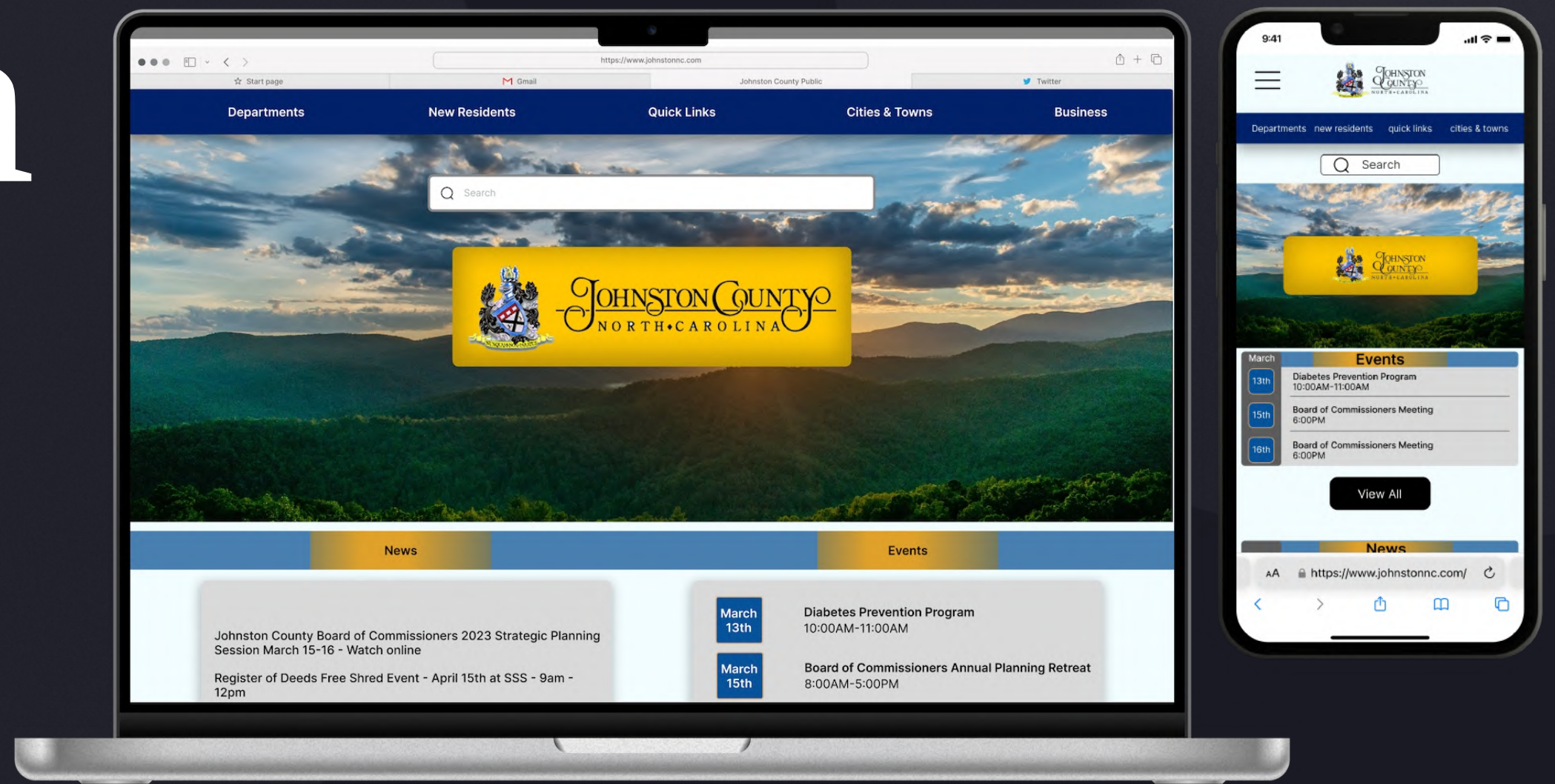# Johnston County Public Utilities Redesign

JR. UX/UI DESIGNER

Kyle Millhollin

Project Overview

Johnston County Public Utilities is a government public utilities company Johnston County, North Carolina. They provide trash, sewer, and water for the residents.

This study was conducted on https://www.johnstonnc.com/ the website for Johnston County utilities.

This study concentrated on evaluating and analyzing the website from the journey of a first-time homeowner who needs to set up a new utilities service and doesn't know how the process works.

Project Overview

The Client

stakeholders at Johnston county public utilities department or management team of Johnston county website.

The Problem

The Johnston County utilities website is not efficient for current users. Usability issues include hard to understand navigation throughout the website, lack of consistency, and not meeting WCAG and ADA requirements.
These usability issues make it difficult for first time homeowners to complete their tasks.

The Solution

Conducting a heuristic evaluation and analysis evaluating and analyzing the website from the journey of a first time homeowner, identifying usability issues. presenting usability recommendations to help improve the Johnston county utilities website as well as helping the users finish their journeys end to end

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Process

I followed the following process during this case study to identify usability issues in the Johnston County website, using the context of first-time homeowners journeying on the site:

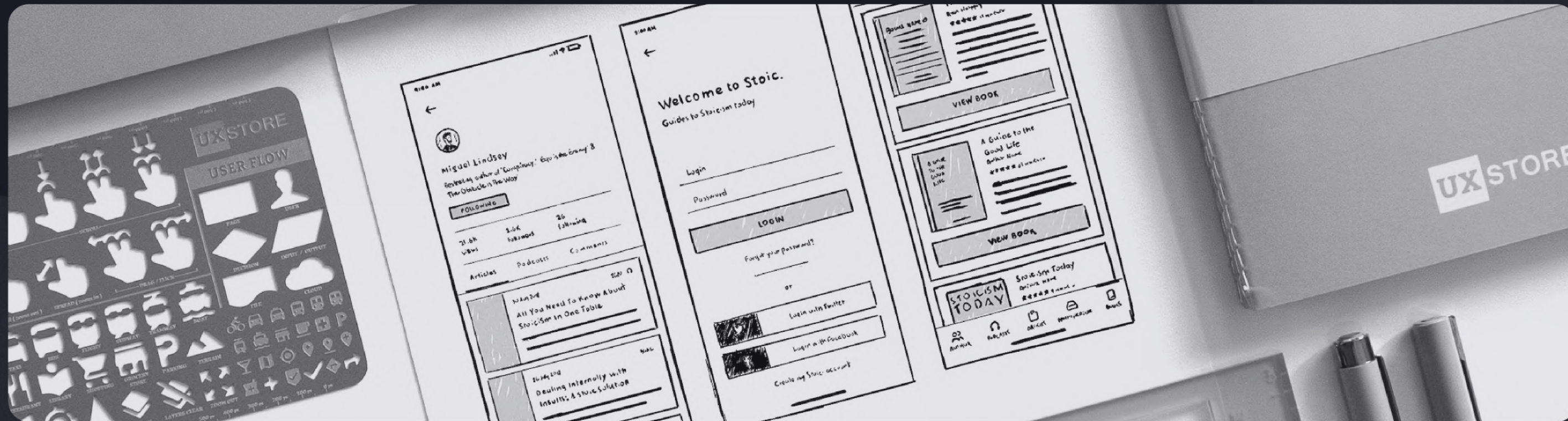**1** **Empathize**: User Scenario and User Flow

2 **Analyze**: Heuristic Evaluation and Analysis

3 **Prioritize**: Usability Recommendation Priority Matrix

4 **Synthesize**: Usability Recommendations

JR. UX/UI DESIGNER

I developed this study from beginning to completion. This study was conducted under the following scope and constraints:

Scope

- Develop a user scenario to empathize with first-time homeowners.
- Develop a user flow to of current website.
- Conduct heuristic evaluation and analysis of current website.
- Develop a usability recommendation priority matrix for review.
- present five usability recommendations for review.

Constraints

- timeline of one week
- team of one
- access to UX research was limited

Usability Recommendation 01 [Figma link](#)

01 Visibility of system status: does not have any form of tracking where you are step wise when on the page. hard to understand.

Recommendation: Create a visual "breadcrumb" bar to show user how they got to the current page.

Recommendation 02 [Figma link](#)

02 Aesthetic and Minimalist Design: all text is bold making it visually hard to distinguish important text and the underlined text misleads the user to think that they're links but are not.

Recommendation: use bold text when distinguishing important information and subtitles in paragraphs.

Recommendation 03 [Figma link](#)

03 **Visibility of System Status:**
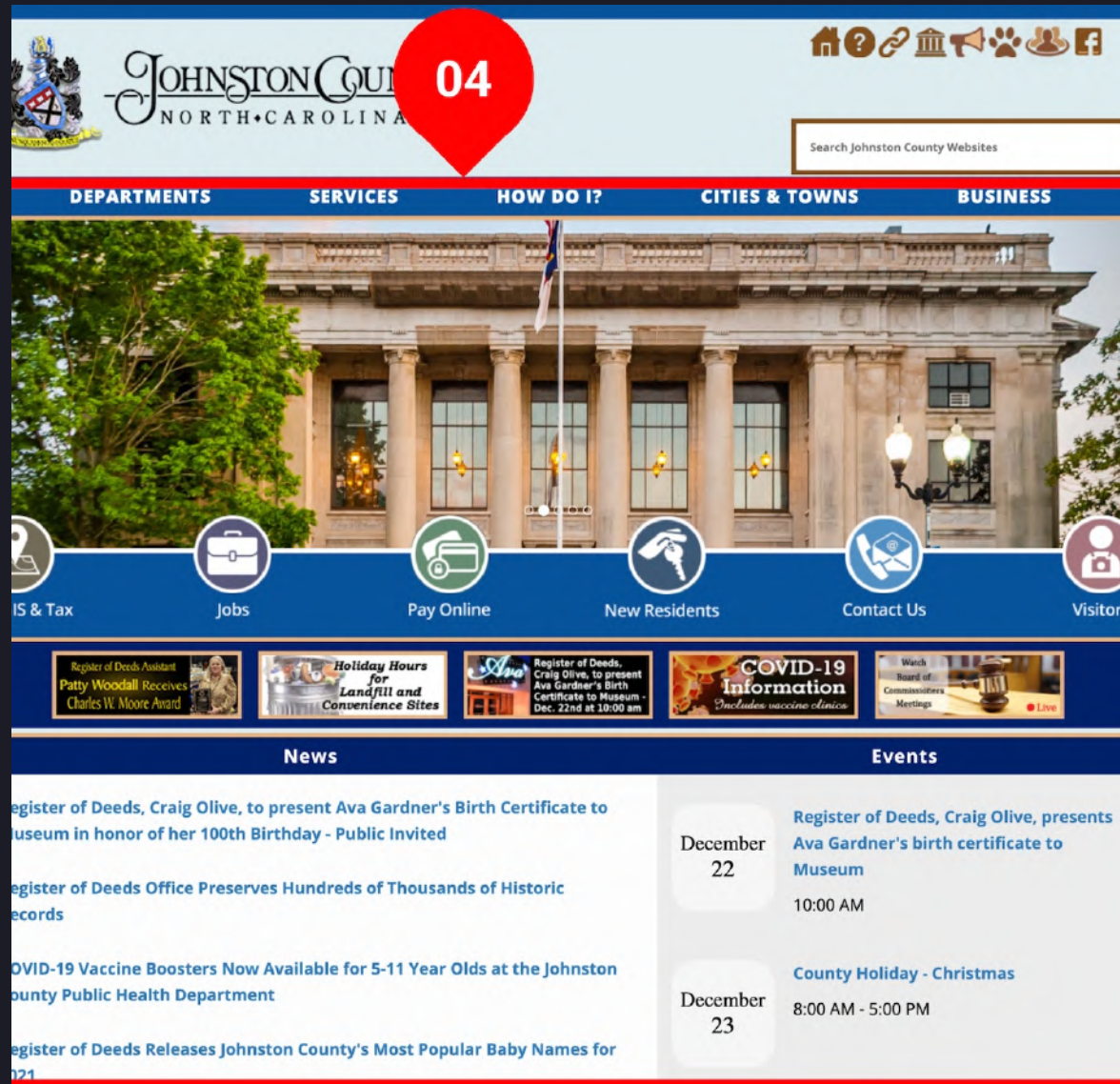hard to distinguish what is a button and what is not.

✅ **Recommendation:**
Have buttons follow a style guide that distinguishes text from CTA

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Recommendation 04 [Figma link](#)

04 **Consistency and Standards:** pages do not contain consistency throughout the website making user flow very confusing.

Recommendation: Have website be consistent throughout the whole flow to halt any confusion users may have when entering different pages.

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Recommendation 05 Figma link

05 **Consistency and Standards:**
Forcing a cognitive loveroad with the amount of text being used.

Recommendation:
Use less text and organize sections in chunks for the user to better understand the layout of the page.

Outcomes and Lessons

Through conducting this study, I found that the Johnston Countys utilities website is not efficient for users, these are only five of the many usability issues I found. I learned the following:

- Lack of consistent design throughout the website makes the user flow very hard to understand and complete tasks from end to end

- excessive use of text and bold lettering with no form or structure resulting in user cognitive overload

- lack of distinguishable buttons making it hard for the user to know what is and is not clickable

On the next study I will begin the redesign process to help make the usability recommendation improvements .

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Johnston County Redesign

Navigation

Cognitive walkthrough

User Test No. 2

Question 1

Did the user achieve the expected outcome? I.e., is the interface making assumptions about what the user 'should' know how to do or steps it's assumed that they will know to take? *Explain:*

The user was able to make it to the "apply to water services page but at points in the process was confused where they were. Had to hit the back button multiple times and tried two different flows to get to the end result.

Question 2

Was it clear to the user that options were available to them? For example, did they see the links to your contact information or social links? *Explain:*

They saw multiple options, they had to really comb through and find a process that would allow them to complete the task of applying for a water service.

Question 3

Does the user understand the relationship between the text and the imagery and find that the options produced the result they were expecting? *Explain:*

The top navigation bar gave the user some problems and made it hard to distinguish what the right route was. The navbar menu names were confusing to the user.

Question 4

Did the user feel like progress toward their goal or obtaining the information they were seeking occurred? *Explain:*

Wasnt evident where to apply for new service user thought that by apply for a new service would be under " new service" not "how do i"

User Test No. 1

Question 1

Did the user achieve the expected outcome? I.e., is the interface making assumptions about what the user 'should' know how to do or steps it's assumed that they will know to take? *Explain:*

able to complete the process but took a lot of time and had to search the page from top to bottom to find where to go. A Lot of guessing and clicking on most pages.

Question 2

Was it clear to the user that options were available to them? For example, did they see the links to contact information or social links? *Explain:*

Had a hard time finding links, each page looked different from one another and was tough to find what the they were looking for. Took some time but they were able to get to where they were trying to go.

Question 3

Does the user understand the relationship between the text and the imagery and find that the options produced the result they were expecting? *Explain:*

Most pages on the flow didn't have any photos and was very text heavy. Text was all bold and hard to find where the information needed to complete the process was.

Question 4

Did the user feel like progress toward their goal or obtaining the information they were seeking occurred? *Explain:*

Yes but took way more effort and frustration than it needed to. Felt lost at on website because consistency of website was lacking.

The findings from the cognitive walkthrough were that users are having trouble distinguishing what the happy path is to complete the task of applying for a water service for a new home. Users were getting confused with what the navigation bar menu names meant, the *How Do I* button didn't make sense for all users during the walkthrough. There was a lot of mindless clicking through the website hoping to land in the right area. Users felt distracted by the amount of text on certain pages and often got frustrated with the inconsistency throughout the website.

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improvement of navigation

Throughout my findings during the cognitive walkthrough these changes will greatly improve the website and experience benefiting the user to finish their goal of signing up for a utilities service for the first time

Usability heuristic number 4 (consistency and standards)
Failing to maintain consistency may increase the users' cognitive load by forcing them to learn something new resulting in not completing the task.

Solution
Organizing information and labeling CTA buttons that make sense to where users will be led to when clicking will greatly help.

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improvement of navigation

**Usability heuristic number 8(aesthetic and minimalist design)** users had trouble with when navigating through the site. on the site the interface did not support the user's primary goals and often made users confused on where to look for information.

Solution

By making the site visually clear and Prioritizing content and features to support primary goals will make for a better user experience.
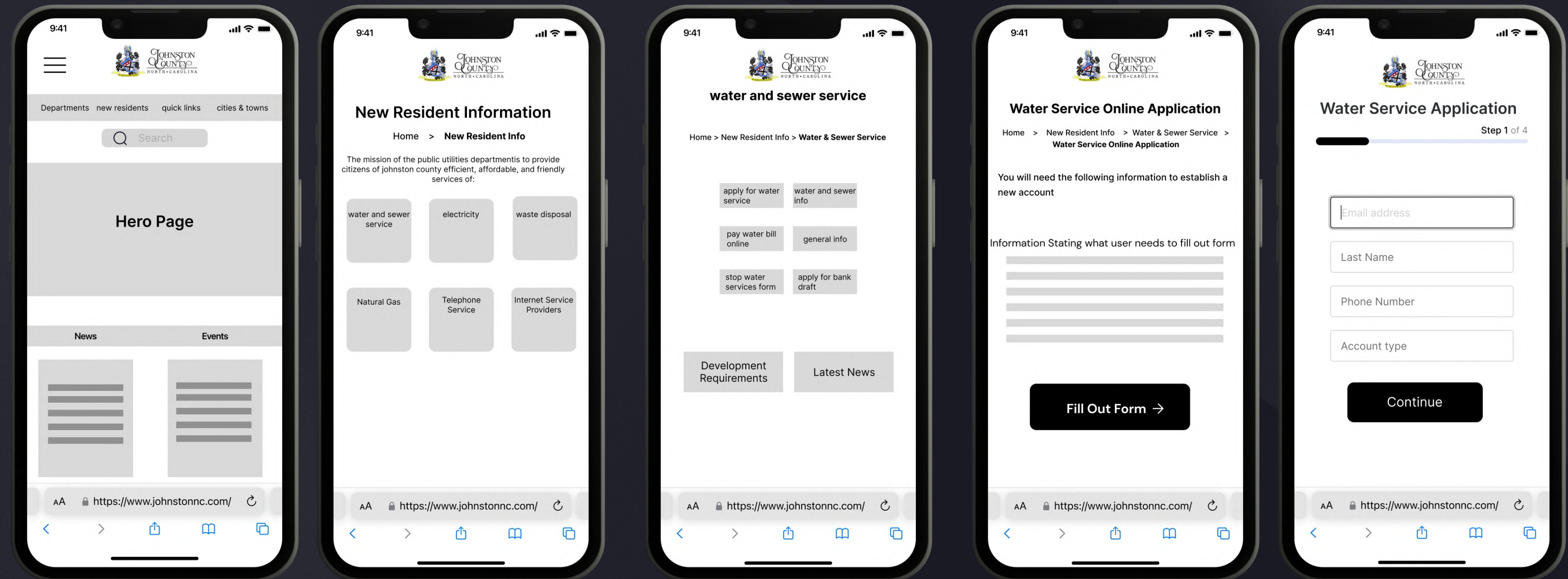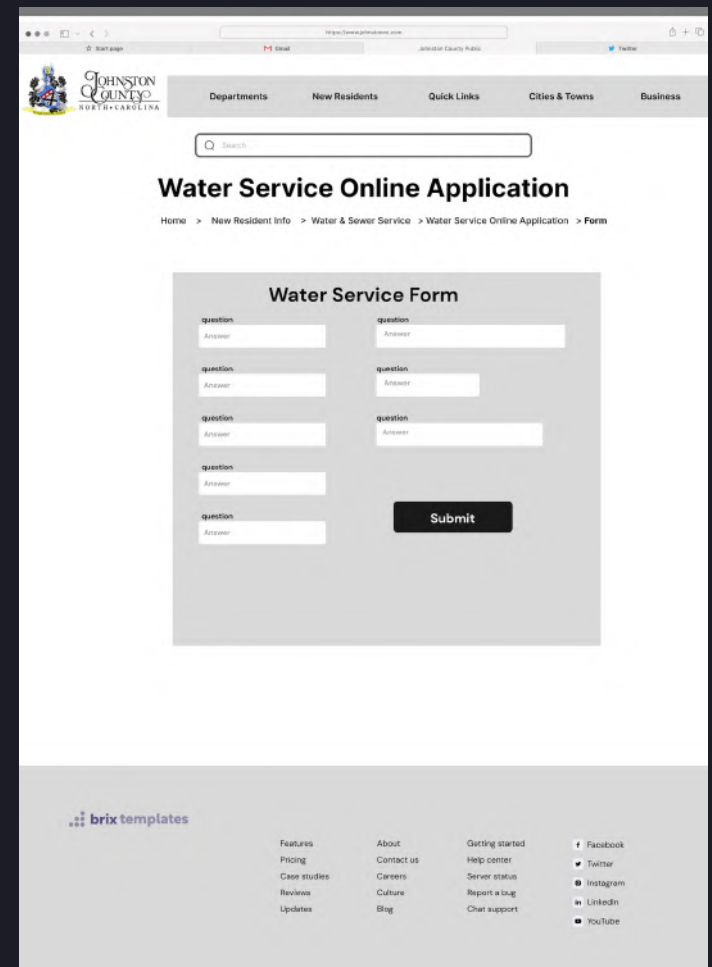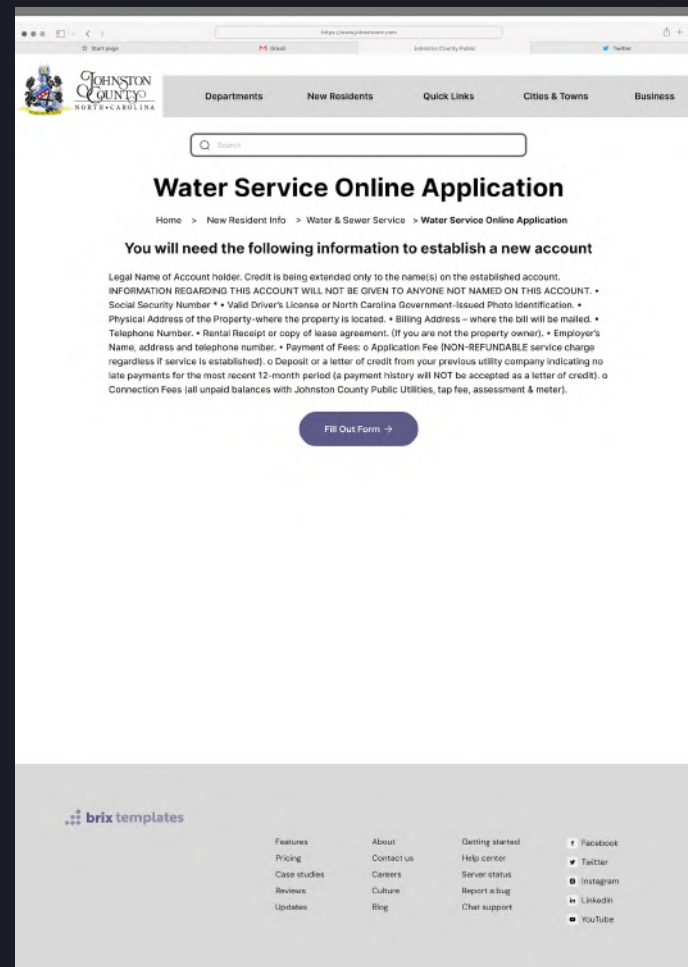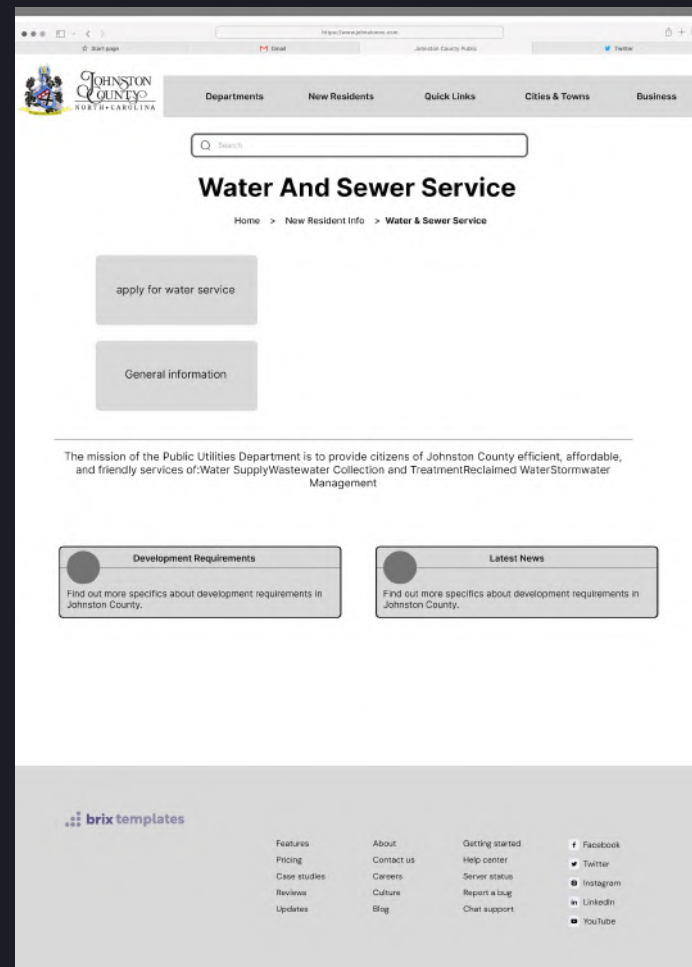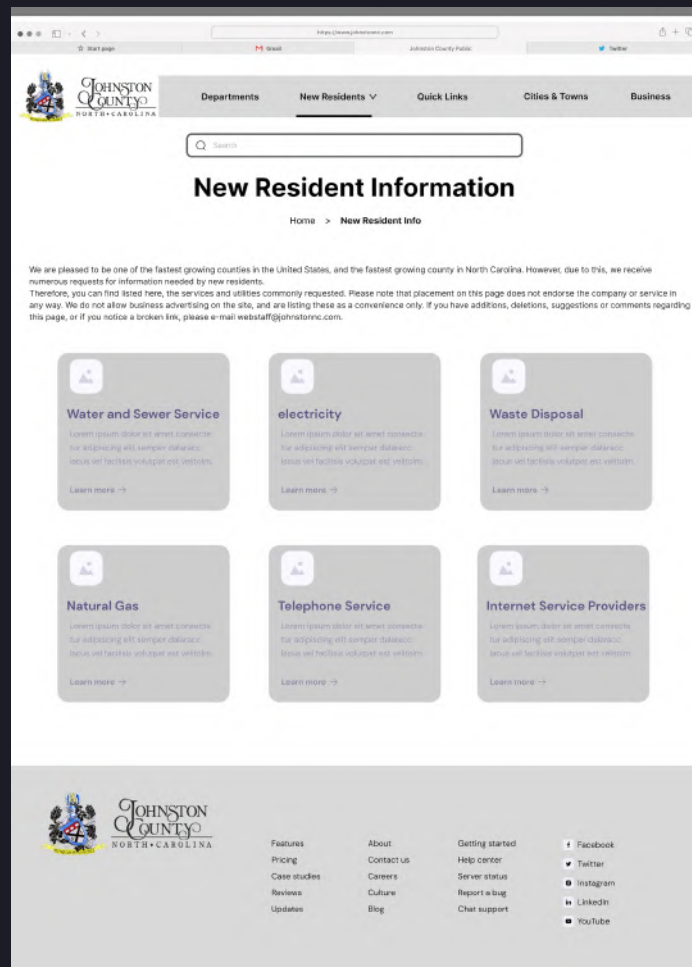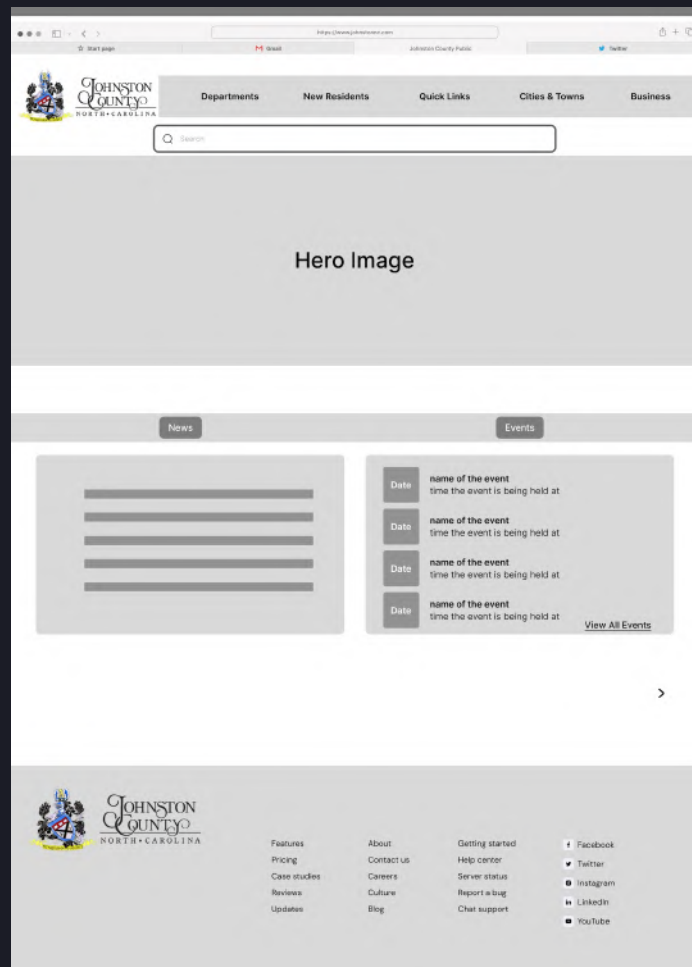
Site Map
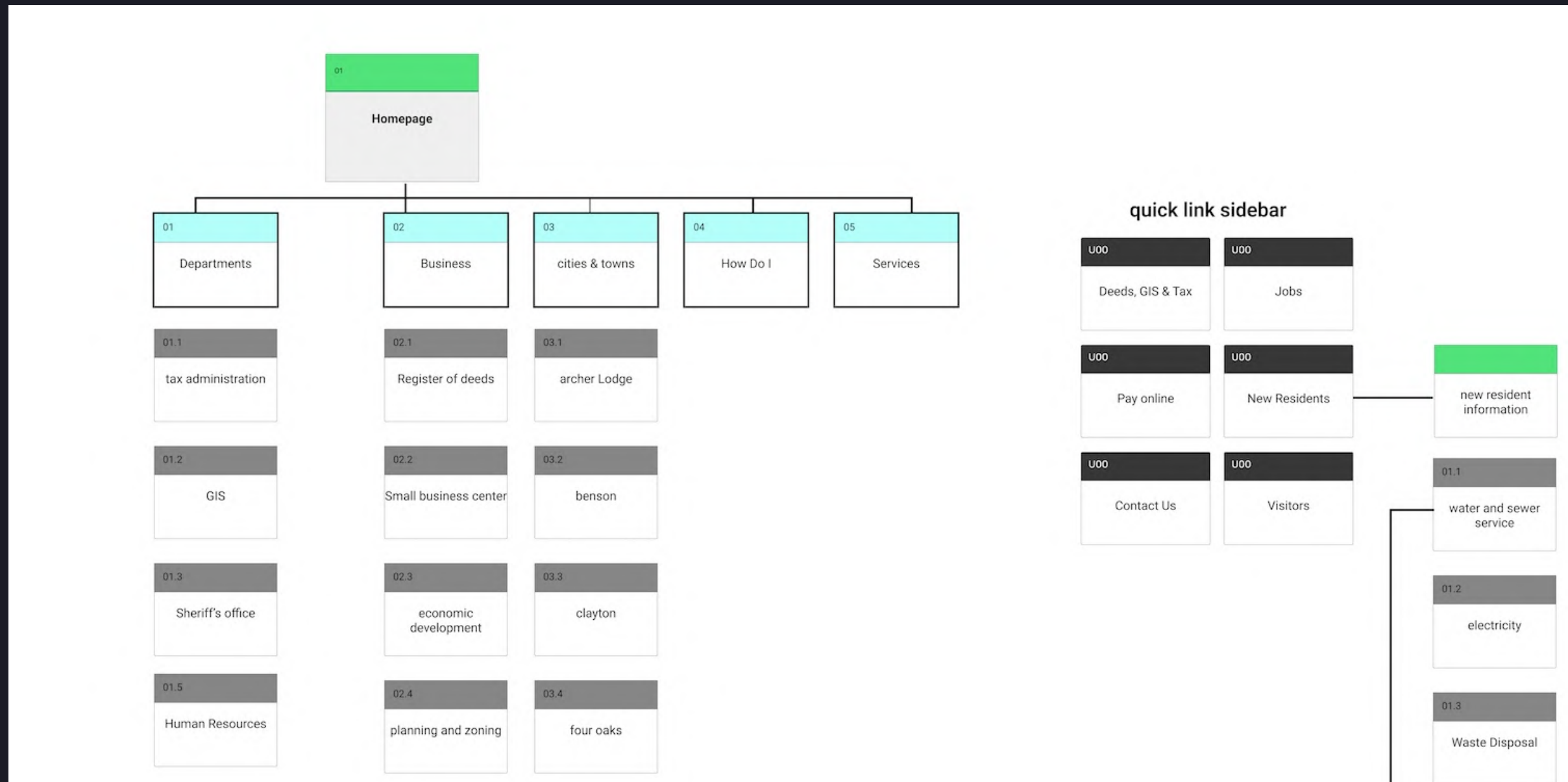
Full Site Map
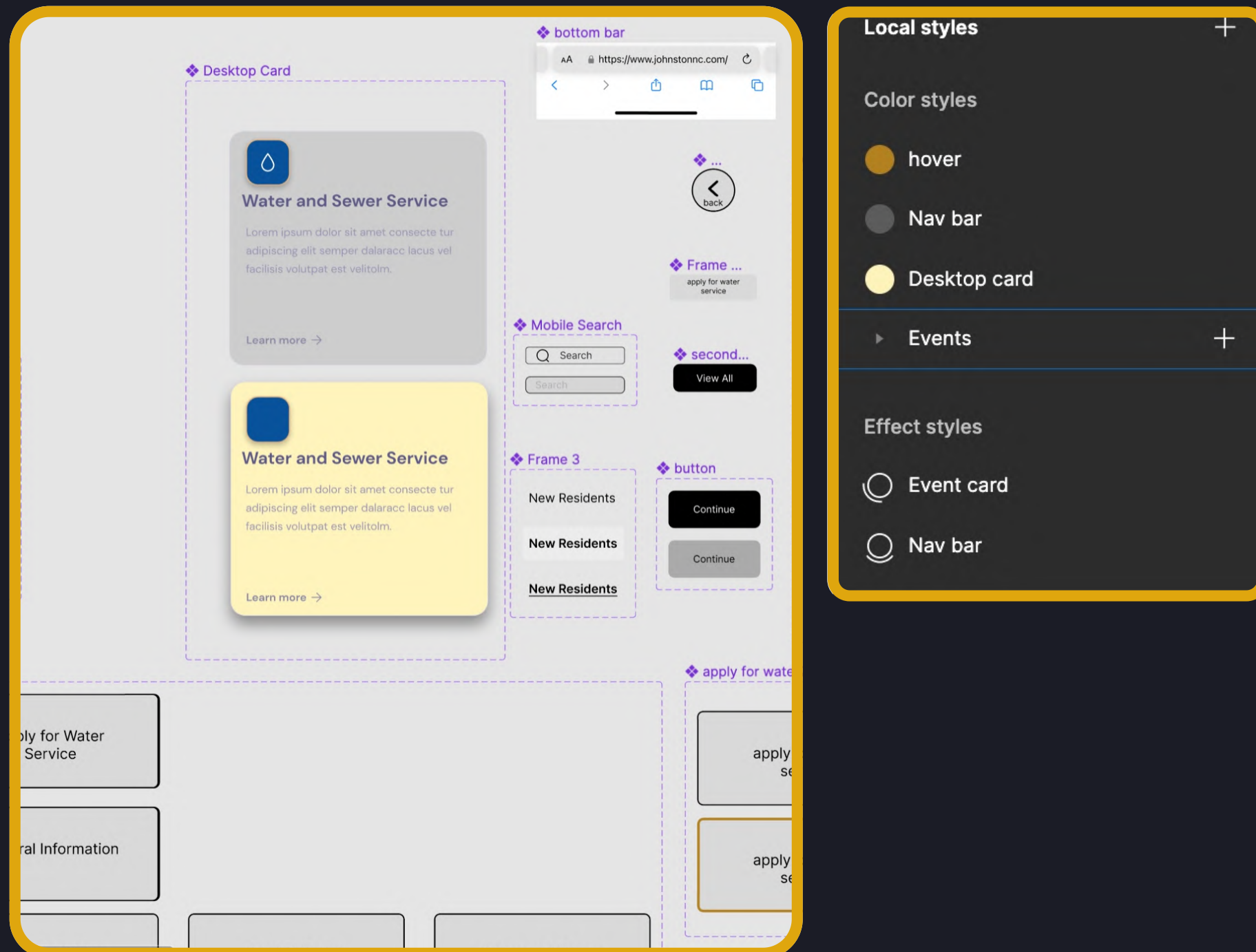
Mobile Navigation Wireframes

# Desktop Navigation Wireframes

UI Elements and Layout

Components/UI pattern

by creating these components and patterns Im able to maintain **consistency in design and functionality throughout the website.**

Mid FI Desktop

After building a Lo FI Prototype and understanding what the government agency website was lacking I implemented improvements that I found would help the user have an easier flow to complete the task of starting a new utilities service.
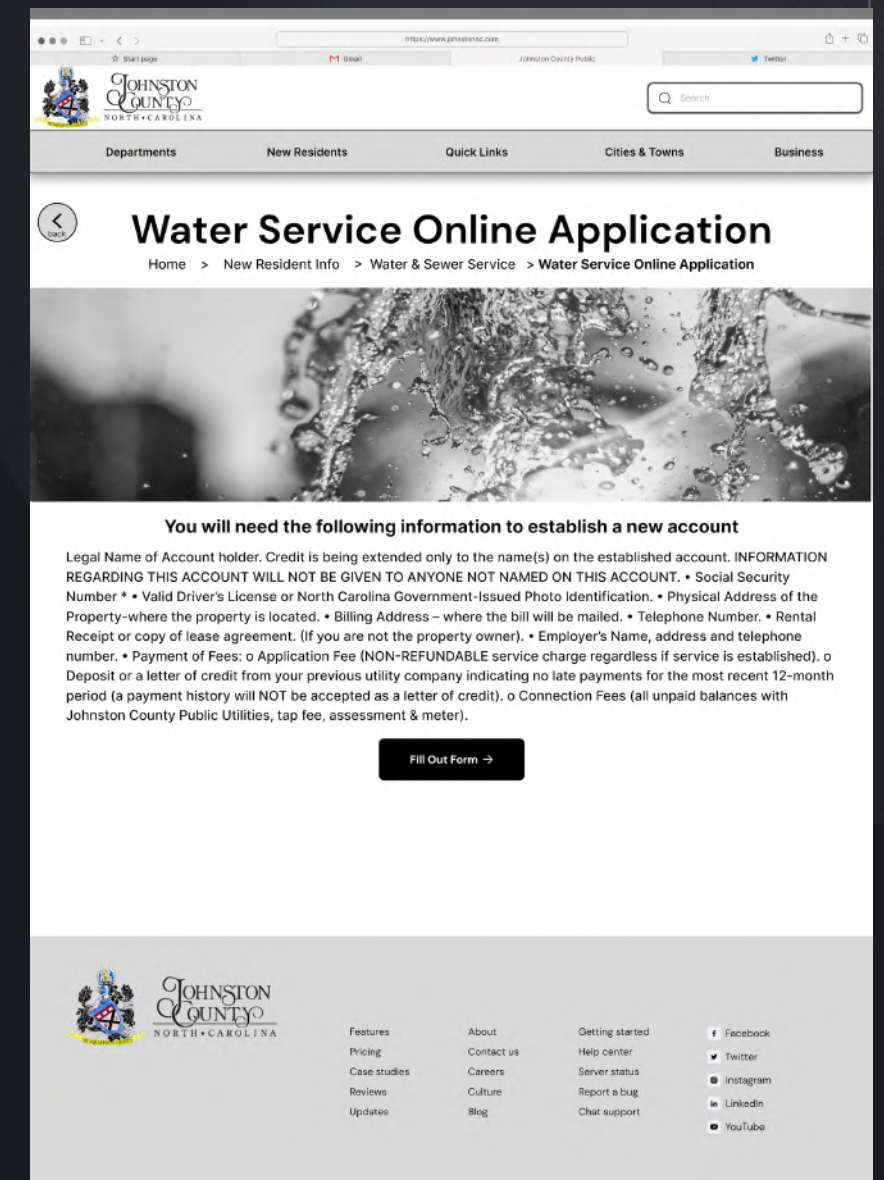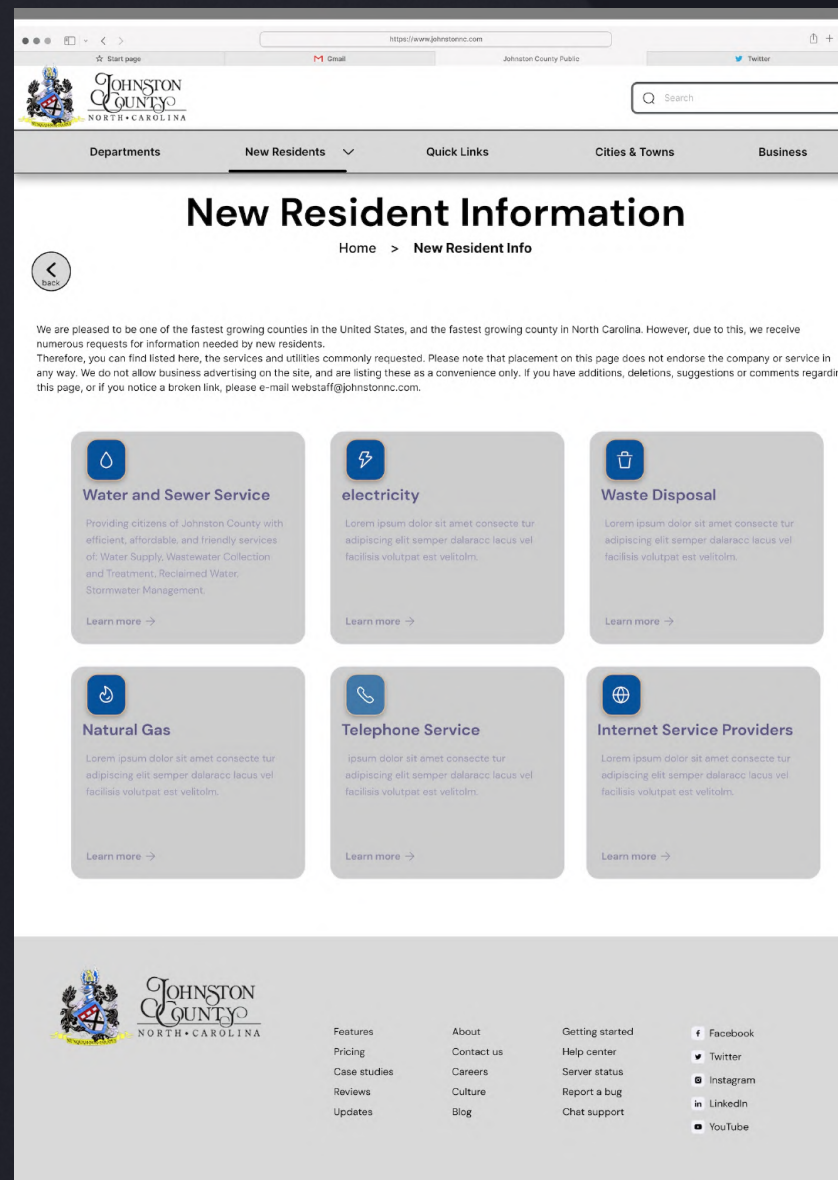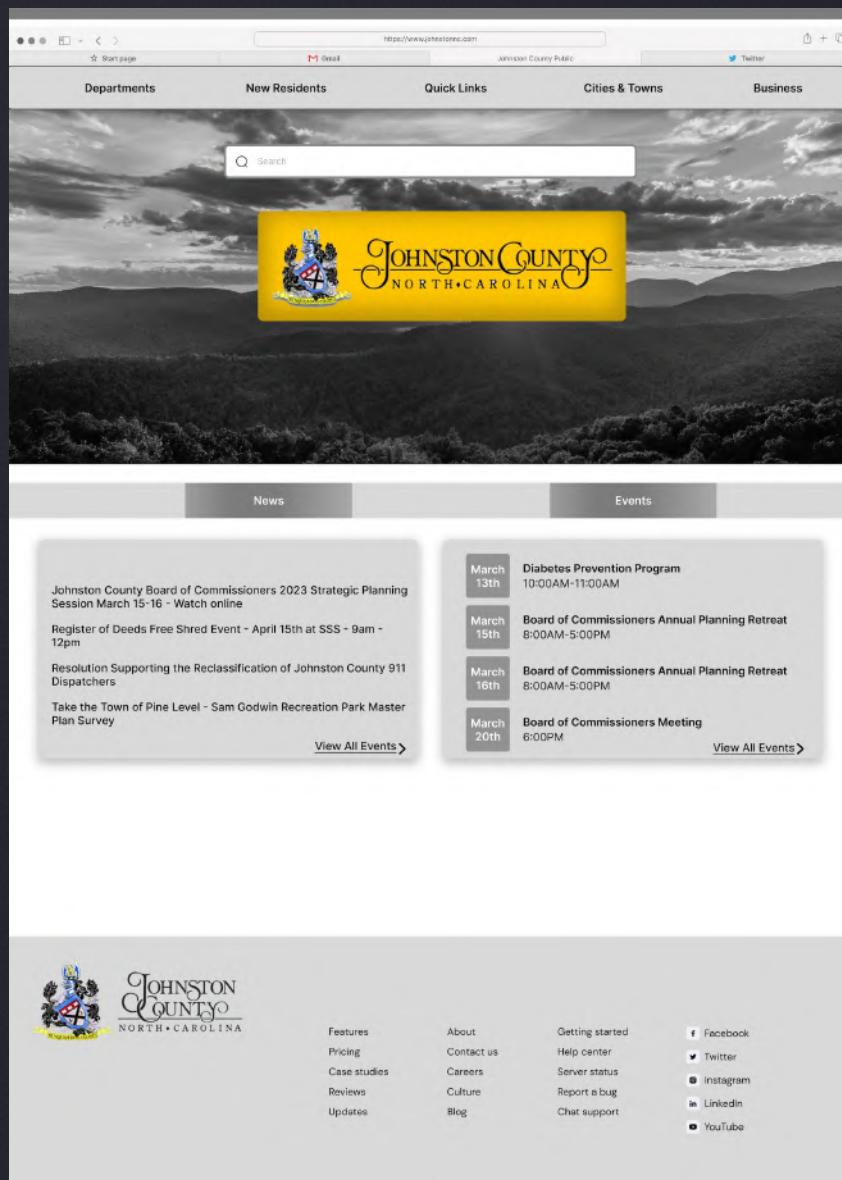
Design Theory Concepts

1. **navbar** that shows where the user is in the process of completing an end to end task in the user flow.
2. **search bar** on all pages to allow the user to look up pages that are desired to be traveled to.
3. **Breadcrumb trail** allowing user to visually see their journey on the website.
4. **Back button** so user has the ability to return to previous page
5. **Cards** that group together information in an easy way to understand
6. **Text hierarchy** to easily track important information first.
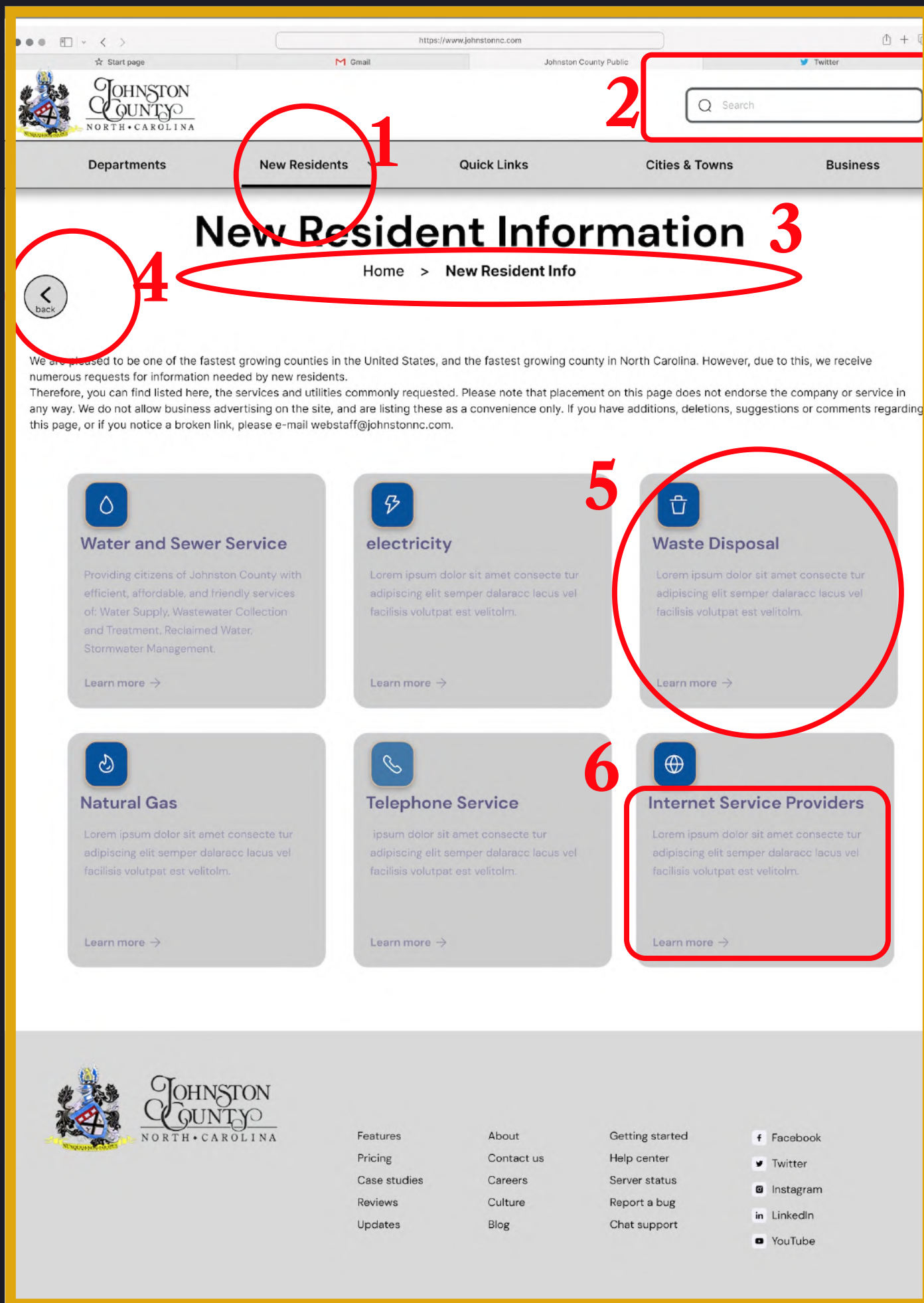
A/B Testing Hypothesis Statement

Adding a progress bar will help the success rate of completing the task of starting a new utilities service form. I will know this change is successful when users complete **the water service form**.

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A/B Testing Plan

Option A

Option B

I choose to test the progress bar on the form page of the government agency website. During the cognitive walkthroughs multiple users were frustrated not knowing when the form process would end which led to dropouts of completing the task of starting a new water service.by testing the progress bar im hoping to provide a sense of accomplishment and helping to keep the user engaged with having less abandonment on the form process.

My indication of a successful test will be it users selecting option B as the screen that they like most.

A/B Testing Outcome

☐	Process bar
☐	The process bar is helpful for tracking progress.
☐	The top displays my status on the form
☐	Looked good
☐	Seemed like the right one
☐	*No answer given*
☐	I like knowing the progress of the form process!
☐	It shows step one of two
☐	More visual progress on where I am on the process
☐	Looks easy

Based on the outcome of the A/B testing my findings were that the users liked the process bar on the page.The process bar allowed the users to understand where they were when filling out the form giving them a visual understanding of when completion was.

My next steps for development is to bring the process bar and form page up to full fidelity. I would like to make the process bar a little bit bigger for users to be able to see the bar better.

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Visual Design & Accessibility

Style Guide - Color

The reasoning behind choosing the colors I did had a big influence on having enough contrast to be easily distinguished by people with different types of color vision deficiencies, such as protanopia, deuteranopia, and tritanopia.

Color styles
- hover
- Nav bar
- card hover color
- card ouline
- card fill
- Nav bar & footer
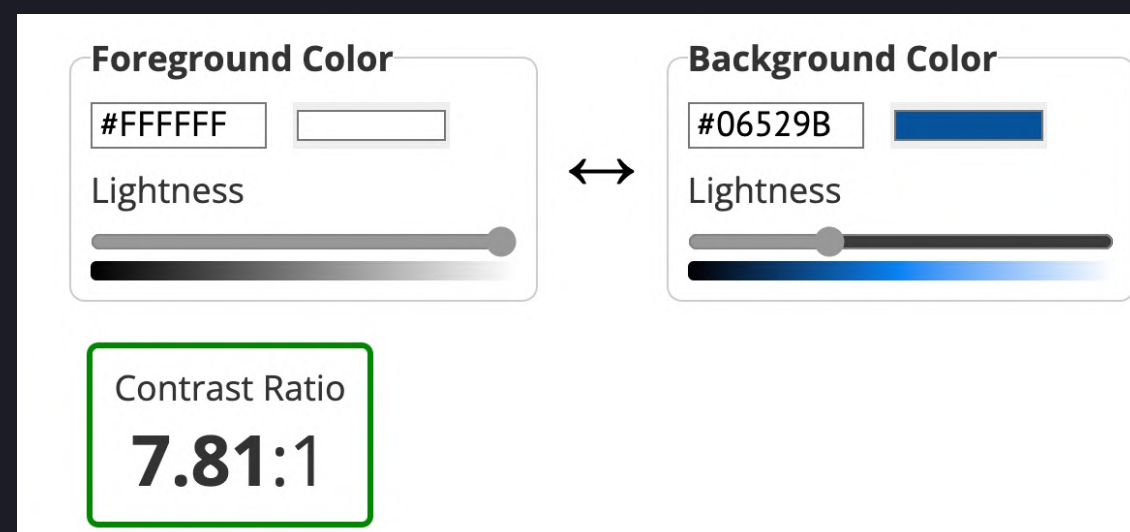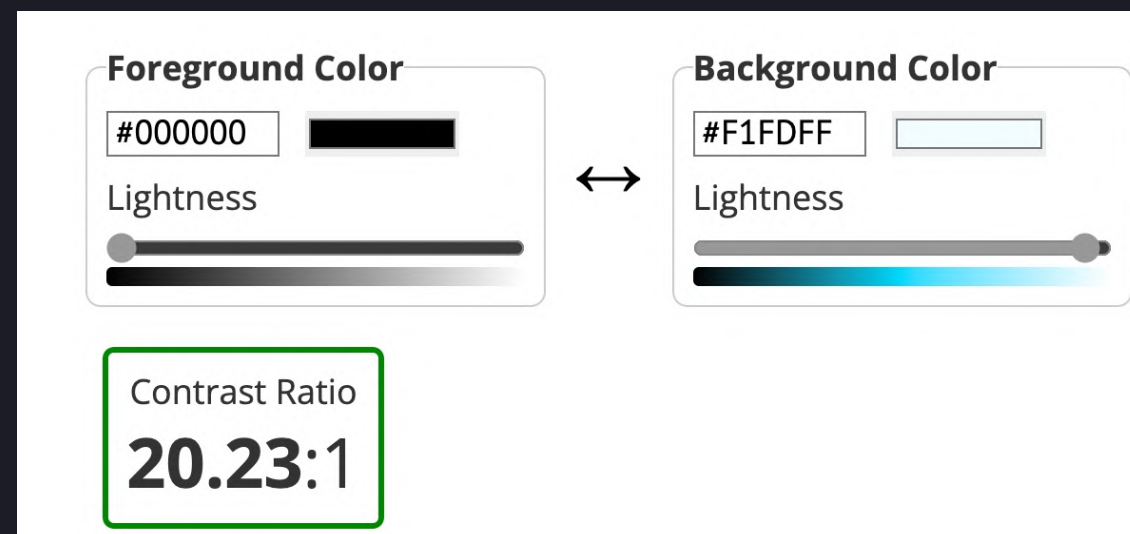- Screen background color
- ▸ Events

Effect styles
- Event card
- Nav bar

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Style Guide - Color

To ensure accessibility, I tested the color contrast using WCAG.WCAG recommends a minimum contrast ratio of 4.5:1 for normal text and 3:1 for large text. I aimed for a higher contrast ratio to ensure that the website is accessible to the widest range of users possible.
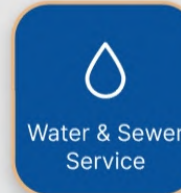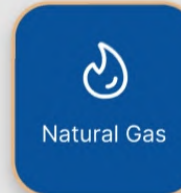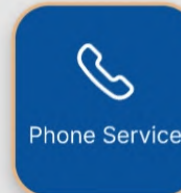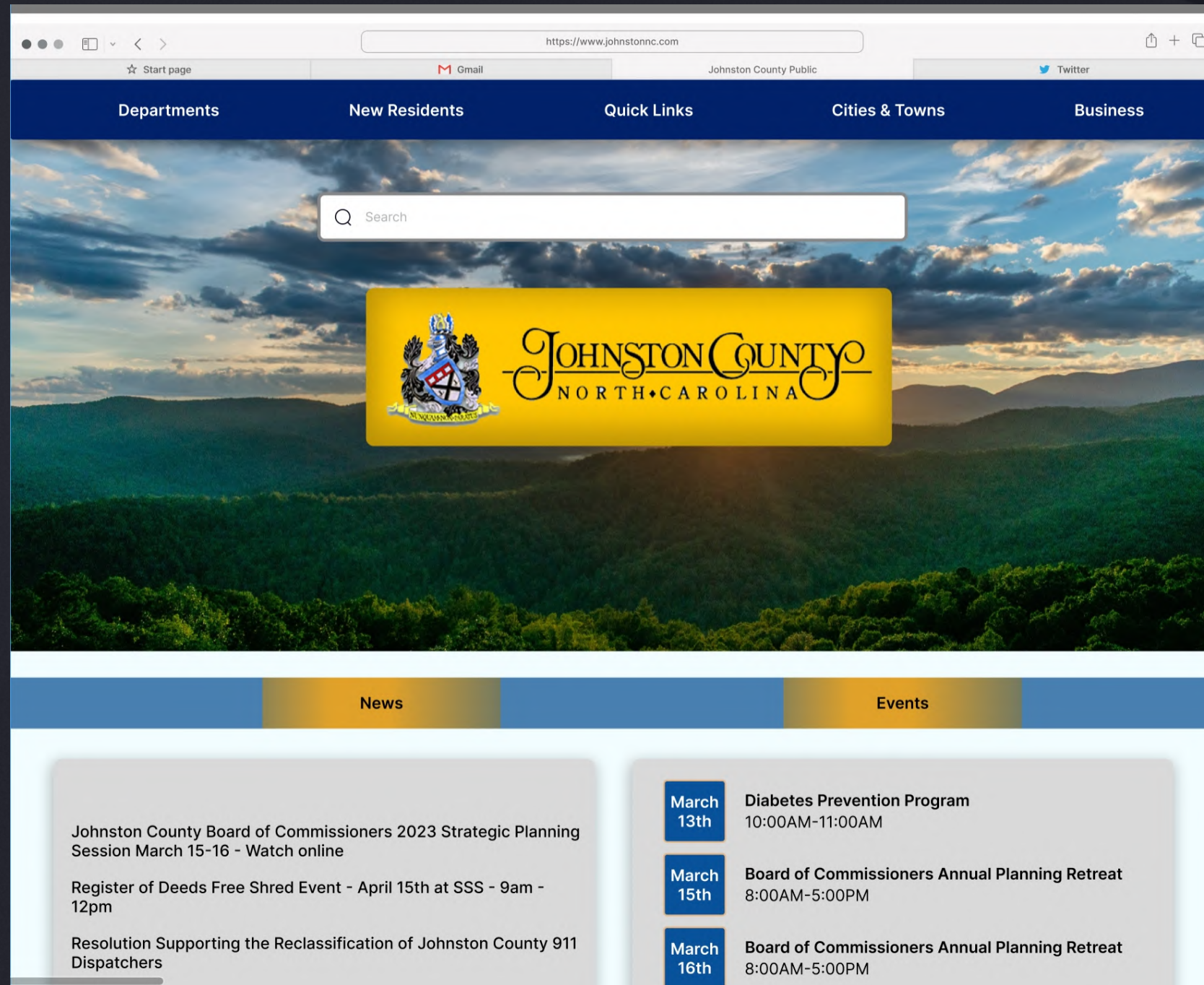
Typography

For the display text I decided to use DM Sans, the font does a really good job of grabbing the users attention when bold and keeps the site professional . for the primary text I went with Inter. Inter is a very clean looking font that pairs well with DM sans and is easy to read.
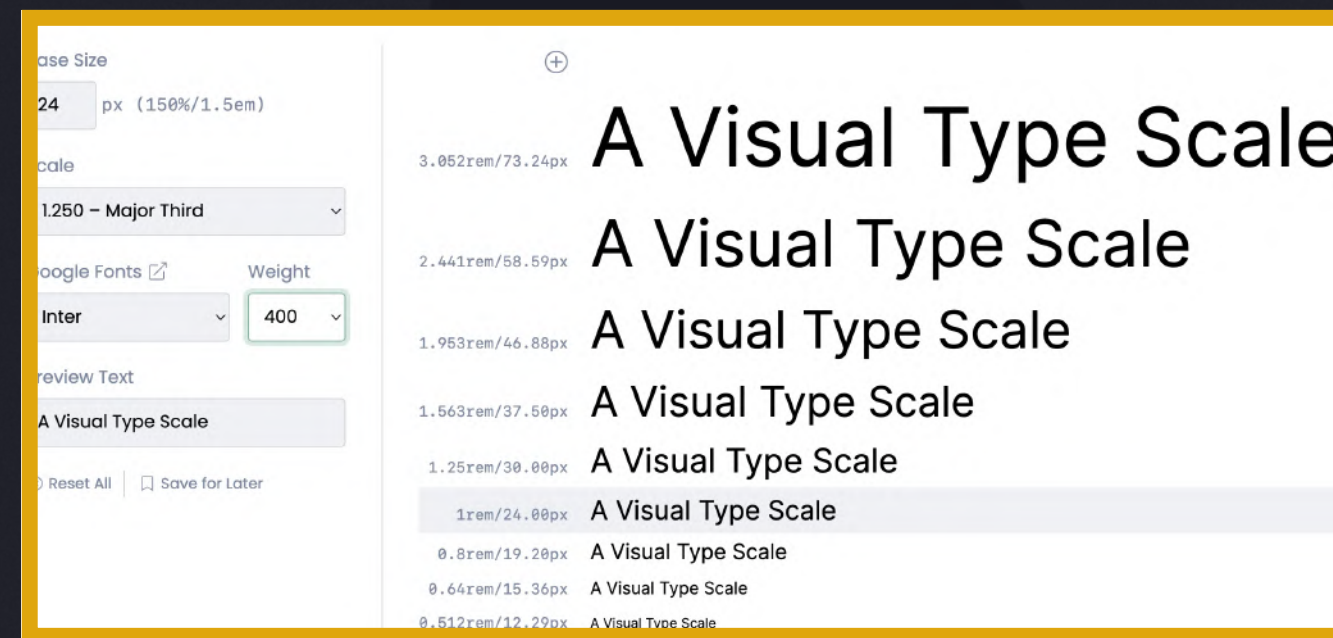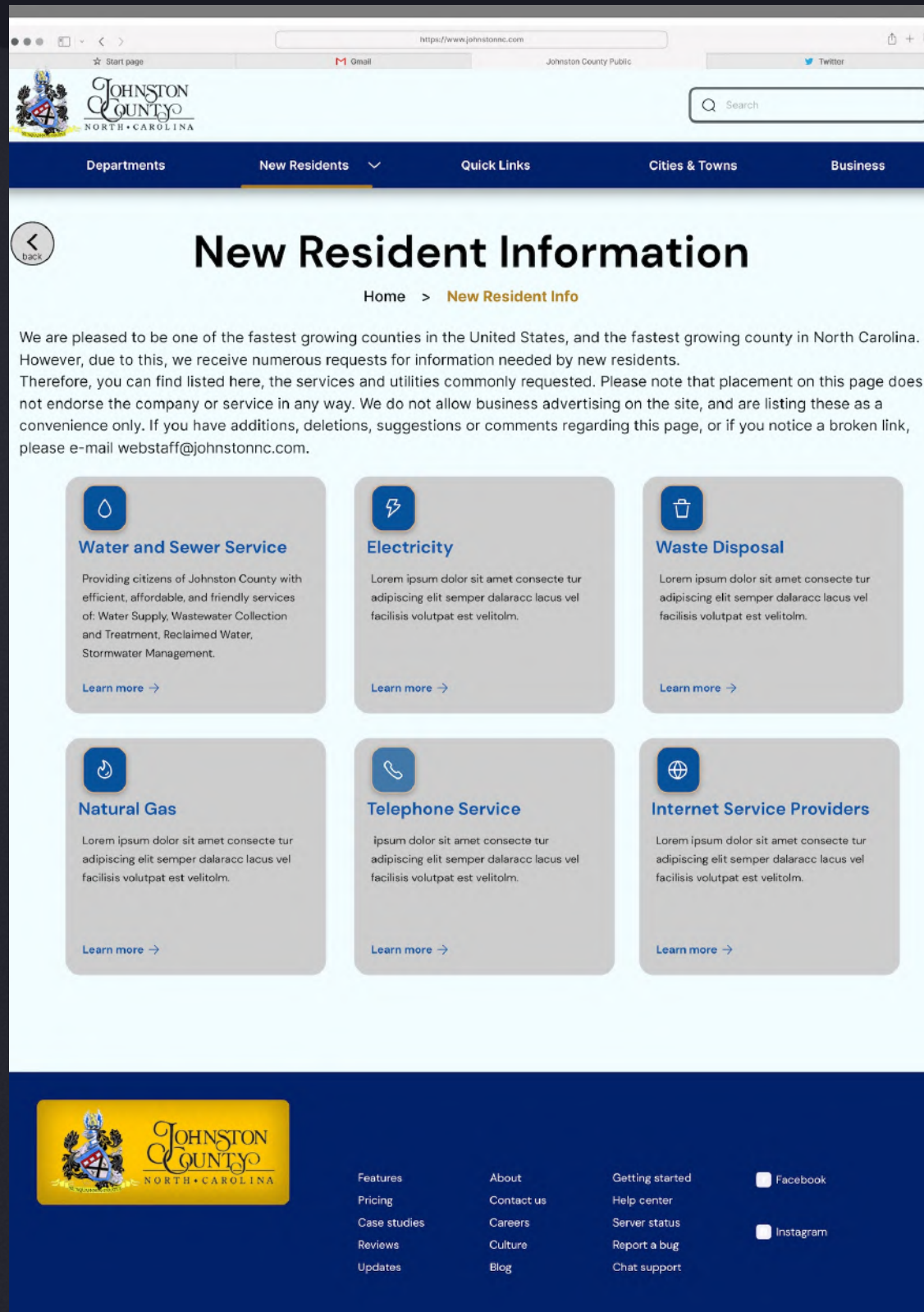
Style Guide

The selection of specific types of visuals, such as graphics, icons, and photographs, was made based on several factors to effectively communicate the intended message.

Graphics
easily understand and interpret the information.

Photos
allowing to better relate to the content.

Icons
Represent ideas or concepts in a visually appealing and recognizable way.

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Hi Fi prototype

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