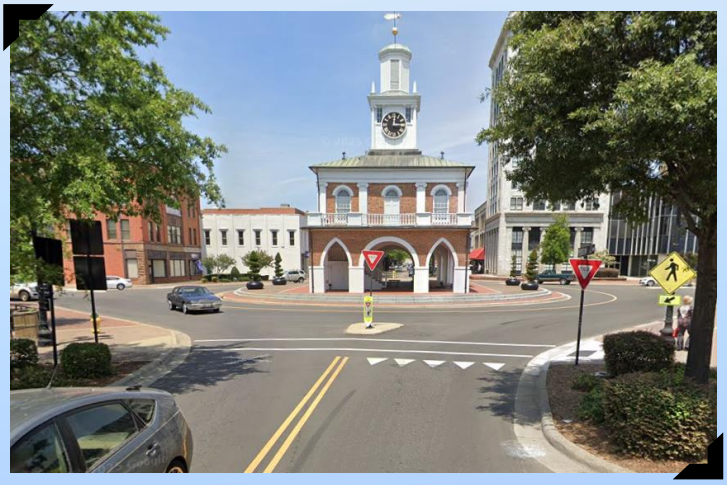
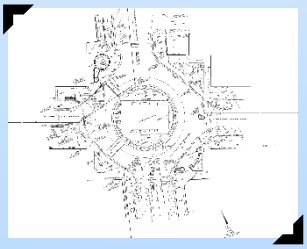
MARKET SQUARE REPURPOSING STUDY

CONCEPT DESIGN & COST ESTIMATE REPORT

ROUNDABOUT AND PEDESTRIAN IMPROVEMENTS
HAY STREET / PERSON STREET AT
GREEN STREET / GILLESPIE STREET
FAYETTEVILLE, NC





Prepared for

FAYETTEVILLE NC
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1. Executive Summary

The City of Fayetteville has tasked Rummel, Klepper & Kahl, LLP (RK&K) to study potential alternatives for the repurposing of the Market Square roundabout in downtown Fayetteville. The roundabout is located at the intersection of Hay Street/Person Street and Green Street/Gillespie Street. The Market Square Repurposing Study, or "study", includes field surveys, traffic operational and safety analysis, conceptual roadway design, and cost estimating services. This report identifies improvement options and presents the concept designs and cost estimation results.

In general, the primary goals for the project are to concurrently:

- improve the safety and maintain acceptable operations of the roundabout for vehicular traffic
- improve the roundabout by modernizing key elements such as signing, striping, islands, and crosswalks
- improve the safety and access for pedestrian traffic within and around the circle, and
- expand the pedestrian plaza around the historic Market House.

The proposed improvements provide context-sensitive, cost-conscious solutions that maintain the exterior curb lines as much as possible. The potential improvements also retain emergency vehicle access by accommodating the City's 100-foot ladder fire truck, the largest emergency vehicle.

The study includes investigations into potential improvements, costs, and impacts for the goals stated above, and includes the following four (4) alternatives:

- **Alternative 1A:** *Raise the crown* of the circle road (to be sloped up towards the central plaza); provide pedestrian and roundabout improvements; provide center island plaza expansion (reducing tiers/increasing "flat" plaza area); and accommodate a *City ladder fire truck*.
- **Alternative 1B:** *Raise the crown* of the circle road (to be sloped up towards the central plaza); provide pedestrian and roundabout improvements; provide center island plaza expansion (reducing tiers/increasing "flat" plaza area); and accommodate a *WB-62 tractor-trailer*.
- **Alternative 2A:** *Resurface* the circle road (slopes down towards the central plaza); provide pedestrian and roundabout improvements; provide center island plaza expansion; and accommodate a *City ladder fire truck*.
- **Alternative 2B:** *Resurface* the circle road (slopes down towards the central plaza); provide pedestrian and roundabout improvements; provide center island plaza expansion; and accommodate a *WB-62 tractor-trailer*.

A comparison of the expanded pedestrian plaza areas by alternative is shown below in **Table 1**:

Table 1. Summary - Expanded Pedestrian Plaza Areas

Alternative	Max Vehicle	Circle Lane Width (ft.)	Plaza Diameter (existing BOC)(ft.)	Plaza Diameter (proposed BOC)(ft.)	Increased Area (s.f.)
1A	Ladder Truck	20'	101.25' +/-	(from 91.5' to) 121.5' *	5,010 *
1B	WB-62	28'	101.25' +/-	(from 91.5' to) 113.5' *	3,540 *
2A	Ladder Truck	20'	101.25' +/-	(from 95.5' to) 121.5'	4,428
2B	WB-62	28'	101.25' +/-	(from 95.5' to) 113.5'	2,950

* includes reducing tiers, and increasing "flat" plaza area
BOC - Back of Curb

Cost estimates have been developed based upon the conceptual designs described herein. **Table 2** shows cost estimates for the construction of the proposed improvements. No right-of-way costs for utility easements or right of way acquisition is expected. (Utility construction is included in the construction costs.) Based on these estimates, costs for the roundabout and pedestrian improvements would range from $1.0M to $1.2M (in 2025 dollars).

Table 2. Summary - Cost Estimates

Alternative	Construction	Utility Relocation *	ROW	Total
1A	$ 1,176,400.00	$ 0.00	$ 0.00	$ 1,176,400.00
1B	$ 1,207,400.00	$ 0.00	$ 0.00	$ 1,207,400.00
2A	$ 1,048,700.00	$ 0.00	$ 0.00	$ 1,048,700.00
2B	$ 1,010,000.00	$ 0.00	$ 0.00	$ 1,010,000.00

* Note that Utility Construction is covered within the Construction Costs

The proposed improvements for each of the four (4) options at the Market Square roundabout are expected to result in safety improvements for all users at the intersection. The recommended improvements include, but are not limited to:

- The modified crosswalk configuration, which is expected to improve pedestrian safety at the intersection by reducing the number of conflicts with vehicles.
- The reduced pavement width at the roundabout and larger splitter islands, which are expected to encourage lower travel speeds at the roundabout and lead to reduced crash severity and improved pedestrian and bicyclist safety at the intersection.
- Updated signing at the roundabout, which is expected to reduce driver confusion and improve vehicular safety at the roundabout.
- The expanded pedestrian plaza, which is anticipated to enhance the accessibility to and user experience with the historic Market House.

Some distinguishing factors between the four (4) alternatives include:

- The amount of expanded area for the pedestrian plaza: i.e. Alternative 1A provides the highest increased pedestrian area (approximately 5,000 sf) and Alternative 2B provides the least amount of expanded pedestrian area (approx. 3,000 sf)
- The amount of “flat” pedestrian areas: the Alternative 1A and 1B concepts raise the crown of the road and can therefore provide a flat pedestrian plaza area, whereas the Alternative 2A and 2B options keep the circulating road pavement at its existing elevations and therefore the pedestrian area will also retain the steps and tiers that exist today.
- The amount of drainage system modifications: The Alt. 2A/2B options are expected to require 3 new catch basins and pipes in the center island and 3 new/replaced catch basins around the exterior curb line. The Alt. 1A/1B options are expected to only require 3 new/replaced catch basins around the exterior curb line, with none required on the interior.
- Large vehicle accommodation: i.e. the “A” options accommodate vehicles up to the City’s ladder fire truck and the “B” options accommodate the larger WB-62 tractor-trailer trucks.
- Estimated project construction costs ranging from $1.0M – $1.2M: i.e. Alternative 2B costs the least and Alternative 1B costs the most.

2. Introduction

2.1 General Description

The City of Fayetteville has tasked RK&K to study potential alternatives for the repurposing of the Market Square roundabout in downtown Fayetteville. The roundabout is located at the intersection of Hay Street/Person Street and Green Street/Gillespie Street. The Market Square Repurposing Study, or "study", includes field surveys, traffic operational and safety analysis, conceptual roadway design, and cost estimating services. This report identifies improvement options and presents the concept designs and cost estimation results.

See **Figure 1. Base Mapping: Existing Conditions** below for a picture of the immediate vicinity of the intersection.

Land use within the immediate vicinity of the intersection (or "study area") is largely commercial and institutional and is located within the City's DT-1 Downtown District planning zone. The 2040 Future Land Use Plan indicates continued Downtown Mixed-Use (DTMXU) with intense commercial, retail, and service uses, with dense vertical residential uses and urban neighborhoods around the edges [1]. The study area is definitively urban in nature and character. The terrain is generally flat to slightly rolling, typical of the sandhills/coastal plains regions.

2.2 Background

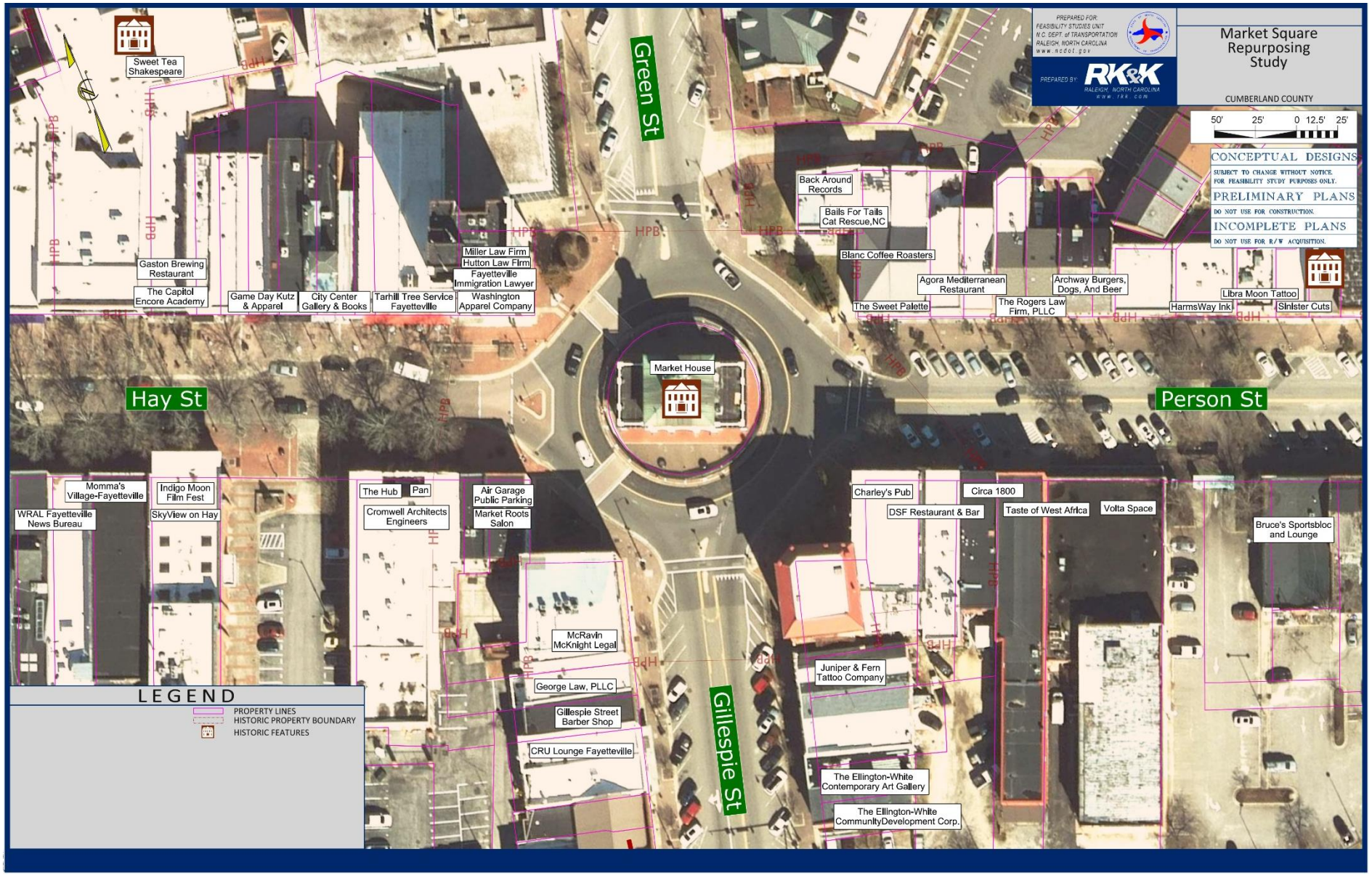
The study area is centered around the Hay Street/Person Street intersection with Green Street/Gillespie Street in historic downtown Fayetteville, NC; located within Cumberland County and NCDOT Highway Division 6. The roundabout has an existing inscribed circle diameter of approximately 168 feet, and the national historic Market House building is located within the interior of the circular roadway intersection. The existing circular road lane width is approximately 31 feet, with curb-and-gutter and brick paver sidewalks to the outside and curb-and-gutter and raised platform brick plaza around the building on the interior of the circle. The intersection is located in the City's Cool Spring Downtown District, also historically known as the Market House Square District.

The east-west corridor (Hay St/Person St) is a two-lane roadway that has a posted speed limit of 15 mph and a functional classification of urban minor arterial; and the north-south route (Green St/Gillespie St) is a two-lane roadway that within the immediate vicinity of the intersection has a posted speed limit of 25-35 mph and a functional classification of other principal arterial in an urban setting. All of these roads are NCDOT "non-system" roads and are maintained by the City of Fayetteville. All of the approaching streets around the roundabout have on-street parking, small splitter islands, and pedestrian amenities such as street lighting, landscaping, crosswalks, and wide brick paver sidewalks.

Based on NCDOT Traffic Data Publications, the 2023 Annual Average Daily Traffic (AADT) along Gillespie Street was recorded at 5,700 vehicles per day (vpd), and along Green Street was recorded at 7,000 vpd. The 2023 AADT along Hay Street was 5,100 vpd, and along Person St was 3,500 vpd.

Land use within the study area is largely commercial and institutional, and is located within the City's DT-1 Downtown District planning zone. The 2040 Future Land Use Plan indicates continued Downtown Mixed-Use (DTMXU) with intense commercial, retail, and service uses, with dense vertical residential uses and urban neighborhoods on the edges [1].

Figure 1. Base Mapping: Existing Conditions



3. Purpose and Need

In general, the primary goals for the project are to concurrently:

- improve the safety and maintain acceptable operations of the roundabout for vehicular traffic
- improve the roundabout by modernizing key elements such as striping, signing, islands, and crosswalks
- improve the safety and access for pedestrian traffic within and around the circle, and
- expand the pedestrian plaza around the historic Market House.

The proposed improvements provide context-sensitive, cost-conscious solutions that maintain the exterior curb lines as much as possible. The potential improvements also retain emergency vehicle access by accommodating the City's 100' ladder fire truck, the largest emergency vehicle.

It should be noted that this Study is a preliminary document that is an initial step in the planning and design process for a candidate project and not the product of exhaustive environmental or design investigations. The purpose of the study is to describe the proposed project, including cost, and identify potential problems and solutions for consideration in the subsequent planning and design phases.

3.1 Previous Studies

The City has undertaken a prior study with an architectural consulting firm in 2023 that investigated some initial ideas for improving the pedestrian areas in and around the Market House in concert with roadway alterations. Those ideas were referenced but not carried forward within this study.

3.2 Adjacent Transportation Projects and Economic Development Sites

There are no known adjacent transportation projects that will directly affect this project.

There is a known adjacent economic development, the Crown Event Center. (Construction began in 2024 but is currently paused.) Consideration has been given to future traffic patterns and effects to the study area intersections, including a review of traffic data provided within the Crown Event Center TIA, and is described in greater detail in the traffic report [2].

3.3 Crash Analysis

A crash analysis was performed and detailed information may be found in the companion Market Square Repurposing Study - Traffic Operations and Safety Analysis Report, by RK&K, March 2025 [2]. Historic crash data between September 2019 and August 2024 were reviewed and evaluated. Based on the data, 21 total crashes occurred during the 5-year period. Eight (8) crashes were related to parking, two (2) crashes involved pedestrians, and two (2) crashes involved bicyclists. Most vehicular crashes (90%) were property damage only (PDO) crashes, while non-fatal injury crashes accounted for the remaining 10%. Rear end crashes were the most predominant (24%) crash type, followed by fixed object crashes (19%), parked motor vehicle and sideswipe crashes (14% each), and pedalcyclist crashes (10%).

4. Concept Design Development & Evaluation

4.1 Surveys

In anticipation for the final design of a future project, and with a desire to provide accurate cost estimates, the City requested that the site be surveyed as a part of this study. RK&K's surveyor, Wetherill Engineering, acquired field data in November and December of 2024, and completed the digital surveys in January 2025. The survey was used as the base mapping and detailed existing features information for the Concept Design & Cost Estimation described herein. The concept plans were supplemented with readily available GIS data and digital imagery as needed.

The **ATTACHMENT A. Base Mapping: Surveys Exhibit** provides a visual display of the surveys taken within the project study area.

4.2 Traffic Volumes and Operational Analysis

The study includes a project specific traffic volume projection, traffic operations analysis, and a safety analysis. Turning Movement Counts (TMCs) were collected at the primary study intersection (and two (2) adjacent intersections) for three (3) different scenarios: weekdays, weekends, and special event on October 15, 12, and 25, 2024 respectively.

Based on NCDOT Traffic Data Publications, the 2023 Annual Average Daily Traffic (AADT) along Gillespie Street was recorded at 5,700 vehicles per day (vpd), and along Green Street was recorded at 7,000 vpd. The 2023 AADT along Hay Street was 5,100 vpd, and along Person St was 3,500 vpd. Future Year traffic volumes have been projected to 2050 and are estimated to be 6,600 vpd along Gillespie St.; 8,100 vpd along Green St.; 6,500 vpd along Hay St.; and 5,900 vpd along Person St. More detailed information may be found in the companion Market Square Repurposing Study - Traffic Operations and Safety Analysis Report, by RK&K, March 2025 [2].

Table 3. Traffic Volumes (AADT)

Location	Existing Conditions (2023) AADT	Future Year (2050) AADT
Gillespie Street	5,700	6,600
Green Street	7,000	8,100
Hay Street	5,100	6,500
Person Street	3,500	5,900

AADT = Annual Average Daily Traffic

Based on existing conditions, the roundabout is operating acceptably in the current year AM and PM peak hours (LOS A/A). It is anticipated that the roundabout will continue operate acceptably into the future year conditions peak hours (LOS A/B). The proposed improvements are expected to improve safety for pedestrian and vehicular traffic.

4.3 Design Concept Development: Key Elements

The study alternatives have been developed at a conceptual level (approximately 15% level) and are based upon the field survey data completed in January 2025 and supplemented by readily available environmental information, GIS data, and digital aerial imagery. The conceptual designs have been developed to current NCDOT [3] and AASHTO [4] roadway design guidelines.

With this project's roundabout and pedestrian features, design references utilized also include: The NCHRP (National Cooperative Highway Research Program) Report 1043: Guide for Roundabouts (2023) [5], as well as the NACTO (National Association of City Transportation Officials): Urban Street Design Guide (2013) [6].

The concept designs are also informed by the traffic safety and operational analysis, as detailed in the companion RK&K Traffic Report [2]. The resulting cost estimates follow NCDOT methodologies and have been developed with adequate detail to provide accurate estimates based on concept-level design. The conceptual designs that have been developed consider the maintenance of traffic during construction and the constructability of the project.

The following key elements have been developed throughout the design process, as a result of evaluating the existing conditions, from current design guidance, and from coordination and input from the Study Team: (More details regarding the Study Team may be found in chapter 7.)

- **Number of circulating lanes: Existing/Proposed Single Lane**

  This project does not consider providing any additional lanes at the intersection, either by additional circulating lanes, or bypass lanes, thereby minimizing impacts to the existing adjacent dense development. This is also supported by the results of the traffic operational analysis.

- **Size of the roundabout: Existing/Proposed ICD = 168'**

  One critical element of modern roundabout design is the "Inscribed Circle Diameter" (ICD), a fundamental design and operational element of the roundabout based upon the number of circulating lanes as well as the maximum vehicle size and vehicle accommodations (such as large trucks). For this project, it was deemed primarily important to provide a context-sensitive design that employs cost-conscious improvements. Therefore, a primary constraint was to hold the exterior circle diameter and exterior curb line. It is beneficial that the approximately 168' ICD is on the larger end of the scale of common Single-lane Roundabout ICDs, and helps to provide opportunities for expanding the central island.

- **Width of circulating lane: Proposed 20' - 28'**

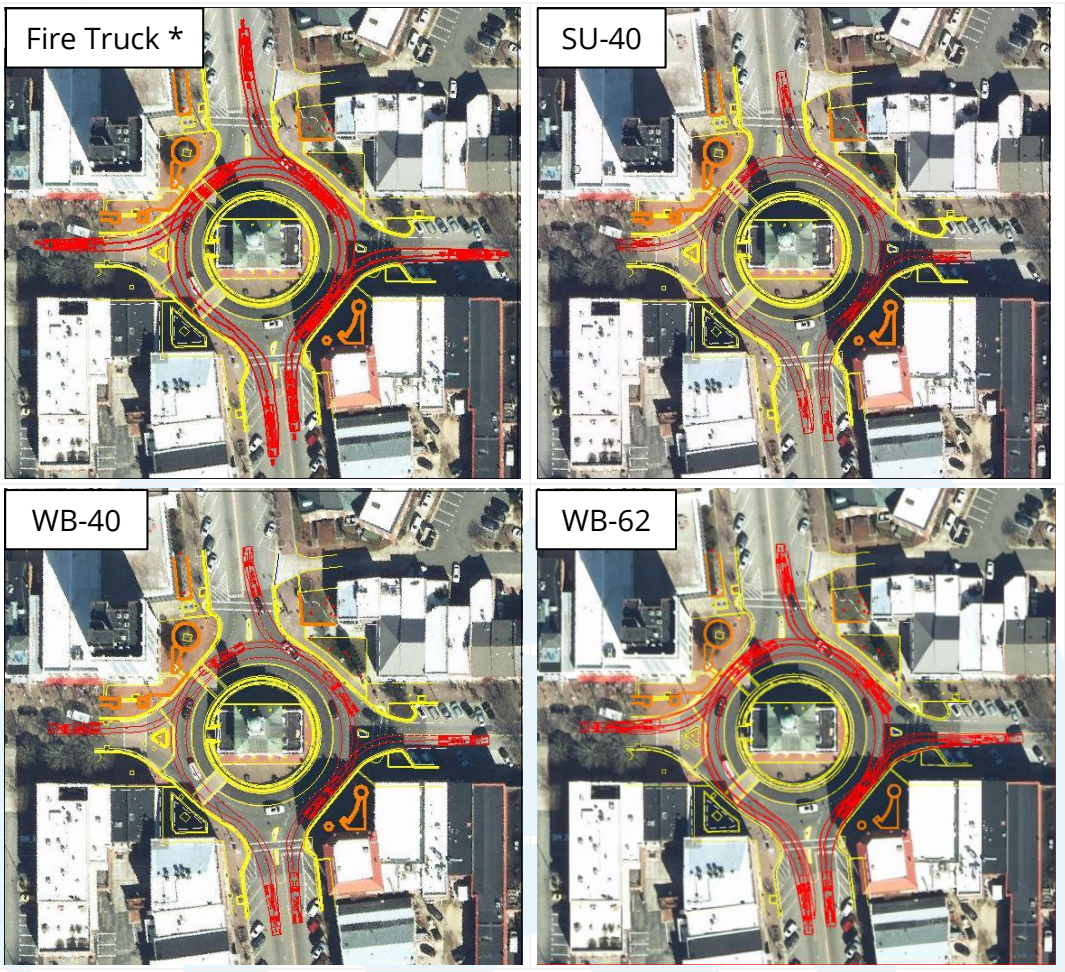
  - **Proposed Design Options "1A" and "2A"** = 20'
  - **Proposed Design Options "1B" and "2B"** = 28'

  The existing circulatory lane width is approximately 30'-31', which is much larger than desirable single lane widths based on current guidance. Based upon the maximum vehicle accommodations discussed below, and local fire department requirements, a proposed circle lane width of 20' - 28' is recommended. Through Study Team coordination we learned that the fire department requires a minimum 20'-wide lane or street for a "fire apparatus access road". A 20' circulatory lane width is also within the (16'-20') range for single-lane roundabouts. Widths greater than 20' may lead drivers to assume that two vehicles are allowed side-by-side. (For larger tractor-trailer trucks, a mountable truck apron is often provided on the inside rather than making the circle lane width wider.) For this project, the larger existing diameter helps to facilitate this study's design approach to not have a mountable truck apron, but rather to provide a clearer curb divider separating between vehicle paths and pedestrian areas.

- **Maximum Design Vehicle / Truck Accommodations:**

  - **Proposed Design Options "1A" and "2A"** = City ladder fire truck (and smaller WB-40, SU-40, etc.)
  - **Proposed Design Options "1B" and "2B"** = WB-62
  - The following vehicle paths were evaluated utilizing CADD software tool Autoturn, based upon AASHTO defined design vehicle dimensions and turning path geometrics and envelopes: (See also **Figure 2** below.)
    - SU-40 common delivery truck - accommodated within a 20' circle lane width
    - WB-40 tractor-trailer - accommodated within a 20' circle lane width
    - City Fire Dept 100' ladder truck * (City Provided vehicle dimensions and geometrics) - accommodated within a 20' circle lane width
    - WB-62 (i.e. U.S. Mail) truck – can only be accommodated with some minor widening on the entry and exit approaches, and a circulatory lane with greater than 20', i.e. 28'.

Figure 2. Truck Design Vehicles and Turning Templates



- **Expand center circle island and pedestrian plaza area:**
  - **Proposed Design Options 1A and 1B:** Raise the road crown up to the center island (Var. 0.5%-3.5%)
  - **Proposed Design Options 2A and 2B:** Resurface circle road pavement (generally slopes down to plaza)
  - Approximate expansion of the center island by 9'-15' radially. Provides an additional 3,000 – 5,000 sf +/- of pedestrian space. (See also **Table 4. Expanded Pedestrian Plaza Areas**.)
  - Proposed 2'-6" curb for center island, to provide a clear curb divider separating between vehicle paths and pedestrian areas. Not recommending utilizing a truck apron for this application, or any rolled curb or 1'-6" mountable curb. Prior experience with various pedestrian improvement projects on the eastern seaboard, and urban street design guidance, indicate that a more definitive vertical separator, such a 2'-6" curb, provides a safer and more recognizable separation for all users.
  - Center island pedestrian platform/plaza slope: new portions of brick pavers with 2% desired slopes away from the Market House, proposed varies 0.5% to 3.5% around the circle, meeting and/or matching existing. See also Typical Section insets on the **ATTACHMENT C. Concept Design Plans.**
- **Improvement and Consistent Definition of Splitter Islands**
  - New striping outside arc, splitter islands, and crosswalks
  - Some reconstruction at the roundabout entry/exit approach legs

- **Update Signing and Pavement Markings**
  - Provide hi-visibility crosswalk striping (consistently) around all approaches.
  - Provide new striping at the entry approaches: such as mini-skips around the outside arc, yield line triangles, splitter island set-backs (for the "B" options), and high-visibility crosswalks.
  - Update roundabout signing as needed, as desired. Such as signing recommended by FHWA Handbook for Designing Roadway for the Aging Population (2014), Chapter 2.16 Roundabouts, or the NCHRP 1043 Roundabout Guide (2023), or the current MUTCD.
- **Adjust Entry/Exit Approaches**
  - Some reconstruction is needed at the roundabout entry/exit approach legs, to accommodate the wider splitter islands and interior crosswalks, as well as to more closely meet current roundabout guidance.
- **Adjust Crosswalks** (and Curb Ramps as needed) for Safer and Improved Access in and out of the Center Plaza
  - Provide 20'-25' setback of crosswalks from yield line/circle road edge, so vehicles don't queue on top of crosswalks as they do under existing conditions (i.e. Gillespie Street south leg and Person Street east leg).
  - Modify the curb extensions/bump-outs between on-street parking and roundabout entry/exit legs to line up with the adjusted crosswalks.
  - Remove existing mid-arc brick paver crosswalks (NW, SW). Mid-arc crosswalks do not provide the safest location for a pedestrian to cross, with vehicles approaching from two directions. Existing also lacks curb ramps at these locations.
  - Provide high-visibility crosswalk striping and tactile ramps consistently around all approaches.
  - Reduce/Redefine the (17'-wide) Hay Street west leg crosswalk.
  - Provide New/Replace Curb Ramps as necessary for relocated/redefined crosswalks.
  - Provide pedestrian access to and from the center island plaza on the Hay/Person Street legs, by providing protected paths within the splitter islands. Recently reconstructed examples of this method for pedestrian access in and out of a roundabout/traffic circle type intersection include the Chatham County Courthouse/ Historic Museum in Pittsboro, NC [7], the Columbus County Courthouse in Whiteville, NC [8], Lee Circle on Monument Avenue in Richmond, VA, and Logan Circle in Washington, D.C.

Figure 3. Example Pedestrian Access into Center Islands in NC

Additional crosswalk and pedestrian access ideas considered but not included:

- *Some initial ideas looked at how to improve the tiered pedestrian routing and access in the northwest corner of the intersection; around the 10-story building at 100 Hay Street. The Study Team deemed this beyond the current scope of work.*
- *Initial idea to provide 4 crosswalks to and from the center island plaza. The Study Team discussed providing 4 crosswalks, i.e. on the Green St and Gillespie St legs as well as the Hay/Person St legs. It was generally decided that the multi-modal character of the east-west corridor, the existing ramp into the west end of the*

Market House, as well as an added visual sight through the Market House, lent itself more towards being the primary access points. It seemed that there was the potential for 4 crosswalks being too many, potentially disrupting traffic too much, with the amount of pedestrian traffic expected. It was noted that this could be a future consideration if the need arises.

- *Initial ideas to provide raised crosswalks/speed tables for pedestrian access in and out of the center island plaza, such as those shown in the NACTO Urban Street Design Guide [6]. The Study Team generally agreed that these would be too disruptive to vehicular traffic, especially with the north-south route being the heavier traffic volume/higher functional classification roads. The Study Team agreed to continue with the strategy of providing flush crosswalks to and from the center plaza.*

➢ **Concept-level Hydraulic Review**

- A concept-level hydraulic review was performed to evaluate the proposed concepts for functionality and impact to existing systems. Based on surveys and dtm (digital terrain model), the existing circle road generally drains down towards the center island Market House.
- For new construction of roundabouts, it is desirable to drain the roadway runoff to the outside curb, reducing the need for drainage boxes and the potential for ponding in the center. (There is one existing drainage box on the southern side of the center island curb.)
- Both the "raised crown" Alternatives 1A/1B and the "resurfacing" Alternatives 2A/2B design concepts are expected to require some modification of the existing drainage system. The Alt. 2A/2B options are expected to require 3 new catch basins and pipes in the center island and 3 new/replaced catch basins around the exterior curb line. The Alt. 1A/1B options are expected to only require 3 new/replaced catch basins around the exterior curb line, with none required on the interior.
- See also **ATTACHMENT C. Concept Design Plans.**

4.4 Recommended Design Alternatives

The study includes investigations into potential improvements, costs, and impacts for the goals stated previously in chapter 3, and includes the following four (4) alternatives: (For more details on the recommended design alternatives, See **ATTACHMENT C. Concept Design Plans**.)

- **Alternative 1A:**
  - *Raise the crown* of the circle road (to be sloped up towards the central plaza);
  - Provide pedestrian and roundabout improvements;
  - Provide center island plaza expansion (reducing tiers/increasing "flat" plaza area); and
  - Accommodate a *City ladder fire truck*.
- **Alternative 1B:**
  - *Raise the crown* of the circle road (to be sloped up towards the central plaza);
  - Provide pedestrian and roundabout improvements;
  - Provide center island plaza expansion (reducing tiers/increasing "flat" plaza area); and
  - Accommodate a *WB-62 tractor-trailer*.
- **Alternative 2A:**
  - *Resurface* the circle road (slopes down towards the central plaza);
  - Provide pedestrian and roundabout improvements;
  - Provide center island plaza expansion; and
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- **Alternative 2B:**
  - *Resurface* the circle road (slopes down towards the central plaza);
  - Provide pedestrian and roundabout improvements;
  - Provide center island plaza expansion; and
  - Accommodate a *WB-62 tractor-trailer*.

A comparison of the expanded pedestrian plaza areas by alternative is shown below in **Table 4**:

Table 4. Expanded Pedestrian Plaza Areas

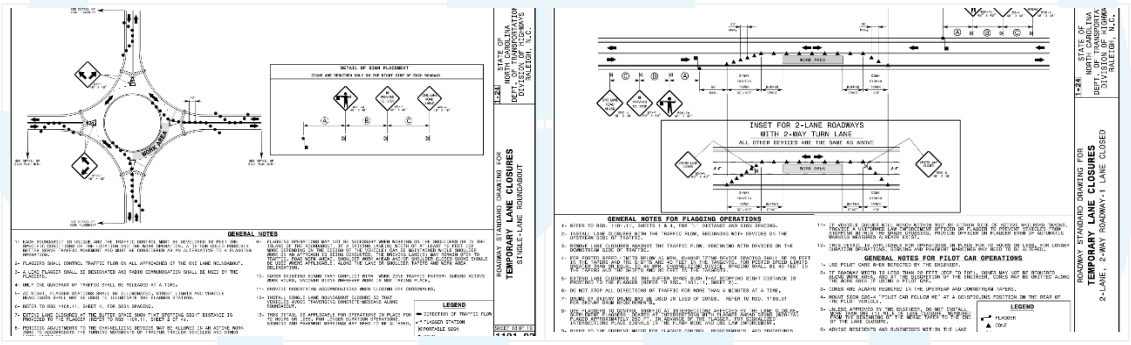
Alternative	Max Vehicle	Circle Lane Width (ft.)	Plaza Diameter (existing BOC)(ft.)	Plaza Diameter (proposed BOC)(ft.)	Increased Area (s.f.)
1A	Ladder Truck	20'	101.25' +/-	(from 91.5' to) 121.5' *	5,010 *
1B	WB-62	28'	101.25' +/-	(from 91.5' to) 113.5' *	3,540 *
2A	Ladder Truck	20'	101.25' +/-	(from 95.5' to) 121.5'	4,428
2B	WB-62	28'	101.25' +/-	(from 95.5' to) 113.5'	2,950

* includes reducing tiers, and increasing "flat" plaza area
BOC - Back of Curb

4.5 Maintenance of Traffic/Constructability

It is estimated that construction of the proposed improvements will take approximately 4 months and can be completed through a combination of shoulder closures, temporary lane closures, use of flaggers, and potentially through some short-term closures with off-site detours. There is also the potential for night work, which may depend upon contractor preference. The current cost estimates include an estimated 4 months of 2 flaggers. More detailed phasing plans will be developed in the subsequent stages of the project. The future phasing plans may be built upon standard drawings for single lane roundabouts and other temporary closure schematics such as these from NCDOT:

Figure 4. Example Work Zone Traffic Control Drawings



5. Design Alternative Impacts and Costs

5.1 Impacts

No Natural or Human Environmental impacts are anticipated in association with the study alternatives proposed improvements. The proposed improvements are expected to be contained with existing rights-of-way. See chapter 6 for more details regarding Human and Natural Environment resources.

This Study is not the product of an exhaustive environmental or design effort, but rather an initial step to this process. The impacts are based on a screening of the roadway surveys and readily available GIS data. If federal funds are utilized, it is assumed that a more detailed impacts analysis would be performed during the NEPA/SEPA phase.

5.2 Costs

Cost estimates (February 2025) have been developed for the proposed project design alternatives based upon the conceptual designs. The cost estimates follow NCDOT methodologies and have been developed with adequate detail to provide accurate estimates based on concept-level design. **Table 5** below shows cost estimates for the construction of the proposed improvements. No right-of-way costs for utility easements or right of way acquisition is expected. (Utility construction is included in the construction costs.) Based on these estimates, costs for the roundabout and pedestrian improvements would range from $1.0M to $1.2M (in 2025 dollars).

Table 5. Cost Estimates

Alternative	Construction	Utility Relocation *	ROW	Total
1A	$ 1,176,400.00	$ 0.00	$ 0.00	$ 1,176,400.00
1B	$ 1,207,400.00	$ 0.00	$ 0.00	$ 1,207,400.00
2A	$ 1,048,700.00	$ 0.00	$ 0.00	$ 1,048,700.00
2B	$ 1,010,000.00	$ 0.00	$ 0.00	$ 1,010,000.00

* Note that Utility Construction is covered within the Construction Costs

For detailed cost estimates with itemized pay items, see **ATTACHMENT D. Cost Estimates.**

6. Existing Conditions

6.1 Land Use

Land use within the study area is largely commercial and institutional, and is located within the City's DT-1 Downtown District planning zone. The 2040 Future Land Use Plan indicates continued Downtown Mixed-Use (DTMXU) with intense commercial, retail, and service uses, with dense vertical residential uses and urban neighborhoods on the edges [1].

There is also a known adjacent economic development, the Crown Event Center, just south of the study intersection. (Construction began in 2024 but is currently paused.)

6.2 Community Resources

Several community resources are located within 1000' of the study intersection. A detailed community resource study was not conducted for this Corridor Study Report. GIS-level research was completed. The **ATTACHMENT B. Environmental Features Map** shows the location of documented community resources within 1000' of the project study corridor, as denoted by a red circle. **Figure 5** below shows a close-up of the study intersection.

Figure 5. EFM (Study Intersection)

6.3 Cultural Resources (Historic & Archaeological)

6.3.1 Historic Resources

Records and maps of the *North Carolina Historic Preservation Office (NC HPO)* [9] were reviewed using the NC HPO GIS database for historic architectural resources that had been identified in previous survey, or that were listed in or had been determined eligible for listing in the National Register of Historic Places. The ***Market House***, and the ***Market House Square District*** are identified historic resources found within the project area. If federal funds are utilized, a more detailed evaluation of the study area and the potential effects of the project on these resources would be conducted during the project development phase.

6.3.2 Archaeological Resources

This study is not the product of an exhaustive environmental or design effort, but rather an initial step to this process, with environmental impacts based on a screening of readily available GIS data. At this stage, Archaeological resources were not evaluated. If federal funds are utilized, a more detailed impact analysis would be performed during the NEPA/SEPA phase.

6.4 Natural Environment

A detailed environmental study was not conducted for this Corridor Study Report. GIS-level research and a preliminary site review were completed. The **ATTACHMENT B. Environmental Features Map** shows the location of environmental features in the project area. Most natural environmental features (i.e. surface waters/streams, wetlands, or FEMA flood-zone resources) are not expected to be directly impacted by this project. A listing of protected species noted by the study area is provided below.

6.4.1 Water Quality Resources

There are no known stormwater BMP's, such as bioretention basins, filtration and infiltration basins, hazardous spill basins, level spreaders, or swales in the project area. If the project moves to the design phase, these features can be added to improve water quality of stormwater runoff into nearby receiving waters.

No impacts to surface waters, as in those defined by NCDEQ [10], are expected.

6.4.2 Jurisdictional Features

No impacts to jurisdictional "Waters of the United States", including wetlands, which are protected under Section 404 of the Clean Water Act (CWA), are expected.

No impacts to wetlands or streams, as those defined by the USFWS National Wetland Inventory [11] and NCDEQ [10], are expected.

6.4.3 Protected Species

Species with the federal status of endangered (E), threatened (T) are protected under provisions of the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 et. seq.). Any action likely to adversely affect a species classified as federally protected will be subject to review by the United States Fish and Wildlife Service (USFWS). As of 3/1/25, the USFWS lists the following federally protected species (and additional proposed species) known to be in or near the study area (**Table 6**).

Table 6. Federally Protected Species

Common Name	Scientific Name	Federal Status
Tricolored Bat	*Perimyotis subflavus*	PE
Red-cockaded Woodpecker	*Dryobates borealis*	T
American Alligator	*Alligator mississippiensis*	SAT
Atlantic Pigtoe	*Fusconaia masoni*	T
Monarch Butterfly	*Danaus Plexippus*	PT
American Chaffseed	*Schwalbea americana*	E
Michaux's Sumac	*Rhus michauxii*	E
Pondberry	*Lindera melissifolia*	E
Rough-leaved Loosestrife	*Lysimachia asperulaefolia*	E

Source: Endangered and Threatened Species and Species of Concern (USFWS 2025) [12]

PE=proposed endangered; E=endangered; PT=proposed threatened; T=threatened; SAT=similarity of appearance (threatened)

6.4.4 Existing NCDOT Mitigation Sites

There are no *NCDOT Mitigation Sites* [13] within 1,000 feet of the study intersection.

6.4.5 Federal Emergency Management Agency (FEMA) Resources

Protection of floodways and floodplains is required under 23 CFR 650A; Executive Order 11988, Floodplain Management; and US Department of Transportation (USDOT) Order 550.2, Floodplain Management and Protection. The intent of these regulations is to avoid or minimize highway encroachments within the 100-year (base) floodplains or regulatory floodway, where practicable, and to avoid supporting land use development that is incompatible with floodplain values.

Based on a review of data available on the *North Carolina Flood Risk Information System* [14], no floodway/floodplains are expected to be directly impacted by the project.

7. Coordination and Other Considerations

7.1 Study Team Coordination

Initial coordination with the Study Team occurred in July of 2024 to define the study scope. Subsequent monthly status and progress meetings were held from October 2024 through March 2025. The Study Team included City staff led by Public Services - Engineering, and additional representatives from Traffic Services, Construction Management and Capital Projects, and Public Services. The Study Team included representatives from RK&K's Management, Traffic, and Highway Design disciplines.

7.2 Other Alternatives Considered

No other complete alternatives were considered with this study. The recommended design alternatives were developed and refined throughout the study with guidance and input from the Study Team.

City Public Services management requested that a partial improvement alternative and cost be extracted from the recommended alternatives. This alternative, referred to as **Alternative X**, eliminates the improvements to the center island plaza, but retains the exterior improvements to the approach legs and the circle pavement mill & fill (i.e. does not expand the center island plaza, does improve the exterior splitter islands and crosswalks, includes one crosswalk into the center island plaza on the Hay Street (west leg) approach to the existing Market House ramp). It is estimated that Alternative X will cost **$749,600.00**.

See **ATTACHMENT C. Concept Design Plans.**

For detailed cost estimates with itemized pay items, see **ATTACHMENT D. Cost Estimates.**

8. Recommendations

The proposed improvements for each of the four (4) options at the Market Square roundabout are expected to result in safety improvements for all users at the intersection. The recommended improvements include, but are not limited to:

- The modified crosswalk configuration, which is expected to improve pedestrian safety at the intersection by reducing the number of conflicts with vehicles.
- The reduced pavement width at the roundabout and larger splitter islands, which are expected to encourage lower travel speeds at the roundabout and lead to reduced crash severity and improved pedestrian and bicyclist safety at the intersection.
- Updated signing at the roundabout, which is expected to reduce driver confusion and improve vehicular safety at the roundabout.
- The expanded pedestrian plaza, which is anticipated to enhance the accessibility to and user experience with the historic Market House.

Some distinguishing factors between the four (4) alternatives include:

- The amount of expanded area for the pedestrian plaza: i.e. Alternative 1A provides the highest increased pedestrian area (approximately 5,000 sf) and Alternative 2B provides the least amount of expanded pedestrian area (approx. 3,000 sf)
- The amount of "flat" pedestrian areas: the Alternative 1A and 1B concepts raise the crown of the road and can therefore provide a flat pedestrian plaza area, whereas the Alternative 2A and 2B options keep the circulating road pavement at its existing elevations and therefore the pedestrian area will also retain the steps and tiers that exist today.
- The amount of drainage system modifications: The Alt. 2A/2B options are expected to require 3 new catch basins and pipes in the center island and 3 new/replaced catch basins around the exterior curb line. The Alt. 1A/1B options are expected to only require 3 new/replaced catch basins around the exterior curb line, with none required on the interior.
- Large vehicle accommodation: i.e. the "A" options accommodate vehicles up to the City's ladder fire truck and the "B" options accommodate the larger WB-62 tractor-trailer trucks.
- Estimated project construction costs ranging from $1.0M – $1.2M: i.e. Alternative 2B costs the least and Alternative 1B costs the most.

Cost estimates for the proposed project design alternatives are shown in **Table 5** in Chapter **5.2 Costs**, as well as in **Table 2** of the **Executive Summary**.

The expanded Pedestrian Plaza areas by Alternative may be found in **Table 4** in Chapter **4.4 Recommended Design Alternatives** as well as in **Table 1** of the **Executive Summary**.

9. References

[1] 2040 Comprehensive Plan and Future Land Use Map, Fayetteville Planning & Zoning, 2020. https://www.fayettevillenc.gov/files/sharedassets/main/v/1/development-services/documents/studies-and-plans/2040-comprehensive-plan-and-future-land-use-map.pdf

[2] Market Square Repurposing Study - Traffic Operations and Safety Analysis Report, by RK&K, March 2025.

[3] NCDOT Roadway Design Manual, Nov. 2024 Update. https://connect.ncdot.gov/projects/Roadway/Pages/RDM.aspx

[4] 2018 AASHTO "Green Book", A Policy on Geometric Design of Highways and Streets, 7th ed. https://store.transportation.org/item/collectiondetail/180

[5] NCHRP Report 1043: Guide for Roundabouts (2023). https://nap.nationalacademies.org/catalog/27069/guide-for-roundabouts

[6] NACTO: Urban Street Design Guide (2013). https://nacto.org/publication/urban-street-design-guide/

[7] Chatham County Courthouse/Historic Museum, 9 Hillsboro Street, Pittsboro, NC, https://maps.app.goo.gl/8YYXyQ6kjNRVdhKHA

[8] Columbus Conty Courthouse, 100 Courthouse Circle, Whiteville, NC, https://experience.arcgis.com/experience/7073e9122ab74588b8c48ded34c3df55

[9] NC Historic Preservation Office HPOWEB 2.0, https://nc.maps.arcgis.com/apps/webappviewer/index.html?id=79ea671ebdcc45639f0860257d5f5ed7

[10] NCDEQ Surface Water Classifications, https://experience.arcgis.com/experience/7073e9122ab74588b8c48ded34c3df55

[11] USFWS National Wetland Inventory, https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

[12] USFWS Endangered Species Map, https://ipac.ecosphere.fws.gov/location/index

[13] NCDOT Mitigation SiteMap, https://www.arcgis.com/apps/mapviewer/index.html?webmap=d560dfeb1ea443b299ca7fc68b2506b4

[14] NC Flood Risk Information System, https://fris.nc.gov/fris/Home.aspx?ST=NC

ATTACHMENT A. Base Mapping: Surveys Exhibit

FAYETTEVILLE NC
AMERICA'S CAN DO CITY

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www.rkk.com

Market Square Repurposing Study

Surveys

CUMBERLAND COUNTY

50' 25' 0 12.5' 25'

CONCEPTUAL DESIGNS

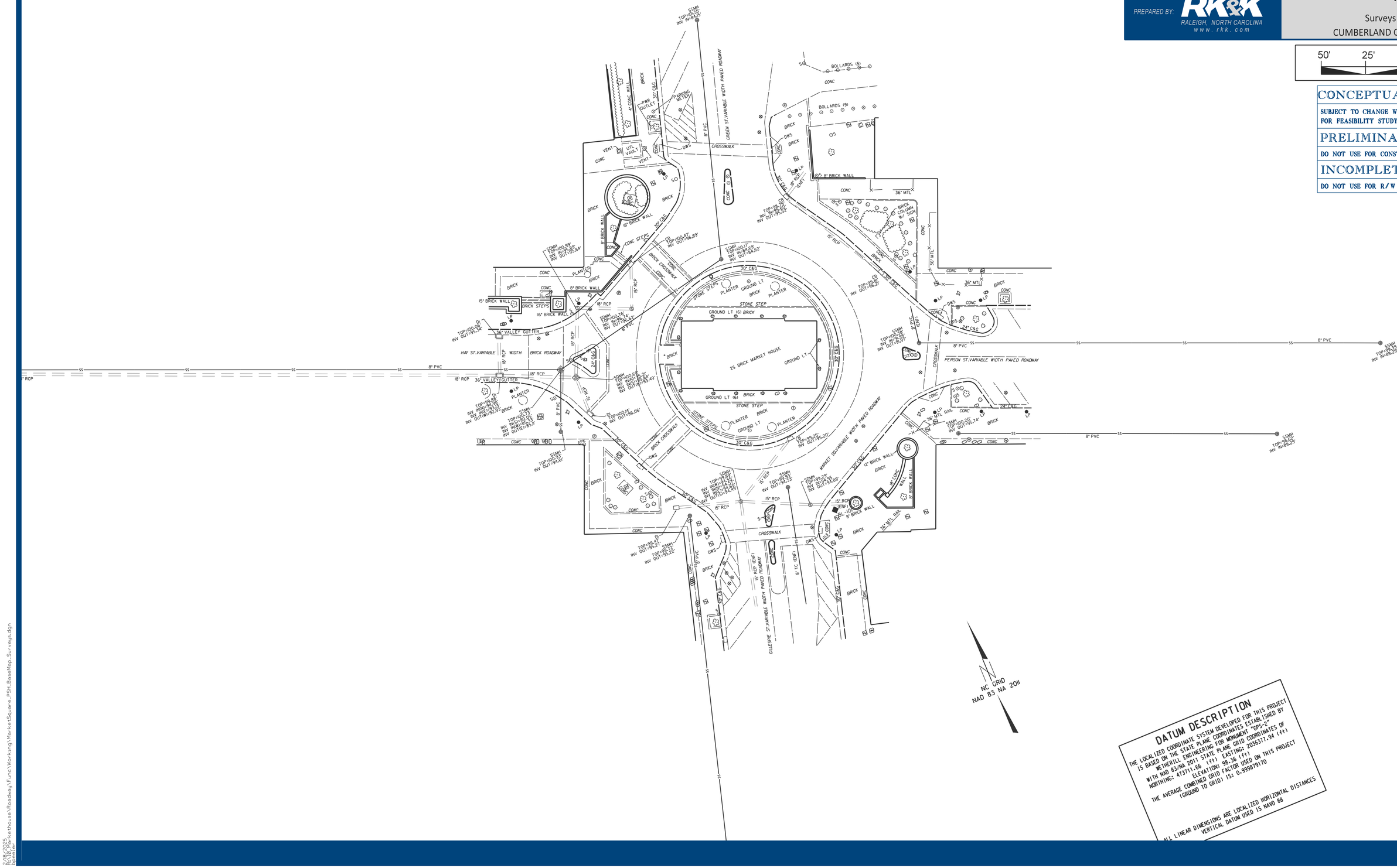
SUBJECT TO CHANGE WITHOUT NOTICE.
FOR FEASIBILITY STUDY PURPOSES ONLY.

PRELIMINARY PLANS

DO NOT USE FOR CONSTRUCTION.

INCOMPLETE PLANS

DO NOT USE FOR R/W ACQUISITION.



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCTHERILL ENGINEERING FOR MONUMENT "GPS-2" WITH NAD 83/NA 2011 STATE PLANE GRID COORDINATES OF NORTHING: 473711.66 (ft) EASTING: 2036377.94 (ft)
ELEVATION: 98.36 (ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999879170

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

2/18/2025
R:\10_Marketsquare\Roadway\Func\Working\MarketSquare_PSH_BaseMap_Surveys.dgn
Steeler

ATTACHMENT B. Environmental Features Map


Market House Study
Place of Worship
Medical Facility
Cemetery
Public Library
School
Private School
Local Historic Site
National Register Historic Site
UST - Incident
Non-UST AST Incident
UST - Active Facility
Inactive Hazardous Site
Railroad
Stream
Parcel Boundary
0.2% Annual Chance Flood Hazard
1% Annual Chance Flood Hazard
Regulatory Floodway
NHP Managed Area
Brownfields Boundary
National Register Historic District
0
125
250
375
500
Feet
Maiden Ln
Old St
Hay St
Franklin St
W Russell St
E Russell St
Person St
Market Sq
Green St
Gillespie St
Donaldson St
Maxwell St
Anderson St
Mason St
Meeting St
Bow St
Ann St
Rankin St

ATTACHMENT C. Concept Design Plans

Alternative 1A
Market Square Repurposing Study

Pavement wedging, accomodates Ladder Fire Truck

CUMBERLAND COUNTY

FAYETTEVILLE NC
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50' 25' 0 12.5' 25'

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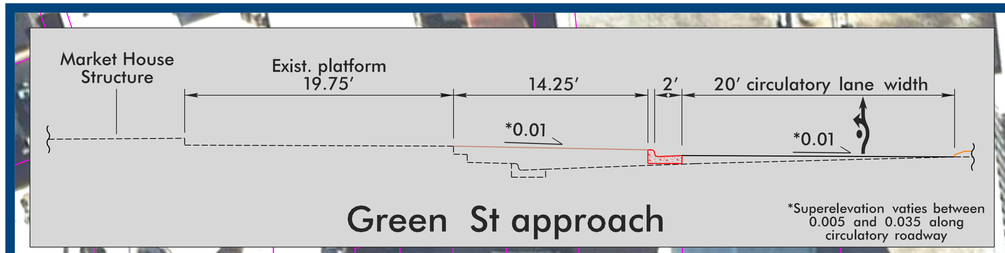
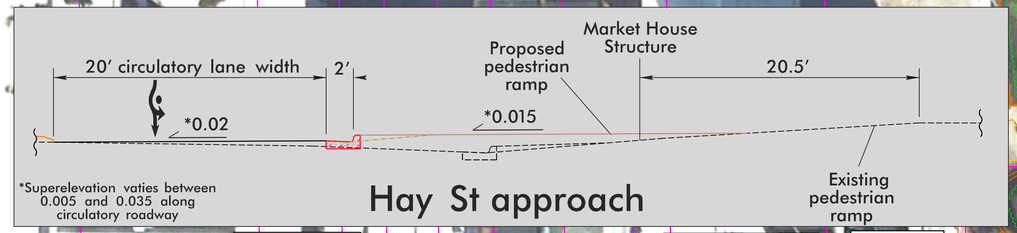




Green St

Hay St

Person St

Gillespie St

Market House

Gaston Brewing Restaurant
The Capitol Encore Academy
Game Day Kutz & Apparel
City Center Gallery & Books
Washington Apparel Company
Tarhill Tree Service Fayetteville
Fayetteville Immigration Lawyer
Miller Law Firm
Hutton Law Firm

New Catch Basin drainage structure

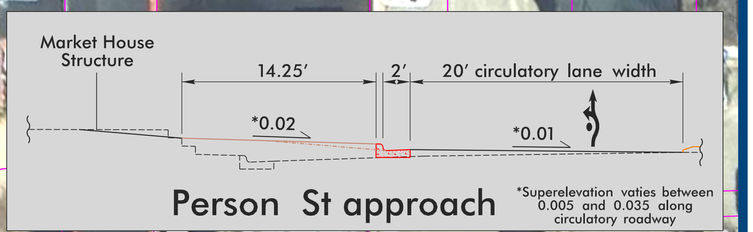
Back Around Records
Bails For Tails Cat Rescue,NC
Blanc Coffee Roasters
The Sweet Palette
Agora Mediterranean Restaurant
The Rogers Law Firm, PLLC
Archway Burgers, Dogs, And Beer
HarmsWay Ink
Libra Moon Tattoo
Sinister Cuts

Momma's Village-Fayetteville
WRAL Fayetteville News Bureau
Indigo Moon Film Fest
SkyView on Hay
The Hub
Pan
Cromwell Architects Engineers
Air Garage Public Parking
Market Roots Salon

New Catch Basin drainage structure
Eliminate two parking spaces
McRavin McKnight Legal
George Law, PLLC
Gillespie Street Barber Shop
CRU Lounge Fayetteville

Charley's Pub
Eliminate one parking space
DSF Restaurant & Bar
New Catch Basin drainage structure
Eliminate one parking space
Juniper & Fern Tattoo Company

Circa 1800
Taste of West Africa
Volta Space
Bruce's Sportsbloc and Lounge



LEGEND

- PROPOSED ROADWAYS
- PROP. CONCRETE ISLAND
- PROP. CONCRETE SIDEWALK
- PROP. BRICK SIDEWALK
- PROP. CURB & GUTTER

2/17/2025
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jmgrim

FAYETTEVILLE NC
AMERICA'S CAN DO CITY

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Alternative 1B
Market Square Repurposing Study

Pavement wedging, accomodates Mail Truck (WB-62)

CUMBERLAND COUNTY

50' 25' 0 12.5' 25'

CONCEPTUAL DESIGNS
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PRELIMINARY PLANS
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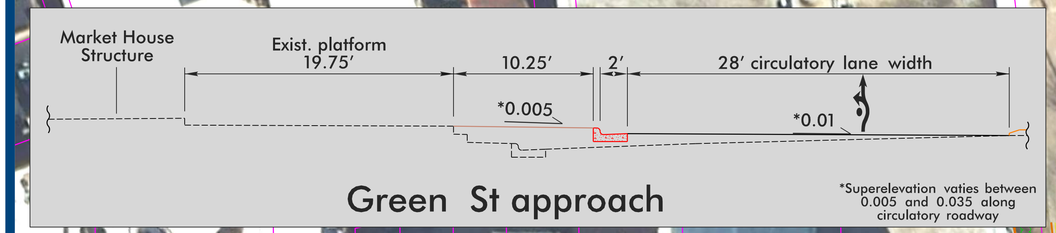

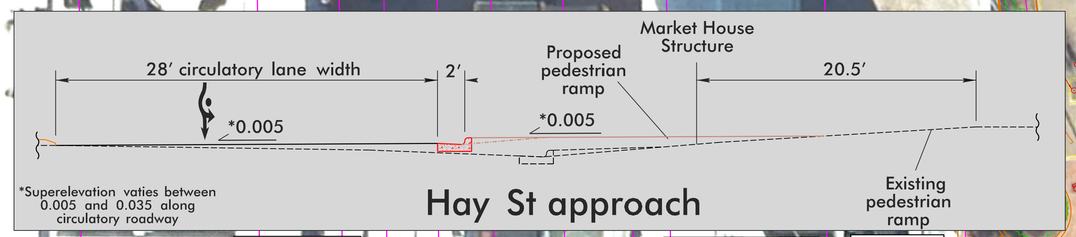

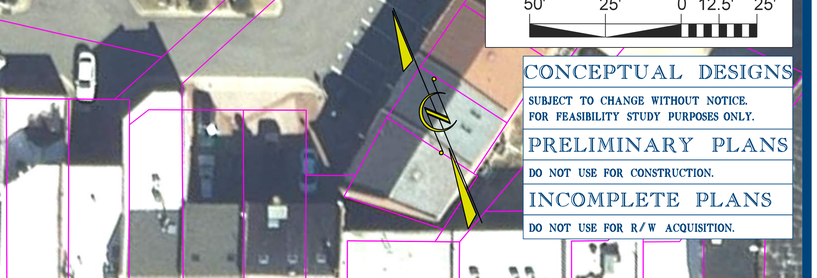

Green St
Hay St
Person St
Gillespie St
Market House
New Catch Basin drainage structure
Eliminate two parking spaces
Eliminate one parking space
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Eliminate one parking space
New Catch Basin drainage structure
Gaston Brewing Restaurant
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DSF Restaurant & Bar

LEGEND

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- PROP. CONCRETE ISLAND
- PROP. CONCRETE SIDEWALK
- PROP. BRICK SIDEWALK
- PROP. CURB & GUTTER

2/17/2025
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jmartin

Alternative 2A
Market Square Repurposing Study

Existing pavement, accomodates Ladder Fire Truck

CUMBERLAND COUNTY

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50' 25' 0 12.5' 25'

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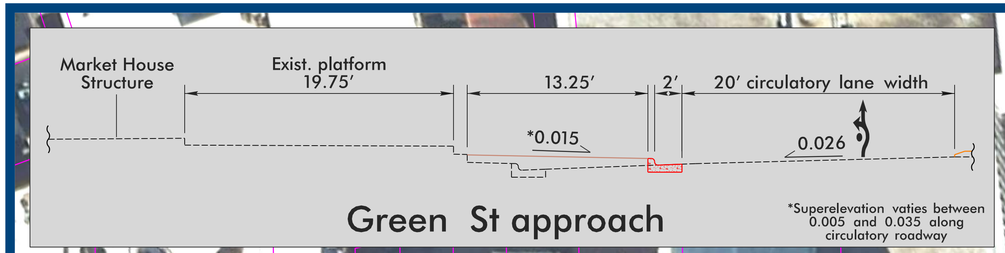

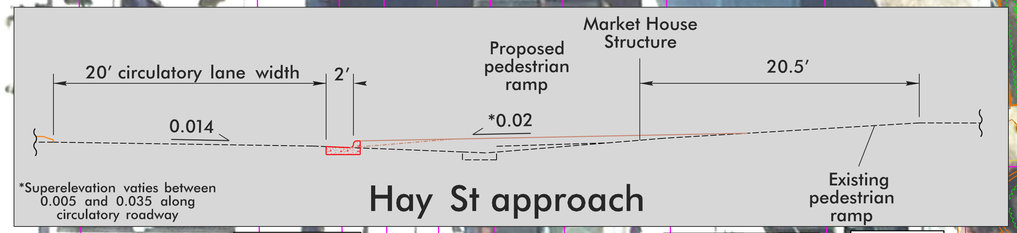

Green St

Hay St

Person St

Gillespie St

Market House

New Catch Basin drainage structure and pipes

New Catch Basin drainage structure

New Catch Basin drainage structure

New Catch Basin drainage structure

Eliminate one parking space

Eliminate two parking spaces

Eliminate one parking space

Gaston Brewing Restaurant
The Capitol Encore Academy
Game Day Kutz & Apparel
City Center Gallery & Books
Washington Apparel Company
Tarhill Tree Service Fayetteville
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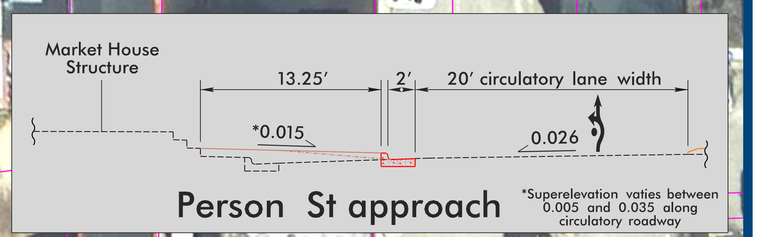
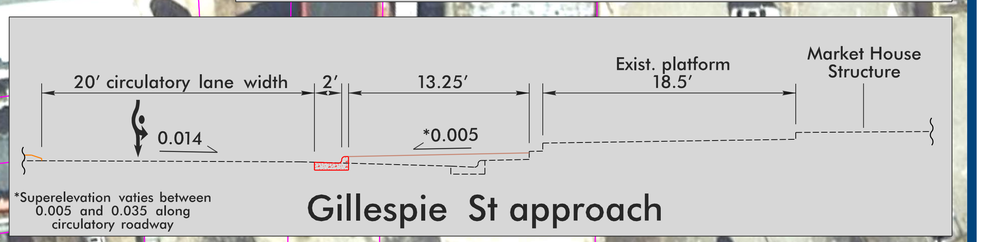
Bruce's Sportsbloc and Lounge
DSF Restaurant & Bar
Juniper & Fern Tattoo Company





LEGEND

- PROPOSED ROADWAYS
- PROP. CONCRETE ISLAND
- PROP. CONCRETE SIDEWALK
- PROP. BRICK SIDEWALK
- PROP. CURB & GUTTER

2/17/2025
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jmgrant

FAYETTEVILLE NC
AMERICA'S CAN DO CITY

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Alternative 2B
Market Square Repurposing Study

Existing pavement, accomodates Mail Truck (WB-62)

CUMBERLAND COUNTY

50' 25' 0 12.5' 25'

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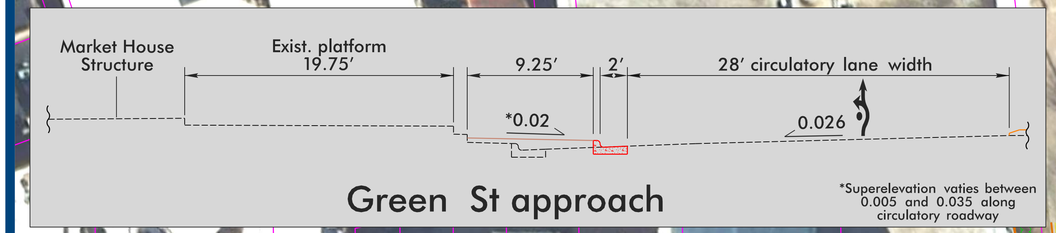

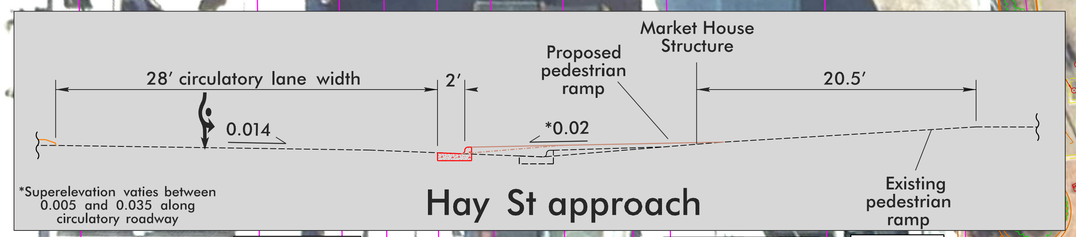

Green St

Hay St

Person St

Gillespie St

Market House

New Catch Basin drainage structure and pipes

New Catch Basin drainage structure

New Catch Basin drainage structure

New Catch Basin drainage structure

Eliminate two parking spaces

Eliminate one parking space

Eliminate one parking space

Back Around Records

Bails For Tails Cat Rescue,NC

Blanc Coffee Roasters

Agora Mediterranean Restaurant

The Sweet Palette

The Rogers Law Firm, PLLC

Archway Burgers, Dogs, And Beer

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Libra Moon Tattoo

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WRAL Fayetteville News Bureau

Indigo Moon Film Fest

SkyView on Hay

The Hub

Pan

Cromwell Architects Engineers

Air Garage Public Parking

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Charley's Pub

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Volta Space

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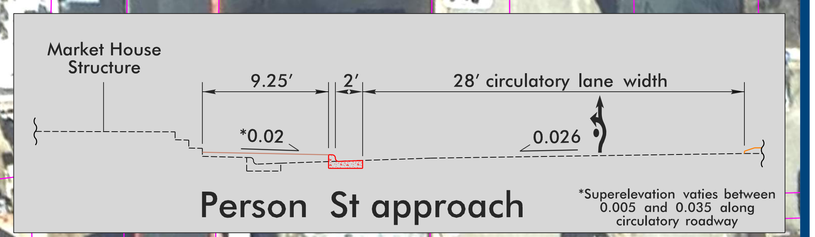
DSF Restaurant & Bar

Juniper & Fern Tattoo Company



LEGEND

- PROPOSED ROADWAYS
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- PROP. CONCRETE SIDEWALK
- PROP. BRICK SIDEWALK
- PROP. CURB & GUTTER

2/17/2025
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jmartin

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www.rkk.com
Alternative X
Market Square Repurposing Study
Existing pavement, Improve exterior approaches, & mill & fill only
CUMBERLAND COUNTY
50' 25' 0 12.5' 25'
CONCEPTUAL DESIGNS
SUBJECT TO CHANGE WITHOUT NOTICE. FOR FEASIBILITY STUDY PURPOSES ONLY.
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION.
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION.
Green St
Hay St
Person St
Gillespie St
Market House
Gaston Brewing Restaurant
The Capitol Encore Academy
Game Day Kutz & Apparel
City Center Gallery & Books
Washington Apparel Company
Tarhill Tree Service Fayetteville
Fayetteville Immigration Lawyer
Miller Law Firm
Hutton Law Firm
Back Around Records
Bails For Tails Cat Rescue,NC
Blanc Coffee Roasters
The Sweet Palette
Agora Mediterranean Restaurant
The Rogers Law Firm, PLLC
Archway Burgers, Dogs, And Beer
HarmsWay Ink
Libra Moon Tattoo
Sinister Cuts
New Catch Basin drainage structure
Momma's Village-Fayetteville
WRAL Fayetteville News Bureau
Indigo Moon Film Fest
SkyView on Hay
The Hub
Pan
Cromwell Architects Engineers
Air Garage Public Parking
Market Roots Salon
Charley's Pub
Circa 1800
Taste of West Africa
Volta Space
Bruce's Sportsbloc and Lounge
Eliminate one parking space
DSF Restaurant & Bar
New Catch Basin drainage structure
Eliminate two parking spaces
New Catch Basin drainage structure
Eliminate one parking space
McRavin McKnight Legal
Juniper & Fern Tattoo Company
George Law, PLLC
Gillespie Street Barber Shop
CRU Lounge Fayetteville
LEGEND
PROPOSED ROADWAYS
PROP. CONCRETE ISLAND
PROP. CONCRETE SIDEWALK
PROP. BRICK SIDEWALK
PROP. CURB & GUTTER

PREPARED FOR:
FEASIBILITY STUDIES UNIT
N.C. DEPT. of TRANSPORTATION
RALEIGH, NORTH CAROLINA
www.ncdot.gov

PREPARED BY: RK&K
RALEIGH, NORTH CAROLINA
www.rkk.com

Market Square Repurposing Study

CUMBERLAND COUNTY

50' 25' 0 12.5' 25'

CONCEPTUAL DESIGNS
SUBJECT TO CHANGE WITHOUT NOTICE.
FOR FEASIBILITY STUDY PURPOSES ONLY.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION.

Green St

Hay St

Person St

Gillespie St

Market House

Sweet Tea Shakespeare

Gaston Brewing Restaurant

The Capitol Encore Academy

Game Day Kutz & Apparel

City Center Gallery & Books

Tarhill Tree Service Fayetteville

Washington Apparel Company

Miller Law Firm

Hutton Law Firm

Fayetteville Immigration Lawyer

Back Around Records

Bails For Tails Cat Rescue,NC

Blanc Coffee Roasters

The Sweet Palette

Agora Mediterranean Restaurant

The Rogers Law Firm, PLLC

Archway Burgers, Dogs, And Beer

HarmsWay Ink

Libra Moon Tattoo

Sinister Cuts

Momma's Village-Fayetteville

WRAL Fayetteville News Bureau

Indigo Moon Film Fest

SkyView on Hay

The Hub

Pan

Cromwell Architects Engineers

Air Garage Public Parking

Market Roots Salon

McRavin McKnight Legal

George Law, PLLC

Gillespie Street Barber Shop

CRU Lounge Fayetteville

Charley's Pub

DSF Restaurant & Bar

Circa 1800

Taste of West Africa

Volta Space

Bruce's Sportsbloc and Lounge

Juniper & Fern Tattoo Company

The Ellington-White Contemporary Art Gallery

The Ellington-White CommunityDevelopment Corp.

HPB

LEGEND

PROPERTY LINES
HISTORIC PROPERTY BOUNDARY
HISTORIC FEATURES

12/17/2024
K:\18_Market\house\Roadway\Func\PSH\MarketSquare_PSH_A11.dgn
jmgrant

ATTACHMENT D. Cost Estimates

City of Fayetteville - Market Square Roundabout Repurposing Study

Cost Estimate Alternate Summary

Project #: n/a, tbd

Description: Upgrade Roundabout and Pedestrian Accommodations (inside and out)

County / Division: Cumberland County

	Construction	Utility Relocation	ROW	Total
Alternate 1A	$ 1,176,400.00	$ 0.00	$ 0.00	**$ 1,176,400.00**
Alternate 1B	$ 1,207,400.00	$ 0.00	$ 0.00	**$ 1,207,400.00**
Alternate 2A	$ 1,048,700.00	$ 0.00	$ 0.00	**$ 1,048,700.00**
Alternate 2B	$ 1,010,000.00	$ 0.00	$ 0.00	**$ 1,010,000.00**

Other Alternative Considered

	Construction	Utility Relocation	ROW	Total
Alternate X **"Exterior Improvements Only"**	$ 749,600.00	$ 0.00	$ 0.00	**$ 749,600.00**

North Carolina Department of Transportation
Preliminary Estimate

Project/Study: **City of Fayetteville - Market Square Roundabout Repurposing Study** | **Express Design** | County: **Cumberland**
Route: Hay St/Person St at Green St/Gillespie St
From
Typical Section: 1-Lane Roundabout, splitter islands, curb-and-gutter, brick sidewalk, brick interior platform
Number of Lanes
Drainage Type

CONSTR. COST
$1,176,400

Date 2/14/2025

Prepared By: RK&K
Requested By: City of Fayetteville
Priced By: RK&K

Line Item	Des	Sec No.	Description	Quantity	Unit	Price	Amount
		800	Mobilization	1	LS	$ 39,257.43	$ 39,257.43
		801	Construction Surveying	1	LS	$ 25,000.00	$ 25,000.00
			Earthwork				
		230	Borrow Excavation	194	CY	$ 72.00	$ 13,968.00
		250	Removal of Existing Asphalt Pavement	342	SY	$ 10.00	$ 3,420.00
			Drainage				
		840	Masonry Drainage Structures	3	EACH	$ 5,500.00	$ 16,500.00
		840	Frame with Grate & Hood, STD 840.03, Type F	3	EACH	$ 1,100.00	$ 3,300.00
		858	Adjustment of Catch Basins	4	EACH	$ 1,900.00	$ 7,600.00
			Pavement (Asphalt or Concrete)				
		520	Agregate Base Course	26.8	TONS	$ 52.00	$ 1,393.60
		607	Milling Asphalt Pavement, 0" to 2.0" Depth	2,262	SY	$ 20.00	$ 45,240.00
		610	Asphalt Conc. Base Course, Type B25.0 C	18.1	TONS	$ 140.00	$ 2,534.00
		610	Asphalt Conc. Base Course, Type I19.0 C	71.7	TONS	$ 145.00	$ 10,396.50
		610	Asphalt Conc. Base Course, Type S9.5 C	422.3	TONS	$ 160.00	$ 67,568.00
		620	Asphalt Binder for Plant Mix	30.0	TONS	$ 450.00	$ 13,500.00
		846	Remove Exist. Concrete Curb & Gutter	703	LF	$ 20.00	$ 14,060.00
		846	2'-6" Concrete Curb & Gutter	679	LF	$ 65.00	$ 44,135.00
		846	8" X 12" Concrete Curb	27	LF	$ 41.00	$ 1,107.00
		846	Remove Exist. 12" x 10" Concrete Band	173	LF	$ 23.50	$ 4,065.50
		846	12" x 10" Concrete Band	21.5	LF	$ 64.00	$ 1,376.00
		848	4" Concrete Sidewalk	102	SY	$ 115.00	$ 11,730.00
		848	Remove Existing Concrete Curb Ramps	4	EACH	$ 50.00	$ 200.00
		848	Concrete Curb Ramps	9	EACH	$ 3,500.00	$ 31,500.00
		SP	Remove Brick Pavers	276	SY	$ 24.50	$ 6,762.00
		SP	Reset Brick Pavers	393	SY	$ 125.00	$ 49,125.00
		SP	Brick Pavers	632	SY	$ 200.00	$ 126,400.00
		852	Remove Exist. Concrete Islands	25	SY	$ 20.00	$ 500.00
		852	5" Monolithic Concrete Islands (Keyed In)	171	SY	$ 230.00	$ 39,330.00
			Signing				
		901	Contractor Furnished Type-E Sign	262	SF	$ 25.00	$ 6,550.00
		903	Support, 3-LB Stl U-Channel	672	LF	$ 8.00	$ 5,376.00
		904	Sign Erection, Type-E	48	EA	$ 310.00	$ 14,880.00
			Traffic Control				
		1110	Work Zone Signs (Stationary)	96.0	SF	$ 12.00	$ 1,152.00
		1110	Work Zone Signs (Portable)	144.0	SF	$ 20.00	$ 2,880.00
		1135	Cones	50.0	EA	$ 50.00	$ 2,500.00
		SP	Pedestrian Channelizing Devices	40.0	LF	$ 80.00	$ 3,200.00
		1150	Flagger	360.0	DAY	$ 450.00	$ 162,000.00
		1205	Paint Pavement Marking Lines- 4"	1,600.0	LF	$ 0.30	$ 480.00
		1205	Paint Pavement Marking Lines- 8"	500.0	LF	$ 0.90	$ 450.00
		1205	Paint Pavement Marking Lines- 24"	80.0	LF	$ 5.00	$ 400.00
			Pavement Marking				
		1205	Thermoplastic Pavement Marking Lines- 4" , 90 Mils	385	LF	$ 2.00	$ 770.00
		1205	Thermoplastic Pavement Marking Lines- 8" , 90 Mils	54	LF	$ 4.00	$ 216.00
		1205	Thermoplastic Pavement Marking Lines- 24" , 90 Mils	370	LF	$ 18.00	$ 6,660.00
		1205	Thermoplastic Pavement Marking Yield Lines- 24" x 36" , 90 Mils	76	LF	$ 60.00	$ 4,560.00
		1205	Thermoplastic Pavement Marking Symbols	4	EACH	$ 250.00	$ 1,000.00
			Utilities				
			Adjust Existing Manhole Ring & Cover	9	EACH	$ 2,000.00	$ 18,000.00
			Adjust Valve Frame & Cover	18	EACH	$ 600.00	$ 10,800.00
			Relocate Valve	3	EACH	$ 5,000.00	$ 15,000.00
			Miscellaneous (10% Strs & Util)				$ 4,380.00
			Miscellaneous (25% Roadway)				$ 185,337.00

Contract Cost ..... $ 1,014,123.00
E. & C. 16% ..... $ 162,260.00
Construction Cost ..... **$ 1,176,383.00**

SAY: $ 1,176,400.00

North Carolina Department of Transportation
Preliminary Estimate

Project/Study: **City of Fayetteville - Market Square Roundabout Repurposing Study** | **Express Design** | County: **Cumberland**
Route: Hay St/Person St at Green St/Gillespie St
From
Typical Section: 1-Lane Roundabout, splitter islands, curb-and-gutter, brick sidewalk, brick interior platform
Number of Lanes
Drainage Type

CONSTR. COST **$1,207,400**

Date 2/14/2025

Prepared By: RK&K
Requested By: City of Fayetteville
Priced By: RK&K

Line Item	Des	Sec No.	Description	Quantity	Unit	Price	Amount
		800	Mobilization	1	LS	$ 40,283.24	$ 40,283.24
		801	Construction Surveying	1	LS	$ 25,000.00	$ 25,000.00
			Earthwork				
		230	Borrow Excavation	145	CY	$ 72.00	$ 10,440.00
		250	Removal of Existing Asphalt Pavement	189	SY	$ 10.00	$ 1,890.00
			Drainage				
		840	Masonry Drainage Structures	6	EACH	$ 5,500.00	$ 33,000.00
		840	Frame with Grate & Hood, STD 840.03, Type F	6	EACH	$ 1,100.00	$ 6,600.00
		858	Adjustment of Catch Basins	4	EACH	$ 1,900.00	$ 7,600.00
			Pavement (Asphalt or Concrete)				
		520	Agregate Base Course	27.6	TONS	$ 52.00	$ 1,435.20
		607	Milling Asphalt Pavement, 0" to 2.0" Depth	2,421	SY	$ 20.00	$ 48,420.00
		610	Asphalt Conc. Base Course, Type B25.0 C	18.7	TONS	$ 140.00	$ 2,618.00
		610	Asphalt Conc. Base Course, Type I19.0 C	217.0	TONS	$ 145.00	$ 31,465.00
		610	Asphalt Conc. Base Course, Type S9.5 C	527.5	TONS	$ 160.00	$ 84,400.00
		620	Asphalt Binder for Plant Mix	45.0	TONS	$ 450.00	$ 20,250.00
		846	Remove Exist. Concrete Curb & Gutter	703	LF	$ 20.00	$ 14,060.00
		846	2'-6" Concrete Curb & Gutter	654	LF	$ 65.00	$ 42,510.00
		846	8" X 12" Concrete Curb	27	LF	$ 41.00	$ 1,107.00
		846	Remove Exist. 12" x 10" Concrete Band	187	LF	$ 23.50	$ 4,394.50
		846	12" x 10" Concrete Band	33.5	LF	$ 64.00	$ 2,144.00
		848	4" Concrete Sidewalk	97	SY	$ 115.00	$ 11,155.00
		848	Remove Existing Concrete Curb Ramps	4	EACH	$ 50.00	$ 200.00
		848	Concrete Curb Ramps	9	SY	$ 3,500.00	$ 31,500.00
		SP	Remove Brick Pavers	290	SY	$ 24.50	$ 7,105.00
		SP	Reset Brick Pavers	379	SY	$ 125.00	$ 47,375.00
		SP	Brick Pavers	468	SY	$ 200.00	$ 93,600.00
		852	Remove Exist. Concrete Islands	25	SY	$ 20.00	$ 500.00
		852	5" Monolithic Concrete Islands (Keyed In)	140	SY	$ 230.00	$ 32,200.00
			Signing				
		901	Contractor Furnished Type-E Sign	262	SF	$ 25.00	$ 6,550.00
		903	Support, 3-LB Stl U-Channel	672	LF	$ 8.00	$ 5,376.00
		904	Sign Erection, Type-E	48	EA	$ 310.00	$ 14,880.00
			Traffic Control				
		1110	Work Zone Signs (Stationary)	96.0	SF	$ 12.00	$ 1,152.00
		1110	Work Zone Signs (Portable)	144.0	SF	$ 20.00	$ 2,880.00
		1135	Cones	50.0	EA	$ 50.00	$ 2,500.00
		SP	Pedestrian Channelizing Devices	40.0	LF	$ 80.00	$ 3,200.00
		1150	Flagger	360.0	DAY	$ 450.00	$ 162,000.00
		1205	Paint Pavement Marking Lines- 4"	1,600.0	LF	$ 0.30	$ 480.00
		1205	Paint Pavement Marking Lines- 8"	500.0	LF	$ 0.90	$ 450.00
		1205	Paint Pavement Marking Lines- 24"	80.0	LF	$ 5.00	$ 400.00
			Pavement Marking				
		1205	Thermoplastic Pavement Marking Lines- 4" , 90 Mils	514	LF	$ 2.00	$ 1,028.00
		1205	Thermoplastic Pavement Marking Lines- 8" , 90 Mils	48	LF	$ 4.00	$ 192.00
		1205	Thermoplastic Pavement Marking Lines- 24" , 90 Mils	394	LF	$ 18.00	$ 7,092.00
		1205	Thermoplastic Pavement Marking Yield Lines- 24" x 36" , 90 Mils	73	LF	$ 60.00	$ 4,380.00
		1205	Thermoplastic Pavement Marking Symbols	4	EACH	$ 250.00	$ 1,000.00
			Utilities				
			Adjust Existing Manhole Ring & Cover	9	EACH	$ 2,000.00	$ 18,000.00
			Adjust Valve Frame & Cover	18	EACH	$ 600.00	$ 10,800.00
			Relocate Valve	3	EACH	$ 5,000.00	$ 15,000.00
			Miscellaneous (10% Strs & Util)				$ 4,380.00
			Miscellaneous (25% Roadway)				$ 190,466.00

Contract Cost ..... $ 1,040,794.00
E. & C. 16% ..... $ 166,527.00
Construction Cost ..... **$ 1,207,321.00**

SAY: $ 1,207,400.00

North Carolina Department of Transportation
Preliminary Estimate

Project/Study: **City of Fayetteville - Market Square Roundabout Repurposing Study** | **Express Design** | County: **Cumberland**
Route: Hay St/Person St at Green St/Gillespie St
From
Typical Section: 1-Lane Roundabout, splitter islands, curb-and-gutter, brick sidewalk, brick interior platform
Number of Lanes
Drainage Type

CONSTR. COST **$1,048,700**

Date 2/14/2025

Prepared By: RK&K
Requested By: City of Fayetteville
Priced By: RK&K

Line Item	Des	Sec No.	Description	Quantity	Unit	Price	Amount
		800	Mobilization	1	LS	$ 34,914.53	$ 34,914.53
		801	Construction Surveying	1	LS	$ 25,000.00	$ 25,000.00
			Earthwork				
		230	Borrow Excavation	111	CY	$ 72.00	$ 7,992.00
		250	Removal of Existing Asphalt Pavement	342	SY	$ 10.00	$ 3,420.00
			Drainage				
		310	15" RC Pipe Culverts, Class III	51	FT	$ 100.00	$ 5,100.00
		840	Masonry Drainage Structures	3	EACH	$ 5,500.00	$ 16,500.00
		840	Frame with Grate & Hood, STD 840.03, Type F	3	EACH	$ 1,100.00	$ 3,300.00
		858	Adjustment of Catch Basins	4	EACH	$ 1,900.00	$ 7,600.00
			Pavement (Asphalt or Concrete)				
		520	Agregate Base Course	34.5	TONS	$ 52.00	$ 1,794.00
		607	Milling Asphalt Pavement, 0" to 2.0" Depth	2,262	SY	$ 20.00	$ 45,240.00
		610	Asphalt Conc. Base Course, Type B25.0 C	23.3	TONS	$ 140.00	$ 3,262.00
		610	Asphalt Conc. Base Course, Type I19.0 C	16.3	TONS	$ 145.00	$ 2,363.50
		610	Asphalt Conc. Base Course, Type S9.5 C	244.0	TONS	$ 160.00	$ 39,040.00
		620	Asphalt Binder for Plant Mix	20.0	TONS	$ 450.00	$ 9,000.00
		846	Remove Exist. Concrete Curb & Gutter	703	LF	$ 20.00	$ 14,060.00
		846	2'-6" Concrete Curb & Gutter	679	LF	$ 65.00	$ 44,135.00
		846	8" X 12" Concrete Curb	27	LF	$ 41.00	$ 1,107.00
		846	Remove Exist. 12" x 10" Concrete Band	123	LF	$ 23.50	$ 2,890.50
		846	12" x 10" Concrete Band	1.5	LF	$ 64.00	$ 96.00
		848	4" Concrete Sidewalk	95	SY	$ 115.00	$ 10,925.00
		848	Remove Existing Concrete Curb Ramps	4	EACH	$ 50.00	$ 200.00
		848	Concrete Curb Ramps	9	SY	$ 3,500.00	$ 31,500.00
		SP	Remove Brick Pavers	255	SY	$ 24.50	$ 6,247.50
		SP	Reset Brick Pavers	202	SY	$ 125.00	$ 25,250.00
		SP	Brick Pavers	632	SY	$ 200.00	$ 126,400.00
		852	Remove Exist. Concrete Islands	25	SY	$ 20.00	$ 500.00
		852	5" Monolithic Concrete Islands (Keyed In)	171	SY	$ 230.00	$ 39,330.00
			Signing				
		901	Contractor Furnished Type-E Sign	262	SF	$ 25.00	$ 6,550.00
		903	Support, 3-LB Stl U-Channel	672	LF	$ 8.00	$ 5,376.00
		904	Sign Erection, Type-E	48	EA	$ 310.00	$ 14,880.00
			Traffic Control				
		1110	Work Zone Signs (Stationary)	96.0	SF	$ 12.00	$ 1,152.00
		1110	Work Zone Signs (Portable)	144.0	SF	$ 20.00	$ 2,880.00
		1135	Cones	50.0	EA	$ 50.00	$ 2,500.00
		SP	Pedestrian Channelizing Devices	40.0	LF	$ 80.00	$ 3,200.00
		1150	Flagger	360.0	DAY	$ 450.00	$ 162,000.00
		1205	Paint Pavement Marking Lines- 4"	1,600.0	LF	$ 0.30	$ 480.00
		1205	Paint Pavement Marking Lines- 8"	500.0	LF	$ 0.90	$ 450.00
		1205	Paint Pavement Marking Lines- 24"	80.0	LF	$ 5.00	$ 400.00
			Pavement Marking				
		1205	Thermoplastic Pavement Marking Lines- 4" , 90 Mils	385	LF	$ 2.00	$ 770.00
		1205	Thermoplastic Pavement Marking Lines- 8" , 90 Mils	54	LF	$ 4.00	$ 216.00
		1205	Thermoplastic Pavement Marking Lines- 24" , 90 Mils	370	LF	$ 18.00	$ 6,660.00
		1205	Thermoplastic Pavement Marking Yield Lines- 24" x 36" , 90 Mils	76	LF	$ 60.00	$ 4,560.00
		1205	Thermoplastic Pavement Marking Symbols	4	EACH	$ 250.00	$ 1,000.00
			Utilities				
			Adjust Existing Manhole Ring & Cover	4	EACH	$ 2,000.00	$ 8,000.00
			Adjust Valve Frame & Cover	4	EACH	$ 600.00	$ 2,400.00
			Relocate Valve	3	EACH	$ 5,000.00	$ 15,000.00
			Miscellaneous (10% Strs & Util)				$ 2,540.00
			Miscellaneous (25% Roadway)				$ 168,223.00

Contract Cost ..... $ 903,968.00
E. & C. 16% ..... $ 144,635.00
Construction Cost ..... **$ 1,048,603.00**

SAY: $ 1,048,700.00

North Carolina Department of Transportation
Preliminary Estimate

Project/Study: **City of Fayetteville - Market Square Roundabout Repurposing Study** | **Express Design** | County: **Cumberland**
Route: Hay St/Person St at Green St/Gillespie St
From
Typical Section: 1-Lane Roundabout, splitter islands, curb-and-gutter, brick sidewalk, brick interior platform
Number of Lanes
Drainage Type

CONSTR. COST **$1,010,000**

Date 2/14/2025

Prepared By: RK&K
Requested By: City of Fayetteville
Priced By: RK&K

Line Item	Des	Sec No.	Description	Quantity	Unit	Price	Amount
		800	Mobilization	1	LS	$ 33,668.94	$ 33,668.94
		801	Construction Surveying	1	LS	$ 25,000.00	$ 25,000.00
			Earthwork				
		230	Borrow Excavation	61	CY	$ 72.00	$ 4,392.00
		250	Removal of Existing Asphalt Pavement	189	SY	$ 10.00	$ 1,890.00
			Drainage				
		310	15" RC Pipe Culverts, Class III	59	FT	$ 100.00	$ 5,900.00
		840	Masonry Drainage Structures	6	EACH	$ 5,500.00	$ 33,000.00
		840	Frame with Grate & Hood, STD 840.03, Type F	6	EACH	$ 1,100.00	$ 6,600.00
		858	Adjustment of Catch Basins	4	EACH	$ 1,900.00	$ 7,600.00
			Pavement (Asphalt or Concrete)				
		520	Agregate Base Course	36.6	TONS	$ 52.00	$ 1,903.20
		607	Milling Asphalt Pavement, 0" to 2.0" Depth	2,421	SY	$ 20.00	$ 48,420.00
		610	Asphalt Conc. Base Course, Type B25.0 C	24.8	TONS	$ 140.00	$ 3,472.00
		610	Asphalt Conc. Base Course, Type I19.0 C	17.7	TONS	$ 145.00	$ 2,566.50
		610	Asphalt Conc. Base Course, Type S9.5 C	266.2	TONS	$ 160.00	$ 42,592.00
		620	Asphalt Binder for Plant Mix	20.0	TONS	$ 450.00	$ 9,000.00
		846	Remove Exist. Concrete Curb & Gutter	703	LF	$ 20.00	$ 14,060.00
		846	2'-6" Concrete Curb & Gutter	654	LF	$ 65.00	$ 42,510.00
		846	8" X 12" Concrete Curb	45	LF	$ 41.00	$ 1,845.00
		846	Remove Exist. 12" x 10" Concrete Band	123	LF	$ 23.50	$ 2,890.50
		846	12" x 10" Concrete Band	1.5	LF	$ 64.00	$ 96.00
		848	4" Concrete Sidewalk	103	SY	$ 115.00	$ 11,845.00
		848	Remove Existing Concrete Curb Ramps	4	EACH	$ 50.00	$ 200.00
		848	Concrete Curb Ramps	9	SY	$ 3,500.00	$ 31,500.00
		SP	Remove Brick Pavers	249	SY	$ 24.50	$ 6,100.50
		SP	Reset Brick Pavers	208	SY	$ 125.00	$ 26,000.00
		SP	Brick Pavers	395	SY	$ 200.00	$ 79,000.00
		852	Remove Exist. Concrete Islands	25	SY	$ 20.00	$ 500.00
		852	5" Monolithic Concrete Islands (Keyed In)	140	SY	$ 230.00	$ 32,200.00
			Signing				
		901	Contractor Furnished Type-E Sign	262	SF	$ 25.00	$ 6,550.00
		903	Support, 3-LB Stl U-Channel	672	LF	$ 8.00	$ 5,376.00
		904	Sign Erection, Type-E	48	EA	$ 310.00	$ 14,880.00
			Traffic Control				
		1110	Work Zone Signs (Stationary)	96.0	SF	$ 12.00	$ 1,152.00
		1110	Work Zone Signs (Portable)	144.0	SF	$ 20.00	$ 2,880.00
		1135	Cones	50.0	EA	$ 50.00	$ 2,500.00
		SP	Pedestrian Channelizing Devices	40.0	LF	$ 80.00	$ 3,200.00
		1150	Flagger	360.0	DAY	$ 450.00	$ 162,000.00
		1205	Paint Pavement Marking Lines- 4"	1,600.0	LF	$ 0.30	$ 480.00
		1205	Paint Pavement Marking Lines- 8"	500.0	LF	$ 0.90	$ 450.00
		1205	Paint Pavement Marking Lines- 24"	80.0	LF	$ 5.00	$ 400.00
			Pavement Marking				
		1205	Thermoplastic Pavement Marking Lines- 4" , 90 Mils	514	LF	$ 2.00	$ 1,028.00
		1205	Thermoplastic Pavement Marking Lines- 8" , 90 Mils	48	LF	$ 4.00	$ 192.00
		1205	Thermoplastic Pavement Marking Lines- 24" , 90 Mils	394	LF	$ 18.00	$ 7,092.00
		1205	Thermoplastic Pavement Marking Yield Lines- 24" x 36" , 90 Mils	73	LF	$ 60.00	$ 4,380.00
		1205	Thermoplastic Pavement Marking Symbols	4	EACH	$ 250.00	$ 1,000.00
			Utilities				
			Adjust Existing Manhole Ring & Cover	4	EACH	$ 2,000.00	$ 8,000.00
			Adjust Valve Frame & Cover	14	EACH	$ 600.00	$ 8,400.00
			Relocate Valve	3	EACH	$ 5,000.00	$ 15,000.00
			Miscellaneous (10% Strs & Util)				$ 3,140.00
			Miscellaneous (25% Roadway)				$ 160,495.00

Contract Cost ..... $ 870,682.00
E. & C. 16% ..... $ 139,309.00
Construction Cost ..... **$ 1,009,991.00**

SAY: $ 1,010,000.00

North Carolina Department of Transportation
Preliminary Estimate

Project/Study: **City of Fayetteville - Market Square Roundabout Repurposing Study** | **Express Design** | County: **Cumberland**
Route: Hay St/Person St at Green St/Gillespie St
From:
Typical Section: 1-Lane Roundabout, splitter islands, curb-and-gutter, brick sidewalk
Number of Lanes: **ALT. X - EXTERIOR IMPROVEMENTS & MILL/FILL ONLY**
Drainage Type:

CONSTR. COST
$749,600

Date 2/18/2025

Prepared By: RK&K
Requested By: City of Fayetteville
Priced By: RK&K

Line Item	Des	Sec No.	Description	Quantity	Unit	Price	Amount
		800	Mobilization	1	LS	$ 25,000.16	$ 25,000.16
		801	Construction Surveying	1	LS	$ 25,000.00	$ 25,000.00
			Earthwork				
		250	Removal of Existing Asphalt Pavement	62	SY	$ 10.00	$ 620.00
			Drainage				
		840	Masonry Drainage Structures	3	EACH	$ 5,500.00	$ 16,500.00
		840	Frame with Grate & Hood, STD 840.03, Type F	3	EACH	$ 1,100.00	$ 3,300.00
		858	Adjustment of Catch Basins	4	EACH	$ 1,900.00	$ 7,600.00
			Pavement (Asphalt or Concrete)				
		520	Agregate Base Course	25.6	TONS	$ 52.00	$ 1,331.20
		607	Milling Asphalt Pavement, 0" to 2.0" Depth	2,649	SY	$ 20.00	$ 52,980.00
		610	Asphalt Conc. Base Course, Type B25.0 C	17.3	TONS	$ 140.00	$ 2,422.00
		610	Asphalt Conc. Base Course, Type I19.0 C	17.3	TONS	$ 145.00	$ 2,508.50
		610	Asphalt Conc. Base Course, Type S9.5 C	290.4	TONS	$ 160.00	$ 46,464.00
		620	Asphalt Binder for Plant Mix	20.0	TONS	$ 450.00	$ 9,000.00
		846	Remove Exist. Concrete Curb & Gutter	369	LF	$ 20.00	$ 7,380.00
		846	2'-6" Concrete Curb & Gutter	282	LF	$ 65.00	$ 18,330.00
		846	8" X 12" Concrete Curb	27	LF	$ 41.00	$ 1,107.00
		846	Remove Exist. 12" x 10" Concrete Band	123	LF	$ 23.50	$ 2,890.50
		846	12" x 10" Concrete Band	1.5	LF	$ 64.00	$ 96.00
		848	4" Concrete Sidewalk	54	SY	$ 115.00	$ 6,210.00
		848	Remove Existing Concrete Curb Ramps	4	EACH	$ 50.00	$ 200.00
		848	Concrete Curb Ramps	7	SY	$ 3,500.00	$ 24,500.00
		SP	Remove Brick Pavers	88	SY	$ 24.50	$ 2,156.00
		SP	Reset Brick Pavers	202	SY	$ 125.00	$ 25,250.00
		SP	Brick Pavers	90	SY	$ 200.00	$ 18,000.00
		852	Remove Exist. Concrete Islands	25	SY	$ 20.00	$ 500.00
		852	5" Monolithic Concrete Islands (Keyed In)	171	SY	$ 230.00	$ 39,330.00
			Signing				
		901	Contractor Furnished Type-E Sign	262	SF	$ 25.00	$ 6,550.00
		903	Support, 3-LB Stl U-Channel	672	LF	$ 8.00	$ 5,376.00
		904	Sign Erection, Type-E	48	EA	$ 310.00	$ 14,880.00
			Traffic Control				
		1110	Work Zone Signs (Stationary)	96.0	SF	$ 12.00	$ 1,152.00
		1110	Work Zone Signs (Portable)	144.0	SF	$ 20.00	$ 2,880.00
		1135	Cones	50.0	EA	$ 50.00	$ 2,500.00
		SP	Pedestrian Channelizing Devices	40.0	LF	$ 80.00	$ 3,200.00
		1150	Flagger	270.0	DAY	$ 450.00	$ 121,500.00
		1205	Paint Pavement Marking Lines- 4"	1,600.0	LF	$ 0.30	$ 480.00
		1205	Paint Pavement Marking Lines- 8"	500.0	LF	$ 0.90	$ 450.00
		1205	Paint Pavement Marking Lines- 24"	80.0	LF	$ 5.00	$ 400.00
			Pavement Marking				
		1205	Thermoplastic Pavement Marking Lines- 4" , 90 Mils	780	LF	$ 2.00	$ 1,560.00
		1205	Thermoplastic Pavement Marking Lines- 8" , 90 Mils	54	LF	$ 4.00	$ 216.00
		1205	Thermoplastic Pavement Marking Lines- 24" , 90 Mils	346	LF	$ 18.00	$ 6,228.00
		1205	Thermoplastic Pavement Marking Yield Lines- 24" x 36" , 90 Mils	76	LF	$ 60.00	$ 4,560.00
		1205	Thermoplastic Pavement Marking Symbols	4	EACH	$ 250.00	$ 1,000.00
			Utilities				
			Adjust Existing Manhole Ring & Cover	4	EACH	$ 2,000.00	$ 8,000.00
			Adjust Valve Frame & Cover	4	EACH	$ 600.00	$ 2,400.00
			Relocate Valve	3	EACH	$ 5,000.00	$ 15,000.00
			Miscellaneous (10% Strs & Util)				$ 2,540.00
			Miscellaneous (25% Roadway)				$ 118,651.00

Contract Cost	$	646,194.00
E. & C. 16%	$	103,391.00
Construction Cost	**$**	**749,585.00**
SAY:	**$**	**749,600.00**