CONDITIONAL ZONING APPLICATION

TOWN OF CHAPEL HILL
Planning Department
405 Martin Luther King Jr. Blvd.
(919) 968-2728 *fax* (919) 969-2014
www.townofchapelhill.org

Revised: August 26, 2022

Parcel Identifier Number (PIN): 9870907642 Date: June 27, 2022

Section A: Project Information

Project Name: Tri Pointe Townhomes

Property Address: 2217 Homestead Road, Chapel Hill, NC Zip Code: 27516

Use Groups (A, B, and/or C): A Existing Zoning District: R-5

Project Description: 103 Townhome Units

Section B: Applicant, Owner, and/or Contract Purchaser Information

Applicant Information (to whom correspondence will be mailed):

Name: Richard Gurlitz

Address: 121 S. Estes Drive Suite 100

City: Chapel Hill, State: NC Zip Code: 27514

Phone: 919-489-9000 Email: richard@gurlitzarchitects.com

The undersigned applicant hereby certifies that, to the best of their knowledge and belief, all information supplied with this application and accurate.

Signature: Richard Gurlitz Digitally signed by Richard Gurlitz DN: cn=Richard Gurlitz, o=GS Homestead, LLC, ou=Manager, email=richard@gurlitzarchitects.com, c=US Date: 2022.10.07 14:29:49 -04'00' Date: October 7, 2022

Owner/Contract Purchaser Information:

☒ **Owner** ☐ **Contract Purchaser**

Name: GS Homestead, LLC

Address: 121 S. Estes Drive Suite 100

City: Chapel Hill State: NC Zip Code: 27514

Phone: 919-489-9000 Email: richard@gurlitzarchitects.com

The undersigned applicant hereby certifies that, to the best of their knowledge and belief, all information supplied with this application and accurate.

Signature: Richard Gurlitz Digitally signed by Richard Gurlitz DN: cn=Richard Gurlitz, o=GS Homestead, LLC, ou=Manager, email=richard@gurlitzarchitects.com, c=US Date: 2022.10.07 14:30:20 -04'00' Date: October 7, 2022

Click here for application submittal instructions.

Conditional Rezoning applications are reviewed by staff, Planning Commission, and Town Council. The application is part of an open public process that enables Town Council to discuss and decide on the key issues of a rezoning proposal. If a rezoning is approved, the applicant may then submit a detailed final plan application to staff for compliance review with the technical development standards and with the Council rezoning approval.

The establishment of a Conditional Zoning District shall be consistent with the Land Use Plan in the Comprehensive Plan. A proposed Conditional Zoning District is deemed consistent if the proposed District will be located in conformance with an adopted small area plan and/or in one of the following Land Use Categories:

- Medium Residential
- High Residential
- Commercial
- Mixed Use, Office/Commercial Emphasis
- Mixed Use, Office Emphasis
- Town/Village Center
- Institutional
- Office
- University
- Development Opportunity Area
- Light Industrial Opportunity Area

If the proposed conditional zoning districts is located in a Low Residential or a Rural Residential Land Use Category, the Town Council must approve a Land Use Plan amendment prior to proceeding.

SIGNED CONDITIONS: All conditions shall be in writing, prepared by the owner of the property or an attorney and must be signed by all property owners and contract purchasers, if applicable. The Town Attorney may require additional signatures if necessary and will determine whether or not the conditions statement is legally sufficient. Within thirty (30) days after receipt of the conditions the Planning Division Manager will notify the applicant of any deficiencies in the conditions statement or if any additional information is needed. The applicant may make changes to the written conditions statement provided it is submitted at least thirty (30) prior to Planning Commission meeting or thirty (30) days prior to Town Council public hearing.

RECORDATION OF CONDITIONS: After a rezoning has been approved by the Town Council, the conditions statement shall be recorded with the Register of Deeds Office. After a rezoning has been approved by Town Council and recorded by the Register of Deeds Office, the conditions may not be amended except through a new rezoning application.

Section A: Project Information

Use Type: *(check/list all that apply)*

☐ Office/Institutional ☒ Residential ☐ Mixed-Use ☐ Other: _____

Overlay District: *(check all that apply)*

☐ Historic District ☐ Neighborhood Conservation District ☐ Airport Hazard Zone

Section B: Land Area

Net Land Area (NLA): Area within zoning lot boundaries		NLA=	678,842	sq. ft.
Choose one, or both, of the following (a or b), not to exceed 10% of NLA	a) Credited Street Area (total adjacent frontage) x ½ width of public right-of-way	CSA=	15,094	sq. ft.
	b) Credited Permanent Open Space (total adjacent frontage) x ½ public or dedicated open space	COS=	52,790	sq. ft.
TOTAL: NLA + CSA and/or COS = Gross Land Area (not to exceed NLA + 10%)		GLA=	746,726	sq. ft.

Section C: Special Protection Areas, Land Disturbance, and Impervious Area

Special Protection Areas: *(check all those that apply)*
☐ Jordan Buffer ☐ Resource Conservation District ☐ 100 Year Floodplain ☐ Watershed Protection District

Land Disturbance	**Total (sq. ft.)**
Area of Land Disturbance (Includes: Footprint of proposed activity plus work area envelope, staging area for materials, access/equipment paths, and all grading, including off-site clearing)	566,437 SF
Area of Land Disturbance within RCD	0
Area of Land Disturbance within Jordan Buffer	0

Impervious Areas	**Existing (sq. ft.)**	**Demolition (sq. ft.)**	**Proposed (sq. ft.)**	**Total (sq. ft.)**
Impervious Surface Area (ISA)	15,438	15,438	270,712	270,712
Impervious Surface Ratio: Percent Impervious Surface Area of Gross Land Area (ISA/GLA)%		2.0%	36.25%	36.25%
If located in Watershed Protection District, % of impervious surface on 7/1/1993				

Section D: Dimensions

Dimensional Unit (sq. ft.)	Existing (sq. ft.)	Demolition (sq. ft.)	Proposed (sq. ft.)	Total (sq. ft.)
Number of Buildings	1	1	108 Bldg - 216,000 SF	216,000 SF
Number of Floors	2	2	2	2
Recreational Space	0	0	34,085	34,085

Residential Space				
Dimensional Unit (sq. ft.)	**Existing (sq. ft.)**	**Demolition (sq. ft.)**	**Proposed (sq. ft.)**	**Total (sq. ft.)**
Floor Area (all floors – heated and unheated)	4001	4001	216,000	216,000
Total Square Footage of All Units	4001	4001	216,000	216,000
Total Square Footage of Affordable Units			32,000	32,000
Total Residential Density			6.9/AC	6.9/AC
Number of Dwelling Units	1	1	108	108
Number of Affordable Dwelling Units	0	0	16	16
Number of Single Bedroom Units			0	0
Number of Two Bedroom Units			0	0
Number of Three Bedroom Units	1	1	108	108

Non-Residential Space *(Gross Floor Area in Square Feet)*					
Use Type	**Existing**	**Proposed**	**Uses**	**Existing**	**Proposed**
Commercial					
Restaurant			**# of Seats**		
Government					
Institutional					
Medical					
Office					
Hotel			**# of Rooms**		
Industrial					
Place of Worship			**# of Seats**		
Other					

Dimensional Requirements		Required by Ordinance	Existing	Proposed
Setbacks (minimum)	Street	20	NA	20
	Interior (neighboring property lines)	6	NA	6
	Solar (northern property line)	8	NA	8
Height (maximum)	Primary	39	NA	39
	Secondary	60	NA	39
Streets	Frontages	40	NA	40
	Widths	50	NA	50

Section F: Adjoining or Connecting Streets and Sidewalks

Note: For approval of proposed street names, contact the Engineering Department.

Street Name	Right-of-Way Width	Pavement Width	Number of Lanes	Existing Sidewalk*	Existing Curb/Gutter
Homestead Road	60'	Variable	2-3 lanes	☐ Yes	☐ Yes
Kipling Drive	45	27	2	☒ Yes	☒ Yes

List Proposed Points of Access (Ex: Number, Street Name):

*If existing sidewalks do not exist and the applicant is adding sidewalks, please provide the following information:

Sidewalk Information			
Street Names	**Dimensions**	**Surface**	**Handicapped Ramps**
Homestead Road	10' Multi Use	Asphalt	☒ Yes ☐ No ☐ N/A
			☐ Yes ☐ No ☐ N/A

Section G: Parking Information

Parking Spaces	Minimum	Maximum	Proposed
Regular Spaces	189	243	216
Handicap Spaces	0	0	3
Total Spaces	NA	NA	234
Guest Spaces	NA	NA	18
Bicycle Spaces			27
Surface Type			

Section H: Landscape Buffers

Location (North, South, Street, Etc.)	Minimum Width	Proposed Width	Alternate Buffer	Modify Buffer
Homestead Road - North External	15Feet B	15 Feet	☐ Yes	☒ Yes
UNC Property - East	10 Feet B	10 Feet	☐ Yes	☒ Yes
UNC Property - South	10 Feet B	10 Feet	☐ Yes	☒ Yes
The Courtyards - West	None	None	☐ Yes	☒ Yes

Section I: Land Use Intensity

Existing Zoning District:
Proposed Zoning Change *(if any)*:

Zoning – Area – Ratio			Impervious Surface Thresholds			Minimum and Maximum Limitations	
Zoning District(s)	**Floor Area Ratio (FAR)**	**Recreation Space Ratio (RSR)**	**Low Density Residential (0.24)**	**High Density Residential (0.50)**	**Non-Residential (0.70)**	**Maximum Floor Area (MFA) = FAR x GLA**	**Minimum Recreation Space (MSR) = RSR x GLA**
R-5	.303	.050		373,363		226,258	34,085
ADU BONUS						54,400	
TOTAL						280,658	34,085
RCD Streamside		0.01					NA
RCD Managed		0.019					NA
RCD Upland							NA

Section J: Utility Service

Check all that apply:

Water	☒ OWASA	☐ Individual Well	☐ Community Well	☐ Other
Sewer	☒ OWASA	☐ Individual Septic Tank	☐ Community Package Plant	☐ Other
Electrical	☒ Underground	☐ Above Ground		
Telephone	☒ Underground	☐ Above Ground		
Solid Waste	☒ Town	☐ Private		

CONDITIONAL ZONING APPLICATION SUBMITTAL REQUIREMENTS

TOWN OF CHAPEL HILL
Planning Department

The following must accompany your application. Failure to do so will result in your application being considered incomplete. For assistance with this application, please contact the Chapel Hill Planning Department (Planning) at (919) 968-2728 or at planning@townofchapelhill.org.

	Application fee (including Engineering Review fee) (refer to fee schedule)	Amount Paid $	63,368.80
	Pre-application meeting –with appropriate staff		
	Digital Files – provide digital files of all plans and documents		
	Recorded Plat or Deed of Property		
	Project Fact Sheet		
	Traffic Impact Statement – completed by Town's consultant (or exemption)		
	Description of Public Art Proposal, if applicable		
	Statement of Justification		
	Response to Community Design Commission and Town Council Concept Plan comments, if applicable		
	Affordable Housing Proposal, if applicable		
	Statement of Consistency with Comprehensive Plan or request to amend Comprehensive Plan		
	Mailing list of owners of property within 1,000 feet perimeter of subject property (see GIS notification tool)		
	Mailing fee for above mailing list (mailing fee is double due to 2 mailings)	Amount Paid $	137
	Written Narrative describing the proposal, including proposed land uses and proposed conditions		
	Resource Conservation District, Floodplain, & Jordan Buffers Determination – necessary for all submittals		
	Jurisdictional Wetland Determination – if applicable		
	Resource Conservation District Encroachment Exemption or Variance (determined by Planning)		
	Jordan Buffer Authorization Certificate or Mitigation Plan Approval (determined by Planning)		
	Reduced Site Plan Set (reduced to 8.5" x 11")		

Stormwater Impact Statement (1 copy to be submitted)

a) Written narrative describing existing & proposed conditions, anticipated stormwater impacts and management structures and strategies to mitigate impacts
b) Description of land uses and area (in square footage)
c) Existing and proposed impervious surface area in square feet for all subareas and project area
d) Ground cover and uses information
e) Soil information (classification, infiltration rates, depth to groundwater and bedrock)
f) Time of concentration calculations and assumptions
g) Topography (2-foot contours)
h) Pertinent on-site and off-site drainage conditions
i) Upstream and/or downstream volumes
j) Discharges and velocities
k) Backwater elevations and effects on existing drainage conveyance facilities
l) Location of jurisdictional wetlands and regulatory FEMA Special Flood Hazard Areas
m) Water quality volume calculations
n) Drainage areas and sub-areas delineated
o) Peak discharge calculations and rates (1, 2, and 25-year storms)
p) Hydrographs for pre- & post-development without mitigation, post-development with mitigation
q) Volume calculations and documentation of retention for 2-year storm

r) 85% TSS removal for post-development stormwater runoff
s) Nutrient loading calculations
t) BMP sizing calculations
u) Pipe sizing calculations and schedule (include HGL & EGL calculations and profiles)

Plan Sets (10 copies to be submitted no larger than 24" x 36")

Plans should be legible and clearly drawn. All plan set sheets should include the following:

- Project Name
- Legend
- Labels
- North Arrow (North oriented toward top of page)
- Property boundaries with bearing and distances
- Scale (Engineering), denoted graphically and numerically
- Setbacks
- Streams, RCD Boundary, Jordan Riparian Buffer Boundary, Floodplain, and Wetlands Boundary, where applicable
- Revision dates and professional seals and signatures, as applicable

Cover Sheet

a) Include Project Name, Project fact information, PIN, and Design Team

Area Map

a) Project name, applicant, contact information, location, PIN, & legend
b) Dedicated open space, parks, greenways
c) Overlay Districts, if applicable
d) Property lines, zoning district boundaries, land uses, project names of site and surrounding properties, significant buildings, corporate limit lines
e) Existing roads (public & private), rights-of-way, sidewalks, driveways, vehicular parking areas, bicycle parking, handicapped parking, street names
f) 1,000' notification boundary

Existing Conditions Plan

a) Slopes, soils, environmental constraints, existing vegetation, and any existing land features
b) Location of all existing structures and uses
c) Existing property line and right-of-way lines
d) Existing utilities & easements including location & sizes of water, sewer, electrical, & drainage lines
e) Nearest fire hydrants
f) Nearest bus shelters and transit facilities
g) Existing topography at minimum 2-foot intervals and finished grade
h) Natural drainage features & water bodies, floodways, floodplain, RCD, Jordan Buffers & Watershed boundaries

Detailed Site Plan

a) Existing and proposed building locations
b) Description & analysis of adjacent land uses, roads, topography, soils, drainage patterns, environmental constraints, features, existing vegetation, vistas (on and off-site)
c) Location, arrangement, & dimension of vehicular parking, width of aisles and bays, angle of parking, number of spaces, handicapped parking, bicycle parking. Typical pavement sections & surface type.
d) Location of existing and proposed fire hydrants
e) Location and dimension of all vehicle entrances, exits, and drives
f) Dimensioned street cross-sections and rights-of-way widths
g) Pavement and curb & gutter construction details
h) Dimensioned sidewalk and tree lawn cross sections
i) Proposed transit improvements including bus pull-off and/or bus shelter
j) Required landscape buffers (or proposed alternate/modified buffers)
k) Required recreation area/space (including written statement of recreation plans)
l) Refuse collection facilities (existing and proposed) or shared dumpster agreement
m) Construction parking, staging, storage area, and construction trailer location
n) Sight distance triangles at intersections
o) Proposed location of street lights and underground utility lines and/or conduit lines to be installed
p) Easements
q) Clearing and construction limits
r) Traffic Calming Plan – detailed construction designs of devices proposed & associated sign & marking plan

Stormwater Management Plan

a) Topography (2-foot contours)
b) Existing drainage conditions
c) RCD and Jordan Riparian Buffer delineation and boundary (perennial & intermittent streams; note ephemeral streams on site)
d) Proposed drainage and stormwater conditions
e) Drainage conveyance system (piping)
f) Roof drains
g) Easements
h) BMP plans, dimensions, details, and cross-sections
i) Planting and stabilization plans and specifications

Landscape Protection Plan

a) Rare, specimen, and significant tree survey within 50 feet of construction area
b) Rare and specimen tree critical root zones
c) Rare and specimen trees proposed to be removed
d) Certified arborist tree evaluation, if applicable
e) Significant tree stand survey
f) Clearing limit line
g) Proposed tree protection/silt fence location
h) Pre-construction/demolition conference note
i) Landscape protection supervisor note
j) Existing and proposed tree canopy calculations, if applicable

Planting Plan

a) Dimensioned and labeled perimeter buffers
b) Off-site buffer easement, if applicable
c) Landscape buffer and parking lot planting plan (including planting strip between parking and building, entryway planting, and 35% shading requirement

Steep Slope Plan

a) Classify and quantify slopes 0-10%, 10-15%, 15-25%, and 25% and greater
b) Show and quantify areas of disturbance in each slope category
c) Provide/show specialized site design and construction techniques

Grading and Erosion Control Plan

a) Topography (2-foot contours)
b) Limits of Disturbance
c) Pertinent off-site drainage features
d) Existing and proposed impervious surface tallies

Streetscape Plan, if applicable

a) Public right-of-way existing conditions plan
b) Streetscape demolition plan
c) Streetscape proposed improvement plan
d) Streetscape proposed utility plan and details
e) Streetscape proposed pavement/sidewalk details
f) Streetscape proposed furnishing details
g) Streetscape proposed lighting detail

Solid Waste Plan

a) Preliminary Solid Waste Management Plan
b) Existing and proposed dumpster pads
c) Proposed dumpster pad layout design
d) Proposed heavy duty pavement locations and pavement construction detail
e) Preliminary shared dumpster agreement, if applicable

Construction Management Plan

a) Construction trailer location
b) Location of construction personnel parking and construction equipment parking
c) Location and size of staging and materials storage area
d) Description of emergency vehicle access to and around project site during construction
e) Delivery truck routes shown or noted on plan sheets

Energy Management Plan

a) Description of how project will be 20% more energy efficient than ASHRAE standards
b) Description of utilization of sustainable forms of energy (Solar, Wind, Hydroelectric, and Biofuels)
c) Participation in NC GreenPower program
d) Description of how project will ensure indoor air quality, adequate access to natural lighting, and allow for proposed utilization of sustainable energy
e) Description of how project will maintain commitment to energy efficiency and reduced carbon footprint over time
f) Description of how the project's Transportation Management Plan will support efforts to reduce energy consumption as it affects the community

Exterior Elevations

a) An outline of each elevation of the building, including the finished grade line along the foundation (height of building measured from mean natural grade)

Homestead Road Tri Pointe

WRITTEN NARRATIVE

(REV. August 26, 2022)

Goals and Objectives:

The program for the project is to develop 108 townhomes complementary to the nearby communities along Homestead Road and consistent with the 2020 Comprehensive Plan as well as the FLUM.

Natural Features of the Site

The geometry of the site is rectangular and bounded on the North face by Homestead Rd, on the East & South faces by the Carolina North Forest and on the West by a newer cottage style retirement community. The site generally slopes gently from the southeast corner to the northwest corner.

Circulation and Mitigation of Traffic impacts

Following both the geometry of the site and the topography, the townhomes are laid out following the northeast and northwest facing boundaries and the resulting roads. There is internal circulation on the site as well as fire access from both Kipling Lane as well as Homestead Road. The Kipling Lane access point additionally provides a second means of access for the neighboring development. The main road connects to the adjacent, previously stubbed out Kipling Lane of the bordering Western property. Bus service is available along Homestead road for some mitigation of traffic impacts. Homestead road has been designed for an additional center lane. This property has already dedicated additional right-of-way to accommodate that improvement. Discussions with DOT have indicated that main access road will be located to provide sufficient storage space on Homestead for turning vehicles in the center lane.

Arrangement and Orientation of Buildings

The buildings are arranged in clusters surrounding preserved open spaces with existing hardwood forest. The rectilinear orientation allows for many of the homes to face the wooded areas. The townhomes are arranged in clusters of primarily four units with a few six unit clusters. The lots are generally 110 feet deep. The orientation of the lots and their depth allow for some privacy mitigation on backyard to backyard conditions. The units in the center core of the site will respond to an open common area between the units with a sidewalk and connection to recreation facilities on site.

Natural Vegetation and Landscape

Large areas of natural vegetation are intended to be preserved among the townhome clusters. The site is very flat and minimal grading will be required to achieve the building pads at grade. This allows larger areas of existing wooded areas to be preserved. The landscaping included will consist of street trees as required along the major public roadways, and landscaped buffers where required along the neighboring properties.

Impact on Neighboring Properties

The property is surrounded on three sides with permanent open space as dedicated parkland on the south and east, and Homestead Road on the north. The immediate western neighborhood is a development at 3.5 units per acre. The impact of this property on that neighborhood will be the completion of its required fire access road. The properties being developed across Homestead Road from this property is a townhome community with similar density. It is also anticipated that development of this parcel will help alleviate a stormwater flow problem that currently exists on the neighboring properties.

Erosion, Sedimentation and Stormwater
Erosion and sedimentation will only be a factor during the construction phase of the development. During that phase, all applicable Orange County erosion control measures will be undertaken as part of the approval and inspection process.

Stormwater management will consist of routing water from the impervious surfaces of roof and roadway to collection and conveyances leading to a detention pond facility on site. Currently heavy rains from this site naturally drain to the neighboring property. Development of this property should have the effect of channeling much of the migrating flow from crossing the property line to being channeled to the stormwater management devices thus improving the flow conditions naturally occurring during heavy rain events.

The stream determination performed by the Town indicated that there was an ephemeral stream near the south east boundary of the property, but that there were no streams at all on the property. See Attachment 9 provided with the submittal.

Additionally, the property is not within the Jordan lake Watershed Protection District.

Access to the Courtyards
The developer, planning department, fire chief and the neighbors have met on several occasions to discuss the access connection at Kipling Drive to this development. The result, which is indicated on the submission, includes a pedestrian and bike connection between the two projects with signage that states “for Emergency Vehicles Only”. The right of way will be 45’ similar to the other right of ways throughout the development. The paved surface, however, will be narrowed to the minimum required for emergency vehicle access.

Building Facades

The building facades are staggered with varying depths and roof configurations to eliminate the “wall” effect that may be inferred from simply viewing the lot lines on the site plan documents. See attached rendering of proposed units for varying image.

Rendered Elevations for Proposed 2217 Homestead Road Townhomes

Homestead Road Tri Pointe

STATEMENT OF JUSTIFICATION AND COMPLIANCE WITH THE COMPREHENSIVE PLAN

Revised August 26, 2022

Compliance with the Comprehensive Plan

The sections of the 2020 Comprehensive Plan that are particularly applicable to this project focus on the need in the community to provide a variety of housing types- Big Idea number 4. We believe that providing both the units for affordable housing as a component of this development, as well as the development as-a-whole providing a townhouse community, meets the expectations and accomplishes the goals of the 2020 Comprehensive Plan as well as the Future Land Use Map for 2050. This project responds to the Themes and Goals in Chapter 3 of the Comprehensive Plan as follows:

THEMES

1. ***A Place for Everyone*** -
The need for affordable housing is clear in the first theme. This project provides for both mid- range housing in the townhomes as well as the affordable housing indicated in the LUMO. The townhome development is in concert with the Future Land Use Map and provides an alternate housing type to the predominant single family detached home or rental apartment in Chapel Hill. It is also anticipated that these townhomes will be a bridge in cost between single family and apartments. A mid-range.

2. ***Community Prosperity and Engagement***
A key element in prosperity and engagement, the second theme, is "sustaining healthy neighborhoods". This project provides new housing in a locus of existing R-5 neighborhoods, expanding the same fabric of that neighborhood. We anticipate that this neighborhood will be very cohesive and have the amenities of the University property as parkland adjacent. Community and gathering spaces are provided on-site as part of the recreation element that should contribute to a "healthy" neighborhood character.

3. ***Getting Around***
Key in the Getting Around theme is linking neighborhoods to thriving greenways, sidewalks, bicycle amenities and other options. The proximity of this project to the existing Carolina North Forest greenway & trails, and the anticipated payment in lieu providing support for the continued operation of the nearby Homestead Park and the Carolina North Forest's greenway and bicycle friendly neighboring property indicates the contribution this project will make to keeping Chapel Hill greenway and park facilities thriving. Additionally, this project will construct several hundred feet of multi-use trail along Homestead Road.

4. ***Good Places New Spaces***

This theme talks about "balancing respect for the old with the prospect of the new". This development as a continuation of the existing density and housing type of its neighbors, respects its neighborhood, but will provide an updated and newer version of this housing type.

5. ***Nurturing Our Community***

Environmental Sustainability and aspects of people's interaction with the natural habitat from parks and open spaces are the focus of this theme. With the existing wooded areas of UNC surrounding it to remain, there is great opportunity for the residents to interact with the immediate natural habitat. The proximity of Homestead Park, The Senior Center Southern Human Services Center and the Carolina North Forest, greenway and trails abutting the property, virtually insures that the residents will have the ability to take advantage of the Town and County park facilities. The saved natural treed areas within the site further enhance the interaction with the natural habitat.

6. ***Town and Gown Collaboration***

While there is no direct linkage between this project and the University, there is every likelihood that a significant number of the residents will in some way be associated with UNC. Providing housing for primarily UNC employees will be a major impact of this project on the Town and Gown relationship. It is not anticipated nor is it a goal of the developers that this project will provide student housing.

GOALS

PFE.1 – Family Friendly, accessible exterior and interior places throughout the town for a variety of active uses.

This townhome project of primarily three bedroom for-sale properties is certainly aimed at being family friendly. The site is additionally accessible both in terms of being ADA compliant as well as providing comfortable and inviting outdoor common areas and gathering spaces.

PFE.2 – A creative place to live, work, and play because of Chapel Hill's arts and culture.

The site is located within walking proximity to Homestead Park, Chapel Hill North trails, the Southern Orange Senior Center and the Chapel Hill Aquatics Center. All of which offer opportunities to engage in some of Chapel Hill's cultural and recreational activities.

PFE.3 – A range of housing options for current and future residents.

Homestead Road townhomes is providing a mid-range housing type that is currently under-represented in the Chapel Hill market. It expands the range of options for current and future residents.

PFE.4 – A welcoming and friendly community that provides all people with access to opportunities

Of the 108 townhomes in the community, 16 will be reserved as affordable housing to serve Chapel Hill residents at 65% and 80% of AMI creating home ownership opportunity for a wider range of Chapel Hill residents.

PFE.5 – A community of high civic engagement and participation.

As a housing community, the Homeowners Association created by this development, will provide a vehicle for the members of the community to voice their opinions and engage in civic activities.

FLUM Compliance

The 2050 Future Land Use Map, (FLUM) South MLK Boulevard Focus Area indicates that this site has a primary use as multi-family, as Sub Area A. , with townhomes as the recommended housing type. Page 44 of the December 2020 FLUM charts sub area A for Character Types and Height in 2050: South MLK Boulevard.

In recent conversations with Brian Peterson in the Town Manager's office, the preference for providing housing in Chapel Hill that addresses the "Missing Middle" has been addressed. Chapel Hill has a substantial inventory of single family homes. It also has recently developed a significant inventory of Apartments. Townhomes represent a form of "missing middle" housing types. Although there are certainly other townhome communities in Chapel Hill, they are under-represented overall. This project will help address that shortage. We also believe that the term "missing middle" applies to both the cost aspect of the homes as well as the building type.

Homestead Road Tri Pointe

STATEMENT OF JUSTIFICATION AND COMPLIANCE WITH THE COMPREHENSIVE PLAN

Revised August 26, 2022

Climate Action and Response Plan

This project will work with the Town's stated goals of affecting climate change by providing full electric services to the new homes. Within the framework of the current construction the following are provided:

Watersense Faucets and Fixtures – 1.5 gpm or 30% reduction from standard fixtures
Tankless water heaters – 8% -14% more energy efficient than standard
Energy Star Dishwashers – 12% more energy efficient and 30% more water efficient
Toilets – 1.28gpf – 20% less water than current federal standard
EV outlet in garage – Available
Rough in for optional solar panels included
Whole House LED lighting standard
Whole House energy management system included
Low E glazing standard
Techshield Radiant Barrier Roof Sheathing included
LOW VOC Paints standard
Programmable W—Fi thermostats standard
Merv 13 Air Filters
Duke Energy Hero Plan

Central West Small Area Plan

The major elements of the Central West Small Area Plan are focused on predominantly community and municipal actions that will lead to the development of successful town infrastructure. A few of the Principles, however, do pertain to the townhome development on Homestead Road.

Principle 3 – Create Social Connections: B; Include a variety of public spaces for all ages at a variety of scales with trees/vegetation, shade and places for sitting, and D; provide pedestrian and bicycle connections that encourage interpersonal connections to public gathering places throughout the area.

Principle 4 – Improve Physical Connections: The townhome project satisfies Objectives B, C, E and G providing linking pathways, bicycle connectivity, street and trails.

Principle 6 – Enhance the Pedestrian/Bicycle experience. The 10 foot wide multi-use trail that this project constructs along Homestead Road will be a link in developing this principle.

Principle 9 – A Diverse Population. The 16 affordable units in this development will contribute to providing opportunity for a more diverse economic population.

Principle 10 – Respect Existing Neighborhoods – This project is working with the neighboring communities to both connection at the emergency vehicle and pedestrian level and provide privacy in the proximity of housing.

Principle 11: - Employ Environmentally Sound Practices - Most applicable components of this Principle are being employed in this project. It is capturing site run-off, maintaining tree cover, promoting gree building and construction standards, burying utility and power lines, utilizing native and non-invasive plant species.

Principle 12 – Feature, Repair, and Enhance Natural Resources – This project provides open space amenities, best management practices for stormwater, and preserves natural features.

Mobility and Connectivity Plan
Chapel Hill Bike Plan

The Mobility and Connectivity Plan as well as the Chapel Hill Bike Plan primarily address improvements made in the public right of way. The contribution to this plan that this townhome project includes is the ten foot multi-use pathway along Homestead Road. This feature provides a wide surface to accommodate both pedestrian as well as bicycle traffic and provides a missing link between the portion completed in front of the Courtyards development, and the continuation of the trail on the eastern portion of the site. Bike parking facilities on site adjacent to guest parking and the recreation and gathering facilities, should encourage bike use within the neighborhood.

HOMESTEAD ROAD TOWNHOMES

CONSULTANT:

STEWART

101 WEST MAIN ST.
DURHAM, NC 27701
T 919.380.8750

FIRM LICENSE #: C-1051
www.stewartinc.com
PROJECT #: C22033

APPLICANT:

GS HOMESTEAD, LLC
121 S. ESTES DRIVE, SUITE 100
CHAPEL HILL, NC 2514

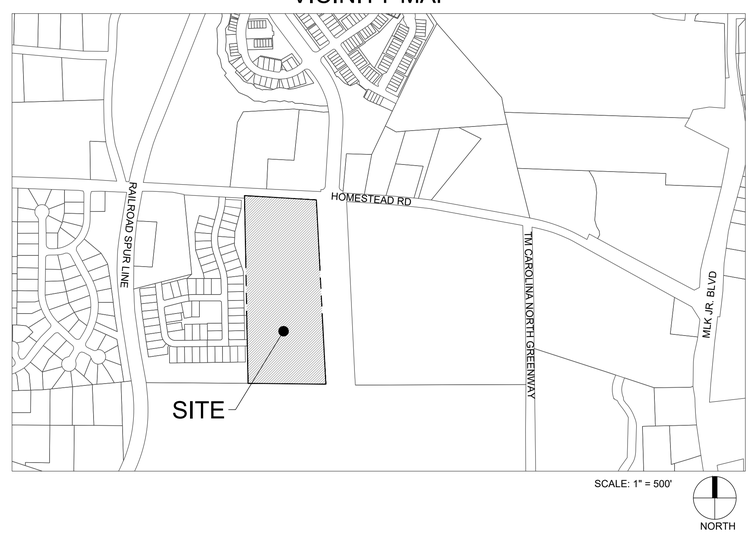
PARCEL INFORMATION:

SITE DATA	
PROJECT NAME:	HOMESTEAD ROAD TOWNHOMES
SITE ADDRESS:	2217 HOMESTEAD ROAD
COUNTY:	ORANGE
PARCEL PIN #:	9870907642
PARCEL OWNER:	GS HOMESTEAD, LLC
TOTAL PARCEL AREA:	15.65
PROPOSED UNITS:	108 TOWNHOME (16 AFFORDABLE UNITS)
CURRENT ZONING:	R-5-CZD
PROPOSED ZONING:	R-5-CZD
EXISTING LAND USE:	RESIDENTIAL
PROPOSED LAND USE:	TOWNHOUSE DEVELOPMENT
FLOOD PLAIN DATA:	MAP NO. 3710987000K, PANEL EFFECTIVE 11/17/2017
WATERSHED:	JORDAN LAKE
RIVER BASIN	CAPE FEAR
TREE CONSERVATION AREA::	30%
TOTAL LIMITS OF DISTURBANCE::	13.16 AC/ 573,159 SF
EXISTING IMPERVIOUS AREA:	0.35 AC / 15,438 SF
PROPOSED IMPERVIOUS AREA:	6.48 AC / 282,274 SF
PARKING DATA:	
MINIMUM REQUIRED:	1.75 SPACE PER 3 BEDROOM = 189 SPACE
MAXIMUM ALLOWED:	2.25 SPACE PER 3 BEDROOM = 243 SPACE
PROVIDED:	2 SPACE PER UNIT = 216 SPACE 18 GUEST PARKING (2 ADA & 1 VAN) TOTAL: 234 SPACE
BICYCLE PARKING:	
REQUIRED:	1 SPACE PER 4 UNITS = 27 SPACE
PROVIDED:	4 SPACE (2 RACKS) IN NEIGHBORHOOD PARK; REST PROVIDED IN TOWNHOME UNITS

CONDITIONAL ZONING PERMIT

JUNE 24, 2022
2217 HOMESTEAD ROAD
CHAPEL HILL, NORTH CAROLINA
2ND RESUBMITTAL - OCTOBER 7,2022

VICINITY MAP



INDEX OF DRAWINGS	
Sheet #	SHEET NAME
C0.00	COVER SHEET
C0.10	GENERAL NOTES
C0.20	AREA MAP
C1.00	EXISTING CONDITIONS & DEMOLITION PLAN
C1.10	STEEP SLOPE ANALYSIS
C1.20	CONSTRUCTION MANAGEMENT PLAN
C3.00	SITE PLAN
C3.10	TRASH MANAGEMENT & FIRE APPARATUS PLAN
C3.90	SITE DETAILS
C3.91	SITE DETAILS
C5.00	GRADING & STORM DRAINAGE PLAN
C6.00	UTILITY PLAN
L7.00	CODE PLANTING PLAN
L7.10	LANDSCAPE PROTECTION PLAN
L7.11	LANDSCAPE PROTECTION PLAN - TREE SURVEY
L7.90	PLANTING & SOILS DETAILS
A1.00	EXTERIOR ELEVATION

HOMESTEAD ROAD TOWNHOMES - CONDITIONAL ZONING PERMIT

Sheet #:
C0.00

GENERAL NOTES:

1. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE OFFICE OF STATE CONSTRUCTION, DEPARTMENT OF INSURANCE, NCDENR, AND ALL OTHER APPLICABLE LOCAL, STATE AND FEDERAL GUIDELINES. ALL UTILITY CONSTRUCTION SHALL COMPLY WITH APPLICABLE LOCAL JURISDICTIONAL STANDARDS AND SPECIFICATIONS.
2. EXISTING SURVEY INFORMATION INCLUDING TOPOGRAPHIC INFORMATION PROVIDED BY STEWART , UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF ANY WORK. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES OR CONFLICTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING, COORDINATING AND PAYMENT FOR ALL NECESSARY LOCATING SERVICES INCLUDING INDEPENDENT LOCATING SERVICES. THE CONTRACTOR SHALL PROVIDE NOTICE OF EXCAVATION TO NOTIFICATION CENTER AND FACILITY OWNERS (PER NC STATUTE) NO LESS THAN 3 BUSINESS DAYS AND NO MORE THAN 12 WORKING DAYS PRIOR TO BEGINNING DEMOLITION, EXCAVATION OR ANY OTHER FORM OF CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES OR CONFLICTS. NO EXCAVATION OR DEMOLITION SHALL BE STARTED WITHOUT ALL UTILITIES BEING LOCATED.
4. ALL SUB-SURFACE UTILITIES IDENTIFIED ON THE CONSTRUCTION DOCUMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATION BASED ON SURVEY INFORMATION GATHERED FROM FIELD INSPECTION AND/OR ANY OTHER APPLICABLE RECORD DRAWINGS WHICH MAY BE AVAILABLE. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES OR CONFLICTS.
5. EXISTING IMPROVEMENTS DAMAGED OR DESTROYED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED OR REPLACED TO ORIGINAL CONDITION AND TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND COORDINATING PERMITS, INSPECTIONS, CERTIFICATIONS AND OTHER REQUIREMENTS WHICH MUST BE MET UNDER THIS CONTRACT.
7. THE CONTRACTOR SHALL MAINTAIN “AS-BUILT” DRAWINGS TO RECORD THE ACTUAL LOCATION OF ALL PIPING PRIOR TO CONCEALMENT, VALVE AND MANHOLE CHANGES, AND HARDSCAPE OR LANDSCAPE CHANGES. DRAWINGS SHALL BE PROVIDED TO THE OWNER'S REPRESENTATIVE AT REGULAR INTERVALS, OR AS REQUESTED THROUGHOUT THE PROJECT FOR RECORD KEEPING.
8. IF DEPARTURES FROM THE PROJECT DRAWINGS OR SPECIFICATIONS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THERE OF SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR REVIEW. NO DEPARTURES FROM THE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE OWNER'S REPRESENTATIVE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RELOCATION OF ANY EXISTING UTILITY LINES REQUIRED TO COMPLETE ANY PORTION OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE COORDINATION AND COSTS OF THE RELOCATION AND ASSOCIATED WORK.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS AND RUBBISH CAUSED BY THE CONTRACTOR. ALL DEBRIS SHALL BE REMOVED FROM THE PROJECT SITE ON A DAILY BASIS.
11. THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND/OR METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.
12. ROADWAYS (TEMPORARY OR PERMANENT) MUST BE CAPABLE OF SUPPORTING FIRE FIGHTING APPARATUS (85,000 LBS) DURING ALL PHASES OF CONSTRUCTION ONCE VERTICAL CONSTRUCTION HAS BEGUN.

EXISTING CONDITION NOTES:

1. THIS SURVEY MAP IS INTENDED TO REPRESENT THE EXISTING CONDITIONS/TOPOGRAPHY ON A PORTION OF THE PROPERTY AND ALL ENCUMBRANCES UPON THE PROPERTY MAY NOT BE SHOWN.
2. HORIZONTAL DATUM IS NAD 83-2011 AND VERTICAL DATUM IS NAVD88.
3. THIS DRAWING DOES NOT CONFORM TO N.C. GS47-30 AND THEREFORE IS NOT FOR RECORDATION.
4. UTILITIES SHOWN HEREON ARE BASED ON ABOVE GROUND VISIBLE EVIDENCE AND UTILITY DESIGNATION / MARKING SERVICES PERFORMED BY STEWART INC, AND THE AVAILABLE RECORD INFORMATION. CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
5. SURVEY INFORMATION BASED ON FIELD SURVEY BY STEWART COMPLETED ON AUGUST 1, 2017.
6. TREES SHOWN HEREON MAY NOT REPRESENT ALL VEGETATION ON THE SUBJECT PROPERTY.
7. THE SUBJECT PROPERTY LIES IN ZONES X (AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE AND FUTURE CONDITIONS 1% ANNUAL CHANCE FLOODPLAIN). BASED ON THE FLOOD INSURANCE RATE MAP COMMUNITY MAP NUMBER 3710987000J DATED FEBRUARY 2, 2007.

DEMOLITION NOTES:

1. THE CONTRACTOR SHALL REMOVE CONCRETE (WHERE REQUIRED) TO THE FIRST COLD JOINT OR SAW CUT TO OBTAIN A CLEAN EDGE.
2. THE CONTRACTOR SHALL SAWCUT EXISTING ASPHALT (WHERE REQUIRED) TO OBTAIN A CLEAN EDGE.
3. CLEANOUTS AND WATER VALVES LOCATED IN AREAS OF DEMOLITION OR SUBSEQUENT CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE AND RAISED TO BE FLUSH WITH NEW GRADE.
4. ANY UTILITY SERVICES SHOWN TO BE REMOVED OR RELOCATED SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY PROVIDER. CONTRACTOR IS RESPONSIBLE FOR APPROPRIATE SEQUENCING OF UTILITY DEMOLITION WITH THE RESPECTIVE UTILITY AGENCIES.
5. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITIES PRIOR TO BEGINNING DEMOLITION OPERATIONS. NOTIFY "NORTH CAROLINA ONE CALL" (TELEPHONE 1-800-632-4949) AT LEAST 48 HOURS PRIOR TO START OF DEMOLITION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR SHALL CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "NORTH CAROLINA ONE CALL."
6. CLEAN SOILS SHALL BE UTILIZED FOR BACKFILL. COMPACTION OF THESE SOILS SHALL BE PERFORMED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
7. ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE REMOVED COMPLETELY, INCLUDING ALL SUBGRADE MATERIALS DIRECTLY ASSOCIATED WITH ITEMS TO BE REMOVED.
8. ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF LEGALLY OFF-SITE UNLESS OTHERWISE NOTED ON THIS PLAN.
9. REFER TO LANDSCAPE AND EROSION CONTROL DRAWINGS FOR TREE PROTECTION PLAN AND REQUIREMENTS.
10. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL JURISDICTIONAL CODES OR REQUIREMENTS.
11. TREE PROTECTION FENCING SHALL BE IN PLACE PRIOR TO BEGINNING DEMOLITION
12. EROSION CONTROL PERMIT SHALL BE OBTAINED AND ONSITE PRIOR TO BEGINNING DEMOLITION.
13. ITEMS DESIGNATED TO BE SALVAGED AND/OR RE-USED SHALL BE REMOVED BY THE CONTRACTOR AND PROVIDED TO THE OWNER. COORDINATE STORAGE LOCATION WITH OWNER'S REPRESENTATIVE.
14. WHERE UTILITIES ("TO BE REMOVED") IMPACT THE FOOTPRINT OF THE NEW BUILDING, THE CONTRACTOR SHALL EXECUTE AND REMOVE AN ADDITIONAL 2 FEET OF SOILS TO EITHER SIDE OF THE PIPE, AND 1 FOOT BELOW. CLEAN SUITABLE SOIL SHALL BE UTILIZED FOR BACKFILL AND COMPACTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
15. DEMOLITION AND SUBSEQUENT CONSTRUCTION OF STORM DRAINAGE PIPING SHALL BE PERFORMED IN SUCH A MANNER THAT THE OLD PIPE AND STRUCTURES REMOVED DO NOT IMPACT DRAINAGE UPSTREAM OF THE SYSTEM. PROVISIONS SHALL BE MADE TO MAINTAIN STORM WATER DRAINAGE PATTERNS DURING CONSTRUCTION.
16. DEMOLITION AND SUBSEQUENT CONSTRUCTION OF UTILITIES (WATER, SEWER, ETC) SHALL BE PERFORMED IN SUCH A MANNER THAT THE OLD PIPE AND STRUCTURES REMOVED DO NOT IMPACT OR MINIMIZE SERVICE INTERRUPTION TO EXISTING FACILITIES TO REMAIN. PROVISIONS SHALL BE MADE TO MAINTAIN SERVICE DURING CONSTRUCTION.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL DAMAGES TO THE EXISTING DRIVEWAY, PARKING LOT, SIDEWALK AND CURB AND GUTTER AS A RESULT OF CONSTRUCTION ACTIVITY AND TRAFFIC. CONTRACTOR SHALL MAINTAIN A PRE-CONSTRUCTION VIDEO OR PHOTO DOCUMENTATION TO SHOW NO DAMAGES OCCURRED.
18. ALL MATERIALS, FURNISHINGS, UTILITIES, AND PAVEMENT THAT ARE NOT SCHEDULED TO BE DEMOLISHED AND ARE DAMAGED BY THE CONTRACTOR AS A RESULT OF THE DEMOLITION OR CONSTRUCTION OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
19. WHERE UTILITIES ARE SHOWN TO BE "REMOVED", CONTRACTOR SHALL INCLUDE NECESSARY PLUG OR VALVES TO ENSURE UTILITY LINES TO REMAIN WILL CONTINUE TO BE IN SERVICE. COORDINATE NECESSARY SHUT DOWN AND REMOVAL WITH THE LOCAL JURISDICTION OR UTILITY OWNER.
20. CONTRACTOR SHALL PROVIDE PEDESTRIAN INGRESS / EGRESS TO ALL EXISTING BUILDINGS, PARKING LOTS, AND PATHS OF PEDESTRIAN TRAVEL THROUGHOUT THE CONSTRUCTION PERIOD

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SITE NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF THE CONSTRUCTION LAYDOWN AREA, PERIMETER FENCE, AND ASSOCIATED GATES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE REMOVAL OF THE CONSTRUCTION LAYDOWN AREA PERIMETER FENCE AND ASSOCIATED GATES AT THE COMPLETION OF THE PROJECT.
2. THE CONTRACTOR SHALL REFERENCE THE DESIGN PLANS FOR DIMENSIONS, JOINT LOCATIONS, AND INLAY SPECIFICATIONS NEAR BUILDINGS AND IN COURTYARDS. CONTRACTOR SHALL PROVIDE JOINTS IN WALKWAYS AND HARDSCAPE PER DETAILS OR AS INDICATED ON LANDSCAPE/HARDSCAPE PLAN SHEETS.
3. REFER TO ARCHITECTURAL PLANS FOR BUILDING INFORMATION.
4. ALL DIMENSIONS ARE IN DECIMAL FEET TO OUTSIDE FACE OF BUILDINGS, TO CENTERLINES, AND/OR FACE OF CURB UNLESS OTHERWISE NOTED.
5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND COORDINATES AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE PRIOR TO ANY CONSTRUCTION.
6. ALL WRITTEN DIMENSIONS SHALL PREVAIL. DO NOT SCALE FROM DRAWINGS.
7. ALL UTILITIES WITH SURFACE ACCESS SHALL BE LOCATED WITHIN THE PAVING PATTERN AND SHALL BE COORDINATED WITH LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION. REFER TO LAYOUT DRAWINGS.
8. ALL ANGLES ARE 90 DEGREES UNLESS OTHERWISE NOTED.
9. ALIGN ALL JOINTS, CORNERS, AND EDGES AS SHOWN
10. CONTRACTOR SHALL REFER TO AND COORDINATE WITH ARCHITECTURAL, STRUCTURAL, AND MEP DRAWINGS AT ALL TIMES PRIOR TO AND DURING CONSTRUCTION.
11. ALL CURB TAPERS ARE SIX (6') FEET LONG UNLESS OTHERWISE SHOWN ON PLAN.
12. WHERE NEW SIDEWALK ADJOINS EXISTING WALK, PROVIDE EXPANSION JOINT BY DRILLING INTO THE FACE OF THE EXISTING WALK FOR PLACEMENT OF DOWELS. TIE NEW SIDEWALKS INTO NEAREST EXISTING PAVEMENT JOINT; MATCH WIDTH OF EXISTING WALKWAY.
13. WHERE SIDEWALK OR WALKWAYS ARE ADJACENT TO PARKING SPACES THE WALKWAY SHALL BE A MINIMUM 6.5' WIDE AS MEASURED FROM THE FACE OF CURB.
14. MAXIMUM RUNNING SLOPE FOR WALKING SURFACES CANNOT BE GREATER THAN 1:20 AND CROSS SLOPES CANNOT BE GREATER THAN 1:48. HANDICAP SPACES SURFACE SLOPES SHALL NOT EXCEED 1:48 IN ALL DIRECTIONS.
15. SIGHT TRIANGLES - NOTHING OVER 30" HIGH SHALL BE ALLOWED WITHIN THE SIGHT DISTANCE TRIANGLES.
16. THE SITE SHALL BE FULLY STABILIZED (90% COVERAGE) PRIOR TO ISSUANCE OF A BUILDING CERTIFICATE OF OCCUPANCY OR PROJECT APPROVAL
17. HANDICAP RAMPS SHALL BE INSTALLED PER THE PLANS AND SPECIFICATIONS AND THE NC BUILDING CODE. A MAXIMUM SLOPE OF 1/12 FOR 6-FEET AND A MAXIMUM CROSS SLOPE OF 1:48 SHALL BE PROVIDED. IF EXISTING CONDITIONS PRECLUDE THIS REQUIREMENT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION
18. THE TESTING AGENCY SHALL BE RESPONSIBLE FOR PROVIDING THE ASPHALT AND CONTRACTOR CERTIFICATION MEMO TO NCDOT FOR ALL ROADWAY IMPROVEMENTS WITHIN THE PUBLIC RIGHT-OF-WAY.

GRADING AND STORM DRAINAGE NOTES:

1. CONTRACTOR SHALL REPORT ANY GRADE DISCREPANCIES TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING CONSTRUCTION OPERATIONS.
2. THE MAXIMUM SLOPE ALONG ANY HANDICAP ACCESSIBLE PATHWAY SHALL NOT EXCEED 5.0% AND SHALL NOT EXCEED A 2.0% CROSS SLOPE. HANDICAP RAMPS INDICATED ON PLANS SHALL BE A MAXIMUM OF 1/12 SLOPES WITH A MAXIMUM RISE OF 30” BETWEEN LANDINGS. NON-CURB CUT RAMPS SHALL HAVE HANDRAILS AND GUARDS PER DETAILS WITH 5' LANDINGS AT THE BOTTOM AND TOP OF RAMP.
3. ALL PROPOSED ELEVATIONS SHOWN ARE EDGE OF PAVEMENT ELEVATIONS UNLESS OTHERWISE SPECIFIED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL NEWLY CONSTRUCTED STORM DRAINAGE IMPROVEMENTS AND RECEIVING STORM DRAINAGE SYSTEMS REMAIN CLEAN OF SEDIMENT AND DEBRIS. PRIOR TO OWNER ACCEPTANCE OF SYSTEM, THE CONTRACTOR SHALL COORDINATE AND PROVIDE A VISUAL OBSERVATION VIDEO OF ALL STORM DRAINAGE IMPROVEMENTS 12" AND LARGER. THE VISUAL OBSERVATION SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL PROVIDE TWO (2) DVD COPIES OF THE ENTIRE DRAINAGE VISUAL OBSERVATION.
5. PRIOR TO ISSUANCE OF A BUILDING CERTIFICATE OF OCCUPANCY THE CONTRACTOR SHALL PROVIDE THE OWNER WITH THE VIDEO INSPECTION OF THE STORM SEWER SYSTEM. (BOTH PUBLIC AND PRIVATE). THIS SUBMITTAL MAY NEED TO BE REVIEWED AND ACCEPTED BY THE LOCAL JURISDICTION PRIOR TO THE ISSUANCE OF THE BUILDING CO.
6. REFER TO THE EROSION CONTROL DETAILS SHEET FOR THE SEQUENCE OF CONSTRUCTION
7. INTERIM GRADING SHALL BE PROVIDED THAT ENSURES THE PROTECTION OF STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, AND WASHOUT.
8. INTERIM GRADING SHALL BE PROVIDED TO DIRECT WATER AWAY FROM BUILDINGS AND PREVENT PONDING.
9. TIE ROOF LEADERS WHERE POSSIBLE TO UNDERGROUND STORM SYSTEM. CONTRACTOR TO FIELD VERIFY LOCATE AND INSTALL WHERE POSSIBLE OR AS SHOWN ON PLANS. WHERE ROOF LEADERS DAYLIGHT AT GRADE A SPLASH BLOCK APPROVED BY THE OWNER'S REPRESENTATIVE SHALL BE INSTALLED.
10. MAXIMUM SLOPE ACROSS ANY HANDICAPPED PARKING SPACE AND AISLE SHALL NOT EXCEED 2% IN ANY DIRECTION.
11. PROPOSED CONTOURS ARE APPROXIMATE. SPOT ELEVATIONS AND ROADWAY PROFILES SHALL BE USED IN CASE OF DISCREPANCY.
12. PLACE BACKFILL AND FILL MATERIALS IN LAYER NOT MORE THAN 8 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 4 INCHES IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS. PLACE BACKFILL AND FILL MATERIALS EVENLY ON ALL SIDES TO REQUIRED ELEVATIONS, AND UNIFORMLY ALONG THE FULL LENGTH OF EACH STRUCTURE. COMPACT SOIL TO NOT LESS THAN 95 PERCENT OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D 698 FOR EACH LAYER OF BACKFILL OR FILL MATERIAL UP TO TWO FEET OF FINISHED GRADE. COMPACT SOIL TO NOT LESS THAN 98 PERCENT OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D 698 FOR EACH LAYER OF BACKFILL OR FILL MATERIAL FOR THE FINAL TWO FEET.
13. SITE GRADING IMMEDIATELY ADJACENT TO FOUNDATION OF BUILDING SHALL SLOPE NOT LESS THAN 1/20 AWAY FOR MINIMUM DISTANCE OF 10 FEET. ALTERNATIVE METHOD SHALL BE PROVIDED TO DIVERT WATER AWAY FROM FOUNDATION VIA SWALES SLOPED AT A MINIMUM OF 2% OR IMPERVIOUS SURFACES SLOPED AWAY A MINIMUM OF 2% AWAY FROM BUILDING.
14. CONTRACTOR SHALL ADJUST RIM ELEVATIONS OF EXISTING MANHOLES, METERS, VALVES, ETC. AS REQUIRED TO MEET NEW FINISHED GRADES.
15. CONTRACTOR SHALL SLOPE GRADES TO ASSURE POSITIVE STORMWATER FLOW TO KEEP WATER FROM POOLING ALONG CURBS AND WALLS.
16. TOP OF WALL ELEVATIONS INDICATE THE ELEVATION AT THE TOP OF THE CAP, UNLESS OTHERWISE NOTED.
17. BOTTOM OF WALL ELEVATIONS INDICATE THE ELEVATION OF THE FINISHED GRADE.

UTILITY NOTES:

1. UNLESS OTHERWISE NOTED, ALL MANHOLES SHALL BE PRE-CAST CONCRETE STRUCTURES.
2. THE CONTRACTOR SHALL COORDINATE THE CONSTRUCTION OF UNDERGROUND UTILITIES (WATER, SEWER, STORM, ELECTRICAL, GAS, OR OTHER) FOR THIS PROJECT WITH THE BUILDING PLANS. THE UTILITY CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE INSTALLATION OF ALL UTILITY SERVICES TO WITHIN FIVE (5) FEET OF THE BUILDING CONNECTION POINT.
3. THE CONTRACTOR SHALL COORDINATE WITH OTHER CONTRACTORS ON SITE AND UTILITY PROVIDERS DURING CONSTRUCTION TO ENSURE SMOOTH TRANSITION BETWEEN DISCIPLINES.
4. THE CONTRACTOR SHALL COORDINATE ALL PEDESTRIAN AND VEHICULAR INTERRUPTIONS WITH OWNER'S REPRESENTATIVE AT LEAST 72 HOURS PRIOR TO BEGINNING WORK.
5. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK INSIDE THE PUBLIC RIGHT OF WAY PRIOR TO RECEIPT AND COMPLIANCE WITH ALL APPLICABLE NCDOT PERMITS. ADDITIONALLY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY FLAGGERS AND TRAFFIC CONTROL DURING ALL WORK INSIDE THE PUBLIC RIGHTS OF WAY.
6. THE CONTRACTOR SHALL NOT RE-USE ANY FIRE HYDRANT REMOVED AS PART OF THIS PROJECT. ANY FIRE HYDRANT SHOWN TO BE REMOVED OR RELOCATED SHALL BE REPLACED WITH A NEW FIRE HYDRANT MEETING THE LOCAL JURISDICTIONAL REQUIREMENTS AND STANDARDS.
7. ALL EXISTING SUB-SURFACE UTILITIES IDENTIFIED ON THE CONSTRUCTION DOCUMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATION BASED ON SURVEY INFORMATION GATHERED FROM FIELD INSPECTION AND/OR ANY OTHER APPLICABLE RECORD DRAWINGS WHICH MAY BE AVAILABLE. DEPTHS OF EXISTING UTILITIES SHOWN IN PROFILE VIEWS ARE BASED ON STANDARD ASSUMPTIONS. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION, DEPTH, SIZE AND MATERIAL OF ANY AND ALL SUB-SURFACE CONDITIONS REFERENCED IN THESE PLANS PRIOR TO ANY EXCAVATION OR CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES OR CONFLICTS.
8. ELEVATIONS OF UTILITIES ARE GIVEN TO THE EXTENT OF INFORMATION AVAILABLE, WHERE ELEVATIONS ARE NOT GIVEN AT POINTS OF EXISTING UTILITY CROSSINGS, SUCH ELEVATIONS SHALL BE DETERMINED BY THE CONTRACTOR AND REPORTED TO THE ENGINEER, WHEN UNKNOWN LINES ARE EXPOSED, THEIR LOCATIONS AND ELEVATIONS SHALL ALSO BE REPORTED TO THE ENGINEER.
9. UNDERGROUND UTILITIES SHOWN ON THIS PLAN SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION OF PARKING AREA, DRIVES, CURB AND GUTTER OR CONCRETE WALKS / PADS. IF UTILITIES SHOWN ON THIS PLAN CANNOT BE INSTALLED PRIOR TO INSTALLATION OF IMPERVIOUS (ASPHALT / CONCRETE) CONDUIT SHALL BE INSTALLED FOR THE “FUTURE” UTILITY INSTALLATION.
10. AS-BUILT DOCUMENTATION REQUIREMENTS: PRIOR TO APPROVAL FROM LOCAL JURISDICTION OR ENGINEER THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS (IN BOTH PAPER AND ELECTRONIC FORMAT (CAD / PDF) PREPARED AND SEALED BY A PROFESSIONAL LAND SURVEYOR SHOWING ALL UTILITY INSTALLATION. HORIZONTAL AND VERTICAL INFORMATION SHALL BE PROVIDED FOR WATER, SEWER, STORM INCLUDING ALL STRUCTURES, VALVES, HYDRANTS, AND OTHER APPURTENANCES.

PROPOSED UTILITY SEPARATION:

1. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM EXISTING OR PROPOSED SEWERS, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10-FOOT HORIZONTAL SEPARATION IN WHICH CASE;
   a. THE WATER MAIN IS LAID IN A SEPARATE TRENCH, WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER; OR
   b. THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER WITH THE WATER MAIN LOCATED AT ONE SIDE OF A BENCH OF UNDISTURBED EARTH, AND WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP TO THE SEWER.
2. CROSSING A WATER MAIN OVER A SEWER. WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER, THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION, IN WHICH CASE BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
3. CROSSING A WATER MAIN UNDER A SEWER. WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.
4. SEPARATION OF SANITARY SEWERS AND STORM SEWERS:
   a. A 18" VERTICAL SEPARATION SHALL BE PROVIDED BETWEEN STORM SEWER AND SANITARY SEWER LINES OR BOTH THE SANITARY AND THE STORM LINES SHALL BE CONSTRUCTED OF FERROUS MATERIALS.

SEWER NOTES:

1. SANITARY SEWER CLEANOUTS LOCATED IN PAVEMENT AREAS SHALL BE HEAVY DUTY TRAFFIC BEARING CASTINGS.
2. UNLESS OTHERWISE NOTED, ALL SANITARY SEWER MANHOLES ARE 4' DIA.
3. MANHOLES LOCATED IN PAVEMENT, CONCRETE OR OTHER TRAFFIC AREAS SHALL BE SET AT GRADE. MANHOLES LOCATED IN OTHER AREAS (I.E. GRASS OR WOODED AREAS) SHALL HAVE THEIR RIMS RAISED SIX INCHES ABOVE THE SURROUNDING GRADE. MANHOLES SUBJECT TO POSSIBLE WATER INFILTRATION SHALL HAVE WATERTIGHT, BOLTED LIDS.
4. MINIMUM REQUIRED SLOPES FOR SEWER SERVICES:
   4" SEWER SERVICE - 2.00% SLOPE
   6" SEWER SERVICE - 1.00% SLOPE
   8" SEWER SERVICE - 0.50% SLOPE
5. UNLESS OTHERWISE NOTED, LOCATE SANITARY SERVICE CLEANOUTS AT ALL HORIZONTAL OR VERTICAL CHANGES IN DIRECTION. MAXIMUM SPACING BETWEEN CLEANOUTS SHALL BE 75 FEET.
6. SEWER LINES LESS THAN 3 FEET OF COVER SHALL BE CLASS 50 DUCTILE IRON PIPE. SEWER LINES WITH GREATER THAN 3 FEET OF COVER SHALL BE AS NOTED BELOW:
   4" SEWER SERVICE - SCH 80
   6" SEWER SERVICE - SCH 80
   8" SEWER SERVICE - SDR-35
7. SEWER LINES UNDER CONSTRUCTION SHALL BE PROTECTED FROM DIRT, DEBRIS OR OTHER CONTAMINANTS ENTERING THE NEW SYSTEM. A MECHANICAL PLUG SHALL BE UTILIZED BOTH IMMEDIATELY UPSTREAM OF THE NEW CONSTRUCTION AND AT THE FIRST MANHOLE DOWNSTREAM IN THE EXISTING SYSTEM. EXISTING STRUCTURES, PIPING AND APPURTENANCES SHALL BE PROTECTED FROM ANY INFLOW OF WATER, DIRT OR DEBRIS DUE TO NEW CONSTRUCTION CONNECTING TO OR IN THE VICINITY OF THE EXISTING SYSTEM. CONTRACTOR TO REMOVE DEBRIS AND PLUG PRIOR TO OCCUPANCY.
8. ALL MANHOLES COVERS SHALL BE PAINTED TO LOCAL JURISDICTIONAL REQUIREMENTS.

WATER NOTES:

1. AS INDICATED, ALL WATERLINES SHALL BE DUCTILE IRON PIPE MEETING THE REQUIREMENTS OF ANSI-AWWA C151 PRESSURE CLASS 350 OR SOFT COPPER TYPE K PIPE PER ASTM B88. IF PVC WATERLINE IS INDICATED ON THE PLANS IT SHALL MEET THE REQUIREMENTS OF AWWA C-900; CLASS 200.
2. ALL WATERLINES SHALL HAVE A MINIMUM OF 3.5 FEET OF COVER.
3. TESTING NOTES:
   PRESSURE:
   LEAKAGE SHALL NOT EXCEED THE MAXIMUM ALLOWABLE LEAKAGE SPECIFIED IN AWWA C 600. MINIMUM TEST PRESSURE SHALL BE 150 PSI FOR DOMESTIC AND 200 PSI FOR FIRE PROTECTION.
   BACTERIOLOGICAL:
   TWO SAMPLES FOR BACTERIOLOGICAL SAMPLING SHALL BE COLLECTED AT LEAST 24 HOURS APART. IF CONTAMINATION IS INDICATED, THEN THE DISINFECTION PROCEDURE AND TESTING SHALL BE REPEATED UNTIL SATISFACTORY RESULTS ARE OBTAINED.
4. THE CHLORINE IN HEAVILY CHLORINATED WATER FLUSHED FROM MAINS NEEDS TO BE NEUTRALIZED BEFORE DISCHARGE. CONTRACTORS SHALL NEUTRALIZE HEAVILY CHLORINATED WATER FLUSHED FROM MAINS PRIOR TO DISCHARGE OR TRANSPORT ALL HEAVILY CHLORINATED WATER OFFSITE FOR PROPER DISPOSAL.
5. PAINT VALVE COVERS, FIRE HYDRANTS AND OTHER WATER APPARATUS TO MEET THE LOCAL JURISDICTIONAL REQUIREMENTS.

MATERIALS AND FURNISHINGS NOTES:

1. ABBREVIATIONS FOR SPECIFIC HARDSCAPE MATERIALS AND FURNISHINGS ARE LISTED IN THE LEGEND AND ARE USED THROUGHOUT THE DRAWING SET'S HARDSCAPE & FURNISHINGS PLANS, PAVING PATTERN PLANS AND SITE DETAILS.
2. REFER TO RELATED SPECIFICATION SECTION FOR SPECIFIC SUBMITTALS OF PRODUCT DATA, SAMPLES, SHOP DRAWINGS, QUALITY ASSURANCE REQUIREMENTS, EXECUTION REQUIREMENTS, AND FOR FURTHER PRODUCT INFORMATION NOT INCLUDED IN THIS SCHEDULE
3. CONTRACTOR TO SUBMIT COLOR SAMPLES AND PROVIDE MOCK-UPS FOR ALL CAST IN PLACE CONCRETE FOR APPROVAL BY LANDSCAPE ARCHITECT.

PAVING PATTERN NOTES:

1. END ALL UNIT PAVING PATTERNS WITH A FULL OR HALF SIZE PAVER UNLESS OTHERWISE NOTED. USE OVERSIZE PAVERS WHERE PATTERN ENDS ON A UNIT SMALLER THAN HALF SIZE.
2. LAYOUT OF UNIT PAVING PATTERNS AND CONCRETE JOINTS AS INDICATED ON THIS PLAN. REFERENCE LAYOUT PLANS FOR FURTHER PAVING LAYOUT INFORMATION.
3. PAVERS ABUTTING TRUNCATED DOMES SHALL BE A CONTRASTING COLOR.
4. ALIGN ALL TRUNCATED DOME PAVER JOINTS WITH ABUTTING PAVER JOINTS.
5. PROVIDE CONTINUOUS EXPANSION JOINTS BETWEEN BACK OF CURB AND ADJOINING PAVEMENT.
6. PROVIDE CONTINUOUS EXPANSION JOINT BETWEEN ALL VERTICAL SURFACES AND ADJOINING PAVEMENT.
7. ALL DIMENSIONS MEASURED TO CENTERLINE OF JOINTS.
8. ALL WRITTEN DIMENSIONS SHALL PREVAIL. DO NOT SCALE FROM DRAWINGS.
9. ALL ANGLES 90 DEGREES UNLESS OTHERWISE NOTED.
10. ALIGN ALL JOINTS, CORNERS AND EDGES AS SHOWN.
11. FINAL LAYOUTS TO BE APPROVED BY LANDSCAPE ARCHITECT.

SIGNAGE, STRIPING AND MARKING NOTES:

1. ALL INTERNAL SIGNAGE SHALL BE COORDINATED WITH OWNER FOR ACTUAL LOCATION AT TIME OF INSTALLATION. SIGNAGE LEADING ONTO PUBLIC THOROUGHFARE SHALL BE INSTALLED AT RIGHT OF WAY PER DOT STANDARDS
2. ALL PAVEMENT STRIPING (EXCEPT INDIVIDUAL PARKING BAY STRIPING) SHALL BE THERMOPLASTIC REFLECTIVE PAINT. MATERIALS AND DIMENSIONS SHALL CONFORM TO NCDOT STANDARDS AND SPECIFICATIONS. PARKING BAY STRIPING SHALL BE WHITE REFLECTIVE PAINT.
3. CROSSWALKS SHALL BE CONSTRUCTED OF THERMOPLASTIC MATERIALS AND CONSTRUCTED IN ACCORDANCE WITH STATE DOT SPECIFICATIONS. CONTRACTOR TO INSTALL CROSSWALKS IN SUCH A MANNER THAT CROSSWALKS ARE ALIGNED BETWEEN HANDICAP/WALKWAY ACCESS POINTS OR PERPENDICULAR TO THE ROADWAY / DRIVE LANE.
4. ADA SYMBOLS SHOWN THESE DRAWINGS ARE FOR LOCATION PURPOSES ONLY AND NOT INTENDED TO BE PAINTED. CONTRACTOR RESPONSIBLE FOR INSTALLING ALL REQUIRED ADA SIGNAGE

LANDSCAPE NOTES:

1. VERIFY ALL QUANTITIES AND REPORT ANY DISCREPANCIES OR INACCURACIES IN THE PLANS TO THE OWNER'S REPRESENTATIVE PRIOR TO PLANTING.
2. LANDSCAPE WORK SHALL INCLUDE THE FURNISHING, INSTALLATION, AND WARRANTY OF ALL PLANTING MATERIALS WITHIN THE PROJECT AREA.
3. THE LANDSCAPE CONTRACTOR SHALL ASCERTAIN THE LOCATION OF ALL EXISTING AND NEW UNDERGROUND UTILITIES PRIOR TO EXCAVATION FOR PLANTING. DAMAGES TO UTILITIES CAUSED BY THE LANDSCAPE OPERATION SHALL BE CORRECTED BY THE LANDSCAPE CONTRACTOR AT NO COST TO THE OWNER.
4. LANDSCAPING SHALL REMAIN CLEAR FROM ANY FIRE HYDRANTS ON THE SITE.
5. ALL TREES TO BE A MINIMUM OF 2" IN CALIPER AND MUST MEET THE AMERICAN STANDARD FOR NURSERY STOCK.
6. TREE PROTECTION NOTE: TREE PROTECTION FENCING MUST BE IN PLACE PRIOR TO ANY DEMOLITION, LAND DISTURBANCE OR ISSUANCE OF A GRADING PERMIT AND SHALL INCLUDE WARNING SIGNS POSTED IN BOTH ENGLISH AND SPANISH, AS FOLLOWS: "NO TRESPASSING/TREE PROTECTION AREA/PROHIBIDO ENTRAR / ZONA PROTECTORA PARA LOS ÁRBOLES."
7. PROTECTION OF EXISTING VEGETATION: AT THE START OF GRADING INVOLVING THE LOWERING OF EXISTING GRADE AROUND A TREE OR STRIPPING OF TOPSOIL, A CLEAN, SHARP, VERTICAL CUT SHALL BE MADE AT THE EDGE OF THE TREE SAVE AREA AT THE SAME TIME AS OTHER EROSION CONTROL MEASURES ARE INSTALLED. THE TREE PROTECTION FENCING SHALL BE INSTALLED ON THE SIDE OF THE CUT FARTHEST AWAY FROM THE TREE TRUNK AND SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION IN THE VICINITY OF THE TREES IS COMPLETE. NO STORAGE OF MATERIALS, FILL, OR EQUIPMENT AND NO TRESPASSING SHALL BE ALLOWED WITHIN THE BOUNDARY OF THE PROTECTED AREA.
8. ROOT ZONE PROTECTION AREA: VARIES BASED ON LOCAL JURISDICTION HAVING AUTHORITY. CONTRACTOR SHALL COMPLY WITH LOCAL JURISDICTIONAL REQUIREMENTS. NO DISTURBANCE ALLOWED WITHIN THIS AREA. AREA MUST BE PROTECTED WITH BOTH TREE PROTECTION FENCING AND WARNING SIGNS.
9. SEED BED PREPARATION: ALL AREAS TO BE SEEDED ARE TO BE RECEIVE A MINIMUM OF 2" OF APPROVED TOPSOIL. ALL DEBRIS, ROCKS, ETC. LARGER THAN .5" ARE TO BE REMOVED. ALL LARGE CONCENTRATIONS OF GRAVEL & DEBRIS REGARDLESS OF SIZE ARE TO BE REMOVED PRIOR TO SEEDING OR PLANTING.
10. ALL PLANT BED AREAS ARE TO RECEIVE A MINIMUM OF 6" OF APPROVED TOPSOIL.
11. SOIL SHOULD BE TESTED AND AMENDED WITH LIME AND FERTILIZER FOR HARDWOOD TREES ACCORDING TO NCDA PROCEDURES. SCARIFY PLANT PIT WALLS. CONSULT LANDSCAPE ARCHITECT FOR ALTERNATE COMPLIANCE.
12. SHREDDED HARDWOOD MULCH 3" DEEP EXCEPT AT CROWN OF PLANT UNLESS OTHERWISE NOTED. FLARE AT CROWN SHOULD BE REVEALED. BACKFILL CONSISTS OF THOROUGHLY BROKEN UP NATIVE SOIL. TOTAL VOLUME OF BACKFILL SHOULD BE AMENDED WITH UP TO ONE THIRD PINE BARK MULCH. PIECES SHOULD BE NO LARGER THAN WHAT PASSES THROUGH A ONE INCH SCREEN. IF ADDITIONAL SOIL IS REQUIRED FOR BACKFILL DUE TO DETRIMENTAL SUBSOIL DRAINAGE CONDITIONS, USE SOIL SIMILAR TO EXISTING NATIVE SOIL. ADDITIONAL SOIL TO BE APPROVED BY LANDSCAPE ARCHITECT. MAXIMUM SAUCER HEIGHT IS 6 INCHES.
13. TOP OF ROOTBALL TO BE RAISED 2-3 INCHES ABOVE EXISTING GRADE.
14. FOR B&B PLANTS, NATURAL FIBER BURLAP SHOULD BE TURNED DOWN BY 1/3 TOTAL HEIGHT OF ROOT BALL. PLASTIC FIBER BURLAP AND WIRE BASKETS SHOULD BE REMOVED TO 2/3'S OF TOTAL HEIGHT OF ROOT BALL.
15. CONTRACTOR IS RESPONSIBLE FOR KEEPING THE TREE UPRIGHT AND PLUMB THROUGHOUT THE WARRANTY PERIOD. IF STABILIZATION IS NECESSARY SEE STAKING IN TREE DETAIL, ORANGE FLAGGING TAPE SHOULD BE ATTACHED TO SUPPORT WIRE. STAKING SHOULD BE REMOVED BY CONTRACTOR AT END OF ONE YEAR WARRANTY PERIOD OR AS DIRECTED BY GROUNDS MANAGEMENT.
16. USE STANDARD "GATOR" BAGS FOR WATERING TREES IN AREAS NOT UNDER IRRIGATION. INCORPORATE TERRA-SORB (OR EQUAL) AS PER MANUFACTURERS RECOMMENDATIONS, FOR AREAS NOT UNDER IRRIGATION.
17. USE "BIO-BARRIER" OR EQUIVALENT ACCORDING TO MANUFACTURER'S RECOMMENDATION FOR TREES THAT WILL BE PLANTED WITHIN 10' OF PAVEMENT
18. LANDSCAPING/C.O. STANDARDS NOTE: ALL LANDSCAPING MUST BE IN PLACE PRIOR TO REQUEST FOR A CERTIFICATE OF COMPLIANCE.

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PROJECT #: C22033

Client:

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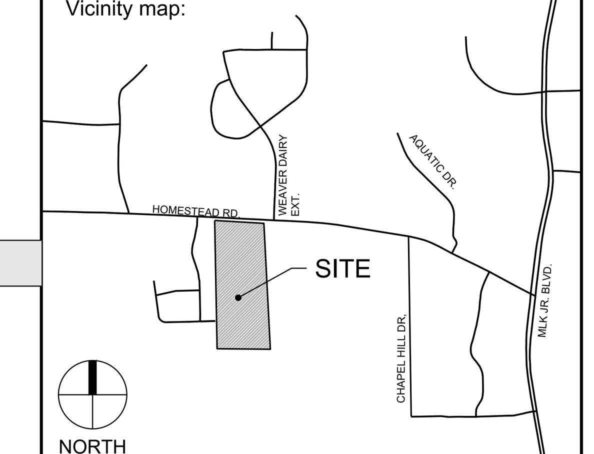
121 S. ESTES DRIVE, SUITE 100
CHAPEL HILL, NC 27514
PHONE: 919.489.9000
EMAIL: RICHARD@GURLITZARCHITECTS.COM

Vicinity map:



Seal:

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 1192 CYNTHIA E. HOFFMAN

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 036418 TIMOTHY R SUMMERVILLE

Project:

HOMESTEAD ROAD TOWNHOMES

Issued for:

CONDITIONAL ZONING PERMIT

No.	Date	Description
1	8/26/2022	1ST RESUBMITTAL
2	10/07/2022	2ND RESUBMITTAL
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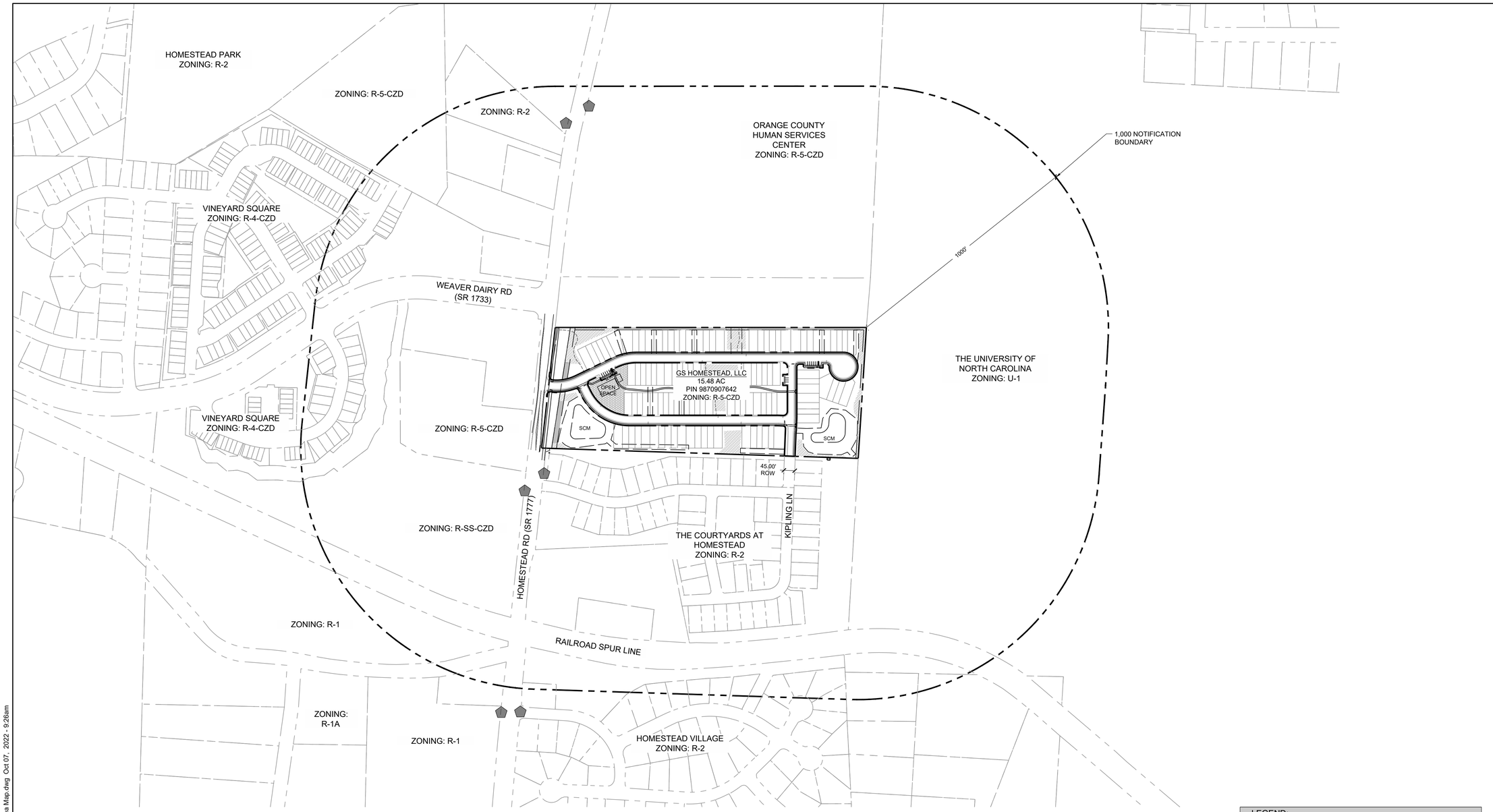
Title:

GENERAL NOTES

Project number: C22033
Issued Date: 06.24.2022
Drawn by: HNJ
Approved by: TS

Sheet #: C0.10



LEGEND:

SYMBOL	DESCRIPTION
	1000' BOUNDARY LINE
	OPEN SPACE
	TREE REPLACEMENT AREA
	TREE SAVE AREA
	BUS STOP

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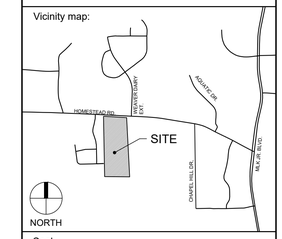

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Scale:

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SCALE: 1" = 200'

NORTH

Project:

HOMESTEAD ROAD TOWNHOMES

Issued for:

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Title:

AREA MAP

Project number: C22033
Issued Date: 06.24.2022
Drawn by: HNJ
Approved by: TS

Sheet #: C0.20

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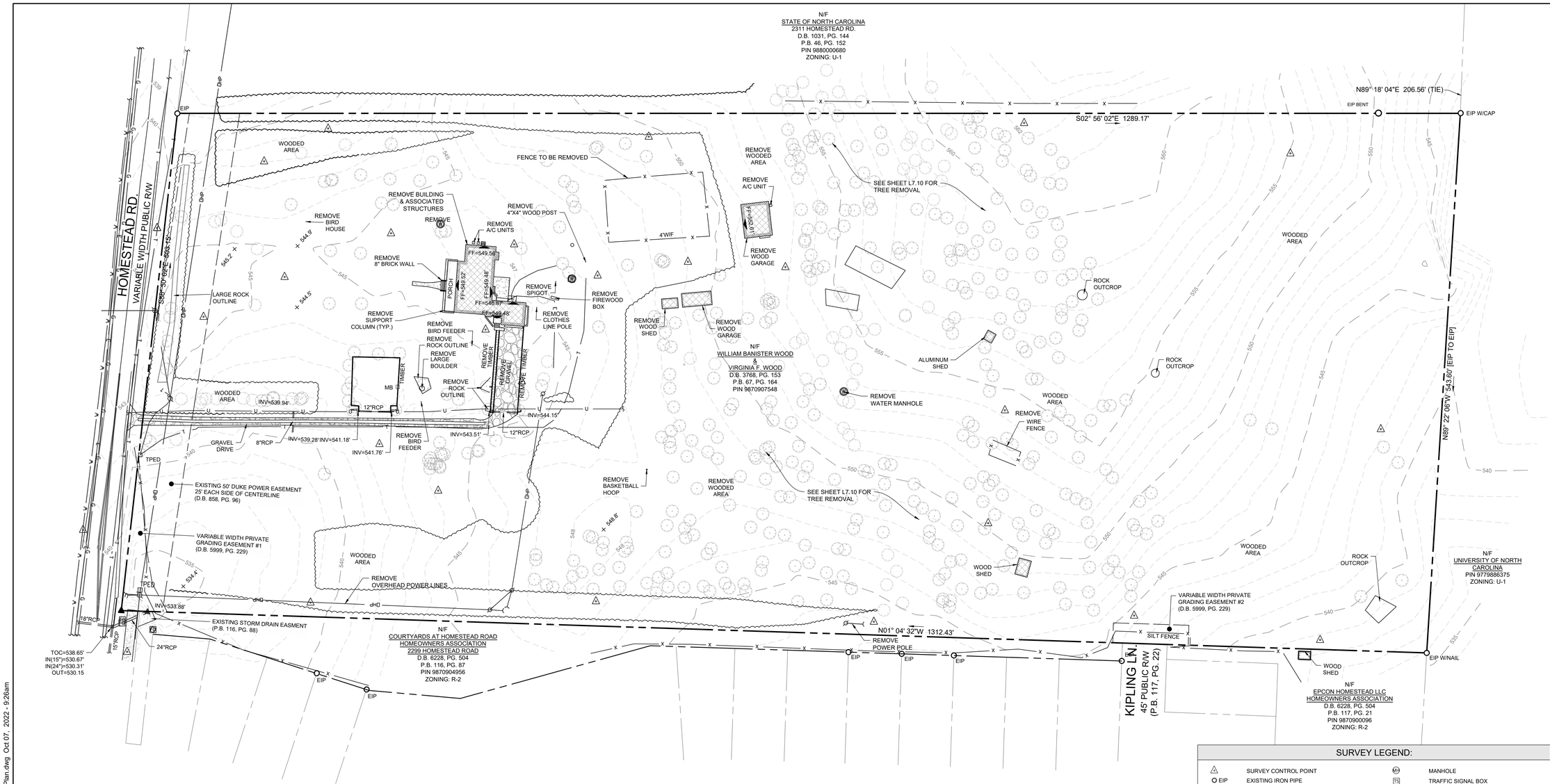

NOTES:

1. SEE SHEET C0.10 FOR GENERAL AND EXISTING CONDITIONS NOTES.

DEMOLITION LEGEND:

SYMBOL	DESCRIPTION
	REMOVE BUILDING
	REMOVE GRAVEL
	REMOVE TREE (SEE SHEET L7.10 FOR REMOVAL)
	REMOVE ROCK OUTCROP

SURVEY LEGEND:

	SURVEY CONTROL POINT	MH	MANHOLE
EIP	EXISTING IRON PIPE	TS	TRAFFIC SIGNAL BOX
ECM	EXISTING CONCRETE MONUMENT		TRAFFIC SIGNAL POST
	COMPUTED POINT	MW	MONITORING WELL
D	STORM DRAIN MANHOLE	BOR	BORING LOCATION
	STORM DRAIN CURB INLET		BOLLARD
S	SANITARY SEWER MANHOLE		SIGN
S	SANITARY SEWER CLEANOUT	FF=267.18'	FINISHED FLOOR ELEVATION
S	SANITARY FORCEMAIN VALVE		DECIDUOUS TREE
	HYDRANT		EVERGREEN TREE
WV	WATER VALVE		BUSH
WM	WATER METER	X	WIRE FENCE
W	WATER MANHOLE	O	CHAIN LINK FENCE
W	WATER VAULT	T	UNDERGROUND TELEPHONE LINE
W	WELL	FO	UNDERGROUND FIBER OPTIC LINE
GV	GAS VALVE	G	UNDERGROUND GAS LINE
GM	GAS METER	E	UNDERGROUND ELECTRIC LINE
T	TELEPHONE MANHOLE	W	UNDERGROUND WATER LINE
TPED	TELEPHONE PEDESTAL	SS	SANITARY SEWER LINE
TV	TV MANHOLE		STORM DRAIN LINE
CATV	TV PEDESTAL	OHW	OVERHEAD WIRES
FOWP	FIBER OPTIC WITNESS POST	U	UNIDENTIFIED LINE
FO	FIBER OPTIC BOX		UNKNOWN DESTINATION
E	ELECTRIC MANHOLE		CONCRETE SURFACE
EM	ELECTRIC METER	DIP	DUCTILE IRON PIPE
EB	ELECTRIC BOX	PVC	POLYVINYL CHLORIDE PIPE
	UTILITY POLE	HDPE	HIGH-DENSITY POLYETHYLENE PIPE
	GUY POLE	RCP	REINFORCED CONCRETE PIPE
	GUY WIRE	CMP	CORRUGATED METAL PIPE
	LIGHT POLE	CB	CATCH BASIN

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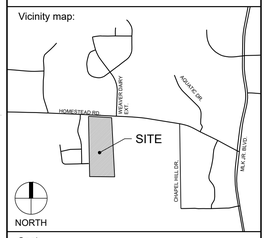
Vicinity map:



Seal:
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Scale:
0 25 50 100
SCALE: 1" = 50'
NORTH

Project:
HOMESTEAD ROAD TOWNHOMES

Issued for:
CONDITIONAL ZONING PERMIT

No.	Date	Description
1	8/26/2022	1ST RESUBMITTAL
2	10/07/2022	2ND RESUBMITTAL
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Title:
EXISTING CONDITIONS & DEMOLITION PLAN

Project number: C22033
Issued Date: 06.24.2022
Drawn by: HNJ
Approved by: TS
Sheet #: C1.00

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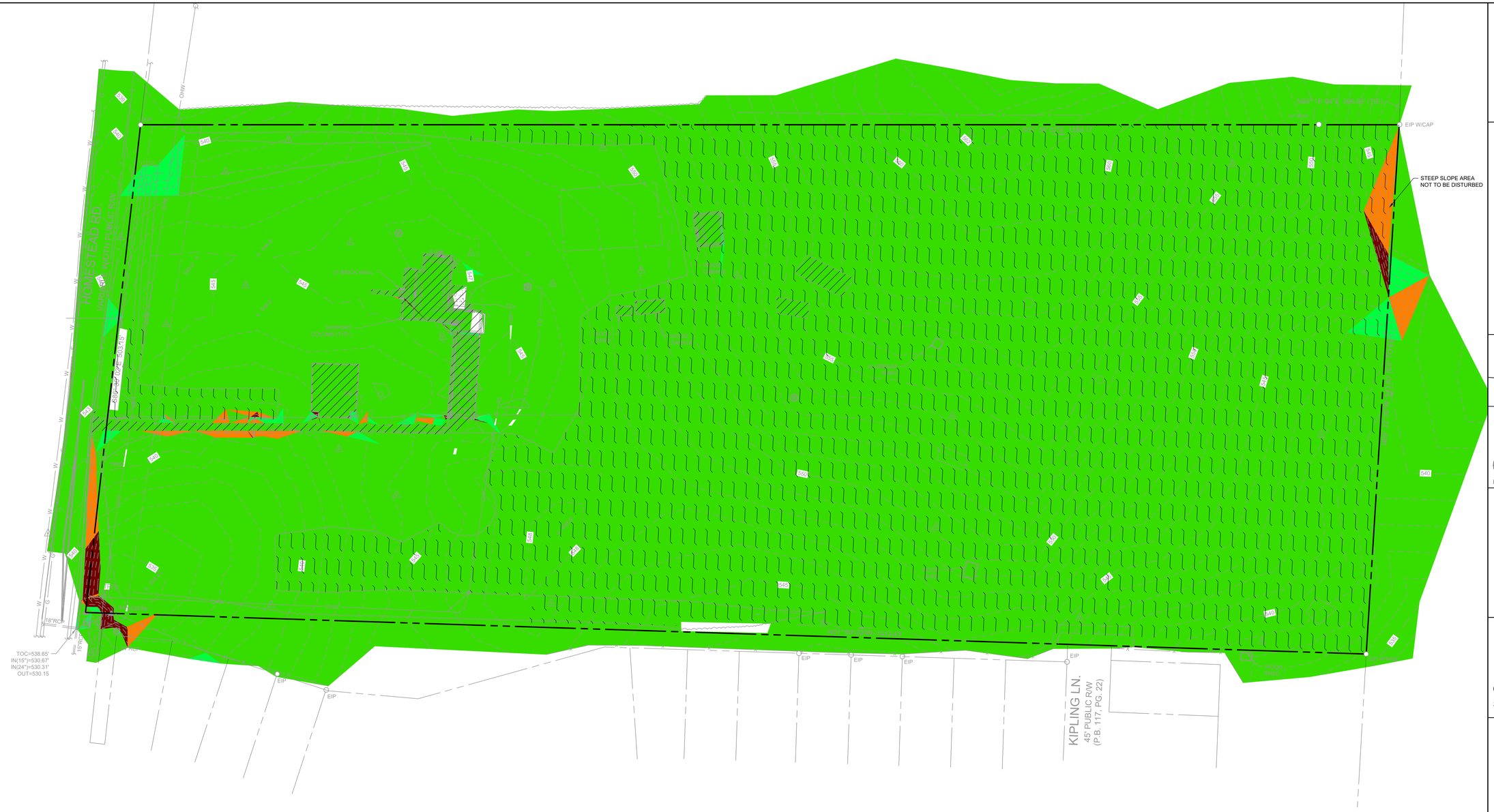

NOTE: ALL SLOPES GREATER THAN 15% ON THIS SITE ARE RELATED TO DRIVEWAYS OR ROADS AND THEREFORE NOT SUBJECT TO STEEP SLOPE CLASSIFICATION.

Slopes Table		
Minimum Slope	Maximum Slope	Color
0.00%	10.00%	
10.00%	15.00%	
15.00%	25.00%	
25.00%	100.00%	

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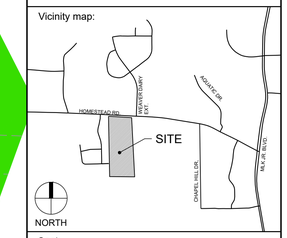

Seal:
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Scale:
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SCALE: 1" = 50'
NORTH

Project:
HOMESTEAD ROAD TOWNHOMES

Issued for:
CONDITIONAL ZONING PERMIT

No.	Date	Description
1	8/26/2022	1ST RESUBMITTAL
2	10/07/2022	2ND RESUBMITTAL

Title:
STEEP SLOPE ANALYSIS

Project number: C22033 Sheet #:
Issued Date: 06.24.2022
Drawn by: SM
Approved by: TS
C1.10

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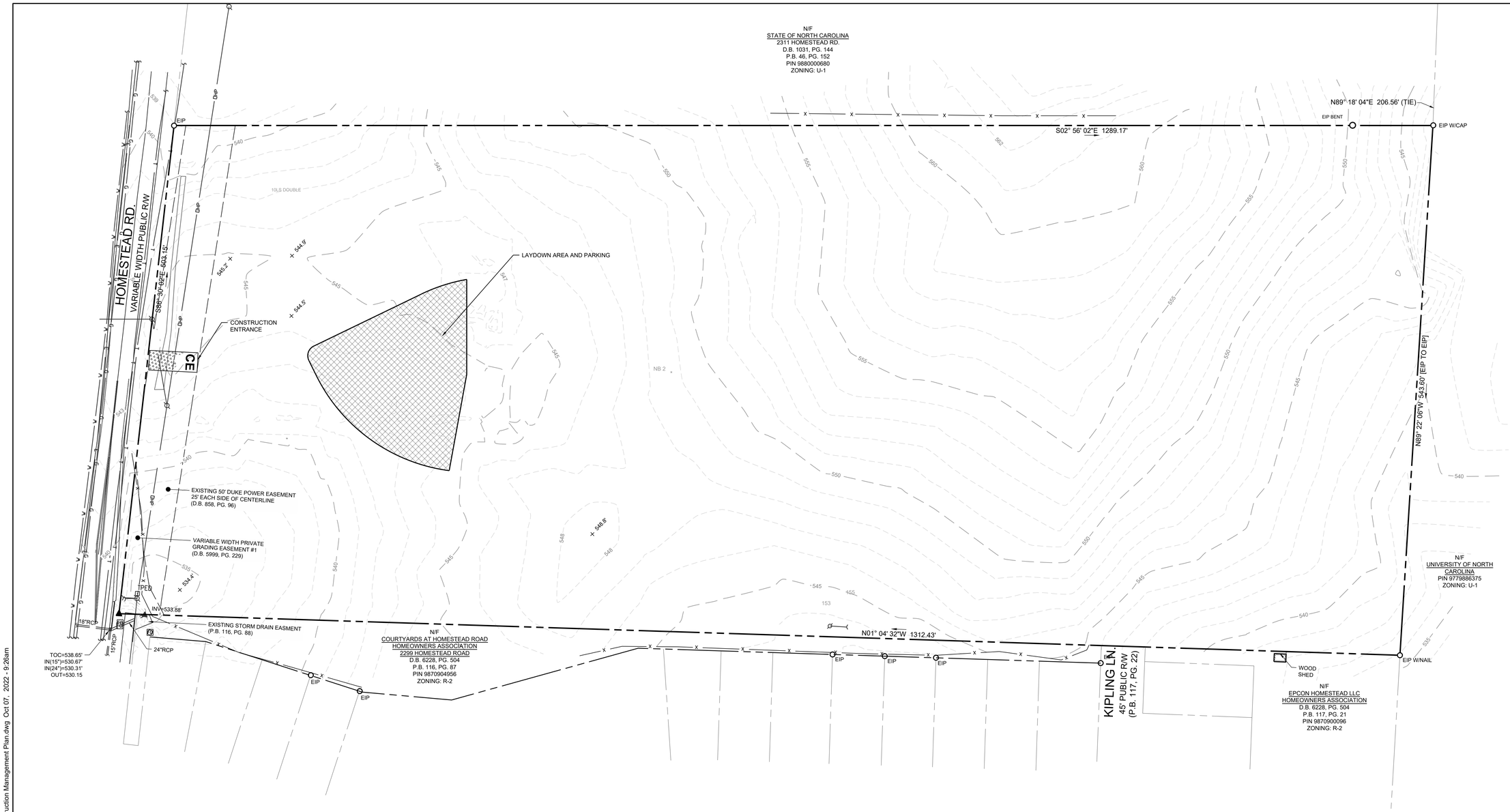

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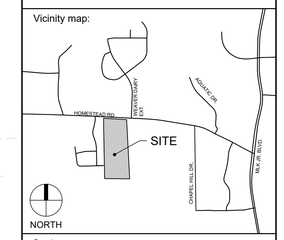

Seal:
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NORTH CAROLINA PROFESSIONAL SEAL 036418 ENGINEER THIMOTHY R. SUMNER
10/6/2022

Scale:
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SCALE: 1" = 50'
NORTH

Project:
HOMESTEAD ROAD TOWNHOMES

Issued for:
CONDITIONAL ZONING PERMIT

No.	Date	Description
1	8/26/2022	1ST RESUBMITTAL
2	10/07/2022	2ND RESUBMITTAL
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Title:
CONSTRUCTION MANAGEMENT PLAN

Project number: C22033
Issued Date: 06.24.2022
Drawn by: HNJ
Approved by: TS
Sheet #: C1.20

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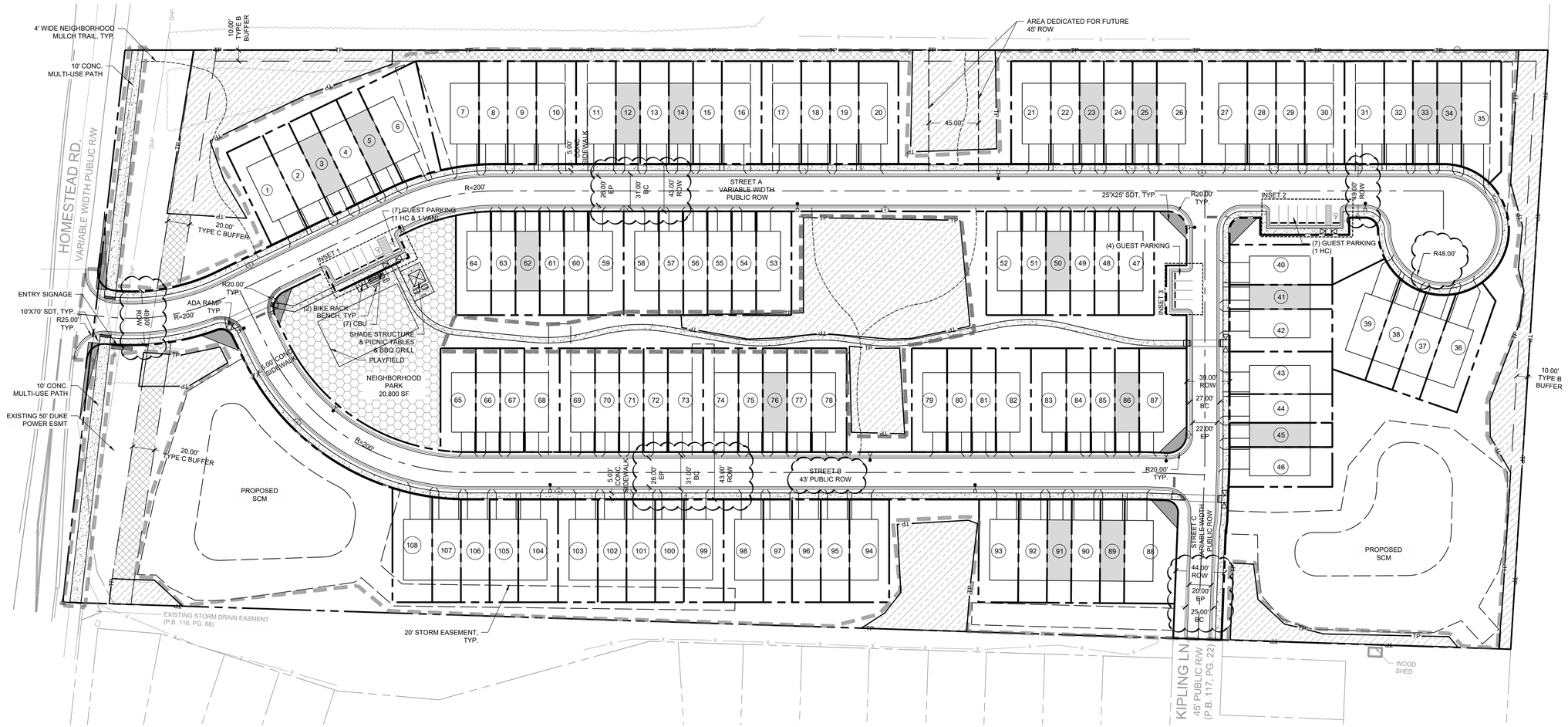
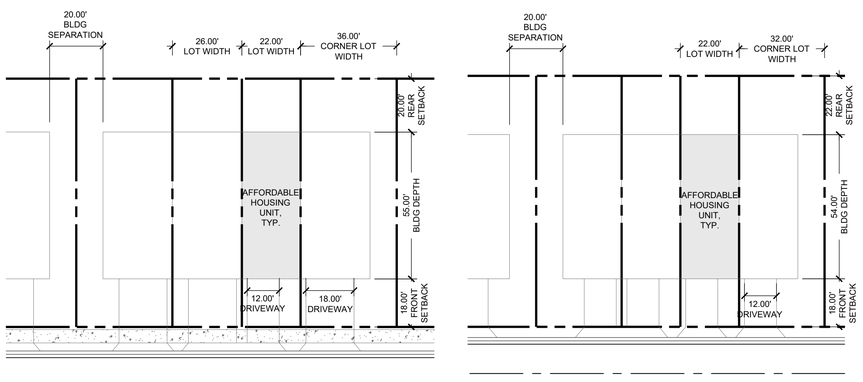
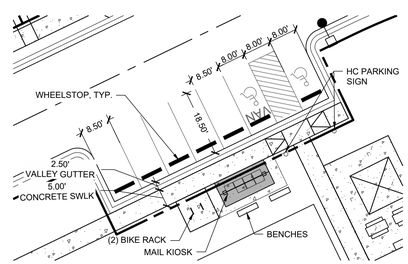
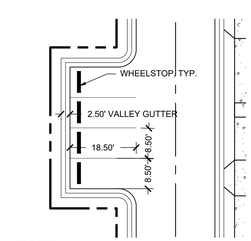




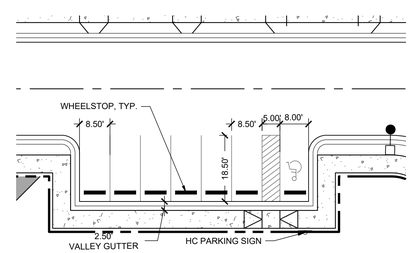
TYPICAL TOWNHOME LAYOUT



INSET 1



INSET 3



INSET 2

RECREATION SPACE CALCULATIONS

RECREATION SPACE REQUIRED:	34,085 SF (0.05 RATIO)
RECREATION SPACE PROVIDED (75%):	25,564 SF
NEIGHBORHOOD PARK:	20,800 SF
10' MULTI-USE PATH:	4,764 SF
PAYMENT IN LIEU (25%):	8,521 SF
PAYMENT IN LIEU FEE CALCULATION:	34,085 X 25% X 1.55 X $12 = $158,496

TOWNHOME UNITS BREAKDOWN

TOTAL TOWNHOME UNITS:	108 UNITS (16 AFFORDABLE UNITS)
26' X 55' UNITS:	55 UNITS
22' X 55' UNITS:	53 UNITS (16 AFFORDABLE UNITS)
TOWNHOME SETBACK:	
FRONT:	18'
REAR:	0'
BUILDING SEPARATION:	20' MIN.

NOTES:

1. SEE SHEET C0.10 FOR GENERAL AND SITE NOTES.
2. FINAL STREET LIGHTS LOCATION TO BE PROVIDED BY DUKE ENERGY DURING CONSTRUCTION DRAWINGS

SITE LEGEND:

- PROPOSED BUILDING
- PROPOSED AFFORDABLE HOUSING UNIT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED RECREATIONAL SPACE
- PROPOSED TREE REPLACEMENT AREA
- TREE SAVE AREA
- PROPOSED 4' WIDE NEIGHBORHOOD TRAIL
- PROPOSED SIGN
- PROPOSED ADA PARKING SPACE
- PROPOSED STOP BAR
- PROPOSED 6' WIDE STANDARD CROSSWALK
- LIMITS OF DISTURBANCE
- TP — PROPOSED TREE PROTECTION FENCE
- PROPOSED LIGHT
- PROPOSED VALLEY GUTTER
- PROPOSED STANDARD CURB & GUTTER

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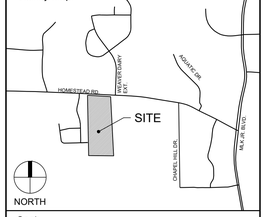
PROJECT #: C22033

Client:
GS HOMESTEAD, LLC
121 S. ESTES DRIVE, SUITE 100
CHAPEL HILL, NC 27514
PHONE: 919.489.9000
EMAIL: RICHARD@GURLITZARCHITECTS.COM

Vicinity map:



Seal:
PRELIMINARY - DO NOT USE FOR CONSTRUCTION

Scale:
0 25 50 100
SCALE: 1" = 50'
NORTH

Project:
HOMESTEAD ROAD TOWNHOMES

Issued for:
CONDITIONAL ZONING PERMIT

No.	Date	Description
1	8/26/2022	1ST RESUBMITTAL
2	10/07/2022	2ND RESUBMITTAL

Title:
SITE PLAN

Project number: C22033
Issued Date: 06.24.2022
Drawn by: SM
Approved by: TS
Sheet #: C3.00

L:\Projects\2022\C22033 - Homestead Road Townhomes\DWGS\1-SUP\3-Sheets\C22033-C3.00 Site Plan.dwg Oct 07, 2022 - 9:27am

TRUCK CIRCULATION LEGEND:

SYMBOL	DESCRIPTION
Rear-Load Garbage Truck	GARBAGE TRUCK
Aerial Fire Truck	FIRE TRUCK

NOTE:

ALL TRASH TO BE HANDLED BY ROLL OUT CARTS.

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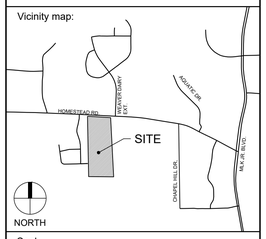

Seal:

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL 036418 ENGINEER TIMOTHY R. SUMNER
10/6/2022

Scale:

0 25 50 100

SCALE: 1" = 50'

NORTH

Project:

HOMESTEAD ROAD TOWNHOMES

Issued for:

CONDITIONAL ZONING PERMIT

No.	Date	Description
1	8/26/2022	1ST RESUBMITTAL
2	10/07/2022	2ND RESUBMITTAL
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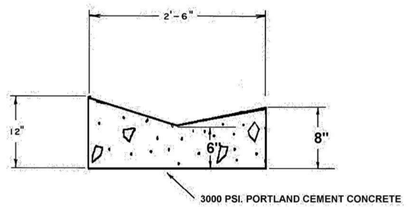
Title:

TRASH MANAGEMENT & FIRE APPARATUS PLAN

Project number: C22033 Sheet #:
Issued Date: 06.24.2022
Drawn by: HNJ
Approved by: TS

C3.10

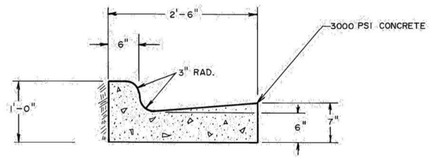
L:\Projects\2022\C22033 - Homestead Road Townhomes\DWGS\1-SUP\3-Sheets\C22033-C3.10 Trash Management Plan.dwg Oct 07, 2022 - 9:27am



MANAGER'S PRIOR APPROVAL REQUIRED

ENGINEERING DEPARTMENT STANDARD DETAILS

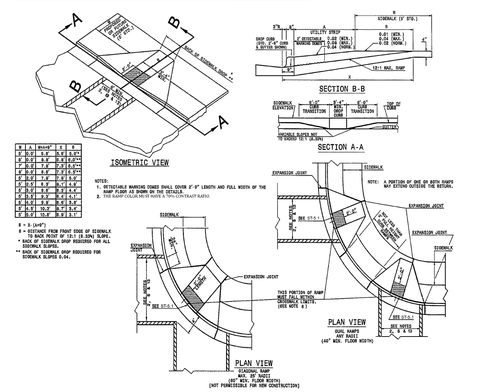
TITLE	REVISIONS			DET.NO.
VALLEY CURB AND GUTTER SECTION	NO	DATE	BY	ST-2C



SCALE: 1"=1'-0"

ENGINEERING DEPARTMENT STANDARD DETAILS

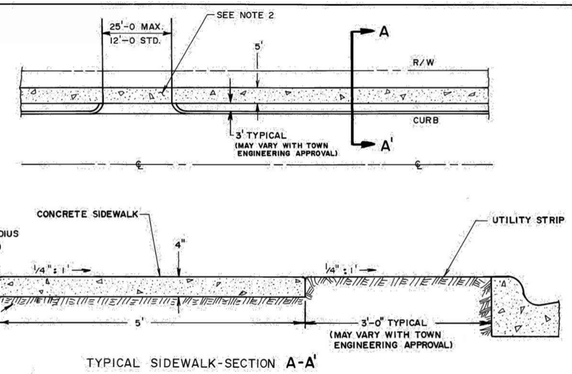
TITLE	REVISIONS			DET.NO.
CURB & GUTTER SECTION	NO	DATE	BY	ST-2



NOTE: DRAWING NOT TO SCALE
SOURCE: NCDOT STANDARD DRAWINGS

ENGINEERING DEPARTMENT STANDARD DETAILS

TITLE:	REVISIONS			DET.NO.
ACCESSIBLE RAMP	09/03 02/08	JH ER		ST - 5.3



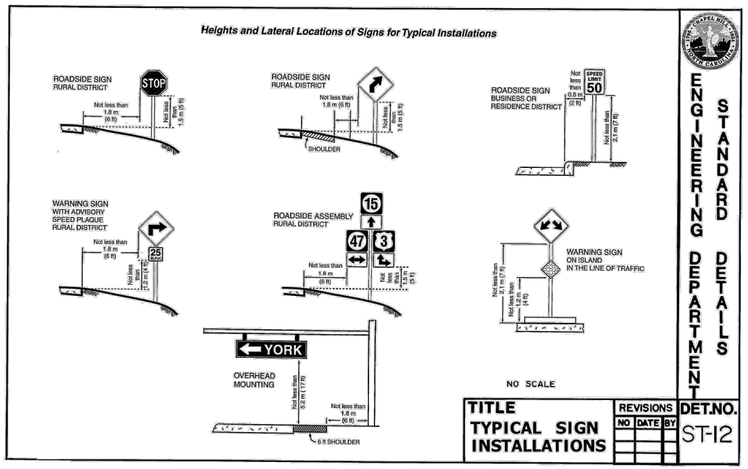
TYPICAL SIDEWALK-SECTION A-A'

NOTES:
1. ALL CONCRETE 3000 PSI.
2. SEE STANDARD DETAIL "D-1" FOR THROUGH DRIVEWAY SPECIFICATIONS.
3. EXPANSION JOINTS 50' APART MAXIMUM.
4. CONTROL JOINT EVERY 5 FEET.
5. ALL SIDEWALKS SHALL BE CONSTRUCTED WITH TOOLED 1/4" EDGE RADIUS.
6. IF UTILITY STRIP IS COMPLETELY ELIMINATED, SIDEWALK SHALL BE PLACED DIRECTLY AT BACK-OF-CURB, WITH 1/4" EDGE RADIUS.

NO SCALE

ENGINEERING DEPARTMENT STANDARD DETAILS

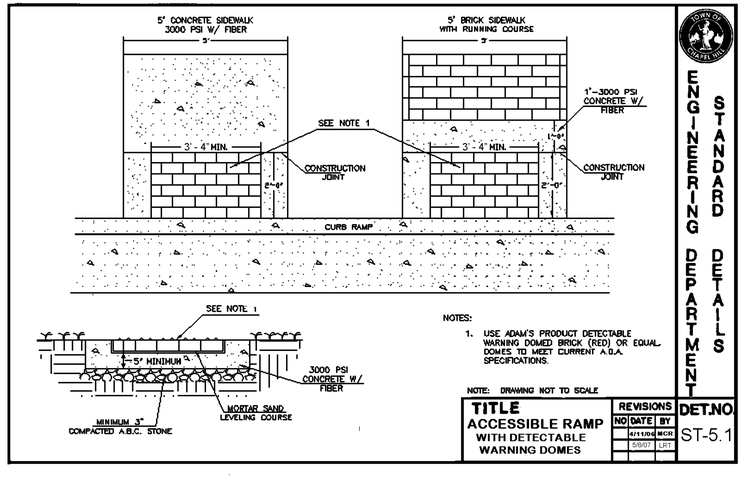
TITLE	REVISIONS			DET.NO.
TYPICAL SIDEWALK	NO	DATE	BY	ST-4 SH.1 of 3



NO SCALE

ENGINEERING DEPARTMENT STANDARD DETAILS

TITLE	REVISIONS			DET.NO.
TYPICAL SIGN INSTALLATIONS	NO	DATE	BY	ST-12



NOTES:
1. USE ADAM'S PRODUCT DETECTABLE WARNING DOMED BRICK (RED) OR EQUAL. DOMES TO MEET CURRENT A.D.A. SPECIFICATIONS.

NOTE: DRAWING NOT TO SCALE

ENGINEERING DEPARTMENT STANDARD DETAILS

TITLE	REVISIONS			DET.NO.
ACCESSIBLE RAMP WITH DETECTABLE WARNING DOMES	NO	DATE	BY	ST-5.1
		4/11/06	MCR	
		5/8/07	LRT	

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Client:
GS HOMESTEAD, LLC
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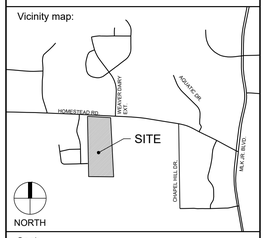
CHAPEL HILL, NC 27514
PHONE: 919.489.9000
EMAIL: RICHARD@GURLITZARCHITECTS.COM

Vicinity map:



Seal:
PRELIMINARY - DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL 036418 ENGINEER TIMOTHY R. SUMNER
10/6/2022

Scale:
SCALE: AS NOTED

Project:
HOMESTEAD ROAD TOWNHOMES

Issued for:
CONDITIONAL ZONING PERMIT

No.	Date	Description
1	8/26/2022	1ST RESUBMITTAL
2	10/07/2022	2ND RESUBMITTAL

Title:
SITE DETAILS

Project number: C22033
Issued Date: 06.24.2022
Drawn by: SM
Approved by: TS
Sheet #: C3.90

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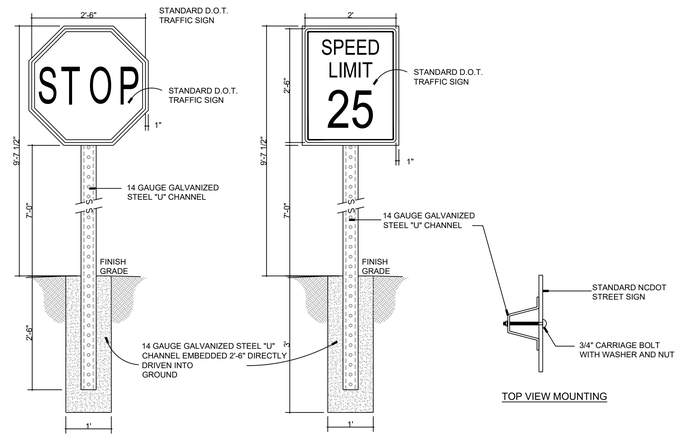
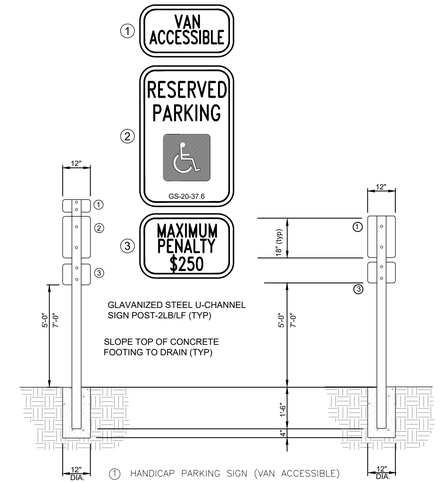


2 SIGNAGE
SECTION

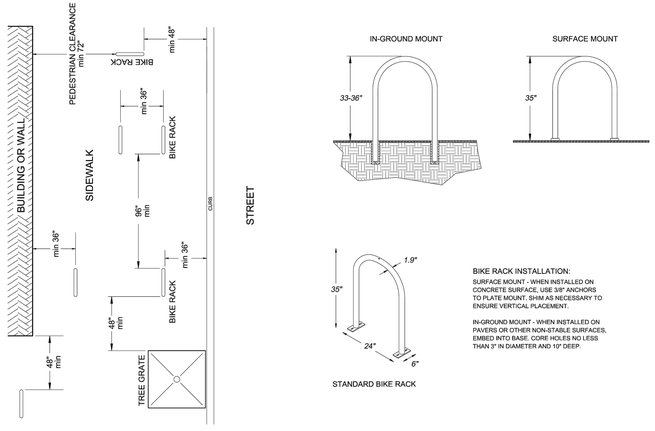
NTS



NOTE:
1. THE RESERVED PARKING SIGN IS TO BE 5'-0" IF THE PEDESTRIAN PATH DOES NOT PASS UNDER OR AROUND SIGN.
2. THE RESERVED PARKING SIGN IS TO BE 7'-0" IF THE PEDESTRIAN PATH GOES BY, UNDER, OR AROUND THE SIGN.

3 ADA PARKING
PLAN

NTS



4 EXTERIOR BYCYCLE PARKING

NTS

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Client:
GS HOMESTEAD, LLC
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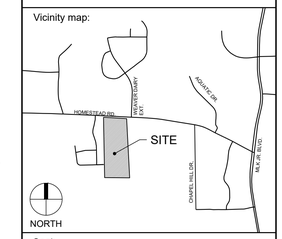
CHAPEL HILL, NC 27514
PHONE: 919.489.9000
EMAIL: RICHARD@GURLITZARCHITECTS.COM

Vicinity map:



Seal:
PRELIMINARY - DO NOT USE FOR CONSTRUCTION

Scale:

SCALE: AS NOTED

Project:
HOMESTEAD ROAD TOWNHOMES

Issued for:
CONDITIONAL ZONING PERMIT

No.	Date	Description
1	8/26/2022	1ST RESUBMITTAL
2	10/07/2022	2ND RESUBMITTAL
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Title:
SITE DETAILS

Project number: C22033
Issued Date: 06.24.2022
Drawn by: SM
Approved by: TS
Sheet #: C3.91

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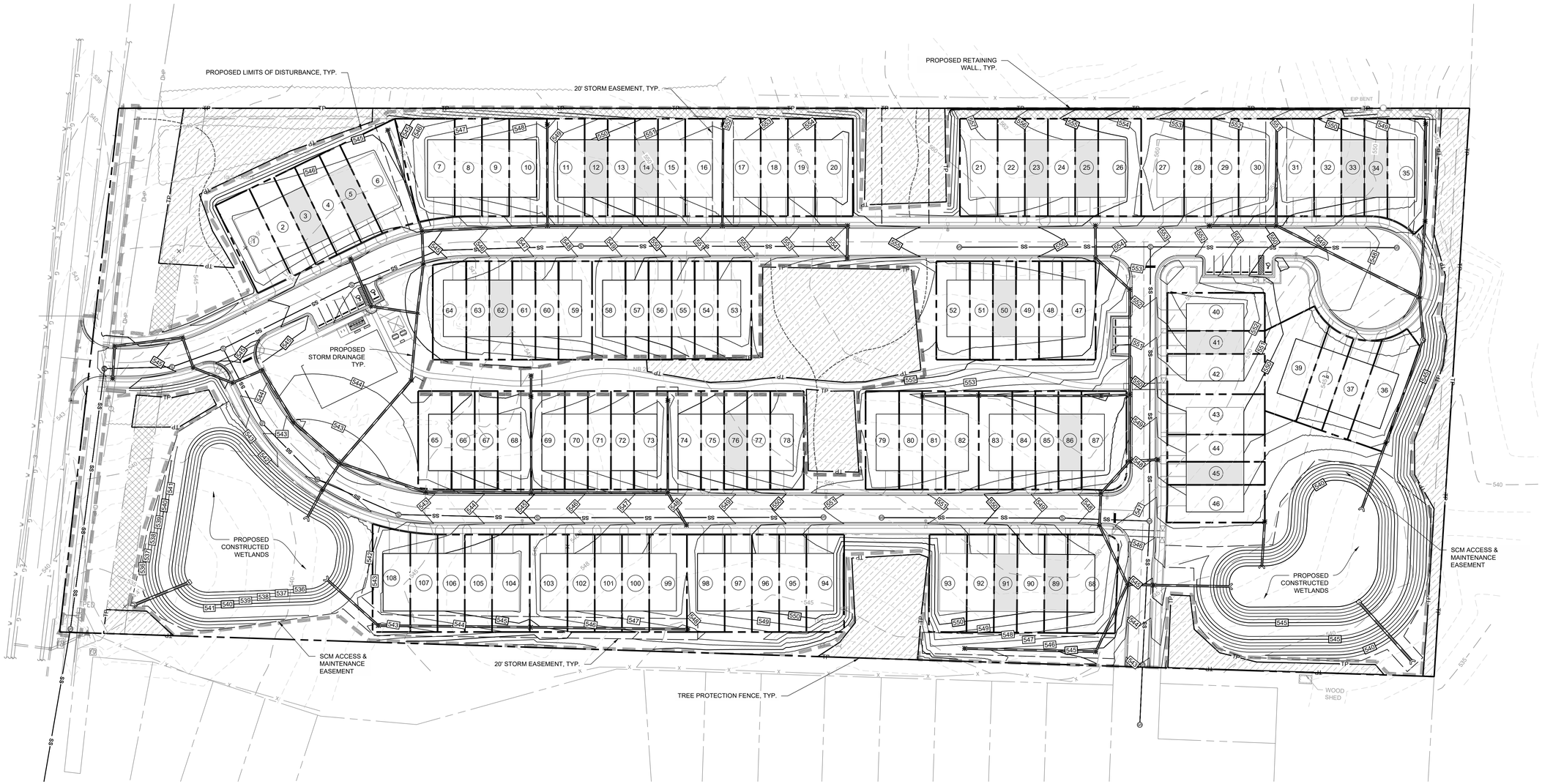

GRADING LEGEND:

SYMBOL	DESCRIPTION
	PROPOSED JUNCTION BOX
	PROPOSED CATCH BASIN
	PROPOSED AREA DRAIN
	RIPRAP DISSIPATOR
	FLOW DIRECTION
44.50	PROPOSED ELEVATION
TC 44.50 BC 44.00	TOP/BOTTOM OF CURB
TW 46.00 BW 44.00	TOP/BOTTOM OF WALL
	PROPOSED STORM DRAINAGE
200	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
200	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR

NOTES:

1. SEE SHEET C0.10 FOR GENERAL AND GRADING NOTES.

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Client:
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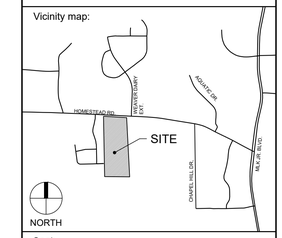
121 S. ESTES DRIVE, SUITE 100
CHAPEL HILL, NC 27514
PHONE: 919.489.9000
EMAIL: RICHARD@GURLITZARCHITECTS.COM

Vicinity map:



Seal:
PRELIMINARY - DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL 036418 ENGINEER TIMOTHY R. SUMNER
10/7/2022

Scale:
0 25 50 100
SCALE: 1" = 50'
NORTH

Project:
HOMESTEAD ROAD TOWNHOMES

Issued for:
CONDITIONAL ZONING PERMIT

No.	Date	Description
1	8/26/2022	1ST RESUBMITTAL
2	10/07/2022	2ND RESUBMITTAL
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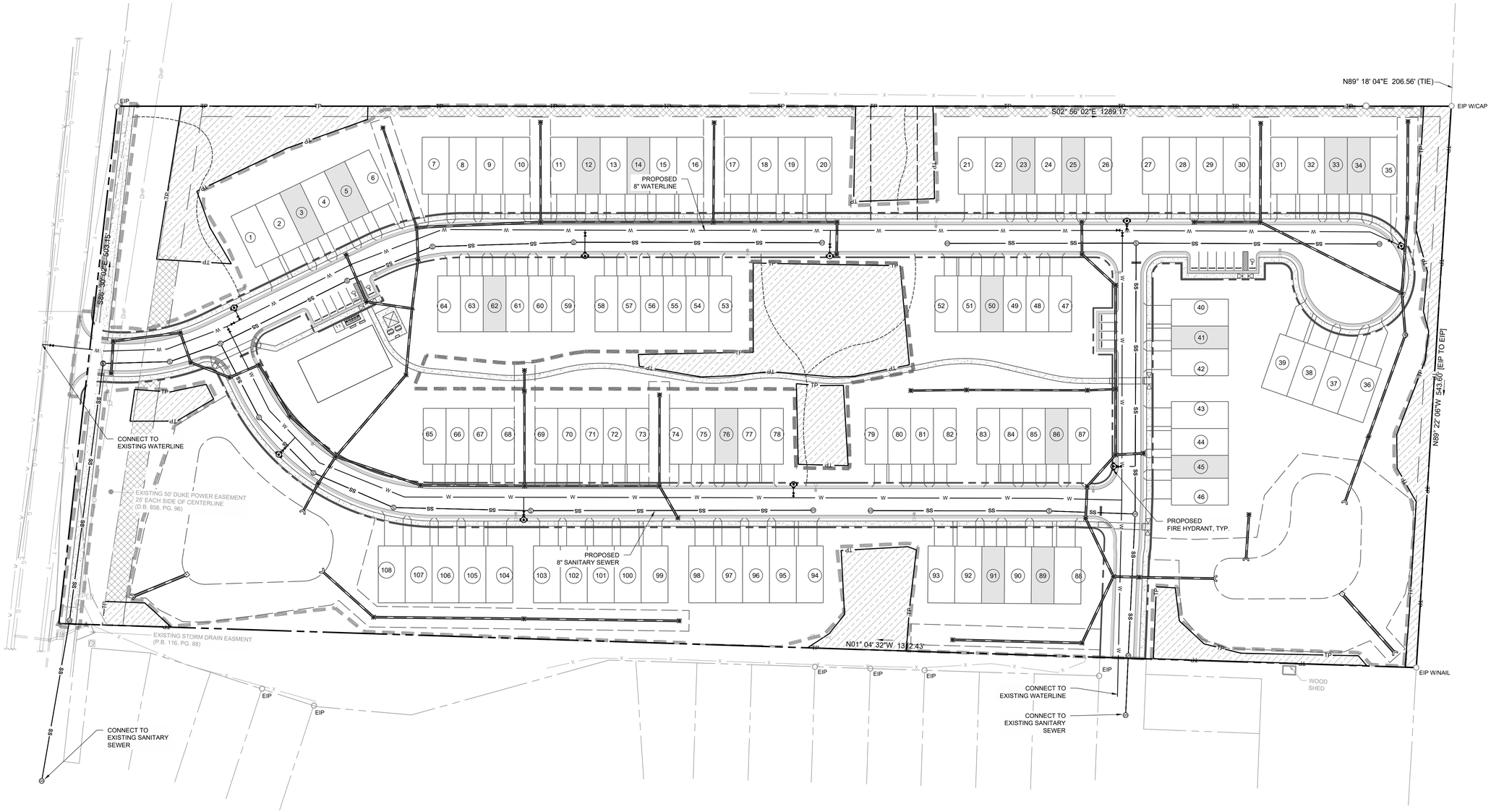
Title:
GRADING & STORM DRAINAGE PLAN

Project number: C22033
Sheet #:
Issued Date: 06.24.2022
Drawn by: SM
Approved by: TS
C5.00

L:\Projects\2022\C22033 - Homestead Road Townhomes\DW\GS\1-SUP\3-Sheets\C22033-C5.00 Grading & Storm Drainage Plan.dwg Oct 07, 2022 - 9:28am



UTILITY LEGEND:

SYMBOL	DESCRIPTION
	PROPOSED FIRE HYDRANT
	PROPOSED WATER VALVE
	EXISTING SANITARY SEWER MANHOLE
	PROPOSED SANITARY SEWER MANHOLE
CO	PROPOSED CLEANOUT
FDC	PROPOSED FIRE DEPARTMENT CONNECTION (FDC)
	PROPOSED BACKFLOW METER
PIV	PROPOSED POST INDICATOR VALVE (PIV)
	PROPOSED GREASE INTERCEPTOR
W	EXISTING WATER LINE
W	PROPOSED WATER LINE
SS	EXISTING SANITARY SEWER LINE
SS	PROPOSED SANITARY SEWER LINE
	300' HYDRANT COVERAGE CIRCLE

NOTES:

1. SEE SHEET C0.10 FOR GENERAL AND UTILITY NOTES.

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Client:
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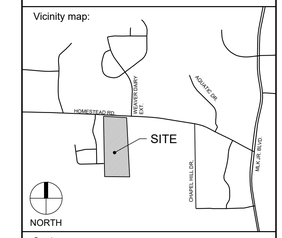
PHONE: 919.489.9000
EMAIL: RICHARD@GURLITZARCHITECTS.COM

Vicinity map:



Seal:
PRELIMINARY - DO NOT USE FOR CONSTRUCTION

NORTH CAROLINA PROFESSIONAL SEAL 036418 ENGINEER TIMOTHY R. SUMNER
10/7/2022

Scale:
0 25 50 100
SCALE: 1" = 50'
NORTH

Project:
HOMESTEAD ROAD TOWNHOMES

Issued for:
CONDITIONAL ZONING PERMIT

No.	Date	Description
1	8/26/2022	1ST RESUBMITTAL
2	10/07/2022	2ND RESUBMITTAL
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Title:
UTILITY PLAN

Project number: C22033
Issued Date: 06.24.2022
Drawn by: SM
Approved by: TS
Sheet #: C6.00

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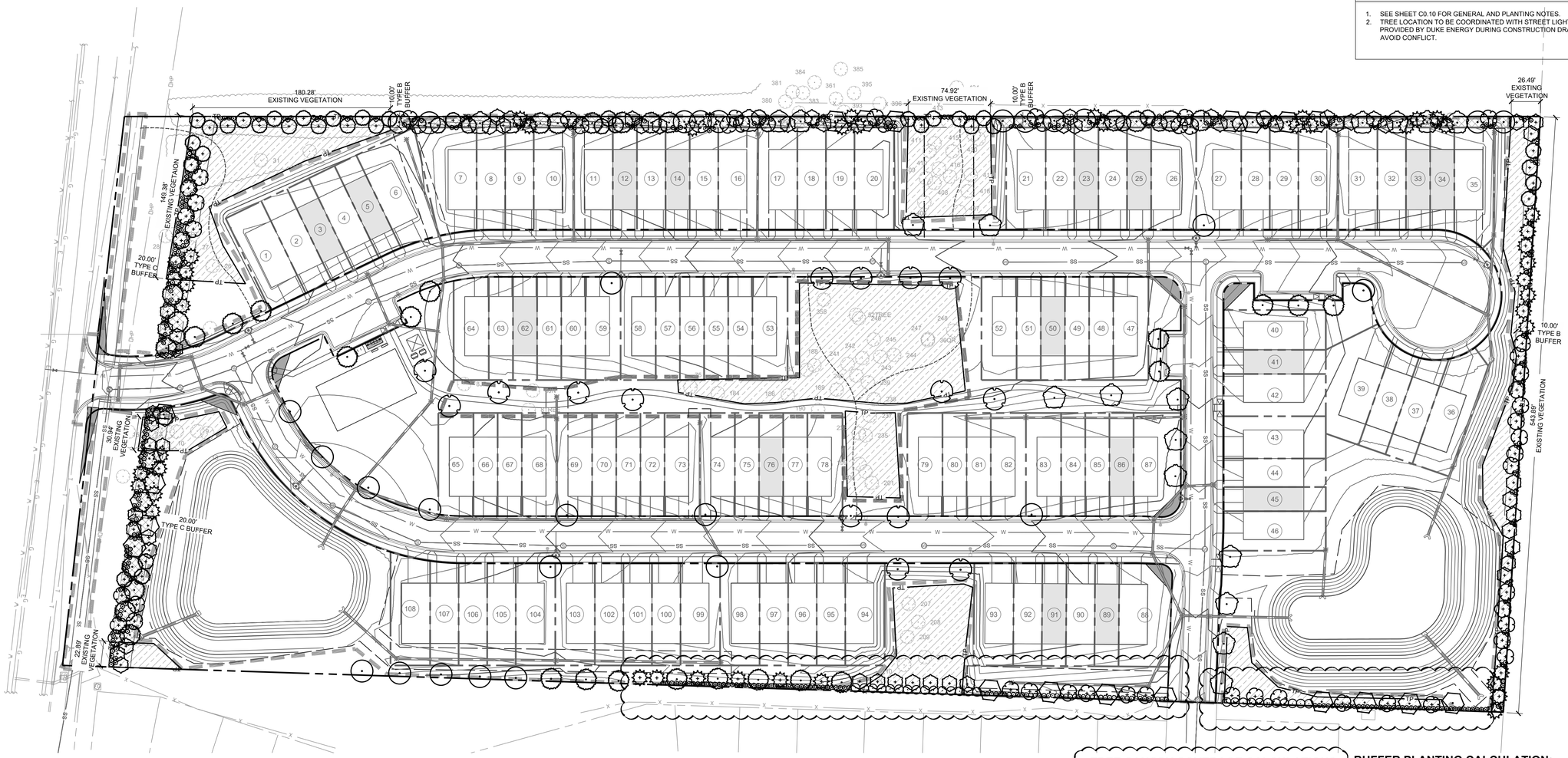
NOTES:

1. SEE SHEET C0.10 FOR GENERAL AND PLANTING NOTES.
2. TREE LOCATION TO BE COORDINATED WITH STREET LIGHT LOCATIONS PROVIDED BY DUKE ENERGY DURING CONSTRUCTION DRAWINGS TO AVOID CONFLICT.



PLANT SCHEDULE TYPE C BUFFER

CANOPY TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER	CALIPER	HEIGHT	NOTES
	BH	6	BETULA NIGRA 'HERITAGE' HERITAGE RIVER BIRCH	B&B	2.5 IN	12 TO 14 FT	
	QH	7	QUERCUS PHELLOS 'HIGHTOWER' HIGHTOWER WILLOW OAK	B&B	2.5 IN	12 TO 14 FT	
UNDERSTORY TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER	CALIPER	HEIGHT	NOTES
	AA	11	AMELANCHIER ARBOREA DOWNY SERVICEBERRY	B&B	1 IN	8 FT	
	CC	16	CERCIS CANADENSIS EASTERN REDBUD	B&B	1 IN	8 FT	
	IS	8	ILEX X 'NELLIE R. STEVENS' NELLIE STEVENS HOLLY	B&B	1 IN	8 FT	
	MS	12	MAGNOLIA VIRGINIANA SWEETBAY MAGNOLIA	B&B	1 IN	8 FT	
SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER	-	HEIGHT	NOTES
	IG	58	ILEX GLABRA INKBERRY HOLLY	CONT.		18 IN	
	IN	61	ILEX VOMITORIA 'NANA' DWARF YAUPON HOLLY	CONT.		18 IN	
	VC	48	VIBURNUM AWABUKI 'CHINDO' CHINDO SWEET VIBURNUM	CONT.		18 IN	

PLANT SCHEDULE TYPE B BUFFER

CANOPY TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER	CALIPER	HEIGHT	NOTES
	AR	11	ACER RUBRUM 'OCTOBER GLORY' OCTOBER GLORY RED MAPLE	B&B	2.5 IN	12 TO 14 FT	
	BH	7	BETULA NIGRA 'HERITAGE' HERITAGE RIVER BIRCH	B&B	2.5 IN	12 TO 14 FT	
	NS	10	NYSSA SYLVATICA TUPELO	B&B	2.5 IN	12 TO 14 FT	
	QH	10	QUERCUS PHELLOS 'HIGHTOWER' HIGHTOWER WILLOW OAK	B&B	2.5 IN	12 TO 14 FT	
UNDERSTORY TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER	CALIPER	HEIGHT	NOTES
	AA	30	AMELANCHIER ARBOREA DOWNY SERVICEBERRY	B&B	1 IN	8 FT	
	CC	29	CERCIS CANADENSIS EASTERN REDBUD	B&B	1 IN	8 FT	
	IS	37	ILEX X 'NELLIE R. STEVENS' NELLIE STEVENS HOLLY	B&B	1 IN	8 FT	
	MS	28	MAGNOLIA VIRGINIANA SWEETBAY MAGNOLIA	B&B	1 IN	8 FT	
SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER	-	HEIGHT	NOTES
	IG	60	ILEX GLABRA INKBERRY HOLLY	CONT.		18 IN	
	IN	63	ILEX VOMITORIA 'NANA' DWARF YAUPON HOLLY	CONT.		18 IN	
	VC	90	VIBURNUM AWABUKI 'CHINDO' CHINDO SWEET VIBURNUM	CONT.		18 IN	

PLANT SCHEDULE INTERNAL PLANTING

CANOPY TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER	CALIPER	HEIGHT	NOTES
	AR	17	ACER RUBRUM 'OCTOBER GLORY' OCTOBER GLORY RED MAPLE	B&B	2.5 IN	12 TO 14 FT	
	BH	8	BETULA NIGRA 'HERITAGE' HERITAGE RIVER BIRCH	B&B	2.5 IN	12 TO 14 FT	
	NS	11	NYSSA SYLVATICA TUPELO	B&B	2.5 IN	12 TO 14 FT	
	QN	15	QUERCUS NUTTALLII NUTTALL OAK	B&B	2.5 IN	12 TO 14 FT	
	QH	19	QUERCUS PHELLOS 'HIGHTOWER' HIGHTOWER WILLOW OAK	B&B	2.5 IN	12 TO 14 FT	
UNDERSTORY TREES	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER	CALIPER	HEIGHT	NOTES
	AA	12	AMELANCHIER ARBOREA DOWNY SERVICEBERRY	B&B	1 IN	8 FT	
	CC	7	CERCIS CANADENSIS EASTERN REDBUD	B&B	1 IN	8 FT	
	MS	6	MAGNOLIA VIRGINIANA SWEETBAY MAGNOLIA	B&B	1 IN	8 FT	
SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER	-	HEIGHT	NOTES
	FL	26	FORSYTHIA X INTERMEDIA 'LYNWOOD GOLD' LYNWOOD GOLD FORSYTHIA	CONT.		2'-2.5'	
	IJ	43	ILEX CRENATA 'STEEDS' STEEDS JAPANESE HOLLY	CONT.		18-24"	
	LG	84	LOROPETALUM CHINENSE 'PURPLE DIAMOND' PURPLE DIAMOND LOROPETALUM	CONT.		18-24"	

TREE CANOPY COVERAGE CALCULATIONS

TREE CANOPY COVERAGE REQUIRED:	30%
NET LAND AREA:	15.65 AC / 681,714 SF
AREA EXEMPT FROM TREE CANOPY CALCULATIONS:	
RECREATIONAL AREAS:	25,564 SF
DUKE POWER EASEMENT:	26,022 SF
STORMWATER EASEMENT:	90,430 SF
RIGHT-OF-WAY:	123,839 SF
TOTAL LAND ARE EXEMPTED:	265,855 SF
APPLICABLE LAND AREA:	415,859 SF
TREE CANOPY REQUIRED:	124,757 SF (30%)
EXISTING TREE CANOPY TO REMAIN:	64,193 SF
ADDITIONAL TREE CANOPY REQUIRED:	60,564 SF
REQUIRED REPLACEMENT TREES (1 PER 500 SF):	121
PROPOSED REPLACEMENT TREES:	121
BUFFER CANOPY TREES:	51
INTERNAL CANOPY TREES:	70

BUFFER PLANTING CALCULATION:

TYPE 'C' 20 FT EXTERNAL BUFFER:
PLANTS REQUIRED PER 100 LF
- 5 LARGE TREES
- 10 SMALL TREES
- 36 SHRUBS

508 LF TOTAL LENGTH
LESS 48 LF OF ROW
LESS 203 LF OF EXISTING TREE CANOPY*
APPLICABLE LENGTH = 257 LF

REQUIRED:	PROPOSED:
13 LG TREES	13 LG TREES
26 SM TREES	26 SM TREES
94 SHRUBS	94 SHRUBS

SUPPLEMENTAL PLANTING IN BUFFER WITH EXISTING VEGETATION*
- 21 SMALL TREES
- 73 SHRUBS

TYPE 'B' 10 FT INTERNAL BUFFER:
PLANTS REQUIRED PER 100 LF
- 4 LARGE TREES
- 7 SMALL TREES
- 12 SHRUBS

1,750 LF TOTAL LENGTH
LESS 825 LF OF EXISTING TREE CANOPY*
APPLICABLE LENGTH = 925 LF

REQUIRED:	PROPOSED:
37 LG TREES	37 LG TREES
65 SMALL TREES	65 SMALL TREES
111 SHRUBS	111 SHRUBS

SUPPLEMENTAL PLANTING IN BUFFER WITH EXISTING VEGETATION*
- 58 SMALL TREES
- 100 SHRUBS

*NOTE:
- EXISTING VEGETATION SHALL BE USED TO SATISFY SOME OF THE REQUIRED BUFFER PLANTING. SEE PLAN FOR LOCATION AND LENGTH.
- SUPPLEMENTAL PLANTING ARE PROVIDED IN BUFFER AREA WHERE EXISTING VEGETATION ARE USED TO MEET REQUIREMENT. SUPPLEMENTAL PLANTING SHALL INCLUDE UNDERSTORY TREES AND EVERGREEN SHRUBS. SEE PLAN FOR LOCATION AND PLACEMENT.

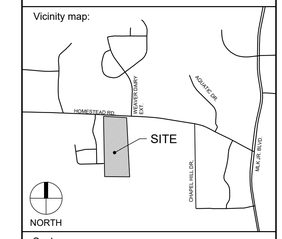
SITE LEGEND:

- PROPOSED TREE REPLACEMENT AREA
- TREE SAVE AREA
- PROPOSED 4' WIDE NEIGHBORHOOD TRAIL
- LIMITS OF DISTURBANCE
- —TP— PROPOSED TREE PROTECTION FENCE

STEWART
101 WEST MAIN ST.
DURHAM, NC 27701
T 919.380.8750
FIRM LICENSE #: C-1051
www.stewartinc.com
PROJECT #: C22033

Client:
GS HOMESTEAD, LLC
121 S. ESTES DRIVE, SUITE 100
CHAPEL HILL, NC 27514
PHONE: 919.489.9000
EMAIL: RICHARD@GURLITZARCHITECTS.COM

Vicinity map:



Seal:
PRELIMINARY - DO NOT USE FOR CONSTRUCTION

Scale:
0 25 50 100
SCALE: 1" = 50'
NORTH

Project:
HOMESTEAD ROAD TOWNHOMES

Issued for:
CONDITIONAL ZONING PERMIT

No.	Date	Description
1	8/26/2022	1ST RESUBMITTAL
2	10/07/2022	2ND RESUBMITTAL
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Title:
CODE PLANTING PLAN

Project number: C22033 Sheet #:
Issued Date: 06.24.2022
Drawn by: SM
Approved by: CH
L7.00

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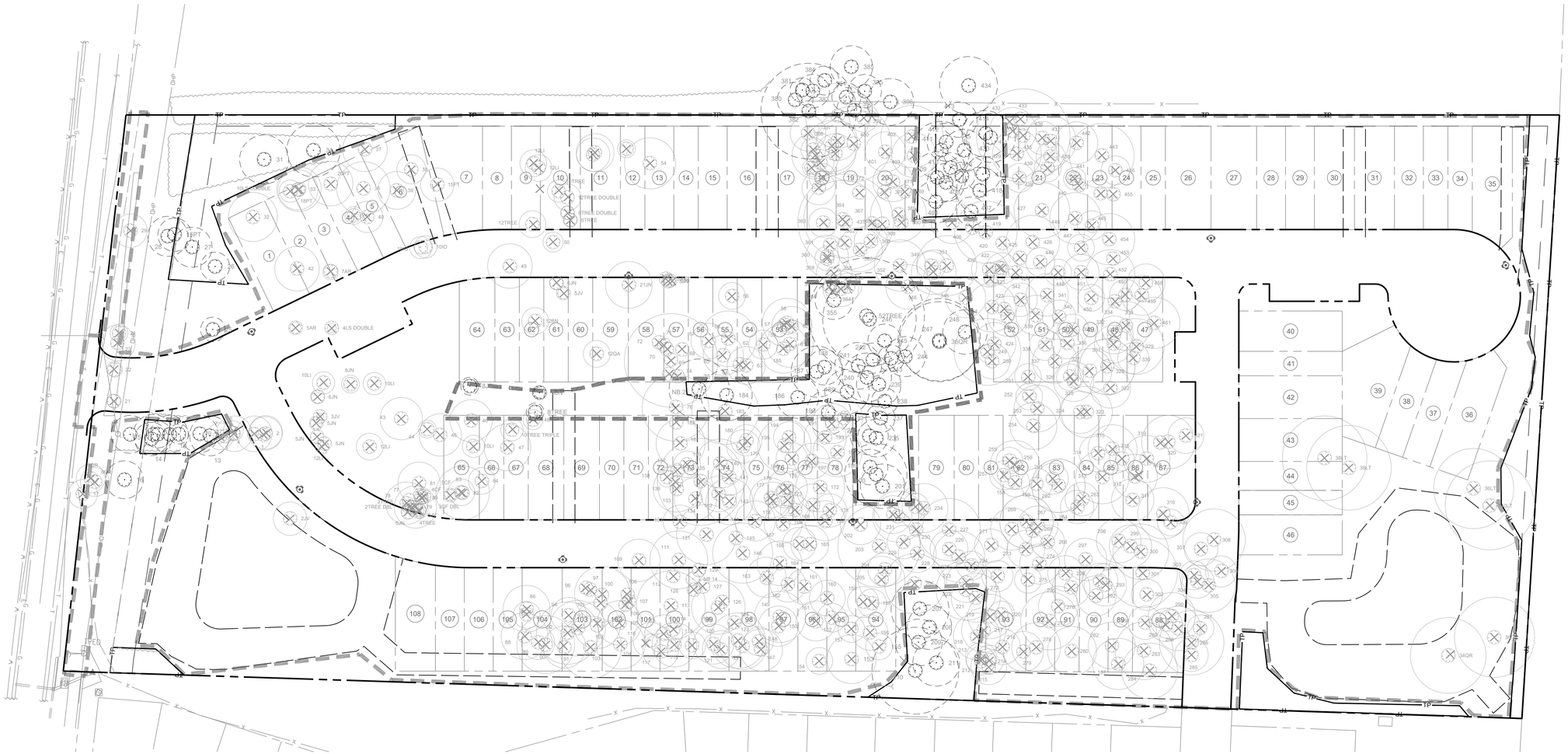

LINETYPE LEGEND:

SYMBOL	DESCRIPTION
	LIMITS OF DISTURBANCE
	PROPERTY LINE
TP	TREE PROTECTION FENCE
	EXISTING TREE TO REMAIN
	EXISTING TREE TO BE REMOVED

STEWART
101 WEST MAIN ST.
DURHAM, NC 27701
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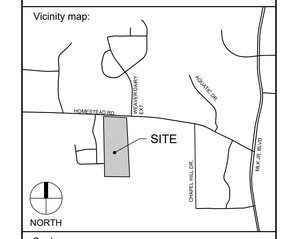
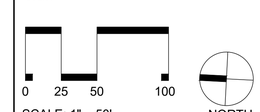
Vicinity map:



Seal:
PRELIMINARY - DO NOT USE FOR CONSTRUCTION

Scale:



SCALE: 1" = 50'

Project:

HOMESTEAD ROAD TOWNHOMES

Issued for:

CONDITIONAL ZONING PERMIT

No.	Date	Description
1	8/26/2022	1ST RESUBMITTAL
2	10/07/2022	2ND RESUBMITTAL
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Title:

LANDSCAPE PROTECTION PLAN

Project number: C22033
Sheet #:
Issued Date: 06.24.2022
Drawn by: SM
Approved by: CH

L7.10

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ID#	CODE	Common Name	Scientific Name	DBH	Rare or Spec	Multistem Number
1	LIST	Sweetgum	Liquidambar styraciflua	15	Specimen	
~~2~~	~~JUVI~~	~~Eastern Red Cedar~~	~~Juniperus virginiana~~	~~15~~	~~Rare~~	
3	PRSE	Black Cherry	Prunus serratina	16	Specimen	
4	LIST	Sweetgum	Liquidambar styraciflua	16	Specimen	
5	PITA	Loblolly Pine	Pinus taeda	19	Specimen	
6	COFL	Dogwood	Cornus florida	9	Specimen	
7	LIST	Sweetgum	Liquidambar styraciflua	12	Specimen	
~~8~~	~~JUVI~~	~~Eastern Red Cedar~~	~~Juniperus virginiana~~	~~13~~	~~Rare~~	
9	LIST	Sweetgum	Liquidambar styraciflua	17	Specimen	
10	PRSE	Black Cherry	Prunus serratina	9	NA	
11	JUVI	Eastern Red Cedar	Juniperus virginiana	17	Rare	
12	LIST	Sweetgum	Liquidambar styraciflua	12	Specimen	
13	PITA	Loblolly Pine	Pinus taeda	18	Specimen	
14	LITU	Tulip Poplar	Liriodendron tulipifera	15	Specimen	
15	PYCA	Callery Pear	Pyrus calleryana	17	NA	
16	PYCA	Callery Pear	Pyrus calleryana	17	NA	
~~17~~	~~JUVI~~	~~Eastern Red Cedar~~	~~Juniperus virginiana~~	~~13~~	~~Rare~~	
18	CECA	Eastern Redbud	Cercis canadensis	8	Specimen	
19	ILOP	American Holly	Ilex opaca	7	Specimen	
20	LITU	Tulip Poplar	Liriodendron tulipifera	15	Specimen	
21	COFL	Dogwood	Cornus florida	6	Specimen	
22	COFL	Dogwood	Cornus florida	7	Specimen	
23	LITU	Tulip Poplar	Liriodendron tulipifera	16	Specimen	
24	COFL	Dogwood	Cornus florida	8	Specimen	
25	MAGR	Southern Magnolia	Magnolia grandiflora	11	NA	
26	MAGR	Southern Magnolia	Magnolia grandiflora	13	Specimen	
27	LIST	Sweetgum	Liquidambar styraciflua	18	Specimen	
28	PITA	Loblolly Pine	Pinus taeda	18	Specimen	
29	LITU	Tulip Poplar	Liriodendron tulipifera	15	Specimen	
30	LITU	Tulip Poplar	Liriodendron tulipifera	24	Specimen	
31	LITU	Tulip Poplar	Liriodendron tulipifera	22	Specimen	
32	PITA	Loblolly Pine	Pinus taeda	22	Specimen	
33	LITU	Tulip Poplar	Liriodendron tulipifera	20	Specimen	
34	PITA	Loblolly Pine	Pinus taeda	24	Specimen	
35	LIST	Sweetgum	Liquidambar styraciflua	14	Specimen	
36	PITA	Loblolly Pine	Pinus taeda	24	Specimen	
37	PITA	Loblolly Pine	Pinus taeda	20	Specimen	
38	LIST	Sweetgum	Liquidambar styraciflua	13	Specimen	
39	LIST	Sweetgum	Liquidambar styraciflua	17	Specimen	
~~40~~	~~JUVI~~	~~Eastern Red Cedar~~	~~Juniperus virginiana~~	~~14~~	~~Rare~~	
41	JUVI	Eastern Red Cedar	Juniperus virginiana	8	Specimen	
42	ACRU	Red Maple	Acer rubrum	20	Specimen	
43	BENI	River Birch	Betula nigra	19	Specimen	
44	CRAT	Hawthorn	Crataegus species	8	Specimen	
45	LITU	Tulip Poplar	Liriodendron tulipifera	19	Specimen	
46	BENI	River Birch	Betula nigra	19	Specimen	
47	BENI	River Birch	Betula nigra	21	Specimen	
48	COFL	Dogwood	Cornus florida	9	Specimen	
49	Morris	Mulberry	Morus Sp	20	NA	
~~50~~	~~PYCA~~	~~Callery Pear~~	~~Pyrus calleryana~~	~~9~~	~~Rare~~	
~~51~~	~~CECA~~	~~Eastern Redbud~~	~~Cercis canadensis~~	~~16~~	~~Rare~~	
52	LITU	Tulip Poplar	Liriodendron tulipifera	19	Specimen	
53	LITU	Tulip Poplar	Liriodendron tulipifera	17	Specimen	
54	JUNI	Black Walnut	Juglans nigra	23	Specimen	
~~55~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~35~~	~~Rare~~	
56	JUNI	Black Walnut	Juglans nigra	12	Specimen	
57	ACRU	Red Maple	Acer rubrum	12	Specimen	
58	QUAL	White Oak	Quercus alba	22	Specimen	
59	QUAL	White Oak	Quercus alba	22	Specimen	
60	LITU	Tulip Poplar	Liriodendron tulipifera	18	Specimen	
61	LITU	Tulip Poplar	Liriodendron tulipifera	21	Specimen	
62	CARYA	Hickory	Carya species	13	Specimen	
63	CARYA	Hickory	Carya species	17	Specimen	
64	ACRU	Red Maple	Acer rubrum	16	Specimen	
65	LITU	Tulip Poplar	Liriodendron tulipifera	18	Specimen	
~~66~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~25~~	~~Rare~~	
67	LIST	Sweetgum	Liquidambar styraciflua	16	Specimen	
68	CARYA	Hickory	Carya species	17	Specimen	
69	QUVE	Black Oak	Quercus velutina	42	Rare	
70	ULAL	Winged Elm	Ulmus alatus	14	Specimen	
71	JUNI	Black Walnut	Juglans nigra	17	Specimen	
72	CARYA	Hickory	Carya species	13	Specimen	
73	LITU	Tulip Poplar	Liriodendron tulipifera	21	Specimen	
74	LITU	Tulip Poplar	Liriodendron tulipifera	20	Specimen	
75	LITU	Tulip Poplar	Liriodendron tulipifera	27	Rare	
~~76~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~30~~	~~Rare~~	
77	LITU	Tulip Poplar	Liriodendron tulipifera	15	Specimen	
78	LITU	Tulip Poplar	Liriodendron tulipifera	19	Specimen	
79	PRSE	Black Cherry	Prunus serratina	19	Specimen	
80	DIVI	Persimmon	Diosporos virginiana	10	Specimen	
81	CAIL	Pecan	Carya illinoiensis	19	Specimen	
82	LIST	Sweetgum	Liquidambar styraciflua	12	Specimen	
~~83~~	~~LIST~~	~~Sweetgum~~	~~Liquidambar styraciflua~~	~~24~~	~~Rare~~	
84	CAIL	Pecan	Carya illinoiensis	12	Specimen	
85	CAIL	Pecan	Carya illinoiensis	13	Specimen	
86	LITU	Tulip Poplar	Liriodendron tulipifera	21	Specimen	
87	LITU	Tulip Poplar	Liriodendron tulipifera	12	Specimen	
88	LIST	Sweetgum	Liquidambar styraciflua	21	Specimen	
89	QUAL	White Oak	Quercus alba	15	Specimen	
~~90~~	~~QUAL~~	~~White Oak~~	~~Quercus alba~~	~~26~~	~~Rare~~	
91	LIST	Sweetgum	Liquidambar styraciflua	19	Specimen	
~~92~~	~~LIST~~	~~Sweetgum~~	~~Liquidambar styraciflua~~	~~28~~	~~Rare~~	
~~93~~	~~QUAL~~	~~White Oak~~	~~Quercus alba~~	~~25~~	~~Rare~~	
94	LIST	Sweetgum	Liquidambar styraciflua	16	Specimen	
95	QUPH	Willow Oak	Quercus phellos	12	Specimen	
96	LIST	Sweetgum	Liquidambar styraciflua	16	Specimen	
97	QUAL	White Oak	Quercus alba	16	Specimen	
98	PRSE	Black Cherry	Prunus serratina	8	NA	
99	PRSE	Black Cherry	Prunus serratina	6	NA	
~~100~~	~~LIST~~	~~Sweetgum~~	~~Liquidambar styraciflua~~	~~25~~	~~Rare~~	
101	LIST	Sweetgum	Liquidambar styraciflua	16	Specimen	
102	QUAL	White Oak	Quercus alba	21	Specimen	
~~103~~	~~QUVE~~	~~Black Oak~~	~~Quercus velutina~~	~~28~~	~~Rare~~	
104	QUAL	White Oak	Quercus alba	22	Specimen	
105	QUAL	White Oak	Quercus alba	20	Specimen	
106	QUAL	White Oak	Quercus alba	15	Specimen	
107	QUMA	Blackjack Oak	Quercus marilandica	23	Specimen	
108	QUAL	White Oak	Quercus alba	17	Specimen	
109	PITA	Loblolly Pine	Pinus taeda	19	Specimen	
110	PITA	Loblolly Pine	Pinus taeda	22	Specimen	
~~111~~	~~QUAL~~	~~White Oak~~	~~Quercus alba~~	~~28~~	~~Rare~~	
112	LIST	Sweetgum	Liquidambar styraciflua	17	Specimen	
~~113~~	~~QUAL~~	~~White Oak~~	~~Quercus alba~~	~~31~~	~~Rare~~	
114	LITU	Tulip Poplar	Liriodendron tulipifera	22	Specimen	
115	QUAL	White Oak	Quercus alba	17	Specimen	
116	QUAL	White Oak	Quercus alba	16	Specimen	
117	LIST	Sweetgum	Liquidambar styraciflua	16	Specimen	
118	FRAX	Ash	Fraxinus species	20	Specimen	
119	CATO	Mockernut Hickory	Carya tomentosa	12	Specimen	
120	QUAL	White Oak	Quercus alba	18	Specimen	
121	QUAL	White Oak	Quercus alba	17	Specimen	
122	LITU	Tulip Poplar	Liriodendron tulipifera	21	Specimen	
~~123~~	~~QUAL~~	~~White Oak~~	~~Quercus alba~~	~~25~~	~~Rare~~	
124	CATO	Mockernut Hickory	Carya tomentosa	13	Specimen	
~~125~~	~~QUAL~~	~~White Oak~~	~~Quercus alba~~	~~24~~	~~Rare~~	
126	LIST	Sweetgum	Liquidambar styraciflua	14	Specimen	
127	FRAX	Ash	Fraxinus species	15	Specimen	
128	NYSY	Blackgum	Nyssa sylvatica	13	Specimen	
129	NYSY	Blackgum	Nyssa sylvatica	12	Specimen	
130	ILOP	American Holly	Ilex opaca	6	Specimen	
~~131~~	~~NYSY~~	~~Blackgum~~	~~Nyssa sylvatica~~	~~27~~	~~Rare~~	
132	LIST	Sweetgum	Liquidambar styraciflua	15	Specimen	
133	LIST	Sweetgum	Liquidambar styraciflua	21	Specimen	
134	LITU	Tulip Poplar	Liriodendron tulipifera	19	Specimen	
~~135~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~39~~	~~Rare~~	
136	LIST	Sweetgum	Liquidambar styraciflua	13	Specimen	
137	QUMA	Blackjack Oak	Quercus marilandica	13	Specimen	
138	OXAR	Sourwood	Oxydendron arboreum	9	Specimen	
139	QUAL	White Oak	Quercus alba	12	Specimen	
140	CATO	Mockernut Hickory	Carya tomentosa	22	Specimen	
141	NYSY	Blackgum	Nyssa sylvatica	16	Specimen	
142	QUVE	Black Oak	Quercus velutina	16	Specimen	
143	QUAL	White Oak	Quercus alba	21	Specimen	
144	QUAL	White Oak	Quercus alba	18	Specimen	
145	LIST	Sweetgum	Liquidambar styraciflua	15	Specimen	
~~146~~	~~LIST~~	~~Sweetgum~~	~~Liquidambar styraciflua~~	~~27~~	~~Rare~~	
147	QUAL	White Oak	Quercus alba	19	Specimen	
148	QUAL	White Oak	Quercus alba	13	Specimen	
149	QUAL	White Oak	Quercus alba	23	Specimen	
150	QUAL	White Oak	Quercus alba	18	Specimen	
151	LIST	Sweetgum	Liquidambar styraciflua	18	Specimen	
152	CATO	Mockernut Hickory	Carya tomentosa	13	Specimen	
153	FRAX	Ash	Fraxinus species	22	Specimen	
154	CATO	Mockernut Hickory	Carya tomentosa	12	Specimen	
155	LIST	Sweetgum	Liquidambar styraciflua	12	Specimen	
156	CAGL	Pignut Hickory	Carya glabra	16	Specimen	
157	CAGL	Pignut Hickory	Carya glabra	12	Specimen	
158	LIST	Sweetgum	Liquidambar styraciflua	13	Specimen	
159	QUAL	White Oak	Quercus alba	14	Specimen	
160	QUVE	Black Oak	Quercus velutina	16	Specimen	
161	CATO	Mockernut Hickory	Carya tomentosa	16	Specimen	
162	CAGL	Pignut Hickory	Carya glabra	16	Specimen	
163	QUAL	White Oak	Quercus alba	18	Specimen	
164	QUAL	White Oak	Quercus alba	20	Specimen	
165	CATO	Mockernut Hickory	Carya tomentosa	17	Specimen	
166	LIST	Sweetgum	Liquidambar styraciflua	15	Specimen	
167	LITU	Tulip Poplar	Liriodendron tulipifera	17	Specimen	
168	QUAL	White Oak	Quercus alba	13	Specimen	
169	LITU	Tulip Poplar	Liriodendron tulipifera	19	Specimen	
170	QUAL	White Oak	Quercus alba	18	Specimen	
171	LITU	Tulip Poplar	Liriodendron tulipifera	15	Specimen	
172	QUAL	White Oak	Quercus alba	22	Specimen	
173	LITU	Tulip Poplar	Liriodendron tulipifera	14	Specimen	
174	FRAX	Ash	Fraxinus species	17	Specimen	
175	LITU	Tulip Poplar	Liriodendron tulipifera	18	Specimen	
176	QUAL	White Oak	Quercus alba	18	Specimen	
177	QUAL	White Oak	Quercus alba	18	Specimen	
178	LITU	Tulip Poplar	Liriodendron tulipifera	17	Specimen	
179	QUAL	White Oak	Quercus alba	15	Specimen	
180	LITU	Tulip Poplar	Liriodendron tulipifera	14	Specimen	
181	LIST	Sweetgum	Liquidambar styraciflua	22	Specimen	
182	LIST	Sweetgum	Liquidambar styraciflua	12	Specimen	
~~183~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~30~~	~~Rare~~	
184	LITU	Tulip Poplar	Liriodendron tulipifera	23	Specimen	
185	LITU	Tulip Poplar	Liriodendron tulipifera	22	Specimen	
186	QUAL	White Oak	Quercus alba	19	Specimen	
187	QUAL	White Oak	Quercus alba	23	Specimen	
188	QUAL	White Oak	Quercus alba	16	Specimen	
189	QUAL	White Oak	Quercus alba	20	Specimen	
190	QUMA	Blackjack Oak	Quercus marilandica	20	Specimen	
191	LITU	Tulip Poplar	Liriodendron tulipifera	18	Specimen	
192	LITU	Tulip Poplar	Liriodendron tulipifera	17	Specimen	
193	LITU	Tulip Poplar	Liriodendron tulipifera	19	Specimen	
194	QUAL	White Oak	Quercus alba	14	Specimen	
~~195~~	~~QUAL~~	~~White Oak~~	~~Quercus alba~~	~~24~~	~~Rare~~	
196	QUAL	White Oak	Quercus alba	14	Specimen	
197	QUAL	White Oak	Quercus alba	16	Specimen	
198	QUAL	White Oak	Quercus alba	22	Specimen	
199	QUAL	White Oak	Quercus alba	16	Specimen	
200	LITU	Tulip Poplar	Liriodendron tulipifera	28	Rare	
201	CARYA	Hickory	Carya species	20	Specimen	
202	CATO	Mockernut Hickory	Carya tomentosa	18	Specimen	
~~203~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~37~~	~~Rare~~	
204	CARYA	Hickory	Carya species	15	Specimen	
205	QUAL	White Oak	Quercus alba	21	Specimen	
~~206~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~27~~	~~Rare~~	
207	LITU	Tulip Poplar	Liriodendron tulipifera	26	Rare	
208	LITU	Tulip Poplar	Liriodendron tulipifera	20	Specimen	
209	QUAL	White Oak	Quercus alba	21	Specimen	
210	LITU	Tulip Poplar	Liriodendron tulipifera	39	Rare	
211	LITU	Tulip Poplar	Liriodendron tulipifera	21	Specimen	
212	LITU	Tulip Poplar	Liriodendron tulipifera	13	Specimen	
213	LITU	Tulip Poplar	Liriodendron tulipifera	14	Specimen	
214	LITU	Tulip Poplar	Liriodendron tulipifera	13	Specimen	
215	LITU	Tulip Poplar	Liriodendron tulipifera	16	Specimen	
216	QUAL	White Oak	Quercus alba	16	Specimen	
217	LITU	Tulip Poplar	Liriodendron tulipifera	20	Specimen	
218	LITU	Tulip Poplar	Liriodendron tulipifera	21	Specimen	
219	LITU	Tulip Poplar	Liriodendron tulipifera	20	Specimen	
220	LITU	Tulip Poplar	Liriodendron tulipifera	12	Specimen	
221	LITU	Tulip Poplar	Liriodendron tulipifera	22	Specimen	
~~222~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~27~~	~~Rare~~	
223	CAGL	Pignut Hickory	Carya glabra	18	Specimen	
224	CARYA	Hickory	Carya species	13	Specimen	
225	LITU	Tulip Poplar	Liriodendron tulipifera	23	Specimen	
226	LITU	Tulip Poplar	Liriodendron tulipifera	17	Specimen	
~~227~~	~~QUAL~~	~~White Oak~~	~~Quercus alba~~	~~28~~	~~Rare~~	
228	LITU	Tulip Poplar	Liriodendron tulipifera	17	Specimen	
229	QUAL	White Oak	Quercus alba	15	Specimen	
230	QUAL	White Oak	Quercus alba	22	Specimen	
231	LITU	Tulip Poplar	Liriodendron tulipifera	23	Specimen	
232	QUAL	White Oak	Quercus alba	17	Specimen	
233	CARYA	Hickory	Carya species	12	Specimen	
234	QUAL	White Oak	Quercus alba	22	Specimen	
235	CATO	Mockernut Hickory	Carya tomentosa	17	Specimen	
236	QUAL	White Oak	Quercus alba	17	Specimen	
237	LIST	Sweetgum	Liquidambar styraciflua	13	Specimen	
238	LITU	Tulip Poplar	Liriodendron tulipifera	12	Specimen	
239	LITU	Tulip Poplar	Liriodendron tulipifera	20	Specimen	
240	LITU	Tulip Poplar	Liriodendron tulipifera	22	Specimen	
241	LITU	Tulip Poplar	Liriodendron tulipifera	21	Specimen	
242	LITU	Tulip Poplar	Liriodendron tulipifera	15	Specimen	
243	LITU	Tulip Poplar	Liriodendron tulipifera	12	Specimen	
244	LITU	Tulip Poplar	Liriodendron tulipifera	18	Specimen	
245	LITU	Tulip Poplar	Liriodendron tulipifera	15	Specimen	
246	LITU	Tulip Poplar	Liriodendron tulipifera	42	Rare	
247	LITU	Tulip Poplar	Liriodendron tulipifera	37	Rare	
248	QUAL	White Oak	Quercus alba	20	Specimen	
~~249~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~30~~	~~Rare~~	
250	QURU	Northern Red Oak	Quercus rubra	16	Specimen	
251	CATO	Mockernut Hickory	Carya tomentosa	12	Specimen	
252	ACRU	Red Maple	Acer rubrum	12	Specimen	
253	QUAL	White Oak	Quercus alba	21	Specimen	
254	QUAL	White Oak	Quercus alba	21	Specimen	
255	LIST	Sweetgum	Liquidambar styraciflua	12	Specimen	
256	QUAL	White Oak	Quercus alba	22	Specimen	
257	CATO	Mockernut Hickory	Carya tomentosa	13	Specimen	
258	QUAL	White Oak	Quercus alba	16	Specimen	
259	LITU	Tulip Poplar	Liriodendron tulipifera	15	Specimen	
260	CATO	Mockernut Hickory	Carya tomentosa	12	Specimen	
261	CATO	Mockernut Hickory	Carya tomentosa	14	Specimen	
~~262~~	~~LIST~~	~~Sweetgum~~	~~Liquidambar styraciflua~~	~~24~~	~~Rare~~	
263	LIST	Sweetgum	Liquidambar styraciflua	15	Specimen	
264	CATO	Mockernut Hickory	Carya tomentosa	15	Specimen	
~~265~~	~~QUAL~~	~~White Oak~~	~~Quercus alba~~	~~24~~	~~Rare~~	
266	LIST	Sweetgum	Liquidambar styraciflua	15	Specimen	
267	LITU	Tulip Poplar	Liriodendron tulipifera	18	Specimen	
268	LITU	Tulip Poplar	Liriodendron tulipifera	18	Specimen	
~~269~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~24~~	~~Rare~~	
270	CAGL	Pignut Hickory	Carya glabra	19	Specimen	
271	LIST	Sweetgum	Liquidambar styraciflua	15	Specimen	
272	LIST	Sweetgum	Liquidambar styraciflua	14	Specimen	
273	FRAX	Ash	Fraxinus species	17	Specimen	
274	LIST	Sweetgum	Liquidambar styraciflua	18	Specimen	
275	CATO	Mockernut Hickory	Carya tomentosa	12	Specimen	
276	FRAX	Ash	Fraxinus species	18	Specimen	
~~277~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~26~~	~~Rare~~	
278	LITU	Tulip Poplar	Liriodendron tulipifera	22	Specimen	
279	NYSY	Blackgum	Nyssa sylvatica	18	Specimen	
280	QUAL	White Oak	Quercus alba	22	Specimen	
281	QUAL	White Oak	Quercus alba	21	Specimen	
282	QUAL	White Oak	Quercus alba	21	Specimen	
~~283~~	~~QUAL~~	~~White Oak~~	~~Quercus alba~~	~~26~~	~~Rare~~	
~~284~~	~~QUAL~~	~~White Oak~~	~~Quercus alba~~	~~25~~	~~Rare~~	
285	LITU	Tulip Poplar	Liriodendron tulipifera	15	Specimen	
~~286~~	~~LIST~~	~~Sweetgum~~	~~Liquidambar styraciflua~~	~~29~~	~~Rare~~	
287	LITU	Tulip Poplar	Liriodendron tulipifera	12	Specimen	
288	LITU	Tulip Poplar	Liriodendron tulipifera	20	Specimen	
289	QUAL	White Oak	Quercus alba	15	Specimen	
290	QUAL	White Oak	Quercus alba	21	Specimen	
291	LIST	Sweetgum	Liquidambar styraciflua	15	Specimen	
292	QUAL	White Oak	Quercus alba	18	Specimen	
293	QUVE	Black Oak	Quercus velutina	19	Specimen	
294	QUFA	Southern Red Oak	Quercus falcata	16	Specimen	
295	QUAL	White Oak	Quercus alba	17	Specimen	
296	LITU	Tulip Poplar	Liriodendron tulipifera	16	Specimen	
297	LITU	Tulip Poplar	Liriodendron tulipifera	19	Specimen	
298	QURU	Northern Red Oak	Quercus rubra	20	Specimen	
299	LITU	Tulip Poplar	Liriodendron tulipifera	19	Specimen	
~~300~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~25~~	~~Rare~~	
~~301~~	~~QURU~~	~~Northern Red Oak~~	~~Quercus rubra~~	~~31~~	~~Rare~~	
302	QUAL	White Oak	Quercus alba	14	Specimen	
303	LIST	Sweetgum	Liquidambar styraciflua	13	Specimen	
304	QUAL	White Oak	Quercus alba	15	Specimen	
~~305~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~24~~	~~Rare~~	
306	QUAL	White Oak	Quercus alba	14	Specimen	
307	QUVE	Black Oak	Quercus velutina	15	Specimen	
~~308~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~28~~	~~Rare~~	
309	LIST	Sweetgum	Liquidambar styraciflua	12	Specimen	
310	LITU	Tulip Poplar	Liriodendron tulipifera	23	Specimen	
311	LITU	Tulip Poplar	Liriodendron tulipifera	19	Specimen	
312	LITU	Tulip Poplar	Liriodendron tulipifera	20	Specimen	
~~313~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~24~~	~~Rare~~	
314	LIST	Sweetgum	Liquidambar styraciflua	17	Specimen	
315	LITU	Tulip Poplar	Liriodendron tulipifera	22	Specimen	
316	NYSY	Blackgum	Nyssa sylvatica	11	NA	
317	QUAL	White Oak	Quercus alba	15	Specimen	
318	LITU	Tulip Poplar	Liriodendron tulipifera	21	Specimen	
319	QUVE	Black Oak	Quercus velutina	16	Specimen	
~~320~~	~~ACRU~~	~~Red Maple~~	~~Acer rubrum~~	~~24~~	~~Rare~~	
321	QUAL	White Oak	Quercus alba	16	Specimen	
322	QUAL	White Oak	Quercus alba	18	Specimen	
323	QUVE	Black Oak	Quercus velutina	23	Specimen	
324	LITU	Tulip Poplar	Liriodendron tulipifera	19	Specimen	
325	PITA	Loblolly Pine	Pinus taeda	18	Specimen	
326	QUAL	White Oak	Quercus alba	12	Specimen	
327	LITU	Tulip Poplar	Liriodendron tulipifera	20	Specimen	
~~328~~	~~QUAL~~	~~White Oak~~	~~Quercus alba~~	~~25~~	~~Rare~~	
329	LITU	Tulip Poplar	Liriodendron tulipifera	25	Specimen	
330	CARYA	Hickory	Carya species	14	Specimen	
331	LITU	Tulip Poplar	Liriodendron tulipifera	17	Specimen	
332	QUAL	White Oak	Quercus alba	17	Specimen	
333	QUAL	White Oak	Quercus alba	22	Specimen	
334	QUAL	White Oak	Quercus alba	14	Specimen	
335	QUAL	White Oak	Quercus alba	14	Specimen	
336	LIST	Sweetgum	Liquidambar styraciflua	14	Specimen	
337	QUAL	White Oak	Quercus alba	20	Specimen	
338	LIST	Sweetgum	Liquidambar styraciflua	14	Specimen	
339	QUAL	White Oak	Quercus alba	18	Specimen	
340	LITU	Tulip Poplar	Liriodendron tulipifera	15	Specimen	
341	QUAL	White Oak	Quercus alba	19	Specimen	
342	QUVE	Black Oak	Quercus velutina	15	Specimen	
343	QUAL	White Oak	Quercus alba	18	Specimen	
344	QUAL	White Oak	Quercus alba	22	Specimen	
345	QUAL	White Oak	Quercus alba	18	Specimen	
346	QUAL	White Oak	Quercus alba	12	Specimen	
347	QUAL	White Oak	Quercus alba	15	Specimen	
348	CATO	Mockernut Hickory	Carya tomentosa	20	Specimen	
349	QUAL	White Oak	Quercus alba	13	Specimen	
350	QUAL	White Oak	Quercus alba	20	Specimen	
~~351~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~27~~	~~Rare~~	
352	QURU	Northern Red Oak	Quercus rubra	23	Specimen	
353	QUAL	White Oak	Quercus alba	12	Specimen	
354	LITU	Tulip Poplar	Liriodendron tulipifera	16	Specimen	
355	LITU	Tulip Poplar	Liriodendron tulipifera	17	Specimen	
356	OXAR	Sourwood	Oxydendron arboreum	9	Specimen	
357	LITU	Tulip Poplar	Liriodendron tulipifera	14	Specimen	
358	CATO	Mockernut Hickory	Carya tomentosa	16	Specimen	
359	CARYA	Hickory	Carya species	11	NA	
360	LITU	Tulip Poplar	Liriodendron tulipifera	19	Specimen	
361	CARYA	Hickory	Carya species	13	Specimen	
362	QUAL	White Oak	Quercus alba	15	Specimen	
363	LITU	Tulip Poplar	Liriodendron tulipifera	13	Specimen	
~~364~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~35~~	~~Rare~~	
365	LITU	Tulip Poplar	Liriodendron tulipifera	20	Specimen	
366	LITU	Tulip Poplar	Liriodendron tulipifera	15	Specimen	
367	LITU	Tulip Poplar	Liriodendron tulipifera	13	Specimen	
368	LITU	Tulip Poplar	Liriodendron tulipifera	19	Specimen	
369	QUAL	White Oak	Quercus alba	15	Specimen	
370	QUAL	White Oak	Quercus alba	20	Specimen	
371	QUAL	White Oak	Quercus alba	18	Specimen	
372	LITU	Tulip Poplar	Liriodendron tulipifera	23	Specimen	
373	LITU	Tulip Poplar	Liriodendron tulipifera	15	Specimen	
374	CAGL	Pignut Hickory	Carya glabra	12	Specimen	
375	SAAL	Sassafrass	Sassafras albidum	8	Specimen	
376	QUAL	White Oak	Quercus alba	12	Specimen	
377	LITU	Tulip Poplar	Liriodendron tulipifera	21	Specimen	
378	SAAL	Sassafrass	Sassafras albidum	11	Specimen	
379	QUMA	Blackjack Oak	Quercus merilandica	16	Specimen	
380	QUAL	White Oak	Quercus alba	16	Specimen	
381	SAAL	Sassafrass	Sassafras albidum	11	Specimen	
382	QUAL	White Oak	Quercus alba	43	Rare	
383	LITU	Tulip Poplar	Liriodendron tulipifera	15	Specimen	
384	LITU	Tulip Poplar	Liriodendron tulipifera	13	Specimen	
385	LITU	Tulip Poplar	Liriodendron tulipifera	19	Specimen	
386	LITU	Tulip Poplar	Liriodendron tulipifera	23	Specimen	
387	QUVE	Black Oak	Quercus velutina	20	Specimen	
~~388~~	~~QURU~~	~~Northern Red Oak~~	~~Quercus rubra~~	~~28~~	~~Rare~~	
~~389~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~25~~	~~Rare~~	
390	LITU	Tulip Poplar	Liriodendron tulipifera	13	Specimen	
391	CATO	Mockernut Hickory	Carya tomentosa	14	Specimen	
~~392~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~29~~	~~Rare~~	
393	LITU	Tulip Poplar	Liriodendron tulipifera	16	Specimen	
394	LIST	Sweetgum	Liquidambar styraciflua	13	Specimen	
395	LIST	Sweetgum	Liquidambar styraciflua	15	Specimen	
396	LITU	Tulip Poplar	Liriodendron tulipifera	21	Specimen	
397	LITU	Tulip Poplar	Liriodendron tulipifera	18	Specimen	
398	LITU	Tulip Poplar	Liriodendron tulipifera	23	Specimen	
399	LITU	Tulip Poplar	Liriodendron tulipifera	18	Specimen	
~~400~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~34~~	~~Rare~~	
401	LITU	Tulip Poplar	Liriodendron tulipifera	18	Specimen	
~~402~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~28~~	~~Rare~~	
403	LITU	Tulip Poplar	Liriodendron tulipifera	20	Specimen	
404	LITU	Tulip Poplar	Liriodendron tulipifera	19	Specimen	
405	QUAL	White Oak	Quercus alba	19	Specimen	
406	QUAL	White Oak	Quercus alba	12	Specimen	
407	QUAL	White Oak	Quercus alba	13	Specimen	
408	LITU	Tulip Poplar	Liriodendron tulipifera	17	Specimen	
409	LITU	Tulip Poplar	Liriodendron tulipifera	23	Specimen	
410	QUAL	White Oak	Quercus alba	13	Specimen	
411	LITU	Tulip Poplar	Liriodendron tulipifera	26	Rare	
412	LITU	Tulip Poplar	Liriodendron tulipifera	17	Specimen	
413	LIST	Sweetgum	Liquidambar styraciflua	16	Specimen	
414	LITU	Tulip Poplar	Liriodendron tulipifera	21	Specimen	
415	LITU	Tulip Poplar	Liriodendron tulipifera	19	Specimen	
416	LIST	Sweetgum	Liquidambar styraciflua	12	Specimen	
417	LITU	Tulip Poplar	Liriodendron tulipifera	16	Specimen	
418	LITU	Tulip Poplar	Liriodendron tulipifera	21	Specimen	
~~419~~	~~QUAL~~	~~White Oak~~	~~Quercus alba~~	~~28~~	~~Rare~~	
420	LITU	Tulip Poplar	Liriodendron tulipifera	16	Specimen	
421	QUAL	White Oak	Quercus alba	14	Specimen	
422	LIST	Sweetgum	Liquidambar styraciflua	12	Specimen	10 (6,4)
423	LIST	Sweetgum	Liquidambar styraciflua	12	Specimen	12 (4,8)
424	QUAL	White Oak	Quercus alba	19	Specimen	12 (6,6)
425	QUAL	White Oak	Quercus alba	14	Specimen	12 (8,4)
~~426~~	~~QUAL~~	~~White Oak~~	~~Quercus alba~~	~~24~~	~~Rare~~	13 (4,4,5)
~~427~~	~~QUAL~~	~~White Oak~~	~~Quercus alba~~	~~25~~	~~Rare~~	15 (10,5)
428	OXAR	Sourwood	Oxydendron arboreum	13	Specimen	17 (13,4)
429	QUAL	White Oak	Quercus alba	22	Specimen	18 (12,6)
430	LITU	Tulip Poplar	Liriodendron tulipifera	22	Specimen	19 (11,8)
431	LITU	Tulip Poplar	Liriodendron tulipifera	21	Specimen	20 (9,11)
~~432~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~25~~	~~Rare~~	21 (10,10)
433	QUVE	Black Oak	Quercus velutina	22	Specimen	22 (12,10)
~~434~~	~~QUAL~~	~~White Oak~~	~~Quercus alba~~	~~26~~	~~Rare~~	22 (12,10)
~~435~~	~~LITU~~	~~Tulip Poplar~~	~~Liriodendron tulipifera~~	~~42~~	~~Rare~~	22 (16,6)
436	CAGL	Pignut Hickory	Carya glabra	15	Specimen	22 (9,13)
437	QURU	Northern Red Oak	Quercus rubra	23	Specimen	23 (9,14)
438	LIST	Sweetgum	Liquidambar styraciflua	13	Specimen	24 (12,12)
439	LITU	Tulip Poplar	Liriodendron tulipifera	12	Specimen	24 (12,12)
440	PITA	Loblolly Pine	Pinus taeda	15	NA	25 (12,13)
441	OXAR	Sourwood	Oxydendron arboreum	10	Specimen	26 (13,13)
442	CATO	Mockernut Hickory	Carya tomentosa	19	Specimen	26 (20,6)
~~443~~	~~QUAL~~	~~White Oak~~	~~Quercus alba~~	~~29~~	~~Rare~~	27 (14,13)
444	LIST	Sweetgum	Liquidambar styraciflua	14	Specimen	28 (13,8,7)
445	LIST	Sweetgum	Liquidambar styraciflua	13	Specimen	28 (14,14)
446	CATO	Mockernut Hickory	Carya tomentosa	23	Specimen	29 (17,12)
447	LIST	Sweetgum	Liquidambar styraciflua	12	Specimen	32 (24,8)
448	LIST	Sweetgum	Liquidambar styraciflua	12	Specimen	32 (8,12,12)
449	LIST	Sweetgum	Liquidambar styraciflua	13	Specimen	34 (28,6)
450	QUAL	White Oak	Quercus alba	12	Specimen	36 (18,18)
451	PITA	Loblolly Pine	Pinus taeda	16	NA	36 (18,18)
452	QUAL	White Oak	Quercus alba	22	Specimen	42 (21,21)
453	QUAL	White Oak	Quercus alba	22	Specimen	42 (21,21)
454	LITU	Tulip Poplar	Liriodendron tulipifera	23	Specimen	44 (10,34)
455	QUFA	Southern Red Oak	Quercus falcata	21	Specimen	45 (11,12,22)
456	QUAL	White Oak	Quercus alba	13	Specimen	45 (8,18,10,9)
457	CATO	Mockernut Hickory	Carya tomentosa	19	Specimen	46 (8,8,10,11,9)
458	CATO	Mockernut Hickory	Carya tomentosa	17	Specimen	52 (26,26)
459	QUAL	White Oak	Quercus alba	18	Specimen	59 (22,13,24)
460	CATO	Mockernut Hickory	Carya tomentosa	14	Specimen	70 (17,22,31)
461	QUAL	White Oak	Quercus alba	12	Specimen	8 (4,4)

LEGEND:

——— RARE TREE REMOVED

L:\Projects\2022\C22033 - Homestead Road Townhomes\DWGS\1-SUP\3-Sheets\C22033-L7.00 Code Planting Plan.dwg Oct 07, 2022 - 9:29am

STEWART
101 WEST MAIN ST.
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Client:

GS HOMESTEAD, LLC
121 S. ESTES DRIVE, SUITE 100
CHAPEL HILL, NC 27514
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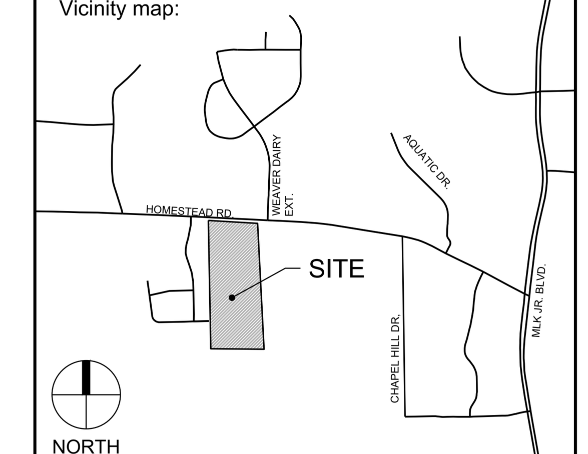
Vicinity map:



Seal:

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

Scale:

Project:

HOMESTEAD ROAD TOWNHOMES

Issued for:

CONDITIONAL ZONING PERMIT

No.	Date	Description
1	8/26/2022	1ST RESUBMITTAL
2	10/07/2022	2ND RESUBMITTAL
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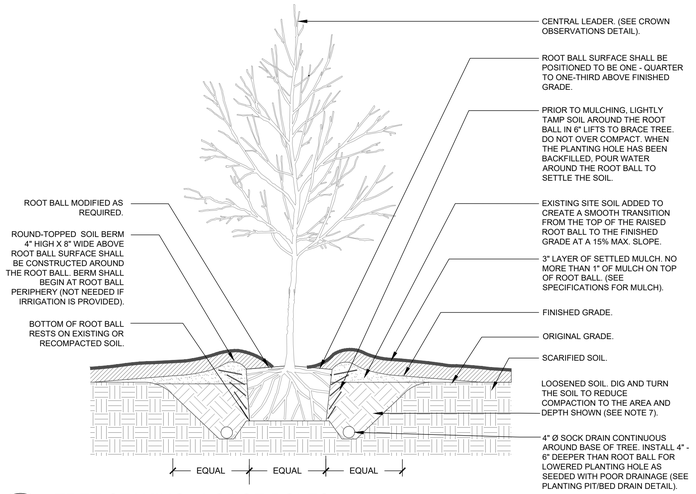
Title:

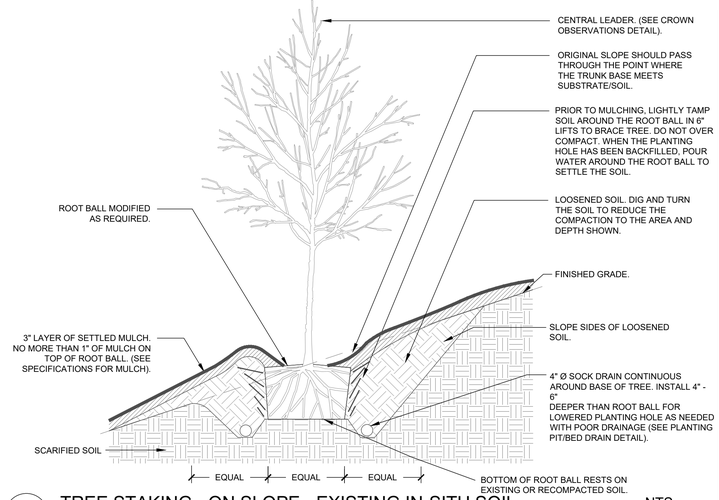
LANDSCAPE PROTECTION PLAN - TREE SURVEY

Project number: C22033
Issued Date: 06.24.2022
Drawn by: SM
Approved by: CH
Sheet #: L7.11



1 TREE STAKING - LODGE POLES — NTS

SECTION

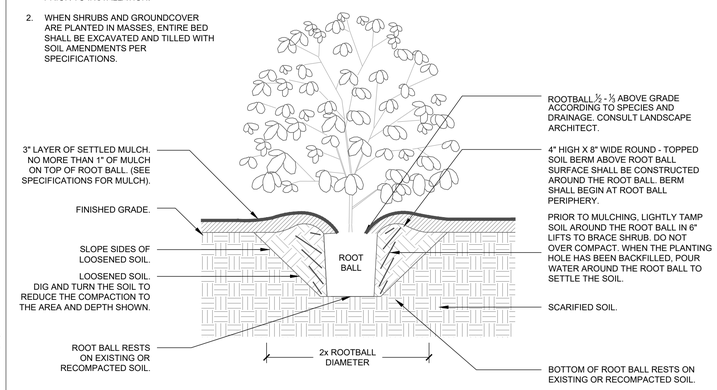


2 TREE STAKING - ON SLOPE - EXISTING IN-SITU SOIL — NTS

SECTION

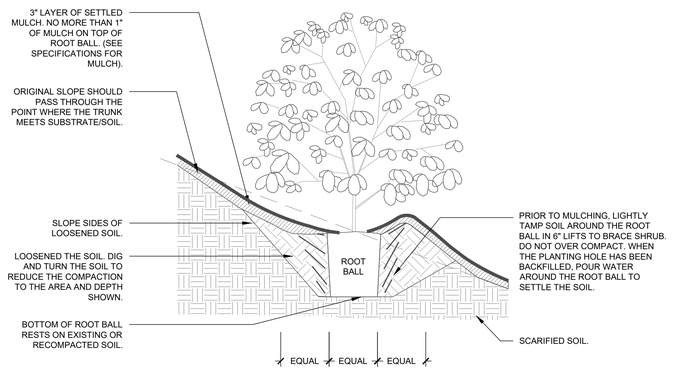
NOTES:

1. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.
2. WHEN SHRUBS AND GROUNDCOVER ARE PLANTED IN MASSES, ENTIRE BED SHALL BE EXCAVATED AND TILLED WITH SOIL AMENDMENTS PER SPECIFICATIONS.



3 SHRUB - EXISTING IN-SITU SOIL — NTS

SECTION

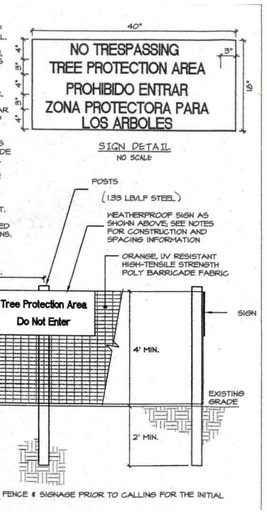


4 SHRUB ON SLOPE - EXISTING IN-SITU SOIL — NTS

SECTION

NOTES:

1. WARNING SIGNS SHALL BE MADE OF DURABLE WEATHERPROOF MATERIAL.
2. LETTERS SHALL BE 3" HIGH MINIMUM, CLEARLY LEGIBLE, AND SPACED AS SHOWN.
3. SIGNS ARE TO BE PLACED NO GREATER THAN 100 FT. ON CENTER.
4. PLACE SIGN AT EACH END OF LINEAR TREE PROTECTION AREAS AND 100 FT. ON-CENTER THEREAFTER.
5. FOR TREE PROTECTION AREAS LESS THAN 100 FT. IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER AREA.
6. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC.
7. MAINTAIN TREE PROTECTION FENCE THROUGHOUT DURATION OF PROJECT.
8. ADDITIONAL SIGNS MAY BE REQUIRED BASED ON ACTUAL FIELD CONDITIONS.
9. BOTH ENGLISH AND SPANISH SHALL BE USED FOR THE SIGNS.



4 TREE PROTECTION FENCE — NTS

TREE PROTECTION NOTES:

1. A PRE-CONSTRUCTION CONFERENCE MAY BE REQUIRED WITH THE TOWN'S URBAN FORESTER PRIOR TO BEGINNING SITE WORK. PLEASE CONTACT ADAM NICHOLSON AT 919.969.5006.
2. ANY TREE ROOTS EXPOSED DURING DEMOLITION/CONSTRUCTION WILL BE SEVERED CLEANLY WITH AN APPROPRIATE AND SHARPENED ROOT PRUNING TOOL.
3. THE SOIL WITHIN THE CRITICAL ROOT ZONE OF EXISTING TREES WILL NOT BE DRIVEN ON OR OTHERWISE DISTURBED DURING THE INSTALLATION OF LANDSCAPING.
4. (2) LANDSCAPE PROTECTION SUPERVISORS MUST REGISTER WITH THE TOWN. CONTACT ADAM NICHOLSON AT 919.969.5006 FOR THAT REVIEW.
5. ONE OR BOTH OF THE LANDSCAPE PROTECTION SUPERVISOR WHO ARE REGISTERED WITH THE TOWN OF CHAPEL HILL WILL BE PRESENT ON SITE AT ALL TIMES ANY LAND DISTURBING ACTIVITY IS OCCURING.

PLANTING NOTES:

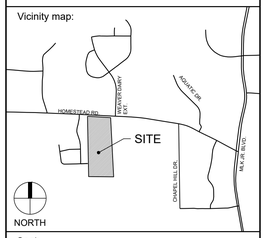
1. DO NOT STAKE TREES EXCEPT WHERE SPECIFIED BY LANDSCAPE ARCHITECT. STAKING IS REQUIRED FOR TREES PLANTED ON SLOPES.
2. WHERE SEVERAL TREES WILL BE PLANTED CLOSE TOGETHER SUCH THAT THEY WILL LIKELY SHARE ROOT SPACE, TILL IN SOIL AMENDMENTS TO A DEPTH OF 4-6" OVER THE ENTIRE AREA.
3. FOR CONTAINER GROWN TREES, USE FINGERS OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
4. FOR FIELD GROWN TREES, CUT BURLAP, ROPE AND WIRE BASKET AWAY FROM TOP AND SIDES OF ROOT BALL.
5. THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
6. THE PLANTING PROCESS IS SIMILAR FOR DECIDUOUS AND EVERGREEN TREES.
7. DO NOT WRAP TRUNK; MARK NORTH SIDE OF TREE IN THE NURSERY AND LOCATE TO THE NORTH IN THE FIELD.
8. WIDTH OF PLANTING HOLE IS 3X ROOT BALL AT THE SURFACE, SLOPING TO 2X THE ROOT BALL DIAMETER AT THE DEPTH OF THE ROOT BALL.
9. BEFORE PLANTING, ADD 3-4" OF WELL COMPOSTED LEAVES, RECYCLED YARD WASTE OR OTHER COMPOST AND TILL INTO TOP 6" OF PREPARED SOIL. ADD COMPOST AT 20-35% BY VOLUME TO BACKFILL.
10. PERFORM PERCOLATION TEST FOR EACH TREE PIT TO CONFIRM THAT WATER DRAINS OUT OF THE SOIL. PROVIDE GRAVEL SUMP FILTER FABRIC & VENT PIPE IF DRAINAGE DOES NOT OCCUR WITHIN 24 HOURS. INCLUDE ALL SUMPS IN BASE BID. SHOULD SUMPS NOT BE NECESSARY AFTER PERCOLATION TEST, PROVIDE CHANGE ORDER DEDUCT TO OWNER.
11. IF PLANTING HOLES ARE DUG WITH A LARGE AUGER BREAKING DOWN THE SIDES WITH A SHOVEL CAN ELIMINATE GLAZING AND CREATE THE PREFERRED SLOPING SIDE.
12. TREES SHALL HAVE SINGLE LEADERS. TREES WITH 2 LEADERS WILL BE REJECTED.
13. DO NOT PLACE MULCH IN CONTACT WITH TRUNK.
14. PROVIDE GATOR BAGS FOR ALL TREES WHERE IRRIGATION IS NOT PROVIDED.

STEWART
101 WEST MAIN ST.
DURHAM, NC 27701
T 919.380.8750
FIRM LICENSE #: C-1051
www.stewartinc.com
PROJECT #: C22033

Client:

GS HOMESTEAD, LLC
121 S. ESTES DRIVE, SUITE 100
CHAPEL HILL, NC 27514
PHONE: 919.489.9000
EMAIL: RICHARD@GURLITZARCHITECTS.COM

Vicinity map:



Seal:

PRELIMINARY - DO NOT USE FOR CONSTRUCTION

Scale:

SCALE: AS NOTED

Project:

HOMESTEAD ROAD TOWNHOMES

Issued for:

CONDITIONAL ZONING PERMIT

No.	Date	Description
1	8/26/2022	1ST RESUBMITTAL
2	10/07/2022	2ND RESUBMITTAL
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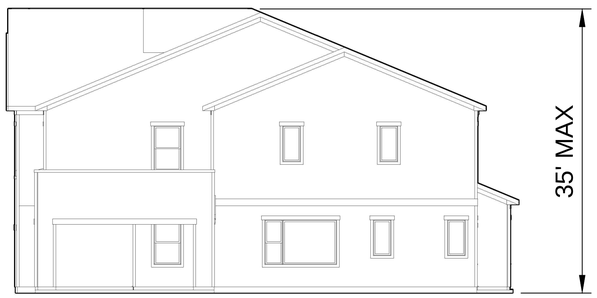
Title:

PLANTING & SOILS DETAILS

Project number: C22033 Sheet #:
Issued Date: 06.24.2022
Drawn by: SM
Approved by: CH

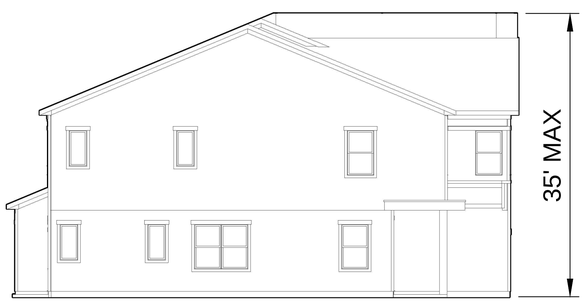
L7.90

L:\Projects\2022\C22033 - Homestead Road Townhomes\DWGS\1-SUP\3-Sheets\C22033-L7.90 Planting & Soils Details.dwg Oct 07, 2022 - 9:29am



4 BUILDING ELEVATION - RIGHT
Scale: 1/8" = 1'-0"

3 BUILDING ELEVATION - REAR
Scale: 1/8" = 1'-0"



2 BUILDING ELEVATION - LEFT
Scale: 1/8" = 1'-0"

1 BUILDING ELEVATION - FRONT
Scale: 1/8" = 1'-0"

2217 HOMESTEAD TOWNHOMES

RESIDENTIAL DEVELOPMENT

DRAFT TRANSPORTATION IMPACT ANALYSIS

EXECUTIVE SUMMARY

Prepared for:

The Town of Chapel Hill
Public Works Department - Engineering

Prepared by:

HNTB North Carolina, PC

343 East Six Forks Road
Suite 200
Raleigh, NC 27609

NCBELS License #: C-1554

September 2022

2217 HOMESTEAD TOWNHOMES

RESIDENTIAL DEVELOPMENT

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EXECUTIVE SUMMARY

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NCBELS License #: C-1554

September 2022

EXECUTIVE SUMMARY - DRAFT

Project Overview

A new residential community, known as 2217 Homestead Townhomes, is being proposed in Chapel Hill along Homestead Road near the Weaver Dairy Road Extension. **Figure ES-1** shows the general location of the site. The project proposes to construct 103 individual residential townhome/condominium units and is anticipated to be fully complete and occupied by 2025. This report analyzes the full build-out scenario for 2217 Homestead Townhomes for the year 2026 (one year after anticipated completion), the no-build scenario for 2026, as well as 2022 existing year traffic conditions for typical weekday AM, noon, and PM peak hours.

The current proposed site plan shows a provision for a full movement access driveway serving the site that connects to Homestead Road and a secondary access point to Kipling Lane in the Courtyards at Homestead Road subdivision. No other external roadway vehicular access connections are proposed. **Figure ES- 2** displays the overall site plan and nearby land uses and roadways. The 2217 Homestead Townhomes site is expected to provide individual vehicle parking spaces located on individual driveways as part of each condominium lot – with potential on-street parking allowed in areas where curb space permits. This report analyzes and presents the transportation impacts that the 2217 Homestead Townhomes project will have on the following intersections in the project study area:

- Homestead Road and Seawell School Road
- Homestead Road and Greenway Landing / Future Bridgepoint Access Driveway
- Homestead Road and Weaver Dairy Road Extension
- Homestead Road and NC 86 (Martin Luther King, Jr. Boulevard)
- Homestead Road and Proposed Site Driveway

Existing Conditions

Study Area

The site is located in north Chapel Hill along Homestead Road just west of the Weaver Dairy Road Extension. The study area contains three signalized intersections along Homestead Road at NC 86 (Martin Luther King, Jr. Boulevard), Weaver Dairy Road Extension and Seawell School Road. NC 86 (Martin Luther King, Jr. Boulevard) is a major north-south arterial providing connectivity between downtown Chapel Hill, north and south Chapel Hill, the I-40 corridor and Hillsborough. Homestead Road is a minor east-west arterial providing connectivity through northern Chapel Hill. Remaining study area network roadways are either suburban collector streets or local neighborhood/commercial access streets.

Site Traffic Generation

With the addition of new trips during the weekday AM, noon, and PM peak hours, there are potential site traffic impacts to study area intersections. **Table ES-1** shows the site trip generation details, with rates taken from the Institute of Transportation Engineers (ITE) *Trip Generation Manual, Version 10*.

Background Traffic

Background traffic growth for the 2026 analysis years is expected to come from two sources - ambient regional traffic growth and specific development-related traffic growth. Five Town-approved sites near the project study area were considered for specific development related growth. All remaining estimated traffic volume increases are assumed to occur due to overall region-wide ambient growth (assumed 0.5 percent per year) based on NCDOT/Town historic growth data and taking into consideration the on-going rebound to pre-COVID traffic levels caused by the pandemic.

Table ES-1. Weekday Vehicle Trip Generation Summary

Description	Density	Daily			AM Peak			Noon Peak*			PM Peak		
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Condominiums – Low-Rise	103 Units	369	369	738	11	38	49	25	31	56	38	23	61

* - No Noon Peak ITE Data Available – Used Average of AM and PM Peak Data

Impact Analysis

Peak Hour Intersection Level of Service

Existing traffic operations at all study area intersections are acceptable during all three peak hours analyzed. The projected ambient and background development traffic growth will increase impacts by 2026. Even with the addition of peak hour site-generated trips to the projected 2026 background traffic volumes, no study area intersection is expected to experience deficient traffic operations in any peak hour and projected maximum queues at all locations are not expected to be excessive. No additional mitigation improvements to any intersection were considered necessary. A summary of the traffic operations for each intersection, related to vehicular delays (intersection average as a whole if signalized, critical movement if stop-controlled) and the corresponding traffic simulation Level-of-Service (LOS_S) is shown in **Table ES-2**.

Table ES-2. Peak Hour Intersection Capacity Analysis Summary

Intersections	Peak Hour	2022 Existing		2026 No-Build		2026 Build		2026 Mitigated	
		LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Homestead Road & Seawell School Road	AM	C	21.2	C	22.1	C	22.0	N/A	N/A
	NOON	B	12.5	B	12.5	B	12.1	N/A	N/A
	PM	B	13.9	B	14.2	B	14.1	N/A	N/A
Homestead Road & Greenway Landing / Future Bridgepoint Site Driveway#	AM	A	7.6	C	15.5	C	15.9	N/A	N/A
	NOON	A	6.2	A	8.0	A	8.0	N/A	N/A
	PM	A	7.1	C	17.0	C	18.6	N/A	N/A
Homestead Road & Weaver Dairy Road Extension	AM	B	14.4	B	14.0	B	13.9	N/A	N/A
	NOON	B	14.0	B	13.4	B	12.9	N/A	N/A
	PM	B	18.7	B	19.0	B	18.8	N/A	N/A
Homestead Road & NC 86 (Martin Luther King, Jr. Boulevard)	AM	B	19.1	C	20.1	C	20.7	N/A	N/A
	NOON	C	20.1	C	21.8	C	22.1	N/A	N/A
	PM	B	17.4	B	19.3	C	20.1	N/A	N/A
Homestead Road & Proposed Site Driveway#	AM	N/A	N/A	N/A	N/A	A	9.5	N/A	N/A
	NOON	N/A	N/A	N/A	N/A	A	5.4	N/A	N/A
	PM	N/A	N/A	N/A	N/A	A	6.8	N/A	N/A

N/A – Not Applicable or No Improvements Necessary
- Worst-Case LOS/Delay for Unsignalized/Stop-Controlled Critical Movement

Access Analysis

Vehicular site access to the project is to be accommodated at a proposed full movement driveway access connecting to Homestead Road about 400 feet to the west of the Weaver Dairy Road Extension intersection with the Homestead Road. The proposed driveway has single inbound and outbound lanes.

A second internal local street access connection is also proposed to link with existing Kipling Lane within the Courtyards at Homestead subdivision. Driveway throat lengths, and intersection/driveway separation minimum criteria, as set forth in the 2003 *NCDOT Policy on Street and Driveway Access to North Carolina Highways* and the 2017 Town of Chapel Hill Design Manual are generally acceptable for the current site concept plans for the project.

Access for pedestrians is adequate in the project study area and will be improved with the construction of the Town's Homestead Road Improvements project. Crosswalk exists across the NC 86, Seawell School Road, and Weaver Dairy Extension intersections with some connectivity along Homestead Road. No specific bicycle amenities are present along Homestead Road, but bicycle lanes are present on the Weaver Dairy Road Extension and along NC 86 north of Homestead Road. Additional bicycle lanes/off-road paved paths along Homestead Road will be provided and provided the needed connectivity upon the completion of the Town's improvement project.

Signal Warrant Analysis
Based on projected 2026 traffic volumes and proposed access plans, no unsignalized study area intersection with Homestead Road would warrant the installation of a traffic signal, based on the Peak Hour warrant methodology found in the *2009 Manual on Uniform Traffic Control Devices (MUTCD).*

Crash Analysis
Pre-COVID crash data from the NCDOT Traffic Safety Unit was used from a previous TIA study for the five-year period 2/1/2015 to 1/31/2020 for the segment of Homestead Road Extension in the vicinity of the proposed site. There were 36 crashes reported along Homestead Road study area corridor between Seawell School Road and NC 86 over the five year period. The primary crash type was rear end crashes and crashes were primarily clustered near the NC 86 intersection. Overall, the number and rate of crashes along Homestead Road in the project study area is lower than state-wide averages for similar facilities, with the rate and index of severe crashes being higher, due to a single fatal crash (with a pedestrian) that occurred during the five year crash collection period.

Other Transportation-Related Analyses
Other transportation-related analyses relevant to the 2001 Town of Chapel Hill Guidelines for the preparation of Traffic Impact Studies were completed as appropriate. The following topics listed in **Table ES-3** are germane to the scope of this study.

Table ES-3. Other Transportation-Related Analyses

Analysis	Comment
Turn Lane Storage Requirements	Storage bay lengths at study area intersections were analyzed using TransModeler maximum queue length estimates for the 2026 Build Scenario. At the intersection of Homestead Road and Weaver Dairy Road Extension, the southbound right-turn lane queue may exceed its existing storage regardless of site traffic impacts. Adjustments to signal timing may be necessary to mitigate this issue. No other intersection maximum queue results indicate potential queue spillback.
Appropriateness of Acceleration/ Deceleration Lanes	With relatively light traffic turning volumes, no additional acceleration/deceleration lanes are necessary in the vicinity of the project site driveway along Homestead Road, other than the proposed westbound center left-turn lane included in the U-4726 Town project design for Homestead Road.
Pedestrian and Bicycle Analysis	Existing pedestrian access and connectivity is adequate along the Homestead Road corridor in the vicinity of the site, though some gaps exist on both sides of the road in certain areas. Bicycle lanes extend along NC 86 north of Homestead Road and along the Weaver Dairy Road Extension, but no bicycle facilities exist along Homestead Road within the project study area. The Town's Homestead Road Improvements project will

Analysis	Comment
	considerably improve pedestrian and bicycle facilities along Homestead Road within and to the west of the project study area by providing off-road paved paths that enhance bicycle and pedestrian connections.
Public Transportation Analysis	Public transportation service to the study area, and to the proposed site is adequate, with bus stops and multiple local and regional bus routes on both NC 86 and Homestead Road proximate to the site. In the immediate site vicinity, only one CHT Route (HS) directly runs adjacent to the site, with 30+ minute headways and service currently only in the peak AM and PM time periods.

Mitigation Measures/Recommendations

Planned Improvements

There are no North Carolina Department of Transportation improvement projects for study area roadway facilities within the analysis year time frame of 2022-2026. The Town of Chapel Hill has a transportation improvement project slated for construction prior to the 2026 site build-out year. The Homestead Road Improvements project (U-4726 IK) will create a consistent three-lane roadway cross-section west of the Weaver Dairy Road Extension intersection, as well as construct pedestrian and bicycle facility improvements between Seawell School Road and Weaver Dairy Road Extension. Improvements related to this project are shown schematically on **Figure ES-3**.

The Town also has the North-South Bus Rapid Transit Project, which will provide dedicated lanes for transit along the NC 86 corridor, along with other transit amenity improvements scheduled for construction in 2028. As final design details are not complete as of the submittal of this TIA, no specific lane usage changes along NC 86 were analyzed as part of this study.

Background Committed Improvements

Several traffic impact studies for development projects in and near the study area recommended signal timing reoptimization for signalized intersections along the NC 86 (Martin Luther King, Jr. Blvd) corridor by their respective build-out years. It is assumed that signal timing reoptimization will occur for the NC 86 corridor and for the Homestead Road / Weaver Dairy Road Extension intersection by the year 2026, whether or not specifically needed by any of the proposed background traffic generating developments included in this study. Improvements and access changes necessitated by the combined Bridgepoint and 2200 Homestead Road Residential projects are shown in **Figure ES-3** and are located primarily in the vicinity of the existing Greenway Landing intersection along Homestead Road.

Applicant Committed Improvements

Based on the preliminary site plans and supporting development information provided, there are several specific transportation-related improvements proposed for the 2217 Homestead Townhomes project. Internal and external improvements (shown schematically in **Figure ES-2 and ES-3**) include:

- Construction of a primary full movement access driveway connecting to Homestead Road with a proposed sidewalk along both sides of the driveway to connect to the new multi-use path provided by Town project U-4726.
- Construction of a full access minor street connection to existing Kipling Lane with an accompanying extension of sidewalk on both sides of the street connection.

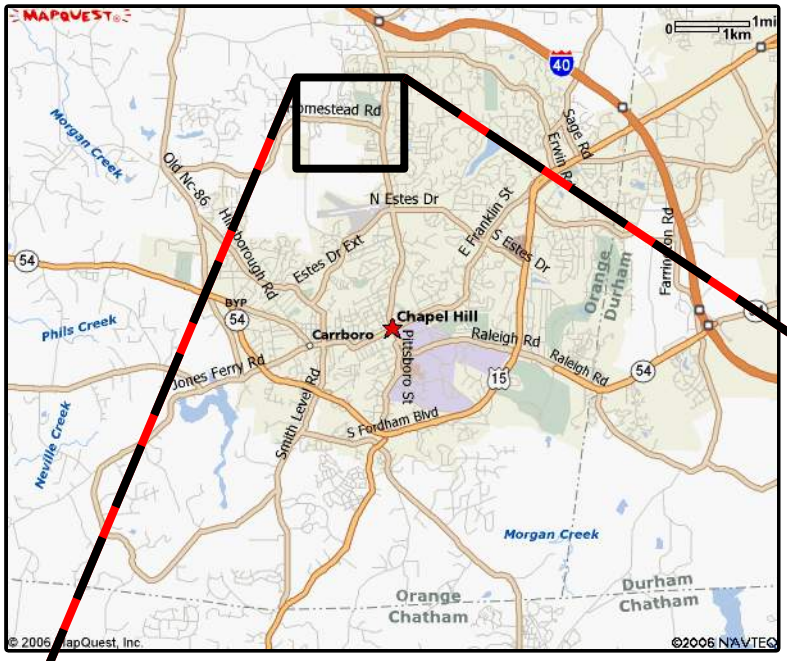
Necessary Improvements

Based on traffic capacity analyses for the 2026 design year for the 2217 Homestead Townhomes development and analyses of existing study area turning bay storage lengths and site access, the

following improvements are recommended as being necessary for adequate transportation network operations and safety (see **Figure ES-3**).

- Restripe Center Turn Lane Created as part of the Town Homestead Road Improvements project for a 100' Westbound Left-Turn and Taper at the proposed Site Driveway and Use Remaining Available Storage in the center lane For Eastbound Left-Turn storage and Taper at the Homestead Road / Weaver Dairy Road Extension intersection.

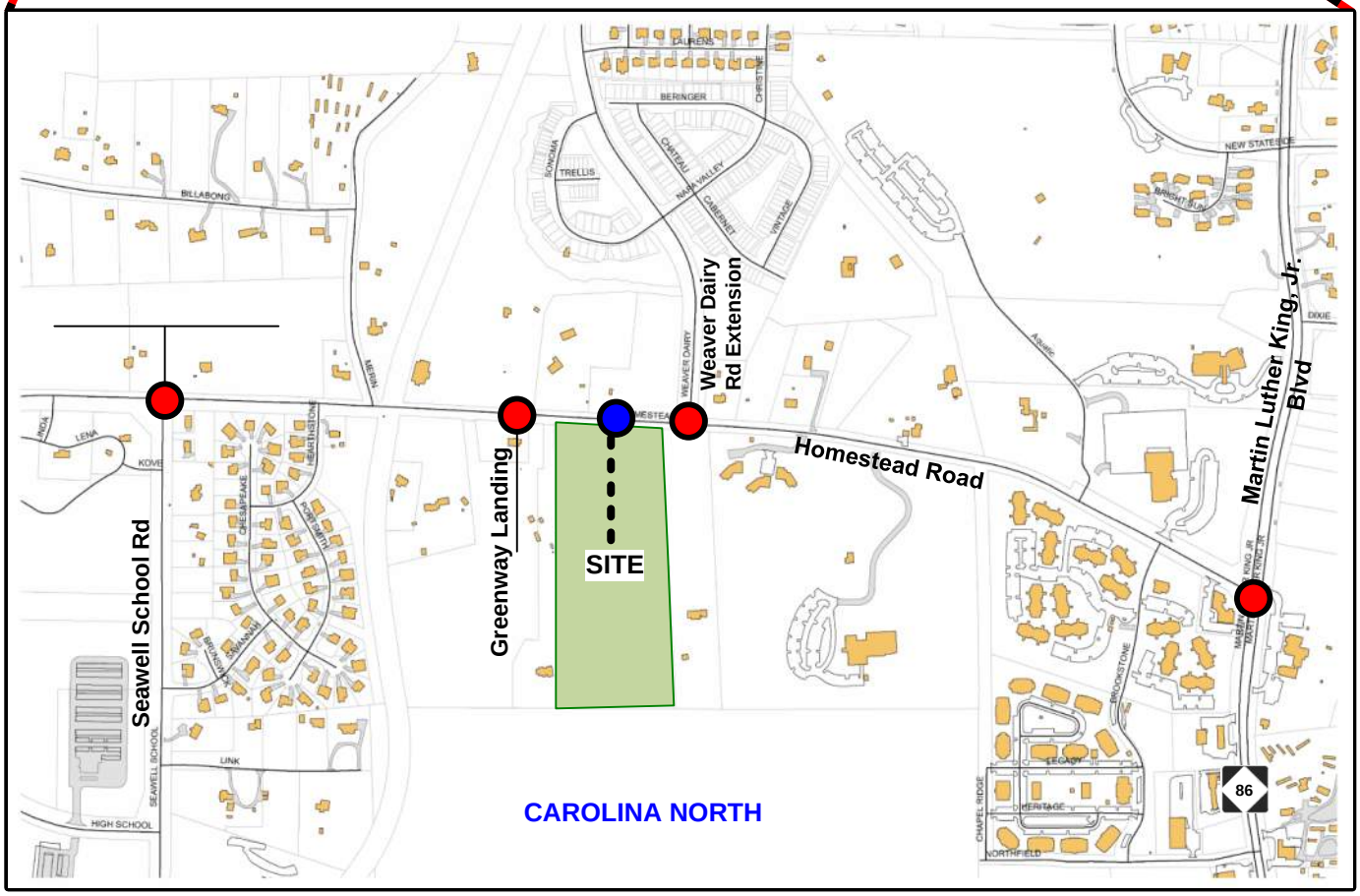
- Provide Crosswalk across the proposed Site Driveway at its intersection with Homestead Road.



LEGEND

- = Existing Building Footprint
- = Existing Study Area Intersection
- = Proposed Site Driveway
- = Proposed 2217 Homestead Townhomes Site

NOT TO SCALE



Source: Town of Chapel Hill GIS Files

DRAFT

HNTB

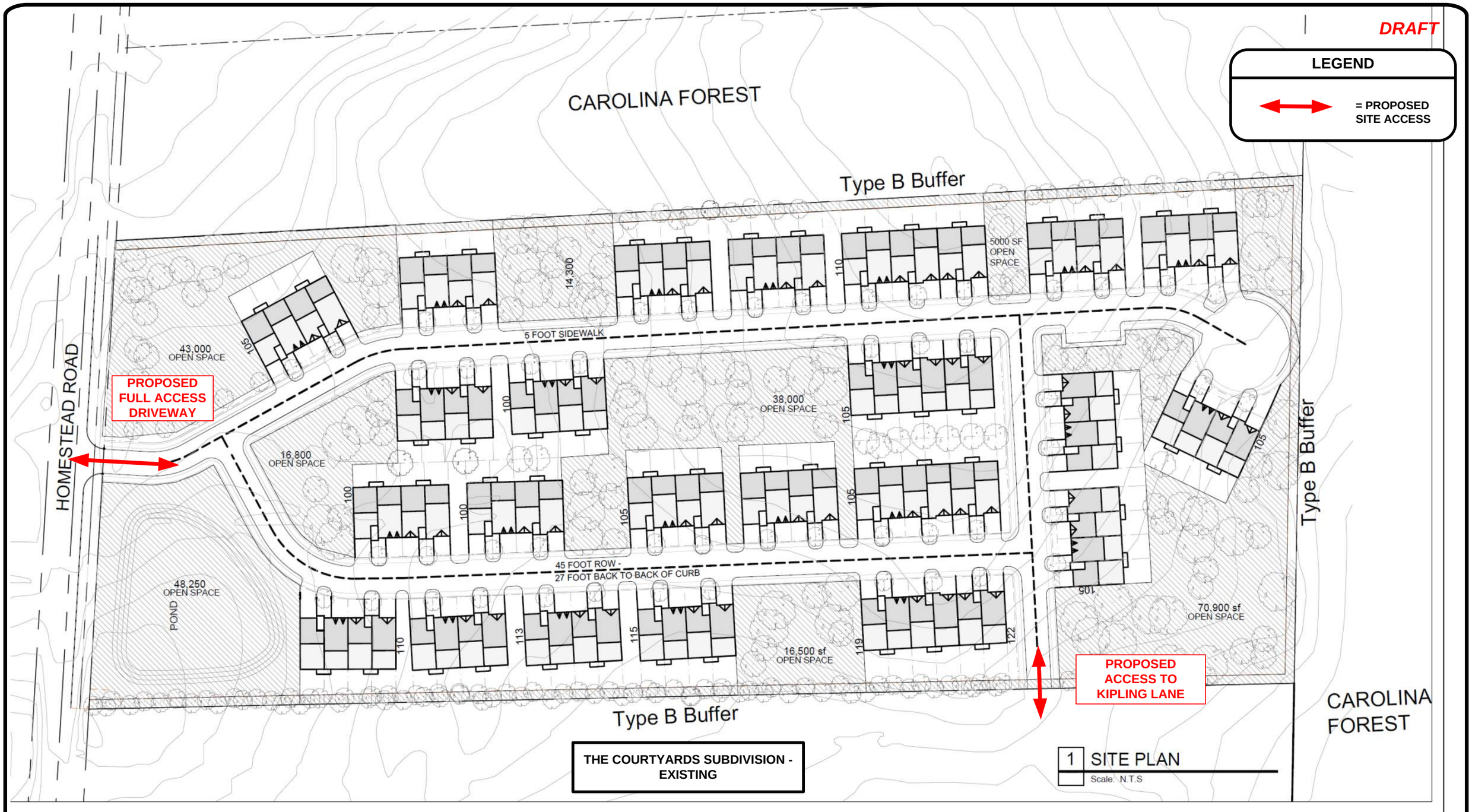
TOWN OF CHAPEL HILL

2217 Homestead Townhomes
Transportation Impact Analysis

DATE: September 2022

PROJECT STUDY AREA

FIGURE ES-1



HNTB

TOWN OF CHAPEL HILL

NOT TO SCALE

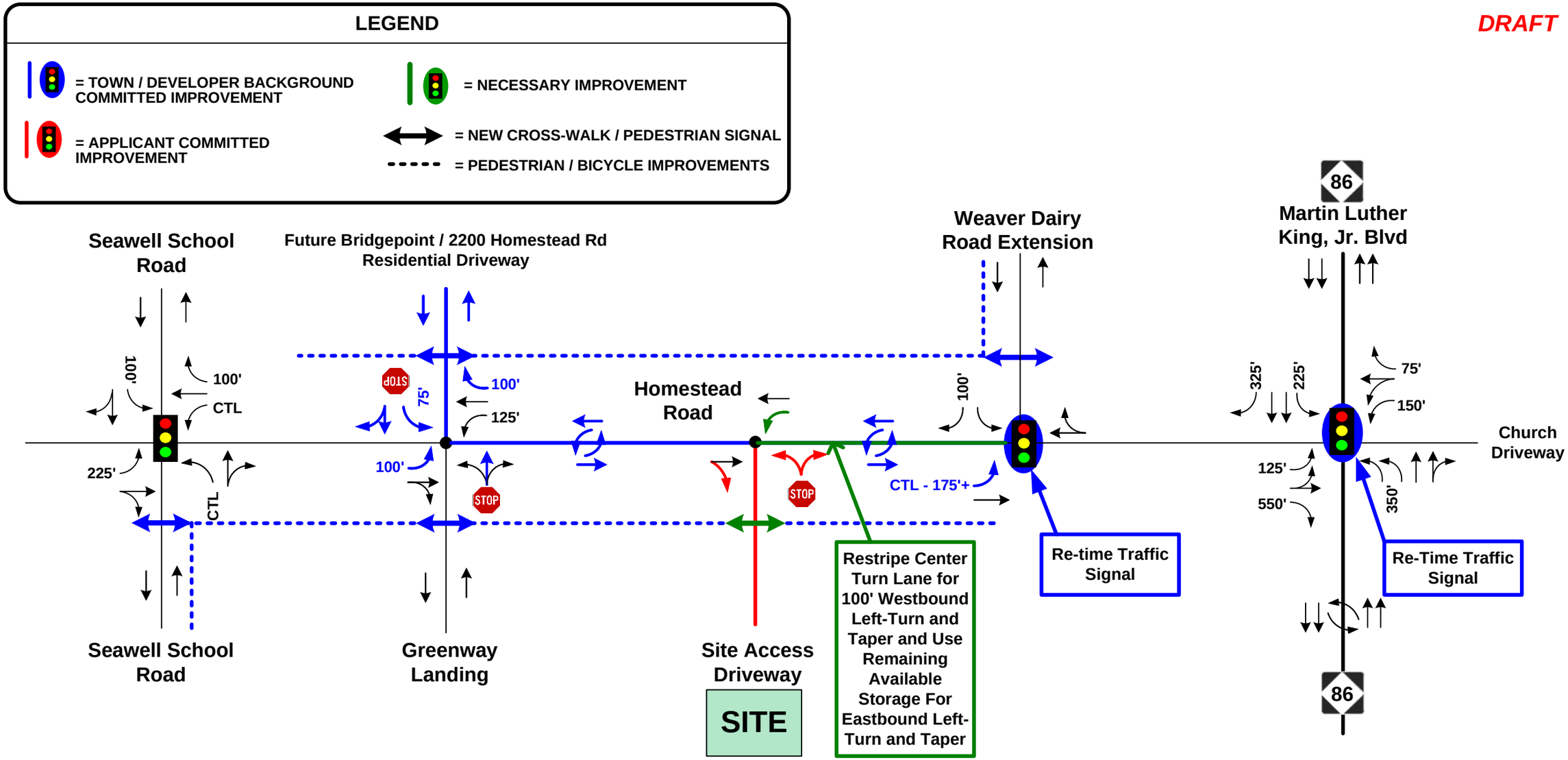
2217 Homestead Townhomes
Transportation Impact Analysis

SITE CONCEPT PLAN

DATE: September 2022

FIGURE ES-2

DRAFT



HNTB

NOT TO SCALE

2217 Homestead Townhomes
Transportation Impact Analysis

COMMITTED AND RECOMMENDED IMPROVEMENTS

DATE: September 2022

FIGURE ES-3