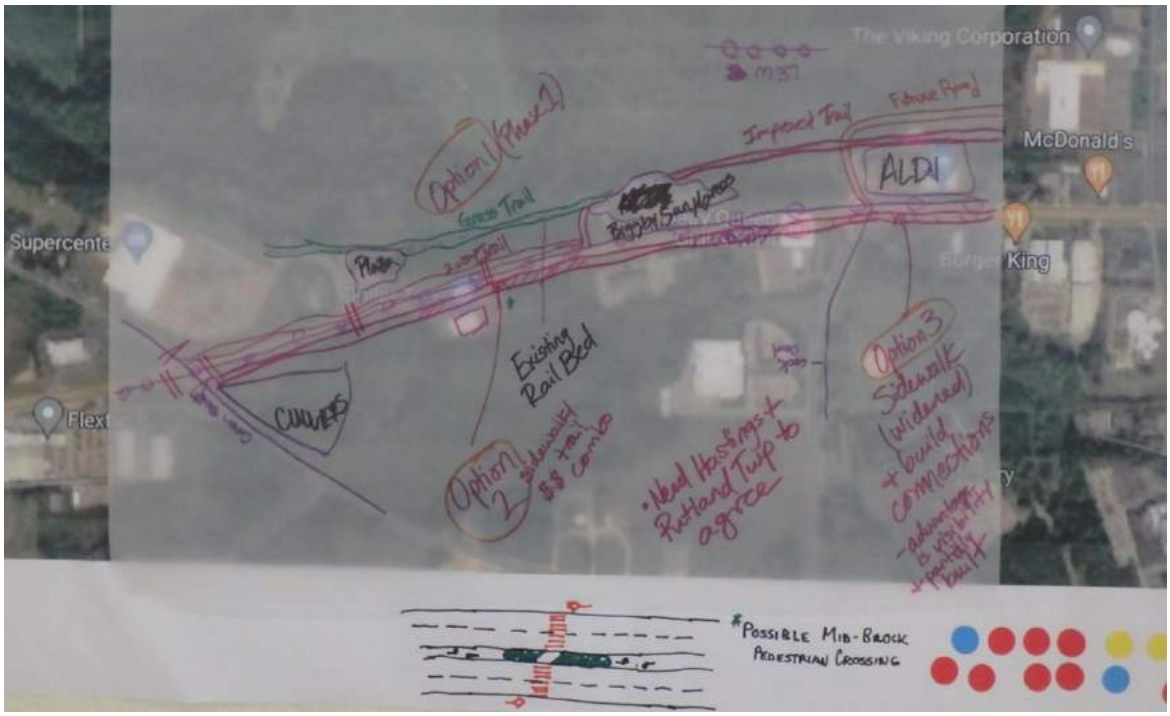


It is important to note that many participants felt that there is already clear demand for pedestrian and bicycle access to businesses in this area, as people are often seen walking here. And further business growth is already anticipated along this corridor, so this would be a highly functional trail segment to complete, as it would effectively connect all the businesses on the north side of W. State Street from Walmart to McDonalds with a safe and inviting pedestrian and bicycle route to downtown Hastings and the greater trail network. The addition of appropriate safe crosswalks to sidewalks on the south side of W. State Street would further enhance utilitarian access to businesses there.

Functionally this can be envisioned as three segments:

- Segment 1: Industrial Park Drive to the business cluster at San Marcos restaurant.
- Segment 2: Across the rear of the San Marcos/Best Pizza/Biggby parking lots
- Segment 3: From San Marcos west to the Walmart parking area.

The approaches proposed during the design charrette essentially comprise what could be an ideal phased approach to completing this trail. The first essential step, however, is confirming the ownership status and specific property boundaries along the old rail bed and proposed trail pathway. This would also include outreach to landowners and businesses to lay out the following plan and ideally engage them to participate, or at very least offer tacit support. The phased approach is in part intended to build their knowledge of the benefits, and to engage their input on potential designs as well as trail maintenance and operations moving forward.



Sketch of possible design elements along the rail corridor; note recommended 'mid-block' crossing of M43.

Phase 1: Demonstration grass-bed trail.
It appears that the entire corridor could be made into a fairly functional grass bed trail on top of the former rail bed; there is evidence that some people are already using portions of the corridor on foot (e.g. perhaps fishermen accessing the river). This would require cutting grass, brush, and small trees along the corridor from the Viking building to the San Marcos/Biggby parking area; and then from San Marcos to Walmart. It would also require making modest, temporary improvements to create a space for pedestrians and bicyclists to pass across the rear of the San Marcos parking lot. This could include temporary paint to mark a walkway through the parking lot, and signs to warn both trail users and drivers that they are passing through shared space. It must be noted that this approach will require the establishment of a committed volunteer trail maintenance effort to continue to cut brush on the treadway and along the corridor, as it's unlikely that initial use will be heavy enough to maintain a clear treadway for pedestrians and mountain bikes.

Benefits: This phase is utterly reversible should it prove to be problematic. However, it is an opportunity to make the point to businesses along the corridor that many more customers *and* employees can access their businesses safely on foot and by bike on a trail, compared to the small number willing to brave walking or biking along M43. Objective observational data can and should be collected to measure if and how people are using the trail.

Phase 2: Crushed gravel trail and defined parking lot passage.
Material such as compacted crushed gravel can be added to segments 1 and 3 of the trail, to make it more accessible to an array of users, so that less frequent grass and brush cutting is required to maintain the trail treadway, and to minimize erosion and degradation. It will also be beneficial to further improve the delineation of the trail passage in segment 2, through the rear of the San Marcos/Biggby parking area. This can include marking a specific path along the rear edge of the parking lot with paint as well as cones, sandwich boards, moveable planters, or other simple measures where there is sufficient space. It will also likely benefit the businesses to add simple furnishings such as benches, and perhaps to cut some scrub brush behind the lot if it will make the river more visible.

Walking along the rear of San Marcos/Biggby Coffee parking lot.

Example trail passing through a parking lot edge, Bristol, TN.

Benefits: This improvement of the trail and accommodation at the San Marcos/Biggby area is likely to increase the range of pedestrians and bicyclists willing to venture onto the trail. In particular, an improved surface will invite less skilled cyclists and those on bikes (not just mountain bikes) to ride the trail. Improved accommodation behind the businesses will make that passage through the parking lot safer, but it is also likely to invite more customers and employees to access these businesses on foot and by bike.

Informal path along M43 belies pedestrian demand.

Trail-facing businesses have thrived along the Cape Cod Rail Trail, MA.

Phase 3: Create permanent trail infrastructure.
Once all parties are happy with the design and trail viability has been established, permanent infrastructure can be installed throughout the corridor. This can include (but is not limited to) wayfinding signs that indicate travel times (on foot and bike) to businesses and destinations along the corridor; more substantial surface materials (packed crushed gravel, but also possible asphalt paving in high traffic areas); improved connections to the existing trail at Industrial Park Drive; and enhanced safe pedestrian and bicycle access at Walmart. There is also an opportunity to substantially improve pedestrian and bicycle accommodation through the San Marco/Biggby parking area. Certainly, creating a well-defined and physically delineated space for trail users, such as with a curb stops, vertical delineators, or an intermittent rail will benefit drivers as well. But additional furnishings such as benches, tables, umbrellas, and bicycle parking will be a clear invitation to visit the businesses located there, and this can even become formalized outdoor trailside seating for the restaurants, if desired.

ii. Middleville to Caledonia trail segment connection.

The Paul Henry Thornapple Trail system is evolving and can be envisioned as traversing from northwest to southeast across Barry County. It is planned to connect Grand Rapids, Caledonia, Middleville, Hastings, Nashville, and Vermontville. There is currently a paved trail coming southeast from Caledonia along an unused rail corridor, which ends at 108th Street north of Middleville. There is a great desire to continue a viable, safe pedestrian and bicycle link to the existing trail that comes north from downtown Middleville and currently ends at a trailhead on West Crane Road, next to a Bradford White driveway entrance. An existing underpass at this location would allow passage of the trail past Crane Road northward along the rail corridor. However, current private property ownership in an area between Crane

and Garbow Roads currently precludes that connection along the rail corridor. The essential focus of this project is to develop an alternative safe bicycle route to link from the Crane Road trailhead to the existing paved trail at 108th Street.

Crane Road trailhead of the Thornapple Trail.

Trail from Caledonia; paved section ending at 108th Street.

The design recommendations identify approaches to a series of segments that could provide this connection. There were three central themes underlying these designs:

- The route should be safe and inviting enough to accommodate mid-level cyclists, such as recreational riders and families, not just serious road cyclists.
- It may be necessary to develop this route in phases, completing more rudimentary links initially and then improving it by segments.
- These priority improvements ***must*** be included the county-wide trail plan that's being developed.

Following are the segments being proposed, going from south (the Crane Road trailhead) to north (108th Street crossing). In each case, a progression from an initial design approach to a more permanent solution is proposed. The goal is to be able to complete an off-road trail along the former rail corridor from the underpass at Crane Road to the existing crossing at 108th Street.

Section 1. Trailhead to route M37: Crane Road bicycle lanes.
Crane Road is currently marked with five-foot or wider bicycle lanes, and signs identifying those lanes. This connects the Crane Road trailhead westward to an intersection with Route M37. Additional signs can be added to identify this as the "Thornapple Trail On-Road Connector" for bicyclists traveling both northbound and southbound on the route.

Crane Road bicycle lane.

Reconstruction on M37 north of Crane Road.

Section 2. Crane Road to West Garbow Road: along route M37.
Phase 1: The Michigan Department of Transportation (MDOT) is completing work on route M37 north of the Crane Road intersection. It was reported that this includes road resurfacing and the creation of a consistent seven-foot-wide shoulder on both sides of the road. If this is, in fact occurring, these shoulders are wide enough to be marked as five-foot bicycle lanes, with two-foot buffers (see example image below left), to provide a link from Crane Road to W. Garbow Road. Pavement markings and signs should identify these as bike lanes, and additional directional signs should identify this as a "Thornapple Trail On-Road Connector," and offer guidance at the Crane Road and Garbow Road intersections. It is notable that for southbound cyclists this requires crossing M37 twice; first to get to the southbound bicycle lane from Garbow Road; and then to cross from the bike lane to Crane Road eastbound. It is thus imperative that the current MDOT work include high quality crosswalk markings at these two intersections.

Phase 2: The county trail plan should identify this section of M37 as an on-road section of the Thornapple Trail system and should indicate a need for a more protected on-road bicycle facility. For example, if the north/east side shoulder of M37 could be expanded to an 11- or 12-foot width, then it might be marked with paint and vertical delineators (or other treatments) to create a seven- or eight-foot two-way bicycle side path. The photo below (right) shows this for a slower speed roadway; for a higher speed road such as M37 greater separation from the travel lane is recommended.

Bike lane with marked two-foot buffer.

Example of a two-way shoulder side path, defined by paint and delineators.

Section 3. M37 to Stimson Road/rail corridor: West Garbow Road.
Phase 1: West Garbow Road is a fairly quiet local east-west road that provides a link between M37 and Stimson Road. It also continues eastward and links to the former rail corridor. The initial approach for this segment would be to mark the road with sharrows (shared use arrows) and signs indicating it is a shared roadway for motor vehicles and bicyclists, as well as route-finding signs indicating it is a "Thornapple Trail On-Road Connector." This link could, initially, go only to Stimson Road, and be continued to the rail corridor when that section of the trail is cleared.

A typical section of W. Garbow Road (left); a shared-use arrow (sharrow, center); a typical section of Stimson Road (right).

Section 4. W. Garbow Road to Parmalee Road: Stimson Road or rail corridor
Phase 1: Stimson Road runs north/south from M37 to Parmalee Road as a paved road, and then continues north as a gravel road. The portion from M37 to W. Garbow Road includes a steep hill that might be challenging for many cyclists, which is why the recommended route takes cyclists onto M37 to Garbow Road. The portion of Stimson Road further north, however, is more level and better suited to a range of bicyclists (see image above, right). Stimson Road provides a connection north to Parmalee Road on paved roadway; continuing north it is gravel road (photo below) and it connects with the rail corridor where a portion of packed dirt and gravel trail connects to 108th Street (picture below, right). The paved section of Stimson Road should be painted with shared use arrows (sharrows) and marked with "share the road" signs. Directional signs identifying this portion of Stimson Road as a "Thornapple Trail On-Road Connector" are also required at all intersections.

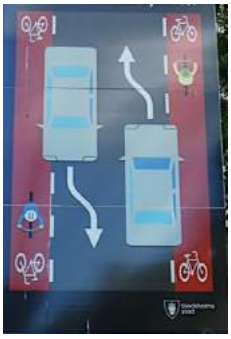
Gravel portion of Stimson Road, north of Parmalee Road.

Grass and gravel portion of trail, north of Stimson Road.

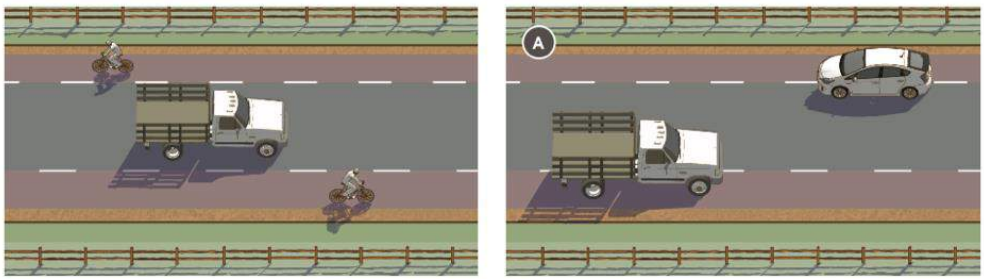
Phase 2: The preferred route for the section between W. Garbow Road and Parmalee Road is the rail corridor, as it will provide a completely separate facility from motor vehicle traffic. Thus, the second phase recommendation is to work with abutting landowners to get permission to clear this section of the rail corridor and create a packed gravel trail, as is currently available further north. Then users can be directed to use the section of W. Garbow Road that is east of Stimson Road to link the trail and the on-road route. Note that this will require completion of a high visibility trail crossing of Parmalee Road, similar to that at 108th Street (pictured on page 2). Specifically, the trail crossing should be located at the easternmost portion of the rail right-of-way where it crosses Parmalee Road. This is to place the crossing sufficiently far from a rise in the road that impedes sight lines; this is necessary to make it safe for both drivers and trail users.

Note: An alternative design to be considered for both W. Garbow Road and Stimson Road is to install advisory shoulders. This would require removal of the centerline on Stimson Road. Advisory shoulders are appropriate for more rural roads with low traffic volumes. There is no center line, and dashed shoulder lines are marked on both sides of the road. Signs are posted instructing cyclists and pedestrians to stay in the shoulders, while motor vehicles use the center of the roadway, leaving the shoulders clear. However, when vehicles must pass one another, they then move as necessary into the shoulders. This design is pictured below (from the *Rural Design Guide* of the Federal Highway Administration), as is possible instructive signage and a schematic rendering of vehicle movements.

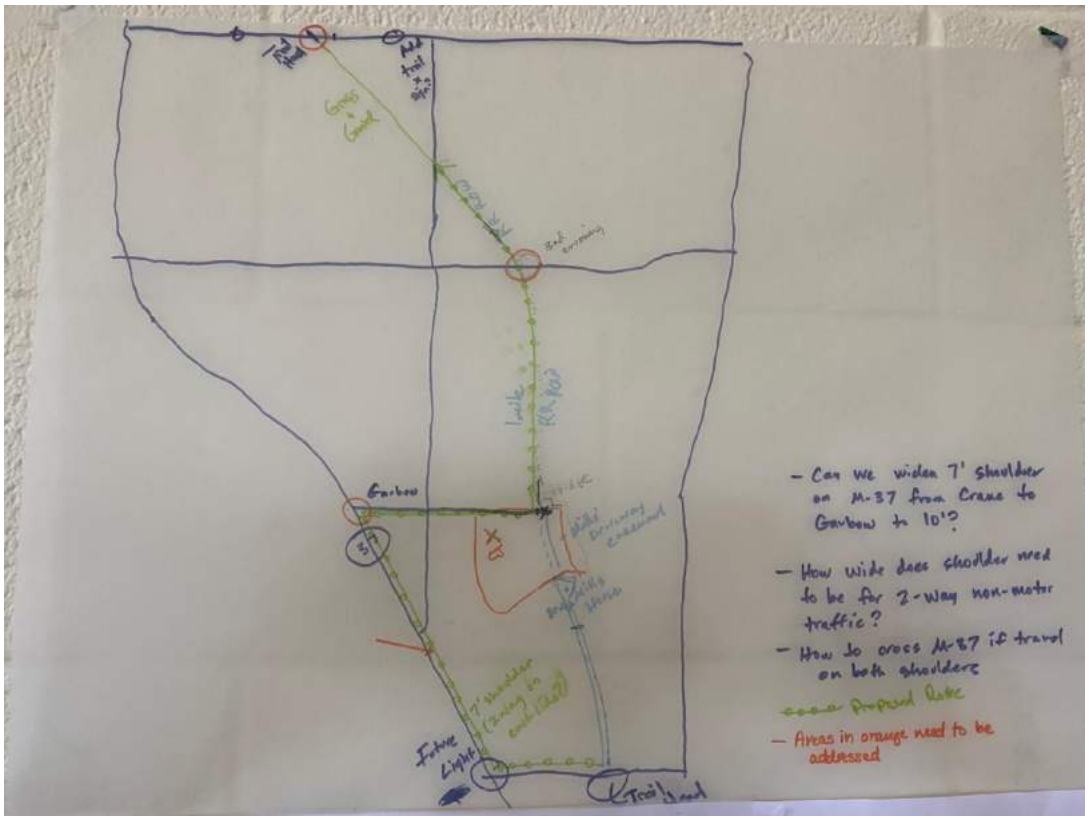
Advisory shoulder (New Hampshire).



Explanatory sign.



Rendering of proper vehicle use with advisory shoulders, from the FHWA Rural Design Guide.



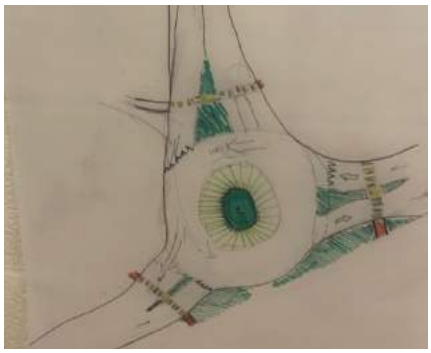
Design sketch of a route connecting the Crane Road trailhead and 108th Street crossing of the Thornapple Trail, developed by participants during the July 2021 Marquee Charrette.

iii. Grand Rapids and Main Street Roundabout, Middleville.

There is wide consensus in support of reconstructing the intersection at Grand Rapids Road and Main Street in Middleville as a modern roundabout. However, because of the cost it is recognized that state and/or federal transportation funding will be required to complete this project, so it is not chosen as an initial marquee project. It is currently a T-intersection, with a stop sign and right turn slip lane for southbound traffic. It is common to see substantial delays especially for left turning southbound vehicles around shift changes at Bradford White, which is just north of this intersection on Grand Rapids. This can sometimes cause a long line of vehicles to form at the stop sign. With Bradford White's support, an engineer has created a proposed design for a roundabout at this intersection. It is clear there is enough space for a modern roundabout that can accommodate full sized tractor trailer trucks. Following are relevant design principles for this intersection:

- The roundabout can be constructed in the existing right of way.
- It will include a large enough mountable apron to accommodate tractor trailer trucks.
- High quality pedestrian crossings will be provided, with splitter islands on each entry.
- Bicyclists can ride through the roundabout as vehicles, or dismount and pass as pedestrians.

Google "street view" of the Grand Rapids and Main intersection (2018).

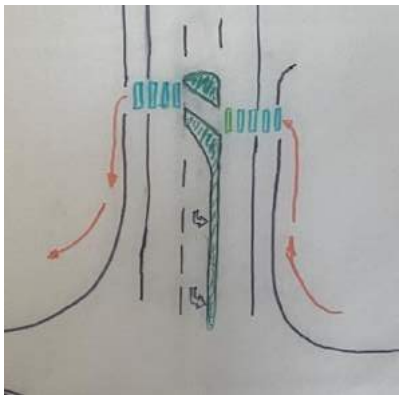


Workshop sketch of proposed roundabout.

iv. M43 Crossing for the River Trail, Tyden Park, Hastings.

Three significant alternatives were discussed for providing a safe pedestrian and bicycle crossing of M43 for people using the River Walk. M43 is a three-lane road through this area (one lane in each direction plus a center turn lane), and traffic is often quite fast especially coming down the hill from the north. There is currently a marked crosswalk at West Thorn Street, but there is no signal light, median island, or other safety feature provided for pedestrians and bicyclists. During the charrette, a group of over 20 pedestrians stood at that crosswalk for several minutes awaiting a break in the traffic; no vehicles slowed or yielded for the group, despite the well-marked crosswalk. It is very clear that this is a priority need. But it may be that the first step will be the creation of a low-cost "quick-build" solution, and will require working with MDOT since this is a state route, which may constrain how quickly the project can move ahead.

Existing crosswalk at W. Thorn Street.



Sketch of a possible median island treatment.

The three solutions which were proposed are as follows:

Option 1: Improve the existing crosswalk.
The most straight forward approach could be to create a “quick-build” median island in the center turn lane (with paint and vertical delineators) so that pedestrians can focus on crossing one lane at a time, rather than having to wait for a break in traffic in both directions simultaneously.

Option 2: Create a trail passage under the M43 Thornapple River bridge.
The group explored the possibility of a grade-separated crossing, which could be realized by extending the trail in Tyden Park under the existing M43 bridge over the Thornapple River. This would likely require the creation of a raised wooden or concrete structure which would have to be flood resilient. However, that has been successfully accomplished in other comparable situations. The key questions regarding this approach include property access to connect the trail to the sidewalk on the east side of M43, and obviously funding for such a capital-intensive project.

View from Tyden park of potential trail location under the M43 bridge (left). Boulder Creek trail underpass designed to accommodate occasional seasonal flooding (right, Boulder, CO).

Option 3: Move the Broadway signal light at W. Apple Street to W. Thorn Street.
Currently, there are stoplights on North Broadway at both W. State Street and W. Apple Street. It is not uncommon for traffic at peak travel times to back up between these lights. Therefore, separating these by several blocks could be more efficient and safer for motor vehicle travel. Placing a stoplight at the Apple Street and Thorn Street intersection would also provide a much safer crossing for pedestrians, as that could include pedestrian signals with countdown timers and audible signals. This choice would require a formal request to MDOT, and would no doubt trigger a formal traffic study before any decision would be made.

KEY NEXT STEPS FOR MARQUEE PROJECTS

These are suggested critical next steps in developing the two high-priority marquee projects.

i. McDonalds to Walmart Trail

- Determine a lead for this project. Rick Moore is exceptionally knowledgeable about this proposed link and will be a great resource to anyone leading this project.
- First priorities: Determine accurate ownership boundaries for all three segments of the trail. Specifically determine what land is city or township owned, and precise boundaries for privately held sections.
- Develop an action team: it may be helpful to have sub-groups focused on particular subsegments or tasks, such as working with property owners; focused on clearing brush; and improving parking lot crossings and safety.
    - Viking to parking lot section
        - Constructively engage adjacent property owners.
        - Convene volunteers to cut and clear brush and create temporary signs.
    - Parking lot section
        - Approach businesses about a back-of-lot trail.
        - Organize businesses and volunteers to create temporary markings and improvements that serve trail users *and* the businesses.
        - Focus on creating advantages for the businesses (seating areas, aesthetics).
    - Parking lot to Walmart section
        - Approach property owners about the opportunity to enhance land values.
        - Convene volunteers to clear this trail section and create temporary signs.
        - Organize volunteers to continually mow and clear both grass sections.
- Once connected, a team must work to heavily promote the trail as a safe and functional way to access businesses along the corridor
    - Use will be critical to build support, in particular to engage businesses along the corridor.
    - Consider intercept surveys to ask people their rough origin and destination; how often they use the trail; and what further improvements they would recommend.
    - Engage students to do observational counts and intercept surveys.

ii. Caledonia Trail Connection

- Leader: Catherine Getty
- Identify priority opportunity sections
    - M37 segment, Crane Road to Garbow Road: Approach MDOT about bike lane symbols and two-foot buffering stripe in seven-foot shoulders that are being constructed *right now!* Also assure that high quality pedestrian crossings are included at the Crane Road and Garbow Road intersections.
    - Mark routing along Garbow Road (signs, sharrows).
    - Two alternatives for next section:
        - Sketch out advisory shoulders along Stimpson Road; place these as a demonstration initially (identify with signs as a *local/agricultural/bicycle route*); Include clear demonstration signage.

    - Continue east on Garbow Road to existing rail right-of-way; mow and clear this section of rail corridor north to Parmalee Road.
- If using Stimson Road, continue north of Parmalee Road to mowed grass trail on rail corridor, northwest to Caledonia paved section. (Note, this section could be first priority for future paving, as it adjoins a paved section to the north.)
- If using the rail corridor, create high visibility crossing at Parmalee Road; and mow and clear rail section north of Parmalee Road.

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Colleen Watson, Community Member, Trilander Multi-sport Club
Patricia Woods, DDA Chair, City of Hastings
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Michael Puerner, SVP Corporate Services, Hastings Mutual Insurance
Brian Urquhart, Assistant Village Manager/Zoning Administrator, Village of Middleville
Catherine Getty, Barry County Commissioner, Barry County
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Emily Smale, Community Health Promotion Specialist, Barry-Eaton District Health Department
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Jane Norton, Board Chair, North Country Trail Association, Chief Noonday Chapter
Brandon Mieras, P.E. Principal, Williams & Works
Ron Welton, Parks Assistant, Barry County Parks
Jennifer Antel, Development Coordinator, West Michigan Trails & Greenways Coalition
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ACTIVATE BLUE ZONES

BARRY COUNTY LANDSCAPE ANALYSIS

DESCRIPTION

This report outlines the finding of a landscape analysis intended to identify geographic "hot spots" of high need, low access for Barry County residents struggling with food insecurity.

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Executive Summary

Barry County is a relatively rural county, with the majority of the county identifying as Caucasian/ White. Nearly 9% of Barry County residents are considered living in poverty, with Females 25 – 34 being the largest demographic living in poverty (Data from: US Census & American Community Survey)[2] Barry County's poverty rate is lower than the national average in 2018 (13%), and lower than the poverty rate of Michigan in 2018 (14%)[3] Food insecurity is increasing in Barry County from 10% in 2018 to 13% in 2020, primarily due to the COVID-19 pandemic.[4]

BACKGROUND:

The purpose of this landscape analysis was to gather available data and use mapping tools to identify areas of Barry county that are high need (eg., high poverty, limited supermarket access), and low resource (eg., low public assistance participation, limited free food resources).

METHODS:

The data gathered included, SNAP participation by zip code; WIC participation by zip code; Commission on Ageing program participation including, Home Delivered Meals (HDM); Congregate Dining participation (CONG); Market fresh participation and Senior meal choice participation. Data mapping from Policy Map (https://www.policymap.com/maps)[1] was utilized to define demographics across Barry County. In addition, a survey was deployed at existing food distribution sites and among Transit Workers and School officials. The survey asked about barriers to accessing fresh food, and where in the county respondents believe there is the highest need for fresh food resources.

RESULTS:

Mapping data of public assistance participation rates (per 1000 people) indicated that there is relatively high participation in the Hastings (49058) and Nashville (49073) areas, medium participation in Woodland (48897), Freeport (49325), Delton (49046) and Middleville (49333) areas, and low participation in Hickory Corners (49060), Johnstown (49050) and Assyria (49021) areas, with some differences between SNAP and WIC. Participation in Commission on Aging free food services was also similar across these areas, although a higher participation in HDM and CONG in Woodland area (48897) was observed. Survey results indicated that a high percentage of respondents circled or listed Hastings area, and Johnstown area as highest need for free fresh food. Demographic profiles indicated that primarily the Nashville, Assyria, Johnstown, Hickory Corners, Prairieville and Orangeville areas of the county are highest need in terms of rate of people living in poverty and limited access to SNAP eligible retail locations. Furthermore, overlaying the existing free food resources (food pantries, food distribution sites and soup kitchens) showed a dearth of resources, along with a high need in the lower right corner of the county, primarily the Assyria, and Johnstown areas.

CONCLUSIONS:

A mobile pantry service would provide great benefit to the areas identified during this landscape analysis (Assyria, Johnstown), and either one of these sites would serve as an optimal pilot site. Further exploration through community outreach should improve uptake of such a resource and help identify the best delivery model and exact routes of delivery to make the most impact.

Barry County, Michigan | Policy Fact Sheet

Population: 62,188

Median age: 42.6 compared to Michigan statewide 39.7

Barry County is getting younger. In 2017, the average age of all Barry County, MI residents was 43. 60% of the population is under 55 and the largest percentage of any age group is age 5-17 at 17%.

Race/ethnicity: Top three reported in 2018

- 94% White (Non-Hispanic)
- 2% Hispanic
- 1.4% Multiracial (Non-Hispanic)

Foreign born population: 1.52% in 2018 down from 1.72% in 2017

Barry County has a significantly lower foreign born population than neighboring counties and compared to Michigan statewide (6.74%)

Median Household Income (2018): $61,016

Poverty (2018) 8.66% of Barry County residents living below the poverty line.

The largest demographic living in poverty are Females 25 - 34, followed by Females 55 - 64 and then Females 18 – 24.

Food Insecurity:

- Adult Food Insecurity: 10% (2018) › 13% (2020)
- # of Food Insecure Adults 5890 (2018) › 7930 (2020)
- Childhood Food Insecurity: 14% (2018) › 20% (2020)
- # of Food Insecure Children: 1340 (2018) › 1960 (2020)

Barry County Landscape Analysis Final Report

PURPOSE

GATHER	MAP	IDENTIFY
Gather available food public assistance participation and resources	Map areas of need AND areas of high resource/public assistance utilization, ID gaps	Identify optimal sites for mobile service delivery

DATA GATHERED

Publicly available data is limited in geographic scope to areas of the county such as, zip code or census tract. Participation in public assistance programs (SNAP/WIC) was collected from County public health and participation in senior meals/home delivered meals programs was collected from the Commission on Aging. The policy map resource has some census block and some zip code level data that is useful in identifying demographic profiles for areas of the county.

- **SNAP Participation Data by Zip Code**
- **WIC Participation Data by Zip Code**
- **Commission on Aging: Home Delivered Meals Data by Zip Code**
- **Commission on Aging: Congregate Meals Data by Zip Code**
- **Commission on Aging: Senior Meal Choice Data by Zip Code**
- **Commission on Aging: Market Fresh Data by Zip Code**
- **Policy Map Demographic Profiles**

SURVEYS & KEY INFORMANTS

in order to collect more specific data than is publicly available, a brief survey was developed by a team of Activate Blue Zones Barry County team members, Terra Soma Chief Executive Officer, and the Landscape Analyst. The survey was deployed at the Barry County Fresh Food Box distribution sites to clients as they waited in their vehicles, and included an opportunity to complete the survey online if preferred. This survey asked clients if they picked up food for others (and if so, why); what barriers clients perceived for others to accessing fresh, healthy food; and where else they have received free food; and clients were asked to circle areas on a map of Barry County where they "think there are people with the greatest need for food"; clients were also asked to write in as much detail as possible (eg., cross streets, neighborhoods, addresses) where they "think there are people with the greatest need for food." Clients were also asked "What other services would be most helpful in a mobile pantry? " and if they are willing to speak further with a member of the team (if willing, clients offered their name/contact information.

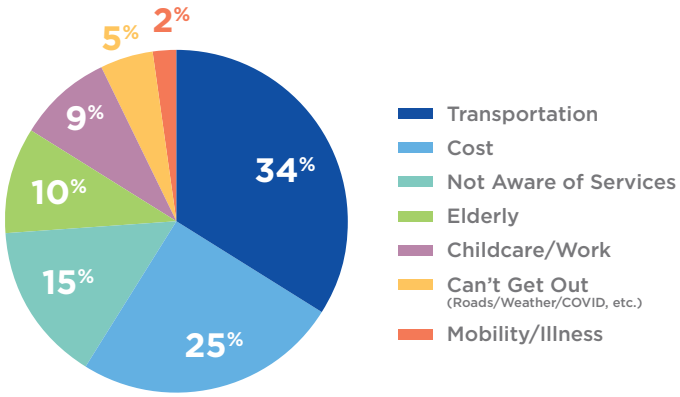
FRESH FOOD BOX DISTRIBUTION SITES - TOTAL SURVEYS: 316

Hastings (2/20/21)	Hastings (3/6/21)	Delton	Nashville	Middleville	Johnstown	Online (Public)	Transit Workers
N=97	N=80	N=43	N=48	N=9	N=21	N=16	N=2

SURVEY RESULTS

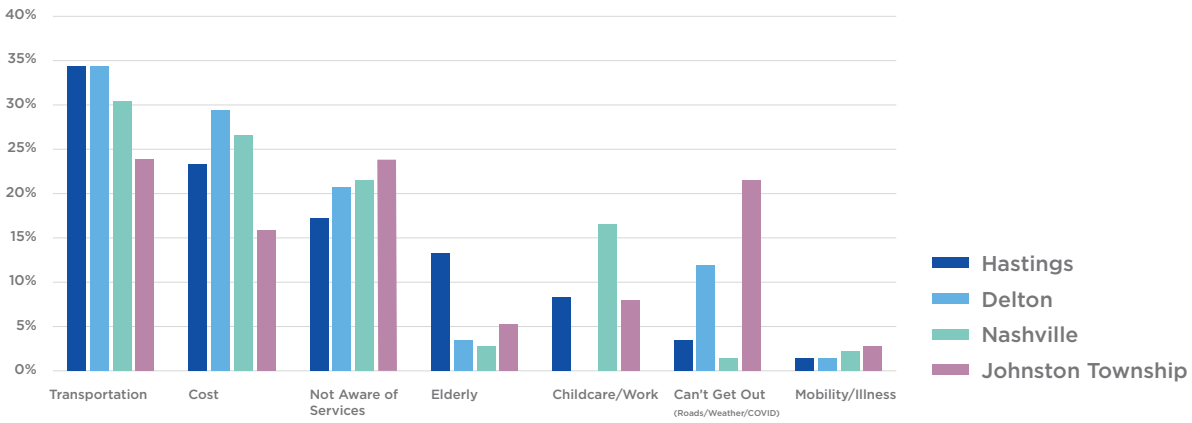
Client reported barriers for getting fresh food confirm the need for mobile services with the highest reported barrier being transportation (34%), with "not being aware of [free food] services" (15%), and elderly/home bound individuals (10%) also confirming that a mobile service would benefit those struggling with access to food. Cost of fresh food as the second highest reported barrier confirms the need for continued resources offering free, fresh & healthy food to food insecure Barry County residents.

Barriers to Getting Fresh Food (all responses)



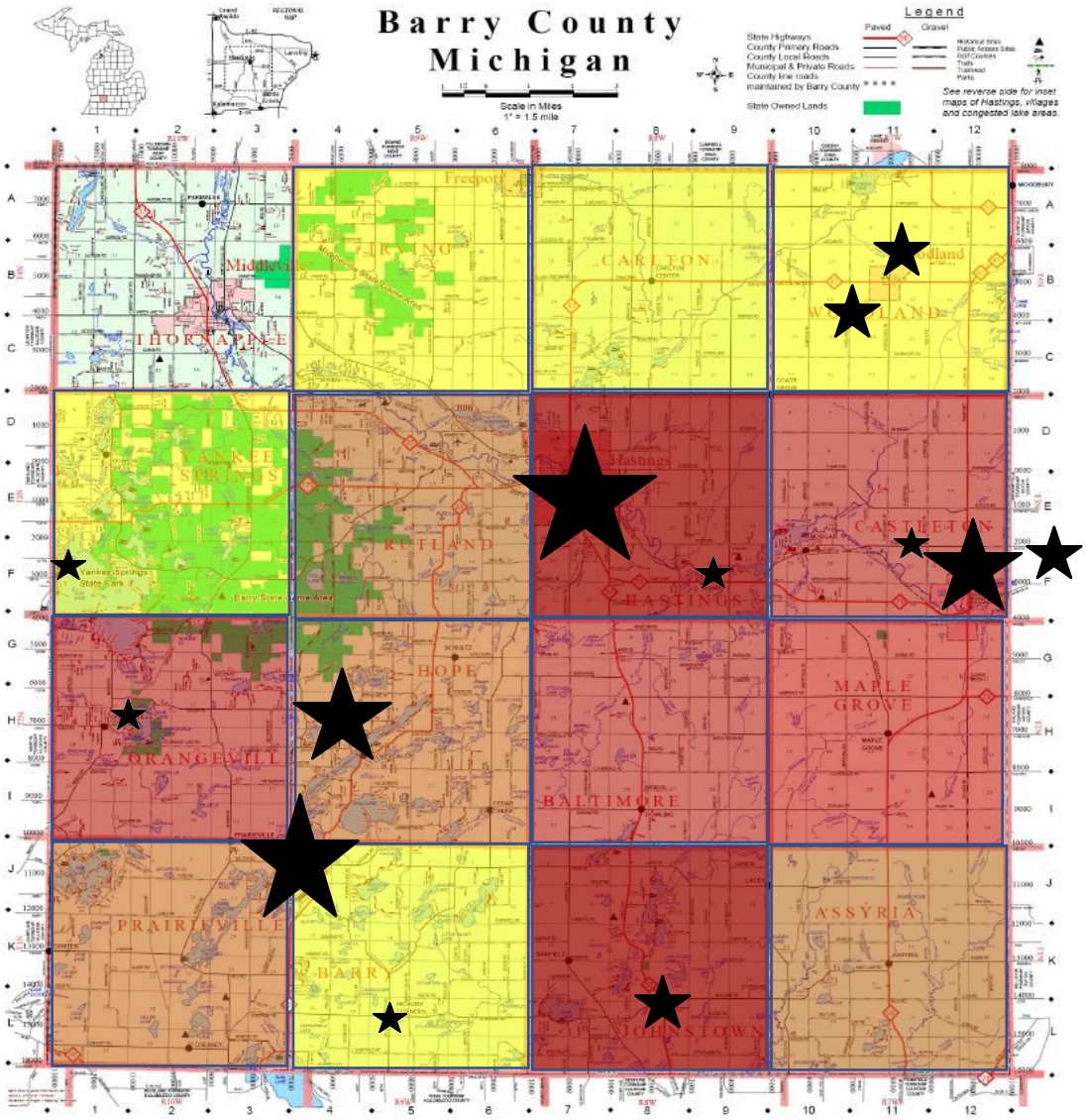
Some differences existed between sites in reported barriers to accessing fresh food. Most notably, Johnstown clients reporting "not being aware of the service" & difficulty getting to service locations (outside of transportation) at a higher percentage than other locations.

Barriers to Getting Fresh Food (by location)



MAPPING (SURVEY RESULTS)

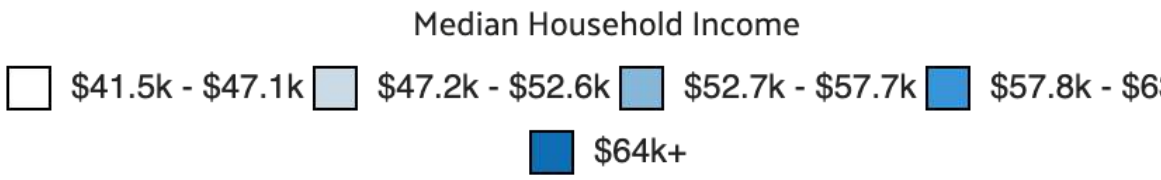
Areas circled on the map are represented below with darker red representing a higher percentage* of clients who circled the area. Areas in the darkest red (7&15) had 30% or more circled, areas in lighter red (8,9,11&12) had between 20-29% circled, areas in orange (6,10,13,&16) had between 10-19% circled, areas in yellow (2,3,4,5&14) had between 5-9% circled and the area with no color (1) had 4% circled. Stars represent areas specifically noted by clients, with larger stars representing more clients who specifically noted that areas as high need for food resources. Limitations of this exercise identified when reviewing areas circled by site of survey deployment included the tendency for clients to circle areas known to them, or close to the site where they completed the survey. Despite this limitation, some trends are observed for areas more commonly circled and subsequent maps depicting data informed areas of high need and low access.

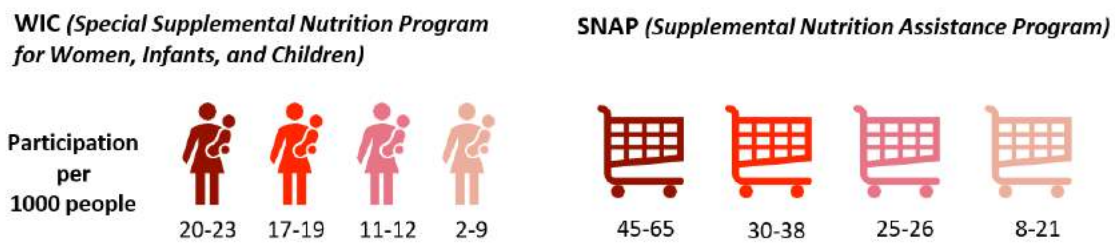


*Percentage was calculated using the total number of clients at each site who circled the area on the map divided by the total number of surveys returned. Some clients who returned a completed survey did not circle any areas on the map and some clients circled the whole map.

MAPPING (DATA)

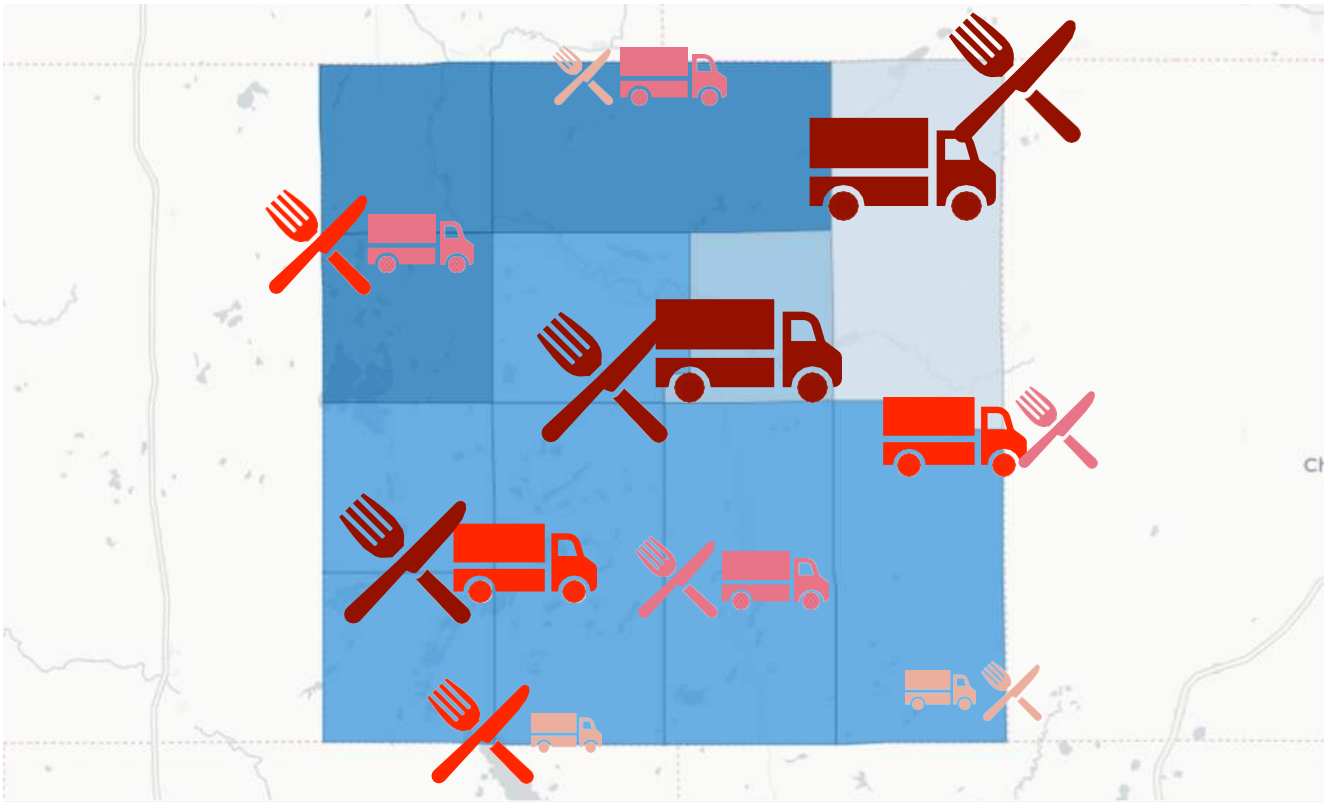
The map below outlines Barry County census tracts by median household income with SNAP (Supplemental Nutrition Assistance Program) and WIC (Special Supplemental Nutrition Program for Women, Infants, and Children) data by zip code. SNAP icons represented by a shopping cart, and WIC icons represented by a woman holding a baby, are sized and colored based on the per capita (per 1000 people) participation rate. Highest participation in both SNAP and WIC is in Hastings area (zip code 49058) and Nashville area (zip code 49073). Lowest participation in SNAP is in Middleville area (zip code 49333), Hickory Corners area (zip code 49060) & Assyria area (zip code 49021). Lowest participation in WIC is in Woodland area (zip code 48897), Hickory Corners area (zip code 49060) and Assyria Area (zip code 49021).





MAPPING (DATA CONT….)

Using the same map with median household income by census tract, the map below depicts per capita (per 1000 people) participation in Commission on Aging program, Home Delivered Meals (HDM) and Congregate Meal Dining (CONG) participation. Highest participation in HDM is in Hastings Area (zip code 49058) and Woodland Area (zip code 48897). Highest participation in CONG is in Hastings Area (zip code 49058), Woodland Area (zip code 48897 and Delton Area (zip code 49046). Lowest participation in HDM is in Hickory Corners area (zip code 49060) and Assyria area (zip code 49021)



Median Household Income

$41.5k - $47.1k | $47.2k - $52.6k | $52.7k - $57.7k | $57.8k - $63.9k | $64k+

Commission on Aging
(HDM – Home Delivered Meals)

Participation per 1000 people

7-11 | 5-6 | 3-4 | 1-2

Commission on Aging
(CONG – Congregate Meal Dining)

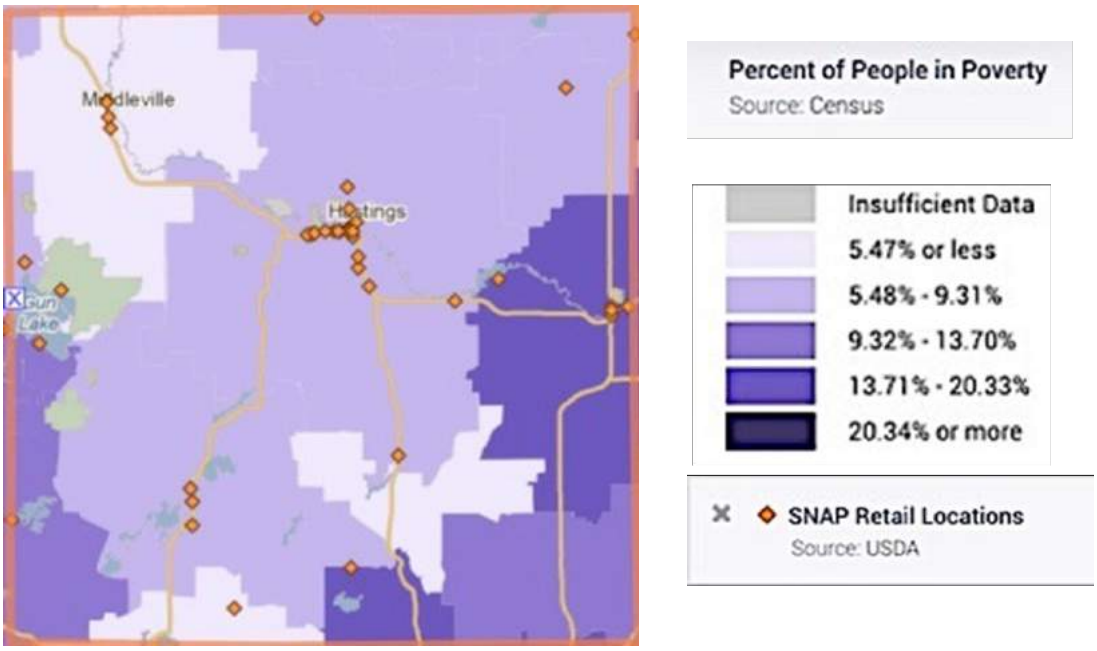
15-17 | 8-13 | 5-7 | 1-3

See more using this interactive google map:
https://www.google.com/maps/d/u/0/edit?mid=1X20WY5niYPsqNhHvilXTm3MIuUe7JIBy&usp=sharing

POLICY MAP DEMOGRAPHIC PROFILES

Below is a map from Policy Map showing the percent of people living in poverty in Barry County with darker areas representing higher poverty and lighter areas representing lower poverty.

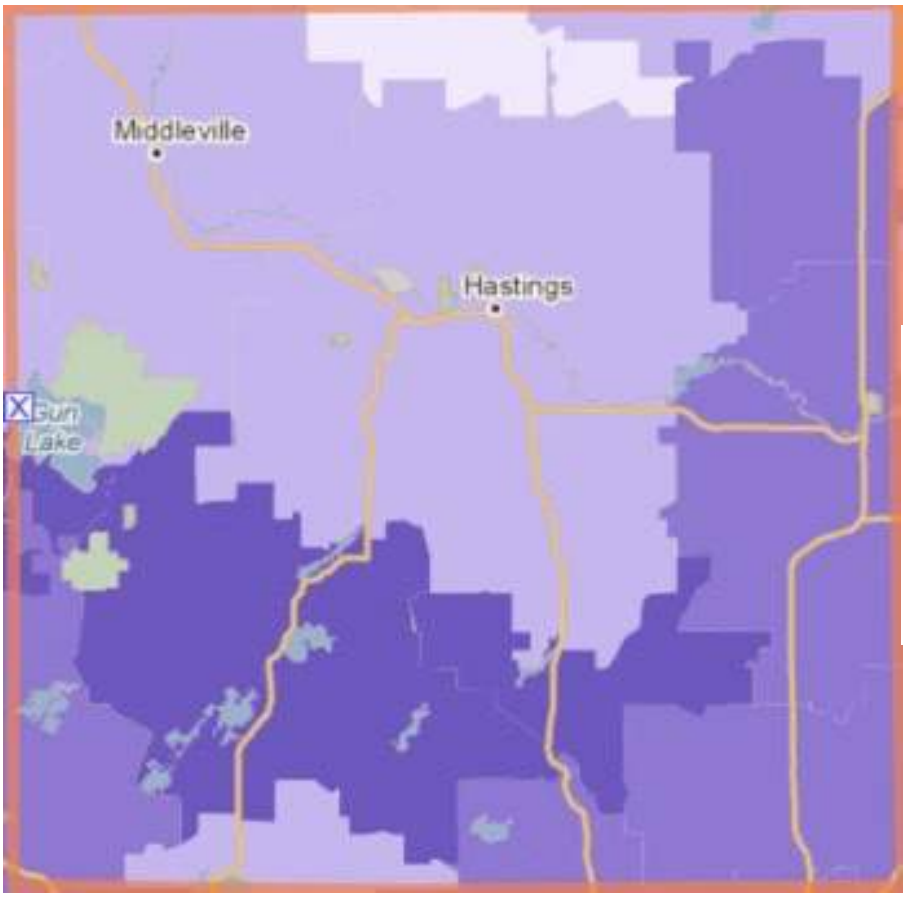
Because poverty is measured by the size of a household and the total household income, it tell a slightly different story than median household income. Also represented on this map are SNAP eligible retail locations*. The map identifies Assyria area, as well as Johnstown Township area as particularly high percent of people living in poverty, as well as a dearth of SNAP eligible retail locations to purchase healthy foods. While Woodland area appears to have lower median income based on the census tract data from pages 6 & 7, it has a lower level of people living in poverty, and because Woodland does not have a smaller avg, household size it is likely that very low income in Nashville area (zip code 49073) skews the median household income lower for the whole census tract. Middleville's low levels of participation in public assistance and Commission on Aging food access programs seems to be correlated with the area being higher income and lower percentage of people living in poverty. Furthermore, there is an adequate representation of SNAP eligible retail locations.



*SNAP retail locations must meet criteria for stocking above an acceptable threshold of staple foods (vegetables or fruits; dairy products; meat, poultry, or fish; breads or cereals)

POLICY MAP DEMOGRAPHIC PROFILES CONT...

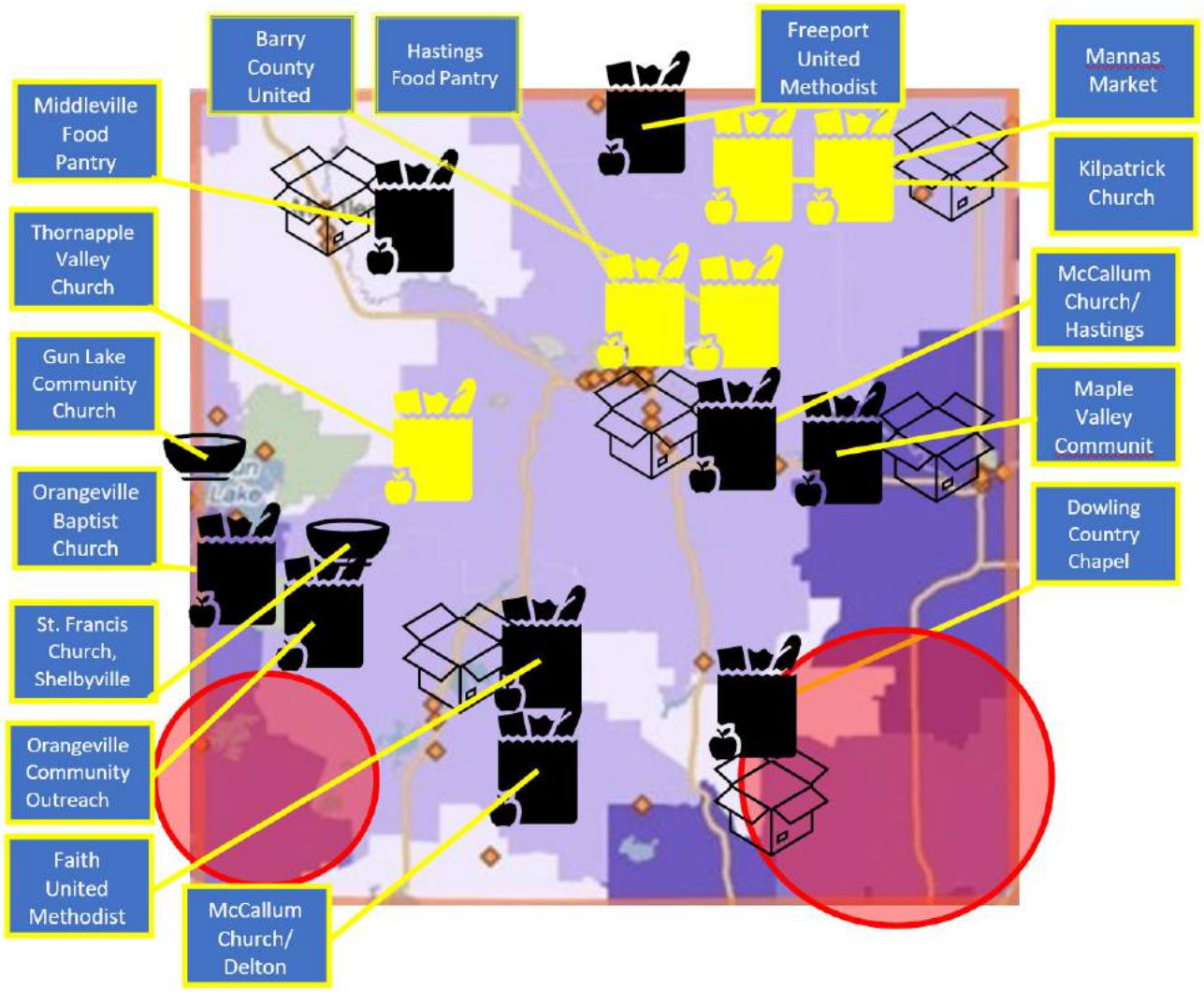
The map below depicts the median age of residents in Barry County by area, of interest to this analysis, median age may have some (though limited) association with participation in the various public assistance or Commission on Aging food access programs (see maps on pages 6 & 7). For example, Assyria area skews older (median age range 45-49) so low participation in WIC may be correlated with older individuals having grown children, however, Assyria area also has very low participation in SNAP, which does not have an age dependent limiting factor like WIC. Woodland area has a slightly higher skewing median age, and has very low participation in WIC however relatively high participation in SNAP, indicating a correlation between median age and participation in WIC & SNAP. Freeport area (zip code 49325) has a median age that skews younger, and appears to have relatively low percentage of people living in poverty, which may explain the higher participation in WIC, but lower participation in SNAP and Commission on Aging food access programs.



FINAL ANALYSIS WITH FOOD RESOURCE MAPPING

The map below includes percentage of people living in poverty, SNAP eligible retail locations as well as, the current Fresh Food Box distribution sites (box icon; Middleville, Woodland, Hastings, Nashville, Delton and Johnstown) Known free food pantry resources (Black grocery bag icon), the most commonly reported fresh food resources listed by clients on the survey (yellow grocery bag icon) and known free food kitchen resources (Bowl icon).

This landscape analysis offers enough data driven evidence that there are some areas of Barry County MI that have high need (high poverty, lower median household income) and low access (none/very few SNAP eligible retail locations) which include Banfield/Johnstown township area and Assyria area. Confounding this limited access areas are low to very low participation in public assistance programs (SNAP & WIC) and Commission on Aging programs (home delivered meals & congregate dining) (see maps on pages 6 & 7).



KEY INFORMANT INPUT

Much of the input provided by survey respondents willing to complete a key informant interview was in alignment with responses recorded on surveys. For example, Hastings and Nashville were commonly identified as areas where food distribution is needed. One transit worker interviewed provided a detailed overview of potential areas of focus, which included Dowling area with "Country Chapel UMC" as a potential central location for distribution. This key informant input can be best utilized as a secondary resource during final stages of mobile service unit development. Choosing data driven potential sites for mobile delivery can help to pinpoint areas where key informants can be directly interviewed and engaged in a community led effort to ensure buy in and uptake of the mobile service resource.

CONCLUSION AND RECOMMENDATIONS

This landscape analysis concluded in some data driven sites in Barry County, with high need and low access. These sites include the Assyria, Johnstown/Banfield and Orangeville areas. One potential next step for the Activate Blue Zones committee is to focus a small moblike service delivery effort in one of these sites as a pilot, engaging residents near or in the area who offered to speak further with the team (on the survey), and deploying a small focused mobile effort to test the model and assess feasibility and scalability.

Choose pilot site(s) from existing data

Identify if additional outreach/interviews are needed for pilot sites

Potential key informant interviews or focus groups to inform design of mobile service unit

Deploy Mobile Service unit(s)

Follow up and assess

SUGGESTED PILOT SITE

Starting with Johnstown/Banfield area as a pilot site for testing a mobile service unit has benefits because it is already aligned with food distribution efforts through the Fresh Food Box Distribution program, however, it still has much lower access (limited access to SNAP eligible retailers, low to very low participation in public assistance and Commission on Aging food access programs, than other areas with similar levels of need. Once designed, and piloted, the team can expand service to other areas identified (Assyria and Orangeville) using the same community informed process. Another optimal mobile service site to target is Assyria, however, this area may require additional community outreach to identify a suitable location and assure buy in and uptake of the resource.

REFERENCES

1. Policy Map: https://www.policymap.com/maps
2. Data USA Barry county: https://datausa.io/profile/geo/barry-county- mi#:~:text=The%205%20largest%20ethnic%20groups,and%2099.1%25%20are%20U.S.%20citizens.
3. Data USA Michigan: https://datausa.io/profile/geo/michigan
4. Feeding America: https://map.feedingamerica.org/

SOUTH MICHIGAN FOOD BANK

Barry County Blue Zones Distributions Report

August 17th, September 7th, September 21st

October 5th, October 19th

SMFOODBANK.ORG
269.964.3663
5451 Wayne Road Battle Creek, MI 49037

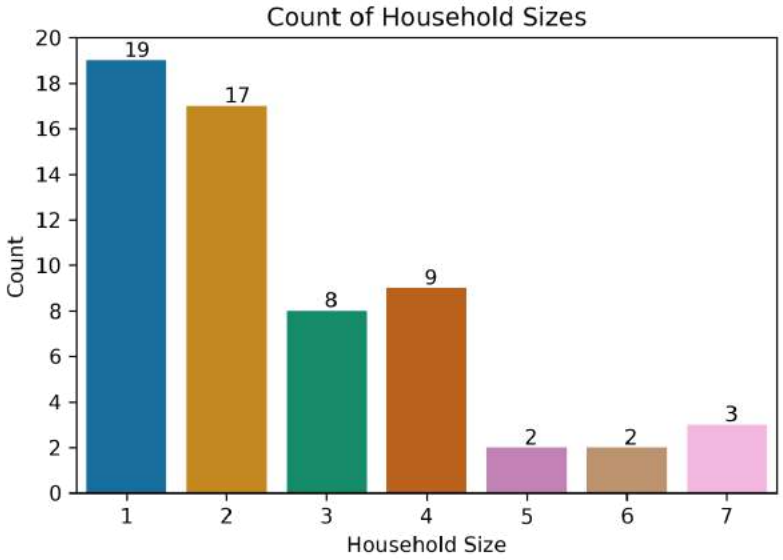
PROUDLY SERVING 8 MICHIGAN COUNTIES
BARRY, BRANCH, CALHOUN, HILLSDALE, JACKSON,
KALAMAZOO, LENAWEE, ST. JOSEPH

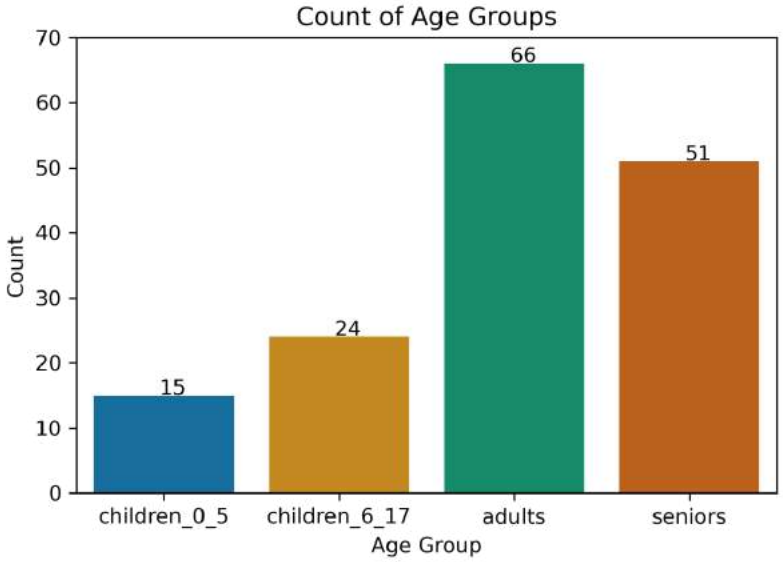
General Statistics

Date	Households	Household Members*	% of Households with Children	% Returning Customers
8/17/2021	60	156	25	N/A
9/7/2021	65	166	24.62	38.46
9/21/2021	93	225	16.13	43.01
10/5/2021	69	166	20.29	68.12
10/19/2021	96	269	33.33	90.63

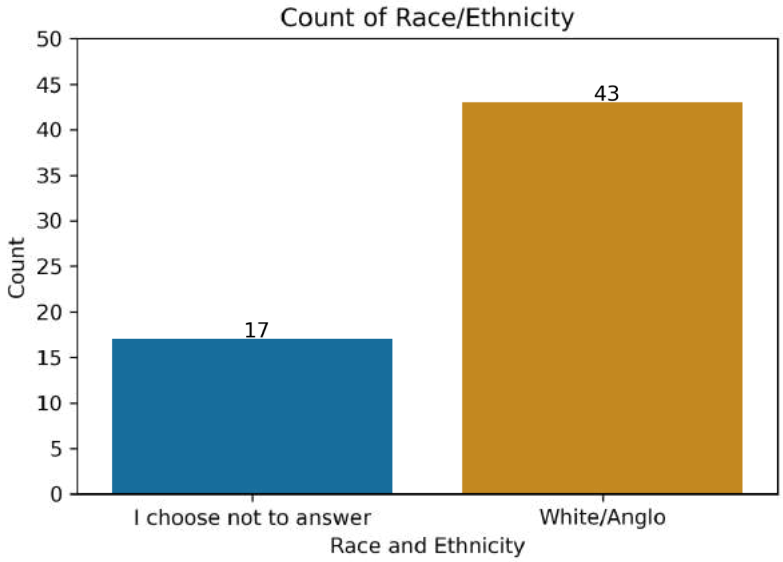
*Adding up age group counts will not match household members because of some missing data for age demographics.

August 17th Distribution





3


Count of Race/Ethnicity
Count
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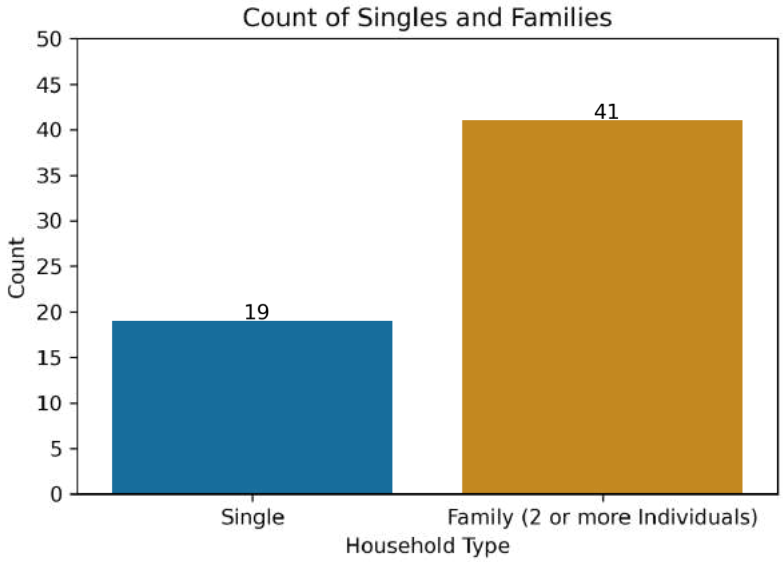
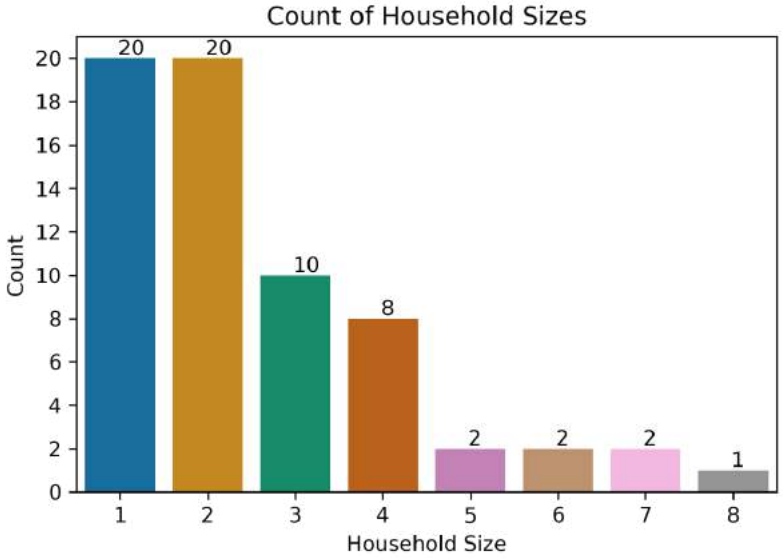
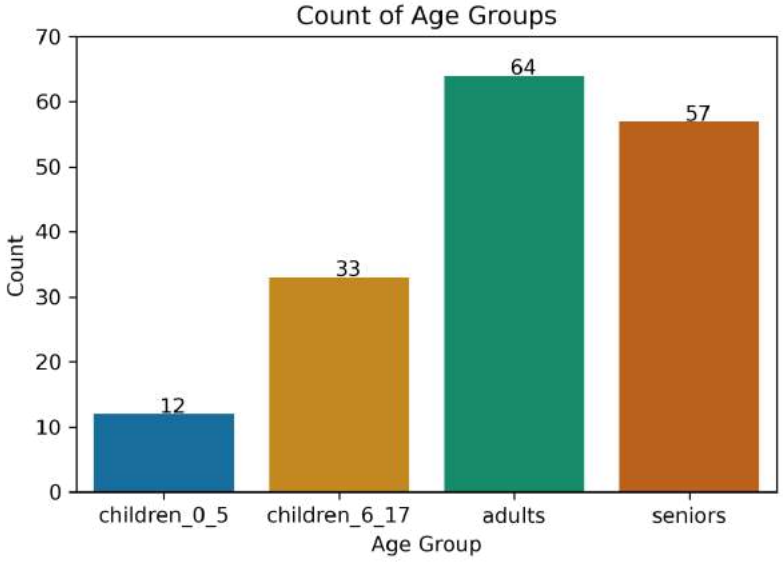
45
40
35
30
25
20
15
10
5
0
17
43
I choose not to answer
White/Anglo
Race and Ethnicity

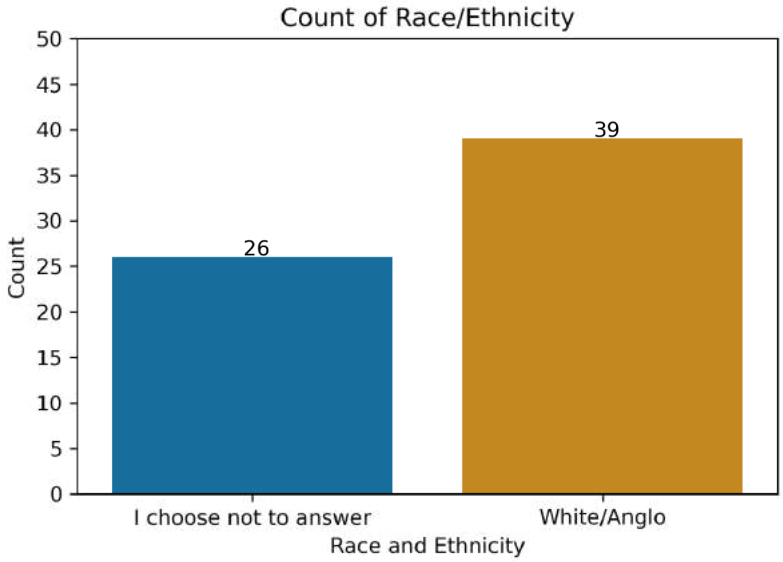

Count of Singles and Families
Count
50
45
40
35
30
25
20
15
10
5
0
19
41
Single
Family (2 or more Individuals)
Household Type

September 7th Distribution





5


Count of Race/Ethnicity
Count
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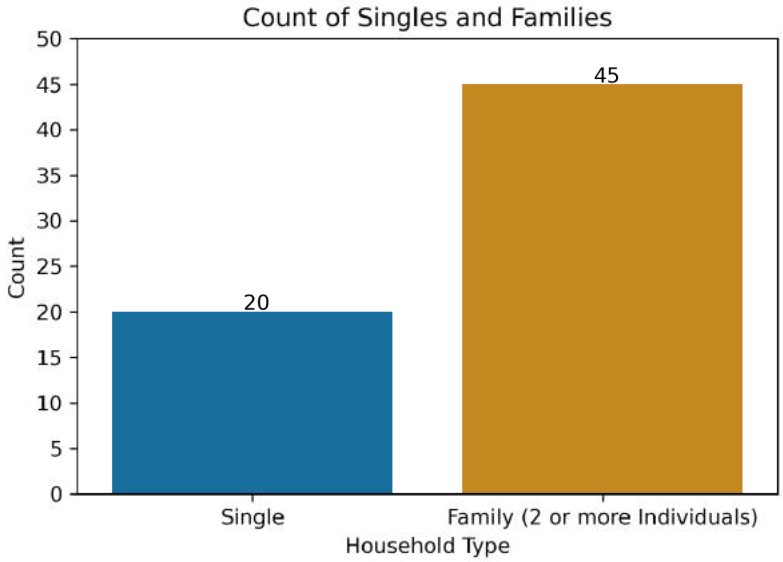
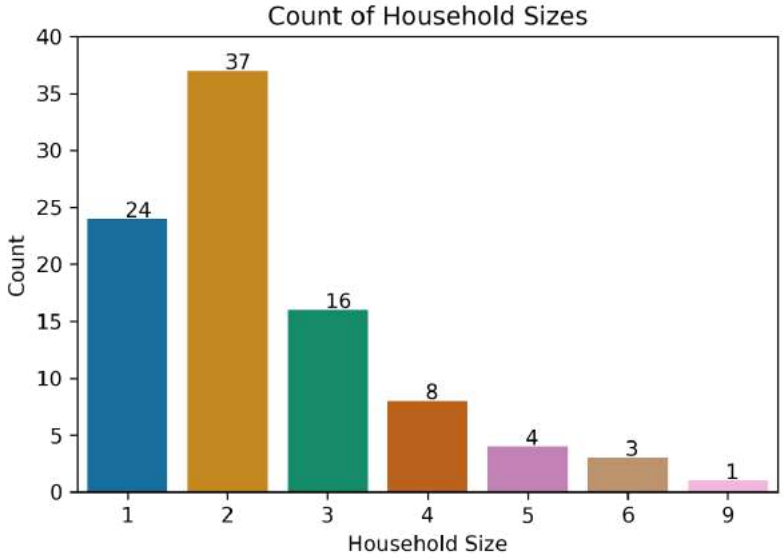
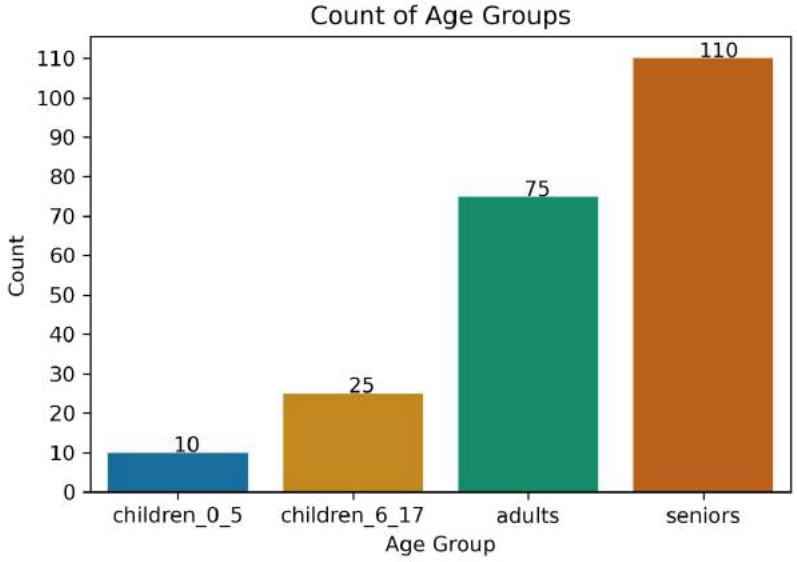
White/Anglo
Race and Ethnicity


Count of Singles and Families
Count
50
45
40
35
30
25
20
15
10
5
0
20
45
Single
Family (2 or more Individuals)
Household Type

September 21st Distribution





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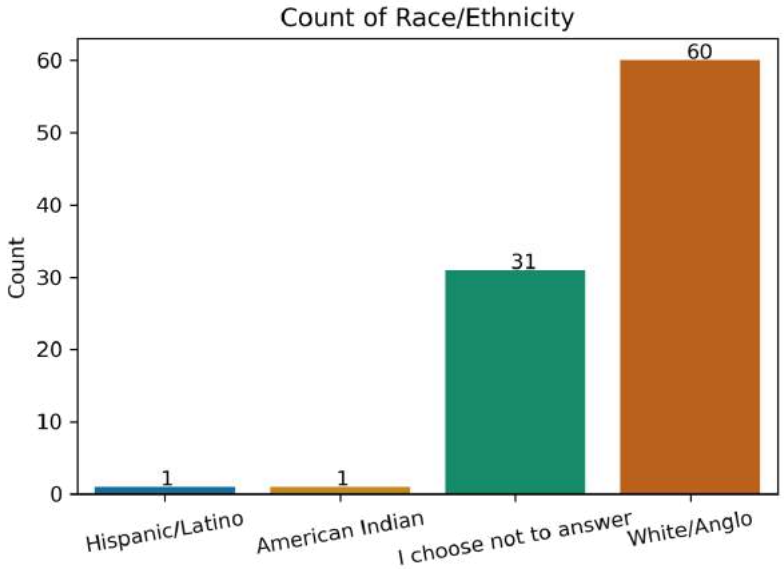
Count of Race/Ethnicity
Count
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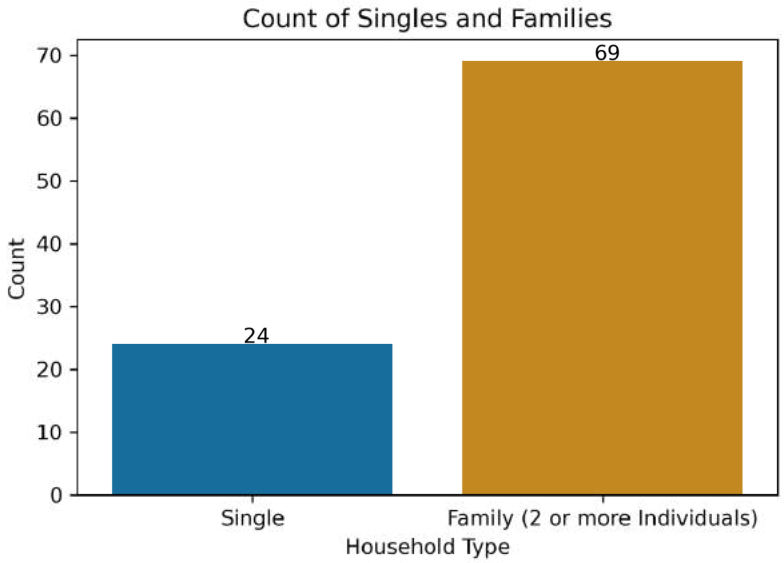
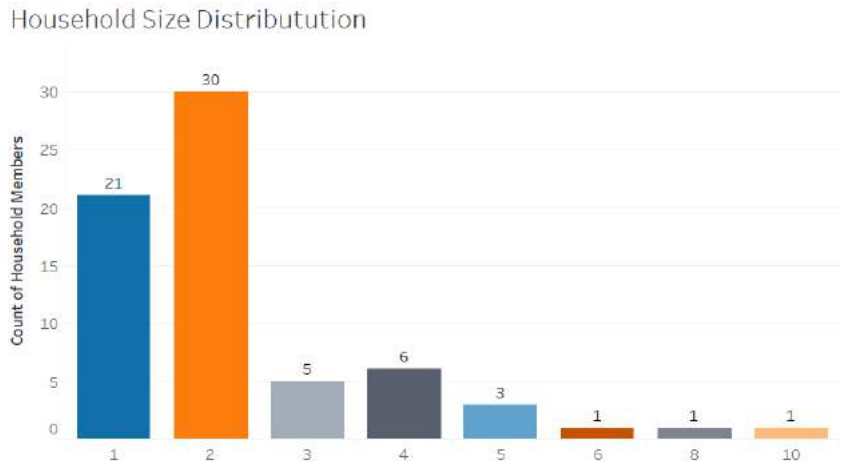
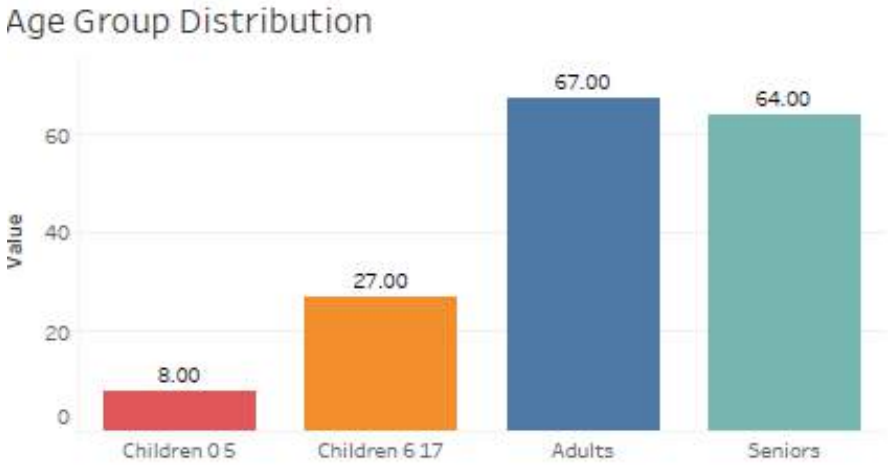
50
40
30
20
10
0
1
1
31
60
Hispanic/Latino
American Indian
I choose not to answer
White/Anglo

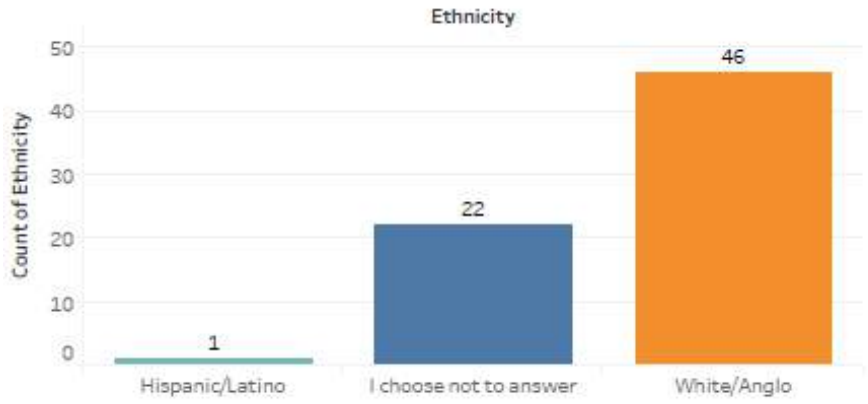

Count of Singles and Families
Count
70
60
50
40
30
20
10
0
24
69
Single
Family (2 or more Individuals)
Household Type

8

October 5th Distribution






Race/Ethnicity Distribution
Ethnicity
Count of Ethnicity
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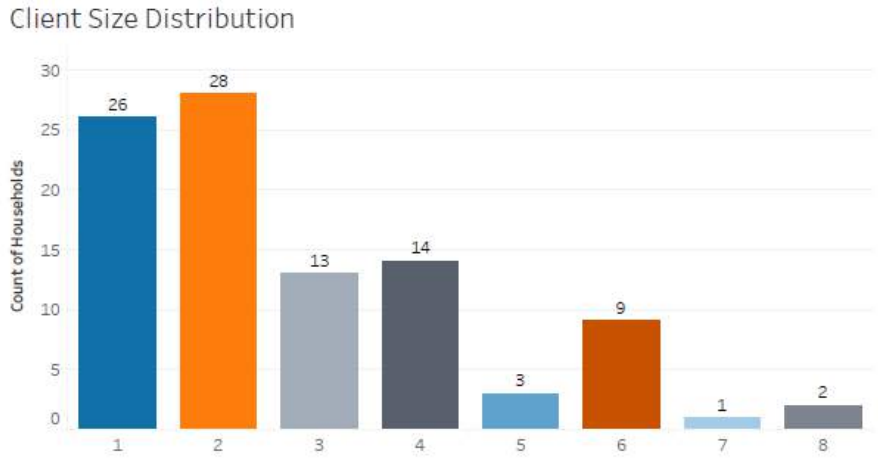
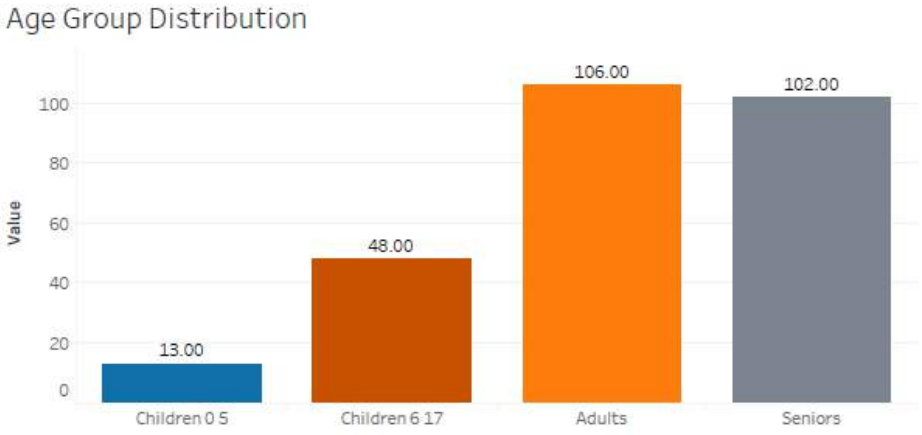
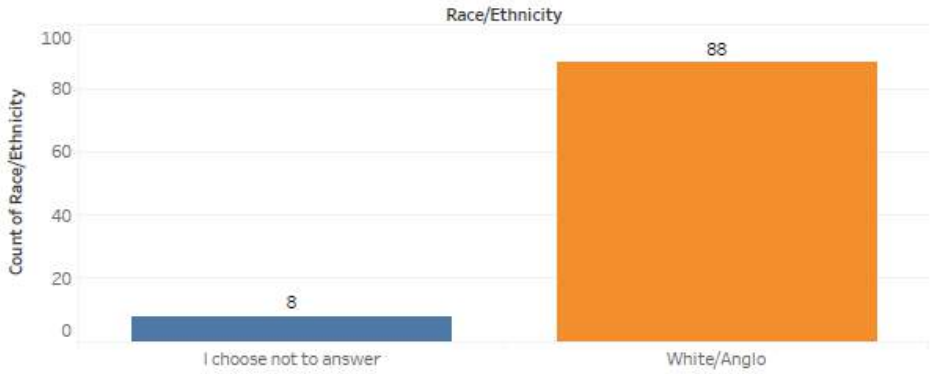
40
30
20
10
0
1
22
46
Hispanic/Latino
I choose not to answer
White/Anglo

October 19th Distribution

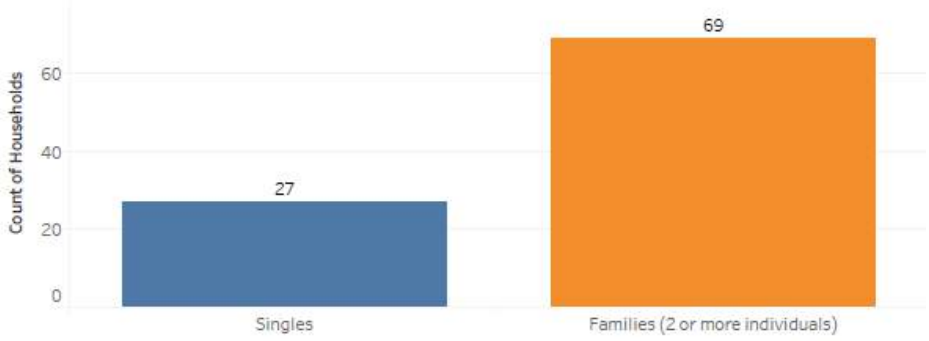




Race/Ethnicity Distribution



Count of Singles and Families



BLUE ZONES®
ACTIVATE
BARRY COUNTY

DECEMBER 2021

Barry County Community Food Center Feasibility Study Final Report

PREPARED BY

NEW VENTURE ADVISORS LLC®

New Venture Advisors LLC (NVA) is a strategy consulting firm specializing in food system planning and food enterprise development. NVA's clients are nonprofit organizations and municipal planning agencies launching new programs, policies, and social enterprises that benefit their communities by promoting sustainable agriculture, economic development, food access, hunger relief, and health equity, as well as entrepreneurs and investors capitalizing on the extraordinary growth of the good food sector.

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The Barry County Community Food Center Feasibility Study was supported and informed by the thoughtful input of many Barry County community members. In particular, the Blue Zones team and New Venture Advisors consultants appreciate the time and effort put forth by the Barry County Blue Zones Action Team and Steering Committee.

Table 1: Barry County Blue Zones Action Team

Barry County Blue Zones Action Team			
Kellogg's	Larry Case (Co-Chair)	Retired	Formerly Kellogg's Engineering
BARRY COUNTY Chamber & Economic Development Alliance	Jennifer Heinzman	President & CEO	Barry County Chamber and Economic Development Alliance
	Sarah Moyer-Cale	City Manager	City of Hastings
Barry County Commission on Aging	Tammy Pennington	Executive Director	Barry County Commission on Aging
	David Tossava	Mayor	City of Hastings
BLUE ZONES ACTIVATE BARRY COUNTY	Allison Troyer-Wiswell (Project Lead)	Executive Director	BZA Barry County
Spectrum Health	Carla Wilson-Neil (Co-Chair)	Retired	Formerly (COO) Spectrum Health Pennock
MICHIGAN STATE UNIVERSITY EXTENSION	Garrett Ziegler	Community Educator	MSU Extension

Table 2: Barry County Blue Zones Steering Committee

Barry County Blue Zones Steering Committee			
Barry-Eaton District Health Department	Anne Barna	Director of Planning, Promotion, and Evaluation	Barry-Eaton District Health Department
	Michael Brown	Barry County Administrator	Barry County
Spectrum Health	Janine Dalman	Director of Marketing and Foundation	Spectrum Health Pennock
DeCamp Foundation	Jim DeCamp	Director	DeCamp Family Foundation
Barry County United Way	Lani Forbes	Executive Director	Barry County United Way
Barry Community Foundation	Bonnie Gettys	President & CEO	Barry Community Foundation
Pierce Cedar Creek Institute	Bob Gilbert	Director of Operations	Pierce Cedar Creek Institute
highpoint COMMUNITY BANK	Nancy Goodin	Vice President, Marketing Director	Highpoint Community Bank
BARRY COUNTY CHAMBER & ECONOMIC DEVELOPMENT ALLIANCE	Jennifer Heinzman	President & CEO	Barry County Chamber and Economic Development Alliance
Spectrum Health	Bernard Jore	COO	Spectrum Health Pennock
Spectrum Health	Sheryl Lewis-Blake (Chair)	Retired	Formerly (CEO) Spectrum Health Pennock
MICHIGAN STATE UNIVERSITY EXTENSION	Erin Moore	District 7 Director	MSU Extension
	Sarah Moyer-Cale	City Manager	City of Hastings

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CREEKSIDE VISION	Kim Norris	Owner	Creekside Ophthalmology
Barry County Commission on Aging	Tammy Pennington	Executive Director	Barry County Commission on Aging
Barry-Eaton District Health Department	Colette Scrimger	Health Officer	Barry-Eaton District Health Department

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Project Background

Blue Zones Activate Barry County is part of the global movement that has improved health and well-being for entire communities. The Barry Community Foundation, along with local leaders, is working with Blue Zones to activate Barry County to make it a healthier place to live, work, grow up, and grow old. In the fall of 2020, the community prioritized changes it would like to see in its food system with the goal of developing a high visibility amenity that could be located in the City of Hastings and provide services, programs, and component offerings to residents throughout Barry County.

They hypothesized that the proposed amenity would incubate new healthy food and farm enterprises, provide professional and individually oriented culinary education opportunities, and integrate wellness and healthy-eating oriented services and efforts under one roof for consumers and community organizations. At a summit of interested stakeholders in the fall of 2020, the concept was proposed and garnered wide support. The various components discussed included a food hall (garnering 75 percent of the vote), health and nutrition education, a year-round farmers market, and a kitchen incubator.

Subsequently, local leaders saw an opportunity to integrate these programs into a single community food center (CFC) and identified a promising building in downtown Hastings, MI, to house the center. Before making any investments, they elected to conduct a feasibility study to validate the community food center concept, determine potential locations, and assess what mix of food programs and enterprises would best serve the community's food system goals.

In April 2021, New Venture Advisors (NVA) was hired to design the feasibility study and to collaborate with the Food Systems Action Team and Steering Committee to support outreach, market research, and lead operational design and development for the proposed facility.

Throughout April to November 2021, the NVA team worked with Blue Zones Steering Committee and Action Team members to

- Conduct a user needs assessment for the community food center concept,
- Develop an operating model for the facility,
- Create visuals of the physical space and layout,
- Refine these concepts with community stakeholder input,
- Propose a potential financial model, and
- Assess potential project risks.

This report summarizes the key activities of the project's four phases, outlined in table 3.

Table 3: Feasibility Study Project Phases

Project Phase	Key Activities Completed
Phase 1: User Needs Assessment	• Conducted 39 interviews with key stakeholders and potential CFC space users • Collected input into components and design • Assessed interest from tenants and operators • Examined use cases • Built business matrix (development plan)
Phase 2: Operating Model Development	• Developed operating model (operational needs) • Developed building program to define physical space needs • Researched market analogs/case studies • Developed a financial model of capacity • Developed a break even pro forma • Created visuals of the physical space (interior/exterior)
Phase 3: Concept Refinement	• Held community engagement events to refine, inform, and shape the plans to progress forward: o 284 responses to community-wide survey o 5 on-site feedback events o 2 virtual focus groups
Phase 4: Final Feasibility Assessment	• Used community input to refine all models • Assessed potential project risks • Assessed economic impact • Committee vote held to proceed or decide on next actions (go/no-go)

At each stage, Steering Committee and Action Team members reviewed findings and provided critical input on the project's direction. All resources and reports shared with these teams are documented in appendix A.

In November 2021, NVA summarized the findings and recommendations and led a process for the Steering Committee and Action Team to make a go/no-go decision on the project. The teams considered the following questions:

- ✓ Is there **community support** for the proposed project and its goals?
- ✓ Do we understand what the proposed facility **will offer our community**?
- ✓ Is there a **viable operational design** for our community to advance this project to the next steps?
- ✓ Is there a **financially feasible model** that our community (county) could support building and operating?

On November 3, 2021, the Blue Zones Steering Committee and Action Team voted unanimously to move forward with the community food center concept.

User Needs Assessment

Phase 1 of the Barry Community Food Center feasibility study was a user needs assessment to identify the community needs that could be met with a CFC, any potential challenges with the concept, potential CFC space users and participants, the components that would be most utilized by community partners, and potential location options. The concept, structure, and design of the facility is to be driven by community need and inputs; thus, an extensive analysis phase was designed to ensure that all community members had an equal voice in the process.

In this phase, NVA staff and Action Team members conducted 39 in-depth interviews with individuals representing a variety of community organizations.

Table 4: Organizations Included in the User Needs Assessment

Anne's Health Food Store	MSU Extension
Barry Chamber of Commerce & EDA	Nodding Thistle Farm
Barry Community Foundation	Otto's Turkey Farm
Barry County Commissioners	Pierce Cedar Creek Institute
Barry County Health Department	Press
Cherry Health Center	Smith Family Farms
Commission on Aging	Spectrum Health
Crane Dance Farm	Sprout
Firefly Fields	Star School Market Garden
Hastings City Council	Thornapple Arts Council
Hastings Downtown Development Authority	Thornapple Township Planning & Zoning
Hastings DPS	Tom's Market
Hastings Office of Events	United Way (Barry County)
Kellogg Community College	Windmill River Farm
Middleville Planning & Zoning	

Components

Only one potential CFC component (office space) received little interest and was dropped from the rest of the study. The interviewees expressed interest in moving forward with the following CFC components:

- Commercial kitchen
- Food hub
- Event space
- Year-round farmers market site
- Retail hall
- Programming and services

Community Benefits

Interviewees expressed interest in a wide variety of potential benefits that the CFC could provide for the Barry County community. These stakeholders were interested in the CFC as a potential tourism and place-making amenity for the community, recognizing that its economic sustainability could depend on its ability to draw consumers from outside markets. Many interviewees also focused on the facility's goal to promote healthy eating – that the facility should offer food and programs that help shift local attitudes

about healthy food and educate consumers about the benefits of healthy, local food. Stakeholders also voiced an important community need in terms of addressing food insecurity. They shared that a key goal of the CFC should be to provide access to healthy food to all community members, regardless of their income. And finally, many were interested in the role that the CFC could play in incubating new food businesses – from hosting a year-round farmers market that would help producers market their products longer throughout the season to a commercial kitchen for entrepreneurs to test their food product ideas.

Figure 1: Key Themes from Stakeholder Interviews

Potential Challenges

These stakeholders also shared their hesitations about the project and potential challenges and pitfalls that may occur. Some were skeptical that enough community members would be interested in healthy food to visit the CFC and its businesses. Many were concerned about community impacts and wanted to ensure that the CFC would complement established businesses rather than compete with them. They also spoke to the need for this to be a county-wide project, not just to benefit the City of Hastings. And finally, there was much discussion about the long-term sustainability of the project. Stakeholders wondered if the CFC could be successful long-term. Each of these expressed concerns was used to guide the continuing development process to ensure that universal access, affordability, and compatible programming were drivers during the design and financial development phases. These concerns were

also revisited in the conclusion of the study in the risk assessment that identified abatement strategies for primary challenges to the facilities sustainability or operations.

Potential Locations

Interviewees were asked for their ideas for potential locations and for their thoughts on the initial location idea (City of Hastings DPS building downtown). Their feedback is incorporated in the "Site and Location Considerations" section below.

Operating Model

Community Food Center Components

Based on the initial market study interviews, the potential CFC components were refined to ensure that there was community interest and support and to begin to integrate them into a model that would serve two aims for the community.

First, the CFC model was designed to serve the community's immediate priorities to increase access to healthy food and support business and community development. Second, the model would integrate the wider aims of connecting to existing local and regional programming (arts, culture, healthy living, etc.) and attracting tourism to support the businesses in Hastings and the larger area. An initial conceptual operating model (figure 2) was developed to guide the space planning and visualizations.

Figure 2: Initial Barry County CFC Conceptual Graphic

The operating model includes all the primary components in the proposed CFC design except for office space. This component was eliminated due to lack of interest among stakeholders and direct evidence that there is ample office space in Barry County to support this need. With that component removed, the refined model includes four (4) primary components and supporting programming (see table 5).

Table 5: Barry County CFC Component Descriptions

Warehouse, Storage, and Logistics Space	
A food hub is a facility that can store, process, distribute, and market locally produced food products. The hub concept at the CFC will be a warehouse space that can serve multiple users. Space use will focus on: • Storage • Stations for sorting, picking, and packing	
Commercial Kitchen Space	
A commercial kitchen is a commercially licensed space where chefs, bakers, caterers, and other food professionals can prepare their goods. In the CFC, the space will be segmented to accommodate: • Production kitchen – a high-volume production space for use by food access organizations • Shared/incubation kitchen – entrepreneurial access for production of products, goods, and food-based service businesses • Processing space – for the light sorting, cleaning, and processing into value-add products by local farmers • Public/community demonstration kitchen – for individuals or groups to use for classes, demonstrations, and training	
Retail Hall	
A food hall can host a variety of local mini-restaurants, food vendors, and food-focused shops, all under one roof. Typically, each vendor has a small stall. A food hall provides an opportunity for businesses to get started and for customers to buy a variety of healthy foods. At the CFC, two (2) dedicated retail stalls will be added that support community needs: • Local farm produce retail outlet • SNAP or food access information outlet	
Event and Market Space	
This event space is a flexible space that can hold events like arts programs, food classes, or community meetings. Community members can rent the space too. Segmentation of the space includes: • Dedicated "market" space for the Hasting's Farmers Market (inclement weather and winter months) as well as other municipalities' markets, arts markets, public craft markets, etc. • Divisible event space to support public and private event needs in the wider community	

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Each of the proposed CFC components was refined throughout the feasibility study to address community needs. NVA provided case studies for the steering committee and action team to review and discuss elements that would fit in Barry County (see appendix B).

The key concerns for each of the proposed spaces are noted in table 6. Throughout the process, stakeholders were clear that the spaces should be low-cost, accessible, focused on health/wellness, and supportive of existing businesses.

Table 6: Component Considerations

Component	Elements	Key Concerns
 WAREHOUSE, STORAGE & LOGISTICS SPACE	Refrigerated, Freezer, Dry Storage	LOW-COST ACCESS
	Warehouse (Food Access and Product Aggregation and Distribution)	
 COMMERCIAL KITCHEN SPACE	Food Access (Volume Production Space)	GROW LOCAL BUSINESS DON'T COMPETE WITH
	Incubator Kitchen, Demo Kitchen, or Value-Add Processing Space	
 RETAIL HALL	Healthy Prepared Foods Option	LOW OR NO-COST ACCESS
	Food Access, SNAP & Grocery Access	
 EVENT & MARKET SPACE	Classroom, Event & Training Spaces	FOOD, HEALTH & WELLNESS FOCUSED PROGRAMMING
	Year-Round Market Site	

Site and Location Considerations

The proposed CFC operating model was designed based on several sites under consideration within the township of Hastings. The town is the largest within Barry County and offers practical amenities such as a walkable downtown within proximity to the sites, existing infrastructure to support related events and activities, and potential parking and access points, as well as initial support from local political and governmental leadership. The town also has an established record of investing in infrastructure projects that support arts, culture, and small business development, such as the outdoor amphitheater, various outdoor arts and mural projects, and the revitalization of the river walk recreation path and food forest area.

Three sites were initially under consideration: two existing buildings that could be renovated to accommodate the CFC and a new build site. One site was eliminated, leaving two sites in consideration (figure 3).

Figure 3: Potential CFC Locations

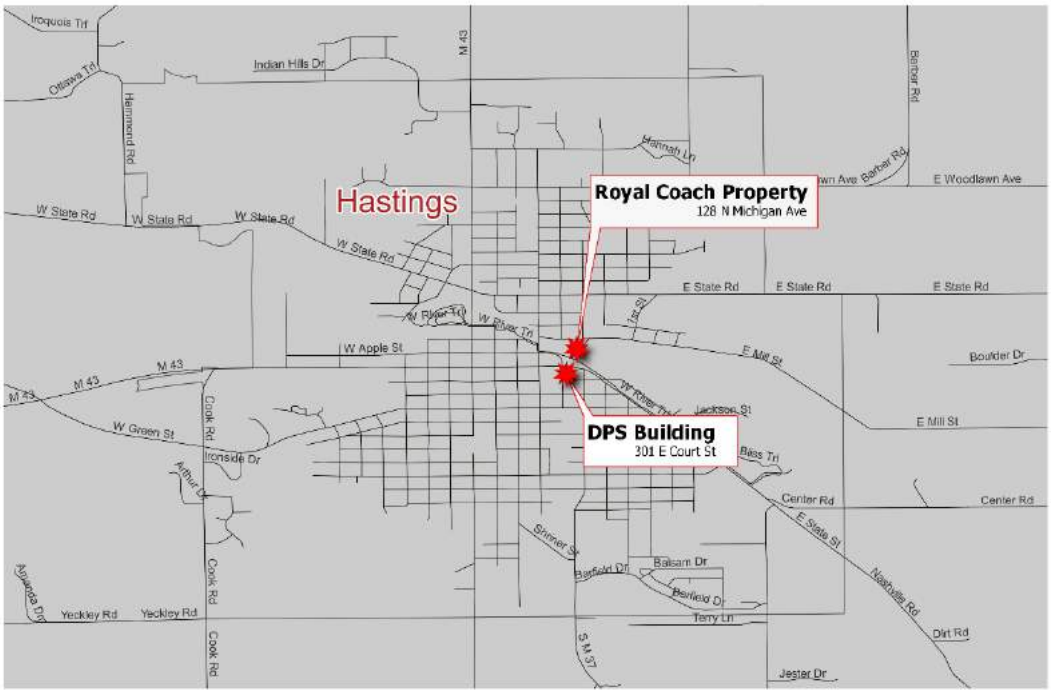

Table 7: Potential CFC Location Descriptions

Potential Sites	New or Existing?	Approx. Square Footage	Description	Pros	Cons
DPS Building	Existing Building	@20,000 sq. ft.	A historic bow-truss building built in the 1870s and renovated in the 1970s. The building is currently occupied by the DPS (Department of Public Services).	• Central location • Compatible size • Possible outdoor spaces nearby for seating/uses • Limited risk in development (recent renovations did not identify major toxin or site hazards) • Proximity to downtown (walkable) • Proximity to outdoor recreation spaces • Proximity to events amphitheater	• Limited Parking • Exterior salt storage vault will need to be removed • Small risk of site hazards or previous use contaminations that could impact bottom line of build budget • Unknown zoning or usage issues with the conversion • Cost of relocating the DPS to alternate site will need to be built into the town's budget ($3 million+)
Royal Coach Property	Empty Lot/New Build	Flexible (New Build)	The city has proposed an empty building site across the river bridge for a potential new build. The site was formerly home to a manufacturing facility, which was burned down, and the city is in development to build retail and housing adjacent to the site.	• Central location • Compatible size • Proximity to downtown (walkable) • Proximity to outdoor recreation spaces • Proximity to events amphitheater • Flexibility of new build site • Ability to build parking and related site needs into design • Proximity to future retail and housing under development	• Not in immediate downtown area (across river) • New build – will have unknown factors that will impact total build budget • New buildings can be a less sustainable option (not reusing an existing resource)

Based on the available sites, the components and space needs, the operating model was designed and refined around three sizing models:

- A small-size facility build-out of approximately 9,000 square feet. This build size could fit into the DPS site or be a new build at the Royal Coach site.
- A medium-size facility build-out of approximately 16,000 square feet. This build size could fit into any of the proposed locations.
- A large-size facility build-out of approximately 25,000 square feet. This build size could fit into any of the proposed locations.

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Space Plan

These facility sizes were tested and refined throughout the feasibility study. A building program detailing each space's square footage needs, equipment needs, and physical attributes important to the design (such as ceiling height, space adjacency, etc.) was created to size the proposed facility and provide data that informed the financial models.

The steering committee and action team provided feedback throughout the design process. Final discussions focused on a hybrid small-medium model that would be most reflective of space needs and considerations, site implications, and financial considerations detailed in the next sections. A final model, driven by design and final site selection, will be chosen in future phases of development as site negotiations progress across the various properties of interest.

To support the steering committee and action team discussions, NVA provided three sets of site visualizations (see appendix C). These include:

- An external site plan view showing how the facility could potentially be situated on one of the proposed locations.
- An internal "bubble" diagram showing the various components and their respective space needs (in sq. ft.)
- An internal 3-D rendering of the space, showing how the various components may interact with each other.

Operator Search and Considerations

The proposed facility will require an operator that has not yet been identified. Initial inputs from community stakeholders, as well as comparable models in similar marketplaces nationally, suggest four (4) potential structures for the central operator role (see table 8). These recommendations were discussed extensively by the steering committee and action team. There was widespread recognition that conducting an operator search is a key next step in the development of the CFC.

The consideration of ownership of the building (whether new build or renovation of an existing building) is also a factor in the recommendations. The township may be best advised to maintain ownership of the site (if the DPS or similar site is chosen that is currently under township ownership). Maintaining ownership of the site and/or building means that the township would be able to receive rental/lease income from the operator but maintain the tax advantages of the property in their portfolio of holdings.

The key question in the recommendations explored below is whether a central operator can be identified with the capacity and skillset to operate a facility with the range of components and related programming or if this should be done in collaboration with existing organizations in the community. In future phases of development work, an RFP (request for proposals) can be issued to conduct an operator search for this role.

Table 8: Operator Recommendations and Considerations

Option	Building or Site Owner	Central Operator	Site Business Structure	Operator Responsibilities/ Revenue Sources	Partners or Co-Operator Options
A	Town of Hastings	• Private for-profit entity (LLC or similar) • Non-profit organization • Possible "new" organization created by supporting stakeholders	Rents/leases building – nominal rent for 3-5 years until operational; then market rent	Central operator oversees all building functions, day-to-day operations, and upkeep (maintenance). Revenue is combination of leases, rentals, program fees, and event bookings. • Lease retail hall spaces (coordinate all logistics) • Operate shared kitchen and incubation • Rent warehouse/ hub space and storage spaces • Oversee booking in event space (rentals)	• None – hire staff to support all functions • Possible partnerships around program offerings (small business incubation, health education, etc.)
B	Town of Hastings	• Private for-profit entity (LLC or similar) • Non-profit organization • Possible "new" organization created by supporting stakeholders	Rents/leases building – nominal rent for 3-5 years until operational; then market rent	Central operator acts only as a landlord overseeing all spaces but with smaller operational partners to handle functions. Central operator would handle facility upkeep and maintenance. Revenue is all lease revenue (each component space). • Optional: Primary operator of the HUB/ warehouse space as this is predominantly space rental/usage.	• ***Events Partner***: organization or individual entity who can oversee all event booking, logistics, and resources • ***Retail Hall Operator:*** oversees all space booking and day-to-day operations and maintenance (e.g., food hall management company) • ***Shared Kitchen Operator:*** oversees incubation and operations of kitchen users

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Option	Building or Site Owner	Central Operator	Site Business Structure	Operator Responsibilities/ Revenue Sources	Partners or Co-Operator Options
C	• Private for-profit entity (LLC or similar) • Non-profit organization • Possible "new" organization created by supporting stakeholders	Same	Owns building	**Structure defined in either Option A or Option B above*	**Structure defined in either Option A or Option B above*
D	Town of Hastings	Town of Hastings	Owns building, acts as central landlords for all components – one of the township departments or a newly created department would oversee day-to-day operations and maintenance	**Structure defined in Option B above*	**Structure defined in Option B above*

Staff required to ensure day-to-day operation of components and maintenance of the facility will depend on the final central operator structure chosen, whether the central operator acts solely as a landlord or operates some or all the component spaces, the level of involvement of the town, and the level of involvement of a governing board. Potential staffing configurations were shared with the steering committee and action team. Detailed staffing discussions are on hold until the operator has been selected.

Governance

The CFC may require an innovative governance structure to ensure that the participating organizations and businesses have representation in decision-making and to ensure that the community has a voice in the goals, strategies, and operations of the CFC. As a final decision is made of who will be the primary operator for the CFC (and the city and county's roles in the CFC are clarified), the following information on governance may be helpful in guiding the oversight and input of stakeholder organizations in the long-term operations of the facility.

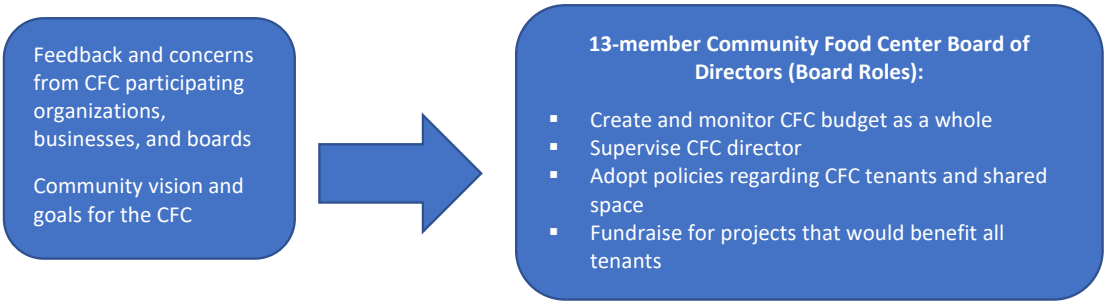
Through research of comparable operating CFC models and conversations with key stakeholders within Barry County, it is evident that a hybrid governance model might be the best fit for the CFC. The proposed CFC governance model is a hybrid of a nonprofit board and a Local Food Policy Council, leveraging the strengths of both entities:

Nonprofit board:
Community members are selected who have a passion for the mission and a skill set that can benefit the organization (i.e., lawyer, accountant, fundraiser, community organizer, etc.)

Local Food Policy Council:
Community members are selected to represent various sectors of the local food system (i.e., agricultural producers, retailers, advocates, etc.) to create a community focal point for food system improvement

The proposed CFC board of directors' structure could function as a governing board for the entire CFC, while independent boards of the various participating organizations and businesses are maintained. And it may need modifications as the CFC progresses from startup phase to full occupancy. For example, if collaborative efforts take shape among hunger relief organizations interested in utilizing warehouse or kitchen space, then retaining seats on the board for these organizations may be wise. Also, board members may choose to focus on recruiting community members with expertise in real estate, construction management, and fundraising, as these are likely key skills needed in the early stages of the CFC.

Figure 4: Potential Governing Board Structure



An emerging best practice in nonprofit board development is to focus on diversity, equity, and inclusion when recruiting and selecting board members. To truly be a community food center, the CFC board of directors should reflect the economic, gender, racial, and cultural diversity of Barry County to the greatest extent possible.

To that end, the proposed structure includes two seats specifically for clients who frequent the CFC. These could be clients of the local food access programming, participants in the local educational or training programs, or a farmer who donates or participates in the farmers market. In addition to bringing critical firsthand experience with the CFC programs, these board members can serve as a guidepost, ensuring that board members are hearing directly from clients and users of CFC programs.

This board could work in partnership with the town of Hastings, the primary operator, and/or component operators to help guide the long-term mission of the CFC in serving community interests and actively designing and offering community programming.

During the final presentation and feasibility vote, the steering committee discussed at length the integration of a governance board, community oversight and involvement, and/or community benefit agreements to ensure access and resources for key stakeholder groups. There are additional models in the national marketplace for responsive design that meets the stated goals. As the project progresses into final development, all these options should be considered to meet community needs.

Financial Analysis

A financial model was built to provide data for the steering committee and action team to evaluate whether a facility (across one of the three size models created) could be supported based on the expressed interest and aims identified in the user needs assessment. The financial analysis allowed the project teams to evaluate if any of the proposed operating models could viably operate within their community and become self-sustaining within a five-year period. It was clearly expressed in interviews and community inputs that a facility that could break even and support itself over time was essential for the project to be considered.

Based on the small, medium, and large space models that were developed, a financial model was built to service three aims:[1]

1) Create a project budget for the build-out and development of the facility (across all three model sizes), including projected labor costs, equipment costs, SG&A, construction costs, and costs associated with the purchase of land or leasing of space.
2) Forecast annual revenue that would be needed (across all three model sizes) from leases, rental fees, or related revenue derived from each space component to cover operating costs of the full facility (for the primary operator).
3) Establish the needed capacity for each of the primary space components to achieve "break even" between costs and revenue within the first five years of operation.

Facility Construction Costs and Project Financing

The model forecasts assume that there will be a primary operator who will be tasked with overseeing the entire facility and individual operators for each of the four main components of the facility (this is the operator model discussed in depth in earlier sections). The model was built to represent three different sizes of the proposed facility – small (13,200 square feet total, 9,000 internal square feet), medium (21,675 square feet total, 16,000 internal square feet), and large (31,050 square feet total, 25,000 internal square feet).[2]

Table 9 illustrates the first aim of the model, to create a total project cost budget for the facility across the three sizes. The table identifies the drivers of the total project costs which includes construction, furniture, fixtures & equipment, other soft construction costs and working capital. Working capital is

[1] The financial models provided are based on assumptions derived from the primary research, input from core team members with unique expertise in these areas, an assessment of comparable businesses, and NVA's expertise through previous projects. While these assumptions are based on rigorous research, some are driven by indirectly comparable businesses or analogs, or through input provided by the core team that is unable to be verified by outside sources. (The practice of using analogs is widely accepted in the venture capital industry when directly comparable businesses do not exist. Analysts develop models using ratios from existing businesses that have an operating feature that is analogous to the new venture, even when the core businesses are different.) Therefore, these assumptions and financial forecasts should not be viewed as exact revenue and cost figures that would be generated or incurred. Actual cost, revenue, and budget figures will vary—sometimes significantly—based on additional research, final decisions made on the business model, decisions made by the actual operators of these businesses, and market conditions.

[2] The square footage estimates that follow and are represented in table 6 are based on total square footage including interior square footage and external square footage needed (to include parking, easements, etc.).

estimated at twenty percent of PP&E[3] and is the money that will be required to fund the annual operating cash flow and provide liquidity for the business until revenue can be established.

Table 9: Total Estimated Project Budget (Facility Build-Out and Development)

Project Costs	Model Size		
	Small	Medium	Large
Construction Costs	$4,515,500	$7,379,500	$10,426,000
FF&E (Furniture, Fixtures, and Equipment)	$470,115	$864,265	$1,103,365
Soft Construction Costs	$1,335,786	$2,202,216	$3,087,823
Design Development and Advisory Services	$338,663	$553,463	$781,950
Working Capital (20% of PP&E)	$997,123	$1,648,753	$2,305,873
Totals	**$ 7,657,186**	**$12,648,196**	**$17,705,011**

This model was built on the assumption that the project team would finance the facility development with a combination of debt (traditional bank financing or related loans), investment (private, foundation, or related community investment vehicles), and grants or gifts. To establish initial financing needs, the assumption was made that the facility will be financed with 70 percent grants and 30 percent debt (at a 3 percent interest rate). This interest (repayable starting in year 1) was built into the full project costs, discussed below. Further, the model provided a funding workbook to demonstrate the grant and gift potential available in the regional marketplace and identified approximately $3 million in applicable grants and/or funding opportunities that could be included in a funding development plan.

Potential Facility Revenue and Operational Budget

Once the total project budget was estimated, NVA forecasted the annual revenue needed for the facility. Annual revenues from leases and rental fees were forecasted for each CFC component, and across all three potential model sizes.

The model was informed by the assumption that the facility will generate revenue by leasing out the four main areas of the proposed building:

1. Commercial kitchen
2. Food hall
3. Warehouse/aggregation hub
4. Event space

As indicated in table 10 below, the total revenue that would need to be generated by the facility to support the maintenance and financing costs for year 1 for each of the three different size models was $605,961 (small size), $816,829 (medium size), and $1,025,404 (large size).

[3] PP&E is defined as property, plant, and equipment and are the long-term assets vital to business operations. Investment analysts and accountants use the PP&E of a company to determine if it is on a sound financial footing and utilizing funds in the most efficient and effective manner.

This operational revenue model was based on the following operational cost categories, which are all detailed per year in the financial model:[4]

- Debt principal and interest payments — assumed to be repaid at a 3 percent interest rate starting in year 1.
- Payroll costs – assumed that the primary operator would have two additional full-time staff to support their operations in the first two years and an additional part-time staff member in years 3–5.
- Utilities – estimated at $10 per square foot per year for the entire facility's operations, with each individual component space being responsible for its portion of this cost based on relative square footage. Utilities include maintenance capital expenses, general utilities, security, and waste removal and are based on industry comparables.
- Property taxes and insurance – estimated at $2 per square foot per year for the full facility (based on regional marketplace data).
- SG&A expenses – estimated at $75k, $100k, and $125k per year for the small, medium, and large models, respectively; supports marketing and office expenses for the primary operator. Assumptions are based on regional marketplace data.
- The profit margin assumes a desired minimum of 10% annual profit to cover growth and expanding operational needs.

Table 10: Primary Operator Revenue Needs

SMALL MODEL	Year 1	Year 2	Year 3	Year 4	Year 5
Total Costs	$545,365	$549,559	$585,073	$589,512	$594,078
Profit Margin	$60,596	$61,062	$65,008	$65,501	$66,009
Revenue Required	$605,961	$610,621	$650,082	$655,013	$660,087
MEDIUM MODEL	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Total Costs	$735,146	$740,972	$778,164	$784,327	$790,666
Profit Margin	$81,683	$82,330	$86,463	$87,147	$87,852
Revenue Required	$816,829	$823,302	$864,627	$871,475	$878,518
LARGE MODEL	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Total Costs	$922,863	$930,174	$968,892	$976,623	$984,573
Profit Margin	$102,540	$103,353	$107,655	$108,514	$109,397
Revenue Required	$1,025,404	$1,033,527	$1,076,547	$1,085,137	$1,093,970

This total revenue needed was then split among the four building areas to arrive at a potential lease/rental rate for the individual operators who would oversee those space components. The split was based on each of the four space components' ability to contribute to the facility as a whole – informed by their own individual revenue potentials, their primary users, and whether they were being structured to

[4] All expenses in the model are forecasted to be growing at 3 percent to match average inflation.

serve a primary community need (i.e., food access, wellness for the community) or generate income (i.e., event space, retail spaces, etc.). The percentages established were:

- Commercial kitchen (40%) –high revenue potential supported by a potential anchor tenant in the space (food access organization) that would have an annual lease.
- Food hall (10%) – moderate revenue potential but lowered to reduce occupancy cost so that vendors can offer lower prices to meet food access needs enunciated by the community.
- Warehouse, storage, and logistics space (0%) – low revenue potential (primarily warehouse and storage spaces) and serving as the primary access point for hunger relief aggregation with no supporting budget to offset usage costs.
- Event space (50%) – highest revenue potential based on initial verbal interest during the user needs assessment and the ability to generate revenue at market, below market, and subsidized or free rates.

The annual lease required per component is demonstrated in table 11.

Table 11: Annual Lease Required by Space Components

SMALL MODEL	Year 1	Year 2	Year 3	Year 4	Year 5
Commercial Kitchen	$242,384	$244,248	$260,033	$262,005	$264,035
Food Hall	$60,596	$61,062	$65,008	$65,501	$66,009
Warehouse Space	$0	$0	$0	$0	$0
Event Space	$302,980	$305,310	$325,041	$327,507	$330,044
MEDIUM MODEL	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Commercial Kitchen	$326,732	$329,321	$345,851	$348,590	$351,407
Food Hall	$81,683	$82,330	$86,463	$87,147	$87,852
Warehouse Space	$0	$0	$0	$0	$0
Event Space	$408,414	$411,651	$432,313	$435,737	$439,259
LARGE MODEL	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Commercial Kitchen	$410,161	$413,411	$430,619	$434,055	$437,588
Food Hall	$102,540	$103,353	$107,655	$108,514	$109,397
Warehouse Space	$0	$0	$0	$0	$0
Event Space	$512,702	$516,763	$538,273	$542,568	$546,985

Individual Components Capacity, Break-Even, and Cash Flow

To inform the overall financial revenue model, a model was built for each of the primary space components based on the rental rates calculated above to understand if the individual components could generate a profit. This served the third function of the financial model by demonstrating the break-even capacity that would be required for each space component in the first five years.

Commercial Kitchen

The commercial kitchen will generate revenue from three revenue streams:

1) Production kitchen rentals (monthly)
2) Shared kitchen rentals (hourly)

3) Demo kitchen rentals (hourly)

In terms of costs, the same assumptions apply (as to the primary operator model), with the added assumption that the kitchen operator will need to staff with one manager with an annual salary of $65k (plus benefits).

The following assumptions, pegged against local market rate data, were used to project revenue for the kitchen:

- Production kitchen: this commissary style kitchen is designed primarily to serve the proposed anchor tenants' focus on volume production for local food access needs. To that end, a below-market monthly rent was set at $4/square foot for full space usage over a 12-month lease.
- Shared kitchen: this incubation kitchen space is designed with rentable stations (both hot and cold prep stations) that can be used based on an hourly rental. A rental rate of $15 per hour for hot stations and $10 per hour for cold/prep stations was set with maximum usage of 24 hours per day, 7 days per week, 52 weeks per year.
- Demo kitchen: for rental by individuals or organizations for hourly usage and assuming one class at a time in the small and medium models and two classes at a time in the large model. The rental rate, pegged against local rental rates for similar spaces, was set at $50 per hour for market price (40 percent of uses), and $15 per hour for subsidized pricing (60 percent of uses).
- Processing space: for rental by farmers for small crop cleaning and value-add production, this rate was set at $10 per hour (based on market comparables) and was only integrated into the large model (two stations).

Table 12 shows that the kitchen spaces have viable revenue streams and the ability to break even within the initial five years in all three model sizes with a reasonable assumption of capacity.

Table 12: Kitchen Space Components Break-Even Capacity Model

SMALL MODEL	Year 1	Year 2	Year 3	Year 4	Year 5
Utilization Rate	80%	85%	90%	95%	100%
Total Revenue	$353,971	$376,094	$398,218	$420,341	$442,464
Total Costs	$341,384	$344,268	$361,103	$364,158	$367,302
Profit	$12,587	$31,826	$37,114	$56,183	$75,162
MEDIUM MODEL	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Utilization Rate	60%	65%	70%	75%	80%
Total Revenue	$442,886	$479,794	$516,701	$553,608	$590,515
Total Costs	$436,732	$440,671	$458,591	$462,763	$467,055
Profit	$6,155	$39,123	$58,110	$90,845	$123,460
LARGE MODEL	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Utilization Rate	40%	45%	50%	55%	60%
Total Revenue	$515,827	$580,306	$644,784	$709,262	$773,741
Total Costs	$557,661	$563,386	$583,143	$589,205	$595,443
Profit	($41,834)	$16,920	$61,641	$120,058	$178,298

Food Hall

The food hall will generate revenue from the vendor stall rentals (monthly) and dedicated stall rentals (monthly). Vendor stalls will be those spaces rented or leased by tenants on a monthly or annual basis to support food service or related uses in vending to the public. Dedicated stalls are two stalls pre-allocated in the space planning to support a small food co-op or related grocery vendor and a SNAP access point for community members. The space includes the following allocation of stalls:

- Small model: two stalls of 250 square feet each and one stall of 100 square feet. One of the larger stalls is dedicated to a farm stop or food market outlet.
- Medium model: three stalls of 250 square feet each and one stall of 100 square feet. One of the larger stalls is dedicated to a farm stop or food market outlet, and the smaller stall is dedicated to SNAP benefits and related food access information and services.
- Large model: six stalls of 250 square feet each with two dedicated stalls for the farm stop and food access resource needs.

A rental rate of $16 per square foot was applied for rental terms based on local Hastings marketplace comparables of retail space.

It was also assumed that the operator of the food hall will staff with one rental or oversight manager with an annual salary of $65k (plus benefits).

Table 13 illustrates that only the medium and large model sizes have the capacity to break even within the first five years. The small model size cannot generate enough revenue with its limited rental spaces to offset its costs. In addition, it should be noted that 100% capacityy assumes full lease-up of the space with no turn-over between tenants and is less likely, aiming for 80-85% utilization seems most realistic in assessing the feasibility of the space.

Table 13: Retail Food Hall Space Component Break-Even Capacity Model

SMALL MODEL	Year 1	Year 2	Year 3	Year 4	Year 5
Utilization Rate	80%	85%	90%	95%	100%
Total Revenue	$107,520	$114,240	$120,960	$127,680	$134,400
Total Costs	$162,596	$164,172	$169,261	$170,932	$172,653
Profit	($55,076)	($49,932)	($48,301)	($43,252)	($38,253)
MEDIUM MODEL	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Utilization Rate	80%	85%	90%	95%	100%
Total Revenue	$184,320	$195,840	$207,360	$218,880	$230,400
Total Costs	$203,683	$206,040	$211,934	$214,433	$217,006
Profit	($19,363)	($10,200)	($4,574)	$4,447	$13,394
LARGE MODEL	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Utilization Rate	80%	85%	90%	95%	100%
Total Revenue	$307,200	$326,400	$345,600	$364,800	$384,000
Total Costs	$252,540	$255,903	$262,831	$266,395	$270,065
Profit	$54,660	$70,497	$82,769	$98,405	$113,935

Warehouse, Logistics and Storage Space

The warehouse, storage, and logistics space component will generate minimal revenue and will just cover its operating costs. In addition, the primary function of the warehouse space is to support food access organizations needing year-round space for aggregation and distribution of food benefits to the community. The warehouse and storage spaces were not assigned a portion of the overall operational burden (lease percentage) to support these community needs. It is likely that the primary operator of the facility could operate the warehouse and storage spaces without any additional staff or secondary operator needs.

Minimal monthly revenue from kitchen space users and retail food hall tenants for warehouse rentals and storage shelves and cages will need to be assessed to support those functions. Basic rental rates for these spaces (based on marketplace comparables in the region) were set at $4 per square foot for warehouse space rental, $15 per shelf (assumed to be a 24-inch x 48-inch shelf standard) for storage, or $50 per cage for locked private storage. Open access to the loading dock was allowed for all primary space users.

Based on these rates, the warehouse is not expected to break even in any model size in the first five years. As noted earlier, it is not being assessed a portion of the total lease and its operating expenses would most likely be offset by other components' fees and rentals.

Event Space

The event space components across the models are designed to provide rentable, multi-functional event space for all uses, as well as dedicated space for relocation of the farmers market to an indoor, year-round space. In the small model, both functions are in a single open space. In the medium and large models, dedicated space for the farmers market (or other market type uses) is built into the facility plan.

The space will generate revenue from the multi-purpose space rentals (monthly) and dedicated year-round market site rentals (monthly) in the applicable models. A market rate of $200 per hour was assumed for the event space with 40 percent of the usage at this rate. A subsidized rate, assumed for 60 percent of the usage, was set at $80 per hour. It was also assumed (built into capacity) that a portion of time would go towards no-cost access for community needs/organizations. The market space in the medium and large models is based on an assumed annual rental with 2x per week usage over 52 weeks.

In terms of costs, it is assumed that the space operator will need to staff with one manager with an annual salary of $65k plus benefits.

Based on these assumptions, table 14 shows that the event space can break even at relatively low usage capacities across all model sizes which supports the built-in assumption that the space will need to be available to community uses at no cost or low cost on a frequent basis.

Table 14: Event/Market Space Component Break-Even Capacity Model

SMALL MODEL	Year 1	Year 2	Year 3	Year 4	Year 5
Utilization Rate	40%	45%	50%	55%	60%
Total Revenue	$447,283	$503,194	$559,104	$615,014	$670,925
Total Costs	$412,980	$416,660	$437,781	$441,679	$445,691
Profit	$34,303	$86,533	$121,323	$173,335	$225,233
MEDIUM MODEL	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Utilization Rate	40%	45%	50%	55%	60%
Total Revenue	$655,283	$737,194	$819,104	$901,014	$982,925
Total Costs	$ 538,414	$543,601	$566,272	$571,765	$577,417
Profit	$116,869	$193,592	$252,832	$329,250	$405,508
LARGE MODEL	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Utilization Rate	40%	45%	50%	55%	60%
Total Revenue	$655,283	$737,194	$819,104	$901,014	$982,925
Total Costs	$677,702	$684,763	$709,363	$716,841	$724,536
Profit	($22,419)	$52,430	$109,741	$184,173	$258,389

Profit and Utilization Summary

The following tables detail the profit and utilization summary for each of the components by model size. The annual lease weight represents the portion of the individual component's rent as a percent of the total facility's revenue needs to support its operational and financing costs.

Table 15: Profit & Utilization Summary - Small Model

Component	Annual Lease Weight	Year 1	Year 2	Year 3	Year 4	Year 5
Commercial Kitchen	**40%**					
Utilization		80%	85%	90%	95%	100%
Profit		12,587	31,826	37,114	56,183	75,162
Food Hall	**10%**					
Utilization		80%	85%	90%	95%	100%
Profit		(55,076)	(49,932)	(48,301)	(43,252)	(38,253)
Food Hub (Warehouse)	**0%**					
Utilization		50%	55%	60%	65%	70%
Profit		(3,780)	(1,358)	1,028	3,377	5,688
Event Space	**50%**					
Utilization		40%	45%	50%	55%	60%
Profit		34,303	86,533	121,323	173,335	225,233

Table 16: Profit & Utilization Summary - Medium Model

Component	Annual Lease Weight	Year 1	Year 2	Year 3	Year 4	Year 5
Commercial Kitchen	40%					
Utilization		60%	65%	70%	75%	80%
Profit		6,155	39,123	58,110	90,845	123,460
Food Hall	10%					
Utilization		80%	85%	90%	95%	100%
Profit		(19,363)	(10,200)	(4,574)	4,447	13,394
Food Hub (Warehouse)	0%					
Utilization		50%	55%	60%	65%	70%
Profit		(14,660)	(11,051)	(7,507)	(4,031)	(623)
Event Space	50%					
Utilization		40%	45%	50%	55%	60%
Profit		116,869	193,592	252,832	329,250	405,508

Table 17: Profit & Utilization Summary - Large Model

Component	Annual Lease Weight	Year 1	Year 2	Year 3	Year 4	Year 5
Commercial Kitchen	40%					
Utilization		40%	45%	50%	55%	60%
Profit		(41,834)	16,920	61,641	120,058	178,298
Food Hall	10%					
Utilization		80%	85%	90%	95%	100%
Profit		54,660	70,497	82,769	98,405	113,935
Food Hub (Warehouse)	0%					
Utilization		50%	55%	60%	65%	70%
Profit		(22,680)	(17,598)	(12,611)	(7,720)	(2,930)
Event Space	50%					
Utilization		40%	45%	50%	55%	60%
Profit		(22,419)	52,430	109,741	184,173	258,389

Risk Assessment

Many of the potential risks of the CFC project were enunciated by community members or stakeholders during the user needs assessment. Each risk was rated on its potential impact the project's viability, and mitigation strategies were identified for the team to consider.

Table 18: Risk Assessment

HIGH		MEDIUM		LOW	
Risk:	**Mitigation/Response:**	**Risk:**	**Mitigation/Response:**	**Risk:**	**Mitigation/Response:**
Competition with other township and county resources (event space, retail locations)	• Market study to identify potential tenants and validate revenue and consumer metrics • Mission focus on health, wellness, and healthy eating programming and businesses • Continued dialogue and involvement of local chambers, econ. dev, and businesses in process	Viability of the farmers market in relocated space (management and volume draw vs. relocation need)	• In-depth financial discussions with market managers and township officials to examine lease arrangement and management oversight • Continued dialogue and involvement of local ag resources to attract new farmers, producers, and makers • Retention of a partner or consultant to help support additional opportunities (co-op, grocery outlet, CSA, or related programs	Do people value and will they financially support healthy options (retail hall, events, programs)?	• Market study to identify and validate revenue and consumer metrics • Continued dialogue and involvement of local partner organizations to include and shape programs, events, uses responsive to their constituent needs
Sustainability of revenue streams	• Market study to support financial assumptions and validate market rates, population trends, and spending power	Identification of a site	• Discussions with the city and additional landlords to review feasibility and assess opportunities • Refined financials and visualizations to finalize site model	Marketing and ability to draw a wide audience	• Continued dialogue with city, chamber, and partners to market and shape responsive resources and programs • Mission focus on health, wellness, and healthy eating programming and businesses to reflect stated community interests

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HIGH		MEDIUM		LOW	
Risk:	**Mitigation/Response:**	**Risk:**	**Mitigation/Response:**	**Risk:**	**Mitigation/Response:**
Securing financing for build and development	• Grant and funding capital campaign	Identification of an operator	• RFI to solicit interest • Continued dialogue with partners to identify operating capacities	Labor availability (identifying workers to support operational needs)	• Strengthening labor market in the state of Michigan (post-pandemic labor statistics) • Living wage and related job supports built into financial model to support recruitment
Perceived benefit only to Hastings vs. Barry County	• Continued dialogue with local, township, and county partners to shape use and programs • Marketing and collaborative outreach opportunities • Mission focus on expressed programmatic needs (community)	Keeping service and resource costs affordable (subsidized rates)	• Continued dialogue with partners to identify financial capacities • Bi-annual or annual review of market rates and subsidized rates • Grant or related support of off-set costs for food access and collaborative programming, ag resources, or access for low-income families		

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Recommendations and Next Steps

Results from the study suggest a Barry County Community Food Center to be a valuable and desired addition to the local community with the potential to create a sustainable outlet for access to healthy food and an opportunity for local business development. To move the project forward, the following four action items are recommended:

Action 1: Market Analysis for Retail Components

To aid in the selection of a final model size, NVA recommends conducting additional retail market analysis to validate assumptions and refine understanding of the regional consumer market for the retail components of the facility. The retail hall and event space, driven by consumer spending, provide substantial shares of the total overall revenue needed to sustain the facility. Additional retail gap analysis, including a look at competitive facilities, market share, and consumer spend will help to validate and refine the financial models around these spaces.

Action 2: Site and Operator Search

A final site will need to be selected for the facility and will require conversations with city, county, and owners of the properties under consideration. Items to be negotiated include the cost and/or lease of land, structure of the purchase or lease of existing buildings, and contributing factors such as relocation of existing services and/or structures.

These negotiations will also influence the role and obligations of a primary facility operator. The final structure of the lease or purchase agreement, the involvement of the city/county/other partners, and the eventual structure of such arrangements will dictate whether an RFP needs to be issued for a facility operator to oversee day-to-day operations.

Action 3: Stakeholder Engagement

Continued outreach with the individuals and organizations interested in supporting the Community Food Center will be essential as the facility moves from concept into the development process. Establishing initial Letters of Intent for space usage or commitments with primary partners will help to refine the revenue assumptions and refine the concept, programs, and space needs to finalize design.

Further, as discussed above, selection of a final tool or method for integrating community voices and partner voices will need to be finalized – whether via a governance board, advisory board, community contract, or related vehicle.

Action 4: Refinement of Plan and Capital Campaign

Based on the above:

- Refine operational model: Choose and refine the final operational model with selection of a site, primary operator structure, and identification of anchor tenants and partners.
- Refine building program: The building program will need to be refined with the selection of a final model size and integration of site needs. The building program is a tool that will be important in communicating site needs to an architect and development team.

- Engage Architect: Send out RFP for architectural design and engineering services. Once the building program is refined, select appropriate architectural design and engineering services to finalize the facility plan and estimate construction costs.
- Identify funding sources: Once the business plan and architectural plans are developed, the funding required will be clear and grants, loans, and other funding arrangements can be identified with a capital campaign structured to support these goals. NVA recommends the planning team do research on funding options so that deadlines for any grants and other sources of funding are known in advance. Additionally, early conversations with banks or other financing providers may help move the process along faster when it is time to secure funding.

Appendix A. Resources Guide

Throughout the feasibility study process, steering committee and action team members were provided with the following project documents:

Table 19: Index of Resource Documents from Feasibility Study

Steering Committee Update Presentation Decks - detail all previous project components:
- 6.2.21 – Project Update & Milestones - 7.1.21 – Market Phase Analysis (Interview Synthesized Findings) - 8.5.21 – Concept Operating Models - 9.2.21 – Operating Models & Space Planning (Detailed Report + Case Studies) - 10.7.21 – Community Engagement Analysis (Focus Group & Survey Synthesized Findings) + Additional Case Study (Colleton, SC)
Operating Model Narrative Report:
- Operating – Space Model Overview (PDF of Excel Workbook) - Space Plan Overview (PDF of Excel Workbook) - Building Program (PDF of Excel Workbook) - Community Food Center Case Studies Narrative Report
Visualizations:
- Internal Bubble Diagram - Internal 2-D View - External Site View (2-D, Small Size Concept)
Financial Model (PDF Excerpts):
- Project Budget & Operational Cost Projections (PDF of Excel Workbook) - Component Revenue Models - Breakeven Models (PDF of Excel Workbook) - Potential Grant Sources/Funding Guide

Appendix B. Community Food Center Case Study Analogs

Table 20: Community Food Center Case Study Analogs

COMPONENT	CASE STUDY	LOCATION	KEY TAKEAWAYS:
1. **Commercial kitchen**	The Downtown Market Grand Rapids	Grand Rapids, MI	▪ Technology inputs (audio, video) are important components that make the space multi-purpose. ▪ The teaching classroom is one of the most popular spaces in the facility because of the combined technology and video integrations and the ability to re-size the workspaces for different audiences (kids, professionals, etc..). ▪ Event revenue, stable tenant revenue (high school training program hosted on-site, teaching kitchen contract with local hospital and anchor retail tenants) are essential to the overall operating budget of the facility.
	DC Central Kitchen	Washington, DC	▪ The commercial kitchen is the backbone of the operation, and culinary job training program graduates provide the labor for the social programs – preparing food for school meals, preparing meals for the café, etc. ▪ The jobs created pay a living wage and provide a pipeline for credentialed food service staff for the DC restaurant industry.
2. **Retail food hall**	NewBo City Market	Cedar Rapids, IA	▪ A community asset and tourism draw the facility draws 300,000 visitors annually contributing to local revenue and supporting the local community. ▪ The facility hosts many types of community events, partners with the arts community extensively and thereby creates a year-round site for expanded community and arts offerings.
3. **Farmers market**	Eastern Market (traditional model)	Detroit, MI	▪ The markets are driven by significant volume (25,000-40,000 customers during high season) which attracts vendors and farmers into the system to support a permanent, standing, covered market that can operate year-round sustainably. ▪ The support services offered by EMP (aggregation, distribution assistance, technical assistance, funding supports) are also attractive incentives for farmers to participate in the market system. ▪ The market acts as a keystone project for a wider food district revitalization that works synchronically with the market to draw customers and tourists to the community for shopping, retail, grocery, and dining.

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	Argus Farm Stop (alternate, co-op model)	Ann Arbor, MI	▪ This model presents an alternative to standard farmer's market models which require significant time and labor inputs by the farmer. It may be an opportunity for the CFC to pursue as an alternative or supplement to the weekly farmers market format. ▪ Producers are not required to work at FarmStop, they just deliver their goods to the store. ▪ The FarmStop model has gained significant popularity in Michigan and the Midwest as an alternative to traditional markets and co-ops. The Argus FarmStop currently offers training to other communities interested in the Farm Stop model. This includes a one-hour intro webinar (free) a 3-day online course ($595) and one-on-one consulting ($50/hr).
4. Food hub	The Good Acre Warehouse	Falcon Heights, MN	▪ The key resource in this analog is a well-maintained certified space – for both farmers and small entrepreneurs the space (warehouse, production, and storage space) is a key access point. The facility's operations are also supported primarily by rental and usage revenues generated by that space access. ▪ The addition of programming and wrap-around services for the users of the space resources offers a one-stop shop for both farmers and small entrepreneurs looking for growth opportunity and new revenue and is a natural growth extension based on the core components of the space (kitchen, warehouse, storage, etc..). ▪ The Hub operates as a non-profit entity to leverage grant and state/federal funding designated for the support of agricultural businesses and farmers. ▪ A central operator, focused on the component rentals and Hub primary services, maintains the facility with programming partners connected to support all of the wrap-around educational and technical services.
5. Event space	The Redd on Salmon Street	Portland, OR	▪ The Redd on Salmon Street building is a multi-functional, multi-purpose event space designed to house and support community, cultural, arts, and food-focused events of all sizes. The integration of segment able space into the renovation of the facility has allowed them to become a central location for events ranging from markets and small-scale meetings to large cultural events. ▪ The space incorporates a community or demonstration kitchen which is crucial for event support for use by caterers; but also offers its own revenue streams as the site for hands-on or demonstration culinary classes, programming, and

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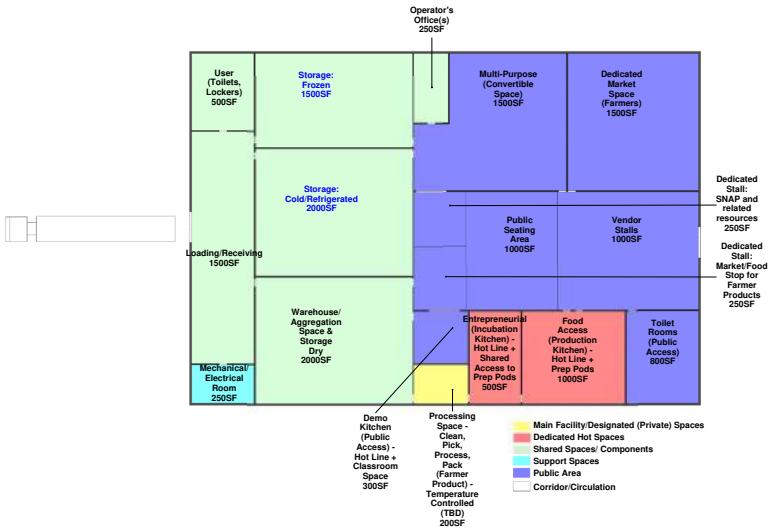
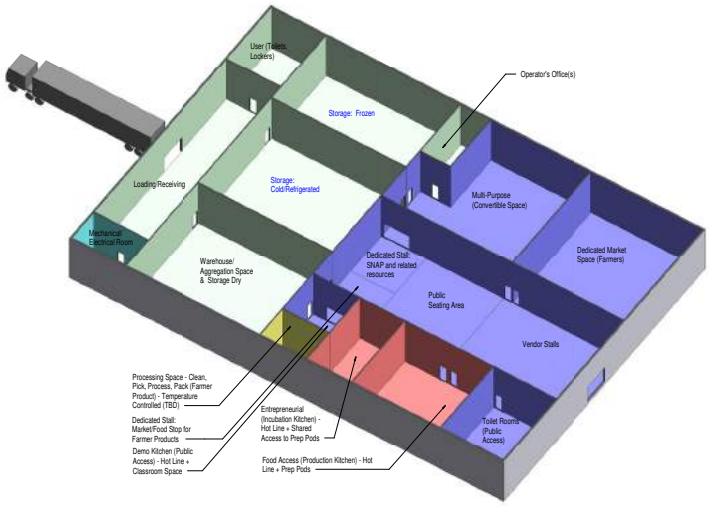
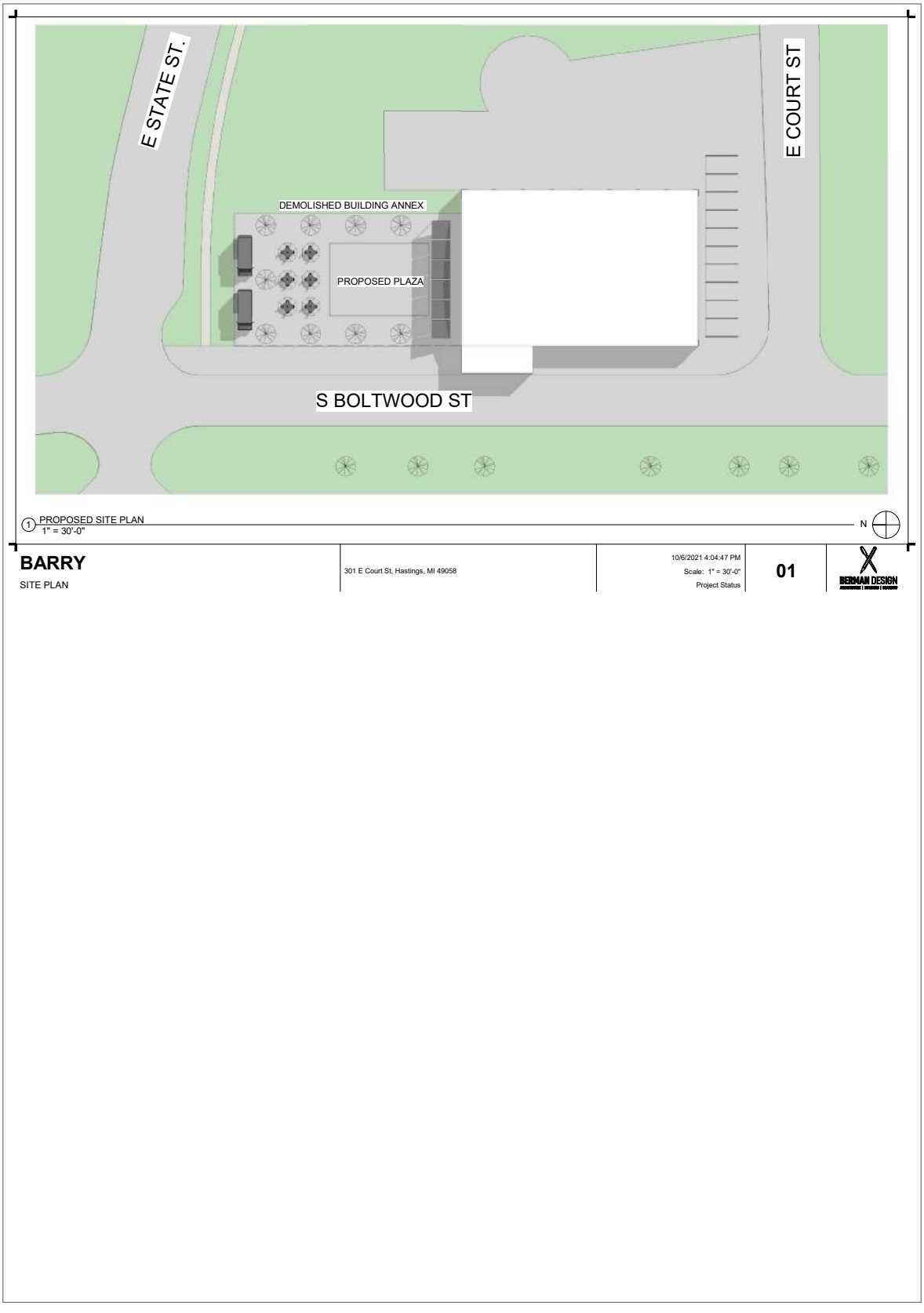
			related events. The kitchen was specifically designed to offer demonstration set-ups and A/V support for these types of events. ▪ The adjacent building houses a Food Hub and food-focused retail and tenant spaces which have access to the main building to offer programs and events – creating additional value for those spaces and additional revenue streams for the facility.
6. Programming	Inter-Faith Food Shuttle	Raleigh, NC	▪ Community Health Education: They are the largest implementation partner in North Carolina for Share Our Strength's nutrition education program, Cooking Matters. Professional culinary and nutrition educators volunteer their time and expertise to lead hands-on 6-week courses tailored to adults, families, kids and teens. Courses are offered in English and Spanish. ▪ Culinary Apprenticeship Program: This program trains individuals who are unemployed or underemployed by providing hands-on education and a paid work experience so that participants gain the skills required to pursue a career in the food industry; and as a result, providing them with the potential to obtain steady employment.
	NourishKC	Kansas City, MO	▪ The success of these programs and this business structure is dependent on successful fundraising which supports all programming. ▪ Integration of a food aggregation component (here in the form of the Food Rescue Program) allows for better resources for all other non-profit supported programs and helps to reduce food costs. ▪ Volunteer labor (wait staff, support staff, administrative staff, training staff) is essential to the long-term success of the program.
7. Full facility concept	Colleton Museum, Event Space & Kitchen	Waltersboro, SC	▪ Good analog for a similarly sized community to Barry County (county population = 40,000). ▪ County is the primary operator of the space, example of operator/landlord model discussed in the study. ▪ Kitchen and event space development driven by similar community sentiment (food access, economic development and agricultural/farmer support). ▪ Anchor tenant for the shared kitchen/commissary kitchen space is a school lunch/feeding program that offsets capacity and revenue.

Appendix C. Community Food Center Visualizations




User (Toilets, Lockers)
Operator's Office(s)
Storage: Frozen
Loading Receiving
Storage: Cold/Refrigerated
Multi-Purpose (Convertible Space)
Mechanical/ Electrical Room
Warehouse/ Aggregation Space & Storage Dry
Dedicated Stall: SNAP and related resources
Dedicated Market Space (Farmers)
Public Seating Area
Vendor Stalls
Processing Space - Clean, Pick, Process, Pack (Farmer Product) - Temperature Controlled (TBD)
Dedicated Stall: Market/Food Stop for Farmer Products
Demo Kitchen (Public Access) - Hot Line + Classroom Space
Entrepreneurial (Incubation Kitchen) - Hot Line + Shared Access to Prep Pods
Food Access (Production Kitchen) - Hot Line + Prep Pods
Toilet Rooms (Public Access)


E STATE ST.
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DEMOLISHED BUILDING ANNEX
PROPOSED PLAZA
S BOLTWOOD ST
1 PROPOSED SITE PLAN
1" = 30'-0"
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BARRY
SITE PLAN
301 E Court St, Hastings, MI 49058
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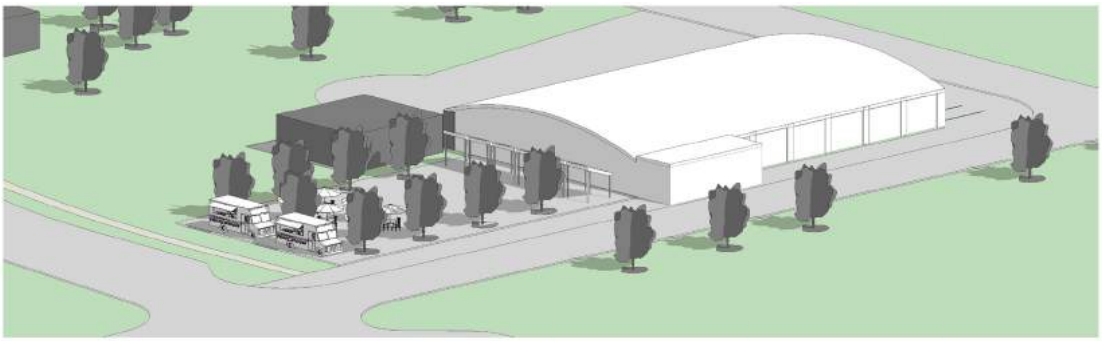
Scale: 1" = 30'-0"
Project Status
01
BERMAN DESIGN



1 3D PERSPECTIVE

BARRY
3D PERSPECTIVE

301 E Court St, Hastings, MI 49058

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Scale:
Project Status

02

BERMAN DESIGN

AGENDA REQUEST FORM

PROPOSED FOR MEETING OF: 3/15/22 COW/BOC combined

DEPARTMENT: Drain Commissioner

PREPARED BY: Jim Dull

SUBJECT: Resolution Authorizing Barry County Drain Commissioner as Delegated Authority for Crystal Lake

SPECIFIC ACTION(S) REQUESTED:
Approval of Resolution 22-05, Resolution to Delegate Authority for Maintenance of Lake Level of Crystal Lake.

SPECIFIC ACTION(S) RECOMMENDED BY THE COW (Admin. use only):

DESCRIPTION OF ACTION: To authorize the Barry County Drain Commissioner as Delegated Authority for Crystal Lake.

TIME FRAME OF ACTION:
Immediate.

FUNDING REQUIRED: YES_____ NO ____x_____

IF YES, ANSWER THE FOLLOWING:

1. FUNDING SOURCE (Federal, State, or Local) _____
2. IF LOCAL, SPECIFY FUND: _____
3. AMOUNT REQUESTED: _____
4. AMOUNT OF ONGOING COST, AND INTERVAL (Monthly, Quarterly, Annual, etc.)_____
5. FINANCIAL IMPACT ON OTHER DEPARTMENTS:_____

PERSONNEL IF REQUIRED: N/A

NEW OR RENEWAL: New

ANY OTHER PERTINENT INFORMATION: See attached resolution and copy of judgment establishing the lake level of Crystal Lake.

CONTACT PERSON WITH PHONE NUMBER:
Jim Dull 945-1385

Barry County Board of Commissioners
Resolution #22-05

Resolution

RESOLUTION TO DELEGATE AUTHORITY FOR MAINTENANCE OF LAKE LEVEL OF CRYSTAL LAKE

At a regular meeting of the Board of Commissioners of Barry County, Michigan, held in the Commissioner Chambers of the Barry County Courthouse, Hastings, Michigan, on March 15, 2022, at 9:00 a.m., local time:

PRESENT: Commissioners:

ABSENT: Commissioners:

The following resolution was offered by Commissioner _____ and supported by Commissioner: _____.

WHEREAS, Crystal Lake is an inland lake located in Orangeville Township, Barry County; and

WHEREAS, Part 307 of the Michigan Natural Resources and Environmental Protection Act, MCL 324.30701 et seq. ("Part 307"), sets forth the procedures and requirements necessary to establish and maintain normal lake levels for inland lakes in the State of Michigan; and

WHEREAS, on May 29, 1969, the Barry County Circuit Court entered an order establishing the normal level of Crystal Lake (the "Order") under Part 307's predecessor statute. The Order is attached hereto as Exhibit A; and

WHEREAS, Section 30702(2) of Part 307 authorizes a county board of commissioners to delegate the powers and duties under Part 307 to the county drain commissioner by resolution.

NOW THEREFORE BE IT RESOLVED, that, pursuant to Section 30702(2), the Barry County Board of Commissioners hereby delegates the powers and duties under Part 307 to the Barry County Drain Commissioner.

_____
Benjamin D. Geiger, Chairperson
Barry County Board of Commissioners

_____
Pamela A. Palmer
Barry County Clerk

YEAS: Commissioners:
NAYS: Commissioners:
ABSTAIN: Commissioners:

RESOLUTION DECLARED ADOPTED.

CERTIFICATION

I, Pamela A. Palmer, County Clerk of Barry County, Michigan, do hereby certify that the foregoing is a true and correct excerpt of the proceedings of the Barry County Board of Commissioners at their regular session held on March 15, 2022 in the City of Hastings, County of Barry, State of Michigan.

_____
Pamela A. Palmer, County Clerk
County of Barry

Dated: March 15, 2022

Adopted 3/15/22

STATE OF MICHIGAN
COUNTY OF BARRY
FILED
MAY 29 1969
WILLIAM CRIDLER, COUNTY CLERK
BY

STATE OF MICHIGAN

IN THE CIRCUIT COURT FOR THE COUNTY OF BARRY

IN THE MATTER OF THE ESTABLISHMENT OF THE LEVEL OF CRYSTAL LAKE (A PRIVATE INLAND LAKE), ORANGEVILLE TOWNSHIP, BARRY COUNTY, MICHIGAN	CIVIL CASE NUMBER 1580 JUDGMENT ESTABLISHING LAKE LEVEL

At a session of said Court held at the City of Hastings in said County on May 29, 1969.

PRESENT: HONORABLE RICHARD ROBINSON, CIRCUIT JUDGE

This matter came on for hearing upon the petition of Tamarack Corporation and the Barry County Prosecuting Attorney praying for an order or judgment of this court establishing the normal level of Crystal Lake in Orangeville Township, Barry County, Michigan.

Notice of hearing upon such petition was published in the Hastings Banner in the manner required by law and by the order of this court, as is shown by the proof of publication on file in this matter.

Notice of hearing was served upon all the owners of lands or any interest in lands located in the Special Assessment District established for Crystal Lake by the Barry County Drain Commissioner, as shown by the proof of service on file in this matter.

Notice of hearing was served upon the Director of the State Department of Natural Resources, the Chairman of the Barry County Board of Supervisors, the Supervisor of Orangeville Township, and the Barry County Drain Commissioner personally or by certified mail as required by the order of this court, as is shown by the proof of service on file in this matter.

It appearing from the proofs offered that appropriate approval of the construction of Crystal Lake has been secured from the State Department of Natural Resources and from the Barry County Board of Supervisors, and

It further appearing that Ferd Stevens, Barry County Drain Commissioner, has established a suitable and proper Special Assessment District for the construction and maintenance of the dams and control structures of Crystal Lake, and

It further appearing that by direction of the Barry County Board of Supervisors and by direction of Ferd Stevens, Drain Commissioner, that Tamarack Corporation and the Barry County Prosecuting Attorney are required

Philip H. Mitchell
lawyer
231 South Church Street
Hastings, Michigan

to institute suitable proceedings to secure an order of this court establishing the normal level of Crystal Lake, and

It further appearing from testimony offered at the hearing and from a viewing of the lake and surrounding premises that the dams and control structures, the soil quality and conditions, and the water supply available are suitable and adequate to permit maintenance of the lake at a normal level of 822.00 feet above mean sea level, and

It further appearing that the control structures and dam for Crystal Lake Inlet Pond as described in the petition are suitable for protecting the lake from the deposit of silt or other matter carried by the streams flowing into such lake, and that such dams and structures for the inlet pond will maintain a level of the pond at 838.0 feet above mean sea level, and

It further appearing that the proposed levels of 822.00 feet for Crystal Lake and 838.0 feet for Crystal Lake Inlet Pond are suitable and proper,

IT IS ORDERED AND ADJUDGED that the level of Crystal Lake is normally and properly 822.00 feet above mean sea level, and that the level of Crystal Lake Inlet Pond is normally and properly 838.0 feet above mean sea level.

IT IS FURTHER ORDERED AND ADJUDGED that all costs of constructing and maintaining the dams and control structures, of improving or cleaning out the lake, or for any other work connected with the maintenance of the level of Crystal Lake or of Crystal Lake Inlet Pond, including among other things all engineering fees, legal fees, court costs, and other fees connected with the maintenance of the lake level, or the establishment of the lake level, shall be paid by the owners of the property within the Special Assessment District established by the Barry County Drain Commissioner, reserving to the Drain Commissioner the right to apportion costs or assessments between the owners of lands within the Special Assessment District, and reserving to the Drain Commissioner the right to add other parcels to the Special Assessment District with the approval of the owners of such other parcels, in the event the Drain Commissioner shall deem such action proper.

IT IS FURTHER ORDERED AND ADJUDGED that a copy of this order and judgment

Philip H. Mitchell
lawyer
231 South Church Street
Hastings, Michigan

shall be recorded in the office of the Register of Deeds for Barry County as notice to all persons of the establishment of the levels of Crystal Lake and of Crystal Lake Inlet Pond.

Richard L Robinson

RICHARD ROBINSON
CIRCUIT JUDGE

Approved as to form and content:

Philip H. Mitchell

Philip H. Mitchell
Attorney for Tamarack Corporation

Business Address: 1140 David Drive Route #1
Hastings, Michigan 49058

Approved as to form and content:

David A Dimmers

David A. Dimmers
Prosecuting Attorney for Barry County

Business Address: 421 West State Street
Hastings, Michigan 49058

AGENDA REQUEST FORM

PROPOSED FOR MEETING OF: BOC 3/15/22

DEPARTMENT: Central Dispatch/E-911

PREPARED BY: Stephanie Lehman, Director

SUBJECT: American Rescue Plan Act Funding

SPECIFIC ACTION(S) REQUESTED: Approval of an additional $380,714 from the American Rescue Plan Act Funds for the Public Safety 800 MHz Infrastructure project due to inflationary increases from Motorola between the budget estimate of $2,400,000 and the final construction contract price of $2,780,714

SPECIFIC ACTION(S) RECOMMENDED BY THE COW (Admin. use only):

DESCRIPTION OF ACTION:
Due to economic challenges construction and technology costs have risen by 30% for the proposed 800MHz tower site. Due to these increases, the approved budgetary pricing of $2,400,000 will not cover the cost of the project. After over a month of negotiations and researching other viable options with Motorola Solutions; it has been determined that the best course of action is to request additional funding to move forward with the original proposal of building a tower addition which will be connected to the MPSCS via microwave loop versus fiber connectivity. Fiber in general is scarce in Barry County and creates concerns with regards to redundancy and sustainability. If fiber were used, when an additional tower site is added, the proposed site would ultimately need to be switched over to microwave.

TIME FRAME OF ACTION: March 29, 2022.

FUNDING REQUIRED: YES X NO

IF YES, ANSWER THE FOLLOWING:

1. FUNDING SOURCE (Federal, State, or Local) Local ARPA Funds
2. IF LOCAL, SPECIFY FUND: ARPA
3. AMOUNT REQUESTED: $380,719
4. AMOUNT OF ONGOING COST, AND INTERVAL (Monthly, Quarterly, Annual, etc.) NA
5. FINANCIAL IMPACT ON OTHER DEPARTMENTS: None

PERSONNEL IF REQUIRED: None.

NEW OR RENEWAL: New.

ANY OTHER PERTINENT INFORMATION: See attached pricing and project proposal.

CONTACT PERSON WITH PHONE NUMBER:
Stephanie Lehman, Central Dispatch/E-911 Director, 269-948-4825

Motorola Solutions, Inc.

500 W Monroe St
Chicago, IL 60661

September 7th, 2021

Stephanie Lehman
Barry County Central Dispatch
2600 Nashville Rd
Hastings, MI 49058

Subject: Site Addition

Dear Director Lehman,

Motorola Solutions, Inc. ("Motorola") is pleased to have the opportunity to provide Barry County Central Dispatch with quality communications equipment and services. The Motorola project team has taken great care to prepare this budgetary proposal to address your needs and provide exceptional value.

Motorola's solution includes a combination of hardware, software, and services. Specifically, this solution is for:

- Site Addition

We thank you for the opportunity to propose to Barry County Central Dispatch our communications solutions. Our goal is to provide you with the best products and services available in the communications industry.

This information provided in this quote is provided for informational (or budgetary) purposes only and does not constitute an offer to sell or license any Motorola Solutions product. This quote is not binding on Motorola Solutions and Motorola Solutions is making no representations, warranties, or commitments with respect to pricing, products, or terms and conditions which would require more information and further detailed analysis of the requirements for which this quote is requested.

Sincerely,

Mike Muskovin
Area Sales Manager
Motorola Solutions, Inc.
(616)638-1252

PRICING

The following table provides a pricing breakdown for the proposed solution.

Barry County Budgetary Pricing	
System Solution • Single Site Addition & Transition to Simulcast	$ 2,670,000
Total Solution List Pricing	$ 2,670,000
Michigan State Contract #190000001544 Discount	($273,603)
Total Solution Pricing with State Contract	$2,396,397

MOTOROLA SOLUTIONS

BARRY COUNTY, MI

2-SITE SIMULCAST ADD ON **MARCH 9, 2022**

TABLE OF CONTENTS

Section 1

Section 2

Motorola Solutions, Inc.

500 W Monroe St
Chicago, IL 60661

March 9th, 2022

Stephanie Lehman
911 Director
Barry County Central Dispatch
2600 Nashville Rd
Hastings, MI 49508

Subject: Voice Radio Communications Proposal

Dear Director Lehman:

Motorola Solutions, Inc. ("Motorola") is pleased to have the opportunity to provide Barry County Central Dispatch with quality communications equipment and services. The Motorola project team has taken great care to prepare this proposal to address your needs and provide exceptional value.

Motorola's solution includes a combination of hardware, software, and services. Specifically, this solution is for:

- Migrate 5802 from ASR to Simulcast
- One (1) New Simulcast Site

Motorola's proposal is subject to the terms and conditions in the MiDeal Contract # 190000001544 and remains valid until March 29th, 2022. Barry County Central Dispatch may accept the proposal by signing and delivering to Motorola a Purchase Order (PO)/Notice to Proceed (NTP) that specifically references the MiDEAL contract number. Motorola will be pleased to address any concerns Barry County Central Dispatch may have regarding the proposal. Any questions can be directed to Account Executive, Bill Irwin at (269) 716-6444 or bill.irwin@motorolasolutions.com.

We thank you for the opportunity to furnish Barry County Central Dispatch with our communications solutions, and we hope to strengthen our relationship by implementing this project. Our goal is to provide you with the best products and services available in the communications industry.

Sincerely,

Robert Rummel
MSSSI Vice President
North America Government Markets

SECTION 1

SYSTEM DESCRIPTION

1.1 BARRY COUNTY – PROJECT 25 PHASE 2 RADIO COMMUNICATIONS SYSTEM

Motorola Solutions, Inc. (Motorola Solutions) is pleased to provide the following proposal response for a robust, standards-based Project 25 (P25) 700/800 MHz Trunked Voice Communications System integrated with Michigan's Public Safety Communications System (MPSCS) to Barry County.

1.1.1 Proposed System Overview

Motorola Solutions is pleased to present the following expansion design for Barry County. This system, and the associated digital technology behind it, has been designed specifically for various Public Safety users like Fire Departments, Law Enforcement and other services agencies in Barry County. This system will provide an extremely reliable, easy to use integrated radio communications network that supports the following key features:

- Direct countywide unit–to–unit inter–agency communications.
- Direct countywide unit–to–unit intra–agency communications.
- Direct, State unit to local County unit inter–agency communications.
- Easy to use, frequency efficient simulcast coverage.
- Increased coverage beyond the Barry County borders – subscribers can roam throughout the entire State of Michigan.

The proposed system is a two-site 9-channel Simulcast subsystem integrated with the existing MPSCS Statewide system. The system, as configured, will allow for radio users to operate in the County or roam anywhere in the State of Michigan while maintaining communications with dispatch and other members of their talkgroup.

The site locations were determined by our coverage analysis, review and feedback from Barry County. The selected sites are listed below:

1. MPSCS 5802 – Existing Site.
2. Irving Twp – Proposed new Green Site.

Proposed backhaul transport for the new site will be via a new proposed Nokia Hot Standby hop to 5802. The microwave transport is MPLS (layer 3) equipped and will integrate to the existing MPSCS microwave network. The existing MPSCS site will reuse its SAR equipment and existing backhaul connections. Motorola Solutions has also included a reconfiguration of the SAR at each the existing MPSCS site.

1.2 ASTRO 25 CONFIGURATION AND SYSTEM LICENSES

Connection to MPSCS Zone 1 Master, ASTRO 25 Release 7.19 P25 Phase 1 FDMA.

- MPSCS Zone 1 Capacity Licenses included:
  - One (1) ASTRO P25 Radio Site License.

– Two (2) UNC Additional Device License Pack (10 Devices per license pack).

1.2.1 Barry IP Virtual Prime Site

The proposed IP Virtual Prime site will be located at 5802.

The proposed IP Virtual Prime includes:

- Two (2) DSC8000 Site Controllers with Rubidium backup GPS timing.
- Two (2) Backhaul Ethernet Switches.
- Two (2) Prime Access Routers.

1.2.2 Barry IP Remote RF Sites

The proposed IP Remote sites will be located at the new Irving Twp location and at 5802.

The proposed IP Remote site includes:

- Nine (9) GTR8000 Base Radios.
- Two (2) DSC8000 RDMs.
- Two (2) DSC HUB Pairs.
- One (1) Site Router.

The proposed Antenna Network equipment includes:

- One (1) 6-port 800 MHz Combiner.
- One (1) 6-port 700 MHz Combiner.
- One (1) TxRx 16 port 700/800 Receiver Multicoupler with TTA control.
- Three (3) Antennas (2 Tx, 1 Rx).
- One (1) TTA.
- Miscellaneous cabling, hoist grips, ties, etc.

Expanding the existing Eltek FP2 system at 5802, the proposed expansion power equipment includes:

- One (1) Rectifier.
- Various Circuit Breakers.

The proposed backup power equipment at Irving Twp includes:

- One (1) Eltek FP2 system.
- Two (2) 190AH battery kit.
- Six (6) Rectifiers.
- Various Circuit Breakers, panels, inverter.

A new 300-foot Self-Supported Tower has been proposed for the following site, loading capable of 100% future growth.:

- Irving Twp.

A new, two room, 12’ x 26’ Shelter (with 50kW indoor generator) has been included at the following site:

- Irving Twp.

1.2.3 Fixed Network Equipment (FNE) Sparing

The proposed IP simulcast backup equipment includes:

- One (1) TxRx 16-port 700/800 Receiver Multicoupler with TTA control.
- One (1) Eltek Smartpack S Controller.
- One (1) GNSS kit
- One (1) 6-port 800 MHz Combiner.
- One (1) 6-port 700 MHz Combiner.
- One (1) Antenna.
- One (1) TTA.
- One (1) DSC8000 controller with Rubidium
- One (1) DSC HUB
- One (1) FRU for G series equipment (power supply, fan module, etc.).
- One (1) Prime Access Router (SRX1500)
- One (1) Site Access Router (SRX345).
- One (1) 48-port Prime Site Backhaul Switch.

1.2.4 Backhaul

The proposed connectivity for the new site is Nokia microwave. A diagram showing the proposed network overlaid on the existing MPSCS network is shown on the following page. Proceeded by the path calculations on the following pages.

Motorola will reuse the existing connections at the existing MPCSC sites.

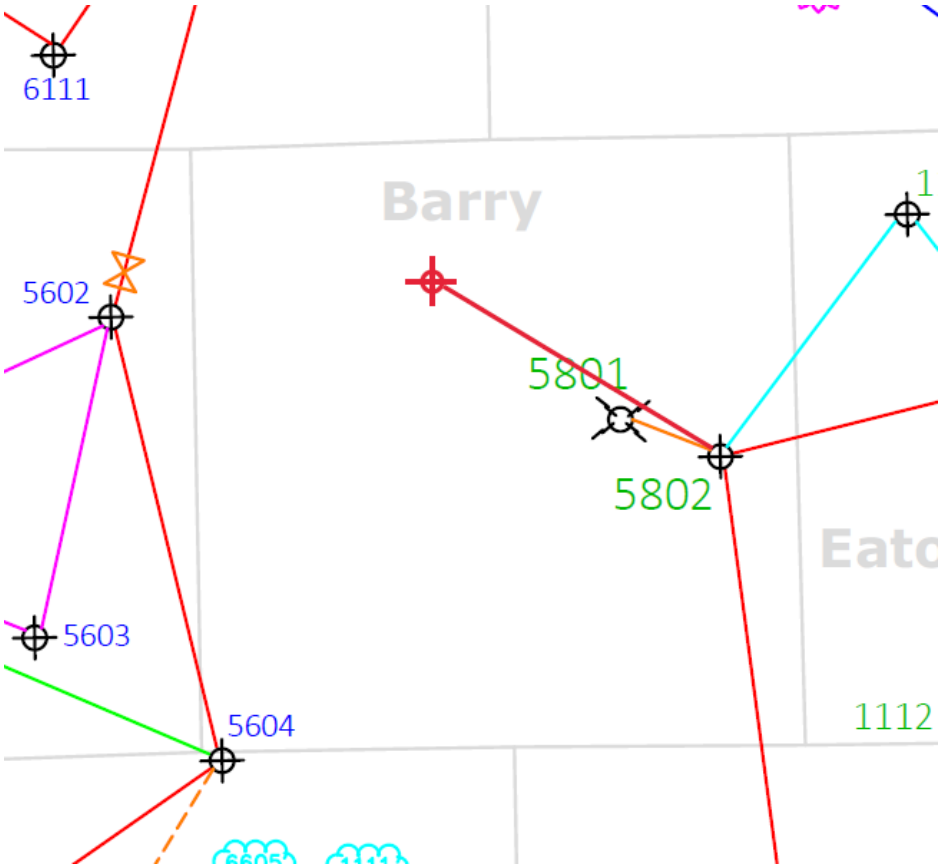


Figure 1-1: Proposed Nokia Network

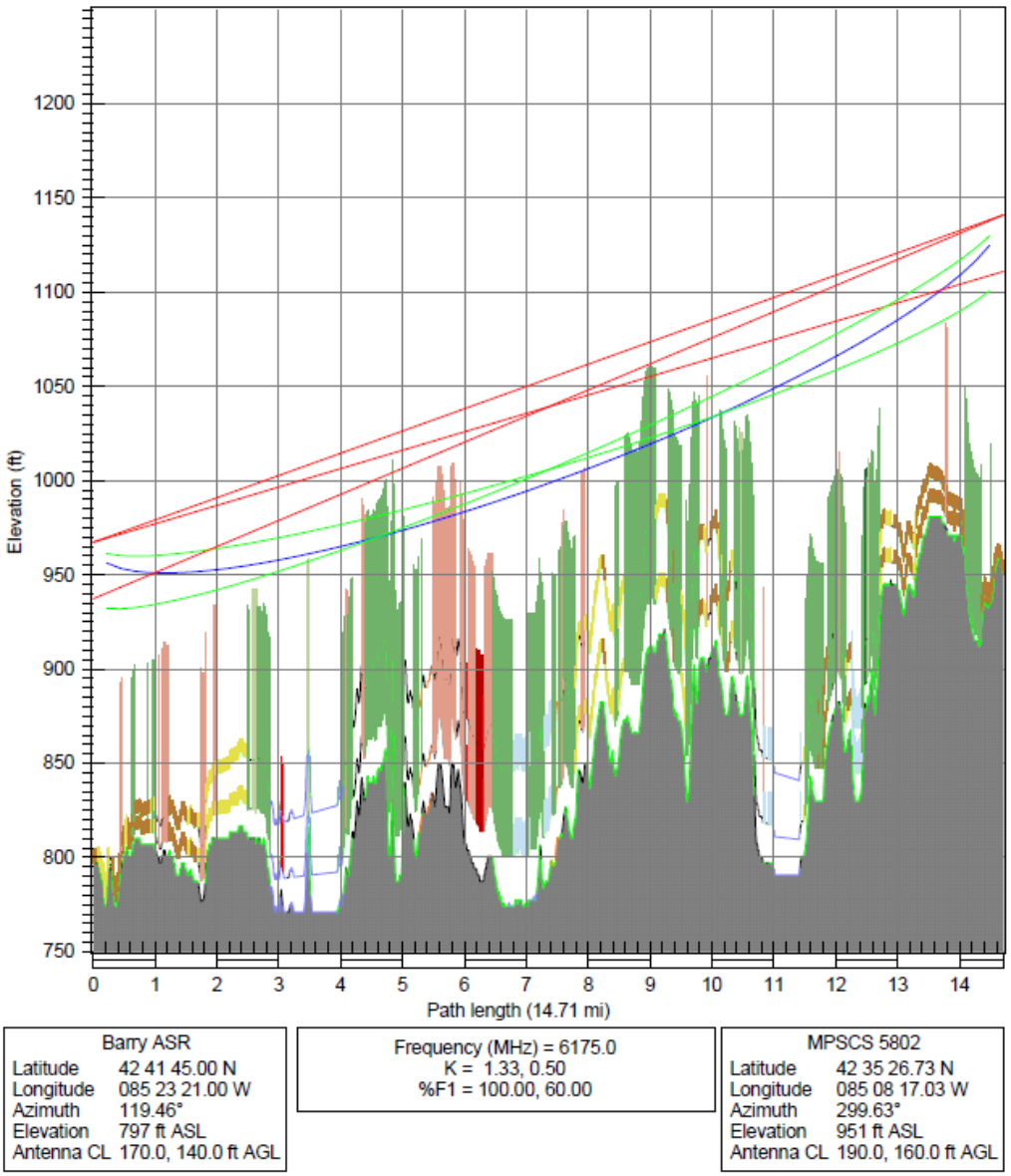


Figure 1-2: Proposed Nokia Path Calculations

	Barry ASR	MPSCS 5802
Latitude	42 41 45.00 N	42 35 26.73 N
Longitude	085 23 21.00 W	085 08 17.03 W
True azimuth (°)	119.46	299.63
Vertical angle (°)	0.05	-0.21
Elevation (ft)	797.24	951.03
Tower height (ft)	300.00	475.00
Antenna model	PAD 6 - 59 B (TR)	PAD 6 - 59 B (TR)
Antenna gain (dBi)	38.70	38.70
Antenna height (ft)	170.00	190.00
TX line model	E-60	E-60
TX line unit loss (dB/100 ft)	1.18	1.18
TX line length (ft)	210.00	230.00
TX line loss (dB)	2.49	2.73
Circulator branching loss (dB)	0.60	0.60
TX filter loss (dB)	1.80	1.80
RX filter loss (dB)	1.60	1.60
Antenna model	PAD 6 - 59 B (DR)	PAD 6 - 59 B (DR)
Antenna gain (dBi)	38.70	38.70
Antenna height (ft)	140.00	160.00
TX line model	E-60	E-60
TX line unit loss (dB/100 ft)	1.18	1.18
TX line length (ft)	180.00	200.00
TX line loss (dB)	2.13	2.37
RX filter loss (dB)	1.60	1.60
Frequency (MHz)	6175.00	
Path length (mi)	14.71	
Free space loss (dB)	135.76	
Atmospheric absorption loss (dB)	0.20	
Main net path loss (dB)	68.38	68.38
Diversity net path loss (dB)	67.43	67.43
Configuration	HSB-SD Diplexer Main	HSB-SD Diplexer Main
Radio model	WVCE61-L-1024A30S-230	WVCE61-L-1024A30S-230
Radio file name	wvce61_l_1024a30s_230	wvce61_l_1024a30s_230
Climatic factor	1.50	

	Barry ASR	MPSCS 5802
Terrain roughness (ft)	49.42	
C factor	1.52	
Average annual temperature (°F)	46.56	
Fade occurrence factor (Po)	7.482E-002	
SD improvement factor	70.43	70.43

	TX power (dBm)		RX threshold level (dBm)		EIRP (dBm)		Receive signal (dBm)		Thermal fade margin (dB)		Flat fade margin - multipath (dB)	
1024 230	31.50	31.50	-60.50	-60.50	65.31	65.07	-36.88	-36.88	24.57	24.57	24.57	24.57
512 208	31.50	31.50	-63.70	-63.70	65.31	65.07	-36.88	-36.88	27.77	27.77	27.77	27.77
256 185	32.50	32.50	-67.10	-67.10	66.31	66.07	-35.88	-35.88	32.17	32.17	32.17	32.17
128 163	**32.50**	**32.50**	**-70.10**	**-70.10**	**66.31**	**66.07**	**-35.88**	**-35.88**	**35.17**	**35.17**	**35.17**	**35.17**
64 138	32.50	32.50	-73.00	-73.00	66.31	66.07	-35.88	-35.88	38.07	38.07	38.07	38.07
32 115	32.50	32.50	-74.90	-74.90	66.31	66.07	-35.88	-35.88	39.97	39.97	39.97	39.97
16 91	32.50	32.50	-78.30	-78.30	66.31	66.07	-35.88	-35.88	43.37	43.37	43.37	43.37
4 44	32.50	32.50	-89.00	-89.00	66.31	66.07	-35.88	-35.88	54.07	54.07	54.07	54.07

	Worst month multipath		Annual multipath		Annual rain		Total annual (2 way)	Time in mode (2 way)
1024 230	99.9957	99.9957	99.9990	99.9990			99.9980	99.9980
512 208	99.9990	99.9990	99.9998	99.9998			99.9995	0.0015
256 185	99.9999	99.9999	99.9999	99.9999			99.9999	0.0004
128 163	**99.9999**	**99.9999**	**99.9999**	**99.9999**			**99.9999**	**0.0000**
64 138	99.9999	99.9999	99.9999	99.9999			99.9999	0.0000
32 115	99.9999	99.9999	99.9999	99.9999			99.9999	0.0000
16 91	99.9999	99.9999	99.9999	99.9999			99.9999	0.0000
4 44	99.9999	99.9999	99.9999	99.9999			99.9999	0.0000

Multipath fading method - Vigants - Barnett

Figure 1-3: Proposed Microwave Link Calculations

1.3 SYSTEM COMPONENTS

An ASTRO 25 Simulcast system is comprised of a Virtual Prime Site and one or more Remote radio frequency sites. This section provides descriptions of the components at each location (excluding the dispatch and MPSCS controlled master sites).

1.3.1 Virtualized Simulcast Prime Site

The Virtualized Prime Site is the next generation Simulcast/Voting Prime Site for ASTRO 25 trunking systems. Site Controller and Comparator voting applications are virtualized onto a common hardware platform (the DSC8000 Site Controller), consolidating Fault Management and Configuration capabilities into a centralized location and allowing for easier implementation and maintenance. Virtualization also enables software-only expandability. For example, when adding base stations to a simulcast sub-system the Prime Site only needs to add voting software licenses to expand the capacity. As no additional hardware is required, this expansion can be done remotely.

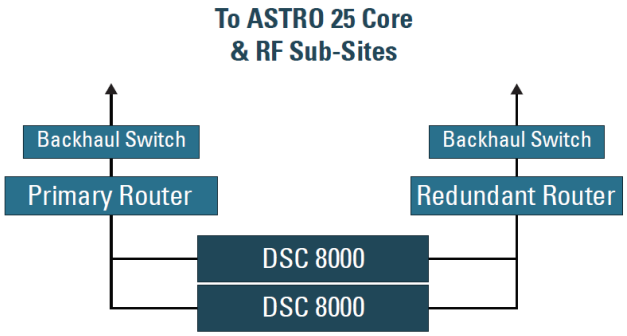
This fully redundant platform offers a new, web-based configuration tool and access to critical applications for more advanced support without the need for additional hardware. With less equipment to maintain, less power being consumed, and a smaller physical footprint, the Virtualized Simulcast Prime Site lowers Barry County's cost of ownership.

The proposed Virtualized Simulcast Prime Site supports the following features and configurations:

- FDMA Voice Calls.
- Integrated Data.
- Local, Full Redundancy.
- Up to 18 Channels/Carriers
- Up to 32 Remote Sub-sites.

DSC 8000

As part of the Virtualized Prime Site, the DSC 8000 consolidates the capabilities of a site controller and voting comparator of the ASTRO 25 trunking simulcast sub-system into a single hardware unit. The DSC 8000 assigns voice and data channels, manages and reports alarms, provides Ethernet switching capabilities, and offers a timing reference for simulcast synchronization. An internal GPS reference with rubidium backup is integrated into the DSC 8000.



Virtualized Prime Site Architecture

The DSC 8000 also provides an IP-based voting and simulcast operation for trunking channels, picking up audio from multiple sites and performs a frame-by-frame analysis to build a high quality composite audio package for transmission. The DSC 8000 is provided in a redundant configuration, which means no single point of failure will cause the loss of any functionality or capacity at the Prime Site.

Networking

The Virtualized Prime Site routers are redundant and provide connectivity to both the ASTRO 25 core and RF sub-sites. In addition, two redundant backhaul switches connect to Ethernet links (e.g. point-to-point Ethernet links, or to connect to multiple ports on the Ethernet WAN transport backhaul network).

1.3.2 Radio Frequency Site Component Descriptions

An ASTRO 25 Remote Radio Frequency (RF) site supports a wide variety of configurations to meet critical communications requirements for present and future communication needs. Depending on the RF site configuration, each RF site has several different components. The following components are included in the Remote RF sites provided as part of our solution for Barry County.

1.3.2.1 GTR 8000 Base Radio

Figure 1-4: GTR 8000 Chassis

GTR 8000 Site Repeater/Base Radio – The GTR 8000 base radio consists of a transceiver module, power amplifier module, fan module, and power supply. The transceiver module includes the functionality for the exciter, receiver, and station control. The base radio software, configuration, and network management, as well as inbound/outbound traffic handling, are performed through this transceiver module. On-board serial and Ethernet ports are located on this module for local servicing through Configuration/Service Software (CSS). The power amplifier module amplifies the low-level modulated RF signal from the transceiver module and delivers the amplified signal on the path to the transmit antenna. The power supply module supports the transceiver and power amplifier modules, and can also provide auxiliary power to a connected site controller or receive multicoupler/low noise amplifier.

DSC 8000 RDM – The DSC 8000 RDM is used at an ASTRO 25 remote trunking site to provide a timing reference, the simulcast cell requires each site to be in sync to a specific degree. These are connected to the DSC HUBs which will provides the LAN interface for the GTR 8000 Base Radios as well as deliver this timing signal to each.

1.3.2.2 SRX 345 Site Router

The SRX Site Router provides routing control of audio, data, and network management traffic for devices that forward packets beyond their local LAN. The gateways replicate packets while achieving the fast access levels required by real-time voice systems.

Figure 1-5: SRX 345 Site Router – Provides routing control of audio, data, and network management traffic for devices that forward packets beyond their local LAN.

1.3.2.3 Radio Frequency Distribution System

The Radio Frequency Distribution System (RFDS) connects base radios and antennas, allowing for a completely contained and more compact installation footprint. For the transmitters, this includes combiners (1) 6-port (800Mhz), (1) 6-port (700Mhz), & TX filters. For the receivers, this includes multicouplers and TTA system.

1.3.2.4 DSC HUB

The DSC HUB provides a LAN interface for Remote site equipment and connects to the DSC8000 RDM. These redundant connections eliminate a single point of failure for each Base Radio.

1.4 INFORMATIONAL ONLY COVERAGE ANALYSIS

Motorola Solutions has completed a coverage analysis for the 700/800 MHz P25 digital voice coverage within Barry County. This section summarizes the parameters and subscriber configurations used to generate the following coverage prediction maps. Any changes to frequencies, sites, antenna heights, or ERPs would affect coverage and require new coverage prediction maps:

- Inbound APX 6000 Portable using remote speaker microphone, hip level with swivel clip, showing 95% covered area reliability with a building loss value of 6/12dB countywide with street underneath.

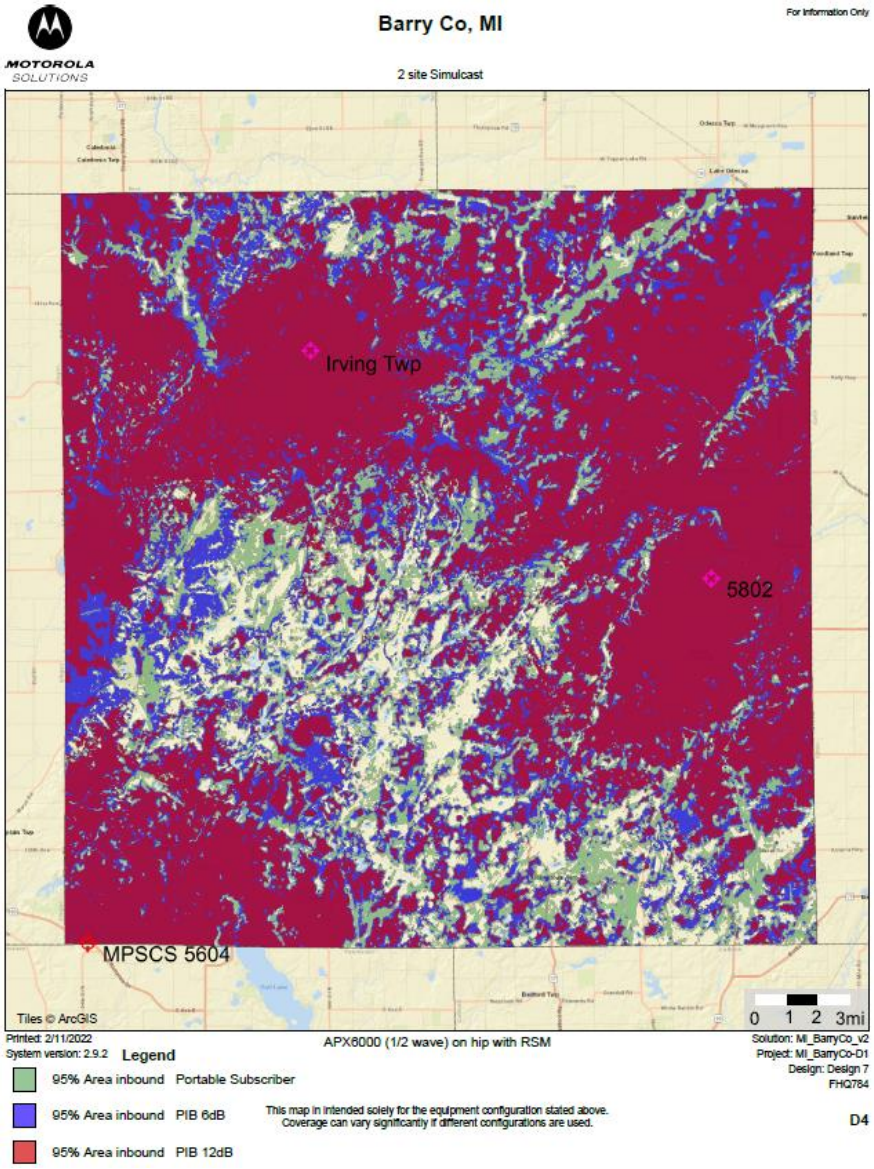


Figure 1-6: Proposed Coverage Prediction

1.5 COVERAGE SITE PARAMETERS

The antenna models, transmission/receive heights and ERP used in the map above are listed in Table 1-1 below.

Table 1-1:

SITE NAME	ANTENNA MODEL	TX HEIGHT	RX HEIGHT	ERP (WATTS)
IRVING TWP	DS7C12P36U-D	300 FT.	270 FT.	188
MPSCS 5802	B_812KB	445 FT.	428 FT.	100
MPSCS 6114	SE4192-SWBP4LDF(D00)	170 FT.	140 FT.	79
MPSCS 6111	SE4192-SWBP4LDF(D00)	475 FT.	445 FT.	90
MPSCS 5602	B_812KB	475 FT.	445 FT.	100
MPSCS 5604	B_812KB	475 FT.	445 FT.	239
MPSCS 5114	DS7C12P36U-D	200 FT.	180 FT.	125
MPSCS 5706	DB809T3A	150 FT.	130 FT.	239
MPSCS 5704	B_812KB	475 FT.	445 FT.	239
MPSCS 1113	SC412-HF2LDF(D00-E5608)	160 FT.	130 FT.	224
MPSCS 6802	B_812KB	217 FT.	186 FT.	295

1.6 SITE INFORMATION

The RF sites and coordinates used for this proposal are listed in Table 1-2 below.

Table 1-2: Site Information

SITE NAME	COORDINATES LATITUDE/LONGITUDE	
IRVING TWP	42°41’45” N	85°23’21” W
MPSCS 5802	42°35’26.16” N	85°8’16.08” W
MPSCS 6114 (KENT SIMULCAST)	42°51’3.91” N	85°22’43.31” W
MPSCS 6111 (KENT SIMULCAST)	42°47’47.94” N	85°38’45.53” W
MPSCS 5602	42°40’30” N	85°36’42.84” W
MPSCS 5604	42°25’18.84” N	85°31’44.04” W
MPSCS 5114 (KALAMAZOO SIMULCAST)	42°20’19.84” N	85°21’17.13” W
MPSCS 5706	42°18’44” N	85°12’2” W
MPSCS 5704	42°18’6.12” N	85°4’48” W
MPSCS 1113 (EATON SIMULCAST)	42°37’42” N	85°0’47” W
MPSCS 6802	42°52’49.08” N	85°2’8.16” W

NOTE: This design assumes (5) 800 MHz frequencies and (4) 700 frequencies.

1.7 SYSTEM DIAGRAMS

The following block diagrams are included:

- Simulcast Co-Located Prime Site – Existing MPSCS 5802 Single Line Diagram
- Simulcast Co-Located Prime Site – Existing MPSCS 5802 Rack Diagram
- Simulcast Remote Site Single Line Diagram
- Simulcast Remove Site Rack Diagram

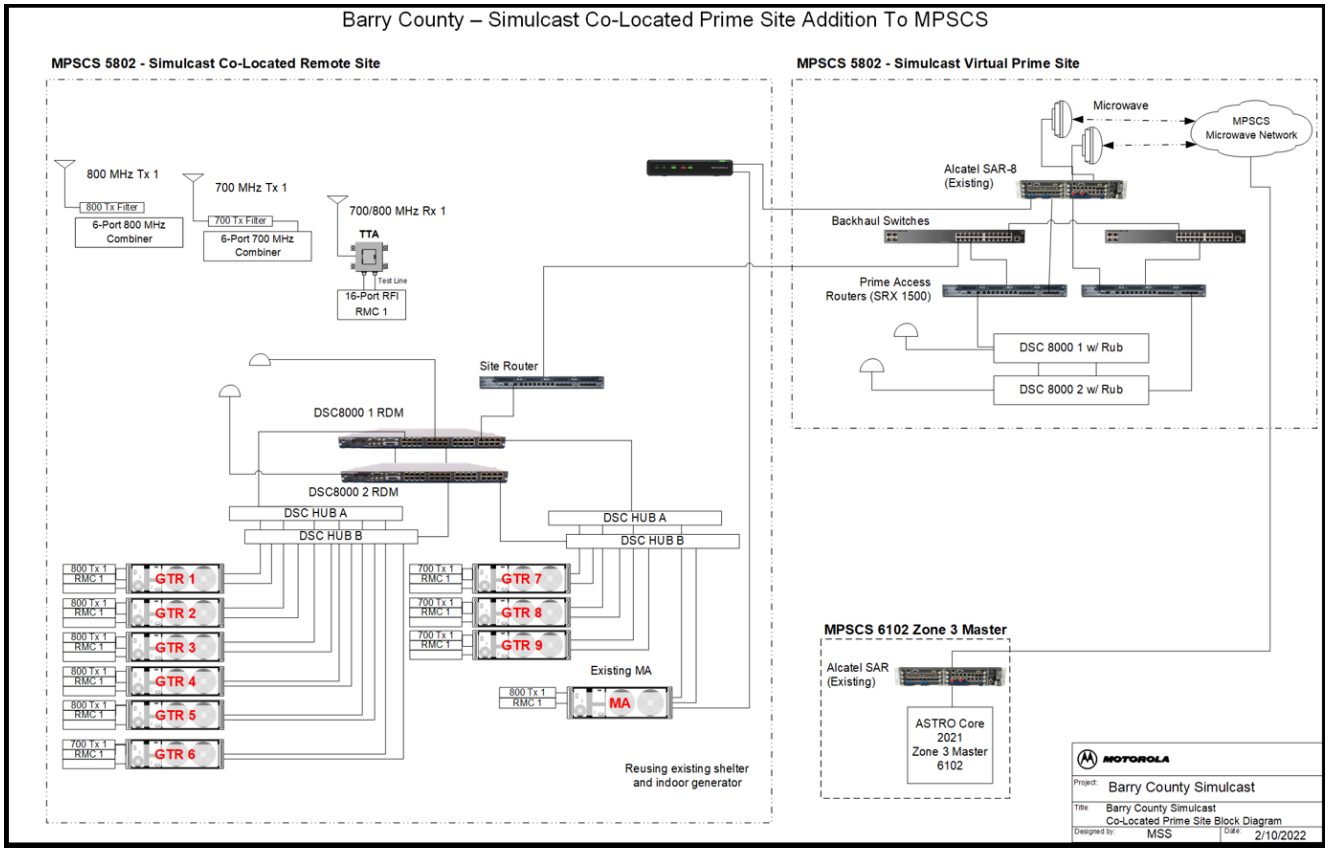


Figure 1-7: Simulcast Co-Lo Block Diagram

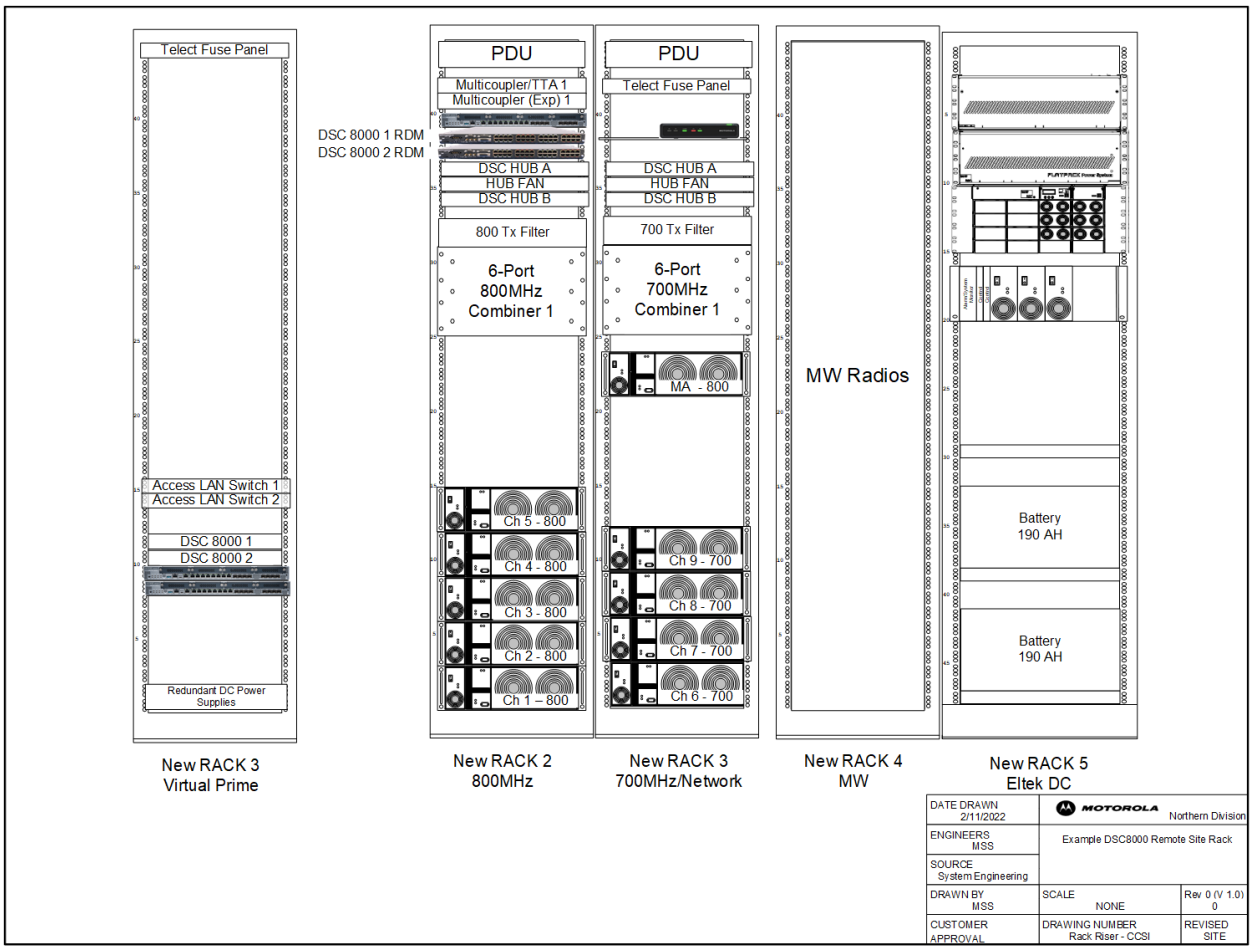


Figure 1-8: Simulcast Co-Located Prime Site – Existing MPSCS 5802 Rack Diagram

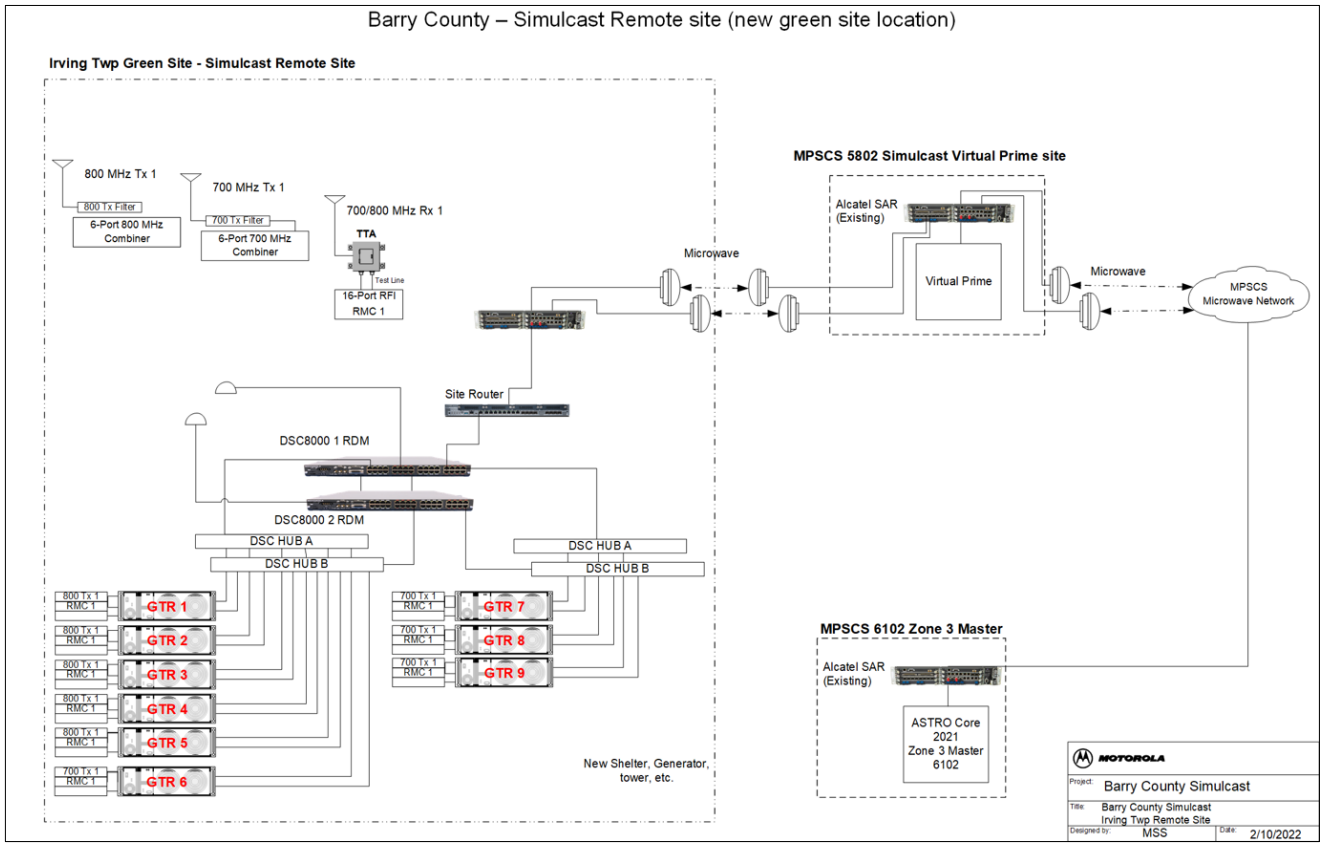


Figure 1-9: Simulcast Remote Site Block Diagram

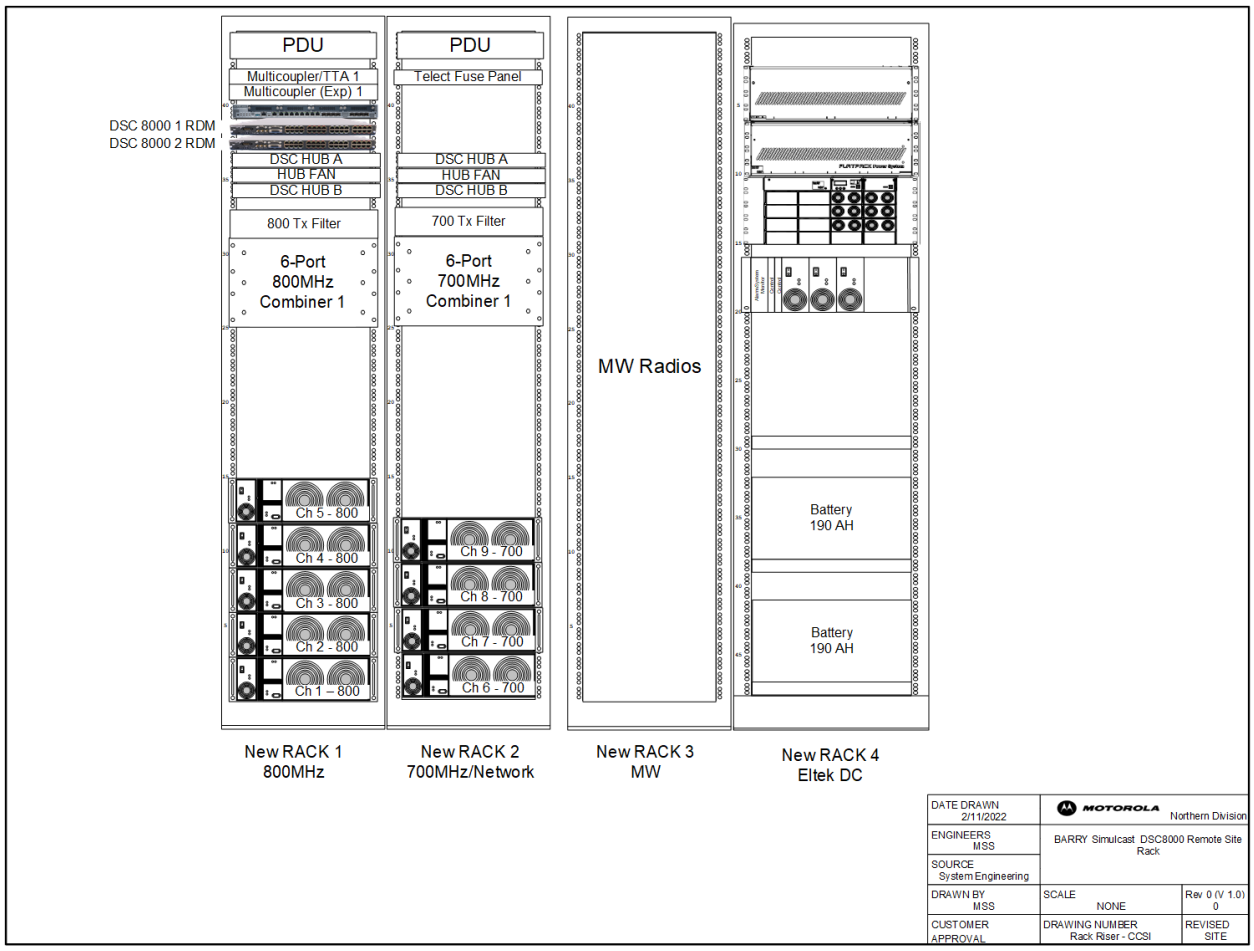


Figure 1-10: Simulcast Remote Site Rack Diagram

SECTION 2

STATEMENT OF WORK

NOTE: All responsibilities which are noted as Barry County responsibilities are items which Barry County must complete or ensure that MPSCS will provide. In addition, Barry County is responsible for providing all approvals and memorandums of understanding, as needed, from MPSCS to Motorola Solutions. Completion of the scope of this proposal is dependent upon approval of the MPSCS.

2.1 OVERVIEW

This Statement of Work (SOW) describes the deliverables to be furnished to the Barry County (Barry County). The tasks described herein will be performed by Motorola Solutions, its subcontractors, and Barry County to implement the solution described in the System Description. This SOW describes the actual work involved in installation, identifies the installation standards to be followed, and clarifies the responsibilities for both Motorola Solutions and Barry County during the project implementation. Specifically, this SOW provides:

- A summary of the phases and tasks to be completed within the project lifecycle.
- A list of the deliverables associated with the project.
- A description of the responsibilities for both Motorola Solutions and Customer.
- The qualifications and assumptions taken into consideration during the development of this project.

This SOW provides the most current understanding of the work required by both parties to ensure a successful project implementation. In particular, Motorola Solutions has made assumptions of the sites to be used for the new system. Should any of the sites change, a revision to the SOW and associated pricing will be required. It is understood that this SOW is a working document, and that it will be revised as needed to incorporate any changes associated with contract negotiations, Contract Design Review (CDR), and any other change orders that may occur during the execution of the project.

Motorola Solutions, Inc. will supply, install and optimize a two-site, (9) nine channel, simulcast subsystem integrated with Michigan's Public Safety Communications System (MPSCS). The simulcast system will connect to the MPSCS site 5802, Zone 1 master site via a redundant Nokia Microwave back haul solution. The system, as configured, will allow radio users to operate in the County with improved coverage around the proposed tower site.

The proposed backhaul transport for all sites are listed below:

1. MPSCS 5802 – Reuse existing, new Diversity 1+1 Nokia Microwave hop to new site.
2. Irving Twp – New Diversity 1+1 Nokia Microwave hop to 5802.

NOTE: Motorola is assuming that the existing, customer provided backhaul networks and equipment are deemed adequate and meet manufacturer's specifications. Motorola assumes the transmission line at 5802 will meet manufacturer's specifications following a pre and post sweep test of the transmissions line.

2.1.1 Assumptions

Motorola Solutions has based the system design on information provided by Barry County and an analysis of their system requirements. All assumptions have been listed below for review. Should Motorola Solutions' assumptions be deemed incorrect or not agreeable to Barry County, a revised proposal with the necessary changes and adjusted costs may be required. Changes to the equipment or scope of the project after contract may require a change order.

- All work is to be performed during normal work hours, Monday through Friday 8:00 a.m. to 5:00 p.m.
- Motorola Solutions is not responsible for interference caused or received by the Motorola Solutions provided equipment except for interference that is directly caused by the Motorola Solutions-provided transmitter(s) to the Motorola Solutions-provided receiver(s). Should Barry County's system experience interference, Motorola Solutions can be contracted to investigate the source and recommend solutions to mitigate the issue.
- Motorola Solutions has not included the cost of any bonds for the work being performed under this contract.
- Motorola Solutions has not included any licensing services for the work being performed under this contract.
- Motorola Solutions assumes the existing MPSCS location will reuse a generator, fuel tank, HVAC, tower, shelter and backup power. Motorola Solutions has not included additional costs to service or test the existing equipment or buildings.
- Motorola Solutions plans to reuse the existing transmission line at 5802 and assumes that the line passes a pre and post line sweep that is included in this proposal. Should either line sweep fail, a change order will need to be reviewed and approved.

2.2 CONTRACT

2.2.1 Contract Award (Milestone)

- The Customer and Motorola Solutions execute the contract and both parties receive all the necessary documentation.

2.2.2 Contract Administration

Motorola Solutions Responsibilities:

- Assign a Project Manager, as the single point of contact with authority to make project decisions.
- Assign resources necessary for project implementation.
- Schedule the project kickoff meeting with the Customer.

Barry County Responsibilities:

- Assign a Project Manager, as the single point of contact responsible for Customer-signed approvals.
- Assign other resources necessary to ensure completion of project tasks for which the Customer is responsible.

2.2.3 Project Kickoff

Motorola Solutions Responsibilities:

- Conduct a project kickoff meeting during the CDR phase of the project.
- Ensure key project team participants attend the meeting.
- Introduce all project participants attending the meeting.
- Review the roles of the project participants to identify communication flows and decision-making authority between project participants.
- Review the overall project scope and objectives with the Customer.
- Review the resource and scheduling requirements with the Customer.
- Review the initial Project Schedule with the Customer to address upcoming milestones and/or events.
- Review the teams' interactions (Motorola Solutions and the Customer), meetings, reports, milestone acceptance, and the Customer's participation in particular phases.

Barry County Responsibilities:

- The Customer's key project team participants attend the meeting.
- Review Motorola Solutions and Customer responsibilities.

2.3 CONTRACT DESIGN REVIEW (CDR)

2.3.1 Review Contract Design

Motorola Solutions Responsibilities:

- Meet with the Customer project team.
- Review the operational requirements and the impact of those requirements on various equipment configurations.
- Establish a defined baseline for the system design and identify any special product requirements and their impact on system implementation.
- Review the System Design, Statement of Work, Project Schedule, and Acceptance Test Plans, and update the contract documents accordingly.
- Discuss the proposed Cutover Plan and methods to document a detailed procedure.
- Submit design documents to the Customer for approval. These documents form the basis of the system, which Motorola Solutions will manufacture, assemble, and install.
- Prepare equipment layout plans for field
- Provide minimum acceptable performance specifications for microwave, fiber, or copper links.
- Establish demarcation point (supplied by the Motorola Solutions system engineer) to define the connection point between the Motorola Solutions-supplied equipment and the Customer-supplied link(s) and external interfaces.
- Finalize site acquisition and development plan.
  - Conduct (updated) site evaluations to capture site details of the system design and to determine site readiness (when necessary).
  - Determine each site's ability to accommodate proposed equipment based upon physical capacity.
  - If applicable, the Customer should test existing equipment with which Motorola Solutions equipment will interface.

- Work with the Customer to identify radio interference between the new communication system and other existing radio systems.

  Restrictions:

  – Motorola Solutions assumes no liability or responsibility for inadequate frequency availability or frequency licensing issues.
  – Motorola Solutions is not responsible for issues outside of its immediate control. Such issues include, but are not restricted to, improper frequency coordination by others and non-compliant operation of other radios.
  – Motorola Solutions is not responsible for co-channel interference due to errors in frequency coordination or any other unlisted frequencies, or the improper design, installation, or operation of systems installed or operated by others
  – If, for any reason, any of the proposed sites cannot be utilized due to reasons beyond Motorola Solution's control, the costs associated with site changes or delays including, but not limited to, re-engineering, frequency re-licensing, site zoning, site permitting, schedule delays, site abnormalities, re-mobilization, etc., will be paid for by the Customer and documented through the change order process.

Barry County Responsibilities:

- The Customer's key project team participants attend the meeting.
- Make timely decisions, according to the Project Schedule.
- Frequency Licensing and Interference:
  – As mandated by FCC, the Customer with the help of MPSCS, as the licensee, has the ultimate responsibility for providing all required radio licensing or licensing modifications for the system prior to system activation. This responsibility includes paying for FCC licensing and frequency coordination fees.
- If applicable, the Customer should test existing equipment with which Motorola Solutions equipment will interface.

2.3.2 Design Approval

- The Customer executes a Design Approval milestone document.

2.4 ORDER PROCESSING

2.4.1 Process Equipment List

Motorola Solutions Responsibilities:

- Validate Equipment List by checking for valid model numbers, versions, compatible options to main equipment, and delivery data.
- Create Ship Views, to confirm with the Customer the secure storage location(s) to which the equipment will ship. Ship Views are the mailing labels that carry complete equipment shipping information, which direct the timing, method of shipment, and ship path for ultimate destination receipt.
- Create equipment orders.
- Reconcile the equipment list(s) to the Contract.
- Procure third-party equipment if applicable.

Barry County Responsibilities:

- Approve shipping location(s).
- Complete and provide Tax Certificate information verifying tax status of shipping location.

2.5 MANUFACTURING

2.5.1 Manufacture Motorola Solutions Fixed Network Equipment

Motorola Solutions Responsibilities:

- Manufacture the Fixed Network Equipment (FNE) necessary for the system based on equipment order.

Barry County Responsibilities:

- None.

2.5.2 Acquire Non-Motorola Solutions Equipment

Motorola Solutions Responsibilities:

- Procure non-Motorola Solutions equipment necessary for the system based on equipment order.

Barry County Responsibilities:

- None.

2.5.3 Ship Equipment to Field (Milestone)

Motorola Solutions Responsibilities:

- Pack system for shipment to final destination.
- Arrange for shipment to the field.

Barry County Responsibilities:

- Receive and inventory equipment shipped to the field.

2.6 CIVIL WORK

NOTE: Due to material price fluctuations in raw materials, such as steel, copper, finished wood and concrete, etc. Motorola Solutions reserves the right to review all material pricing prior to placing any order on new towers and/or shelters to verify price validity. This also includes the same materials associated with the civil work required at each site. Additionally, the rates for transportation freight from Supplier to the Site are estimated. A fuel surcharge may be applied to the quote freight rate on all shipments based on the cost of diesel at the time of shipment.

2.6.1 Site Development at Irving Twp Site

Project will be a Greenfield site on and open farmland field. Proposal will be to install a new 60' x 60' Fenced Compound, 300' SST, 12' x 26' shelter, 50KW Indoor Gen, 1000 Gal Propane Tank, (3)

Large Antennas @ 300' & 270', (1) TTA @ 270', and associated transmission lines. MPSCS to perform 3rd Party Tower Inspection for new towers.

Site Scope Summary

- Engineering services for site drawings and regulatory approvals – Included.
- Site acquisition services – Not included.
- Zoning Services – Included
- New fenced compound/expansion size – 60-foot x 60-foot.
- Clearing type – Light.
- Road length requiring improvement – 275 feet.
- New power run – 150 feet, Electrical service type – Underground, 200-amp - 120/240-volt, single-phase.
- New shelter size – 12-foot x 26-foot.
- New fuel tank size – 1000 gallons- , Type – Propane above-ground.
- New generator size – 50 kW, Type – Indoor.
- New tower to be used for antennas – 300-foot self-supported tower.
- New tower foundation size – 129 cubic yard, Type – Drilled Pier.

Motorola Solutions Responsibilities:

Site Zoning

- Provide an expert witness for up to 1 day(s) to attend or testify at public meetings and/or hearings to provide expert testimony to assist in obtaining zoning approvals.
- Coordinate zoning and permitting of the new tower site such that it is in full compliance with applicable jurisdictional requirements.

Site Engineering

- Prepare site construction drawings showing the layout of various new and existing site components. Up to (2) Revisions.
- Conduct site walks to collect pertinent information from the sites (e.g., location of Telco, power, existing facilities, etc.).
- Perform a site and topographic survey for the property on which the communication site is located or will be located.
- Prepare a lease exhibit and sketch of the site to communicate to the property owner the proposed lease space and planned development at the particular site location.
- Prepare zoning drawings that can be used to describe the proposed site installation in sufficient detail. Up to (2) Revisions.
- Prepare record drawings of the site showing the as-built information.
- Conduct flood plain analysis of the site location.
- Conduct utility investigation and coordinate with local utility company for power hook up.
- Perform construction staking around the site to establish reference points for proposed construction.
- Provide an expert witness for up to 1 day(s) to attend or testify at public meetings and/or hearings to provide expert testimony to assist in obtaining zoning approvals.
- Perform NEPA Threshold Screening, including limited literature and records search and brief reporting, as necessary to identify sensitive natural and cultural features referenced in 47 CFR Chapter 1, subsection 1.1307 that may potentially be impacted by the proposed construction activity. This does not include the additional field investigations to document site conditions if it is determined that the proposed communication facility “may have a significant environmental impact” and thus require additional documentation, submittals, or work. Regional Environmental

Review (RER) report submittals if required by FEMA have not been included. Perform Cultural Resource study as needed to identify sensitive historical and archaeological monuments that might be impacted by proposed construction

- Perform a ASTM E 1527-05 certified Phase I Environmental Site Assessment (ESA), to identify obvious and reasonably likely on-site and/or off-site potential sources of contamination that might pose a potential risk of leasing and building on a piece of property, and whether further environmental investigations are warranted. This study does not include Phase II assessments, risk/cost evaluations, and permitting assistance that may be required if risk factors are indicated.
- Conduct up to 80-foot deep soil boring test at each tower leg, backfill holes with spoils and prepare geotechnical report of soil conditions at locations of the tower foundation. Grouting of boring holes or access by Automatic Traction Vehicle (ATV) - mounted rig is not included.
- Conduct construction inspection of foundation steel prior to pour, materials testing of concrete and field density tests of backfill to ensure quality construction.
- Perform inspection of the site and the work performed by the Contractor to document that the site is built in accordance with the "Site Plans" and document any deviations or violations.
- Prepare, submit and track application for local permit fees (zoning, electrical, building etc.), and procure information necessary for filing.
- Third Party Utility Locates.
- FAA Filing (Air Space Analysis, FAA 7460-1; FCC Notifications, FAA 7460-2 Part 1; FCC Notification, FAA 7460-2 Part 2; FRN Application; Local Publication)
- (Michigan) Michigan Tall Structural Act

Site Preparation

- Obtain the permits such as electrical, building, and construction permits, and coordinate any inspections with local authorities that may be needed to complete site development work.
- Provide one-time mobilization costs for the construction crews. Any remobilization due to interruptions/delays that are out of Motorola's control will result in additional costs.
- Perform light clearing of brush, grubbing and disposal of vegetation and shrub growth in the site compound area and a 20-foot path around it (10000 square feet).
- Perform clear light brush, grub roots and dispose vegetation and shrub growth in a 15-foot wide access road to the site (not to exceed 275 feet in length).
- Grade the site compound and 10-foot path around it to provide a level, solid, undisturbed surface for installation of site components (not to exceed 6400 square feet).
- Provide earth fill for approach area, between R.O.W. and property line. (not to exceed 100 cubic yards).
- Supply and install gravel surfacing to a depth of 6 inches, including herbicide treatment and geotextile fabric installation within the fenced in site compound area, and a 3-foot path around it (not to exceed 4356 square feet).
- Provide a 15-foot wide access road (not to exceed 275 feet in length), including surface grading and graveling
- Supply and install (2) two-foot diameter culvert.
- Provide silt fence around the compound to control soil erosion (not to exceed 240 linear feet).
- Supply and install 8-foot high chain-link fencing with a ten-foot wide gate around the shelter compound (not to exceed 240 linear feet).
- Perform site touch up (fertilize, seed and straw) disturbed areas not covered with gravel after completion of construction work. Landscaping, decorative fencing or any other aesthetic improvement that may be required by local jurisdictions has not been included and will be handled through a negotiated contract change notice.

Site Components Installation

- Construct (1) reinforced concrete foundation necessary for a 12-foot x 26-foot shelter.
- Construct (1) concrete slab for 1000 gallon above-ground Liquid Propane (LP) fuel tank at 3000 psi with reinforcing steel necessary for foundations.
- Supply and install (1) prefabricated concrete shelter 12-foot x 26-foot (including 10-foot generator room).
- Supply and install (1) 1000-gallon Liquid Propane (LP) fuel tank(s), fill it with fuel and connect it to the generator.
- Supply and install fuel tank monitors on the tanks to monitor low fuel in tanks and run alarm wiring to the building located within 50 feet of the tank.
- Supply and install (1) 120/240-volt, 200-amp, single-phase meter and hookup for electrical service by the local utility.
- Provide all trenching, conduit, and cabling necessary for underground hookup of power to the shelter from future transformer to meter and service disconnect located on the shelter, located within 100 cable feet of the shelter.
- Supply and install a perimeter grounding system around the compound and shelter. The ground system is to tie to the fence and all new metal structures within the compound to meet current Motorola's R56 standards.
- Conduct (1) three-point ground resistance test of the site. Should any improvements to grounding system be necessary after ground testing, the cost of such improvements shall be the responsibility of Barry County, MI--Greenfield.
- Supply and install (1) freestanding 24-inch-wide cable/ice bridge from the tower to the shelter (up to 30 linear feet).

Tower Work

- Construct drilled pier type tower foundations including excavation, rebar and concrete (not to exceed 129 cubic yards).
- Erect new 300-foot self-supported tower with strobe lighting.
- Supply and install grounding for the tower base for self-supported towers

Antenna and Transmission Line Installation

- Supply and Install (3) Large antenna(s) for the RF system.
- Supply and Install (3) heavy duty mount(s) for Large antennas.
- Supply and Install (1) tower top amplifier(s).
- Supply and Install up to (320) linear feet of 1/2-inch transmission line.
- Supply and Install up to (320) linear feet of 7/8-inch transmission line.
- Supply and Install up to (700) linear feet of 1-5/8-inch transmission line.
- Perform sweep tests on transmission lines.
- Provide and install attachment hardware for supporting transmission lines on the antenna support structure every three feet.
- Supply and install (3) ground buss bar at the top, middle, and bottom of the antenna support structure for grounding RF cables before they make horizontal transition.

Miscellaneous Work

- Pickup Material from Local Warehouse and deliver to site up to 50miles away.
- Cost to Remove Spoils and Haul to Approved Land Fill.
- Provide material to include: heavy duty pipe-to-pipe clamps, hoisting grips, ground kits, and weather proofing.
- Rip-rap construction Entrance.

- Provide up to (3) months a Porta-a-Potty.

Irving Twp Greenfield Site Specific Customer Responsibilities:

- Pay for all utility connection, pole or line extensions, and any easement or usage fees.
- Pay for application fees, taxes and recurring payments for lease/ownership of the property.
- Provide property deed or lease agreement, and boundary survey, along with existing as-built drawings of the site and site components to Motorola for conducting site engineering.
- Provide a right of entry letter from the site owner for Motorola to conduct field investigations.
- Provide additional temporary space for staging of the construction equipment during the construction of new site facilities (tower, shelter, generator, fuel tank etc.).

Irving Twp Greenfield Site Specific Assumptions:

- All recurring and non-recurring utility costs [including, but not limited to, generator fuel (except first fill), electrical, Telco] will be borne by the Customer or site owner.
- All utility installations shall be paid for by the site owner and located at jointly agreed to location within or around the new communications compound.
- Site will have adequate electrical service for the new shelter and tower. Utility transformer, transformer upgrades, line, or pole extensions have not been included.
- Hazardous materials are not present at the work location. Testing and removal of hazardous materials, found during site investigations, construction or equipment installation will be the responsibility of the customer.
- A maximum of 30 days will be required for obtaining approved building permits from time of submission, and a maximum of 60 days will be required for zoning approvals from time of submittal.
- If extremely harsh or difficult weather conditions delay the site work for more than a week, Motorola will seek excusable delays rather than risk job site safety.
- In absence of geotechnical reports, foundations and subsurface conditions for tower design are based on Presumptive Sand soil parameters, as defined by EIA-222-G. Also, rock coring, piling, extensive dewatering of foundations, permanent casings or hazardous material removal has not been included.
- For zoning approvals, a maximum of 60 days will be required from time of submittal with attendance at maximum of two (2) required planning meetings.
- The new tower location will pass the FAA hazard study, zoning, FCC and environmental permitting.
- The restoration of the site surroundings by fertilizing, seeding and strawing the disturbed areas will be adequate.
- Tower and foundation sizing is based on the tower loading requirements as a result of the RF Antenna System design and the Microwave Antenna System design (i.e. - dish sizes and locations obtained from paper path studies). If after physical path studies, the dish sizes and locations change, then Motorola will then review the impact to tower structure and foundations and revise applicable costs.
- If as a result of NEPA studies, any jurisdictional authority should determine that a proposed communications facility "may have a significant environmental impact", the environmental impact studies or field testing and evaluation related to such determination have not been included.
- For new towers greater than 200 feet in overall height, FAA obstruction lighting has been included. Painting or dual lighting of any new towers has not been included.
- The site location can be finalized and lease agreement can be reached with the property owner within 60 calendar days after the start of the site acquisition effort.

- A waiver to zoning requirements like setbacks, tower height limitations, etc. can be obtained.
- The soil resistivity at the site is sufficient to achieve resistance of ten (10) ohms or less. Communications site grounding will be designed and installed per Motorola's Standards and Guidelines for Communications Sites (R56).
- Underground utilities are not present in the construction area, and as such no relocation will be required.
- Foundations for the shelter, generator and fuel tank are based "normal soil" conditions as defined by TIA/EIA 222-F. Footings deeper than 30 inches, raised piers, rock coring, dewatering, or hazardous material removal have not been included.
- MPSCS to perform 3rd Party Tower Inspection for new towers.
- Assume no hand digging is required.
- Storm Water Design and Implementation have not been included, unless otherwise discussed.

2.6.2 DC Power Plant Installation

Motorola Solutions Responsibilities:

- Install the DC Power Plant in the newly erected shelter at Irving Twp.
- Connect the appropriate equipment to the ground system in accordance with Motorola Solution's R56 Site Installation standards.

A DC Power Plant will be provided for Barry County. The DC Power Plant will include:

- One (1) TRILOGY SMARTPACK S DC SYS FP2- 48/600A.
- Six (6) Flatpack2 rectifiers.
- Ten (10) blind panels.
- One (1) Inverter
- One (1) 100-amp breaker kit.
- Two (2) 48-volt Enersys battery kits.
- Five (5) 5-amp circuit breakers; single pole.
- Five (5) 15-amp circuit breakers.
- Twenty (20) 20-amp circuit breakers.
- Seven (7) 30-amp circuit breakers.

Barry County Responsibilities:

- Provide open breaker slots in the distribution breaker panel within 25-feet of the DC Power Plant rack (Motorola Solutions is providing seven (7) 30-amp breakers and installing them in the distribution panel).

2.6.3 DC Power Plant Installation Complete

- DC Power Plant installation completed and accepted by the Customer.

2.6.4 Site Development at MPSCS 5802 Site

Project is an existing MPSCS 5802 site with a 445' Guyed Tower and Shelter. Proposal is to remove and replace (2) Large Omni antennas @ 445', (1) Large Omni antenna @ 428' and (1) TTA @ 428'. This proposal assumes the reuse of existing antenna coax with pre & post transmission line sweeps. If any permits are required, Barry County will purchase and perform the permit tasks. There was no site walk performed.

Site Scope Summary

- Engineering services for site drawings and regulatory approvals – Included.
- Site acquisition services – Not included.
- Zoning Services – Not included.
- Existing tower to be used for antennas – 445' Guyed Tower.

Motorola Responsibilities:

Site Engineering

- Prepare site construction drawings, showing the layout of various new and existing site components. Up to (2) Revisions.
- Conduct site walks to collect pertinent information from the sites (e.g., location of Telco, power, existing facilities, etc.).
- Prepare record drawings of the site showing the as-built information.
- Perform limited National Environmental Policy Act (NEPA) Threshold Screening, including limited literature and records search and brief reporting, as necessary to identify sensitive natural and cultural features referenced in 47 Code of Federal Regulations (CFR) Chapter 1, subsection 1.1307 that may be potentially impacted by the proposed construction activity. This does not include the additional field investigations to document site conditions if it is determined that the proposed communication facility "may have a significant environmental impact" and thus require additional documentation, submittals, or work.
- Provide a structural engineering analysis for antenna support structure, if necessary, to support the proposed antenna system. If the tower structure fails the analysis, the cost of any site relocation or modifications to the tower required to support the antenna system will be the responsibility of Barry County, MI. NOTE: This task does not include mapping, structural measurement survey, materials testing, geotechnical investigation, and/or other field investigation to acquire the data. If applicable, these tasks will be noted separately in the SOW.
- Provide tower climbing and tower mapping services for towers up to 500 feet to collect information about structural members and existing equipment.

Site Preparation

- Provide one-time mobilization costs for the construction crews. Any remobilization due to interruptions/delays that are out of Motorola's control will result in additional costs.

Antenna and Transmission Line Installation

- Supply and Install (3) Large Omni antenna(s) for the RF system.
- Supply and Install (3) heavy duty mount(s) for Large Omni antennas.
- Supply and Install (1) tower top amplifier(s).
- Perform a Pre and Post sweep test on all existing transmission lines.

Existing Facility Improvement Work

- Supply and install (2) 30-amp breakers in the distribution panel and wire to MW Inverter located on an average within 35 cable feet.

Miscellaneous Work

- Additional labor and equipment to utilize Gin Pole to install Large Antennas at top of tower.
- During the same initial Mobilization for the project: Labor and equipment to remove existing (3) Large Omni antennas, (1) TTA, and mounts at 445' and 428' to be replaced with new antennas and jumpers. Assuming reusing existing transmission lines if able to pass the sweep tests.

2.6.5 Site Development Customer Responsibilities:

- If required, prepare and submit Electromagnetic Energy (EME) plans for the site (as a licensee) to demonstrate compliance with FCC RF Exposure guidelines.
- Pay for all utility connection, pole or line extensions, and any easement or usage fees.
- Review and approve site design drawings within 7 calendar days of submission by Motorola or its subcontractor(s). Should a re-submission be required, the Customer shall review and approve the re-submitted plans within 7 calendar days from the date of submittal.
- Pay for the usage costs of power, leased lines and generator fueling both during the construction/installation effort and on an on-going basis.
- Pay for application fees, taxes and recurring payments for lease/ownership of the property.
- As applicable (based on local jurisdictional authority), the Customer will be responsible for any installation or up-grades of the electrical system in order to comply with NFPA 70, Article 708
- Provide property deed or lease agreement, and boundary survey, along with existing as-built drawings of the site and site components to Motorola for conducting site engineering.
- Provide a right of entry letter from the site owner for Motorola to conduct field investigations.
- Provide additional temporary space for staging of the construction equipment during the construction of new site facilities (tower, shelter, generator, fuel tank etc.).
- Maintain existing access road in order to provide clear and stable entry to the site for heavy-duty construction vehicles, cement trucks and cranes. Sufficient space must be available at the site for these vehicles to maneuver under their own power, without assistance from other equipment.
- Arrange for space on the structure for installation of new antennas at the proposed heights on designated existing antenna-mounting structures.
- Provide as-built structural and foundation drawings of the structure and site location(s) along with geotechnical report(s) for Motorola to conduct a structural analysis.
- Provide support facilities for the antenna cables (cable ladder, entry ports, waveguide bridge) from the antenna to the equipment room.
- Provide space, HVAC, backup power (UPS, generator), outlets, grounding, surge suppression, lighting, fire suppression and cabling facilities for the equipment room per Motorola's R56 specifications. Ceiling and cable tray heights in the equipment rooms should be such as to accommodate 7-1/2-foot equipment racks, and the ceiling should be 9 feet or greater.
- Confirm that there is adequate utility service to support the new equipment and ancillary equipment.
- Confirm that the existing generator is sufficient to support the new equipment and ancillary equipment loads.
- If required, remove or relocate any existing facilities, equipment, and utilities to create space for new site facilities and equipment.
- Provide backup power (UPS / Generator) for the new equipment, and UPS sub-distribution panel(s) with breakers wired to dedicated outlets above the proposed equipment locations.
- Upgrade the existing grounding and transient voltage suppression systems to Motorola's current R56 Standards, and supply a single point system ground, of ten (10) ohms or less, to be used on all fixed equipment supplied under this proposal, if necessary. Supply a grounding tie point within ten (10) feet of the-Motorola-supplied equipment.
- Supply required UPS Power to support the additional proposed equipment. This uninterruptible power source shall be adequate to back-up all radio equipment as well as future equipment growth.

2.6.6 General Site Development Project Assumptions

(All clarifications and exceptions contained in this Section (General Site Development Assumptions) take precedence over any other section of this Site Development Contract.)

- All work is assumed to be done during normal business hours as dictated by time zone (Monday thru Friday, 7:30 a.m. to 5:00 p.m.).
- All recurring and non-recurring utility costs [including, but not limited to, generator fuel (except first fill), electrical, Telco] will be borne by the Customer or site owner.
- Hazardous materials are not present at the work location. Testing and removal of hazardous materials, found during site investigations, construction or equipment installation will be the responsibility of the customer.
- A maximum of 30 days will be required for obtaining approved building permits from time of submission, and a maximum of 60 days will be required for zoning approvals from time of submittal.
- No improvements are required for concrete trucks, drill rigs, shelter delivery, and crane access.
- If extremely harsh or difficult weather conditions delay the site work for more than a week, Motorola will seek excusable delays rather than risk job site safety.
- The existing ground system and soil resistivity at the site is sufficient to achieve resistance of 10 ohms or less. Communication site grounding will be designed and installed per Motorola's R56 standards.
- AM detuning or electromagnetic emission studies will not be required.
- Protective grating over microwave dishes or the communications shelter has not been included in this proposal.
- Structural and foundation drawings of the antenna support structure will be made available to preclude the need for ultrasonic testing, geotechnical borings or mapping of existing tower structural members.
- Lead paint testing of existing painted towers has not been included.
- On the existing tower, the antenna locations for the proposed antenna system design will be available at the time of installation.
- The site has adequate utility service to support the proposed equipment loading. Utility transformer upgrades or step-up or down transformers will not be required.
- The existing antenna support structure is structurally capable of supporting the new antenna, cables, and ancillary equipment proposed and will not need to be removed or rebuilt at the existing site. The tower or supporting structure meets all applicable EIA/TIA-222 structural, foundation, ice, wind, and twist and sway requirements. Motorola has not included any cost for structural or foundation upgrades to the antenna support structure.
- The existing cable support facilities from the antenna to the cable entry port can be used for supporting the new antenna cables.
- Structural analyses for towers or other structures that have not been performed by Motorola will relinquish Motorola from any responsibility for the analysis report contents and/or recommendation therein.
- Alarming at existing sites will be limited to new component installations and will have to be discussed and agreed to on a site-by-site basis.
- The existing site will have adequate room for installation of proposed equipment, based on applicable codes and Motorola's R56 standards.
- The existing utility service and backup power facilities (UPS, generators) have sufficient extra capacity to support the proposed new equipment load.
- A clear obstruction-free access exists from the antenna location to the equipment room.

- Pricing does NOT include Prevailing Wages. No prevailing wage, certified payroll, mandatory union workers or mandatory minority workers are required for this work. In the event it is subsequently determined that Prevailing Wages are required, MSI will reimburse Pyramid for all costs required to attain compliance with Prevailing Wage requirements.

2.6.7 Site Development Completion Criteria

- Site development completed per issued for construction (IFC) construction drawings, project requirements, contractual obligations (including any customer/Motorola approved changes) and approved by Barry County, MI--Greenfield.

NOTE: Barry County is to coordinate with MPSCS about post warranty maintenance of generator, fuel tank, A/C unit, tower, shelter etc.

2.7 TOWER REMEDIATION FOR THE EXISTING BARRY COUNTY MPSCS SITE

- Analyze and review the remediation efforts needed for the existing Barry County tower/shelter site, and perform work as directed by Barry County at a price not to exceed $73,000 before a change order would need to be reviewed and approved.

2.8 SYSTEM INSTALLATION

2.8.1 Install Fixed Network Equipment

Motorola Solutions Responsibilities:

- Motorola Solutions will be responsible for the installation of all fixed equipment contained in the equipment list and outlined in the System Description based upon the agreed to floor plans, at the sites where the physical facility improvement is complete and the site is ready for installation. All equipment will be properly secured to the floor and installed in a neat and professional manner, employing a standard of workmanship consistent with its own R56 installation standards and in compliance with applicable National Electrical Code (NEC), EIA, Federal Aviation Administration (FAA), and FCC standards and regulations.
- For installation of the fixed equipment at the various sites, Motorola Solutions will furnish all cables for power, audio, control, and radio transmission to connect the Motorola Solutions-supplied equipment to the power panels or receptacles and the audio/control line connection point.
- During field installation of the equipment, any required changes to the installation will be noted and assembled with the final ‘as-built’ documentation of the system.
- Permanently position, and bolt to the floor, new racks per the room layout drawing per the system diagrams in the System Description above for the new site in Irving Twp.
- Provide and install equipment as defined in the equipment list for the Two-Site Simulcast at the proposed Green Site (Irving Twp) including:
  - Install nine (9) GTR8000 base radios in the two new proposed racks.
  - Install site router, (2) switches and network equipment cabling.
  - Install two (2) standalone DSC 8000 controllers with misc equipment and cabling.
  - Install one (1) 16-port TTA system.

  - Install two (2) 6-channel combiner kits in new rack. Connect the combiners to the GTR transmit output connectors.
- Provide and install Virtualized Prime Equipment as defined in the equipment list for MPSCS Site 5802 (new proposed Prime Site).
- Provide and install equipment as defined in the equipment list for the Simulcast Expansion at the existing MPSCS Site 5802 including:
  - Install nine (9) GTR8000 base radios in the two new proposed racks.
  - Install site router.
  - Install two (2) standalone DSC 8000 controllers with misc equipment and cabling.
  - Install one (1) 16-port TTA system.
  - Install two (2) 6-channel combiner kits in new rack. Connect the combiners to the GTR transmit output connectors.

Barry County Responsibilities:

- Ensure all the third-party existing subsystems at MPSCS 5802 (i.e. Generator, HVAC units, UPS' and their batteries, at a minimum) are maintained and are in working condition.
- Provide secure storage for the Motorola Solutions-provided equipment, at a location central to the sites. Motorola Solutions coordinates the receipt of the equipment with the Customer's designated contact, and inventory all equipment.
- Provide access to the sites, as necessary.

2.8.2 Fixed Network Equipment Installation Complete

- All fixed network equipment installed and accepted by the Customer.

2.8.3 Microwave Network Backhaul Installation

Motorola Solutions Responsibilities:

- Deployment of one (1) new hop of Wavence MPT-HLC Microwave System at two (2) sites (New Barry Co Site & MPSCS Site 5802).
- Furnish and install one (1) hop microwave radio in a new rack at one (1) site and another radio transceiver in the existing rack at MPSCS 5802.
- MPLS integration services for the SAR-8 to connect to the existing MPSCS network, FCC License Application, engineering services, closeout documentation and sweep testing for new waveguides.
- Procure and install new antennas, standard mounts and transmission lines at the 2 sites that require them.
- Provide performance calculations, path and site surveys, path design, frequency coordination and site engineering.
- During field installation of the equipment, any required changes to the installation will be noted and assembled with the final 'as-built' documentation of the system.
- Verify field path clearances through a field path survey.
- Schedule the installation/implementation/cutover in agreement with Barry County and MPSCS.

Barry County Responsibilities:

- Provide demarcation point located within 25-feet of the SAR-8.

2.8.4 Microwave Network Backhaul Installation Complete

- SAR-8 installation completed and accepted by the Customer.

2.8.5 System Installation Acceptance (Milestone)

- All equipment installations are completed and accepted by the Customer.

2.9 SYSTEM OPTIMIZATION

2.9.1 Optimize System FNE

Motorola Solutions Responsibilities:

- Motorola Solutions and its subcontractors optimize each new subsystem.
- Verify that all equipment is operating properly and that all electrical and signal levels are set accurately.
- Verify that all audio and data levels are at factory settings.
- Check forward and reflected power for all radio equipment, after connection to the antenna systems, to verify that power is within tolerances.
- Check audio and data levels to verify factory settings.
- Verify communication interfaces between devices for proper operation.
- Test features and functionality are in accordance with manufacturers' specifications and that they comply with the final configuration established during the CDR/system staging.
- Integrate the existing consoles into the radio system to perform the dispatching operation.

Barry County Responsibilities:

- Provide access/escort to the sites.

2.9.2 Link Verification

Motorola Solutions Responsibilities:

- Perform test to verify site link performance of the existing connectivity medium, prior to the interconnection of the Motorola Solutions-supplied equipment to the link equipment. Motorola Solutions will perform link testing on the existing connectivity network, and if there are issues it will be Barry County's responsibility to troubleshoot and bring the connectivity reliability up to specifications. If Motorola Solutions is needed for additional testing or troubleshooting, then a change order may be required to cover those additional costs

Barry County Responsibilities:

- Witness tests if desired.

2.9.3 Informational Only Bit Error Rate (BER) Measurements

Information only samples will be gathered using Motorola Solutions' Voyager tool to test locations, and to manage BER and SSI data collection.

Voyager consists of the following:

- A voice demo radio connected to an antenna installed in a representative location on the demo vehicle. The demo radio will monitor transmissions from the fixed network radio site.
- A Global Positioning System (GPS) receiver, which will provide the computer with the location and speed of the demonstration vehicle.
- A laptop computer with Voyager software and a mapping database, which includes highways and local streets political boundaries, rivers, and railroads.
- The procedure for the objective BER coverage measurements will be as follows:
  - The Voyager tool will be installed in a demonstration vehicle, which will be driven over a route planned to cover the accessible tiles within the defined demonstration area.
  - During the demonstration, the laptop computer screen will display the vehicle's location on a map of the defined area overlaid with the grid of demonstration tiles. Voyager will automatically initiate measurements when the GPS receiver indicates that a demonstration tile has been entered. The computer will provide a visual indication that a measurement has been completed in a tile. Voyager will manage the data collection, and will store the outbound measurements for each demonstrated tile for later analysis.
  - Outbound BER measurements will be collected and provided in the coverage demonstration report.
  - Demonstration will be performed on the Barry County Simulcast subsystem only and will be utilizing an attenuated radio to simulate in-building loss as shown in the coverage prediction maps.
- Motorola Solutions' portable coverage prediction is for outdoor locations only. Portable coverage inside buildings and vehicles is not a design requirement of this system and is, therefore, not guaranteed.

Informational BER measurements are based upon a coverage prediction that accurately represents the implemented infrastructure and parameters that are consistent with the contract agreements. If the implemented system varies from the design parameters, then a revised coverage map will be prepared. New maps will reflect the measured losses and gains associated with the implemented infrastructure and subscribers. These will be used to define the configuration and potential areas from which locations may be included in the evaluation process.

2.9.4 Optimization Complete

- System optimization is completed. Motorola Solutions and the Customer agree that the equipment is ready for acceptance testing.

2.10 AUDIT AND ACCEPTANCE TESTING

2.10.1 Perform R56 Installation Audit

Motorola Solutions Responsibilities:

- Perform R56 site-installation quality audits, verifying proper physical installation and operational configurations.
- Create site evaluation report to verify site meets or exceeds requirements, as defined in Motorola Solutions' Standards and Guidelines for Communication Sites (R56).

Barry County Responsibilities:

- Provide access/escort to the sites.

- Witness tests.

2.10.2 Perform Equipment Testing

Motorola Solutions Responsibilities:

- Test individual components of the system to verify compliance to the equipment specifications.
- Repeat any failed test(s) once Motorola Solutions (or the Customer) has completed the corrective action(s).
- Prepare documentation of component tests to be delivered as part of the final documentation package.

Barry County Responsibilities:

- Witness tests if desired.

2.10.3 Perform Functional Testing

Motorola Solutions Responsibilities:

- Verify the operational functionality and features of the individual subsystems and the system supplied by Motorola Solutions, as contracted.
- If any major task as contractually described fails, repeat that particular task after Motorola Solutions determines that corrective action has been taken.
- Document all issues that arise during the acceptance tests.
- Document the results of the acceptance tests and present to the Customer for review.
- Resolve any minor task failures before Final System Acceptance.

Barry County Responsibilities:

- Witness the functional testing.

2.10.4 System Acceptance Test Procedures

- Customer approves the completion of all the required tests.

2.11 FINALIZE

2.11.1 Cutover

Motorola Solutions Responsibilities:

- Motorola Solutions and the Customer develop a mutually agreed upon cutover plan based upon discussions held during the CDR.
- During cutover, follow the written plan and implement the defined contingencies, as required.
- Conduct cutover meeting(s) with user group representatives to address both how to mitigate technical and communication problem impact to the users during cutover and during the general operation of the system.

Barry County Responsibilities:

- Attend cutover meetings and approve the cutover plan.

- Notify the user group(s) affected by the cutover (date and time).

2.11.2 Resolve Punchlist

Motorola Solutions Responsibilities:

- Work with the Customer to resolve punchlist items, documented during the Acceptance Testing phase, in order to meet all the criteria for final system acceptance.

Barry County Responsibilities:

- Assist Motorola Solutions with resolution of identified punchlist items by providing support, such as access to the sites, equipment and system, and approval of the resolved punchlist item(s).

2.11.3 Transition to Service/Project Transition Certificate

Motorola Solutions Responsibilities:

- Review the items necessary for transitioning the project to warranty support and service.
- Provide a Customer Support Plan detailing the warranty support.

Barry County Responsibilities:

- Review the Customer Support Plan and offer contacts information for service escalations.

2.11.4 Finalize Documentation

Motorola Solutions Responsibilities:

- Provide electronic as-built documentation, upon request. The following documentation may be included in the as-builts:
  - System-Level Diagram.
  - Site Block Diagrams.
  - Site Floor Plans.
  - Site Equipment Rack Configurations.
  - Antenna Network Drawings for RF Sites.
  - ATP Test Checklists.
  - Coverage Demonstration Report.
  - Functional Acceptance Test Plan Test Sheets and Results.
  - Equipment Inventory List.

  Drawings will be delivered in Adobe PDF format.

Barry County Responsibilities:

- Receive and approve all documentation provided by Motorola Solutions.

2.11.5 Final Acceptance (Milestone)

- All deliverables completed, as contractually required.
- Final System Acceptance received from the Customer.

2.12 PROJECT ADMINISTRATION

2.12.1 Project Status Meetings

Motorola Solutions Responsibilities:

- Motorola Solutions Project Manager, or designee, will host project status meetings with the Customer, as determined during the CDR.
- Record the meeting minutes and supply the report.
- The agenda may include the following:
  - Overall project status compared to the Project Schedule.
  - Product or service related issues that may affect the Project Schedule.
  - Status of the action items and the responsibilities associated with them, in accordance with the Project Schedule.
  - Any miscellaneous concerns of either the Customer or Motorola Solutions.

Barry County Responsibilities:

- Attend meetings.
- Respond to issues in a timely manner.

2.12.2 Progress Milestone Submittal

Motorola Solutions Responsibilities:

- Submit progress milestone completion certificate/documentation.

Barry County Responsibilities:

- Approve and sign milestone certificates, which will signify confirmation of completion of the work associated with the scheduled task.

2.12.3 Change Order Process

- Either Party may request changes within the general scope of this Agreement. If a requested change causes an increase or decrease in the cost, change in system configuration or adds time to the project's timeline required to perform this Agreement, the Parties will agree to an equitable adjustment of the Contract Price, Performance Schedule, or both, and will reflect the adjustment in a change order. Neither Party is obligated to perform requested changes unless both Parties execute a written change order.

2.13 PROJECT SCHEDULE

This project is estimated to take 16-18 months to complete. A final project schedule will be developed based upon mutual agreement between Motorola Solutions and at the Detailed Design Review (DDR). The dates for the installation and activation are highly dependent on the actual completion dates of tasks associated with site acquisition, R56 upgrades, installation, cabling and providing unobstructed cable routes.

SECTION 3

ASTRO 25 ESSENTIAL PLUS SERVICES STATEMENT OF WORK

3.1 OVERVIEW

Motorola Solutions' ASTRO® 25 Essential Plus Services ("Essential Plus Services") provide an integrated and comprehensive sustainment program for fixed end network infrastructure equipment located at the network core, RF sites, and dispatch sites. Essential Plus Services do not include maintenance for mobile devices, portable devices, or network backhaul equipment.

Essential Plus Services consist of the following elements:

- Remote Technical Support.
- Network Hardware Repair.
- Security Update Service.
- OnSite Infrastructure Response.
- Annual Preventive Maintenance.

Each of these elements is summarized below and expanded upon in Section 3.3. In the event of a conflict between the descriptions below and an individual subsection of Section 3.3, the individual subsection prevails.

This Statement of Work ("SOW"), including all of its subsections and attachments is an integral part of the applicable agreement ("Agreement") between Motorola Solutions, Inc. ("Motorola Solutions") and the customer ("Customer").

In order to receive the services as defined within this SOW, the Customer is required to keep the system within a standard support period as described in Motorola Solutions' Software Support Policy ("SwSP").

3.1.1 Remote Technical Support

Motorola Solutions will provide telephone consultation with specialists skilled at diagnosing and swiftly resolving infrastructure operational technical issues that require a high level of ASTRO 25 network experience and troubleshooting capabilities.

3.1.2 Network Hardware Repair

Motorola Solutions will repair Motorola Solutions-manufactured infrastructure equipment and select third-party manufactured infrastructure equipment supplied by Motorola Solutions. Motorola Solutions coordinates the equipment repair logistics process.

3.1.3 Security Update Service

Motorola Solutions will pre-test third-party security updates to verify they are compatible with the ASTRO 25 network. Once tested, Motorola Solutions posts the updates to a secured extranet website, along with any recommended configuration changes, warnings, or workarounds.

3.1.4 OnSite Infrastructure Response

When needed to resolve equipment malfunctions, Motorola Solutions will dispatch qualified local technicians to the Customer's location to diagnose and restore the communications network. Technicians will perform diagnostics on impacted hardware and replace defective components. The service technician's response time will be based on pre-defined incident priority levels.

3.1.5 Annual Preventive Maintenance

Qualified field service technicians will perform regularly scheduled operational testing and alignment of infrastructure and network components to verify those components comply with the original manufacturer's specifications.

3.2 MOTOROLA SOLUTIONS SERVICE DELIVERY ECOSYSTEM

Essential Plus Services are delivered through a tailored combination of local field service personnel, centralized teams equipped with a sophisticated service delivery platform, product repair depots, and MyView Portal. These service entities will collaborate to swiftly analyze issues, accurately diagnose root causes, and promptly resolve issues to restore the Customer's network to normal operations.

3.2.1 Centralized Managed Support Operations

The cornerstone of Motorola Solutions' support process is the Centralized Managed Support Operations ("CMSO") organization, which includes the Service Desk and technical support teams. The CMSO is staffed 24x7x365 by experienced personnel, including service desk specialists, security analysts, and operations managers.

The Service Desk provides a single point of contact for all service related items, including communications between the Customer, Motorola Solutions, and third-party subcontractors. The Service Desk processes service requests, service incidents, change requests, and dispatching, and communicates with stakeholders in accordance with pre-defined response times.

All incoming transactions through the Service Desk are recorded, tracked, and updated through the Motorola Solutions Customer Relationship Management ("CRM") system. The Service Desk also documents Customer inquiries, requests, concerns, and related tickets.

The CMSO coordinates with the field service organization that will serve the Customer locally.

3.2.2 Field Service

Motorola Solutions authorized and qualified field service technicians perform on-site infrastructure response, field repair, and preventive maintenance tasks. These technicians are integrated with the Service Desk and with technical support teams and product engineering as required to resolve repair and maintenance requests.

3.2.3 Customer Support Manager

A Motorola Solutions Customer Support Manager ("CSM") will be the Customer's key point of contact for defining and administering services. The CSM's initial responsibility is to create the Customer Support Plan ("CSP") in collaboration with the Customer.

The CSP functions as an operating document that personalizes the services described in this document. The CSP contains Customer-specific information, such as site names, site access directions, key contact persons, incident handling instructions, and escalation paths for special issues. The CSP also defines the division of responsibilities between the Customer and Motorola Solutions so response protocols are pre-defined and well understood when the need arises.

The CSP governs how the services will be performed and will be automatically integrated into this Statement of Work by this reference. The CSM and Customer will review and amend the CSP on a mutually agreed cadence so the CSP remains current and effective in governing the Essential Plus Services.

3.2.4 Repair Depot

The Motorola Solutions Repair Depot provides the Customer with a central repair location, eliminating the need to send network equipment to multiple vendor locations for repair. All products sent to the Depot are tracked throughout the repair process, from inbound shipment to return, through a case management system that enables Customer representatives to see repair status.

3.2.5 MyView Portal

Supplementing the CSM and the Service Desk as the Customer points of contact, MyView Portal is a web-based platform that provides network maintenance and operations information. The portal is accessed from a desktop, laptop, tablet, or smartphone web browser. The information available includes:

- **Remote Technical Support:** Manage incidents and view self-service reports. Observe incident details by incident priority level, and track the progress of issue resolution.
- **Network Hardware Repair:** Track return material authorizations ("RMA") shipped to Motorola Solutions' repair depot and eliminate the need to call for status updates. In certain countries, customers will also have the ability to create new RMA requests online.
- **Security Update Service:** View available security updates. Access available security update downloads.
- **OnSite Infrastructure Response:** Manage incidents and view self-service reports. Observe incident details by incident priority level, and track the progress of issue resolution.
- **Annual Preventive Maintenance:** View incident status and details of each annual change request for preventive maintenance, including completed checklist information for the incident.
- **Orders and Contract Information:** View available information regarding orders, service contracts, and service coverage details.

The data presented in MyView Portal is provided to support the services described in the following sections, which define the terms of any service delivery commitments associated with this data.

3.3 ESSENTIAL PLUS SERVICES DETAILED DESCRIPTION

Due to the interdependence between deliverables within the detailed sections, any changes to or any cancellation of any individual section may require a scope review and price revision.

3.3.1 Remote Technical Support

Motorola Solutions' Remote Technical Support service provides telephone consultation for technical issues that require a high level of ASTRO 25 network knowledge and troubleshooting capabilities. Remote Technical Support is delivered through the Motorola Solutions Centralized Managed Support Operations ("CMSO") organization by a staff of technical support specialists skilled in diagnosis and swift resolution of infrastructure performance and operational issues.

Motorola Solutions applies leading industry standards in recording, monitoring, escalating, and reporting for technical support calls from its contracted customers to provide the support needed to maintain mission-critical systems.

3.3.1.1 Description of Service

The CMSO organization's primary goal is Customer Issue Resolution ("CIR"), providing incident restoration and service request fulfillment for Motorola Solutions' currently supported infrastructure. This team of highly skilled, knowledgeable, and experienced specialists is an integral part of the support and technical issue resolution process. The CMSO supports the Customer remotely using a variety of tools, including fault diagnostics tools, simulation networks, and fault database search engines.

Calls requiring incidents or service requests will be logged in Motorola Solutions' Customer Relationship Management ("CRM") system, and Motorola Solutions will track the progress of each incident from initial capture to resolution. This helps ensure that technical issues are prioritized, updated, tracked, and escalated as necessary, until resolution. Motorola Solutions will advise and inform Customer of incident resolution progress and tasks that require further investigation and assistance from the Customer's technical resources.

The CMSO Operations Center classifies and responds to each technical support request in accordance with Section 3.4: Priority Level Definitions and Response Times.

This service requires the Customer to provide a suitably trained technical resource that delivers maintenance and support to the Customer's system, and who is familiar with the operation of that system. Motorola Solutions provides technical consultants to support the local resource in the timely closure of infrastructure, performance, and operational issues.

3.3.1.2 Scope

The CMSO Service Desk is available via telephone 24 hours per day, 7 days per week, and 365 days per year to receive and log requests for technical support. Remote Technical Support service is provided in accordance with Section 3.4: Priority Level Definitions and Response Times.

3.3.1.3 Inclusions

Remote Technical Support service will be delivered for Motorola Solutions-provided infrastructure, including integrated third-party products.

3.3.1.4 Motorola Solutions Responsibilities

- Maintain availability of the Motorola Solutions CMSO Service Desk via telephone (800-MSI-HELP) 24 hours per day, 7 days per week, and 365 days per year to receive, log, and classify Customer requests for support.
- Respond to incidents and technical service requests in accordance with Section 3.4: Priority Level Definitions and Response Times.
- Provide caller a plan of action outlining additional requirements, activities, or information required to achieve restoral/fulfillment.
- Maintain communication with the Customer in the field as needed until resolution of the incident.
- Coordinate technical resolutions with agreed upon third-party vendors, as needed.
- Escalate support issues to additional Motorola Solutions technical resources, as applicable.
- Determine, in its sole discretion, when an incident requires more than the Remote Technical Support services described in this SOW and notify the Customer of an alternative course of action.

3.3.1.5 Limitations and Exclusions

The following activities are outside the scope of the Remote Technical Support service:

- Customer training.
- Remote Technical Support for network transport equipment or third-party products not sold by Motorola Solutions.
- Any maintenance and/or remediation required as a result of a virus or unwanted cyber intrusion.

3.3.1.6 Barry County Responsibilities

- Prior to contract start date, provide Motorola Solutions with pre-defined information necessary to complete Customer Support Plan ("CSP").
- Submit timely changes in any information supplied in the CSP to the Customer Support Manager ("CSM").
- Contact the CMSO Service Desk to engage the Remote Technical Support service when needed, providing the necessary information for proper entitlement services. This information includes, but is not limited to, the name of contact, name of Customer, system ID number, site(s) in question, and a brief description of the problem that contains pertinent information for initial issue classification.
- Maintain suitably trained technical resources familiar with the operation of the Customer's system to provide field maintenance and technical maintenance services for the system.
- Supply suitably skilled and trained on-site presence when requested.
- Validate issue resolution in a timely manner prior to close of the incident.
- Acknowledge that incidents will be addressed in accordance with Section 3.4: Priority Level Definitions and Response Times.
- Cooperate with Motorola Solutions, and perform all acts that are reasonable or necessary to enable Motorola Solutions to provide Remote Technical Support.
- In the event that Motorola Solutions agrees in writing to provide supplemental Remote Technical Support to third-party elements provided by the Customer, the Customer agrees to obtain all third-party consents or licenses required to enable Motorola Solutions to provide the service.

3.3.2 Network Hardware Repair with Advanced Replacement

Motorola Solutions will provide hardware repair for Motorola Solutions and select third-party infrastructure equipment supplied by Motorola Solutions. A Motorola Solutions authorized repair depot manages and performs the repair of Motorola Solutions supplied equipment, and coordinates equipment repair logistics.

3.3.2.1 Description of Service

Infrastructure components are repaired at Motorola Solutions-authorized Infrastructure Depot Operations ("IDO"). At Motorola Solutions' discretion, select third-party infrastructure may be sent to the original equipment manufacturer or third-party vendor for repair.

Network Hardware Repair is also known as Infrastructure Repair.

3.3.2.2 Scope

Repair authorizations are obtained by contacting the Centralized Managed Support Operations ("CMSO") organization Service Desk, which is available 24 hours a day, 7 days a week. Repair authorizations can also be obtained by contacting the Customer Support Manager ("CSM").

3.3.2.3 Inclusions

This service is available on Motorola Solutions-provided infrastructure components, including integrated third-party products. Motorola Solutions will make a commercially reasonable effort to repair Motorola Solutions manufactured infrastructure products after product cancellation. The post-cancellation support period of the product will be noted in the product's end-of-life ("EOL") notification.

3.3.2.4 Motorola Solutions Responsibilities

- Provide the Customer access to the CMSO Service Desk, operational 24 hours a day and 7 days per week, to request repair service.
- Provide repair return authorization numbers when requested by the Customer.
- Receive malfunctioning infrastructure components from the Customer and document its arrival, repair, and return.
- Conduct the following services for Motorola Solutions infrastructure:
  - Perform an operational check on infrastructure components to determine the nature of the problem.
  - Replace malfunctioning components.
  - Verify that Motorola Solutions infrastructure components are returned to applicable Motorola Solutions factory specifications.
  - Perform a box unit test on serviced infrastructure components.
  - Perform a system test on select infrastructure components.
- Conduct the following services for select third-party infrastructure:
  - When applicable, perform pre-diagnostic and repair services to confirm infrastructure component malfunctions and prevent sending infrastructure components with No Trouble Found ("NTF") to third-party vendor for repair.
  - When applicable, ship malfunctioning infrastructure components to the original equipment manufacturer or third-party vendor for repair service.

  - Track infrastructure components sent to the original equipment manufacturer or third-party vendor for service.
  - When applicable, perform a post-test after repair by original equipment manufacturer or third-party vendor to confirm malfunctioning infrastructure components have been repaired and function properly in a Motorola Solutions system configuration.
- Reprogram repaired infrastructure components to original operating parameters based on software and firmware provided by the Customer, as required in Section 3.3.2.6. If the Customer's software version and configuration are not provided, shipping will be delayed. If the repair depot determines that infrastructure components are malfunctioning due to a software defect, the repair depot reserves the right to reload these components with a different but equivalent software version.
- Properly package repaired infrastructure components.
- Ship repaired infrastructure components to Customer-specified address during normal operating hours of Monday through Friday from 7:00 a.m. to 7:00 p.m. Central Standard Time ("CST"), excluding holidays. Infrastructure component will be sent using two-day air shipping unless the Customer requests otherwise. Motorola Solutions will pay for shipping unless the Customer requests shipments outside of the above mentioned standard business hours or carrier programs, such as next flight out ("NFO"). In such cases, the Customer will be responsible for paying shipping and handling charges.

3.3.2.5 Limitations and Exclusions

Motorola Solutions may return infrastructure equipment that is no longer supported by Motorola Solutions, the original equipment manufacturer, or a third-party vendor without repairing or replacing it. The following items are excluded from this service:

- All Motorola Solutions infrastructure components over the post-cancellation support period.
- All third-party infrastructure components over the post-cancellation support period.
- All broadband infrastructure components over the post-cancellation support period.
- Physically damaged infrastructure components.
- Third-party equipment not shipped by Motorola Solutions.
- Consumable items including, but not limited to, batteries, connectors, cables, toner or ink cartridges, tower lighting, laptop computers, monitors, keyboards, and mouse.
- Video retrieval from digital in-car video equipment.
- RF infrastructure and backhaul components, including but not limited to, antennas, transmission lines, antenna dehydrators, microwave, line boosters, amplifiers (such as tower top amplifiers and bi-directional amplifiers), logging recorders, data talker wireless transmitters, short haul modems, combiners, multicouplers, duplexers, shelters, shelter HVAC, generators, UPS's, and test equipment.
- Racks, furniture, and cabinets.
- Non-standard configurations, customer-modified infrastructure, and certain third party infrastructure.
- Firmware or software upgrades.

3.3.2.6 Barry County Responsibilities

- Contact or instruct servicer to contact the Motorola Solutions CMSO organization, and request a return authorization number prior to shipping malfunctioning infrastructure components.
- Provide model description, model number, serial number, type of system, software and firmware version, symptom of problem, and address of site location for spare infrastructure components.

- Indicate if Motorola Solutions or third-party infrastructure components being sent in for service were subjected to physical damage or lightning damage.
- Follow Motorola Solutions instructions regarding including or removing firmware and software applications on infrastructure components being sent in for service.
- In the event that the Customer requires repair of equipment that is not contracted under this service at the time of request, the Customer acknowledges that charges may apply to cover shipping, labor, and parts. Motorola Solutions and the Customer will collaborate to agree on payment vehicle that most efficiently facilitates the work, commensurate with the level of urgency that is needed to complete the repair.
- Properly package and ship the malfunctioning component, at the Customer's expense. The Customer is responsible for properly packaging the malfunctioning infrastructure component to ensure it is not damaged in-transit and arrives in repairable condition.
  – Clearly print the return authorization number on the outside of the packaging.
- Maintain versions and configurations for software, applications, and firmware to be installed on repaired equipment.
- Provide Motorola Solutions with proper software and firmware information to reprogram equipment after repair, unless current software has caused this malfunction.
- Cooperate with Motorola Solutions and perform reasonable or necessary acts to enable Motorola Solutions to provide hardware repair services to the Customer.
- At the Customer's cost, obtain all third-party consents or licenses required to enable Motorola Solutions to provide the service.

3.3.2.7 Repair Process

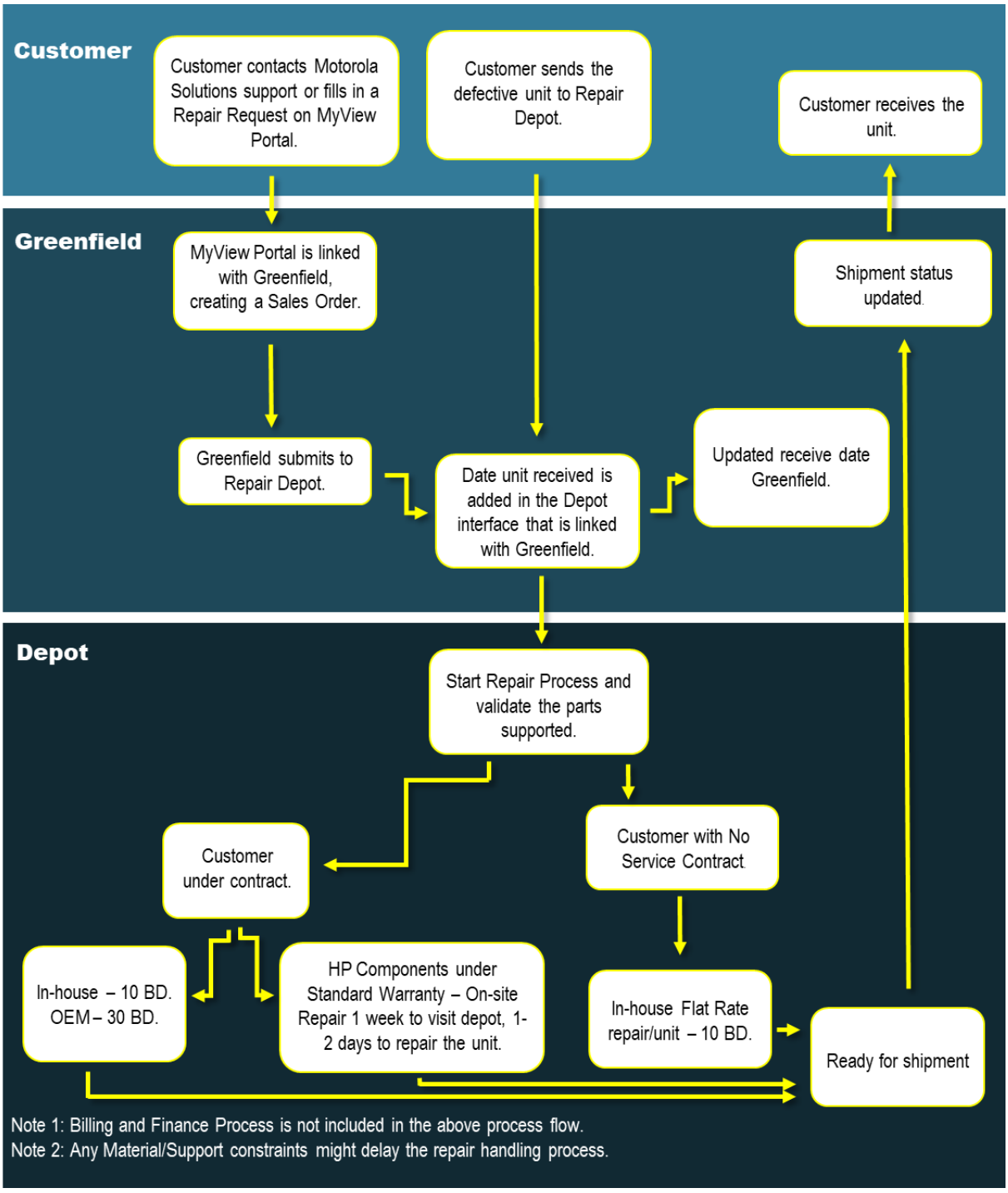


Figure 3-1: Repair Decision Process

3.3.2.8 Advanced Replacement

As an addition to Hardware Repair service, Advanced Replacement is a repair exchange service for Motorola Solutions and select third-party infrastructure components supplied by Motorola Solutions. When available, Motorola Solutions will provide the Customer with advanced replacement units or Field Replacement Units ("FRU") in exchange for the Customer's malfunctioning equipment. A Motorola Solutions-authorized repair depot will evaluate and repair malfunctioning equipment, and add that equipment to the depot's FRU inventory after completing repairs.

Customers who prefer to maintain their own FRU inventory may request a "Loaner" FRU while their unit is being repaired. Refer to Figure 3-2 for details on the unit loan process.

3.3.2.8.1 Added Motorola Solutions Responsibilities for Advanced Replacement

- Use commercially reasonable efforts to maintain FRU inventory on supported platforms.
- Provide new or reconditioned FRU's to the Customer upon request, subject to availability. The FRU will be an equipment type and version similar to the Customer's malfunctioning component, and will contain equivalent boards and chips.
- Load firmware and software for equipment that requires programming. The Customer's software version information must be provided for the replacement FRU to be programmed accordingly. If the Customer's software version and configuration are not provided, shipping will be delayed.
- Package and ship FRU from the FRU inventory to Customer-specified address.
  - Motorola Solutions will ship FRU as soon as possible, depending on stock availability and requested configuration. FRU will be shipped during normal operating hours of Monday through Friday from 7:00 a.m. to 7:00 p.m. CST, excluding holidays. Motorola Solutions will pay for the shipping to the Customer, unless the Customer requests shipments outside of standard business hours or carrier programs, such as weekend or next flight out ("NFO") shipment. In such cases, the Customer will be responsible for paying shipping and handling charges.
  - When sending FRU to the Customer, provide a return air bill in order for the Customer to send the Customer's malfunctioning component. The Customer's malfunctioning component will become property of the Motorola Solutions repair depot or select third party replacing it, and the Customer will own the FRU.
  - For loaner equipment, Motorola Solutions will ship repaired infrastructure components to Customer-specified address during normal operating hours, Monday through Friday from 7:00 a.m. to 7:00 p.m. CST, excluding holidays. FRU will be sent using two-day air shipping unless the Customer requests otherwise. Motorola Solutions will pay for shipping unless the Customer requests shipments outside of the above mentioned standard business hours or carrier programs, such as NFO. In such cases, the Customer will be responsible for paying shipping and handling charges.
  - When sending a loaner FRU to the Customer, Motorola Solutions will pay for outbound shipping charges. Inbound shipping to Motorola Solutions for repair will be the Customer's responsibility. Motorola Solutions will repair and return the Customer's component, and provide a return air bill for the Customer to return the loaner FRU. Refer to Figure 3-2 for the loaner process, and Table 3-1 for shipping charge details.
- Provide repair return authorization ("RA") number upon Customer request to replace infrastructure components that are not classified as an advanced replacement or loaner FRU.
- Provide a repair RA number so that returned components can be repaired and returned to FRU stock.
- Receive malfunctioning components from the Customer, carry out repairs and testing, and return it to the FRU stock

3.3.2.8.2 Added Customer Responsibilities for Advanced Replacement

- Pay for Advanced Replacement or Loaner FRU shipping from Motorola Solutions repair depot if the Customer requested shipping outside of standard business hours or carrier programs set forth in Section 3.3.2.8.1. See Table 3-1 for shipping charge details.
- Properly package and ship the malfunctioning component using the pre-paid air-bill that arrived with the FRU. The Customer is responsible for properly packaging the malfunctioning infrastructure component to ensure that it is not damaged in transit and arrives in repairable condition. The Customer will be subject to a replacement fee for malfunctioning components returned improperly.
- Within five business days of receipt of the advanced replacement FRU from Motorola Solutions' FRU inventory, properly package the Customer's malfunctioning FRU and ship the malfunctioning Infrastructure to Motorola Solutions' repair depot for evaluation and repair. The Customer must send the return air bill back to the repair depot in order to facilitate proper tracking of the returned infrastructure. The Customer will be subject to a full replacement fee for FRU's not returned within five business days.
- At the Customer's expense and risk of loss, the Customer may send a malfunctioning Motorola Solutions or third-party infrastructure component for repairs before a replacement has been sent. In such cases, the malfunctioning component should be properly packaged and shipped to Motorola Solutions.
- Clearly print the return authorization number on the outside of the packaging.

3.3.2.8.3 Replacement Process for Advanced Replacement

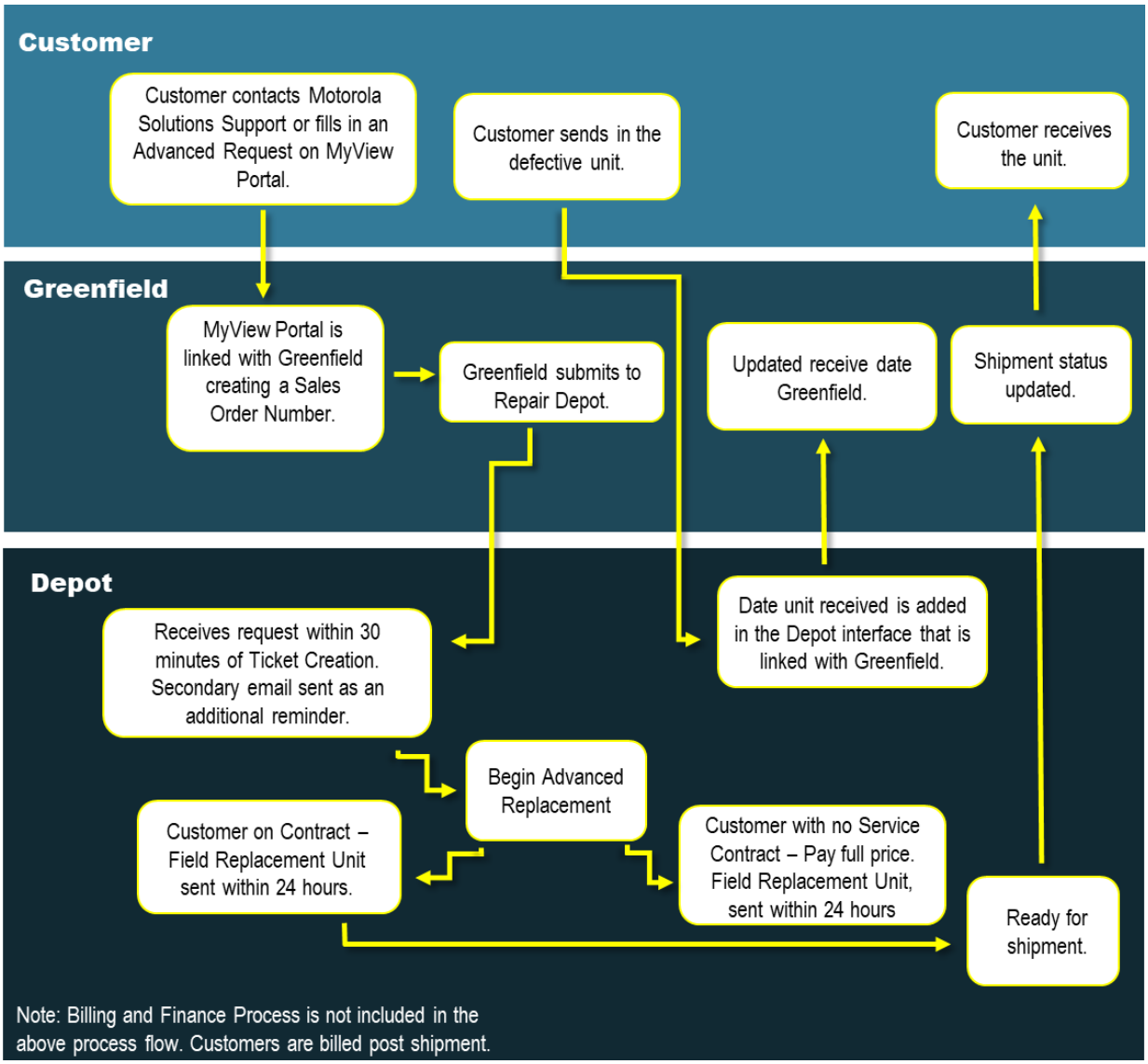


Figure 3-2: Advanced Replacement or Loaner Decision Process

Table 3-1: Shipping Charges and Default Mail Service:

Service	Advanced Replacement Charges Responsibility
Advanced Replacements (Normal Business Hours) Shipped FedEx Overnight or equivalent	Motorola Solutions
Loaner Shipping Outbound to Customer	
Loaner Repair and Return Shipping Outbound to Customer	
Advanced Replacements (Next Flight Out or Other)	Customer
Exchanges or Loaners Shipped Outbound to Customer by Non-Motorola Carrier*	
Loaner Repair Shipping Inbound to Motorola Solutions	
Loaner Installation Labor	

*Motorola Solutions shipping carrier – FedEx

3.3.3 Security Update Service

Motorola Solutions' ASTRO 25 Security Update Service ("SUS") provides pretested security updates, minimizing cyber risk and software conflicts. These security updates contain operating system security patches and antivirus definitions that have been validated for compatibility with ASTRO 25 systems. Security update delivery is determined by the options included as part of this service. Section 3.3.3.3: Inclusions indicates if options are included as part of this service.

3.3.3.1 Description of Service

Motorola Solutions uses a dedicated information assurance lab to test and validate security updates. Motorola Solutions deploys and tests security updates in the lab to check for and prevent potential service degradation.

Motorola Solutions releases tested, compatible security updates for download and installation. Once security updates are verified by the SUS team, Motorola Solutions uploads them to a secure website and sends a release notification email to the Customer contact to inform them that the security update release is available. If there are any recommended configuration changes, warnings, or workarounds, the SUS team will provide documentation with the security updates on the secure website.

With the base service, the Customer will be responsible for downloading security updates, installing them on applicable components, and rebooting updated components. Additional options are available for Motorola Solutions to deploy security updates, reboot servers and workstations, or both.

3.3.3.1.1 On-site Delivery

If On-site Delivery is included with SUS, Motorola Solutions provides trained technician(s) to install security updates at the Customer's location. The technician downloads and installs available security updates and coordinates any subsequent server and workstation reboots.

3.3.3.1.2 Reboot Support

If Reboot Support is included with SUS, Motorola Solutions provides technician support to reboot impacted Microsoft Windows servers and workstations after operating system security patches have been installed.

3.3.3.2 Scope

SUS includes pretested security updates for the software listed in Table 3-2. This table also describes the release cadence for security updates.

Table 3-2: Update Cadence

Software	Update Release Cadence
Antivirus Definition Files	Weekly
Microsoft Windows	Monthly
Microsoft Windows SQL Server	Quarterly
Microsoft Windows third party (Adobe Reader)	Monthly
Red Hat Linux (RHEL)	Quarterly
VMWare ESXi Hypervisor	Quarterly

Software	Update Release Cadence
PostgreSQL (From ASTRO 25 7.14 and newer major releases)	Quarterly
McAfee Patch(es)	Quarterly
Dot Hill DAS Firmware	Quarterly
HP SPP Firmware	Quarterly
QNAP Firmware	Quarterly

3.3.3.3 Inclusions

Supported ASTRO 25 core types and security update delivery methods are included in Table 3-3. This table indicates if Motorola Solutions will provide any SUS optional services to the Customer. SUS supports the current Motorola Solutions ASTRO 25 system release and aligns with the established Software Support Policy (SwSP).

Motorola Solutions reserves the right to determine which releases are supported as business conditions dictate. Additional charges may apply in the event of supporting older releases. Contact Motorola Solutions' assigned Customer Support Manager ("CSM") for the latest supported releases.

Table 3-3: SUS Packages

Service	ASTRO 25 Core Type	Included
Security Update Service Customer Self-installed	L Core M Core Simplified Core	X
Security Update Service with Reboot Support	L Core M Core Simplified Core	
Security Update Service with On-site Delivery	L Core M Core Simplified Core	

Responsibilities for downloading and installing security updates and rebooting applicable hardware are detailed in Section 3.3.3.7: Installation and Reboot Responsibilities.

3.3.3.4 Motorola Solutions Responsibilities

- On the release schedule in Section 3.3.3.2: Scope, review relevant and appropriate security updates released by Original Equipment Manufacturer ("OEM") vendors.
- Release tested and verified security updates to Motorola Solutions' secure website.
- Publish documentation for installation, recommended configuration changes, any identified issue(s), and remediation instructions for each security update release.
- Include printable labels the Customer may use if downloading security updates to a disk.
- Send notifications by email when security updates are available to download from the secure website.

3.3.3.5 Limitations and Exclusions

- Systems with non-standard configurations that have not been certified by Motorola Solutions' Systems Integration and Test ("SIT") team are specifically excluded from this service, unless otherwise agreed in writing by Motorola Solutions.
- Interim or unplanned releases outside the supported release cadence.
- Service does not include pretested intrusion detection system ("IDS") signature updates for IDS solutions. However, select vendor IDS signature updates are made available via the secure website. The available vendors may change pursuant to Motorola Solutions' business decisions. The Customer is responsible for complying with all IDS licensing requirements and fees, if any.
- This service does not include releases for Motorola Solutions products that are not ASTRO 25 L, M, and Simplified Core radio network infrastructure equipment. The following are examples of excluded products: WAVE PTX™, Critical Connect, and VESTA® solutions.
- K Core ASTRO 25 systems are excluded.
- Motorola Solutions product updates are not included in these services.
- Shared network infrastructure firmware, such as transport and firewall firmware, are not included in these services.

3.3.3.6 Barry County Responsibilities

- Provide Motorola Solutions with predefined information necessary to complete a Customer Support Plan ("CSP") prior to the Agreement start date.
- Provide timely updates on changes of information supplied in the CSP to Motorola Solutions' assigned CSM.
- Update Motorola Solutions with any changes in contact information, specifically for authorized users of Motorola Solutions' secure website.
- Provide means for accessing Motorola Solutions' secure website to collect the pretested files.
- Implement recommended remediation(s) on the Customer's system, as determined necessary by the Customer.
- Adhere closely to the Motorola Solutions Centralized Managed Support Operations ("CMSO") troubleshooting guidelines provided upon system acquisition. Failure to follow CMSO guidelines may cause the Customer and Motorola Solutions unnecessary or overly burdensome remediation efforts. In such cases, Motorola Solutions reserves the right to charge an additional fee for the remediation effort.
- Upgrade system to a supported system release when needed to continue service. Contact Motorola Solutions' assigned CSM for the latest supported releases.
- Comply with the terms of applicable license agreements between the Customer and non-Motorola Solutions software copyright owners.

3.3.3.7 Installation and Reboot Responsibilities

Installation and Reboot responsibilities are determined by the specific SUS package being purchased. Table 3-4 contains the breakdown of responsibilities. Section 3.3.3.3: Inclusions indicates which services are included.

Microsoft Windows servers and workstations often need to be rebooted before security updates take full effect and mitigate vulnerabilities.

Table 3-4: Installation and Reboot Responsibilities Matrix

SUS Package	Motorola Solutions Responsibilities	Customer Responsibilities
Security Update Service Customer Self-installed		- Deploy pretested files to the Customer's system as instructed in the "Read Me" text provided on Motorola Solutions' secure website. - When a security update requires a reboot, reboot servers and workstations after security updates are installed.
Security Update Service with On-site Delivery	- Dispatch a technician to deploy pretested files to the Customer's system. - When a security update requires a reboot, reboot servers and workstations after security updates are installed.	- Acknowledge Motorola Solutions will reboot servers and workstations, and agree to timing.
Security Update Service with Reboot Support	- When a security update requires a reboot, dispatch a technician to reboot servers and workstations after security updates are installed	- Deploy pretested files to the Customer's system as instructed in the "Read Me" text provided on Motorola Solutions' secure website.

3.3.3.8 Disclaimer

This service tests OEM security updates. Delivering security updates for specific software depends on OEM support for that software. If an OEM removes support (end-of-life) from deployed software, Motorola Solutions will work with the OEM to reduce the impact, but may remove support for the affected software from this service without notice.

OEMs determine security update schedules, supportability, or release availability without consultation from Motorola Solutions. Motorola Solutions will obtain and test security updates when they are made available, and incorporate those security updates into the next appropriate release.

Motorola Solutions disclaims any warranty with respect to pretested database security updates, hypervisor patches, operating system software patches, intrusion detection sensor signature files, or other third-party files, express or implied. Further, Motorola Solutions disclaims any warranty concerning non-Motorola Solutions software and does not guarantee Customers' systems will be error-free or immune to security breaches as a result of these services.

3.3.4 OnSite Infrastructure Response

Motorola Solutions' OnSite Infrastructure Response service provides incident management and escalation for on-site technical service requests. The service is delivered by Motorola Solutions' Centralized Managed Support Operations ("CMSO") organization in cooperation with a local service provider.

OnSite Infrastructure Response may also be referred to as On-Site Support.

3.3.4.1 Description of Service

The Motorola Solutions CMSO Service Desk will receive the Customer's request for on-site service.

The CMSO Dispatch Operations team is responsible for opening incidents, dispatching on-site resources, monitoring issue resolution, and escalating as needed to ensure strict compliance to committed response times.

The dispatched field service technician will travel to the Customer's location to restore the system in accordance with Section 3.4: Priority Level Definitions and Response Times.

Motorola Solutions will manage incidents as described in this SOW. The CMSO Service Desk will maintain contact with the field service technician until incident closure.

3.3.4.2 Scope

On-site Infrastructure Response is available 24 hours a day, 7 days a week in accordance with Section 3.4: Priority Level Definitions and Response Times. Customer's Response Time Classification is designated in the Customer Support Plan.

3.3.4.3 Inclusions

On-site Infrastructure Response is provided for Motorola Solutions-provided infrastructure.

3.3.4.4 Motorola Solutions Responsibilities

- Receive service requests.
- Create an incident when service requests are received. Gather information to characterize the issue, determine a plan of action, and assign and track the incident to resolution.
- Dispatch a field service technician, as required by Motorola Solutions' standard procedures, and provide necessary incident information.
- Provide the required personnel access to relevant Customer information, as needed.
- Motorola Solutions field service technician will perform the following on-site:
  - Run diagnostics on the infrastructure component.
  - Replace defective infrastructure component, as supplied by the Customer.
  - Provide materials, tools, documentation, physical planning manuals, diagnostic and test equipment, and any other material required to perform the maintenance service.
  - If a third-party vendor is needed to restore the system, the vendor can be accompanied onto the Customer's premises.
  - If required by the Customer's repair verification in the Customer Support Plan ("CSP"), verify with the Customer that restoration is complete or system is functional. If verification

by the Customer cannot be completed within 20 minutes of restoration, the incident will be closed and the field service technician will be released.
  - Escalate the incident to the appropriate party upon expiration of a response time.
- Close the incident upon receiving notification from the Customer or Motorola Solutions field service technician, indicating the incident is resolved.
- Notify the Customer of incident status, as defined in the CSP and Service Configuration Portal ("SCP"):
  - Open and closed.
  - Open, assigned to the Motorola Solutions field service technician, arrival of the field service technician on-site, delayed, or closed.
- Provide incident activity reports to the Customer, if requested.

3.3.4.5 Barry County Responsibilities

- Contact Motorola Solutions, as necessary, to request service.
- Prior to start date, provide Motorola Solutions with the following pre-defined Customer information and preferences necessary to complete CSP:
  - Incident notification preferences and procedure.
  - Repair verification preference and procedure.
  - Database and escalation procedure forms.
- Submit timely changes in any information supplied in the CSP to the Customer Support Manager ("CSM").
- Provide the following information when initiating a service request:
  - Assigned system ID number.
  - Problem description and site location.
  - Other pertinent information requested by Motorola Solutions to open an incident.
- Provide field service technician with access to equipment.
- Supply infrastructure spare or FRU, as applicable, in order for Motorola Solutions to restore the system.
- Maintain and store software needed to restore the system in an easily accessible location.
- Maintain and store proper system backups in an easily accessible location.
- If required by repair verification preference provided by the Customer, verify with the CMSO Service Desk and dispatch that restoration is complete or system is functional.
- Cooperate with Motorola Solutions and perform reasonable or necessary acts to enable Motorola Solutions to provide these services.
- In the event that Motorola Solutions agrees in writing to provide supplemental On-site Infrastructure Response to Customer-provided third-party elements, the Customer agrees to obtain and provide applicable third-party consents or licenses to enable Motorola Solutions to provide the service.

3.3.5 Annual Preventive Maintenance

Motorola Solutions personnel will perform a series of maintenance tasks to keep network equipment functioning correctly.

3.3.5.1 Description of Service

Annual Preventative Maintenance provides annual operational tests on the Customer's infrastructure equipment to monitor its conformance to specifications.

3.3.5.2 Scope

Annual Preventive Maintenance will be performed during standard business hours, unless otherwise agreed to in writing. After the service starts, if the system or Customer requirements dictate that the service must occur outside of standard business hours, an additional quotation will be provided. The Customer is responsible for any charges associated with unusual access requirements or expenses.

3.3.5.3 Inclusions

Annual Preventive Maintenance service will be delivered for Motorola Solutions-provided infrastructure, including integrated third-party products, per the level of service marked in Table 3-5.

Table 3-5: Preventive Maintenance Level

Service Level	Included
Level 1 Preventive Maintenance	X
Level 2 Preventive Maintenance	

3.3.5.4 Motorola Solutions Responsibilities

- Notify the Customer of any planned system downtime needed to perform this service.
- Maintain communication with the Customer as needed until completion of the Annual Preventive Maintenance.
- Determine, in its sole discretion, when an incident requires more than the Annual Preventive Maintenance services described in this SOW, and notify the Customer of an alternative course of action.
- Provide the Customer with a report in MyView Portal, or as otherwise agreed in the Customer Support Plan ("CSP"), comparing system performance with expected parameters, along with any recommended actions. Time allotment for report completion is to be mutually agreed.
- Provide trained and qualified personnel with proper security clearance required to complete Annual Preventive Maintenance services.
- Field service technician will perform the following on-site:
  - Perform the tasks defined in Section 3.3.5.7: Preventive Maintenance Tasks.
  - Perform the procedures defined in Section 3.3.5.8: Site Performance Evaluation Procedures for each site type on the system.
  - Provide diagnostic and test equipment necessary to perform the Preventive Maintenance service.
  - As applicable, use the Method of Procedure ("MOP") defined for each task.

3.3.5.5 Limitations and Exclusions

The following activities are outside the scope of the Annual Preventive Maintenance service.

- Preventive maintenance for third-party equipment not sold by Motorola Solutions as part of the original system.
- Network transport link performance verification.
- Verification or assessment of Information Assurance.
- Any maintenance and/or remediation required as a result of a virus or unwanted cyber intrusion.
- Tower climbs, tower mapping analysis, or tower structure analysis.

3.3.5.6 Barry County Responsibilities

- Provide preferred schedule for Annual Preventative Maintenance to Motorola Solutions.
- Authorize and acknowledge any scheduled system downtime.
- Maintain periodic backup of databases, software applications, and firmware.
- Establish and maintain a suitable environment (heat, light, and power) for the equipment location as described in equipment specifications, and provide Motorola Solutions full, free, and safe access to the equipment so that Motorola Solutions may provide services. All sites shall be accessible by standard service vehicles.
- Submit timely changes in any information supplied in the CSP to the Customer Support Manager ("CSM").
- Provide site escorts, if required, in a timely manner.
- Provide Motorola Solutions with requirements necessary for access to secure facilities.
- In the event that Motorola Solutions agrees in writing to provide supplemental Annual Preventive Maintenance to third-party elements provided by Customer, the Customer agrees to obtain any third-party consents or licenses required to enable Motorola Solutions field service technician to access the sites to provide the service.

3.3.5.7 Preventive Maintenance Tasks

The Preventive Maintenance service includes the tasks listed in this section. Tasks will be performed based on the level of service noted in Section 3.3.5.3: Inclusions.

MASTER SITE CHECKLIST – LEVEL 1	
Servers	
Equipment Alarms	Check LED and/or other status indicators for fault conditions.
Capture Diagnostics	Perform recommended diagnostic tests based on server type. Capture available diagnostic logs.
Network Management (“NM”) Client Applications	Review Unified Event Manager (“UEM”) events and verify backhaul links are reported as operational. Review event log for persistent types. Verify all NM client applications are operating correctly.
Verify System software physical media	Perform audit of software media on site. Verify that versions, KC numbers, and types match what is deployed to Customer server.
Complete Backup	Verify backups have been completed or scheduled, and that data has been stored in accordance with the Customer’s backup plan. Check that adequate storage space is available for backups.
Network Time Protocol (“NTP”)	Verify operation and syncing all devices.
Data Collection Devices (“DCD”) check (if present)	Verify data collection.
Anti-Virus	Verify anti-virus is enabled and that definition files on core security management server were updated within two weeks of current date.
Routers	
Equipment Alarms	Check LED and/or other status indicators for fault conditions.
Capture Diagnostics	Perform recommended diagnostic tests based on router type. Capture available diagnostic logs.
Verify Redundant Routers	Test redundancy in cooperative WAN routers. Carry out core router switchover in coordination with Customer.
Switches	
Equipment Alarms	Check LED and/or other status indicators for fault conditions.
Capture Diagnostics	Perform recommended diagnostic tests based on switch type. Capture available diagnostic logs.
Verify Redundant Switches	Test redundancy in backhaul switches. Carry out core router switchover in coordination with Customer.
Domain Controllers (non-Common Server Architecture)	
Equipment Alarms	Check LED and/or other status indicators for fault conditions.
Capture Diagnostics	Perform recommended diagnostic tests based on server type. Capture available diagnostic logs.
Verify System software physical media	Perform audit of software media on site. Verify that versions, KC numbers, and types match what is deployed to Customer server.
Firewalls	
Equipment Alarms	Check LED and/or other status indicators for fault conditions.
Capture Diagnostics	Perform recommended diagnostic tests based on server type. Capture available diagnostic logs.
Logging Equipment	
Equipment Alarms	Check LED and/or other status indicators for fault conditions.

MASTER SITE CHECKLIST – LEVEL 1	
Capture Diagnostics	Perform recommended diagnostic tests based on server type. Capture available diagnostic logs.
Server CPU Health	Check memory, HDD, CPU, and disk space utilization.

PRIME SITE CHECKLIST – LEVEL 1	
Software	
Verify System software physical media	Perform audit of software media on site. Verify that versions, KC numbers, and types match what is deployed to Customer server.
Switches	
Equipment Alarms	Check LED and/or other status indicators for fault conditions.
Capture Diagnostics	Perform recommended diagnostic tests based on switch type. Capture available diagnostic logs.
Clean Fans and Equipment	Use antistatic vacuum to clean cooling pathways.
Routers	
Equipment Alarms	Check LED and/or other status indicators for fault conditions.
Capture Diagnostics	Perform recommended diagnostic tests based on router type. Capture available diagnostic logs.
Clean Fans and Equipment	Use antistatic vacuum to clean cooling pathways.
Miscellaneous Equipment	
Equipment Alarms	Check LED and/or other status indicators for fault conditions.
Capture Diagnostics	Perform recommended diagnostic tests based on server type. Capture available diagnostic logs.
Site Frequency Standard Check (Timing Reference Unit)	Check LEDs for proper operation.
Site Controllers	
Capture Diagnostics	Perform recommended diagnostic tests based on server type. Capture available diagnostic logs.
Equipment Alarms	Check LED and/or other status indicators for fault conditions.
Clean Fans and Equipment	Use antistatic vacuum to clean cooling pathways.
Site Controller Redundancy (Trunking)	Roll site controllers with no dropped audio.
Comparators	
Equipment Alarms	Verify no warning/alarm indicators.
Capture Diagnostics	Perform recommended diagnostic tests based on server type. Capture available diagnostic logs.
Clean Fans and Equipment	Use antistatic vacuum to clean cooling pathways.

DISPATCH SITE CHECKLIST – LEVEL 1	
General	
Inspect all Cables	Inspect all cables and connections to external interfaces are secure.
Mouse and Keyboard	Verify operation of mouse and keyboard.

DISPATCH SITE CHECKLIST – LEVEL 1	
Configuration File	Verify each operator position has access to required configuration files.
Console Operator Position Time	Verify console operator position time is consistent across all operator positions.
Screensaver	Verify screensaver set as Customer prefers.
Screen Performance	Verify screen operational and is not suffering from dead pixels or image burn-in that prevent user operation.
Touchscreen	Verify touchscreen operation, if present.
Cabling/Lights/Fans	Visual inspection of all equipment cabling, lights, and fans
Filters/Fans/Dust	Clean all equipment filters and fans and remove dust.
Monitor and Hard Drive	Confirm monitor and hard drive do not "sleep".
DVD/CD	Verify and clean DVD or CD drive.
Time Synchronization	Verify console time is synchronized with NTP server
Anti-Virus	Verify anti-virus is enabled and that definition files have been updated within two weeks of current date.
Headset Unplugged Testing	
Speakers	Test all speakers for audio quality, volume, static, drop-outs, and excess hiss when turned up.
Channel Audio in Speaker	Verify selected channel audio in select speaker only.
Footswitch Pedals	Verify both footswitch pedals operational.
Radio On-Air Light	Verify radio on-air light comes on with TX (if applicable).
Headset Plugged In Testing	
Radio TX and RX	Verify radio TX/RX from both headset jacks. Verify levels OK. Check volume controls for noise, static, or drop-outs.
Speaker Mute	Verify speaker mutes when muted.
Telephone Operation	Verify telephone operational through both headset jacks. Check volume controls for noise, static, or drop-outs.
Audio Switches	Verify audio switches to speaker when phone off-hook if interfaced to phones.
Radio Takeover in Headset	Verify radio-takeover in headset mic when phone is off-hook, with mic switching to radio and muting phone during push-to-talk.
Other Tests	
Phone Status Light	Verify phone status light comes on when phone is off-hook (if applicable).
Desk Microphone Operation	Confirm desk mic operation (if applicable).
Radio Instant Recall Recorder (“IRR”) Operation	Verify radio IRR operational on Motorola Solutions dispatch (if applicable).
Telephone IRR Operation	Verify telephone IRR operational on Motorola Solutions dispatch, if on radio computer.
Recording	Verify operator position being recorded on long term logging recorder, if included in service agreement
Computer Performance Testing	
Computer Reboot	Reboot operator position computer.
Computer Operational	Confirm client computer is fully operational (if applicable).

DISPATCH SITE CHECKLIST – LEVEL 1	
Audio Testing	
Conventional Resources	Confirm all conventional resources are functional, with adequate audio levels and quality.
Secure Mode	Confirm any secure talkgroups are operational in secure mode.
Trunked Resources	Confirm all trunked resources on screen are functioning by placing a call in both directions, at the Customer's discretion, and at a single operator position
Backup Resources	Confirm backup resources are operational.
Logging Equipment Tests	
Recording - AIS Test	Verify audio logging of trunked calls.
Recording	With Customer assistance, test operator position logging on recorder.
System Alarms	Review alarm system on all logging equipment for errors.
Capture Diagnostics	Perform recommended diagnostic tests based on equipment, and capture available diagnostic logs.
Verify System software Physical media	Perform audit of software media on site. Verify that versions, KC numbers, and types match what is deployed to Customer server.
Playback Station (Motorola Solutions Provided)	
Capture Diagnostics	Perform recommended diagnostic tests based on equipment, and capture available diagnostic logs.
Recall Audio	Verify that radio and telephone audio can be recalled.

RF SITE CHECKLIST – LEVEL 1	
RF PM Checklist	
Equipment Alarms	Verify no warning or alarm indicators.
Clean Fans and Equipment	Use an antistatic vacuum to clean cooling pathways.
Site Frequency Standard Check	Check LEDs for proper operation.
Basic Voice Call Check	Voice test each voice path, radio to radio.
Trunking Control Channel Redundancy	Roll control channel, test, and roll back.
Trunking Site Controller Redundancy, ASTRO 25 Site Repeater only	Roll site controllers with no dropped audio.
PM Optimization Workbook (See Section 3.3.5.8 Site Performance Evaluation Procedures for GTR tests)	Complete Base Station Evaluation tests - Frequency Error, Modulation Fidelity, Forward at Set Power, Reverse at Set Power, and Gen Level Desense no TX. Update station logs.

MOSCAD CHECKLIST – LEVEL 1	
MOSCAD Server	
Equipment Alarms	Verify no warning or alarm indicators.
Check Alarm/Event History	Review MOSCAD alarm and events to find if there are chronic issues.
Windows Event Logs	Review Windows event logs. Save and clear if full.

MOSCAD CHECKLIST – LEVEL 1	
Password Verification	Log in to site devices to verify passwords. Document changes if any found.
Verify System software Physical media	Perform audit of software media on site. Verify that versions, KC numbers, and types match what is deployed to Customer server.
MOSCAD Client	
Equipment Alarms	Verify no warning or alarm indicators.
Check Alarm / Event History	Review MOSCAD alarm and events to find if there are chronic issues.
Windows Event Logs	Review Windows event logs. Save and clear if full.
Password Verification	Site devices to verify passwords. Document changes if any found.
Verify System software Physical media	Perform audit of software media on site. Verify that versions, KC numbers, and types match what is deployed to Customer server.
MOSCAD RTU's	
Equipment Alarms	Verify no warning or alarm indicators.
Verify Connectivity	Verify connectivity
Password Verification	Site devices to verify passwords. Document changes if any found.
Check Alarm/Event History	Review MOSCAD alarms and events to find if there are chronic issues.
Verify System software Physical media	Perform audit of software media on site. Verify that versions, KC numbers, and types match what is deployed to Customer server.

FACILITIES CHECKLIST – LEVEL 1	
Visual Inspection Exterior	
Antenna Site Registration Sign	Verify that the Antenna Site Registration sign is posted.
Warning Sign - Tower	Verify that a warning sign is posted on the tower.
Warning Sign - Gate	Verify that a warning sign is posted at the compound gate entrance.
10 Rule Sign	Verify that a 10 rules sign is posted on the inside of the shelter door.
Outdoor Lighting	Verify operation of outdoor lighting and photocell.
Exterior of Building	Check exterior of building for damage and disrepair.
Fences / Gates	Check fences and gates for damage and disrepair.
Landscape / Access Road	Check landscape and access road for accessibility.
Visual Inspection Interior	
Electrical Surge Protectors	Check electrical surge protectors for alarms.
Emergency Lighting	Verify emergency lighting operation.
Indoor Lighting	Verify indoor lighting.
Equipment Inspection	Visually inspect that all hardware, including equipment, cables, panels, batteries, and racks, is in acceptable physical condition for normal operation.
Regulatory Compliance (License, ERP, Frequency, Deviation)	Check for site and station FCC licensing indicating regulatory compliance.
Clean Fans and Equipment	Use antistatic vacuum to clean cooling pathways.

FACILITIES CHECKLIST – LEVEL 1	
UPS	
Visual inspection (condition, cabling)	Check for damage, corrosion, physical connections, dirt and dust, and error indications.
Generator	
Visual Inspection	Check panel housing for cracks, rust, and weathering. Check physical connections for corrosion, dirt and dust, or other abnormal conditions.
Fuel	Verify fuel levels in backup generators, document date of last fuel delivered from fuel service provider.
Oil	Check the oil dipstick for proper level. Note condition of oil.
Verify operation (no switchover)	Verify generator running and check ease or difficulty of start. Is generator "throttling" or running smooth? Any loud unusual noise? Document any concerns or abnormal conditions.
Motorized Dampers	Check operation
HVAC	
Air Filter	Check air filter and recommend replacement if required.
Coils	Check coils for dirt and straightness.
Outdoor Unit	Check that outdoor unit is unobstructed.
Wiring	Check wiring for insect and rodent damage.
Cooling / Heating	Check each HVAC unit for cooling/heating.
Motorized Dampers	Check operation.

MICROWAVE CHECKLIST – LEVEL 1	
General	
Transport Connectivity	Confirm transport performance by viewing UEM for site link warnings or errors.
Backhaul Monitoring	Monitor UEM status, including alarms, logs, and events, for all links. If UEM not used to monitor microwave, then use approved vendor-provided microwave alarm management server.
Radio	
Alarms	Check alarm and event history.
Software	Verify version of application.
TX Frequency	Verify transmit frequency.
TX Power	Verify transmit power.
RX Frequency	Verify receive frequency.
RX Signal Level	Verify receive signal level and compare with install baseline documentation.
Save configuration	Save current configuration for off-site storage.
Waveguide	
Visual Inspection	Inspect for wear or dents from ground using binoculars.
Connection Verification	Verify all connections are secured with proper hardware from ground using binoculars.
Dehydrator	
Visual Inspection	Inspect moisture window for proper color.
Pressure Verification	Verify pressure of all lines.
Re-Pressurization	Bleed lines temporarily to verify the dehydrator re-pressurizes.
Run Hours	Record number of hours ran.

TOWER CHECKLIST – LEVEL 1	
Structure Condition	
Rust	Check structure for rust.
Cross Members	Check for damaged or missing cross members.
Safety Climb	Check safety climb for damage.
Ladder	Verify that ladder system is secured to tower.
Welds	Check for cracks or damaged welds.
Outdoor lighting/photocell	Test outdoor lighting and photocell.
Drainage Holes	Check that drainage holes are clear of debris.
Paint	Check paint condition.
Tower Lighting	
Lights/Markers	Verify all lights and markers are operational.
Day/Night Mode	Verify day and night mode operation.
Power Cabling	Verify that power cables are secured to tower.
Antennas and Lines	
Antennas	Visually inspect antennas for physical damage from ground using binoculars.
Transmission Lines	Verify that all transmission lines are secure on the tower.
Grounding	
Structure Grounds	Inspect grounding for damage or corrosion
Guy Wires	
Tower Guys	Visually inspect guy wires for fraying, loss of tension, or loss of connection.
Guy Wire Hardware	Check hardware for rust.
Concrete Condition	
Tower Base	Check for chips or cracks.

3.3.5.8 Site Performance Evaluation Procedures

The Preventive Maintenance service includes the site performance evaluation procedures listed in this section.

ASTRO 25 GTR ESS SITE PERFORMANCE
Antennas
Transmit Antenna Data
Receive Antenna System Data
Tower Top Amplifier Data
FDMA Mode
Base Radio Transmitter Tests
Base Radio Receiver Tests
Base Radio Transmit RFDS Tests
Receive RFDS Tests with TTA (if applicable)
Receive RFDS Tests without TTA (if applicable)

ASTRO 25 GTR ESS SITE PERFORMANCE
TDMA Mode
Base Radio TDMA Transmitter Tests
Base Radio TDMA Receiver Tests
TDMA Transmit RFDS Tests
TDMA Receive RFDS Tests with 432 Diversity TTA
TDMA Receive RFDS Tests with 2 Independent TTA's (if applicable)
TDMA Receive RFDS Tests without TTA (if applicable)

3.4 PRIORITY LEVEL DEFINITIONS AND RESPONSE TIMES

Table 3-6 describes the criteria Motorola Solutions uses to prioritize incidents and service requests, and lists the response times for those priority levels.

Table 3-6: Priority Level Definitions and Response Times

Incident Priority	Incident Definition	Initial Response Time	On-site Response Time
Critical P1	**Core:** Core server or core link failure. No redundant server or link available. **Sites/Subsites:** Primary site down. Two RF sites or more than 10% of RF sites down, whichever is greater. **Consoles:** More than 40% of a site's console positions down. **Conventional Channels:** Conventional Channel Gateways (CCGW) down without redundant gateways available. **Security Features:** Security is non-functional or degraded.	Response provided 24/7 until service restoration. Technical resource will acknowledge incident and respond within 1 hour of CMSO logging incident.	Response provided 24/7 until service restoration. Field service technician arrival on-site within 4 hours of receiving dispatch notification.
High P2	**Core:** Core server or link failures. Redundant server or link available. **Consoles:** Between 20% and 40% of a site's console positions down. **Sites/Subsites:** One RF site or up to 10% of RF sites down, whichever is greater. **Conventional Channels:** Up to 50% of CCGWs down. Redundant gateways available. **Network Elements:** Site router, site switch, or GPS server down. No redundant networking element available.	Response provided 24/7 until service restoration. Technical resource will acknowledge incident and respond within 4 hours of CMSO logging incident.	Response provided 24/7 until service restoration. Field service technician arrival on-site within 4 hours of receiving dispatch notification.

Incident Priority	Incident Definition	Initial Response Time	On-site Response Time
Medium P3	**Consoles:** Up to 20% of a site's console positions down. **Conventional Channels:** Single channel down. Redundant gateway available. **Network Elements:** Site router/switch or GPS server down. Redundant networking element available.	Response provided during normal business hours until service restoration. Technical resource will acknowledge incident and respond within 1 Business Day of CMSO logging incident.	Response provided during normal business hours until service restoration. Field service technician arrival on-site within 8 hours of receiving dispatch notification.
Low P4	**Service Requests:** Minor events and warnings in the system. Preventative and planned maintenance activities (scheduled work).	Response provided during normal business hours. Motorola Solutions will acknowledge and respond within 1 Business Day.	Not applicable.

SECTION 4

EQUIPMENT LIST

Motorola Solutions intends on providing the latest models at time of system shipment. Therefore, model numbers are for informational purposes only and are subject to change.

4.1 TWO SITE; 9-CHANNEL SIMULCAST MOTOROLA EQUIPMENT LIST

QTY	NOMENCLATURE	DESCRIPTION	UNIT LIST (USD)	UNIT DISC (USD)	TOTALAL EXT LIST
1	SQM01SUM0323	ASTRO MASTER SITE	$0.00	$0.00	$0.00
1	CA03517AB	ADD: CORE EXPANSION	$0.00	$0.00	$0.00
1	UA00153AB	ADD: P25 FDMA TRUNKING OPERATION SITE	$30,000.00	$22,500.00	$22,500.00
2	CA01316AA	ADD: UNC ADDTL DEVICE LIC (QTY 10)	$1,500.00	$1,125.00	$2,250.00
1	SQM01SUM0320	VIRTUALIZED PRIME SITE	$9,500.00	$7,125.00	$7,125.00
1	CA03524AA	ADD: NEW PRIME SITE	$0.00	$0.00	$0.00
1	CA03525AA	ADD: HW SUPPORT UP TO 18 CARRIERS	$21,000.00	$15,750.00	$15,750.00
9	UA00702AA	ADD: TRUNKING MULTISITE VOTING LICENSE, PER CARRIER	$18,500.00	$13,875.00	$124,875.00
1	UA00704AA	ADD: MULTISITE PRIME TRUNKING LICENSE	$125,000.00	$93,750.00	$93,750.00
1	CA03543AA	ADD: ASTRO SYSTEM RELEASE 2019.2	$0.00	$0.00	$0.00
1	CA03529AA	ADD: INT. GPS TIMING REFERENCE	$24,000.00	$18,000.00	$18,000.00
1	UA00707AA	ADD: DSC INTERNAL RUBIDIUM LIC	$9,000.00	$6,750.00	$6,750.00
1	CA03532AA	ADD: PRIME SITE DC POWER	$0.00	$0.00	$0.00
1	CA03545AA	ADD: REDUNDANT JUNIPER SRX1500 ROUTERS	$30,400.00	$22,800.00	$22,800.00
2	CA03539AA	ADD: ENCRYPTION	$1,500.00	$1,125.00	$2,250.00
2	CA03540AA	ADD: FIPS 140-2 LEVEL 2 ENCRYPTION CERTIFICATION FOR SRX1500	$500.00	$375.00	$750.00
1	CA03551AA	ADD: REDUNDANT BACKHAUL SWITCHES	$5,400.00	$4,050.00	$4,050.00
2	PMUG1017A	GNSS REMOTE RECEIVER ASSY	$900.00	$675.00	$1,350.00
1	T7039	GTR 8000 Base Radio	$0.00	$0.00	$0.00
1	CA00719AA	ADD: ASTRO SYSTEM RELEASE 2019.2	$0.00	$0.00	$0.00
1	CA00855AA	ADD: 700/800 MHZ	$6,300.00	$4,725.00	$4,725.00
1	CA01193AA	ADD: IP BASED MULTISITE BASE RADIO SOFTWARE	$29,500.00	$22,125.00	$22,125.00
1	CA01400AA	ADD: POWER CABLE, DC	$0.00	$0.00	$0.00
1	X153AW	ADD: RACK MOUNT HARDWARE	$50.00	$37.50	$37.50
1	T7039	GTR 8000 Base Radio	$0.00	$0.00	$0.00
1	CA00719AA	ADD: ASTRO SYSTEM RELEASE 2019.2	$0.00	$0.00	$0.00
1	CA00855AA	ADD: 700/800 MHZ	$6,300.00	$4,725.00	$4,725.00
1	CA01193AA	ADD: IP BASED MULTISITE BASE RADIO SOFTWARE	$29,500.00	$22,125.00	$22,125.00

1	CA01400AA	ADD: POWER CABLE, DC	$0.00	$0.00	$0.00
1	X153AW	ADD: RACK MOUNT HARDWARE	$50.00	$37.50	$37.50
1	T7039	GTR 8000 Base Radio	$0.00	$0.00	$0.00
1	CA00719AA	ADD: ASTRO SYSTEM RELEASE 2019.2	$0.00	$0.00	$0.00
1	CA00855AA	ADD: 700/800 MHZ	$6,300.00	$4,725.00	$4,725.00
1	CA01193AA	ADD: IP BASED MULTISITE BASE RADIO SOFTWARE	$29,500.00	$22,125.00	$22,125.00
1	CA01400AA	ADD: POWER CABLE, DC	$0.00	$0.00	$0.00
1	X153AW	ADD: RACK MOUNT HARDWARE	$50.00	$37.50	$37.50
1	T7039	GTR 8000 Base Radio	$0.00	$0.00	$0.00
1	CA00719AA	ADD: ASTRO SYSTEM RELEASE 2019.2	$0.00	$0.00	$0.00
1	CA00855AA	ADD: 700/800 MHZ	$6,300.00	$4,725.00	$4,725.00
1	CA01193AA	ADD: IP BASED MULTISITE BASE RADIO SOFTWARE	$29,500.00	$22,125.00	$22,125.00
1	CA01400AA	ADD: POWER CABLE, DC	$0.00	$0.00	$0.00
1	X153AW	ADD: RACK MOUNT HARDWARE	$50.00	$37.50	$37.50
1	T7039	GTR 8000 Base Radio	$0.00	$0.00	$0.00
1	CA00719AA	ADD: ASTRO SYSTEM RELEASE 2019.2	$0.00	$0.00	$0.00
1	CA00855AA	ADD: 700/800 MHZ	$6,300.00	$4,725.00	$4,725.00
1	CA01193AA	ADD: IP BASED MULTISITE BASE RADIO SOFTWARE	$29,500.00	$22,125.00	$22,125.00
1	CA01400AA	ADD: POWER CABLE, DC	$0.00	$0.00	$0.00
1	X153AW	ADD: RACK MOUNT HARDWARE	$50.00	$37.50	$37.50
1	T7039	GTR 8000 Base Radio	$0.00	$0.00	$0.00
1	CA00719AA	ADD: ASTRO SYSTEM RELEASE 2019.2	$0.00	$0.00	$0.00
1	CA00855AA	ADD: 700/800 MHZ	$6,300.00	$4,725.00	$4,725.00
1	CA01193AA	ADD: IP BASED MULTISITE BASE RADIO SOFTWARE	$29,500.00	$22,125.00	$22,125.00
1	CA01400AA	ADD: POWER CABLE, DC	$0.00	$0.00	$0.00
1	X153AW	ADD: RACK MOUNT HARDWARE	$50.00	$37.50	$37.50
1	T7039	GTR 8000 Base Radio	$0.00	$0.00	$0.00
1	CA00719AA	ADD: ASTRO SYSTEM RELEASE 2019.2	$0.00	$0.00	$0.00
1	CA00855AA	ADD: 700/800 MHZ	$6,300.00	$4,725.00	$4,725.00
1	CA01193AA	ADD: IP BASED MULTISITE BASE RADIO SOFTWARE	$29,500.00	$22,125.00	$22,125.00
1	CA01400AA	ADD: POWER CABLE, DC	$0.00	$0.00	$0.00
1	X153AW	ADD: RACK MOUNT HARDWARE	$50.00	$37.50	$37.50
1	T7039	GTR 8000 Base Radio	$0.00	$0.00	$0.00
1	CA00719AA	ADD: ASTRO SYSTEM RELEASE 2019.2	$0.00	$0.00	$0.00
1	CA00855AA	ADD: 700/800 MHZ	$6,300.00	$4,725.00	$4,725.00
1	CA01193AA	ADD: IP BASED MULTISITE BASE RADIO SOFTWARE	$29,500.00	$22,125.00	$22,125.00
1	CA01400AA	ADD: POWER CABLE, DC	$0.00	$0.00	$0.00
1	X153AW	ADD: RACK MOUNT HARDWARE	$50.00	$37.50	$37.50
1	T7039	GTR 8000 Base Radio	$0.00	$0.00	$0.00
1	CA00719AA	ADD: ASTRO SYSTEM RELEASE 2019.2	$0.00	$0.00	$0.00
1	CA00855AA	ADD: 700/800 MHZ	$6,300.00	$4,725.00	$4,725.00

1	CA01193AA	ADD: IP BASED MULTISITE BASE RADIO SOFTWARE	$29,500.00	$22,125.00	$22,125.00
1	CA01400AA	ADD: POWER CABLE, DC	$0.00	$0.00	$0.00
1	X153AW	ADD: RACK MOUNT HARDWARE	$50.00	$37.50	$37.50
1	T8343	GSERIES SOFTWARE LICENSING	$0.00	$0.00	$0.00
2	UA00760AA	ADD: DSC 8000 REFERENCE DISTRIBUTION MODULE	$0.00	$0.00	$0.00
2	UA00758AA	ADD: DSC 8000 RUBIDIUM SW	$0.00	$0.00	$0.00
9	UA00400AA	ADD: GSERIES BR-P25 TRNK MS IP	$0.00	$0.00	$0.00
1	T8547	SITE ROUTER & FIREWALL- DC	$1,100.00	$825.00	$825.00
1	CA03445AA	ADD: MISSION CRITICAL HARDENING	$3,300.00	$2,475.00	$2,475.00
1	CA03446AA	ADD: ENCRYPTION	$1,500.00	$1,125.00	$1,125.00
1	CA03451AA	ADD: FIPS 140-2 LEVEL 2 ENCRYPTION CERTIFICATION FOR SRX345	$500.00	$375.00	$375.00
1	CA03448AA	ADD: STATEFUL FIREWALL	$1,000.00	$750.00	$750.00
1	T8810	STANDALONE DSC 8000 CONTROLLER	$0.00	$0.00	$0.00
1	CA03793AA	ADD: DSC REFERENCE DISTRIBUTION MODULE NON-ESS	$2,500.00	$1,875.00	$1,875.00
1	CA03746AA	ADD: DSC 8000 SIMULCAST RDM SW	$8,200.00	$6,150.00	$6,150.00
1	CA03739AA	ADD: INTEGRATED GNSS TIMING REF W/ RB	$12,000.00	$9,000.00	$9,000.00
1	CA03747AA	ADD: DSC 8000 RUBIDIUM SW	$4,500.00	$3,375.00	$3,375.00
1	CA03678AA	ADD: ASTRO SYSTEM RELEASE 2021.1	$0.00	$0.00	$0.00
1	T8810	STANDALONE DSC 8000 CONTROLLER	$0.00	$0.00	$0.00
1	CA03793AA	ADD: DSC REFERENCE DISTRIBUTION MODULE NON-ESS	$2,500.00	$1,875.00	$1,875.00
1	CA03746AA	ADD: DSC 8000 SIMULCAST RDM SW	$8,200.00	$6,150.00	$6,150.00
1	CA03739AA	ADD: INTEGRATED GNSS TIMING REF W/ RB	$12,000.00	$9,000.00	$9,000.00
1	CA03747AA	ADD: DSC 8000 RUBIDIUM SW	$4,500.00	$3,375.00	$3,375.00
1	CA03678AA	ADD: ASTRO SYSTEM RELEASE 2021.1	$0.00	$0.00	$0.00
2	PMUG1017B	GNSS REMOTE RECEIVER ASSY	$900.00	$675.00	$1,350.00
1	T7038	GCP 8000 / GPB 8000 / XHUB / DSC HUB	$3,000.00	$2,250.00	$2,250.00
2	CA03737AA	ADD: DSC HUB	$3,500.00	$2,625.00	$5,250.00
1	CA03678AA	ADD: ASTRO SYSTEM RELEASE 2021.1	$0.00	$0.00	$0.00
1	T7038	GCP 8000 / GPB 8000 / XHUB / DSC HUB	$3,000.00	$2,250.00	$2,250.00
2	CA03737AA	ADD: DSC HUB	$3,500.00	$2,625.00	$5,250.00
1	CA03678AA	ADD: ASTRO SYSTEM RELEASE 2021.1	$0.00	$0.00	$0.00
2	TRN7343	SEVEN AND A HALF FOOT RACK	$495.00	$371.25	$742.50
1	T7039	GTR 8000 Base Radio	$0.00	$0.00	$0.00
1	CA00719AA	ADD: ASTRO SYSTEM RELEASE 2019.2	$0.00	$0.00	$0.00
1	CA00855AA	ADD: 700/800 MHZ	$6,300.00	$4,725.00	$4,725.00
1	CA01193AA	ADD: IP BASED MULTISITE BASE RADIO SOFTWARE	$29,500.00	$22,125.00	$22,125.00
1	CA01400AA	ADD: POWER CABLE, DC	$0.00	$0.00	$0.00
1	X153AW	ADD: RACK MOUNT HARDWARE	$50.00	$37.50	$37.50
1	T7039	GTR 8000 Base Radio	$0.00	$0.00	$0.00
1	CA00719AA	ADD: ASTRO SYSTEM RELEASE 2019.2	$0.00	$0.00	$0.00
1	CA00855AA	ADD: 700/800 MHZ	$6,300.00	$4,725.00	$4,725.00

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1	T7039	GTR 8000 Base Radio	$0.00	$0.00	$0.00
1	CA00719AA	ADD: ASTRO SYSTEM RELEASE 2019.2	$0.00	$0.00	$0.00
1	CA00855AA	ADD: 700/800 MHZ	$6,300.00	$4,725.00	$4,725.00
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1	T7039	GTR 8000 Base Radio	$0.00	$0.00	$0.00
1	CA00719AA	ADD: ASTRO SYSTEM RELEASE 2019.2	$0.00	$0.00	$0.00
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1	CA01400AA	ADD: POWER CABLE, DC	$0.00	$0.00	$0.00
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1	T7039	GTR 8000 Base Radio	$0.00	$0.00	$0.00
1	CA00719AA	ADD: ASTRO SYSTEM RELEASE 2019.2	$0.00	$0.00	$0.00
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1	CA01193AA	ADD: IP BASED MULTISITE BASE RADIO SOFTWARE	$29,500.00	$22,125.00	$22,125.00
1	CA01400AA	ADD: POWER CABLE, DC	$0.00	$0.00	$0.00
1	X153AW	ADD: RACK MOUNT HARDWARE	$50.00	$37.50	$37.50
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1	CA00719AA	ADD: ASTRO SYSTEM RELEASE 2019.2	$0.00	$0.00	$0.00
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1	CA01400AA	ADD: POWER CABLE, DC	$0.00	$0.00	$0.00
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1	CA00855AA	ADD: 700/800 MHZ	$6,300.00	$4,725.00	$4,725.00
1	CA01193AA	ADD: IP BASED MULTISITE BASE RADIO SOFTWARE	$29,500.00	$22,125.00	$22,125.00
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1	X153AW	ADD: RACK MOUNT HARDWARE	$50.00	$37.50	$37.50
1	T7039	GTR 8000 Base Radio	$0.00	$0.00	$0.00
1	CA00719AA	ADD: ASTRO SYSTEM RELEASE 2019.2	$0.00	$0.00	$0.00

1	CA00855AA	ADD: 700/800 MHZ	$6,300.00	$4,725.00	$4,725.00
1	CA01193AA	ADD: IP BASED MULTISITE BASE RADIO SOFTWARE	$29,500.00	$22,125.00	$22,125.00
1	CA01400AA	ADD: POWER CABLE, DC	$0.00	$0.00	$0.00
1	X153AW	ADD: RACK MOUNT HARDWARE	$50.00	$37.50	$37.50
1	T8343	GSERIES SOFTWARE LICENSING	$0.00	$0.00	$0.00
9	UA00400AA	ADD: GSERIES BR-P25 TRNK MS IP	$0.00	$0.00	$0.00
1	T8547	SITE ROUTER & FIREWALL- DC	$1,100.00	$825.00	$825.00
1	CA03445AA	ADD: MISSION CRITICAL HARDENING	$3,300.00	$2,475.00	$2,475.00
1	CA03446AA	ADD: ENCRYPTION	$1,500.00	$1,125.00	$1,125.00
1	CA03451AA	ADD: FIPS 140-2 LEVEL 2 ENCRYPTION CERTIFICATION FOR SRX345	$500.00	$375.00	$375.00
1	CA03448AA	ADD: STATEFUL FIREWALL	$1,000.00	$750.00	$750.00
2	CLN1868	2930F 24-PORT SWITCH	$2,500.00	$1,875.00	$3,750.00
2	CLN1866	FRU: 1M DAC CABLE	$200.00	$150.00	$300.00
1	T8810	STANDALONE DSC 8000 CONTROLLER	$0.00	$0.00	$0.00
1	CA03793AA	ADD: DSC REFERENCE DISTRIBUTION MODULE NON-ESS	$2,500.00	$1,875.00	$1,875.00
1	CA03746AA	ADD: DSC 8000 SIMULCAST RDM SW	$8,200.00	$6,150.00	$6,150.00
1	CA03739AA	ADD: INTEGRATED GNSS TIMING REF W/ RB	$12,000.00	$9,000.00	$9,000.00
1	CA03747AA	ADD: DSC 8000 RUBIDIUM SW	$4,500.00	$3,375.00	$3,375.00
1	CA03678AA	ADD: ASTRO SYSTEM RELEASE 2021.1	$0.00	$0.00	$0.00
1	T8810	STANDALONE DSC 8000 CONTROLLER	$0.00	$0.00	$0.00
1	CA03793AA	ADD: DSC REFERENCE DISTRIBUTION MODULE NON-ESS	$2,500.00	$1,875.00	$1,875.00
1	CA03746AA	ADD: DSC 8000 SIMULCAST RDM SW	$8,200.00	$6,150.00	$6,150.00
1	CA03739AA	ADD: INTEGRATED GNSS TIMING REF W/ RB	$12,000.00	$9,000.00	$9,000.00
1	CA03747AA	ADD: DSC 8000 RUBIDIUM SW	$4,500.00	$3,375.00	$3,375.00
1	CA03678AA	ADD: ASTRO SYSTEM RELEASE 2021.1	$0.00	$0.00	$0.00
2	PMUG1017B	GNSS REMOTE RECEIVER ASSY	$900.00	$675.00	$1,350.00
1	T7038	GCP 8000 / GPB 8000 / XHUB / DSC HUB	$3,000.00	$2,250.00	$2,250.00
2	CA03737AA	ADD: DSC HUB	$3,500.00	$2,625.00	$5,250.00
1	CA03678AA	ADD: ASTRO SYSTEM RELEASE 2021.1	$0.00	$0.00	$0.00
1	T7038	GCP 8000 / GPB 8000 / XHUB / DSC HUB	$3,000.00	$2,250.00	$2,250.00
2	CA03737AA	ADD: DSC HUB	$3,500.00	$2,625.00	$5,250.00
1	CA03678AA	ADD: ASTRO SYSTEM RELEASE 2021.1	$0.00	$0.00	$0.00
2	TRN7343	SEVEN AND A HALF FOOT RACK	$495.00	$371.25	$742.50
1	DLN6885	FRU: XCVR 7/800 MHZ V2	$3,500.00	$2,625.00	$2,625.00
1	DLN6781	FRU: POWER SUPPLY	$2,200.00	$1,650.00	$1,650.00
1	DLN6898	FRU: FAN MODULE	$300.00	$225.00	$225.00
1	PMUG1017A	GNSS REMOTE RECEIVER ASSY	$900.00	$675.00	$675.00
1	DLN1445A	FRE: DSC 8000, W/ RUBIDIUM	$22,500.00	$16,875.00	$16,875.00
1	DLN8035	FRU: DSC HUB	$3,500.00	$2,625.00	$2,625.00
1	T8547	SITE ROUTER & FIREWALL- DC	$1,100.00	$825.00	$825.00
1	CA03445AA	ADD: MISSION CRITICAL HARDENING	$3,300.00	$2,475.00	$2,475.00

1	CA03446AA	ADD: ENCRYPTION	$1,500.00	$1,125.00	$1,125.00
1	CA03451AA	ADD: FIPS 140-2 LEVEL 2 ENCRYPTION CERTIFICATION FOR SRX345	$500.00	$375.00	$375.00
1	CA03448AA	ADD: STATEFUL FIREWALL	$1,000.00	$750.00	$750.00
1	T8555	EDGE & HUB ROUTER & FIREWALL - DC	$10,900.00	$8,175.00	$8,175.00
1	CA03445AA	ADD: MISSION CRITICAL HARDENING	$3,300.00	$2,475.00	$2,475.00
1	CA03446AA	ADD: ENCRYPTION	$1,500.00	$1,125.00	$1,125.00
1	CA03452AA	ADD: FIPS 140-2 LEVEL 2 ENCRYPTION CERTIFICATION FOR SRX1500	$500.00	$375.00	$375.00
1	CA03448AA	ADD: STATEFUL FIREWALL	$1,000.00	$750.00	$750.00
1	CLN1869	2930F 48-PORT SWITCH	$9,600.00	$7,200.00	$7,200.00
TOTAL MOTOROLA PROVIDED EQUIPMENT LIST				**TOTAL LIST (USD)**	**EXT DISC (USD)**
				$1,316,580.00	**$987,435.00**

4.2 TWO SITE; 9-CHANNEL SIMULCAST DROPSHIP EQUIPMENT LIST

MOTOROLA DROPSHIP EQUIPMENT	DROPSHIP LIST (USD)	DROPSHIP DISC (USD)
HEAVY DUTY WALL MOUNTS, OUTDOOR PROTECTED CABLING, TTA, COMBINERS, FLATPACK RECITIFERS, CIRCUIT BREAKERS, PDU'S, NOKIA ANTENNAS & LINE WITH MISC EQUIPMENT, MSB SHELTER, TOWER, CONNECTORS, SPARES, etc.	$1,034,810.76	$931,329.68

SECTION 5

PRICING

5.1 PRICING SUMMARY

The following table provides a pricing breakdown for the proposed solution.

Barry County Final Pricing	
System Solution - Migrate 5802 from ASR to Simulcast - One (1) New Simulcast Site	
****Price after State Contract #190000001544 Discounts and Incentives** • ****Contract by 3/29/2022**	**$2,780,714**

5.2 PAYMENT SCHEDULE

Except for a payment that is due on the Effective Date, Customer will make payments to Motorola within thirty (30) days after the date of each invoice. Customer will make payments when due in the form of a check, cashier's check, or wire transfer drawn on a U.S. financial institution and in accordance with the following milestones;

1. 25% of the Contract Price due 30 days from contract execution or availability of funds, whichever comes first;

2. 60% of the Contract Price due upon shipment of equipment;

3. 10% of the Contract Price due upon installation of equipment; and

4. 5% of the Contract Price due upon Final Acceptance.

Overdue invoices will bear simple interest at the rate of ten percent (10%) per annum, unless such rate exceeds the maximum allowed by law, in which case it will be reduced to the maximum allowable rate. Motorola reserves the right to make partial shipments of equipment and to request payment upon shipment of such equipment. In addition, Motorola reserves the right to invoice for installations or civil work completed on a site-by-site basis, when applicable.

SECTION 6

CONTRACTUAL DOCUMENTATION

Motorola Solution's pricing is subject to the terms and conditions in the MiDEAL contract #190000001544.

AGENDA REQUEST FORM

PROPOSED FOR MEETING OF: BOC/March 15th, 2022

DEPARTMENT: Planning

PREPARED BY: James McManus, AICP
Director, Planning & Zoning

SUBJECT: Map Change A-2-2022

SPECIFIC ACTION(S) REQUESTED:
Approval of Map Change A-2-2022 from Low Density Residential (LDR) to General Commercial (GC) in Section 7 of Barry Township.

SPECIFIC ACTION(S) RECOMMENDED BY THE COW (Admin. use only): *Not presented at a COW meeting.*

DESCRIPTION OF ACTION:
On February 28th, 2021, The Barry County Planning Commission held a public hearing, reviewed the request, and recommended that it be approved by a 6-1 vote. The minutes of the meeting are attached as well.

TIME FRAME OF ACTION: Immediate

FUNDING REQUIRED: YES_____ NO ____x____
IF YES, ANSWER THE FOLLOWING:

1. FUNDING SOURCE (Federal, State, or Local) _____
2. IF LOCAL, SPECIFY FUND: _____
3. AMOUNT REQUESTED: _____
4. AMOUNT OF ONGOING COST, AND INTERVAL (Monthly, Quarterly, Annual, etc.)_____
5. FINANCIAL IMPACT ON OTHER DEPARTMENTS:_____

PERSONNEL IF REQUIRED: None

NEW OR RENEWAL: New

ANY OTHER PERTINENT INFORMATION:
The location of the rezoning is Planned as Urban Development in the Master Plan.

CONTACT PERSON WITH PHONE NUMBER:
James McManus AICP, Director, Barry County Planning & Zoning – 269-945-1290

NOTICE OF PUBLIC HEARING
ON PROPOSED ZONING AMENDMENT

Notice is hereby given that the Barry County Planning Commission will conduct a public hearing on

February 28, 2022 at 7:00 PM

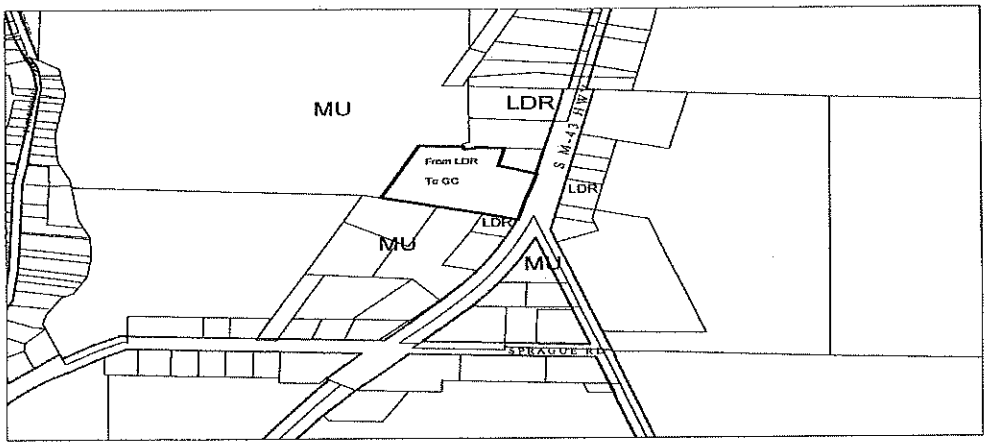
in the Community Room of the Tyden Center, located at 121 South Church Street, Hastings, Michigan 49058.

The subject of the public hearing will be the consideration of the following amendment to the Barry County Zoning Ordinance of 2008, as amended:

MAP CHANGE **A-2-2022**

Request to rezone property on South M-43 Highway, Delton, in Section 7 of Barry Township. (See attached map.)

FROM **LDR (Low Density Residential)** **TO** **GC (General Commercial)**



This map is a portion of the Official Zoning Map of Barry Township in Barry County, Michigan.
All of the above mentioned property is located in Barry County, Michigan.

Legal Description:

BEG AT PT ON W R/W M-43 WHICH IS 1530.1 FT E AND 563.2 FT S OF N 1/4 POST SEC 7, TH SWLY ALONG CURVE OF HWY, TH CORD WHICH BEARS S 18 DEG 20' W 100 FT, TH N 80 DEG 43' W 132 FT, TH N 18 DEG 20' E 100 FT, TH S 80 DEG 43' E 132 FT TO BEG. PAR.

AND

BEGINNING AT A POINT FOUND BY COMMENCING AT THE NORTHEAST CORNER OF SECTION 7, TOWN 1 NORTH, RANGE 9 WEST, AND RUNNING THENCE NORTH 89° 15'06" WEST, ON SECTION LINE 998.86 FEET TO THE WESTERLY LINE OF HIGHWAY M-43; THENCE SOUTH 12° 18'40" WEST, ON SAME, 315.5 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION; THENCE SOUTH 12° 18'40" WEST 95.53 FEET; THENCE AROUND A CURVE TO THE RIGHT, WITH A RADIUS OF 1476.34 FEET, TO THE FAR END OF A CHORD WHICH BEARS SOUTH 15° 36'52" WEST 174.28 FEET, THENCE NORTH 79° 23'15" WEST 132.0 FEET; THENCE SOUTH 14° 29'01" WEST 100 FEET. THENCE NORTH 79° 23'15" WEST 383.24 FEET TO THE EASTERLY LINE OF THE FORMER K,L&N RAILROAD LAND; THENCE NORTH 28° 32'29" EAST, ON SAME, 300.88 FEET, THENCE SOUTH 69° 15'06" EAST PARALLEL TO NORTH SECTION LINE 464.31 FEET TO BEGINNING.

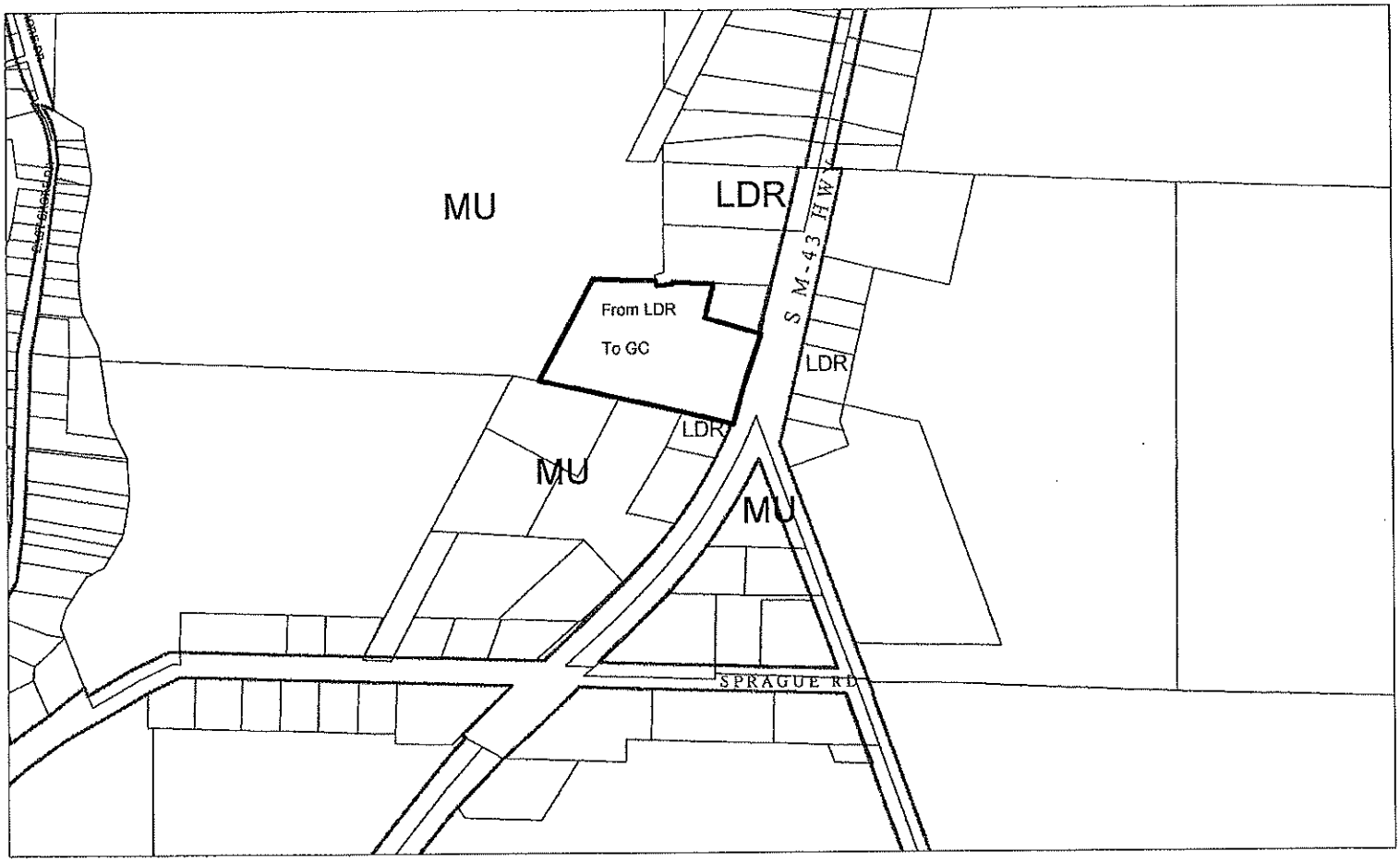
Interested persons desiring to present their views upon the proposed amendment, either verbally or in writing, will be given the opportunity to be heard at the above mentioned place and time. Any written response may be mailed to Planning & Zoning, 220 West State Street, Hastings Michigan 49058, faxed to (269) 948-4820, or emailed to Barry County Planning Director James McManus at jmcmanus@barrycounty.org.

The proposed amendment of the Barry County Zoning Ordinance is available for public inspection at the Barry County Planning & Zoning Department, 220 West State Street, Hastings, Michigan 49058 during the business hours of 8 a.m. to 5 p.m. Monday – Friday (excluding holidays.) Please call the Barry County Planning & Zoning Department at (269) 945-1290 for further information.

The County of Barry will provide necessary auxiliary aids and services, such as signers for the hearing impaired and audiotapes of printed materials being considered at the meeting, to individuals with disabilities at the meeting/hearing upon ten (10) days notice to the County of Barry. Individuals with disabilities requiring auxiliary aids or services should contact the County of Barry by writing or call the following: Michael Brown, County Administrator, 220 West State Street, Hastings, Michigan 49058, (269) 945-1284, mbrown@barrycounty.org.

This notice is given pursuant to and in accordance with the provisions of the Open Meetings Act (Public Act 267 of 1976) as amended.

Pamela A. Palmer, Barry County Clerk


MU
LDR
From LDR
To GC
S M-43 HWY
LDR
LDR
MU
MU
SPRAGUE RD

Barry County Planning Commission
Meeting Minutes
February 28, 2022

The meeting was called to order at 7:00 p.m. by Chairperson Clyde Morgan in the Community Room of the Tyden Center located at 121 South Church Street in Hastings. The Planning Commission members in attendance included: Morgan, Vivian Conner, John LaForge, Jack Miner, Jack Nadwornik, Joyce Snow, and Robert Vanderboegh. Others in attendance included: Kevin Miller, Lisa Sterkenburg, Barry County Planning Director James McManus, and other interested people.

The Planning Commission reviewed the agenda. McManus suggested that the retail study discussion be put off until March. LaForge agreed to strike the retail study discussion from the agenda. Motion by Conner to approve the agenda as corrected. Support by Snow. All ayes – motion carried.

Motion by Snow to approve the minutes of January 24, 2022 as written. Support by Conner. All ayes - motion carried.

BUSINESS

Morgan explained the procedures of a public hearing.

Rezoning

A-2-2022 **Kevin Miller**

Morgan recessed the Planning Commission, opened the public hearing, and asked Miller to present his request.

Miller noted his business is Near Perfect Boats LLC, and he would like to utilize the property for the business. He noted he has 40 years of experience in the business. He noted he liked the property because it was close to Gull Lake and many other lakes in the area. He noted the business will have a retail center as well as areas for servicing boats. He said he might rent kayaks. He said it would not be a huge business.

Miller continued and noted he would lease a portion of the building to a canvasser. He also noted he would build storage buildings for indoor storage. He said the indoor storage would be climate-controlled and environmentally sensitive. He noted he only uses steam to clean the boats.

Miller distributed a conceptual site plan to the Planning Commission. He noted the property is currently zoned LDR, and it has access to the large property to the back. He noted most of the development will be below the hill to the rear of the property, but he would build the front retail building first. He noted he will screen the property.

Morgan asked if anyone wished to speak in favor of the request.

Drew Chapple noted he is involved with the sale of the property. He noted he has been in Delton for nearly 40 years, and he was president of the Delton Business Association. He felt the proposal was a good fit as it borders other commercial properties. He noted the property had been sold a few times in the past 20 years, but no one developed it. He noted growth in Delton is needed. He said the property is in a transition zone, and it fronts on M-43.

Morgan asked if anyone was opposed.

Nancy Grizzle, a neighbor, questioned the traffic impacts of the new development. She noted the property is zoned LDR, and there are houses in the area. She was also concerned about the noise and property value impacts from the development.

Jim Minick, who lives on Crooked Lake, questioned if Miller bought all of the property on the diagram. Miller said yes.
Minick noted Crooked Lake would likely be against a wet marina onto the lake.
Minick was concerned about groundwater contamination and suggested the property be bermed.

McManus noted this was only a rezoning hearing. He noted a site plan review would be done if the property is rezoned.

McManus read a letter from Barry Bower in favor of the request.

McManus read a letter from Constance Fifelski in opposition of the request.

Miller rebutted by saying a wet marina is not in his plans, and he questioned if the wetland was even navigable. He also said it would require a lot of permits. He stated that he has not had an issue with spills or environmental issues, and he noted he was part of a development site in Coopersville that was similar to this property.

Miller continued and noted the buildings will be 50 ft off the road, but he did not know if there would be any effect on property values. He concluded that all of the storage will be indoor storage, and noted he does not believe in outdoor storage or the use of shrink wrap, which is non-recyclable.

Morgan closed the public hearing and reconvened the Planning Commission.

LaForge asked if the repair part of the business would have mechanics. Miller said yes.
LaForge asked if there was public sewer on site. Miller said yes.

Vanderboegh verified that building #1 would be built first. Miller said yes.
Vanderboegh asked if that would be a storage building. Miller said it would be for retail. Miller said the second building would be the service building.

Conner said she understood the concerns of the neighbors. She asked if there had been a building on the parcel previously. McManus said it had been vacant for a number of years.

Snow asked if there was a special use option for the business in the LDR zone. McManus said no.
Snow asked if the storage would be toward the back of the property. Miller said yes.
Snow noted the property backs up to the lake.

Miller noted all of the buildings will be a minimum of 50 ft from the lake.

Snow asked how many stored boats would be on site. Miller said 80.
Snow asked if boats for sale would be outside. Miller said that was possible.

LaForge questioned if Miller would have employees. Miller said he would have a few. He noted he has a no-compete clause with Gull Lake Marina.

Morgan asked what type of boats would be on site. Miller said he sells pontoon boats and tritoon boats.
Morgan suggested the maps be blown up in the future. Miller noted the contours on the map were 2-ft contours.

Nadwornik asked about a timeframe for completion. Miller said he hoped to have the first building started by the fall of 2022. He noted he was having a difficult time getting a survey of the entire property.

Vanderboegh asked why the property was not being rezoned to MU. Miller said the 15,000 sq ft building envelope would not work for his plans.

Morgan asked about the building wall height. Miller said they would be 14 ft high.

Miner noted there are three primary issues with the request: traffic, environmental concerns, and neighbor impacts.
Miner asked how much frontage the property had. Miller said 242 ft.
Miner asked if Miller would be required to have a deceleration lane. McManus noted specific access requirements would be reviewed in a site plan review.

Conner noted the property behind this parcel was zoned Mixed Use (MU), and there were lots of potential uses on that acreage.

Miller noted the amount of traffic in the area seems reasonable. He said there is a lower speed limit, and he has good vision in both directions.

Motion by Miner to recommend denial of A-2-2022 to the Board of Commissioners. There was no second to the motion.

Motion by LaForge to recommend approval of A-2-2022 to the Board of Commissioners. Support by Snow.

Roll call vote taken: 6 ayes-Conner, LaForge, Morgan, Nadwornik, Snow, Vanderboegh – 1 nay-Miner - motion carried.

Site Plan Review

PR-2-2022 **Grace Community Church (Property Owner)**

Morgan recessed the Planning Commission, opened the public hearing, and asked the church to present their request.

Lisa Sterkenburg, representing the church, noted the church wanted to build the greenhouse so that they could teach the community how to grow food and learn basic skills. She noted the greenhouse will be 24x48, and it will be placed behind the house. She said the house has a tree-lined buffer.

Morgan asked if anyone wished to speak in favor of the request.

Jared Justice, who is a member of the church and a greenhouse grower, noted the community will learn how easy it is to grow basic food.

Morgan asked if anyone was opposed.

Brandon Schantz asked if his property taxes would be affected. He asked how close the building would be to the fence line.

Derik Schantz asked if a new access would be created.

Sterkenburg noted the building will be next to the parking lot, and they are not planning any other buildings or access points.

Morgan closed the public hearing and reconvened the Planning Commission.

Miner asked if the building will be poly or glass. Sterkenburg said poly.
Miner asked if there would be any employees. Sterkenburg said no.
Miner asked if there would be any machinery. Sterkenburg said no.
Miner asked if water would be available. Sterkenburg said they would be using drip irrigation in the greenhouse.

Conner asked if the garden assistants were all volunteers. Sterkenburg said yes.

Snow asked if the greenhouse would be placed behind the existing shed. Sterkenburg said yes.
Snow asked if the church would be composting on site. Sterkenburg said yes.
Snow asked if the greenhouse would be a permanent structure. Sterkenburg said there would be no floor.

Morgan asked if they would be using hand tillers. Sterkenburg said yes.
Morgan asked if there would be any lighting. Sterkenburg said no, and noted there would be no power to the building.

Conner asked if the garden would be comprised of raised beds. Sterkenburg said yes.
Conner asked if they would be selling any of the product. Sterkenburg said it would go to the volunteers and then the congregation of the church.

Motion by Vanderboegh to approve Case No. PR-2-2022 as presented. Support by LaForge.

Miner noted the use fits in to the Blue Zones concepts.

Roll call vote taken: 7 ayes - 0 nays - motion carried. Site Plan Approved.

Parks & Recreation Committee

Snow noted she had to step down because she has conflicts with other meetings. Snow said the meetings are at 6:00 p.m. on the fourth Thursday of the month.

LaForge said he would be willing to serve on the committee.

Morgan appointed John LaForge to serve on the Parks And Recreation Committee.

Business-Other

Morgan asked if anyone wanted to serve on the Master Plan Steering Committee. LaForge, Miner, and Nadwornik volunteered to be the Planning Commission representatives.

McManus noted the first Steering Committee meeting would be Monday, March 7, 2022 at 5:15 p.m.

McManus noted the Woodland Village public hearing will be moved to April for the new zoning map.

McManus stated he had attended two Rotary meetings to discuss the Master Plan and will be leading a leadership bus tour on March 8th.

Motion by Miner to adjourn. Support by LaForge. All ayes - motion carried.

Meeting adjourned at 8:35 p.m.

Respectfully submitted,

Jack Nadwornik,
Secretary