REVISED AGENDA | REGULAR TOWN COUNCIL MEETING

May 09, 2023 at 6:00 PM
Council Chambers - Apex Town Hall, 73 Hunter Street
The meeting will adjourn when all business is concluded or 10:00 PM, whichever comes first

Town Council and Administration

Mayor: Jacques K. Gilbert | Mayor Pro Tempore: Audra Killingsworth
Council Members: Brett D. Gantt; Terry Mahaffey; Edward Gray; Arno Zegerman
Town Manager: Catherine Crosby | Deputy Town Manager: Shawn Purvis
Assistant Town Managers: Demetria John and Marty Stone
Town Clerk: Allen Coleman | Town Attorney: Laurie L. Hohe

COMMENCEMENT

Call to Order | Invocation | Pledge of Allegiance

CONSENT AGENDA

All Consent Agenda items are considered routine, to be enacted by one motion with the adoption of the Consent Agenda, and without discussion. If a Council Member requests discussion of an item, the item may be removed from the Consent Agenda and considered separately. The Mayor will present the Consent Agenda to be set prior to taking action on the following items:

CN1 Agreement - North Carolina Department of Transportation (NCDOT) - Salem St and Chatham St - Review Traffic Signal Modifications

Russell H. Dalton, PE, Traffic Engineering Manager, Transportation and Infrastructure Dept.

CN2 Annexation No. 753 - 7612 Green Level Church Road - 1.74 acres

Allen Coleman, Town Clerk

CN3 Council Meeting Minutes – Multiple

Allen Coleman, Town Clerk

CN4 Encroachment Agreement - 1718 Wimberly Road Lot 181

Chris Johnson, PE, MPA, Director, Transportation & Infrastructure Development Department

CN5 Encroachment Agreement - 2918 Alderson Court Lot 259

Chris Johnson, PE, MPA, Director, Transportation & Infrastructure Development Department

CN6 Memorandum of Understanding (MOU) between Wake Technical Community College and the Town of Apex - LaunchAPEX Educational Training

Barbara Belicic, Small Business Specialist, Economic Development Department

CN7 Position Authorization - Additional 0.5 FTE - Public Works Department

Mary Beth Manville, Director, Human Resources Department

CN8 **Purchase of Real Property - 1125 Wimberly Road and Budget Ordinance Amendment No. 17**

Craig Setzer, Director, Parks, Recreation, and Cultural Resources Department, and

Steve Adams, Utilities Acquisition Specialist, Transportation and Infrastructure Department

CN9 **Resolution - Designating Deputy Finance Officers**

Antwan Morrison, Director, Finance Department

CN10 **Resolution - Right-of-Way (ROW) Road Closure Request - Set Public Hearing**

Allen Coleman, Town Clerk

CN11 **Rezoning Case No. 23CZ01 - Cash Corporate Revised Uses - Statement and Ordinance**

Amanda Bunce, Current Planning Manager, Planning Department

CN12 **Rezoning Case No. 23CZ02 - Triangle Home Services Phase II - Statement and Ordinance**

Shelly Mayo, Planner II, Planning Department

CN13 **Rezoning Case No. 23CZ03 - Veridea Expansion - Statement and Ordinance**

Amanda Bunce, Current Planning Manager, Planning Department

CN14 **Tax Reports - February and March 2023**

Allen Coleman, Town Clerk

CN15 **2023 Revised Council Meeting Calendar (ADDED)**

Allen Coleman, Town Clerk

PRESENTATIONS

PR1 **(REMOVED) Presentation by the Apex Public School Foundation - Quarterly Peak S.T.A.R. Awards – 3rd Qtr**

Councilmember Terry Mahaffey, Sponsor

PR2 **Proclamation - Asian American and Pacific Islander Heritage Month - May 2023**

Mayor Jacques K. Gilbert

PR3 **Proclamation - National Police Week and Peace Officers' Memorial Day Proclamation - May 14 through May 20, 2023**

Mayor Jacques K. Gilbert

REGULAR MEETING AGENDA

Mayor Gilbert will call for additional Agenda items from Council or Staff and set the Regular Meeting Agenda prior to Council actions.

PUBLIC FORUM

Public Forum allows the public an opportunity to address the Town Council. The speaker is requested not to address items that appear as Public Hearings scheduled on the Regular Agenda. The Mayor will recognize those who would like to speak at the appropriate time. Large groups are asked to select a representative to speak for the entire group. Comments must be limited to 3 minutes to allow others the opportunity to speak.

PUBLIC HEARINGS

PH1 Master Plan for Parks, Recreation, Cultural Resources, Greenways and Open Space

Angela Reincke, Parks Planning Project Manager, Parks, Recreation, and Cultural Resources Department; and Shweta Naneker, Project Manager, McAdams Company (Consultant)

AND

PH2 Master Plan Amendments for Parkland Acquisition and Indoor Facility Search Areas

Angela Reincke, Parks Planning Project Manager, Parks, Recreation, and Cultural Resources Department

AND

PH3 Bicycle and Pedestrian System Plan Map Amendments - Related to Master Plan for Parks, Recreation, Cultural Resources, Greenways and Open Space

Angela Reincke, Parks Planning Project Manager, Parks, Recreation, and Cultural Resources Department; and Jenna Shouse, Senior Long-Range Planner, Planning Department

NEW BUSINESS

NB1 Richardson Road – Traffic Safety

Mayor Jacques K. Gilbert and Councilmembers

UPDATES BY TOWN MANAGER

CLOSED SESSION

Council will enter into closed session pursuant to:

CS1 Steve Adams, Utilities Acquisition Specialist, Transportation and Infrastructure Dept.

NCGS §143-318.11 (5):

"To instruct staff concerning the acquisition of real property."

ADJOURNMENT

| Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA

Meeting Date: May 9, 2023

Item Details

Presenter(s): Russell H. Dalton, PE, Traffic Engineering Manager

Department(s): Transportation & Infrastructure Development

Requested Motion

Motion to approve an Agreement with NCDOT for review and inspection of traffic signal modifications proposed by the Town of Apex at the intersection of Salem Street and Chatham Street in the Salem Streetscape project, and to authorize the Town Manager to execute the agreement on behalf of the Town.

Approval Recommended?

Yes

Item Details

This agreement is required by NCDOT for their review and inspection of traffic signal modifications at the intersection of Salem Street and Chatham Street as planned in the Salem Streetscape project currently in final design. These modifications include adjustments to the existing wood pole traffic signal to accommodate expanded sidewalk and ramps which will affect intersection geometry and location of pedestrian signal equipment. Once the project is complete and the traffic signal work is accepted by NCDOT, the signal will continue to be maintained by NCDOT.

The agreement requires a $5000.00 deposit payable to NCDOT. NCDOT staff time will be billed against the deposit. In the event the entire deposit is not used NCDOT will reimburse the unused amount. In the event their internal billing exceeds $5,000.00, NCDOT will invoice Apex for the additional amount. Based on the experience of the Town's design consultant, NCDOT actual billing rarely exceeds $2,500.00 for this type of agreement.

This agreement includes a requirement for the Town to indemnify NCDOT for damages to property arising out of the project. The Town is also indemnifying NCDOT for damages arising out of right-of-way and easement acquisition, neither of which are expected to be necessary to complete this project. NCDOT is unlikely to remove the indemnity and the Town Attorney is happy to answer any questions council may have concerning the indemnity.

Attachments

- CN1-A1: NCDOT Review and Inspection Agreement

ACCOUNTS RECEIVABLE AGREEMENTS

PAYMENT TERMS AND METHODS

_____: I acknowledge that upon execution of this Agreement, we will be required to submit a down payment, if required. I also acknowledge that we may pre-pay any portion of the estimated cost noted in this Agreement, prior to final billing by the Department.

Please refer to your Agreement's PAYMENT TERMS to correctly remit any payment due to the Department.

PAYMENT TERMS:	PAYMENT TIMING:
PAYMENT UPON AGREEMENT EXECUTION	Please submit the amount of agreed upon payment via one of the below methods, once you have received notice of execution of the Agreement.
PAYMENT PRIOR TO LETTING (OR START OF PHASE)	You will be notified by the Project Manager when payment will be due. Please remit payment within 60 days of notification.
PAYMENT UPON BILLING	The Department will bill at the completion of the Project (or when defined in the Agreement). All payments are due within 60 days of invoicing.

NOTE: You may pre-pay any portion of an estimated cost, prior to Departmental Billing. The Department will adjust final billing to account for any pre-payments made.

LATE PAYMENTS AND INTEREST RATES:

For payments not received within 60 days, the Department must charge a statutory interest rate of prime plus one percent (1%) on all Utility Relocation Agreements. For any other Receivable Agreement, the Department may charge a late fee and/or interest.

PAYMENT METHODS

1. SEND PAYMENT BY CHECK ***OR***

MAIL TO:
NCDOT – Accounts Receivable
1514 Mail Service Center
Raleigh, NC 27699-1514

INCLUDE:
- Agreement ID (10000xxxxx)
- WBS Element

2. SEND PAYMENT VIA ACH (Automated Clearinghouse)

Initiate ACH through your bank* and send an e-mail to:
- ✓ Judith Dever - jadever@ncdot.gov
- ✓ Kay Lee - klee@ncdot.gov

INCLUDE:
- Agreement ID# (10000xxxxx)
- WBS Element
- Amount of Payment

**If you need NCDOT's Account information, contact Tammy Court at tlcourt@ncdot.gov*

Failure to follow the above steps and remit payment per the terms in the Agreement may result in delays to project delivery. Please contact your Division Project Manager for questions regarding payment terms.

AGREEMENT OVERVIEW

DATE: 2/7/2023

NORTH CAROLINA
WAKE COUNTY

PROJECT NUMBERS

PARTIES TO THE AGREEMENT:

WBS ELEMENTS: 36249.4635

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION ("DEPARTMENT")

AND

TOWN OF APEX ("MUNICIPALITY")

SCOPE OF PROJECT: The Project consists of a signal modification at the intersection of Salem Street and Chatham Street (SR 1307) due to streetscape project on Salem Street. This will involve pedestrian signal modifications, temporary signal plans.

COSTS TO OTHER PARTY: $5,000.00
DEPARTMENT'S FUNDING: $0.00

PAYMENT TERMS: Town of Apex provides check upon execution of agreement.

MAINTENANCE: Department

EFFECTIVE DATES OF AGREEMENT:
START: Upon Execution of this Agreement.
END: When work is complete and all terms are met.

This **AGREEMENT** is made and entered into on the last date executed below, by and between the North Carolina Department of Transportation, an agency of the State of North Carolina, hereinafter referred to as the **DEPARTMENT;** and TOWN OF APEX, hereinafter referred to as the **MUNICIPALITY**; and collectively referred as the **PARTIES**.

The parties to this Agreement, listed above, intend that this Agreement, together with all attachments, schedules, exhibits, and other documents that both are referenced in this Agreement and refer to this Agreement, represents the entire understanding between the parties with respect to its subject matter and supersedes any previous communication or agreements that may exist.

I. WHEREAS STATEMENTS

WHEREAS, this **Agreement** is made under the authority granted to the Department by the North Carolina General Assembly under General Statutes of North Carolina (NCGS), particularly Chapter 136-66.18(27); and,

WHEREAS, the **DEPARTMENT** and the **MUNICIPALITY** have agreed that the jurisdictional limits of the Parties, as of the date of entering agreement for the above-mentioned project, are to be used in determining the duties, responsibilities, rights and legal obligations of the Parties hereto for the purposes of this Agreement; and,

WHEREAS, the **MUNICIPALITY** has requested that the **DEPARTMENT** perform work or provide services; and,

WHEREAS, the Parties hereto wish to enter into an agreement for scoped work to be performed or provided by the **DEPARTMENT** (including reviews, goods or services) with reimbursement for the costs thereof by the **MUNICIPALITY** as hereinafter set out; and,

NOW, THEREFORE, this **Agreement** states the promises and undertakings of each party as herein provided, and the parties do hereby covenant and agree, each with the other, as follows:

II. STANDARD PROVISIONS

AGREEMENT FOR IDENTIFIED PARTIES ONLY

This **Agreement** is solely for the benefit of the identified parties to the Agreement and is not intended to give any rights, claims, or benefits to third parties or to the public at large.

OTHER AGREEMENTS

The **MUNICIPALITY** is solely responsible for all agreements, contracts, and work orders entered into or issued by the **MUNICIPALITY** to meet the terms of this Agreement. The **DEPARTMENT** is not responsible for any expenses or obligations incurred for the terms of this Agreement except those specifically eligible for the funds and obligations as approved by the Department under the terms of this Agreement.

AUTHORIZATION TO EXECUTE

The parties hereby acknowledge that the individual executing this **Agreement** has read this **Agreement**, conferred with legal counsel, fully understands its contents, and is authorized to execute this Agreement and to bind the respective parties to the terms contained herein.

DEBARMENT POLICY

It is the policy of the **DEPARTMENT** not to enter into any agreement with parties that have been debarred by any government agency (Federal or State). By execution of this agreement, the **MUNICIPALITY** certifies that neither it nor its agents or contractors are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this transaction by any Federal or State Agency or Department and that it will not enter into agreements with any entity that is debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this transaction.

AVAILABILITY OF FUNDS

All terms and conditions of this **Agreement** are dependent upon, and, subject to the allocation of funds for the purpose set forth in the **Agreement** and the **Agreement** shall automatically terminate if funds cease to be available.

GIFT BAN

By Executive Order 24, issued by Governor Perdue, and NCGS 133-32, it is unlawful for any vendor or contractor (i.e. architect, bidder, contractor, construction manager, design professional, engineer, landlord, offeror, seller, subcontractor, supplier, or vendor), to make gifts or to give favors to any State employee of the Governor's Cabinet Agencies (i.e. Administration, Commerce, Environmental Quality, Health and Human Services, Information Technology, Military and Veterans Affairs, Natural and Cultural Resources, Public Safety, Revenue, Transportation, and the Office of the Governor).

III. RESPONSIBILITIES

A. The **DEPARTMENT** and/or the **MUNICIPALITY** shall be responsible for all phases of project delivery to include planning, design, right of way acquisition, utility relocation, and/or maintenance as shown in the *PROJECT DELIVERY* Provision.

B. The **MUNICIPALITY** shall be responsible for payment as shown in the *COSTS AND FUNDING* Provision.

IV. COSTS AND FUNDING

The **MUNICIPALITY** shall reimburse the **DEPARTMENT** 100% of the actual cost of all work performed by the **DEPARTMENT**, including administrative costs. Based on the estimated cost of $5,000, the **MUNICIPALITY** shall submit payment for $5,000 to the Department's Fiscal Section upon execution of this Agreement, per the guidance in the attached cover page. Both parties understand that this is an estimated cost and is subject to change. Upon completion of the project, if actual costs exceed the amount of payment, the **MUNICIPALITY** shall reimburse the **DEPARTMENT** any under payment within sixty (60) days of invoicing by the **DEPARTMENT**. The **DEPARTMENT** will charge a late payment penalty and interest on any unpaid balance due in accordance with G. S. 147-86.23. If the actual cost of the work is less than $5,000, the **DEPARTMENT** will reimburse the **MUNICIPALITY** any overpayment.

V. PROJECT DELIVERY

TRAFFIC REVIEW AND INSPECTION:

DEVELOPMENT OF PLANS

Project plans and traffic signal designs shall be prepared by the **MUNICIPALITY**, including electrical and programming details, (if applicable) metal poles with mast arm shop drawings, foundation designs, utility make-ready plans, communications cable routing plans, traffic signal coordination timing plans and Project Special Provisions (including, but not limited to: providing Synchro/TruTraffic files and programming data sheets; coordination timing plans, graphics package, downloading coordination timing plans onto system cabinets and/or onto central computer). All work shall be performed in accordance with Departmental standards and specifications. Said plans and design shall be submitted to the **DEPARTMENT** for review and approval prior to any work being performed by the **MUNICIPALITY**.

PURCHASE OF EQUIPMENT

The **MUNICIPALITY** shall purchase or furnish from stock all traffic signal equipment necessary for the traffic signal revision. Said equipment shall be in reasonably close conformity with the standards and specifications of equipment and materials used by the **DEPARTMENT**. The **DEPARTMENT** reserves the right to reject the use of any equipment and materials it deems functionally inferior.

RELOCATION OF UTILTIES:

The **MUNICIPALITY** shall accomplish the relocation or adjustment of any any and all utilities in conflict with the construction of the project. Said work shall be accomplished in a manner satisfactory to the **DEPARTMENT**.

RIGHT OF WAY:

It is understood by the parties hereto that all work shall be contained within existing right of way. However, should it become necessary, the **MUNICIPALITY**, shall provide any required right of way and/or construction easements at no liability whatsoever to the **DEPARTMENT**. Acquisition of right of way shall be accomplished in accordance with State procedures. The **MUNICIPALITY** shall indemnify and save the Department harmless from any and all claims for damages that might ariseon account of damage to public or private property and right of way acquisition, drainage, and construction easements for the construction of the project.

CONSTRUCTION / INSTALLATION:

The **MUNICIPALITY** shall enter into and administer the contract for the installation of all equipment and perform such other work as required on the project in accordance with the approved project plans, the NCDOT “Standard Specifications for Roads and Structures”, January 2018, “Roadway Standard Drawings”,January 2018 and any addendum,all local codes and ordinances, and the procedures set out herein below shall be followed:

A. All Preliminary and construction engineering, supervision, and labor pertaining to the signal installation will be furnished by the **MUNICIPALITY**.

B. No work shall be performed by the **MUNICIPALITY** prior to approval of the traffic signal design by the **DEPARTMENT**.

C. Installation shall be done by a licensed electrical contractor familiar with traffic signal construction.

D. The **DEPARTMENT'S** Division Engineer shall have the right to inspect, sample or test, and approve or reject any materials or construction methods used during the construction of the project.

E. During installation of the signal equipment, the **DEPARTMENT** shall inspect the work being performed by the **MUNICIPALITY** to ensure compliance with the project plans, the current NCDOT traffic signal specifications, and the terms of this Agreement.

F. Upon completion of the project, and prior to final acceptance by the Department, the **MUNICIPALITY** will furnish to the Department's Division Engineer one (1) signal inventory control sheet and one (1) set of "Plan of Record" plans.

G. Prior to final acceptance by the Department, the Division Engineer shall have the right to make a final inspection of the completed work.

H. Failure on the part of the **MUNICIPALITY** to comply with any of these provisions will be grounds for the Department to terminate the project.

I. The **MUNICIPALITY** agrees to pursue the completion of the work covered by this Agreement as expeditiously as feasible and to complete all work within 90 Days of notice to proceed.

J. The **MUNICIPALITY** shall install thermoplastic pavement markings where pavement markings are required on the project.

MAINTENANCE:

A. Upon completion of the project, the **DEPARTMENT** shall own the traffic signal. Control and maintenance of the traffic signal will be accomplished in the same manner as maintenance of other state system signalized intersections.

B. In the event of damage to the metal poles, the **DEPARTMENT** shall install “in-kind” metal poles if funding is available from the damage claim or the **MUNICIPALITY**. However, if said funding is not available, the **DEPARTMENT** reserves the right to install wooden poles in lieu of metal po[illegible]able).

SIGNATURE PAGE

IN WITNESS WHEREOF, this Agreement has been executed the day of year heretofore set out, on the part of the DEPARTMENT and the MUNICIPALITY by authority duly given.

FED TAX ID NO:_____

REMITTANCE ADDRESS:

PO Box 250
APEX, NC 27502-0250

AUTHORIZED SIGNER: _____

PRINT NAME:_____

TITLE: _____

DATE SIGNED: _____

DEPARTMENT OF TRANSPORTATION

BY: _____

(CHIEF ENGINEER)

Date Signed:_____

PRESENTED TO BOARD OF TRANSPORTATION ITEM O:_____(Date)

| Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA

Meeting Date: May 9, 2023

Item Details

Presenter(s): Allen Coleman, Town Clerk

Department(s): Town Clerk's Office

Requested Motion

Motion to adopt a Resolution Directing the Town Clerk to Investigate Petition Received, to accept the Certificate of Sufficiency by the Town Clerk, and to adopt a Resolution Setting the Date of a Public Hearing for May 23, 2023, on the Question of Annexation - Apex Town Council's intent to annex 1.74 acres located at 7612 Green Level Church Road, Annexation No. 754 into the Town Corporate limits.

Approval Recommended?

Yes

Item Details

The Town Clerk certifies to the investigation of said annexation. Adoption of the Resolution authorizes the Town Clerk to advertise said public hearing by electronic means and on the Town of Apex's website.

Attachments

- CN2-A1: Resolution Directing the Town Clerk to Investigate Petition
  - Certificate of Sufficiency by the Town Clerk
  - Resolution Setting Date of Public Hearing
- CN2-A2: Legal Description – Satellite Annexation No. 753
- CN2-A3: Aerial Map – Satellite Annexation No. 753
- CN2-A4: Plat Map – Satellite Annexation No. 753
- CN2-A5: Annexation Petition – Satellite Annexation No. 753

RESOLUTION DIRECTING THE TOWN CLERK
TO INVESTIGATE PETITION RECEIVED UNDER G.S.§ 160A-58.1

Annexation Petition No. 753
7612 Green Level Church Road – 1.74 acres

WHEREAS, G.S. §160A- 58.2 provides that the sufficiency of the petition shall be investigated by the Town Clerk before further annexation proceedings may take place; and

WHEREAS, the Town Council of the Town of Apex deems it advisable to proceed in response to this request for annexation;

NOW, THEREFORE, BE IT RESOLVED by the Town Council of the Town of Apex, that the Town Clerk is hereby directed to investigate the sufficiency of the above-described petition and to certify to the Town Council the result of his investigation.

This the 9th day of May, 2023.

_____
Jacques K. Gilbert
Mayor

ATTEST:

_____
Allen L. Coleman, CMC, NCCCC
Town Clerk

CERTIFICATE OF SUFFICIENCY BY THE TOWN CLERK

Annexation Petition No. 753
7612 Green Level Church Road – 1.74 acres

To: The Town Council of the Town of Apex, North Carolina

I, Allen L. Coleman, Town Clerk, do hereby certify that I have investigated the annexation petition attached hereto, and have found, as a fact, that said petition is signed by all owners of real property lying in the noncontiguous area described therein, in accordance with G.S.§ 160A-58.1(b), as amended.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Town of Apex, North Carolina this 9th day of May, 2023.

_____
Allen L. Coleman, CMC, NCCCC
Town Clerk

(Seal)

RESOLUTION SETTING DATE OF PUBLIC HEARING
ON THE QUESTION OF ANNEXATION PURSUANT TO G.S.§ 160A-58.2 AS AMENDED

Annexation Petition No. 753
7612 Green Level Church Road – 1.74 acres

WHEREAS, a petition requesting annexation of the non-contiguous area described herein has been received; and

WHEREAS, the Town Council of Apex, North Carolina has by Resolution directed the Town Clerk to investigate the sufficiency thereof; and

WHEREAS, Certification by the Town Clerk as to the sufficiency of said petition has been made;

NOW, THEREFORE, BE IT RESOLVED by the Town Council of the Town of Apex, North Carolina that:

Section 1. A public hearing on the question of annexation of the area described herein will be held at the Apex Town Hall at 6 o'clock p.m. on the 23rd day of May, 2023.

Section 2. The area proposed for annexation is described as attached.

Section 3. Notice of said public hearing shall be published on the Town of Apex Website, www.apexnc.org, Public Notice, at least ten (10) days prior to the date of said public hearing.

This the 9th day of May, 2023.

_____
Jacques K. Gilbert, Mayor

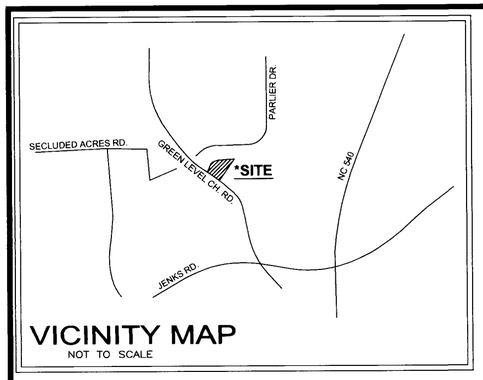
ATTEST:

_____
Allen L. Coleman, Town Clerk

Attachment: Legal Description

Beginning at a point, said point being an existing iron pipe located at the southernmost corner of Lot 1 as shown on a plat recorded in Book of Maps 1988, Page 439 in the Wake County Registry, said point also being on the northern 60 foot right of way margin of Green Level Church Road and having North Carolina State Plane coordinates of N=731,168.49 and E=2,030,190.35; Thence, along said right of way N52°19'46"W, 229.95 feet to a point, said point being a magnetic reading under a tree root; Thence, leaving said right of way of Green Level Church Road along the southern edge of a 60 foot private right of way, access easement and common use of land the following courses and distances: Thence, N18°42'44"E, 112.51 feet to an existing iron pipe; Thence, N38°43'46"E, 43.44 feet to an existing iron pipe; Thence, N60°52'14"E, 46.92 feet to an existing iron pipe; Thence, N80°12'05"E, 66.54 feet to an existing iron pipe; Thence, N89°50'39"E, 256.72 feet to a point, said point being an existing iron pipe at the easternmost corner of said Lot 1 and the northwest corner of Lot 2 as shown on a plat recorded in Book of Maps 1982, Page 822 in said registry; Thence, along the common line between said Lots 1 and 2 S37°44'51"W, 399.43 feet to the Place and Point of Beginning, containing an area of 76,033 square feet or 1.74 acres, more or less.


Annexation #753
Parlier Dr
Greenmoor
Secluded Acres Rd
Green Level Church Rd
Castlereagh North, Section 3
Castlereagh North, Section 2
Reams Ct
Our Estate
May 2023
February 2023 Aerial Photography
Prepared by: Town of Apex Planning Department
0
150
300
Feet



VICINITY MAP
NOT TO SCALE

NC GRID NORTH (NAD 83/2011)

HICKORY MOUNTAIN RD.
60' PRIVATE R/W, ACCESS EASEMENT & COMMON USE OF LAND
(DB 2747, PG 112)
(BM 1982, PG 822)
(BM 1988, PG 439)

GRAVEL

DEEP & KOMAL PATEL
DB 19010, PG 169
PIN: 0733-01-0476

N 89°50'39" E 256.72'

1" IRON PIPE 0.4' BG

N 88°43'39" E 183.68'(TIE)

1" IRON PIPE 0.4' AG

1/2" IRON PIPE 0.1'BG

1/2" IRON PIPE 0.1'BG

5/8" IRON PIPE W/CAP FLUSH

5/8" IRON PIPE W/CAP 0.1'BG

L1 L2 L3 L4

LOT 1
(TO BE ANNEXED)
76,033 S.F.
1.74 AC.
PIN: 0733-01-1391
7612 GREEN LEVEL CH. RD.

DRAINED POND

EXISTING TOWN LIMITS (TYPICAL)

60'

80'

60'

GRAVEL

MAGNETIC READING UNDER TREE ROOT

EXISTING DWELLING

DECK

DECK

CONCRETE DRIVEWAY

N 52°19'46" W 229.95'

S 37°44'51" W 399.43'

LOT 2
MARK & PAMELA MARAND
DB 11369, PG 640
BM 1982, PG 822
PIN: 0733-01-3391

GREEN LEVEL CHURCH ROAD (S.R. 1600)
(PUBLIC R/W VARIES)

CONTROL CORNER
N: 731,168.49
E: 2,030,190.35
1" IRON PIPE FLUSH

S 52°17'45" E 142.28'(TIE)

LEGEND and NOMENCLATURE

SYMBOLS

- Ex. iron pipe/rod or nail
- Ex. concrete monument
- New iron pipe
- Calculated point
- Cable pedestal
- Telephone pedestal
- Electric pedestal
- Fiber-optic marker
- Traffic signal box
- Water meter
- Fire hydrant
- Valve (water or gas)
- Sanitary sewer manhole
- Sanitary sewer cleanout
- Storm curb inlet
- Drainage inlet (w/ grate)
- Storm drain manhole
- Utility pole
- Lamp post
- Signal pole
- Guy wire
- Sign post

LINETYPES

- —— X —— Fence
- —— OU —— Overhead utility
- —— W —— Water
- —— SS —— Sanitary sewer
- —— SD —— Storm drain

ABBREVIATIONS

DB	Deed Book
PB or BM	Plat Book / Book of Maps
P/L	Property line
PG	Page
S.F.	Square feet
AC.	Acres
R/W	Right-of-way
NCSR	North Carolina State Route
NCDOT	North Carolina Dept. of Transportation
C/L	Centerline
EX.	Existing
RCP	Reinforced concrete pipe
PVC	Polyvinyl chloride pipe
TBM	Temporary benchmark
AG	Above ground
BG	Below ground

NOTES:

1) All distances are horizontal ground distances in u.s. survey feet unless otherwise noted. Area(s) computed by coordinate geometry.

2) This survey does not include nor depict any environmental evaluations by this office.

3) Field survey(s) performed August 18 thru August 27, 2021.

4) Surveyor has made no investigation or independent search for easements of record, encumbrances, restrictive covenants, ownership title evidence or any other facts that an accurate and current title search may disclose.

5) The locations of underground utilities as shown hereon (if any) are based on aboveground structures and aboveground visual evidence. Locations of underground utilities/structures may vary from location shown hereon. Additional buried utilities/structures may be encountered. No excavations were made during the progress of this survey to locate buried utilities/structures.

6) Subject property is not located within a special flood hazard zone per FEMA Flood Insurance Rate Map (FIRM) # 3720073300J, effective date May 2, 2006.

7) The State Plane Coordinates for this project were produced with RTK GPS observations and processed using the North Carolina VRS network. The network positional accuracy of the derived positional information is ±0.07'.

HORIZONTAL DATUM = NAD 83/2011

Annexation # _____

I, Allen Coleman, CMC, NCCCC, Town Clerk, Apex, North Carolina certifty that this is a true and exact map of annexation adopted the _____ day of _____, 20____, by the Town Council. I set my hand and seal the Town of Apex, _____
Day / Month / Year

_____
Allen Coleman, CMC, NCCCC, Town Clerk

LINE TABLE		
LINE	LENGTH	BEARING
L1	112.51	N 18°42'44" E
L2	43.44	N 38°43'46" E
L3	46.92	N 60°52'14" E
L4	66.54	N 80°12'5" E

THIS SURVEY IS OF AN EXISTING PARCEL OR PARCELS OF LAND OR ONE OR MORE EXISTING EASEMENTS AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET

I, Justin L. Luther, certify that this plat was drawn under my supervision from an actual survey made under my supervision from references as noted on said plat; that the boundaries not surveyed are clearly indicated as drawn from information as indicated under references; that the ratio of precision or positional accuracy as calculated is greater than 1:10,000; that this plat was prepared in accordance with G.S. 47-30 as amended.

Witness my original signature, license number and seal this 27th *day of* APRIL *, 2023.*

Professional Land Surveyor (L-5107)

NORTH CAROLINA PROFESSIONAL SEAL L-5107 LAND SURVEYOR JUSTIN L. LUTHER

REFERENCES:

DEED BOOK 18515, PAGE 1154
BOOK OF MAPS 1988, PAGE 439
*OTHERS SHOWN HEREON

SATELLITE ANNEXATION MAP for the TOWN OF APEX

PROPERTY OF DEEP & KOMAL PATEL

WHITE OAK TOWNSHIP WAKE COUNTY NORTH CAROLINA

40 20 0 40 80
SCALE: 1"=40'

JOB NO.: 218571
FILE NAME: RM-ANNEX
PLOT DATE: 4/27/23

NEWCOMB *land surveyors, pllc, 7008 Harps Mill Road, Ste. 105, Raleigh, NC 27615, (919) 847-1800, NC License #P-0203*

PETITION FOR VOLUNTARY ANNEXATION

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Application #: 2023-002 Submittal Date: 1/24/2023

Fee Paid $ 200.00 Check # online CC

TO THE TOWN COUNCIL APEX, NORTH CAROLINA

1. We, the undersigned owners of real property, respectfully request that the area described in Part 4 below be annexed to the Town of Apex, ☐ Wake County, ☐ Chatham County, North Carolina.
2. The area to be annexed is ☐ contiguous, ☐ non-contiguous (satellite) to the Town of Apex, North Carolina and the boundaries are as contained in the metes and bounds description attached hereto.
3. If contiguous, this annexation will include all intervening rights-of-way for streets, railroads, and other areas as stated in G.S. 160A-31(f), unless otherwise stated in the annexation amendment.

OWNER INFORMATION

KOMAL DEEP PATEL
Owner Name (Please Print)

0733011391
Property PIN or Deed Book & Page #

551.358.7853
Phone

komal.patel3112@gmail.com
E-mail Address

DEEP HARVADAN PATEL
Owner Name (Please Print)

0733011391
Property PIN or Deed Book & Page #

dpatel@kdpcpa.com
Phone

E-mail Address

Owner Name (Please Print)

Property PIN or Deed Book & Page #

Phone

E-mail Address

SURVEYOR INFORMATION

Surveyor: Newcomb land Surveyors LLC

Phone: 919.847-1800 Fax:

E-mail Address: justin@nls-nc.com

ANNEXATION SUMMARY CHART

Property Information		Reason(s) for annexation (select all that apply)	
Total Acreage to be annexed:	1.74 ac	Need water service due to well failure	☑
Population of acreage to be annexed:		Need sewer service due to septic system failure	☑
Existing # of housing units:	1	Water service (new construction)	☐
Proposed # of housing units:		Sewer service (new construction)	☐
Zoning District*:		Receive Town Services	☑

*If the property to be annexed is not within the Town of Apex's Extraterritorial Jurisdiction, the applicant must also submit a rezoning application with the petition for voluntary annexation to establish an Apex zoning designation. Please contact the Department of Planning and Community Development with questions.

PETITION FOR VOLUNTARY ANNEXATION

Application #: 2023-002 Submittal Date: 1/24/2023

COMPLETE IF SIGNED BY INDIVIDUALS:

All individual owners must sign. (If additional signatures are necessary, please attach an additional sheet.)

Komal Deep Patel — Please Print
K.H. Patel — Signature

Deep Harvadan Patel — Please Print
Deep Patel — Signature

Please Print — Signature

Please Print — Signature

STATE OF NORTH CAROLINA
COUNTY OF WAKE

Sworn and subscribed before me, Katrina Carter, a Notary Public for the above State and County, this the 23 day of January, 2023.

Notary Public

SEAL

KATRINA CARTER NOTARY PUBLIC WAKE COUNTY, NC My Commission Expires 05-12-27

My Commission Expires: May 12, 2027

COMPLETE IF A CORPORATION:

In witness whereof, said corporation has caused this instrument to be executed by its President and attested by its Secretary by order of its Board of Directors, this the _____ day of _____, 20_____.

Corporate Name _____

SEAL

By: _____
President (Signature)

Attest:

_____
Secretary (Signature)

STATE OF NORTH CAROLINA
COUNTY OF WAKE

Sworn and subscribed before me, _____, a Notary Public for the above State and County, this the _____ day of _____, 20____.

_____
Notary Public

SEAL

My Commission Expires: _____

| Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA

Meeting Date: May 9, 2023

Item Details

Presenter(s): Allen Coleman, Town Clerk

Department(s): Town Clerk's Office

Requested Motion

Motion to approve, as submitted or amended, Meeting Minutes from the following meetings:

- April 18, 2023 – Town Council Work Session Meeting Minutes
- April 25, 2023 – Regular Town Council Meeting Minutes

Approval Recommended?

The Town Clerk recommends the Town Council approve the meeting minutes as presented or amended.

Item Details

In accordance with 160A-72 of North Carolina General Statutes (NCGS), the Governing Board has the legal duty to approve all minutes that are entered into the official journal of the Board's proceedings.

Attachments

- CN3-A1: **DRAFT** Minutes – April 18, 2023 – Town Council Work Session Meeting Minutes
- CN3-A2: **DRAFT** Minutes – April 25, 2023 – Regular Town Council Meeting Minutes

DRAFT MINUTES

TOWN OF APEX
TOWN COUNCIL WORK SESSION
TUESDAY, APRIL 18, 2023
3:30 P.M.

The Apex Town Council met for a work session on Tuesday, April 18, 2023 at 3:30 p.m. at the Apex Town Hall located at 73 Hunter Street in Apex North Carolina.

This meeting was open to the public. Members of the public were able to attend this meeting in-person or watch online via the livestream on the Town's YouTube Channel: https://www.youtube.com/watch?v=F2WwI1L6fTQ

[ATTENDANCE]

Elected Body
Mayor Jacques K. Gilbert (presiding)
Mayor Pro-Tempore Audra Killingsworth
Councilmember Brett Gantt
Councilmember Ed Gray
Councilmember Terry Mahaffey
Councilmember Arno Zegerman
Absent: None

Town Staff
Town Manager Catherine Crosby
Deputy Town Manager Shawn Purvis
Assistant Town Manager Demetria John
Assistant Town Manager Marty Stone
Town Attorney Laurie Hohe
Town Clerk Allen Coleman
Deputy Town Clerk Ashley Gentry
Electric Tech Services Manager Rodney Smith
Stormwater Utility Coordinator Evan Kirk
Electric Utilities Director Eric Neumann
Budget and Performance Management Director Amanda Grogan
Finance Director Antwan Morrison
Consultant w/1898 & Co. Part of Burns and McDonnell Craig Brown
All other staff members will be identified appropriately below.

[COMMENCEMENT]

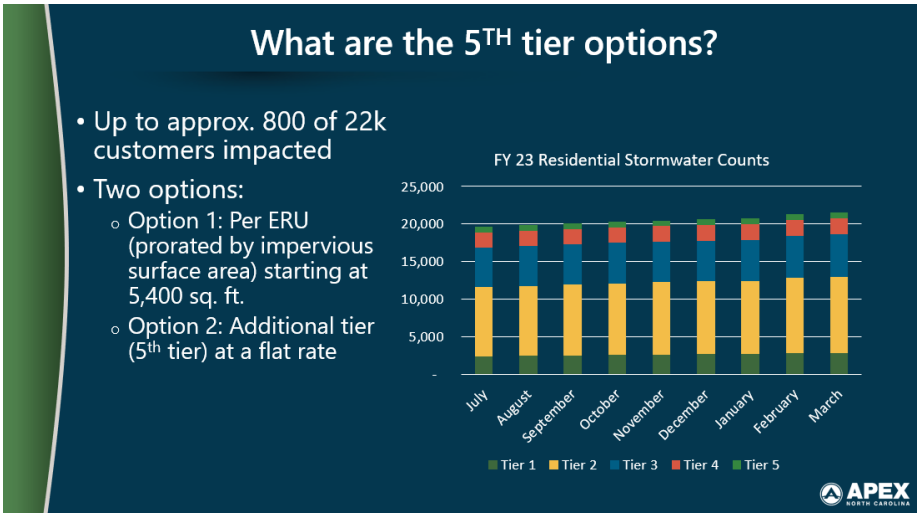
Mayor Gilbert called the meeting to order at 3:37 p.m. and led the Pledge of Allegiance.

[AGENDA ITEM NO. 1 – STORMWATER UTILITY-FEE UPDATE AND POTENTIAL 5TH TIER]

Evan Kirk, Stormwater Utility Coordinator provided an overview of the Stormwater Utility Fee and potential 5th Tier Options.

[SLIDE 1]

[SLIDE 2]



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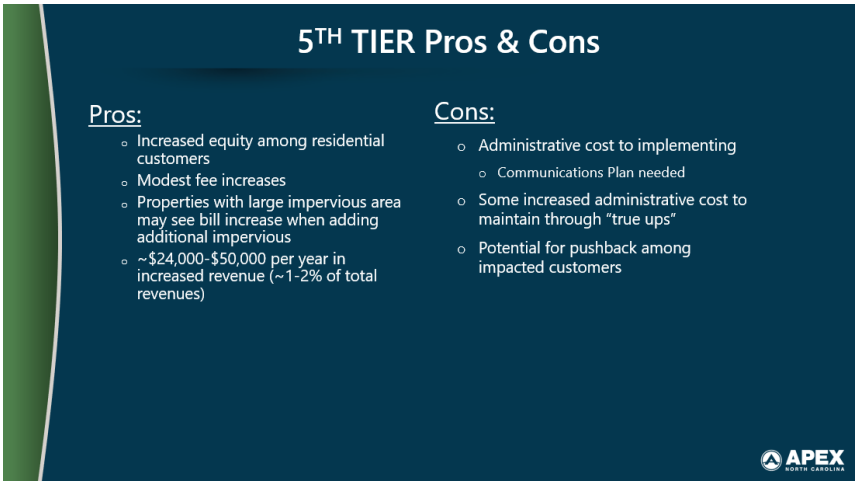

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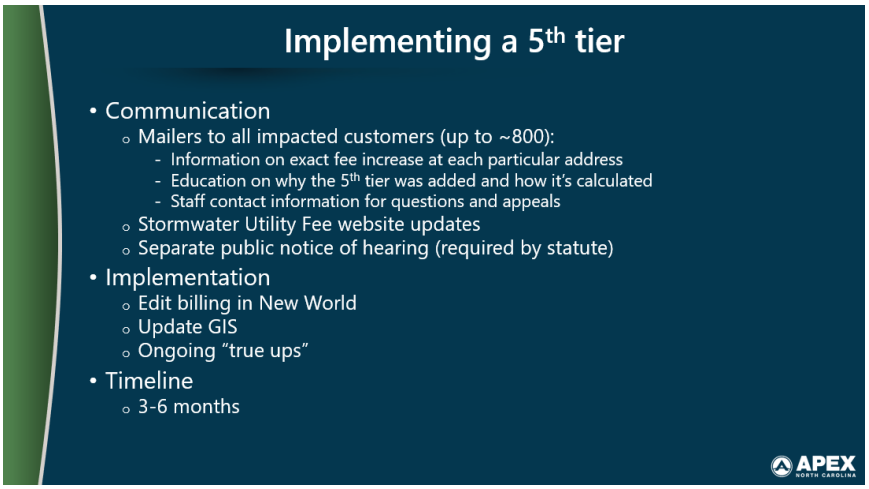
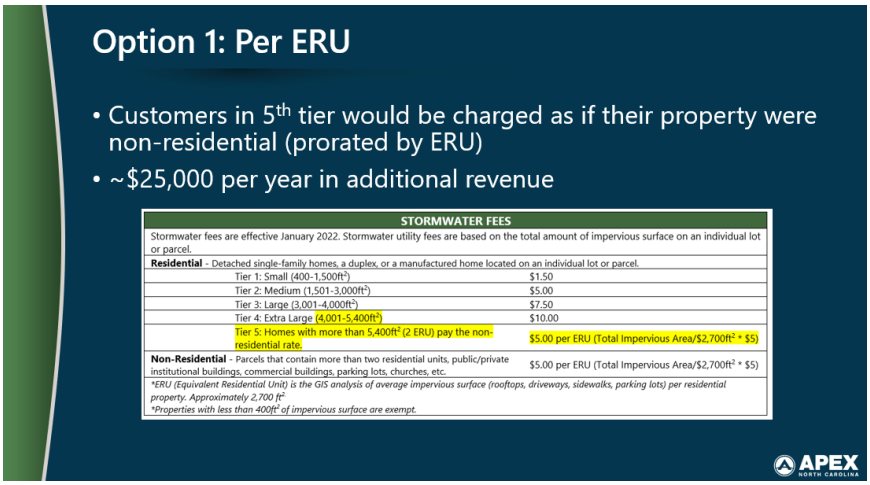


Mr. Kirk said the proposed projected rollout would be January 1, 2024.

[SLIDE 5]



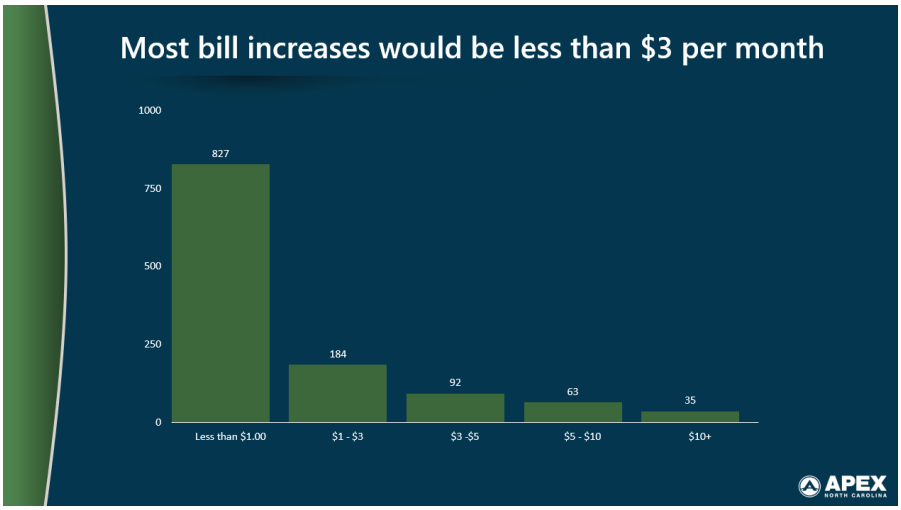
Councilmember Gantt asked if a 5500 square foot home roughly turns out to be $10 or $20 fee.

Mr. Kirk said Tier 4 stops at 5400 square feet, anyone who has a 5,401 square feet home would get a charge of $10 and "one-ish" cents. He said that's why 5400 square feet is the cutoff point because if you charge them as a non-residential customer, their bill would be above $10.

Councilmember Gantt confirmed that it's not a step change, but rather a gradual change.

Mr. Kirk said at that point the bill becomes prorated for every single square foot and multiply that by $5.

[SLIDE 6]



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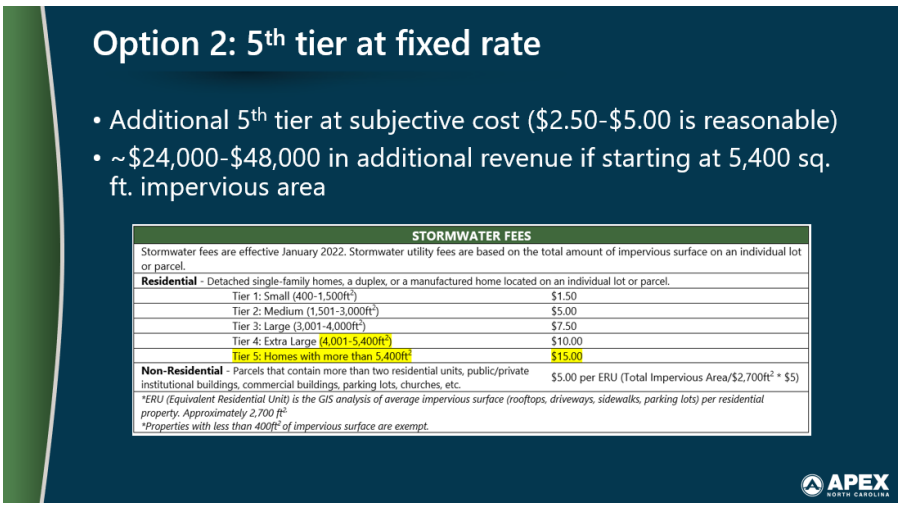

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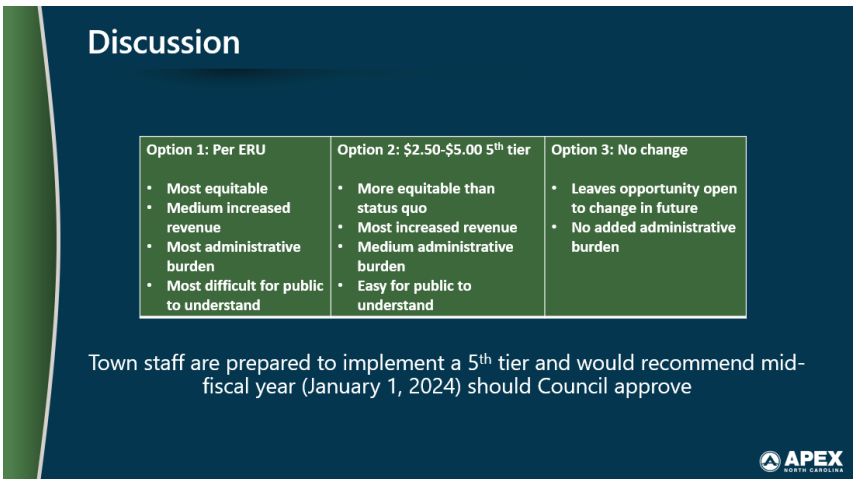


Councilmember Zegerman asked if measurements like 5400 square foot are looking at any impervious surface like driveways, home itself, and patios.

Mr. Kirk said yes sir.

Councilmember Gantt said this was his idea. He said what bothers him the most is a ten thousand square foot impervious property or bigger is getting charged the same as a five thousand square foot impervious.

Mr. Kirk said that option 2 doesn't do a good job of capturing that tail because we're charging everybody that same rate but the cutoff point can be changed. He said additional tiers could still be added in the future. He said he could get the data of how many people would fall into any potential tier.

Councilmember Zegerman asked what the gain would be from this. He said it would be equitable, and that was good, but the costs would likely offset the revenue.

Councilmember Gantt said he didn't think that was right.

Mr. Kirk said that in the first year, the cost would offset the revenue in the form of increased staff time, but even in the future the revenue gains would be insignificant. He said that they weren't doing this for revenue purposes.

Councilmember Zegerman said this adds more time having to be dedicated towards administrative work, in order to monitor the tiers, that could be used for other things. He asked why they were wanting to do this if it didn't come up with more funding to help fix stormwater management.

Councilmember Gantt asked for Mr. Kirk to clarify what the increase in administrative costs would be above current.

Mr. Kirk said it was essentially the same. He said he looks at the aerial imagery, which has polygons drawn over the property to represent impervious surface, and extends the

polygon if necessary to add new impervious surface, such as a patio. He said once this is edited, the area of impervious surface will be calculated automatically in GIS, so he can see if it changes the bill. He said in his experience, even when a property changes its amount of impervious surface, fewer than 10 percent of those instances actually trigger a bill change. He said the work is not as tedious as they may think, as he's already doing this process. He said the $24,000 dollars would more than cover the additional cost.

Councilmember Killingsworth said that's part of the reason why they requested option two, since it would require less administration and add less work to staff.

Councilmember Mahaffey asked what problem this is actually seeking to solve. He said lots of town have a flat fee, and equity was why Apex decided to institute a tier system. He asked if the town has gotten any feedback on four tiers not being enough, and at that point how many tiers would actually be enough. He said this doesn't decrease the costs for people in lower tiers or who have less impervious surface, as he feels they would care more about paying less than people with more impervious surface paying more. He said this is essentially a change for the sake of a change, for an issue that isn't a big problem and wouldn't provide much additional revenue. He said this was a year where many fees were being changed or increased, and this was already a difficult budget to communicate to citizens. He said he isn't opposed, it just seems like this change would impact very few people and require more effort than it's worth. He said it would add to the narrative that Council is raising all the rates just for the sake of doing so.

Councilmember Gantt asked if Mr. Kirk could speak more on the ongoing revenue increase. He asked if he had an estimate of a five-year average revenue.

Mr. Kirk said he does not have that information. He said when someone adds impervious surface to the parcel, it typically is less than a thousand square feet of additional impervious added. He said a thousand square feet is less than two dollars per month. He said this would increase revenue some, accounting for administrative costs, in the long run.

Councilmember Mahaffey said if there was a larger upfront cost to adding impervious surface, then maybe people would think twice about adding more, versus the slight monthly increase. He asked if the town has any authority to charge for these things at permitting time.

Mr. Kirk said costs like that had to proportional to the administrative costs incurred by the town

Councilmember Mahaffey asked if the permit costs have to be fixed with the town's costs instead of being based on impact or another measure.

Mr. Kirk said that this could be the case if the town had to implement a specific project that was directly caused by an increase in impervious surface. He said he's never heard of an upfront fee for impervious.

Councilmember Zegerman asked how many units are in the first tier. He asked if the town can add tier 5 and set the rates for tier 1 to zero dollars.

Mr. Kirk said it could be set lower, but it would be legally dubious to set it at zero dollars because the town can't set a fee based off of income or other protected classes. If it lowered it could possibly be a dollar and twenty-five cents.

Councilmember Gantt said when he proposed this, he was projecting additional revenue of $25,000 a year, which isn't a lot but it adds up. He said after four years, this could potentially bring in $100,000 to do a big project. He also liked that this money would be coming in from the top 1% of the bracket.

Councilmember Zegerman said he likes the idea, but he's trying to figure out why they would be doing this if the net effect and impact of it is small.

Councilmember Mahaffey said it sounds like a solution in search of a problem.

Councilmember Gantt said it was $25,000 a year from the top one percent.

Councilmember Mahaffey said yes, but that he doesn't believe that they care and that it's a conversation that they Council didn't have to have if they didn't want to. He said he is not opposed to it at some point in the future or raising rates with assumption that they go up eventually, but he said believes the rates should be tied to increased service or a specific project.

Councilmember Gantt said he thinks there are millions of dollars' worth of stormwater projects that need to be done, and every little bit helps.

Mayor Pro Tempore Killingsworth said she doesn't disagree, and there are a lot of stormwater projects that need to be done that can be very costly.

Councilmember Gantt said he imagined every year the town would use this on some of the smaller projects.

Director Grogan said for fiscal year 2024 there is an assessment that's in the budget to help identify what these projects are so the town can begin to map out what the CIP for stormwater funds looks like. She said it's hard to speak on it right now until the assessments are completed, and phase one of that is coming up in the upcoming year.

Councilmember Gantt asked if there were a bunch of twenty thousand-dollar projects that could be done.

Mr. Kirk said there was a stabilization of a culvert project in the downtown area and that project would cost about $15000, and that's an example of a stormwater project that stormwater dollars were used for. He said there are projects already identified that have work orders in the system for the upcoming years.

Mayor Gilbert said this is a great discussion and asked what does Mr. Kirk needs from Council today.

Mr. Kirk said he didn't necessarily need a decision today if further discussion is needed. He said he would accept a decision if there was one so he can start preparing.

Councilmember Gantt wanted to clarify that if the town wanted to start in January of next year, then it needs to be in the budget for FY 24-25.

Mr. Kirk said yes.

Mayor Pro Tempore Killingsworth said she'd like to make it easy as possible, so option two or three is what she would prefer.

Councilmember Mahaffey said another thing he wanted to point out was that this program just started and is in its second year. He said it has been fairly complicated already, and coming back this year with a new tier and the other rating without actually solving a problem, he said he doesn't think is useful. He said we need to raise 50 to 100 thousand a year to do it and that's a directed action to get behind. He said that's something he could get behind. He said with other things going on in this year's budget it's a discussion to have further when there are more concrete plans in place.

Councilmember Gantt asked Councilmember Mahaffey if he wanted the communication plan to state the examples of projects.

Councilmember Mahaffey said he's sharing option three this year.

Councilmember Gray said he is thinking of the long-term impact of this because the town can always add on, and he's in favor of option two.

Assistant Town Manager Stone asked right now in the system if staff have to go back and look based on the permit that's applied for to do an addition, then go back and look at that particular residence to determine how much it's going to change their tiers.

Mr. Kirk said yes, there are both permitted changes in impervious structures addition tools and there are unpermitted changes that impervious, such as a patio.

Assistant Town Manager Stone asked what the approach is to reviewing this, and if it's every 5 years.

Mr. Kirk said the town has planning districts. He said until he can get a good sense to what the workload is actually going to be he is looking at 20 percent of the town per year, with 12 districts, which leaves about 3 planning districts per year.

Assistant Town Manager Stone said when doing this work, he is having to look at previous percentages, and then would only be taking out a small amount of work because people don't come in for additions. He said once you get into the fifth tier you don't have to do anything. He pointed out that 500 or so customers are going to go up and instead of going up less than a dollar, they would be going up five dollars. He said this is kind of a reverse equitable thing where there is 827 that pay exactly what's owed and for impervious that would go up less than a dollar, those 827 are going to go up five dollars or 2.50 right out of the gate, which is Council's decision. He said it looks like there's more impact going to a

set fee than doing a five dollar per fee. He said from a professional perspective, it's more standard to charge per impervious once people get to the cutoff of the ERU. He said it isn't usual to go above the ERU, and charge residents less than commercial. He said for stormwater fees, they have to be defendable.

Councilmember Mahaffey asked why five tiers of flat fees is indefensible and four tiers of flat fees is defensible.

Assistant Town Manager Stone said the gaps are much smaller. He said it is more defendable in his opinion for customers to pay for anything about their ERU.

Councilmember Gray said he was convinced and changed his mind to option 1.

Councilmember Zegerman asked if the town had enough funds to do additional projects does it have the staff capacity.

Assistant Town Manager Stone said stormwater is unique and has an operational side and an engineering side. There's Public Works and Water Resources, so there's a lot of work that can be done internal. It will help address the cost of dissipator pads, energy pads, and buying other things. He said he's currently in the process of conditional assessments and getting the contract going where the town will be looking at that in phases, which will define maintenance projects like things that needs to be addressed versus projects that may be new in the project system.

Councilmember Zegerman asked if the larger impervious services are typically the bigger homes.

Mr. Kirk said yes.

Councilmember Zegerman asked if Council raises property tax rates, could the money be used for stormwater management.

Mr. Kirk said they legally they can, but are not going to because of stormwater utility rates.

Assistant Town Manager Stone said the direction was to set up a utility phone for stormwater that would be self-supported and fully funded using stormwater fees to do stormwater activities. The direction that was worked on previously in the town would not use tax dollars for stormwater, he said Council can do that if that's your direction, but what cannot be done is using stormwater fees that we collect for anything except stormwater.

Councilmember Zegerman said he's struggling with this one because if it had a bigger benefit or a list of projects that can be pointed out it would be more attractive. He said if they're going to do it he would say option 2 for five dollars. He said he would like to make it big enough to be meaningful in some way.

Mayor Pro Tempore Killingsworth said she likes option 2 because it's simpler, but option 1 does seem easier to defend.

Mr. Kirk said option 1 takes out the need to modify the rate structure in the future. He said option 2 leaves it open to potentially having to change the rate structure in the future.

Councilmember Gantt said option 1 captured a long tail and is interested in that. He said this would bring in a very small amount of money, but the fact that it's an ongoing thing is why it's worth discussing. He said $25,000 adds up over time. He asked are there a lot of small projects that could have more impact than the big ones, he said what he values in this is more if there's a ton of small projects that could do a lot of good.

Assistant Town Manager Stone said he couldn't answer that because it depends on where it rains.

Mr. Kirk said the system assessment is going to allow the town to begin an asset management program and that asset management program combined with the CIP will allow staff to rank those projects. He said this will provide a priority ranking.

Councilmember Gantt said there would be a media pushback from any increase, he said the pushback would be stronger for the people with the most impervious surface if they went with option 1 and had to pay 10 or more extra dollars a month.

Councilmember Mahaffey said he would rather raise rates in three different ways than in four different ways. He said this would likely cause pushback from people who are pre-disposed to doing that. He wondered what the justification would be from Council if any of them were asked why they did this.

Councilmember Gray said adding to the larger conversation about how to tell people about this, he says it's much more of an educational basis. He said the money we're getting out of this to help kind of build the fund that education is something that can give us bigger dividends down the road. He said people will always complain about increases to fees, and that it comes down to explain what they're doing and why they're doing it.

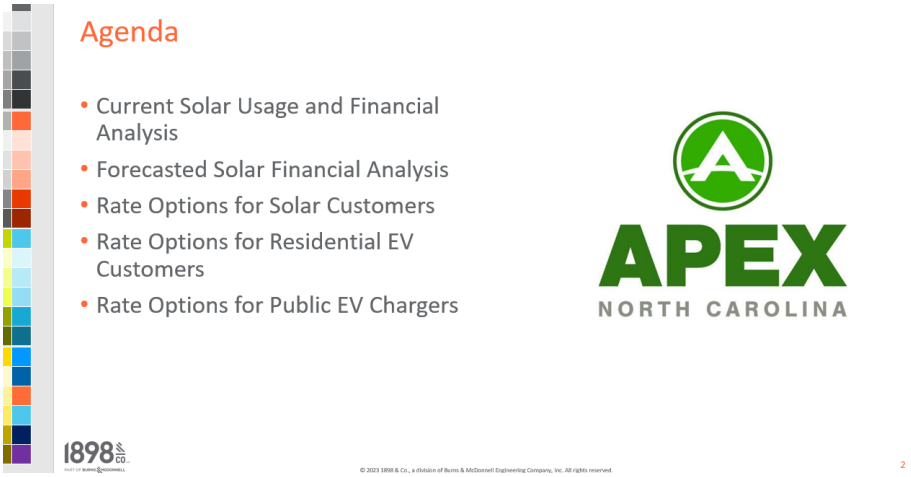
Mayor Gilbert said there are three members who seem in favor of option one, so there is a majority.

[AGENDA ITEM #2 – [SOLAR AND EV RATE DESIGN]

Craig Brown, Consultant w/1898 & Co. Part of Burns and McDonnell, gave an overview of Solar and Electric Vehicle Rate Design.

[SLIDE 1]

[SLIDE 2]



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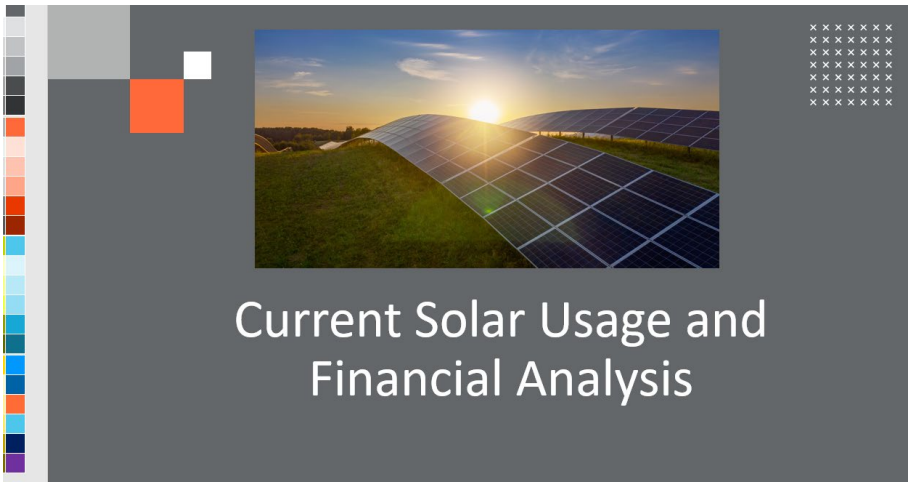
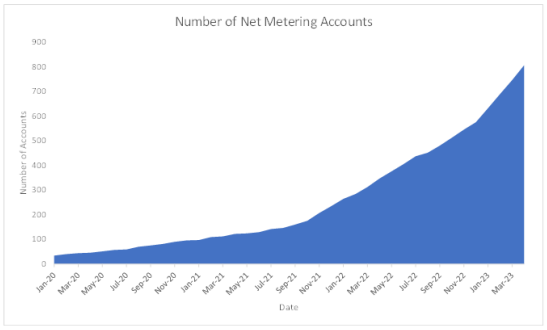


Councilmember Gantt said Duke has been in the news recently for votes that were had along these lines, he asked what Duke is doing versus what they do affect us at all.

Mr. Brown said Duke is changing their net near program just from a flat rate like we do now to a time of use-based rate. He said details of that are still being worked out

[SLIDE 4]

Solar Installations and Interconnections



Total Number of Net Metering Accounts as of April 2023: *806*

Apex Solar Installation Size (kW)	
Mean	8.5
Median	7.7
Mode	7.6
Standard Deviation	2.6
Range	13.6
Minimum	3.2
Maximum	16.8
Count	153

North Carolina Installation Size (kW)	
Average	6.1

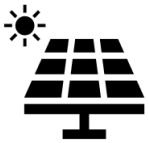
United States Installation Size (kW)	
Average	6.5

4

SLIDE 5]

Methodology

1. Generate a solar load shape profile to determine the amount of electricity produced from PV within a year.
   - Source: System Advisory Model (SAM) from NREL
   - Apex, NC level data
   - Scale hourly solar profile to median Apex net metering customer
2. Generate a residential load shape profile to determine the amount of electricity used throughout the year by the average residential customer.
   - Source: ResStock from NREL
   - State level data
3. Create a financial model to determine expected revenue from Apex current rate structure and the cost to serve each customer to determine if Apex is over or under recovering.



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[SLIDE 6]

Methodology

4. Add in the solar generation into the financial model to determine the over or under recovery of a customer with solar installed.
5. Identify the coincident peak (CP) of both data sets to estimate impact on power supply costs
6. Model the expected over or under recovery based on the percent of Apex customers that install solar.
   - 10 percent of customer base
   - 20 percent
   - 50 percent

6

[SLIDE 7]

Solar Generation Heat Map

- Assuming an 8 kW capacity solar system
- Load Shape Source: System Advisory Model (SAM)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00:00 AM	-	-	-	-	-	-	-	-	-	-	-	-
1:00:00 AM	-	-	-	-	-	-	-	-	-	-	-	-
2:00:00 AM	-	-	-	-	-	-	-	-	-	-	-	-
3:00:00 AM	-	-	-	-	-	-	-	-	-	-	-	-
4:00:00 AM	-	-	-	-	-	-	-	-	-	-	-	-
5:00:00 AM	-	-	-	-	-	-	-	-	-	-	-	-
6:00:00 AM	-	-	-	-	0.03	0.07	0.02	-	-	-	-	-
7:00:00 AM	-	-	0.02	0.29	0.55	0.66	0.50	0.39	0.17	0.01	-	-
8:00:00 AM	0.05	0.27	0.86	1.40	1.69	1.83	1.50	1.55	1.28	1.07	0.70	0.05
9:00:00 AM	1.21	1.45	2.15	2.74	2.87	3.02	2.63	2.74	2.60	2.52	2.25	1.41
10:00:00 AM	2.15	2.62	3.48	3.96	4.05	4.00	3.55	3.76	3.48	3.28	3.35	2.41
11:00:00 AM	3.17	3.64	4.32	4.83	4.42	4.57	4.07	4.50	4.24	4.00	4.04	3.20
12:00:00 PM	3.56	4.18	4.77	5.13	4.88	4.87	4.41	4.37	4.63	4.01	4.33	3.61
1:00:00 PM	4.04	4.48	5.00	5.27	5.03	4.75	4.54	4.39	4.85	4.12	4.38	3.62
2:00:00 PM	3.87	4.33	4.61	4.95	4.49	4.59	4.57	3.93	4.24	3.88	3.91	3.49
3:00:00 PM	3.36	3.66	3.86	4.36	4.14	3.97	4.12	3.67	4.33	3.38	3.14	2.81
4:00:00 PM	2.32	2.98	2.85	3.17	3.30	3.41	3.36	2.92	2.95	2.31	2.03	1.92
5:00:00 PM	1.18	1.61	1.84	2.02	2.14	2.31	2.37	2.12	1.77	1.08	0.74	0.55
6:00:00 PM	0.02	0.26	0.70	0.84	0.98	1.17	1.19	1.07	0.53	0.03	-	-
7:00:00 PM	-	-	-	0.04	0.16	0.30	0.27	0.13	0.00	-	-	-
8:00:00 PM	-	-	-	-	-	-	-	-	-	-	-	-
9:00:00 PM	-	-	-	-	-	-	-	-	-	-	-	-
10:00:00 PM	-	-	-	-	-	-	-	-	-	-	-	-
11:00:00 PM	-	-	-	-	-	-	-	-	-	-	-	-

https://sam.nrel.gov/ (Specific to Apex, NC)

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[SLIDE 8]

Solar Load Profiles

			Load Profiles						
Hour	Date & Time		Residential 1 (kWh)	Residential with Solar (kWh) SAM	Residential with Solar (kWh) APEX Average	Residential with Solar (kWh) APEX Median	Solar (kWh) SAM	Solar (kWh) APEX Average	Solar (kWh) Apex Median
1	1/1/23 12:00 AM	1	1.01	1.01	1.01	1.01	0.00	0.00	0.00
2	1/1/23 1:00 AM	2	1.13	1.13	1.13	1.13	0.00	0.00	0.00
3	1/1/23 2:00 AM	3	1.18	1.18	1.18	1.18	0.00	0.00	0.00
4	1/1/23 3:00 AM	4	1.26	1.26	1.26	1.26	0.00	0.00	0.00
5	1/1/23 4:00 AM	5	1.37	1.37	1.37	1.37	0.00	0.00	0.00
6	1/1/23 5:00 AM	6	1.52	1.52	1.52	1.52	0.00	0.00	0.00
7	1/1/23 6:00 AM	7	1.70	1.70	1.70	1.70	0.00	0.00	0.00
8	1/1/23 7:00 AM	8	1.81	1.81	1.81	1.81	0.00	0.00	0.00
9	1/1/23 8:00 AM	9	1.73	1.67	1.68	1.68	0.053	0.04	0.05
10	1/1/23 9:00 AM	10	1.56	1.39	1.42	1.41	0.175	0.14	0.15
11	1/1/23 10:00 AM	11	1.39	-0.83	-0.37	-0.53	2.216	1.76	1.91
12	1/1/23 11:00 AM	12	1.24	0.19	0.41	0.34	1.047	0.83	0.90
13	1/1/23 12:00 PM	13	1.14	-1.13	-0.66	-0.82	2.271	1.80	1.96
14	1/1/23 1:00 PM	14	1.01	0.63	0.71	0.69	0.379	0.30	0.33
15	1/1/23 2:00 PM	15	0.94	0.31	0.44	0.39	0.635	0.50	0.55
16	1/1/23 3:00 PM	16	0.98	0.53	0.62	0.59	0.456	0.36	0.39
17	1/1/23 4:00 PM	17	1.08	0.97	0.99	0.98	0.117	0.09	0.10
18	1/1/23 5:00 PM	18	1.23	1.23	1.23	1.23	0.000	0.00	0.00
19	1/1/23 6:00 PM	19	1.34	1.34	1.34	1.34	0.000	0.00	0.00
20	1/1/23 7:00 PM	20	1.39	1.39	1.39	1.39	0.000	0.00	0.00
21	1/1/23 8:00 PM	21	1.41	1.41	1.41	1.41	0.000	0.00	0.00
22	1/1/23 9:00 PM	22	1.37	1.37	1.37	1.37	0.000	0.00	0.00
23	1/1/23 10:00 PM	23	1.29	1.29	1.29	1.29	0.000	0.00	0.00
24	1/1/23 11:00 PM	24	1.15	1.15	1.15	1.15	0.00	0.00	0.00

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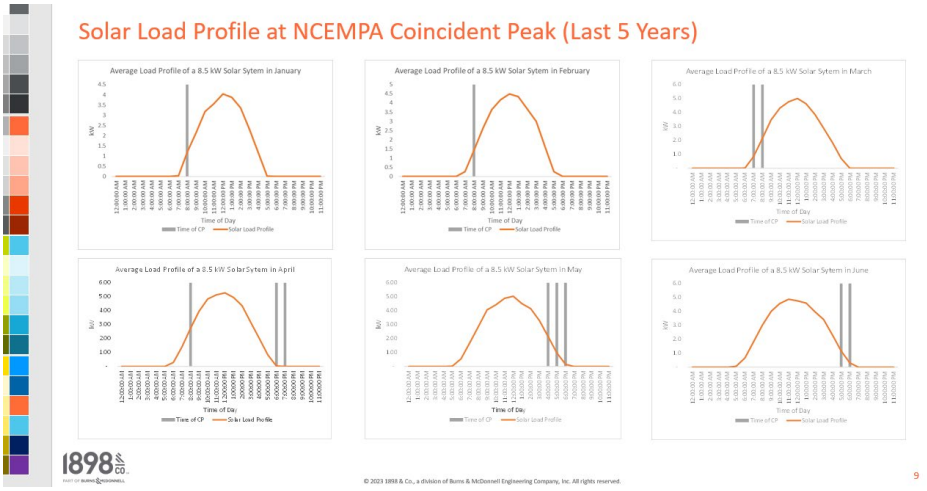
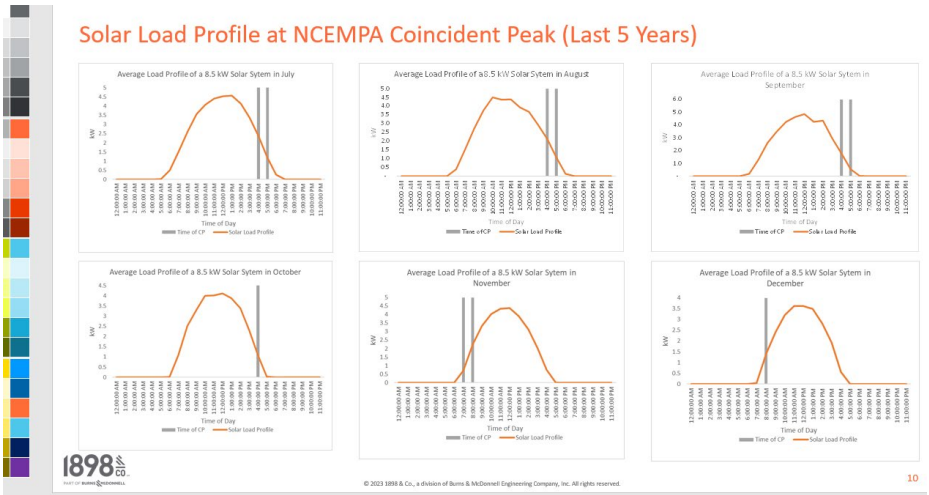
[SLIDE 9]



Assistant Town Manager Stone asked Mr. Brown to explain how our power bills are made up and the breakdown of costs.

Mr. Brown said it's based on the concept of demand charges and energy charge, the demand charge is set based on the maximum kilowatt load at the peak, in this case its whenever Duke's system peaks and what the town's load is at an hour that sets your demand charge for the month. Demand charge is going down, it's 21 dollars per kW, it's a very high fixed charge, but energy cost is only 2.689 cents. He said the goal is to incentive people to use less energy during peak hours.

[SLIDE 10]



[SLIDE 11]

[SLIDE 12]

Revenue and Power Supply Analysis

Description	Residential	Residential with Solar (kWh) APEX Median
Annual Energy (kWh)	10,581	191
Rate Charges		
Energy Charges	$ 996.70	$ 17.97
Customer Charges	$ 300.00	$ 300.00
Annual Revenue per Cust	$ 1,296.70	$ 317.97

Description	Residential	Residential with Solar (kWh) APEX Median
NCEMPA Purchased Power Energy		
Total Annual Sales	10,581	191
NCEMPA Energy Rate	$ 0.0229	$ 0.0229
Annual Energy Charges	$ 242.19	$ 4.37
kW Demand During Monthly CP		
Jan	2.48	2.44
Feb	2.21	1.97
Mar	1.65	1.63
Apr	1.06	1.08
May	1.35	0.50
Jun	1.69	0.68
Jul	1.90	(1.00)
Aug	1.85	0.02
Sep	1.45	(1.10)
Oct	1.02	(0.96)
Nov	1.47	0.87
Dec	2.17	2.13
NCEMPA Demand and Delivery Charge ($23.58/kW)		
Jan	$ 58.57	$ 57.60
Feb	$ 52.00	$ 46.51
Mar	$ 38.91	$ 38.55
Apr	$ 25.00	$ 24.25
May	$ 31.84	$ 11.94
Jun	$ 39.87	$ 16.07
Jul	$ 44.85	$ (23.64)
Aug	$ 43.62	$ 0.36
Sep	$ 34.29	$ (25.87)
Oct	$ 23.96	$ (23.03)
Nov	$ 34.66	$ 20.44
Dec	$ 51.20	$ 50.14
Total	$ 478.77	$ 193.23
Share of Other NCEMCPA Riders ($3.48 per month)	$ 41.76	$ 41.76
Total Annual Power Supply Costs	$ 720.96	$ 197.59

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[SLIDE 13]

Revenue Impact Analysis

Descritption	Residential	Residential with Solar (kWh) APEX Median
Annual Revenue Per Customer	$1,296.70	$317.97
Annual Power Supply Cost Per Customer	$720.96	$197.59
Contribution to Apex Distribution and Customer Costs	$575.74	$120.37
Under Collection of Dist and Cust Costs per Solar Cust		($455.36)
Lost Revenue at Various Solar Customer Levels:		
806 (3.2%)		($367,024)
2,500 (10%)		($1,138,411)
5,000 (20%)		($2,276,822)
12,500 (50%)		($5,692,056)

Contribution to Apex costs only 21% of standard residential

Loss of $455 per solar customer

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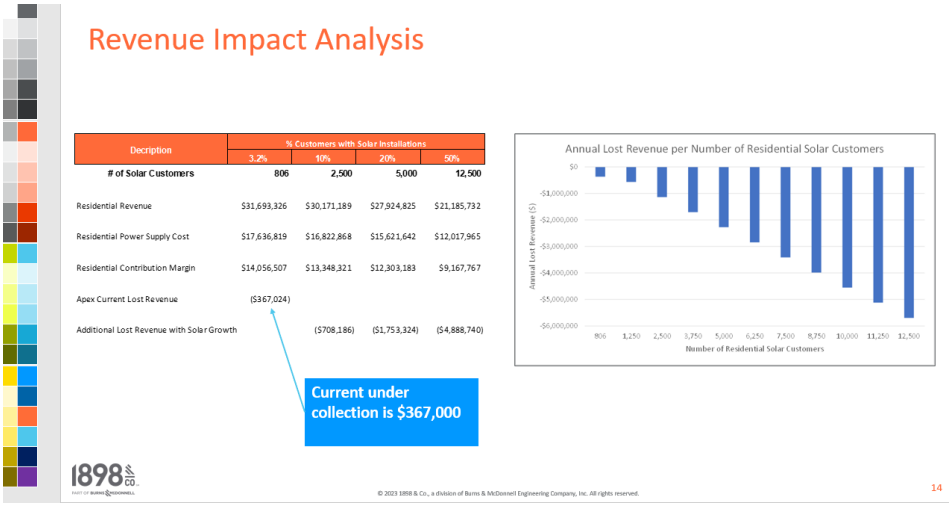
[SLIDE 14]



Deputy Town Manager Purvis said Apex tends to see people oversize their solar installation for their property.

Mr. Brown said the average kW size in Apex was 8.5, while the state average was 6.1. He said this is largely developer driver, as they know this is an attractive are for solar meter rates.

[SLIDE 15]

[SLIDE 16]

Net Metering vs Net Billing

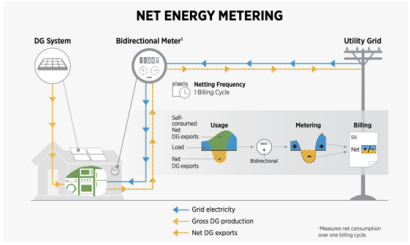


Figure 2. NEM schematic

8. Gross generation measurements for DG systems are often desired to inform: distribution network planning and investment strategies for utilities, goal tracking (i.e., progress toward clean energy generation targets), and/or validation of claimed levels of production to provide financial incentives (i.e., clean energy certificates).

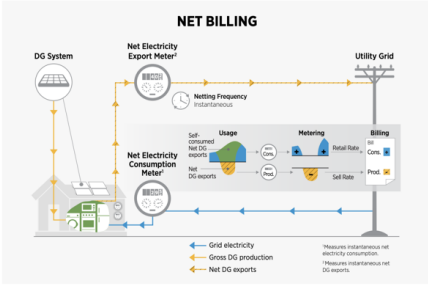


Figure 4. Net billing schematic

Source: NREL Grid-Connected Distributed Generation: Compensation Mechanism Basics

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[SLIDE 17]

Net Metering with Fixed Customer and Distribution Charges

Description:

- The customer is charged an energy charge ($/kWh) along with a fixed customer charge ($/month) and distribution charge ($/month). The energy charge is determined with a customer who has a bidirectional meter. The bidirectional meter works by increasing energy count when electricity is used from the grid and subtracts energy count when excess solar energy is sent back to the utility's grid.

PROS	CONS
• Receive a guaranteed monthly revenue stream to help cover customer and distribution charges • More fair and equitable to non-solar rate payers	• Harms the expected payback of solar systems • To recover all customer and distribution costs, the fixed portion must be quite large • Solar customers electric bill would be significantly greater than the current rate structure.

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[SLIDE 18]

Net Metering with Fixed Customer and Distribution Charges

Existing Bill Structure

Residential	Billing Units		Rate	Total $
Energy Charges				
Total Energy Charges	(100)	kWh	$ 0.0942	$ (9.42)
Customer Charge	1	month	$ 25.00	$ 25.00
Total Charges				$ 15.58

Net Metering with Fixed Customer and Distribution Charges Bill Structure

Residential	Billing Determinants		Rate	Total $
Energy Charges				
Total Energy Charges	(100)	kWh	$ 0.0850	$ (8.50)
Customer Charge	1	month	$ 20.00	$ 20.00
Distribution Charge	1	month	$ 24.00	$ 24.00
Total Charges				$ 35.50

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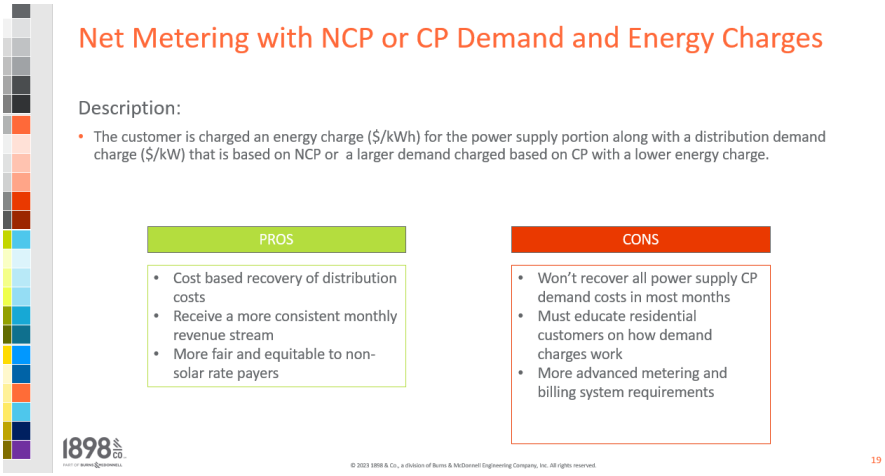
[SLIDE 19]



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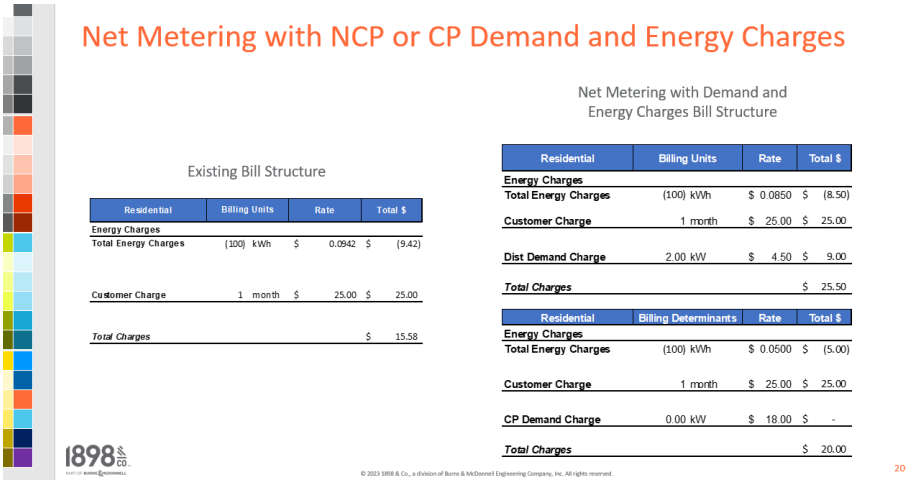

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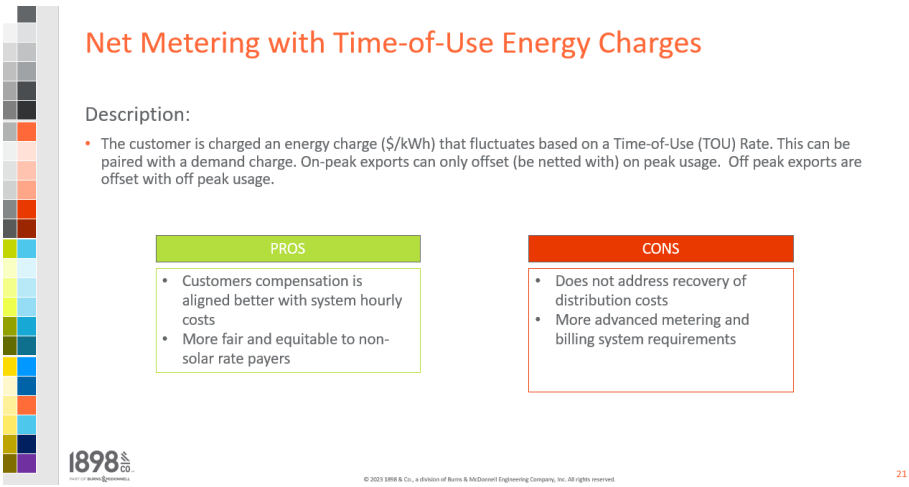
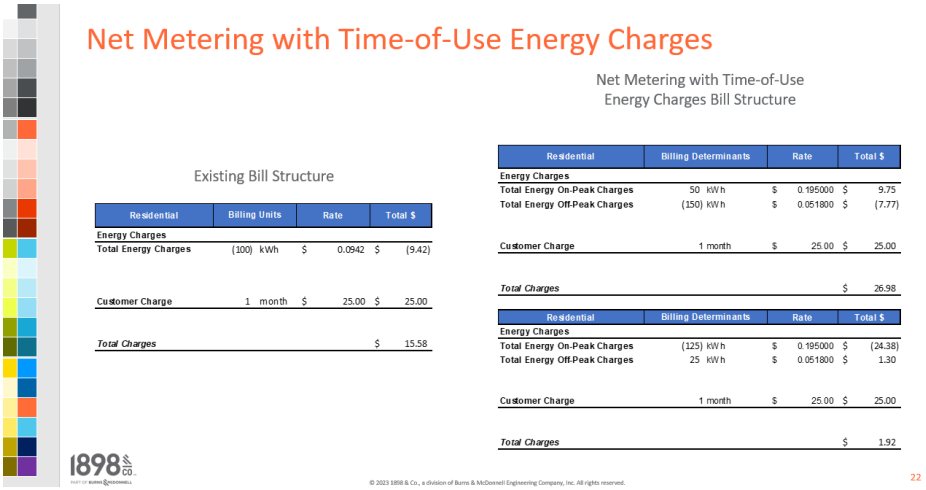


Councilmember Zegerman asked to explain what Non-Coincident (NP) peak is.

Mr. Brown said regardless of the system, the individual customers' peak for the month is the Non-Coincident Peaker. Coincident Peak (CP) is a customer's peak at the time of the case.

[SLIDE 22]



Councilmember Gantt said the best case for Apex solar customers is to have their panels pointed toward the sun in the morning in the winter and in the evening try to capture the sun before it goes down in the summer. He said he would incentivize that option to lower the costs for everybody because of the peak.

Mr. Brown said it doesn't have to be just for solar customers, this can be transformed to all residential customers so everyone is in the same boat.

Councilmember Zegerman asked are we using differentiated rates for on and off-peak rates.

Mr. Brown said it's an option.

Councilmember Gantt asked if the meter shortage is temporary.

Director Neumann said the current system that reads the meters is now un-expandable and it doesn't cover certain areas. He said there are a few meters that are being saved for commercial customers only.

Councilmember Zegerman asked if it's single rates.

Mr. Brown said yes, currently now everything is at nine and a half cents.

Councilmember Zegerman said he thinks there is an education issues around getting this information out as well.

[SLIDE 23]

Net Billing with Value of Solar (VOS) Rate

Description:

- Rate specifically for compensating solar customers for energy exported to the grid ($/kWh) under a net billing approach.
- Common Value of Solar Rate Components:
  - Avoided generation energy costs
  - Avoided generation demand costs
  - Avoided transmission demand costs
  - Avoided distribution demand costs
  - Distribution system deferred capital investment
  - Cost of integrating additional solar into the distribution system
  - Environmental attributes (RECs)
  - Other environmental considerations

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[SLIDE 24]

Net Billing with Value of Solar (VOS) Rate

PROS	CONS
• Best represents the true avoided costs of energy produced from solar customers to the utility • Most fair rate structure for all rate payers • Can set the value of renewable attributes for your system	• Solar customers would get compensated less than the current rate structure • More advanced metering and billing system requirements

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[SLIDE 25]

Net Billing with Value of Solar (VOS) Rate

Existing Bill Structure

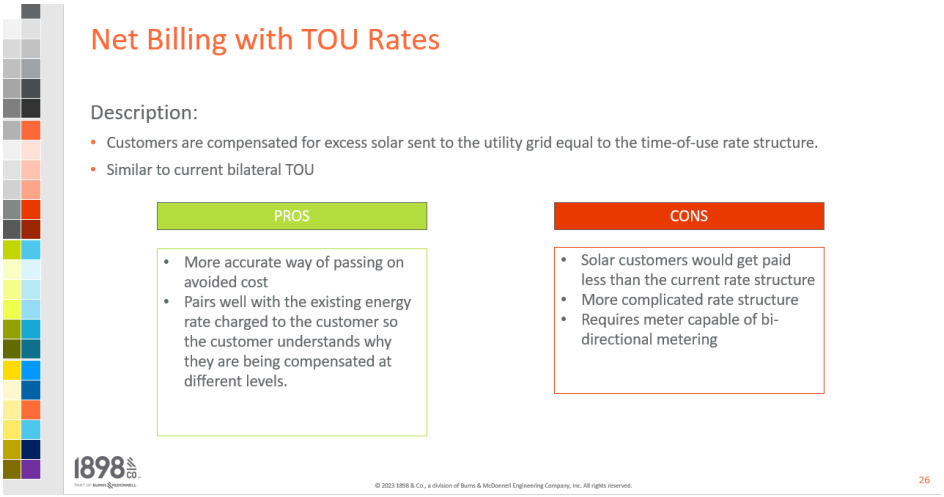
Residential	Billing Units		Rate	Total $
Energy Charges				
Total Energy Charges	(100)	kWh	$ 0.0942	$ (9.42)
Customer Charge	1	month	$ 25.00	$ 25.00
Total Charges				$ 15.58

Net Billing with Value of Solar Bill Structure

Residential	Billing Units		Rate	Total $
Energy Charges				
Total Energy Delivered from the Grid Charges	100	kWh	$ 0.0942	$ 9.42
Total Energy Exported to the Grid Credit	(200)	kWh	$ 0.0550	$ (11.00)
Customer Charge	1	month	$ 25.00	$ 25.00
Total Charges				$ 23.42

25

[SLIDE 26]



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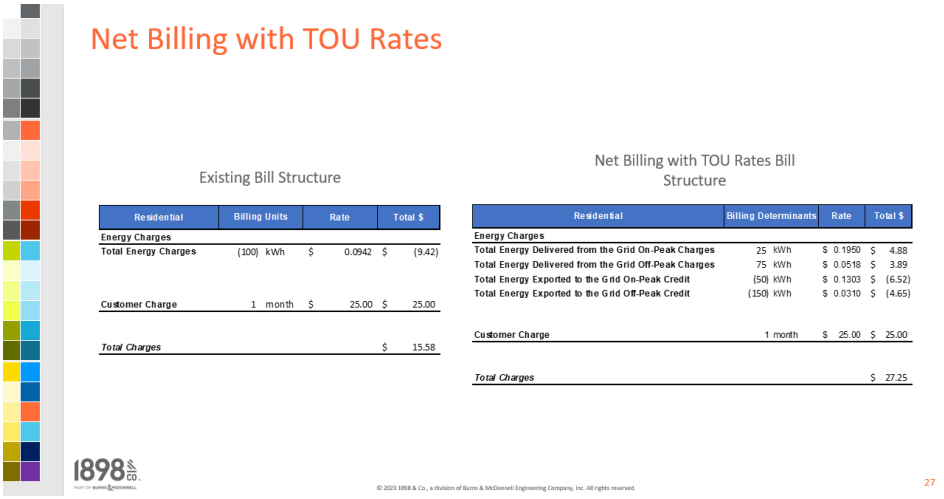

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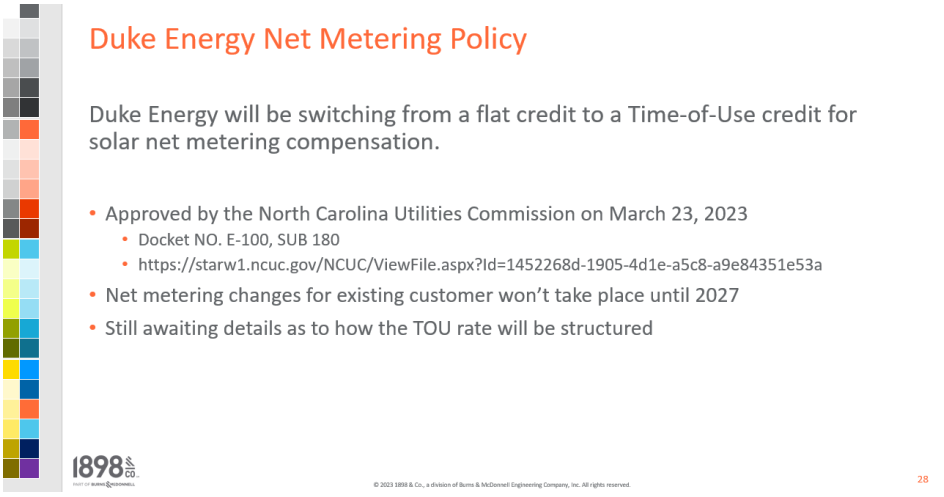
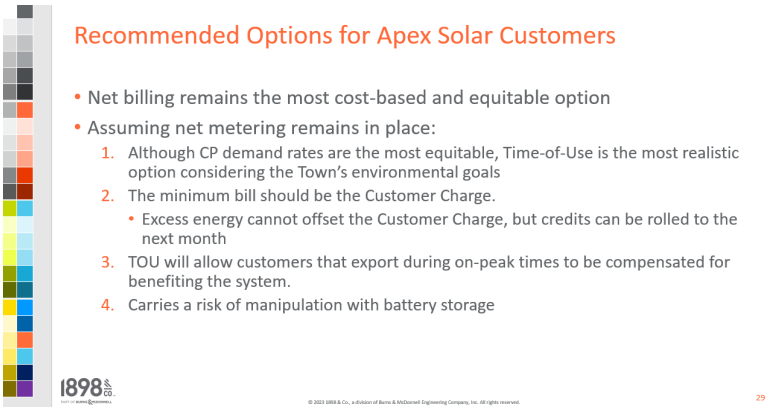


Councilmember Gantt asked if the cost structure in place with the peak being much higher than the regular is reflective of how much it costs to produce energy.

Mr. Brown said yes, the town pays the same rate as all their wholesalers. It is a formula rate that's updated every year.

[SLIDE 29]



Councilmember Gantt asked if it will encourage investment in battery storage.

Mr. Brown said yes.

Councilmember Zegerman asked to clarify the hours of peak hours.

Councilmember Mahaffey said the peak is the peak when the sun is out at its highest around noon, but the peak usage is at 4 p.m.

Councilmember Zegerman said the town still has the fixed costs of all our distribution, he said if you net zero or not you rely on the grids and asks if $25 will cover all that.

Mr. Brown said, no, it covers the customer piece.

Mayor Pro Tempore Killingsworth asked if it's on the down slope when they're providing some offset to the peak charge with our demand charge, is that showing cost difference.

Mr. Brown said it actually captures the negative number of power supply where they're actually contributing and getting paid for that demand by almost by lowering the system average.

Councilmember Gantt asked if time use is the only thing offered, what would the number be.

Mr. Brown said that's the next step in the process is trying to figure out where it goes.

Councilmember Gantt asked how would adding in heat pumps in Apex over the next 10 years effect this.

Mr. Brown said it's beneficial because it adds winter kilowatt hour sales which increase the overall load factor for the system. He said it's good for the overall system load factor, but if its in line with your coincident peak it can be harmful.

Councilmember Gantt said this would maybe increase usage on peak usage on winter mornings.

Mr. Brown said yes.

Councilmember Mahaffey said we have the most solar friendly policy in North Carolina. He said Duke is making their changes in 2027 not in 2024. He said there is an opportunity here to see what happens with Duke and learn from that and see what the impacts are. He said he cares about total revenue versus the subsidy amount, and wants to look at that ratio. He said currently energy bills are about 1% higher than they would be, due to the solar incentives put in place for customers who use that. He said there needs to be a decision made on what that number would be before they felt it was too unfair for the customers paying the regular rate. He said he feels it is appropriate to put a policy in place that drives solar adoption, up to the point that solar adoption level is substantial enough or the standard rate becomes too high because of the subsidy. He said there are several things they can do if the solar subsidy is getting too expensive.

Town Manager Crosby said she wanted to clarify that all the customers that are being charged are getting credits back. She asked if the customer will get the 25-dollar fee that's all captured or is the town keeping it the way it is.

Councilmember Mahaffey said he is okay paying people to get solar panels. He wants them to get solar panels. He said he wants to see the solar adoption of Apex to a point where people notice solar panels everywhere. He said once that's done there is no need to subsidize anymore and then if costs get too much where everyone's bills are above a certain percent then that would be unfair then it would have to be changed at that point. He said there are ways to make sure it doesn't get to 5 percent or 10 percent. He said time of use was presented long term and is absolutely the right thing to do because there are other policy benefits that have an economic impact. He said he would like to wait to see what Duke Energy does because he wants to do it better than Duke.

Mayor Gilbert asked how many ElectriCities municipalities are using the same model Apex does.

Mr. Brown said Clayton wants to be similar to Apex. He said Greenville has three options, they are less solar friendly. He said they have a net billing option, buy and sell option, they have a net metering option with a demand charge.

Councilmember Gantt asked if time of use can be the only choice.

Mr. Brown said that's where he thinks the town should go and make this a mandatory rate for all residential customers.

Councilmember Gantt said he thinks the solar adoption curve is going to be ramping up quickly, and in turn so will the increase to the non-solar energy billing per customer.

Councilmember Mahaffey said he didn't think it would be that quick, as not all homes would be suitable for solar adoption. He said his feedback is he doesn't want to make any drastic change today. He said the key number is the revenue loss and he wants to track certain points it reaches because he wants to make a policy change.

Mayor Pro Tempore Killingsworth said she would like to look at all of these other policy change options as part of the recommendation. She said she doesn't want to make any changes until AMA goes online and the exact numbers are out to know how much to offset were getting and not estimates.

Councilmember Zegerman asked what is the timeline.

Assistant Town Manager Stone said hopefully the town will get the contract in May. He said the first thing that has to happen is they start with our infrastructure building for the meters, and having our meters Apex specific. He said then there is a pilot program to make sure everything is working. It would be a solid year before the phase actually started.

Mayor Gilbert asked if it was a possibility to raise electric rates. He said some people can't afford the solar, and it does impact a large number of residents. He said he has to speak on behalf of the residents that can't continue to afford the rate increases.

Councilmember Gantt said he thinks time of use should be used for everybody anyway and it's a bonus that it helps with the solar incentives.

Councilmember Mahaffey said he agrees, but it's impractical to have everyone go to time of use. He said it's actually a lifestyle change to save money, but if nothing is changed, time of use would be a big bill increase.

Councilmember Gantt said it should be a gradual switch.

Mr. Brown said it's also a marketing plan. He said they would need to educate their customers. He added that in the first year of implementing something like these where customers could potentially change habits to save money on time of use, they could see how their electric bill changes over that first year, but still pay the original rate if time of us ended up being higher, in order to provide a sort of buffer period.

Director Grogan said they talked about piloting the possible rates out to people in order to educate people on the options and get public feedback.

Councilmember Zegerman said the rates can be changed over time.

Director Neumann explained how the rates have changed over the years and how rates are going now. He said the current rates do not disincentivize people from using energy at peak hours. He said demand is the most important factor. He said if people could be incentivized to use less energy during peak time either through CP or time of use rates, the town can reduce energy bills drastically. He said the problem is they're trying to recover

energy cost through a variable that isn't related to how they are being billed. He said EV chargers and solar are messing with the way that cost used to be recovered.

Mayor Pro Tempore Killingsworth asked if we have someone who is looking at the numbers so the town can recover more accurately.

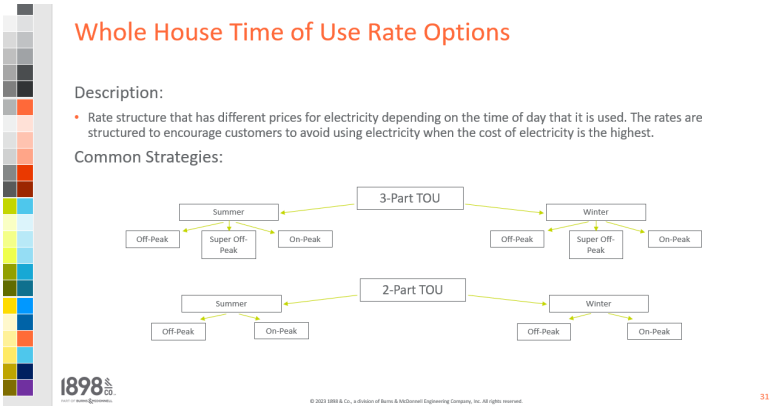
Mr. Brown said it's less risky to have the flat CP rate rather than using time of use, because of time of use has to have the proper timing of peak hours, and that can end up not working out if the peaks aren't aligned.

Director Neumann said unfortunately the town is stuck with Duke Energy's peak that we don't know about until the month closes. He said the morning time is good to turn on generators for an hour or two before the peak is going to hit. He said the entire load management program needs to be overhauled. He said he would like to mandate participation, or charge people at a different rate.

Councilmember Mahaffey said it seemed important to get people to not be charging EVs during Peak Hours.

[SLIDE 30]

[SLIDE 31]



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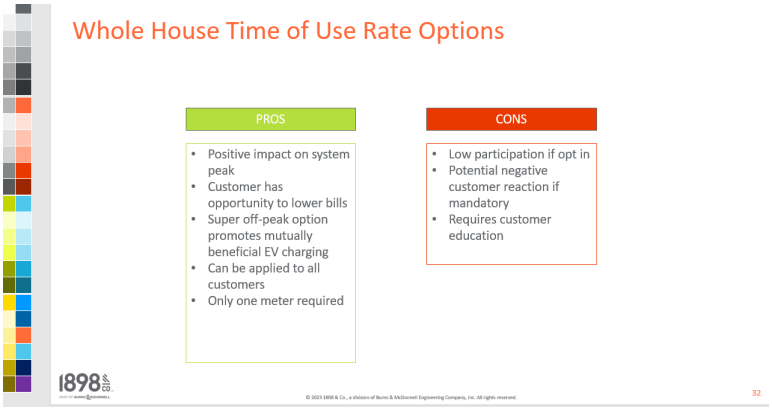

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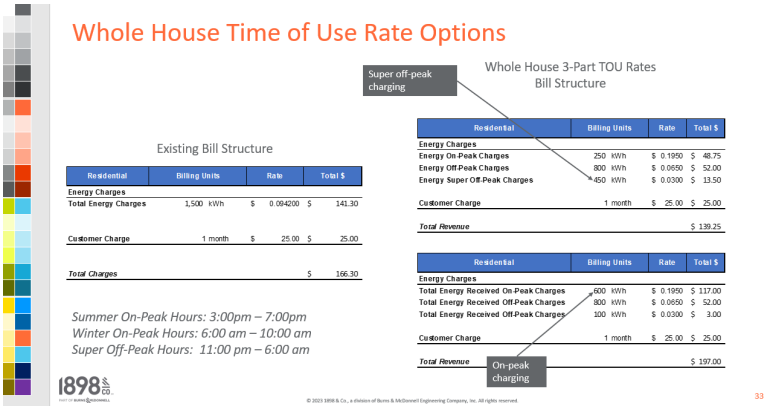


Councilmember Mahaffey asked if there were ways to tell how many EVs or being charged or who had them

Mr. Brown said they could get data analysts to find patterns in large spikes which can show peak hours and can extrapolated to determine large energy-use items such as EVs

Councilmember Mahaffey said the important thing is to show people the comparison over a period of time for on-peak versus off-peak rates.

Director Neumann said the town needs to look at the customers its going to affect and educate them.

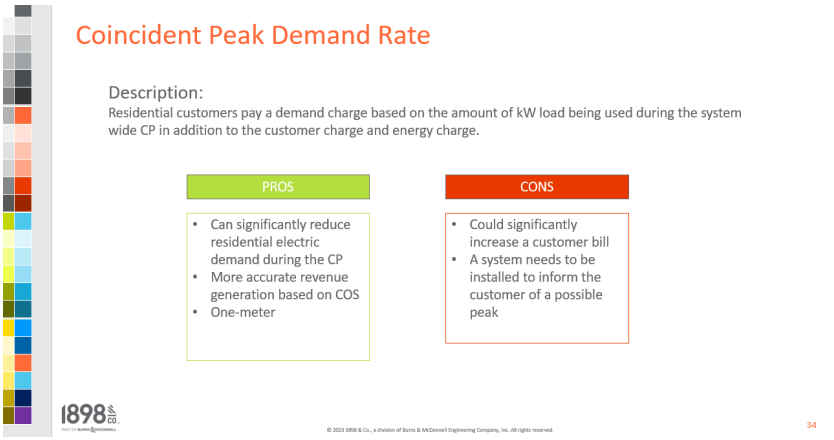
Councilmember Mahaffey said that once the AMI came in, they could see the customers who contribute the most to on-peak usage, and communicate directly with them about potentially changing their energy use habits to lower their bill significantly and decreased the overall peak usage.

Director Neumann said once they get the systems in to capture and utilize this data, they can work with the customers with high energy usages and help them work on that.

Councilmember Mahaffey said he's looking more of a direct outreach to the people as it could likely change their behavior if someone tells them how to save money. He

suggested a pilot program where people can "trial" a time of use program where they would be charged the lower of the two between flat rate and time of use. He said this is complicated, and it would be difficult to get people to fully understand this.

[SLIDE 34]



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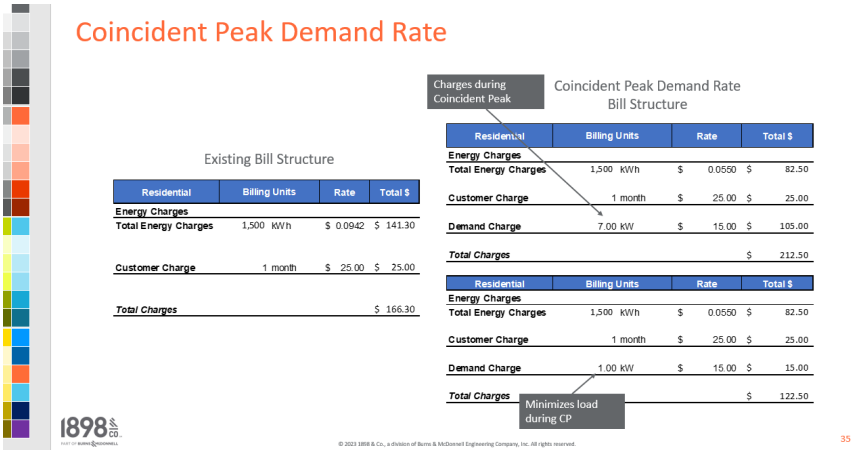

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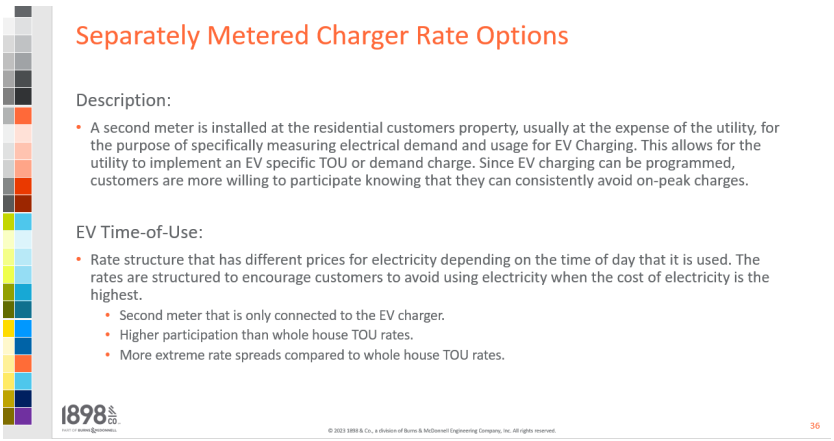


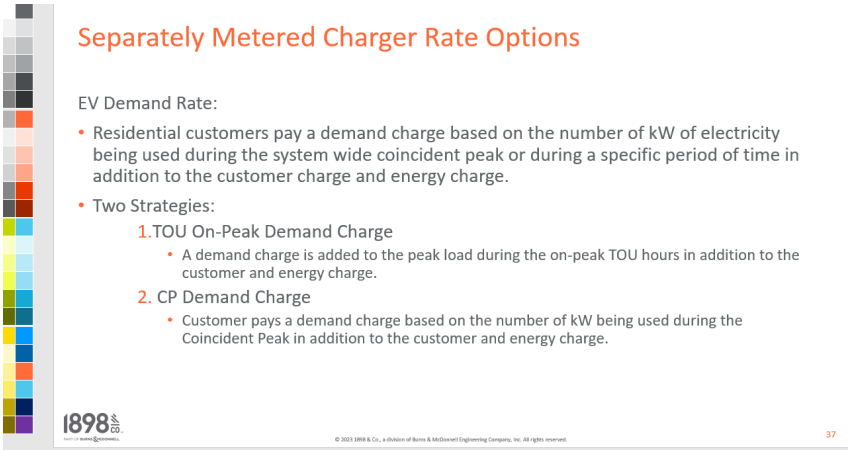
Councilmember Zegerman asked what is the benefit of having a separate meter compared to load management

Mr. Brown said it gives the customer more control, and that they don't have to expose their entire house to time of use. He said load management works well, but has a higher administrative burden.

Councilmember Mahaffey said he would want to hook up as many things as possible to a time of use system knowing what the advantages and timings are. asked how implementable is EV Chargers, and if permits are required.

Assistant Town Manager Stone said if customers are getting a 240 Volt Plug-In. they are supposed to get a permit. He said once we have AMI, that will show who has them.

[SLIDE 37]



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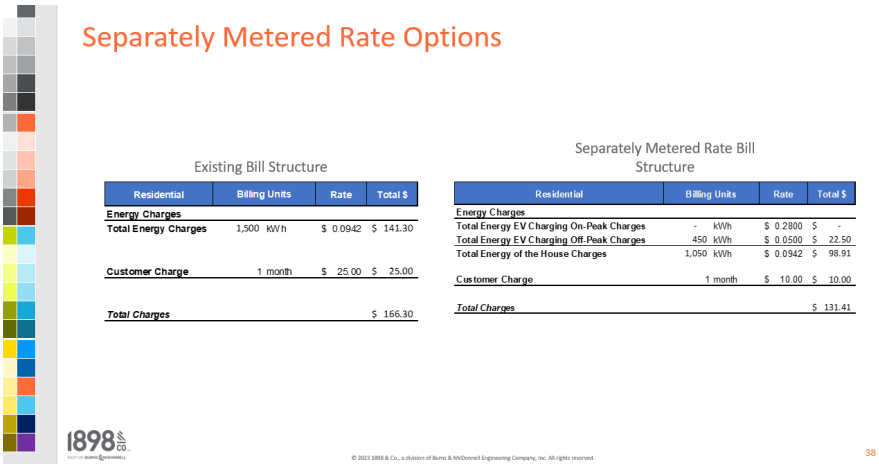

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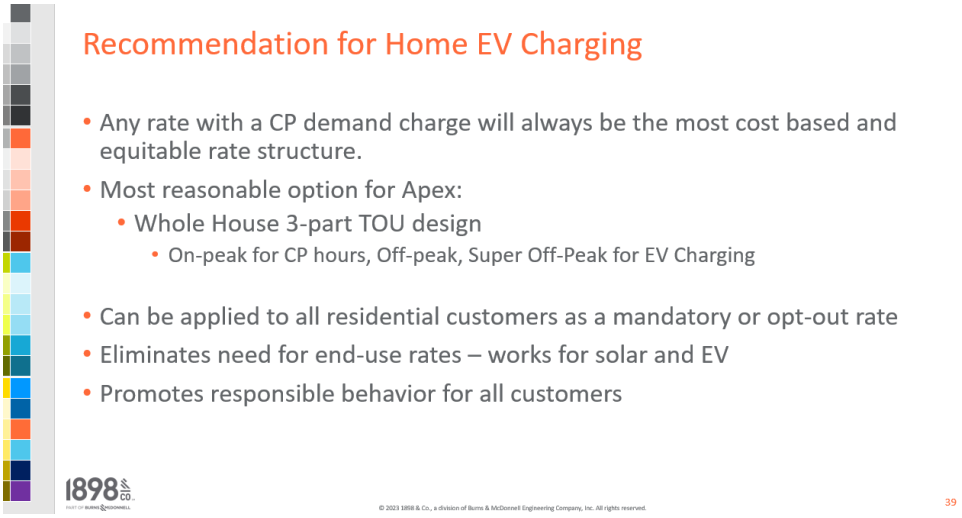
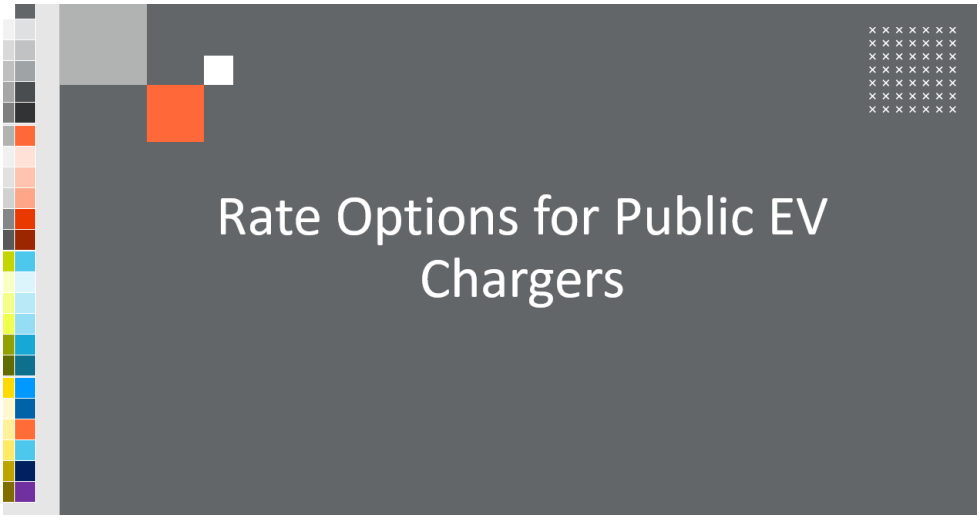


Director Neumann said the CP rate guarantees that the town captures the peak period, and if the system goes to time of use, there may be occasions where peak is going to float into a period that wasn't covered. He said the impact on this would be significant. He said usually the highest demands are going to be in the same time of year and day, but there's still risk that it wouldn't be. He said the CP rate guarantees no risk.

Councilmember Mahaffey said the risk is pushed to the customer and they would get a high bill. He said he thinks it's appropriate for the town to take on the risk and mitigate all customers so no one suddenly gets a high bill.

[SLIDE 40]



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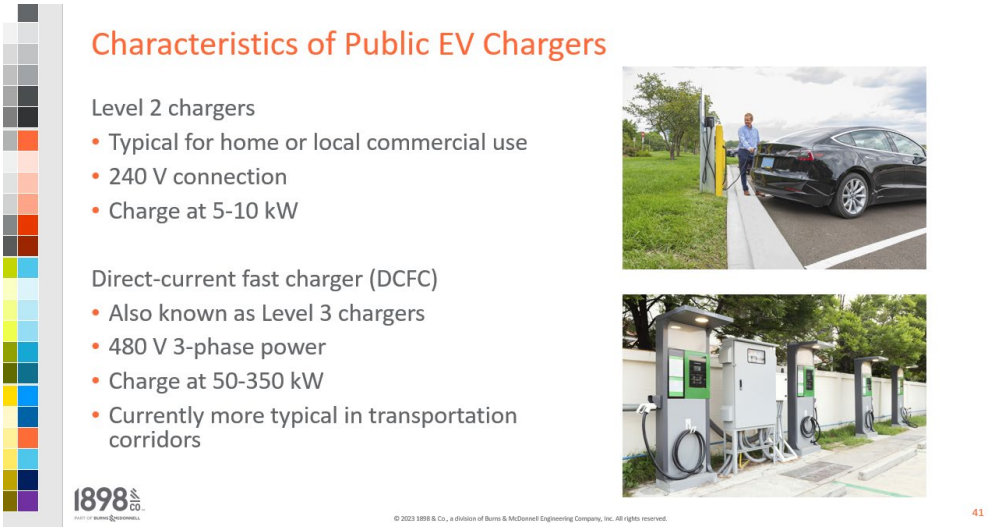
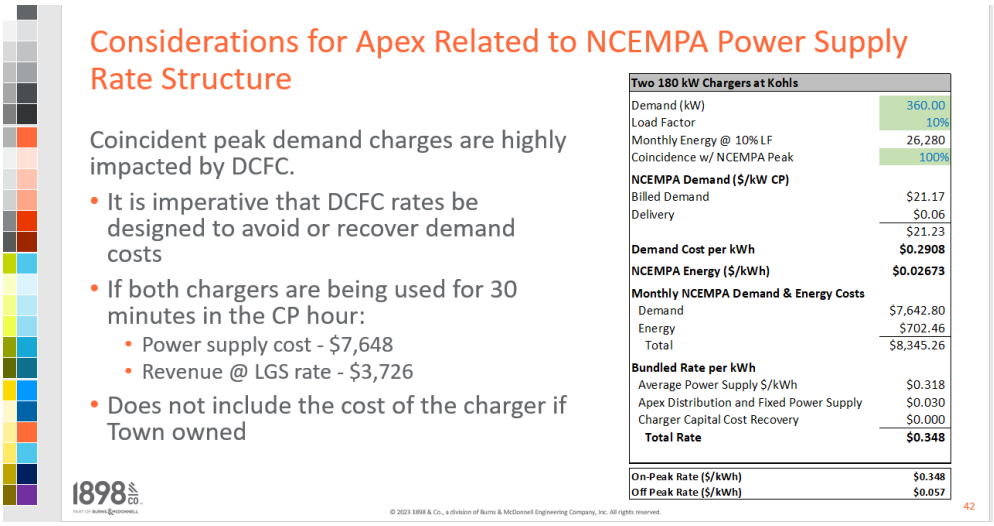


Councilmember Gray gave his perspective since he owns a Tesla. He said if he plugs his car into an ordinary plug he would add five miles every one hour, if he plugs it in a home charger he would add 40 miles, and if he goes to a Tesla supercharger that's operating at 350 kilowatts he would add 300 miles every half hour. He said the middle ground is the level 2 charger.

[SLIDE 42]



[SLIDE 43]

Current Apex Public Chargers

Charger Description		Billing Units			NCEMPA Power Supply Costs			Revenue
		Avg kW Peak	Avg kWh	Load Factor	Demand	Energy	Total Cost	Total Billed
					$ 21.17	$ 0.02689		
EV Charger - Saunders 1 - Public	On Peak	41.4	392	6.3%	$ 10,513.45	$ 126.63	$ 11,516.19	$ 365.63
	Off Peak	43.5	1,652	6.5%		$ 532.99	$ 532.99	$ 1,559.33
EV Charger - Hunter 1 – Public	Total	5.3	89	2.3%		$ 28.80	$ 28.80	$ 85.44
EV Charger - Hunter 2 - Public	Total	3.9	71	2.5%		$ 22.75	$ 22.75	$ 69.68
EV Charger Saunders 2 - Public	On Peak	12.6	379	20.1%	$ 3,199.98	$ 122.43	$ 3,589.08	$ 367.56
	Off Peak	12.9	2,103	28.1%	$ -	$ 678.65	$ 678.65	$ 1,974.84
					$ 13,713.43	$ 1,512.24	**$ 16,368.45**	**$ 4,422.49**

- When chargers are used on-peak and hit the CP, the power supply cost alone is nearly 4 times the revenue received
- This is before any contribution to Apex distribution or customer costs

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[SLIDE 44]

Time-of-Use (TOU) Energy Rates for Public EV Chargers

Description:
High differential TOU rates to capture CP demand costs in the on-peak period
Appropriate for public Level 2 chargers

PROS	CONS
• Better cost recovery method compared to a flat rate • Encourages the EV charger owners to charge EV drivers in a similar manner • Can incorporate seasonality	• Many EV drivers will still charge even with the higher price • The EV charger owners still do not have to charge the EV drivers a TOU rate • On peak periods must be synced with CP

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[SLIDE 45]

Coincident Peak Demand Rates

Description:
The Town's current LGS CP rate is ideal for cost recovery of high demand, low load factor electric loads.
Rate includes CP demand charge, NCP excess demand charge and energy charge.

PROS	CONS
• Accurately recover costs from public chargers that have high capacity with historically low load factors • Strongly encourages EV charger owners to charge EV drivers in a way to avoid the CP. • Based on existing Apex rate	• Has the potential to greatly increase the electric bill of the owner of the EV chargers if they allow charging during the CP • Relies on owner of charger to control peak demand usage

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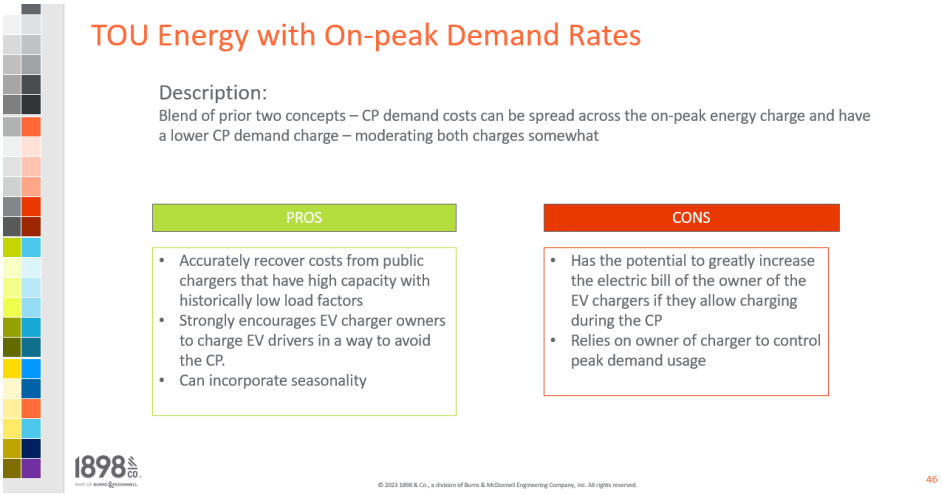
[SLIDE 46]



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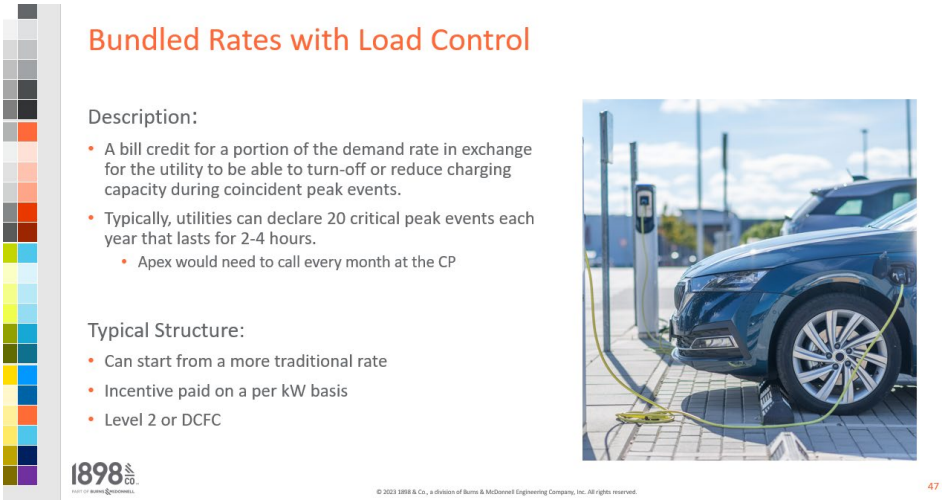


Councilmember Gray usually people who plug in at an EV charger do so because they are on critically low battery. He said since they charge so slow, there's no advantage to using it over one at home He added that the ones on Saunders get a lot of traffic because people can plug in during meals, but even then, they can only add about 20 miles to their range during a meal. He noted that for him as an EV owner, the number one problem and deterrent is the risk of pulling up to a charger and having it not work.

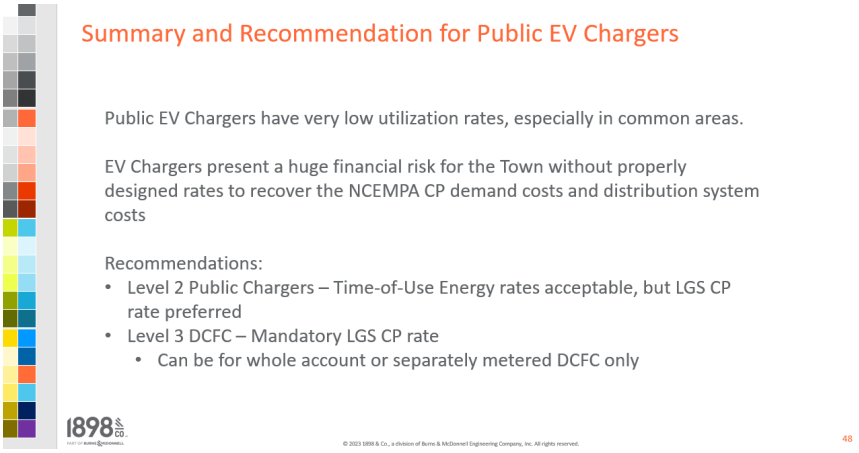
Mr. Brown said level 2 publics chargers could be on time of use, but any business who adopts the level 3 DCFC charger should be mandated to be on the CP rate, in his opinion. He said the CP rate changes monthly in line with the peak, but can't really be predictable. He said if the CP rate was expanded, their would likely need to be good communication with customers to inform them of the possibility of a certain day being on a CP rate.

Councilmember Zegerman asked how to explain to a customer why their rates changed and they got an unexpectedly high bill if they started charging 10 minutes before 8, then left it on until 8:30.

Mr. Brown said the expected rates throughout the day shown on the chargers, they would stay consistent throughout each season and people would have a much better idea of what to expect.

Councilmember Mahaffey said he would want to incentivize private EV station operators to utilize a much higher charging rate.

[SLIDE 48]



[SLIDE 49]

Mayor Gilbert asked if a decision needs to be made or if this is for information only.

Councilmember Mahaffey asked did Council want to try the three-tier time use policy, he said he doesn't want to make it mandatory but nothing is stopping from trying it out.

Mr. Brown suggested to do the certified pilot program this year and they could design the rate.

Director Grogan said these are decisions she needs for the budget. She said right now at a minimum the town is going to have a four percent increase for electric. She said an impact at residential rates that's being looked at is set $25 charge so everyone pays to cover distribution costs and asked that it can't go negative for the year.

Mr. Brown said you could be under one month and it would roll over the next month.

Deputy Town Manager Purvis said an issue with this is that it has been being done manually, and it can't be automated until more resources come into play for the town to use.

Councilmember Gantt clarified that Council was wanting to go one decision at a time.

Councilmember Mahaffey said he was a hard no, as this would position the town as worse than Duke.

Assistant Town Manager Stone said they wanted to get 90 days' worth of cash on hand in case of unexpected energy costs.

Mayor Gilbert said it sounds like a lot of numbers and forecasting and asked if this can be looked at and come back at another time to make a more informed decision

Councilmember Zegerman said he hasn't seen the rate impacts or how it would affect the budget with the rate proposals.

Councilmember Mahaffey said the 4% increase was a 3% pass-through from the supplier, then 1% from the town, which he said was great.

Mayor Gilbert said they have a subject matter expert in the room, and he wanted to know if the discussion would be factoring in demand for solar, of if Council wanted to continue going in the direction they felt was right.

Councilmember Mahaffey said he is listening to the conversation, and he would consider incremental changes to the solar surcharge for non-solar customers. He said he didn't want that charge to get too large for those people, and that wouldn't be fair. He said the town has a chance to learn from Duke and possibly model after them. He said they are moving towards a time of use structure, and he is willing to do that as well over time. He said if the town can change behaviors alongside implementing time of use, it would be a win-win for them and customers.

Director Neumann said one thing to keep in mind there is really no relationship between the town's rates and how Duke does their business model. He said a lot of this conversation consists of "what does Duke do". He said Duke does things for financial reasons and are driven by a lot of other things that the Town of Apex has nothing to do with. He said we cannot make our policy match Duke's; the town does not have those drivers and is not getting compensated. He said the town can keep rates in line with Duke, but right now the town's rates are 13% cheaper than Duke's residential rates.

Councilmember Mahaffey said he wanted to be clear that he wasn't comparing the town to Duke to say any decision they make would also be good for the town. He said he didn't care what their motivation for doing things was. He said what is important is what our citizens see and the comparison of Duke and the Town's bill amount. He said if the town's bill isn't lower than Duke's, then it shouldn't be a public utility. He said the town have to provide better service at lower cost or roughly the same cost to justify the existence of the electric department in the town. He said there was no reason to do any of that if the town wasn't doing better than Duke for rates and value. He said the town is currently much better than Duke, and he wants to stay much better than Duke in every way.

Mayor Gilbert said he really loves that the Town of Apex has their own Electric Utilities. He said if things continue going the direction they are going, the town would lose out on that.

Councilmember Mahaffey said he wouldn't let that happen. He said if it gets to a point where the town is worse than Duke, they could make changes to rectify that.

Councilmember Gantt said Councilmember Mahaffey's position on the electric utilities discussion has made him skeptical the town should continue with providing the public utility. He said he has become concerned about the long-term direction the town is heading.

Councilmember Mahaffey said with the current level of solar subsidy of today, he's comfortable with it. He said he would be growing uncomfortable as it grows, and is willing to consider changes. particularly the time of use changes. He would like to keep an eye on what the number is exactly. He said he was trying to communicate that he is willing to change it in the future but today he doesn't think we have a problem but as the adoption grows it can become a problem.

Councilmember Gantt said the curve looks to be exponential and not linear.

Mayor Gilbert said when it comes to building the budget, people are suffering. He said he gets a lot of calls of people wondering if there is going to be a tax increase or an electric rate increase, and said all those dollars add up and everyone can't afford it. He said he wants to make some adjustments.

Councilmember Gantt said he was ready to start voting on some of these proposals.

Councilmember Zegerman said he felt like the $25 is meaningless unless the budget impact is known. He asked what is the $25 minimum dollar bill going to do for the town. He asked what does it help and what would the offset be on a potential rate increase. He said a complete conversation needs to be discussed and not just about weather $25 is a good number.

Town Manager Crosby asked Councilmember Zegerman if he wants to understand what is the fixed cost rate per customer to understand how that covers our fixed costs for utility.

Councilmember Zegerman said yes.

Town Manager Crosby said right now until the new ERP the town cannot separate the charge and the fix rate because our system does the credit to the bill.

Councilmember Mahaffey said that once the ERP comes into play, the credits that cannot be applied in one month because of the minimum charge could be rolled over to be applied in a different month.

Councilmember Zegerman said the conversation he would like to have is if the town is looking at a four percent increase on electric grades and if it does a $25 minimum, how would it be implemented.

Mr. Brown said the main question for today was if Council was willing to go above the system average for residents based on cost of service. He said case of service is a study which tells how relative the system average to what each class of share of that revenue department is.

Director Grogan said it was found that the large service was subsidizing residential and the plan is to offset that so the different types of services do a cost recovery. That's some of the rates that were looked at from the Finance Committee and had those large general services frozen because the other increase would make up the revenue rate as it is already overcompensating.

Mr. Brown said he would cap it as a percentage of the system average.

Director Grogan asked Councilmember Zegerman what information does he need.

Councilmember Mahaffey said he wanted to be clear this a different conversation than the one they were just on. He said there has been a concern about residential customers subsidizing other residential commercials. He said he thinks it is good that large commercial customers help subsidize residential customers. He said as long as large customers are getting a better deal than if they were with Duke, and it additionally helps residential customers, he likes that overall. He said he doesn't feel a need for larger customers to have a more equitable distribution. He said he does not want to change the deal that people who bought solar panels already have. He said the capital investment they made assumed there would not be something like the 25-dollar minimum charge being proposed.

Director Grogan said there are about 24,000 residential customers, but less than 20 large customers in this conversation.

Town Manager Crosby said there is confusion because some information that was presented to the Finance Committee hasn't been presented to the entire field. She said today the biggest thing is the impact on the budget which is something that will have more discussion on May 5th. She said the three main things that need to be addressed are the rates between LGC and residential customers, the 25-dollar minimum electric fee, and the Solar EV subsidies and their impacts.

Councilmember Zegerman said he wants a comparison between current electric funds and what could be brought in or changed based on possible policy levers. Then based on what he understood he said there needs to be a conversation on how the gaps are going to be closed. He said he can't make a call right now on one specific conversation about one specific grade without all the other numbers. He said he didn't have all the information to make an informed decision.

Councilmember Gray said that's the component of the budget retreat is to talk these discussions out. He said a policy recommendation in terms of how to provide either assistance options like to opt out. He asked Town Manager Crosby to add to the list of discussion topics the feeling that customers with the lowest means have a life raft of sorts for this kind of rate change, and how to manage that through assistance or opt-out options. He said equity is a big part of this conversation, and he wants to ensure that is discussed as well.

Town Manager Crosby asked Council if they would be amenable to splitting up the conversation.

Councilmember Zegerman said the conversation of management costs has not been talked about it. He said if it has, he doesn't know about it. He said the conversation has been centered on the revenue side.

Town Manager Crosby said Finance Committee has.

Councilmember Mahaffey said the number he thought was a 1% increase in operating costs year over year for electric.

Director Grogan said it's higher than one percent. She said the town did substantially reduce expenditures and looked at that and inflation, she said specific requests related to new positions or crews were looked at as part of recommendations.

Councilmember Zegerman said he wasn't part of the Finance Committee and his observation is based on today's conversation. He said it seems he's being asked to make decisions based on partial as incomplete information. He said he cannot do that. He said he needed the full package of information or he would have to be counted out for the vote. He said he can't sit there and say "yeah, this is fine" or "this is not good", since he doesn't understand the complete impact it would have on residents. He said he's frustrated because he's not getting the information needs to make a proper budget decision.

Town Manager Crosby said that this work session technically is not part of the town's budget process, it's a session that was set to circle back on a conversation regarding rates. She said part of the frustration is probably because this is falling in the middle of the budget process.

Councilmember Zegerman said that the conversation was being treated as having budget means. He said Director Grogan is asking about specifics in order to model the budget, which he says makes complete sense. He said because of this being tied in, all information needs to be given before making a decision.

Director Grogan said the meeting was just geared to part of the rate study for the impact of solar subsidies and EV charging because the town is seeing a huge uptick. She said a vote is not necessarily needed but she needs direction on these different things. She's also trying to get some direction in terms of budget because of the draft budget and wants Council informed with all information for them to be prepared on May 5th.

Town Manager Crosby said the challenge is there are two conversations going on, one is a conversation is being followed up from last year and then secondly, she's following up from the Personnel Meeting. She said to Councilmember Zegerman that's why he's missing some information, since not everyone was in on the previous discussions.

Councilmember Zegerman said they need to develop a viewpoint on how to handle these discussions will have an impact in the future.

Councilmember Mahaffey said he felt they had, with the discussion around time of use.

Councilmember Zegerman said yes that is true, but there hasn't been a follow up on everything such as what would happen with the 25-dollar minimum fee.

Mayor Pro Tempore Killingsworth said it use to be a day and a half of budget retreat where Council would combine all this information into that day and decide based on that policy or budget related item. She said spreading it out like this is better for everybody that we don't have to spend a day and a half analyzing all this stuff all at once. She said it's not about giving feedback, it's about seeing where the policy is and getting the information needed so Council can form a direction to go in. She said the information Councilmember Zegerman is looking for is going to come in the next budget session, and that is based on some of the background information that has been talked about.

Councilmember Zegerman said he's not part of the Finance Committee or the Personnel Committee so some of the documentation and information being referenced he has not seen, and so he doesn't know what to do with what he is being asked.

Councilmember Gray said something that had been done before with stormwater is a conversation that was had in committee was determined to be useful to expand to the larger body. He said the issue ultimately needs to be addressed in the budget meeting. He said getting the information earlier helps Council understand things before it's being discussed in a budget meeting.

Councilmember Zegerman asked if a decision needed to be made or if the conversation could move on for now.

Deputy Town Manager Purvis said this information will help build out a plan because the systems needed to fully implement these discussions aren't available yet, such as the ERP and the AMI that are expected down the road. He said talking about it now helps plan out for the future. He said the immediate effect is that the town is not changing the rate structure, the rates might change, but the structure will stay the same.

Mayor Pro Tempore Killingsworth said the next time Council talks about solar or any changes that policy and things like the size of the system could also be discussed as possible limitations.

Deputy Town Manager Purvis said there's a lot of factors that go into this discussion. He to set the future model rate, they need to know what model is going to be used.

Councilmember Zegerman said now that Council has all these variables in play, scenarios should be run. He said it was a great presentation and that he learned a lot. He said he wanted to understand how far the spread between time of use rates should be in various versions.

[SLIDE 50]

[CLOSED SESSION]

A **motion** was made by **Mayor Pro Tempore Audra Killingsworth,** seconded by **Councilmember Arno Zegerman,** to go into Closed Session pursuant to:

NCGS § 143-318.11 (6)

"To consider the qualifications, competence, performance, character, fitness, conditions of appointment, or conditions of initial employment of an individual public officer or employee or prospective public officer or employee; or to hear or investigate a complaint, charge, or grievance by or against an individual public officer or employee."

VOTE: 5-0 (UNANIMOUS)

Council entered into closed session at 5:48 p.m.

Council returned into open session at 6:21 p.m.

[ADJOURNMENT]

Mayor Gilbert declared the meeting adjourned at 6:21 p.m.

Jacques K. Gilbert
Apex, Mayor

Allen Coleman, CMC, NCCCC
Apex, Town Clerk

Submitted for approval by Apex Town Clerk Allen Coleman.

Minutes approved on _____ of _____, 2023.

DRAFT MINUTES

TOWN OF APEX
REGULAR TOWN COUNCIL MEETING
TUESDAY, APRIL 25, 2023
6:00 PM

The Apex Town Council met for a Regular Town Council Meeting on Tuesday, April 25, 2023 at 6:00 PM in the Council Chambers at Apex Town Hall, located at 73 Hunter Street in Apex, North Carolina.

This meeting was open to the public. Members of the public were able to attend this meeting in-person or watch online via the livestream on the Town's YouTube Channel. The recording of this meeting can be viewed here: https://www.youtube.com/watch?v=fbUCRG149Wo

[ATTENDANCE]

Elected Body
Mayor Pro-Tempore Audra Killingsworth (presiding)
Councilmember Brett Gantt
Councilmember Ed Gray
Councilmember Terry Mahaffey

Absent: Mayor Jacques K. Gilbert **and** Councilmember Arno Zegerman

Town Staff
Town Manager Catherine Crosby
Deputy Town Manager Shawn Purvis
Assistant Town Manager Marty Stone
Town Attorney Laurie Hohe
Town Clerk Allen Coleman
Deputy Town Clerk Ashley Gentry
Planning Director Dianne Khin
All other staff members will be identified appropriately below

[COMMENCEMENT]

Mayor Pro Tempore Audra Killingsworth called the meeting to order and welcomed all those attending and watching on livestream. She wanted to remind people that Apex was currently celebrating its 150th year. She discussed the Think Apex initiative, which helps celebrate those who make a difference in Apex, and encourages other to do so as well. She said Apex was made stronger by the variety of individuals that live here. She asked people to think about how they have given, how they do give, and how they will give to the Town of Apex. She said the town sees diversity as a strength, and asked everyone to join her in observing a personal moment of silence.

Mayor Pro Tempore Killingsworth then led Council and those in attendance in a recitation of the Pledge of Allegiance.

[SLIDE 1]

[CONSENT AGENDA]

A **motion** was made by **Councilmember Ed Gray,** seconded by **Councilmember Terry Mahaffey,** to approve the Consent Agenda as presented.

VOTE: 4-0 (UNANIMOUS)

CN1 Agreement - Converge One - Microsoft Teams Phone Services (REF: CONT-2023-098)

Council voted to approve a three-year Agreement between the Town and Converge One as a vendor to provide telephone services and to authorize the Town Manager to execute the agreement on behalf of the Town.

CN2 Agreement – Supplement No. 4 - North Carolina Department of Transportation (NCDOT) - Lake Pine Drive Improvements - Completion Date 12/31/2024 (REF: CONT-2023-099)

Council voted to approve a 4th Supplemental Agreement with NCDOT to extend the project completion deadline to 12/31/24 for U-5537, Lake Pine Drive Improvements, and to authorize the Town Manager to execute the agreement on behalf of the Town.

CN3 Agreement - North Carolina Department of Transportation (NCDOT) - Saunders St and Hinton St Sidewalk Project - BL-0095 (REF: CONT-2023-100)

Council voted to approve a Review and Oversight Agreement with NCDOT for design review and project oversight activities for project BL-0095, Saunders St and Hinton St Sidewalk, requiring payment of a $10,000.00 deposit, and to authorize the Town Manager to execute the agreement on behalf of the Town.

CN4 Contract Technical Amendment - Itron, Inc. - Water and Electric Meter Software (REF: CONT-2023-101)

Council voted to approve the Amendment to the Itron Field Deployment Manager (FDM) and Field Tools Agreement and to authorize the Town Manager to execute the Amendment on behalf of the Town.

CN5 Council Meeting Minutes – Various

Council voted to approve, as submitted or amended, the Regular Town Council Meeting Minutes of April 11, 2023.

CN6 Design and Development Manual Updates (REF: OTHER-2023-038)

Council voted to approve the removal of details from the Design and Development Manual that were added to the Standard Specifications and Standard Details on February 28, 2023.

CN7 Encroachment Agreement - 2553 Silas Peak Lane Lot 30 (REF: CONT-2023-102)

Council voted to approve an encroachment agreement between the Town and property owner Upright Builders, Inc to install a driveway that will encroach 55 square feet (SF) onto the Town of Apex 20' Public Drainage Easement and authorize the Town Manager to execute the same.

CN8 Enterprise Resource Planning (ERP) System - Various Agreements, Budget Ordinance Amendment No. 16 and Capital Project Ordinance Amendment No. 2023-7 (REF: ORD-2023-033, ORD-2023-034, VARIOUS CONTRACTS)

Council voted to approve enterprise resource planning (ERP) system contracts, authorize the Town Manager to execute said contracts, and approve corresponding Budget Ordinance Amendment No. 16 and Capital Project Ordinance Amendment No. 2023-7.

CN9 Surplus Badge and Service Weapon - Retiring Police Officer Joseph S. Gianni

Council voted to declare one (1) badge and (1) service weapon (Glock Model 17 9mm handgun, Serial Number XTA-784) as surplus property; and, award to Retiring Officer Joseph S. Gianni who retired from the Apex Police Department.

[PRESENTATIONS]

PR1 Proclamation – Apex Small Business Week – April 30 through May 6, 2023 (REF: PRO-2023-011)

Mayor Pro Tempore Killingsworth and the rest of Council read the Apex Small Business 2023 Proclamation in unity.

Colleen Merays, Small Business Manager, invited up the owner of Apex Gallery in Downtown Apex, Nick Bryant, to receive the proclamation.

Mr. Bryant then gave a few comments, saying on behalf of the downtown businesses and other small businesses in Apex, they appreciate the town's support and look forward to its future support. He encouraged people to continue shopping in Apex.

PR2 Proclamation – Civilian Law Enforcement Professionals Week – April 23 through April 29, 2023 (REF: PRO-2023-012)

Mayor Pro Tempore Killingsworth, along with the rest of Council, then read the Civilian Law Enforcement Professionals Week 2023 Proclamation in unity.

Police Chief Jason Armstrong then accepted the proclamation, and expressed his gratitude to Council for accepting their request to acknowledge the Civilian Law Enforcement Professionals. He said there are a lot of people who contribute to keeping the community safe, and he said he appreciated Council committing to recognizing them.

PR3 Proclamation - Public Service Recognition Week - May 7 through May 13, 2023 (PRO-2023-013)

Mayor Pro Tempore Killingsworth, along with the rest of Council, read the Public Service Recognition Week 2023 Proclamation in unity.

Mary Beth Manville, Human Resources Director, wanted specifically recognized Town of Apex employees present, and asked them to stand and be recognized. She thanked everyone for their support of town employees.

PR4 Proclamation – Think Apex Day – Saturday, April 29, 2023 (PRO-2023-014)

Mayor Pro Tempore Audra Killingsworth, along with the rest of Council, read the Think Apex Day 2023 Proclamation in unity.

Barbara Belisic, Small Business Specialist, introduced a representative from Cambridge Village, and Tim Ahler, President of Western Wake Crisis Ministry, who are recipients of two of the activities at Think Apex Day. They accepted the proclamation.

Mr. Ahler thanked the Council for their support of Western Wake Crisis Ministry, and encouraged everyone to come volunteer and help in their work.

Ms. Belicic added that residents can find the Think Apex website by googling "Think Apex" **(NOTE:** Think Apex Website Link - https://www.apexnc.org/946/Think-Apex)

[REGULAR MEETING AGENDA]

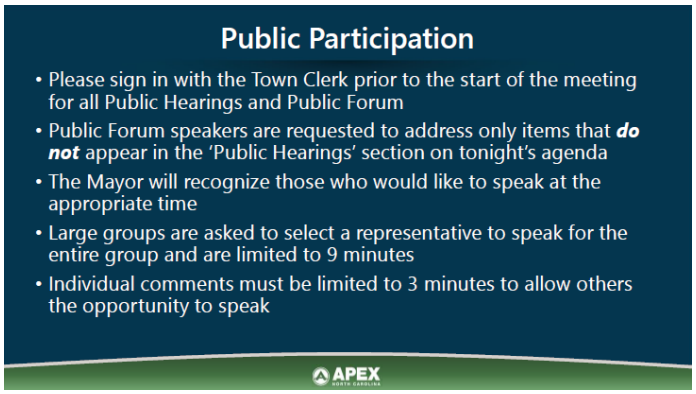
A **motion** was made by **Councilmember Ed Gray,** seconded by **Councilmember Brett Gantt,** to approve the Regular Meeting Agenda as presented.

VOTE: UNANIMOUS (4-0)

[PUBLIC FORUM]

(**NOTE:** To view sign-up sheets, see **OTHER-2023-040**)

[SLIDE 2]



First to speak was **Ashley Solis** of 1272 Brown Velvet Lane (**NOTE:** Ms. Solis provided handouts to Council - **REF: OTHER-2023-039)**

"Sort of the continuation of the last five time we've been here, I kind of collated everything that we're requesting from the Town. Where we would like some painted crosswalks put in, rectangular rapid flashing beacons, I know that's been something that's been newly installed at different intersections in Apex, it seems to be successful. Still with the reduction of the speed limit between, we're asking specifically that Richardson between US 64 and Olive Chapel, from 45 to 35. And that wouldn't be all of Richardson, just that specific stretch. We're also asking, the more I'm researching and looking into this, bringing in specifically a pedestrian safety consultant of some kind, because I know everyone is doing the best they can, but if they're not trained specifically for pedestrian, I'm not as concerned with city traffic, I'm concerned with children on the street getting hit. And the main presser for this is, I'm really hoping we can get this done before Richardson is turned out to Departments of Transportation, because I think we all know it's dead in the water then, we'll never get anything done. So, there's a lot going on, and I feel it's the town's responsibility because the commercial site

of Sweetwater was approved, and it's awesome and I can't wait, but with that you can't approve outdoor venues, outdoor concert areas, farmer's markets, and all these things and not do anything for safety, and I don't think anyone did this on purpose, but we know it's a problem, so there's a huge amount of liability and pressure that I feel as a concerned citizen, and I'm sure you feel, for the safety of the kids in Apex. The apartments will be done at the end of this year, one of the buildings, and that's 240 additional units. So that's more traffic, more kids, more families crossing the street to get to the food trucks, more families crossing to get to the pool which open in 3 weeks for us, so it may not seem like it, but this is an extremely pressing matter, and I would ask that you consider making at least several of these in the interim. It's not that hard to paint lines for crosswalks, and then maybe we can get somebody out there to look at doing the flashing crosswalks. Because that wouldn't interfere with anything, unless someone is crossing the street. As you know from the speed study, there's over 4,000 cars a day going through, and I don't even want to tell you how much that is going to increase after 64 is open back up, and after the commercial site is in. I've noticed increased police presence in Abbington and Linden around us as Richardson has been closed for construction, and if they're having problems with people speeding through their neighborhoods, we've just shifted our problem to them for a little while. And it'll be our problem again in 6 weeks when Richardson opens back up. So, I'd ask you to seriously consider it, and again if anyone else wants to come out and take a look sometime, I would be happy to show you. Thank you."

Next to speak was **Marvin Hymanson** of 2907 Sunflower Road:

"Good Evening, Mayor Pro Tem and Town Councilmembers. Thank you for giving me the opportunity to speak. I would like to make 4 quick points. I am here to promote safety on Richardson Road, in support of my fellow residents of Smith Farm, and nearby Sweetwater development that are sitting in the back. As I stated at the last meeting, the schools in Wake County are at capacity, and it will take years to build them, so why are we allowing such rapid growth in the community? There needs to be an ordinance amendment that if we don't have adequate room in the schools, no new development should be approved. There also needs to be more family-friendly activities in Apex. We, as a town, need to prove family-friendly developments, such as putt-putt golf, bowling, rope courses as examples, and cultural events such as movies, concerts and live theater, similar to what Cary is also developing. Finally, I would like to know why Apex Peakway is not completed after the bonds have been approved. Thank you for your time, I appreciate the opportunity to speak."

With no more sign-ups for public forum, **Mayor Pro Tempore Killingsworth** moved the meeting to Public Hearings.

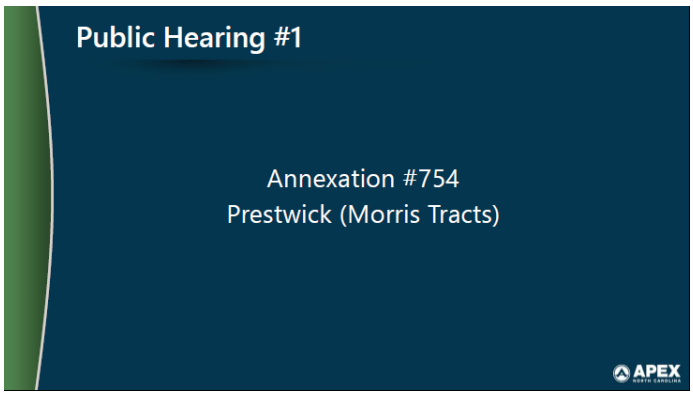
[PUBLIC HEARINGS]

(**NOTE:** To view sign-up sheets, see **OTHER-2023-040**)

PH1 Annexation No. 754 - Prestwick (Morris Tracts) - 14.129 acres (REF: ORD-2023-035)

Dianne Khin, Planning Director, gave the following presentation regarding Annexation No. 754 – Prestwick (Morris Tracts). She said staff recommended approval.

[SLIDE 3]



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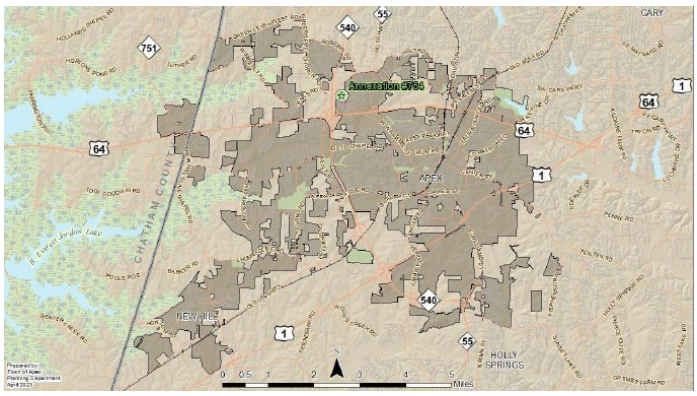

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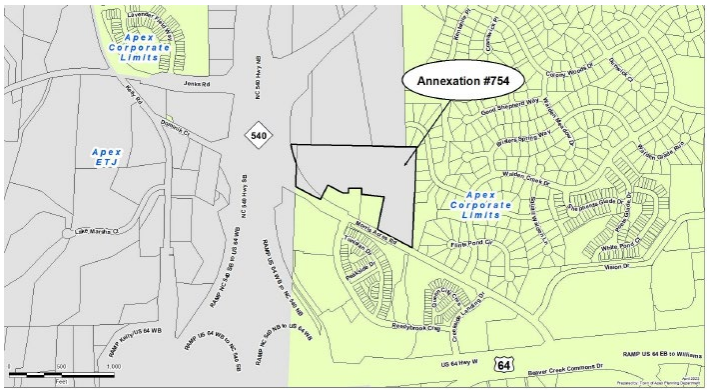

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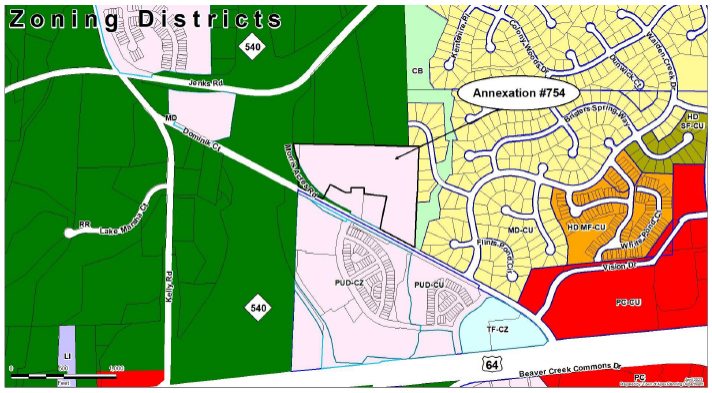

Mayor Pro Tempore Killingsworth opened public hearing for this item. With no sign ups, she closed public hearing and moved discussion back to Council.

A **motion** was made by **Councilmember Ed Gray,** seconded by **Councilmember Terry Mahaffey,** to adopt Annexation No. 754 – Prestwick (Morris Tracts).

VOTE: 4-0 (UNANIMOUS)

PH2 Rezoning Case No. 23CZ01 – Cash Corporate Center (revised uses)

Amanda Bunce, Current Planning Manager, gave the following presentation on Rezoning Case No. 23CZ01 – Cash Corporate Center (Revised Uses). She offered to answer any questions Council had.

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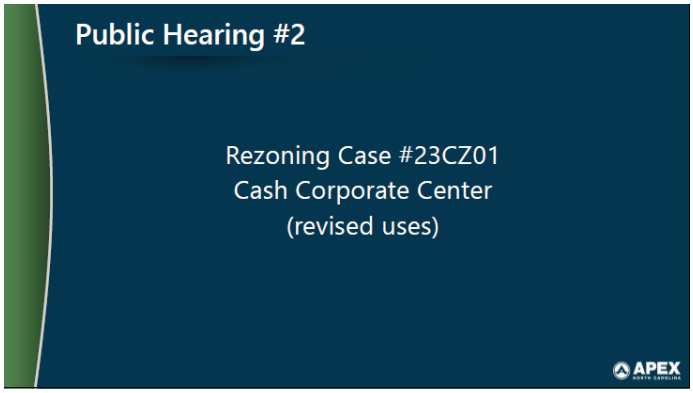

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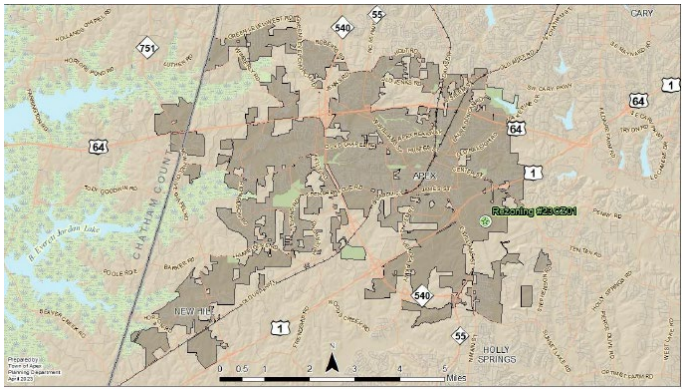

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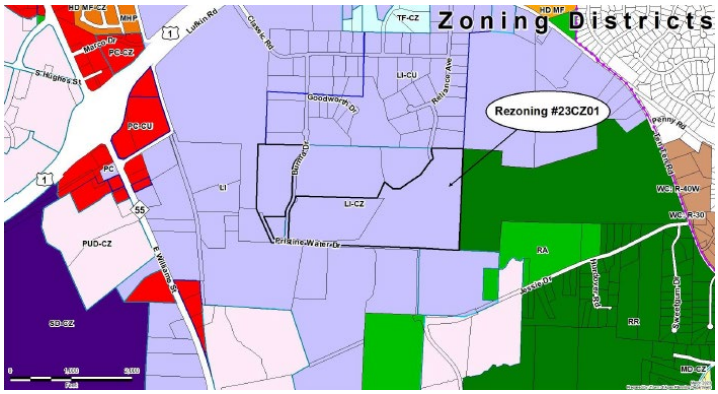

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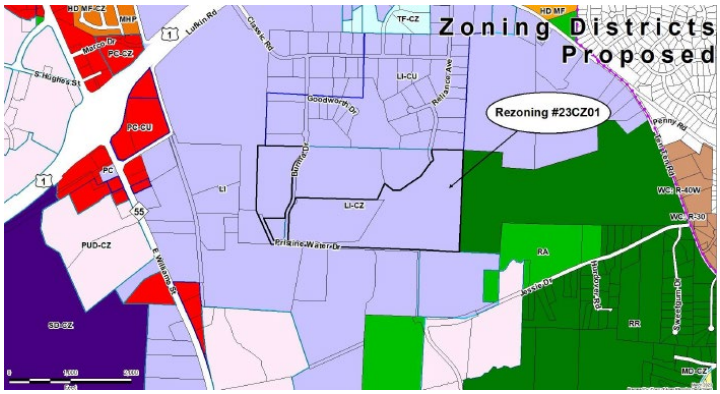

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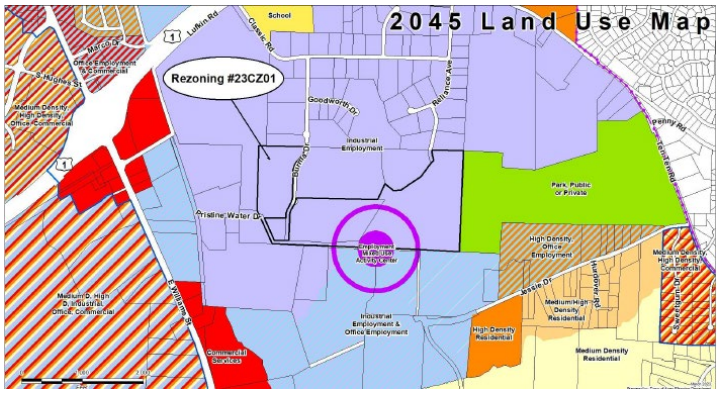

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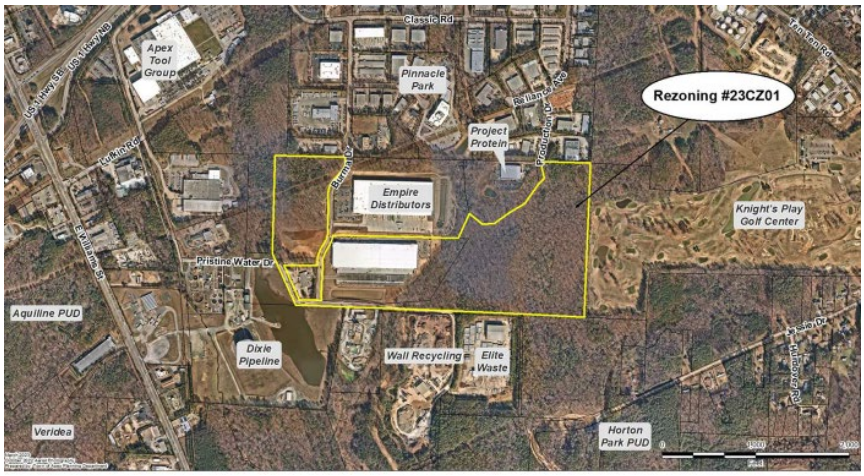

Councilmember Gantt asked about the thought process behind adding new uses versus the new uses bringing in less "good jobs".

Ms. Bunce said they looked at the proposed uses, and one of the issues they were seeing was having to evaluate uses that were essentially a blend of multiple uses. She said providing additional flexibility makes it easier for certain businesses to locate within Cash Corporate Center. She said the list of proposed uses was reviewed with the Economic Development Director, and staff worked with the applicant to shorten the list to what they felt was appropriate to provide flexibility for the parcels.

Ashley Honeycutt Terrazas of Parker Poe, on behalf of the applicant, gave a presentation.

Mayor Pro Tempore Killingsworth opened public hearing for this item. With no sign-ups, she closed public hearing and moved discussion back to Council.

Councilmember Gray said the initial plan for Cash Corporate Center was to attract more human-capital based businesses, but that it's important to note that the market is shifting the desired uses to something consistent with the zoning plan, but just outside of permitted uses. He said the additional proposed uses are still consistent with the current zoning policy. He said it will attract additional businesses outside of the original vision of what the development would be, but that they are making it an attractive spot for supporting businesses here or other regional businesses. He feels like this is something they should be able to support, and he would be voting in favor.

A **motion** was made by **Councilmember Ed Gray,** seconded by **Councilmember Terry Mahaffey,** to approve Rezoning Case No. 23CZ01 – Cash Corporate Center (Revised Uses).

VOTE: 4-0 (UNANIMOUS)

PH3 Rezoning Case No. 23CZ02 Triangle Home Services Phase II

Shelly Mayo, Planner II, gave the following presentation on Rezoning Case No. 23CZ02 – Triangle Home Services Phase II. She said staff recommends approval. She offered to answer any questions.

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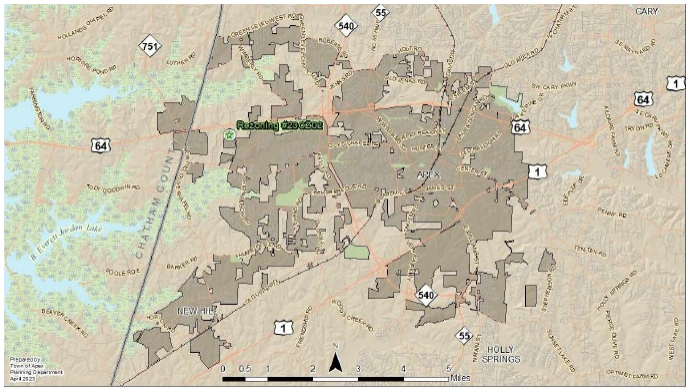
[SLIDE 16]



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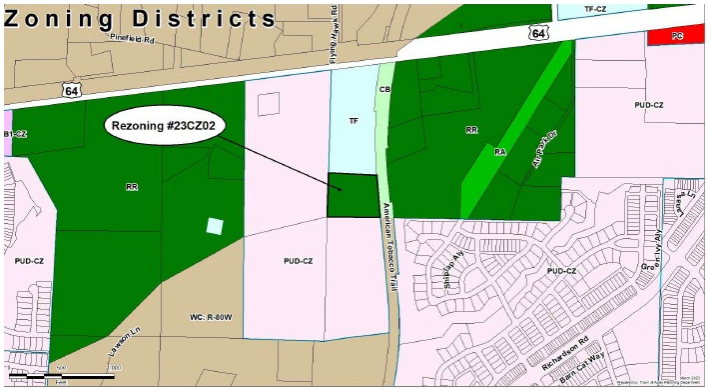

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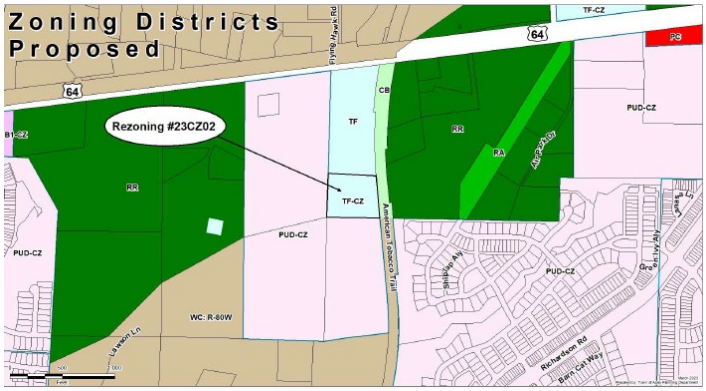

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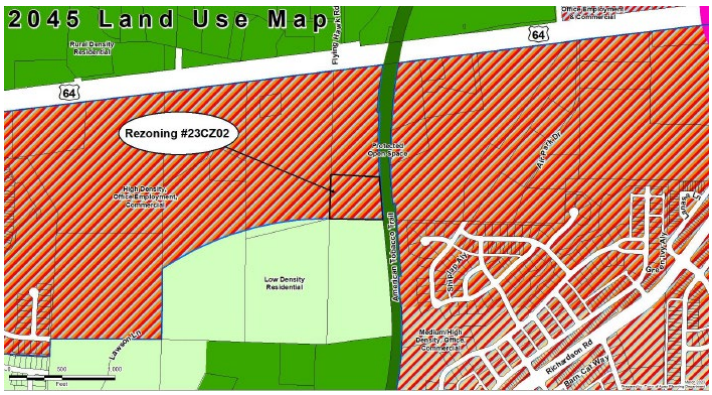

[SLIDE 21]

Mayor Pro Tempore Killingsworth asked if this property provides connectivity to the parcel where there might be a school, or if there's another parcel that needs to be added in before that happens.

Ms. Mayo said this parcel is immediately adjacent to the one that would have the school. She said it was highly unlikely the applicant would be willing to do that, because they have access to the future major collector on the western side of their parcel. She said they are participating in the construction of that road and sharing the right-of-way with Legacy along their shared north-south property line.

Councilmember Gantt said it seemed like the uses would bring in a lot of truck traffic. He wondered about what planning thought regarding that kind of use within tech-flex in close proximity to future apartments. He asked if there was potential for heavy trucking across the street from residential areas, and how does planning evaluate that.

Ms. Mayo said the parcel to the north was zoned as Tech-Flex without any additional conditions. She said on this site, they were looking to have the applicant remove uses to make certain that if the two properties develop together, that anything that results from the combined development is appropriate for the area. She said by restricting some uses on this site, they de facto restrict those uses on the northern site as well, since any use that isn't appropriate in one zone can't be in the other zone at all through the combined development.

Councilmember Gantt asked if both parcels had been included in this rezoning, would the equation have been different for some of the uses suggested in this one.

Ms. Mayo said that was difficult to say, since this was Tech-Flex, but that most of the uses they took out were heavier trucking options. She said warehousing generally doesn't bring in much traffic, since it is separate from distribution centers now.

Councilmember Gantt asked if there were examples in Apex that could help illustrate that point.

Ms. Mayo said there were several near Pristine Water Drive, one off of Lufkin near 55, and that there are multiple sections within the warehouses for different companies, and there is minimal traffic to and from those locations. She said it's normally a handful of trucks on a daily basis.

Jeff Roach, of Peak Engineering and Design, gave a presentation. He offered to answer any questions.

Councilmember Gantt asked him to remove self-storage, even if it's only for parking and SCM. He asked if that was under consideration.

Mr. Roach said they wanted to leave it just in case they use it. He said he and the owners see the property as more of office-type uses, but they want to leave their options open.

Mayor Pro Tempore Killingsworth opened public hearing for this item. With no sign-ups, she closed public hearing and moved discussion back to Council.

Councilmember Mahaffey said he views this as a simple matter. He said they already own the parcel to the north which has been zoned as Tech-Flex, and what they're proposing is compatible with that. He said this was a small addition to that. He said under different conditions he may give them more of a hard time, but he feels this is different to a case where they are looking at a completely new property and fundamentally changing the uses of the area.

Councilmember Gray said he was viewing it the same way. He said it is just a continuance of the use on the north side. He said it's a consistent use, and cleans up a donut hole.

Councilmember Gantt said he doesn't like self-storage, and the self-storage unit would be smaller if they didn't allow them at all. He said in his opinion, self-storage is a waste of land. He said he would be voting no.

A **motion** was made by **Councilmember Gray,** seconded by **Councilmember Mahaffey,** to approve Rezoning Case No. 23CZ02 – Triangle Home Services Phase II.

VOTE: 3-1, Councilmember Gantt dissenting

PH4 Rezoning Case No. 23CZ03 Veridea Expansion

Amanda Bunce, Current Planning Manager, gave the following presentation regarding Rezoning Case No. 23CZ03 – Veridea Expansion. She said staff recommended approval, and offered to answer any questions.

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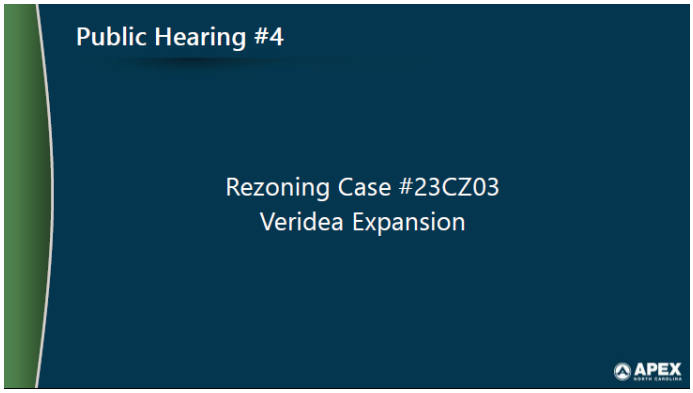

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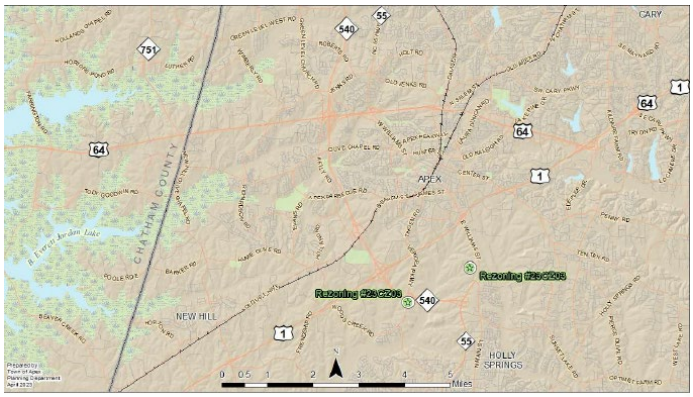


[SLIDE 24]

Councilmember Gantt asked if staff has been approached by any landowner within 2000 feet from this property, but not connected to the main development, that wanted join on this special zoning, and if so, how would planning would deal with that.

Ms. Bunce said they have not been approached by anyone yet who meets the criteria and would be a satellite property within this zoning. She said staff would have to evaluate things based on where the property was. She said she couldn't see a situation where a property with a request like that would be completely detached from this property.

Councilmember Gantt asked if any property owner would be entitled to ask for those zoning conditions within 2000 feet, even if they were disconnected.

Ms. Bunce said they would be entitled to ask for it, but they would still need to come to Council to receive approval.

Jason Barron of Morningstar Law Group, gave a presentation and offered to answer any questions.

Mayor Pro Tempore Killingsworth opened public hearing for this item. With no sign-ups, she closed public hearing and brought discussion back to Council.

Councilmember Mahaffey said he called this case "viral zoning", because of how it expands to other properties.

Councilmember Gantt said he hoped it would be a helpful virus.

A **motion** was made by **Councilmember Brett Gantt,** seconded by **Councilmember Terry Mahaffey,** to approve Rezoning Case No. 23CZ03 – Veridea Expansion.

VOTE: 4-0 (UNANIMOUS)

[UPDATES FROM TOWN MANAGER]

Town Manager Catherine Crosby wanted to reiterate what Director Manville communicated about public service. She said she is grateful to work on a stellar team that contributes so much to the town. She said the town will be celebrating employees in a couple of weeks. She said there would be some cool t-shirts and other things that employees will receive. She wanted to congratulate Fire Chief Tim Herman and the new cadets, who were sworn in on Friday. She said hopefully soon they will be in their new fire station. She encouraged everyone to come out Saturday for Think Apex Day, and that it would be a great opportunity to give back to the community. She said the public could go to the town's website to find a link for "Peak Connections", which is an opportunity for residents and stakeholders to schedule time with her. She said the list of times will be updated every month, and that anyone who wishes to speak with her or get to know her was welcome.

Mayor Pro Tempore Killingsworth said she wanted to go down the line of Council, and ask what groups they have been meeting with or what other things they have been doing in the community over the past few weeks.

Councilmember Gray thanked the Apex Youth Council for being present for another meeting, and that is inspiring to see them involved in government. He led a round of applause for them.

Councilmember Mahaffey said the firefighter swearing-in ceremony was great. He said he had the opportunity to meet with artists at the Apex Art Walk at the Halle Cultural Arts Center. He said there were some local people participating this year. He said an app should be coming out soon that will provide a tour of the Halle. He said EarthFest was some fantastic last-minute changing of plans by staff to accommodate for weather, and that the event turned out great. He said there was cool vendors and a lot of attendance. He said he spoke with a lot of constituents at Council's booth, and was looking forward to the event next year.

Councilmember Gantt said he helped organize Pig Fest through his work with Apex Sunrise Rotary Club, and noted how great the town was to work with for festivals. He said he heard good things about staff interactions and their quality. He said he was looking forward to PeakFest, and encouraged everyone to appreciate town staff for the work they put into festivals.

Mayor Pro Tempore Killingsworth mentioned PeakFest and the upcoming Home Repair Fair. She said it is being hosted May 4th at the Apex Senior Center, and would help inform and help people regarding making repairs to their home through affordable means. She encouraged everyone to take a look at the Apex website to see all of the upcoming events, and mentioned the 150th year Passports, which provide a way to participate in these events and earn passport stickers to earn memorabilia.

[ADJOURNEMENT]

Mayor Pro Tempore Killingsworth declared the meeting adjourned at 7:09 PM

Jacques K. Gilbert
Apex, Mayor

Allen Coleman, CMC, NCCCC
Apex, Town Clerk

Submitted for approval by Apex Town Clerk, Allen Coleman.

Minutes approved on _____ of _____, 2023.

| Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA

Meeting Date: May 9, 2023

Item Details

Presenter(s): Chris Johnson, PE, MPA, Transportation & Infrastructure Development Director

Department(s): Transportation & Infrastructure Development

Requested Motion

Motion to approve an encroachment agreement between the Town and property owner Taylor Morrison of Carolinas, Inc. to install a driveway that will encroach 9 square feet (SF) onto the Town of Apex 20' Public Storm Drainage Easement and authorize the Town Manager to execute the same.

Approval Recommended?

Yes

Item Details

The proposed Encroachment Agreement is between the Town and property owner Taylor Morrison of Carolinas, Inc. (Grantee) for the property described as a residential lot known as Wake County PIN #0722-76-7803, Book of Maps 2021, Page 01569, lot is also known as 1718 Wimberly Road, Apex, NC 27523. Grantee wishes to install certain improvements, more particularly described as a driveway that will encroach 9 square feet (SF) onto the Town of Apex 20' Public Storm Drainage Easement.

Attachments

- CN4-A1: Encroachment Agreement – 1718 Wimberly Road Lot 181
- CN4-A2: Exhibit A - Encroachment Agreement – 1718 Wimberly Road Lot 181

After Recording Mail To: Development Services
Town of Apex
PO Box 250
Apex, NC 27502

STATE OF NORTH CAROLINA **ENCROACHMENT AGREEMENT**
COUNTY OF WAKE

THIS ENCROACHMENT AGREEMENT, being made this _____ day of _____, 2023, by and between Taylor Morrison of Carolinas, Inc. hereinafter referred to as "Grantee," and the Town of Apex, hereinafter referred to as the "Town."

WHEREAS, the Grantee is the owner of a certain residential lot of land in the County of Wake, State of North Carolina, which is designated as **PIN #0722-76-7803** by the Wake County Revenue Department and more particularly described as **Lot 181** of the subdivision known as **Townes at Westford Phase 3B** as shown on that certain plat recorded in **Book of Maps 2021, Page 01569**, Wake County Registry (hereinafter the **"Subdivision Plat"**). The residential lot is also known as **1718 Wimberly Road, Apex, NC 27523.** The residential lot described in this paragraph is hereinafter referred to as the **"Residential Lot."**

WHEREAS, the Town is the owner of a **20' Public Storm Drainage Easement** as shown on the **Subdivision Plat** hereinafter referred to as the **"Public Storm Drainage Easement".**

WHEREAS, Grantee wishes to install certain improvements more particularly described as a **driveway that will encroach 9 square feet (SF) onto the Public Storm Drainage Easement,** which serves the Residential Lot, hereinafter referred to as the "**Encroachment**", all as shown on the attached **Exhibit A**. Grantee desires to make certain agreements and covenants regarding the Encroachment.

WHEREAS, the Town, under the terms and conditions herein set forth, is willing to allow the above-described Encroachment upon the **Public Storm Drainage Easement.**

NOW, THEREFORE, in consideration of these promises and other consideration, the receipt and sufficiency of which is hereby acknowledged, Grantee and the Town hereby covenant and agree:

1. Subject to the terms herein, the Town agrees to allow Grantee, and Grantees' successors and assigns at Grantee sole risk and expense, to encroach into the **Public Storm Drainage Easement** of the Town as shown in the attached **Exhibit A**, and incorporated by reference as though fully set forth herein.

2. The Encroachment shall not be enlarged or increased beyond the Encroachment shown in **Exhibit A** and described in this Encroachment Agreement. Grantee is responsible for any and all expenditures of labor or materials required for the installation, erection, repair, removal, or maintenance of the above-referenced Encroachment and shall be allowed to maintain the Encroachment and to perform all necessary repairs, maintenance, and replacement of the Encroachment as may be necessary from time to time.

3. The Town shall not be held responsible for any and all property damage or injury or death of any person which results from any and all negligence, omission, defect in design, maintenance, or workmanship created by the Encroachment described herein, or any cause of action arising out of the installation, maintenance, removal, destruction, or location of said Encroachment.

4. Grantee agrees to and does hereby hold the Town, its officers, council members and employees harmless from any and all liability arising out of such negligence, omission, defect or other cause of action; that it will defend the Town, its officers, council members and employees, and pay all attorney fees in any and all actions brought as a result of such; and that it will indemnify the Town, its officers, council members, and employees against any and all loss sustained by reason of such negligence, omission, defect, or other cause of action, claim, cost, or expense arising out of the installation, maintenance, removal, or location of said Encroachment; provided that, Grantee shall not be obligated hereunder to indemnify the Town for any negligent acts or omissions of the Town, its contractor(s) (including sub-contractors) and their respective officers, agents and employees.

5. Sections 3 and 4 shall survive the termination of this Encroachment Agreement for any reason.

6. All notices required herein shall be deemed given by depositing such in the United States mail, first class, and addressed to:

To Town: Town Manager
Town of Apex
PO Box 250
Apex, NC 27502

To Grantee: Taylor Morrison of Carolinas, Inc
15501 Weston Parkway, Suite 100
Cary, NC 27513-8636

7. In the event there is a dispute between the parties concerning the interpretation of the terms of this Encroachment Agreement or their respective rights and obligations hereunder, such dispute or controversy shall be adjudged pursuant to the laws of the State of North Carolina.

8. Grantee agrees to abide by all applicable laws, regulations, statutes and ordinances.

9. This Encroachment Agreement shall not divest the Town of any rights or interest in said **Public Storm Drainage Easement**.

10. If the Town deems, within its sole discretion, that removal of all or apportion of the Encroachment is necessary in order to operate, protect, maintain, modify, replace, add-to or improve its facilities located within the **Public Storm Drainage Easement,** then Grantee shall cause such removal to be made at Grantee's sole expense within 30 days after receipt of notice from the Town and shall be completed in a manner that will allow the Town complete and safe access to the **Public Storm Drainage Easement**. In the event that the Grantee fails to timely remove the Encroachment or in the event of an emergency associated with the condition of the **Public Storm Drainage Easement**, the Town is authorized to remove all or such portion of the Encroachment as the Town determines in its sole discretion to be reasonably necessary, convenient or advisable to operate, protect, maintain, modify, replace, add-to or improve its facilities located within the **Public Storm Drainage Easement**. The Town shall have the sole discretion to determine the existence of an emergency associated with the condition of the **Public Storm Drainage Easement**.

11. Grantee agrees to pay and reimburse the Town the entire expense and cost of removal of the Encroachment in the event that the Town removes the Encroachment as provided in the Paragraph 10 or if Grantee fails to remove the Encroachment within the time limit after receiving notice under Paragraph 9.

12. Grantee, during the life of this Encroachment Agreement, agrees to procure or cause to be procured from a responsible insurance carrier or carriers authorized under the laws of the State of North Carolina, insurance in the minimum amounts of $300,000/$500,000/$300,000 covering full liability for any and all personal injury, property damage or wrongful death caused by the construction, maintenance, location, repair or visual obstruction of said Encroachment. Grantee shall furnish the Town, without demand, each July a certification from the insurance carrier or carriers with whom the insurance herein mentioned is carried, stating that such compensation is covered by such carrier or carriers and showing such insurance to be in full force and effect. Both Grantee and the Town shall be named as insured parties by endorsement of the policy. In the event of any change in the insurance policy, Grantee shall give the Town thirty (30) days' notice of such change. Should Grantee fail to pay premiums upon said insurance or to perform any of the agreement, terms or conditions herein contained, the Town, at its option, by written notice may declare this Encroachment Agreement canceled and terminated and all rights acquired hereunder by Grantee shall thereupon terminate.

13. Notwithstanding Section 14 below, Grantee shall be released from its obligation under this Encroachment Agreement only upon the assumption of said obligations either by a successor in title to the **Residential Lot**, or by assumption of said obligations by an incorporated party approved by the Town. The Town's consent to such assumption and release shall be required but shall not be withheld, conditioned or delayed if, as reasonably determined by the Town, the party assuming Grantee's obligations possesses adequate financial resources and ownership interest, and Grantee's delegate and proposed assignee assume and agree to fulfill, in writing, all of Grantee's duties set forth in this Encroachment Agreement.

14. The right to encroach is appurtenant to and runs with the land hereinabove referred to and shall forever by subject to the conditions above agreed on between the parties. This Encroachment Agreement is binding upon the heirs, assigns, transferees, and successors in interest of the Grantee and shall, upon execution, be recorded in the Office of the Register of Deeds of Wake County, North Carolina.

[REMAINDER OF PAGE LEFT INTENTIONALLY BLANK]

In testimony whereof, said Grantee and said Town have here unto set their hands and seals, the day and year first above written.

GRANTEE

Taylor Morrison of Carolinas, Inc.

By: Christian Sheppard (SEAL)
Christian Sheppard
Land Development Director

NORTH CAROLINA
COUNTY OF Wake *[county in which acknowledgement taken]*

I, Aleashia Browning, a Notary Public of Wake County, North Carolina, certify that Christian Sheppard, personally appeared before me this day and acknowledged that he is the Land Development Director for Taylor Morrison of Carolinas, Inc. Grantee herein, and that by authority duly given as the Land Development Director for the company, the foregoing instrument was signed and sealed by him on behalf of the company and acknowledged said writing to be the act and deed of said company.

Witness my hand and official stamp or seal, this 17th day of April, 2023.

Aleashia Browning
[Signature of Notary Public]

(Affix Notarial Stamp-Seal)

My Commission Expires: 9/29/25

TOWN OF APEX

_____
Catherine Crosby
Town Manager

(Corporate Seal)

ATTEST:

_____
Allen Coleman, CMC, NCCCC
Town Clerk

STATE OF NORTH CAROLINA

COUNTY OF _____ *[county in which acknowledgement taken]*

I, _____, a Notary Public of _____ County, North Carolina, certify that Allen Coleman personally came before me this day and acknowledged that he is the Town Clerk for the Town of Apex, a North Carolina Municipal Corporation, and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its Town Manager, sealed with its corporate seal and attested by him as its Town Clerk.

Witness my hand and official stamp or seal, this _____ day of _____, 2023.

_____
[Signature of Notary Public] *(Seal)*

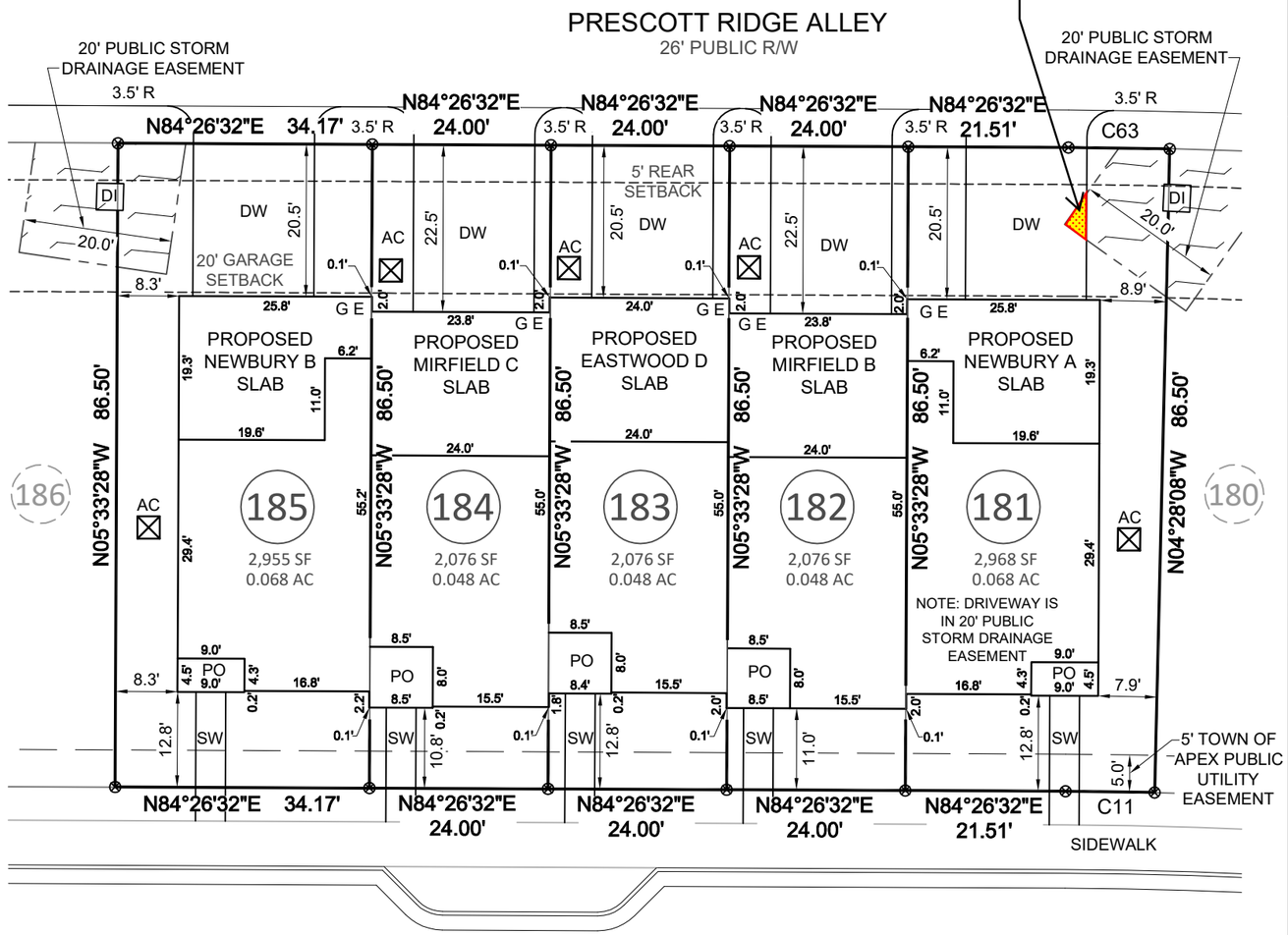
My Commission Expires: _____

EXHIBIT A

BM 2021, PG. 1565-1569

CURVE TABLE				
CURVE	RADIUS	LENGTH	CHORD DIRECTION	CHORD
C11	630.00'	11.97'	N84°59'12"E	11.97'
C63	716.50'	13.62'	S84°59'12"W	13.62'

Driveway will encroach 9 SF onto the 20' Public Storm Drainage Easement



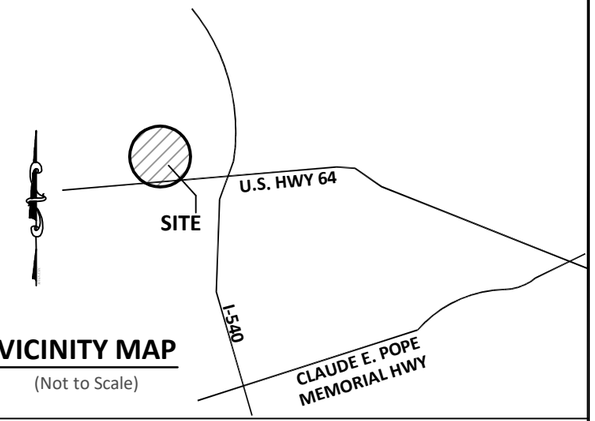
NOTES:

1. THIS SURVEY WAS PREPARED BY BATEMAN CIVIL SURVEY CO., UNDER THE SUPERVISION OF STEVEN P. CARSON, PLS.
2. THIS PLAN HAS BEEN PREPARED FOR LAYOUT AND PERMITTING PURPOSES ONLY.
3. PROPERTY LINES SHOWN WERE TAKEN FROM EXISTING FIELD EVIDENCE, EXISTING DEEDS AND/OR PLATS OF PUBLIC RECORD, AND INFORMATION SUPPLIED TO THE SURVEYOR BY THE CLIENT.
4. ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES AND ALL BEARINGS ARE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM UNLESS OTHERWISE SHOWN.
5. THIS MAP IS NOT FOR RECORDATION AND SHOULD BE REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS.
6. THE BASIS OF NORTH AND ALL EASEMENTS, RIGHTS-OF-WAYS, BUFFERS, SETBACKS AND ADJOINERS, ETC. REFERENCED IN TITLE BLOCK.
7. NO INVESTIGATION INTO THE EXISTENCE OF JURISDICTIONAL WETLANDS OR RIPARIAN BUFFERS PERFORMED BY THIS FIRM.
8. SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP TITLE EVIDENCE OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.
9. THIS PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD ZONE. IT IS LOCATED IN ZONE "X" AS DEFINED BY HUD F.I.R.M. MAP 3720072200K DATED 7/19/2022.
10. ZONING IS : PUD-CZ
11. PROPERTY OWNER: TAYLOR MORRISON
    15501 WESTON PARKWAY, SUITE 100
    CARY, NC 27513

0 10 20

SCALE:
1" = 20 ft.

Bateman Civil Survey Company
Engineers • Surveyors • Planners
2524 Reliance Avenue, Apex, NC 27539 Ph: 919.577.1080 Fax: 919.577.1081
www.batemancivilsurvey.com info@batemancivilsurvey.com
NCBELS Firm No. C-2378



VICINITY MAP
(Not to Scale)

LEGEND

PO = PORCH
SP = SCREENED PORCH
CP = COVERED PORCH
WD = WOOD DECK
SW = SIDEWALK
DW = CONC DRIVEWAY
P = CONC PATIO
⊗ = COMPUTED POINT
○ = IRON PIPE FOUND
◉ = IRON PIPE SET (IPS)
● = DRILL HOLE FOUND
▲ = FIRE HYDRANT
WM = WATER METER
CO = CLEAN OUT
AC = AIR CONDITIONER
S = SEWER MANHOLE
EB = ELECTRIC BOX
C = CABLE BOX
T = TELEPHONE PEDESTAL
E = ELECTRIC METER
G = GAS METER
☼ = LIGHT POLE
CB = CATCH BASIN
DI = DROP INLET
S = 3' X 3' STOOP

BUILDING SETBACKS:
FRONT = 3 ft
REAR = 5 ft
SIDE = 0'

This map is of an existing parcel of land and is only intended for the parties and purposes shown. This map not for recordation. No title report provided.

NOTE:
THIS MAP MAY NOT BE A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS AND HAS NOT BEEN REVEIWED FOR COMPLIANCE WITH RECORDING REQUIREMENTS FOR PLATS.

taylor morrison
Homes Inspired by You

TOWNES AT WESTFORD PH. 3B - LOTS 181-185
WIMBERLY ROAD, APEX, NC
WHITE OAK TOWNSHIP, WAKE COUNTY

DATE: 12/8/22 DRAWN BY: ALT CHECKED BY: SPC

REFERENCE: BM 2021, PG. 1565-1569 BCS# 190363 SCALE: 1" = 20'

| Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA

Meeting Date: May 9, 2023

Item Details

Presenter(s): Chris Johnson, PE, MPA, Transportation & Infrastructure Development Director

Department(s): Transportation & Infrastructure Development

Requested Motion

Motion to approve an encroachment agreement between the Town and property owners Shantanu Kaprekar and spouse Divya Namjoshi to install a fence that will encroach 132 linear feet (LF) onto the Town of Apex Sanitary Sewer Easement and authorize the Town Manager to execute the same.

Approval Recommended?

Yes

Item Details

The proposed Encroachment Agreement is between the Town and property owners Shantanu Kaprekar and spouse Divya Namjoshi (Grantees) for the property described as a residential lot known as Wake County PIN #0720-29-8455, Book of Maps 2022, Page 00639, lot is also known as 2918 Alderson Court, Apex, NC 27502. Grantees wish to install certain improvements, more particularly described as a fence that will encroach 132 linear feet (LF) onto the Town of Apex Sanitary Sewer Easement.

Attachments

- CN5-A1: Encroachment Agreement – 2918 Alderson Court Lot 259
- CN5-A2: Exhibit A – Encroachment Agreement – 2918 Alderson Court Lot A

After Recording Mail To: Development Services
Town of Apex
PO Box 250
Apex, NC 27502

STATE OF NORTH CAROLINA **ENCROACHMENT AGREEMENT**
COUNTY OF WAKE

THIS ENCROACHMENT AGREEMENT, being made this _____ day of _____, 2023, by and between Shantanu Kaprekar and spouse Divya Namjoshi, hereinafter referred to as "Grantees," and the Town of Apex, hereinafter referred to as the "Town."

WHEREAS, the Grantees are the owners of a certain residential lot of land in the County of Wake, State of North Carolina, which is designated as **PIN #0720-29-8455** by the Wake County Revenue Department and more particularly described as **Lot 259** of the subdivision known as **Friendship Station Phase 3A** as shown on that certain plat recorded in **Book of Maps 2022, Page 00639**, Wake County Registry (hereinafter the **"Subdivision Plat"**). The residential lot is also known as **2918 Alderson Court, Apex, NC 27502.** The residential lot described in this paragraph is hereinafter referred to as the **"Residential Lot."**

WHEREAS, the Town is the owner of a Variable Width Sanitary Sewer Easement as shown on the **Subdivision Plat** hereinafter referred to as the **"Sanitary Sewer Easement".**

WHEREAS, Grantees wish to install certain improvements, more particularly described as a fence that will encroach **132 linear feet onto the Sanitary Sewer Easement**, which serves the Residential Lot, hereinafter referred to as the "**Encroachment,**" all as shown on the attached **Exhibit A**. Grantees desire to make certain agreements and covenants regarding the Encroachment.

WHEREAS, the Town, under the terms and conditions herein set forth, is willing to allow the above-described Encroachment upon the **Sanitary Sewer Easement.**

NOW, THEREFORE, in consideration of these promises and other consideration, the receipt and sufficiency of which is hereby acknowledged, Grantees and the Town hereby covenant and agree:

1. Subject to the terms herein, the Town agrees to allow Grantees, and Grantees' successors and assigns at Grantees' sole risk and expense, to encroach into the **Sanitary Sewer Easement** of the Town as shown in the attached **Exhibit A**, and incorporated by reference as though fully set forth herein.

2. The Encroachment shall not be enlarged or increased beyond the Encroachment shown in the **Exhibit A** and described in this Encroachment Agreement. Grantees are responsible for any and all expenditures of labor or materials required for the installation, erection, repair, removal, or maintenance of the above-referenced Encroachment.

3. Grantees are to be fully responsible for any and all property damage or injury or death of any person which results from any and all negligence, omission, defect in design, maintenance, or workmanship created by the Encroachment described herein, or any cause of action arising out of the installation, maintenance, removal, destruction, or location of said Encroachment.

4. Grantees agree to and do hereby hold the Town, its officers, council members and employees harmless from any and all liability arising out of such negligence, omission, defect or other cause of action; that it will defend the Town, its officers, council members and employees, and pay all attorney fees in any and all actions brought as a result of such; and that it will indemnify the Town, its officers, council members, and employees against any and all loss sustained by reason of such negligence, omission, defect, or other cause of action, claim, cost, or expense arising out of the installation, maintenance, removal, or location of said Encroachment.

5. Sections 3 and 4 shall survive the termination of this Encroachment Agreement for any reason.

6. All notices required herein shall be deemed given by depositing such in the United States mail, first class, and addressed to:

To Town: Town Manager
Town of Apex
PO Box 250
Apex, NC 27502

To Grantees: Shantanu Kaprekar & Divya Namjoshi
2918 Alderson Court
Apex, NC 27502

7. In the event there is a dispute between the parties concerning the interpretation of the terms of this Encroachment Agreement or their respective rights and obligations hereunder, such dispute or controversy shall be adjudged pursuant to the laws of the State of North Carolina.

8. Grantees agree to abide by all applicable laws, regulations, statutes and ordinances.

9. This Encroachment Agreement shall not divest the Town of any rights or interest in said **Sanitary Sewer Easement** and the Town may terminate this Encroachment Agreement by giving Grantees ninety (90) days written notice of termination. Prior to the termination date, Grantees shall remove, at their own expense, all or part of the Encroachment as specified by the Town.

10. If the Town deems, within its sole discretion, that there is not time to give Grantees notice as provided in Paragraph 9 and that removal of the Encroachment is necessary in order to operate, protect, maintain, modify, replace, add-to or improve its facilities located within the **Sanitary Sewer Easement,** then no notice shall be required and the Town may remove the Encroachment from the **Sanitary Sewer Easement** without cost, risk or liability to the Town.

11. Grantees agree to pay and reimburse the Town the entire expense and cost of removal of the Encroachment in the event that the Town removes the Encroachment as provided in Paragraph 10 or if Grantees fail to remove the Encroachment within the time limit after receiving notice under Paragraph 9.

12. Grantees, if not self-performing the installations that are the subject of this Agreement, agree to purchase or cause to be procured from a responsible insurance carrier or carriers authorized under the laws of the State of North Carolina, valid general liability insurance in the minimum amount of $500,000 and provide a certificate of such insurance naming the Town of Apex as additional insured by endorsement to the policy. Where the Grantees are self-performing the installations, Grantees shall show proof of homeowner's insurance with personal liability coverage in a minimum amount of at least $300,000. Grantees shall provide notice of cancellation, non-renewal or material change in coverage to the Town of Apex within 10 days of their receipt of notice from the insurance company.

13. Notwithstanding Section 14 below, Grantees shall be released from its obligation under this Encroachment Agreement only upon the assumption of said obligations either by a successor in title to real property known as **Wake County PIN #0720-29-8455, 2918 Alderson Court, Apex, NC, 27502.** The Town's consent to such assumption and release shall be required but shall not be withheld, conditioned or delayed if, as reasonably determined by the Town, the party assuming Grantees obligations possesses adequate financial resources and ownership interest, and Grantees delegate and proposed assignee assume and agree to fulfill, in writing, all of Grantees duties set forth in this Encroachment Agreement.

14. The right to encroach is appurtenant to and runs with the land hereinabove referred to and shall forever be subject to the conditions above agreed on between the parties. This Encroachment Agreement is binding upon the heirs, assigns, transferees, and successors in interest of the Grantees and shall, upon execution, be recorded in the Office of the Register of Deeds of Wake County, North Carolina.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

In testimony whereof, said Grantee and said Town have here unto set their hands and seals, the day and year first above written.

GRANTEES

By: S. Kaprekar
Shantanu Kaprekar

By: Divya N.
Divya Namjoshi

STATE OF NORTH CAROLINA

COUNTY OF Wake [*county in which acknowledgement taken]*

I, do hereby certify that Shantanu Kaprekar, personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official stamp or seal, this 21st day of April, 2023.

LINDLEY PAYNTER NOTARY *** PUBLIC WAKE COUNTY, N.C.

Lindley Paynter
[*Signature of Notary Public*]

My Commission Expires August 27, 2025

My Commission Expires August 27, 2025

****

STATE OF NORTH CAROLINA

COUNTY OF Wake [*county in which acknowledgement taken]*

I, do hereby certify that Divya Namjoshi, personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official stamp or seal, this 21st day of April, 2023.

Lindley Paynter
[*Signature of Notary Public*]

LINDLEY PAYNTER NOTARY *** PUBLIC WAKE COUNTY, N.C.

My Commission Expires: _____

My Commission Expires August 27, 2025

TOWN OF APEX

_____
Catherine Crosby
Town Manager

(Corporate Seal)

ATTEST:

_____
Allen Coleman, CMC, NCCCC
Town Clerk

STATE OF NORTH CAROLINA

COUNTY OF _____ [*county in which acknowledgement taken]*

I, _____, a Notary Public of _____ County, North Carolina, certify that Allen Coleman personally came before me this day and acknowledged that he is the Town Clerk for the Town of Apex, a North Carolina Municipal Corporation, and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its Town Manager, sealed with its corporate seal and attested by him as Town Clerk.

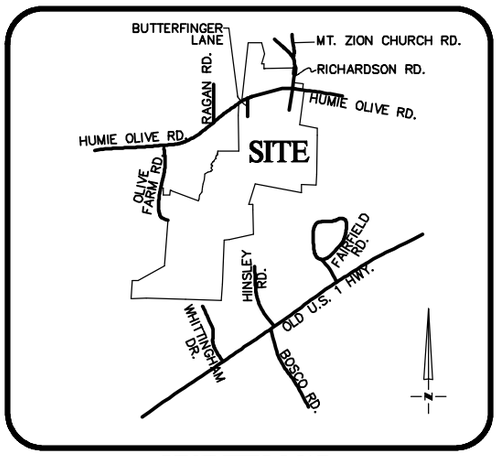
Witness my hand and official stamp or seal, this _____ day of _____, 2023.

_____
[Signature of Notary Public]

My Commission Expires: _____

(Seal)

EXHIBIT A

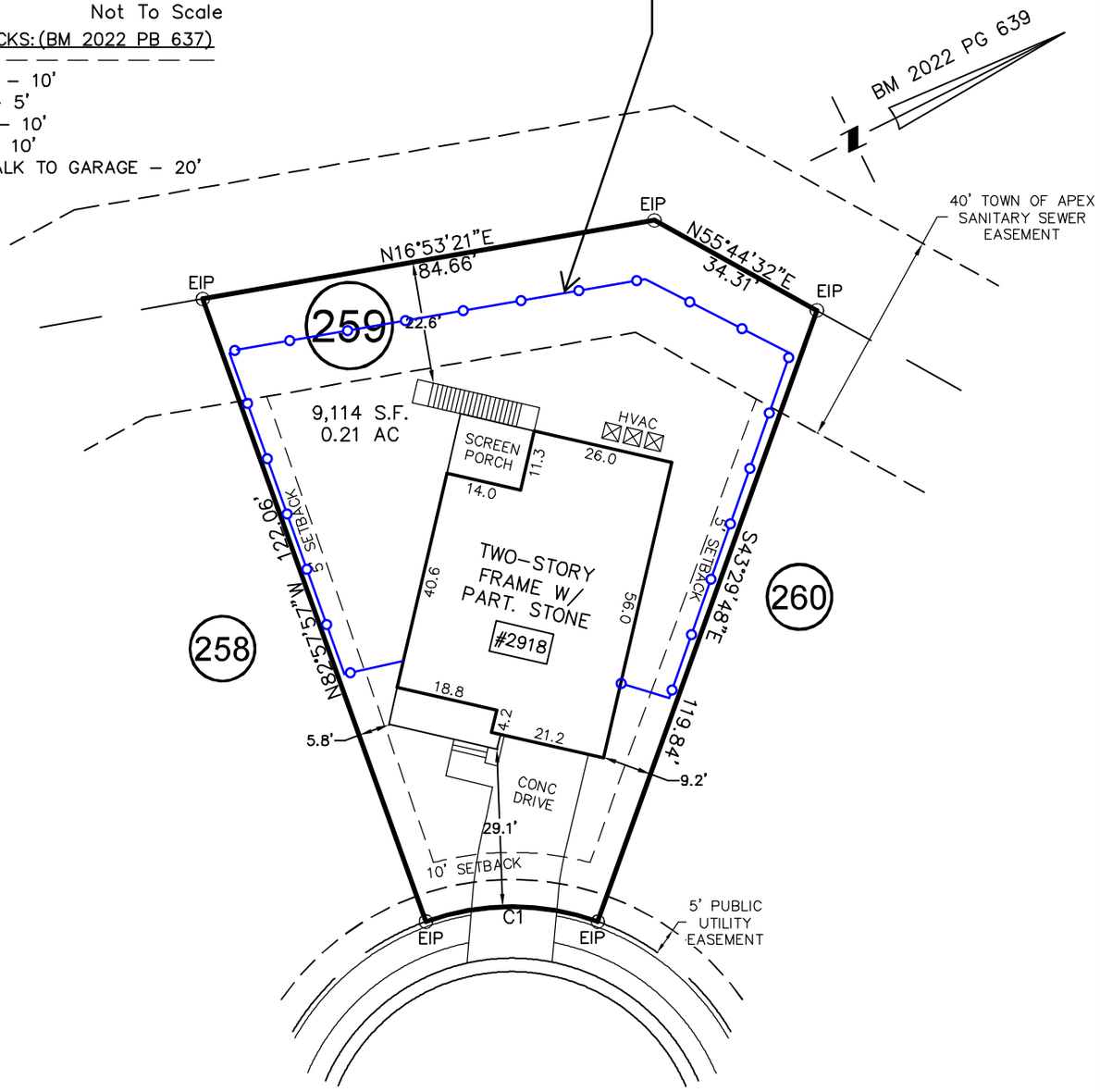


VICINITY MAP
Not To Scale

SETBACKS: (BM 2022 PB 637)

FRONT – 10'
SIDE – 5'
REAR – 10'
RCA – 10'
SIDEWALK TO GARAGE – 20'

Fence will encroach 132 LF onto the 40' TOA Sanitary Sewer Easement



ALDERSON COURT
50' PUBLIC R/W

IMPERVIOUS SURFACE AREA	
DESCRIPTION	AREA
HOUSE w/ PORCH	2,141 S.F.
PORCH/HVAC/PAD	199 S.F.
DRIVEWAY & WALKS	539 S.F.
TOTAL =	2,879 S.F.
LOT AREA =	9,144 S.F.
% IMPERVIOUS AREA	=31.5%

30 0 30
SCALE: 1" = 30'

NOTE:
THIS MAY NOT BE A CERTIFIED SURVERY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS AND HAS NOT BEEN REVIEWED FOR COMPLIANCE WITH RECORDINGREQUIREMENTS FOR PLATS.

2918 Alderson Court
Lot 259 Friendship Station Phase 3A

DRAWN	SURVEYED: JMB	CHECKED: JWW	DATE: JANUARY 6, 2023

| Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA

Meeting Date: May 9, 2023

Item Details

Presenter(s): Barbara Belicic, Small Business Specialist

Department(s): Economic Development

Requested Motion

Motion to approve a Memorandum of Understanding (MOU) between Wake Technical Community College (WTCC) and the Town of Apex to conduct educational training to small businesses in the Apex community through the LaunchAPEX program; and authorize the Town Manager to execute the MOU.

Approval Recommended?

Yes

Item Details

LaunchAPEX is dedicated to assisting current Apex residents who want to take their business to the next level. The goal of LaunchAPEX is to develop successful Apex entrepreneurs and small businesses by delivering access to business training, financial resources, business networking, and business mentoring.

This collaborative partnership between the Town of Apex and Wake Technical Community College ensures that small business owners receive training and resources necessary to succeed.

Attachments

- CN6-A1: Memorandum of Understanding (MOU) between Wake Technical Community College and the Town of Apex – LaunchAPEX Educational Training

Memorandum of Understanding

This agreement entered on _____, 2023, for the purpose of establishing a collaborative partnership between the "Town of Apex" hereafter referred to as the "Agency" and "Wake Tech Community College" hereafter referred to as the "College" to conduct "LaunchAPEX" educational training to Small Businesses in the community served by the Agency.

The Agency Agrees To:

1. Agree to adhere to the policies established for curriculum delivery and make students and space available for orientation, 30 hours of classroom instruction, and graduation.
2. Provide or coordinate suitable facility usage for conducting educational training for up to 20 learners when curriculum is delivered in a classroom setting.
3. Be responsible for opening the facility on the scheduled class dates at a time mutually agreeable to the parties to facilitate the arrival and check-in of students.
4. Allow College personnel access to supervise and monitor the courses/programs of instruction.
5. Provide a copy of the Certificate of Insurance to the College.
6. Be responsible for marketing and recruiting for Launch training courses.
7. Communicate any program changes promptly to ensure that Instructors can make necessary adjustments.
8. Communicate and evaluate programs periodically for effectiveness.
9. Work with College to maintain mutual respect and an effective partnership.
10. Provide a survey at the closing of the course and share feedback with the college.

The College Agrees To:

1. Work with Agency in the identification, screening, and selection of students when requested.
2. Ensure that Wake Tech faculty, staff and students adhere to all Agency's schedules, policies, rules and regulations.
3. Provide instructors, administration, supervision, and support staff for the training.
4. Ensure that facilities and classrooms are left in their original condition at the end of each training session.
5. Provide payment for Instructors and for associated software necessary to complete the LAUNCH program.
6. Immediately notify the Agency of any changes to the agreed upon dates and times.
7. Assist in marketing and recruiting for LAUNCH courses using traditional and digital means.
8. Work with Agency to maintain mutual respect and an effective partnership.

9. Communicate and evaluate programs periodically for effectiveness.
10. Both parties shall have the right to terminate this agreement by giving the other party sixty (60) days written notification of the intent to terminate.

Jointly Agreed Upon:

_____

Catherine Crosby Date
Manager, Town of Apex

_____

Wake Tech Representative Title Date

| Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA

Meeting Date: May 9, 2023

Item Details

Presenter(s): Mary Beth Manville, Human Resources Director

Department(s): Human Resources

Requested Motion

Motion to approve an additional 0.5 FTE part-time, benefited Public Works Attendant, Market Range 04, position for the Public Works Department.

Approval Recommended?

Item Details

This position is being requested as a part-time benefited, 20 hours/week position. The primary purpose is to maintain, deliver, and retrieve waste bins to Apex businesses and residents who subscribe to town waste services.

Attachments

- None

| Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA

Meeting Date: May 9, 2023

Item Details

Presenter(s): Craig Setzer, PRCR Director; Steve Adams, Acquisition Specialist

Department(s): Parks, Recreation, and Cultural Resources

Requested Motion

Motion to approve purchase of real property located at 1125 Wimberly Road, authorize the Town Manager to execute associated contracts, and approve corresponding Budget Ordinance Amendment 17.

Approval Recommended?

Yes

Item Details

The property located at 1125 Wimberly Road is adjacent to and surrounded on three sides by property previously purchased by the Town for the purpose of developing a park in the northwest part of town. This property will provide additional road frontage onto Wimberly Road for the proposed park. The accompanying budget amendment ($640,000) will cover the cost to purchase the property and associated transaction costs related to the purchase.

Attachments

- CN8-A1: Budget Ordinance Amendment No. 17 FY 22-23

Town of Apex

Budget Ordinance Amendment No. 17

BE IT ORDAINED, by the Council of the Town of Apex that the following Budget Amendment for the Fiscal Year 2022-2023 Budget Ordinance be adopted:

Recreation Capital Reserve Fund

Section 1. Revenues:

77-0000-39902: Appropriated Fund Balance	$640,000
Total Revenues	**$640,000**

Section 2. Expenditures:

77-0000-49610: Transfer to General Fund	$640,000
Total Expenditures	**$640,000**

General Fund

Section 1. Revenues:

10-0000-39777: Transfer from Recreation Reserve	$640,000
Total Revenues	**$640,000**

Section 2. Expenditures:

10-6200-47100: Capital Outlay Land	$640,000
Total Expenditures	**$640,000**

Section 7. Within five (5) days after adoption, copies of this Amendment shall be filed with the Finance Officer and Town Clerk.

Adopted this the 9th day of May, 2023.

Attest:

Jacques K. Gilbert, Mayor

Allen L. Coleman, CMC, NCCCC
Town Clerk

| Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA

Meeting Date: May 9, 2023

Item Details

Presenter(s): Antwan Morrison, Finance Director

Department(s): Finance

Requested Motion

Motion to approve a resolution designating the Accounting and Finance Manager, and Purchasing Manager positions with the authority of deputy finance officer for the purposes of complying with the Local Government Budget and Fiscal Control Act.

Approval Recommended?

Yes

Item Details

North Carolina General Statute 159-25 outlines the duties of the finance officer of a local government. North Carolina General Statute 159-28(a) requires the finance officer or deputy finance officer to sign all purchase orders, contracts, or agreements, which include the preaudit certificate to verify sufficient funds exist to meet the obligation. Having designated Deputy Finance Officers will ensure the smooth running of the business of the Town in the absence of the Finance Officer.

Attachments

- CN9-A1: Resolution Designating Deputy Finance Officers for the Town of Apex

TOWN OF APEX TOWN COUNCIL
Resolution Designating Deputy Finance Officers for the Town of Apex, North Carolina

WHEREAS, North Carolina General Statutes §159-24 specifics and directs that each local government shall appoint a Finance Officer to hold office and carry out the duties as prescribed by law; and

WHEREAS, North Carolina General Statutes §156-25 outlines the specific duties of the Finance Officer of a local government; and

WHEREAS, North Carolina General Statutes §159-28(a) requires the Finance Officer or Deputy Finance Officer to sign all purchase orders, contracts, or agreements which includes a certificate stating that the instrument has been pre-audited to verify sufficient funds exist to meet the obligation; and

WHEREAS, there will be occasions when the Finance Officer is unable to be present in order to approve certain actions or sign preaudit certificates thus creating a need to designate Deputy Finance Officers.

NOW, THEREFORE, BE IT RESOLVED, that we, the Town Council of the Town of Apex do herby designate and appointment the following positions as Deputy Finance Officers for the purposes of complying with the Local Government Budget and Fiscal Control Act: Purchasing Manager and Accounting and Finance Manager; and,

BE IT FURTHER RESOLVED, that the Deputy Finance Officers are hereby designated as authorized signers on behalf of the Town and have authority to sign and pre-audit financial documents such as purchase orders, contracts, or agreements which a certificate stating that the instrument has been pre-audited to verify sufficient funds exist to meet the obligation.

ADOPTED, this the 9th day of May 2023.

_____
Jacques K. Gilbert
Mayor

Attest:

_____
Allen Coleman, CMC, NCCCC
Town Clerk

| Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA

Meeting Date: May 9, 2023

Item Details

Presenter(s): Allen Coleman, Town Clerk

Department(s): Town Clerk's Office

Requested Motion

Motion to approve a Resolution of Intent for the closing of a right-of-way (ROW) on a portion of Burma Drive located South of Goodworth Drive and North of Pristine Water Drive and between two tracts owned by Apex Industrial Owner 3 LLC (See Survey Map Included); and to set a Public Hearing for Tuesday, June 13, 2023, following the required 30-day public notice period.

Approval Recommended?

The Town Clerk recommends the Town Council approve the resolution of intent and schedule the public hearing for Tuesday, June 13, 2023, pursuant to North Carolina General Statutes 160A-299 and the Town's adopted Policy on Closing Public Rights of Way for Streets, Roads, and Alleys.

Item Details

During the expansion of the Cash Corporate Center site in 2021, a bulb (e.g. cul-de sac) was created on Burma Drive for construction so the trucks could turn around in the street. . As part of receiving the developer receiving their Certificate of Occupancy, they dedicated some other ROW to the Town and the Town is abandoning the bulb portion of Burma Drive.

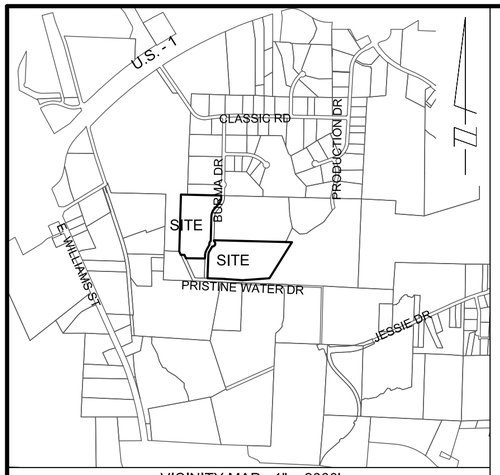
Essentially, this closure request is to correct an old plat that included a temporary cul-de-sac. Transportation and Infrastructure staff worked with the developer of the Cash Corporate Center to address the turnaround removal and realign Burma Drive as previously constructed.

The Town's Technical Review Committee (comprised of many departments including transportation and infrastructure, planning, and public safety) all reviewed the submitted request and recommends Council consider this request.

Attachments

- CN10-A1: Plat Map of Requested ROW C

- CN10-A2: Resolution of Intent to Consider the Requested ROW Closure Area
- CN10-A3: Policy on Closing Public Rights of Way for Streets, Roads, and Alleys



VICINITY MAP - 1" = 2000'

I, DAN GREGORY, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION, DEED DESCRIPTION RECORDED IN BOOK 19072, PAGE 2389(OTHER); THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND IN BOOK OF MAPS 2021, PAGE 2111; THAT THE RATIO OF PRECISION AS CALCULATED IS 1:10,000+; THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED.

D. THAT THIS PLAT IS OF A SURVEY OF ANOTHER CATEGORY, SUCH AS THE RECOMBINATION OF EXISTING PARCELS, A COURT-ORDERED SURVEY OR OTHER EXCEPTION TO THE DEFINITION OF SUBDIVISION:

WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL THIS

_____DAY OF_____, A.D., 2023.

_____
DAN GREGORY, PLS L-5240

CURVE TABLE				
CURVE	RADIUS	LENGTH	CHORD DIRECTION	CHORD
C1	260.00'	7.89'	N 86°59'21" W	7.89'
C2	170.00'	80.70'	N 15°48'07" E	79.94'
C3	55.00'	143.64'	N 18°38'45" E	106.16'
C4	230.00'	15.94'	N 03°26'39" E	15.94'
C5	170.00'	16.86'	S 04°17'59" W	16.85'
C6	55.00'	73.97'	S 18°47'44" W	68.52'
C7	230.02'	78.08'	S 19°40'32" W	77.71'
C8	230.05'	31.10'	S 06°04'33" W	31.07'
C9	230.00'	107.13'	N 18°38'45" E	106.16'
C10	170.00'	68.99'	N 18°47'44" E	68.52'

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 88°03'12" W	35.02'
L2	N 29°23'47" E	21.87'
L3	N 29°24'05" E	79.59'
L4	S 29°24'01" W	109.30'
L5	S 02°11'21" W	60.16'
L6	N 24°32'52" W	66.57'
L7	N 89°32'21" W	66.24'
L8	N 24°31'04" W	71.78'

NC GRID (NAD 83/2011)

REFERENCES

DB. 18688 PG. 1891
DB. 19072 PG. 2389
BM. 1984 PG. 1899
BM. 2021 PG. 2111
BM. 2023 PG. 197-199

BURMA DRIVE
60' PUBLIC RIGHT-OF-WAY
BM. 2023 PG. 197-199

TRACT A
APEX INDUSTRIAL OWNER 3 LLC
PIN: 0751043020
DB. 19072 PG. 2389
BM. 2021 PG. 2111
692,824 SF OR 15.9051 AC

RIGHT-OF-WAY TO BE ABANDONED
720 SF OR 0.0165 AC

RIGHT-OF-WAY TO BE ABANDONED
2,745 SF OR 0.0630 AC

TRACT 2
BIN - BD1201 LLC
BEACON PARTNERS
PIN: 0751143089
DB. 18555 PG. 1712
BM. 2021 PG. 523-524

APEX TOOL U.S. REAL ESTATE HOLDING, LLC
PIN: 0741954413
DB. 15329 PG. 2263
BM. 1988 PG. 586

N 01°33'59" E 1,099.83'

N 88°36'33" W 60.00'(TIE)

S 88°36'35" E 1,453.23'

93.18'

EXISTING BUILDING

EIP
CONTROL CORNER
NC GRID(NAD '83/2011)
COORDINATES
N: 713,496.772 FEET
E: 2,050,001.794 FEET

N 89°01'46" W 354.81'

TRACT B
APEX INDUSTRIAL OWNER 3 LLC
PIN: 0751132324
DB. 19072 PG. 2389
BM. 2021 PG. 2111
940,324 SF OR 21.5869 AC

JAMES S. SMITH
ROSE M. SMITH
PIN: 0751033230
DB. 18688 PG. 1891
BM. 1984 PG. 1899

DIXIE PIPE LINE COMPANY
PIN: 0741938441
DB. 1961 PG. 380

60.00'

N 02°11'12" E 426.66'

357.28'

N 87°51'29" W 274.79'

N 87°54'08" W 60.00'

N 86°07'12" W 341.51'

S 85°32'46" W 496.34'

WETLANDS

104.09'

20.00'

ZONE 3

ZONE 2

ZONE 1

30.00'

TOP OF CREEK

MIDDLE CREEK

TRACT C
APEX INDUSTRIAL OWNER 1 LLC
PIN: 0751235497
DB. 18554 PG. 2706
BM. 2021 PG. 2111

S 39°01'16" W 782.48'

DIXIE PIPE LINE COMPANY
PIN: 0741929413
DB. 1961 PG. 380
BM. 1970 PG. 106

EAGLE ROCK CONCRETE LLC
PIN: 0751029412
DB. 15069 PG. 001
BM. 2013 PG. 1243

LOT 1
WALL REAL PROPERTY LLC
PIN: 0751113934
DB. 15746 PG. 2646
BM. 2014 PG. 627

EIP
CONTROL CORNER
NC GRID (NAD '83/2011)
COORDINATES
N: 712878.29 FEET
E: 2052037.20 FEET

NOTES:
1. AREAS BY COORDINATE GEOMETRY UNLESS SHOWN OTHERWISE.
2. ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES.
3. ALL STREETS ARE PUBLIC RIGHTS-OF-WAY UNLESS SHOWN OTHERWISE.
4. NO NCGS MONUMENT WITHIN 2,000 FEET OF PROPERTIES.
5. SAID DESCRIBED PROPERTIES ARE LOCATED WITHIN AN AREA HAVING A FLOOD ZONE DESIGNATION "X" FLOOD INSURANCE RATE MAP NO. 3720075100K, WITH A DATE OF IDENTIFICATION OF JULY 19, 2022, IN WAKE COUNTY, STATE OF NORTH CAROLINA WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PROPERTY IS SITUATED.
6. PROPERTES ARE ZONED LI - CZ, SUBJECT TO REZONING CASE #21CZ08 DATED APRIL 27, 2021.
7. PROPERTIES SUBJECT TO NEUSE RIVER BUFFERS.
8. THE COORDINATES SHOWN ON THIS PLAT WERE DERIVED BY REAL TIME NETWORK (RTN) GLOBAL POSITIONING SYSTEM (GPS), THIS METHOD RESULTS IN (NAD 1983/2011) - (CORS 96) POSITIONS AND NORTH AMERICAN VERTICAL DATUM '88 (MEAN SEA LEVEL) ELEVATIONS USING THE CONTINUOUSLY OPERATING REFERENCE STATIONS (CORS) MAINTAINED BY NORTH CAROLINA GEODETIC SURVEY. CLASS A SURVEY, 0.033 FT POSITIONAL ACCURACY, VRS FIELD PROCEDURE, GEOID12A AND UNITS IN FEET.
9. CREEKS AND WETLANDS SHOWN PER FILE RECEIVED FROM TOWN OF APEX.

LEGEND

○ CP = CALCULATED POINT
● EIP = EXISTING IRON PIPE

XXXX DENOTES ADDRESS
R/W = RIGHT-OF-WAY

OWNERS:

APEX INDUSTRIAL OWNER 3 LLC
3963 MAPLE AVENUE, SUITE 300
DALLAS, TX 75219

RECORDED IN
BOOK OF MAPS____PAGE____

SCALE: 1" = 120'

0 60 120 240 360 480

REV.	DATE	DESCRIPTION	BY

BASS, NIXON & KENNEDY, INC.
CONSULTING ENGINEERS
- 6310 CHAPEL HILL ROAD, SUITE 250
RALEIGH, NORTH CAROLINA 27607
- TELEPHONE: (919)851-4422 OR (800)354-1879
FAX: (919)851-8968
- CERTIFICATION NUMBERS: NCBELS (C-0110); NCBLA (C-0267)

SURVEYED BY	AQ
DRAWN BY	CWC
CHECKED BY	DG
DATE	03-29-2023

BURMA DRIVE ROW ABANDONMENT EXHIBIT
PROPERTIES OF
APEX INDUSTRIAL OWNER 3 LLC

WHITE OAK TWSHP WAKE COUNTY NORTH CAROLINA

SHEET 1 OF 1

R:\2021\21001 - 2100 Production Drive\SURVEY\21001CARLSON\dwg\21001 RW ABANDONMENT EXHIBIT.dwg, BURMA DR ROW EXHIBIT, 3/29/2023 12:51:41 PM, colin campbell

RESOLUTION NO. 2023 -

A RESOLUTION OF INTENT OF THE TOWN COUNCIL TO CONSIDER THE CLOSING OF A PORTION OF BURMA DRIVE LOCATED SOUTH OF GOODWORTH DRIVE AND NORTH OF PRISTINE WATER DRIVE AND BETWEEN TWO TRACTS OWNED BY APEX INDUSTRIAL OWNER 3 LLC.

WHEREAS, G.S. 160A-299 authorizes the Town Council to close public streets and alleys; and

WHEREAS, the Town Council considers it advisable to conduct a public hearing for the purpose of giving consideration to the closing of a portion of Burma Drive;

NOW, THEREFORE, BE IT RESOLVED by the Town Council that:

(1) A Public Hearing will held be at 6:00 p.m. on the 13th day of June, 2023, in the Town of Apex Town Council Chambers at the Apex Town Hall to consider a resolution closing of that portion of Burma Drive located south of Goodworth Drive and north of Pristine Water Drive and between two tracts owned by Apex Industrial Owner 3, LLC, designated as PIN # 0751-04-3020 and PIN # 0751-13-2324 by the Wake County Revenue Department, and as shown on Book of Maps 2021, Pages 0492-0493, Wake County Registry.

(2) The Town Clerk is hereby directed to publish this Resolution of Intent once a week for four consecutive weeks in a newspaper of general circulation in the area.

(3) The Town Clerk is further directed to transmit by registered or certified mail to each owner of property abutting upon that portion of said street a copy of this Resolution of Intent.

(4) The Planning Director is directed to prominently post notices of this Resolution of Intent and the scheduled public hearing in at least two locations along Burma Drive in the area of the portions to be abandoned.

(5) Upon motion duly made by Council Member_____ , and duly seconded by Council Member _____, the above resolution was duly adopted by the Apex Town Council at the meeting held on the 9th day of May, 2023, in the Town Hall.

Upon call for a vote the following Council Members voted in the affirmative:

_____

_____

_____

and the following Council Members voted in the negative:

_____

_____

_____

This the _____day of _____, 2023.

_____
Jacques K. Gilbert
Mayor

ATTEST:

_____
Allen Coleman, CMC, NCCCC,
Apex Town Clerk

POLICY ON CLOSING PUBLIC RIGHTS OF WAY FOR STREETS, ROADS, AND ALLEYS

1. Persons desiring to close a public right of way shall submit a letter (petition) to the Town Clerk describing the location of proposed closing, a list of adjacent property owners, a location map, and a non-refundable fee established in the Town's adopted fee schedule. The Assistant Town Manager shall review the petition and distribute to appropriate staff for review.

2. The petition and supporting documents shall be reviewed by the Town Attorney and staff in the Public Works and Utilities Department, Planning Department, and Construction Management and Engineering Department. Staff will review the infrastructure and make a recommendation on continuing the process or denial. The Assistant Town Manager shall inform the petitioner of the recommendation and the reasons for a denial recommendation if appropriate.

   If the petitioner wishes to continue, the petitioner shall provide a survey of the proposed abandonment and other supporting documentation requested by staff. If any Town easement rights are required to be retained by the Town, the petitioner shall provide sufficient documentation to ensure survival of the easement rights. In addition, a refundable fee based on the approximate cost of completing the process shall be paid to the Town by the petitioner.

3. Once the fee is paid and documentation is supplied, the Town Attorney will prepare a resolution of intent to close the right of way. The Town Clerk shall incorporate the proposed resolution into the next available Town Council Agenda with the staff recommendation and set the public hearing date. The petitioner shall present their request to the Town Council.

4. Upon an approval of the resolution of intent by the Town Council, the Town Clerk shall provide notice of the resolution and public hearing as required by North Carolina General Statue 160A-299. The Planning Department will post required signs for the proposed abandonment.

5. If the Town Council denies the resolution of intent, no notice shall be published, the refundable fee shall be returned and the issue shall not be considered again for 180 days.

6. At the public hearing, the Town Council will consider the recommendation of the staff (which can change from original recommendation), the petitioner and the public and determine whether the closing is contrary to the public interest and any individual owning property in the vicinity of the street or alley would be deprived of reasonable means of ingress and egress to his property.

7. Upon affirmative vote, the Town Clerk shall record the necessary documents.

8. Upon a denial vote, the petition is closed and a new petition and fees shall be required for reconsideration. 180 days must pass from the date of denial prior to acceptance of a new petition.

| Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA

Meeting Date: May 9, 2023

Item Details

Presenter(s): Amanda Bunce, Current Planning Manager

Department(s): Planning

Requested Motion

Motion to approve the Statement of the Town Council and Ordinance for Rezoning Application #23CZ01, Rockpoint Group, LLC and Oppidan, petitioners, for the properties located at 0 & 0 Pristine Water Drive and 1251 Burma Drive (PINs 0751043020, 0751235497, & 0751132324).

Approval Recommended?

The Planning Department recommends approval.

Item Details

Rezoning Application #23CZ01 was approved at the April 25, 2023 Town Council meeting.

Attachments

- CN11-A1: Statement of the Town Council and Ordinance – Rezoning No. 23CZ01
- CN11-A2: Attachment A - Legal Description – Rezoning No. 23CZ01

STATEMENT OF TOWN COUNCIL AND ORDINANCE AMENDING THE OFFICIAL ZONING DISTRICT MAP OF THE TOWN OF APEX TO CHANGE THE ZONING OF APPROXIMATELY 83.03 ACRES LOCATED AT 0 & 0 PRISTINE WATER DRIVE & 1251 BURMA DRIVE FROM LIGHT INDUSTRIAL-CONDITIONAL ZONING (LI-CZ #21CZ08) TO LIGHT INDUSTRIAL-CONDITIONAL ZONING (LI-CZ)

#23CZ01

WHEREAS, Apex Industrial Owner 3, LLC & Apex Industrial Owner 4, LLC/ Rockpoint Group, LLC & Oppidan, owner/applicant (the "Applicant"), submitted a completed application for a conditional zoning on the 1st day of February 2023 (the "Application"). The proposed conditional zoning is designated #23CZ01;

WHEREAS, the Planning Director for the Town of Apex, Dianne Khin, caused proper notice to be given (by publication and posting) of a public hearing on #23CZ01 before the Planning Board on the 10th day of April 2023;

WHEREAS, the Apex Planning Board held a public hearing on the 10th day of April 2023, gathered facts, received public comments and formulated a recommendation regarding the application for conditional zoning #23CZ01. A motion was made by the Apex Planning Board to recommend approval; the motion passed unanimously for the application for #23CZ01;

WHEREAS, pursuant to N.C.G.S. §160D-601 and Sec. 2.2.11.E of the Unified Development Ordinance, the Planning Director caused proper notice to be given (by publication and posting), of a public hearing on #23CZ01 before the Apex Town Council on the 25th day of April 2023;

WHEREAS, the Apex Town Council held a public hearing on the 25th day of April 2023. Amanda Bunce, Current Planning Manager, presented the Planning Board's recommendation at the public hearing;

WHEREAS, all persons who desired to present information relevant to the application for #23CZ01 were allowed to present evidence at the public hearing before the Apex Town Council. No one who wanted to speak was turned away;

WHEREAS, the Apex Town Council finds that the approval of the rezoning is consistent with the 2045 Land Use Plan and other adopted plans in that: The 2045 Land Use Map designates this area as Industrial Employment. This designation on the 2045 Land Use Map includes the zoning district Light Industrial-Conditional Zoning (LI-CZ) and the Apex Town Council has further considered that the proposed rezoning to Light Industrial-Conditional Zoning (LI-CZ) will maintain the character and appearance of the area and provide the flexibility to accommodate the growth in population, economy, and infrastructure consistent with that contemplated by the 2045 Land Use Map;

WHEREAS, the Apex Town Council finds that the approval of the rezoning is reasonable and in the public interest in that: The rezoning will provide additional flexibility in the types of uses allowed, encourage compatible development of the property, and allow for uses that will generate jobs and increase the tax base; and

WHEREAS, the Apex Town Council by a vote of 4 to 0 approved Application #23CZ01 rezoning the subject tract located at 0 & 0 Pristine Water Drive & 1251 Burma Drive from Light Industrial-Conditional Zoning (LI-CZ #21CZ08) to Light Industrial-Conditional Zoning (LI-CZ).

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF APEX

Section 1: The lands that are the subject of the Ordinance are those certain lands described in Attachment "A" – Legal Description which is incorporated herein by reference, and said lands are hereafter referred to as the "Rezoned Lands."

Section 2: The Town of Apex Unified Development Ordinance, including the Town of Apex North Carolina Official Zoning District Map which is a part of said Ordinance, is hereby amended by changing the

zoning classification of the "Rezoned Lands" from from Light Industrial-Conditional Zoning (LI-CZ #21CZ08) to Light Industrial-Conditional Zoning (LI-CZ), subject to the conditions stated herein.

Section 3: The Planning Director is hereby authorized and directed to cause the said Official Zoning District Map for the Town of Apex, North Carolina, to be physically revised and amended to reflect the zoning changes ordained by this Ordinance.

Section 4: The "Rezoned Lands" are subject to all of the following conditions which are imposed as part of this rezoning:

The Rezoned Lands may be used for, and only for, the uses listed immediately below. The permitted uses are subject to the limitations and regulations stated in the UDO and any additional limitations or regulations stated below. For convenience, some relevant sections of the UDO may be referenced; such references do not imply that other sections of the UDO do not apply.

1. Security or caretaker quarters
2. Government service
3. Heliport or helipad
4. Transportation facility
5. Utility, minor
6. Regional recreation complex
7. Broadcast station (radio and television)
8. Radio and television recording studio
9. Medical or dental office or clinic
10. Medical or dental laboratory
11. Office, business or professional
12. Pilot plant
13. Research facility
14. Laboratory, industrial research
15. Machine or welding shop
16. Woodworking or cabinetmaking
17. Wholesaling distribution center
18. Brewery
19. Distillery
20. Dry cleaning and dyeing plant
21. Laundry plant
22. Manufacturing and processing
23. Microbrewery
24. Microdistillery
25. Botanical garden
26. Building supplies, wholesale
27. Warehousing, general
28. Warehousing fulfillment center
29. Manufacturing and processing, minor
30. Retail sales, general (%)
31. Repair services, limited
32. Repair and maintenance, general
33. Monument sales, retail
34. Artisan studio
35. Contractor's office and storage yard
36. Commissary

Zoning Conditions:

1. EIFS cornices and parapet trim may be used. EIFS and stucco shall not be used within four (4) feet of the ground and shall be limited to 25% of each building façade.
2. The front façade and any façade that faces a collector street shall be a minimum of 60% masonry. The remainder of such facades shall be high-quality aluminum composite metal panels or similar.
3. The developer shall dedicate 30' of public right-of-way along the southern property line for future construction of Pristine Water Drive in accordance with the Apex Transportation Plan.
4. No buffer shall be required along major and minor collector streets.
5. A continuous 10' Side Path within the public right-of-way or 10' Greenway within a 20' Public Greenway Easement shall be constructed from Burma Drive at the northern property boundary to future Production Drive at the southern property boundary.

6. The minimum parking requirement shall either be in accordance with UDO Sec. 8.3.2 *Off-Street Parking Requirements* or 1 parking space per employee on the maximum shift plus 2% additional for visitors, whichever is greater.
7. With the exception of development on Lots 1 and 2, each development shall provide two (2) electric vehicle charging spaces. These spaces count toward minimum parking standards.
8. Greenhouses accessory to a Research facility shall be exempt from the following:
   a. The building material and color standards of Sec. 4.5.3 *Accessory Structures, Non-Residential Zoning Districts*; and
   b. The limitation on percent of yard area occupied and setback requirements of Sec. 5.2.7.B *Dimensional Standards for Detached Accessory Structures, Percentage of Required Yard Occupied and Required Setbacks*.
9. Outdoor storage shall be prohibited as a principal use.

Section 5: The "Rezoned Lands" shall be perpetually bound to the conditions imposed including the uses authorized, unless subsequently changed or amended as provided for in the Unified Development Ordinance. Site plans for any development to be made pursuant to this amendment to the Official Zoning District Map shall be submitted for site plan approval as provided for in the Unified Development Ordinance.

Section 6: This Ordinance shall be in full force and effect from and after its adoption.

Motion by Council Member_____

Seconded by Council Member_____

With ____ Council Member(s) voting "aye."

With ____ Council Member(s) voting "no."

This the _____ day of _____ 2023.

TOWN OF APEX

_____
Jacques K. Gilbert
Mayor

ATTEST:

_____
Allen Coleman, CMC, NCCCC
Town Clerk

APPROVED AS TO FORM:

_____
Town Attorney

AFFIDAVIT OF OWNERSHIP: EXHIBIT A – LEGAL DESCRIPTION

Application #: 23CZ01 Submittal Date:

Insert legal description below.

TRACT A PER FIELD:

PIN: 0751043020

COMMENCING AT AN EXISTING IRON PIPE LOCATED ON THE NORTHERN PROPERTY LINE OF LANDS NOW OR FORMERLY OF APEX INDUSTRIAL OWNER 2 LLC AS RECORDED IN DEED BOOK 18554 PAGE 2713 AND SHOWN ON BOOK OF MAPS 2016 PAGE 1902, WAKE COUNTY REGISTRY, BEING THE SOUTHWESTERN PROPERTY CORNER OF LANDS NOW OR FORMERLY OF CAREY C. JONES MEMORIAL PARK, INC. AS RECORDED IN WILL BOOK 3 PAGE 41, WAKE COUNTY REGISTRY, AND HAVING NC GRID NAD ('83/2011) COORDINATES OF N: 712817.7170 FEET E: 2053329.7580 FEET, AND BEING THE POINT OF BEGINNING; THENCE ALONG AND WITH SAID NORTHERN PROPERTY LINE NORTH 86°56'41" WEST A DISTANCE OF 649.65 FEET TO AN EXISTING IRON PIPE, SAID IRON PIPE BEING LOCATED ON THE NORTHERN EDGE OF THE PRODUCTION DRIVE DRIVE RIGHT-OF-WAY; THENCE ALONG AND WITH SAID RIGHT-OF-WAY NORTH 87°41'32" WEST A DISTANCE OF 644.36 FEET TO AN EXISTING IRON PIPE; THENCE NORTH 87°48'30" WEST A DISTANCE OF 1260.18 FEET TO AN EXISTING IRON PIPE, SAID IRON PIPE BEING THE NORTHEASTERN PROPERTY CORNER OF LANDS NOW OR FORMERLY OF DIXIE PIPE LINE COMPANY AS RECORDED IN DEED BOOK 1961 PAGE 380 AND SHOWN ON BOOK OF MAPS 1970 PAGE 106, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID NORTHERN PROPERTY LINE NORTH 87°51'29" WEST A DISTANCE OF 525.36 FEET TO A POINT; SAID POINT BEING THE SOUTH EASTERN PROPERTY CORNER OF LANDS NOW OR FORMERLY OF DIXIE PIPELINE COMPANY AS RECORDED IN DEED BOOK 1961 PAGE 380, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID EASTERN PROPERTY LINE NORTH 24°31'04" WEST A DISTANCE OF 533.44 FEET TO A POINT, SAID POINT BEING THE BEGINNING; THENCE NORTH 24°31'04" WEST A DISTANCE OF 71.78 FEET TO AN EXISTING IRON PIPE, SAID IRON PIPE BEING THE SOUTH EASTERN PROPERTY CORNER OF LANDS NOW OR FORMERLY OF APEX TOOL U.S. REAL ESTATE HOLDINGS, LLC AS RECORDED IN DEED BOOK 15329 PAGE 2263 AND SHOWN ON BOOK OF MAPS 1988 PAGE 586, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID EASTERN PROPERTY LINE NORTH 01°38'58" EAST A DISTANCE OF 1059.83 FEET TO AN EXISTING IRON PIPE, SAID IRON PIPE HAVING NC GRID (NAD '83/2011) COORDINATES OF N: 714556.1640 FEET E: 2050032.3020 FEET; THENCE SOUTH 88°26'34" EAST A DISTANCE OF 122.40 FEET TO A CONCRETE MONUMENT, SAID MONUMENT BEING THE SOUTHWESTERN PROPERTY CORNER OF LANDS NOW OR FORMERLY OF TEAM PROPERTIES, LP. AS RECORDED IN DEED BOOK 9302 PAGE 1964 AND SHOWN ON BOOK OF MAPS 2002 PAGE 209, WAKE COUNTY REGISTRY; THENCE SOUTH 88°37'56" EAST A DISTANCE OF 629.23 FEET TO AN EXISTING IRON PIPE, SAID IRON PIPE BEING LOCATED ON THE WESTERN EDGE OF THE BURMA DRIVE RIGHT-OF-WAY; THENCE ALONG AND WITH SAID RIGHT-OF-WAY SOUTH 01°18'20" WEST A DISTANCE OF 41.05 FEET TO A POINT; THENCE WITH A CURVE TO THE RIGHT AN ARC DISTANCE OF 117.60 FEET TO A POINT, SAID CURVE HAVING A RADIUS OF 170.00 FEET, A CHORD DIRECTION OF SOUTH 21°04'51" WEST, AND A CHORD DISTANCE OF 115.27 FEET; THENCE SOUTH 41°00'19" WEST A DISTANCE OF 130.25 FEET TO A POINT; THENCE WITH A CURVE TO THE LEFT AN ARC DISTANCE OF 158.73 FEET TO A POINT, SAID CURVE HAVING A RADIUS OF 230.00, A CHORD DIRECTION OF SOUTH 21°09'41" WEST, AND A CHORD DISTANCE OF 155.60 FEET; THENCE SOUTH 01°23'27" WEST A DISTANCE OF 440.52 FEET TO A POINT; THENCE ALONG AND WITH A CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 170.00 FEET, A CHORD BEARING OF S 15°56'57" W AND A CHORD DISTANCE OF 84.94 FEET TO A POINT; THENCE SOUTH 29°24'01" WEST A DISTANCE OF 109.30 FEET TO A POINT; THENCE ALONG AND WITH A CURVE TO THE LEFT, SAID CURVE HAVING A RADIUS OF 230.05 FEET, A CHORD BEARING OF S 19°40'32" W AND A CHORD DISTANCE OF 77.71 FEET TO A POINT; THENCE ALONG AND WITH A CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 25.00 FEET, A CHORD BEARING OF S 50°27'36" W AND A CHORD DISTANCE OF 32.48 FEET TO A POINT; THENCE S 00°57'55" W A DISTANCE OF 69.99 FEET TO A POINT, SAID POINT BEING LOCATED ON THE NORTHERN PROPERTY LINE OF LANDS NOW OR FORMERLY OF JAMES S. SMITH AND ROSE M. SMITH AS RECORDED IN DEED BOOK 18688 PAGE 1891, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID NORTHERN PROPERTY LINE NORTH 89°01'46" WEST A DISTANCE OF 334.16 FEET TO AN EXISTING IRON PIPE, SAID PIPE BEING LOCATED ON THE WESTERN PROPERTY LINE OF LANDS NOW OR FORMERLY OF APEX INDUSTRIAL OWNER 1 LLC ; THENCE ALONG AND WITH SAID WESTERN PROPERTY LINE NORTH 24°32'52" WEST A DISTANCE 66.57 FEET TO A POINT; THENCE NORTH 89°32'21" WEST A DISTANCE OF 66.24 FEET TO THE POINT OF BEGINNING, CONTAINING 15.8849 ACRES.

AFFIDAVIT OF OWNERSHIP: EXHIBIT A – LEGAL DESCRIPTION

Application #: 23CZ01 Submittal Date: _____

Insert legal description below.

PROPERTY DESCRIPTION PER FIELD:

TRACT B (PIN: 0751132324)

COMMENCING FROM AN EXISTING IRON PIPE ON THE INTERSECTION OF THE WESTERN RIGHT-OF-WAY OF BURMA DRIVE AND THE NORTHERN RIGHT-OF-WAY OF PRISTINE WATER DRIVE, SAID PIPE BEING THE SOUTHEASTERN PROPERTY CORNER OF LANDS NOW OR FORMERLY OWNED BY JAMES S. SMITH AND ROSE M. SMITH AS RECORDED IN DEED BOOK 18688 PAGE 1891, WAKE COUNTY REGISTRY AND HAS NC GRID (NAD '83/2011) COORDINATES OF N: 712,998.112 FEET AND E: 2,050,466.263 FEET; THENCE CROSSING BURMA DRIVE S 87°54'08" E A DISTANCE OF 95.02 FEET TO THE POINT OF BEGINNING, SAID POINT BEING ON NORTHERN RIGHT-OF-WAY OF PRISTINE WATER DRIVE; THENCE ALONG AND WITH A CURVE TO THE RIGHT ALONG THE TRANSITION TO THE EASTERN RIGHT-OF-WAY OF BURMA DRIVE, SAID CURVE HAVING A RADIUS OF 25.00 FEET, A CHORD DIRECTION OF N 42°50'08" W AND A CHORD DISTANCE OF 35.37 FEET TO A POINT; THENCE N 02°11'12" E A DISTANCE OF 420.91 FEET TO A POINT; THENCE ALONG AND WITH A CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 170.00 FEET, A CHORD BEARING OF N 15°47'36" E AND A CHORD DISTANCE OF 79.99 FEET TO A POINT; THENCE N 29°24'05" E A DISTANCE OF 79.59 FEET TO A POINT; THENCE ALONG AND WITH A CURVE TO THE LEFT, SAID CURVE HAVING A RADIUS OF 230.00 FEET, A CHORD BEARING OF N 16°40'35" E AND A CHORD DISTANCE OF 121.61 FEET TO A POINT, SAID POINT BEING THE SOUTHWESTERN PROPERTY CORNER OF TRACT 2 AS RECORDED IN DEED BOOK 18555 PAGE 1712, WAKE COUNTY REGISTRY AND SHOWN IN BOOK OF MAPS 2021 PAGES 523-524, WAKE COUNTY REGISTRY; THENCE LEAVING SAID RIGHT-OF-WAY S 88°36'35" E A DISTANCE OF 1,453.23 FEET TO A POINT, SAID POINT BEING A SOUTHWESTERN PROPERTY CORNER OF TRACT C AS RECORDED IN DEED BOOK 18554 PAGE 2706, WAKE COUNTY REGISTRY AND SHOWN IN BOOK OF MAPS 2021 PAGE 2111, WAKE COUNTY REGISTRY; THENCE S 32°01'16" W A DISTANCE OF 792.68 FEET TO A POINT; THENCE S 85°52'48" W A DISTANCE OF 498.34 FEET TO A POINT ON THE NORTHERN RIGHT-OF-WAY OF PRISTINE WATER DRIVE; THENCE N 86°07'12" W A DISTANCE OF 341.51 FEET TO A POINT; THENCE ALONG AND WITH A CURVE TO THE LEFT, SAID CURVE HAVING A RADIUS OF 260.00 FEET, A CHORD BEARING OF N 86°59'21" W AND A CHORD DISTANCE OF 7.89 FEET TO A POINT; THENCE N 87°51'29" W A DISTANCE OF 55.90 FEET TO AN EXISTING IRON PIPE; THENCE N 87°51'29" W A DISTANCE OF 218.89 FEET TO THE POINT OF BEGINNING, CONTAINING 21.5372 ACRES.

AFFIDAVIT OF OWNERSHIP: EXHIBIT A – LEGAL DESCRIPTION

Application #: 23CZ01 Submittal Date:

Insert legal description below.

TRACT C PER FIELD;

BEGINNING AT AN EXISTING IRON PIPE LOCATED ON THE NORTHERN PROPERTY LINE OF LANDS NOW OR FORMERLY OF APES INDUSTRIAL OWNER 2 LLC AS RECORDED IN DEED BOOK 18554 PAGE 2713 AND SHOWN ON BOOK OF MAPS 2016 PAGE 1902, WAKE COUNTY REGISTRY, BEING THE SOUTHWESTERN PROPERTY CORNER OF LANDS NOW OR FORMERLY OF CAREY C. JONES MEMORIAL PARK, INC. AS RECORDED IN WILL BOOK 3 PAGE 41, WAKE COUNTY REGISTRY, AND HAVING NC GRID NAD (83/2011) COORDINATES OF N: 712817.7170 FEET E: 2053329.7580 FEET, AND BEING THE POINT OF BEGINNING; THENCE ALONG AND WITH SAID NORTHERN PROPERTY LINE NORTH 86°56'41" WEST A DISTANCE OF 649.65 FEET TO AN EXISTING IRON PIPE, SAID IRON PIPE BEING LOCATED ON THE NORTHERN EDGE OF THE PRODUCTION DRIVE DRIVE RIGHT-OF-WAY; THENCE ALONG AND WITH SAID RIGHT-OF-WAY NORTH 87°41'32" WEST A DISTANCE OF 644.36 FEET TO AN EXISTING IRON PIPE; THENCE NORTH 87°48'30" WEST A DISTANCE OF 1260.18 FEET TO AN EXISTING IRON PIPE, SAID IRON PIPE BEING THE NORTHEASTERN PROPERTY CORNER OF LANDS NOW OR FORMERLY OF DIXIE PIPE LINE COMPANY AS RECORDED IN DEED BOOK 1961 PAGE 380 AND SHOWN ON BOOK OF MAPS 1970 PAGE 106, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID NORTHERN PROPERTY LINE NORTH 87°51'29" WEST A DISTANCE OF 525.36 FEET TO A POINT; SAID POINT BEING THE SOUTH EASTERN PROPERTY CORNER OF LANDS NOW OR FORMERLY OF DIXIE PIPELINE COMPANY AS RECORDED IN DEED BOOK 1961 PAGE 380, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID EASTERN PROPERTY LINE NORTH 24°31'04" WEST A DISTANCE OF 533.44 FEET TO A POINT, SAID POINT BEING THE SOUTH WESTERN PROPERTY CORNER OF LANDS NOW OR FORMERLY OF TRACT A AS RECORDED IN DEED BOOK DEED BOOK 18554 PAGE 2706 AND SHOWN ON BOOK OF MAPS 2021 PAGE 2111, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID SOUTHERN PROPERTY LINE SOUTH 89°32'21" EAST A DISTANCE OF 66.24 FEET TO A AN EXISTING IRON PIPE; THENCE SOUTH 24°32'52" EAST A DISTANCE OF 66.57 FEET TO AN EXISTING IRON PIPE, SAID IRON PIPE BEING THE NORTH WESTERN PROPERTY CORNER OF LANDS NOW OR FORMERLY OF SMITH, JAMES STEPHEN & SMITH, ROSE M. AS RECORDED IN DEED BOOK 18688 PAGE 1891 AND SHOWN ON BOOK OF MAPS 1984 PAGE 1899, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID WESTERN PROPERTY LINE SOUTH 24°30'09" EAST A DISTANCE OF 402.22 FEET TO A POINT; THENCE SOUTH 87°56'20" EAST A DISTANCE OF 174.08 FEET TO AN EXISTING IRON PIPE, SAID IRON PIPE BEING LOCATED ON THE SOUTHERN EDGE OF THE THE BURMA DRIVE RIGHT-OF-WAY; THENCE ALONG AND WITH SAID RIGHT-OF-WAY SOUTH 87°48'50" EAST A DISTANCE OF 60.00 FEET TO A POINT, SAID POINT BEING THE SOUTH WESTERN PROPERTY CORNER OF LANDS NOW OR FORMERLY OF TRACT B AS RECORDED IN DEED BOOK 18554 PAGE 2706 AND SHOWN ON BOOK OF MAPS 2021 PAGE 2111, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID PROPERTY LINE SOUTH 88°03'12" EAST A DISTANCE OF 35.02 FEET; THENCE SOUTH 87°51'29" EAST A DISTANCE OF 274.79 FEET TO A POINT; THENCE WITH A CURVE TO THE RIGHT AN ARC DISTANCE OF 7.89 FEET TO A POINT, SAID CURVE HAVING A RADIUS OF 260.00 FEET, A CHORD DIRECTION OF SOUTH 86°59'21" EAST, AND A CHORD DISTANCE OF 7.89 FEET; THENCE SOUTH 86°07'12" EAST A DISTANCE OF 341.51 FEET TO A POINT; THENCE NORTH 85°52'48" EAST A DISTANCE OF 498.34 FEET TO A POINT; THENCE NORTH 32°01'16" EAST A DISTANCE OF 792.68 FEET TO A POINT; THENCE NORTH 88°36'35" WEST A DISTANCE OF 115.72 FEET TO A POINT, SAID POINT BEING THE SOUTH EASTERN PROPERTY LINE OF LANDS NOW OR FORMERLY OF BIN - BD1201 LLC AS RECORDED IN DEED BOOK 18555 PAGE 1712 AND SHOWN ON BOOK OF MAPS 2021 PAGE 523-524, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID EASTERN PROPERTY LINE NORTH 24°37'57" EAST A DISTANCE OF 290.77 FEET TO AN EXISTING IRON PIPE, SAID IRON PIPE BEING LOCATED ON THE SOUTHERN PROPERTY LINE OF LANDS NOW OR FORMERLY OF PROTEIN PRODUCTION LLC AS RECORDED IN DEED BOOK 18413 PAGE 1500 AND SHOWN ON BOOK OF MAPS 2021 PAGE 43, WAKE COUNTY REGISTRY; THENCE ALONG AND WITH SAID SOUTHERN PROPERTY LINE SOUTH 49°41'38" EAST A DISTANCE OF 179.06 FEET TO A POINT; THENCE NORTH 85°31'44" EAST A DISTANCE OF 127.10 FEET TO AN EXISTING IRON PIPE; THENCE NORTH 53°56'15" EAST A DISTANCE OF 136.26 FEET TO A POINT; THENCE NORTH 56°58'05" EAST A DISTANCE OF 89.85 FEET TO A POINT; THENCE NORTH 58°11'14" EAST A DISTANCE OF 158.89 FEET TO AN EXISTING IRON PIPE; THENCE NORTH 36°19'07" EAST A DISTANCE OF 277.70 FEET TO AN EXISTING IRON PIPE; THENCE NORTH 46°40'04" EAST A DISTANCE OF 63.68 FEET TO AN EXISTING IRON PIPE; THENCE NORTH 11°52'28" WEST A DISTANCE OF 68.24 FEET TO AN EXISTING IRON PIPE; THENCE WITH A CURVE TO THE RIGHT AN ARC DISTANCE OF 110.65 FEET TO AN EXISTING IRON PIPE, SAID CURVE HAVING A RADIUS OF 370.00 FEET, A CHORD DISTANCE OF NORTH 03°18'26" WEST, AND A CHORD DISTANCE OF 110.24 FEET, SAID IRON PIPE BEING THE SOUTH WESTERN PROPERTY CORNER OF LANDS NOW OR FORMERLY OF PRODUCTION DRIVE BUSINESS CNT MASTER CRD AS RECORDED IN DEED BOOK 12779 PAGE 2532 AND SHOWN ON BOOK OF MAPS 2006 PAGE 1762; THENCE ALONG AND WITH SAID SOUTHERN PROPERTY LINE SOUTH 88°36'08" EAST A DISTANCE OF 515.27 FEET TO AN EXISTING CONCRETE MONUMENT SAID MONUMENT BEING THE NORTH WESTERN PROPERTY CORNER OF LANDS NOW OF FORMERLY OF CAREY C. JONES MEMORIAL PARK, INC.; THENCE SOUTH 02°18'33" WEST A DISTANCE OF 1658.21 FEET TO THE POINT OF BEGINNING, CONTAINING 45.5280 ACRES

| Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA

Meeting Date: May 9, 2023

Item Details

Presenter(s): Shelly Mayo, Planner II

Department(s): Planning

Requested Motion

Motion to approve Statement of the Town Council and Ordinance for Rezoning Case #23CZ02 Triangle Home Services Phase II. The applicant is Peak Engineering & Design, PLLC for the property located at 0 US Hwy 64 West (PIN 0722047141).

Approval Recommended?

The Planning Department recommends approval.

Item Details

Rezoning Case #23CZ02 Triangle Home Services Phase II was approved at the April 25, 2023 Town Council meeting.

Attachments

- CN12-A1: Statement of the Town Council and Ordinance – Rezoning No. 23CZ02
- CN12-A2: Attachment A - Legal Description – Rezoning No. 23CZ02

STATEMENT OF TOWN COUNCIL AND ORDINANCE AMENDING THE OFFICIAL ZONING DISTRICT MAP OF THE TOWN OF APEX TO CHANGE THE ZONING OF APPROXIMATELY 4.55 ACRES LOCATED AT 0 US HIGHWAY 64 WEST FROM RURAL RESIDENTIAL (RR) TO TECH/FLEX–CONDITIONAL ZONING (TF-CZ)

#23CZ02

WHEREAS, Peak Engineering & Design, PLLC, owner/applicant (the "Applicant"), submitted a completed application for a conditional zoning on the 1st day of February 2023 (the "Application"). The proposed conditional zoning is designated #23CZ02;

WHEREAS, the Planning Director for the Town of Apex, Dianne Khin, caused proper notice to be given (by publication and posting) of a public hearing on #23CZ02 before the Planning Board on the 10th day of April 2023;

WHEREAS, the Apex Planning Board held a public hearing on the 10th day of April 2023, gathered facts, received public comments and formulated a recommendation regarding the application for conditional zoning #23CZ02. A motion was made by the Apex Planning Board to recommend approval; the motion passed unanimously for the application for #23CZ02;

WHEREAS, pursuant to N.C.G.S. §160D-601 and Sec. 2.2.11.E of the Unified Development Ordinance, the Planning Director caused proper notice to be given (by publication and posting), of a public hearing on #23CZ02 before the Apex Town Council on the 25th day of April 2023;

WHEREAS, the Apex Town Council held a public hearing on the 25th day of April 2023. Shelly Mayo, Planner II, presented the Planning Board's recommendation at the public hearing;

WHEREAS, all persons who desired to present information relevant to the application for #23CZ02 were allowed to present evidence at the public hearing before the Apex Town Council. No one who wanted to speak was turned away;

WHEREAS, the Apex Town Council finds that the approval of the rezoning is consistent with the 2045 Land Use Plan and other adopted plans in that: The 2045 Land Use Map designates this area as Mixed Use: High Density Residential/Office Employment/ Commercial Services. This designation on the 2045 Land Use Map includes the zoning district Tech/Flex–Conditional Zoning (TF-CZ) and the Apex Town Council has further considered that the proposed rezoning to Tech/Flex–Conditional Zoning (TF-CZ) will maintain the character and appearance of the area and provide the flexibility to accommodate the growth in population, economy, and infrastructure consistent with that contemplated by the 2045 Land Use Map;

WHEREAS, the Apex Town Council finds that the approval of the rezoning is reasonable and in the public interest in that: The rezoning will permit additional non-residential uses that are compatible with the surrounding properties, implement stricter environmental conditions than the UDO requires, and allow the property to be developed in conjunction with the property to the north. The rezoning will encourage compatible development of the property and increase the tax base; and

WHEREAS, the Apex Town Council by a vote of 3 to 1 approved Application #23CZ02 rezoning the subject tract located at 0 US Highway 64 West from Rural Residential (RR) to Tech/Flex–Conditional Zoning (TF-CZ).

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF APEX

Section 1: The lands that are the subject of the Ordinance are those certain lands described in Attachment "A" – Legal Description which is incorporated herein by reference, and said lands are hereafter referred to as the "Rezoned Lands."

Section 2: The Town of Apex Unified Development Ordinance, including the Town of Apex North Carolina Official Zoning District Map which is a part of said Ordinance, is hereby amended by changing the zoning classification of the "Rezoned Lands" from Rural Residential (RR) to Tech/Flex–Conditional Zoning (TF-CZ) District, subject to the conditions stated herein.

Section 3: The Planning Director is hereby authorized and directed to cause the said Official Zoning District Map for the Town of Apex, North Carolina, to be physically revised and amended to reflect the zoning changes ordained by this Ordinance.

Section 4: The "Rezoned Lands" are subject to all of the following conditions which are imposed as part of this rezoning:

The Rezoned Lands may be used for, and only for, the uses listed immediately below. The permitted uses are subject to the limitations and regulations stated in the UDO and any additional limitations or regulations stated below. For convenience, some relevant sections of the UDO may be referenced; such references do not imply that other sections of the UDO do not apply.

1. Security or Caretaker quarters
2. Day care facility
3. Drop-in or short- term day care
4. Government service
5. Veterinary clinic or hospital
6. Vocational school
7. Utility, minor
8. Wireless support structure
9. Wireless communication facility
10. Botanical garden
11. Entertainment, indoor
12. Greenway
13. Park, active
14. Park, passive
15. Youth or day camps
16. Broadcasting station (radio and television)
17. Radio and television recording studio
18. Commissary
19. Restaurant, general
20. Dispatching office
21. Medical or dental office or clinic
22. Medical or dental laboratory
23. Office, business or professional
24. Pilot Plant (S)
25. Publishing office
26. Research facility
27. Artisan Studio
28. Glass sales
29. Grocery, general
30. Grocery, specialty
31. Health/fitness center or spa
32. Kennel
33. Personal service
34. Printing and copying service
35. Real estate sales
36. Repair services, limited
37. Retail sales, bulky goods
38. Retail sales, general (%)
39. Self-service storage
40. Studio for art
41. Tailor shop
42. Upholstery shop
43. Pet services
44. Automotive Accessory Sales and Installation
45. Contractor's office and storage yard
46. Laboratory, industrial research
47. Warehousing, general
48. Woodworking or cabinetmaking
49. Wholesaling distribution center
50. Microbrewery
51. Microdistillery

Zoning Conditions:

1. Non-residential architectural standards:
   a. The building exterior shall be high quality materials, including but not limited to brick, wood, stacked stone, other native stone, and tinted/textured concrete masonry units.

   b. EIFS or synthetic stucco shall not be used in the first forty inches (40") above grade.
   c. The building exterior shall have more than one material color.
   d. The buildings shall have more than one parapet height.
   e. Only full cut-off lighting fixtures and fixtures with external house-side shields shall be allowed where non-residential properties are adjacent to residential properties.
2. A buffer shall not be required along the northern boundary adjacent to PIN 0722-04-7652).
3. If the uses "Commissary", "Contractor's office and storage yard", and/or "Wholesale distribution center" are proposed within the zoned property, an 8-foot opaque fence shall be installed to provide additional screening of the stored business vehicles from the American Tobacco Trail. This requirement is above and beyond the required buffer along the American Tobacco Trail.
4. A note shall be added to plans and plats regarding the existing Deck Air Park generally as noted: "AVIATION NOTICE: Deck Air Park, an active, general aviation airport open to the public, is located within close proximity to the proposed development. The flight path of aircraft landing, taking off, and flying nearby pass directly over this development. The property identified on this plat may be subject to the impacts of the aviation uses being conducted to, from, at and nearby Deck Air Park for so long as that airport may continue to be used."
5. The use "Glass Sales" shall be all indoors except where materials are stored on trucks. Outdoor truck parking for Glass Sales use must be fully screened from any public rights-of-ways.
6. "Self-service storage" shall be limited to parking, drive aisles, and SCMs on the rezoned parcel.
7. "Contractor's office and storage yard" shall not permit an outdoor storage yard on the zoned parcel with the exception of any company vehicles stored when not in use.
8. Post development peak runoff shall not exceed pre-development peak runoff for the 24-hour, 1-year, 10-year, and 25-year storm events in accordance with the Unified Development Ordinance.
9. No clearing or land disturbance shall be permitted within the riparian buffer, except the minimum necessary to install required sewer infrastructure and SCM outlets. The SCM water storage and treatment area shall not be permitted with the riparian buffer. The sewer shall be designed to minimize impacts to the riparian buffer.
10. Plant deciduous shade trees on the southern side of buildings.
11. Plant evergreen trees as a windbreak on northern side of buildings.
12. The project shall select and install tree, shrub and perennial species with special attention to providing diverse and abundant pollinator and bird food sources, including plants that bloom in succession from spring to fall.
13. Of the vegetation used with the development, 75% shall be native species including those planted within the perimeter buffers. Species shall be submitted to the Planning Department in coordination with the Apex Design & Development Manual).
14. To reduce irrigation requirements, the project shall select and plant only warm season grasses.
15. A minimum of three (3) hardwood tree species shall be used for the landscaping on site.
16. A minimum of two (2) Electric Vehicle Charging Stations shall be installed.
17. Include International Dark Sky Association compliance standards within the design, including:
   a. Outdoor lighting shall be shielded in a way that focuses lighting to the ground.
   b. Lighting that minimizes the emission of blue light to reduce glare shall be used.
   c. Lighting with a color temperature of 3000K or less shall be used for outside installations.
18. All non-residential buildings shall provide solar conduit for future installation of rooftop solar panels.

Section 5: The "Rezoned Lands" shall be perpetually bound to the conditions imposed including the uses authorized, unless subsequently changed or amended as provided for in the Unified Development Ordinance. Site plans for any development to be made pursuant to this amendment to the Official Zoning District Map shall be

submitted for site plan approval as provided for in the Unified Development Ordinance.

Section 6: This Ordinance shall be in full force and effect from and after its adoption.

Motion by Council Member_____

Seconded by Council Member_____

With ____ Council Member(s) voting "aye."

With ____ Council Member(s) voting "no."

This the _____ day of _____ 2023.

TOWN OF APEX

Jacques K. Gilbert
Mayor

ATTEST:

Allen Coleman, CMC, NCCCC
Town Clerk

APPROVED AS TO FORM:

Town Attorney

Triangle Home Services / Shelton Property Investments LLC
Rezoning Legal Description

All those certain parcels of land, situated in White Oak Township, Wake County, Apex, North Carolina, being known and designated as PIN 0722-04-7141, Wake County Records Deed Book 1992 Page 1523 and being more particularly described as follows:

Beginning at an Existing Iron Pipe on the Northeast Property Corner of PIN 0722-03-7373 N/F John W. Long & Faye Long (Deed Book 2070 Page 631) and the Southeast Property Corner of Graydon Holdings, LLC property PIN 0722-04-7141 (Deed Book 17531 Page 1052) Wake County Records having State Plane Coordinates N:723,906.79, E:2,021,015.94 as shown on a certain map entitled "Exempt Subdivision Plat for Graydon Holdings Parcel" made by VHB and recorded in Book of Maps 2021 Page 522 and Deed Book 18414 Page 2323, said point being the **POINT OF BEGINNING:**

thence N88°56'26"W 508.99' to an Existing Iron Pipe being a Common Property Corner with PIN:0722040381 (N/F Deannas Dowry, LLC);

thence N01°57'01"E 417.06' to an Existing Iron Pipe being a Common Property Corner with PIN:0722047652 (N/F Shelton Property Investments, LLC);

thence S87°00'24"E 439.95' to an Existing Iron Pipe along the Common Property Boundary with PIN:0722047652 (N/F Shelton Property Investments, LLC);

thence S87°00'24"E 20.68' to an Existing Iron Pipe being a Common Property Corner with PIN:0722047652 (N/F Shelton Property Investments, LLC) and PIN:0711986221 (N/F North Carolina Department of Transportation – more commonly the American Tobacco Trail property);

thence S04°55'57"E 403.67' to an Existing Iron Pipe being a Common Property Corner with PIN:0722037373 (N/F John W. Long & Faye Long), said point being the **POINT OF BEGINNING.**

Triangle Home Services / Shelton Property Investments LLC Rezoning contains 198,211 square feet or 4.55 acres more or less.

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for consideration by the Apex Town Council

Item Type: CONSENT AGENDA

Meeting Date: May 9, 2023

Item Details

Presenter(s): Amanda Bunce, Current Planning Manager

Department(s): Planning

Requested Motion

Motion to approve the Statement of the Town Council and Ordinance for Rezoning Application #23CZ03, Rebecca D'Eloia, RXR Realty, petitioner, for the properties located at 0 & 0 E Williams Street and 0 & 0 Veridea Parkway (PINs 0740982630, 0740982659, 0740240814, 0740052449).

Approval Recommended?

The Planning Department recommends approval.

Item Details

Rezoning Application #23CZ03 was approved at the April 25, 2023 Town Council meeting.

Attachments

- CN13-A1: Statement of the Town Council and Ordinance – Rezoning No. 23CZ03 – Veridea Expansion
- CN13-A2: Attachment A - Legal Description – Rezoning No. 23CZ03 – Veridea Expansion
- CN13-A3: Attachment B - Sustainable Development Plan for Veridea
- CN14-A4: Attachment C – Environmental Enhancement Plan for Veridea

STATEMENT OF TOWN COUNCIL AND ORDINANCE AMENDING THE OFFICIAL ZONING DISTRICT MAP OF THE TOWN OF APEX TO CHANGE THE ZONING OF APPROXIMATELY 24.92 ACRES LOCATED AT 0 & 0 E WILLIAMS STREET AND 0 & 0 VERIDEA PARKWAY FROM RURAL RESIDENTIAL (RR) AND RESIDENTIAL AGRICULTURAL (RA) TO SUSTAINABLE DEVELOPMENT-CONDITIONAL ZONING (SD-CZ) FOR VERIDEA

#23CZ03

WHEREAS, RXR Len Apex Owner, LLC/Rebecca D'Eloia, RXR Realty, owner/applicant (the "Applicant"), submitted a completed application for a conditional zoning on the 1st day of February 2023 (the "Application"). The proposed conditional zoning is designated #23CZ03;

WHEREAS, the Planning Director for the Town of Apex, Dianne Khin, caused proper notice to be given (by publication and posting) of a public hearing on #23CZ03 before the Planning Board on the 10th day of April 2023;

WHEREAS, the Apex Planning Board held a public hearing on the 10th day of April 2023, gathered facts, received public comments and formulated a recommendation regarding the application for conditional zoning #23CZ03. A motion was made by the Apex Planning Board to recommend approval; the motion passed unanimously for the application for #23CZ03;

WHEREAS, pursuant to N.C.G.S. §160D-601 and Sec. 2.2.11.E of the Unified Development Ordinance, the Planning Director caused proper notice to be given (by publication and posting), of a public hearing on #23CZ03 before the Apex Town Council on the 25th day of April 2023;

WHEREAS, the Apex Town Council held a public hearing on the 25th day of April 2023. Amanda Bunce, Current Planning Manager, presented the Planning Board's recommendation at the public hearing;

WHEREAS, all persons who desired to present information relevant to the application for #23CZ03 were allowed to present evidence at the public hearing before the Apex Town Council. No one who wanted to speak was turned away;

WHEREAS, the Apex Town Council finds that the approval of the rezoning is consistent with the 2045 Land Use Plan and other adopted plans in that: The 2045 Land Use Map designates this area as Regional Mixed Use: Medium Density Residential/High Density Residential/Office Employment/Commercial Services/Industrial Employment. This designation on the 2045 Land Use Map includes the zoning district Sustainable Development-Conditional Zoning (SD-CZ) and the Apex Town Council has further considered that the proposed rezoning to Sustainable Development-Conditional Zoning (SD-CZ) will maintain the character and appearance of the area and provide the flexibility to accommodate the growth in population, economy, and infrastructure consistent with that contemplated by the 2045 Land Use Map;

WHEREAS, the Apex Town Council finds that the approval of the rezoning is reasonable and in the public interest in that: The rezoning will encourage more efficient and compatible development of the properties, provide for the same development standards as applicable to the undeveloped adjacent properties, and allow for uses that will generate jobs and increase the tax base; and

WHEREAS, the Apex Town Council by a vote of 4 to 0 approved Application #23CZ03 rezoning the subject tract located at 0 & 0 E Williams Street and 0 & 0 Veridea Parkway from Rural Residential (RR) & Residential Agricultural (RA) to Sustainable Development-Conditional Zoning (SD-CZ) for Veridea.

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF APEX

Section 1: The lands that are the subject of the Ordinance are those certain lands described in Attachment "A" – Legal Description which is incorporated herein by reference, and said lands are hereafter referred to as the "Rezoned Lands."

Ordinance Amending the Official Zoning District Map #23CZ03

Section 2: The Town of Apex Unified Development Ordinance, including the Town of Apex North Carolina Official Zoning District Map which is a part of said Ordinance, is hereby amended by changing the zoning classification of the "Rezoned Lands" from Rural Residential (RR) & Residential Agricultural (RA) to Sustainable Development-Conditional Zoning (SD-CZ) for Veridea, subject to the conditions stated herein.

Section 3: The Planning Director is hereby authorized and directed to cause the said Official Zoning District Map for the Town of Apex, North Carolina, to be physically revised and amended to reflect the zoning changes ordained by this Ordinance.

Section 4: The "Rezoned Lands" are subject to the conditions in Attachment "B" Veridea SD Plan which are imposed as part of this rezoning and Attachment "C" Veridea Environmental Enhancement Plan. At the request of the applicant and pursuant to UDO Sec. 2.3.16.D, the zoning of these parcels to the Veridea SD-CZ district shall not increase the number of residential units on a pro-rata basis, based on the size of the parcels added to the district.

Section 5: The "Rezoned Lands" shall be perpetually bound to the conditions imposed including the uses authorized, unless subsequently changed or amended as provided for in the Unified Development Ordinance. Site plans for any development to be made pursuant to this amendment to the Official Zoning District Map shall be submitted for site plan approval as provided for in the Unified Development Ordinance.

Section 6: This Ordinance shall be in full force and effect from and after its adoption.

Motion by Council Member_____

Seconded by Council Member_____

With ____ Council Member(s) voting "aye."

With ____ Council Member(s) voting "no."

This the _____ day of _____ 2023.

TOWN OF APEX

_____
Jacques K. Gilbert
Mayor

ATTEST:

_____
Allen Coleman, CMC, NCCCC
Town Clerk

APPROVED AS TO FORM:

_____
Town Attorney

Attachment A

Veridea Expansion - Metes and Bounds Legal Description

PARCEL 1

PID: 0740982659

BEING A PORTION OF LOT 13 AS SHOWN ON BOOK OF MAPS 1948, PAGE 18 OF THE WAKE COUNTY REGISTRY. MORE PARTICULARLY DESCRIBED AS:

BEGINNING AN IRON PIPE, THE NORTHWEST CORNER OF LOT 12 AS SHOWN ON BOOK OF MAPS 1948, PAGE 18 OF THE WAKE COUNTY REGISTRY, THE POINT OF BEGINNING; THENCE NORTH 01°25'42" EAST A DISTANCE OF 49.75 FEET TO AN IRON PIPE, THE SOUTHWEST CORNER OF LOT 14 AS SHOWN ON THE AFORE SAID BOOK PF MAPS; THENCE WITH SAID COMMON LINE SOUTH 87°07'42" EAST A DISTANCE OF 125.64 FEET TO A POINT ON THE WESTERN RIGHT OF WAY OF NORTH CAROLINA HIGHWAY 55; THENCE WITH SAID RIGHT OF WAY SOUTH 01°45'44" WEST A DISTANCE OF 50.00 FEET TO A POINT ON THE NORTH LINE OF SAID LOT 12; THENCE WITH SAID COMMON LINE NORTH 87°00'54" WEST A DISTANCE OF 125.36 FEET TO THE POINT OF BEGINNING. CONTAINING 6,258 SQUARE FEET OR 0.14 ACRES.

PARCEL 2

PID: 0740982630

BEING A PORTION OF LOT 11 AS SHOWN ON BOOK OF MAPS 1948, PAGE 18 OF THE WAKE COUNTY REGISTRY. MORE PARTICULARLY DESCRIBED AS:

BEGINNING AT AN IRON PIPE, THE SOUTHWEST CORNER OF LOT 12 AS SHOWN ON BOOK OF MAPS 1948, PAGE 18 OF THE WAKE COUNTY REGISTRY, THE POINT OF BEGINNING; THENCE WITH SAID COMMON LINE SOUTH 86°50'20" EAST A DISTANCE DF 115.40 FEET TO A POINT ON THE WESTERN RIGHT OF WAY OF NORTH CAROLINA HIGHWAY 55; THENCE WITH SAID RIGHT OF WAY SOUTH 14°56'39" WEST A DISTANCE OF 51.10 FEET TO A CONCRETE RIGHT OF WAY MONUMENT ON THE NORTHERN LINE OF LOT 10 AS SHOWN ON THE AFORE SAID BOOK OF MAPS; THENCE WITH SAID COMMON LINE NORTH 86°52'56" WEST A DISTANCE OF 103.53 FEET TO AN IRON PIPE THE NORTHWESTERN CORNER OF LOT 10; THENCE NORTH 01 °30'52" EAST A DISTANCE OF 50.12 FEET TO THE POINT OF BEGINNING. CONTAINING AN AREA OF 5,480 SQUARE FEET OR 0.13 ACRES.

PARCEL 3

BEING A PORTION OF THE PROGRESS ENERGY TRACT AS SHOWN ON BOOK OF MAPS 2007, PAGE 1132 IN THE WAKE COUNTY REGISTER OF DEEDS. BEING MORE PARTICULARLY DESCRIBED AS:

BEGINNING AT A POINT AT THE INTERSECTION OF THE EASTERN RIGHT OF WAY LINE OF VERIDEA PARKWAY AND THE SOUTHERN RIGHT OF WAY LINE OF THE N.C. HIGHWAY 540 RAMP, AS DESCRIBED IN DEED BOOK 15539, PAGE 1855 IN THE WAKE COUNTY REGISTER OF DEEDS, THE POINT OF BEGINNING; THENCE WITH THE SOUTHERN RIGHT OF WAY LINE OF THE N.C. HIGHWAY 540 RAMP, NORTH 48°17'55" EAST A DISTANCE OF 3.48 FEET TO A POINT; THENCE SOUTH 76°02'09" EAST A DISTANCE OF 316.69 FEET TO A CONCRETE MONUMENT; THENCE SOUTH 77°42'22" EAST A DISTANCE OF 224.13 FEET TO A CONCRETE MONUMENT; THENCE NORTH 74°21'52" EAST A DISTANCE OF 186.60 FEET TO A CONCRETE MONUMENT; THENCE NORTH 46°45'41" EAST A DISTANCE OF 297.04 FEET TO A CONCRETE MONUMENT; THENCE NORTH 47°49'13" EAST A DISTANCE OF 182.30 FEET TO A CONCRETE MONUMENT; THENCE NORTH 64°40'03" EAST A DISTANCE OF 179.28 FEET TO A POINT, BEING THE NORTHWEST CORNER OF LANDS NOW OR FORMERLY OWNED BY GREENWAY WASTE SOLUTIONS OF APEX, LLC, AS DESCRIBED IN DEED BOOK 9099, PAGE 1039; THENCE WITH SAID COMMON LINE, SOUTH 06°34'16" EAST A DISTANCE OF 760.63 FEET TO AN IRON PIPE ON THE NORTHERN LINE OF LANDS NOW OR FORMERLY OWNED BY HH TRINITY APEX INVESTMENTS, LLC, AS DESCRIBED IN DEED BOOK 12826, PAGE 2489; THENCE WITH SAID COMMON LINE, NORTH 78°40'10" WEST A DISTANCE OF 164.41 FEET TO A POINT; THENCE NORTH 77°01'58" WEST A DISTANCE OF 181.30 FEET TO A POINT; THENCE NORTH 65°53'37" WEST A DISTANCE OF 301.08 FEET TO A POINT; THENCE NORTH 71°44'05" WEST A DISTANCE OF 452.53 FEET TO A POINT; THENCE NORTH 71°58'44" WEST A DISTANCE OF 280.51 FEET TO THE POINT AND PLACE OF BEGINNING, CONTAINING AN AREA OF 316,750 SQUARE FEET OR 7.27 ACRES.

PARCEL 4

BEING ALL OF THE LAND DESCRIBED IN DEED BOOK 15535, PAGE 1727 IN THE WAKE COUNTY REGISTER OF DEEDS. BEING MORE PARTICULARLY DESCRIBED AS:

BEGINNING AT A CONCRETE MONUMENT ON THE NORTHERN LINE OF LANDS AS SHOWN ON BOOK OF MAPS 1986, PAGE 1865 IN THE WAKE COUNTY REGISTER OF DEEDS, THE POINT OF BEGINNING; THENCE WITH SAID COMMON LINE, NORTH 71°59'15" WEST A DISTANCE OF 337.68 FEET TO AN IRON PIPE; THENCE NORTH 86°29'50" WEST A DISTANCE OF 829.07 FEET TO AN IRON PIPE, BEING THE SOUTHEAST CORNER OF LANDS NOW OR FORMERLY OWNED BY HH TRINITY APEX INVESTMENTS, LLC, AS DESCRIBED IN DEED BOOK 12651, PAGE 1128; THENCE WITH SAID COMMON LINE, NORTH 00°41'54" EAST A DISTANCE OF 661.29 FEET TO A POINT ON THE SOUTHERN LINE OF LANDS NOW OR FORMERLY OWNED BY HH TRINITY APEX INVESTMENTS, AS DESCRIBED IN DEED BOOK 12830, PAGE 1996; THENCE WITH SAID COMMON

LINE, SOUTH 89°13'28" EAST A DISTANCE OF 647.67 FEET TO AN IRON PIPE; THENCE NORTH 02°26'42" EAST A DISTANCE OF 29.55 FEET TO A POINT ON THE SOUTHERN RIGHT OF WAY LINE OF N.C. HIGHWAY 540; THENCE WITH THE SOUTHERN RIGHT OF WAY LINE OF N.C. HIGHWAY 540, WITH A CURVE TO THE LEFT A RADIUS OF 4375.00 FEET, AN ARC LENGTH OF 456.34 FEET, A CHORD BEARING OF SOUTH 65°10'37" EAST, A CHORD LENGTH OF 456.13 FEET TO A CONCRETE MONUMENT; THENCE SOUTH 49°00'55" EAST A DISTANCE OF 133.17 FEET TO A POINT AT THE INTERSECTION OF THE SOUTHERN RIGHT OF WAY LINE OF N.C. HIGHWAY 540 AND THE WESTERN RIGHT OF WAY LINE OF VERIDEA PARKWAY, AS DESCRIBED IN DEED BOOK 15539, PAGE 1885; THENCE WITH THE WESTERN RIGHT OF WAY LINE OF VERIDEA PARKWAY, WITH A CURVE TO THE LEFT A RADIUS OF 1680.00 FEET, AN ARC LENGTH OF 355.38 FEET, A CHORD BEARING OF SOUTH 05°50'57" WEST, A CHORD LENGTH OF 354.72 FEET TO A POINT; THENCE WITH A CURVE TO THE LEFT A RADIUS OF 1680.00 FEET, AN ARC LENGTH OF 205.93 FEET, A CHORD BEARING OF SOUTH 03°43'21" EAST, A CHORD LENGTH OF 205.80 FEET TO THE POINT AND PLACE OF BEGINNING, CONTAINING AN AREA OF 757,143 SQUARE FEET OR 17.38 ACRES.

ORDINANCE AMENDING THE OFFICIAL ZONING DISTRICT MAP
#09CZ07

WHEREAS, the application of Lookout Ventures, Inc., petitioner, for the rezoning of lands hereinafter described was duly filed with the office of the Planning Director and thereafter public hearings were held hereon on the 13th day of December, 2010 and the 13th day of January, 2011 before the Planning Board and the 18th day of January, 2011, the 1st day and 15th of February, 2011, the 15th day of March, 2011 and the 10th day of May, 2011, before the Town Council, respectively, pursuant to due notice mailed and published pursuant to G.S. § 160A-384. Thereafter, the Planning Board submitted its final report to the Town Council recommending approval of said application for the rezoning of the lands hereinafter described, all in accordance with the requirements of the Town of Apex Unified Development Ordinance and the provisions of Chapter 160A, Article 19, of the North Carolina General Statutes; **NOW, THEREFORE,**

BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF APEX

Section 1: The Town of Apex Unified Development Ordinance, including the Town of Apex North Carolina Official Zoning District Map which is a part of said Ordinance, is hereby amended by changing the zoning classification of the lands hereinafter described from Planned Unit Development Conditional Zoning (PUD-CZ), Light Industrial (LI), Rural Residential (RR) and Residential Agricultural (RA) to SD-CZ (Sustainable Development Conditional Zoning) District, said lands so rezoned being described as follows:

See Attachement "A" (Legal Description)

Section 2: The Planning Director is hereby authorized and directed to cause the said Official Zoning District Map for the Town of Apex, North Carolina, to be physically revised and amended to reflect the zoning changes directed by this Ordinance.

Section 3: A request to amend the Official Zoning District Map is granted whereby the previously described property and the subject of the previously mentioned change in zoning classification is subject to the following limitations:

See Attachment "B" (SD Plan and UDO Amendments)

Section 4: This property shall be perpetually bound to the uses authorized, unless subsequently changed or amended as provided for in the Unified Development Ordinance. Site plans for any development to be made pursuant to this amendment to the Official Zoning District Map shall be submitted for site plan approval as provided for in the Unified Development Ordinance.

Section 5: This ordinance shall be in full force and effect from and after its adoption.

Motion by Council Member Jones

Seconded by Council Member Jensen

With 4 Council Member(s) voting "aye."
With 0 Council Member(s) voting "no."

This the 2nd day of August, 2011.

TOWN OF APEX, NORTH CAROLINA

Mayor

ATTEST:

Georgia A. Evangelista
Town Clerk

APPROVED AS TO FORM:

Town Attorney

STATEMENT OF THE APEX TOWN COUNCIL PURSUANT TO G.S. 160A-383 ADDRESSING ACTION ON ZONING PETITION #09CZ09

Lookout Ventures, Inc., owners/applicants (the "Applicant"), submitted a completed application for a conditional zoning on the 1st day of June, 2009 (the "Application"). The proposed conditional zoning is designated #09CZ07.

The Planning Director for the Town of Apex, Dianne Khin, caused proper notice to be given (by publication and posting) of a public hearing on #09CZ07 before the Planning Board held on the 13th day of December, 2010 and the 13th day of January, 2011.

Pursuant to G.S. §160A-384 and Sec. 2.2.11(E) of the Unified Development Ordinance, the Planning Director caused proper notice to be given (by publication and posting), of a public hearing on #09CZ07 before the Town Council on the 18th day of January, 2011, the 1st day and 15th of February, 2011, the 15th day of March, 2011 and the 10th day of May, 2011.

The Apex Planning Board held a public hearing on the 13th day of December, 2010 and the 13th day of January, 2011, gathered facts, received public comments and formulated a recommendation regarding the application for conditional zoning #09CZ07. A motion was made at the Apex Planning Board to recommend approval; the motion passed unanimously for the application for #09CZ07.

The Apex Town Council held a public hearing on the 18th day of January, 2011, the 1st day and 15th of February, 2011, the 15th day of March, 2011 and the 10th day of May, 2011. Dianne Khin presented the Planning Board's recommendation at the public hearing.

All persons who desired to present information relevant to the application for #09CZ07 and who were residents of Apex or its extraterritorial jurisdiction, or who owned property adjoining the property for which the conditional zoning is sought, were allowed to present evidence at the public hearing before the Apex Town Council. No one who wanted to speak was turned away.

The Town Council by a vote of 5 and 0 approved Application #09CZ07.

In zoning Application #09CZ07, Applicant seeks to rezone the subject tract located west of NC 55, south of US#1, north and adjacent to proposed 540 from Planned Unit Development Conditional Zoning (PUD-CZ), Light Industrial (LI), Rural Residential (RR) and Residential Agricultural (RA) to SD-CZ (Sustainable Development Conditional Zoning). After public hearing, Town Council approved the rezoning. This Statement will address consistency with the Town's comprehensive and other applicable plans, reasonableness and affect on public interest.

Approval of the rezoning is in line with the mixed use development proposed on the 2025 Land Use Plan. The rezoning request includes amendments to the Unified Development Ordinance, the 2025 Land Use Plan, and the Official Zoning District Map. The changes being made are consistent with the long range vision to create a unified sustainable development in the requested area. The rezoning is compatible with the surrounding area, and should be of no detriment to immediate neighbors and the surrounding community.

Property Description

Tract 1 (Poe):

BEGINNING at a point which is the northeast corner of the 54.650 acre tract shown on Boundary Survey Prepared for Apex Land Assemblage, LLC by Riley Surveying, PA dated February 23, 2006 and recorded in Book of Maps 2006, Page 416, Wake County Registry; thence along the line of said 54.650 acre tract N 89° 54' 34" W 1794.53 feet to a point in the centerline of Big Branch; thence along the centerline of Big Branch, the following courses and distances denoted L87 through L156 on the following table:

CENTERLINE BIG BRANCH

LINE TABLE		
LINE	*BEARING*	*LENGTH*
L87	*N20° 48' 14" E*	*52.19*
L88	*N27° 36' 15" E*	*25.74*
L89	*N62° 55' 07" E*	*26.76*
L90	*N28° 59' 45" W*	*21.84*
L91	*N05° 57' 55" W*	*34.25*
L92	*N49° 54' 20" E*	*15.65*
L93	*N35° 51' 41" E*	*26.00*
L94	*N57° 55' 36" W*	*27.74*
L95	*S77° 58' 08" W*	*70.86*
L96	*N69° 24' 20" W*	*55.42*
L97	*N16° 11' 53" W*	*54.07*
L98	*N47° 25' 48" E*	*30.81*
L99	*S76° 51' 18" E*	*46.52*
L100	*N23° 56' 06" E*	*15.13*
L101	*N10° 54' 23" E*	*79.33*
L102	*N70° 46' 49" W*	*21.80*
L103	*N13° 56' 38" W*	*44.13*
L104	*N54° 44' 36" W*	*48.38*
L105	*S57° 22' 33" W*	*58.59*
L106	*S44° 34' 58" W*	*46.68*
L107	*N46° 23' 02" W*	*39.79*
L108	*N72° 28' 16" W*	*36.60*
L109	*S47° 16' 54" W*	*18.92*
L110	*N74° 34' 40" W*	*21.22*
L111	*N28° 53' 03" W*	*20.74*
L112	*N42° 52' 48" W*	*46.75*
L113	*N06° 56' 21" E*	*26.65*
L114	*N88° 28' 36" E*	*43.87*
L115	*N27° 02' 14" E*	*18.93*
L116	*N01° 17' 25" E*	*31.60*
L117	*N45° 56' 56" E*	*50.02*
L124	*N39° 28' 55" E*	*39.13*
L125	*N15° 03' 15" W*	*20.63*
L126	*N51° 44' 06" W*	*25.88*
L127	*N30° 05' 45" E*	*27.95*
L128	*S60° 15' 59" E*	*30.79*
L129	*S36° 33' 19" E*	*34.28*
L130	*S78° 44' 24" E*	*52.43*
L131	*N41° 37' 38" E*	*15.36*
L132	*N04° 45' 02" E*	*44.44*
L133	*N30° 38' 49" E*	*51.77*
L134	*N05° 02' 00" W*	*35.48*
L135	*S62° 06' 04" W*	*33.82*
L136	*N44° 56' 44" W*	*39.84*
L137	*N44° 38' 21" E*	*21.58*
L138	*N53° 06' 38 E*	*60.88*
L139	*N61° 14' 38" W*	*39.17*
L140	*N50° 48' 06" W*	*23.78*
L141	*N10° 02' 40" W*	*28.54*
L142	*N38° 49' 48" E*	*55.95*
L143	*N43° 06' 48" W*	*60.59*
L144	*N42° 29' 30" E*	*31.74*
L145	*N70° 52' 59" W*	*69.18*
L146	*N86° 33' 59" W*	*111.94*
L147	*N47° 57' 35" W*	*68.58*
L148	*N30° 54' 08" E*	*32.56*
L149	*N21° 23' 37" W*	*54.07*
L150	*N55° 27' 06" E*	*39.27*
L151	*N03° 24' 04" W*	*46.46*
L152	*N31° 43' 23" E*	*54.96*
L153	*N18° 31' 57" E*	*44.10*
L154	*N01° 09' 10" W*	*65.77*
L155	*N22° 16' 37" W*	*29.93*
L156	*N19° 16' 28" E*	*2.52*

L118	*N01° 25' 13" E*	*14.01*
L119	*N65° 15' 45" W*	*42.02*
L120	*N01° 22' 31" E*	*32.19*
L121	*N46° 17' 51" W*	*51.21*
L122	*N06° 49' 21" E*	*35.97*
L123	*N69° 35' 22" E*	*41.13*

Thence leaving the course of Big Branch, N 87° 20' 59" E 1317.72 feet to a point; thence N 00° 20' 59" E 1411.74 feet to a point; thence N 87° 17' 47" E 1396.96 feet to a point; thence S 02° 19' 40" W 527.05 feet to a point; thence S 90° 00' 00" W 750.13 feet to a point; thence S 00° 00' 00" W 967.73 feet to a point; thence N 77° 55' 24" E 389.22 feet to a point; thence N 01° 29' 14" E 148.65 feet to a point; thence N 65° 20' 41" E 538.98 feet to a point; thence S 02° 20' 59" W 179.73 feet to a point; thence S 02° 28' 41" W 1915.88 feet to a point; thence N 89° 11' 33" W 648.01 feet to the point and place of beginning and being all of Tract 3 containing 128.439 acres shown on a survey entitled "Exempt Division Survey – Property of Bobby and Elizabeth Poe" prepared by Riley Surveying, PA dated November 9, 2006.

Tract 2 (Poe):

BEING all of the 1.710 acre tract and the 0.042 acre tract shown as area in the right of way of Old Holly Springs – Apex Road shown on a map entitled "Property of Bobby W. and Elizabeth A. Poe, F.D. Prince, Sr, Trustee" recorded in Book of Maps 2002, Page 109, Wake County Registry, reference to which is hereby made for greater certainty of description and also being more particularly described as follows: Beginning at an existing nail in the northwest corner of the property of E.K. Huang, et. al. as described in Deed Book 6650, Page 866, Wake County Registry, and the southwest corner of the property of F.D. Prince, Sr. as described in Deed Book 8291, page 540, Wake County Registry, runs thence North 05 degrees 23 minutes 24 seconds East 64.21 feet to an iron pipe; thence North 74 degrees 31 minutes 24 seconds East 381.93 feet to an iron pipe; thence South 86 degrees 04 minutes 18 seconds East 863.27 feet to an iron pipe in the west right of way of SR 1153 (Old Holly Springs – Apex Road). Thence South 86 degrees 04 minutes 18 seconds East 30.32 feet to the centerline of SR 1153; thence along the centerline of SR 1153, South 12 degrees, 45 minutes 03 seconds West 60.72 feet to a point; thence with the north line of Huang, et. al., North 86 degrees 04 minutes 18 seconds West 30.32 feet to an existing iron pipe; thence North 86 degrees 04 minutes 18 seconds West 843.70 feet to an existing iron pipe; thence South 74 degrees 31 minutes 24 seconds West 394.54 feet to an existing iron pipe, the point and place of Beginning, and also being Tract 1 containing 1.754 acres shown on a survey entitled "Exempt Division Survey – Property of Bobby and Elizabeth Poe" prepared by Riley Surveying, PA dated November 9, 2006.

Tract 3 (Lyna):

BEGINNING at a point in the centerline of Old Holly Springs Apex Road, said point being calculated as follows: Beginning at a point in the line of Tract A shown on a map entitled "Proposed Subdivision and Recombination of Properties of Wake County" which is recorded in Book of Maps 1998, Page 782, Wake County Registry, said point also being North 45° 03' 47" East 1591.01 feet from the centerline of the intersection of Old Holly Springs Apex Road and

Woods Creek Road; thence North 09° 24' 42" East 362.56 feet to a point; thence North 85° 47' 44" West 162.21 feet to an iron pin in the centerline of Old Holly Springs Apex Road; thence along the centerline of Old Holly Springs Apex Road in an northerly direction along a left hand curve having a radius of 1963.49 feet an arc distance of 423.08 feet and chord bearing and distance of North 12° 12' 26" East 422.26 feet to the POINT AND PLACE OF BEGINNING: thence continuing along the centerline of said Old Holly Springs Apex Road in a northerly direction along a left hand curve having a radius of 1963.49 feet, an arc distance of 259.39 feet and a chord bearing and distance of North 02° 14' 59" East 259.20 feet; thence North 00° 00' 56" East 187.39 feet to a point; thence South 67° 20' 57" East 925.18 feet to a point; thence South 61° 30' 00" East 301.10 feet to a point; thence South 73° 33' 19" East 346.87 feet to a point; thence South 74° 36' 50" East 217.48 feet to a point; thence South 70° 39" 03" East 219.39 feet to a point; thence South 66° 06' 14" East 183.83 feet to a point; thence South 51° 10' 55" East 327.09 feet to a point in the centerline of White Oak Creek a/k/a Falls Branch Creek; thence along the centerline of said creek as follows: South 03° 23' 35" East 31.18 feet to a point; thence South 19° 58' 50" East 138.13 feet to a point; thence South 09° 01' 05" West 63.94 feet to a point; thence South 22° 49' 37" West 94.25 feet to a point; thence South 05° 19' 49" West 65.12 feet to a point; thence leaving the center line of said creek N 67° 48' 05" W 2481.26 feet to the point and place of BEGINNING and being all of Tract 1 containing 23.62 acres as shown on a survey entitled "Exempt Subdivision prepared for Apex Land Assemblage, LLC" by Riley Surveying, P.A. dated May 13, 2005.

Tract 4 (Reeves):

BEGINNING at a point in the line of Tract A shown on a map entitled "Proposed Subdivision and Recombination of Properties of Wake County" which is recorded in Book of Maps 1998, Page 782, Wake County Registry, said point also being North 45° 03' 47" East 1591.01 feet from the centerline of the intersection of Old Holly Springs Apex Road and Woods Creek Road, being the point and place of BEGINNING, thence North 09° 24' 42" East 362.56 feet to a point; thence North 85° 47' 44" West 162.21 feet to a point; thence North 85° 47' 44" West 30.48 feet to an iron pin in the centerline of Old Holly Springs Apex Road; thence along the centerline of Old Holly Springs Apex Road in an northerly direction along a left hand curve having a radius of 1963.49 feet, an arc distance of 423.08 feet and chord bearing and distance of North 12° 12' 26" East 422.26 feet to a point; thence leaving the centerline of said road South 67° 48' 05" East 2481.26 feet to a point in the centerline of White Oak Creek a/k/a Falls Branch Creek; thence along the centerline of said creek as follows South 05° 19' 49" West 39.71 feet to a point; thence South 17° 13' 42" West 52.16 feet to a point; thence South 63° 16' 26" West 25.88 feet to a point; thence South 17° 55' 39" West 68.74 feet to a point; thence leaving the line of said creek North 78° 00' 00" West 876.99 feet to a point; thence North 84° 10' 00" West 1370.01 feet to the point and place of BEGINNING, and being all of Tract 2 containing 23.62 acres as shown on a survey entitled "Exempt Subdivision prepared for Apex Land Assemblage, LLC" by Riley Surveying, P.A. dated May 13, 2005.

Tract 5 (Goodwin/ALAN):

BEING all that certain tract or parcel of land containing 54.650 acres, more or less, as shown on plat of survey entitled "Boundary Survey Prepared for Apex Land Assemblage, LLC" dated February 16, 2006 and revised February 23, 2006, prepared by Phillip W. Riley, professional Land Surveyor, of Riley Surveying, P.A. and recorded in Book of Maps 2006, Page 416, Wake County Registry, which plat is referenced for a more particular description.

Tract 6 (Adams):

BEING all that certain tract or parcel of land containing 86.334 acres as shown on plat of survey entitled "Boundary Survey, Prepared for HH Trinity Apex Investments, LLC, Holly Springs Township, Wake County, NC" dated September 17, 2007, prepared by Phillip W. Riley, Professional Land Surveyor, of Riley Survey, P.A. and recorded in Book of Maps 2007, Page 2469, Wake County Registry, which plat is referenced for a more particular description.

Tract 7 (Cox):

BEING all that certain tract or parcel of land containing 65.210 acres as shown on plat of survey entitled "Boundary Survey, Prepared for HH Trinity Apex Investments, LLC, Holly Springs Township, Wake County, NC" dated September 19, 2007, prepared by Phillip W. Riley, Professional Land Surveyor, of Riley Survey, P.A. and recorded in Book of Maps 2007, Page 2467, Wake County Registry, which plat is referenced for a more particular description.

Tracts 8 - 11 (Raymer):

BEING all those certain tracts or parcels of land designated as Tract I-A, containing 278.521 acres; Tract II, containing 2.134 acres; Tract III, containing 4.333 acres; and Tract 840' x 40', containing 0.626 acres, as shown on plat of survey entitled "Boundary Survey, Prepared for HH Trinity Apex Investments, LLC, Holly Springs Township, Wake County, NC" dated September 20, 2007, prepared by Phillip W. Riley, Professional Land Surveyor, of Riley Surveying, P.A. and recorded in Book of Maps 2007, Page 2468, Wake County Registry, which plat is referenced for a more particular description.

Tract 12 (Apex Town Square):

Being all of that certain tract of land lying in the Town of Apex, Holly Springs Township, Wake County, North Carolina, and being more particularly described as follows:

BEGINNING at an existing iron pipe at the northeastern corner of the now or formerly EMC Corporation property described in Deed recorded Book 2791, Page 428, Wake County Registry, said pipe also being located in the western line of the now or formerly Cash and Maynard Tract 1-A as shown on plat of survey recorded in Book of Maps 2003, Page 398, Wake County Registry (the "Plat"), said pipe being located North 02° 14' 00" East 271.08 feet from a common corner with said Cash and Maynard Tract 1-A and the now or formerly Cor Bregman property in said EMC Corporation's eastern property line as shown on the Plat; thence with said EMC Corporation's northern property line, South 89° 33' 33" West 1,910.66 feet to an existing iron pipe; thence with EMC Corporation's interior eastern property line, North 02° 07' 56" East

543.28 feet to an existing iron pipe, the southeastern corner of the now or formerly Colon Hobby property; thence with the eastern property line of said Colon Hobby property, North 00° 59' 41" East 734.53 feet to a set iron pipe marking the southwest corner of the said Cash and Maynard Tract 1-A; thence with said Cash and Maynard's Tract 1-A's southern property line and passing over an existing iron pipe at a distance of 15.08 feet, South 87° 48' 34" East 1,905.24 feet (total) to an existing iron pipe; thence continuing with said Cash and Maynard's Tract 1-A's interior western property line, South 01° 15' 42" West 1,190.09 feet to the point or place of BEGINNING, containing 53.939 acres, more or less, including any deed/survey gaps that may exist along the western line of the property herein described, as shown on the Plat, which Plat is referenced for a more particular description and being all of the property conveyed to Apex Town Square, LLC, by deed dated January 6, 2006, and recorded in Book 11766, Page 242, Wake County Registry.

Tract 13 (Bregman):

Lying and being in Town of Apex, Holly Springs Township, Wake County, North Carolina, and being more particularly described as follows:

BEGINNING at an existing iron pipe at a corner of the property now or formerly owned by Heartland Raleigh Apex U.S. 1 Limited Partnership (Book 4454, Page 666, Wake County Registry ["WCR"]), said pipe being located at NC Grid Coordinates: N=707,936.09; E2,048,195.68, and also being located South 31° 57' 19" West a distance of 2,292.37 feet (Grid) from NCGS Monument "TANK" (N=709,881.08; E2,049,408.93); from said POINT OF BEGINNING, running thence along and with the western line of the aforesaid Heartland Raleigh property the following courses and distances:

- South 02° 41' 34" West a distance of 537.74 feet to an existing iron pipe;
- South 02° 41' 34" West a distance of 100.28 feet to an existing iron pipe;
- South 02° 41' 34" West a distance of 2.08 feet to an existing iron pipe;
- South 02° 39' 56" West a distance of 37.18 feet to an existing iron pipe in the northern right-of-way of Technology Drive;

running thence along and with the northern right-of-way of Technology Drive the following courses and distances:

- along and with the arc of a curve to the left having a radius of 411.97 feet (Chord Bearing: South 60° 59' 56" West; Chord Distance: 224.57 feet) a distance of 227.45 feet to an existing iron pipe;
- South 45° 37' 55" West a distance of 288.89 feet to an existing iron pipe;
- South 44° 59' 17" West a distance of 549.68 feet to an existing iron pipe;
- South 44° 59' 17" West a distance of 70.66 feet to an existing iron pipe;
- along and with the arc of a curve to the right having a radius of 351.97 feet (Chord Bearing: South 57° 36' 33" West; Chord Distance: 151.96 feet) a distance of 153.17 feet to an existing iron pipe;
- along and with the arc of a curve to the right having a radius of 351.97 feet (Chord Bearing: South 79° 30' 30" West; Chord Distance: 115.27 feet) a distance of 115.79 feet to an existing iron pipe;
- South 88° 51' 29" West a distance of 164.77 feet to a point in the eastern line of property

now or formerly owned by Data General (Book 2791, Page 428, WCR);

leaving the northern right-of-way of Technology Drive and running thence along and with the eastern line of the aforesaid Data General property, North 02° 16' 29" East a distance of 1,200.00 feet to an existing iron pipe; continuing with the eastern line of the Data General property and running thence North 02° 17' 20" East a distance of 416.31 feet to an existing iron pipe in the southern line of the aforesaid Heartland Raleigh property; running thence along and with the southern line of the Heartland Raleigh property, South 86° 16' 48" East a distance of 1,218.14 feet to the POINT AND PLACE OF BEGINNING, containing 34.0763 acres, more or less, and being all of Tract 4 north of the right-of-way of Technology Drive, as shown on that certain survey entitled "Recombination And Minor Subdivision of Technology Drive Property For Thomas H. Byrd, III", dated December 11, 1996, and prepared by Niall W. Gillespie, R.L.S. (No. L-2629) (File Name: BYRDTOPO), to which survey reference is hereby made for a more particular description, and being the same property conveyed to Cor S. Bregman by deed recorded in Book 7409, Page 255, Wake County Registry, and being the same property conveyed to Cornelius S. Bregman and Kandes K. Bregman, as Trustees of the Cornelius and Kandes Bregman Trust, under Agreement dated September 20, 1999 by deed recorded in Book 10856, Page 2786, Wake County Registry, LESS AND EXCEPT (i) the property conveyed to Thomas H. Byrd, IV, and wife Lisa W. Byrd, by deed recorded in Book 10129, Page 491, Wake County Registry, and (ii) the property conveyed to the Department of Transportation by deed recorded in Book 8128, Page 153, Wake County Registry.

Tracts 14 - 15 (EMC):

Being all those certain tracts or parcels of land containing approximately 47.419 acres and identified as portions of parcel identification numbers 0740672147 (containing approximately 46.61 acres) and 0740570471 (containing approximately 77.66 acres), and as generally shown as Tract 2 on the map attached hereto as Schedule 1.

Tract 16 (Whitehouse):

Being all that certain tract or parcel of land containing approximately 27.47 acres and identified as parcel identification number 0740287376 and being the same property conveyed to Brenda P. Whitehouse, individually, a 55% undivided interest, and Brenda P. Whitehouse as Trustee of the Irene F. Prince Family Trust dated February 19, 2004, a 45% undivided interest, by deed recorded in Book 10680, Page 477, Wake County Registry.

Tract 17 (F. Prince):

Being all that certain tract or parcel of land containing approximately 75.63 acres and identified as parcel identification number 0740191376 and being the same property conveyed to F.D. Prince, Sr., sole Trustee, or his successors in trust, under the Frank Dixon Prince, Sr. Living Trust, dated October 20, 1988, and any amendments thereto, by deed recorded in Book 8291, Page 540, Wake County Registry.

Tract 18 (F. Prince):

Being all that certain tract or parcel of land containing approximately 21.36 acres and identified as parcel identification number 0730996270 and being the same property conveyed to F.D. Prince, Sr., sole Trustee, or his successors in trust, under the Frank Dixon Prince, Sr. Living Trust, dated October 20, 1988, and any amendments thereto, by deed recorded in Book 8291, Page 540, Wake County Registry.

Tract 19 (B. Prince):

Being all that certain tract or parcel of land containing approximately 32.06 acres and identified as parcel identification number 0741207566 and being the same property conveyed to William Ira Prince, III, by deed recorded in Book 2673, Page 652, Wake County Registry.

Tract 20 (J. Prince):

Being all that certain tract or parcel of land containing approximately 1.80 acres and identified as parcel identification number 0740293940 and being the same property conveyed to William I. Prince and Jean P. Prince, by deed recorded in Book 6217, Page 146, Wake County Registry.

Tracts 21-38 (Stephens):

Being all of those certain tracts or parcels of land identified as parcel identification numbers 0740886966, 0740991702, 0740992565, 0740991337, 0740991237, 0740990140, 0740980647, 0740982309, 0740982534, 0740982635, 0740982769, 0740982866, 0740982964, 0740982929, 0740992024, 0740992069, 0740992169 and 0740982764.

Tract 39 (Tew):

Being all that certain tract or parcel of land containing approximately 1.84 acres and identified as parcel identification number 0741203157 and being the same property conveyed to Kim Prince Tew, and husband, David Wayne Tew, by deed recorded in Book 10633, Page 1741, Wake County Registry.

Tract 40 (Huang):

Being all that certain tract or parcel of land containing approximately 13.33 acres and identified as parcel identification number 0740180091 and being the same property conveyed to Ruey Shiue Huang, Co-Trustee, and Edward K. Huang, Co-Trustee, of The Huang Family Trust, dated September 30, 2005, by deed recorded in Book 10656, Page 33, Wake County Registry.

Sustainable Development Plan

for

VERIDEA

A Sustainable Mixed-Use Community
Apex, North Carolina

10 MAY 2011

Responsible Person:

Lookout Ventures, Inc.
P. O. Box 1166
Zebulon NC

SUSTAINABLE DEVELOPMENT PLAN

DEVELOPER AND RESPONSIBLE PERSON

Lookout Ventures, Inc.
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Contact: Tom Hendrickson
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EQUITY PARTNER

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MASTER PLANNING • PLACEMAKING

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CIVIL ENGINEERING

WSP Sells
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Cary NC 27513

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407 Gorman Street, Suite 101
Raleigh NC 27607

TRANSPORTATION

Kimley-Horn and Associates, Inc.
3001 Weston Parkway
Cary NC 27513

ENERGY PLANNING

Sanford Law Office, P.L.L.C
530 North Person Street
Raleigh NC 27604

SUSTAINABILITY AGENDA
BASED ON
PRINCIPLES AND GOALS
DEVELOPED BY

William McDonough + Partners
700 East Jefferson Street
Charlottesville VA 22902

LANDSCAPE ARCHITECTURE

CLH Design, P.A.
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ENVIRONMENTAL STRATEGY

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Wake Forest NC 27587

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ARTICLE 1.0 DEFINITIONS OF CAPITALIZED TERMS USED IN THE SUSTAINABLE DEVELOPMENT (SD) PLAN

A-Grid: cumulatively, those Thoroughfares that by virtue of their pedestrian-supportive qualities, and their importance to pedestrian connectivity, are part of multi-modal transportation network that is vehicle tolerant and is linked to the contextual nature of the place. *See B-Grid.*

A-Grid Zones: areas of the Concept Map where A-Grids are required.

Accessory Structures: structures or buildings incidental to and appropriate to support a Function or use (i.e., ticket booths and storage for outdoor amphitheaters, and dugouts and storage for baseball and softball.)

Accessory Unit or Building: a dwelling not greater than 800 square feet sharing ownership and shared or separate utility connections with a Principal Building. *See Table 10 and Table 17.* (Syn: ancillary unit)

Advanced Materials: a broad technology category based on a rapidly evolving area of science, with applications ranging from aircraft to computer chips. Advanced structural materials can make products strong, lighter, and more effective as well as enable the development of totally new products. The materials can increasingly be designed and tailored to specific applications. A material is said to be "advanced" if it is a new material for the application. *See Table 12.*

Agricultural Plot: a parcel of land used for small-scale agricultural purposes such as the raising of agricultural products or poultry. *See Table 12 and Table 19.*

Alleé: a regularly spaced and aligned row or rows of trees usually planted along a Thoroughfare or Path.

Anticipatory Design: a development approach intended to predict and facilitate the use of innovative technology and other best development practices as they evolve and become practically and economically feasible over time.

Arcade: a Private Frontage conventional for Retail use wherein the Facade is a colonnade supporting habitable space that overlaps the Sidewalk, while the Facade at Sidewalk level remains at the Frontage Line.

Avenue ("**AV**"): a Thoroughfare designed for high vehicular capacity and low to moderate speed, acting as a short distance connector between Village Centers, and usually equipped with a landscaped median.

B-Grid: cumulatively, those Thoroughfares that by virtue of their use or location are vehicle supportive and pedestrian tolerant. *See A-Grid.*

B-Grid Zones: areas of the Concept Map where B-Grids are permitted.

Backbuilding: a single-Story structure connecting a Principal Building to an Outbuilding. *See Table 17.*

Bed and Breakfast: an owner or manager controlled Lodging type, permitted to serve breakfast in the mornings to guests in the Neighborhood General (NG) zone and at all times in other Sustainable Zones.

Bicycle Lane ("**BL**"): a dedicated lane for cycling within a moderate-speed vehicular Thoroughfare.

Bicycle Route ("**BR**"): a Thoroughfare suitable for the shared use of bicycles and automobiles moving at low speeds. These routes are signed as "bike route."

Bicycle Trail ("**BT**"): a bicycle and pedestrian way running independently of a vehicular Thoroughfare.

Biotechnology: the science of using living things and components of living things to produce goods and services. It involves manipulating and modifying organisms, often at the molecular level, to create new and practical applications for agriculture, medicine and industry. *See Table 12.*

Block: the aggregate of private Lots, Passages, Rear Alleys and Rear Lanes, circumscribed by Thoroughfares.

Boulevard ("**BV**"): a Thoroughfare designed for high vehicular capacity and moderate speed, traversing an urbanized area. Boulevards are usually equipped with Slip Streets buffering Sidewalks and buildings.

By Right: characterizing a proposal or component of a proposal for the Development that is allowed by the SD Plan.

Civic Building: a building primarily dedicated to public functions such as arts, culture, education, recreation, government, transit, and parking, or for other public purposes. Civic Buildings are primarily operated by public or not-for-profit entities.

Civic Space: land containing a Civic Building and/or an outdoor area dedicated for public use including Parks but not including street rights of way. Civic Space types are defined by the combination of certain physical constants including the relationships among their intended use, their size, their landscaping and their enfronting buildings. *See Table 13.*

Civic Use: Open Space that is designated for Civic Buildings and Civic Space and Public Space.

Commercial: the term collectively defining workplace, Office, Retail, and Lodging Functions.

Common Destination: an area of focused community activity. It may include, without limitation, one or more of the following: a Civic Space, a Civic Building, a Commercial center, or a transit station or stop, and may act as the social center of a neighborhood.

Community Garden: a grouping of garden plots available for small scale cultivation, generally to the residents of apartments and other dwelling types without private gardens, permitting individual storage sheds, and providing a locus of recreation and sociability greater than that of a private yard, thus being a Common Destination.

Concept Map: *See* Veridea **Sustainable Development Concept Map**.

Concessions: a place where food, drinks and incidental retail items are sold or rented.

Conference Center: a facility that is constructed for and devoted to meetings and meeting space. *See Table 12.*

Configuration: the form of a building, based on its massing, Private Frontage, and height or the geographic characteristics of an area of land.

Convention Center: a Facility designed to accommodate multiple groups or large groups and consisting of exhibit halls, meeting rooms, ballrooms or banquet space but not sleeping accommodations. *See Table 12.*

Corridor: a lineal geographic system incorporating transportation and/or Greenway trajectories.

Curb: the edge of the vehicular pavement that may be raised or flush to a Swale. It usually incorporates the drainage system. *See Table 4A and Table 4B.*

Density: the amount of development measured on the basis of a Gross Acre of land area expressed in the number of Dwelling Units Per Acre ("DUA") for residential or Floor Area Ratio ("FAR") for non-residential.

Design Speed: the velocity at which a Thoroughfare tends to be driven without the constraints of signage or enforcement. There are four ranges of speed: Very Low: (below 20 MPH); Low: (20-25 MPH); Moderate: (25-35 MPH); High: (above 35 MPH). Lane width is determined by desired Design Speed. *See Table 3A.*

Design Standards: all of the provisions of the SD Plan, other than authorized Density, related to the development of Veridea, including but not limited to standards, designs, criteria, illustrations and other elements and materials of both a descriptive and proscriptive nature.

Developable Areas: lands other than those in the OS Open Space Zone.

Development: refers to Veridea and the land encompassed by the Veridea Sustainable Development Plan as a whole.

Disposition: the placement of a building on its Lot. *See Table 9 and Table 17.*

Drive ("**DR**"): a Thoroughfare along the boundary between an urbanized and a natural condition, usually along a waterfront or Park. One side has the urban character of a Thoroughfare, with Sidewalk and building, while the other has the qualities of a Road or parkway, with naturalistic planting and rural details.

Dwelling Units Per Acre ("**DUA**"): the number of dwelling units per Gross Acre.

Driveway: a vehicular lane within a Lot, often leading to a garage. *See Article 5.8 and Table 3B.f.*

Effective Parking: the amount of parking required for Mixed Use after adjustment by the Shared Parking Factor. *See Table 11.*

Effective Turning Radius: the measurement of the inside Turning Radius taking parked cars into account. *See Table 17.*

Elevation: an exterior wall of a building not along a Frontage Line. *See Table 17.* See: **Facade.**

Encroach: to break the plane of a vertical or horizontal regulatory limit with a structural element so that it extends into a Setback, into an easement, into the Public Frontage, or above a height limit.

Encroachment: any structural element that breaks the plane of a vertical or horizontal regulatory limit, extending into a Setback, into an easement, into the Public Frontage, or above a height limit.

Environmental Enhancement Plan: additional Sustainability Standards related to environmental enhancement required to be submitted to the Town Council for approval in accordance with UDO 2.3.16 F) 3) b).

Existing Communication Towers: towers that are currently in place within Veridea, including any and all guy wires, anchors, supporting cables, tower assembly, and ancillary buildings.

Expression Line: a line prescribed at a certain level of a building for the major part of the width of a Facade, expressed by a variation in material or by a limited projection such as a molding or balcony. *See Table 8.* (Syn: transition line.)

Facade: the exterior wall of a building that is set along a Frontage Line. *See* **Elevation.**

Farm: an active, usually commercial, agricultural operation, such as the raising of agricultural products, livestock, poultry and dairying at a scale requiring industrial sized machinery and farm buildings, consistent with the requirements and limitations of the UDO. *See Table 12 and Table 19.*

Floor Area Ratio ("**FAR**"): the ratio of total building floor area per Gross Acre.

Forecourt: a Private Frontage wherein a portion of the Facade is close to the Frontage Line and the central portion is set back. *See Table 7.*

Frontage: the area between a building Facade and the vehicular lanes, inclusive of its built and planted components. Frontage is divided into **Private Frontage** and **Public Frontage.** *See Table 4A and Table 7.*

Frontage Line: a Lot Line bordering a Public Frontage. Facades facing

Frontage Lines define the public realm and are therefore more regulated than the Elevations facing other Lot Lines. *See Table 17.*

Function: the use or uses accommodated by a building and its Lot, categorized as *Restricted, Limited,* or *Open*, according to the intensity of the use. *See Table 10 and Table 12.*

Gallery: a Private Frontage conventional for Retail use wherein the Facade is aligned close to the Frontage Line with an attached cantilevered shed or lightweight colonnade overlapping the Sidewalk. *See Table 7.*

Goal(s): the desired result of Veridea's effort to achieve sustainability.

Green: a Civic Space type for unstructured recreation, spatially defined by landscaping rather than building Frontages. *See Table 13.*

Green Roof: a building roof partially or completely covered with vegetation and soil, or some other living medium, over a waterproofing membrane.

Green Technology: a continuously evolving group of methods and materials, including—but not limited to—environmentally-sound techniques for: generating energy, energy efficiency, chemistry, nanotechnology and construction. *See Table 12.*

Greenway: a Corridor in largely natural conditions, which shall include trails for bicycles or pedestrians.

Gross Acre: an acre of land within the Veridea Sustainable Development District used for the purpose of Density calculation.

Guiding Principles: the Principles used to develop Veridea.

High Performance Computing: the use of supercomputers and computer clusters to solve advanced computation problems. *See Table 12.*

Highway ("**HW**"): a rural and suburban Thoroughfare of high vehicular speed and capacity. This type is allocated to the more rural Sustainable Zones (OS and NG).

Home Occupation: non-Retail Commercial enterprises within or closely associated with a dwelling.

Impermeable Surface: surfaces constructed using materials that allow no infiltration of water into the soil. Impermeable surfaces include, but are not limited to, public and private Thoroughfares, sidewalks, driveways, rooftops, parking lots and patios constructed with asphalt, concrete, compacted aggregate base course or other impervious materials. The surface area of bodies of water (natural or man-made) and wooden decks shall be considered permeable and shall not be included in the calculation of built-upon area. Green Roofs, permeable pavements, and other surfaces constructed with uniformly graded gravel, porous materials or pervious materials and designed in accordance with the NC Division of Water Quality Stormwater Best Management Practices Manual to accommodate the infiltration of water shall not be considered impermeable surfaces and shall not be included in the

calculation of the built-upon area.

Independent Living: a Project, or a portion of a Project, consisting of residences of any type or various types primarily accommodating age targeted residents maintaining an independent lifestyle.

Industrial: the term collectively defining Manufacturing, warehousing and storage uses.

Information Technology: the application of computer, communications and software technology to the management, processing and dissemination of information. *See Table 12.*

Internal Trip Capture: a concept used in transportation modeling to define an automobile trip between different land uses within Veridea that would have required an automobile trip external to the site.

Layer: a range of depth of a Lot, measured from the Frontage Line, within which certain elements are permitted. *See Table 17.*

Lightwell: a Private Frontage type that is a below-grade entrance or recess designed to allow light into basements. *See Table 7.* (Syn: light court.)

Liner Building: a building specifically designed to mask a blank building wall, a service area, a parking lot, or a Parking Structure from a Frontage.

Live-Work: a Mixed Use unit consisting of a Commercial and Residential Function. *See Table 10.*

Lodging: premises available for daily and weekly renting of bedrooms. *See Table 10 and Table 12.*

Lot: a parcel of land accommodating a building or buildings of unified design. The size of a Lot is controlled by its width in order to determine the grain (i.e., fine grain, as characterized by a tight-knit Thoroughfare grid, or coarse grain, as characterized by a loose-knit street grid) of the urban fabric.

Lot Line: the boundary that legally and geometrically demarcates a Lot.

Lot Width: the length of the Principal Frontage Line of a Lot.

Manufacturing: all areas of manufacturing, including design, control, fabrication, and assembly for uses where activities are conducted and confined within a building or structure including, but are not limited to: electronics, computers/IT, instrumentation, industrial equipment, medical, pharmaceutical, telecom, aerospace, defense, government, appliances, food, beverage and consumer products.

Medical Devices: products used for medical purposes for patients, in diagnosis, therapy or surgery. *See Table 12.*

Mixed Use: multiple Functions within the same building through vertical integration or adjacency, or in multiple buildings by adjacency.

Mixed Use Block: See Mixed Use and Block. *See Table 12.*

Modular Construction: single-family, multi-family or mixed use building constructed on-site and composed of components substantially assembled in a manufacturing plant and transported to the building site for final assembly that complies with the requirements of the North Carolina State Building Code.

Nanotechnology: is an advanced technology involving the fabrication and use of devices so small that the convenient unit of measurement is the nanometer (one thousand-millionth of a meter); or, is the art of manipulating and exploiting the properties of matter at a molecular level. *See Table 12.*

Natatorium: a building containing a swimming pool. *See Table 12.*

NCDENR: The North Carolina Department of the Environment and Natural Resources, or any successor executive agency or agencies having the powers and authority of such department.

Neighborhood General: A Sustainable Zone. *See* Table 1.

Neighborhood Mixed-Use: A Sustainable Zone. *See* Table 1.

Non-residential Uses: uses and building functions other than residential. Vertically integrated residential and Non-residential uses will be considered non-residential for the purposes of the SD Plan and the UDO. *See Article 4.2.2 and Table 12.*

Office: premises available for the transaction of general business, lab and research uses but excluding Retail uses. *See Table 10.*

Open Space ("**OS**"): A Sustainable Zone. *See* Table 1.

Outbuilding: an Accessory Building, usually located toward the rear of the same Lot as a Principal Building, and sometimes connected to the Principal Building by a Backbuilding. *See Table 17.*

Park: a Civic Space type or type of Open Space used for active and/or passive recreation purposes or natural preserve available for unstructured recreation, including all examples in Table 13.

Parking Garage (deck): See Parking Structure.

Parking Management Plan: a plan setting forth various policies and programs intended to optimize the efficient use of parking resources.

Parking Structure: a building containing one or more Stories of parking at, above and/or below grade. A Parking Structure may be stand alone or may be connected to or integrated with other uses. *See Table 12.*

Passage ("**PS**"): a pedestrian connector, open or roofed, that passes between buildings to provide shortcuts through long Blocks and connect rear parking areas to Frontages.

Path ("**PT**"): a pedestrian and/or bicycle way traversing a Park or rural area, with landscape matching the contiguous Neighborhood General (NG) Zone, ideally connecting directly with the urban sidewalk network.

Pattern Book(s): a book or books of text, diagrams and illustrations setting forth the principles of design for Veridea or some portion thereof in order to provide consistencies in characteristic form, massing, composition, style, method, materials, lighting and signage while simultaneously allowing for architectural and aesthetic diversity.

Planter: the element of the Public Frontage, which accommodates street trees and other vegetation, whether continuous or individual.

Plaza: a Civic Space type designed for Civic purposes and Commercial activities in the more urban Sustainable Zones, generally paved and spatially defined by building Frontages.

Power Facility: A facility for the generation of electric or thermal power. *See Table 12.*

Principal Building: the main building on a Lot, usually located toward the Frontage. *See Table 17.*

Principal Entrance: the main point of access for pedestrians into a building.

Principal Frontage: on corner Lots, the Private Frontage designated to bear the address and Principal Entrance to the building, and the measure of minimum Lot width. *See* **Frontage.**

Principle(s): fundamental positions that serve as the foundation for the creation of Veridea.

Private Frontage: the privately held Layer between the Frontage Line and the Principal Building Facade. *See Table 7 and Table 17.*

Project: individual developments within the Veridea Sustainable Development District to which the Sustainable Development Plan applies.

Public Frontage: the area between the Curb of the vehicular lanes and the Frontage Line, possibly containing utility easements, for walkways. *See Table 4A and Table 4B.*

Public Parking Facility: a parking facility that may include decks, structures or lots that may be publicly or privately owned and contain shared spaces available for public use that are not allocated to other residential or non-residential uses within Veridea.

Public School: A school operated by the Wake County Public Schools System, a charter school, or other type of school sanctioned by the State of North Carolina for public instruction and wholly or partially funded by the State and/or Wake County.

Public Space: land accessible to the general public through dedication or easement, but not including street rights of way.

Rear Alley ("**RA**"): a vehicular way, either public or private, located to the rear of Lots providing access to service areas, parking, and Outbuildings and possibly containing utility easements. *See Table 4A and Table 4C.*

Rear Lane ("**RL**"): a vehicular way, either public or private, located to the rear of Lots providing access to service areas, parking, and Outbuildings and containing utility easements. *See Table 4A and Table 4C.*

Rearyard: a building that occupies the full Frontage Line, leaving the rear of the Lot as the sole yard. *See Table 9.* (Var: Townhouse, Apartment House)

Regional Public Transit System: a transit system operated by a public agency that serves a geographic area that extends beyond the jurisdictional limits of the Town of Apex that includes, as one of its elements, a fixed guideway or comparable transit technology.

Renewable Energy Facility: a facility that either: i) generates thermal and/or electric power primarily by the use of a Renewable Energy Resource; ii) uses heat derived primarily from a Renewable Energy Resource to produce electricity or useful, measurable thermal or mechanical energy; iii) is a solar thermal energy facility; iv) specifically allows for co-firing with non-renewable energy resources as long as non-renewable energy resources are not the primary energy source; or v) provides energy storage capacity.

Renewable Energy Resource: a solar electric, solar thermal, wind, hydropower, geothermal, or ocean current or wave energy resource; a biomass resource, including agricultural waste, animal waste, wood waste, spent pulping liquors, combustible residues, combustible liquids, combustible gases, energy crops, or landfill methane; waste heat derived from a renewable energy resource and used to produce electricity or useful, measurable thermal energy; or hydrogen derived from a renewable energy resource. Renewable Energy Resource does not include peat, a fossil fuel, or nuclear energy resource.

Responsible Person: that person identified in the SD Plan and appointed pursuant to UDO 2.3.16 D), or his successors or assigns, to make certain decisions with respect to the SD Plan and the zoning of Veridea. The Responsible Person is sometimes referred to in this SD Plan as the "Developer."

Retail: the sale, (other than wholesale), rental or repair of goods, merchandise and services and food and beverage service and sales.

Retail Kiosk: a place where merchandise and food and drink may be sold or rented. *See Table 12.*

Retail Storage within Retail Spaces: stock rooms and storage areas located within retail spaces. *See Table 12.*

Road ("**RD**"): a local, rural and suburban Thoroughfare of low-to-moderate vehicular speed and capacity. This type is allocated to the more rural, less dense Sustainable Zones (OS-NG). *See Table 3A and Table 4C.*

School Authority: The Wake County Public Schools System or other entity having state-sanctioned authority for public education.

School Dormitory: an educational building or a group of rooms in a building

used for institutional living and sleeping purposes for students. *See Table 12.*

Secondary Frontage: on corner Lots, the Private Frontage that is not the Principal Frontage. As it affects the public realm, its First Layer is regulated. *See Table 17.*

Setback: the area of a Lot measured from the Lot line to a building Facade or Elevation that is maintained clear of permanent structures, with the exception of Encroachments listed in *Article 5.5. See Table 14.g.* (Var: build-to-line.)

Shared Parking Factor: an accounting for parking spaces that are available to more than one Function. *See Table 11.*

Shopfront: a Private Frontage conventional for Retail use, with substantial glazing and sometimes an awning, wherein the Facade is aligned close to the Frontage Line with the building entrance at Sidewalk grade. *See Table 7.*

Shopping Center: a building or multiple buildings consisting of a complex of shops, with interconnecting walkways along with associated parking. *See Table 12.*

Slip Street: an outer vehicular lane or lanes of a Thoroughfare, designed for slow speeds while inner lanes carry higher speed traffic, and that may be separated from them by a planted median. (Syn: access lane, service lane)

Smart Power: the system of generation, transmission, distribution and use of energy through means that both increase efficiency throughout the system and reduce the environmental impact of the cycle of production, delivery and use. The referenced means include development, manufacture and deployment of information technology, engineering, manufacturing, construction techniques, building science, controls, and HVAC and lighting systems. *See Table 12.*

Square: a Civic Space type designed for unstructured recreation and Civic purposes, spatially defined by building Frontages and consisting of Paths, lawns and trees, formally disposed. S*ee Table 13.*

Stoop: a Private Frontage wherein the Facade is aligned close to the Frontage Line with the first Story elevated from the Sidewalk for privacy, with an exterior stair and landing at the entrance. *See Table 7.*

Story: a habitable level within a building, excluding an attic, mezzanine, or raised basement. *See Table 8.* Regardless of the number of stories, maximum height of a multi-story building shall not exceed 400 feet.

Strategy: general approach to achieve desired goals for Veridea.

Street ("**ST**"): a local urban Thoroughfare of low speed and capacity. *See Table 3B and Table 4B*.

Streetscreen: a freestanding wall or a free standing or attached trellis system for supporting plants along the Frontage Line, or coplanar with the Facade. It may mask a parking lot from the Thoroughfare, provide privacy to a side yard, and/or strengthen the spatial definition of the public realm. (Syn:

streetwall.) *See Article 5.5.5f.*

Sustainability: the process and ultimately the benefits of implementing a sustainable development program.

Sustainable: as used within the context of "sustainable development," and as derived from the 1987 Brundtland report: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". In practice, to develop sustainably is to integrate the economic, social and environmental dimensions to create human habitats that contribute to a quality life now, and in the future based upon an evolution of society, knowledge and technology.

Sustainable Zone: one of several areas described in the SD Plan and shown on the Sustainable Development Concept Map (and thereafter more clearly delineated in subdivision and site plans) analogous to Zoning Districts established under the UDO. Allowable land uses and development regulations applicable to such zones shall be as provided in the SD Plan.

Swale: a low or slightly depressed natural area for drainage.

Thoroughfare: a way for use, including a street, by vehicular and pedestrian traffic and to provide access to Lots and Open Space, consisting of vehicular lanes and the Public Frontage. *See Table 3A, Table 3B, Table 4C and Table 17a.*

Town Standards: any statement, codification or other document setting forth standards, designs, directives or plans for the construction of roads, utilities, parks, public facilities or infrastructure of any nature adopted by the Town of Apex and regulating the development of property and the construction of improvements and infrastructure within the jurisdiction of the Town. Town Standards shall include, but shall not be limited to, the Town of Apex Code of Ordinances, the Apex Unified Development Ordinance, Apex Comprehensive Plan, Apex Watershed Overlay District, Apex 2025 Land Use Plan, Apex Transportation Plans, NC 540 Land Use Plan, the Apex Standard Specifications and Standard Details, Wastewater Master Plan, Water Distribution Master Plan, and the Apex Parks and Recreation Master Plan.

Townhouse: a building that occupies the full Frontage Line, leaving the rear of the Lot as the sole yard. *See* **Rearyard Building.**

Transit Oriented Development ("**TOD**"): those areas within an average 1/2 mile radius or 2640 feet of a transit stop (bus or rail) present or proposed as a Common Destination, as set forth in *Article 5.7.2d.*

Transportation Demand Management ("**TDM**"): is a general term for strategies that result in more efficient use of transportation resources. The strategies include developing comprehensive plans for bus and rail transit, bike/transit integration, car sharing, flex cars, and park and ride resources.

Turning Radius: the curved edge of a Thoroughfare at an intersection, measured at the inside edge of the vehicular tracking. The smaller the Turning

Radius, the shorter the pedestrian crossing distance and the more slowly the vehicle is forced to make the turn. *See Table 3B and Table 17.*

Unified Development Ordinance ("**UDO**"): The Apex Unified Development Ordinance.

Urban Farm: agricultural land used for the production of fruits and vegetables, livestock, poultry or other agricultural products, or some combination thereof, consistent with the requirements and limitations of the UDO**.** *See Table 12 and Table 19.*

Urbanism: collective term for the condition of a compact, Mixed Use settlement, including the physical form of its development and its environmental, functional, economic, and socio-cultural aspects.

Urban Core ("**UC**"): A Sustainable Zone. *See Table 1.*

Vegetable Garden: private agricultural land dedicated to food production to be locally consumed, restricted to back yards. *See Table 12 and Table 19.*

Veridea Sustainable Development Concept Map: the map or set of maps that depicts a concept for the development of a community and the conceptual location of Sustainable Zones and Thoroughfares within it. *See Table 2.*

Veridea Sustainable Development District: the zoning district as depicted by the Veridea Sustainable Development Concept Map and developed in accordance with this SD Plan.

Vertical Farm: agricultural production in buildings not primarily within yards, but as a part of or incidental to inhabited buildings, or as a stand alone feature, utilizing container gardens or boxes, which may be associated with windows, balconies and terraces, or roof gardens.

Village Center ("**VC**"): A Sustainable Zone. *See Table 1.*

Yield: characterizing a Thoroughfare that has two-way traffic but only one effective travel lane because of parked cars, necessitating slow movement and driver negotiation. Also, characterizing parking on such a Thoroughfare.

ARTICLE 2.0 THE DISTRICT

2.1 INTRODUCTION

This Sustainable Development Plan (the "SD Plan") is submitted by the Responsible Person and approved by the Town Council pursuant to UDO 2.3.16 of the Town of Apex (the "Town" or "Apex") with respect to the proposed rezoning of property within the Town for the Sustainable, mixed-use development to be known as "Veridea." The SD Plan and its standards and applicable provisions of the UDO and other Town Ordinances and Town Standards shall authorize, regulate, and control the development of land within Veridea and shall establish the design and form for such development. To the extent that the SD Plan varies from the provisions of the UDO, other Town Ordinances, Town Standards or any document or policy referenced or incorporated therein as they exist on the date of approval of the SD Plan and as they may be amended from time to time by the Town Council, the SD Plan shall control.

2.2 CHANGE OF THE RESPONSIBLE PERSON

Pursuant to UDO 2.3.16 D), the Petition to Amend the Official Zoning District Map requesting the rezoning of Veridea to Sustainable Development Conditional Zoning District SD-CZ identified and appointed Lookout Ventures, Inc. as the Responsible Person for the district. Any successor corporation to Lookout Ventures, Inc. by way of merger or other reorganization shall become Responsible Person for the district, and written notice of such succession shall be provided to the Planning Director. At any time following the rezoning of Veridea as requested, Lookout Ventures, Inc. (or its successor corporation) may appoint another person as the Responsible Person for the district by providing notice of such change in writing to the Planning Director of the Town. In the event of the death, incapacity or dissolution of the Responsible Person without its appointment of a new Responsible Person, a new Responsible Person shall be appointed by the owners of fifty-one percent (51%) of the land comprising Veridea at the time of such appointment and written notice of such appointment shall be provided to the Planning Director.

2.3 AUTHORIZED DEVELOPMENT

No development shall occur within Veridea, or any parcel added to Veridea, except as is specifically authorized by this SD Plan with reference, when appropriate, to the UDO.

2.4 MASTER PROPERTY OWNERS' ASSOCIATION

Prior to the Developer's conveyance of any of the Properties within Veridea by the Developer or its assigns, a Master Property Owners' Association ("MPOA") will be established. Membership in the MPOA will be mandatory for any property owner. The MPOA will be funded by dues to be established in the Declaration or other duly recorded document. The MPOA will be responsible for the enforcement of recorded restrictive covenants and for the maintenance of certain common areas within Veridea, including private Thoroughfares. Subassociations of property owners may be established for individual development tracts within Veridea, which will be responsible for the maintenance of the common area within that specific tract, unless otherwise provided in documents relating to the respective subassociation. Should any subassociation fail to perform its maintenance obligations, the MPOA shall be responsible for such performance within a commercially reasonable timeframe. The Town will maintain all Thoroughfares and any other real property that is properly dedicated to and accepted by the Town.

2.5 DECLARATION OF RESTRICTIVE COVENANTS

Prior to the Developer's conveyance of any property within Veridea subsequent to its rezoning, the Developer shall record in the Wake County Registry with respect to the Development a Declaration of Restrictive Covenants (the "Declaration"), duly executed by the record owner or owners of each parcel included within the Development, stating that the Development is within the zoning jurisdiction of the Town of Apex and is zoned Sustainable Development Conditional Zoning ("SDCZ") District and that (i) the Development and the use of property therein are therefore subject to regulations applicable to the SDCZ District described in Section 2.3.16 of the UDO and other provisions of such Ordinance, a copy of which is available in the Planning Department of the Town of Apex (the "Planning Department") at the Apex Town Hall, 73 Hunter Street, Apex, North Carolina 27502; (ii) the Development and the use of land within the Development are also subject to the terms and provisions of a Sustainable Development Plan approved upon the rezoning of the Development to SDCZ District, a copy of which is available in the Planning Department; (iii) under applicable provisions of the UDO and the aforementioned SD Plan, the Developer, its successors and assigns, as Responsible Person, has the sole authority to make certain decisions with regard to property comprising the Development; and (iv) upon acceptance and recordation of any deed conveying property within Veridea, the grantee or grantees of such deed shall become a member of the Master Property Owners' Association for Veridea established pursuant to Section 2.4 of this Plan and any subassociation established pursuant to such section that relates to the property conveyed in the respective deed. The Declaration shall further provide that (i) each deed conveying land within Veridea recorded subsequent to the recordation of the Declaration shall state that the respective conveyance is subject to the Declaration, but that the failure to include such statement in a deed shall not affect the enforceability of the Declaration with respect to the property conveyed or invalidate the respective conveyance; and (ii) no rezoning petition shall be submitted or proposed with regard to the Development, or any portion thereof, without the written consent of the Developer.

ARTICLE 3.0 GENERAL SUSTAINABILITY STANDARDS AND FURTHER DEVELOPMENT APPROVALS

3.1 PURPOSE OF THE PLAN

3.1.1 The SD Plan has been adopted to facilitate the development of Veridea as a community of safe, healthy, resource efficient and transit-oriented mixed-use Projects planned and developed in accordance with Principles promoting Sustainability. Accordingly, Veridea will be developed in view of the following Guiding Principles:

a. Create economic value
b. Eliminate the concept of waste
c. Insist on a renewable future
d. Create delightful urban places
e. Integrate nature throughout the community

The Guiding Principles for Veridea have been developed in accordance with The Hannover Principles, Design for Sustainability, which was authored by William McDonough and Michael Braungart. The Hannover Principles are as follows:

1. **Insist on rights of humanity and nature to co-exist** in a healthy, supportive, diverse and Sustainable condition.

2. **Recognize interdependence**. The elements of human design interact with and depend upon the natural world, with broad and diverse implications at every scale. Expand design considerations to recognizing even distant effects.

3. **Respect relationships between spirit and matter**. Consider all aspects of human settlement including community, dwelling, industry and trade in terms of existing and evolving connections between spiritual and material consciousness.

4. **Accept responsibility for the consequences of design** decisions upon human well-being, the viability of natural systems and their right to co-exist.

5. **Create safe objects of long-term value**. Do not burden future generations with requirements for maintenance or vigilant administration of potential danger due to the careless creation of products, processes or standards.

6. **Eliminate the concept of waste**. Evaluate and optimize the full life-cycle of products and processes, to approach the state of natural systems, in which there is no waste.

7. **Rely on natural energy flows**. Human designs should, like the living world, derive their creative forces from perpetual solar income. Incorporate this energy efficiently and safely for responsible use.

8. **Understand the limitations of design**. No human creation lasts forever and design does not solve all problems. Those who create and plan should practice humility in the face of nature. Treat nature as a model and mentor, not as an inconvenience to be evaded or controlled.

9. **Seek constant improvement by the sharing of knowledge**. Encourage direct and open communication between colleagues, patrons, manufacturers and users to link long term Sustainable considerations with ethical responsibility, and re-establish the integral relationship between natural processes and human activity.

In addition, the Guiding Principles are grounded in the belief that they can only be achieved through a flexible development plan which recognizes the reality of the time in which elements of the plan are developed. The Guiding Principles will be pursued in an anticipatory manner, one which acknowledges that Veridea will be developed over a sustained period of time and according to evolving criteria that define accepted and attainable Sustainable development practices. The SD Plan establishes a flexible framework of development standards (collectively, the "Sustainability Standards") that, by its very nature, seeks to anticipate future trends and technologies and acknowledges that future technologies and practices are, by definition, evolutionary. Accordingly, an Anticipatory Design process shall be used in the planning and design of Veridea and in the design of specific Projects within Veridea.

3.1.2 In order to achieve these Guiding Principles, Veridea shall be developed as Sustainable Zones, as described in Table 1, in accordance with the SD Plan and the Sustainability Standards. In accordance with UDO 2.3.16 F) 2), Sustainability Standards include natural and cultural resource standards, transportation infrastructure standards, utility infrastructure standards, energy standards, community design standards, and building standards. Additional, modified or elective Sustainability Standards shall be adopted in accordance with UDO 2.3.16 F) 3). Sustainability Standards contemplated for Veridea shall include an Environmental Enhancement Plan and may include additional plans as follows:

Sustainability Standards	Authority	When Adopted
SD Plan	UDO 2.3.16	Rezoning
Environmental Enhancement Plan	UDO 2.3.16 F) 3) b)	Prior to first site plan or subdivision plan
Pattern Book	UDO 2.3.16 F) 3) a)	With first site plan
Transportation Demand Management Plan	UDO 2.3.16 F) 3) a)	With first site plan that deviates from UDO standards related to parking
Parking Management Plan	UDO 2.3.16 F) 3) a)	With first site plan that deviates from UDO standards related to parking

Additional Sustainability Standards	UDO 2.3.16 F) 3) a)	As appropriate, subsequent to rezoning
Elective Sustainability Standards	UDO 2.3.16 F) 3) c)	

Figure 1. Sustainability Standards in Veridea

3.1.3 In addition to the total authorized development authorized by this SD Plan, a minimum of 250 acres of land, in varying locations and varying scales and forms, shall be designated by the Responsible Person during the site plan and subdivision approval process as follows:

a. 100 acres shall be designated for Resource Conservation Area.
b. Sufficient acreage shall be designated to accommodate the recreation requirements specifically set forth in Article 3.4.2.2; and
c. 150 acres less the acreage sufficient to accommodate the recreation requirements of Article 3.4.2.2 shall be designated for Open Space, Public Space, and Civic Space. Civic Buildings dedicated to government, transit or parking and any portion of the respective lot not routinely accessible to the public shall not be included in the acreage designated pursuant to this subsection. Civic Buildings dedicated to arts, culture, education and social activity and any portion of the respective lot routinely accessible to the public shall be included in the acreage designated pursuant to this subsection. Any privately-owned or operated buildings located in an Open Space zone and any portion of the respective lot not routinely accessible to the public shall not be included in the acreage designated pursuant to this subsection.

3.2 SUSTAINABLE FRAMEWORK

3.2.1 The Veridea Sustainable Development District is utilized for Veridea to create a framework for compact and connected Sustainable Urbanism. In view of its scale and the Guiding Principles, the Veridea Sustainable Development District is distinguished from the other districts within the UDO and offers an additional lifestyle choice to Apex for current and future residents. Because technology and the laws and regulations affecting sustainability are evolutionary, the SD Plan recognizes the need to enable Anticipatory Design and to maintain flexibility in order to incorporate and adapt to future best practices.

3.2.2 In view of the Guiding Principles, the Goals of Veridea are intended to capture the spirit and intent of sustainability in order to achieve the following desired results:

a. Economic Value
    i. Create a model community of Sustainable design.

ii. Create a framework for the next generation version of the Research Triangle Park that is a vibrant, urban, mixed-use transit-oriented community.

b. Energy
   i. Pursue renewably sourced energy supplies.
   ii. Maximize energy efficiency.
   iii. Pursue energy opportunities presented by the evolving regulatory landscape and emerging renewable energy technologies.

c. Water
   i. Release to the ecosystem only water that is clean and healthy.
   ii. Treat water as a precious resource by conserving and reusing it to the maximum extent practicable.

d. Community
   i. Create a world class model of a safe, healthy, delightful, Sustainable mixed-use urban environment that enables the community to live, work and play.
   ii. Facilitate a mix of housing types, sizes and tenure options that allow all members of society to remain part of the community throughout the human life cycle.
   iii. Establish a full-service pedestrian-friendly transit-oriented community that respects and encourages wellness and safety.
   iv. Establish a community that respects the history of Apex and compliments and expands its existing community infrastructure.
   v. Set aside Open Space and Civic Space throughout the community.
   vi. Reduce, re-use and recycle construction and demolition materials whenever practicable.

3.3 DEVELOPMENT APPROVALS

3.3.1 Site Plans

a. The approval of site plans within the Development shall comply with the procedures and standards of UDO 2.3.6 except as modified in the SD Plan.

b. Within the Development, notwithstanding any provision of UDO 2.3.6 D) 2), only those individual site plans that propose 100,000 square feet or more of nonresidential floor area or 200 residential units or more shall be considered Major Site Plans and shall be processed and reviewed in accordance with UDO 2.3.6 D) 3). Notwithstanding UDO 2.3.6 D) 2) a), multiple site plan applications within any three year period for one property, or portions of the same property, or neighboring properties if owned by the same entity, shall be considered as individual site plans for the determination of the existence of a Major Site Plan and shall not be considered cumulatively for any purpose. All other site plans within the Development, shall be considered Minor Site Plans and shall be processed and reviewed in accordance with UDO 2.3.6 D) 1).

3.3.2 Subdivision Plans

The approval of subdivision plans shall comply with the procedures and standards of UDO 2.3.7 except as modified in the SD Plan. A minor Subdivision Plan, for the purposes of UDO 2.3.7 G), shall be defined as a division of a tract or parcel into fewer than 200 lots. In approving a major Subdivision Plan, the Town Council shall find that the area of the proposed subdivision will be adequately served by public fire and law enforcement personnel.

3.3.3 Written Statement from Responsible Person Required; Noncompliance

Any site plan or Subdivision Plan submitted to the Town for approval for a Project to be undertaken by a party other than the Responsible Person must be accompanied by a written statement from the Responsible Person indicating its approval of the Project. Such written statement shall also state the authorized development allocated to the Project (i.e., number of dwelling units and/or square feet of non-residential Retail, Office and/or Industrial Uses) as well as the development fee credits, if any, other credits, and/or liabilities and responsibilities assigned to or assumed by the Project.

Any event of non-compliance with any requirement of this SD Plan or the UDO that relates solely to a Project or Projects within Veridea shall not be attributed to Veridea as a whole, but rather shall be attributed only to that Project or Projects, such that any enforcement action taken by the Town shall be limited to the Project or Projects at issue.

In addition to any other remedy that may be available to the Town, if a violation of this SD Plan, Town Standards, Sustainability Standards applicable to Veridea or the UDO remains in existence with respect to a Project or Projects or a distinct area within Veridea after the Town complies with the procedures of UDO 11.5, the Town may withhold the issuing, approving or granting of grading permits, building permits, certificates of compliance or occupancy, site plans, subdivision plans or plats and other permits or approvals for the Project or Projects or distinct area in issue until the non-compliance is corrected and cured.

In addition to any other remedy that may be available to the Town, if a violation of this SD Plan, Town Standards, Sustainability Standards applicable to Veridea or the UDO which applies to Veridea as a whole remains in existence after the Town complies with the procedures of UDO 11.5, the Town may withhold the issuing, approving or granting of grading permits, site plans and subdivision plans or plats throughout Veridea until the non-compliance is corrected and cured.

3.3.4. Additional, Modified and Elective Sustainability Standards

All of the provisions of the SD Plan, including those related to development approvals, may be affected by any standards applicable to SD-CZ districts that may be adopted at any time or from time to time by the Town Council in accordance with UDO 2.3.16 F) 3). Upon the consent of the Responsible Person, any Sustainability Standards adopted or modified by the Town

Council in accordance with the provisions of UDO 2.3.16 F) 3) a), b) or c) shall apply to subsequent site plans and Subdivision Plans and be incorporated into the SD Plan. The Environmental Enhancement Plan shall be the sole required additional Sustainability Standard under this SD Plan and shall be adopted pursuant to UDO 2.3.16 F) 3) b).

3.3.5. Encroachment Agreements

Notwithstanding any other provision in this SD Plan, any encroachment into a Town of Apex right-of-way or easement requires an encroachment and maintenance agreement with the Town before such encroachment is made.

3.4 RESOURCE CONSERVATION – NATURAL AND CULTURAL RESOURCE STANDARDS

3.4.1 General

The natural and cultural resource standards set forth herein, as a component of the Sustainability Standards, provide certain community resources and conserve and protect natural and cultural resources and the quality of the water, land, and air within Veridea.

As set forth in Article 3.1.1 of the SD Plan, Veridea will be developed in view of the Guiding Principles over time according to evolving criteria that will define accepted and attainable sustainable development practices at the time of site plan or Subdivision Plan submission. As set forth in Article 3.1.2 and elsewhere within the SD Plan, Veridea shall include both Open Space, as an independent zone, and Developable Areas, generally identified as Sustainable Development Zones. Accordingly, Environmental and Natural Resource Protection Standards and Community Resource Standards shall vary as to those that apply within the Open Space zones, and those that apply within the Sustainable Development Zones. Further, due to the different levels of development within each Sustainable Development Zone, the Environmental and Natural Resource Protection Standards and Community Resource Standards shall vary with the level of development intensity within each zone. Also as set forth in Article 3.1.1 of the SD Plan, development standards are intended to be flexible in order to anticipate future trends and technologies, and yet acknowledge that future technologies and practices are unknown.

The provisions of Section 9 (d) of Session Law 2006-246, which provide a landward setback of 30 feet for built upon areas adjacent to certain surface waters, shall be applicable to Veridea except to the extent exceptions are granted by the Town Council in accordance with Section 11 (a) of such Session Law. Otherwise, UDO 6.1 shall apply until the Environmental Enhancement Plan is adopted by Town Council in accordance with UDO 2.3.16. F) 3) b).

3.4.2 Community Resource Standards

Veridea will achieve intensity of development within an environment of Sustainability.

3.4.2.1. Parks, Recreation and Open Space

All of the landscape that comprises Veridea will be purposefully designed to achieve a wide range of Goals to achieve Sustainability. The scale of Veridea's Parks will vary from small urban greens and squares, to active recreation areas with playfields, to natural preserve areas conducive to passive recreation. Within each Park, recreation, and open space site setting, appropriate human activity, from the passive to the most active, will be accommodated. Parks may be publicly or privately owned as determined at the time of site plan or Subdivision Plan approval, however only public parks will count toward recreation requirements. As Veridea is developed, land shall be dedicated for parks, recreation, and open space or fees in-lieu paid with respect thereto as contemplated by UDO 7.3.1 and 7.5.9 B). At any time, the Town Council and the Responsible Person may agree upon a plan or plans that deal with parks, recreation and open space for all or any portion of Veridea.

3.4.2.2. Specific Recreation Requirements

In accordance with the above and consistent with other requirements of the SD Plan, the Developer shall, at a minimum, dedicate land parcels to accommodate the following: i) four (4) lighted regulation softball fields in keeping with the standards of the American Softball Association (ASA) Men's Slow-Pitch Open Division; ii) six (6) lighted tennis courts in keeping with the standards of the United States Tennis Association (USTA); iii) a 22,500 square foot community center consistent with phase 1 of the existing community center at 53 Hunter Street, Apex, North Carolina; and iv) a dog park of at least one (1) acre. The Responsible Person shall have the discretion to disperse items i – iv and any part of items i or ii. No later than at the time 1000 residential units have received building permits, the Responsible Person shall submit to the Town Council for approval a Master Parks Plan depicting the location of the land parcels associated with items i, ii, iii and iv. The land parcels for items i, ii, iii, and iv shall be dedicated to the Town no later than at the time 2000 residential units have received building permits. Once the Master Parks Plan has been approved, any portion of the remaining obligation under Article 3.4.2.1. may be satisfied, at the election of the Responsible Person, by the payment of fees in lieu pursuant to UDO 7.3.1, which shall be utilized by the Town as soon as practicable for the foregoing construction of items i, ii, iii and iv.

The Responsible Person shall receive credits from the Town Council against fees in lieu payable under UDO 7.3.1 for the value of any historic or

cultural resource sites or facilities dedicated to and accepted by the Town and for amounts which it expends in developing and improving land for parks, recreation and open space pursuant to the recommendation of the Parks, Recreation and Cultural Resources Advisory Commission and approval by Town Council. Notwithstanding the foregoing sentence, any dedicated historic or cultural resource sites or facilities for which the Responsible Person receives credits against fees in lieu cannot be credited toward the RCA requirement set forth in Article 3.4.3 hereof.

3.4.2.3. Greenways

The Development will provide easements for Town of Apex greenways generally consistent with the current Parks and Recreation Master Plan. To the extent practicable, greenways will be constructed to Town Standards and located along stream corridors and within Open Space and easements. In cases where greenways generally follow public rights-of-way, greenways may be either constructed as a multi-use trail in lieu of a sidewalk, or when located within more urban areas, as pedestrian-oriented streetscapes containing both hardscape elements (including but not limited to sidewalks, decorative lighting, street furniture, and fountains) and street tree plantings which do not have to meet typical island widths or sizes. Greenways may be located within existing and future utility easements. Greenways may be publicly or privately owned as determined at the time of site plan or Subdivision Plan approval. Greenways may be dedicated to the Town as linear Parks, subject to the Town's approval.

3.4.2.4 Public Schools

The Development shall make available for purchase or lease by a School Authority three (3) Public School sites within Veridea, each having a minimum size of five (5) acres. Unless earlier purchased or leased by a School Authority, one (1) of such school sites shall be reserved by the Responsible Person upon the issuance of the 2,000th residential building permit within Veridea, and a similar reservation shall occur on the issuance of each of the 4,000th and 6,000th residential building permit within Veridea. Each area reserved should meet site design standards of a School Authority. Each such reservation shall exist for a period of ten (10) years, and during such period no permanent construction shall occur within the area reserved. The Public Schools constructed upon the areas so reserved shall be of a compact urban form and design appropriate for Veridea and meeting the standards of the State or the School Authority. There may be arrangements with the Town for the shared use of recreational facilities.

3.4.3 Resource Conservation – Environmental and Natural Resource Protection Standards

3.4.3.1 Resource Conservation Area ("RCA")

UDO 8.1, Resource Conservation, and other provisions of the UDO dealing with RCA not otherwise specifically dealt with in this SD Plan shall apply to the Development until the Environmental Enhancement Plan is adopted by Town Council in accordance with UDO 2.3.16.F) 3) b), except as follows:

a. UDO 8.1.2 A) shall apply to the Development as a whole as opposed to individual site plans or Subdivision Plans.

b. UDO 8.1.2 B) 2) f) shall not apply.

c. The maximum impermeable surface area shall be as listed in Table 14.

d. Notwithstanding UDO 8.1.3, Tree and Vegetation Conservation, the requirements for conservation of existing trees and vegetation and new landscaping requirements are set forth in Article 5.9 of the SD Plan.

e. Not including the land parcels to be dedicated to the Town pursuant to SD Plan 3.4.2.2, both: i) Open Space, excluding Civic Buildings and all associated parking, municipal parking lots, and parking associated with Open Space that exceeds the direct needs of such Open Space; and ii) recreation area provided in Public Space or Civic Space within the Development including, but not limited to, open space, pools, tennis courts, tot lots, ball fields, and village greens shall be allowed to be counted as partial credit toward the RCA requirement. The credit for such area shall be 50% of the area provided. (For example, 1 acre of area shall count as 0.5 acres of RCA) In order to qualify as RCA, the area must be located on a lot 0.5 acre or larger in size.

f. Notwithstanding UDO 8.1.2 A) 1) d), the provision of off-site RCA shall be provided at the same rate as the on-site RCA, and off-site RCA may be provided in lieu of on-site RCA.

3.4.3.2 Water

a. Stormwater Management

The Goals of Stormwater Management within Veridea are as follows:

i. Reducing pollutants to protect surface water bodies;
ii. Promoting recharge of ground water resources;
iii. Eliminating flooding within the Development and downstream;
iv. Enhancing safety and aesthetics for the public; and
v. Creating wildlife habitats and educational opportunities.

Specific stormwater management standards, technologies, devices and control structures for the Development shall work interdependently and holistically with the built and natural environment both on-site and off-site. The standards for Veridea's stormwater management shall be in

accordance with Town Standards. Further, to the extent practicable, low impact development ("LID") techniques such as bio-swales, vegetated channels, pervious pavement where appropriate, rainwater harvesting and "green" roofs to convey and treat runoff, may be used within the Development to the maximum extent practicable, based on the best available technology and research at the time of site plan and/or Subdivision Plan submission.

b. Water Conservation

The Goals of water conservation within Veridea are as follows:

i. Reducing per capita water use while retaining attractive landscapes;
ii. Protecting ground and surface water supplies from unsustainable depletion;
iii. Eliminating unnecessary waste in water use practices;
iv. Reducing wastewater treatment volume and associated municipal expenditures; and
v. Promoting the increased use of re-use water for irrigation.

Water conservation standards within the Development shall be in accordance with the Town of Apex Water Conservation Ordinance. Landscape plant materials shall be in accordance with NCDENR or North Carolina Cooperative Extension standards for drought tolerant, native species. Only re-use water, where practicably available, shall be used for landscape irrigation; however, where re-use water is not available, potable water use for landscape irrigation shall be used in accordance with the Town of Apex Water Conservation Ordinance.

c. Surface Water Enhancement

Encroachment on streams and associated riparian buffers will be unavoidable in some places in order to accomplish the Goals in light of the Guiding Principles. However, the Environmental Enhancement Plan, in accordance with 3.4.1 of the SD Plan, will be developed to provide for the protection and enhancement of the aquatic function of the surface water resources within the Development.

The Environmental Enhancement Plan will address surface water enhancement with the following objectives:

i. Maintaining water quality by capturing or controlling sediment, nutrients, and other pollutants to an extent that is equal to or better than would be the case if the encroachments did not occur;
ii. Maintaining the hydraulic conditions downstream to ensure that post-development peak flows do not exceed pre-development flows for the 1-year, 24-hour and 10-year, 24-hour storms, stream

channel stability is maintained or improved, increased sedimentation of the stream bed is avoided, and no increase in downstream flooding occurs;

iii. Maintaining or enhancing the aquatic ecosystem in order to restore or improve biodiversity;
iv. Augmenting low flow in order to improve downstream aquatic habitat;
v. Providing space and ecological conditions that maintain or enhance wildlife habitat and travel corridors;
vi. Constructing wetlands or enhancing naturally occurring wetlands; and
vii. Enhancing public use and enjoyment of the natural systems will be considered during the planning process.

3.4.3.3 Land

a. Sedimentation and Erosion Control

The Goals for sedimentation and erosion control are as follows:

i. Minimize disturbance to vegetation and soils;
ii. Minimize runoff and diversion;
iii. Minimize the need for additional storm drainage facilities;
iv. Reduce sedimentation; and
v. Prompt restoration after land clearing and grading.

Land disturbing activity within the Development shall comply with the Town of Apex Soil Erosion and Sedimentation Control Ordinance, as amended from time to time. The Town's standards related to the design of erosion and sedimentation collection devices for the 25-year storm and for the provision for 3,600 cubic feet per disturbed acre in sediment basins shall be implemented in the Development unless alternative design standards that are the functional equivalent or better are proposed by the Developer and approved by the TRC.

b. Waste Minimization

The Goals of waste minimization within Veridea are as follows:

i. Minimize the volume of demolition and construction waste generated in the Development;
ii. Distinguish between useful or reusable resources in demolition materials and waste materials from demolished buildings; and
iii. Expand the market for recycled construction and demolition materials.

The waste minimization standards shall support the following solid waste goals identified in the Wake County Environmental Stewardship Agenda, adopted by the Wake County Board of Commissioners February 21, 2005

and as may be amended from time to time:

i. Ensuring a solid waste management system for waste reduction, reuse and recycling to the maximum extent practicable;
ii. Providing convenient opportunities for residents, institutions, and businesses to recycle a full range of marketable materials (including yard debris), and to properly dispose of waste requiring special handling (e.g., used motor oil, household hazardous wastes, pesticide containers, automobile batteries, electronic waste, and others);
iii. Offering incentives, disincentives, and policies that motivate residents, businesses, and institutions to reduce and recycle waste, including institution of a countywide construction and demolition debris mandatory recycling ordinance;
iv. Devising an efficient recovery and processing infrastructure with the capacity to collect and divert from disposal all recyclable materials that have reliable market outlets;
v. Supplying accessible, user-friendly information to all citizens on how to reduce and recycle waste in their homes, places of work, and places of learning;
vi. Devising an expanded recycled products purchasing program with formal policies on procurement of products with recycled content and other "green" products by participating Wake local governments; and
vii. Working with Environmental Education and Environmental Information Providers to develop effective programs and services for a variety of County audiences on the importance of reducing, reusing, and recycling solid waste; buying recycled products and creating new and local markets; and reducing personal consumption and/or disposal of material goods and/or packaging.

Specifications of building and site work material may include recycled content requirements consistent with industry standards, including but not limited to, aggregate base and sub-base materials, asphalt, concrete, and finishes.

3.4.3.4 Air

The SD Plan for Veridea is grounded in the belief that the most effective planning Strategy to reduce greenhouse gas emissions is the pursuit of a dense, mixed-use, walkable and ultimately transit-oriented development. Greenhouse gas emissions are associated with both transportation and the total energy demands of the built environment. By targeting the expected growth within an area that can be served best by the municipality's ability to provide and afford municipal services, by balancing the land uses within the community, and by designing the community in conjunction with multi-modal transportation, a walkable, livable community such as Veridea can be created as a model of Sustainability.

Further, the creation of such a community concentrates development and attracts development that otherwise would occur outside of Veridea in a

sprawl-like manner that is inherently less Sustainable.

The SD Plan recognizes that the technologies and practices associated with the reduction of greenhouse gas emissions are evolving. Accordingly, in recognition of the impacts of greenhouse gas emissions and in an effort to minimize such emissions, transportation planning at all scales shall be approached and implemented in a manner that encourages the pattern of development defined within the Sustainable Development Plan.

The Goals for Air Quality within Veridea are as follows:

a. Establish a connected circulation plan that uses an integrated network of Thoroughfares, sidewalks, and paths linked to land uses with convenient access to alternative modes of travel including rail, bus, and walking to increase community internal trip capture and reduce vehicular trip generation and vehicle miles traveled in order to lower overall emissions and traffic congestion in otherwise heavily traveled areas.

b. Incorporate Transit Oriented Development in conjunction with a parking management Strategy within a mixed-use community, linked to a growth area to increase pedestrian and bicycle traffic, and transit share while reducing vehicle miles traveled.

c. Provide open space and landscaping within the Development to maintain a significant carbon absorbing medium.

d. To the extent practicable, comply with applicable EPA emission goals for the operation of non-road diesel engines.

3.5 TRANSPORTATION INFRASTRUCTURE STANDARDS

3.5.1 General

The transportation infrastructure standards set forth herein, a component of the Sustainability Standards, shall adhere to the Principles described and depicted throughout this Sustainable Development Plan.

Transit Oriented Development in conjunction with a parking management Strategy within a mixed-use community, linked to a growth area, has been proven to be very effective in increasing pedestrian and bicycle traffic and transit share while reducing vehicle trips and vehicle miles traveled. By establishing a connected circulation plan that uses an integrated network of Thoroughfares, sidewalks, and paths linked to land uses with convenient access to alternative modes of travel including rail, bus, and walking, community internal trip capture is significantly increased. One significant advantage of Sustainable Urbanism is that it reduces sprawl and the need to drive. Reduction in vehicular trip

generation and vehicle miles traveled lowers overall emissions and limits traffic congestion in otherwise heavily traveled areas. A second significant advantage of a connected circulation plan is that public safety is enhanced when the plan is based upon an integrated network of Thoroughfares that provides alternative routes from one destination to another, and that is designed to industry recognized criteria to reduce the performance speed of Thoroughfares and provides enhanced pedestrian safety.

a. Transportation Demand Management Plan

The SD Plan incorporates TDM strategies into the plan. The SD Plan provides for a compact mixed-use development with an efficient, connected multi-modal transportation network, key components of any TDM plan. The integration of land use and transportation decisions increases travel efficiencies and change travel behavior. This results in less auto dependence and an increase in use of other modes of transportation. TDM strategies will be applied to all levels of the land development process including long-range actions implemented after the land is developed. The Responsible Person shall prepare a Transportation Demand Management Plan outlining transportation options and incentives to be reviewed and, if feasible, developed, and setting the strategic framework for implementation. The options to be reviewed include:

i) Ridesharing;

ii) Telecommuting/flex time;

iii) Bicycle and pedestrian planning;

iv) Park and ride facilities;

v) Parking management;

vi) Shuttle bus;

vii) Bus/bus rapid transit;

viii) Car sharing; and

ix) Regional public transit.

The TDM Plan shall be submitted by the Responsible Person for approval by the Town, in accordance with UDO 2.3.16 F) 3) a) prior to or concurrent with the submittal of the first site plan that varies any standards related to parking set forth in the UDO. In accordance with UDO 2.3.16 F) 3) a) and the provisions of UDO 2.3.2 applicable to amendment to text, the TDM Plan may be updated or modified as the build-out of the Development occurs. Because preparation of the TDM Plan is triggered by the occurrence of development within Veridea, the TDM Plan is not required for the purposes of UDO 2.3.16 F) 3) b).

Parking planning and management refers to various policies and programs that result in more efficient use of parking resources. It recognizes that too much parking supply can be as damaging as too little and seeks to provide an optimal parking supply. A Parking Management Plan will be utilized in the B-Grid and

NG Zones. The plan shall address spillover parking for Commercial uses when located near single family development. The plan shall be submitted or updated as needed for site plans in the B-Grid and NG Zones.

3.5.2 Alternative Thoroughfare Standards

a. Thoroughfares shall conform to the *Apex Transportation Plan* to provide for the appropriate projection of principal streets in surrounding areas to permit reasonable access for surrounding properties. The exact placement of the streets and Thoroughfares within the plan may be adjusted. In areas within the Development, Thoroughfares shall be designed and located in proper relation to existing and proposed streets, to the topography of the area, and to natural features.
b. Thoroughfares in their construction shall conform to Town Standards except as noted within the SD Plan. Exceptions to Town Standards set forth in the SD Plan may be used by right, as an alternative to the Town Standards available. Exceptions are as listed hereafter or as provided elsewhere in this SD Plan:

    i. Section 3 *Streets of the Standard Specifications* shall apply except for the dimensional and other standards of 3.02b *Pavement & Right-of-Way Widths*, 3.02d *Radii of Curvature* and 3.02e Tangents, all of which shall be modified by the SD Plan, including but not limited to Tables 3A, 3B, 4A, 4B, and 4C, subject to TRC review and approval as to their application within the site plans or Subdivision Plans.
    ii. The dimensional standards of Standard Detail Number 3.01 *Street Typical Sections*, Sheets 1 through 4 shall be modified by this Sustainable Development Plan and Tables 3A, subject to TRC review and approval as to their application within the site plans or Subdivision Plans.
    iii. The location of utilities as shown on Standard Detail Number 3.10 *Standard Street Cross Section Showing Utility Locations* may be adjusted to permit street trees and utility locations in the Rear Alleys and Rear Lanes. Due to the anticipatory nature of the design of the Development, additional utilities, both public and private, may be incorporated into the right-of-way as the technology becomes available. Regulated utilities shall be permitted within the Thoroughfare right-of-way to include the District Utility Zone as illustrated in Table 4D.
c. In the event that Thoroughfares as identified in Table 4C do not meet the approval of the North Carolina Department of Transportation (“NCDOT”) for the design of thoroughfares under NCDOT’s jurisdiction, an alternative acceptable to the Responsible Person, the TRC and NCDOT may be utilized.
d. Thoroughfares shall be included as part of each Sustainable Zone.

e. Thoroughfares should be laid out in such manner as to encourage the flow of vehicle traffic at very low to low design speed, except upon major Thoroughfares, and to encourage pedestrian circulation. Public Sidewalks shall be required along all public streets except when the TRC approves an alternative plan during the site plan and construction plan review process upon its determination that the alternative plan, viewed in the context of surrounding development, adequately accommodates pedestrian connectivity. The street classifications shown on Tables 4B and 4C shall be used as guidance for sidewalk placement when possible. If determined by the TRC to provide an equal or better pedestrian system, Bicycle Trails may be allowed in lieu of some sidewalks within the Development. In addition to the requirements of Articles 3.5.1 and 3.5.2.b, the layout of thoroughfares and intersections will reasonably allow for emergency vehicle access. This may require an evaluation of emergency routes and turning radii during the site and construction plan review process. The TRC may consider alternative design elements and refer to third party published sources of information in order to minimize impacts to the intended character of the Development while accommodating emergency vehicles.

f. Private Thoroughfares and sidewalks may be allowed for Commercial, Manufacturing, and multi-family residential uses that conform to widths shown in Tables 4B and 4C, provided however that a five (5) foot public access easement will be provided on all private sidewalks fronting public Thoroughfares.

g. Rear Alleys and Rear Lanes shall be allowed that conform to widths shown in Tables 4B and 4C. Where required for public access and public utilities, continuous and/or crossing easements shall be provided for private Thoroughfares and/or sidewalks.

h. Right-of-way widths may be adjusted to the back of curbs during the site plan and construction plan review process. If the right-of-way does not extend beyond the back of curbs, public access and utility easements shall be provided to cover areas along the public street and Thoroughfare that allow for safe and adequate pedestrian flow and maintenance areas.

i. Design Standards for thoroughfare assemblies with reverse curves shall comply with the AASHTO Policy on Geometric Design of Highways and Streets, latest edition.

j. Thoroughfare standards may, at the election of the Responsible Person, include additional or elective regulations and standards, if any, adopted at any time and from time to time by Town Council in accordance with UDO 2.3.16 F) 3) a) or 2.3.16 F) 3) c).

3.5.3 Traffic

a. The Development and each Project will be designed to:
    i. Reduce vehicle miles traveled;
    ii. Increase share of alternative modes of transportation;
    iii. Reduce external trips; and

iv. Facilitate and encourage pedestrian and bicycle traffic.

b. Master Traffic Impact Analysis: A Master Traffic Impact Analysis ("Master TIA") will be prepared for Veridea. The Master TIA will address the maximum densities and allowable building square footage of various uses in the SD Plan along with recommended off-site thoroughfare improvements at the build-out of Veridea. Thoroughfare and associated improvements beyond those recommended in the Master TIA that are outside of the study area will be the responsibility of other developers or entities. Thoroughfare and associated improvements required as a direct result of other developments or background growth outside the scope of the Master TIA shall not be the responsibility of the Developer. However, internal improvements needed to serve site plans within Veridea will be identified when additional analyses are conducted.

The Developer shall provide Thoroughfare and associated improvements as recommended in the Master TIA. Additional traffic impact analyses ("TIAs") will be conducted for each major site plan or major Subdivision Plan required to serve Veridea, and Section 13.19 of the UDO shall be used as a guide for preparing the TIAs. TIAs shall be performed only for projects meeting the major site or subdivision plan threshold set forth in Article 3.3.1.b hereof. The study area of each TIA shall encompass all necessary street intersections internal to the Development but shall rely on the Master TIA for improvements along NC 55 and the proposed interchanges on the Triangle Expressway and US 1 external to the Development.

The Town shall have no obligation to provide financial assistance for the planning, design, permitting, acquisition of right of way, or construction of the following roadway improvements: i) those identified in the Master TIA; ii) those identified in the Article 3.5.5.a-g hereof; and iii) those identified in subsequent TIAs for each major site plan or major Subdivision Plan. Notwithstanding the foregoing, it is acknowledged that the Town may provide right of way that it currently owns for the new US 1 Interchange identified in the Master TIA and shown on the Town's Thoroughfare Plan.

c. Public Transit: A Regional Public Transit System may be accommodated and encouraged within the Development. Bus circulation shall be accommodated and encouraged within the Development. Optimally, the pedestrian network will provide direct pedestrian links from the proposed residential units, Offices and other commercial buildings to designated transit stops. Triangle Transit standards for bus stop amenities shall serve as a guideline. Access to the Regional Public Transit System by the adjacent pedestrian and bicycle network and park and ride facilities is an important component of the transit system. As noted in SD Plan 3.5.1.a, the TDM Plan will address bicycle and pedestrian planning as well as park and ride facilities.

d. Land Reservation: Land shall be reserved for the future Regional Public Transit System within Veridea. With regard to the Regional Public Transit System alignment and associated rights of way ("ROW") outside of Veridea, the location along Veridea's perimeter where the Regional Public Transit System will enter and exit Veridea in the vicinity of the interchange of US 1 with the Triangle Expressway will be determined by Triangle Transit, and/or other regional transit organization, and/or the Town. As Veridea is developed, site plans and Subdivision Plans will be shared with Triangle Transit, and/or other relevant regional transit organization, to assist such entities in the planning for and selection of the final alignment of the Regional Public Transit System.

The reservation of land to accommodate the Regional Public Transit System will be made as follows:

i. Land shall be reserved in a manner consistent with the development pattern of the Sustainability Zone in which it resides, and may overlap dedications made for other public uses such as Thoroughfares and utilities as long as the overlap is not contrary to sound planning and engineering practice that ensures that the reservation and dedication are sufficient for all planned infrastructure;
ii. Reservation shall include an area for transit station functions which shall be located within a UC zone, and shall be reserved in a manner that is in keeping with an urban development pattern of that zone as defined by the SD Plan, and may overlap reservations and, dedications made for other public uses such as Thoroughfares and utilities as long as the overlap is not contrary to sound planning and engineering practice that ensures that the reservation and dedication are sufficient for all planned infrastructure;
iii. Determination of the form, character, location, and relationship to adjacent development, relationship to other reservations and/or dedications and dimensions shall occur during site planning jointly by the Responsible Person, the TRC or Town Council, as appropriate.
iv. The reservation of land will prohibit permanent development within the designated reserve area until 2035 at which time, if there are no plans that financially commit the Triangle Transit, and/or other regional transit organization, and/or the Town to implement a regional rail plan that includes the Development, the Responsible Person may consider the reservation null and void.
v. Land reserved hereunder will be dedicated to Triangle Transit, and/or other regional transit organization, and/or the Town once the applicable entity secures funding and commits to construct the Regional Public Transit System within the Development.

vi. Buildout of any of single land use of the three (3) uses identified in Article 4.2.2.b.i-iii shall not exceed 85% of the total authorized development for the respective use, unless Town Council otherwise approves in accordance with UDO 2.3.16 F) 3) a), until the commencement of a Regional Public Transit System that will serve Veridea.

3.5.4 Schedule of Installation

Transportation infrastructure shall be completed in accordance with UDO 7.5.9. For the purposes of UDO 7.5.9, vertically-integrated residential and non-residential uses will be considered non-residential.

3.5.5 Phasing of Traffic Infrastructure

Traffic infrastructure shall be developed as build-out of Veridea occurs, as set forth herein. Percent build-out of "any single land use" refers to a percentage of building permits for residential dwelling units or certificates of occupancy for non-residential uses for the three (3) different uses identified in Article 4.2.2.b.i– iii hereof.

a. NC 55 at US 1 Northbound Ramps

Veridea shall not exceed 10% build-out of any single land use until the northbound inside right turn lane on NC 55 at US 1 is extended back to the intersection with Lufkin Road.

b. NC 55 at Lufkin Road

Veridea shall not exceed 10% build-out of any single land use until the third (3rd) northbound through lane on NC 55, starting at least 500 feet in advance of Lufkin Road, is constructed.

c. NC 55 at Lufkin Road Connector (Pristine Water Drive)/Site Access 1

Access shall not be granted to NC 55 through the fourth leg of the intersection across from the Lufkin Road Connector/Pristine Water Drive (Site Access 1) until the Lufkin Road Connector and Pristine Water Drive are complete and open to traffic. The Lufkin Road Connector includes a new location extension to Lufkin Rd and paving of Pristine Water Dr with improvements according to the Master Traffic Impact Analysis (Master TIA) including a landscaped median-divided cross section on NC 55 with a traffic signal.

d. Site Access 2, 3, 4, 5, 6, and 7

Access shall not be granted to NC 55 through Site Access 2, 3, 4, 5, 6, or 7 until improvements according to the Master TIA at the corresponding access are constructed including a landscaped median-divided cross section on NC 55.

e. NC 55 at Jessie Drive Extension

Access shall not be granted to NC 55 through Jessie Drive extension until improvements for Veridea according to the Master TIA are constructed including a landscaped median-divided cross section on NC 55 and a traffic signal.

f. NC 55 at Technology Drive

Access shall not be granted to NC 55 through Technology Drive until Technology Drive is widened to four-lane divided roadway and the departing second (2^{nd}) eastbound through lane along NC 55 Business is constructed for a minimum of 1000 feet prior to the lane drop. In addition, access shall not be granted to NC 55 through Technology Drive until a second (2^{nd}) northbound left turn lane and second (2^{nd}) southbound left turn lane on NC 55 is open to traffic.

g. Perry Road at US 1 Interchange and Old Holly Springs Apex Road at Triangle Expressway Interchange

i. Veridea shall not exceed 15% build-out of any single land use until either the interchange of Perry Road at US 1 or the interchange of Old Holly Springs Apex Road at Triangle Expressway is open to traffic.

ii. Veridea shall not exceed 50% build-out of any single land use until both the interchange of Perry Road at US 1 and the interchange of Old Holly Springs Apex Road at Triangle Expressway are open to traffic.

iii. The Responsible Person shall coordinate with the NC Department of Transportation (NCDOT) and the Town of Apex to determine the appropriate phasing of completion of the ultimate lane geometry and signalization at the ramp termini as recommended in the Master TIA. The phasing plan for the ultimate build-out of improvements shall be determined through subsequent site plan and subdivision plan TIAs referenced by 3.5.3.b.

3.6 UTILITY INFRASTRUCTURE STANDARDS

3.6.1 General

Water and sanitary sewer lines with connections to municipal systems, adequate drainage system for the proper drainage of all surface water, and dry utilities, including but not limited to, electrical distribution, natural gas, and telecommunication lines shall be provided in accordance with the Town Standards, unless otherwise noted in Article 3.6.2. Dry utilities, wherever practicable, shall be installed underground.

3.6.2 Alternative Utility Standards

a. At the election of the Responsible Person, standards and requirements applicable to utilities in the Development may include any additional Sustainability Standards adopted by the Town Council in accordance with UDO 2.3.16 F) 3) a) or 2.3.16 F) 3) c).
b. Easement encroachments and shared use easements shall be allowed with the approval of the Town Council to minimize land disturbance and Thoroughfare sections, to encourage joint trenching agreements, and to maximize the beneficial use of easements for greenway trails at the time of site plan and Subdivision Plan submittal.

3.6.3 Schedule of Installation

Utility infrastructure shall be completed in accordance UDO 7.5.9. For the purposes of UDO 7.5.9, vertically-integrated residential and non-residential uses will be considered non-residential.

3.6.4 Regional Utility Standards

a. Potable Water
It is anticipated that off-site extension of existing potable water mains will be required. Within the Development, a network of potable water mains will be required. Potable water infrastructure for the Development shall be in accordance with the Town's Water Distribution System Master Plan and Cross Connection Control Ordinance (Sec. 12-156 through 166), as amended from time to time.
b. Reclaimed Water
The Developer may request that the Town apply to NCDENR for conjunctive systems permit in order to modify the Middle Creek Water Reclamation Facility ("WRF") to provide a source of reclaimed water for use within the Development. If such permit is issued, then water re-use distribution infrastructure may be provided within the Development to provide a circulation network of water for non-potable uses, including fire suppression. Standards and specifications related to reclaimed water shall comply with rules and regulations as promulgated, established and interpreted by NCDENR and Town Standards, if any. It is anticipated that any reclaimed water that is not consumed in the reuse options available will be discharged within the Development in accordance with applicable law and regulation.

If and when the Town adopts standards for the permitting, construction, modification and operation of reclaimed water distribution lines, the Town shall work cooperatively with Veridea to ensure that the standards allow for all actual or planned for uses within the Development. Should public reuse water become available to the Development through the Town of Apex, the Town specifications and details will be the authority for design, ownership and maintenance issues within Town right-of-way.

c. Sanitary Sewer
In all cases, Veridea shall follow the Town's Wastewater Master Plan, as may be amended from time to time. If a conjunctive systems permit is issued for the Middle Creek WRF as set forth in 3.6.4.b hereof, then the Town's Wastewater Master Plan may be amended to allow for wastewater generated within the Development to discharge to the Middle Creek WRF. If a conjunctive systems permit is not issued for the Middle Creek WRF, then wastewater generated within the Development shall be treated in accordance with the Town's Wastewater Master Plan.

d. Electric and Thermal
If a Renewable Energy Facility is available, distribution lines may be provided to provide an alternate source to meet power and thermal demands within the Development.

3.7 ENERGY STANDARDS

3.7.1 Renewable Energy

The Goals for the use of Renewable Energy Facilities and Renewable Energy Resources within Veridea are as follows:

i. Removing regulatory obstacles and adopting streamlined processes for the installation and safe interconnection of renewable energy technologies;
ii. Creating a receptive environment for innovative uses of Renewable Energy Facilities;
iii. Providing for use of shared non-polluting Renewable Energy Resources to reduce climate change and greenhouse gas emissions; and,
iv. Enhancing the opportunity for increased development of Renewable Energy Facilities and Renewable Energy Resources in the future to increase energy independence;

The use of Renewable Energy Facilities shall be allowed. Renewable energy standards, a component of the Sustainability Standards, shall be consistent with generally accepted industry standards and best practices, recognizing that relevant technology and standards are evolving. Such standards include, but are not limited to, priorities, standards, and practices developed by entities such as the American Society of Heating, Refrigerating and Air-Conditioning Engineers ("ASHRAE"), Environmental Protection Agency ("EPA"), and the Department of Energy ("DOE"), and requirements for interconnection and other associated safety metrics.

3.7.2 Energy Efficiency

The goals for energy efficiency within Veridea are as follows:

i. Encourage the use of energy efficient technologies and design to fully maximize the use of existing generation capacity;
ii. Encourage environmental stewardship through reduction in energy use;
iii. Encourage local investment in efficiency as a substitute for out-of-state resources;
iv. Promote an overall reduction in energy demand to ensure reliability of supply in the face of increased population and to preserve affordability in the face of rising costs imposed by carbon constraints; and
v. The improvement of energy performance by 20% compared to baseline building performance ratings per ASHRAE/ IESNA Standard 90.1-2004.

The use of technologies and designs intended to maximize energy efficiency shall be consistent with generally accepted industry standards and best practices, recognizing that relevant technology and standards are evolving. Such standards include, but are not limited to guidelines developed by the US Green Building Council (USGBC), ASHRAE, EPA, and DOE.

3.8 NO OBLIGATION

3.8.1 No Obligation

Nothing in this SD Plan obligates the Town to provide any financial assistance with respect to any infrastructure or improvements referenced herein, nor shall it prohibit the Town from doing so.

ARTICLE 4.0 COMMUNITY DESIGN STANDARDS

4.1 GENERAL

4.1.1 Development shall comply with the community design standards, a component of the Sustainability Standards, set forth in this Article.

4.1.2 Subdivision Plans and site plans shall be prepared in accordance with the SD Plan.

4.1.3 Site plans and Subdivision Plans shall designate areas and elements as follows:

a. Sustainable Zones:
   i. **OS** Open Space
   ii. **NG** Neighborhood General
   iii. **NM** Neighborhood Mixed-Use
   iv. **VC** Village Center
   v. **UC** Urban Core
b. Civic Uses; and
c. Thoroughfares.

The respective Sustainable Zones are described in Table 1.

4.1.4 It is possible that as the build out of the Development occurs, the Town Council may adopt elective regulations and standards applicable to SD-CZ districts pursuant to UDO 2.3.16 F) 3) c).

4.1.5 Open Space is one of the Sustainable Zones, and will exist both as an independent Zone as well as being integrated into and completely surrounded by other Sustainable Zones.

4.2 VERIDEA SUSTAINABLE DEVELOPMENT CONCEPT MAP

4.2.1 Veridea Sustainable Development Concept Map

Table 2 contains the Veridea Sustainable Development Concept Map (Concept Map), which depicts a concept for the development of Veridea and the conceptual location of its Sustainable Zones. The Concept Map depicts the configuration of land uses believed to be appropriate for Veridea. However, based on future planning, market and demographic conditions, the Sustainable Zones may be located anywhere within the Development as determined by the Responsible Person. The Responsible Person may revise the Concept Map from time to time and shall provide the TRC with a copy of each revision. The development of Veridea shall include the following minimum acreages with respect to the Sustainable Zones noted:

NG	Neighborhood General	75 acres
NM	Neighborhood Mixed-Use	50 acres
VC	Village Center	215 acres
UC	Urban Core	135 acres

The VC and UC Zones shall contain a minimum of 150 acres allocated as A-Grid Zones. Further, a minimum of 250 acres within Veridea shall be designated as provided in Article 3.1.3 hereof.

4.2.2 Land Use Locations and Densities

a. Land uses and Densities allowed in each Sustainable Zone are set forth in Article 7 Tables. Such land uses can be located anywhere within the respective Sustainable Zones.
b. For purposes of the SD Plan, Density is expressed in terms of housing units per acre for residential uses and as FAR for other uses as specified for the area of each respective Sustainable Zone in Table 14. The FAR for each Sustainable Zone is set as an average Density for the zone. Areas designated for Open Space, utilities infrastructure, Thoroughfares and other transportation infrastructure, such as a Regional Public Transit System, may be allocated from time to time by the Responsible Person to any other area or areas for the purpose of calculating authorized Density for the area or areas receiving the allocation. The Responsible Person shall have the authority to reallocate the authorized square footage numbers of the Non-residential Uses within Article 4.2.2.b.ii and iii on a square foot-for-square foot basis; provided, however, that the Responsible Person may only increase or decrease the Retail square footage by up to 20% subject to the limitation that the reallocation shall not result in a total daily vehicular trip generation for Veridea that exceeds the maximum daily vehicular trip generation that served as the basis for the Master TIA. Any further increase related to retail must be approved by Town Council in accordance with UDO 2.3.16 F) 3) a. In addition to the total authorized development provided below, Public, Civic, Utilities, Recreational and Lodging Uses are authorized to support the total authorized development set forth in Article 4.2.2.b.i, ii, and iii. In the event that additional parcels are incorporated into the Veridea Sustainable Development District, the total authorized development hereinafter provided shall be adjusted in accordance with UDO 2.3.16 D).

The total authorized development for the Development shall be as follows:

i.	Authorized Number of Dwelling Units (all types)	8,000
ii.	Authorized Retail Uses (gross leasable area)	3,500,000 Square Feet
iii.	Authorized Office and Industrial Uses (gross floor area)	12,000,000 Square Feet

4.2.3 The Sustainable Development Concept Map designates VC and UC zones as being either A-Grid or B-Grid. Subsequent approved site plans and Subdivision Plans shall confirm or modify such zones as called for in the SD Plan, and shall designate Thoroughfares within the VC and UC zones as being either A-Grid or B-Grid.

a. Buildings and frontages along the A-Grids shall reflect multi-modal and pedestrian standards of the SD Plan supporting pedestrian activity.

Thoroughfares within an A-Grid Zone may be developed according to B-Grid standards subject to the following special and limiting conditions:

i. Transition conditions within A-Grid Zones to adjacent B- Grid Zones; and

ii. Small internal Thoroughfares of limited length to respond to a specific condition of the site or a use. Notwithstanding these special and limiting conditions, no more than 15% of the aggregate length of Thoroughfares within an A-Grid Zone may be designated as a B-Grid and follow B-Grid standards. Location and other specifics of such B-Grid Thoroughfares shall be addressed within site plans.

b. Buildings and frontages along the B-Grids may reflect automobile- oriented standards. B-Grids may be developed in whole or in part to A-Grid standards. It is the goal that B-Grid zones eventually become redeveloped as A-Grids. Therefore, site plans for B-Grids shall reflect in their planning and site engineering this goal by:

i. Establishing a B-Grid Thoroughfare grid and therefore a block layout that can be redeveloped into smaller blocks exhibiting the characteristics of an A-Grid;
ii. Establishing the B-Grid Thoroughfares in such a manner that they can be redeveloped into A-Grid Thoroughfares and frontages; and
iii. Locating utilities and site features so that they will not prohibit the establishment of an A-Grid development pattern, and do so without significant redesign or cost impacts. Site plans for B- Grid zones shall depict both the B-Grid configuration, and conceptually reflect how the B-Grid configuration may be redeveloped into an A-Grid.

4.2.4. Development Thresholds

In order to create and maintain a mix of uses as the buildout of Veridea occurs, the following requirements shall be applicable to development within Veridea, unless otherwise provided by the Town Council at the request of the Responsible Person:

Threshold 1: Certificates of Occupancy shall not be issued for more than 10% (1,200,000 sf) of the total authorized Office and/or Industrial square footage or more than 20% (700,000 sf) of the total authorized Retail square footage unless and until building permits have been issued for dwelling units. Similarly, building permits for no more than 20% (1,600 units) of the total authorized dwelling units can be issued until Certificates of Occupancy have been issued for at least 2% (70,000 sf) of the total authorized retail square footage and 2% (240,000 sf) of the total authorized Office and/or Industrial square footage.

Threshold 2: Certificates of Occupancy shall not be issued for more than 25% (3,000,000 sf) of the total authorized Office and/or Industrial square footage or more than 50% (1,750,000 sf) of the total authorized Retail square footage until building permits have been issued for at least 5% (400 units) of the total authorized dwelling units. Similarly, building permits for no more than 37.5%(3,000 units) of the total authorized dwelling units can be issued until Certificates of Occupancy have been issued for at least 10% (350,000 sf) of the total authorized Retail square footage and 5% (600,000 sf) of the total authorized Office and/or Industrial square footage.

Threshold 3: Certificates of Occupancy shall not be issued for more than 50% (6,000,000 sf) of the total authorized Office and/or Industrial square footage or more than 60% (2,100,000 sf) of the total authorized Retail square footage until building permits have been issued for at least 15% (1,200 units) of the total authorized dwelling units. Similarly, building permits for no more than 60% (4,800 units) of the total authorized dwelling units can be issued until Certificates of Occupancy have been issued for at least 25% (875,000 sf) of the total authorized Retail square footage and 10% (1,200,000 sf) of the total authorized Office and/or Industrial square footage.

Threshold 4: Certificates of Occupancy shall not be issued for more than 70% (8,400,000 sf) of the total authorized Office and/or Industrial square footage or more than 80% (2,800,000 sf) of the total authorized Retail square footage until building permits have been issued for at least 40% (3,200 units) of the total authorized dwelling units. Similarly, building permits for no more than 80% (6,400 units) of the total authorized dwelling units can be issued until Certificates of Occupancy have been issued for at least 40% (1,400,000 sf) of the total authorized Retail square footage and 25% (3,000,000 sf) of the total authorized Office and/or Industrial square footage.

Threshold 5: Certificates of Occupancy shall not be issued for more than 85% (10,200,000 sf) of the total authorized Office and/or Industrial square footage (or more than 85% (2,975,000 sf) of the total authorized Retail square footage until building permits have been issued for at least 50% (4,000 units) of the total authorized dwelling units. Similarly, building permits for no more than 85% (6,800 units) of the total authorized dwelling units can be issued until Certificates of Occupancy have been issued for at least 50% (1,750,000 sf) of the total authorized Retail square footage and 40% (4,800,000 sf) of the total authorized Office and/or Industrial square footage.

Threshold 6: See the requirements set forth in SD Plan 3.5.3.d.vi and 4.2.2.b.

The foregoing requirements are illustrated by the tables below:

RESIDENTIAL CONTROL

	Minimum Required	
DU BP's	**Retail SF C/O's**	**O&I SF C/O's**
1 - 1,600	0	0
1,601 - 3,000	70,000	240,000
3,001 - 4,800	350,000	600,000
4,801 - 6,400	875,000	1,200,000
6,401 - 6,800	1,400,000	3,000,000
6,801 - 8,000	1,750,000	4,800,000

RETAIL CONTROL

	Minimum Required	
Retail SF C/O's	**DU BP's**	**O&I SF C/O's**
0 - 700,000	0	0
700,001 - 1,750,000	1	0
1,750,001 - 2,100,000	400	0
2,100,001 - 2,800,000	1,200	0
2,800,001 - 2,975,000	3,200	240,000
2,975,001 - 3,500,000	4,000	240,000

O&I CONTROL

	Minimum Required	
O&I SF C/O's	**DU BP's**	**Retail SF C/O's**
0 - 1,200,000	0	0
1,200,001 - 3,000,000	1	0
3,000,001 - 6,000,000	400	0
6,000,001 - 8,400,000	1,200	0
8,400,001 - 10,200,000	3,200	70,000
10,200,001 - 12,000,000	4,000	70,000

Although the foregoing tables are intended to illustrate the preceding text, the text shall control the construction of this Article 4.2.4.

4.3 SUSTAINABLE ZONES

4.3.1 Sustainable Zones, as shown on the Sustainable Development Concept Map shall have the character described in Table 1.

4.3.2 Open Space (OS) consists of lands approximating or reverting to a natural condition and farmland, parks, greenways, Civic Uses, utility corridors and easements, and waterways or water bodies, including lands unsuitable for development due to topography, hydrology and/or vegetation.

a. Open Space includes areas protected by law or regulation, as well as land designated for conservation.
b. Open Space shall be identified in site and Subdivision Plans approved for the Development. Upon the approval of a subdivision or site plan designating an area Open Space, such area may be conveyed in fee or by easement to (i) an entity created by law to hold interests in property designated for conservation purposes, or (ii) to a property owners association formed, in part, for such purpose, or (iii) to a public entity.
c. Land area within Open Space may be used in calculating the Density of a Project.
d. Open Space is an independent Sustainable Zone and will also be integrated into other Sustainable Zones.

4.3.3 Neighborhood General (NG) consists of low Density residential areas, adjacent to higher Density zones that consist of some Mixed Use. Home occupations and Outbuildings are allowed. Planting is naturalistic and Setbacks are relatively deep. Blocks may be large and the Thoroughfares irregular to accommodate natural conditions.

4.3.4 Neighborhood Mixed-Use (NM) consists of Mixed Uses within a medium to high Density residential urban fabric. It may have a wide range of building types: single, sideyard, rowhouses, and apartments. Setbacks and landscaping are variable. Thoroughfares with curbs and sidewalks define medium-sized blocks.

4.3.5 Village Center – A-Grid (VC A-Grid) consists of higher Density Mixed Use buildings that accommodate retail, Office, rowhouses and apartments. It has a tight network of Thoroughfares, with wide sidewalks, steady street tree planting and buildings set close to the sidewalks.

4.3.6 Village Center – B-Grid (VC B-Grid) consists of larger block sizes, and larger format uses supporting regional users. It has a coarse network of Thoroughfares, with sidewalks and steady street tree planting.

4.3.7 Urban Core – A-Grid (UC A-Grid) consists of the highest Density and height, with the greatest variety of uses, and civic buildings of regional importance. It may have larger blocks; Thoroughfares have steady street tree planting and buildings are set close to wide sidewalks.

4.3.8 Urban Core – B-Grid (UC B-Grid) consists of the highest Density and height, with predominantly Office, lab, and research uses. It may have larger blocks; streets have steady street tree planting and buildings may be set back from the sidewalks.

4.4 CIVIC USES

4.4.1 General

a. Space for Civic Uses shall be designated on the Sustainable Development Concept Map as Civic Space (CS) and Civic Building (CB) as Subdivision Plans and site plans are approved for the Development.
b. Civic Space (CS) shall denote public sites supportive of or ancillary to Civic Buildings or sites permanently dedicated to Open Space.
c. Civic Building (CB) shall denote sites for buildings primarily operated by governmental or not-for-profit organizations dedicated to Functions such as culture, education, religion, government, transit and municipal parking.

4.4.2 Civic Space (CS) Specific to NG, NM, VC, and UC Zones

a. Civic Spaces shall be designed as generally described in Table 13 and distributed throughout Sustainable Zones as described in Table 14e.

4.5 THOROUGHFARE STANDARDS

4.5.1 General

a. Thoroughfares are intended for use by vehicular and pedestrian traffic and to provide access throughout the Development.
b. Thoroughfares shall consist of vehicular lanes and Public Frontages. Walkways shall be in accordance with Table 4B.
c. Thoroughfares shall be designed in context with the desired vehicular design speed of the Sustainable Zones through which they pass. The Public Frontages of Thoroughfares that pass from one Sustainable Zone to another shall be adjusted accordingly or, alternatively, the Sustainable Zone may follow the alignment of the Thoroughfare to the depth of one Lot, retaining a single Public Frontage throughout its course.
d. Within areas designated as B-Grid Zones, pedestrian use shall be a secondary consideration of the Thoroughfare. Design conflict(s) between vehicular and pedestrian traffic generally shall be decided in favor of the vehicle. Within the more urban A-Grid Zones, pedestrian use shall be a primary consideration of the Thoroughfare. Design conflict(s) between vehicular and pedestrian movement generally shall be decided in favor of the pedestrian.
e. The Thoroughfare network shall be designed to define Blocks not exceeding the size indicated in Table 14. The perimeter shall be measured as the sum of Lot Frontage Lines.

f. Street trees shall satisfy traffic calming measures required within the Development.
g. Thoroughfares shall terminate at other Thoroughfares, forming a network. Internal Thoroughfares shall connect wherever practicable to those on adjacent sites. Cul-de-sacs may be permitted to accommodate unusual site conditions subject to UDO 7.2.1 G).
h. Each Lot shall be bounded by a vehicular Thoroughfare, except that 20% of the Lots within each Sustainable Zone may be bounded by a Passage, so long as the Thoroughfare assembly behind such Lots is constructed to Rear Alley standards, will meet emergency vehicle access requirements and is public.
i. Thoroughfares within designated B-Grid Zones and designated as B-Grid Thoroughfares may follow the specified B-Grid Public Frontage and Private Frontage requirements in Tables 4A and 4B, and Table 7.
j. B-Grid Thoroughfares are permitted within A-Grid Zones for Thoroughfares necessary to support vehicular traffic and that enhance the pedestrian network per Article 4.2.3. These Thoroughfares shall be addressed on the individual site plans and may follow the standards for B-Grid.
k. The B-Grid Zones may abut freeways and conventional commercial arteries that are pedestrian intolerant. B-Grid Zones are used to transition into the more multi-modal and pedestrian supportive environments. B-Grid Zones may be developed in whole or in part to A-Grid standards and may evolve into A-Grid Zones over time.

4.5.2 Vehicular lanes

a. The standards for vehicular lanes shall follow the guidance in Table 3A or the Town Standards, or may follow other additional or elective regulations and standards adopted by the Town Council in accordance with UDO 2.3.16 F) 3) a) or 2.3.16 F) 3) c).
b. A bicycle network consisting of Bicycle Trails, Bicycle Routes and Bicycle Lanes shall be permitted as set forth in Table 14d.

4.5.3 Public Frontages

a. General to all zones OS, NG, NM, VC, UC
    i. The Public Frontage contributes to the character of the Sustainable Zone, and includes the requisite types of Sidewalk, Curb, Planter, bicycle parking, and street trees.
    ii. Public Frontages shall be designed as shown in Table 4A and Table 4B and allocated within Sustainable Zones as specified in Table 14d.
    iii. Within the Public Frontages, the types of Public Planting and Public Lighting shall be as shown in Table 4A, Table 4B, Table 5 and Table 6.
b. Specific to OS and NG Zones
    i. The Public Frontage may include trees of various species, naturalistically clustered, as well as understory.
    ii. The landscape may consist primarily of native species requiring minimal irrigation, fertilization and maintenance.

c. Specific to NM, VC and UC Zone
   i. The landscape shall consist primarily of durable species tolerant of soil compaction.
d. Specific to NM Zone
   i. The Public Frontage shall include trees planted in a regularly-spaced and aligned pattern of single or alternated species with shade canopies of a height that, at maturity, clears at least one Story. Various street tree species shall be used within the NM Zone.
e. Specific to VC and UC Zone
   i. The Public Frontage shall include trees planted in a regularly-spaced and aligned pattern of single species with shade canopies of a height that, at maturity, clears at least one Story. Various street tree species shall be used within the VC and UC Zones. At Retail Frontages, the spacing of the trees may be irregular, to avoid visually obscuring the Shopfronts.
   ii. Streetscape solar panels as shown in Table 18 may be used in the place of street trees where required. This section shall provide design flexibility in the creation of a public statement in the form of either art or symbolic statements of sustainability, but shall not allow the wholesale replacement of mandatory street trees with solar-powered streetlights or prohibit the installation of larger solar panel assemblages elsewhere within the Development.
   iii. Thoroughfares with Galleries, Arcades, or a right-of-way width of 40 feet or less shall be exempt from the tree planting requirement.

ARTICLE 5.0 BUILDING STANDARDS

5.1 TABLES AND PLAN

5.1.1 It is possible that the evolution of technology, building materials and lifestyle may result in the future in the Town Council's adoption of elective Sustainability Standards for SD-CZ districts pursuant to UDO 2.3.16 F) 3) c).

5.1.2 B-Grid Zones within the Development shall comply with UDO 9.2 and 9.3, except that the requirements of UDO 9.2 and 9.3 may be varied, in accordance with UDO 2.3.16 F) 3) a), by the standards set forth in the Pattern Book.

5.2 CIVIC BUILDINGS

5.2.1 Civic Buildings ("CB")

a. Civic Buildings shall be subject to the requirements of this Article.

5.3 OPEN SPACE ("OS") ZONES

5.3.1 Buildings shall not be allowed in an OS Zone, except as listed in Table 12 and for accessory structures incidental to and necessary to support the permitted Functions and uses.

5.4 BUILDING DISPOSITION

5.4.1 Specific to OS, NG, NM, VC and UC Zones

a. Newly platted Lots shall be dimensioned according to Table 14f and Table 15.
b. Building Disposition shall be as shown in Table 9 and Table 14i.
c. Buildings shall be disposed in relation to the boundaries of their Lots according to Table 14g, Table 14h, and Table 15.
d. One Principal Building at the Frontage and one Outbuilding to the rear of the Principal Building may be built on each Lot as shown in Table 17c.
e. Lot coverage by buildings shall not exceed that specified in Table 14f and Table 15.
f. Facades shall be built parallel to a rectilinear Principal Frontage Line or to the tangent of a curved Principal Frontage Line, and along a minimum percentage of the Frontage width at the Setback, as specified as Frontage Buildout on Table 14g and Table 15.
g. Setbacks for Principal Buildings shall be as shown in Table 14g and Table 15.
h. Adequate access to and clearance around utilities and HVAC units shall be provided.

5.4.2 Specific to UC Zone

a. The Principal Entrance shall be on a Frontage Line.

5.4.3 Specific to NM, VC and UC Zones

a. Farmers Markets may be located on unbuffered Lots of any size.
b. Diagonal parking on commercial streets shall be as set forth in the SD Plan.

5.5 BUILDING CONFIGURATION

5.5.1 General to OS, NG, NM, VC and UC Zones
a. The Private Frontage of buildings shall conform to and be allocated in accordance with Table 7 and Table 14j.
b. Buildings on corner Lots shall have two Private Frontages as shown in Table 17. Prescriptions for the second and third Layers pertain only to the Principal Frontage. Prescriptions for the first Layer pertain to both Frontages.
c. All Facades shall be glazed with clear glass no less than 30% of the first Story, however glazing shall be no less than 50% in the VC Zone A-Grid and UC Zone A-Grid areas.
d. Building stories, Stepbacks, and Expression Lines shall conform to Table 8 and Table 14j.
e. In a Parking Structure or garage, each above-ground level counts as a single Story regardless of its relationship to habitable Stories.
f. Story limits do not apply to attics or raised basements, masts, belfries, clock towers, chimney flues, water tanks, cupolas or elevator bulkheads.
g. Prescriptions for the parking Layers pertain only to the Principal Frontage. Prescriptions for the first Layer pertain to both Frontages of a corner Lot.
h. Public access requirements shall comply with UDO 7.5.4 E) except that the requirements of UDO 7.5.4 E) may be varied in accordance with UDO 2.3.16 F) 3) a), by the standards set forth in the Pattern Book.

5.5.2 Specific to NG, NM and VC Zones
a. The habitable area of an Accessory Unit within a Principal Building or an Outbuilding shall not exceed 800 square feet, excluding any enclosed parking area.

5.5.3 Specific to NG Zone
a. No portion of the Private Frontage may Encroach into the Sidewalk.
b. Open porches may Encroach into the first Layer 50% of its depth. (Table 17d)
c. Balconies, cantilevers, and bay windows may Encroach into the first Layer up to 25% of the depth defined for the first Layer. In addition, porches including balconies on porch roofs may Encroach into the first Layer up to 50% of the depth defined for the first Layer.
d. A first level Residential or Lodging Function shall be raised a minimum of three steps from average Sidewalk grade, except as required for accessibility under applicable federal and state laws or to accommodate single-family senior housing units.

5.5.4 Specific to NM Zone
a. Balconies, open porches, cantilevers and bay windows may Encroach into the first Layer 50% of its depth. (Table 17d)

5.5.5 Specific to OS, VC and UC Zones

a. Arcades, awnings, and Galleries may Encroach into the Sidewalk to within 2 feet of the Curb but must clear the Sidewalk vertically by at least 9 feet. Arcades and Galleries within public rights-of-way require encroachment and maintenance agreements with the Town.
b. Maximum Encroachments for Arcades shall be as shown on Table 8.
c. Stoops, Lightwells, balconies, bay windows, cantilevers and terraces may Encroach into the first Layer for 100% of its depth. (Table 17d)
d. Loading docks and service areas shall be permitted along/within Frontages.
e. In the absence of a building Facade along any part of a Frontage Line, a Streetscreen may be built co-planar with the Facade or adjacent Facades.
f. Streetscreens shall be between 3.5 and 8 feet in height. The Streetscreen may be in the form of a hedge, fence or wall. Walls may be constructed of masonry, stone, stucco, EIFS or may match the building materials of the adjacent buildings. Fences shall be constructed of wood or wrought iron (or products created to resemble these materials) and shall be finished on the side facing the public right-of way. Streetscreens shall have openings no larger than reasonably necessary to allow vehicular and pedestrian access.
g. Arena, auditorium or stadium uses shall be located a minimum of 500 feet from any NG or NM Zone and may be located in Mixed Use Blocks, in Mixed Use buildings or on Lots of sufficient size and with sufficient Frontage to support the use and comply with the egress requirements of the North Carolina State Building Code.
h. Outdoor entertainment areas such as small amphitheaters may be incorporated without enclosure into Open Space, Public Space, or Civic Space or on an individual Lot as long as there is sufficient Frontage to support the use and comply with the egress requirements of the North Carolina State Building Code.
i. Drive-through facilities associated with financial institutions and pharmacies may be integrated into multi-story buildings.

5.5.6 Specific to NM, VC and UC Zones

a. Lodging Functions may be located in Mixed Use Blocks, in Mixed Use buildings or on Lots of any size to support the use and comply with the egress requirements of the North Carolina State Building Code when the use is located 100 feet or more from NG Zones.

5.6 BUILDING FUNCTION

5.6.1 General to OS, NG, NM, VC and UC Zones

a. Buildings in each Sustainable Zone shall comply with Article 7 Tables.
b. Historic Sites may be used for residential, lodging, food and beverage, Office or retail sales and service use.

5.6.2 Specific to NG Zone

a. Accessory Functions of Lodging or Office shall be permitted within an Accessory Building. See Table 10.

5.6.3 Specific to NM Zones

a. Commercial Functions shall be permitted.

5.6.4 Specific to VC and UC Zones

a. Commercial Functions shall be permitted.
b. Manufacturing Functions may be permitted.
c. Utilities such as communication towers and water towers may be integrated into building structures without the need for screening. See Article 5.5.2 for existing cell towers.
d. Electrical Power Facilities shall be set back a minimum of 20 feet from property lines or easement lines and may be screened or buffered by architectural means or located internally within a block to permit integration into an urban fabric.

5.7 PARKING AND DENSITY STANDARDS

5.7.1 Specific to NG Zone

a. Buildable Density on a Lot shall be determined by the actual parking provided as applied to the Functions permitted in Table 10 and Table 11.

5.7.2 Specific to OS, NM, NG, VC and UC Zones

a. As provided in Tables 10 and 11, buildable Density on a Lot shall be determined by the sum of the actual parking calculated as that provided (1) within the Lot (2) along the parking lane corresponding to the Lot Frontage, and (3) by purchase, lease, allocation, dedication, reservation or assignment from a public or private parking structure or lot within 1,200 feet of any entrance for customer, patron, or resident parking and within 1,200 feet of any entrance of the principal use for employee parking, if available.
b. The actual parking may be adjusted downward according to the Shared Parking Factor of Table 11 to determine the Effective Parking. The Shared Parking Factor is available for any two Functions within any block, any pair of adjacent Blocks or within any area contained within a single site plan submittal. Further adjustment is permitted for areas controlled by a comprehensive parking plan in accordance with Article 5.7.3.
c. Based on the Effective Parking available, the Density of the projected Function may be determined according to Table 10.
d. Within the area of a Transit Oriented Development (“TOD”) the Effective Parking may be further adjusted downward by 30% and the distances listed in 5.7.2.a are permitted to be increased by 20%.
e. Accessory Units do not factor into Density calculations.
f. Liner Buildings less than 30 feet deep and up to the first two Stories shall be exempt from parking requirements.
g. Retail spaces of 1,500 square feet or less of net floor area shall be exempt from the parking requirements.
h. In accordance with SD Plan 3.1.2, a Parking Management Plan, subject to review and approval by the Town Council in accordance with UDO 2.3.16 F) 3) a), shall be submitted with the first site plan that deviates from applicable UDO standards related to parking and shall be updated as necessary for subsequent site plans.

5.7.3 Off-Street Parking: Further reduction in off-street parking beyond those otherwise allowed by the SD Plan is permitted for the Veridea Sustainable Development District or portions thereof within the area of a TOD in conjunction with a TDM plan.

5.7.4 Off-Street and On-Street Loading: The Veridea Sustainable Development District or portions thereof are permitted to have comprehensive loading plans to include on-street loading in Thoroughfares during non-peak hours, on side streets and/or in non-dedicated parking areas of parking lots for all or portions of the site.

5.7.5 A portion of the parking spaces provided in any public or private parking lots or parking deck may be compact spaces if such spaces are: a) assigned and/or private spaces; b) assigned to a car-share program; c) specifically designated for electric cars; or d) approved by the TRC upon its determination that then current market data support the use by compact vehicles of the number of compact spaces proposed. A compact space will be a space of at least 8.5 feet by 14 feet, and a compact vehicle shall be a vehicle that can safely park in the area of the compact space proposed.

5.8 PARKING LOCATION STANDARDS

5.8.1 General to OS, NG, NM, VC and UC Zones

a. Parking shall be accessed by Rear Alleys or Rear Lanes, when available.
b. Open parking areas and Parking Structures shall be masked from the Frontage by a Building or Streetscreen.
c. For buildings on B-Grids, open parking areas and Parking Structures are allowed unmasked on the Frontage in the front Layer, except for corner Lots at intersections with the A-Grid.
d. Bicycle parking locations at Common Destinations shall be determined at the time of site plan approval for all Sustainable Zones including OS Zones.
e. Commercial Parking Garages may be incorporated into Mixed Use Blocks or in Mixed Use buildings on the same Lot to allow for internal block parking.

5.8.2 Specific to NG Zone

a. Open parking areas shall be located at the second and third Lot Layers, except that Driveways, drop-offs and unpaved parking areas may be located at the first Lot Layer. (Table 17d)
b. Garages shall be located at the second or third Layer except that side- or rear-entry types may be allowed in the first Layer by the TRC.
c. Driveways at Frontages shall be no wider than 24 feet in the first Layer. (Table 3B.f)

5.8.3 Specific to NM Zone

a. All parking areas and garages shall be located at the second or third Layer except for lots located on designated B-Grids. (Table 17d)
b. Driveways at Frontages shall be no wider than 24 feet in the first Layer. (Table 3B.f)

5.8.4 Specific to VC and UC Zones

a. All parking lots, garages, and Parking Structures shall be located at the second or third Layer except along B-Grids where parking may be located in the first layer. (Table 17d)
b. Vehicular entrances to parking lots, garages, and Parking Structures shall be no wider than 24 feet at the Frontage for A-Grid Thoroughfares. Driveways at Frontages for B-Grid Thoroughfares shall be no wider than necessary to accommodate the straight and turn lanes in the first Layer. (Table 3B.f)
c. Parking Structures on the A-Grid shall have Liner Buildings lining the first and second Stories.

5.9 LANDSCAPE STANDARDS

5.9.1 General to OS, NG, NM, VC and UC Zones

a. The landscape plantings shall consist of native or naturalized species requiring minimal irrigation, fertilization and maintenance as shown on Table 6.
b. Street trees and landscape planted in public rights-of-way shall require maintenance agreements with the Town.
c. Public utility locations, placement and accessibility shall be laid out and engineered so that trees and landscaping and utility conflicts are eliminated or substantially minimized.
d. Trees shall not be required in the first Layer where Setbacks are less than 12 feet.
e. Planting selection in the first Layer shall be appropriate for the scale of the space and located so as to avoid conflicts with buildings, walls and utilities.
f. Street trees shall be planted within the Public Frontage as illustrated in Table 7 and listed in Table 4C. Street trees may be shifted or eliminated along any Thoroughfares as long as the average number of trees based upon the Public Frontage is met for the site plan or Subdivision Plan. Tree preservation areas located in Open Space Zones shall be exempt from the street tree planting requirements. Public Frontages on Thoroughfares that are exempt from the tree planting requirement and Thoroughfare Assemblies for Rear Lanes, Rear Alleys, or where the landscape type is listed as trees clustered shall not be used in the calculation of the average number of trees.
g. In order to accommodate the intended density, connectivity and integration of uses, the landscape requirements set forth in UDO 7.2.5 C) 9) and UDO 7.2.5 C) 12) through UDO 7.2.5. C) 14) shall not apply within the Development.
h. Screening shall comply with UDO 8.2.8. Notwithstanding the foregoing, HVAC and other mechanical units shall not be required to be screened from adjacent properties when not visible from the public street.
i. Veridea shall comply with UDO 8.2.1, 8.2.2 and 8.2.3, except that, in order to accommodate the intended density, connectivity and integration of uses, the landscape buffer requirements of UDO 8.2 shall not apply.

j. Fences, walls and berms shall comply with UDO 8.2.7, except to the extent modified by Articles 5.5.5.e, 5.5.5.f. and 5.8.1.b. hereof.

5.9.2 Specific to NG and NM Zones

a. The first Layer may not be paved, with the exception of Driveways as specified in Article 5.8. (Table 17d)

5.9.3 Specific to NG Zone

a. One appropriately sized tree at maturity per Lot shall be planted within the first Layer. (Table 17d)
b. Trees shall be of single or multiple native or naturalized species as shown on Table 6.
c. Trees shall be naturalistically clustered.
d. Lawn shall be permitted upon site plan approval. Only re-use water, where available, may be used for Lawn irrigation.

5.9.4 Specific to NM Zone

a. One appropriately sized tree at maturity per Lot shall be planted within the first Layer. (Table 17d)
b. Trees should not be of a single species throughout large areas. Tree species selected are permitted to alternate along blocks. Selection of plant material shall be appropriate for the scale of the space.
c. Lawn shall be permitted. Only re-use water, where available, may be used for Lawn irrigation.

5.9.5 Specific to VC and UC Zones

a. Trees shall not be required in the first Layer.
b. The first Layer may be paved to match the pavement of the Public Frontage.
c. A minimum of one shade tree is required for every two thousand (2,000) square feet of vehicular surface area located within or adjacent to the parking area. Parking Structures are excluded from this requirement.
d. A minimum of 1 shrub is required for every five hundred (500) square feet of vehicular surface area. Selection of the plant material shall be appropriate for the scale of the space. Parking Structures are excluded from this requirement.
e. All vehicular surface areas within fifty (50) feet of any right-of-way that are visible from a Thoroughfare (street) are required to be screened from off-site view to a minimum height of thirty-six (36) inches. Plants, closed fences, walls, earthen berms or a combination thereof may be used to satisfy this requirement. Plants must be a minimum of thirty-six (36) inches at maturity or used in combination with earthen berms to satisfy this requirement. Screening material other than plants and earthen berms shall be harmonious with surrounding architecture and shall accommodate pedestrian and vehicular ingress and egress where applicable.
f. No vehicular parking space shall be located farther than fifty (50) feet from the back of curb in a planting area with one shade tree, or seventy five (75) feet from the back of curb in a planting area with two or more shade trees. Parking Structures are excluded from this requirement.

5.10 SIGNAGE

5.10.1 General to All Sustainable Zones

Signage shall comply with UDO 8.6, Signs, except that the requirements of UDO 8.6 may be varied by the standards set forth in the Pattern Book(s).

5.11 COMMUNICATION TOWERS

5.11.1 General to All Sustainable Zones

a. Communication Towers are exempt from the standards set forth in UDO 4.4.3 B).
b. Existing Communication Towers will be contained on a Lot.
c. Existing Communication Towers may be located a Lot that contains other uses.
d. Existing Communication Towers, or a portion thereof, may occupy a leased parcel on the Lot in which it is located.
e. New or relocated Communication Towers shall be located in accordance with Table 12.
f. New rooftop communication towers and devices may be allowed within UC and VC Zones.

5.12 EXTERIOR LIGHTING

5.12.1 General to All Sustainable Zones

Exterior lighting shall comply with UDO 8.7, Exterior Lighting, except that the requirements of UDO 8.7 may be varied by the standards set forth in the Pattern Book(s).

5.13 PATTERN BOOK(S)

A Pattern Book(s) may be submitted for approval from time to time in accordance with UDO 2.3.16 F) 3) a). Each site plan submitted with respect to Veridea shall designate the existing Pattern Book, or portion thereof, which shall be applicable to the site plan, or a Pattern Book applicable thereto shall be submitted with the site plan for approval pursuant to UDO 2.3.16 F) 3) a).

ARTICLE 6.0 TABLES

6.1 TABLES

6.1.1. The Tables which follow shall establish, together with the foregoing provisions of the SD Plan and applicable provisions of the UDO, other Town Ordinances and Town Standards, the standards and regulations which shall govern all development and land use within the Development.

6.1.2. If the Responsible Person so determines, as with the other provisions of the SD Plan, specific portions of the Tables may be affected by additional or elective regulations and standards hereafter adopted by the Town Council in accordance with UDO 2.3.16 F) 3) a) or 2.3.16 F) 3) c).

6.1.3. Design Standards contained in one or more of the Articles, Sections, or Tables of the Plan that pertain to the same aspect of development may be implemented independently or in conjunction with one another.

6.1.4. The text and numerical descriptions in the Tables are an integral part of this SD Plan. However, the graphics that accompany them represent guidelines. Where in conflict, the text and numerical descriptions shall take precedence over graphics.

6.2 TOWN STANDARDS

6.2.1 The Town and the Responsible Person may enter into a Development Agreement providing that the Town Standards applicable to the Development shall be those in existence as of the date of the adoption of this SD Plan. However, notwithstanding the foregoing, the Apex Standard Specifications and Standard Details, as modified and amended from time to time, shall be applicable to the Development, except to the extent otherwise specifically provided in this SD Plan or where the modified Apex Standard Specifications and Standard Details are specifically inapplicable to Veridea.

TABLE 1. SUSTAINABLE ZONE DESCRIPTIONS

TABLE 1A: Sustainable Zone Descriptions. This table provides descriptions of the character of each Sustainable Zone.

OS

OS - OPEN SPACE

OS Open Space Zone consists of lands approximating or reverting to a natural condition and farmland, parks, Civic Uses, RCA, utility corridors, non-street easements, greenways, waterways or water bodies, including lands unsuitable for settlement due to topography, hydrology or vegetation.

General Character:	Natural landscape and parkland (active and passive parks) with some civic and agricultural use
Building Placement:	Variable front and side setbacks for park structures, civic structures, agricultural and maintenance buildings
Frontage Types:	Variable
Building Height:	1- to 2-Story
Type of Civic Space:	Parks, Greenways, Civic Buildings

NG

NG - NEIGHBORHOOD GENERAL

NG Neighborhood General Zone consists of low density residential areas, adjacent to higher zones that consists of some mixed use. Home occupations and outbuildings are allowed. Planting is naturalistic and setbacks are relatively deep. Blocks may be large and the Thoroughfares irregular to accommodate natural conditions.

General Character:	Lawns, and landscaped yards surrounding predominantly detached single-family houses with some mix of Townhouses; pedestrians occasionally
Building Placement:	Medium and variable front and side yard Setbacks
Frontage Types:	Porches, fences, naturalistic tree planting
Building Height:	1- to 3-Story with some 4-Story
Type of Civic Space:	Parks, Greenways

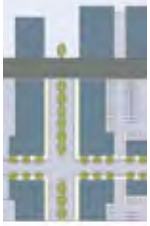
NM

NM - NEIGHBORHOOD MIXED-USE

NM Neighborhood Mixed-Use Zone consists of mixed uses within a medium to high density residential urban fabric. It may have a wide range of building types: single, sideyard, rowhouses, and apartments. Setbacks and landscaping are variable. Thoroughfares with curbs and sidewalks define medium-sized blocks.

General Character:	Mix of Houses, Townhouses & Apartment buildings, with moderate Commercial activity; balance between landscape and buildings; presence of pedestrians
Building Placement:	Shallow to medium front and side yard Setbacks
Frontage Types:	Porches, fences, Dooryards
Building Height:	1-to 4-Story with a few taller Mixed Use buildings up to 7 stories adjacent to Village Center Zones and major transportation corridors
Type of Civic Space:	Squares, Greens

VC A-GRID



VC - VILLAGE CENTER - A-GRID

VC Village Center Zone consists of higher density mixed use buildings that accommodate retail, offices, rowhouses and apartments. It has a tight network of Thoroughfares, with wide sidewalks, steady street tree planting and buildings set close to the sidewalks.

General Character:	Shops mixed with Townhouses, larger Apartment houses, Offices, workplace, and Civic buildings; predominantly attached buildings; trees within the public right-of-way; substantial pedestrian activity
Building Placement:	Shallow Setbacks or none; buildings oriented to the street defining a street wall. See the Concept Map for locations
Frontage Types:	Stoops, Shopfronts, Galleries
Building Height:	1- to 10-Story with some variation up to 15 stories adjacent to Urban Center Zones,
Type of Civic Space:	Parks, Plazas and Squares, median landscaping

UC A-GRID

UC - URBAN CORE - A-GRID

UC Urban Core Zone consists of the highest density and height, with the greatest variety of uses, and civic buildings of regional importance. It may have larger blocks; Thoroughfares have steady street tree planting and buildings are set close to wide sidewalks.

General Character:	Medium-high to high-Density Mixed Use buildings, entertainment, Civic and cultural uses. Attached buildings forming a continuous street wall; trees within the public right-of-way; highest pedestrian and transit activity
Building Placement:	Shallow Setbacks or none; buildings oriented to street, defining a street wall.
Frontage Types:	Stoops, Dooryards, Forecourts, Shopfronts, Galleries, and Arcades
Building Height:	4- to 20-Story with a few shorter buildings including some 1 story uses
Type of Civic Space:	Parks, Plazas and Squares; median landscaping

TABLE 1. SUSTAINABLE ZONE DESCRIPTIONS

VC B-GRID

VC - VILLAGE CENTER - B-GRID

VC Village Center Zone consisting of larger block sizes, and larger format uses supporting regional users. It has a coarse network of Thoroughfares, with sidewalks, regular street tree planting.

General Character:	Larger single-use retail, office, and manufacturing formats with out-parcels permitted, transitioning to shops mixed with Townhouses, and larger Apartment houses towards A-Grid Zones; trees within the public right-of-way; substantial automobile activity
Building Placement:	Larger setbacks with parking permitted in the setback for any Layer except along adjacent A-Grids
Frontage Types:	Common Yard, Shopfronts,
Building Height:	Predominantly 1- to 4-Story with some increased variation up to 7 stories
Type of Civic Space:	Not required

UC B-GRID

UC - URBAN CORE - B-GRID

UC Urban Core Zone consists of the highest density and height, with predominantly office, lab, and research uses. It may have larger blocks; a coarse network of Thoroughfares, regular street tree planting and may have buildings set back from the sidewalks.

General Character:	High-density single and Mixed Use buildings. Attached and detached buildings forming a continuous street wall or set-back from the street; trees within the public right-of-way; highest pedestrian activity near the building and substantial automobile activity at the parking
Building Placement:	Shallow setbacks or none along A-Grid Thoroughfares with buildings oriented to streets transitioning to larger setbacks with parking permitted in the setback for any Layer
Frontage Types:	Common Yards, Stoops, Dooryards, Forecourts, Shopfronts, Galleries, and Arcades
Building Height:	1- to 20-Story with a few shorter buildings including some 1 story uses
Type of Civic Space:	None required

TABLE 2. VERIDEA SUSTAINABLE DEVELOPMENT CONCEPT MAP

Sustainable Zones

OS	Open Space and Civic Use
NG	Neighborhood General
NM	Neighborhood Mixed Use
VC-A	Village Center - A Grid
VC-B	Village Center - B Grid
UC-A	Urban Core - A Grid
UC-B	Urban Core - B Grid

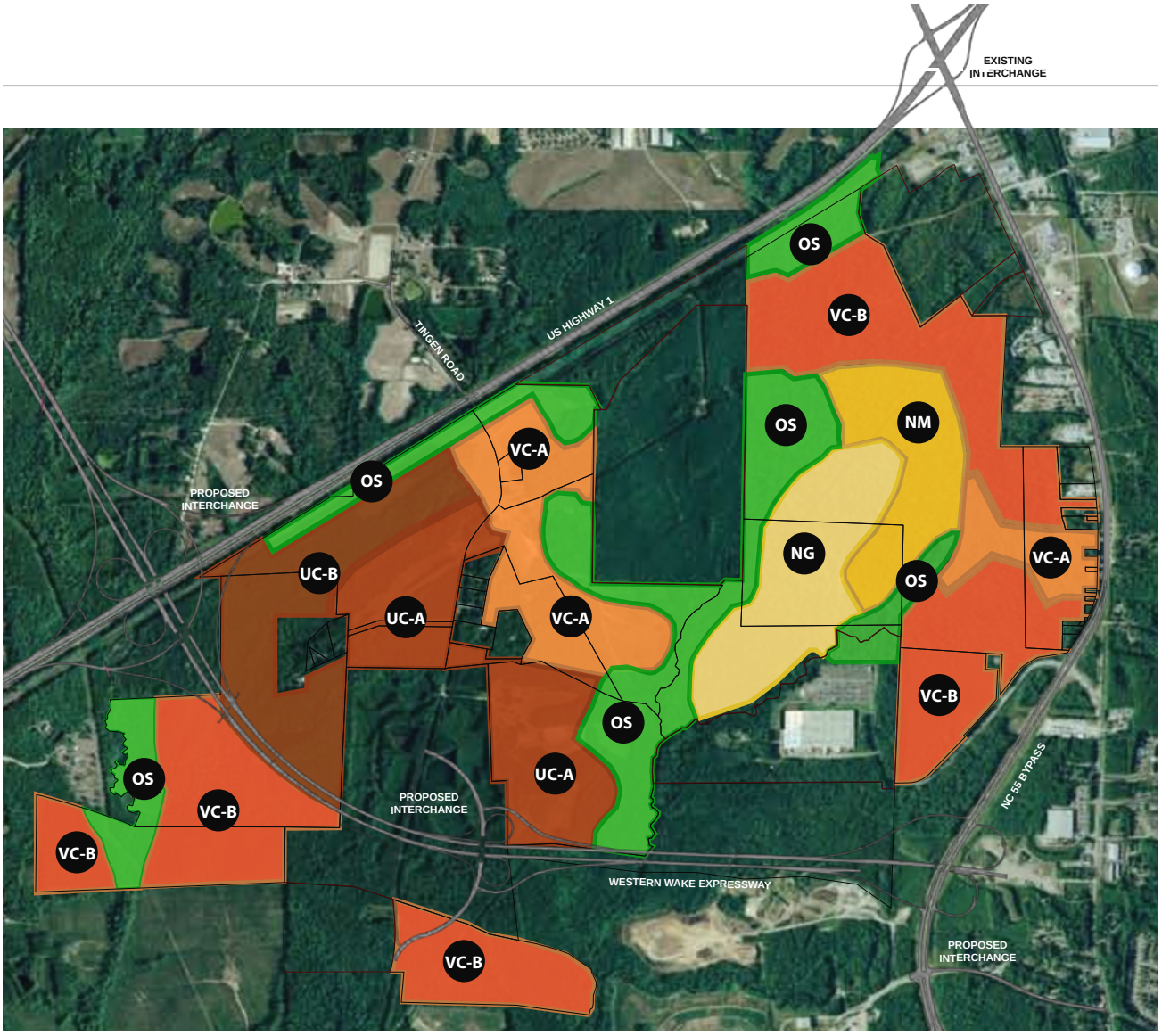


TABLE 3A. VEHICULAR LANE DIMENSIONS

TABLE 3A: Vehicular Lane Dimensions. This table assigns lane widths to Sustainable Zones. The Design ADT (Average Daily Traffic) is the determinant for each of these sections. The assemblies are shown in Table 3B. Design Speeds shown in these Tables represent desired speeds for traffic flow based on typical sections. Thoroughfare alignments (excluding Rear Lanes and Rear Alleys) shall be based on a minimum 25 mile per hour design speed. Design exceptions to otherwise posted regulatory speed, if approved by the TRC will require warning signs.

DESIGN SPEED	TRAVEL LANE WIDTH	OS	NG	NM	VC	UC
Below 20 mph	10 feet	■	■	▫		
20-25 mph	10 feet	■	■	■	▫	▫
25-35 mph	10 feet	■	■	■	■	■
25-35 mph	11 feet	■			■	■
Above 35 mph	12 feet	■			■	■

DESIGN SPEED	PARKING LANE WIDTH					
20-25 mph	(Angle) 16 to18 feet				■	■
20-25 mph	(Parallel) 7 to 8 feet		■	■	■	
25-35 mph	(Parallel) 8 feet		■	■	■	■
Above 35 mph	(Parallel) 9 feet				■	■

DESIGN SPEED	EFFECTIVE TURNING RADIUS					(See Table 17b)
Below 20 mph	5-10 feet		■	■	■	■
20-25 mph	10-15 feet	■	■	■	■	■
25-35 mph	15-20 feet	■	■	■	■	■
Above 35 mph	20-30 feet	■			▫	▫

■ BY RIGHT

▫ BY THE TRC

TABLE 3B. VEHICULAR LANE & PARKING ASSEMBLIES

TABLE 3B: Vehicular Lane/Parking Assemblies. The projected design speeds determine the dimensions of the vehicular lanes and Turning Radii assembled for Thoroughfares. All dimensions listed are minimums. Design Speeds shown in these Tables represent desired speeds for traffic flow based on typical sections. Thoroughfare alignments (excluding Rear Lanes and Rear Alleys) shall be based on a minimum 25 mile per hour design speed. Design exceptions to otherwise posted regulatory speed, if approved by the TRC will require warning signs.

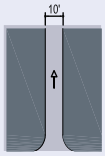
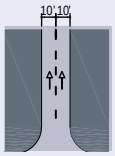
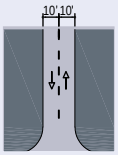
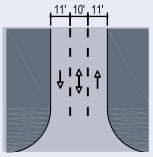
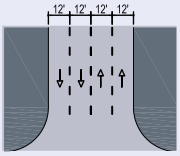
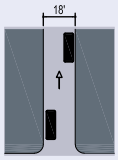
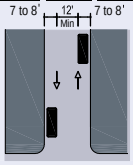
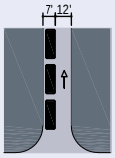
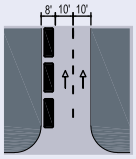
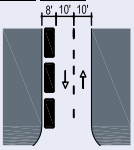
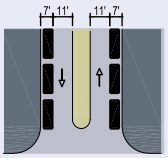
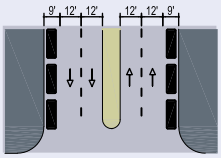
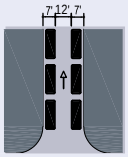
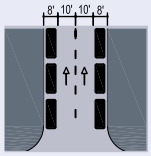
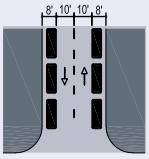
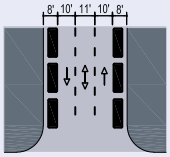
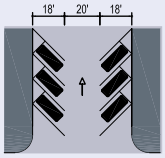
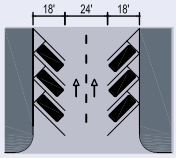
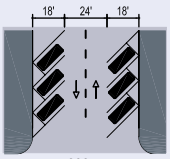
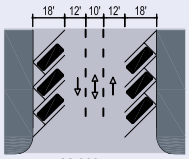
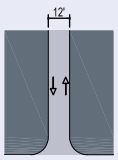
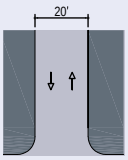
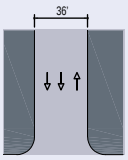
	ONE WAY MOVEMENT →		TWO WAY MOVEMENT →		
a. NO PARKING	OS NG	OS	OS NG	OS	OS
					
Design ADT	300 VPD	600 VPD	2,500 VPD	22,000 VPD	36,000 VPD
Pedestrian Crossing	3 Seconds	5 Seconds	5 Seconds	9 Seconds	13 Seconds
Design Speed	20 - 30 MPH	Below 20 MPH	20-25 MPH		35 MPH and above
b. YIELD PARKING	OS NM		NG NM VC UC		
					
Design ADT	1,000 VPD		1,000 VPD		
Pedestrian Crossing	5 Seconds		7 Seconds		
Design Speed					
c. PARKING ONE SIDE PARALLEL	OS NG NM VC	NG NM VC	NG NM VC	NG NM VC UC	NG NM VC UC
					
Design ADT	5,000 VPD	18,000 VPD	16,000 VPD	15,000 VPD	32,000 VPD
Pedestrian Crossing	5 Seconds	8 Seconds	8 Seconds	11 Seconds	13 Seconds
Design Speed	20-30 MPH		25-30 MPH	25-30 MPH	
d. PARKING BOTH SIDES PARALLEL	NG NM VC UC	NM VC UC	NM VC UC	VC UC	
					
Design ADT	8,000 VPD	20,000 VPD	15,000 VPD	22,000 VPD	
Pedestrian Crossing	7 Seconds	10 Seconds	10 Seconds	13 Seconds	
Design Speed	Below 20 MPH	25-30 MPH	25-30 MPH	25-30 MPH	
e. PARKING BOTH SIDES DIAGONAL	VC UC	VC UC	VC UC	VC UC	
					
Design ADT	18,000 VPD	20,000 VPD	15,000 VPD	22,000 VPD	
Pedestrian Crossing	15 Seconds	17 Seconds	17 Seconds	20 Seconds	
Design Speed	Below 20 MPH	20-25 MPH	20-25 MPH	25-30 MPH	
f. PARKING ACCESS			NG NM	NG NM VC UC	NM VC UC
					
Design ADT					
Pedestrian Crossing			3 Seconds	6 Seconds	10 Seconds
Design Speed					

TABLE 4A. PUBLIC FRONTAGES - GENERAL

TABLE 4A: Public Frontages - General. The Public Frontage is the area between the private Lot line and the edge of the vehicular lanes. Dimensions are given in Table 4B. Note:

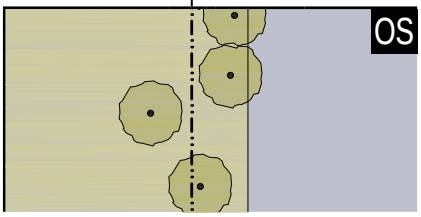
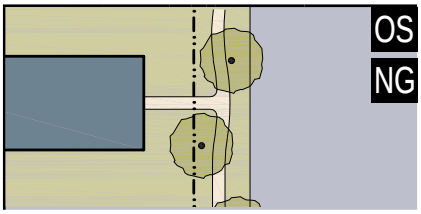
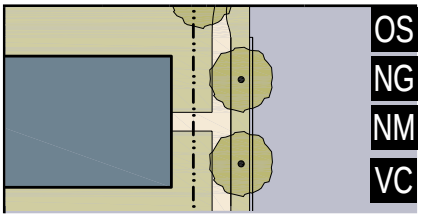
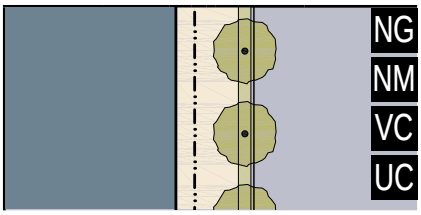
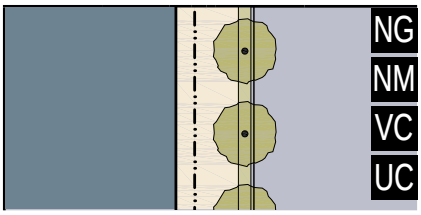
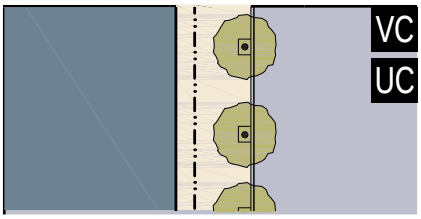
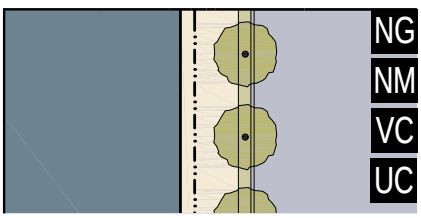
	PLAN LOT ▶ ◀ R.O.W. PRIVATE FRONTAGE ▶ ◀ PUBLIC FRONTAGE
a. (HW) Highway: This Frontage has open Swales, Bicycle Trails and no parking. The landscaping consists of the natural condition or multiple species arrayed in naturalistic clusters. Buildings are buffered by distance or berms.	
b. (RD) Road: This Frontage has open Swales and a Sidewalk walking Path or Bicycle Trail and Yield parking. The landscaping consists of multiple species arrayed in naturalistic clusters.	
c. (ST) Street: This Frontage has raised Curbs drained by inlets and Sidewalks separated from the vehicular lanes by individual or continuous Planters, with parking on one or both sides. The landscaping consists of street trees of a single or alternating species aligned in a regularly spaced Allee, with the exception that Streets with a right-of-way (R.O.W.) width of 40 feet or less are exempt from tree requirements.	
d. (DR) Drive: This Frontage has raised Curbs drained by inlets and a wide Sidewalk or paved Path along one side, related to a Greenway or waterfront. It is separated from the vehicular lanes by individual or continuous Planters. The landscaping consists of street trees of a single or alternating species aligned in a regularly spaced Allee.	
e. (AV) Avenue: This Frontage has raised Curbs drained by inlets and wide Sidewalks separated from the vehicular lanes by a narrow continuous Planter with parking on both sides. The landscaping consists of a single tree species aligned in a regularly spaced Allee.	
f. (CS) (AV) Commercial Street or Avenue: This Frontage has raised Curbs drained by inlets and very wide Sidewalks along both sides separated from the vehicular lanes by separate tree wells and parking on both sides. The landscaping consists of a single tree species aligned with regular spacing where possible, but clears the storefront entrances.	
g. (BV) Boulevard: This Frontage may have Slip Streets on both sides. It consists of raised Curbs drained by inlets and Sidewalks along both sides, separated from the vehicular lanes by Planters. The landscaping consists of double rows of a single tree species aligned in a regularly spaced Allee.	

TABLE 4B. PUBLIC FRONTAGES - SPECIFIC

Table 4B: Public Frontages - Specific. This table assembles prescriptions and dimensions for the Public Frontage elements - Curbs, walkways and Planters – relative to specific Thoroughfare types within Sustainable Zones. Table 4B-a assembles all of the elements for the various street types. Public Frontages also include bicycle parking where applicable.

R U R A L I I I I I I I I I I I I I I I I I Z O N E S I I I I I I I I I I I I I I I I I U R B A N

B - G R I D I I I I I I I I I I I I A - G R I D

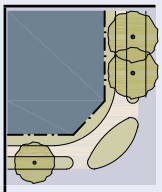
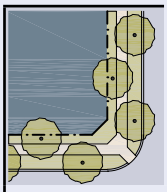
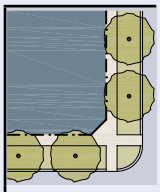
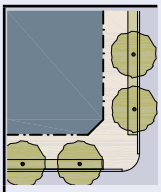
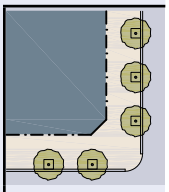
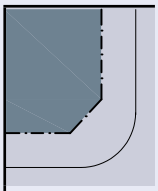
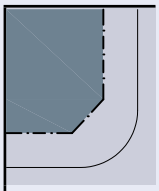
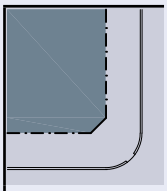
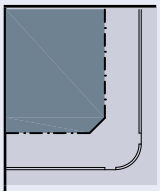
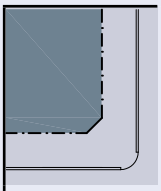
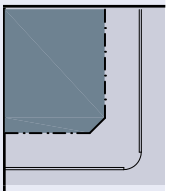
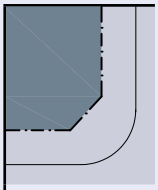
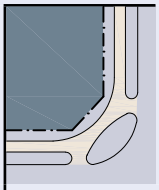
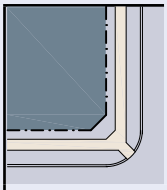
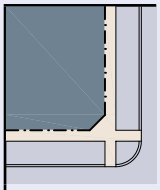
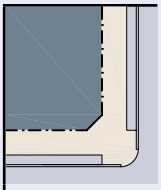
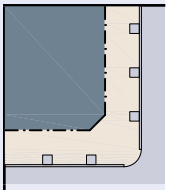
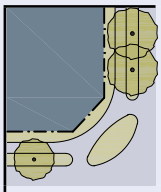
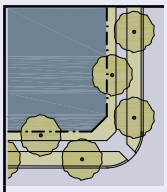
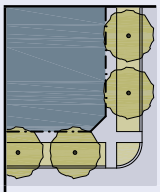
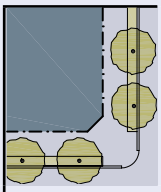
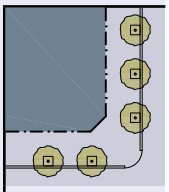
SUSTAINABLE ZONE Public Frontage Type	OS HW	OS NG RD & ST	NG NM VC ST-DR-AV	NM VC UC ST-DR-AV-BV	VC UC CS-DR-AV-BV	VC UC CS-DR-AV-BV
a. **Assembly:** The principal variables are the type and dimension of Curbs, walkways, Planters and landscape. Total Width	 16-24 feet	 12-24 feet	 12-18 feet	 12-18 feet	 18-24 feet	 18-30 feet
b. **Curb:** The detailing of the edge of the vehicular pavement, incorporating drainage. Type Radius	 Open Swale 10-30 feet	 Open Swale or Curb 10-30 feet	 Raised Curb 5-20 feet	 Raised Curb 5-20 feet	 Raised Curb 5-20 feet	 Raised Curb 5-20 feet
c. **Walkway:** The pavement dedicated exclusively to pedestrian activity. Type Width	 Path Optional n/a	 Path, Sidewalk, or BT 5-8 feet	 Sidewalk 5-8 feet	 Sidewalk 5-8 feet	 Sidewalk 12-20 feet	 Sidewalk 12-30 feet
d. **Planter:** The layer which accommodates street trees and other landscape. Arrangement Species Planter Type Planter Width	 Clustered Multiple Continuous Swale 8 feet-16 feet	 Clustered Multiple Continuous Swale 8 feet-16 feet	 Regular Alternating Continuous Planter 8 feet-12 feet	 Regular Single Continuous Planter 8 feet-12 feet	 Regular Single Continuous Planter 4 feet-6 feet	 Opportunistic Single Tree Well 4 feet-6 feet
e. **Landscape:** The recommended plant species. (See Table 6)						
f. **Lighting:** The recommended Public Lighting. (See Table 5)						

TABLE 4C. THOROUGHFARE ASSEMBLIES

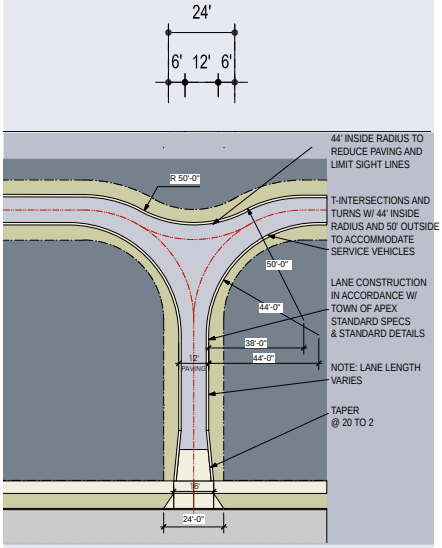
TABLE 4C: Thoroughfare Assemblies. These Thoroughfares are assembled from the elements that appear in Tables 3A and 3B and incorporate the Public Frontages of Table 4A. The key gives the Thoroughfare type followed by the right-of-way width, followed by the pavement width, and in some instances followed by specialized transportation capability. All dimensions listed are minimums. Design Speeds shown in these Tables represent desired speeds for traffic flow based on typical sections. Thoroughfare alignments (excluding Rear Lanes and Rear Alleys) shall be based on a minimum 25 mile per hour design speed. Design exceptions to otherwise posted regulatory speed, if approved by the TRC will require warning signs.

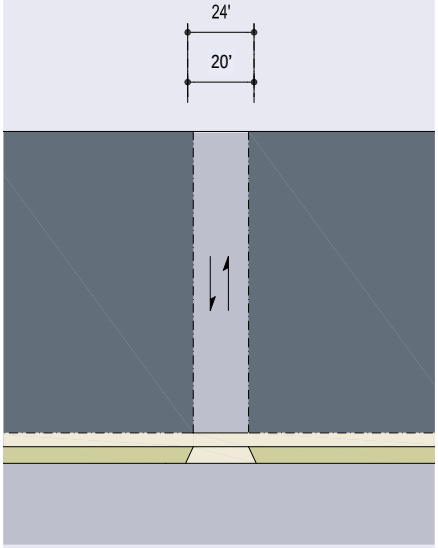
KEY ST-57-20-BL

- Thoroughfare Type
- Right of Way Width
- Pavement Width
- Transportation Provisions

THOROUGHFARE TYPES

Highway:	HW
Boulevard:	BV
Avenue:	AV
Commercial Street:	CS
Drive:	DR
Street:	ST
Road:	RD
Rear Alley:	RA
Rear Lane:	RL
Bicycle Trail:	BT
Bicycle Lane:	BL
Bicycle Route:	BR
Path:	PT
Passage:	PS
Transit Route:	TR





KEY	RL-24-12	RA-24-20
Thoroughfare Type	Rear Lane	Rear Alley
Sustainable Zone Assignment	OS, NG, NM	NG, NM, VC, UC
Right-of-Way Width	24 feet	24 feet min
Pavement Width	12 feet	20 feet min
Movement	Yield Movement	Slow Movement
Design Speed	10 MPH	10 MPH
Pedestrian Crossing Time	3.5 seconds	7 seconds
Traffic Lanes	n/a	n/a
Parking Lanes	None	None
Curb Radius	Flared section with driveway apron	Driveway apron
Walkway Type	None	None
Planter Type	None	None
Curb Type		
Landscape Type	None	None
Transportation Provision	None	None

Note: Rear Lanes may be public or private. If Rear Lanes are public, the minimum pavement width shall be 16 feet. Private maintenance shall be required for private Rear Lanes and the maintenance shall be adequately funded by a Veridea property owners' association.

Note: Rear Alleys may be public or private. If Rear Alleys are private, then private maintenance shall be required and the maintenance shall be adequately funded by a Veridea property owners' association.

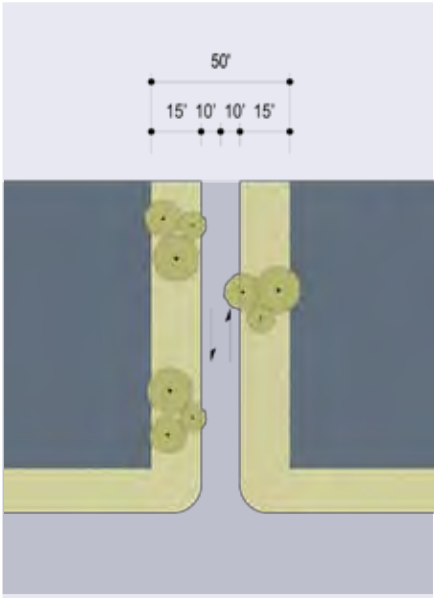
TABLE 4C THOROUGHFARE ASSEMBLIES

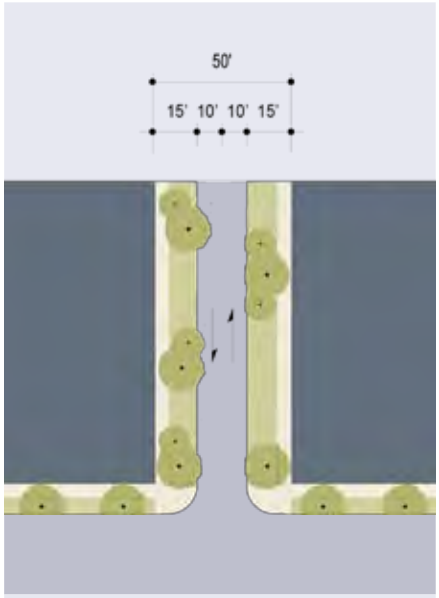
KEY ST-57-20-BL

- Thoroughfare Type
- Right of Way Width
- Pavement Width
- Transportation Provisions

THOROUGHFARE TYPES

Highway:	HW
Boulevard:	BV
Avenue:	AV
Commercial Street:	CS
Drive:	DR
Street:	ST
Road:	RD
Rear Alley:	RA
Rear Lane:	RL
Bicycle Trail:	BT
Bicycle Lane:	BL
Bicycle Route:	BR
Path:	PT
Passage:	PS
Transit Route:	TR





KEY	RDOS-50-20	RD-50-20
Thoroughfare Type	Road	Road
Sustainable Zone Assignment	OS	OS, NG
Right-of-Way Width	50 feet	50 feet
Pavement Width	16 feet	18 feet
Movement	Slow Movement	Slow Movement
Design Speed	15 MPH	15 MPH
Pedestrian Crossing Time	5.1 seconds	5.1 seconds
Traffic Lanes	2 lanes	2 lanes
Parking Lanes	None	None
Curb Radius	25 feet	25 feet
Walkway Type	Path, Sidewalk or BT	Path, Sidewalk or BT
Planter Type	Continuous Swale	Continuous Swale
Curb Type	Swale or Curb	Swale or Curb
Landscape Type	Trees clustered	Trees clustered
Transportation Provision	BT	BT

Note: Requires approval of TRC

Note: Curb radius to be high-strength / reinforced

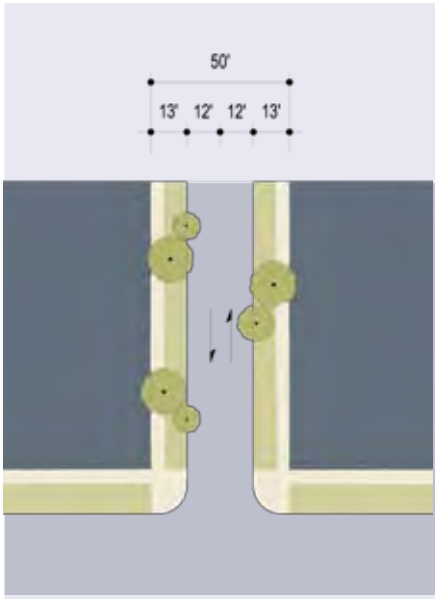
TABLE 4C THOROUGHFARE ASSEMBLIES

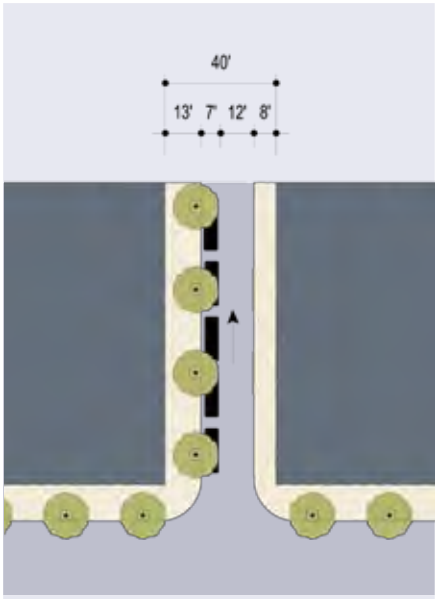
KEY ST-57-20-BL

- Thoroughfare Type
- Right of Way Width
- Pavement Width
- Transportation Provisions

THOROUGHFARE TYPES

Highway:	HW
Boulevard:	BV
Avenue:	AV
Commercial Street:	CS
Drive:	DR
Street:	ST
Road:	RD
Rear Alley:	RA
Rear Lane:	RL
Bicycle Trail:	BT
Bicycle Lane:	BL
Bicycle Route:	BR
Path:	PT
Passage:	PS
Transit Route:	TR





KEY	RD-50-24	ST-40-19
Thoroughfare Type	Road	Street
Sustainable Zone Assignment	OS, NG	OS, NG, NM, VC
Right-of-Way Width	50 feet	40 feet
Pavement Width	24 feet	19 feet
Movement	Slow Movement	Slow Movement
Design Speed	20 MPH	20 MPH
Pedestrian Crossing Time	6.8 seconds	5.4 seconds
Traffic Lanes	2 lanes	1 lane
Parking Lanes	None	One side @ 7 feet marked
Curb Radius	25 feet	15 feet
Walkway Type	Path, Sidewalk or BT	13/8 foot Sidewalk
Planter Type	Continuous Swale	Tree well (Permitted but not required per 4.5.3 e. ii.)
Curb Type	Swale or Curb	Curb
Landscape Type	Trees clustered	Trees at 50' o.c. Avg. (Permitted but not required per 4.5.3 e. ii.)
Transportation Provision	BL optional, BT optional	

Note: Requires approval of TRC
Note: Curb radius to be high-strength / reinforced

Note: Curb radius to be high-strength / reinforced

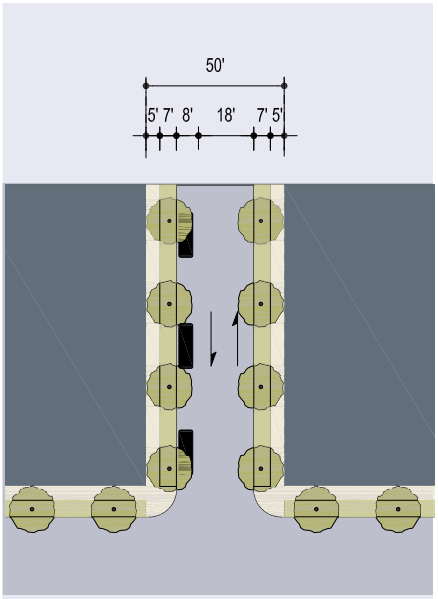
TABLE 4C THOROUGHFARE ASSEMBLIES

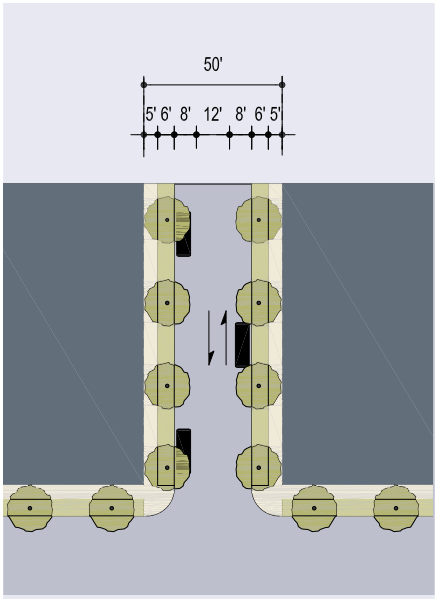
KEY ST-57-20-BL

- Thoroughfare Type
- Right of Way Width
- Pavement Width
- Transportation Provisions

THOROUGHFARE TYPES

Highway:	HW
Boulevard:	BV
Avenue:	AV
Commercial Street:	CS
Drive:	DR
Street:	ST
Road:	RD
Rear Alley:	RA
Rear Lane:	RL
Bicycle Trail:	BT
Bicycle Lane:	BL
Bicycle Route:	BR
Path:	PT
Passage:	PS
Transit Route:	TR





KEY	ST-50-26	ST-50-28
Thoroughfare Type	Street	Street
Sustainable Zone Assignment	NG, NM, VC, UC	NG, NM, VC, UC
Right-of-Way Width	50 feet	50 feet
Pavement Width	26 feet	28 feet
Movement	Free Movement	Yield Movement
Design Speed	20 MPH	20 MPH
Pedestrian Crossing Time	7.4 seconds	7.6 seconds
Traffic Lanes	2 lanes	2 lane
Parking Lanes	One side @ 8 feet marked	Both sides @ 8 feet unmarked
Curb Radius	10 feet	10 feet
Walkway Type	5 foot Sidewalk	5 foot Sidewalk
Planter Type	7 foot continuous Planter	6 foot continuous Planter
Curb Type	Curb	Curb
Landscape Type	Trees at 50' o.c. Avg.	Trees at 50' o.c. Avg.
Transportation Provision	BL optional	BL optional

Note: Curb radius to be high-strength / reinforced

Note: Curb radius to be high-strength / reinforced

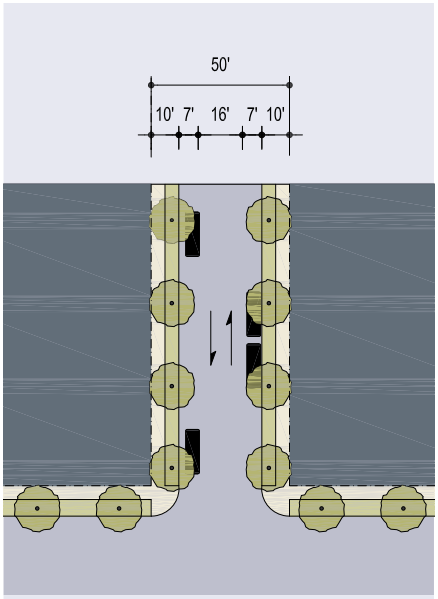
TABLE 4C THOROUGHFARE ASSEMBLIES

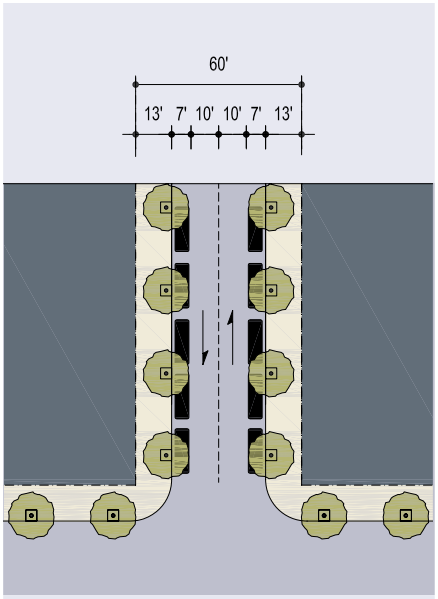
KEY ST-57-20-BL

- Thoroughfare Type
- Right of Way Width
- Pavement Width
- Transportation Provisions

THOROUGHFARE TYPES

Highway:	HW
Boulevard:	BV
Avenue:	AV
Commercial Street:	CS
Drive:	DR
Street:	ST
Road:	RD
Rear Alley:	RA
Rear Lane:	RL
Bicycle Trail:	BT
Bicycle Lane:	BL
Bicycle Route:	BR
Path:	PT
Passage:	PS
Transit Route:	TR





KEY	ST-50-30	ST-60-34
Thoroughfare Type	Street	Street
Sustainable Zone Assignment	NG, NM, VC	NG, NM, VC, UC
Right-of-Way Width	50 feet	60 feet
Pavement Width	30 feet	34 feet
Movement	Slow Movement	Slow Movement
Design Speed	20 MPH	20 MPH
Pedestrian Crossing Time	8.5 seconds	9.7 seconds
Traffic Lanes	2 lanes	2 lanes
Parking Lanes	Both sides @ 7 feet unmarked	Both Sides @ 7 feet marked
Curb Radius	10 feet	15 feet
Walkway Type	5 foot Sidewalk	6 foot Sidewalk
Planter Type	5 foot continuous Planter	Tree well or 7 foot continuous Planter
Curb Type	Curb	Curb
Landscape Type	Trees at 50' o.c. Avg.	Trees at 50' o.c. Avg.
Transportation Provision	BL optional	BR

Note: Curb radius to be high-strength / reinforced

Note: Curb radius to be high-strength / reinforced

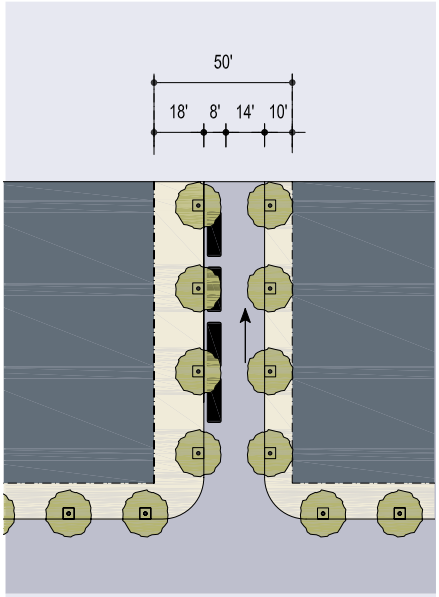
TABLE 4C THOROUGHFARE ASSEMBLIES

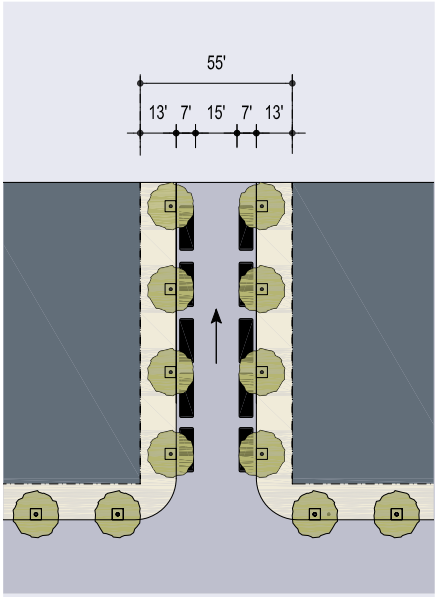
KEY ST-57-20-BL

Thoroughfare Type
Right of Way Width
Pavement Width
Transportation Provisions

THOROUGHFARE TYPES

Highway:	HW
Boulevard:	BV
Avenue:	AV
Commercial Street:	CS
Drive:	DR
Street:	ST
Road:	RD
Rear Alley:	RA
Rear Lane:	RL
Bicycle Trail:	BT
Bicycle Lane:	BL
Bicycle Route:	BR
Path:	PT
Passage:	PS
Transit Route:	TR





KEY	CS-50-22	CS-55-29
Thoroughfare Type	Commercial Street	Commercial Street
Sustainable Zone Assignment	NG, NM, VC, UC	NG, NM, VC, UC
Right-of-Way Width	50 feet	55 feet
Pavement Width	22 feet	29 feet
Movement	Slow Movement	Slow Movement
Design Speed	20 MPH	20 MPH
Pedestrian Crossing Time	6.2 seconds	8.2 seconds
Traffic Lanes	1 lane	1 lane
Parking Lanes	One side @ 8 feet marked	Both sides @ 7 feet marked
Curb Radius	15 feet	15 feet
Walkway Type	18/10 foot Sidewalk	13 foot Sidewalk
Planter Type	Tree well	Tree well
Curb Type	Curb	Curb
Landscape Type	Trees at 50' o.c. Avg.	Trees at 50' o.c. Avg.
Transportation Provision		

Note: Curb radius to be high-strength / reinforced

Note: Curb radius to be high-strength / reinforced

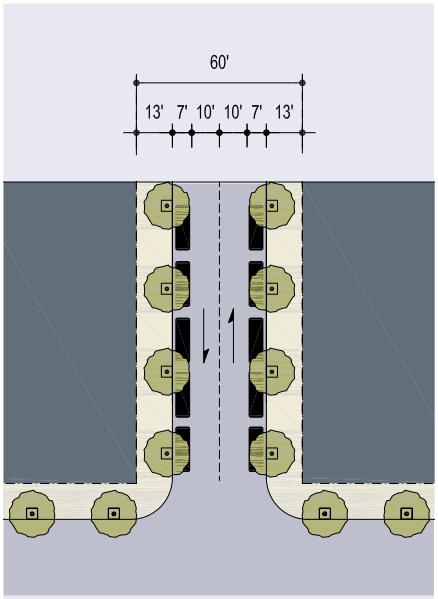
TABLE 4C THOROUGHFARE ASSEMBLIES

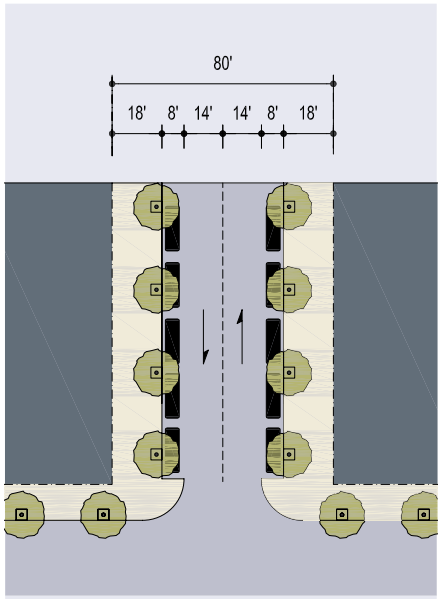
KEY ST-57-20-BL

- Thoroughfare Type
- Right of Way Width
- Pavement Width
- Transportation Provisions

THOROUGHFARE TYPES

Highway:	HW
Boulevard:	BV
Avenue:	AV
Commercial Street:	CS
Drive:	DR
Street:	ST
Road:	RD
Rear Alley:	RA
Rear Lane:	RL
Bicycle Trail:	BT
Bicycle Lane:	BL
Bicycle Route:	BR
Path:	PT
Passage:	PS
Transit Route:	TR





KEY	CS-60-34	CS-80-44
Thoroughfare Type	Commercial Street	Commercial Street
Sustainable Zone Assignment	NM, VC, UC	VC, UC
Right-of-Way Width	60 feet	80 feet
Pavement Width	34 feet	44 feet
Movement	Slow Movement	Free Movement
Design Speed	20 MPH	25 MPH
Pedestrian Crossing Time	9.7 seconds	8 seconds at corners
Traffic Lanes	2 lanes	2 lanes
Parking Lanes	Both sides @ 7 feet marked	Both sides @ 8 feet marked
Curb Radius	10 feet	10 feet
Walkway Type	13 foot Sidewalk	18 foot Sidewalk
Planter Type	Tree well	Tree well
Curb Type	Curb	Curb
Landscape Type	Trees at 50' o.c. Avg.	Trees at 50' o.c. Avg.
Transportation Provision		

Note: Curb radius to be high-strength / reinforced

Note: Curb radius to be high-strength / reinforced

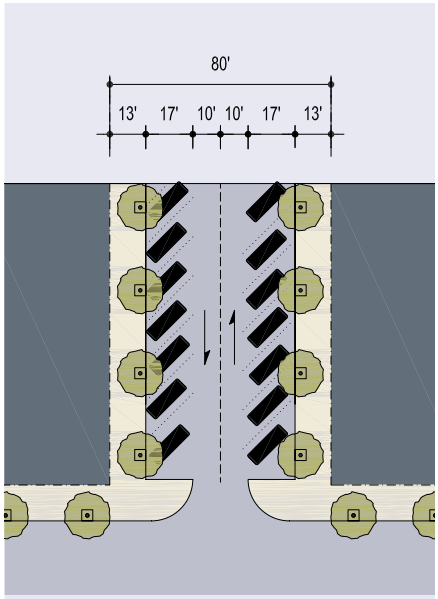
TABLE 4C THOROUGHFARE ASSEMBLIES

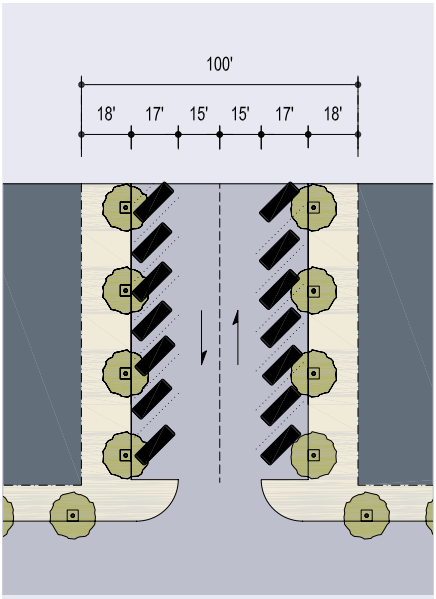
KEY ST-57-20-BL

- Thoroughfare Type
- Right of Way Width
- Pavement Width
- Transportation Provisions

THOROUGHFARE TYPES

Highway:	HW
Boulevard:	BV
Avenue:	AV
Commercial Street:	CS
Drive:	DR
Street:	ST
Road:	RD
Rear Alley:	RA
Rear Lane:	RL
Bicycle Trail:	BT
Bicycle Lane:	BL
Bicycle Route:	BR
Path:	PT
Passage:	PS
Transit Route:	TR





KEY	CS-80-54	CS-100-64
Thoroughfare Type	Commercial Street	Commercial Street
Sustainable Zone Assignment	VC, UC	VC, UC
Right-of-Way Width	80 feet	100 feet
Pavement Width	54 feet	64 feet
Movement	Slow Movement	Slow Movement
Design Speed	25 MPH	25 MPH
Pedestrian Crossing Time	5.7 seconds at corners	8.5 seconds at corners
Traffic Lanes	2 lanes	2 lanes
Parking Lanes	Both sides angled @ 17 feet marked	Both sides angled @ 17 feet marked
Curb Radius	10 feet	10 feet
Walkway Type	13 foot Sidewalk	18 foot Sidewalk
Planter Type	Tree well	Tree well
Curb Type	Curb	Curb
Landscape Type	Trees at 50' o.c. Avg.	Trees at 50' o.c. Avg.
Transportation Provision		

Note: Curb radius to be high-strength / reinforced

Note: Curb radius to be high-strength / reinforced

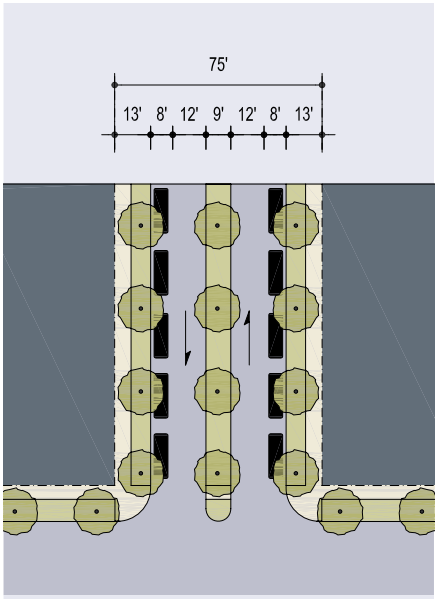
TABLE 4C THOROUGHFARE ASSEMBLIES

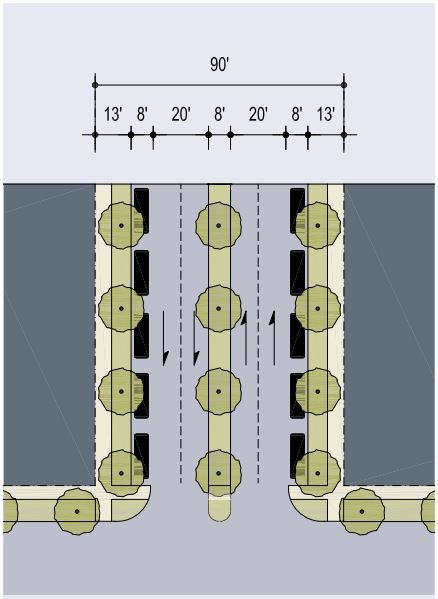
KEY ST-57-20-BL

- Thoroughfare Type
- Right of Way Width
- Pavement Width
- Transportation Provisions

THOROUGHFARE TYPES

Highway:	HW
Boulevard:	BV
Avenue:	AV
Commercial Street:	CS
Drive:	DR
Street:	ST
Road:	RD
Rear Alley:	RA
Rear Lane:	RL
Bicycle Trail:	BT
Bicycle Lane:	BL
Bicycle Route:	BR
Path:	PT
Passage:	PS
Transit Route:	TR





KEY	AV-75-40	AV-90-56
Thoroughfare Type	Avenue	Avenue
Sustainable Zone Assignment	NG, NM, VC, UC	NG, NM, VC, UC
Right-of-Way Width	75 feet	90 feet
Pavement Width	40 feet total	56 feet total
Movement	Slow Movement	Slow Movement
Design Speed	25 MPH	25 MPH
Pedestrian Crossing Time	5.7 seconds - 5.7 seconds	5.7 seconds - 5.7 seconds at corners
Traffic Lanes	2 lanes	4 lanes
Parking Lanes	Both sides @ 8 feet marked	Both sides @ 8 feet marked
Curb Radius	10 feet	10 feet
Walkway Type	6 foot Sidewalk	6 foot Sidewalk
Planter Type	7 foot continuous Planter	7 foot continuous Planter
Curb Type	Curb or Swale	Curb or Swale
Landscape Type	Trees at 50' o.c. Avg.	Trees at 50' o.c. Avg.
Transportation Provision	BR, TR	BR, TR

Note: Curb radius to be high-strength / reinforced

Note: Curb radius to be high-strength / reinforced

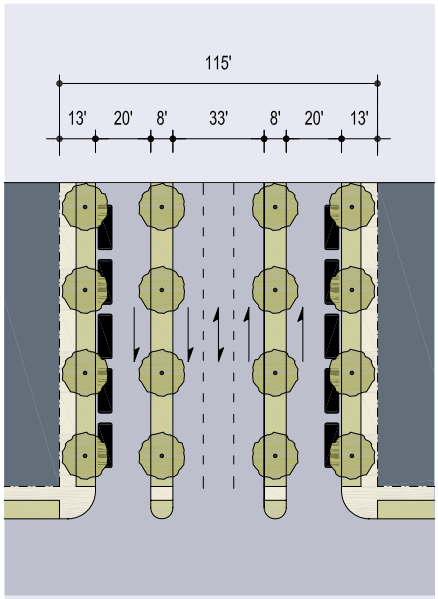
TABLE 4C THOROUGHFARE ASSEMBLIES

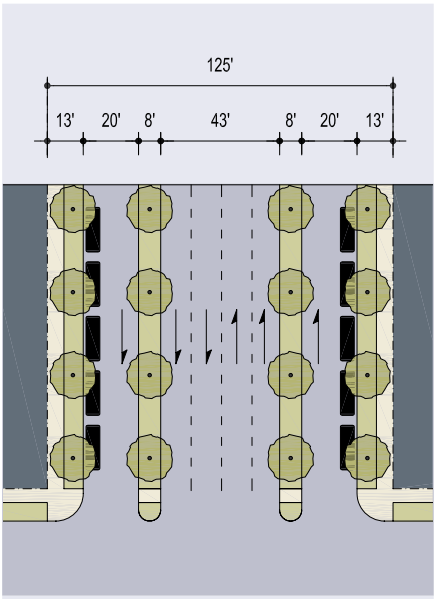
KEY ST-57-20-BL

- Thoroughfare Type
- Right of Way Width
- Pavement Width
- Transportation Provisions

THOROUGHFARE TYPES

Highway:	HW
Boulevard:	BV
Avenue:	AV
Commercial Street:	CS
Drive:	DR
Street:	ST
Road:	RD
Rear Alley:	RA
Rear Lane:	RL
Bicycle Trail:	BT
Bicycle Lane:	BL
Bicycle Route:	BR
Path:	PT
Passage:	PS
Transit Route:	TR





KEY	BV-115-33	BV-125-43
Thoroughfare Type	Boulevard	Boulevard
Sustainable Zone Assignment	VC, UC	VC, UC
Right-of-Way Width	115 feet	125 feet
Pavement Width	20 feet - 33 feet - 20 feet	20 feet - 43 feet - 20 feet
Movement	Free Movement (inner lanes)	Free Movement (inner lanes)
Design Speed	35 MPH	35 MPH
Pedestrian Crossing Time	5.7 seconds - 9.4 seconds - 5.7 seconds	5.7 seconds - 12.2 seconds - 5.7 seconds
Traffic Lanes	3 lanes, one turning lane & two one-way slip roads	4 lanes & two one-way slip roads
Parking Lanes	8 feet	8 feet
Curb Radius	10 feet	10 feet
Walkway Type	6 foot Sidewalk	6 foot Sidewalk
Planter Type	7 foot continuous Planter	7 foot continuous Planter
Curb Type	Curb	Curb
Landscape Type	Trees at 50' o.c. Avg.	Trees at 50' o.c. Avg.
Transportation Provision	BR, TR	BR, TR

Note: Curb radius to be high-strength / reinforced

Note: Curb radius to be high-strength / reinforced

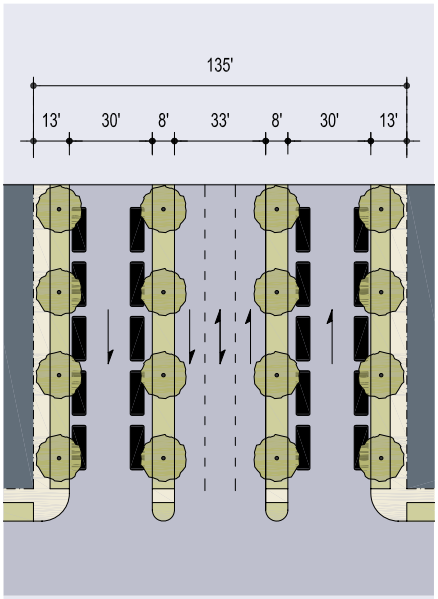
TABLE 4C THOROUGHFARE ASSEMBLIES

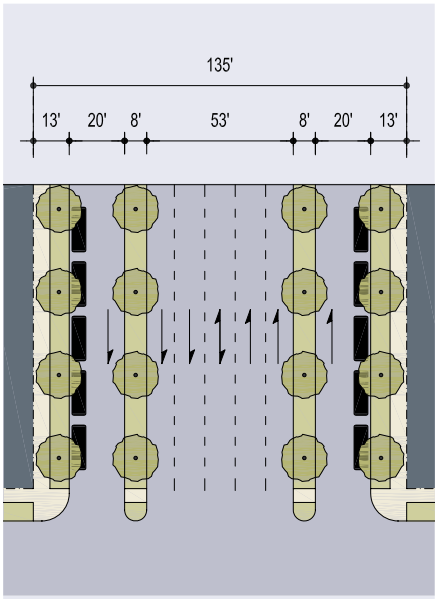
KEY ST-57-20-BL

- Thoroughfare Type
- Right of Way Width
- Pavement Width
- Transportation Provisions

THOROUGHFARE TYPES

Highway:	HW
Boulevard:	BV
Avenue:	AV
Commercial Street:	CS
Drive:	DR
Street:	ST
Road:	RD
Rear Alley:	RA
Rear Lane:	RL
Bicycle Trail:	BT
Bicycle Lane:	BL
Bicycle Route:	BR
Path:	PT
Passage:	PS
Transit Route:	TR





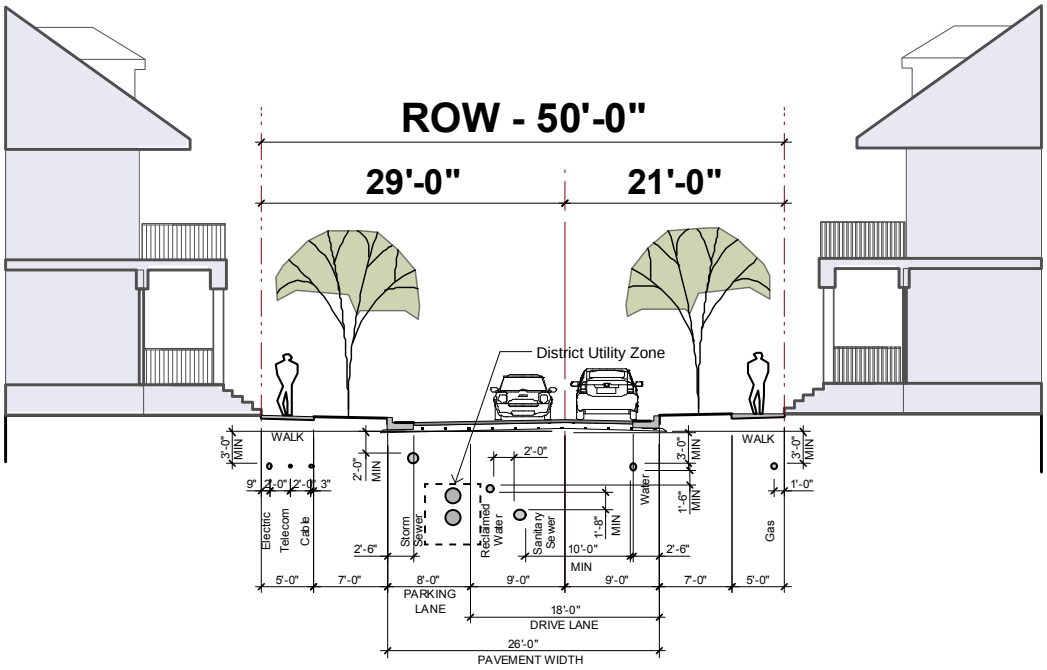
KEY	BV-135-33	BV-135-53
Thoroughfare Type	Boulevard	Boulevard
Sustainable Zone Assignment	VC, UC	VC, UC
Right-of-Way Width	135 feet	135 feet
Pavement Width	30 feet - 33 feet - 30 feet	20 feet - 53 feet - 20 feet
Movement	Free Movement	Free Movement
Design Speed	35 MPH	35 MPH
Pedestrian Crossing Time	8.5 seconds - 9.4 seconds - 8.5 seconds	5.7 seconds - 15.1 seconds - 5.7 seconds
Traffic Lanes	3 lanes, one turning lane & two one-way slip roads	5 Lanes, one turning lane & two one-way slip roads
Parking Lanes	8 feet	8 feet
Curb Radius	10 feet	10 feet
Walkway Type	6 foot Sidewalk	6 foot Sidewalk
Planter Type	7 foot continuous Planter	7 foot continuous Planter
Curb Type	Curb	Curb
Landscape Type	Trees at 50' o.c. Avg.	Trees at 50' o.c. Avg.
Transportation Provision	BR, TR	BR, TR

Note: Curb radius to be high-strength / reinforced

Note: Curb radius to be high-strength / reinforced

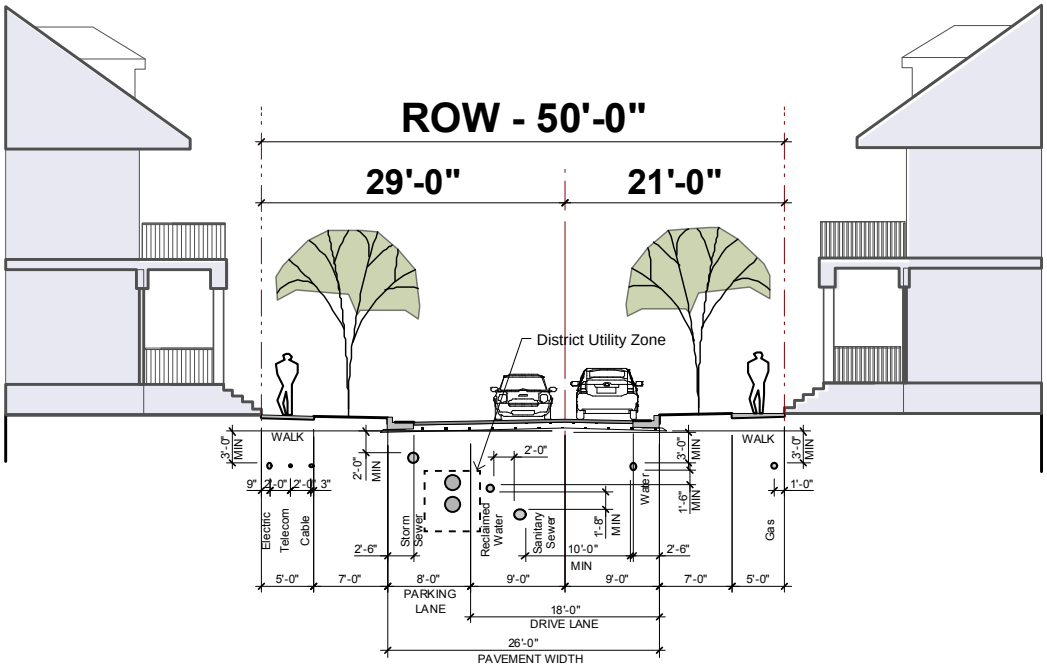
TABLE 4D. THOROUGHFARE CROSS SECTIONS

TABLE 4D: Thoroughfare Cross Sections. These Thoroughfares Cross Sections are assembled from the some of the typical Thoroughfares that appear in Table 4C and represent Standard Street Cross Sections Showing Utilities.



ST-50-26 without Rear Lane

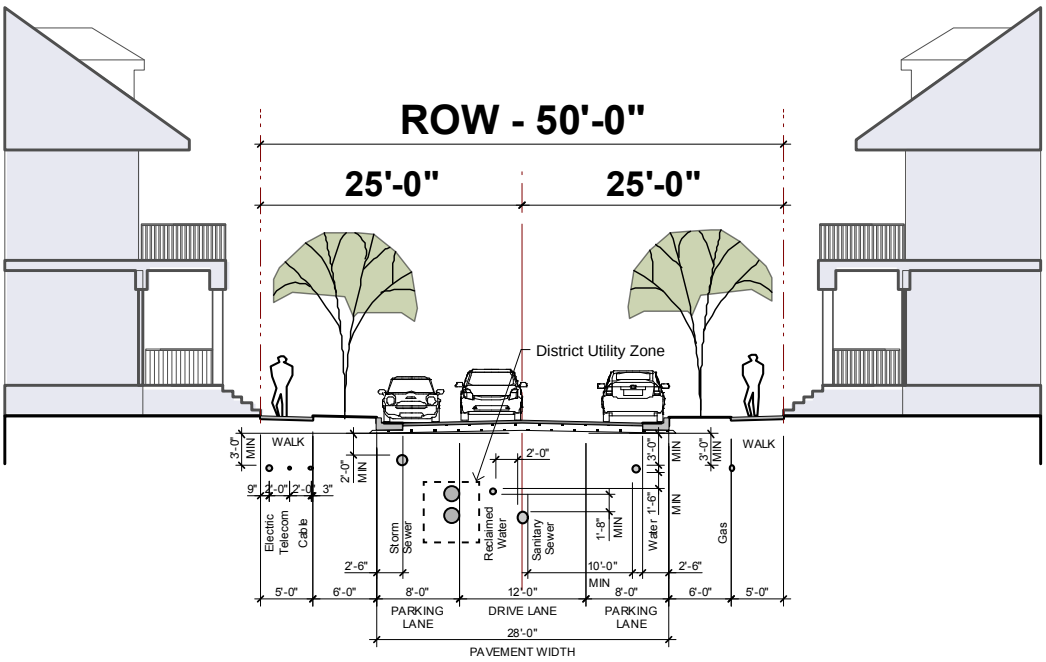
Thoroughfare Sections with Utilities



ST-50-26 with Rear Lane

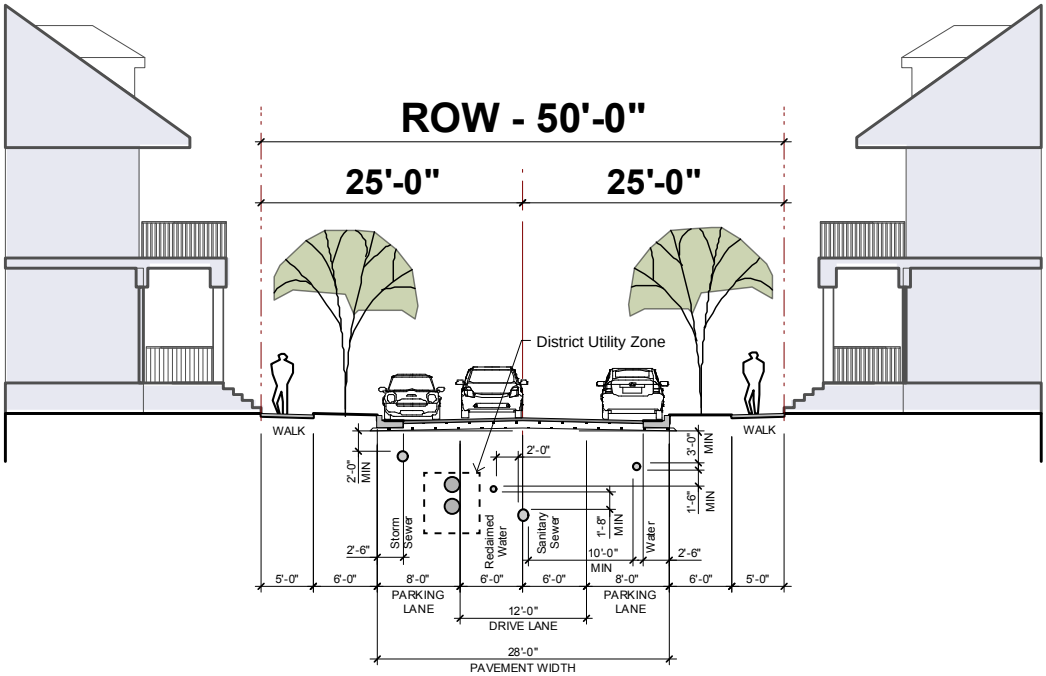
Thoroughfare Sections with Utilities

TABLE 4D. THOROUGHFARE CROSS SECTIONS



ST-50-28 without Rear Lane

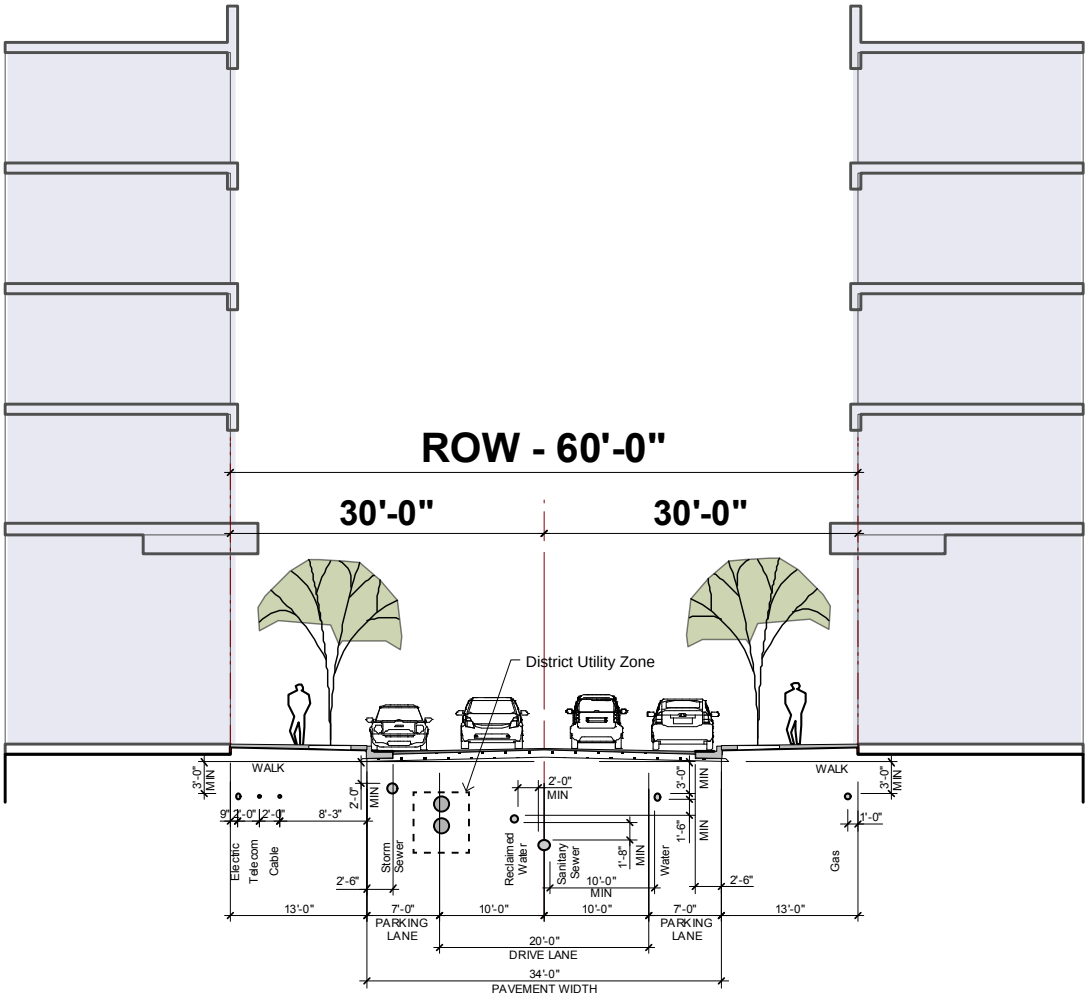
Thoroughfare Sections with Utilities



ST-50-28 with Rear Lane

Thoroughfare Sections with Utilities

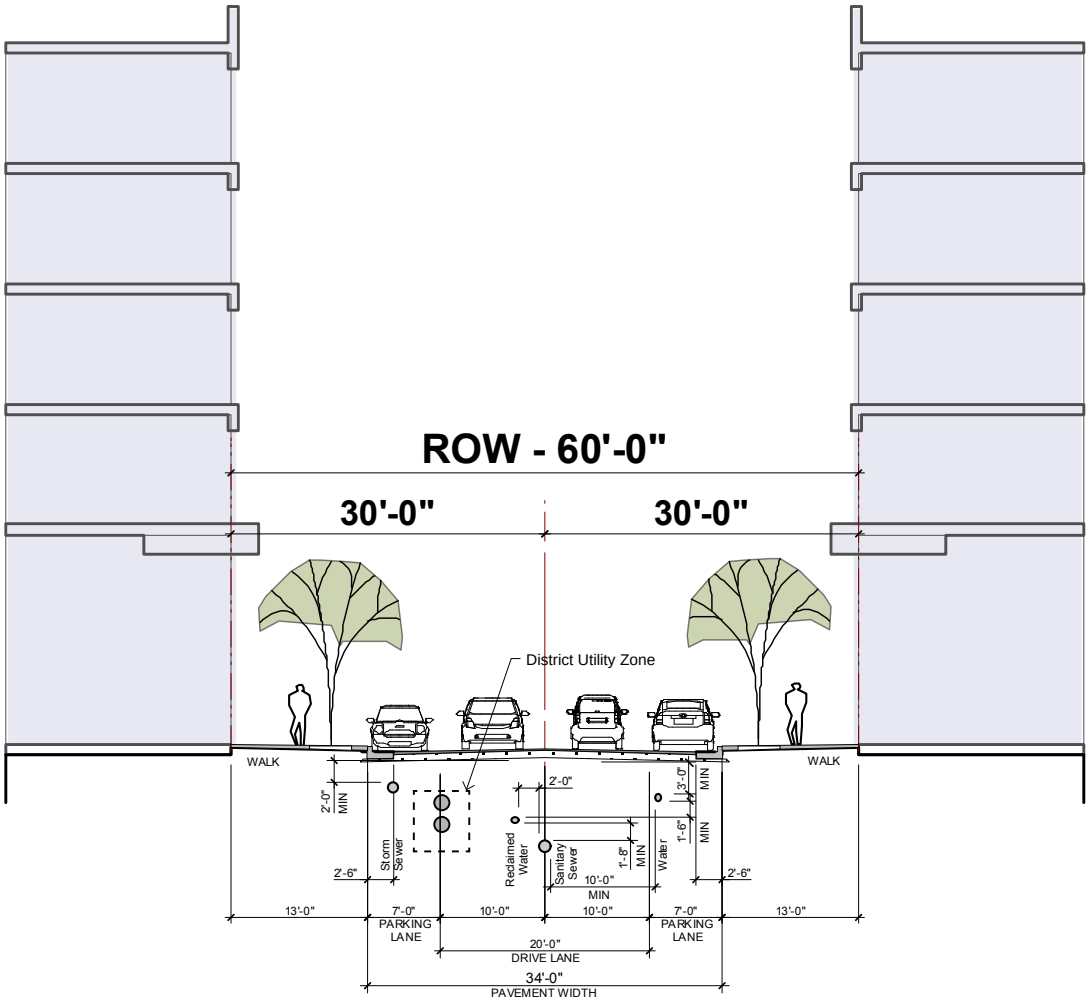
TABLE 4D. THOROUGHFARE CROSS SECTIONS



CS-60-34 without Rear Alley

Thoroughfare Sections with Utilities

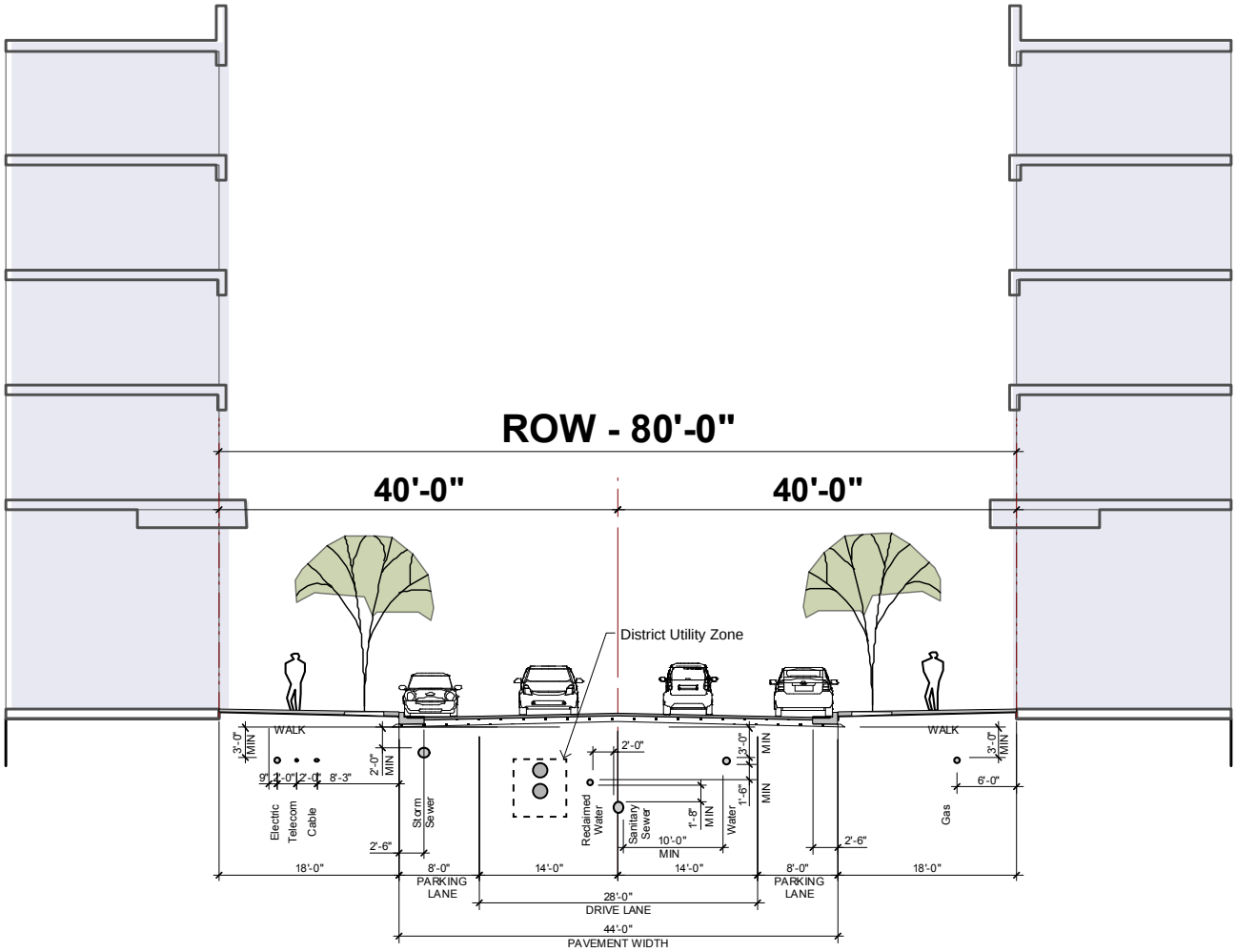
TABLE 4D. THOROUGHFARE CROSS SECTIONS



CS-60-34 with Rear Alley

Thoroughfare Sections with Utilities

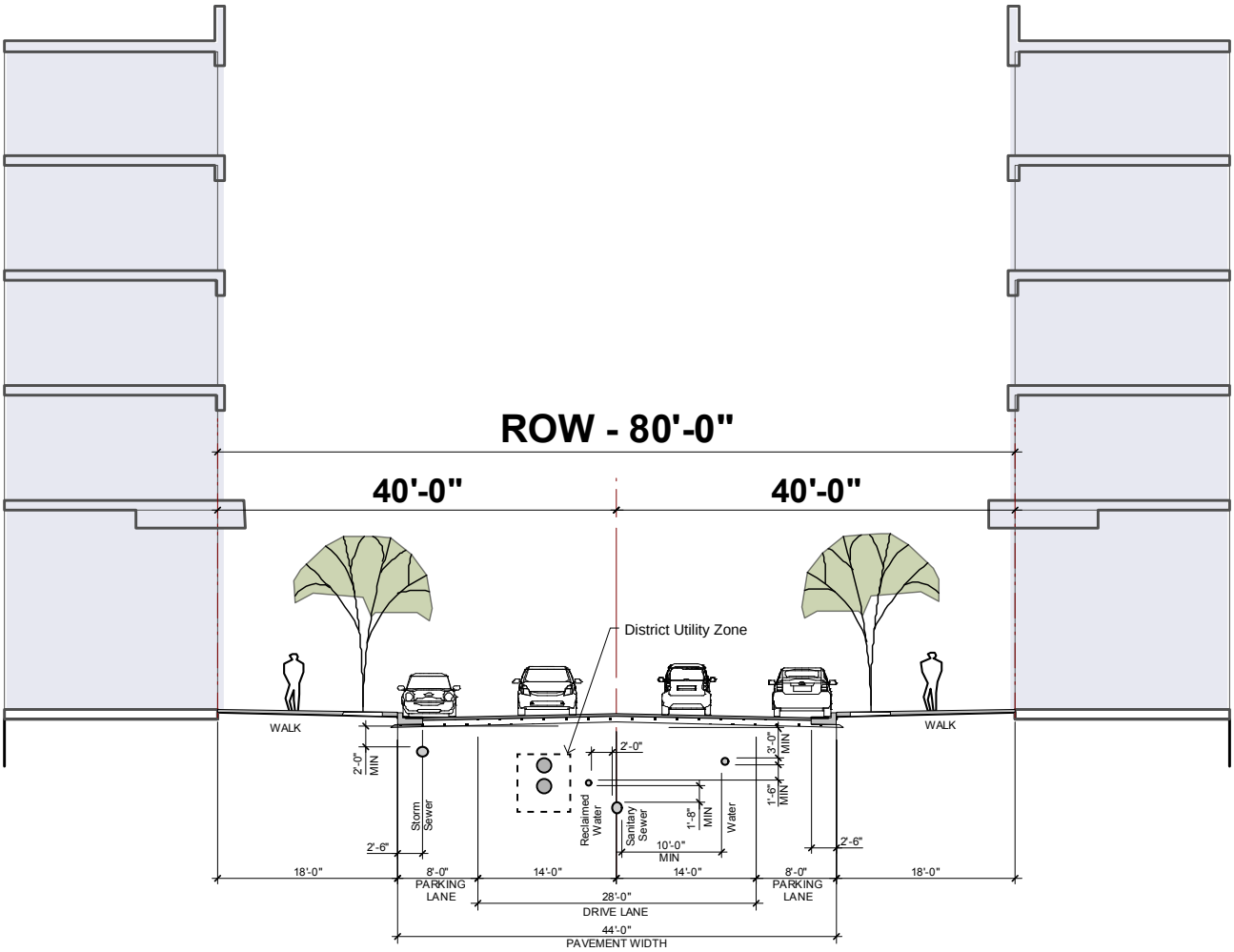
TABLE 4D. THOROUGHFARE CROSS SECTIONS



CS-80-44 without Rear Alley

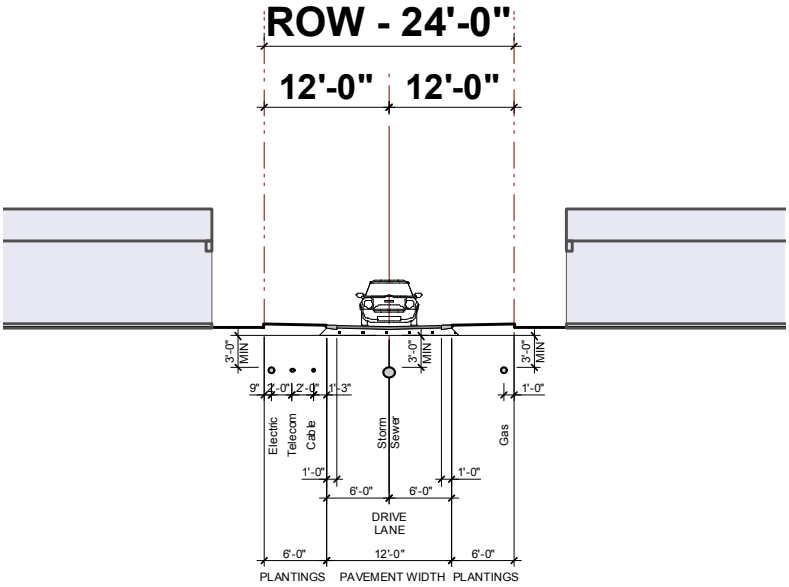
Thoroughfare Sections with Utilities

TABLE 4D. THOROUGHFARE CROSS SECTIONS



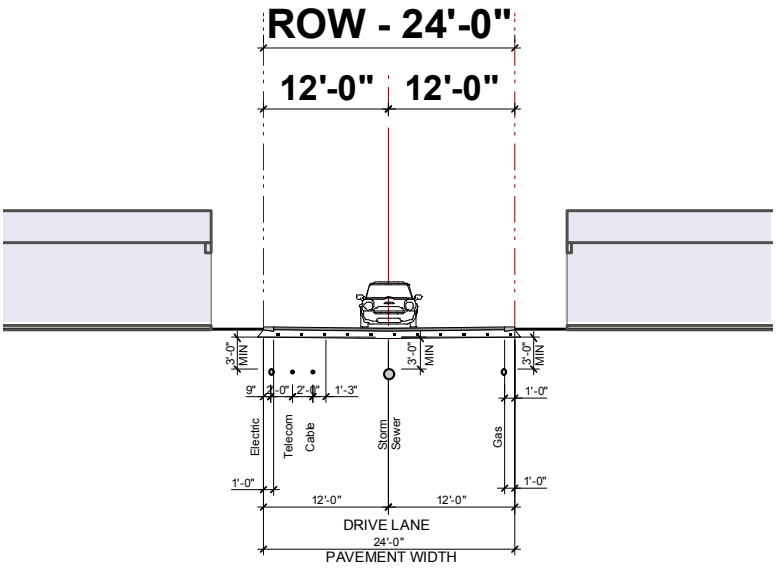
CS-80-44 with Rear Alley

Thoroughfare Sections with Utilities



RL-12-24 Rear Lane

Thoroughfare Sections with Utilities



RA-24-24 Rear Alley

Thoroughfare Sections with Utilities

TABLE 6. PUBLIC PLANTING

TABLE 6: Public Planting. This table shows five common types of street tree shapes and their appropriateness within the Sustainable Zones. Provide adequate soil volumes for street trees set within hardscape. A registered professional shall prepare a landscape plan and provide planting details to ensure adequate soil preparation for the size and species proposed on the plan.

	OS	NG	NM	VC	UC	Native and Naturalized Plant List Table Page 27
Oval 	▪	▪	▪	▪	▪	
Ball 	▪	▪	▪	▪	▪	
Pyramid 	▪	▪	▪	▪	▪	
Umbrella 	▪	▪	▪	▪	▪	
Vase 	▪	▪	▪	▪	▪	

TABLE 6. PUBLIC PLANTING

TABLE 6: Public Planting. This table shows a list of native and naturalized trees divided in five common types of street tree shapes and their appropriateness within the Sustainable Zones. Other types of hardy plant material are allowed with TRC approval.

Oval Shape (OS, NG, NM, VC, UC)		Tree Size*
Acer campestre	Hedge Maple	L
Acer truncatum	Purpleblow Maple	M
Carpinus caroliniana	American Hornbeam	M
Pistacia chinensis cultivar “Keith Davey”	Chinese Pistache	M
Tilia americana	American Linden	L
Tilia cordata	Littleleaf Linden	M
Ball Shape (OS, NG, NM, VC, UC)		
Acer barbatum	Southern Sugar Maple	M
Acer buergeranum	Trident Maple	S
Acer ginnala	Amur Maple	M
Amelanchier arborea	Downy Serviceberry	M
Platanus X acerifolia	London Planetree	L
Quercus coccinea	Scarlet Oak	L
Quercus lyrata	Overcup Oak	L
Quercus phellos	Willow Oak	L
Qurcus shumardii	Shumard Oak	L
Quercus virginiana	Live Oak	L
Pyramid Shape (OS, NG, NM)		
Carpinus betulus	European Hornbeam	M
Cryptomeria japonica	Japanese Cryptomeria	M
Ginkgo biloba (Male only)	Ginkgo	L
Ilex opaca	American Holly	L
Juniperus virginiana	Eastern Redcedar	L
Magnolia grandifolia	Southern Magnolia	L
Metasequoia glyptostroboides	Dawn Redwood	L
Nyssa sylvatica	Black Gum	L
Umbrella Shape (OS, NG, NM)		
Celtis laevigata	Sugar Hackberry	L
Cornus florida	Flowering Dogwood	S
Gleditsia triacanthos var.inermis	Thornless Honey Locust	M
Koelreuteria paniculata	Golden Rain Tree	M
Ostrya virginiana	Ironwood	L
Ulmus parvifolia	Lacebark Elm	L
Vitex agnus-castus	Chaste Tree	S
Zelkova serrata	Japanese Zelkova	L
Vase Shape (OS, NG, NM)		
Acer ginnala	Amur Maple	M
Cercis canadensis	Eastern Redbud	S
Chionanthus virginicus	Fringetree	S
Lagerstroemia indica	Crape Myrtle	S/M
Styrax japonica	Japanese Snowbell	S

* Tree Size

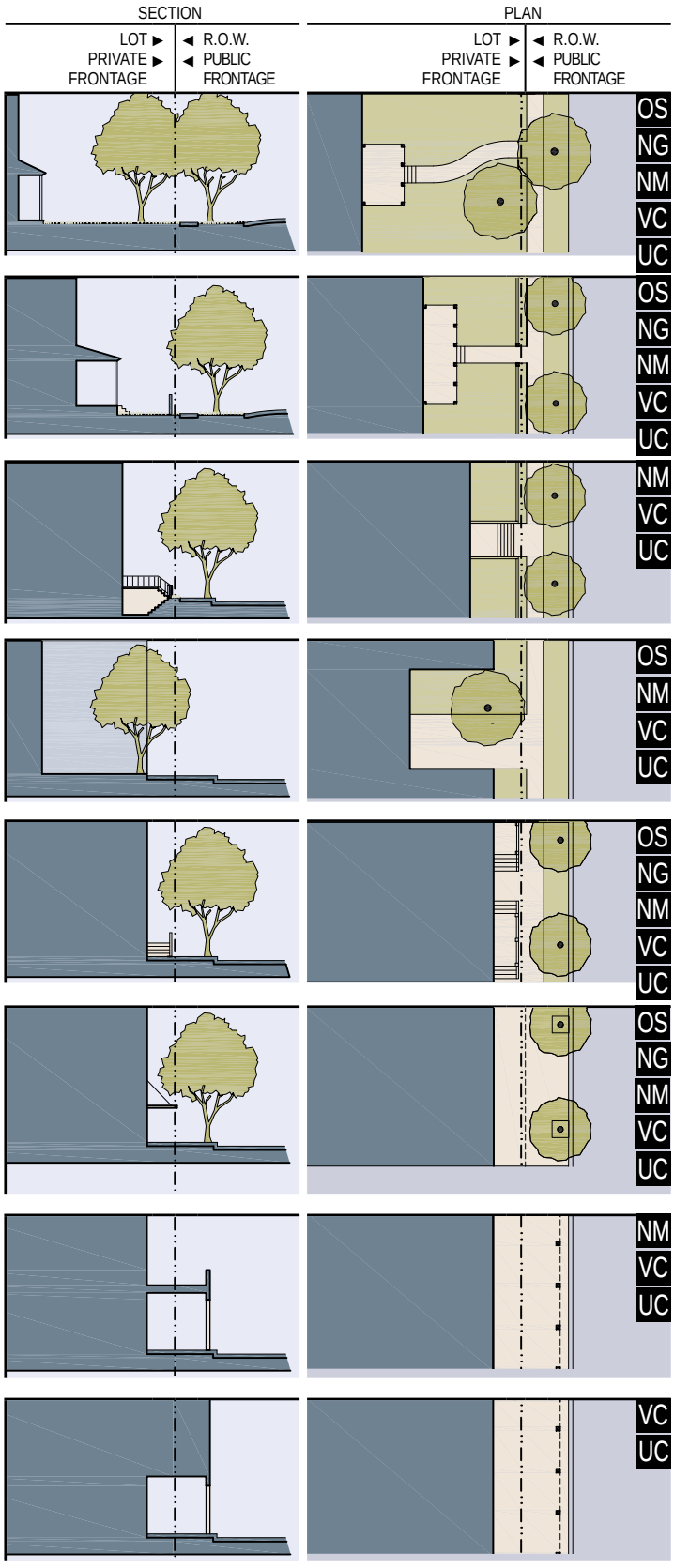
Small Tree (S): Trees with a mature height of less than 20 feet tall. Small trees shall be planted in permeable areas no less than 6’ x 8’ and 3’ minimum depth of soil preparation per Town of Apex standards.

Medium Tree (M): Trees with mature height between 20 and 30 feet tall. Medium trees shall be planted in permeable areas no less than 6’ x 8’ and 3’ minimum depth of soil preparation per Town of Apex standards

Large Trees (L): Trees with mature height above 30 feet tall. Large trees shall be planted in permeable areas no less than 10’ x 12’ and 3’ minimum depth of soil preparation per Town of Apex standards

TABLE 7. PRIVATE FRONTAGES

TABLE 7: Private Frontages. The Private Frontage is the area between the building Facade and the Lot line. Note that buildings in B-Grid Zones reflect automobile-oriented standards with parking permitted in front and larger building setbacks.



a. Common Yard - A-Grid: a planted Frontage wherein the Facade is set back from the Frontage Line. The front yard created remains unfenced and is visually continuous with adjacent yards, supporting a common landscape.
Common Yard - B-Grid: a Frontage that permits parking in the front Layer with perimeter landscaping

b. Porch: a planted Frontage wherein the Facade is set back from the Frontage Line with an attached porch permitted to Encroach. A fence, low wall or slope at the Frontage Line may be used to maintain street spatial definition. Porches shall be no less than 8 feet deep.

c. Terrace or Lightwell: a Frontage wherein the Facade is set back from the Frontage line by an elevated terrace and/or a sunken Lightwell. This type buffers Residential use from urban Sidewalks and removes the private yard from public Encroachment. Terraces are suitable for conversion to outdoor cafes. Syn: Dooryard.

d. Forecourt: a Frontage wherein a portion of the Facade is close to the Frontage Line and the central portion is set back. The Forecourt created is suitable for vehicular drop-offs. This type should be allocated in conjunction with other Frontage types. Large trees within the Forecourts may overhang the Sidewalks.

e. Stoop: a Frontage wherein the Facade is aligned close to the Frontage Line with the first Story elevated from the Sidewalk sufficiently to secure privacy for the windows. The entrance is usually an exterior stair and landing. This type is recommended for ground-floor Residential use.

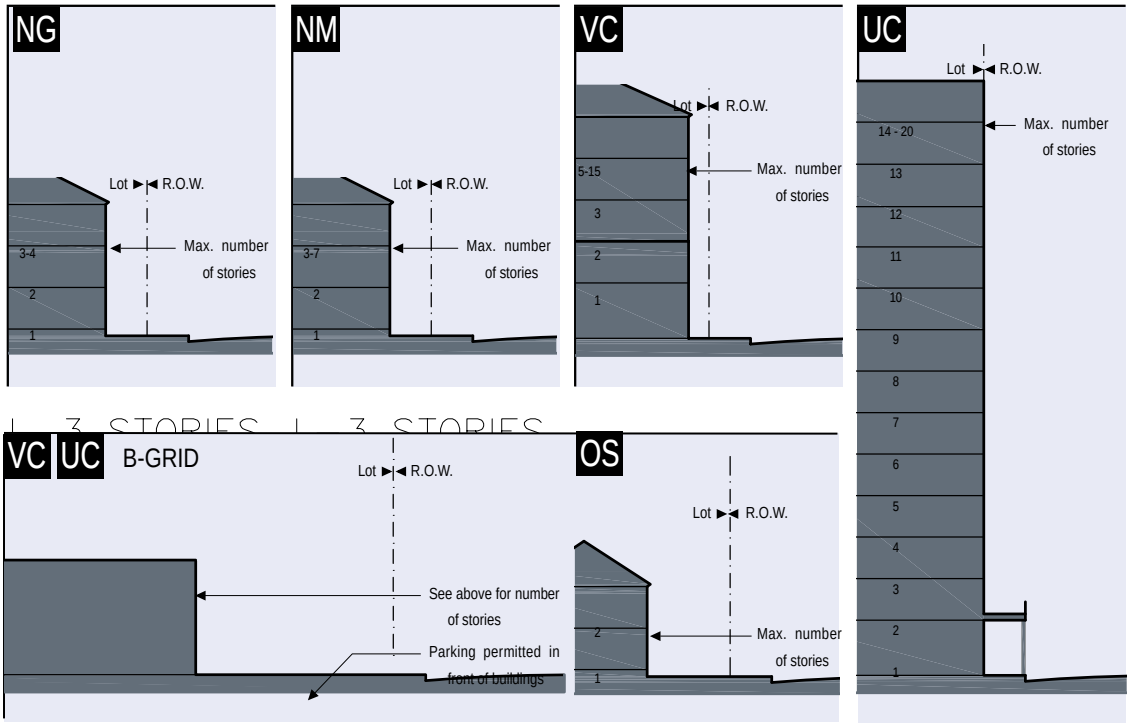
f. Shopfront - A-Grid: a Frontage wherein the Facade is aligned close to the Frontage Line with the building entrance at Sidewalk grade. This type is conventional for Retail use. It has a substantial glazing on the Sidewalk level and may have awning or canopies that may overlap the Sidewalk to within 2 feet of the Curb. Syn: Retail Frontage.
Shopfront- B-Grid: a Frontage that permits parking in the front Layer with perimeter landscaping

g. Gallery: a Frontage wherein the Facade is aligned close to the Frontage line with an attached cantilevered shed or a lightweight colonnade overlapping the Sidewalk. This type is conventional for Retail use. The Gallery shall be no less than 10 feet wide (clear) and should overlap the Sidewalk to within 2 feet of the Curb.

h. Arcade: a colonnade supporting habitable space that overlaps the Sidewalk, while the Facade at Sidewalk level remains at or behind the Frontage Line. This type is conventional for Retail use. The Arcade shall be no less than 12 feet wide (clear) and should overlap the Sidewalk to within 2 feet of the Curb. See Table 8.

TABLE 8. BUILDING CONFIGURATION

TABLE 8: Building Configuration. This table shows the Configurations for different building heights for each Sustainable Zone. Maximum number of stories specified in Table 14k. Regardless of the number of stories, maximum height of a multi-story building shall not exceed 400 feet.



* UC not in excess of 20 stories without specific site plan review and approval by Council.

Stepbacks/Arcade/Gallery Heights. The diagrams below show Arcade and Gallery Frontages. Diagrams above apply to all other Frontages.

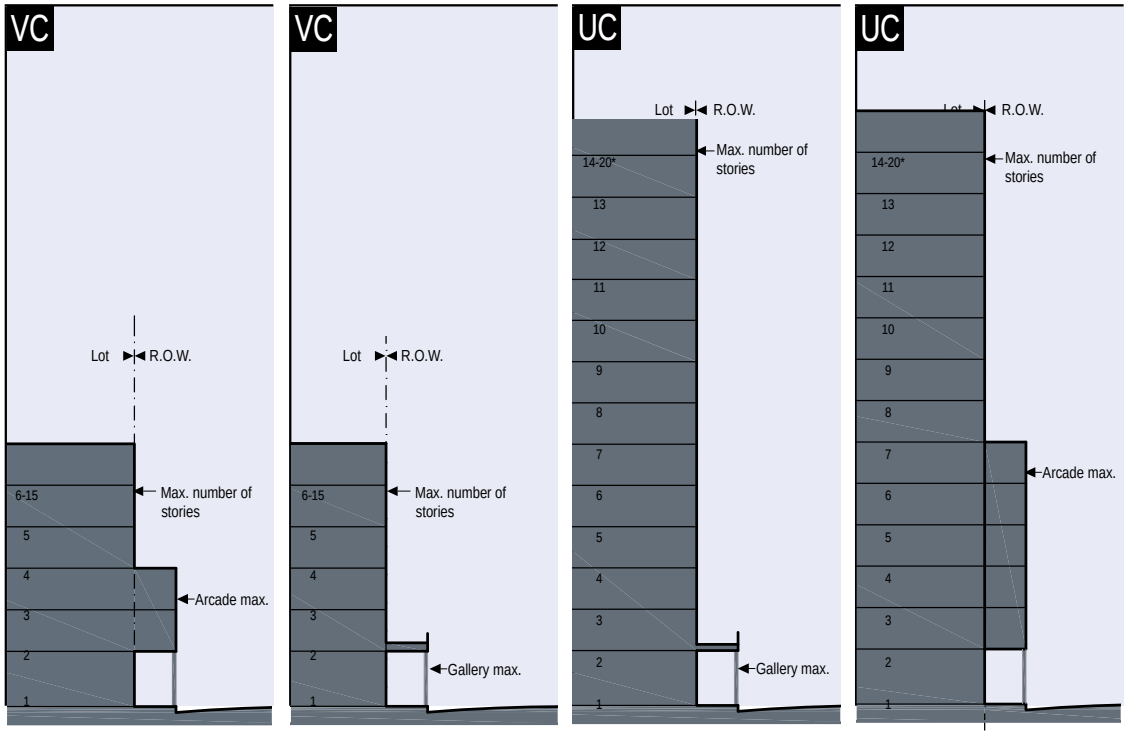
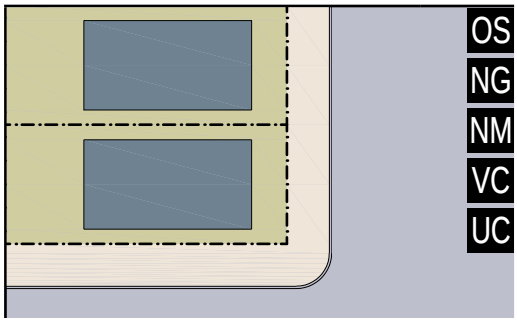


TABLE 9. BUILDING DISPOSITION

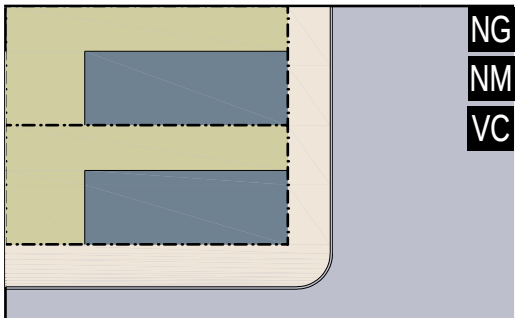
TABLE 9: Building Disposition. This table depicts the location of the structure relative to the boundaries of each individual Lot, establishing suitable basic building types for each Sustainable Zone.

a. Edgeyard - A-Grid: A building that occupies the center of its Lot with Setbacks on all sides. The front yard is visually continuous with the yards of adjacent buildings. The rear yard can be secured for privacy by fences and a well-placed Backbuilding and/or Outbuilding.

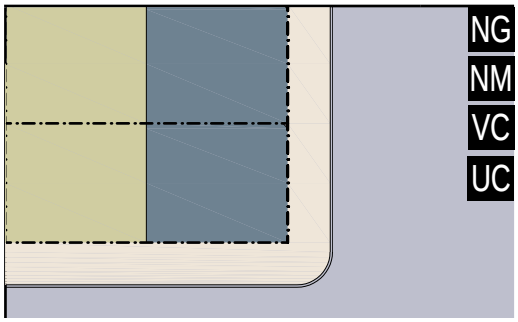
Edgeyard - B-Grid (VC & UC Zones): A building that occupies the center of its Lot with Setbacks on all sides. The front Layer side and rear yards may be used for parking. This is the least urban of types as the building Facade sets back from the Frontage. The rear yard can be used for truck access and may secured for privacy by fences.



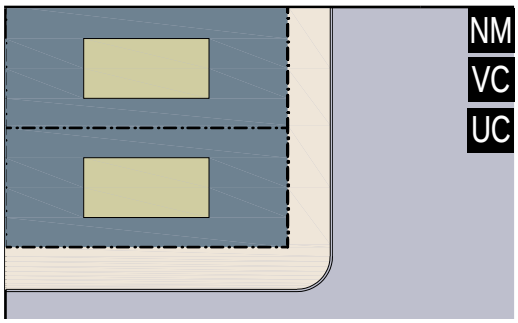
b. Sideyard: A building that occupies one side of the Lot with the Setback to the other side. A shallow Frontage Setback defines a more urban condition. If the adjacent building is similar with a blank side wall, the yard can be quite private. This type permits systematic climatic orientation in response to the sun or the breeze.



c. Rearyard: A building that occupies the full Frontage, leaving the rear of the Lot as the sole yard for residential and as building, sole yard or structured parking for other uses. This is a very urban type as the continuous Facade steadily defines the public Thoroughfare. The rear Elevations may be articulated for functional purposes. In its Residential form, this type is the Townhouse. For its Commercial form, the rear yard can accommodate substantial parking.



d. Courtyard: A building that occupies the boundaries of its Lot while internally defining one or more private spaces. This is the most urban of types, as it is able to shield the private realm from all sides while strongly defining the public Thoroughfare. Because of its ability to accommodate incompatible activities, masking them from all sides.



TABLES 10 & 11. BUILDING FUNCTION & PARKING CALCULATIONS

TABLE 10: Building Function. This table categorizes Building Functions within Sustainable Zones. Parking requirements are correlated to functional intensity. For Specific Function and Use permitted By Right or by Administrative Approval, see Table 12. The Commercial Function of a Live-Work unit may be anywhere in the unit. It may be occupied by a business operator who lives in the same structure that contains the Commercial activity or industry.

	OS NG	NM	VC UC
a. RESIDENTIAL	Residential: The number of single family dwellings on each Lot is restricted to one within a Principal Building and one within an Accessory Building. Both dwellings shall be under single ownership. The habitable area of the Accessory Unit shall not exceed 800 sf, excluding the enclosed parking area. See Table 11A for required parking.	Residential: The number of dwellings on each Lot is calculated by the minimum requirement of parking places for each dwelling, a ratio which may be reduced according to the shared parking standards (See Table 11). See Table 11A for required parking.	Residential: The number of dwellings on each Lot is calculated by the minimum requirement of 1.0 parking places per dwelling, a ratio which may be reduced according to the shared parking standards (See Table 11). Parking requirements may be satisfied off-site per Section 5.7. Parking is calculated by the minimum requirement of 0.75 parking places per dwelling for Independent Living.
b. LODGING	Lodging: The number of bedrooms available on each Lot for lodging is calculated by the requirement of 1.0 assigned parking place for each bedroom, up to five, in addition to the parking requirement for the dwelling. Food service may be provided in the a.m. Not applicable for OS.	Lodging: The number of bedrooms available on each Lot for lodging is calculated by the minimum requirement of 1.0 assigned parking places for each bedroom, up to twelve, in addition to the parking requirement for the dwelling. Food service may be provided at all times.	Lodging: The number of bedrooms available on each Lot for lodging is calculated by the minimum requirement of 0.5 assigned parking places for each bedroom. Food service may be provided at all times. The area allocated for food service shall be calculated and provided with parking according to Retail Function. Parking requirements may be satisfied off-site per Section 5.7.
c. OFFICE / MANUFACTURING	**Office/Manufacturing:** The building area available for office use on each Lot is restricted to the first Story of the Principal or the Accessory Building and by the minimum requirement of 3.0 assigned parking places per 1000 square feet of gross office space in addition to the parking requirement for any dwellings. The specific use shall be further limited to 8,000 SF for any single tenant use. Not applicable for OS.	Office/Manufacturing: The building area available for office may include the Accessory building, and by the minimum requirement of 3.0 assigned parking places per 1000 square feet of gross office space in addition to any parking requirement for other uses.	**Office/Manufacturing:** The building area available for office use on each Lot is calculated by the minimum requirement of 1.6 assigned parking places per 1000 square feet of gross office space. Parking requirements may be satisfied off-site per Section 5.7.
d. RETAIL	Retail: The building area available for Retail use is calculated by the minimum requirement of 3.0 assigned parking places per 1000 square feet of gross Retail space in addition to the parking requirement of any dwellings. The specific use shall be further limited to 8,000 SF for any single tenant use, or food service seating no more than 100.	Retail: The building area available for Retail use is calculated by the minimum requirement of 3.0 assigned parking places per 1000 square feet of gross Retail space in addition to any parking requirement for other uses. The specific use shall be further limited by Table 12 to include, but not be limited to neighborhood stores, or food service seating no more than 120.	Retail: The building area available for Retail use is calculated by the minimum requirement of 2.5 assigned parking places per 1000 square feet of gross Retail space. Retail spaces under 1500 square feet are exempt from parking requirements. Parking requirements may be satisfied off-site per Section 5.7.
e. CIVIC	See Table 12	See Table 12	See Table 12
f. OTHER	See Table 12	See Table 12	See Table 12

TABLE 11: Parking Calculations. The Shared Parking Factor for two Functions, when divided into the sum of the two amounts as listed on the Required Parking table below, produces the Effective Parking needed for each site involved in sharing. Conversely, if the Sharing Factor is used as a multiplier, it indicates the amount of building allowed on each site given the parking available. Within the overlay area of a Transit Oriented Development (TOD) the Effective Parking may be further adjusted downward by 30%.

REQUIRED PARKING (See Table 10)

	OS NG	NM	VC UC
RESIDENTIAL	See Table 11A	See Table 11A	1.0 / dwelling
LODGING	1.0 / bedroom	1.0 / bedroom	0.5 / bedroom
OFFICE	3.0 / 1000 sq. ft.	3.0 / 1000 sq. ft.	1.6 / 1000 sq. ft.
RETAIL	3.0 / 1000 sq. ft.	3.0 / 1000 sq. ft.	2.5 / 1000 sq. ft.
CIVIC	Determined by the Planning Director or Planning Director's designee		
OTHER	Determined by the Planning Director or Planning Director's designee		

SHARED PARKING FACTOR

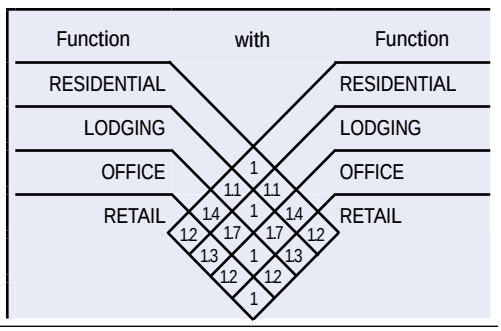


TABLE 11A. PARKING

Single Family Residential Building Types. This parking diagram illustrates the parking locations for on and off street parking for the various residential building types within the Neighborhood General and Neighborhood Mixed-Use Zones. Parking is calculated by the minimum requirement of 0.75 parking places per dwelling for Independent Living.

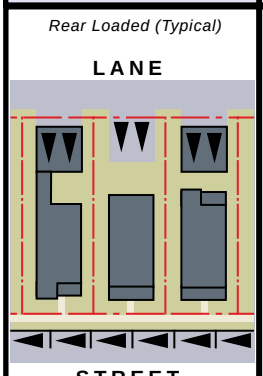
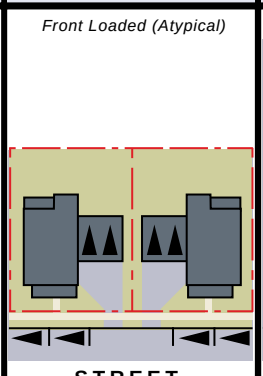
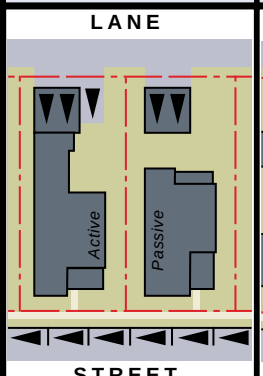
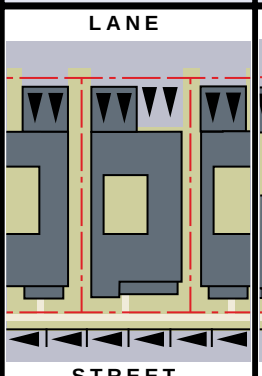
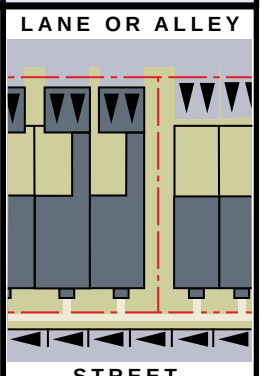
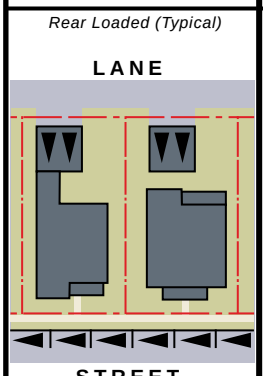
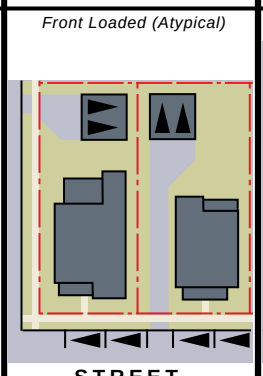
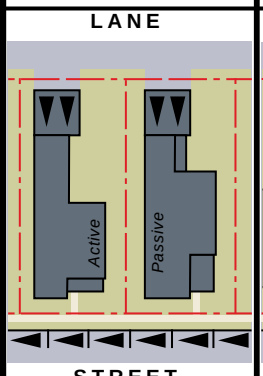
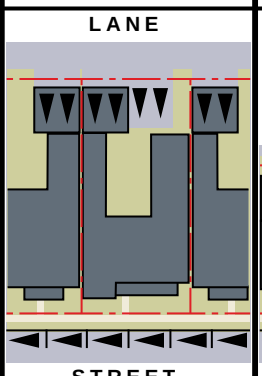
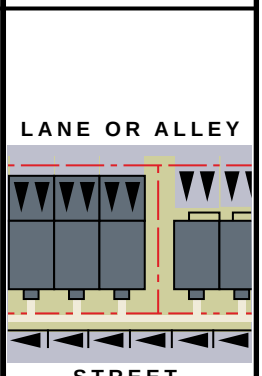
NG NM	NG NM	NG NM	NM	NG NM
Detached House	Detached House	Sideyard House	Courtyard House	Townhouse
				
				
Detached House: an edge yard building type. A single-family dwelling on small to large lots, shared with an accessory building in the rear yard. NG **Required Parking:** 2 Off-Street NM **Required Parking:** 2 Off-Street Table 11 Shared Parking Factor does not apply to this use.	**Detached House:** an edge yard building type. A single-family dwelling on medium to large lots, shared with an accessory building in the rear yard and front or side driveway where alley is not available (atypical condition). NG **Required Parking:** 2 Off-Street NM **Required Parking:** 2 Off-Street Table 11 Shared Parking Factor does not apply to this use.	**Sideyard House:** a sideyard building type. A single-family dwelling which occupies one side of the lot, with the primary yard to the other side, shared with ancillary building in the rear yard. NG **Required Parking:** 2 Off-Street NM **Required Parking:** 2 Off-Street Table 11 Shared Parking Factor does not apply to this use.	**Courtyard House:** a courtyard building type which surrounds one or more private yards. This is a functionally flexible type as it is able to shield the private open space from a public realm of great intensity. NM **Required Parking:** 2 Off-Street Table 11 Shared Parking Factor does not apply to this use.	**Townhouse:** a rear yard building type. A single family dwelling with common walls on the side lot lines, the facades forming a continuous frontage line. Rowhouses are the highest density type able to provide private yards.. NG **Required Parking:** 2 Off-Street NM **Required Parking:** 2 Off-Street Table 11 Shared Parking Factor does not apply to this use.

TABLE 11A. PARKING

Townhome and Multi-Family Residential Building Types. This parking diagram illustrates the parking locations for on and off street parking for the various residential building types within the Neighborhood General and Neighborhood Mixed-Use Zones. Parking is calculated by the minimum requirement of 0.75 parking places per dwelling for Independent Living.

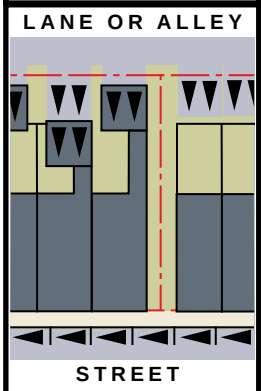
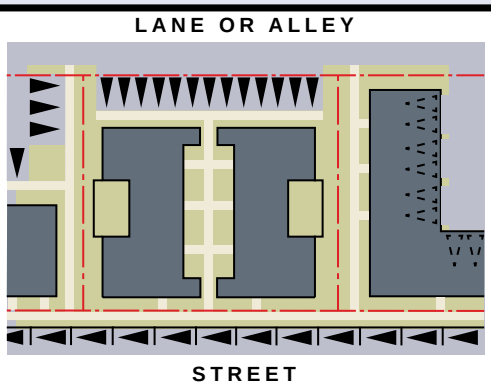
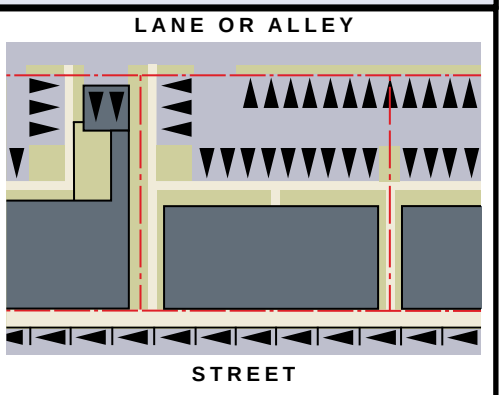
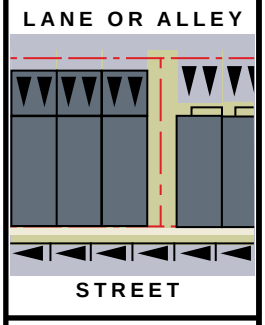
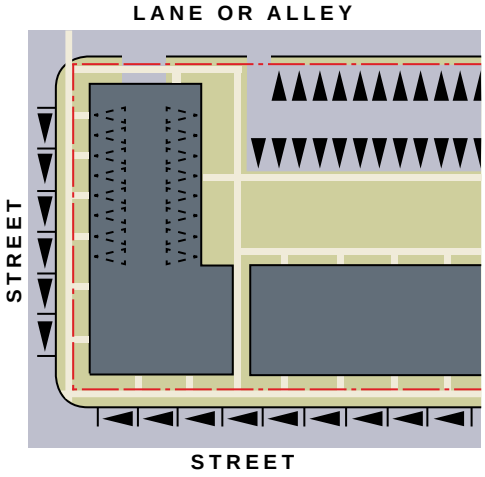
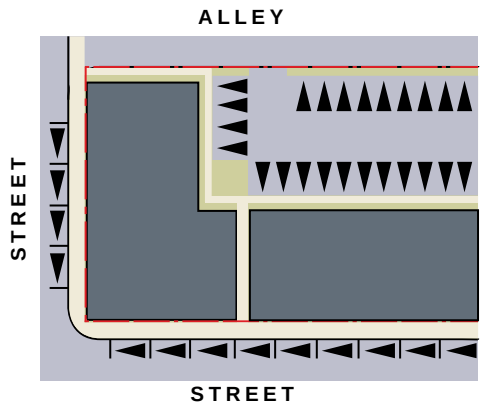
NG NM	NM	NG NM
Live-Work	Multi-Family or Apartment	Mixed Use
		
		
Live-Work: a rear yard, fully mixed use building type with one dwelling above or behind a commercial space. NG **Required Parking:** 2 Off-Street 1 On-Street NM **Required Parking:** 2 Off-Street 1 On-Street Table 11 Shared Parking Factor does not apply to this use.	**Multi-Family or Apartment:** a rear yard residential building type accommodating multiple dwellings disposed above and beside each other, with individual or sharing entries. Parking may be on the surface, structured or underground. NM **Required Parking:** 1.25 Parking Spaces per Unit	**Mixed Use Building or Mixed Use Block:** a rear yard, flexible commercial building type with residential uses above. Commercial buildings may have floor plates deeper than residential ones. NG **Required Parking (Residential):** 1.50 Off-Street Spaces per Unit NM **Required Parking (Residential):** 1.25 Off-Street Spaces per Unit

TABLE 12. SPECIFIC FUNCTION & USE

TABLE 12: Specific Function & Use. This table expands the categories of Table 10 to delegate specific Functions and uses within Sustainable Zones. Table 12 has been customized for local character and requirements. The Sustainable Development District provides for the following uses to be permitted within the Sustainable Zones.

Permitted (P): The permitted uses for the District

Permitted (b): The permitted uses for the District on B-Grid Thoroughfares and within B-Grid Zones only

SUSTAINABLE ZONE	OS	NG	NM	VC	UC
a. RESIDENTIAL					
Accessory Unit or Building		P	P	P	
Condominium			P	P	P
Congregate living facility *			P	P	P
Duplex		P	P		
Family care home *		P	P		
Farm residence	P	P	P		
Historic Site, Adaptive Use	P	P	P	P	P
Independent living		P	P	P	P
Multi-family or apartment			P	P	P
Nursing or convalescent facility *			P	P	P
Single-family		P	P	P	
Townhouse		P	P	P	P
Townhouse, detached		P			
Triplexes or quadplexes			P	P	
Live-Work		P	P	P	P
Modular Construction		P	P	P	P
Mixed Use Block		P	P	P	P
b. PUBLIC/CIVIC USES					
Ambulatory healthcare facility				P	P
Amphitheater **	P	P	P	P	P
Assembly hall, nonprofit			P	P	P
Church, or place of worship		P	P	P	P
Cemetery	P	P	P	P	P
Day care facility		P	P	P	P
Government service		P	P	P	P
Heliport or helipad	P		P	P	P
Hospital				P	P
Natatorium **	P		P	P	P
Restrooms	P	P	P	P	P
Picnic Shelter **	P	P	P	P	P
School, public or private **		P	P	P	P
Transportation facility				P	P
Veterinary clinic or hospital			P	P	P
c. UTILITIES					
Communication tower, (Commercial; Stealth)	P	P	P	P	P
Communication or water tower Integrated Into building or structure (Camouflage Stealth)	P	P	P	P	P
Utility, Minor	P			P	P
Power facility	P			P	P
Renewable Energy Facilities	P	P	P	P	P
d. RECREATIONAL USES					
Arena, auditorium, or stadium **	P			P	P
Entertainment, indoor **				P	P
Entertainment, outdoor **	P		P	P	P
Greenway	P	P	P	P	P
Horse boarding and riding stable **	P				
Park, active	P	P	P	P	P
Park, passive	P	P	P	P	P
Recreation facility, private	P	P	P	P	P
e. COMMUNICATIONS					
Broadcast station (radio and television)				b	P
Radio and television recording studio				b	P

TABLE 12. SPECIFIC FUNCTION & USE

SUSTAINABLE ZONE	OS	NG	NM	VC	UC
f. FOOD AND BEVERAGE SERVICE					
Concessions	P		P	P	P
Restaurant, drive-through				P	b
Restaurant, general	P		P	P	P
Bar or nightclub			P	P	P
g. OFFICE LAB AND RESEARCH					
Dispatching office				P	P
Historic site – adaptive use	P	P	P	P	P
Medical or dental clinic or office			P	P	P
Medical or dental laboratory				P	P
Office, business or professional			P	P	P
Publishing office			P	P	P
Research facility				P	P
h. PARKING, COMMERCIAL					
Parking Garage (deck), commercial			P	P	P
Parking Garage (deck) private			P	P	P
Parking lot, commercial				P	P
Parking lot, surface	P	P	P	P	P
i. LODGING					
Bed and breakfast (up to 5 rooms)		P	P	P	P
Bed and breakfast (up to 12 rooms)			P	P	P
Hotel or motel			P	P	P
Conference Center				P	P
Convention Center					P
School Dormitory				P	P
j. RETAIL SALES AND SERVICE					
Barber and beauty shop		P	P	P	P
Bookstore		P	P	P	P
Building Supplies, Retail				b	b
Convenience store			P	P	P
Convenience store with gas sales			P	P	P
Dry cleaners and laundry service		P	P	P	P
Farmer's market	P	P	P	P	P
Financial institution			P	P	P
Floral shop		P	P	P	P
Funeral home			P	P	P
Gas and fuel, retail				P	P
Greenhouse or nursery, retail			P	P	P
Grocery, general				P	P
Grocery, specialty		P	P	P	P
Health/fitness center or spa			P	P	P
Kennel, indoor				P	P
Laundromat			P	P	P
Newsstand or gift shop		P	P	P	P
Personal service			P	P	P
Pharmacy			P	P	P
Printing and copying service			P	P	P
Real estate sales		P	P	P	P
Retail Kiosk	P		P	P	P
Retail sales, bulky goods				b	b
Retail sales, general		P	P	P	P
Studio for art		P	P	P	P
Tailor shop		P	P	P	P
Theater				P	P
Shopping Center				P	P
k. VEHICLE REPAIR AND SERVICE					
Automotive paint or body shop					
Automotive parts				P	P
Automotive service station				P	P
Car wash or auto detailing				P	P
Repair services limited				P	P
Vehicle inspection center				P	P

TABLE 12. SPECIFIC FUNCTION & USE

SUSTAINABLE ZONE	OS	NG	NM	VC	UC
l. INDUSTRY, MANUFACTURING, STORAGE					
Biotechnology and Medical Devices				P	P
Information Technology and High					
Performance Computing				P	P
Manufacturing				P	P
Nanotechnology and Advanced Materials				P	P
Retail Storage within Retail spaces		P	P	P	P
Smart Power and Green Technology	P			P	P
Self-service storage			P	P	P
Warehousing				b	b
m. FOOD PRODUCTION (SEE TABLE 19)					
Farm	P				
Agricultural plots	P	P			
Vegetable gardens		P	P	P	P
Urban farms	P	P	P	P	
Community gardens	P	P	P	P	P
Green roofs		P	P	P	P
Vertical farms			P	P	P

If an application is submitted for a use type that is not permitted by Table 12 in one or more of the Sustainable Zones and the use type is not one prohibited by the UDO, the Planning Director shall be authorized to make a similar use interpretation based on the use categories Listed in Table 12. If the Planning Director determines that the proposed use does not fit any of the use categories, no similar use interpretation shall be made and the use shall not be permitted.

Any land uses not specially dealt with in this Table but otherwise permitted by the UDO and not excluded by any provision of this SD Plan are subject to a similar use interpretation by the Planning Director and if found to be similar to a use permitted by this Table shall be allowed within all sustainable zones in which the similar use is allowed.

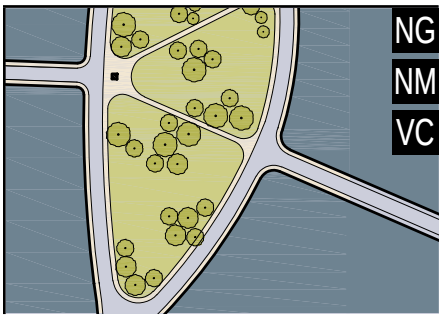
* For the purposes of density and parking, dwelling rooms shall be treated as 0.2 dwelling units with parking per the multi-family requirements.

** The building and any portion of the lot routinely accessible to the public shall be included in the acreage designated pursuant to SD Plan 3.1.3.c.

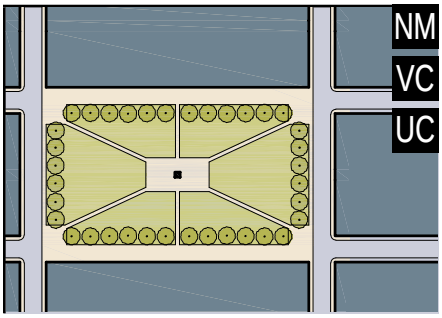
TABLE 13. CIVIC SPACE

a. Park: A natural preserve available for unstructured recreation or a park for active recreation. A park may be independent of surrounding building Frontages. Its landscape shall consist of Paths and trails, meadows, waterbodies, woodland and open shelters, all naturalistically disposed. Parks may be lineal, following the trajectories of natural corridors.

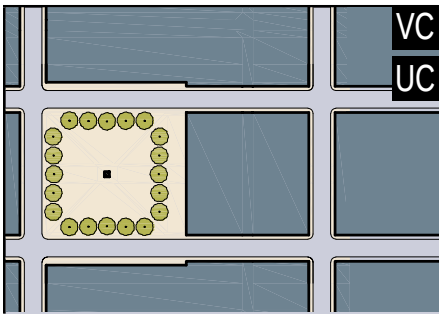
b. Green: An Open Space, available for unstructured recreation. A Green may be spatially defined by landscaping rather than building Frontages. Its landscape shall consist of lawn and trees, naturalistically disposed. The minimum size shall be 1/4 acre and the maximum shall be 8 acres.



c. Square: An Open Space available for unstructured recreation and Civic purposes. A Square is spatially defined by building Frontages. Its landscape shall consist of paths, lawns and trees, formally disposed. Squares shall be located at the intersection of important Thoroughfares. The minimum size shall be 1/2 acre and the maximum shall be 5 acres.



d. Plaza: A public or private Open Space available for Civic purposes and Commercial activities. A Plaza shall be spatially defined by building Frontages. Its landscape shall consist primarily of pavement. Trees are optional. Plazas should be located at the intersection of important streets. The minimum size shall be 1/8 acre and the maximum shall be 2 acres.



e. Playground: An Open Space designed and equipped for the recreation of children. A playground may be fenced and may include an open shelter. Playgrounds shall be interspersed within Residential areas and may be placed within a Block. Playgrounds may be included within Parks and Greens. There shall be no minimum or maximum size.

Dog Parks: An Open Space designed as a safe place where dogs may play and get exercise while not on a leash. Dog Parks shall be fenced and may be interspersed within Residential areas. They may be placed within a Block or included within Parks and Greens. There shall be no minimum or maximum size.

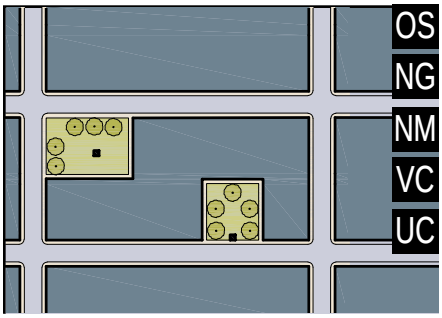
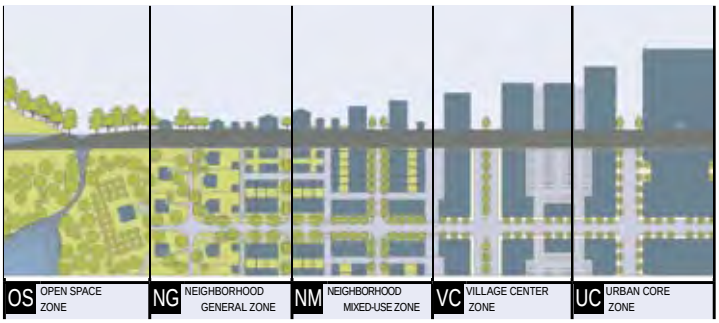


TABLE 14. FORM-BASED CODE SUMMARY



OS OPEN SPACE ZONE	NG NEIGHBORHOOD GENERAL ZONE	NM NEIGHBORHOOD MIXED-USE ZONE	VC VILLAGE CENTER ZONE	UC URBAN CORE ZONE

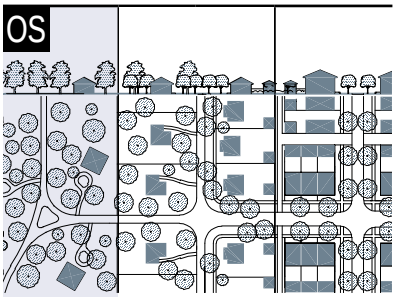
a. ALLOCATION OF ZONES						
Minimum Acres	not applicable	75 acres	50 acres	215 acres	135 acres	
Min Acres for Non-Residential	variable	3 acres	7 acres	120 acres	75 acres	
b. DENSITY (see Sustainable Development Concept Map						
By Right - DUA	not applicable	20 units / ac. gross	40 units / ac. gross	80 units / ac. gross	100 units / ac. gross	
By Right - Other Uses - FAR	permitted	2.00 / ac. gross	4.00 / ac. gross	6.00 / ac. gross	12.00 / ac. gross	
Maximum Impermeable Surface	30%	65%	75%	90%	100%	
c. BLOCK SIZE						
Block Perimeter: A-Grids	no maximum	3000 ft. max	2400 ft. max	2000 ft. max *	2000 ft. max *	
Block Perimeter: B-Grids	not applicable	not applicable	not applicable	* 3500 ft max with parking structures		
d. THOROUGHFARES (see Table 3 and Table 4)						
Highway (HW)	permitted	permitted	not permitted	not permitted	not permitted	
Boulevard (BV)	not permitted	not permitted	not permitted	permitted	permitted	
Avenue (AV)	not permitted	permitted	permitted	permitted	permitted	
Commercial Street (CS)	not permitted	not permitted	not permitted	permitted	permitted	
Drive (DR)	not permitted	permitted	permitted	permitted	permitted	
Street (ST)	permitted	permitted	permitted	permitted	not permitted	
Road (RD)	permitted	permitted	not permitted	not permitted	not permitted	
Rear Lane (RL)	permitted	permitted	permitted	not permitted	not permitted	
Rear Alley (RA)	not permitted	permitted	required	required	required	
Path (PT)	permitted	permitted	permitted	not permitted	not permitted	
Passage (PS)	not permitted	permitted	permitted	permitted	permitted	
Bicycle Trail (BT)	permitted	permitted	not permitted *	not permitted *	not permitted *	
Bicycle Lane (BL)	permitted	permitted	permitted	permitted	permitted	
Bicycle Route (BR)	permitted	permitted	permitted	permitted	permitted	
e. CIVIC SPACES (see Table 13)					* permitted within Open Spaces	
Park	permitted	permitted	permitted	permitted	permitted	
Green	not permitted	permitted	permitted	permitted	permitted	
Square	not permitted	not permitted	permitted	permitted	permitted	
Plaza	not permitted	not permitted	not permitted	permitted	permitted	
Playground	permitted	permitted	permitted	permitted	permitted	
f. LOT OCCUPATION						
Lot Width: A-Grids	variable	25 ft. min 120 ft. max	18 ft. min 400 ft. max	18 ft. min 600 ft. max	18 ft. min 700 ft. max	
Lot Width: B-Grids	not applicable	not applicable	not applicable	no max	no max	
g. SETBACKS - PRINCIPAL BUILDING (see Table 15)						
(g.1) Front Setback (Principal)	10 ft. min	15 ft. min	6 ft. min	0 ft. min	0 ft. min	
(g.2) Front Setback (Secondary)	5 ft. min	12 ft. min	6 ft. min	0 ft. min	0 ft. min	
(g.3) Side Setback	5 ft. min	0 ft. min.	0 ft. min	0 ft. min	0 ft. min	
(g.4) Rear Setback	5 ft. min	12 ft. min	3 ft. min	3 ft. min	0 ft. min	
h. SETBACKS - OUTBUILDING (see Table 15)						
(h.1) Front Setback	not applicable	20 ft. min +bldg setback	20 ft. min +bldg setback	40 ft. max from rear prop	not applicable	
(h.2) Side Setback	not applicable	0 ft. or 3 ft. min	0 ft. or 3 ft. min	0 ft. min	not applicable	
(h.3) Rear Setback	not applicable	3 ft. min	3 ft. min	3 ft. min	not applicable	
i. BUILDING DISPOSITION (see Table 9)						
Edgeyard	permitted	permitted	permitted	permitted	permitted	
Sideyard	not permitted	permitted	permitted	permitted	not permitted	
Rearyard	not permitted	permitted	permitted	permitted	permitted	
Courtyard	not permitted	not permitted	permitted	permitted	permitted	
j. PRIVATE FRONTAGES (see Table 7)						
Common Yard	permitted	permitted	permitted	permitted	permitted	
Porch & Fence	permitted	permitted	permitted	permitted	permitted	
Terrace or Lightwell	not permitted	not permitted	permitted	permitted	permitted	
Forecourt	permitted	not permitted	permitted	permitted	permitted	
Stoop	permitted	permitted	permitted	permitted	permitted	
Shopfront	permitted	permitted	permitted	permitted	permitted	
Gallery	not permitted	permitted	permitted	permitted	permitted	
Arcade	not permitted	not permitted	permitted	permitted	permitted	
k. BUILDING CONFIGURATION (see Table 8)						
Principal Building	1 to 2 Stories	4 Stories max	7 Stories max, 1 min	15 Stories, Note 2, 1 min	20 Stories, Note 1, 1 min	
Outbuilding	not applicable	2 Stories max	2 Stories max	2 Stories max	not applicable	

ZONE
LOT
DISPOSITION
CONFIGURATION
ARTICLE 5
ARTICLE 2, 3, 4

Note 1: Not in excess of 20 stories without specific site plan review and approval by Town Council.
Note 2: Not in excess of 15 stories without specific site plan review and approval by Town Council.
Note 3: Accessory Structures shall be treated as Principal Buildings.

TABLE 15A. FORM-BASED CODE GRAPHICS - OS - OPEN SPACE

OS



(see Table 1)

k. BUILDING CONFIGURATION (see Table 8)	
Principal Building	2 stories max.
Outbuilding	not applicable.
f. LOT OCCUPATION (see Table 14f)	
Lot Width	variable
i. BUILDING DISPOSITION (see Table 9)	
Edgeyard	permitted
Sideyard	not permitted
Rearyard	not permitted
Courtyard	not permitted
g. SETBACKS - PRINCIPAL BUILDING (see Table 14g)	
(g.1) Front Setback Principal	10 ft. min
(g.2) Front Setback Secondary	5 ft. min
(g.3) Side Setback	5 ft. min
(g.4) Rear Setback	5 ft. min
h. SETBACKS - OUTBUILDING (see Table 14h)	
(h.1) Front Setback	not applicable
(h.2) Side Setback	not applicable
(h.3) Rear Setback	not applicable
j. PRIVATE FRONTAGES (see Table 7)	
Common Lawn	permitted
Porch	permitted
Terrace or Lightwell.	not permitted
Forecourt	permitted
Stoop	permitted
Shopfront	permitted
Gallery	not permitted
Arcade	not permitted

Refer to Summary Table 14

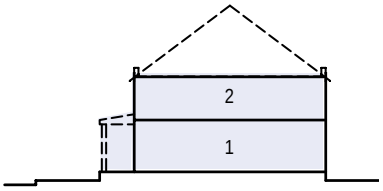
PARKING PROVISIONS
See Table 10 & Table 11

*or 15 ft. from center line of alley

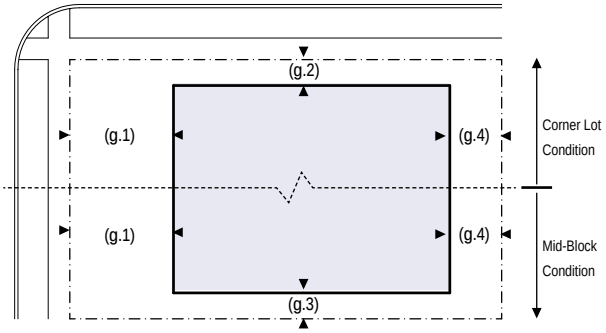
"N" stands for any Stories above those shown, up to the maximum. Refer to metrics for exact minimums and maximums

Vinyl Siding Notes:
1. Vinyl exterior material may be used in areas not in view of the public, such as service areas.
2. Elements such as vinyl trim, vinyl windows, decorative vents, and the like are permitted.

BUILDING CONFIGURATION
1. Stories exclude Attics and raised basements.



SETBACKS - PRINCIPAL BLDG
1. The Facades and Elevations of Principal Buildings shall be distanced from the Lot lines as shown.
2. Facades shall be built along the Principal Frontage.
3. Accessory Structures shall be treated as Principal Buildings.



SETBACKS - OUTBUILDING
1. Not applicable

PARKING PLACEMENT
1. Uncovered parking spaces may be provided within the second and third Layer as shown in the diagram (see Table 17d).
2. Covered parking shall be provided within the second or third Layer as shown in the diagram (see Table 17d). .
3. Trash containers shall be stored within the third Layer.

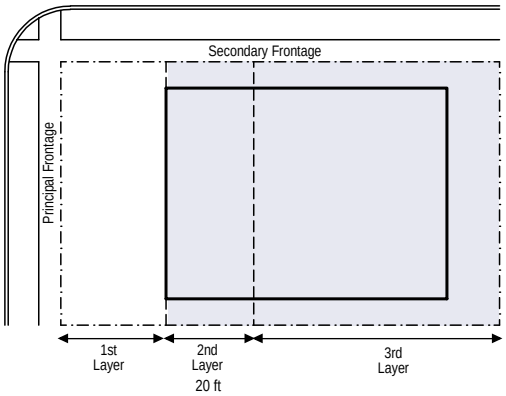
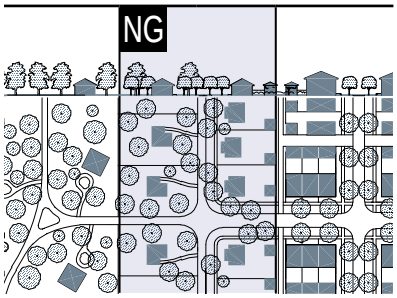


TABLE 15B. FORM-BASED CODE GRAPHICS - NG - NEIGHBORHOOD GENERAL



(see Table 1)

k. BUILDING CONFIGURATION (see Table 8)	
Principal Building	4 stories max.
Outbuilding	2 stories max.
f. LOT OCCUPATION (see Table 14f)	
Lot Width (Note 1)	25 ft. min 120 ft. max
i. BUILDING DISPOSITION (see Table 9)	
Edgeyard	permitted
Sideyard	permitted
Rearyard	permitted
Courtyard	not permitted
g. SETBACKS - PRINCIPAL BUILDING (see Table 14g)	
(g.1) Front Setback Principal	15 ft. min
(g.2) Front Setback Secondary	12 ft min.
(g.3) Side Setback	0 ft min.
(g.4) Rear Setback	12 ft min.
h. SETBACKS - OUTBUILDING (see Table 14h)	
(h.1) Front Setback	20 ft. min. + bldg setback
(h.2) Side Setback	0 ft. or 3 ft at corner
(h.3) Rear Setback	3 ft. min
j. PRIVATE FRONTAGES (see Table 7)	
Common Lawn	permitted
Porch	permitted
Terrace or Lightwell.	not permitted
Forecourt	not permitted
Stoop	permitted
Shopfront	permitted
Gallery	permitted
Arcade	not permitted

Refer to Summary Table 14

PARKING PROVISIONS
See Table 10 & Table 11

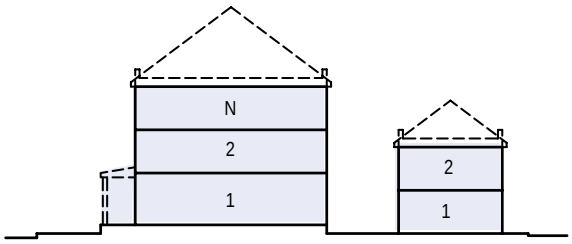
*or 15 ft. from center line of alley

"N" stands for any Stories above those shown, up to the maximum. Refer to metrics for exact minimums and maximums

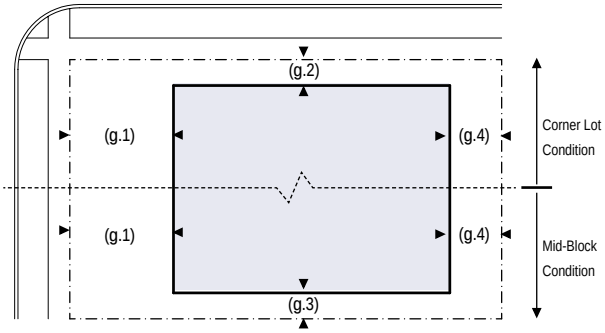
Note 1: Lot width reductions to 20' for single family and 18' for townhomes require specific site plan review and approval by Town Council.

Vinyl Siding Notes:
1. Vinyl siding is not permitted on single family homes and Townhouses except as permitted in vinyl siding note 3 below.
2. Vinyl exterior material may be used above the second story of an apartment, condominium or Mixed Use buildings and in areas not in view of the public, such as service areas.
3. Elements such as vinyl trim, vinyl windows, decorative vents, and the like are permitted.

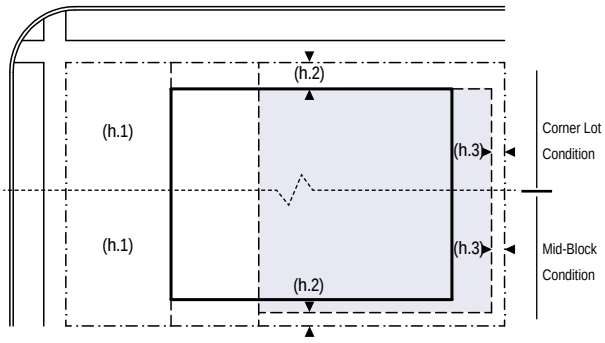
BUILDING CONFIGURATION
1. Stories exclude Attics and raised basements.



SETBACKS - PRINCIPAL BLDG
1. The Facades and Elevations of Principal Buildings shall be distanced from the Lot lines as shown.
2. Facades shall be built along the Principal Frontage



SETBACKS - OUTBUILDING
1. The Elevation of the Outbuilding shall be distanced from the Lot lines as shown.



PARKING PLACEMENT
1. Uncovered parking spaces may be provided within the second and third Layer as shown in the diagram (see Table 17d).
2. Covered parking shall be provided within the second or third Layer as shown in the diagram (see Table 17d). Side-entry garages are permitted on corner lots and front-entry garages may be allowed.
3. Trash containers shall be stored within the third Layer.

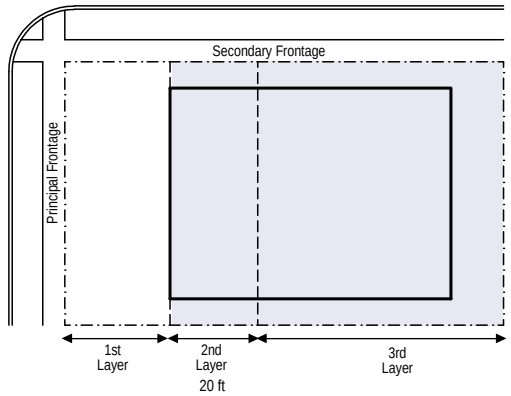
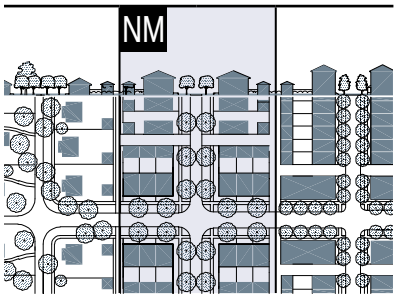


TABLE 15C. FORM-BASED CODE GRAPHICS - NM - NEIGHBORHOOD MIXED-USE



(see Table 1)

k. BUILDING CONFIGURATION (see Table 8)	
Principal Building	7 stories max, 1 min
Outbuilding	2 stories max.
f. LOT OCCUPATION (see Table 14f)	
Lot Width	18 ft min 400 ft max
i. BUILDING DISPOSITION (see Table 9)	
Edgeyard	permitted
Sideyard	permitted
Rearyard	permitted
Courtyard	permitted
g. SETBACKS - PRINCIPAL BUILDING (see Table 14g)	
(g.1) Front Setback Principal	6 ft. min.
(g.2) Front Setback Secondary	6 ft. min.
(g.3) Side Setback	0 ft. min.
(g.4) Rear Setback	3 ft. min.*
h. SETBACKS - OUTBUILDING (see Table 14h)	
(h.1) Front Setback	20 ft. min. + bldg. setback
(h.2) Side Setback	0 ft. min. or 3 ft at corner
(h.3) Rear Setback	3 ft. min
j. PRIVATE FRONTAGES (see Table 7)	
Common Lawn	permitted
Porch & Fence	permitted
Terrace or Lightwell.	permitted
Forecourt	permitted
Stoop	permitted
Shopfront	permitted
Gallery	permitted
Arcade	permitted
	Refer to Summary Table 14
PARKING PROVISIONS	
See Table 10 & Table 11	

*or 15 ft. from center line of alley

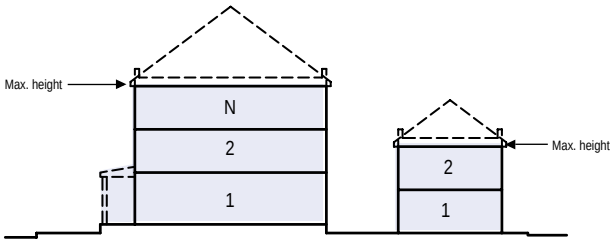
"N" stands for any Stories above those shown, up to the maximum. Refer to metrics for exact minimums and maximums

Vinyl Siding Notes:

1. Vinyl siding is not permitted on single family homes and Townhouses except as permitted in vinyl siding note 3 below.
2. Vinyl exterior material may be used above the second story of an apartment, condominium or Mixed Use buildings and in areas not in view of the public, such as service areas.
3. Elements such as vinyl trim, vinyl windows, decorative vents, and the like are permitted.

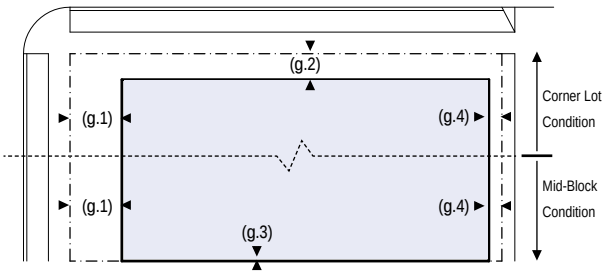
BUILDING CONFIGURATION

1. Stories exclude Attics and raised basements.



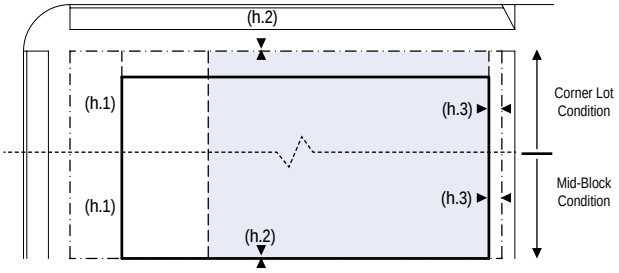
SETBACKS - PRINCIPAL BLDG

1. The Facades and Elevations of Principal Buildings shall be distanced from the Lot lines as shown.
2. Facades shall be built along the Principal Frontage.



SETBACKS - OUTBUILDING

1. The Elevations of the Outbuilding shall be distanced from the Lot lines as shown.



PARKING PLACEMENT

1. Uncovered parking spaces may be provided within the third Layer as shown in the diagram (see Table 17d).
2. Covered parking shall be provided within the third Layer as shown in the diagram (see Table 17d).
3. Trash containers shall be stored within the third Layer.

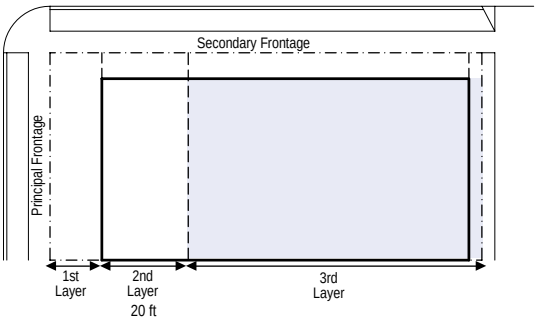
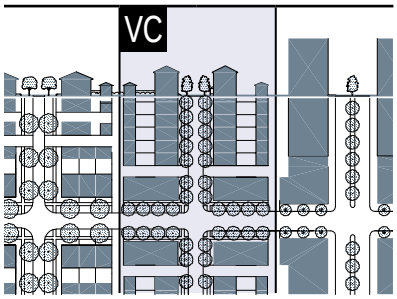


TABLE 15D. FORM-BASED CODE GRAPHICS - VC - VILLAGE CENTER



(see Table 1)

k. BUILDING CONFIGURATION (see Table 8)	
Principal Building	15 stories, Note 2, 1 min.
Outbuilding	2 stories max.
f. LOT OCCUPATION (see Table 14f)	
Lot Width: A-Grids	18 ft min 700 ft max
Lot Width: B-Grids	no max
i. BUILDING DISPOSITION (see Table 9)	
Edgeyard	permitted
Sideyard	permitted
Rearyard	permitted
Courtyard	permitted
g. SETBACKS - PRINCIPAL BUILDING (see Table 14g)	
(g.1) Front Setback Principal	0 ft. min.
(g.2) Front Setback Secondary	0 ft. min.
(g.3) Side Setback	0 ft. min.
(g.4) Rear Setback	3 ft. min.*
h. SETBACKS - OUTBUILDING (see Table 14h)	
(h.1) Front Setback	40 ft. max. from rear prop.
(h.1) Front Setback	40 ft. max. from rear prop.
(h.2) Side Setback	0 ft. min. or 2 ft at corner
(h.3) Rear Setback	3 ft. max.
j. PRIVATE FRONTAGES (see Table 7)	
Common Lawn	permitted
Porch	permitted
Terrace or Lightwell	permitted
Forecourt	permitted
Stoop	permitted
Shopfront	permitted
Gallery	permitted
Arcade	permitted
	Refer to Summary Table 14
PARKING PROVISIONS	
See Table 10 & Table 11	

*or 15 ft. from center line of alley

"N" stands for any Stories above those shown, up to the maximum. Refer to metrics for exact minimums and maximums.

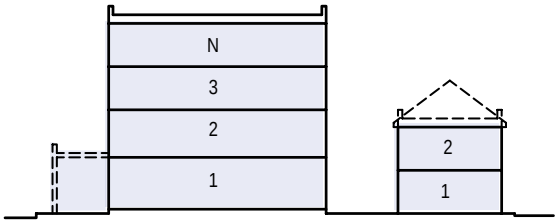
Note 2: Not in excess of 15 stories without specific site plan review and approval by Town Council.

Vinyl Siding Notes:

1. Vinyl siding is not permitted on single family homes and Townhouses except as permitted in vinyl siding note 3 below.
2. Vinyl exterior material may be used above the second story of an apartment, condominium or Mixed Use buildings and in areas not in view of the public, such as service areas.
3. Elements such as vinyl trim, vinyl windows, decorative vents, and the like are permitted.

BUILDING CONFIGURATION

1. Stories, exclude Attics mezzanines and basements.



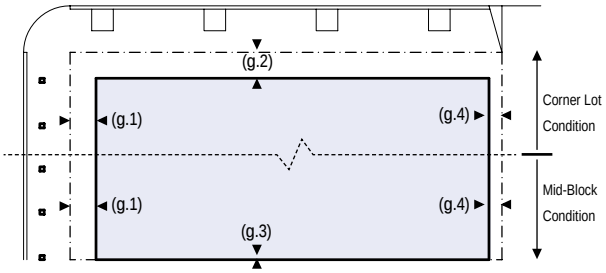
SETBACKS - PRINCIPAL BLDG

A-GRIDS

1. The Facades and Elevations of Principal Buildings shall be distanced from the Lot lines as shown.
2. Facades shall be built along the Principal Frontage.

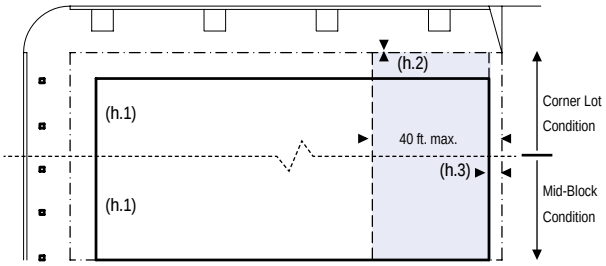
B-GRIDS

1. Multiple Buildings may be located on the same Lot.



SETBACKS - OUTBUILDING

1. The Elevations of the Outbuilding shall be distanced from the Lot lines as shown.



PARKING PLACEMENT

A-GRIDS

1. Uncovered parking spaces may be provided within the third Layer as shown in the diagram (see Table 17d).
2. Covered parking shall be provided within the third Layer as shown in the diagram (see Table 17d) except as noted above.
3. Trash containers shall be stored within the third Layer.

B-GRIDS

1. Uncovered parking spaces may be provided within any Layer as shown in the diagram (see Table 17d).
2. Trash containers shall be stored within the third Layer.

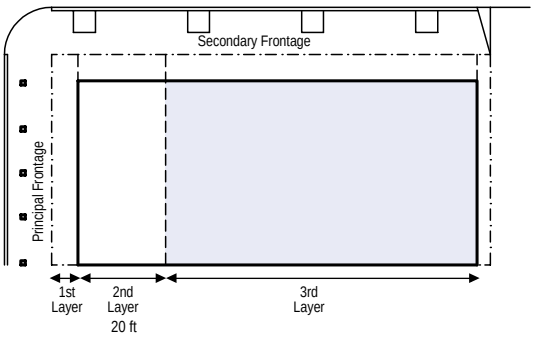
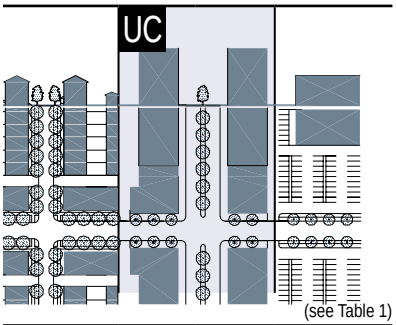


TABLE 15E. FORM-BASED CODE GRAPHICS - UC - URBAN CORE



k. BUILDING CONFIGURATION (see Table 8)	
Principal Building	20 stories, Note 1, 1 min.
Outbuilding	N/A
f. LOT OCCUPATION (see Table 14f)	
Lot Width: A-Grids	18 ft. min 700 ft. max
Lot Width: B-Grids	no max
i. BUILDING DISPOSITION (see Table 9)	
Edgeyard	permitted
Sideyard	not permitted
Rearyard	permitted
Courtyard	permitted
g. SETBACKS - PRINCIPAL BUILDING (see Table 14g)	
(g.1) Front Setback Principal	0 ft. min.
(g.2) Front Setback Secondary	0 ft. min.
(g.3) Side Setback	0 ft. min.
(g.4) Rear Setback	0 ft. min.
h. SETBACKS - OUTBUILDING (see Table 14h)	
Front Setback	N/A
Side Setback	N/A
Rear Setback	N/A
j. PRIVATE FRONTAGES (see Table 7)	
Common Lawn	permitted
Porch	permitted
Terrace or Lightwell	permitted
Forecourt	permitted
Stoop	permitted
Shopfront	permitted
Gallery	permitted
Arcade	permitted
	Refer to Summary Table 14
PARKING PROVISIONS	
See Table 10 & Table 11	

*or 15 ft. from center line of alley

"N" stands for any Stories above those shown, up to the maximum. Refer to metrics for exact minimums and maximums

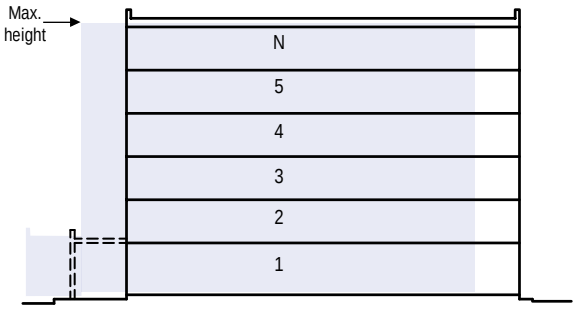
Note 1: Not in excess of 20 stories without specific site plan review and approval by Town Council.

Vinyl Siding Notes:

1. Vinyl siding is not permitted on single family homes and Townhouses except as permitted in vinyl siding note 3 below.
2. Vinyl exterior material may be used above the second story of an apartment, condominium or Mixed Use buildings and in areas not in view of the public, such as service areas.
3. Elements such as vinyl trim, vinyl windows, decorative vents, and the like are permitted.

BUILDING CONFIGURATION

1. Stories, exclude Attics mezzanines and basements.



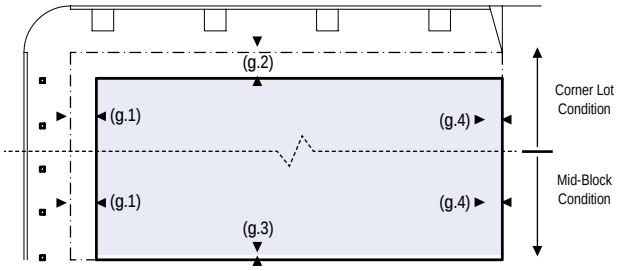
SETBACKS - PRINCIPAL BLDG

A-GRIDS

1. The Facades and Elevations of Principal Buildings shall be distanced from the Lot lines as shown.
2. Facades shall be built along the Principal Frontage.

B-GRIDS

1. Multiple Buildings may be located on the same Lot



PARKING PLACEMENT

A-GRIDS

1. Uncovered parking spaces may be provided within the third Layer as shown in the diagram (see Table 17d).
2. Covered parking shall be provided within the third Layer as shown in the diagram (see Table 17d) except as noted above.
3. Trash containers shall be stored within the third Layer.

B-GRIDS

1. Uncovered parking spaces may be provided within any Layer as shown in the diagram (see Table 17d).
2. Trash containers shall be stored within the third Layer.

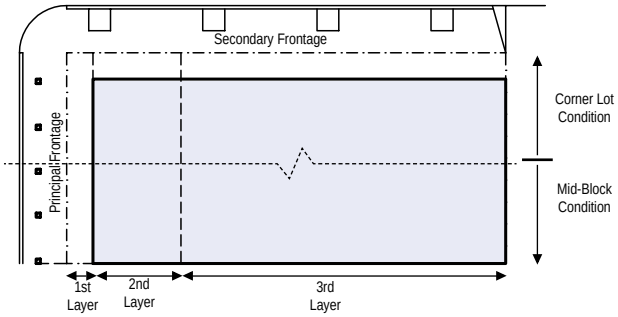
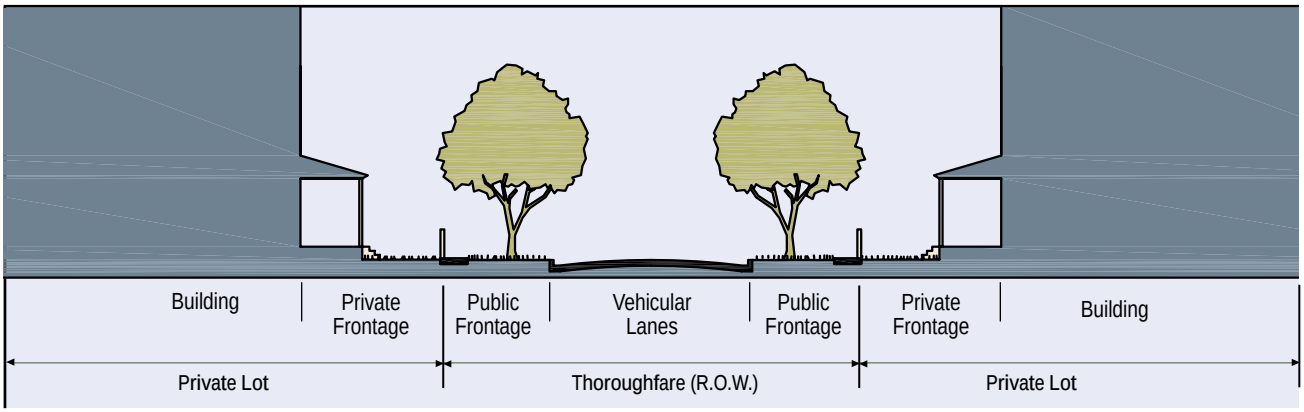
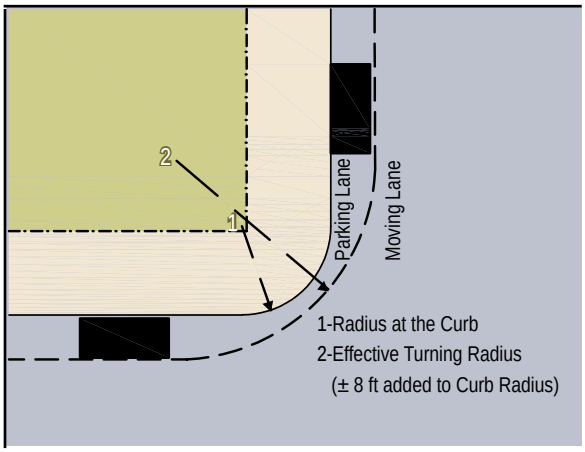


TABLE 17. DEFINITIONS ILLUSTRATED

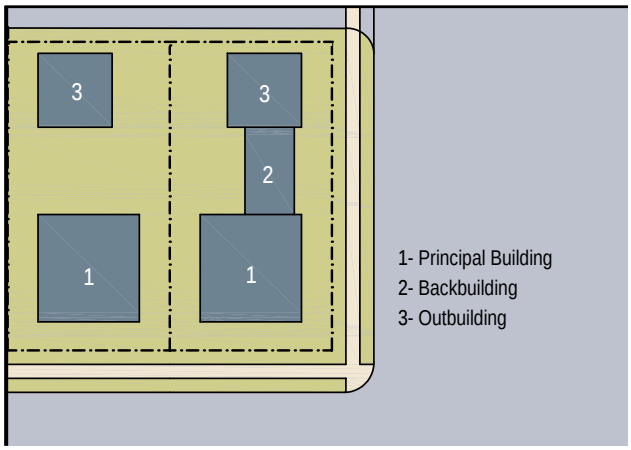
a. THOROUGHFARE & FRONTAGES



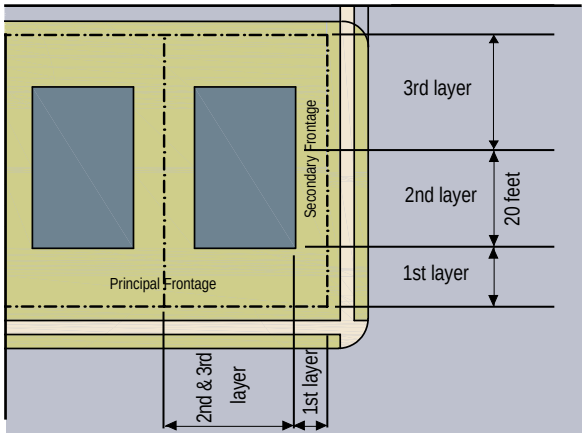
b. TURNING RADIUS



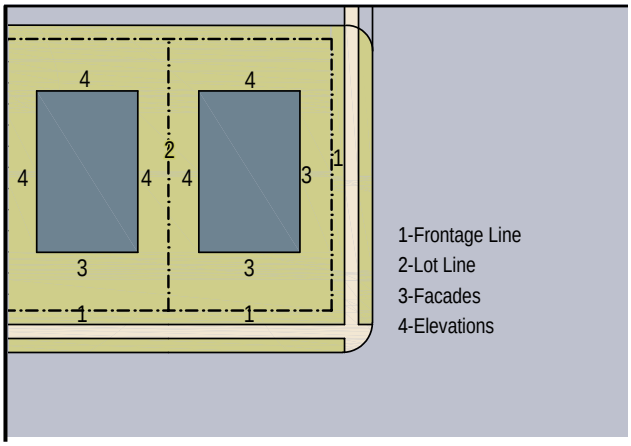
c. BUILDING DISPOSITION



d. LOT LAYERS



e. FRONTAGE & LOT LINES



f. SETBACK DESIGNATIONS

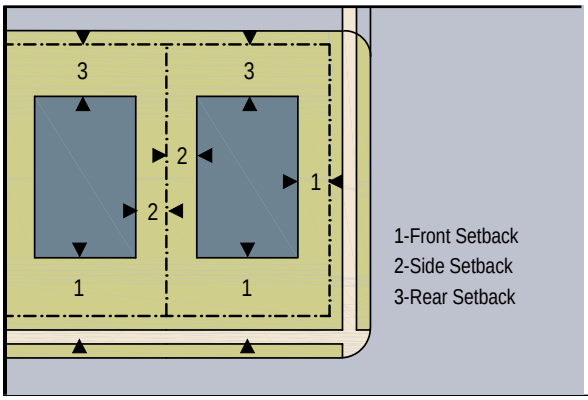


TABLE 18. SUSTAINABILITY - SOLAR ENERGY

Sustainability - Solar Energy. This table shows opportunities for the placement of types of solar-powered devices within the Sustainable Zones.

	OS	NG	NM	VC	UC	Specifics
Solar Farm 	▪		▪	▪	▪	
Roof Mounted Solar Panels 	▪	▪	▪	▪	▪	
Streetscape Solar Panels 	▪	▪	▪	▪	▪	Streetscape solar panels may be used in place of street trees

TABLE 19. SUSTAINABILITY - FOOD PRODUCTION

Sustainability - Food Production. This table shows ways of incorporating types of food production along the Sustainable Zones.

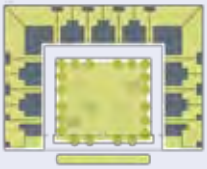
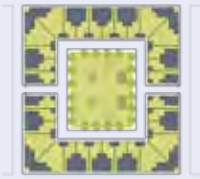
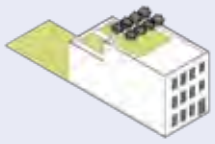
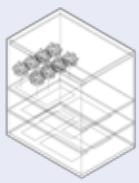
	OS	NG	NM	VC	UC	Specific
Farm 	▪					
Agricultural Plots 	▪	▪				
Vegetable Garden 		▪	▪	▪	▪	
Urban Farm 	▪	▪	▪	▪		
Community Garden 	▪	▪	▪	▪	▪	
Green Roof 		▪	▪	▪	▪	
Vertical Farm 			▪	▪	▪	

TABLE 20. SUSTAINABILITY - COMPOSTING AND RECYCLING

	OS	NG	NM	VC	UC
On-Site Organics Processing	▪	▪			
Self-Drop Collection Systems					
Optional/Competitive Collection		▪			
Mandatory Curbside Collection			▪	▪	▪
Centralized Composting Systems	▪				
Smaller Regional Composting	▪	▪			
On-Site Processing		▪			
Re-Use Centers		▪	▪	▪	▪
Recycling Processing Centers		▪	▪	▪	▪
Once-Used Materials Storage		▪			
Transfer Stations		▪	▪	▪	▪
Disposal Facilities	Prohibited				

I. Article 2 / Administration
Sec. 2.3 / DEVELOPMENT APPROVALS

2.3.16 Sustainable Development Conditional Zoning District

A) ***General***

This Section establishes the procedures and standards applicable to the Town's Sustainable Development Conditional Zoning District SD-CZ.

B) ***General Applicability***

Before any development shall be designated as a Sustainable Development Conditional Zoning District SD-CZ on the Official Zoning District Map, it shall receive approval pursuant to the terms of this Section and Section 2.3.3 of this Ordinance.

C) ***Location***

A Sustainable Development Conditional Zoning District SD-CZ designation may be established on any land located in the Town and its ETJ that complies with all of the applicable standards of this Section and Section 3.3.4B), including the requirement that a Sustainable Development Conditional Zoning District SD-CZ include a minimum of 500 contiguous acres. An SD-CZ District may include other parcels of any size within 2000 feet of such parcel of at least 500 contiguous acres.

D) ***Unified Ownership or Control***

One person shall have all the responsibility and authority to make all the developer land use planning decisions for all land that is part of a Sustainable Development Conditional Zoning District SD-CZ. A person shall be considered to have such responsibility and authority for all lands in the Sustainable Development Conditional Zoning District SD-CZ either through ownership or by written agreement by and between such person and each owner of parcels comprising said lands agreeing to the conditions and standards of the adopting ordinance and the Sustainable Development Conditional Zoning District SD-CZ and granting the person such responsibility and authority. This one person, who shall be identified in the Sustainable Development Conditional Zoning District SD-CZ Re-Zoning Application as the "Responsible Person," will be the sole person from whom the Town will accept decisions regarding the Sustainable Development (SD) Plan and Sustainable Development Conditional Zoning District SD-CZ, including amendments, modifications or supplements thereof or the addition of lands thereto. The SD Plan shall provide the process for effecting a change or succession of Responsible Person for the purposes of a specific district. A parcel or parcels (the "Parcel") of any size may be added to an existing Sustainable Development Conditional Zoning District if (i) any portion of the Parcel is within two thousand (2000) feet of such existing district, (ii) the

Responsible Person of the existing district consents in writing and (iii) the Town Council approves a rezoning of the Parcel to Sustainable Development Conditional Zoning District SD-CZ in accordance with Sections 2.3.3 and 2.3.16. In such event the SD Plan approved for the existing SD-CZ District shall be applicable to the Parcel(s) added to such existing district, and the development densities authorized in the existing SD Plan (including number of residential units and authorized square footage of other land uses) shall be increased on a pro-rata basis based on the size of the Parcel(s) added to the district, unless the Town Council provides otherwise with the consent of the Responsible Person.

E) ***Procedures***

1) *Overview.* Approval of a Sustainable Development Conditional Zoning District SD-CZ shall constitute an amendment to the Official Zoning District Map. It shall be controlled by an SD Plan that is approved as part of the Sustainable Development Conditional Zoning District SD-CZ designation and that designates the appropriate form and scale of development within the Sustainable Development Conditional Zoning District SD-CZ. The procedure requires review and recommendation of approval or disapproval by the Planning Board and approval, approval with conditions, or disapproval by the Town Council.

2) *General.* The procedures for initiation of the application, the application contents, fees, submission and review by Town staff and/or consulting firms on retainer, public notification, review by the Planning Board and then approval, approval with conditions, or disapproval by the Town Council at a public hearing(s) shall comply with the requirements of Sec. 2.2 *Common Review Procedures,* Sec 2.2.7 *Neighborhood Meeting* and Sec. 2.3.16 (F) *Sustainability Standards*.

F) ***Standards***

1) In return for greater flexibility in site design requirements, the Sustainable Development Conditional Zoning District SD-CZ is expected to deliver exceptional quality designs on a large-scale basis that:

a) facilitate the integration of a broad array of uses;

b) preserve and enhance critical environmental and natural resources, including water resources and ecosystem services in the stream network flowing through the district;

c) incorporate creativity in the design and configuration of buildings, roads, public space and infrastructure; and

d) employ innovative techniques and practices aimed at maximizing efficiency in the use of energy and materials.

In short, the Sustainable Development Conditional Zoning District SD-CZ is expected to provide a high quality of life through the creation of a healthy, living landscape within a high-intensity mixed-used community.

2) The purpose, intent and scale of the Sustainable Development Conditional Zoning District SD-CZ are unique from the other districts established in Sec. 3.2. Thus, the unique nature of the Sustainable Development Conditional Zoning District SD-CZ necessitates alternative standards, regulations, specifications, details, designs, and criteria (the "Sustainability Standards") to meet the spirit and intent of this Ordinance. These Sustainability Standards, which shall be set forth in the SD Plan and may be established pursuant to paragraph 3) hereafter, may:

a) specify the nature, density, maximums on development, minimums on development, development thresholds, and design characteristics proposed for the Sustainable Development Conditional Zoning District SD-CZ;

b) address the relationship between building facades and the public realm, the form and mass of buildings in relation to one another, and the scale and types of streets and blocks;

c) facilitate a full diversity of building types, thoroughfare types, and public space types with appropriate characteristics for their respective locations;

d) facilitate the restoration and enhancement of the environment and natural resources through both accepted practice and innovative practices; and

e) modify and supersede the provisions of this Ordinance or any land development document referenced or incorporated therein, or other land development ordinances or policies of the Town. However, an SD Plan and development pursuant thereto shall conform to all applicable Town ordinances and policies, including the UDO, except to the extent that ordinances or policies, including the UDO, are varied in the approved SD Plan or in Sustainability Standards adopted pursuant to paragraph 3) hereafter. An SD Plan and the Sustainability Standards may not modify the requirements that an SD-CZ District include a minimum of 500 contiguous acres.

3) The Sustainability Standards and other provisions of the SD Plan, as well as Sustainability Standards established pursuant to this paragraph F) 3), shall form the basis for a development of exceptional quality and innovation that is an

enhancement to the welfare of the Town's citizens. At any time, and from time to time:

a) with the consent of the Responsible Person, the Town Council may adopt additional or modified Sustainability Standards for an approved SD-CZ District following review and recommendation by the Planning Board;

b) where an SD Plan requires additional or modified Sustainability Standards for an approved SD-CZ District, site plan approval, subdivision approval, construction or grading shall not commence within such SD-CZ District unless and until the required Sustainability Standards are adopted as provided in the SD Plan; with the consent of the Responsible Person, the Town Council shall review and consider and may adopt such additional and modified Sustainability Standards following review and recommendation by the Planning Board;

c) as an amendment to this Ordinance, the Town Council may adopt elective Sustainability Standards for SD-CZ districts, which may, at the election of a Responsible Person, (i) be incorporated, in whole or in part, into an approved SD Plan for an existing SD-CZ district or (ii) be included within an SD Plan for a proposed SD-CZ district. In the case of an approved SD Plan, the elective Sustainability Standards so incorporated may provide that they serve as a supplement to the provisions of the SD Plan and serve as an alternative to the application of any inconsistent provisions of the Plan;

d) actions by the Town Council under the foregoing subsections 2.3.16 F) 3) a), b) and c) shall be taken in accordance with the provisions of Sec. 2.3.2 applicable to Amendments to the Text of this Ordinance. It is provided, however, that such actions may be proposed only by the Town Council, the Planning Director, or the Responsible Person; and

e) this Subsection 2.3.16 does not reduce any authority that the Town otherwise has to amend its UDO or an approved SD-CZ rezoning and SD Plan; the vested rights applicable to a SD-CZ rezoning and SD Plan shall be determined by other applicable law and by the provisions of a developer agreement if any.

G) ***SD Plan***

To the degree necessary and appropriate, the SD Plan and the Sustainability Standards shall include, but shall not be limited to, requirements related to:

1) standards a) through d) set forth in the foregoing Section 2.3.16 F) 1);

2) design guidelines;

3) parks, open space and greenways;

4) water resources and ecosystem services;

5) comprehensive signage;

6) landscaping conditions;

7) parking requirements; and

8) public infrastructure improvements and public facilities.

The SD Plan shall also include a map depicting the concept for the development of the property. To the extent that provisions of the SD Plan or Sustainability Standards vary the provisions of this Ordinance, or other ordinances or policies of the Town, the provisions of the SD Plan or Sustainability Standards shall be applicable.

H) ***Placement of Sustainable Development Conditional Zoning District SD-CZ Designation on Official Zoning District Map***

After final approval of the adopting ordinance for the Sustainable Development Conditional Zoning District SD-CZ designation and the SD Plan, the Planning Director shall amend the Official Zoning District Map to show a Sustainable Development Conditional Zoning District SD-CZ designation.

I) ***Effect***

Approval of an adopting ordinance for Sustainable Development Conditional Zoning District SD-CZ designation and the SD Plan shall constitute an Official Zoning District Map designation and recognition by the Town that the landowner may proceed, consistent with the SD Plan, to develop the land. The next appropriate development approval for the land is a site plan or subdivision plan.

J) ***Deviation to SD Plan***

When appropriate to further the goals of an approved SD-CZ District and its SD Plan, the Planning Director may approve deviations of up to ten percent (10%) with respect to any standard, design, configuration, disposition, or matter established or quantified in an SD Plan or the Sustainability Standards, except that this authority shall not apply to density, maximums on development minimums on development or thresholds. Any other modification, revision or supplementation of an SD Plan or the Sustainability Standards shall require the approval of the Town Council following review by the Planning Board.

K) ***Amendment to Sustainable Development Conditional Zoning District SD-CZ***

An amendment to the Official Zoning District Map for a Sustainable Development Conditional Zoning District SD-CZ may be made only pursuant to the procedures and standards for its original approval, and specifically Sec. 2.3.16 (D) *Unified Ownership or Control*.

II. Article 3 / Zoning Districts
Sec. 3.2 / ZONING DISTRICTS ESTABLISHED

3.2.8 Conditional Zoning Other Districts

A) *CB-CZ Conservation Buffer District; and*

B) *SD-CZ Sustainable Development Conditional Zoning District.*

III. Article 3 / Zoning Districts
Sec. 3.3 / DISTRICT PURPOSES

3.3.4 Other Districts

B) ***Sustainable Development Conditional Zoning District***
The purpose and intent of the Sustainable Development Conditional Zoning District SD-CZ is to encourage the design of a sustainable community through the application of design approaches that allow and encourage flexibility, an intensity of uses, integration among uses, restoration and enhancement of the environment and natural resources, transit-oriented development, pedestrian-oriented development and the efficient use of resources, energy and materials. This shall be accomplished by allowing design flexibility and innovative approaches to environmental stewardship incorporated in a plan for development that:

1) addresses the relationship between building facades and the public realm, the form and mass of buildings in relation to one another, and the scale and types of streets and blocks;

2) facilitates a full diversity of building types, thoroughfare types, and public space types with appropriate characteristics for their respective locations; and

3) facilitates the restoration and enhancement of the environment and natural resources.

Further, because the aforementioned design standards are best implemented on a large-scale basis, a purpose and intent of the Sustainable Development Conditional Zoning District SD-CZ is to provide sufficient lands for such implementation. To this end, the Sustainable Development Conditional Zoning District SD-CZ must include a minimum of 500 contiguous acres. An SD-CZ

District may include other parcels of any size within 2000 feet of such parcel of at least 500 contiguous acres.

The unique purpose and intent, and the scale and standards to which the development plan must adhere, distinguish the Sustainable Development Conditional Zoning District SD-CZ from the other districts established in Sec. 3.2. Therefore, the specific procedures and standards for the review of the Sustainable Development Conditional Zoning District SD-CZ are found in Sec. 2.3.16, *Sustainable Development Conditional Zoning District SD-CZ.*

IV. Article 4 / Use Regulations
Sec.4.2 / USE TABLE
Sec.4.2.2 / Use Table

The Use Table in Section 4.2.2 shall be amended to include among the Zoning Districts shown at the top of the table "SD" to denote the **Sustainable Development Conditional Zoning District** as a Zoning District in the "Other" category and to place a double asterisk (**) in the block under SD for each use listed within all of the Use Types, with the exception of the following uses: Adult Establishment; Airplane Landing Strip; Airport; Sanitary Landfill; Land Clearing and Inert Debris Landfill; Mobile Homes; and Asphalt or Concrete Plant. Further, the following shall be inserted below the table:

"**Uses allowed as a matter-of-right in a Sustainable Development Conditional Zoning District shall be those uses authorized in the Sustainable Development Plan approved for such district. Standards applicable to each such use shall be as provided in this Use Table unless modified by the respective Sustainable Development Plan."

V. Article 4 / Use Regulations
Sec.4.3 / Use Classifications
Sec.4.3.1 / Residential Uses

A) ***Accessory Apartment***

A secondary dwelling unit either (1) inside of or added to an existing single-family dwelling, (2) in an accessory structure on the same lot as the principal single-family dwelling, (3) on any floor except for the ground floor of a commercial use in the B1 Neighborhood Business District, B2 Downtown Business District, MEC-CZ Major Employment Center District, TND-CZ Traditional Neighborhood District, PUD-CZ Planned Unit Development District, or (4) on any floor of a commercial use in the SD-CZ Sustainable Development Conditional Zoning District. An accessory apartment is a complete, independent living facility equipped with a kitchen and with provisions for sanitation and sleeping. An accessory structure may include a loft.

VI. Article 5 / Measurements

Sec.5.1 / TABLE OF INTENSITY AND DIMENSIONAL STANDARDS
Sec.5.1.4 / Other Development Districts

The table for "Other Development Districts" in Section 5.1.4 shall be amended to include "SD" to denote the **Sustainable Development Conditional Zoning District** under "Use" and below "*See Sec. 6.1, Watershed Protection Overlay Districts." "All uses" shall be inserted below "SD" and to the right thereof shall be inserted "All Intensity and Dimensional Standards shall be as set forth in the Sustainable Development Plan approved for the respective Sustainable Development Conditional Zoning District."

VII. TECHNICAL AMENDMENTS

A) Each of the following Sections shall be amended to insert "SD-CZ" immediately after "PUD-CZ" at each place in the respective Section at which "PUD-CZ" appears:

2.1.1 A) 2) b)
2.1.2 A) 2) b)
2.1.7 A) 2)
2.2.11 E)
2.3.15 B)
4.1.2 A)
4.5.6
4.5.6 A)
4.5.6 D)
4.5.6 F)
4.6.1 C) 1) a)
5.2.2 A) 2)
8.2.6
8.3.6 B) 5)
8.4.2
9.1.2

B) Section 2.3.1 shall be amended to insert within the Table under "Development Permit" and following "Traditional Neighborhood District (TND-CZ) (Sec. 2.3.4)" the words "Sustainable Development Conditional Zoning District (SD-CZ) (Sec. 2.3.16)"; to place the letter "R" under each of "Planning Director/Technical Review Committee" and "Planning Board"; and to place the letter "D" under "Town Council."

C) Section 2.3.3 J) 2) shall be amended to insert "or Section 2.3.16 J) *Minor Deviation to a SD Plan* or Section 2.3.16 K) *Modification of SD Plan*" following "2.3.4(M) *Minor Deviations*".

D) Section 2.3.16, **Site Work Prior to Development Approvals**, shall be re-numbered to "Section 2.3.17".

E) Section 2.3.17, **Utility Service**, shall be re-numbered to "Section 2.3.18".

F) Sections 4.3.1 A), 4.4.5 F), and 4.6.1 C) 3) shall each be amended to insert ", SD-CZ Sustainable Development Conditional Zoning District," immediately following "TND-CZ Traditional Neighborhood District" at each place where "TND-CZ Traditional Neighborhood District" appears.

G) Section 5.2.2 F) shall be amended to insert at the beginning of the paragraph "Except in Sustainable Development Conditional Zoning District (SD-CZ)," and to replace "I" with "i" in "internal."

H) Section 8.3.6 B) 5) shall be amended to substitute "Section 8.4.4" for "Section 8.5.3."

I. Article 2 / Administration
Sec. 2.3 / DEVELOPMENT APPROVALS

2.3.16 Sustainable Development Conditional Zoning District

A) ***General***

This Section establishes the procedures and standards applicable to the Town's Sustainable Development Conditional Zoning District SD-CZ.

B) ***General Applicability***

Before any development shall be designated as a Sustainable Development Conditional Zoning District SD-CZ on the Official Zoning District Map, it shall receive approval pursuant to the terms of this Section and Section 2.3.3 of this Ordinance.

C) ***Location***

A Sustainable Development Conditional Zoning District SD-CZ designation may be established on any land located in the Town and its ETJ that complies with all of the applicable standards of this Section and Section 3.3.4B), including the requirement that a Sustainable Development Conditional Zoning District SD-CZ include a minimum of 500 contiguous acres. An SD-CZ District may include other parcels of any size within 2000 feet of such parcel of at least 500 contiguous acres.

D) ***Unified Ownership or Control***

One person shall have all the responsibility and authority to make all the developer land use planning decisions for all land that is part of a Sustainable Development Conditional Zoning District SD-CZ. A person shall be considered to have such responsibility and authority for all lands in the Sustainable Development Conditional Zoning District SD-CZ either through ownership or by written agreement by and between such person and each owner of parcels comprising said lands agreeing to the conditions and standards of the adopting ordinance and the Sustainable Development Conditional Zoning District SD-CZ and granting the person such responsibility and authority. This one person, who shall be identified in the Sustainable Development Conditional Zoning District SD-CZ Re-Zoning Application as the "Responsible Person," will be the sole person from whom the Town will accept decisions regarding the Sustainable Development (SD) Plan and Sustainable Development Conditional Zoning District SD-CZ, including amendments, modifications or supplements thereof or the addition of lands thereto. The SD Plan shall provide the process for effecting a change or succession of Responsible Person for the purposes of a specific district. A parcel or parcels (the "Parcel") of any size may be added to an existing Sustainable Development Conditional Zoning District if (i) any portion of the Parcel is within two thousand (2000) feet of such existing district, (ii) the

Responsible Person of the existing district consents in writing and (iii) the Town Council approves a rezoning of the Parcel to Sustainable Development Conditional Zoning District SD-CZ in accordance with Sections 2.3.3 and 2.3.16. In such event the SD Plan approved for the existing SD-CZ District shall be applicable to the Parcel(s) added to such existing district, and the development densities authorized in the existing SD Plan (including number of residential units and authorized square footage of other land uses) shall be increased on a pro-rata basis based on the size of the Parcel(s) added to the district, unless the Town Council provides otherwise with the consent of the Responsible Person.

E) ***Procedures***

1) *Overview.* Approval of a Sustainable Development Conditional Zoning District SD-CZ shall constitute an amendment to the Official Zoning District Map. It shall be controlled by an SD Plan that is approved as part of the Sustainable Development Conditional Zoning District SD-CZ designation and that designates the appropriate form and scale of development within the Sustainable Development Conditional Zoning District SD-CZ. The procedure requires review and recommendation of approval or disapproval by the Planning Board and approval, approval with conditions, or disapproval by the Town Council.

2) *General.* The procedures for initiation of the application, the application contents, fees, submission and review by Town staff and/or consulting firms on retainer, public notification, review by the Planning Board and then approval, approval with conditions, or disapproval by the Town Council at a public hearing(s) shall comply with the requirements of Sec. 2.2 *Common Review Procedures,* Sec 2.2.7 *Neighborhood Meeting* and Sec. 2.3.16 (F) *Sustainability Standards*.

F) ***Standards***

1) In return for greater flexibility in site design requirements, the Sustainable Development Conditional Zoning District SD-CZ is expected to deliver exceptional quality designs on a large-scale basis that:

a) facilitate the integration of a broad array of uses;

b) preserve and enhance critical environmental and natural resources, including water resources and ecosystem services in the stream network flowing through the district;

c) incorporate creativity in the design and configuration of buildings, roads, public space and infrastructure; and

d) employ innovative techniques and practices aimed at maximizing efficiency in the use of energy and materials.

In short, the Sustainable Development Conditional Zoning District SD-CZ is expected to provide a high quality of life through the creation of a healthy, living landscape within a high-intensity mixed-used community.

2) The purpose, intent and scale of the Sustainable Development Conditional Zoning District SD-CZ are unique from the other districts established in Sec. 3.2. Thus, the unique nature of the Sustainable Development Conditional Zoning District SD-CZ necessitates alternative standards, regulations, specifications, details, designs, and criteria (the "Sustainability Standards") to meet the spirit and intent of this Ordinance. These Sustainability Standards, which shall be set forth in the SD Plan and may be established pursuant to paragraph 3) hereafter, may:

a) specify the nature, density, maximums on development, minimums on development, development thresholds, and design characteristics proposed for the Sustainable Development Conditional Zoning District SD-CZ;

b) address the relationship between building facades and the public realm, the form and mass of buildings in relation to one another, and the scale and types of streets and blocks;

c) facilitate a full diversity of building types, thoroughfare types, and public space types with appropriate characteristics for their respective locations;

d) facilitate the restoration and enhancement of the environment and natural resources through both accepted practice and innovative practices; and

e) modify and supersede the provisions of this Ordinance or any land development document referenced or incorporated therein, or other land development ordinances or policies of the Town. However, an SD Plan and development pursuant thereto shall conform to all applicable Town ordinances and policies, including the UDO, except to the extent that ordinances or policies, including the UDO, are varied in the approved SD Plan or in Sustainability Standards adopted pursuant to paragraph 3) hereafter. An SD Plan and the Sustainability Standards may not modify the requirements that an SD-CZ District include a minimum of 500 contiguous acres.

3) The Sustainability Standards and other provisions of the SD Plan, as well as Sustainability Standards established pursuant to this paragraph F) 3), shall form the basis for a development of exceptional quality and innovation that is an

enhancement to the welfare of the Town's citizens. At any time, and from time to time:

a) with the consent of the Responsible Person, the Town Council may adopt additional or modified Sustainability Standards for an approved SD-CZ District following review and recommendation by the Planning Board;

b) where an SD Plan requires additional or modified Sustainability Standards for an approved SD-CZ District, site plan approval, subdivision approval, construction or grading shall not commence within such SD-CZ District unless and until the required Sustainability Standards are adopted as provided in the SD Plan; with the consent of the Responsible Person, the Town Council shall review and consider and may adopt such additional and modified Sustainability Standards following review and recommendation by the Planning Board;

c) as an amendment to this Ordinance, the Town Council may adopt elective Sustainability Standards for SD-CZ districts, which may, at the election of a Responsible Person, (i) be incorporated, in whole or in part, into an approved SD Plan for an existing SD-CZ district or (ii) be included within an SD Plan for a proposed SD-CZ district. In the case of an approved SD Plan, the elective Sustainability Standards so incorporated may provide that they serve as a supplement to the provisions of the SD Plan and serve as an alternative to the application of any inconsistent provisions of the Plan;

d) actions by the Town Council under the foregoing subsections 2.3.16 F) 3) a), b) and c) shall be taken in accordance with the provisions of Sec. 2.3.2 applicable to Amendments to the Text of this Ordinance. It is provided, however, that such actions may be proposed only by the Town Council, the Planning Director, or the Responsible Person; and

e) this Subsection 2.3.16 does not reduce any authority that the Town otherwise has to amend its UDO or an approved SD-CZ rezoning and SD Plan; the vested rights applicable to a SD-CZ rezoning and SD Plan shall be determined by other applicable law and by the provisions of a developer agreement if any.

G) ***SD Plan***

To the degree necessary and appropriate, the SD Plan and the Sustainability Standards shall include, but shall not be limited to, requirements related to:

1) standards a) through d) set forth in the foregoing Section 2.3.16 F) 1);

2) design guidelines;

3) parks, open space and greenways;

4) water resources and ecosystem services;

5) comprehensive signage;

6) landscaping conditions;

7) parking requirements; and

8) public infrastructure improvements and public facilities.

The SD Plan shall also include a map depicting the concept for the development of the property. To the extent that provisions of the SD Plan or Sustainability Standards vary the provisions of this Ordinance, or other ordinances or policies of the Town, the provisions of the SD Plan or Sustainability Standards shall be applicable.

H) ***Placement of Sustainable Development Conditional Zoning District SD-CZ Designation on Official Zoning District Map***

After final approval of the adopting ordinance for the Sustainable Development Conditional Zoning District SD-CZ designation and the SD Plan, the Planning Director shall amend the Official Zoning District Map to show a Sustainable Development Conditional Zoning District SD-CZ designation.

I) ***Effect***

Approval of an adopting ordinance for Sustainable Development Conditional Zoning District SD-CZ designation and the SD Plan shall constitute an Official Zoning District Map designation and recognition by the Town that the landowner may proceed, consistent with the SD Plan, to develop the land. The next appropriate development approval for the land is a site plan or subdivision plan.

J) ***Deviation to SD Plan***

When appropriate to further the goals of an approved SD-CZ District and its SD Plan, the Planning Director may approve deviations of up to ten percent (10%) with respect to any standard, design, configuration, disposition, or matter established or quantified in an SD Plan or the Sustainability Standards, except that this authority shall not apply to density, maximums on development minimums on development or thresholds. Any other modification, revision or supplementation of an SD Plan or the Sustainability Standards shall require the approval of the Town Council following review by the Planning Board.

K) ***Amendment to Sustainable Development Conditional Zoning District SD-CZ***

An amendment to the Official Zoning District Map for a Sustainable Development Conditional Zoning District SD-CZ may be made only pursuant to the procedures and standards for its original approval, and specifically Sec. 2.3.16 (D) *Unified Ownership or Control*.

II. Article 3 / Zoning Districts
Sec. 3.2 / ZONING DISTRICTS ESTABLISHED

3.2.8 Conditional Zoning Other Districts

A) *CB-CZ Conservation Buffer District; and*

B) *SD-CZ Sustainable Development Conditional Zoning District.*

III. Article 3 / Zoning Districts
Sec. 3.3 / DISTRICT PURPOSES

3.3.4 Other Districts

B) ***Sustainable Development Conditional Zoning District***
The purpose and intent of the Sustainable Development Conditional Zoning District SD-CZ is to encourage the design of a sustainable community through the application of design approaches that allow and encourage flexibility, an intensity of uses, integration among uses, restoration and enhancement of the environment and natural resources, transit-oriented development, pedestrian-oriented development and the efficient use of resources, energy and materials. This shall be accomplished by allowing design flexibility and innovative approaches to environmental stewardship incorporated in a plan for development that:

1) addresses the relationship between building facades and the public realm, the form and mass of buildings in relation to one another, and the scale and types of streets and blocks;

2) facilitates a full diversity of building types, thoroughfare types, and public space types with appropriate characteristics for their respective locations; and

3) facilitates the restoration and enhancement of the environment and natural resources.

Further, because the aforementioned design standards are best implemented on a large-scale basis, a purpose and intent of the Sustainable Development Conditional Zoning District SD-CZ is to provide sufficient lands for such implementation. To this end, the Sustainable Development Conditional Zoning District SD-CZ must include a minimum of 500 contiguous acres. An SD-CZ

District may include other parcels of any size within 2000 feet of such parcel of at least 500 contiguous acres.

The unique purpose and intent, and the scale and standards to which the development plan must adhere, distinguish the Sustainable Development Conditional Zoning District SD-CZ from the other districts established in Sec. 3.2. Therefore, the specific procedures and standards for the review of the Sustainable Development Conditional Zoning District SD-CZ are found in Sec. 2.3.16, *Sustainable Development Conditional Zoning District SD-CZ.*

IV. Article 4 / Use Regulations
Sec.4.2 / USE TABLE
Sec.4.2.2 / Use Table

The Use Table in Section 4.2.2 shall be amended to include among the Zoning Districts shown at the top of the table "SD" to denote the **Sustainable Development Conditional Zoning District** as a Zoning District in the "Other" category and to place a double asterisk (**) in the block under SD for each use listed within all of the Use Types, with the exception of the following uses: Adult Establishment; Airplane Landing Strip; Airport; Sanitary Landfill; Land Clearing and Inert Debris Landfill; Mobile Homes; and Asphalt or Concrete Plant. Further, the following shall be inserted below the table:

"**Uses allowed as a matter-of-right in a Sustainable Development Conditional Zoning District shall be those uses authorized in the Sustainable Development Plan approved for such district. Standards applicable to each such use shall be as provided in this Use Table unless modified by the respective Sustainable Development Plan."

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Sec.4.3 / Use Classifications
Sec.4.3.1 / Residential Uses

A) ***Accessory Apartment***

A secondary dwelling unit either (1) inside of or added to an existing single-family dwelling, (2) in an accessory structure on the same lot as the principal single-family dwelling, (3) on any floor except for the ground floor of a commercial use in the B1 Neighborhood Business District, B2 Downtown Business District, MEC-CZ Major Employment Center District, TND-CZ Traditional Neighborhood District, PUD-CZ Planned Unit Development District, or (4) on any floor of a commercial use in the SD-CZ Sustainable Development Conditional Zoning District. An accessory apartment is a complete, independent living facility equipped with a kitchen and with provisions for sanitation and sleeping. An accessory structure may include a loft.

VI. Article 5 / Measurements

Sec.5.1 / TABLE OF INTENSITY AND DIMENSIONAL STANDARDS
Sec.5.1.4 / Other Development Districts

The table for "Other Development Districts" in Section 5.1.4 shall be amended to include "SD" to denote the **Sustainable Development Conditional Zoning District** under "Use" and below "*See Sec. 6.1, Watershed Protection Overlay Districts." "All uses" shall be inserted below "SD" and to the right thereof shall be inserted "All Intensity and Dimensional Standards shall be as set forth in the Sustainable Development Plan approved for the respective Sustainable Development Conditional Zoning District."

VII. TECHNICAL AMENDMENTS

A) Each of the following Sections shall be amended to insert "SD-CZ" immediately after "PUD-CZ" at each place in the respective Section at which "PUD-CZ" appears:

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2.1.2 A) 2) b)
2.1.7 A) 2)
2.2.11 E)
2.3.15 B)
4.1.2 A)
4.5.6
4.5.6 A)
4.5.6 D)
4.5.6 F)
4.6.1 C) 1) a)
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8.3.6 B) 5)
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9.1.2

B) Section 2.3.1 shall be amended to insert within the Table under "Development Permit" and following "Traditional Neighborhood District (TND-CZ) (Sec. 2.3.4)" the words "Sustainable Development Conditional Zoning District (SD-CZ) (Sec. 2.3.16)"; to place the letter "R" under each of "Planning Director/Technical Review Committee" and "Planning Board"; and to place the letter "D" under "Town Council."

C) Section 2.3.3 J) 2) shall be amended to insert "or Section 2.3.16 J) *Minor Deviation to a SD Plan* or Section 2.3.16 K) *Modification of SD Plan*" following "2.3.4(M) *Minor Deviations*".

D) Section 2.3.16, **Site Work Prior to Development Approvals**, shall be re-numbered to "Section 2.3.17".

E) Section 2.3.17, **Utility Service**, shall be re-numbered to "Section 2.3.18".

F) Sections 4.3.1 A), 4.4.5 F), and 4.6.1 C) 3) shall each be amended to insert ", SD-CZ Sustainable Development Conditional Zoning District," immediately following "TND-CZ Traditional Neighborhood District" at each place where "TND-CZ Traditional Neighborhood District" appears.

G) Section 5.2.2 F) shall be amended to insert at the beginning of the paragraph "Except in Sustainable Development Conditional Zoning District (SD-CZ)," and to replace "I" with "i" in "internal."

H) Section 8.3.6 B) 5) shall be amended to substitute "Section 8.4.4" for "Section 8.5.3."

ORD · 2023 (5)
023

AN ORDINANCE TO ADOPT ADDITIONAL SUSTAINABILITY STANDARDS FOR VERIDEA

BE IT ORDAINED by the Town Council of the Town of Apex as follows:

Section 1. The Environmental Enhancement Plan for Veridea is hereby adopted in accordance with Section 2.3.16.F.3.b of the Unified Development Ordinance and Section 3.1.2 of the Sustainable Development Plan adopted for Veridea by Rezoning #09CZ07 ("Veridea SD Plan").

Section 2. The lands that are the subject of the Ordinance are those certain lands described in Attachment "A" – Legal Description which is incorporated herein by reference.

Section 3. Pursuant to Section 3.3.4 of the Veridea SD Plan, the Environmental Enhancement Plan in Attachment "B" is hereby incorporated into the Veridea SD Plan and is applicable to the land described in Attachment "A" and to any lands subsequently rezoned to be included in the Veridea SD Plan.

Section 4. The ordinance shall be effective upon enactment on the 28th day of February 2023.

Introduced by Council Member Gantt

Seconded by Council Member Gray

Attest:

Allen Coleman, CMC, NCCCC
Town Clerk

TOWN OF APEX

Jacques K. Gilbert
Mayor

Approved As To Form:

Laurie L. Hohe
Town Attorney

APEX 1873 NORTH CAROLINA

Attachment A

Property Description

Tract 1 (Poe):

BEGINNING at a point which is the northeast corner of the 54.650 acre tract shown on Boundary Survey Prepared for Apex Land Assemblage, LLC by Riley Surveying, PA dated February 23, 2006 and recorded in Book of Maps 2006, Page 416, Wake County Registry; thence along the line of said 54.650 acre tract N 89° 54' 34" W 1794.53 feet to a point in the centerline of Big Branch; thence along the centerline of Big Branch, the following courses and distances denoted L87 through L156 on the following table:

CENTERLINE BIG BRANCH

LINE TABLE		
LINE	*BEARING*	*LENGTH*
L87	*N20° 48' 14" E*	*52.19*
L88	*N27° 36' 15" E*	*25.74*
L89	*N62° 55' 07" E*	*26.76*
L90	*N28° 59' 45" W*	*21.84*
L91	*N05° 57' 55" W*	*34.25*
L92	*N49° 54' 20" E*	*15.65*
L93	*N35° 51' 41" E*	*26.00*
L94	*N57° 55' 36" W*	*27.74*
L95	*S77° 58' 08" W*	*70.86*
L96	*N69° 24' 20" W*	*55.42*
L97	*N16° 11' 53" W*	*54.07*
L98	*N47° 25' 48" E*	*30.81*
L99	*S76° 51' 18" E*	*46.52*
L100	*N23° 56' 06" E*	*15.13*
L101	*N10° 54' 23" E*	*79.33*
L102	*N70° 46' 49" W*	*21.80*
L103	*N13° 56' 38" W*	*44.13*
L104	*N54° 44' 36" W*	*48.38*
L105	*S57° 22' 33" W*	*58.59*
L106	*S44° 34' 58" W*	*46.68*
L107	*N46° 23' 02" W*	*39.79*
L108	*N72° 28' 16" W*	*36.60*
L109	*S47° 16' 54" W*	*18.92*
L110	*N74° 34' 40" W*	*21.22*
L111	*N28° 53' 03" W*	*20.74*
L112	*N42° 52' 48" W*	*46.75*
L113	*N06° 56' 21" E*	*26.65*
L114	*N88° 28' 36" E*	*43.87*
L115	*N27° 02' 14" E*	*18.93*
L116	*N01° 17' 25" E*	*31.60*
L117	*N45° 56' 56" E*	*50.02*
L124	*N39° 28' 55" E*	*39.13*
L125	*N15° 03' 15" W*	*20.63*
L126	*N51° 44' 06" W*	*25.88*
L127	*N30° 05' 45" E*	*27.95*
L128	*S60° 15' 59" E*	*30.79*
L129	*S36° 33' 19" E*	*34.28*
L130	*S78° 44' 24" E*	*52.43*
L131	*N41° 37' 38" E*	*15.36*
L132	*N04° 45' 02" E*	*44.44*
L133	*N30° 38' 49" E*	*51.77*
L134	*N05° 02' 00" W*	*35.48*
L135	*S62° 06' 04" W*	*33.82*
L136	*N44° 56' 44" W*	*39.84*
L137	*N44° 38' 21" E*	*21.58*
L138	*N53° 06' 38 E*	*60.88*
L139	*N61° 14' 38" W*	*39.17*
L140	*N50° 48' 06" W*	*23.78*
L141	*N10° 02' 40" W*	*28.54*
L142	*N38° 49' 48" E*	*55.95*
L143	*N43° 06' 48" W*	*60.59*
L144	*N42° 29' 30" E*	*31.74*
L145	*N70° 52' 59" W*	*69.18*
L146	*N86° 33' 59" W*	*111.94*
L147	*N47° 57' 35" W*	*68.58*
L148	*N30° 54' 08" E*	*32.56*
L149	*N21° 23' 37" W*	*54.07*
L150	*N55° 27' 06" E*	*39.27*
L151	*N03° 24' 04" W*	*46.46*
L152	*N31° 43' 23" E*	*54.96*
L153	*N18° 31' 57" E*	*44.10*
L154	*N01° 09' 10" W*	*65.77*
L155	*N22° 16' 37" W*	*29.93*
L156	*N19° 16' 28" E*	*2.52*

L118	*N01° 25' 13" E*	*14.01*
L119	*N65° 15' 45" W*	*42.02*
L120	*N01° 22' 31" E*	*32.19*
L121	*N46° 17' 51" W*	*51.21*
L122	*N06° 49' 21" E*	*35.97*
L123	*N69° 35' 22" E*	*41.13*

Thence leaving the course of Big Branch, N 87° 20' 59" E 1317.72 feet to a point; thence N 00° 20' 59" E 1411.74 feet to a point; thence N 87° 17' 47" E 1396.96 feet to a point; thence S 02° 19' 40" W 527.05 feet to a point; thence S 90° 00' 00" W 750.13 feet to a point; thence S 00° 00' 00" W 967.73 feet to a point; thence N 77° 55' 24" E 389.22 feet to a point; thence N 01° 29' 14" E 148.65 feet to a point; thence N 65° 20' 41" E 538.98 feet to a point; thence S 02° 20' 59" W 179.73 feet to a point; thence S 02° 28' 41" W 1915.88 feet to a point; thence N 89° 11' 33" W 648.01 feet to the point and place of beginning and being all of Tract 3 containing 128.439 acres shown on a survey entitled "Exempt Division Survey – Property of Bobby and Elizabeth Poe" prepared by Riley Surveying, PA dated November 9, 2006.

Tract 2 (Poe):

BEING all of the 1.710 acre tract and the 0.042 acre tract shown as area in the right of way of Old Holly Springs – Apex Road shown on a map entitled "Property of Bobby W. and Elizabeth A. Poe, F.D. Prince, Sr, Trustee" recorded in Book of Maps 2002, Page 109, Wake County Registry, reference to which is hereby made for greater certainty of description and also being more particularly described as follows: Beginning at an existing nail in the northwest corner of the property of E.K. Huang, et. al. as described in Deed Book 6650, Page 866, Wake County Registry, and the southwest corner of the property of F.D. Prince, Sr. as described in Deed Book 8291, page 540, Wake County Registry, runs thence North 05 degrees 23 minutes 24 seconds East 64.21 feet to an iron pipe; thence North 74 degrees 31 minutes 24 seconds East 381.93 feet to an iron pipe; thence South 86 degrees 04 minutes 18 seconds East 863.27 feet to an iron pipe in the west right of way of SR 1153 (Old Holly Springs – Apex Road). Thence South 86 degrees 04 minutes 18 seconds East 30.32 feet to the centerline of SR 1153; thence along the centerline of SR 1153, South 12 degrees, 45 minutes 03 seconds West 60.72 feet to a point; thence with the north line of Huang, et. al., North 86 degrees 04 minutes 18 seconds West 30.32 feet to an existing iron pipe; thence North 86 degrees 04 minutes 18 seconds West 843.70 feet to an existing iron pipe; thence South 74 degrees 31 minutes 24 seconds West 394.54 feet to an existing iron pipe, the point and place of Beginning, and also being Tract 1 containing 1.754 acres shown on a survey entitled "Exempt Division Survey – Property of Bobby and Elizabeth Poe" prepared by Riley Surveying, PA dated November 9, 2006.

Tract 3 (Lyna):

BEGINNING at a point in the centerline of Old Holly Springs Apex Road, said point being calculated as follows: Beginning at a point in the line of Tract A shown on a map entitled "Proposed Subdivision and Recombination of Properties of Wake County" which is recorded in Book of Maps 1998, Page 782, Wake County Registry, said point also being North 45° 03' 47" East 1591.01 feet from the centerline of the intersection of Old Holly Springs Apex Road and

Woods Creek Road; thence North 09° 24' 42" East 362.56 feet to a point; thence North 85° 47' 44" West 162.21 feet to an iron pin in the centerline of Old Holly Springs Apex Road; thence along the centerline of Old Holly Springs Apex Road in an northerly direction along a left hand curve having a radius of 1963.49 feet an arc distance of 423.08 feet and chord bearing and distance of North 12° 12' 26" East 422.26 feet to the POINT AND PLACE OF BEGINNING: thence continuing along the centerline of said Old Holly Springs Apex Road in a northerly direction along a left hand curve having a radius of 1963.49 feet, an arc distance of 259.39 feet and a chord bearing and distance of North 02° 14' 59" East 259.20 feet; thence North 00° 00' 56" East 187.39 feet to a point; thence South 67° 20' 57" East 925.18 feet to a point; thence South 61° 30' 00" East 301.10 feet to a point; thence South 73° 33' 19" East 346.87 feet to a point; thence South 74° 36' 50" East 217.48 feet to a point; thence South 70° 39" 03" East 219.39 feet to a point; thence South 66° 06' 14" East 183.83 feet to a point; thence South 51° 10' 55" East 327.09 feet to a point in the centerline of White Oak Creek a/k/a Falls Branch Creek; thence along the centerline of said creek as follows: South 03° 23' 35" East 31.18 feet to a point; thence South 19° 58' 50" East 138.13 feet to a point; thence South 09° 01' 05" West 63.94 feet to a point; thence South 22° 49' 37" West 94.25 feet to a point; thence South 05° 19' 49" West 65.12 feet to a point; thence leaving the center line of said creek N 67° 48' 05" W 2481.26 feet to the point and place of BEGINNING and being all of Tract 1 containing 23.62 acres as shown on a survey entitled "Exempt Subdivision prepared for Apex Land Assemblage, LLC" by Riley Surveying, P.A. dated May 13, 2005.

Tract 4 (Reeves):

BEGINNING at a point in the line of Tract A shown on a map entitled "Proposed Subdivision and Recombination of Properties of Wake County" which is recorded in Book of Maps 1998, Page 782, Wake County Registry, said point also being North 45° 03' 47" East 1591.01 feet from the centerline of the intersection of Old Holly Springs Apex Road and Woods Creek Road, being the point and place of BEGINNING, thence North 09° 24' 42" East 362.56 feet to a point; thence North 85° 47' 44" West 162.21 feet to a point; thence North 85° 47' 44" West 30.48 feet to an iron pin in the centerline of Old Holly Springs Apex Road; thence along the centerline of Old Holly Springs Apex Road in an northerly direction along a left hand curve having a radius of 1963.49 feet, an arc distance of 423.08 feet and chord bearing and distance of North 12° 12' 26" East 422.26 feet to a point; thence leaving the centerline of said road South 67° 48' 05" East 2481.26 feet to a point in the centerline of White Oak Creek a/k/a Falls Branch Creek; thence along the centerline of said creek as follows South 05° 19' 49" West 39.71 feet to a point; thence South 17° 13' 42" West 52.16 feet to a point; thence South 63° 16' 26" West 25.88 feet to a point; thence South 17° 55' 39" West 68.74 feet to a point; thence leaving the line of said creek North 78° 00' 00" West 876.99 feet to a point; thence North 84° 10' 00" West 1370.01 feet to the point and place of BEGINNING, and being all of Tract 2 containing 23.62 acres as shown on a survey entitled "Exempt Subdivision prepared for Apex Land Assemblage, LLC" by Riley Surveying, P.A. dated May 13, 2005.

Tract 5 (Goodwin/ALAN):

BEING all that certain tract or parcel of land containing 54.650 acres, more or less, as shown on plat of survey entitled "Boundary Survey Prepared for Apex Land Assemblage, LLC" dated February 16, 2006 and revised February 23, 2006, prepared by Phillip W. Riley, professional Land Surveyor, of Riley Surveying, P.A. and recorded in Book of Maps 2006, Page 416, Wake County Registry, which plat is referenced for a more particular description.

Tract 6 (Adams):

BEING all that certain tract or parcel of land containing 86.334 acres as shown on plat of survey entitled "Boundary Survey, Prepared for HH Trinity Apex Investments, LLC, Holly Springs Township, Wake County, NC" dated September 17, 2007, prepared by Phillip W. Riley, Professional Land Surveyor, of Riley Survey, P.A. and recorded in Book of Maps 2007, Page 2469, Wake County Registry, which plat is referenced for a more particular description.

Tract 7 (Cox):

BEING all that certain tract or parcel of land containing 65.210 acres as shown on plat of survey entitled "Boundary Survey, Prepared for HH Trinity Apex Investments, LLC, Holly Springs Township, Wake County, NC" dated September 19, 2007, prepared by Phillip W. Riley, Professional Land Surveyor, of Riley Survey, P.A. and recorded in Book of Maps 2007, Page 2467, Wake County Registry, which plat is referenced for a more particular description.

Tracts 8 - 11 (Raymer):

BEING all those certain tracts or parcels of land designated as Tract I-A, containing 278.521 acres; Tract II, containing 2.134 acres; Tract III, containing 4.333 acres; and Tract 840' x 40', containing 0.626 acres, as shown on plat of survey entitled "Boundary Survey, Prepared for HH Trinity Apex Investments, LLC, Holly Springs Township, Wake County, NC" dated September 20, 2007, prepared by Phillip W. Riley, Professional Land Surveyor, of Riley Surveying, P.A. and recorded in Book of Maps 2007, Page 2468, Wake County Registry, which plat is referenced for a more particular description.

Tract 12 (Apex Town Square):

Being all of that certain tract of land lying in the Town of Apex, Holly Springs Township, Wake County, North Carolina, and being more particularly described as follows:

BEGINNING at an existing iron pipe at the northeastern corner of the now or formerly EMC Corporation property described in Deed recorded Book 2791, Page 428, Wake County Registry, said pipe also being located in the western line of the now or formerly Cash and Maynard Tract 1-A as shown on plat of survey recorded in Book of Maps 2003, Page 398, Wake County Registry (the "Plat"), said pipe being located North 02° 14' 00" East 271.08 feet from a common corner with said Cash and Maynard Tract 1-A and the now or formerly Cor Bregman property in said EMC Corporation's eastern property line as shown on the Plat; thence with said EMC Corporation's northern property line, South 89° 33' 33" West 1,910.66 feet to an existing iron pipe; thence with EMC Corporation's interior eastern property line, North 02° 07' 56" East

543.28 feet to an existing iron pipe, the southeastern corner of the now or formerly Colon Hobby property; thence with the eastern property line of said Colon Hobby property, North 00° 59' 41" East 734.53 feet to a set iron pipe marking the southwest corner of the said Cash and Maynard Tract 1-A; thence with said Cash and Maynard's Tract 1-A's southern property line and passing over an existing iron pipe at a distance of 15.08 feet, South 87° 48' 34" East 1,905.24 feet (total) to an existing iron pipe; thence continuing with said Cash and Maynard's Tract 1-A's interior western property line, South 01° 15' 42" West 1,190.09 feet to the point or place of BEGINNING, containing 53.939 acres, more or less, including any deed/survey gaps that may exist along the western line of the property herein described, as shown on the Plat, which Plat is referenced for a more particular description and being all of the property conveyed to Apex Town Square, LLC, by deed dated January 6, 2006, and recorded in Book 11766, Page 242, Wake County Registry.

Tract 13 (Bregman):

Lying and being in Town of Apex, Holly Springs Township, Wake County, North Carolina, and being more particularly described as follows:

BEGINNING at an existing iron pipe at a corner of the property now or formerly owned by Heartland Raleigh Apex U.S. 1 Limited Partnership (Book 4454, Page 666, Wake County Registry ["WCR"]), said pipe being located at NC Grid Coordinates: N=707,936.09; E2,048,195.68, and also being located South 31° 57' 19" West a distance of 2,292.37 feet (Grid) from NCGS Monument "TANK" (N=709,881.08; E2,049,408.93); from said POINT OF BEGINNING, running thence along and with the western line of the aforesaid Heartland Raleigh property the following courses and distances:

- South 02° 41' 34" West a distance of 537.74 feet to an existing iron pipe;
- South 02° 41' 34" West a distance of 100.28 feet to an existing iron pipe;
- South 02° 41' 34" West a distance of 2.08 feet to an existing iron pipe;
- South 02° 39' 56" West a distance of 37.18 feet to an existing iron pipe in the northern right-of-way of Technology Drive;

running thence along and with the northern right-of-way of Technology Drive the following courses and distances:

- along and with the arc of a curve to the left having a radius of 411.97 feet (Chord Bearing: South 60° 59' 56" West; Chord Distance: 224.57 feet) a distance of 227.45 feet to an existing iron pipe;
- South 45° 37' 55" West a distance of 288.89 feet to an existing iron pipe;
- South 44° 59' 17" West a distance of 549.68 feet to an existing iron pipe;
- South 44° 59' 17" West a distance of 70.66 feet to an existing iron pipe;
- along and with the arc of a curve to the right having a radius of 351.97 feet (Chord Bearing: South 57° 36' 33" West; Chord Distance: 151.96 feet) a distance of 153.17 feet to an existing iron pipe;
- along and with the arc of a curve to the right having a radius of 351.97 feet (Chord Bearing: South 79° 30' 30" West; Chord Distance: 115.27 feet) a distance of 115.79 feet to an existing iron pipe;
- South 88° 51' 29" West a distance of 164.77 feet to a point in the eastern line of property

now or formerly owned by Data General (Book 2791, Page 428, WCR);

leaving the northern right-of-way of Technology Drive and running thence along and with the eastern line of the aforesaid Data General property, North 02° 16' 29" East a distance of 1,200.00 feet to an existing iron pipe; continuing with the eastern line of the Data General property and running thence North 02° 17' 20" East a distance of 416.31 feet to an existing iron pipe in the southern line of the aforesaid Heartland Raleigh property; running thence along and with the southern line of the Heartland Raleigh property, South 86° 16' 48" East a distance of 1,218.14 feet to the POINT AND PLACE OF BEGINNING, containing 34.0763 acres, more or less, and being all of Tract 4 north of the right-of-way of Technology Drive, as shown on that certain survey entitled "Recombination And Minor Subdivision of Technology Drive Property For Thomas H. Byrd, III", dated December 11, 1996, and prepared by Niall W. Gillespie, R.L.S. (No. L-2629) (File Name: BYRDTOPO), to which survey reference is hereby made for a more particular description, and being the same property conveyed to Cor S. Bregman by deed recorded in Book 7409, Page 255, Wake County Registry, and being the same property conveyed to Cornelius S. Bregman and Kandes K. Bregman, as Trustees of the Cornelius and Kandes Bregman Trust, under Agreement dated September 20, 1999 by deed recorded in Book 10856, Page 2786, Wake County Registry, LESS AND EXCEPT (i) the property conveyed to Thomas H. Byrd, IV, and wife Lisa W. Byrd, by deed recorded in Book 10129, Page 491, Wake County Registry, and (ii) the property conveyed to the Department of Transportation by deed recorded in Book 8128, Page 153, Wake County Registry.

Tracts 14 - 15 (EMC):

Being all those certain tracts or parcels of land containing approximately 47.419 acres and identified as portions of parcel identification numbers 0740672147 (containing approximately 46.61 acres) and 0740570471 (containing approximately 77.66 acres), and as generally shown as Tract 2 on the map attached hereto as Schedule 1.

Tract 16 (Whitehouse):

Being all that certain tract or parcel of land containing approximately 27.47 acres and identified as parcel identification number 0740287376 and being the same property conveyed to Brenda P. Whitehouse, individually, a 55% undivided interest, and Brenda P. Whitehouse as Trustee of the Irene F. Prince Family Trust dated February 19, 2004, a 45% undivided interest, by deed recorded in Book 10680, Page 477, Wake County Registry.

Tract 17 (F. Prince):

Being all that certain tract or parcel of land containing approximately 75.63 acres and identified as parcel identification number 0740191376 and being the same property conveyed to F.D. Prince, Sr., sole Trustee, or his successors in trust, under the Frank Dixon Prince, Sr. Living Trust, dated October 20, 1988, and any amendments thereto, by deed recorded in Book 8291, Page 540, Wake County Registry.

Tract 18 (F. Prince):

Being all that certain tract or parcel of land containing approximately 21.36 acres and identified as parcel identification number 0730996270 and being the same property conveyed to F.D. Prince, Sr., sole Trustee, or his successors in trust, under the Frank Dixon Prince, Sr. Living Trust, dated October 20, 1988, and any amendments thereto, by deed recorded in Book 8291, Page 540, Wake County Registry.

Tract 19 (B. Prince):

Being all that certain tract or parcel of land containing approximately 32.06 acres and identified as parcel identification number 0741207566 and being the same property conveyed to William Ira Prince, III, by deed recorded in Book 2673, Page 652, Wake County Registry.

Tract 20 (J. Prince):

Being all that certain tract or parcel of land containing approximately 1.80 acres and identified as parcel identification number 0740293940 and being the same property conveyed to William I. Prince and Jean P. Prince, by deed recorded in Book 6217, Page 146, Wake County Registry.

Tracts 21-38 (Stephens):

Being all of those certain tracts or parcels of land identified as parcel identification numbers 0740886966, 0740991702, 0740992565, 0740991337, 0740991237, 0740990140, 0740980647, 0740982309, 0740982534, 0740982635, 0740982769, 0740982866, 0740982964, 0740982929, 0740992024, 0740992069, 0740992169 and 0740982764.

Tract 39 (Tew):

Being all that certain tract or parcel of land containing approximately 1.84 acres and identified as parcel identification number 0741203157 and being the same property conveyed to Kim Prince Tew, and husband, David Wayne Tew, by deed recorded in Book 10633, Page 1741, Wake County Registry.

Tract 40 (Huang):

Being all that certain tract or parcel of land containing approximately 13.33 acres and identified as parcel identification number 0740180091 and being the same property conveyed to Ruey Shiue Huang, Co-Trustee, and Edward K. Huang, Co-Trustee, of The Huang Family Trust, dated September 30, 2005, by deed recorded in Book 10656, Page 33, Wake County Registry.

Attachment B

Environmental Enhancement Plan

Veridea

Apex, NC

November 1, 2022

Revised: December 1, 2022

2nd Revision: January 31, 2023

3rd Revision: February 3, 2023

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INTRODUCTION

On May 10, 2011, the Town of Apex adopted the Veridea Sustainable Development Plan ("SD Plan"). As set forth in the SD Plan, Veridea will be planned and developed as a safe, healthy, resource efficient, pedestrian and transit-oriented mixed-use community in accordance with these Guiding Principles:

- Create economic value;
- Eliminate the concept of waste;
- Insist on a renewable future;
- Create delightful urban places; and
- Integrate nature throughout the community.

The SD Plan is intended to encourage a pattern of high density, pedestrian-friendly development in some areas of Veridea and the conservation or enhancement of natural space in other areas. This Environmental Enhancement Plan ("EEP"), required by SD Plan Article 3.1.2, sets forth specific environmental Sustainability Standards applicable to Veridea to guide the development of Veridea in accordance with the SD Plan pursuant to Article 2.3.16 F) 3) b) of the Apex Unified Development Ordinance ("UDO"). The Sustainability Standards set forth in this EEP are intended to protect natural resources and the environment in light of this development pattern and to address secondary and cumulative impacts associated with the infrastructure required for Veridea. Unless otherwise defined herein, capitalized terms used in this EEP have the same meaning assigned to them in the UDO and in the SD Plan.

A. Purpose of the Environmental Enhancement Plan (EPP)

Taken as a whole, the Sustainability Standards set forth in the SD Plan and the EEP will provide a level of environmental protection that equals or exceeds the traditional metrics set forth in the Apex UDO, State and federal laws. A development project of Veridea's scale affords a rare opportunity to meaningfully plan for a more resilient future, by implement best practices in diversifying land use, building design, waste avoidance, energy optimization, water conservation and protection, transportation and open space. The EEP provides a framework for sustainable development principles over the lifespan of this multi-phase project.

B. Balancing Growth and Environmental Protection

In an effort to provide a holistic review of the Town's growth projections and infrastructure planned to support that growth, the Town of Apex has prepared a Secondary and Cumulative Impact Master Mitigation Plan (the "SCIMMP"), which examines the potential secondary and cumulative impacts throughout the Town's Planning Area associated with planned infrastructure. The SCIMMP acknowledges that sprawling development—the secondary and cumulative impacts associated with water, sewer and transportation infrastructure—will result in adverse environmental impacts and points out that Apex has taken progressive steps to balance the competing goals of growth and environmental protection. As noted in the SCIMPP, Apex has implemented mitigation measures that limit sprawl by encouraging areas of higher density development, such as is represented by Veridea.

While the SCIMMP served as a point of reference, this EEP sets forth alternative standards as an enhancement and mitigation strategy to address the potential secondary and cumulative impacts noted in the SCIMMP that may occur within Veridea. Specifically, the EEP, like the measures noted in the SCIMPP, is intended to balance the goals of growth and environmental protection, by facilitating

compact, dense, development that, in certain respects, is inherently less impactful than automobile-oriented low density residential development and that also lends itself to innovative environmental protection measures. The compact urban spaces in Veridea will allow for the use of both structural and non-structural SCMs, including innovative techniques for urban areas, for water quality protection that meets or exceeds that required by the measures noted in the SCIMPP. Similarly, the compact urban spaces in Veridea will be pedestrian- bicycle- and transit-oriented and, for this reason, will result in decreased automobile use and vehicle miles traveled. The decreased dependence on automobiles within Veridea will, in turn, improve air quality through the reduction of vehicular traffic and mobile energy consumption. In combination, the SD Plan and the EEP will result in the creation of compact, walkable, vibrant, and interconnected community that balances the goals of development and environmental protection and offers residents and visitors a high quality of life.

C. Organization of the Environmental Enhancement Plan

The EEP is organized into the following sections:

1. Building Standards
2. Environmental and Natural Resource Protection
3. Stormwater & Surface Water Management
4. Land Management
5. Air Quality Protections

I. BUILDING STANDARDS

A. Energy

1. Non-Residential and Mixed-Use Buildings Energy Efficiency

a. In furtherance of the goals set forth in SD Plan 3.7.2, all non-residential and mixed-use buildings in Veridea shall provide plan analysis demonstrating improvement of energy performance by 20% compared to baseline building performance ratings per ASHRAE/ IESNA Standard 90.1-2010 Appendix G. (Note: 2010 ASHREA is being referenced here, consistent with current LEED Rating System benchmark standard)

b. At build-out of Veridea, a minimum of 50% of non-residential buildings within Veridea shall be certified under one of these 3rd Party Certification Program options:
   i. LEED Rating System
   ii. Green Globes
   iii. Fitwel
   iv. Similar alternative standard as determined by the Responsible Party

   Responsible Party will ensure the ability to meet this 50% commitment at the time of each non-residential building permit application to the Town of Apex.

c. Solar facilities may be installed on the roofs of building occupied by industrial uses. Installation of solar facilities will be subject to a Return of Investment Analysis consistent with industry practices.

d. Solar facilities will be installed in the open space required to be dedicated per the SD Plan.

e. Documentation
   i. For all buildings, a letter of compliance shall be provided to the Town with the submittal of building permits for that building by a Professional Engineer (PE) licensed to practice in North Carolina, an architect licensed in North Carolina, OR a qualified third-party certifier stating that, in his or her opinion, the building design demonstrates improvement of energy performance by 20% compared to baseline building performance ratings per ASHRAE/ IESNA Standard 90.1-2010 Appendix G.

   ii. For each building that is developed to meet the standards for certification under one of the 3rd Party Certification Options, a letter of building certification from the selected program shall be provided to the Town at building completion.

2. Residential Buildings Energy Efficiency

a. All single-family, townhomes, multi-family, and condominium residential dwelling units to be constructed in Veridea must meet at least one of the following options (or similar alternative standard as determined by the Responsible Party).
   i. Energy Star Program Certification
   ii. ecoSelect Program Certification
   iii. Clear Program Certification
   iv. Passive House Institute US Certification
   v. DOE Zero Energy Ready Home (ZERH) Program

vi. National Green Building Standards (NGBS Program) Certification
vii. LEED for Homes Program Certification
viii. Similar alternative standard as determined by the Responsible Party

b. Certification Program Approval – Prior to the recordation of any final plat for single-family, townhome, or condo lots Town of Apex staff shall review and approve the selected residential energy efficiency program for compliance with this Plan.

3. Renewable Energy

a. Veridea will create a receptive environment for solar energy technologies. Panels will be allowed on any roof orientation while also maintaining compliance with architectural design guidelines
b. Conduit for wiring of solar panels shall be provided in all single-family and townhome residential units.

B. Water Efficiency

All water fixtures and appliances shall be rated, and design of buildings shall incorporate water-saving measures. Proof of compliance with the provisions below will be per I.A.1.c hereof.

1. Bathroom Fixtures
   a. 100% of showerheads, lavatory faucets and toilets/urinals shall be WaterSense rated fixtures.

2. Water Using Appliances
   a. Dishwashers and clothes washers installed by builder must be Energy Star qualified.

3. Water Efficient Design for Residential Plumbing Systems
   a. To reduce water wasted while waiting for hot water to be delivered to a fixture, the hot water pipe length shall be no more than 50 feet when measured from the water heater to the furthest fixture for all residential units, where practicable. For units with recirculation systems installed, demand-initiated controls should be encouraged.

4. Landscape Practices
   a. Landscape plantings shall be drought tolerant, native, and locally adaptive species (including turf); at minimum 80% of plantings. Such plantings shall be presented on plans submitted to the Town of Apex for review.

   b. When installed, irrigation systems shall be equipped with weather-based or soil moisture sensor-based controllers. Spray heads shall be limited to turf areas only. Reclaimed water should be used if available.

C. Indoor Air Quality

Residential (single-family, townhome, multi-family, and condominium) designs and construction within Veridea shall include practices that enhance indoor air quality. Proof of compliance with provisions below will be provided per I.A.1.c and I.A.2.b hereof.

1. Building Envelope
    a. Smoking restrictions implemented AND ETS transfer pathways minimized for commercial and multi-unit residential buildings.

2. Mechanicals
    a. Equipment designed and selected to keep relative humidity < 60% for conditioned space.
    b. Minimum MERV 8 filter on forced air HVAC systems
    c. All fireplaces within conditioned space are direct vented with gasketed doors. NO UNVENTED/VENT FREE FIREPLACES allowed within conditioned space.

3. Materials
    a. Interior paints and finishes certified low emission (Zero or less than 50g/l VOC content).
    b. Carpet, carpet adhesives, and carpet cushion certified low emission per the Carpet and Rug Institute (CRI) Indoor Air Quality Program (CRI Green Label Plus).

D. Material Management

Proof of compliance with provisions below will be provided per I.A.1.c and I.A.2.b hereof.

1. Storage and Collection of Recyclables
    a. Within every mixed-use or nonresidential project, recycling containers adjacent to other waste receptacles or recycling containers integrated into the design of the receptacle shall be provided.

2. Recycled Content
    a. To increase demand for building products that incorporate recycled content materials, special consideration must be given to contractors proposing to use materials with recycled content.

3. Regional Materials
    a. To increase demand for building materials and products that are extracted and manufactured locally, and in doing so supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation, special consideration must be given to contractors proposing to use building materials or products which have been extracted, harvested or recovered, as well as manufactured, within 500 miles of Veridea.

II. ENVIRONMENTAL AND NATURAL RESOURCE PROTECTION

A. Resource Conservation Area – SD Plan Article 3.4.3.1.

From its inception, Veridea has been conceived of and planned as a place in harmony with its natural surroundings. The standards contained herein and in the SD Zoning Plan encourage and require site design techniques that preserve the natural and cultural environment, thereby enhancing the developed environment.

1. Standards

a. Resource Conservation Area (RCA) - Apex has recognized that compliance with the Town's existing RCA requirements set forth in the UDO would prevent certain highly desirable development characteristics, such as density and connectivity, and has exempted areas intended for dense activity centers from the requirement of RCA. In keeping with this precedent, and to achieve the vision of Veridea, as set forth in SD Plan Article 3.1.3, notwithstanding UDO Article 8.1.2.C), 100-acres of land within Veridea shall be established as RCA.

b. Establishment of RCA - Notwithstanding UDO Article 8.1.2.A), RCA shall be established in Veridea according to the criteria set forth in III.A.2 hereof. RCA shall be shown on Master Subdivision Plans and Site Plans where applicable.

2. Criteria for Establishing Resource Conservation Area in Veridea

A. Categories of RCA

1. UDO 8.1.2.B.1 shall apply within Veridea.

2. Restoration Areas – restored, repaired and/or stabilized degraded stream channels, restored or re-vegetated stream buffers, constructed wetlands areas that are restored using innovative techniques authorized in accordance with IV.A.1 hereof, and SCMs that are amenities in accordance with IV.A.2.d hereof may be established as RCA.

3. In addition, any land within the Veridea SD zoned area placed in a conservation easement and deeded to the Master Property Owners' Association, or sub-associations within Veridea, or a qualified land management agency, such as but not limited to the Triangle Land Conservancy, may qualify as RCA.

4. In addition, as set forth in SD Plan 3.4.3.1.e, both:
   a. Open Space, excluding Civic Buildings and all associated parking, municipal parking lots, and parking associated with Open Space that exceeds the direct needs of such Open Space; and
   b. Recreation area provided in Public Space or Civic Space within the Development including, but not limited to, open space, pools, tennis courts, tot lots, ball fields, and village greens shall be allowed to be counted as partial credit toward the RCA requirement. The credit for such area shall be 50% of the area provided. (For example, 1 acre of area shall count as 0.5 acres of RCA.) In order to qualify as RCA, the area must be located on a lot 0.5 acre or larger in size.

5. Land utilized for renewable energy generating facilities qualifies as RCA.

6. Existing or proposed private easements that are also utilized for a trail, for a pedestrian walkway, as a passive recreational amenity, through environmentally sensitive areas, or as community gardens for public educational, recreational, or shared community use shall qualify as RCA.

B. Site and Tree Survey Required
   1. UDO 8.1.2.B.2 shall apply within Veridea.

   2. Notwithstanding the foregoing, consistent with IV.C.1 hereof and Section 3.4.3.1 of the Veridea SD Plan, UDO 8.1.2.B.2.f shall not apply within Veridea.

C. Ownership of RCA in Subdivisions
   The RCA within a subdivision shall be designated so that the RCA may not be removed, modified, or damaged. The RCA shall be a separate Lot(s) and be owned in common by the Lot owners or owned by a separate entity or entities (e.g. property owner's association, development corporation, building lot owner or owners, land management agency or non-profit such as a land trust or conservancy, etc.) In no case shall the RCA for one subdivision be owned by more than 3 entities.

D. Designation of RCA
   Though RCA shall be calculated for Veridea cumulatively, approved RCA shall be shown on the Site Plan or Subdivision Plan for each development site. The RCA shall be shown on the final plat with metes and bounds, to be preserved in perpetuity.

F. Standards for Protection During Construction
   The standards set forth in UDO 8.1.2.G shall apply within Veridea except to the extent that such standard is inconsistent with the provisions of this EEP or SD Plan.

G. Development Restrictions on Steep Slopes
   UDO 8.1.4 shall apply within Veridea.

III. STORMWATER & SURFACE WATER MANAGEMENT

A. Stormwater Management – SD Plan 3.4.3.2.a.

As set forth in SD Plan 3.4.3.2.a, the objectives for stormwater management within Veridea are:

i. Reducing pollutants to protect surface water bodies;
ii. Promoting recharge of ground water resources;
iii. Reduce / minimize flooding within the Development and downstream;
iv. Enhancing safety and aesthetics for the public; and
v. Creating wildlife habitats and educational opportunities.

All SCMs implemented within Veridea shall comply with the NC Department of Environmental Quality (NC DEQ) Stormwater Design Manual Considerations for selecting and using SCMs within Veridea will include, but are not limited to: site applicability, public safety, spatial requirements, soil characteristics, hydrologic benefits, slope, existing land use conditions, and maintenance requirements. In addition to the items listed above, it is the goal to make stormwater features amenities within Veridea and assets to the overall aesthetics of Veridea and the Town.

1. Approved SCMs

The following SCMs are approved for implementation in Veridea.

a. Detention systems that capture a volume of runoff and temporarily detain that volume for release over several days.

b. Constructed wetland systems that are similar to retention and detention systems, except that a major portion of the SCM water surface area (in pond systems) or bottom (in meadow-type systems) contains wetland vegetation.

c. Filtration systems that use some combination of a granular filtration media such as sand, soil, organic material, carbon or a membrane to remove typical pollutants found in runoff.

d. Vegetated systems (biofilters) such as green roofs, green walls, swales, filter strips that are designed to convey and treat either shallow flow or sheet flow runoff.

e. Innovative systems, as defined by 15A NCAC 02H.1003(6), or proprietary systems, may be approved by the Town on a case-by-case basis.

f. Regional stormwater management facilities, to augment, and/or in lieu of, on-site treatment and detention for stormwater management that is implemented on a Lot by Lot or Project by Project basis, to the extent allowed by applicable Federal and North Carolina law and regulation.

2. SCM Standards

a. SCM's will be designed to provide a minimum of 85% TSS removal from stormwater runoff from their contributory drainage area.

b. Downstream of Veridea: post-development peak flows shall not exceed pre-development peak flows for the 25-, 10-, and 1-year storms. Roadway projects shown on the Thoroughfare and Collector Street Plan of the Town of Apex and undertaken in public rights-of-way within Veridea shall be deemed exempt from these requirements.

c. Storage volumes shall be provided such that the runoff from the required water quality storm event (1.0-inch of rainfall) does not draw down in less than two days and that the volume is drawn down completely within five days.

d. To enhance the overall aesthetics of Veridea and the Town, SCMs that are amenities within Veridea may receive credit toward the Open Space requirement per SD Plan 3.1.3 or Resource Conservation Area per SD Plan 3.4.3. For a SCM to receive credit toward the Open Space requirement, it shall be designed to provide at least five (5) of the following features:
   i. Pedestrian access by way of an installed soft or hard surface path from the nearest pedestrian pathway;
   ii. Use of similar plant materials as those used in adjacent and surrounding planting beds;
   iii. Limit rip rap to 15% of the total surface area of the stormwater facility used for stabilization;
   iv. Plant pallet comprised of native and adaptive plant material that provides for visual interest and diversity, while attracting wildlife;
   v. Curvilinear forms that define the limits of the facility to avoid simple shapes that are incongruent with the natural topography of the site;
   vi. Active water feature;
   vii. Elements that provide opportunities for passive recreation including site furnishings, overhead shelter, and pleasant views;
   viii. Educational opportunities in the form of educational signage;
   ix. Fitness opportunities added along a pathway; and

e. SCM's meeting the standards of III.A.2.a.2 hereof, exclusive of riprap areas, may receive credit as Resource Conservation Area.

f. Structural SCMs shall be designed in accordance with UDO 6.1.12 and other applicable Town standards.

g. Described area containing each structural SCM shall be depicted on the site plan or Subdivision Plan and on the final plat in accordance with UDO 6.1.12.C.

h. For all structural SCMs approved, the owner of such SCM shall have an operation and maintenance agreement in accordance with UDO 6.1.12.D. An operation and maintenance agreement shall not be required for non-structural SCMs. For the purposes of this EEP, non-structural SCMs shall be defined as practices implemented in single family residential or commercial applications that are less than one-acre of disturbed area and generally include but are not limited to: disconnecting downspouts and other runoff features, limiting impervious surface and land disturbance, and other non-structural practices as approved by the Town.

i. Performance guarantees, maintenance and maintenance guarantees and inspection requirements for SCMs shall comply with UDO 6.1.12.G), H), and I).

j. SCMs located in a public right-of-way or easement require an encroachment and maintenance agreement with the Town before such encroachment is made, in accordance with SD Plan 3.3.5.

k. Storm drainage easements shall be recorded to identify the locations of SCMs on a Lot(s). The owner of the Lot shall not remove or structurally alter such SCM without prior written approval from the Town.

3. Floodplain

a. FEMA regulated floodplain is located in the southwestern portion of the parcel. Local floodplain will be determined through the definition of a base flood elevation by means of a detailed hydraulic report for streams with a drainage area greater than 100-acres. Per allowances in the UDO 6.2.16.B, non-residential buildings shall be allowed in the floodplain, and there shall be no over-riding requirement to preserve floodplain as RCA.

b. Notwithstanding UDO 6.2.3, stormwater management, detention and retention facilities may encroach within potential on-site flood hazard areas where a base flood elevation has been established pursuant to UDO 6.2.17.B. Where proposed, the detailed hydraulic analysis revising the base flood elevation will be provided at the time of site plan or subdivision submittal.

c. Revisions / modifications to the base flood elevation, including but not limited to fill and grading, may be submitted at the time of site plan or subdivision plan submittal in the event that the flow within a stream is changed and will impact the base flood elevation. Any modifications to FEMA regulated floodplain will be permitted in accordance with local and federal regulations.

B. Water Conservation – SD Plan 3.4.3.2.b.

The careful stewardship of the use of water within Veridea is set forth in the SD Plan goals for water conservation are:

- Reducing per capita water use while retaining attractive landscapes;
- Protection of ground and surface water supplies from unsustainable depletion;
- Eliminating unnecessary waste in water use practices;
- Reducing wastewater treatment volume and associated municipal expenditures;
- Promoting the increased use of re-use water for irrigation.

To achieve these goals water conservation standards in Veridea will include:

1. Water Efficient Landscape Practices

a. Planting
   i. The planting of landscape materials shall be in accordance with the Town of Apex, NCDEQ, or North Carolina Cooperative Extension standards for drought tolerant, native, and locally adaptive species.
   ii. Plant materials shall be chosen to thrive based on their exposure to sun, wind, and soil conditions.
   iii. Landscape beds shall provide a 3" layer of mulching material.
   iv. Plants shall be grouped according to water needs, or "hydrozones," to limit overwatering.

b. Irrigation
   i. Irrigation systems shall be equipped with weather-based or soil moisture sensor-based controllers.
   ii. Installation of spray heads shall be limited to turf areas only.

2. Storm Water Re-use

a. Re-use of stormwater for non-potable applications such as irrigation, vehicle washing, cooling tower make-up water, etc. will be encouraged, for both commercial and residential applications. Stormwater reuse will be utilized in the portions of Veridea approved for multi-family uses. Installation of stormwater reuse facilities will be subject to the design teams review of the viability on each building. Landscaped areas within the multifamily residential development will be irrigated with stormwater reuse where practicable. Where re-use water is not available, potable water may be used for irrigation in accordance with the Town of Apex Water Conservation Ordinance.

b. Re-use water may be used for irrigation in areas of public or private lawns, landscaping or recreation area.

c. Where a centralized chiller plant is utilized, and where practical, re-use water may provide cooling tower make-up water.

C. Surface Water Enhancement – SD Plan 3.4.3.2.c.

As set forth in SD Plan 3.4.3.2.c, the objectives for surface water enhancement within Veridea are:

- Maintaining water quality by capturing or controlling sediment, nutrients, and other pollutants per the minimum requirements of the Town of Apex;
- Ensure that post-development peak flows do not exceed pre-development flows for the 25-year storm event;
- Augmenting low flow from SCM's to improve downstream aquatic habitat;
- Enhancing public use and enjoyment of the natural system; and
- Install signage prohibiting pet waste and use of fertilizers near environmentally sensitive areas.

1. Stream Protection Buffers -

Veridea is located in the Secondary Watershed Protection District per the Town of Apex Watershed Protection Overlay District dated May 2022 and will utilize the High-Density Development Option. All perennial and intermittent streams have been field verified by the Town of Apex; verification is included as Appendix A to this Plan. Stream buffers will be maintained pursuant to 6.1.7.B of the Town of Apex UDO.

As provided in 6.1.7.b.2 of the Town of Apex UDO, a vegetative buffer an average width of not less than 100' shall be maintained along each side of a perennial stream and at no point shall the buffer width be less than 50'. While buffer widths may vary from the map included as Appendix B of this Plan, final buffer area provided within Veridea shall not be less than 166.87 acres.

The Town of Apex verification of the perennial and intermittent streams shall be valid for the period of the validity of any Army Corps of Engineers Individual / Nationwide Permit.

a. Future buffer authorizations within Veridea shall be in accordance with process in Section 6.1.11 of the Town of Apex UDO.

b. Impacts to the established stream protection areas established herein shall be mitigated per Section 6.1.13 of the Town of Apex UDO.

c. For the purposes of this EEP, "stream protection areas" shall refer to protected areas including floodways and floodplains Buffer widths shall be as described in Appendix B.

2. Mitigation

With a project the size and density of Veridea some unavoidable impacts are necessary to accommodate the required vehicular and pedestrian transportation improvements and utility infrastructure. The EEP proposes specific mitigation options to address these impacts. These impacts will be limited, yet necessary to address:

- Vehicular and pedestrian transportation improvements and interconnectivity

- Utility infrastructure that will serve Veridea as well as adjacent lands which are yet to be developed.

- Non-erosive outlets for stormwater management facilities

- Intermittent streams and isolated wetland pockets as needed to create developable land areas to support the proposed densities.

a. Mitigation for impacts to wetlands will be accomplished per the regulations of the United States Army Corps of Engineers and North Carolina Division of Environmental Quality.

b. Mitigation for impacts to streams will be performed, as required by any applicable federal or state law or regulation. The appropriate parameter to use in establishing the required mitigation, length or area, will be selected based on the type of stream area impacted and the proposed mitigation measure selected.

c. In all cases where mitigation is required for impacts to the buffer, a Plan shall be submitted with each site plan or subdivision plan depicting the proposed mitigation for those impacts. The mitigation requirement may be met through one of the following options, which are consistent with mitigation alternatives set forth in UDO 6.1.14.C:
   i. Construction of an alternative measure or combination of measures that reduce nutrient loading equal to or better than the setback that is lost and that is approved by the Town. Such measures may include stormwater SCMs, including LID applications, and other means of capturing and controlling nutrients and other pollutants and shall be located on the site of the riparian buffer that is lost, if practicable, or as close to that location as is practicable;
   ii. Payment of compensatory mitigation fee to a private mitigation bank that complies with banking requirements of the US Army Corps of Engineers, currently set out at http://www.saw.usace.army.mil/WETLANDS/Mitigation/mitbanks.html or from the US Army Corps of Engineers, P.O. Box 1890, Wilmington, NC, 28402-1890;
   iii. Donation of real property or of an interest in real property pursuant to Sec. 6.1.14.F; or
   iv. Restoration or enhancement of a non-forested riparian buffer pursuant to the requirements of Sec. 6.1.14.G.

d. Any and all mitigation performed pursuant to this EEP shall be available for use as mitigation credit against a federal or North Carolina mitigation requirement.

e. The following two documents, along with the Veridea Guiding Principles, will be used as guidance in the preparation of the mitigation measures:
   i. "Stream Mitigation Guidelines, April 2003", published by the US Army Corps of Engineers, as may be amended or updated from time to time, attached as Appendix 8, in particular Section 10.A Flexible Stream Mitigation, Urban Watershed Management; and
   ii. "EEP Mitigation Plan Template, Version 2.0 03-27-08", prepared by the North Carolina Ecosystem Enhancement Program, as may be amended from time to

time.

f. The TRC or Town Council, as applicable, in the event of an exception granted in as contemplated by SD Plan 3.4.1, shall approve the mitigation measures upon finding that the plan provides for:
   i. The option chosen for meeting the mitigation requirement and the required area of mitigation;
   ii. Consistency with the standards set forth in IV.C.2.c hereof;
   iii. Engineering feasibility;
   iv. Operation and maintenance, if any is required hereunder; and
   v. The offset payment amount, as applicable.

IV. LAND MANAGEMENT

A. Sedimentation & Erosion Control Standards

The goals for sedimentation and erosion control set forth in the SD Plan 3.4.3.3.a are:

i. Minimize disturbance to vegetation and soils
ii. Minimize runoff and diversion;
iii. Minimize the need for additional storm drainage facilities;
iv. Reduce sedimentation; and
v. Prompt stabilization after land clearing and grading

The most effective sedimentation and erosion control prevention is born from careful planning of grading activities, continuous inspection of the installed erosion control devices and ongoing maintenance of the devices to insure optimal performance.

a. Design - The Town's standards for design for the 25-year storm event and 3,600 cubic feet of volume per disturbed acres shall be implemented in Veridea.

b. Shared facilities – To minimize grading, where stormwater management devices are proposed those devices may first serve as erosion control sediment basins or traps and be converted to permanent stormwater management devices as soon as the contributing drainage area is sufficiently stabilized.

c. Stabilization – All land disturbing activity is to be planned and coordinated, to the extent practical, to minimize the disturbed areas exposed at any one time. Disturbed areas must be seeded after 7-working days of completion of grading. All remaining areas must be seeded and mulched, or otherwise stabilized within 14 calendar days after completion of grading of any phase of the project.

d. Outlet structures shall be designed to only draw down the cleanest water from the surface of the erosion control device.

e. Along with the required inspections after each storm event, weekly inspections will be performed to ensure that the installed devices have not been altered by construction activities. A log will be maintained by the contractor on each project demonstrating the vigilant monitoring and maintenance of the erosion control facilities.

f. Due to the mixed-use nature of the Veridea, residential development of single-family lots, townhomes, and condominiums within Veridea, net of public rights-of-way, RCA, and public and private easements, shall be exempt from the requirements of Section 7.2.5 of the Town of Apex UDO. Site Plans for single-family only developments in Veridea shall not be exempt from the requirements of 7.2.5.

B. Waste Minimization – SD Plan 3.4.3.3.b.

The waste minimization standards shall support the solid waste goals identified in the Wake County Environmental Stewardship Agenda, adopted by the Wake County Board of Commissioners February 21, 2005 and as may be amended from time to time.

a. Land-clearing Debris - Excavated soil and rock and land-clearing debris shall be re-used, to the extent allowed by applicable federal, state and local law, within Veridea to the maximum extent practicable. To this end, land-clearing debris may be mulched and used for landscaping and/or site stabilization purposes within Veridea.

b. Soil Stockpiles – Soil stockpiles 30' or less in height shall be permitted within the boundaries of Veridea. Stockpiles over 30' in height, but not exceeding 50', shall be permitted provided they are setback from property lines and thoroughfares a minimum of 100'. The maximum slope permitted for soil stockpiles is 3:1.

c. Mulch Stockpiles – Mulch stockpiles shall not exceed 15 feet in height and shall be stored no longer than 45 days.

C. Perimeter Buffers

a. A 10' Type B buffer is required where the SD zoning abuts property zoned or used primarily for residential purposes. This buffer is intended to remain undisturbed. If disturbance is necessary due to site constraints or other limiting factors, the areas disturbed will be replanted per the Type A Buffer standards in the Town of Apex UDO.

b. A 10' Type B Buffer is required when the SD zoning abuts property zoned or used primarily for retail, industrial, or other similar uses. This buffer is intended to remain undisturbed. If disturbance is necessary due to site constraints or other limiting factors, the areas disturbed will be replanted per the Type A Buffer standards in the Town of Apex UDO.

c. A 50' Type B Buffer is required where the residential uses in the SD zoning abut the rights-of-way of US-1 and NC-540. This buffer is intended to remain undisturbed. If disturbance is necessary due to site constraints or other limiting factors, the areas disturbed will be replanted per the Type A Buffer standards in the Town of Apex UDO.

d. A 20' Type B Buffer is required where non-residential and vertical mixed uses abut the rights-of-way of US-1 and NC-540. This buffer is intended to remain undisturbed. If disturbance is necessary due to site constraints or other limiting factors, the areas disturbed will be replanted per the Type A Buffer standards in the Town of Apex UDO.

e. When a building is constructed within 25' of the right-of-way of NC HWY 55, a planted 10' Type D buffer is required adjacent to NC HWY 55. No building shall be closer than 10' to the required buffer. This buffer is intended to remain undisturbed. If disturbance is necessary due to site constraints or other limiting factors, the areas disturbed will be replanted per the Type A Buffer standards in the Town of Apex UDO.

f. When a building is constructed more than 25' from the right-of-way of NC HWY 55, a planted 15' Type A buffer is required adjacent to NC HWY 55. This buffer is intended to remain undisturbed. If disturbance is necessary due to site constraints or other limiting factors, the areas disturbed will be replanted per the Type A Buffer standards in the Town of Apex UDO.

g. If additional property is added to the SD zoning, buffers on existing and newly added property shall meet the preceding buffer requirements or be removed, as applicable.

h. Greenways and side paths are permitted to traverse perimeter buffers.

D. Landscaping

a. Where feasible, deciduous shade trees shall be planted on the south sides of buildings; evergreens shall be planted on the north side.

b. Pollinator friendly landscaping will be planted in landscaped areas where feasible.

c. All landscaping planted within Veridea shall be listed in the Town of Apex's Design and Development Manual.

V. AIR QUALITY PROTECTION

In recognition of the impacts of greenhouse gas emissions that a development the size of Veridea could have the SD Plan 3.4.3.4. establishes air quality goals. The following standards aim to achieve these goals.

a. Multiple land uses that will provide the services and facilities to increase the internal trip capture of the community and reduce vehicular trip generation and vehicle miles traveled both within and outside Veridea.

b. Interconnected development that will provide sidewalks, greenways and walking paths to link land uses through-out the development to be accessible by means other than motorized vehicles.

c. Linear parks will be constructed along Jessie Drive to encourage walking and biking, preserve and highlight environmental features, and provide active greens spaces for future residents and employees.

d. Coordination with and, where appropriate, provide accommodations for alternative modes of travel including rail, bus, ride sharing, charging stations for moving both within Veridea and to connect to the rest of the region. In coordination with Town staff around Apex's Comprehensive Transportation plan, mobility hubs and curb areas planned for quick and safe pick -up and drop offs in high-density, nixed use areas of the Project.

e. Significant open space, conservation area, landscape areas and street trees in high density areas to maintain a significant carbon absorbing medium.

f. Where practicable, buildings will be oriented toward pedestrian facilities or transit routes to promote modes of travel other than the single automobile.

g. To promote walkability, two grade-separated pedestrian crossings will be constructed. The crossings will be constructed as required per the Town of Apex's Comprehensive Transportation Plan, as amended.

h. Parking for electric vehicles and bicycles will be provided as required per the Town of Apex UDO.

i. Single-family homes will include a 240A/50V electrical outlet in garages for electric vehicle charging.

APPENDIX A

WATER RESOURCES DEPARTMENT

December 09, 2022

Steven Ball, RF, PWS
Soil & Environmental Consultants, PA
8412 Falls of Neuse Road, Suite 104
Raleigh, NC 27615

Subject: Stream Buffer Determination
Veridea
Apex, NC
Cape Fear River Basin

Apex 22-010

Dear Mr. Ball,

On December 07th, 2022, I met with you at the subject site to evaluate twenty-three (23) drainage features and determine if they are subject to the Town of Apex (Town) riparian buffer rules. Based on the information obtained during the evaluation and per the requirements set forth in Section 6.1.11 of the Town Unified Development Ordinance (UDO), I concur with the stream classifications as shown on the attached sketch dated 12-7-2022 and 11-22-2022 for SEV1.

Drainage Feature	Shown as on USGS	Shown as on Soil Survey	Determination made in the field	Determined Buffer Width
SEV1	Present	Perennial	Intermittent	50 feet
Feature 1 Upstream	Not Present	Intermittent	Ephemeral	0 feet
Feature 1 Downstream	Not Present	Intermittent	Intermittent	50 feet
Feature 2 Upstream	Not Present	Intermittent	Ephemeral	0 feet
Feature 2 Downstream	Not Present	Intermittent	Intermittent	50 feet
Feature 3 SFA	Not Present	Intermittent	Ephemeral	0 feet
Feature 3 SFB	Not Present	Intermittent	Intermittent	50 feet
Feature 4 Upstream	Not Present	Intermittent	Ephemeral	0 feet
Feature 4 Downstream	Not Present	Intermittent	Intermittent	50 feet

Feature 5 Upstream	Not Present	Intermittent	Ephemeral	0 feet
Feature 5 Downstream	Not Present	Intermittent	Intermittent	50 feet
Feature 6 Upstream	Not Present	Intermittent	Ephemeral	0 feet
Feature 6 Downstream	Not Present	Intermittent	Intermittent	50 feet
Feature 8 W	Not Present	Intermittent	Intermittent	50 feet
Feature 8 X	Not Present	Intermittent	Ephemeral	0 feet
Feature 9 Z	Not Present	Intermittent	Ephemeral	0 feet
Feature 10 Y	Not Present	Intermittent	Ephemeral	0 feet
Feature 11- I	Present	Perennial	Intermittent	50 feet
Feature 11-P	Present	Perennial	Perennial	100 feet
Feature 12	Present	Intermittent	Ephemeral	0 feet
Feature 13-E	Present	Intermittent	Ephemeral	0 feet
Feature 13-I	Present	Intermittent	Intermittent	50 feet
Stream 14	Not Present	Intermittent	Ephemeral	0 feet

This on-site determination shall expire five (5) years from the date of this letter. Landowners or affected parties that dispute a determination made by the Division of Water Resources (DWR) or Delegated Local Authority in the Jordan Lake watershed may request a determination by the DWR Director.

An appeal request must be made within sixty (60) days of date of this letter or from the date the affected party (including downstream and/or adjacent owners) is notified of this letter. A request for a determination by the Director shall be referred to in writing c/o Paul Wojoski, DWR – 401 & Buffer Permitting Branch; 1617 Mail Service Center, Raleigh, NC 27699-1617. Otherwise the appeal procedure will be in accordance with UDO Section 6.1.11.

If you dispute the Director's determination, you may file a petition for an administrative hearing. You must file the petition with the Office of Administrative Hearings within sixty (60) days of receipt of this notice of decision. A petition is considered filed when it is received in the Office of Administrative Hearings

during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official State holidays.

To request a hearing, send the original and one (1) copy of the petition to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714. A copy of the petition must also be served to the Department of Natural Resources, c/o Bill Lane, General Counsel, 1601 Mail Service Center, Raleigh, NC 27699-1601.

This determination is final and binding unless, as detailed above, you ask for a hearing or appeal within sixty (60) days. This project may require a Section 404/401 Permit for the proposed activity. Any inquiries should be directed to the US Army Corp of Engineers (Raleigh Regulator Field Office) at (919) 554-4884. If you have any questions, please do not hesitate to contact me at (919) 372-7470.

Sincerely,

James Misciagno, CES, CPESC
Environmental Field Services Supervisor

NORTH CAROLINA
WAKE COUNTY

RIGHT OF ENTRY

This Right of Entry is executed this 13 day of October, 2022 by HH Trinity Apex Investments LLC and Veridea Holdings LLC (the "Owners").

WHEREAS, the Town of Apex ("Town") is seeking to make a stream buffer determination across the property known as Veridea - South Village East in the Town of Apex, North Carolina and designated as PIN # 0740240514, 0740261491, 0740241020 by the Wake County Revenue Department (the "**Subject Property**");

WHEREAS, the Owners are agreeable to provide the Town with this Right of Entry under the terms and conditions stated herein so that the above referenced determination may proceed.

NOW THEREFORE in light of the above premises, the Owners do hereby grant and give freely and without coercion, the right of access and entry to the Subject Property on the terms and conditions as stated below:

1. The Town of Apex and its contractors may enter the Subject Property for the purpose of conducting on-site environmental investigations and issuing a determination based on those investigations as it relates to stream buffer determination.
2. This Right of Entry does not convey to the Town any title or ownership interest in the Subject Property.
3. The Town and its employees, contractors, agents and representatives enter upon the Subject Property at their own risk and assume all risks related to the property.
4. The undersigned agrees and warrants to hold harmless the Town of Apex, its agencies, departments, contractors, and subcontractors, and discharges and waives any action, either equitable or legal that arise from the activities described above on the property except in the case of negligence by the Town.

Witness Cynthia Redyyy By: _____

By: _____

Riparian Buffer Call
Application

This application is required to be fully completed and submitted to Town staff prior to conducting a buffer call. Please submit the application package electronically to james.miscione@apexnc.org.

PROPERTY INFORMATION

Owner(s): HH Trinity Apex Investments LLC / Veridea Holdings LLC

Site Address: Veridea Parkway - South of North Carolina Highway 540

CONSULTANT INFORMATION (If applicable)

Name: McAdams (William H. Derks)

Address: 621 Hillsborough Street, Raleigh, North Carolina 27603

Email: Derks@mcadamsco.com

Phone: 919- 361- 5000

CHECKLIST

Please place a checkmark in the spaces provided below to indicate that the required information has been provided with this submittal.

Right of Entry Form	X
NCDEQ Stream Identification Forms (v. 4.11)	X
Sketch Map*	X

Topo Map (most recent version)	X
1970 Wake County Soil Survey Map	X

*Sketch map should show all drainage features on the property with all applicable riparian buffers shown. Please clearly indicate or list which features are being called with this application.

NOTES

SIGNATURE (Consultant or Responsible Party)

By my signature below, I certify that the information provided with this application is accurate and truthful.

Date: October 21, 2022

East & South Village Delineation & Buffer Review.

The Preliminary Jurisdictional Determination (PJD) of streams and wetlands for the entirety of Veridea was reapproved by the USACOE and NCDENR on May 26, 2017. In discussions with the reviewers in preparation for the submittal of the Individual Permit (IP) application for Veridea it was agreed that that delineation would be utilized and would be extended by virtue of the IP approval for the duration of the IP.. There is precedent for a large IP to be approved for 25-years. The requested duration for the Veridea IP is 30-years.

It is understood that field conditions may change over time as development occurs in the watershed areas outside of the Veridea boundary. But the establishment of the buffers initially for East Village, and in the near future for the rest of Veridea, also need to have a longer commitment as well in order to have a reliable map for planning development that may occur 10-, 15, or 20-years from now.

To begin that confirmation field review of the streams in the East Village section of Veridea was completed by S&EC on September 29, 2022 and for South Village East on October 6, 2022. The scoring sheets are attached. The feature numbers below, from the recent review in the field, also have a reference to the Stream designation from the approved PJD. Discussion below references the inconsistencies of the PJD, Town's Watershed Protection Overlay Map, USGS, Wake County Soils Survey and field scoring sheets.

It is worth noting that all of the intermittent stream features shown on the East Village portion of Veridea are from designations on the Wake Co. Soils Survey. The Soils Survey was completed in 1970 and depicts the streams with intermittent buffers on the Town's map as either "Not crossable with tillage" or "Unclassified". None of the streams are shown on the online USGS Apex or New Hill Quad maps dated 2022.

Feature 1 (Stream LL) —This feature appears to extend upstream approx. 40-50' higher than the PJD. A new flag was hung (TOA 1) at the start point. Shown as a perennial stream on the PJD, intermittent on the Town's map, not identified on USGS and intermittent on the Soils Survey. Stream forms upstream and downstream were taken

Feature 2 (Stream II) – The start point stayed the same. A new flag was hung (TOA 2) start point. Stream forms were taken upstream and downstream

Feature 3 (Stream BB) - The pond is shown on USGS but not on the Soils Survey. Just the reverse for the stream. Not shown on USGS but indicated on the Soils Survey. Delineated as Intermittent Unimportant on the PJD. It appears that the buffer should start at the confluence of two minor draws from below the pond and the second running from the southeast. The feature begins at flag TOA 3, the buffer should not start until it reaches the drainage that runs north south from the pond as shown. There is also enough of a gap between the pond and this feature that the pond should not be buffered.

SEV1

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

South Village East 1

NC DWQ Stream Identification Form Version 4.1

Date: 10/06/2022	Project/Site: VERIDEA/11065	Latitude: 35.684766
Evaluator: SWEC - JOSHUA HARVEY	County: WAKE	Longitude: -78.855885
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 25.5	Stream Determination (circle one) Ephemeral (Intermittent) Perennial	Other *e.g. Quad Name:*

A. Geomorphology (Subtotal = 13.5)	Absent	Weak	Moderate	Strong
1* Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	0	(1)	2	3
7. Recent alluvial deposits	0	1	(2)	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = 0		Yes = 3	

*artificial ditches are not rated; see discussions in manual

B. Hydrology (0)				
12. Presence of Baseflow	0	(1)	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 0)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	(1)	1.5
24. Amphibians	0	0.5	(1)	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Per
USGS = Present

10/25/2022 JM

NC Division of Water Quality – Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1 TOA 1 – UPStream

Date: 9/29/22	Project/Site: Vereen - EU	Latitude: 35.695892
Evaluator: K. Murph.	County: Wake	Longitude: -78.63536
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 13	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other Apex *e.g. Quad Name*

A. Geomorphology (Subtotal = 6.5)	Absent	Weak	Moderate	Strong
1* Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	0	(1)	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel (artificial ditches are not rated; see discussions in manual)	No = (0)		Yes = 3	

B. Hydrology (Subtotal = 4.5)				
12. Presence of Baseflow	(3)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 2)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	2	(1)	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Int
USGS = NP

JM 10/31/2022

Down TOA-1 TOA1 - Down stream

NC Division of Water Quality – Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 9/24	Project/Site: Upside - EV	Latitude: 35.69571
Evaluator: BB/KM	County: Wake	Longitude: -78.83541
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 22.75	Stream Determination (circle one) Ephemeral (Intermittent) Perennial	Other 1 pge *e.g. Quad Name:*

A. Geomorphology (Subtotal = 13)	Absent	Weak	Moderate	Strong
1* Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	0	(1)	2	3
7. Recent alluvial deposits	0	(1)	(2)	3
8. Headcuts	0	(0.5)	1	1.5
9. Grade control	0	0.5	(1)	1.5
10. Natural valley	No = 0		Yes = 3	
11. Second or greater order channel				

*artificial ditches are not rated; see discussions in manual

B. Hydrology (4.5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (1)	

C. Biology (Subtotal = 5.25)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	(0.5)	1	1.5
24. Amphibians	(0)	(0.5)	1	1.5
25. Algae	(0)	0.5	(1)	1.5
26. Wetland plants in streambed	FACW = (0.75) OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Int

USGS = NP

JM 10/31/2022

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NCDWQ Stream Identification Form Version 4.1 TOA2 - UpStream

Date: 9/29/22	Project/Site: Veridea - EU	Latitude: 35.697061
Evaluator: BB/KM	County: Wake	Longitude: -78.836777
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 11.5	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other e.g. Quad Name:

A. Geomorphology (Subtotal = 7)	Absent	Weak	Moderate	Strong
1* Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	0	(1)	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel (artificial ditches are not rated; see discussions in manual)	No = (0)		Yes = 3	

B. Hydrology (0.5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	0.5	(0)
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = (0)		Yes = 3	

C. Biology (Subtotal = 4)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Int
USGS = NP

JM 10/31/2022

T to A 2 Below

NC Division of Water Quality – Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 9/29/22	Project/Site: Vericla - LU	Latitude: 35.696705
Evaluator: SB/KBM	County: Wake	Longitude: -78.83283
Total Points: Stream is at least intermittent if ≥ 19 or perennial if ≥ 30* (19) (13.5)	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other Apex e.g. Quad Name:

A. Geomorphology (Subtotal =)	Absent	Weak	Moderate	Strong
1ª Continuity of channel bed and bank	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	0	1	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel	No = 0		Yes = 3	

artificial ditches are not rated; see discussions in manual

B. Hydrology (1.5)				
12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 4)				
18. Fibrous roots in streambed	3	0	1	0
19. Rooted upland plants in streambed	3	0	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Int
USGS = NP

JM 10/31/2022

Feature 3 - SFA

NC Division of Water Quality – Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11

Date: 9/29/22	Project/Site: Verdera LV	Latitude: 35.701467
Evaluator: SB KM	County: Wake	Longitude: -78.852971
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** (7)	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other e.g. Quad Name: Apex

A. Geomorphology (Subtotal = 3.5)	Absent	Weak	Moderate	Strong
1* Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	(0)	1	2	3
4. Particle size of stream substrate	(0)	1	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

*artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 1.5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = (0)		Yes = 3	

C. Biology (Subtotal = 2)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	2	(1)	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75 OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Int

USGS = NP

JM 11/16/2022

41

Feature 3-SFB

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11

Date: 9/29/22	Project/Site: Veridea EV	Latitude: 35.700 [illegible]
Evaluator: SB KM	County: Wake	Longitude: -78.[illegible]205
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 19	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other e.g. Quad Name: [illegible]

A. Geomorphology (Subtotal = 9.5)	Absent	Weak	Moderate	Strong
1a. Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	0	(1)	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	0	(1)	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

a artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 4.5)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	0	(0.5)	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75 OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

41

Soils = Int
USGS = NP

JM 11/21/2022

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1 TOA 4_ upstream

Date: 9/29/22	Project/Site: Uwharrie - EU	Latitude: 35.701476
Evaluator: SM/KM	County: Uwharrie	Longitude: -79.83539
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 9.5	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other Apex *e.g. Quad Name:*

A. Geomorphology (Subtotal = 4.5)	Absent	Weak	Moderate	Strong
1* Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	(0)	1	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	0	(1)	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

artificial ditches are not rated; see discussions in manual

B. Hydrology				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = (0)		Yes = 3	

C. Biology (Subtotal = 4)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Int
USGS = NP

SM 10/21/2022

10A4 Downstream below

NC Division of Water Quality – Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 9/29/22	Project/Site: Verdlea - LEV	Latitude: 39.701532
Evaluator: SB3/KM	County: Wake	Longitude: 78.83550
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 19.5	Stream Determination (circle one) Ephemeral (Intermittent) Perennial	Other Apex e.g. Quad Name:

A. Geomorphology (Subtotal = 10.5)	Absent	Weak	Moderate	Strong
1* Continuity of channel bed and bank	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	0	1	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel	No = 0		Yes = 3	

*artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 6)				
12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal =)				
18. Fibrous roots in streambed	3	2	1	0
19. Rooted upland plants in streambed	3	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Int

USGS = NP

JM 10/31/2022

NC Division of Water Quality – Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1 TOA 5- upstream

Date: 9/29/22	Project/Site: Vereden - LV	Latitude: 35.69974
Evaluator: SB/KM	County: Wake	Longitude: -78.839869
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 17	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other e.g. Quad Name: Apex

A. Geomorphology (Subtotal = 8)	Absent	Weak	Moderate	Strong
1a. Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	0	(1)	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel (artificial ditches are not rated; see discussions in manual)	No = 0		Yes = 3	

B. Hydrology (Subtotal = 4)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	(3)	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Int

USGS = NP

JM 10/31/2022

Below TOT & Downstream

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 9/29/22	Project/Site: Vendue - EV	Latitude: 35.694426
Evaluator: SB/KM	County: Wake	Longitude: -78.83[illegible]23
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 21.75	Stream Determination (circle one) Ephemeral (Intermittent) Perennial	Other Apex *e.g. Quad Name:*

A. Geomorphology (Subtotal = 12)	Absent	Weak	Moderate	Strong
1st Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	0	(1)	(2)	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	(1.5)
11. Second or greater order channel *artificial ditches are not rated; see discussions in manual*	No = (0)		Yes = 3	

B. Hydrology (5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(0.5)	0.5	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 4.5)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	0	0.5	1	(1.5)
26. Wetland plants in streambed	FACW = (0.75) OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Int
USGS = NP

JM 10/31/2022

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1 TOA 6 - upstream

Date: 9/29/22	Project/Site: Vanden - EV	Latitude: 35.648558
Evaluator: SB/KM	County: Wake	Longitude: -78.841210
Total Points: 14 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30**	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other Apex e.g. Quad Name:

A. Geomorphology (Subtotal = 5.5)	Absent	Weak	Moderate	Strong
1* Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	1	(1.5)
11. Second or greater order channel	No = (0)		Yes = 3	

*artificial ditches are not rated; see discussions in manual

B. Hydrology (3.5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	(0)	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Int

USGS = NP

JM 10/31/2022

To A6* Below / Downstream

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 9/29/22	Project/Site: Veridea-LV	Latitude: 36.648274
Evaluator: SB/KM	County: Davie	Longitude: -80.842114
Total Points: (20) *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other Apex *e.g. Quad Name:*

A. Geomorphology (Subtotal = 12)	Absent	Weak	Moderate	Strong
1st Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	0	(1)	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	0	1	(2)	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	0.5	1	(1.5)
11. Second or greater order channel	No = 0		Yes = 3	

*artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 5.0)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	(1)	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 4.5)				
18. Fibrous roots in streambed	3	(2)	(1)	0
19. Rooted upland plants in streambed	3	(2)	(1)	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	0.5	1	1.5
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Int
USGS = NP

SM 10/31/2022

Stream Form. W
Feature - S ?

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11

Date: 9/29/22	Project/Site: Meridian EV	Latitude: 35.701029
Evaluator: SB KM	County: Wake	Longitude: -78.843825
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 19	Stream Determination (circle one) Ephemeral (Intermittent) Perennial	Other Apex *e.g. Quad Name:*

A. Geomorphology (Subtotal = 10.5)	Absent	Weak	Moderate	Strong
1* Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	0	(1)	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

*artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 4.5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 4)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	(0)	0.5	1	1.5

*perennial streams may also be identified using other methods. See p. 35 of manual. FACW = 0.75; OBL = 1.5 Other = 0

Notes:

Sketch:

Soils = InT
USGS = NP

JM 11/21/2022

8

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Stream Form X-Feature 8

NC DWQ Stream Identification Form Version 4.1

Date: 9/30/22	Project/Site: Veridea - EV	Latitude: 35.70089
Evaluator: SB/KM	County: Wake	Longitude: -78.48436
Total Points: 13 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30**	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other Apex *e.g. Quad Name*

A. Geomorphology (Subtotal = 4)	Absent	Weak	Moderate	Strong
1* Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	(0)	1	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	(1)	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = 0		Yes = 3	

*artificial ditches are not rated; see discussions in manual

B. Hydrology (5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	(0)	0.5	(1)	1.5
16. Organic debris lines or piles	0	0.5	(1)	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 4)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = INT
USGS = NP

10/31/2022

~~Do not need to see~~
~~Fill~~ OM

9

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Stream form Z-Feature 9

NC DWQ Stream Identification Form Version 4.1

Date: 9/29/22	Project/Site: Vanderlea -LEV	Latitude: 35.648238
Evaluator: SB/KM	County: Wake	Longitude: -78.84806
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 18	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other e.g. Quad Name: Apex

A. Geomorphology (Subtotal = 8)	Absent	Weak	Moderate	Strong
1ª Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure; ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	0	(1)	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel (artificial ditches are not rated; see discussions in manual)	No = (0)		Yes = 3	

B. Hydrology (5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	(1)	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0*
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Int
USGS = NP

JM 10/31/2022

10

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Stream form Y-Feature 10

NC DWQ Stream Identification Form Version 4.1

Date: 9/29/22	Project/Site: Vulcan LEV	Latitude: 35.6953
Evaluator: SB/VM	County: Wake	Longitude: -78.84584
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 15	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other e.g. Quad Name:

A. Geomorphology (Subtotal = 5)	Absent	Weak	Moderate	Strong
1* Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	(0)	1	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel artificial ditches are not rated; see discussions in manual	No = (0)		Yes = 3	

B. Hydrology (5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	(1)	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Int
USGS = NP

JM 10/31/2022

Stream Form [illegible] - Feature 11

11-I

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11

Date: 12/7/22	Project/Site: Verida EV	Latitude: 35.70463
Evaluator: SBell	County: Wake	Longitude: -78.843506
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 26.5	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other e.g. Quad Name: Apex

A. Geomorphology (Subtotal = 15)	Absent	Weak	Moderate	Strong
1ª Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	0	(1)	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	0	(1)	2	3
9. Grade control	0	0.5	(1)	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = 0		Yes = (3)	

ª artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 7.5)				
12. Presence of Baseflow	0	1	(2)	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	0.5	(1)	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 4)				
18. Fibrous roots in streambed	3	(0)	1	0
19. Rooted upland plants in streambed	3	(0)	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Perennial

USGS = Present

JM 12/8/2022

Stream Form ~~UG~~ 11-P

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11

Date: 12/7/22	Project/Site: Veridea LV	Latitude: 35.704339
Evaluator: SBall	County: Wake	Longitude: -78.84395
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 32	Stream Determination (circle one) Ephemeral Intermittent (Perennial)	Other Apex e.g. Quad Name:

A. Geomorphology (Subtotal = 18)	Absent	Weak	Moderate	Strong
1* Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	(2)	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	0	1	(2)	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	0	1	(2)	3
9. Grade control	0	0.5	(1)	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = 0		Yes = (3)	

*artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 8.5)				
12. Presence of Baseflow	0	1	(2)	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	(1.5)	1	0.5	0
15. Sediment on plants or debris	0	0.5	(1)	1.5
16. Organic debris lines or piles	0	0.5	(1)	1.5
17. Soil-based evidence of high water table?	No = 0		Yes (3)	

C. Biology (Subtotal = 6.5)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	0	(0.5)	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

41

Soils = Perennial
USGS = present

JM 12/8/2022

Veridea EAST FEATURE 12

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11

Date: 12/5/2022	Project/Site: VERIDEA EAST	Latitude: 35.705299
Evaluator: SHEC - JOSHUA HARVEY	County: WAKE	Longitude: -78.847135
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 12.5	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other *e.g. Quad Name:*

A. Geomorphology (Subtotal = 7)	Absent	Weak	Moderate	Strong
1ª. Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	0	(1)	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	0	(1)	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = 0		Yes = 3	

ª artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 0.5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	(0)	0.5	1	1.5
17. Soil-based evidence of high water table?	No = (0)		Yes = 3	

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Int

USGS = Present

JM 12/8/2022

Veridea East FEATURE 13 E

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11

Date: 12/5/2022	Project/Site: VERIDEA EAST	Latitude: 35.702822
Evaluator: SREC - JOSHUA HARVEY	County: WAKE	Longitude: -78.847666
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 15.5	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other *e.g. Quad Name:*

A. Geomorphology (Subtotal = 7.5)	Absent	Weak	Moderate	Strong
1* Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	(No = 0)		Yes = 3	

*artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 2)				
12. Presence of Baseflow	0	(1)	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	(No = 0)		Yes = 3	

C. Biology (Subtotal = 6)				
18. Fibrous roots in streambed	(3)	2	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Int

USGS = Present

12/8/2022

Veridea East FEATURE 13 I

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11

Date: 12/5/2022	Project/Site: VERIDEA EAST	Latitude: 35.702124
Evaluator: SEE - JOSHUA HARVEY	County: WAKE	Longitude: -78.846123
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 21	Stream Determination (circle one) Ephemeral (Intermittent) Perennial	Other *e.g. Quad Name:*

A. Geomorphology (Subtotal = 9.5)	Absent	Weak	Moderate	Strong
1a. Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	0	(1)	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	0	(1)	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	(No = 0)		Yes = 3	

a artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 5.5)				
12. Presence of Baseflow	0	(1)	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		(Yes = 3)	

C. Biology (Subtotal = 0)				
18. Fibrous roots in streambed	(3)	2	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Int

USGS = Present JM 12/6/2022

Verdea EAST FEATURE 14

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11

Date: 12/5/2022	Project/Site: VERIDEA EAST	Latitude: 35.700972
Evaluator: SCC. JOSHUA HARVEY	County: WAKE	Longitude: -78.748283
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** No Scoreable Feature	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other *e.g. Quad Name:*

A. Geomorphology (Subtotal =)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	0	1	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal =)				
12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal =)				
18. Fibrous roots in streambed	3	2	1	0
19. Rooted upland plants in streambed	3	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

No Scoreable Feature JM

SOILS = Int
US62 = NP

12/8/2022

12/8/2022 CH

Project Number: 11065.W4	Map Title: SS Map Veridea Wake County, NC
Project Manager: DS	
Scale: 1" = 1750'	Source: Wake County Soil Survey Sheets 74, 75, 82 & 83
Date: 09/10/2021	

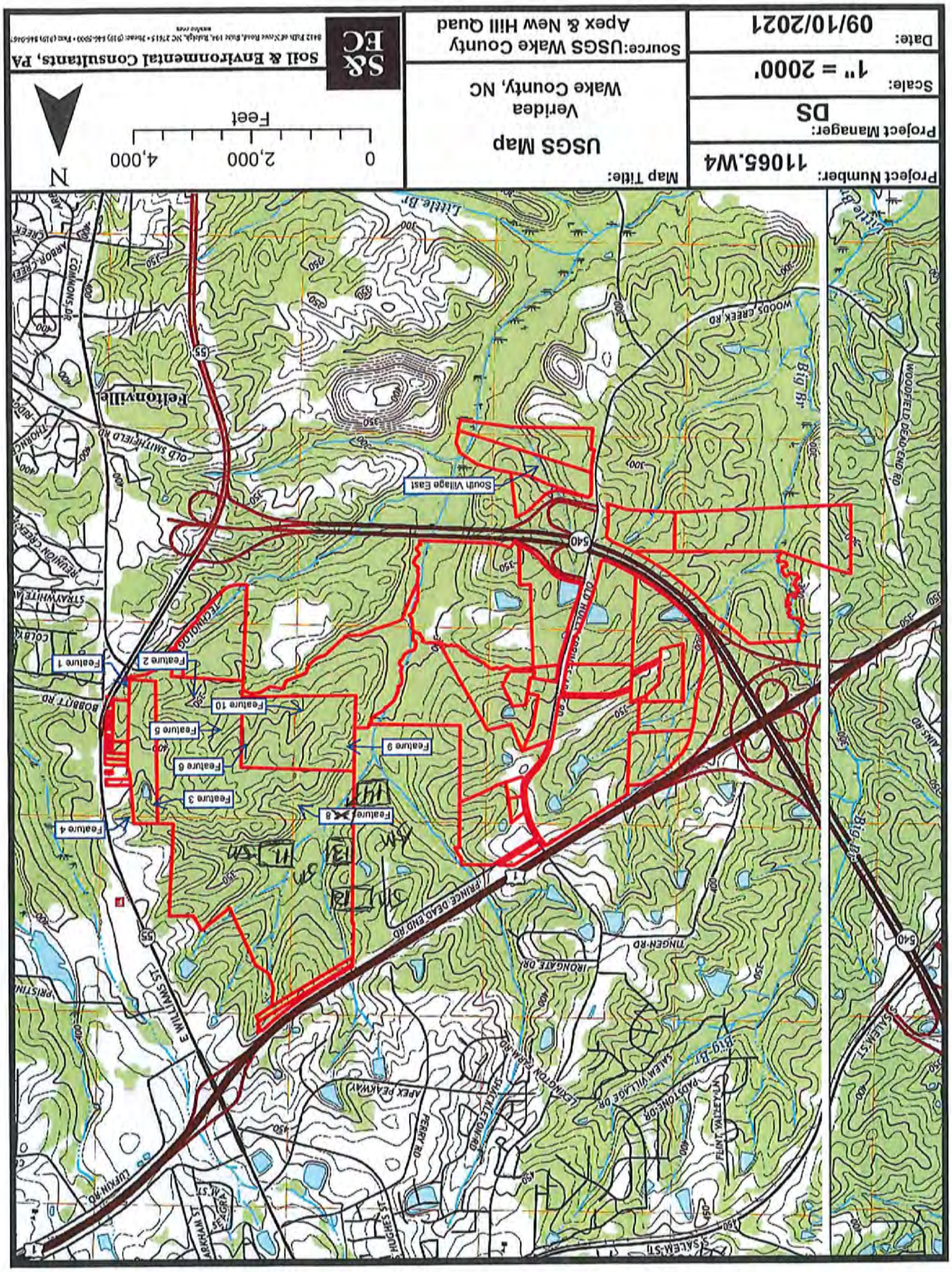
S&EC
Soil & Environmental Consultants, PA
8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615 • Phone: (919) 846-5900 • Fax: (919) 846-9467
soilandec.com

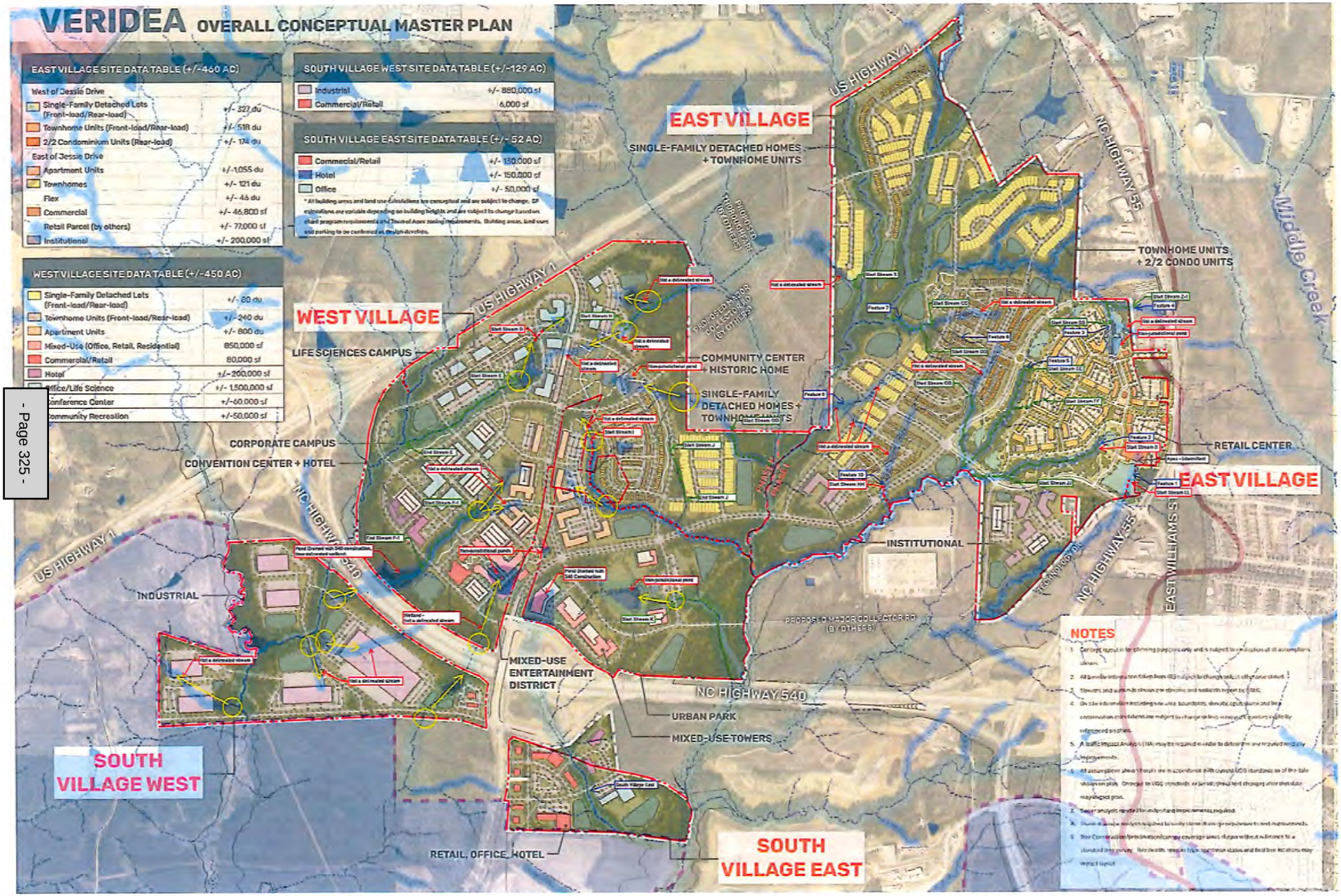
CM 12/8/2022

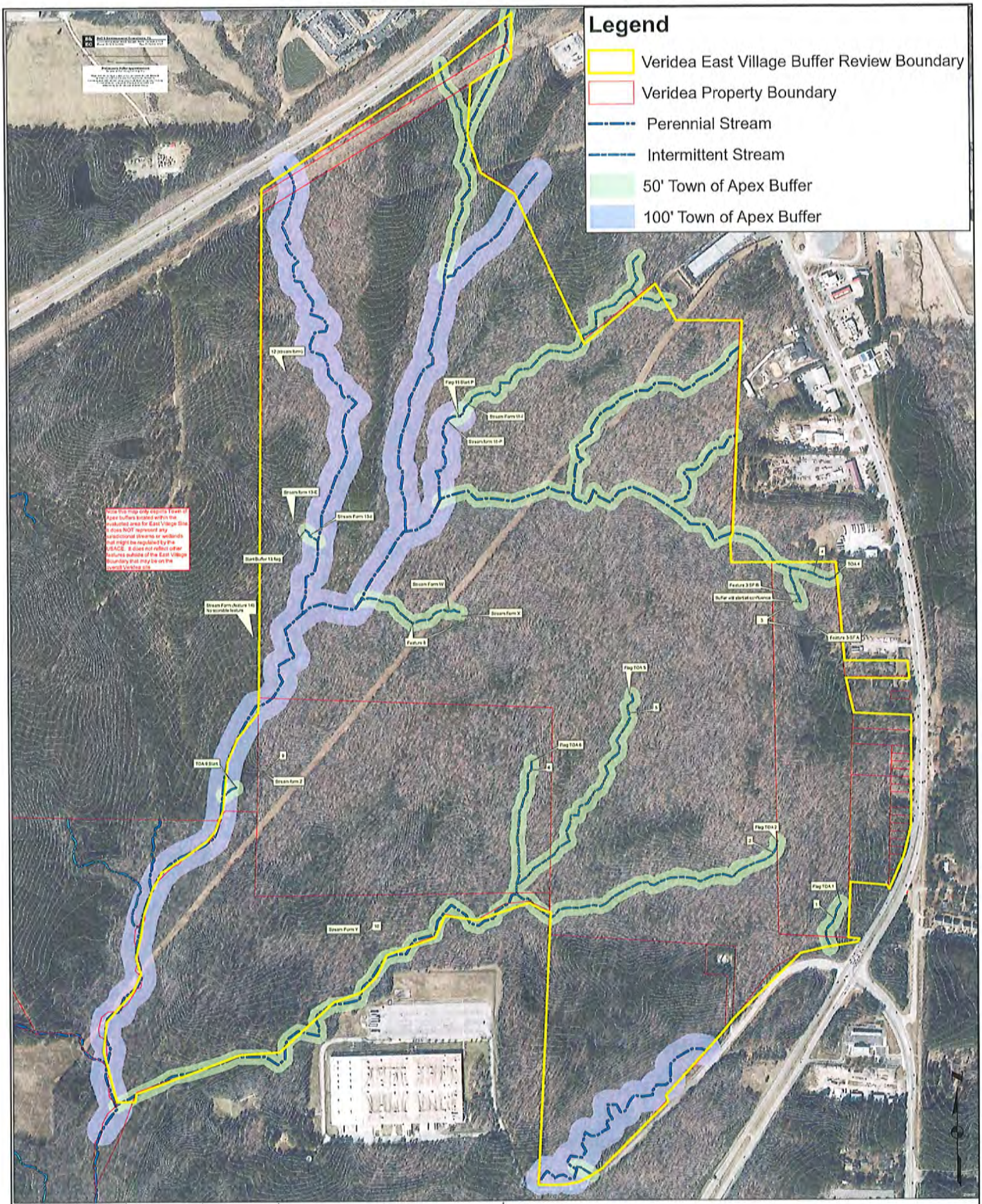
East Village Buffer Map
Verlidea
Project No.
11065.VA6
Scale:
1" = 200'
NO Overlap
Wake County GIS
Project Mgr.:
SB
12/7/22
Prepared by: JH
SR EC
Soil & Environmental Consultants, PA
0 205 410 820
Feet
Legend
Verlidea East Village Buffer Review Boundary
Verlidea Property Boundary
Perennial Stream
Intermittent Stream
50' Town of Apex Buffer
100' Town of Apex Buffer

SM 11/22/2022

Project No.
11665.WS
Project Mgr.:
SB
Scale:
1" = 150'
NC OneMap
Wake County GIS
11/22/22
Prepared by: JH
Southeast Village Buffer Map
Verldea
S&EC
Soil & Environmental Consultants, PA
0
100
200
400
Feet
Legend
Town of Apex Perennial Stream
Town of Apex Intermittent Stream
50' Town of Apex Buffer
100' Town of Apex Buffer
Property Boundary


Project Number: 11065.W4
Project Manager: DS
Scale: 1" = 2000'
Date: 09/10/2021
Map Title: USGS Map
Veridea
Wake County, NC
Source: USGS Wake County
Apex & New Hill Quad
Soil & Environmental Consultants, PA
0
2,000
4,000
Feet
N
South Village East
Feature 1
Feature 2
Feature 3
Feature 4
Feature 5
Feature 6
Feature 9
Feature 10
Fellonsville
Big Br
Little Br
WOODS CREEK RD
OLD SMITHFIELD RD
BOBBITT RD
PRINCE DEAD END RD
IRONGATE DR
APEX PEAKWAY
PERRY RD
LUFKIN RD
SALEM ST
HUGHES ST
540
55
1


VERIDEA OVERALL CONCEPTUAL MASTER PLAN
EAST VILLAGE SITE DATA TABLE (+/-460 AC)
West of Jessie Drive
Single-Family Detached Lots (Front-load/Rear-load) +/- 327 du
Townhome Units (Front-load/Rear-load) +/- 518 du
2/2 Condominium Units (Rear-load) +/- 174 du
East of Jessie Drive
Apartment Units +/-1,055 du
Townhomes +/- 121 du
Flex +/- 46 du
Commercial +/- 46,800 sf
Retail Parcel (by others) +/- 77,000 sf
Institutional +/- 200,000 sf
SOUTH VILLAGE WEST SITE DATA TABLE (+/-129 AC)
Industrial +/- 880,000 sf
Commercial/Retail 6,000 sf
SOUTH VILLAGE EAST SITE DATA TABLE (+/- 52 AC)
Commercial/Retail +/- 130,000 sf
Hotel +/- 150,000 sf
Office +/- 50,000 sf
WEST VILLAGE SITE DATA TABLE (+/-450 AC)
Single-Family Detached Lots (Front-load/Rear-load) +/- 80 du
Townhome Units (Front-load/Rear-load) +/- 240 du
Apartment Units +/- 800 du
Mixed-Use (Office, Retail, Residential) 850,000 sf
Commercial/Retail 80,000 sf
Hotel +/- 200,000 sf
Office/Life Science +/- 1,500,000 sf
Conference Center +/-60,000 sf
Community Recreation +/-50,000 sf
EAST VILLAGE
SINGLE-FAMILY DETACHED HOMES + TOWNHOME UNITS
TOWNHOME UNITS + 2/2 CONDO UNITS
RETAIL CENTER
EAST VILLAGE
INSTITUTIONAL
WEST VILLAGE
LIFE SCIENCES CAMPUS
COMMUNITY CENTER + HISTORIC HOME
SINGLE-FAMILY DETACHED HOMES + TOWNHOMES
CORPORATE CAMPUS
CONVENTION CENTER + HOTEL
INDUSTRIAL
MIXED-USE ENTERTAINMENT DISTRICT
URBAN PARK
MIXED-USE TOWERS
RETAIL, OFFICE, HOTEL
SOUTH VILLAGE WEST
SOUTH VILLAGE EAST
US HIGHWAY 1
NC HIGHWAY 55
NC HIGHWAY 540
EAST WILLIAMS ST
Middle Creek
PROPOSED MAJOR COLLECTOR RD (BY OTHERS)
NOTES



Project No. 11065.W5	Scale: 1" = 200'	NC OneMap Wake County GIS	East Village Buffer Map Veridea	Soil & Environmental Consultants, PA	0 205 410 820 Feet
Project Mgr.: SB	12/7/22	Prepared by: JH			

January 27, 2023

Steven Ball, RF, PWS
Soil & Environmental Consultants, PA
8412 Falls of Neuse Road, Suite 104
Raleigh, NC 27615

Subject: Stream Buffer Determination
Veridea West Village Ph II
Apex, NC
Cape Fear River Basin

Apex 22-017

Dear Mr. Ball,

On January 20th and 27th, 2023, we met with your staff AJ and Kevin Murphrey at the subject sites to evaluate forty (40) drainage features and determine if they are subject to the Town of Apex (Town) riparian buffer rules. Based on the information obtained during the evaluations and per the requirements set forth in Section 6.1.11 of the Town Unified Development Ordinance (UDO), I concur with the stream classifications as shown on the attached sketch dated 12-02-2022.

Drainage Feature	Shown as on USGS	Shown as on Soil Survey	Determination made in the field	Determined Buffer Width
Feature B – West SF14	Not Present	Intermittent	Ephemeral	0 feet
Feature C – West SF1	Present	Perennial	Intermittent	50 feet
Feature C – West SF16	Not Present	Intermittent	Ephemeral	0 feet
Feature C – West SF5	Not Present	Perennial	Ephemeral	0 feet
Feature E – West SF4	Not Present	Intermittent	Ephemeral	0 feet
Feature G – West SF40	Not Present	Intermittent	Ephemeral	0 feet
Feature H – West SF3	Not Present	Intermittent	Ephemeral	0 feet
Feature J – West SF2	Not Present	Intermittent	Ephemeral	0 feet
Feature K – West SF28	Not Present	Intermittent	Ephemeral	0 feet

Feature K – West SF29	Not Present	Intermittent	Intermittent	50 feet
Feature K – West SF30	Not Present	Intermittent	Ephemeral	0 feet
Feature K – West SF31	Not Present	Intermittent	Ephemeral	0 feet
Feature K – West SF32	Not Present	Intermittent	Intermittent	50 feet
Feature L – West SF15	Not Present	Intermittent	Ephemeral	0 feet
Feature AA – West SF6	Present	Perennial	Ephemeral	0 feet
Feature O – West SF13	Present	Perennial	Intermittent	50 feet
Pond 6	Present	Present	Intermittent	50 feet
Feature O – West SF12	Present	Perennial	Ephemeral	0 feet
Feature O – West SF10	Present	Perennial	Ephemeral	0 feet
Feature O – West SF11	Present	Perennial	Intermittent	50 feet
Feature O – West SF9	Present	Perennial	Ephemeral	0 feet
Feature O – West SF8	Present	Perennial	Intermittent	50 feet
Feature P – West SF37	Not Present	Intermittent	Ephemeral	0 feet
Feature Q – West SF7	Not Present	Intermittent	Ephemeral	0 feet
Feature R – West SF27	Not Present	Intermittent	Ephemeral	0 feet
Feature R – West SF25	Not Present	Intermittent	Intermittent	50 feet
Feature S – West SF26	Not Present	Intermittent	Ephemeral	0 feet
Feature T – West SF24	Not Present	Perennial	Ephemeral	0 feet
Feature T – West SF20	Not Present	Perennial	Intermittent	50 feet
Feature U – West SF23	Not Present	Intermittent	Ephemeral	0 feet

Feature V – West SF35	Not Present	Intermittent	Ephemeral	0 feet
Feature V – West SF36	Not Present	Intermittent	Intermittent	50 feet
Feature V – West SF34	Not Present	Intermittent	Perennial *Intermittent on Soils	50 feet
Feature W – West SF17	Not Present	Intermittent	Ephemeral	0 feet
Feature X – West SF22	Not Present	Intermittent	Ephemeral	0 feet
Feature X – West SF21	Not Present	Intermittent	Intermittent	50 feet
Feature X – West SF41	Not Present	Intermittent	Ephemeral	0 feet
Feature Y – West SF18	Not Present	Perennial	Ephemeral	0 feet
Feature Y – West SF19	Not Present	Perennial	Intermittent	50 feet
Feature BB – West SF38	Not Present	Intermittent	Ephemeral	0 feet
Feature CC – West SF39	Not Present	Intermittent	Ephemeral	0 feet

This on-site determination shall expire five (5) years from the date of this letter. Landowners or affected parties that dispute a determination made by the Division of Water Resources (DWR) or Delegated Local Authority in the Jordan Lake watershed may request a determination by the DWR Director.

An appeal request must be made within sixty (60) days of date of this letter or from the date the affected party (including downstream and/or adjacent owners) is notified of this letter. A request for a determination by the Director shall be referred to in writing c/o Paul Wojoski, DWR – 401 & Buffer Permitting Branch; 1617 Mail Service Center, Raleigh, NC 27699-1617. Otherwise the appeal procedure will be in accordance with UDO Section 6.1.11.

If you dispute the Director's determination, you may file a petition for an administrative hearing. You must file the petition with the Office of Administrative Hearings within sixty (60) days of receipt of this notice of decision. A petition is considered filed when it is received in the Office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official State holidays.

To request a hearing, send the original and one (1) copy of the petition to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714. A copy of the petition must also be served

to the Department of Natural Resources, c/o Bill Lane, General Counsel, 1601 Mail Service Center, Raleigh, NC 27699-1601.

This determination is final and binding unless, as detailed above, you ask for a hearing or appeal within sixty (60) days. This project may require a Section 404/401 Permit for the proposed activity. Any inquiries should be directed to the US Army Corp of Engineers (Raleigh Regulator Field Office) at (919) 554-4884. If you have any questions, please do not hesitate to contact me at (919) 372-7470.

Sincerely,

James Misciagno, CES, CPESC
Stormwater Field Services Supervisor

Riparian Buffer Call
Application

This application is required to be fully completed and submitted to Town staff prior to conducting a buffer call. Please submit the application package electronically to james.misciagno@apexnc.org .

PROPERTY INFORMATION

Owner(s): *See attached table

Site Address: 3012 Veridea Parkway, Apex, North Carolina 27539

CONSULTANT INFORMATION (If applicable)

Name: Joshua Harvey

Address: 8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615

Email: jharvey@sandec.com

Phone: 919.760.9622

CHECKLIST

Please place a checkmark in the spaces provided below to indicate that the required information has been provided with this submittal.

Right of Entry Form	X
NCDEQ Stream Identification Forms (v. 4.11)	X
Sketch Map*	X

Topo Map (most recent version)	X
1970 Wake County Soil Survey Map	X

*Sketch map should show all drainage features on the property with all applicable riparian buffers shown. Please clearly indicate or list which features are being called with this application.

NOTES

SIGNATURE (Consultant or Responsible Party)

By my signature below, I certify that the information provided with this application is accurate and truthful.

Joshua Harvey Digitally signed by Joshua Harvey Date: 2023.01.23 08:55:39 -05'00'

Date: 01/04/2023

NORTH CAROLINA
WAKE COUNTY

RIGHT OF ENTRY

This Right of Entry is executed this _____ day of _____, 20____ by Town of Apex and PRINCE, FRANK D SR TRUSTEE (the "owner").

WHEREAS, the Town of Apex ("Town") is seeking to make a stream buffer determination across the property known as Veridea - Phase 2 in the Town of Apex, North Carolina and designated as PIN # 0740191376, 0730996270 by the Wake County Revenue Department (the "**Subject Property**");

WHEREAS, the owner are agreeable to provide the Town with this Right of Entry under the terms and conditions stated herein so that the above referenced determination may proceed.

NOW THEREFORE in light of the above premises, the owner do hereby grant and give freely and without coercion, the right of access and entry to the Subject Property on the terms and conditions as stated below:

1. The Town of Apex and its contractors may enter the Subject Property for the purpose of conducting on-site environmental investigations and issuing a determination based on those investigations as it relates to stream buffer determination.
2. This Right of Entry does not convey to the Town any title or ownership interest in the Subject Property.
3. The Town and its employees, contractors, agents and representatives enter upon the Subject Property at their own risk and assume all risks related to the property.
4. The undersigned agrees and warrants to hold harmless the Town of Apex, its agencies, departments, contractors, and subcontractors, and discharges and waives any action, either equitable or legal that arise from the activities described above on the property except in the case of negligence by the Town.

Witness: _____ By: _____ POA
Joseph Spagnuolo

By: N/A

NORTH CAROLINA
WAKE COUNTY

RIGHT OF ENTRY

This Right of Entry is executed this _____ day of _____, 20____ by Town of Apex and WHITEHOUSE, BRENDA P (the "owner").

WHEREAS, the Town of Apex ("Town") is seeking to make a stream buffer determination across the property known as Veridea - Phase 2 in the Town of Apex, North Carolina and designated as PIN # 0740287376 by the Wake County Revenue Department (the "**Subject Property**");

WHEREAS, the owner are agreeable to provide the Town with this Right of Entry under the terms and conditions stated herein so that the above referenced determination may proceed.

NOW THEREFORE in light of the above premises, the owner do hereby grant and give freely and without coercion, the right of access and entry to the Subject Property on the terms and conditions as stated below:

1. The Town of Apex and its contractors may enter the Subject Property for the purpose of conducting on-site environmental investigations and issuing a determination based on those investigations as it relates to stream buffer determination.
2. This Right of Entry does not convey to the Town any title or ownership interest in the Subject Property.
3. The Town and its employees, contractors, agents and representatives enter upon the Subject Property at their own risk and assume all risks related to the property.
4. The undersigned agrees and warrants to hold harmless the Town of Apex, its agencies, departments, contractors, and subcontractors, and discharges and waives any action, either equitable or legal that arise from the activities described above on the property except in the case of negligence by the Town.

Witness: _____ By: Brenda P Whitehouse

By: Brenda P Whitehouse Trustee

NORTH CAROLINA
WAKE COUNTY

RIGHT OF ENTRY

This Right of Entry is executed this _____ day of _____, 20____ by Town of Apex and HH TRINITY APEX INVESTMENTS LLC (the "owner").

WHEREAS, the Town of Apex ("Town") is seeking to make a stream buffer determination across the property known as South Village East in the Town of Apex, North Carolina and designated as PIN # 0730971141,0730852539,0740052449 by the Wake County Revenue Department (the "**Subject Property**");

WHEREAS, the owner are agreeable to provide the Town with this Right of Entry under the terms and conditions stated herein so that the above referenced determination may proceed.

NOW THEREFORE in light of the above premises, the owner do hereby grant and give freely and without coercion, the right of access and entry to the Subject Property on the terms and conditions as stated below:

1. The Town of Apex and its contractors may enter the Subject Property for the purpose of conducting on-site environmental investigations and issuing a determination based on those investigations as it relates to stream buffer determination.
2. This Right of Entry does not convey to the Town any title or ownership interest in the Subject Property.
3. The Town and its employees, contractors, agents and representatives enter upon the Subject Property at their own risk and assume all risks related to the property.
4. The undersigned agrees and warrants to hold harmless the Town of Apex, its agencies, departments, contractors, and subcontractors, and discharges and waives any action, either equitable or legal that arise from the activities described above on the property except in the case of negligence by the Town.

Witness: _____

HH Trinity Apex Investments LLC
HRCF IV - Trinity Apex Investments LLC

By: _____

By: _____
Richard A. Ortiz
Authorized Signatory

NORTH CAROLINA
WAKE COUNTY

RIGHT OF ENTRY

This Right of Entry is executed this _____ day of _____, 20____ by Town of Apex and HH TRINITY APEX INVESTMENTS LLC (the "owner").

WHEREAS, the Town of Apex ("Town") is seeking to make a stream buffer determination across the property known as Veridea - Phase 2 in the Town of Apex, North Carolina and designated as PIN # See Attached by the Wake County Revenue Department (the "**Subject Property**");

WHEREAS, the owner are agreeable to provide the Town with this Right of Entry under the terms and conditions stated herein so that the above referenced determination may proceed.

NOW THEREFORE in light of the above premises, the owner do hereby grant and give freely and without coercion, the right of access and entry to the Subject Property on the terms and conditions as stated below:

1. The Town of Apex and its contractors may enter the Subject Property for the purpose of conducting on-site environmental investigations and issuing a determination based on those investigations as it relates to stream buffer determination.
2. This Right of Entry does not convey to the Town any title or ownership interest in the Subject Property.
3. The Town and its employees, contractors, agents and representatives enter upon the Subject Property at their own risk and assume all risks related to the property.
4. The undersigned agrees and warrants to hold harmless the Town of Apex, its agencies, departments, contractors, and subcontractors, and discharges and waives any action, either equitable or legal that arise from the activities described above on the property except in the case of negligence by the Town.

Witness: _____

By: HH Trinity Apex Investments LLC
HRCF IV - Trinity Apex Investments LLC

By: _____
Richard A. Ortiz
Authorized Signatory

Phase 2	Owner
0740180331	HH TRINITY APEX INVESTMENTS LLC
0740360895	HH TRINITY APEX INVESTMENTS LLC
0740386384	HH TRINITY APEX INVESTMENTS LLC
0740078021	HH TRINITY APEX INVESTMENTS LLC
0740167653	HH TRINITY APEX INVESTMENTS LLC

NORTH CAROLINA
WAKE COUNTY

RIGHT OF ENTRY

This Right of Entry is executed this _____ day of _____, 20____ by Town of Apex and VERIDEA HOLDINGS LLC (the "owner").

WHEREAS, the Town of Apex ("Town") is seeking to make a stream buffer determination across the property known as Veridea - Phase 2 in the Town of Apex, North Carolina and designated as PIN # 0740180091, 0741203157 by the Wake County Revenue Department (the "**Subject Property**");

WHEREAS, the owner are agreeable to provide the Town with this Right of Entry under the terms and conditions stated herein so that the above referenced determination may proceed.

NOW THEREFORE in light of the above premises, the owner do hereby grant and give freely and without coercion, the right of access and entry to the Subject Property on the terms and conditions as stated below:

1. The Town of Apex and its contractors may enter the Subject Property for the purpose of conducting on-site environmental investigations and issuing a determination based on those investigations as it relates to stream buffer determination.
2. This Right of Entry does not convey to the Town any title or ownership interest in the Subject Property.
3. The Town and its employees, contractors, agents and representatives enter upon the Subject Property at their own risk and assume all risks related to the property.
4. The undersigned agrees and warrants to hold harmless the Town of Apex, its agencies, departments, contractors, and subcontractors, and discharges and waives any action, either equitable or legal that arise from the activities described above on the property except in the case of negligence by the Town.

Witness: _____

Veridea Holdings LLC
HRCF IV - Trinity Apex Investments LLC

By: _____

By: _____

Richard A. Ortiz
Authorized Signatory

PIN_NUM	DEED_ACRES	OWNER	ADDR1	ADDR2	ADDR3	SITE_ADDRESS	FULL_STREET_NAME
740188440	1.38	FIELDS, W J FIELDS, CATHERINE A	3125 VERIDEA PKWY	APEX NC 27539-9202		3125 VERIDEA PKWY	VERIDEA PKWY
730852539	54.65	HH TRINITY APEX INVESTMENTS LLC	VERIDEA HOLDINGS LLC	570 LEXINGTON AVE STE 2200	NEW YORK NY 10022-6837	0 OLD HOLLY SPRINGS APEX RD	OLD HOLLY SPRINGS APEX RD
730971141	98.72	HH TRINITY APEX INVESTMENTS LLC	VERIDEA HOLDINGS LLC	570 LEXINGTON AVE STE 2200	NEW YORK NY 10022-6837	0 VERIDEA PKWY	VERIDEA PKWY
740287376	27.26	WHITEHOUSE, BRENDA P WHITEHOUSE, BRENDA P	3109 VERIDEA PKWY	APEX NC 27539-9202		0 VERIDEA PKWY	VERIDEA PKWY
740191376	75.63	PRINCE, FRANK D SR TRUSTEE	8405 AMANDA CASSIE LN	FUQUAY VARINA NC 27526-9635		3012 VERIDEA PKWY	VERIDEA PKWY
740180331	1.66	HH TRINITY APEX INVESTMENTS LLC	VERIDEA HOLDINGS LLC	570 LEXINGTON AVE STE 2200	NEW YORK NY 10022-6837	0 VERIDEA PKWY	VERIDEA PKWY
740386384	64.67	HH TRINITY APEX INVESTMENTS LLC	VERIDEA HOLDINGS LLC	570 LEXINGTON AVE STE 2200	NEW YORK NY 10022-6837	3009 VERIDEA PKWY	VERIDEA PKWY
741207566	32.06	WVPRINCE PROPERTIES LLC	444 AUGUSTA DR	ROCKPORT TX 78382-6945		2901 VERIDEA PKWY	VERIDEA PKWY
740167653	27.29	HH TRINITY APEX INVESTMENTS LLC	VERIDEA HOLDINGS LLC	570 LEXINGTON AVE STE 2200	NEW YORK NY 10022-6837	0 VERIDEA PKWY	VERIDEA PKWY
740052449	17.36	HH TRINITY APEX INVESTMENTS LLC	VERIDEA HOLDINGS LLC	570 LEXINGTON AVE STE 2200	NEW YORK NY 10022-6837	0 VERIDEA PKWY	VERIDEA PKWY
740078021	32.28	HH TRINITY APEX INVESTMENTS LLC	VERIDEA HOLDINGS LLC	570 LEXINGTON AVE STE 2200	NEW YORK NY 10022-6837	0 VERIDEA PKWY	VERIDEA PKWY
730996270	16.42	PRINCE, F D SR TRUSTEE	FRANK PRINCE JR	8405 AMANDA CASSIE LN	FUQUAY VARINA NC 27526-9635	0 US 1 HWY	US 1 HWY
740360895	82.24	HH TRINITY APEX INVESTMENTS LLC	570 LEXINGTON AVE STE 2200	NEW YORK NY 10022-6837		3229 VERIDEA PKWY	VERIDEA PKWY
740180091	12.57	VERIDEA HOLDINGS LLC	570 LEXINGTON AVE STE 2200	NEW YORK NY 10022-6837		3200 VERIDEA PKWY	VERIDEA PKWY
740188176	3	BUSHEE, ROGER W BUSHEE, GLENDA K	3137 VERIDEA PKWY	APEX NC 27539-9202		3137 VERIDEA PKWY	VERIDEA PKWY
740189737	1.03	WHITEHOUSE, GREGORY HENRY	3109 VERIDEA PKWY	APEX NC 27539-9202		3109 VERIDEA PKWY	VERIDEA PKWY
741203157	1.84	VERIDEA HOLDINGS LLC	570 LEXINGTON AVE STE 2200	NEW YORK NY 10022-6837		2937 VERIDEA PKWY	VERIDEA PKWY
740283126	5	LANGLEY, DAVID K LANGLEY, RENEE M	6300 KING DAVID CT	APEX NC 27539-6897		6300 KING DAVID CT	KING DAVID CT
740188680	1.3	WHITEHOUSE ASSETS MANAGEMENT LLC	3109 VERIDEA PKWY	APEX NC 27539-9202		3117 VERIDEA PKWY	VERIDEA PKWY
740189999	2.49	WHITEHOUSE ASSETS MANAGEMENT LLC	3109 VERIDEA PKWY	APEX NC 27539-9202		3105 VERIDEA PKWY	VERIDEA PKWY
740070950	0.52	HUDSON, KARL GRIER IV	824 BRYAN ST	RALEIGH NC 27605-1104		3134 VERIDEA PKWY	VERIDEA PKWY
740293940	1.8	WVPRINCE PROPERTIES LLC	444 AUGUSTA DR	ROCKPORT TX 78382-6945		2945 VERIDEA PKWY	VERIDEA PKWY
740081019	2.16	APA VERIDEA INVESTMENTS LLC	2000 BEAR CAT WAY STE 102	MORRISVILLE NC 27560-6620		3138 VERIDEA PKWY	VERIDEA PKWY
730977967	10.27	APA VERIDEA INVESTMENTS LLC	2000 BEAR CAT WAY STE 102	MORRISVILLE NC 27560-6620		3142 VERIDEA PKWY	VERIDEA PKWY
740082199	2.09	WANG, YIFEI MEI, HUA	111 BRIDGEGATE DR	CARY NC 27519-7184		3130 VERIDEA PKWY	VERIDEA PKWY

West CP4 West SF 14

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/22	Project/Site: Veridea	Latitude: 35.704010
Evaluator: SAEC – JH	County: Wake	Longitude: -78.886215
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 4	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other B *e.g. Quad Name:*

A. Geomorphology (Subtotal = 1)	Absent	Weak	Moderate	Strong
1a. Continuity of channel bed and bank	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	0	1	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel artificial ditches are not rated; see discussions in manual	No = 0		Yes = 3	

B. Hydrology (3)				
12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 0)				
18. Fibrous roots in streambed	3	2	1	0.5
19. Rooted upland plants in streambed	3	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent
USGS = Not Present

JM 12/15/2022

West SF 1

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/22	Project/Site: Veridea	Latitude: 35.688108
Evaluator: S+EC – AJK + JA + KM	County: Wake	Longitude: -78.864747
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 22 23 JM	Stream Determination (circle one) Ephemeral (Intermittent) Perennial	Other C *e.g. Quad Name:*

A. Geomorphology (Subtotal = 11)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	0	1	(2)	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (6.5)				
12. Presence of Baseflow	0	1	(2)	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 5.5)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	0	(0.5)	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Perennial

USGS = Present

JM

022

West SF16

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/22	Project/Site: Veridea	Latitude: 35.694123
Evaluator: SFEC - AJK + JH + KM	County: Wake	Longitude: -78.859020
Total Points: Non-Scoreable Feature *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30**	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other C *e.g. Quad Name:*

A. Geomorphology (Subtotal =)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	0	1	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology ( )				
12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal =)				
18. Fibrous roots in streambed	3	2	1	0
19. Rooted upland plants in streambed	3	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods, See p. 35 of manual.

Notes:

Sketch: Non-Scoreable Feature

Soils = Intermittent

USGS = Not Present

JM 12/15/2022

West SF5

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/22	Project/Site: Veridea	Latitude: 35691656
Evaluator: S+EC – AJK+ KW	County: Wake	Longitude: -78.862456
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 12.25	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other C *e.g. Quad Name:*

A. Geomorphology (Subtotal = 5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	(0)	1	2	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (3.5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	0.5	(0)
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	(0)	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 3.75)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = (0.75) OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Perennial
USGS = Not Present

11/15/2022

West SF4

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/22	Project/Site: Veridea	Latitude: 35.688188
Evaluator: SEC - AJK, JH, KM	County: Wake	Longitude: -78.874638
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 11.5	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other E *e.g. Quad Name:*

A. Geomorphology (Subtotal = 8)	Absent	Weak	Moderate	Strong
1a. Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel artificial ditches are not rated; see discussions in manual	No = (0)		Yes = 3	

B. Hydrology (Subtotal = 5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	0.5	(0)
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = (0)		Yes = 3	

C. Biology (Subtotal = 3)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent

VSCS = Not Present

JM 12/15/2022

WEST SFHD (FEATURE G)

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/02/2022	Project/Site: Heridan	Latitude: 35.602574
Evaluator: SBEC - JOSHUA HARVEY	County: WAKE	Longitude: -78.789561
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** No SIGNIFICANT FEATURE	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other G *e.g. Quad Name:*

A. Geomorphology (Subtotal = ✓)	Absent	Weak	Moderate	Strong
1a. Continuity of channel bed and bank	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	0	1	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel artificial ditches are not rated; see discussions in manual	No = 0		Yes = 3	

B. Hydrology (Subtotal = ✓)				
12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = ✓)				
18. Fibrous roots in streambed	3	2	1	0
19. Rooted upland plants in streambed	3	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soil = Intermittent

USGS = Not Present

JM 11/10/2022

West SF3

JM 1/20/2023

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/22	Project/Site: Veridea	Latitude: 35.689827
Evaluator: SHEC-AJK + KM+JH	County: Wake	Longitude: -78.869936
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 9.5	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other H *e.g. Quad Name:*

A. Geomorphology (Subtotal = 3.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	(1)	(2)	3
2. Sinuosity of channel along thalweg	0	(1)	(2) JM	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	(0)	1	2	3
4. Particle size of stream substrate	(0)	1	2	3
5. Active/relict floodplain	0	(1) JM	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (3)				
12. Presence of Baseflow	(0)	(1) JM	2	3
13. Iron oxidizing bacteria	(0)	(1) JM	2	3
14. Leaf litter	1.5	(1) JM	0.5	(0)
15. Sediment on plants or debris	(0)	(0.5)	1	1.5
16. Organic debris lines or piles	(0)	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 3)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent
VSCS = Not Present

12/15/2022

West SF2

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/22	Project/Site: Veridea	Latitude: 35.689824
Evaluator: S+EC - AJK + JH + KM	County: Wake	Longitude: -78.868594
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 14	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other J *e.g. Quad Name:*

A. Geomorphology (Subtotal = 6)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 3)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent

USGS = Not Present

12/15/2022

West
SF28 JM 11/30/2022

NC Division of Water Quality --Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/3/22	Project/Site: Veridea	Latitude: 35.695273
Evaluator: S+EC-AJK	County: Wake	Longitude: -78.862219
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 15	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other *e.g. Quad Name:* K

A. Geomorphology (Subtotal = 8)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	0.5	(1)	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (4)				
12. Presence of Baseflow	(0)	(1) JM	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	(0)	0.5	(1) JM	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 3)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	3	2	(1)	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent
USGS = Not Present

JM 12/15/2022

West

SF29 NC Division of Water Quality – Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/3/22	Project/Site: Veridea	Latitude: 35.694757
Evaluator: SEC - AJK	County: Wake	Longitude: -78.862695
Total Points: 22.5 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30**	Stream Determination (circle one) Ephemeral (Intermittent) Perennial	Other K *e.g. Quad Name:*

A. Geomorphology (Subtotal = 14)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	1	2	(3)
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	(2)	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	0	(1)	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	0	(1)	2	3
9. Grade control	0	0.5	(1)	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (4.5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 4)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent,
USGS = Not Present

JM 10/13/2022

West

SF30

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/3/22	Project/Site: Veridea	Latitude: 35.694807
Evaluator: S+EC – AJK	County: Wake	Longitude: -78.863007
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 10	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other R *e.g. Quad Name:*

A. Geomorphology (Subtotal = 7)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	(2)	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (0)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	0.5	(0)
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	(0)	0.5	1	1.5
17. Soil-based evidence of high water table?	No = (0)		Yes = 3	

C. Biology (Subtotal = 3)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	3	2	(1)	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent

USGS = Not Present

JM 12/15/2022

JM 1/20/2023

West

SF31 NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/3/2022	Project/Site: Veridea	Latitude: 35.694541
Evaluator: S+EC-AJK	County: Wake	Longitude: -78.863163
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 12	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other *e g Quad Name:* K

A. Geomorphology (Subtotal = 5)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7 Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0 5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (3)				
12 Presence of Baseflow	(0)	(1) JM	2	3
13 Iron oxidizing bacteria	(0)	1	2	3
14 Leaf litter	1.5	1	0.5	(0)
15 Sediment on plants or debris	(0)	0.5	(1) JM	1.5
16. Organic debris lines or piles	(0)	0.5	1	1.5
17 Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 4)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0 75; OBL = 1,5 Other = (0)			

*perennial streams may also be identified using other methods See p 35 of manual

Notes:

Sketch:

Soils = Intermittent

USGS = Not Present

JM 12/15/2022

West

SF32 NC Division of Water Quality – Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/3/22	Project/Site: Veridea	Latitude: 35.694109
Evaluator: SFEC – AJK	County: Wake	Longitude: -78.863801
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 24	Stream Determination (circle one) Ephemeral (Intermittent) Perennial	Other e.g. Quad Name: R

A. Geomorphology (Subtotal = 14)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	1	2	(3)
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	(2)	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	0	(1)	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	0.5	(1)	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	0.5	(1)	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual

Notes:

Sketch:

Soils = Intermittent

VSBS = Not Present

JH 10/20/2022

West SF 15

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/22	Project/Site: Veridea	Latitude: 35.694785
Evaluator: SHEC - AJK + KM	County: Wake	Longitude: -78.861676
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 12	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other L *e.g. Quad Name:*

A. Geomorphology (Subtotal = 5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	(0)	1	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 4)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	0.5	(0)
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 3)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent

USGS = Not Present

J... /5/2022

West SFB

NC DWQ Stream Identification Form Version 4.11

Date: 11/2/22	Project/Site: Veridea	Latitude: 35.700631
Evaluator: StEC – JH	County: Wake	Longitude: -78.860357
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 13.5	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other AA *e.g. Quad Name:*

A. Geomorphology (Subtotal = 7.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	0	(1)	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 0)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	0.5	(0)
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	(0)	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 6)				
18. Fibrous roots in streambed	(3)	2	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Perennial

USGS = Present

JM 12/1/22

West SF 13

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/02/2022	Project/Site: Vendeu	Latitude: 35.648832
Evaluator: JH	County: Wake	Longitude: -78.861887
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 19	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other ○ *e.g. Quad Name:*

A. Geomorphology (Subtotal = 7.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	(0)	1	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	0	(1)	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (5)				
12. Presence of Baseflow	0	(1)	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 10.5)				
18. Fibrous roots in streambed	(3)	2	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	(0.5)	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Perennial

USGS = Present

JM 12/15/2022

WBT SP12

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/12/2022	Project/Site: Wayden	Latitude: 35.693448
Evaluator: JH	County: Wayne	Longitude: -78.362660
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 11.5	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other ○ *e.g. Quad Name:*

A. Geomorphology (Subtotal = 4)	Absent	Weak	Moderate	Strong
1*. Continuity of channel bed and bank	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	0	1	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel	No = 0		Yes = 3	

*artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 1.5)				
12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 4)				
18. Fibrous roots in streambed	3	2	1	0
19. Rooted upland plants in streambed	3	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Perennial

USGS = Present

JM 11/12/2022

West 5th 10

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/02/2022	Project/Site: Lewellen	Latitude: 35.647567
Evaluator: JH	County: Lenoir	Longitude: -78.864050
Total Points: 16 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30**	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other 0 *e.g. Quad Name:*

A. Geomorphology (Subtotal = 7)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	0	1	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a]artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 4)				
12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	3	2	1	0
19. Rooted upland plants in streambed	3	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Perennial

USGS = Present

JM 12/

West SF11

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/02/2022	Project/Site: Winston	Latitude: 35.697734
Evaluator: JH	County: Wake	Longitude: -78.86369
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 21	Stream Determination (circle one) Ephemeral (Intermittent) Perennial	Other e.g. Quad Name: —

A. Geomorphology (Subtotal = 11)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	0	(1)	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (4)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	(0)	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 9)				
18. Fibrous roots in streambed	(3)	2	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Perennial
USGS = Present

JM 11/15/2022

West SF#9

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/02/2022	Project/Site: Verdeen	Latitude: 35.697070
Evaluator: JH - SEC	County: Cabarrus	Longitude: -78.86535
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 12.5	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other 0 *e.g. Quad Name:* —

A. Geomorphology (Subtotal = 5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	(0)	1	2	3
4. Particle size of stream substrate	(0)	1 SM	2	3
5. Active/relict floodplain	0	(1) SM	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel [a] artificial ditches are not rated; see discussions in manual	No = 0		Yes = 3	

B. Hydrology (3.5)				
12. Presence of Baseflow	(0)	1	2	(3) SM
13. Iron oxidizing bacteria	(0)	1	2 SM	3
14. Leaf litter	1.5	SM 1	(0.5)	(0)
15. Sediment on plants or debris	(0)	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 4)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Perennial

USGS = Present

trest SF8

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/02/2022	Project/Site: Verdun	Latitude: 35.697098
Evaluator: JH ~ SteC	County: ~~Wake~~ Wake	Longitude: -78.865711
Total Points: 21.5 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30**	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other ○ *e.g. Quad Name:*

A. Geomorphology (Subtotal = 11)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	0	(1)	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	0	(1)	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel [a]artificial ditches are not rated; see discussions in manual	(No = 0)		Yes = 3	

B. Hydrology (4.5)				
12. Presence of Baseflow	0	(1)	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	0.5	(0)
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		(Yes = 3)	

C. Biology (Subtotal = 0)				
18. Fibrous roots in streambed	(3)	2	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Perennial
USGS = Present

JM 11/2/2022

WEST SF37

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/2022	Project/Site: Veridea	Latitude: 35.696[illegible]
Evaluator: SHEC - JOSINA HARVEY	County: WAKE	Longitude: -78.5[illegible]
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 8	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other P *e.g. Quad Name:*

A. Geomorphology (Subtotal = 3.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	(0)	1	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel ~~artificial ditches are not rated; see discussions in manual~~	(No = 0)		Yes = 3	

B. Hydrology (Subtotal = 0.5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	(No = 0)		Yes = 3	

C. Biology (Subtotal = 4)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent

USGS = Not Present

11/20/2022

Lower SF 7

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/27/2022	Project/Site: Verdue	Latitude: 35.699659
Evaluator: SH	County: Lenoir	Longitude: -78.864028
Total Points: 16 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30**	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other Q *e.g. Quad Name:*

A. Geomorphology (Subtotal = 6)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	0	1	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (5)				
12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	3	2	1	0
19. Rooted upland plants in streambed	3	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent
USGS = Not Present

12/15/2022

West SF27

NC DWQ Stream Identification Form Version 4.11

Date: 11/2/22	Project/Site: Verides	Latitude: 35.701121
Evaluator: S+EL-JH	County: Wake	Longitude: -78.856460
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 9	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other R *e.g. Quad Name:*

A. Geomorphology (Subtotal = 4)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	(0)	1	2	3
4. Particle size of stream substrate	(0)	1	2	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	(1)	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 2)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 3)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	3	2	(1)	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent
USGS = Not Present

JM 11/7/2022

West SF 25

NC DWQ Stream Identification Form Version 4.11

Date: 11/2/22	Project/Site: Verdea	Latitude: 35.702162
Evaluator: S+EC - JH	County: Wake	Longitude: -78.854496
Total Points: *Stream is at least Intermittent if ≥ 19 or perennial if ≥ 30** 21.75	Stream Determination (circle one) Ephemeral (Intermittent) Perennial	Other R *e.g. Quad Name:*

A. Geomorphology (Subtotal = 10)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	0	(1)	(2)	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 6.75)				
18. Fibrous roots in streambed	(3)	2	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent

USGS = Not Present

JH 11/2/2022

West SF26

NC DWQ Stream Identification Form Version 4.11

Date: 11/2/22	Project/Site: Verdea	Latitude: 35.701807
Evaluator: STEC-JH	County: Wake	Longitude: -78.855554
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 10.25	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other 5 *e.g. Quad Name:*

A. Geomorphology (Subtotal = 2.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	(0)	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	(0)	1	2	3
4. Particle size of stream substrate	(0)	1	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	0	(1)	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 3)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	0.5	(0)
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	(0)	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 4.75)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent

USGS = Not Present

JM 2022

West
SF 24

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/22	Project/Site: Veridea	Latitude: 35.698569
Evaluator: S+EC - AJK + JH + KM	County: Wake	Longitude: -78.854833
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 18	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other T *e.g. Quad Name:*

A. Geomorphology (Subtotal = 10)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	1	2	(3)
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	0	1	(2)	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (3)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	0.5	(0)
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	(0)	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Perennial
VSCS = Not Present

12/15/2022

West SF20

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/22	Project/Site: Verides	Latitude: 35.696709
Evaluator: SH-EC - AJK + JH + KM	County: Wake	Longitude: -78.852141
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 19.5	Stream Determination (circle one) Ephemeral (Intermittent) Perennial	Other T *e.g. Quad Name:*

A. Geomorphology (Subtotal = 10.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	(2) →	3
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	0	1	(2)	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (4)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	0.5	(0)
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Perennial
USGS = Not Present

JH 11/15/2022

West SF23

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/22	Project/Site: Verideo	Latitude: 35.698339
Evaluator: StEC – AJK & KM	County: Wake	Longitude: -78.855074
Total Points: Non-Scoreable Feature, *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30**	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other U *e.g. Quad Name:*

A. Geomorphology (Subtotal = ____)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	0	1	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology ( )				
12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = ____)				
18. Fibrous roots in streambed	3	2	1	0
19. Rooted upland plants in streambed	3	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Non-Scoreable Feature

Soils = Intermittent
USGS = Not Present

JM 10/19/2022

West SF 35

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/3/22	Project/Site: Veridea	Latitude: 35.697154
Evaluator: S+EC - AJK	County: Wake	Longitude: -78.858121
Total Points: 6 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30**	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other e.g. Quad Name: V

A. Geomorphology (Subtotal = 1)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	(0)	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	(0)	1	2	3
4. Particle size of stream substrate	(0)	1	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	(0)	0.5	1	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (3)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	0.5	(0)
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	(0)	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 2)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	2	(1)	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent

USGS = Not Present

JM 12/20/2022

West SF36

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/3/22	Project/Site: Veridea	Latitude: 35.696363
Evaluator: SFEC-AJK	County: Wake	Longitude: -78.858198
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 23	Stream Determination (circle one) Ephemeral (Intermittent) Perennial	Other ✓ *e.g. Quad Name:*

A. Geomorphology (Subtotal = 11.5)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	1	(2)	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	0	(1)	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel [a] artificial ditches are not rated; see discussions in manual	No = 0		Yes = 3	

B. Hydrology (6.5)				
12. Presence of Baseflow	0	(1)	2	3
13 Iron oxidizing bacteria	(0)	1	2	3
14 Leaf litter	1.5	(1)	0.5	0
15 Sediment on plants or debris	0	0.5	(1)	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17 Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22 Fish	(0)	0 5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0 75; OBL = 1,5 Other = 0			

*perennial streams may also be identified using other methods. See p 35 of manual

Notes:

Sketch:

Soils = Intermittent
USGS = Not Present

JM 12/20/2022

West SF 34

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/3/2022	Project/Site: Verideа	Latitude: 35.694766
Evaluator: S+EC - AJK	County: Wake	Longitude: -78.856375
Total Points: 32 *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30**	Stream Determination (circle one) Ephemeral Intermittent (Perennial)	Other e.g. Quad Name: ✓

A. Geomorphology (Subtotal = 18)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	1	2	(3)
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	(3)
4. Particle size of stream substrate	0	1	(2)	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	0	1	(2)	3
7. Recent alluvial deposits	0	1	(2)	3
8. Headcuts	0	(1)	2	3
9. Grade control	0	0.5	(1)	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = 0		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (8)				
12. Presence of Baseflow	0	1	(2)	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	0	0.5	(1)	1.5
16. Organic debris lines or piles	0	0.5	(1)	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 0)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	0	0.5	(1)	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent

USGS = Not Present

JM 12/20/2022

West
SF17

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/22	Project/Site: Veridea	Latitude: 35.694829
Evaluator: StEC - AJK & JH & KM	County: Wake	Longitude: -78.859124
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 14	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other W *e.g. Quad Name:*

A. Geomorphology (Subtotal = 5.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	(0)	1	2	3
4. Particle size of stream substrate	(0)	1	2	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (4)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	(0)	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 4.5)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	3	2	(1)	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = (1.5) Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent
USGS = Not Present

JH 12/15/2022

West SF22

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/22	Project/Site: Veridea	Latitude: 35.696773
Evaluator: SHEC - AJK + JH + km	County: Wake	Longitude: -78.854816
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 7	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other X *e.g. Quad Name:*

A. Geomorphology (Subtotal = 5)	Absent	Weak	Moderate	Strong
1a. Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	(0)	1	2	3
4. Particle size of stream substrate	(0)	1	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

a artificial ditches are not rated; see discussions in manual

B. Hydrology (0)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	0.5	(0)
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	(0)	0.5	1	1.5
17. Soil-based evidence of high water table?	No = (0)		Yes = 3	

C. Biology (Subtotal = 2)				
18. Fibrous roots in streambed	3	2	1	(0)
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent

USGS = Not Present

JM 12/13/2022

West SF21

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/22	Project/Site: Veridea	Latitude: 35.695789
Evaluator: S+EC - AJK + JH + KM	County: Wake	Longitude: -78.854435
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 19.75	Stream Determination (circle one) Ephemeral (Intermittent) Perennial	Other X *e.g. Quad Name:*

A. Geomorphology (Subtotal = 11.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0	1	2	(3)
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	(0)	1	2	3
6. Depositional bars or benches	0	1	(2)	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (3.5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	0.5	(0)
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	(0)	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 4.75)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	(FACW = 0.75) OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent
USGS = Not Present

JM 12/15/2022

WEST SF41

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/02/2022	Project/Site: Verdea	Latitude: 35.694461
Evaluator: SAFEC - JOSHUA HARVEY	County: Wake	Longitude: -78.854206
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 15	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other X *e.g. Quad Name:*

A. Geomorphology (Subtotal = 4.5)	Absent	Weak	Moderate	Strong
1[a] Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	(0)	1	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel ~~artificial ditches are not rated; see discussions in manual~~	No = 0		Yes = 3	

B. Hydrology (Subtotal = 5.5)				
12. Presence of Baseflow	0	(1)	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	(0)	0.5	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		(Yes = 3)	

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes: Stream originates in wetland complex

Sketch:

Soils = Intermittent

USGS = Not Present

JH 11/10/2022

West SF1B

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/22	Project/Site: Veridea	Latitude: 35.691433
Evaluator: S+EC - AJK+JH + km	County: Wake	Longitude: -78.855344
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 13.5	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other Y *e.g. Quad Name:*

A. Geomorphology (Subtotal = 6)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	(1)	2	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	0	(1)	2	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (4.5)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	1	(0.5)	0
15. Sediment on plants or debris	0	(0.5)	1	1.5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 3)				
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	(2)	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = (0)			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Perennial

USGS = Not Present

JM 12/15/2022

West
SF 19

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/22	Project/Site: Veridea	Latitude: 35.690966
Evaluator: STEC – AJK + KM	County: Wake	Longitude: -78.852807
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** 21.5 23.5 JM	Stream Determination (circle one) Ephemeral (Intermittent) Perennial	Other Y *e.g. Quad Name:*

A. Geomorphology (Subtotal = 12.5)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	(2)	3
2. Sinuosity of channel along thalweg	0	1	2	(3)
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	(2)	3
4. Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	0	1	(2)	3
6. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	0	(1)	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	0	(0.5)	1	1.5
10. Natural valley	0	0.5	(1)	1.5
11. Second or greater order channel	No = (0)		Yes = 3	

[a] artificial ditches are not rated; see discussions in manual

B. Hydrology (6)				
12. Presence of Baseflow	(0)	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1.5	(1)	0.5	0
15. Sediment on plants or debris	0	0.5	(1)	1.5
16. Organic debris lines or piles	0	0.5	(1)	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = (3)	

C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	3	(2)	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	(0)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(0)	0.5	1	1.5
23. Crayfish	(0)	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	(0)	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Perennial
USGS = Not Present

JM 11/15/2022

WFST SF38 (FEATURE BB)

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/2022	Project/Site: Veridea	Latitude: 35.688992
Evaluator: SEC - Joshua Harvey	County: WAKE	Longitude: -78.751202
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** No Scoreable Feature	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other BB *e.g. Quad Name:*

A. Geomorphology (Subtotal = /)	Absent	Weak	Moderate	Strong
1a. Continuity of channel bed and bank	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	0	1	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel artificial ditches are not rated; see discussions in manual	No = 0		Yes = 3	

B. Hydrology (Subtotal = /)				
12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = /)				
18. Fibrous roots in streambed	3	2	1	0
19. Rooted upland plants in streambed	3	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	/	FACW = 0.75; OBL = 1.5 Other = 0		

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes:

Sketch:

Soils = Intermittent
USGS = Not Present

JM 10/2022

WEST SF 39 ([redacted]) [illegible] Ditch

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWQ Stream Identification Form Version 4.1

Date: 11/2/2022	Project/Site: Verdea	Latitude: 35.703025
Evaluator: SEC - JOSHUA HARVEY	County: WAKE	Longitude: -78.850870
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30** No Scorable Feature	Stream Determination (circle one) (Ephemeral) Intermittent Perennial	Other CC *e.g. Quad Name:*

A. Geomorphology (Subtotal =)	Absent	Weak	Moderate	Strong
1[a]. Continuity of channel bed and bank	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	0	1	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel *artificial ditches are not rated; see discussions in manual	No = 0		Yes = 3	

B. Hydrology (Subtotal =)				
12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal =)				
18. Fibrous roots in streambed	3	2	1	0
19. Rooted upland plants in streambed	3	2	1	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

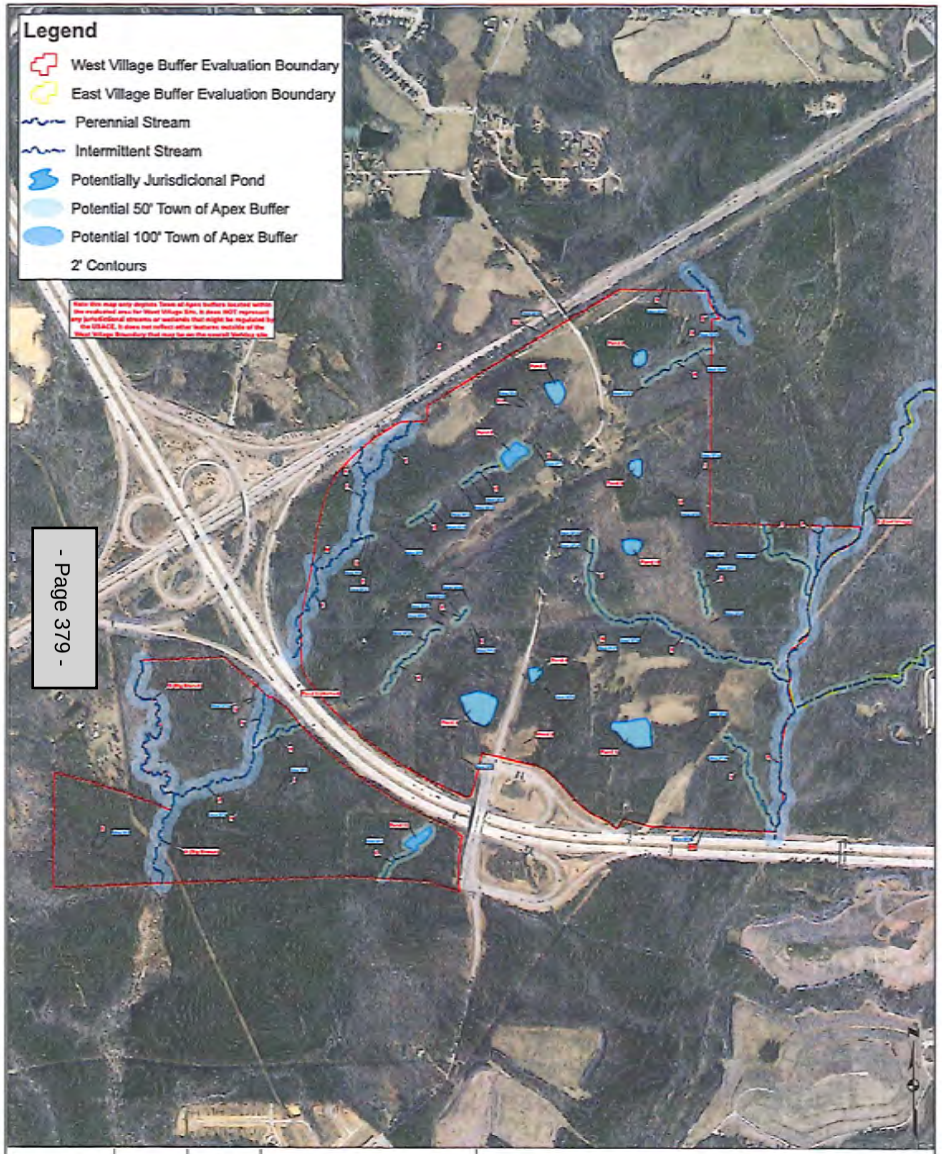
Notes:

Sketch:

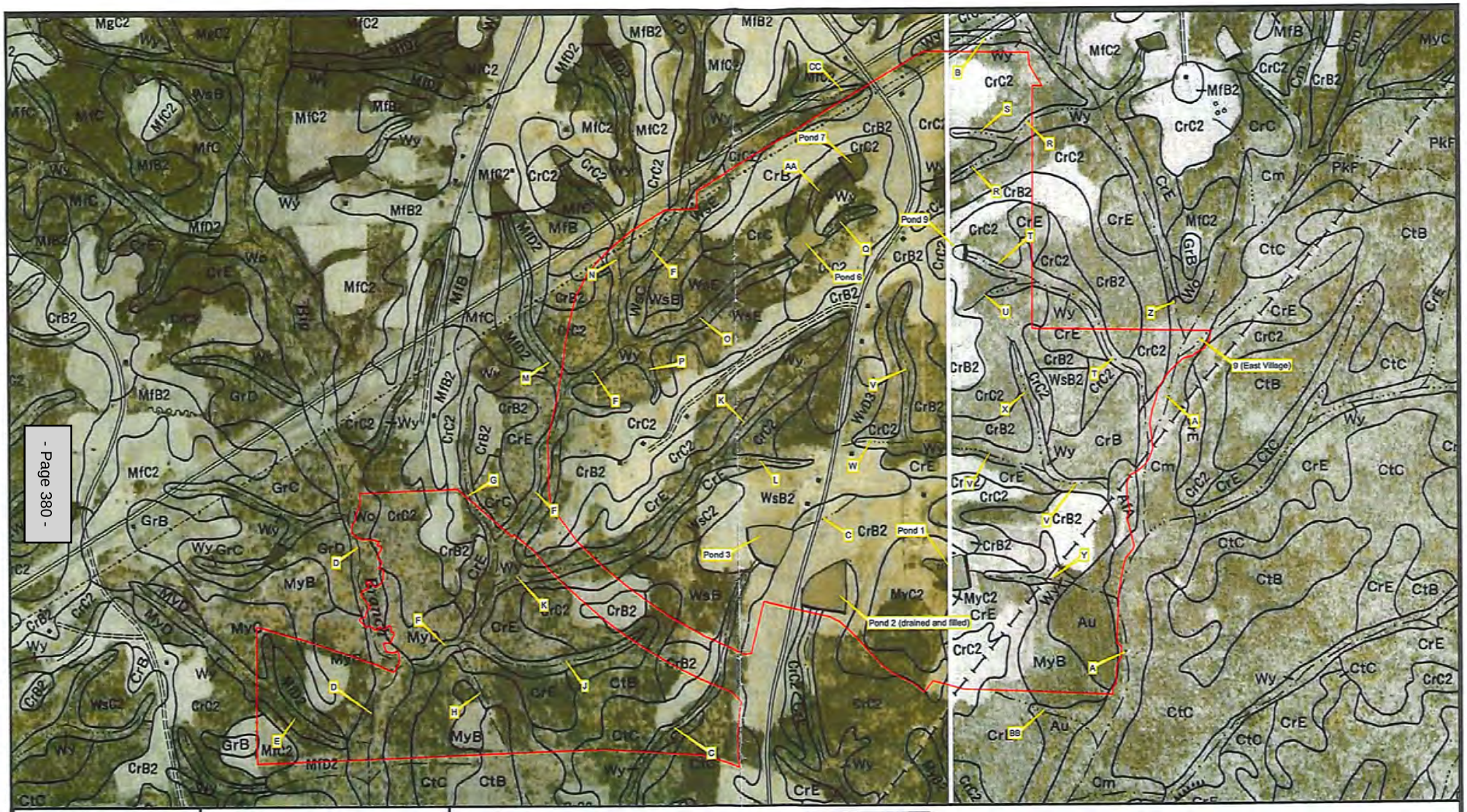
Soils = Intermittent

USGS = Not Present

JM 10/20/2022


Legend
West Village Buffer Evaluation Boundary
East Village Buffer Evaluation Boundary
Perennial Stream
Intermittent Stream
Potentially Jurisdicional Pond
Potential 50' Town of Apex Buffer
Potential 100' Town of Apex Buffer
2' Contours
West Village Buffer Map
Veridea
Soil & Environmental Consultants, PA
0 300 600 1,200
Feet

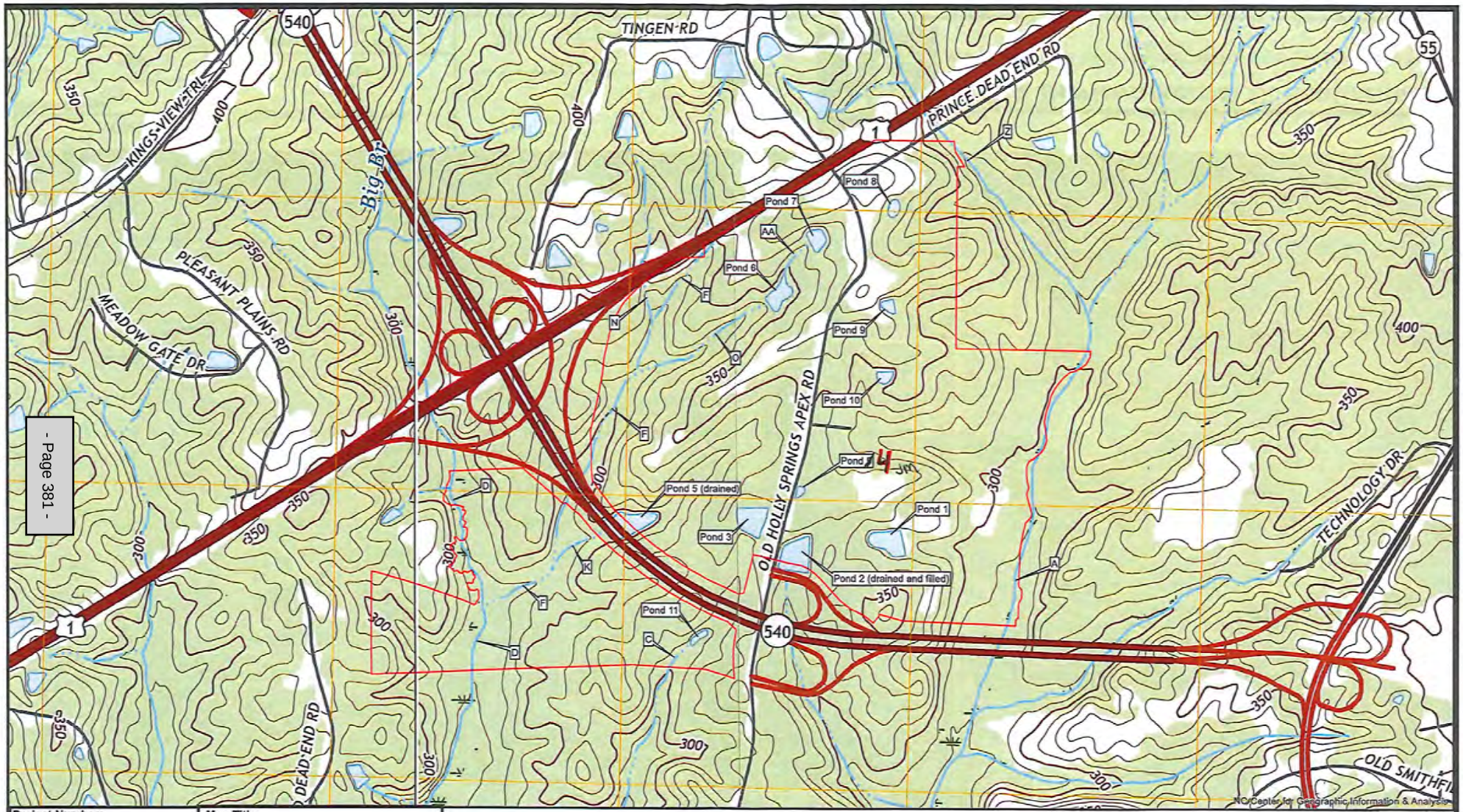
JM 12/15/2022



Project Number: 11065.W28	Map Title: Figure 2 - Soil Survey	
Project Manager: SB	Veridea West Village	
Scale: 1" = 750'	Source: Wake County Soil Survey Sheets 74 & 75	
Date: 12/02/2022		

JM 12/15/2022

S&EC
Soil & Environmental Consultants, PA
8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615 • Phone: (919) 846-5900 • Fax: (919) 846-9467
sandec.com



- Page 381 -

Project Number:	11065.W28
Project Manager:	SB
Scale:	1" = 1000'
Date:	12/02/2022

Map Title: **Figure 1 - USGS Map**

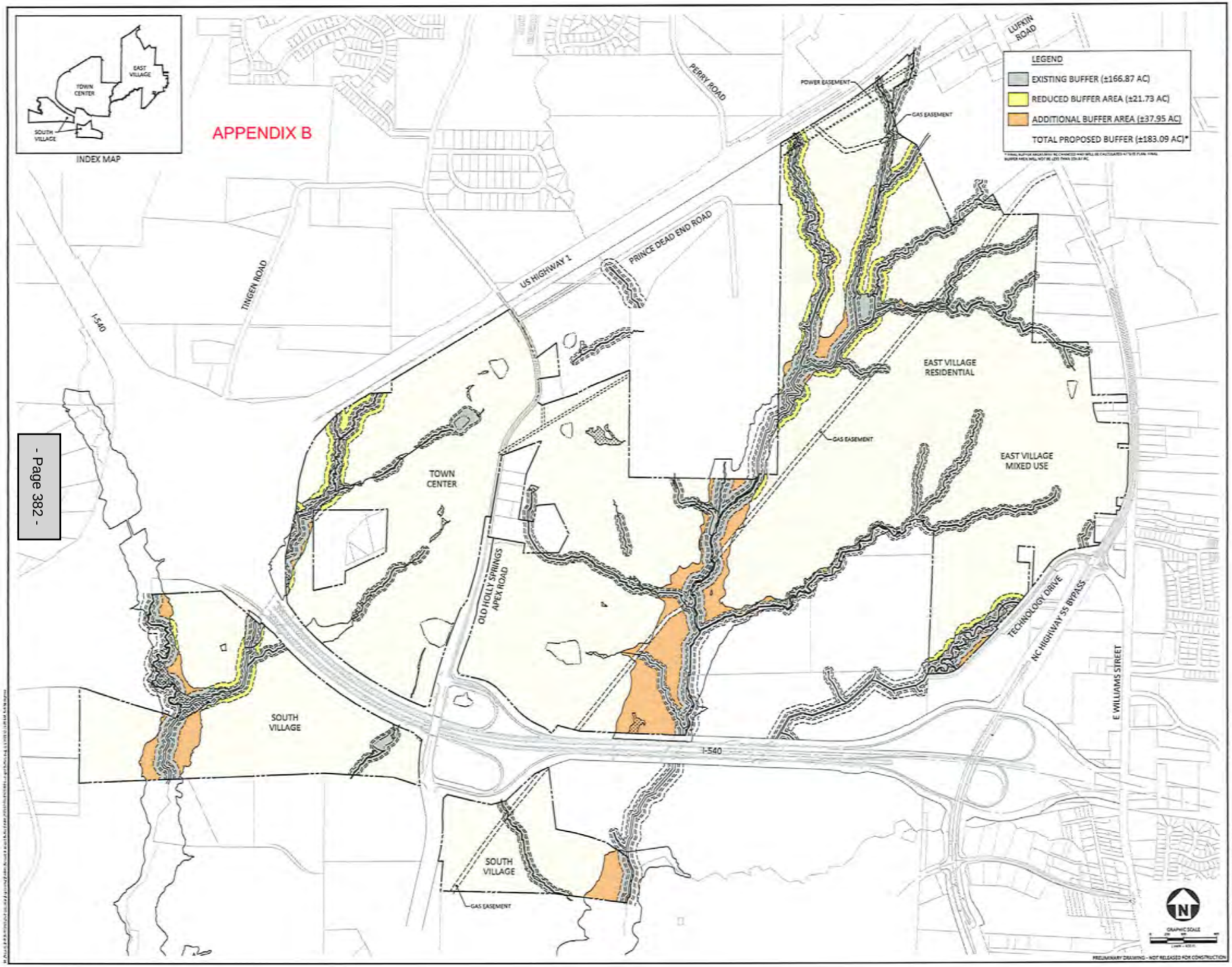
Veridea
West Village

Source: 2019 NC New Hill & Apex Quads

0 1,000 2,000
Feet

N

S&EC
Soil & Environmental Consultants, PA
8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615 • Phone: (919) 846-5900 • Fax: (919) 846-9467
sandec.com



McADAMS

VERIDEA
AVERAGED STREAM BUFFER EXHIBIT
APEX, NORTH CAROLINA

REVISIONS

PLAN INFORMATION

SHEET
AVERAGED STREAM BUFFER EXHIBIT
E1.00

| Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA

Meeting Date: May 9, 2023

Item Details

Presenter(s): Allen Coleman, Town Clerk

Department(s): Town Clerk's Office

Requested Motion

Motion to approve Apex Tax Reports dated March 5, 2023 and April 2, 2023.

Approval Recommended?

Yes

Item Details

The Wake County Board of Commissioners, in regular session on April 17, 2023, approved and accepted the enclosed tax report for the Town of Apex, dated March 5, 2023 for the period of February 1, 2023 through February 28, 2023.

The Wake County Board of Commissioners, in regular session on May 2, 2023, approved and accepted the enclosed tax report for the Town of Apex, dated April 2, 2023 for the period of March 1, 2023 through March 31, 2023.

Attachments

- CN14-A1: Tax Report for February 2023
- CN14-A2: Tax Report for March 2023

WAKE COUNTY
NORTH CAROLINA

Board of Commissioners
P.O. Box 550 • Raleigh, NC 27602

TEL 919 856 6180
FAX 919 856 5699

April 18, 2023

Mr. Allen Coleman
Town Clerk
Town of Apex
Post Office Box 250
Apex, North Carolina 27502

Dear Mr. Coleman:

The Wake County Board of Commissioners, in regular session on April 17, 2023, approved and accepted the enclosed tax report for the Town of Apex.

The attached adopted actions are submitted for your review; no local board action is required.

Sincerely,

Yvonne Gilyard
Clerk to the Board
Wake County Board of Commissioners

Enclosure(s)

WAKE COUNTY
NORTH CAROLINA

Wake County Tax Administration
Rebate Details
02/01/2023 - 02/28/2023
APEX

DATE	TIME	PAGE
03/05/2023	8:20:04 PM	1

REBATE NUMBER	PROPERTY	CITY TAG	LATE LIST	BILLED INTEREST	TOTAL REBATED	PROCESS DATE	ACCOUNT NUMBER	TAX YEAR	YEAR FOR	BILLING TYPE	OWNER
BUSINESS ACCOUNTS											
840026	59.18	0.00	5.92	0.00	65.10	02/23/2023	0006808494	2022	2022	000000	SYENI II LLC
838119	0.00	0.00	1.13	0.00	1.13	02/03/2023	0006150517	2022	2022	006000	DISH NETWORK LLC
838146	0.00	0.00	0.40	0.00	0.40	02/03/2023	0006156932	2022	2022	006000	HUGHES NETWORK SYSTEMS LLC
838977	128.13	0.00	12.81	0.00	140.94	02/14/2023	0006956645	2022	2022	000000	PEAK CITY BRANDS LLC
838449	0.00	0.00	7.97	0.00	7.97	02/07/2023	0006819771	2022	2022	006000	TABLETOP MEDIA LLC
838444	0.00	0.00	9.32	0.00	9.32	02/07/2023	0006972803	2022	2022	000050	CROWN CASTLE USA INC
838301	23.04	0.00	2.30	0.00	25.34	02/06/2023	0006528411	2022	2022	000000	TURBO TIME LLC
SUBTOTALS FOR BUSINESS ACCOUNTS	**210.35**	**0.00**	**39.85**	**0.00**	**250.20**	**7**	**Properties Rebated**				
INDIVIDUAL PROPERTY ACCOUNTS											
838446	60.96	30.00	0.00	0.00	90.96	02/07/2023	0006947839	2022	2021	000000	CHEN, DIE
839776	5.74	0.00	0.57	0.00	6.31	02/22/2023	0006896699	2022	2022	000000	MCGUIRE, JASON MATTHEW
838616	7.65	0.00	0.00	0.00	7.65	02/08/2023	0006809275	2022	2022	000000	OLSEN, DAVIN PHILIP
838285	2.97	0.00	0.30	0.00	3.27	02/06/2023	0006495213	2022	2022	000000	UTLEY, CHARLES ARTHUR
838856	2.87	0.00	0.29	0.00	3.16	02/10/2023	0006925721	2022	2022	000000	JOBES, JEFFREY SCOTT
839509	4.20	0.00	0.42	0.00	4.62	02/17/2023	0006598225	2021	2021	000000	HARKEY, ADRIAN BRENT
840032	8.85	0.00	0.00	0.00	8.85	02/23/2023	0006988076	2023	2022	000000	AHLAWAT, ANUJ JAI
839228	0.00	240.00	0.00	0.00	240.00	02/15/2023	0006962323	2022	2022	000000	DECISIVE COMMUNICATIONS INC
839230	81.17	0.00	0.00	0.00	81.17	02/15/2023	0006952354	2022	2021	000000	BLAKLEY, STACY RENEE
839370	140.70	30.00	0.00	0.00	170.70	02/17/2023	0006978423	2023	2022	000000	CLARK, THOMAS FRANCIS
839369	28.87	30.00	0.00	0.00	58.87	02/16/2023	0006976695	2023	2022	000000	SANDERS, MICHAEL LEE

REBATE NUMBER	PROPERTY	CITY TAG	LATE LIST	BILLED INTEREST	TOTAL REBATED	PROCESS DATE	ACCOUNT NUMBER	TAX YEAR	YEAR FOR	BILLING TYPE	OWNER
INDIVIDUAL PROPERTY ACCOUNTS											
837846	2.42	0.00	0.24	0.00	2.66	02/01/2023	0006865654	2022	2022	000000	MCCANN, CHRISTOPHER ALLEN
837851	349.73	0.00	34.97	0.00	384.70	02/01/2023	0006965159	2022	2022	000000	AMIDON, JEREMY
838286	4.36	0.00	0.44	0.00	4.80	02/06/2023	0006552096	2022	2022	000000	UTLEY, CHARLES ARTHUR
839506	261.32	30.00	0.00	0.00	291.32	02/17/2023	0006978726	2023	2022	000000	DENNIS, WESTON ANDREW
SUBTOTALS FOR INDIVIDUAL PROPERTY ACCOUNTS	**961.81**	**360.00**	**37.23**	**0.00**	**1,359.04**	**15**	**Properties Rebated**				
WILDLIFE BOAT ACCOUNTS											
837860	34.71	0.00	3.47	0.00	38.18	02/01/2023	0004209607	2022	2022	000000	COLE, CHARLES HUBERT JR
839642	26.27	0.00	0.00	0.00	26.27	02/20/2023	0004192532	2022	2022	000000	GRUBBS, CHARLES ALLAN
839519	16.77	0.00	0.00	0.00	16.77	02/17/2023	0004192621	2022	2022	000000	JNAH, ERIC
839106	196.37	0.00	0.00	0.00	196.37	02/14/2023	0004211465	2022	2022	000000	DAVIDSON, FREDRICK COLLIN
838855	172.67	0.00	17.27	0.00	189.94	02/10/2023	0004206995	2022	2022	000000	JOBES, JEFFREY SCOTT
838143	65.96	0.00	6.60	0.00	72.56	02/06/2023	0004211601	2022	2022	000000	FOLTZ, JOSHUA NOLAN
SUBTOTALS FOR WILDLIFE BOAT ACCOUNTS	**512.75**	**0.00**	**27.34**	**0.00**	**540.09**	**6**	**Properties Rebated**				

REBATE NUMBER	PROPERTY	CITY TAG	LATE LIST	BILLED INTEREST	TOTAL REBATED	PROCESS DATE	ACCOUNT NUMBER	TAX YEAR	YEAR FOR	BILLING TYPE	OWNER
TOTAL REBATED FOR APEX	1,684.91	360.00	104.42	0.00	2,149.33		28 Properties Rebated for City				

WAKE COUNTY
NORTH CAROLINA

Board of Commissioners
P.O. Box 550 • Raleigh, NC 27602

TEL 919 856 6180
FAX 919 856 5699

May 2, 2023

Mr. Allen Coleman
Town Clerk
Town of Apex
Post Office Box 250
Apex, North Carolina 27502

Dear Mr. Coleman:

The Wake County Board of Commissioners, in regular session on May 1, 2023, approved and accepted the enclosed tax report for the Town of Apex.

The attached adopted actions are submitted for your review; no local board action is required.

Sincerely,

Yvonne Gilyard

Yvonne Gilyard
Clerk to the Board
Wake County Board of Commissioners

Enclosure(s)

Board Report

Return

Date : 05/01/2023

Approved By : DocuSigned by: Kim Lorbacher 48E02502256A4D9...

TO : WAKE COUNTY BOARD OF COMMISSIONERS

RE: CONSIDERATION OF REFUND FOR TAXES, INTEREST AND PENALTIES FOR APEX

No.	Name of Tax Payer	Account Number	Tax and Penalties		Total Rebate	Total Refund	Request Status
1	KIME, DANIEL JOHN 1804 CENTER RIDGE DR APEX NC, 27502	0004206547- 2022- 2022- 000000	City County	49.21 74.36	123.57	123.57	Refund
	Marcus D. Kinrade		Total City Rebated	49.21			
	Wake County Tax Administrator		Total County Rebated	74.36			
	DocuSigned by: Marcus Kinrade 03C5063B04D7486...		**Total Rebate/Refund**		123.57	123.57	

CC:

*Refund amount may differ from rebated total due to released interest or application of payment to any balance due on the account.

Print Lock

WAKE COUNTY
NORTH CAROLINA

Wake County Tax Administration
Rebate Details
03/01/2023 - 03/31/2023
APEX

DATE	TIME	PAGE
04/02/2023	11:13:45 PM	1

REBATE NUMBER	PROPERTY	CITY TAG	LATE LIST	BILLED INTEREST	TOTAL REBATED	PROCESS DATE	ACCOUNT NUMBER	TAX YEAR	YEAR FOR	BILLING TYPE	OWNER
BUSINESS ACCOUNTS											
840928	3.35	0.00	0.33	0.00	3.68	03/06/2023	0006679564	2022	2022	000000	SEAGRAVES, MARGARET
840410	12.14	0.00	1.21	0.00	13.35	03/01/2023	0006821130	2022	2022	000000	AVANCE HEALTH SYSTEM INC
SUBTOTALS FOR BUSINESS ACCOUNTS	**15.49**	**0.00**	**1.54**	**0.00**	**17.03**	**2**	**Properties Rebated**				
INDIVIDUAL PROPERTY ACCOUNTS											
843051	51.06	30.00	0.00	0.00	81.06	03/30/2023	0006992744	2023	2022	000000	SAWERS, ANGELA VIOLET
841531	49.65	30.00	0.00	0.00	79.65	03/13/2023	0006981014	2023	2022	000000	RICE, KEVIN BATTLE
841280	95.87	30.00	0.00	0.00	125.87	03/09/2023	0006977046	2023	2022	000000	PATEL, PRASHANT
841278	87.52	30.00	0.00	0.00	117.52	03/09/2023	0006975040	2022	2021	000000	DALIA, ARPITA
840676	46.64	30.00	0.00	0.00	76.64	03/03/2023	0006952338	2022	2021	000000	YON, DARREN WINFRED
840286	35.44	30.00	0.00	0.00	65.44	03/01/2023	0006988306	2023	2022	000000	SMITH, KELLY SUE
842386	53.22	30.00	0.00	0.00	83.22	03/22/2023	0006976111	2023	2022	000000	PARDUE, JENNIFER SAWYERS
SUBTOTALS FOR INDIVIDUAL PROPERTY ACCOUNTS	**419.40**	**210.00**	**0.00**	**0.00**	**629.40**	**7**	**Properties Rebated**				
WILDLIFE BOAT ACCOUNTS											
842268	44.74	0.00	4.47	0.00	49.21	03/22/2023	0004206547	2022	2022	000000	KIME, DANIEL JOHN
842269	30.10	0.00	3.01	0.00	33.11	03/22/2023	0004206546	2022	2022	000000	KIME, DANIEL JOHN

REBATE NUMBER	PROPERTY	CITY TAG	LATE LIST	BILLED INTEREST	TOTAL REBATED	PROCESS DATE	ACCOUNT NUMBER	TAX YEAR	YEAR FOR	BILLING TYPE	OWNER
SUBTOTALS FOR WILDLIFE BOAT ACCOUNTS	**74.84**	**0.00**	**7.48**	**0.00**	**82.32**	**2**	**Properties Rebated**				
TOTAL REBATED FOR APEX	**509.73**	**210.00**	**9.02**	**0.00**	**728.75**	**11**	**Properties Rebated for City**				

| Agenda Item | **cover sheet**

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA

Meeting Date: May 9, 2023

Item Details

Presenter(s): Allen Coleman, Town Clerk

Department(s): Town Clerk's Office

Requested Motion

Motion to amend the 2023 Town Council Meeting Calendar.

Approval Recommended?

Yes

Item Details

In accordance with North Carolina General Statute 143-318.12, a schedule of regular meetings shall be filed with the Town Clerk to the Town Council. The schedule must show the date, time, and place of each meeting.

It is proposed that the 2023 Town Council Meeting Calendar be amended as follows:

- **CHANGE –** Planning Committee Meeting
  - FROM: Thursday, May 11th, 2023
  - TO: Thursday, May 18th, 2023
  - 9:00 AM – 11:00 AM – Apex Town Hall

Attachments

- CN15-A1: Revised - 2023 Council Meeting Calendar No. 5
- CN15-A2: Revised – 2023 Text Calendar No. 5

Revised 5/9/2023

Town Council 2023 Meeting Calendar

APPROVED

January

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	T10	11	S12	13	14
15	16	T17	18	19	20	21
22	23	T24	25	T26	27	28
29	30	T31				

10th Pre-Budget Public Hearing/ Regular Mtg
12th Council Strategic Planning - Location TBD
17th Work Session
26th Finance Committee Meeting
31st Joint Collaboration Meeting/Holly Springs

February

S	M	T	W	T	F	S
			T1	2	3	4
5	6	7	8	9	10	11
12	13	T14	15	16	T17	18
19	20	T21	22	23	24	25
26	27	T28				

1st Economic Development Committee
17th Annual Council Retreat - Location TBD
21st Work Session

March

S	M	T	W	T	F	S
			1	T2	3	4
5	6	7	8	T9	10	11
12	13	T14	15	16	17	18
19	20	P21	22	T23	24	25
26	27	T28	29	30	31	

2nd Planning Committee
9th Personnel Committee
21st Work Session
23rd Joint Finance/Personnel Committee Mtg

April

S	M	T	W	T	F	S
						1
2	3	4	5	T6	7	8
9	T10	T11	12	13	14	15
16	17	T18	19	20	21	22
23	24	T25	26	T27	28	29
30						

6th Finance Committee
10th Finance/Personnel Committee (optional)
18th Work Session
27th Rules Committee

May

S	M	T	W	T	F	S
	1	2	3	4	T5	6
7	8	T9	10	11	T12	13
14	15	T16	T17	T18	19	20
21	22	T23	24	25	26	27
28	T29	30	31			

5th Budget Work Session
12th Personnel Committee
16th Work Session
17th Economic Development Committee
18th Planning Committee

June

S	M	T	W	T	F	S
				O1	2	3
4	5	6	7	T8	9	10
11	12	T13	14	15	16	17
18	19	T20	21	22	T23	24
25	26	T27	28	29	30	

1st Joint Collaboration Meeting/Cary
8th Budget Work Session
22nd Work Session
23rd Rules Committee

July

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

August

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	T8	9	10	11	12
13	14	T15	16	17	18	19
20	21	T22	T23	T24	25	26
27	28	H29	30	T31		

15th Work Session
23rd Economic Development Committee
24th Rules Committee
29th Joint Collaboration Meeting / Morrisville
31st Finance Committee

September

S	M	T	W	T	F	S
					1	2
3	4	5	6	T7	8	9
10	11	T12	13	14	15	16
17	18	T19	T20	21	22	23
24	25	T26	27	T28	29	30

7th Planning Committee
19th Work Session
20th Closed Session - Evaluation (Appointed)
28th Personnel Committee

October

S	M	T	W	T	F	S
1	2	T3	4	5	6	7
8	9	T10	11	12	13	14
15	16	17	18	P19	T20	21
22	23	T24	25	T26	27	28
29	H30	31				

3rd Closed Session - Evaluation (Appointed)
12th Work Session
20th Rules Committee
26th Finance Committee
30th Joint Collaboration Meeting / Wake County

November

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	T9	10	11
12	13	T14	15	T16	17	18
19	20	21	22	23	24	25
26	27	T28	29	T30		

7th Municipial Election
9th Economic Development Committee
16th Work Session
30th Planning Committee

December

S	M	T	W	T	F	S
					1	2
3	4	5	T6	7	T8	9
10	11	T12	13	T14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

6th Organizational Meeting (Swearing-In)
8th Personnel Committee
14th Work Session

Holidays	13
Regular Meetings	21
Work Sessions	11
Committee Meetings	20
Budget Hearings/Work Sessions	3
Joint Collaboration Meetings	4
CS - Evaluation (Appointed)	2
Retreat/Strategic Planning	2
Total Meetings	62

MEETING LOCATION(S)

P Police Department
T Town Hall
S Senior Center
H Halle Cultural Arts Center
O Other

62 Meeting days
1 Two meetings same day
62 Total Meetings

SPECIAL NOTE

Meeting Times, Location, Etc. are noted on the next page titled: "Apex Town Council Meeting Calendar for Year 2023 - Text"

Questions should be directed to the Town Clerk's Office
919-249-1260 or allen.coleman@apexnc.org

APPROVED
TOWN OF APEX TOWN COUNCIL
MEETING CALENDAR FOR YEAR 2023
TEXT Calendar

In accordance with North Carolina General Statute 143-318.12, a schedule of regular meetings shall be filed with the Town Clerk to the Town Council. The schedule must show the date, time, and place of each meeting. Questions should be directed to the Office of the Town Clerk by phone at 919-249-1260 or by email to allen.coleman@apexnc.org.

Special Accommodation Notice: Anyone needing special accommodations to attend the meeting(s) below and/or if this information is needed in an alternative format, please contact the Town Clerk's Office. The Town Clerk is located at 73 Hunter Street in Apex Town Hall on the 2nd Floor, (email) allen.coleman@apexnc.org or (phone) 919-249-1260.

Meeting Date	Type	Start Time	Location
Tuesday, January 10	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Thursday, January 12	Town Council Retreat	2:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, January 17	Town Council Work Session	2:30 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, January 24	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Thursday, January 26	Finance Committee Meeting	9:00 AM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, January 31	Joint Collaboration Meeting Town of Holly Springs	6:00 PM	Bass Lake Retreat Center 900 Bass Lake Road Holly Springs, NC 27540
Wednesday, February 1	Economic Development Committee Meeting	4:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, February 14	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502

Friday, February 17	Town Council Strategic Planning/ Budget Work Session	8:30 AM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, February 21	Town Council Work Session	3:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, February 28	Regular Town Council Meeting	7:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Thursday, March 2	Planning Committee Meeting	10:30 AM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Thursday, March 9	Personnel Committee Meeting	5:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, March 14	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, March 21	Town Council Work Session Public Safety	3:30 PM	Apex Police Department 205 Saunders Street Apex, NC 27502
Thursday, March 23	Joint Personnel and Finance Committee Meeting	4:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, March 28	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Thursday, April 6	Finance Committee Meeting	9:00 AM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Monday, April 10	Joint Personnel and Finance Committee Meeting	4:30 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, April 11	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, April 18	Town Council Work Session	3:30 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, April 25	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street

			Apex, NC 27502
Thursday, April 27	Rules Committee Meeting	3:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Friday, May 5	Budget Work Session	2:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, May 9	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Friday, May 12	Personnel Committee Meeting	2:30 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, May 16	Town Council Work Session	3:30 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Wednesday, May 17	Economic Development Committee Meeting	4:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Thursday, May 18	Planning Committee Meeting	9:00 AM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, May 23	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Thursday, June 1	Joint Collaboration Meeting Town of Cary	5:30 PM	Halle Cultural Arts Center 237 North Salem Street Apex, NC 27502
Thursday, June 8	Budget Work Session	2:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, June 13	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, June 20	Town Council Work Session	3:30 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Friday, June 23	Rules Committee Meeting	3:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502

Tuesday, June 27	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, August 8	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, August 15	Town Council Work Session	3:30 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, August 22	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Wednesday, August 23	Economic Development Committee Meeting	4:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Thursday, August 24	Rules Committee Meeting	3:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, August 29	Joint Collaboration Meeting Town of Morrisville	5:30 PM	Halle Cultural Arts Center 237 North Salem Street Apex, NC 27502
Thursday, August 31	Finance Committee Meeting	9:00 AM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Thursday, September 7	Planning Committee Meeting	9:00 AM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, September 12	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, September 19	Town Council Work Session	3:30 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Wednesday, September 20	Closed Session Appointed Personnel Evaluation	5:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, September 26	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Thursday, September 28	Personnel Committee	4:00 PM	Apex Town Hall

			73 Hunter Street Apex, NC 27502
Tuesday, October 3	Closed Session Appointed Personnel Evaluation	5:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, October 10	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Thursday, October 19	Town Council Work Session Public Safety	3:30 PM	Apex Police Department 205 Saunders Street Apex, NC 27502
Friday, October 20	Rules Committee Meeting	3:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, October 24	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Thursday, October 26	Finance Committee Meeting	9:00 AM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Monday, October 30	Joint Collaboration Meeting Wake County	5:00 PM	Halle Cultural Arts Center 237 North Salem Street Apex, NC 27502
Thursday, November 9	Economic Development Committee Meeting	4:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, November 14	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Thursday, November 16	Town Council Work Session	3:30 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, November 28	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Thursday, November 30	Planning Committee Meeting	9:00 AM	Apex Town Hall 73 Hunter Street Apex, NC 27502

Wednesday, December 6	Organizational Meeting	5:30 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Friday, December 8	Personnel Committee Meeting	2:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Tuesday, December 12	Regular Town Council Meeting	6:00 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502
Thursday, December 14	Town Council Work Session	3:30 PM	Apex Town Hall 73 Hunter Street Apex, NC 27502

| Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: PRESENTATION

Meeting Date: May 9, 2023

Item Details

Presenter(s): Councilmember Terry Mahaffey, Sponsor
Stephanie Mitchell of the Apex Public School Foundation

Department(s): Apex Town Council and Apex Public School Foundation

Requested Motion

Presentation of the Peak S.T.A.R. Award for the 3rd Quarter of the 2022-2023 School Year.

Approval Recommended?

N/A

Item Details

The Apex Town Council is pleased to work in partnership with the Apex Public School Foundation (APSF) to present the Peak S.T.A.R. Award to a deserving Apex school staff member, teacher, or someone in school administration. This award will be presented quarterly by the Apex Town Council and the APSF.

Attachments

- N/A

"The Peak of Good Living"

TOWN OF APEX NORTH CAROLINA

Proclamation

Asian American and Pacific Islander Heritage Month 2023

from the Office of the Mayor

WHEREAS, During Asian American and Pacific Islander Heritage Month, we acknowledge AAPI individuals and communities who have lived and worked in the United States for more than 200 years, and have made an indelible impact on our nation and town; and,

WHEREAS, Asian American and Pacific Islander Heritage Month recognizes the significant contributions of individuals and groups of Asian and Pacific descent to the history and culture of the United States; and,

WHEREAS, The month of May was selected as a way to honor the immigration of the first Japanese residents to the United States in 1843 and the completion of the Transcontinental Railroad in 1869, which was constructed by predominately Chinese immigrants; and,

WHEREAS, President Jimmy Carter issued Presidential Proclamation 4650 in 1979, which designated the week of May 4, 1979 as Asian American and Pacific Islander Heritage Week, and President Barack Obama issued Presidential Proclamation 8369 in 2009, proclaiming May as Asian American and Pacific Islander Heritage Month; and,

WHEREAS, Asian Americans and Pacific Islanders are some of the fastest growing ethnic populations in the nation, comprising 6.2% of the United States, and 9.9% of the Town of Apex.

NOW, THEREFORE, I, Jacques K. Gilbert, Mayor of Apex, North Carolina, do hereby proclaim, the Month of May 2023, Asian American and Pacific Islander Heritage Month in the Town of Apex, and call upon all residents to reflect on the contributions and achievements of the Asian American and Pacific Islander communities, and to show appreciation for their continued strengthening of our town.

I hereby set my hand and have caused the Seal of the Town of Apex, North Carolina, to be affixed this the 9th day of May 2023

Jacques Gilbert, Mayor

"The Peak of Good Living"

TOWN OF APEX NORTH CAROLINA

Proclamation

National Police Week 2023

from the Office of the Mayor

WHEREAS, Congress and the President of the United States have designated May 15, 2023 as "Peace Officers' Memorial Day" and the week in which it falls as "National Police Week"; and,

WHEREAS, There are approximately 900,000 law enforcement officers serving in communities across the United States, including the 99 dedicated officers of the Apex Police Department; and,

WHEREAS, The members of the Apex Police Department play an essential role in safeguarding the rights and freedoms of the residents in our town; and,

WHEREAS, It is important that the members of our law enforcement agency recognize their duty to serve the people of this town by safeguarding life and property, and protecting against violence and disorder, and,

WHEREAS, It is equally important that residents know and understand the hazards our officers face and the sacrifices they make in order to keep each of us safe; and,

WHEREAS, The service and sacrifice of all officers killed in the line of duty will be honored during the National Law Enforcement Officers Memorial Fund's 35th Annual Candlelight Vigil on the evening of May 13, 2023;

NOW, THEREFORE, I, Jacques K. Gilbert, Mayor of Apex, North Carolina, do hereby proclaim, the week of May 14th through May 20th, 2023, National Police Week, in the Town of Apex, and recognize all officers who have dedicated their lives in service of their communities. I further proclaim May 15th, 2023, Peace Officers' Memorial Day, to honor our law enforcement heroes who have been killed or disabled in the performance of their duties.

I hereby set my hand and have caused the Seal of the Town of Apex, North Carolina, to be affixed this the 9th day of May 2023

Jacques Gilbert, Mayor

| Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: PUBLIC HEARING

Meeting Date: May 9, 2023

Item Details

Presenter(s): Angela Reincke, Parks Planning Project Manager
Shweta Naneker, Project Manager, McAdams Co.

Department(s): Parks, Recreation and Cultural Resources

Requested Motion

Possible Motion to adopt the Master Plan for Parks, Recreation, Cultural Resources, Greenways and Open Space

Approval Recommended?

Yes

Item Details

In 2021, The Town of Apex, Parks, Recreation and Cultural Resources staff began an update to the Parks, Recreation, Greenways and Open Space Master Plan (PRGOS Master Plan). The PRGOS Master Plan was adopted in 2014. The newly-titled Master Plan for Parks, Recreation, Cultural Resources, Greenways and Open Space (Master Plan) was prepared for the Town by McAdams Co. to span the 2023-2033 timeframe. The purpose of the public hearing is to consider adoption of the proposed Master Plan.

Attachments

- PH1-A1: Staff Report - Master Plan for Parks and Rec Staff Report
- PH1-A2: Executive Summary for Parks and Rec Master Plan
- PH1-A3: Implementation + Action Plan for Parks and Rec Master Plan

In 2021, The Town of Apex, Parks, Recreation and Cultural Resources staff began an update to the Parks, Recreation, Greenways and Open Space Master Plan (PRGOS Master Plan). The PRGOS Master Plan was adopted in 2014. The newly-titled Master Plan for Parks, Recreation, Cultural Resources, Greenways and Open Space (Master Plan) was prepared for the Town by McAdams Co. to span the 2023-2033 timeframe. The purpose of the public hearing is to consider adoption of the proposed Master Plan.

The Master Plan serves as the guide for the Parks, Recreation and Cultural Resource (PRCR) Department for the 10-year planning horizon. The Master Plan Map amendments would remove the existing Land Acquisition areas identified in the 2014 Master Plan Map, as amended, and add two new categories for the identification and acquisition of property for future parks and indoor recreation facilities. The Master Plan Map amendments are proposed to address shifts in demographics, growth patterns, and recreation trends; contextualize these trends for the Town; and provide a visionary guide for the future. The Master Plan Map amendments identify locations that will transform recreation for Apex residents and visitors through 2033. The amendments will inform enhancements to current parks and recreation services and guide investments in new initiatives. The Master Plan Map does not require a schedule for implementation nor does it set aside funding for the recommendations.

The planning process for the Master Plan began in late 2021 with data collection and analysis of existing conditions. The process included establishing goals, developing guiding principles and recommendations, and developing an action plan. It was guided by Town staff; Apex residents; Town Council; the Parks, Recreation and Cultural Resources Advisory Commission (Advisory Commission); County staff; and adjacent municipality staff, among others.

The Apex community was engaged through social media posts, signage, direct mail invitations, and the project webpage, along with numerous opportunities for public input including the following:

Type of Event	Number of Events held
Focus Group Meetings	4
Asset Mapping Sessions	3
Visioning Workshops	3
Draft Recommendations Sessions	3
Open Houses	2
Special Events	2
Online Questionnaire Survey	1
Scientific Survey	1
West Street Park Community Engagement	1

The resulting draft Master Plan for Parks, Recreation, Cultural Resources, Greenways and Open Space (Executive Summary and Implementation + Action Plan) is attached for review and consideration.

d by: Angela Reincke, Parks Planning Project Manager

Staff Recommendation:
Parks, Recreation, and Cultural Resources Department staff recommend approval of the proposed Master Plan.

Parks, Recreation, and Cultural Resources Advisory Commission Recommendation:

The Parks, Recreation, and Cultural Resources Advisory Commission considered and unanimously recommended approval of the proposed Master Plan at their November 30, 2022 meeting.

Planning Board Input: The Master Plan was presented to the Planning Board as a New Business item during their May 8, 2023 meeting. Any substantial comments and resulting recommended changes will be shared during the staff presentation.

Attachments:
Attachment 1 - Master Plan for Parks, Recreation, Cultural Resources, Greenways and Open Space- Executive Summary
Attachment 2 - Master Plan for Parks, Recreation, Cultural Resources, Greenways and Open Space- Implementation + Action Plan

EXECUTIVE SUMMARY

The Town of Apex embodies its slogan, 'The Peak of Good Living'. Apex is a rapidly growing town, committed to its small-town charm, community connections, and civic pride. Its beautiful parks provide active recreation coupled with an immersive experience in nature. Visitors flock to Apex to enjoy unique amenities like the Rodgers Family Skate Plaza, Elevate Fitness Course, special events like PeakFest, and facilities like the Halle Cultural Arts Center. It is no surprise that the Town has consistently received accolades such as Best Place to Live, and Top Ten Best Towns. The Parks, Recreation and Cultural Resources Department plays a major role in making the town the ideal place to live, work, and play.

The Town of Apex is a desirable place to put down roots—which has led to its rapid growth. As Apex has grown, the demographic make-up has changed, creating new interests and needs for recreation and cultural offerings beyond traditional programming. The Town is enthusiastic about expanding traditional recreation with more contemporary, forward-looking opportunities that serve all Apex residents, attract visitors, and create experiences that are uniquely Apex.

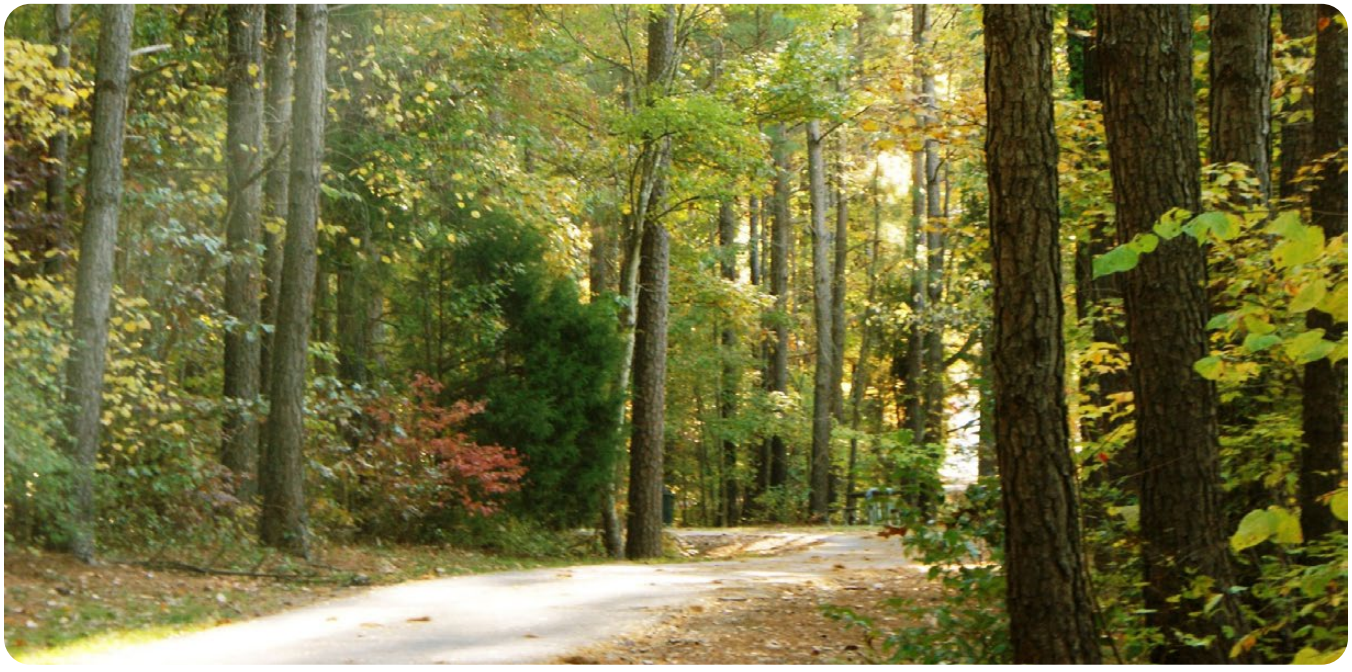


Figure ES.2 - *Greenway Trail*

Envision the Future of Parks, Recreation and Cultural Resources

The Town of Apex completed the previous Parks, Recreation and Cultural Resources (PRCR) Master Plan in 2013. In 2021, the Town embarked on the journey to update the previous plan and guide the vision for the Department over the next 10-year planning horizon.

The updated master plan acknowledges the shifts in demographics, growth patterns, and recreation trends and contextualizes these trends for the Town of Apex. It proposes a visionary path to enhance current parks and recreation services, ways to invest in new initiatives, and identifies projects to transform the scene of recreation for Apex residents and visitors by 2031.

The 2023-2033 comprehensive master plan for parks, recreation, cultural resources, greenways, and open space identified eight (8) goals for the planning process.

Goals

- Replace the 2013 PRGOS Master Plan
- Identify community values
- Define the parks system's role in the future of the Town of Apex
- Develop a resource for elected officials, other town departments, and the public to guide future actions
- Provide a framework for the PRCR Department
- Guide improvements to current parks system
- Accommodate additional demand by new residents
- Develop the action and implementation plan
- Qualify to access certain state and national funding sources

1800+

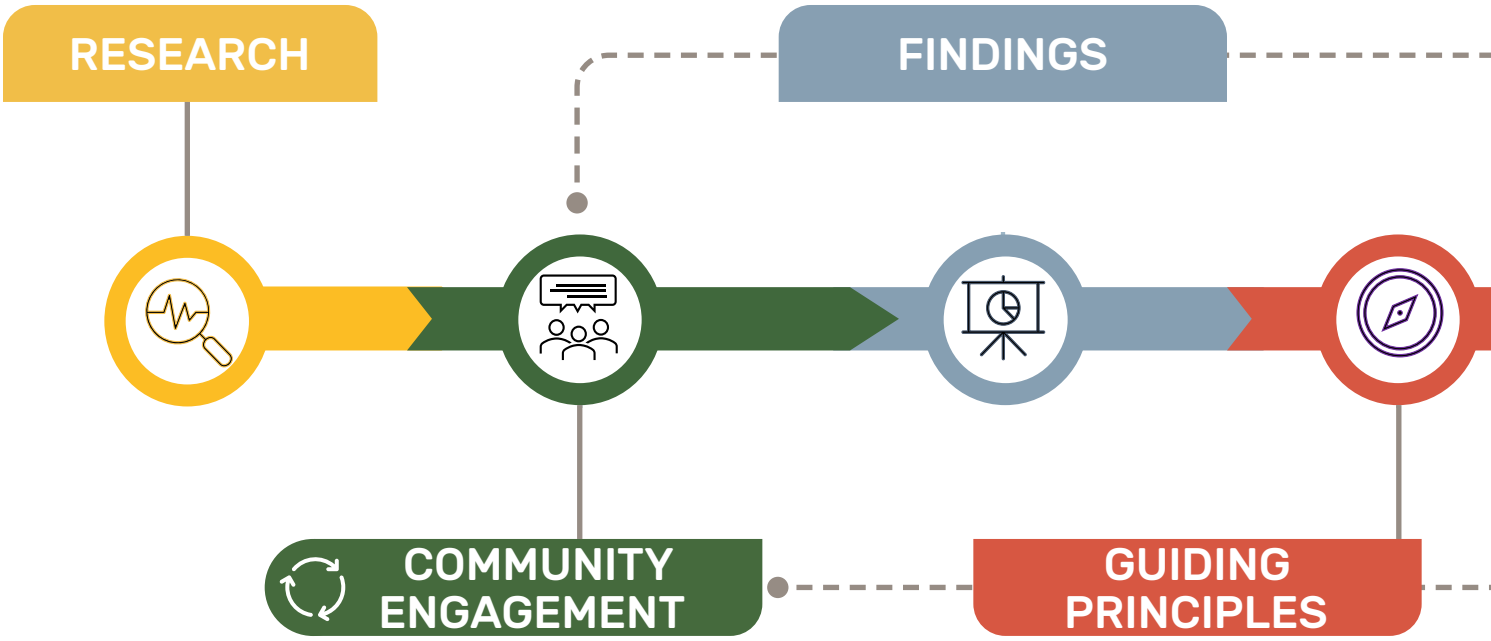
The planning process included more than 1,800 touch points with the community, advisory commission, Town staff, and Town Council combined.

3- Asset Mapping Sessions
2- Open Houses
2- Special Events
1- Online Questionnaire Survey
1- Scientific Survey
4- Focus Group Meetings
3- Visioning Workshops
3- Draft Recommendations Sessions
1- West Street Park Community Engagement

The Town of Apex initiated the planning process in 2021 to answer three critical questions:

- Where are we currently as the PRCR Department?
- Where do we want to go?
- How do we get there?

Through this process, the Department identified gaps and uncharted opportunities, and set up aspirational goals to be achieved over the next ten-year planning horizon. The goals and recommendations are validated through a robust community engagement process and feedback from the Town Council, Advisory Commission, and PRCR Department Staff.



Community Engagement by Numbers

513
Households
Scientific Survey

56
Participants
Virtual Open House

200+
Participants
Pop up Event
Peakfest 2021

748
Participants
Online Questionnaire Survey

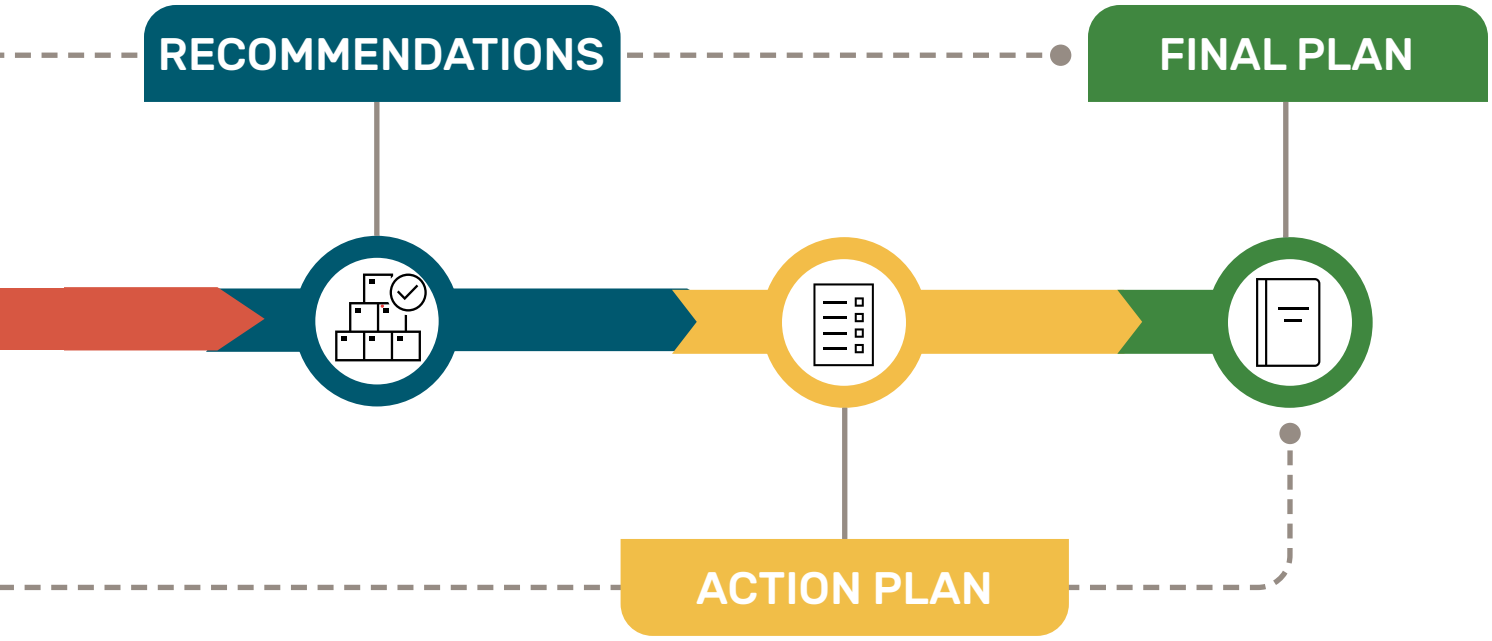


Figure ES.3 -Planning Process

40+
Participants
Visioning sessions

23
Participants
Focus Groups

20
Participants
West Street Park

300+
Participants
Pop up Event
Peakfest 2022

37
Participants
Asset Mapping
Sessions

50+
Participants
Draft Recommendations
Work Sessions

Figure ES.4 Community Engagement by Numbers

State of the System

GREENWAYS ASSESSMENT

- Evolving and expanding system
- Town's and community's central focus on connectivity to destinations
- Development-constructed greenways as new projects are built in Town
- Challenges upkeeping older sections and managing new ones
- Design standards are being implemented on new sections

What We Heard...

ACCESS TO FACILITIES

53% - Residents drive to access greenways and parks

DESIRE FOR DESTINATIONS

68% - Other Greenways

65% - Natural areas + Open Space

64% - Parks + Playgrounds

REASONS FOR NOT USING GREENWAYS

38% - Lack of safe connections

32% - Lack of information

32% - Lack of destinations

State of the System

PARKLAND ASSESSMENT

- Equitable park distribution
- Acquisitions in high growth areas
- Well-maintained high-quality park amenities with diverse programming
- Well loved, high demand, and aging facilities
- High demand for rentals and organized activities

What We Heard...

99% - Agree that parks add to the quality of life

91% - Agree that Apex parks are safe

91% - Are supportive of improving / upkeeping existing facilities

PRIORITY INVESTMENT RATING FOR FACILITIES

[162] Greenway and trails with trailheads

[147] Aquatic facility

[136] Water sports access

[102] Miniature golf

State of the System

INDOOR RECREATION SPACE + PROGRAMMING ASSESSMENT

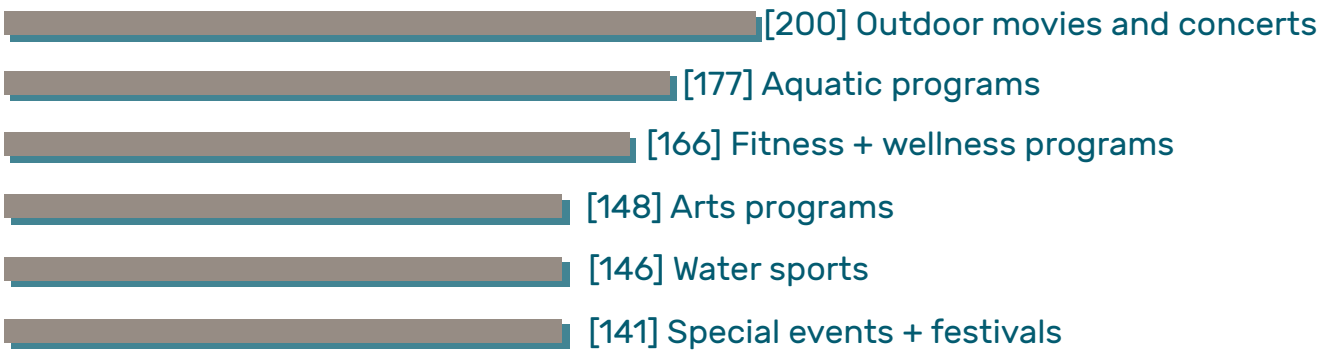
- Town of Apex currently has 86, 294 sq. ft. of indoor recreation space concentrated in the town core and current level of service is 1.37 Sq.Ft/ capita.
- These facilities include a community center, a senior center, and a historic cultural arts center.
- The senior center was opened at Town campus in November 2021.
- The community center is in great condition. As most senior programs shift to the senior center, there is an opportunity to expand programming at the community center.
- The renovated Halle Cultural Arts Center is a unique destination in downtown Apex.

What We Heard...

97% - Rate programs/ events high quality

55% - Prioritize developing sense of community through parks and recreation

PRIORITY INVESTMENT RATING FOR PROGRAMMING




COMMUNITY VALUES
WELCOME!
1. Explore
2. Envision
3. Recommend


PARK ENHANCEMENTS
SUGGESTIONS

Plan Framework

The Town of Apex community places high value on aspirational goals. This plan's recommendations and implementation strategies are based on the aspirations, expectations, and priorities shared by the community. The year-long planning process was established on the tiered framework of themes, guiding principles, recommendations, and action items, all rooted in the community values that Apex residents shared throughout the planning process.

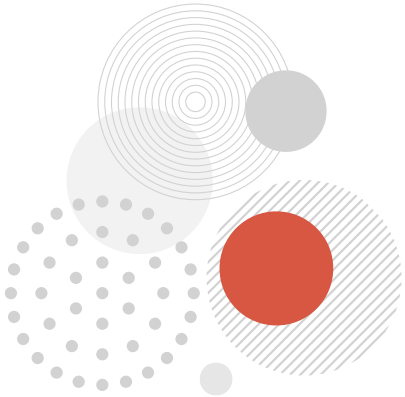
Themes

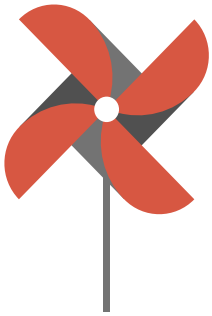
Three themes emerged from the robust community engagement:

- **Expand**
- **Experience**
- **Excel**

APEXpand

Apex residents would like to **Expand** the Town's offerings with additional parkland, recreational programming, and a more connected greenway system while developing environmental stewardship programs and opportunities to strengthen the culture of belonging.





APEXperience

Residents want to **Experience** unique amenities and programs for all ages, abilities and interest that encourage a healthy lifestyle, explore cultural avenues and provide a strong sense of community.

APEXcel

Residents want to see the PRCR Department **Excel** in operational efficiencies, outstanding customer service, and best-in-class programming and facilities.

Guiding Principles

Each guiding principle is tied to a particular theme. These guiding principles were derived from the needs and desires of the residents shared during the community engagement process, along with the input received from the Advisory Commission, Town Council, and PRCR Department staff.

Nine guiding principles emerged through the robust community engagement process. The guiding principles provide the roadmap for the future of Apex Parks, Recreation and Cultural Resources. Because the themes and guiding principles are rooted in the community values, they rarely change over the 10-year planning horizon set for the project. The project priorities may change, but the guiding principles are the foundational elements for decision-making.

THEME - APEXpand

CONNECTIVITY

Prioritize interconnected public realm through greenways, bikeways, and transportation.

Apex residents have expressed a strong desire for expanding the greenway system and connectivity to destinations including parks, natural areas, and open space.

- Implement the proposed greenway network plan to improve access to parks, nearby greenways, and other local and regional destinations.
- Prioritize completion of greenway corridors that meet the highest levels of criteria established in the prioritization matrix.
- Encourage and support greenway use through placemaking strategies.
- Evaluate performance of the greenway network annually.

RECREATION OFFERINGS

Expand recreation offerings to attract new participants, retain current ones, and meet the needs of diverse demographics of Apex.

Apex residents have expressed a strong desire for a variety of program offerings that inspire people to try something new and provide opportunities for varying interests.

- Acquire 193 additional acres to continue to provide 10 ac/ 1000 pop. Level of Service standard.
- Build 39,084 sq. ft. of additional indoor facility space by 2031.
- Develop the existing vacant parkland to continue to provide recreation offerings for the growing population.
- Continue to invest in existing parks and facilities to meet community priorities.
- Continue to offer diverse recreation programs for growing and changing demographics of Apex.
- Effectively manage and operate the core program areas.

ENVIRONMENTAL STEWARDSHIP

Expand efforts to protect the natural assets and collaborate on town-wide sustainability efforts.

Apex residents value access to natural areas and understand the positive health outcomes it provides. A desire for environmentally sustainable operations and a need for environmental education programming was mentioned.

- Acquire 65 acres of conservation lands by 2031.
- Promote environmental stewardship through park and facilities design and focus on environmentally sustainable operating practices.
- Continue to support town-wide initiatives for energy conservation through parks and recreation.
- Focus on nature-based programming to generate environmental awareness.

CULTURE OF BELONGING

Nurture the culture of belonging by prioritizing inclusion, diversity, equity, and accessibility.

Apex residents consider diverse parks and recreation offerings for all ages and ability levels as an asset to the community. Expanding cultural events to celebrate the diversity of demographics was indicated as a future need.

- Achieve equitable access to parks, facilities, and programs for all Apex residents.
- Support special events and programs that represent diverse cultures in Apex.
- Continue to provide age targeted recreation programs that appeal to diverse interest groups.
- Prioritize PLAY opportunities for all ages and abilities.
- Prioritize placemaking strategies to create welcoming spaces that attract a wide range of participants.

THEME - APEXperience

HEALTH + WELLBEING

Support health and wellbeing of Apex residents through parks and recreation.

Apex residents ranked fitness and wellness programs as one of the top priorities for investment and there is a town-wide consensus that parks and recreation has a positive effect on the community's health and quality of life.

- Encourage development of amenities and programs that provide physical, social, and mental health benefits.
- Promote access to healthy lifestyle choices.

SENSE OF COMMUNITY

Provide a chance for people to socialize, form friendships, and discover common grounds.

Apex residents indicated creating connections and developing a sense of community should be one of the most important considerations when prioritizing parks and recreation investments. Parks provide a chance for social cohesion where people get to know each other and feel inspired.

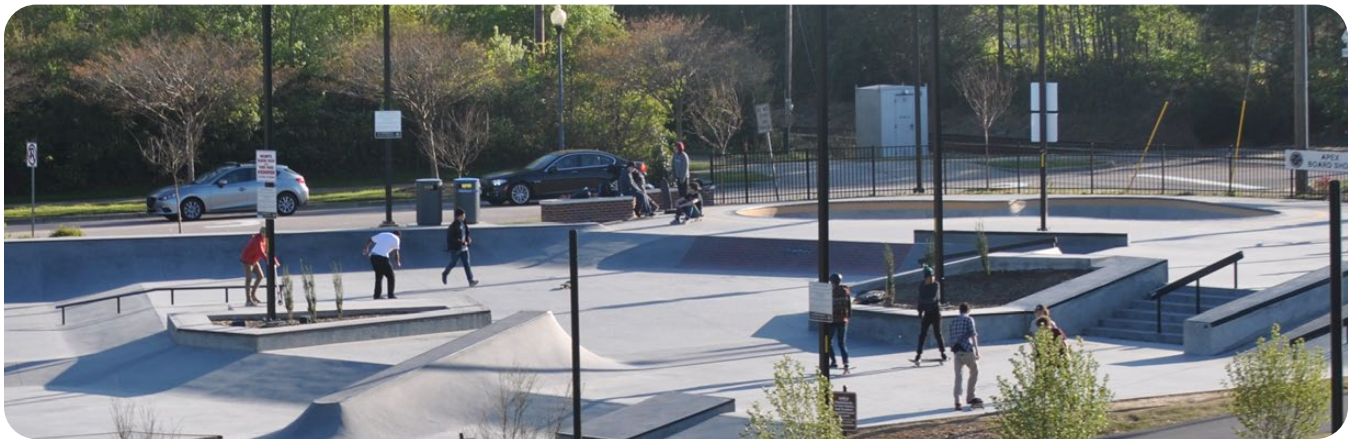
- Provide opportunities for residents to connect with each other and encourage social interaction.

UNIQUE TO APEX

Reflect on Apex's culture and history through the design of spaces that are unique, innovative, and imageable.

Apex residents want to see innovative programs and amenities that attract out of town visitors to Apex as a way to generate economic impact.

- Continue to offer cultural arts programming to appeal to diverse interest groups and cultural backgrounds.
- Promote "unique to Apex" theme while designing new parks and amenities.



THEME - APEXcel

OPERATIONS EFFICIENCY

Achieve organizational excellence by implementing business practices that enhance efficiency, staff satisfaction, and economic vitality.

Apex residents recognize that as the town continues to grow, there is a need for additional staff, resources, and a desire to be competitive with other recreation providers in the area.

- Streamline recreation program management through best practices, tracking, and fees policy updates.
- Achieve operations efficiency through sound maintenance and management practices.
- Invest in staffing resources and staff satisfaction to achieve departmental operations efficiency.
- Seek strategic partnerships with third party providers to expand Department's capacity to provide competitive services.
- Implement capital improvements and operations through responsible funding sources.

CUSTOMER SERVICE

Provide outstanding customer service through streamlined communication and marketing efforts.

Apex residents consider PRCR staff an asset to the community for excellent customer service. PRCR staff indicated the desire for streamlined marketing efforts, enhanced online presence, and staff empowerment to excel in customer service.

- Provide high quality customer service through enhanced communication and outreach.
- Establish a volunteer program to engage residents in parks and recreation services and develop a sense of ownership within the community.

Imple-mentation

This plan sets forth implementation guidelines for use as a decision-making tool for staff and elected officials. This approach informs and validates decisions through data and community values, leading to defendable and high performing projects implemented through consensus among stakeholders.

PRIORITIZATION CRITERIA

- **Guiding Principles Compatibility**
- **Community Needs**
- **Parks System Advancement**
  - Degree of Urgency
  - Economic Impact
  - Compatibility with Town policies and planning efforts including Advance Apex

The Master Plan for Apex's Parks, Recreation and Cultural Resources, Greenways, and Open Space aims to expand the opportunities for parks and recreation amenities and programming for the Apex community. Through a reality-based planning approach, the plan balances the current needs and desires of the residents with visionary and aspirational goals.

As the Town continues to grow, it must proactively plan to ensure the needs of the community will be met. Strategic planning that involves appropriate staffing allocation, funding resources, and effective business decisions will be required to implement the recommendations and action items suggested in this plan. Secondly, it will require systematic and regular assessment of current recreation provision, asset management, and management practices to ensure Department's sound operations. Thirdly, the Department will need to continue to collaborate with other Town departments, adjacent jurisdictions, Wake County, local businesses, special interests groups, and third-party recreation providers. Above all, the Department will require focus on its aspirational goals which will be achieved through visionary decisions, innovative actions, and measured risk-taking to support its motto 'The Peak of Good Living.'

APEX 2033 SNEAK PEEK AT TOWN OF APEX'S FUTURE PARKS SYSTEM TRANSFORMATIVE PROJECTS

	GUIDING PRINCIPLE	TRANSFORMATIVE PROJECTS
EXPAND	CONNECTIVITY	› Start Design Development on the three recommended prioritized corridors. › Complete Beaver Creek Corridor. › Continue partnership with Wake County and Town of Holly Springs to complete Middle Creek Greenway Corridor.
	RECREATION OFFERINGS	› Complete master plans for two new parks in western Apex and start construction. › Complete plans for 2- recreation centers and the nature center and start construction on at least one. › Acquire parkland per Veridea Park Master Plan for a new park and a recreation center in SE Apex.
	CULTURE OF BELONGING	› Update fees and charges policy for programs and include need-based component. › Update Kelly Road Park playground as inclusive play area.
	ENVIRONMENTAL STEWARDSHIP	› Establish Department goals for sustainability within the framework of Town-wide initiatives.
EXPERIENCE	HEALTH + WELL-BEING	› Develop options for in-person and online health and fitness programs. › Promote park amenities that encourage active lifestyles.
	SENSE OF COMMUNITY	› Complete renovations of Depot Plaza as downtown social hub destination.
	UNIQUE TO APEX	› Complete renovations of historic Tunstall House. › Develop town-wide Public Art Plan.
EXCEL	OPERATIONS EFFICIENCY	› Develop formal volunteer program for PRCR Department.
	CUSTOMER SERVICE	› Develop Marketing Plan.

11 | IMPLEMENTATION + ACTION PLAN

IN THIS CHAPTER

Introduction
Prioritization Guidelines
Implementation + Action Plan

The Town of Apex Parks, Recreation, Greenways and Open Space Master Plan proposes recommendations and action items that align with the themes and guiding principles developed through a robust community and staff engagement process and based on the strong foundation of community values. The action items address enhancements to existing services and implementing new amenities and programs over a ten-year planning horizon.

As the Town continues the implementation process over the next decade, many projects will evolve based on changing recreation trends, availability of funding, and the needs of a growing community. When there are many opportunities and competing interests, it is difficult for decision makers to prioritize and implement projects. Hence, this plan sets forth implementation guidelines for use as a decision-making tool for staff and elected officials. This approach informs and validates decisions through data and community values, leading to statistically-based projects and consensus among stakeholders.

Figure 11.1- *Downtown Depot Plaza*

PRIORITIZATION GUIDELINES

The proposed prioritization guidelines for project implementation described below encompass the master plan guiding principles, community needs, and parks system advancement. There are series of questions added to each section to help the Town make an informed decision as projects are identified or new projects emerge for implementation.

1. Guiding Principles Compatibility

This criterion will ensure that the projects considered for implementation are consistent with the guiding principles of the plan. Overlapping multiple guiding principles will generate benefits that span across the system covering all elements from environmental sustainability to economic impact. The following questions can help evaluate this criterion:

- **a.** Does the project meet the needs of the growing community by providing recreation programs, special events, and unique amenities that are not currently available?
- **b.** Does this project provide equitable access to parks and facilities for people of all ages and abilities and create inclusive environments for people of different cultures and ethnicities?
- **c.** Does this project support health and wellbeing of the community members by providing amenities that encourage physical activity or reduce mental stress?
- **d.** Does this project fill in the identified gaps to create a recreation system that connects key destinations within the Town via greenway trails and side paths? Does this project protect natural resources for its ecological and environmental benefits?
- **e.** Does this project elevate the quality-of-life experience for Apex residents by strengthening the sense of community, identifying key partnerships, and achieving operational efficiency?

2. Community Needs

This criterion leverages the findings from the community engagement process undertaken during this project. Two major components of this criterion are findings from the scientific survey and the feedback received from various other groups as noted below:

- **a.** Scientific survey results PIR ratings based on the unmet needs and the level of importance given to these needs by the participants
- **b.** Public, focus groups, and advisory commission feedback received through various platforms

Following questions can help evaluate this criterion:

1. Is this project listed on the priority investment rating scale as mentioned in the scientific survey?
2. Is this project identified as a need by various groups in the public engagement process?

3. Parks System Advancement

The parks system advancement criterion is related to providing an excellent parks and recreation service and high-quality amenities and programs by addressing the detail technical project implementation questions. These questions are divided into following three categories as follows:

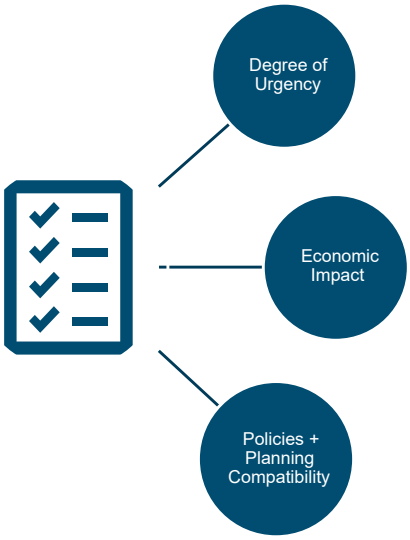


Figure 11.2- *Park System Advancement*

1. Degree of Urgency

- **a.** Does this project need attention to ensure public health, safety, and welfare?
- **b.** Does this project need attention to comply with current building codes and regulations?
- **c.** Will this project protect natural resources which otherwise may be lost if not addressed immediately?
- **d.** Is this project a unique opportunity resulting from other projects that may be lost if not taken as priority?

2. Economic Impact

- **a.** Will this project create long term operational efficiency and financial loss if not addressed promptly?
- **b.** Does this project generate revenue for the parks and recreation department?
- **c.** Does this project generate revenue through strategic partnerships or time sensitive grant funding opportunities?

3. Compatibility with Town policies and planning efforts

- **a.** Is this project compatible with the Future Land Use Plan?
- **b.** Does this project build upon other regional planning efforts to connect Apex residents to regional and state level recreation opportunities?
- **c.** Does this project address existing gaps in the system to achieve cohesive parks and recreation system?

FROM RECOMMENDATIONS TO ACTIONS + IMPLEMENTATION

The implementation plan is considered a 10-year work plan or a road map for the Town. The framework for the implementation plan is designed to show roles and responsibilities of the staff accountable for action items, actions from elected officials, and overall documentation of implementation progress.

There are three primary pathways to implement recommendations and action items- through policy guidance (PG), Development Ordinance (DO), and identification of capital projects and associated funding mechanisms (CF). Additionally, the fourth pathway suggested for this plan is Operational Advancements (OA) for the recommendations that refer to changes or improvements in departmental operations. Each action below is supported by the types of pathways the Town needs to take to implement the same. The majority of the recommendations and action items are supported by policy guidance, followed by identification of projects that need capital funding investment. The Unified Development Ordinance is referenced where the Town has established the codes that relate to action items. Furthermore, the responsibility section notes the department group responsible for implementation and identifies other departments the PRCR Department should continue to collaborate with.

RESPONSIBLE PRCR GROUPS	TOWN DEPARTMENTS COLLABORATION OPPORTUNITIES
PRCR Administration	Town Administration
Cultural Arts	Diversity, Equity, and Inclusion (DEI Department)
Recreation Programs (includes Community Center)	Economic Development
Senior Center	Planning and Community Development
Marketing	Public Works
Athletics Programs	Transportation Engineering
Parks and Planning (includes Pleasant Park)	Water Resources
Park Operations	

STATUS DESCRIPTION	EXPLANATION
Perpetual	The action item does not have an end date. It may be currently under progress and will continue to be implemented in perpetuity of this master plan.
In Progress	The action item is currently under progress and will have a definite end date.
On Hold	The action item is on hold.
Not Started	The action item implementation has not started.
Completed	The action item implementation has been completed.

The implementation plan also includes a status update on each of the action items to keep track of the progress and remove the action items from the plan once they are completed. The status categories include Perpetual, In Progress, On Hold, Not Started, and Completed. The Town can consider developing an "implementation plan team" to ensure accountability and consistent progress over the ten-year planning horizon. The implementation team will be responsible for congruency with other town-wide planning efforts, identifying priority capital projects and funding sources, and developing annual progress reports. An annual progress report is helpful for the Department's internal operations and staff motivation as well as communicating the success to elected officials and public at large. It also sets the stage for next year's project priorities, staffing, and funding allocations. The implementation team will also take account of any emerging issues, trends, community's changing desires etc. in the annual report.

Figure 11.3- *Pleasant Park (Under Construction)*

THEMES/ GUIDING PRINCIPLES	RECOMMENDATIONS	ACTION ITEMS	ACTION PATHWAY	RESPONSIBILITY	STATUS
1. EXPAND					
1.1 Connectivity: Prioritize interconnected public realm through greenways, bikeways, and transportation.					
1.1.1	Implement the proposed greenway network plan to improve access to parks, other greenways, and other local and regional destinations.	**a.** Build additional 12 plus miles of greenways in the next ten years to achieve a minimum level of service of 0.46 miles/ 1,000 population.	PG, DO, CF	Parks and Planning, Transportation Engineering, Planning & Community Dev., Public Works	In progress
		b. Continue inter-departmental collaborations on the bike-ped plan, transportation plan, and the PRGOS Master Plan to improve system-wide connectivity, implement recommended infrastructure, amenities, and policies outlined in adopted plans	PG	Parks and Planning and Parks, Recreation & Cultural Resources Advisory Commission	Perpetual
		c. Continue inter-jurisdictional collaborations to improve regional connectivity.	PG	Parks and Planning	Perpetual
		d. Address current gaps in the system to expand the network connectivity through side path, street side trail, and greenway development.	PG, DO, CF	Parks and Planning, Transportation engineering, Planning & Community Dev., Public Works	Perpetual
		e. Identify 'commuter corridors' to offer regional connectivity with major employment destinations.	PG	Parks and Planning	In Progress
		f. Coordinate with NCDOT Division 5 on future STIP projects to prioritize and construct sidepaths or greenways, safe connections, and intersection treatments in roadway projects. Construct grade-separated crossings or barrier protected bike/ped lanes on bridges as a betterment on NCDOT projects.	CF	Parks and Planning, Transportation engineering, Planning & Community Dev., NCDOT Div. 5, NCDOT IMD	Perpetual

1.1.1	Implement the proposed greenway network plan to improve access to parks, other greenways, and other local and regional destinations.	**g.** Develop a greenway work plan and construct greenway development as part of essential infrastructure development across the Town. Designate Town staff to lead implementation of plan recommendations.	PG, DO, CF	Parks and Planning, Transportation engineering, Planning & Community Dev., Public Works	Perpetual
		h. Develop a greenway work plan and construct greenway development as part of essential infrastructure development across the Town. Designate Town staff to lead implementation of plan recommendations.	OA, CF	Parks and Planning, Transportation engineering, Planning & Community Dev., Public Works	Not Started
		i. Develop funding strategies and allocate funding for greenway development annually and seek funding opportunities for right-of-way acquisitions, easement acquisitions proactively.	CF	PRCR Administration, Town Administration, Parks and Planning, CAMPO, Wake County, NCDOT IMD	Perpetual
1.1.2	Prioritize completion of greenway corridors that meet most criteria established in the prioritization matrix.	**a.** Use the prioritization criteria (Step 1: Feasibility; Step 2: Prepare cost analysis) to inform decisions regarding prioritization for project implementation.	PG	Parks and Planning	In Progress
		b. Conduct feasibility studies for the high priority greenway projects.	PG, CF	Parks and Planning, NCDOT, regional partners, adjacent municipalities	In Progress
		c. Following feasibility study completion, score high-priority greenway corridors for design development and construction funding using the prioritization criteria developed through the Master Plan update.	CF	Parks and Planning, Transportation engineering, Planning & Community Dev., Public Works	Not Started
		d. Staff should analyze budget annually using the two-step prioritization criteria.	PG, CF	Parks and Planning	Not Started
1.1.3	Encourage and support greenway use through placemaking strategies.	**a.** Use placemaking strategies to enhance user experience along greenway nodes and trail head locations.	PG, CF	Parks and Planning	Perpetual

1.1.3 (cont.)	Encourage and support greenway use through placemaking strategies.	**b.** Develop a hierarchical system of trail heads and identify amenities associated with each such as restrooms, weather shelter, parking, drinking water, public art etc.	PG, CF	Parks and Planning	Not Started
		c. Provide easy access to amenities (e.g., rest rooms, drinking water, seating areas, mile markers etc.) to encourage fitness and health outcomes.	OA, CF	Parks and Planning, Public Works, Parks Operations	Not Started
		d. Develop a Greenway Maintenance & Operations Plan and allocate resources for maintenance of aging sections as part of the asset management plan.	PG, CF	Parks and Planning, Recreation Programs, Marketing	Not Started
		e. Incorporate digital capabilities such as QR codes on greenway signage, bike rentals, and phone apps to encourage greenway use	CF	Parks and Planning, Recreation Programs	Not Started
		f. Facilitate and participate in programs and events such as bike rodeos, traffic gardens, and other educational programming, group walks and bike rides, nature hikes, etc. to attract new users	PG, DC, CF	Parks and Planning, Planning & Community Dev.	Perpetual
		g. Ensure connectivity to internal parks trails from greenway corridors.	CF	Parks and Planning	Perpetual
		h. Continue to implement the current wayfinding signage along new greenway corridors.	PG, CF	Parks and Planning	Not Started
1.1.4	Evaluate performance of the greenway network annually.	**a.** Use placemaking strategies to enhance user experience along greenway nodes and trail head locations.	OA	Parks and Planning	Not Started
		b. Coordinate with NCDOT IMD to participate in the Bicycle and Pedestrian Count Program.	OA	Parks and Planning	Not Started

1.	EXPAND				
1.2 Recreation offerings: Expand recreation offerings to attract new participants, retain current ones, and meet the needs of diverse and growing demographics of Apex.					
Parks and Facilities Recommendations					
1.2.1	Acquire 193 additional acres to continue to provide 10 ac/ 1000 pop. Level of Service standard.	**a.** Adopt the LOS standard of 10 acres/1,000 population.	PG, DO	PRCR Administration	Not Started
		b. Target land acquisition in the areas identified in the parks search areas map.	PG	Parks and Planning	Not Started
		c. Encourage developable land dedication instead of fee-in-lieu provision within the park search areas	PG	PRCR Administration, Parks and Planning	Not Started
1.2.2	Build 39,084 sq. ft. of additional indoor facility space by 2031.	**a.** Conduct feasibility studies to determine indoor programming needs at the existing undeveloped parkland and investigate partnership opportunities to allow flexibility in the number of new indoor facilities.	CF	Parks and Planning	Not Started
		b. Build Nature Center per Nature Park plans to meet demands for environmental educational programming and community space.	CF	Parks and Planning	In Progress
		c. Develop business plans prior to developing new indoor facilities to identify amenity and programming needs, staff needs, office spaces, and fees.	CF	Parks and Planning	Not Started
1.2.3	Develop the existing vacant parkland to continue to provide recreation offerings for growing population.	**a.** Develop master plans for the two recently acquired vacant parkland properties.	CF	Parks and Planning	Not Started
		b. Complete full build out of Pleasant Park facility per approved plans.	CF	Parks and Planning	Ongoing
		c. Leverage community input, PIR findings, and level of service standards to provide additional park amenities such as new sports courts and additional playgrounds.	CF	Parks and Planning	Not Started

1.2.3 (cont.)	Develop the existing vacant parkland to continue to provide recreation offerings for growing population.	**d.** Update current land acquisition and fee-in-lieu policy and conduct a fee study for identifying and prioritizing land acquisition for future parks and open space and recreational amenities including greenways.	PG	PRCR Administration, Parks and Planning, Athletic Programs, Recreation Programs	Not Started
		e. Consider recreation trends amongst diverse Apex populations to plan for new amenities in parks.	PG, OA	Parks and Planning	Perpetual
1.2.4	Continue to invest in existing parks and facilities to meet community priorities.	**a.** Regularly assess existing parks and facilities for renovations and park activation through new innovative amenities and programs to continue to attract visitors.	CF	Parks and Planning, Athletic Programs, Recreation Programs	Perpetual
		b. Adopt total cost of service/ ownership model to anticipate capital investment and operations + maintenance costs for aging facilities.	PG	PRCR Administration, Parks and Planning	Not Started
		c. Implement the site specific and facility specific recommendations outlined in this plan to respond to diverse recreation interests.	CF	Parks and Planning	In Progress
		d. Consider revenue generating potential of facilities such as the Halle Cultural Arts Center through provision of concessions.	PG, CF	Parks and Planning, Cultural Arts	Not Started
		e. Streamline the reservation processes for sports fields to optimize their use for league play and open play.	CF, OA	Athletic Programs	Not Started
		f. Consider developing business plans for existing and future parks and facilities.	CF	Parks and Planning	Not Started
Programming Recommendations					
1.2.5	Continue to offer diverse recreation programs for growing and changing demographics of Apex.	**a.** Continue to provide existing programs: special events and festivals, senior programs, athletic sports and non-athletic fitness programs, arts, environmental education, and age-appropriate interests.	CF	Athletic Programs, Recreation Programs, Cultural Arts	Perpetual

		b. Consider nation-wide recreation trends to test new programs offerings.	CF, OA	Athletic Programs, Recreation Programs	Perpetual
		c. Partner with community groups and volunteers to offer small scale, neighborhood level special programs such as arts and crafts, movies, pop-up play, and fitness programs.	CF	Recreation Programs	Not Started
1.2.6	**Effectively manage and operate the core program areas.**	**a.** Evaluate core program areas and individual programs annually to ensure offerings are relevant to evolving demographics and local recreation trends.	OA	Athletic Programs, Recreation Programs	Not Started
		b. Establish Program lifecycle analysis process to ensure balanced distribution of programs annually.	OA	Athletic Programs, Recreation Programs, Cultural Arts	Not Started
		c. Establish annual performance measures for each core program area to track program success.	OA	Athletic Programs, Recreation Programs, Cultural Arts	Not Started
		d. Develop sound fees and charges policy based on program service level.	OA	PRCR Administration, Athletic Programs, Recreation Programs, Cultural Arts	Not Started
		e. Balance cost recovery goals with seeking funding through tax dollars, grants, and sponsorships.	OA	PRCR Administration, Athletic Programs, Recreation Programs, Cultural Arts	Not Started
1.	**EXPAND**				
1.3. Culture of Belonging: Nurture the culture of belonging by prioritizing inclusion, diversity, equity, and accessibility.					
1.3.1	**Achieve equitable access to parks, facilities, and programs for all Apex residents.**	**a.** Ensure equitable geographic distribution of parks and facilities throughout Apex.	PG	Parks and Planning	Perpetual

1.3.1 (cont.)	Achieve equitable access to parks, facilities, and programs for all Apex residents.	**b.** Consider nation-wide recreation trends to test new programs offerings.	PG	Parks and Planning	Perpetual
		c. Improve accessibility to all parks and recreation facilities for all abilities.	CF, PG	Parks and Planning	Perpetual
		d. Develop need-based fees and charges policy to ensure fair and equitable access to high quality programs for all residents.	PG	PRCR Admin., Athletic Programs, Recreation Programs, Cultural Arts	Not Started
		e. Consider multi-modal transportation options such as greenway access, side paths, and public transport to improve access to parks and programs including special events.	CF, PG	Parks and Planning	In Progress
1.3.2	Support special events and programs that represent diverse cultures in Apex.	**a.** Evaluate if the needs of all segments of populations are being met through programming and marketing plan through community feedback, annual surveys, program participation evaluation forms, etc.	OA, PG	Athletic Programs, Recreation Programs, Cultural Arts, Senior Center, Marketing	Not Started
		b. Continue to expand culturally diverse programs for Town's growing population.	PG, CF	Recreation Programs, Cultural Arts	Perpetual
		c. Offer new outdoor special events and festivals to expand on the current offerings.	PG, CF	Recreation Programs, Cultural Arts	In Progress
		d. Partner with DEI Department to find common goals to reach minority and underserved population in Apex.	OA	PRCR Administration, DEI Department	Not Started
		e. Ensure diverse demographic representation on Boards and Commissions.	OA	Cultural Arts	Not Started

1.3.3	Continue to provide age targeted recreation programs that appeal to diverse interest groups.	**a.** Expand multi-generational programs to attract wider range of age groups.	CF	Athletic Programs, Recreation Programs, Cultural Arts, Senior Center	Perpetual
		b. Prioritize teen programs that are fun, educational, and encourage positive social interaction.	CF	Athletic Programs, Recreation Programs, Cultural Arts	Perpetual
		c. Provide opportunities for teens to volunteer, earn community service hours for high school and educate on professional opportunities.	CF	Athletic Programs, Recreation Programs, Cultural Arts	Perpetual
		d. Offer trending recreation programs to attract new teens to participate.	CF	Athletic Programs, Recreation Programs, Cultural Arts	Not Started
		e. Involve teens in community engagement process for designing new parks and amenities.	CF	Parks and Planning	In Progress
		f. Expand indoor and outdoor recreation opportunities for seniors through the recently developed senior center facility.	CF	Senior Center	In Progress
		g. Develop new fitness and sports programs for active adults.	CF	Senior Center	In Progress
		h. Develop virtual, after hours, and weekend programs to allow flexibility to participate.	CF	Athletic Programs, Recreation Programs, Cultural Arts, Senior Center	In Progress
		i. Evaluate youth camp options as additional facility space becomes available.	CF	Athletic Programs, Recreation Programs, Cultural Arts, Senior Center	Not Started
1.3.4	Prioritize PLAY opportunities for all ages and abilities.	**a.** Renovate existing play areas to address the needs of all ability users.	CF	Parks and Planning	Not Started
		b. Use inclusive and universal design principles to design play areas to allow use by all ages and abilities.	CF, PG	Parks and Planning	Perpetual

1.3.4 (cont.)	Prioritize PLAY opportunities for all ages and abilities.	**c.** Consider pop-up play opportunities in areas where there are gaps in providing play opportunities.	CF, PG	Parks and Planning	Perpetual
		d. Provide access to natural areas to encourage unstructured play opportunities.	CF	Parks and Planning	Not Started
		c. Provide opportunities for teens to volunteer, earn community service hours for high school and educate on professional opportunities.	CF	Parks and Planning	Not Started
1.3.5	Prioritize placemaking strategies to create welcoming spaces that attract wide range of participants.	**a.** Continue to facilitate meaningful community engagement on parks and recreation initiatives.	CF, PG	Parks and Planning	Perpetual
		b. Recognize the needs of different cultures on the use of outdoor spaces and allow flexibility in the design to address their needs.	CF, PG	Parks and Planning	Perpetual
		c. Enhance user experience and comfort by ensuring balance of sunny and shaded areas, seating options, places for socialization and solitude, access to restrooms and water, and incorporating Crime Prevention Through Environmental Design (CPTED) principles to increase the perception of safety.	CF	Parks and Planning	Perpetual
1.	**EXPAND**				
1.4 Environmental Stewardship: Expand efforts to protect the natural assets and collaborate on town-wide sustainability efforts.					
1.4.1	Acquire 65 acres as conservation lands by 2031.	**a.** Adopt the level of service standard 70:30 ratio of developed parkland to conservation lands.	c.	Undertake cross-departmental efforts to develop a connected network of conservation lands to preserve ecological functionality, habitat protection, and biodiversity.	In Progress
		b. Work with the development community to identify strategic areas for conservation land acquisition.	CF	Athletic Programs, Recreation Programs, Cultural Arts, Senior Center	Not Started

1.4.1 (cont.)	Acquire 65 acres as conservation lands by 2031.	**c.** Undertake cross-departmental efforts to develop a connected network of conservation lands to preserve ecological functionality, habitat protection, and biodiversity.	CF, PG	Parks and Planning	Perpetual
		d. Implement best practices in environmentally sustainable site and building design and natural resources protection.	PG, CF	PRCR Administration	Perpetual
		e. Improve ecological value of parks through native vegetation, tree canopy protection, and protection of creeks and wetland areas.	PG, CF	Parks and Planning, Water Resources	Perpetual
		f. Adopt green infrastructure elements to improve water quality.	PG, CF	Parks + Planning, Water Resources	Perpetual
		g. Incorporate solar power and other renewable energy sources in the design where appropriate to provide energy sources such as charging stations, low voltage lighting, as well as park buildings.	PG, CF	Parks and Planning, Park Operations	Perpetual
		c. Enhance user experience and comfort by ensuring balance of sunny and shaded areas, seating options, places for socialization and solitude, access to restrooms and water, and incorporating Crime Prevention Through Environmental Design (CPTED) principles to increase the perception of safety.	CF	Parks and Planning	Perpetual
1.4.2	Continue to support town-wide initiatives for energy conservation through parks and recreation.	**a.** Encourage and incorporate waste reduction strategies through provision of recycling and composting options.	PG, CF	PRCR Administration, Park Operations	Perpetual
		b. Develop department-wide goals to reduce resource consumption and carbon emissions.	PG, CF	PRCR Administration, Park Operations	Perpetual
		c. Continue to invest in tools and equipment that reduces dependency on petroleum products.	PG, CF	PRCR Administration, Park Operations	Perpetual
		d. Identify and implement best practices in the area of sustainable design, development, and maintenance.	PG, CF	Parks & Planning, PRCR Administration, Park Operations	Perpetual

1.4.3	Focus on nature-based programming to generate environmental awareness.	**a.** Promote Apex Nature Park as the hub for environmental education and nature-based programs and expand programming at other park locations.	CF, OA	Parks and Planning, Recreation Programs, Marketing	Not Started
		b. Implement best practices in environmentally sustainable site and building design and natural resources protection.	CF, OA	Parks and Planning, Recreation Programs, Marketing	Not Started
		c. Encourage nature connection and interaction through nature trails, interpretive signage, and designated areas to observe natural processes.	CF	Parks and Planning, Recreation Programs	Not Started
		d. Provide outdoor classrooms, small garden areas, and access to educational material to encourage stewardship efforts.	CF	Parks and Planning, Recreation Programs	Not Started
		e. Collaborate with private and Wake County schools to encourage students' participation in programs. Identify potential partners in the environmental education field to develop innovative programs.	CF	Parks and Planning, Recreation Programs	Not Started

2. EXPERIENCE

2.1 Unique to Apex: Reflect on Apex's culture and history through the design of spaces that are unique, innovative, and imageable.

2.1.1	Continue to offer arts and cultural programming to appeal to diverse interest groups and cultural backgrounds.	**a.** Continue to provide programs such as downtown sculpture walk and expand through partnerships with local arts and cultural organizations.	CF	Recreation Programs, Cultural Arts	Perpetual
		b. Diversify programs to include events focusing on music, theater, fine arts, and other forms of arts.	CF	Recreation Programs, Cultural Arts	Perpetual
		c. Consider art walks in parks and small-scale pop-up weekend performances in the downtown area to attract out-of-town visitors.	CF	Recreation Programs, Cultural Arts	Not Started

2.1.2	Promote "unique to Apex" theme while designing new parks and amenities.	**a.** Leverage technology and innovative approaches to parks design and programming to create unique experiences for users.	CF	Parks and Planning, Recreation Programs	Not Started
		b. Implement placemaking strategies to create distinct character for each park while ensuring consistency of features that promote Apex PRCR branding.	CF	Parks and Planning	Perpetual
		c. Celebrate the history of Apex through design and programming of parks and amenities.	CF	Parks and Planning	Perpetual
		d. Prioritize preservation and restoration of Town's historic assets within the parks system, such as the Tunstall House and Depot Plaza.	CF, PG	Parks and Planning	Perpetual
		e. Develop a public arts plan and dedicate 1% of construction budget on projects to public arts initiative.	PG, DO	Town Administration, PRCR Administration, Parks and Planning, Cultural Arts	Not Started
		f. Engage community members, local artists, and arts and cultural organizations in the planning and design process of new parks and facilities.	PG	Parks and Planning, Cultural Arts	Not Started
		g. Incorporate interpretive elements within parks system that include fun and engaging storytelling components about Apex.	CF	Parks and Planning	Perpetual
2.	**EXPERIENCE**				
2.2 Sense of Community: Provide a chance for people to socialize, form friendships, and discover common grounds.					
2.2.1	Provide opportunities for residents to connect with each other and encourage social interaction.	**a.** Develop "social hubs" in the parks where people connect with other like-minded people (For example: Dog Park Playdates, Court Games Lessons, iPhone Photography, etc.)	CF, PG	Parks and Planning, Recreation Programs	Not Started

2.1.1	Provide opportunities for residents to connect with each other and encourage social interaction	**a.** Continue to provide programs such as downtown sculpture walk and expand through partnerships with local arts and cultural organizations.	CF	Recreation Programs, Cultural Arts	Perpetual
		b. Diversify programs to include events focusing on music, theater, fine arts, and other forms of arts.	CF	Recreation Programs, Cultural Arts	Perpetual
		c. Consider art walks in parks and small-scale pop-up weekend performances in the downtown area to attract out-of-town visitors.	CF	Recreation Programs, Cultural Arts	Not Started
		b. Develop outdoor classrooms/ workstations to offer people an opportunity to "work from anywhere" and develop community spirit through spontaneous networking opportunities.	CF, PG	Parks and Planning, Recreation Programs	Not Started
		c. Develop creative seating opportunities in parks for small group gatherings and solitary places for quiet work.	CF	Parks and Planning	Not Started
		d. Partner with other organizations to provide high quality and innovative special events and programs.	CF, OA	Recreation Programs, Cultural Arts, Senior Center	Not Started
		e. Partner with HOAs to develop smaller, neighborhood scale social events.	CF	Recreation Programs, Cultural Arts	Not Started
		f. Support programs and classes led by private partners in parks and on greenways.	CF	Recreation Programs	Not Started
		g. Authorize funding for conducting programming and additional staff needed to organize events.	CF, OA	Town Administration, PRCR Administration	Not Started

2.	EXPERIENCE				
2.3 Health and Wellbeing: Promote fitness and active lifestyles to support health and wellbeing of Apex residents.					
2.3.1	Encourage development of amenities and programs that provide physical, social, and mental health benefits.	**a.** Develop park amenities or "wellness hubs" that support and encourage health and wellness opportunities using NRPA's new toolkit for Health and wellbeing-Community Wellness Hub development.	CF, PG	Parks and Planning, Recreation Programs	Not Started
		b. Enhance access to natural areas and connection to nature for its mental health benefits.	CF, PG	Parks and Planning	Perpetual
		c. Provide diverse fitness and wellness programs for different interest groups.	CF	Parks and Planning	Perpetual
		d. Promote multigenerational health programming such as mommy and me classes.	CF	Recreation Programs	Perpetual
		e. Leverage online platforms such as Zoom to provide flexibility for people to engage in programs at their convenience.	CF, OA	Recreation Programs	Not Started
		f. Proactively identify barriers to participate in health-related programs and prioritize removing those barriers.	CF, OA	Recreation Programs	Not Started
		g. Partner with HOAs to develop smaller, neighborhood scale social events.	CF	Recreation Programs	Not Started
		h. Develop incentives for people to engage in health and wellness programs.	CF	Recreation Programs, Athletic Programs, Senior Center	Not Started
		i. Develop partnerships with healthcare providers to support fitness and active recreation.	CF, OA	Town Administration, PRCR Administration	Not Started

2.3.2	Promote access to healthy lifestyle choices.	**a.** Leverage opportunities such as farmers markets to advocate access to healthy and local food.	PG, CF	Recreation Programs	In Progress
		b. Expand community gardening efforts to educate residents about fresh produce and 'farm to table' concept.	PG, CF	Recreation Programs	In Progress
		c. Incorporate culinary arts programs to encourage people to try new healthy food options and learn about nutrition.	CF	Recreation Programs	Not Started
		d. Promote local businesses that support local farmers through special programs and events.	CF	Recreation Programs, Marketing	Not Started
2.1.1	Continue to offer arts and cultural programming to appeal to diverse interest groups and cultural backgrounds.	**a.** Continue to provide programs such as downtown sculpture walk and expand through partnerships with local arts and cultural organizations.	CF	Recreation Programs, Cultural Arts	Perpetual
		b. Diversify programs to include events focusing on music, theater, fine arts, and other forms of arts.	CF	Recreation Programs, Cultural Arts	Perpetual
		c. Consider art walks in parks and small-scale pop-up weekend performances in the downtown area to attract out-of-town visitors.	CF	Recreation Programs, Cultural Arts	Not Started

3. EXCEL

3.1 Operations Efficiency: Achieve organizational excellence by implementing business practices that enhance efficiency, staff satisfaction, and economic vitality.

3.1.1	Streamline recreation program management through best practices, tracking, and fees policy updates.	**a.** Regularly update program offerings according to cost recovery model.	OA	Recreation Programs, Athletic Programs, Senior Center	Not Started
		b. Develop and regularly update the cost recovery goals for programs and fee structure.	OA	PRCR Administration, Recreation Programs, Athletic Programs, Senior Center	Not Started
		c. Continue to track full cost of service for programs to make informed decisions regarding pricing policy that balances market conditions and community values.	OA	Recreation Programs, Athletic Programs, Senior Center	Not Started
		d. Track community feedback on program satisfaction levels and need for new programs.	OA	Recreation Programs, Athletic Programs, Senior Center	Not Started
3.1.2	Achieve operations efficiency through sound maintenance and management practices.	**a.** Invest in high quality equipment that can withstand level of use.	CF, OA	Park Operations, Public Works	In Progress
		b. Update maintenance shops to provide adequate space for staff and storage.	OA	Parks and Planning, Park Operations	Not Started
		c. Update maintenance technology to include use of digital tools (laptops and tablets) in the field for easy documentation.	CF, OA	Park Operations	Not Started
		d. Develop a maintenance management plan to adequately forecast the true cost of delivering a high-quality park experience.	CF, OA	Park Operations	Not Started
		e. Develop key performance indicators to track the efficiency and quality of the work.	OA	Park Operations	Not Started

3.1.1	Streamline recreation program management through best practices, tracking, and fees policy updates.	**f.** Leverage the full capacity of CityWorks software and other technology to track work orders.	OA	Park Operations	Not Started
		g. Equipment replacement schedules should be revised based on hours of operations.	OA	Park Operations	Not Started
		h. Establish life cycle assessment for each park and set aside annual budget for deferred maintenance.	OA	Parks and Planning, Park Operations	Not Started
		i. Train the staff responsible for caring for the environmentally sensitive areas such as green infrastructure components, native vegetation management, and wildlife habitat areas.	OA	Park Operations	Not Started
		j. Involve maintenance staff during park planning and design process.	OA, PG	Parks and Planning, Park Operations	Perpetual
		k. Establish maintenance plan and standards for conservation lands to maintain consistency across the maintenance staff.	OA	Park Operations, Public Works	Not Started
		l. Develop a forestry plan that includes tree inventory within rights-of-ways and park properties and collaborate with Public Works.	CF	Park Operations	Not Started
3.1.3	Invest in staffing resources and staff satisfaction to achieve departmental operations efficiency.	**a.** Establish staffing requirements for full time, part time, and seasonal positions.	OA	PRCR Administration	In Progress
		b. Streamline inter-departmental communications for better collaborations and effective organization.	OA	PRCR Administration	In Progress
		c. Support and invest in staff development and career growth to reciprocate their investment in the department and staff retention.	OA	PRCR Administration	In Progress

3.1.3 (cont.)	Invest in staffing resources and staff satisfaction to achieve departmental operations efficiency.	**d.** Recognize and use staff's untapped talent to share responsibilities in more effective way.	OA	PRCR Administration	In Progress
		e. Offer competitive salaries and benefits for attracting new hires and staff retention.	OA	PRCR Administration	In Progress
		f. Develop team culture through training and highlight staff accomplishments.	OA	PRCR Administration	In Progress
		g. Propose new staffing positions (Volunteer Coordinator, Public Art Coordinator, Marketing Supervisor, Business Development Coordinator, Pleasant Park Operations Supervisor, Assistant Director of Parks, and GIS Data Manager)	OA	PRCR Administration	In Progress
		h. Develop a new staffing plan as the Town continues to add new facilities such as new parks and indoor recreation.	OA	PRCR Administration	Perpetual
		i. Establish a working goal to achieve CAPRA accreditation by adopting best practices that align with CAPRA standards.	OA	PRCR Administration	Not Started
3.1.4	Seek strategic partnerships with third party providers to expand Department's capacity to provide competitive services to residents.	**a.** Ensure public-private partnerships are based on fair policy agreements for both parties.	PG, OA	PRCR Administration	Not Started
		b. Establish measurable outcomes and tracking mechanisms for the services rendered through partnerships.	OA	PRCR Administration	Not Started
		c. Identify other partners in the community to support the PRCR Department's vision.	OA	All PRCR Groups	Not Started

3.1.5	Implement capital improvements and operations through responsible funding sources.	**a.** Acknowledge and construct parks as essential infrastructure element for the Town.	CF, PG	Parks and Planning	Perpetual
		b. Explore alternate funding strategies to expand and excel in providing Department services.	OA	PRCR Administration	Perpetual
		c. Leverage the Friends Groups and other non-profit organizations for fundraising and awareness.	OA	PRCR Administration	Not Started
		d. Build on the current financial strengths.	OA	PRCR Administration	Perpetual
3.	**EXCEL**				
3.2 Customer Service: Continue to provide high quality customer service through streamlined communication and marketing efforts.					
3.2.1	Provide high quality customer service through enhanced communication and outreach.	**a.** Provide regular website updates to include new and upcoming events, programs and news.	OA	Marketing	Not Started
		b. Continue to update marketing plan annually to stay up to date on community needs and demographics	OA	Marketing	Not Started
		c. Leverage social network applications' capabilities for great user engagement.	OA	Marketing	Perpetual
		d. Prioritize staff job training and skill development training to enhance customer experience and empower staff to connect with diverse demographics of Apex.	OA	PRCR Administration	Perpetual
		e. Train the staff to be culturally competent and hire multilingual staff to connect with minority groups.	OA	PRCR Administration	Not Started
		f. Streamline registration and rental processes via in-person, telephone, paper forms, or online platforms.	OA	PRCR Administration	Not Started

3.1.5	Implement capital improvements and operations through responsible funding sources.	**g.** Track level of satisfaction feedback from users regularly to continuously improve customer service using online feedback surveys and survey 311 feedback system.	i.	Consider establishing a marketing division to expand outreach efforts and maintain and develop new relationships with partners.	Perpetual
		h. Leverage relationships with partners to enhance marketing efforts through cross-promotion.	OA	PRCR Administration	Perpetual
		i. Consider establishing a marketing division to expand outreach efforts and maintain and develop new relationships with partners.	OA	PRCR Administration	Not Started
3.2.2	Establish volunteer program to engage residents in parks and recreation services and develop a sense of ownership within the community.	**a.** Establish volunteer policy that encompasses cross-departmental efforts to engage community members.	OA, PG	PRCR Administration	Not Started
		b. Establish a volunteer coordinator position.	OA	PRCR Administration	Not Started
		c. Recognize and reward volunteerism.	OA	PRCR Administration	Not Started
		d. Establish a training program for new volunteers to ensure high quality customer service experience.	OA	PRCR Administration	Not Started
		e. Achieve the goal of 12-15% of total staffing hours to supported volunteer hours and use this resource as “in-kind” indirect revenue source.	OA	PRCR Administration	Not Started

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for consideration by the Apex Town Council

Item Type: PUBLIC HEARING

Meeting Date: May 9, 2023

Item Details

Presenter(s): Angela Reincke, Parks Planning Project Manager

Department(s): Parks, Recreation and Cultural Resources

Requested Motion

Possible Motion to approve amendment to the Master Plan map for Land Acquisition

Approval Recommended?

Yes

Item Details

In 2021, The Town of Apex, Parks, Recreation and Cultural Resources staff began an update to the Parks, Recreation, Greenways and Open Space (PRGOS) Master Plan. Included in the recommendation of the newly-titled Master Plan for Parks, Recreation, Cultural Resources, Greenways and Open Space (Master Plan) is the identification of Parkland and Indoor Recreation Facility search areas. These areas are amendments to the current Master Plan Map. The purpose of the public hearing is to consider adoption of the proposed map amendments.

Attachments

- PH2-A1: PRGOS Park Search and Indoor Facility Map Amendment Staff Report
- PH2-A2: Map of PRGOS Park Search and Indoor Facility Amendments

STAFF REPORT

Town of Apex Master Plan for Parks, Recreation, Cultural Resources, Greenways and Open Space Map Amendment

May 9, 2023 Town Council Meeting

In 2021, The Town of Apex, Parks, Recreation and Cultural Resources staff began an update to the Parks, Recreation, Greenways and Open Space (PRGOS) Master Plan. Included in the recommendation of the newly-titled Master Plan for Parks, Recreation, Cultural Resources, Greenways and Open Space (Master Plan) is the identification of Parkland and Indoor Recreation Facility search areas. These areas are amendments to the current Master Plan Map. The purpose of the public hearing is to consider adoption of the proposed map amendments. The proposed map is available for viewing online at: https://www.apexnc.org/DocumentCenter/View/42989

The Master Plan serves as the guide for the Parks, Recreation and Cultural Resource (PRCR) Department for the 10-year planning horizon. The Master Plan Map amendments would remove the existing Land Acquisition areas identified in the 2014 Master Plan Map, as amended, and add two new categories for the identification and acquisition of property for future parks and indoor recreation facilities. The Master Plan Map amendments are proposed to address shifts in demographics, growth patterns, and recreation trends; contextualize these trends for the Town; and provide a visionary guide for the future. The Master Plan Map amendments identify locations that will transform recreation for Apex residents and visitors through 2033. The amendments will inform enhancements to current parks and recreation services and guide investments in new initiatives. The Master Plan Map does not require a schedule for implementation nor does it set aside funding for the recommendations.

The planning process for the Master Plan began in late 2021 with data collection and analysis of existing park conditions as well as assessing the demand for parkland and facility space. The process included establishing goals; developing guiding principles and recommendations; determining a level of service for parkland, open space areas and indoor facility space; and developing an implementation plan. The Master Plan update was guided by Town staff; Apex residents; Town Council; the Parks, Recreation and Cultural Resources Advisory Commission (Advisory Commission); County staff; and adjacent municipality staff, among others.

The Apex community was engaged through social media posts, signage, direct mail invitations, the project webpage, along with numerous opportunities for public input. As a result, seven areas were identified as Parkland Search Areas for Acquisition and four areas were identified for Indoor Recreation Facilities.

List of Proposed Amendments

1. Remove all five areas designated as Land Acquisition Areas.
2. Add seven areas notated as Parkland Search Area for Acquisition.
    a. Area generally located adjacent and east of the future Wimberly Road parkland, east of Green Level Church Road, north of Jenks Road and south of White Oak Creek.
    b. Area generally located south of Hwy 64, crossing the American Tobacco Trail and Olive Chapel Road, east of the Wake-Chatham County line.
    c. Area generally located at the intersection of Humie Olive Road and New Hill Olive Chapel Road, west of the future Olive Farm Park.
    d. Area generally located along the Old US 1 Hwy/CSX Rail Corridor and south to US Hwy 1, east of New Hill Holleman Road and west of Friendship Road.
    e. Area generally located within the Veridea Sustainable Development (SD) Plan south of US Hwy 1, east of NC 540, west of Hwy 55.
    f. Area generally located northwest of the future Felton Grove High School, southeast of Lufkin Road Middle School, and south of Ten Ten Road.

d by: Angela Reincke, Parks Planning Project Manager

   g. Area generally southwest of Salem Elementary School, east of North Beaver Creek Greenway, and north of Hwy 64.

3. Add four areas noted as Indoor Recreation Facility Area.
   a. Area generally located within property identified as future Wimberly Road parkland on the east side of Wimberly Road north of Jenks Road and south of Green Level West Road.
   b. Area generally located within the Apex Nature Park at 2600 Evans Road.
   c. Area generally located within property identified as the future Olive Farm Park near the intersection of Olive Farm Road and Humie Olive Road.
   d. Area generally located within the Veridea Project area south of US Hwy 1, west of Hwy 55 (E Williams St), and north and east of NC 540 as required per the Veridea Sustainable Development (SD) Plan.

The map amendments were previously reviewed at work sessions for PRCR staff, the Advisory Commission and Town Council and are included in the proposed Master Plan for Parks, Recreation, Cultural Resources, Greenways and Open Space.

Staff Recommendation:
Parks, Recreation, and Cultural Resources Department staff recommend approval of the proposed amendments.

Parks, Recreation, and Cultural Resources Advisory Commission Recommendation:
At their April 26, 2023 meeting, the Parks, Recreation and Cultural Resources Advisory Commission made the following recommendations:
approval to remove all five areas designated as Land Acquisition Areas of the map amendments as presented with a 3 to 2 vote,
approval to add seven areas notated as Parkland Search Area for Acquisition as presented with a 4 to 1 vote, and unanimously recommended approval to add four areas noted as Indoor Recreation Facility Search Areas.

Planning Board Input:
The proposed amendments were presented to the Planning Board as a New Business item during their May 8, 2023 meeting. Any substantial comments and resulting recommended changes will be shared during the staff presentation.

Parks, Recreation, Greenways & Open Space Master Plan

Prepared by the Town of Apex -PR&CR Dept

Delete Land Acquisition Area

Add Indoor Recreation Facility Area

Add Parkland Search Area for Acquisition

- Park
- Future Park
- Town Campus
- Historic District
- Schools
- Land Acquisition Area
- Existing NC 540 Pedestrian Underpass
- Future NC 540 Pedestrian Crossing
- Existing Elevated Crossing
- Future At Grade Crossing
- As Developed Crossing
- Municipal Agreement Line
- Bicycle Highway

Paths & Greenways

- Public Greenway
- Public Greenway, Proposed
- Public Greenway, Proposed w/ Existing Easement
- Private Greenway
- Private Greenway, Proposed
- Equestrian Greenway
- Equestrian Greenway, Proposed
- Side Path
- Side Path, Proposed
- Street-Side Greenway, Proposed
- Sidewalk
- Public Trail
- Public Trail, Proposed
- Private Trail

Trailheads

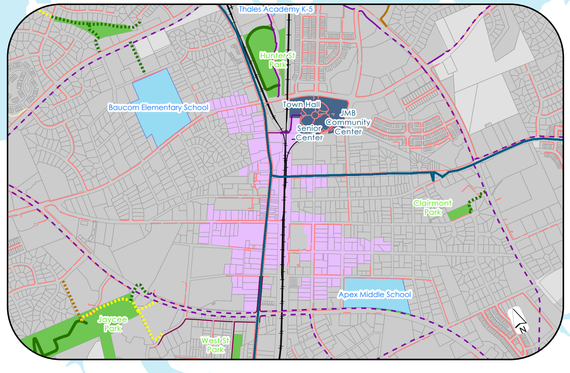
- Existing
- Proposed

Connecting paths outside of Apex

- Existing Multi-Use Path
- Proposed Greenway
- Existing Greenway
- Proposed Multi-Use Path

*Side Path do not count toward Parks and Recreation credit, nor are they the responsibility of the Parks, Recreation, and Cultural Resources Department.

- Future Indoor Search
- FutureParkSearch



0 2,500 5,000 10,000 Feet

0 0.5 1 2 Miles

N

Plan Approved June 18, 2013

Map Amended February 23, 2016

Printed April 19, 2023

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for consideration by the Apex Town Council

Item Type: PUBLIC HEARING

Meeting Date: May 9, 2023

Item Details

Presenter(s): Angela Reincke, Parks Planning Project Manager and Jenna Shouse, Senior Long Range Planner

Department(s): Parks, Recreation, and Cultural Resources Department and Planning Department

Requested Motion

Public hearing and possible motion regarding amendments to the Bicycle and Pedestrian System Plan Map associated with the Draft Master Plan for Parks, Recreation, Cultural Resources, Greenways, and Open Space.

Approval Recommended?

Parks, Recreation and Cultural Resources staff recommend adoption of the proposed amendments.

Planning Staff recommend adoption of the proposed amendments.

The Planning Board will consider this item at their May 8, 2023 meeting and staff will present their recommendation at the Town Council meeting.

Item Details

The proposed amendments to the Bicycle and Pedestrian System Plan Map fall into three main categories: (1) Additions to improve bicycle and pedestrian connectivity, (2) Changes based on the outcome of three feasibility studies completed on the priority greenway corridors, and (3) Additions based on existing or planned development.

Attachments

- PH3-A1: Staff Report - Bicycle and Pedestrian System Plan Map Amendments

The purpose of the public hearing is to consider the facts in order to formulate a decision. The Bicycle and Pedestrian System Plan map represents a network of current and future facilities that provide guidance on what is likely to be suitable for long term growth, connectivity, and recreation. The Plan does not require a schedule for implementation nor does it set aside funding for improvements. Instead, it helps the Town establish long term priorities and identify requirements for new development. The Plan was last amended on March 31, 2023.

Numerous amendments are requested to the Bicycle and Pedestrian System Plan Map to align with the proposed Draft Master Plan for Parks, Recreation, Cultural Resources, Greenways, and Open Space (Master Plan). The Draft Master Plan will be presented to Town Council at the May 9, 2023 meeting. In 2021, the Town began the process to update the Master Plan to serve as the guide for the 10-year planning horizon.

Proposed amendments to the Bicycle and Pedestrian System Plan Map fall into three main categories: (1) Additions to improve bicycle and pedestrian connectivity, (2) Changes based on the outcome of three feasibility studies completed on the priority greenway corridors, and (3) Additions based on existing or planned development.

The proposed amendments address alignment changes that were recommended based on public input and requests for greenway connectivity that provide opportunities to complete corridors that would not be possible based on existing development. In addition, the recommendations are proposed based on development patterns that have appeared through planned projects that might not have approvals, but that sufficient information or public input has been provided that identifies and opportunity for a connection or amends a proposed alignment to connect projects that might not have been available or identified as possibilities in the past.

The proposed amendments below are organized by category rather than geography. The numbers associated with each amendment match reference numbers included on the attached exhibits. The exhibits are also available online at: https://www.apexnc.org/DocumentCenter/View/42949.

Exhibit ID	Proposed Amendment	Amendment Category
1	Wimberly Road near Castleberry Road – Add proposed greenway connection to the American Tobacco Trail from Wimberly Road. Add a proposed greenway connection to an existing section of greenway in Castleberry Trails.	Improve Connectivity
2	Wimberly Road at Future Park – Add a proposed greenway connection from Wimberly Road to the Future Park off Wimberly Road.	Improve Connectivity
3	Holt Road – Add proposed side path along the east side of Holt Road from Old Jenks Road to Howell Road.	Improve Connectivity
4	Apex Peakway near Mockingbird Lane – Realign South Walk proposed greenway north of the stream connecting to the Apex Peakway near the intersection with Grappenhall Drive.	Existing or Planned Development
5	Chapel Ridge Road – Add proposed east-west greenway connection from the proposed side path on Chapel Ridge Road to the proposed Beaver Creek North Greenway.	Improve Connectivity
6	Reedy Branch Greenway – Realign Reedy Branch Greenway, including a midblock crossing of Kelly Road south of Red Knot Lane. This would shift the greenway to the south of Reedy Branch from Kelly Road to Rothwood Way. Access is proposed to be added at: Creekside Commons proposed greenway	Feasibility Study Results

Exhibit ID	Proposed Amendment	Amendment Category
	access, Homestead Park proposed greenway access, and Stratford at Abbington proposed Greenway access at Rothwood Way. Access is proposed to be removed within Abbington at Lyndenbury Drive and along Kellyridge Drive.	
7	Apex Nature Park – Add proposed greenway within Apex Nature Park, linking to existing trail near Evans Road, extending the corridor through the park. Realign proposed greenway connection from Bella Casa to Nature Park.	Feasibility Study Results
8	Richardson Road crossing – Add proposed grade-separated bicycle and pedestrian crossing at the intersection of Richardson Road and Beaver Creek Greenway.	Feasibility Study Results
9	Barker Road – Add proposed street-side greenway along the north side of Barker Road from New Hill Olive Chapel Road to the Chatham County line.	Improve Connectivity
10	Olive Farm Park – Add proposed greenway connecting the future Olive Farm Park to a proposed side path within the Retreat at Friendship Station project within dedicated parkland.	Improve Connectivity
11	Salem Village – Add proposed greenway that starts at the eastern terminus of Padstone Drive, extends southwest along the north side of the creek, then splits after crossing Flint Valley Lane, terminating at the proposed grade-separated crossing of South Salem Street across from Depot 499 and at the proposed side path along the future extension of Widger Lane.	Improve Connectivity
12	E Williams Street – Add proposed side path along the east side of East Williams Street from Sunset Lake Road to NC 55 and along the eastern side of NC 55 to join the previously-proposed side path. This is consistent with the public hearing map for NCDOT's project HL-0007, improvements at NC 55 and Technology Drive.	Existing or Planned Development
13	Felton Grove High School area – Add proposed greenway along the east side of a tributary of Middle Creek bordering the future Felton Grove High School north to Stephenson Road and Wild Blossom Drive. Add proposed side path on the south side of the Colby Chase Drive extension east of Smith Road continuing along Rhythm Drive to Stephenson Road.	Existing or Planned Development
14	Big Branch Greenway – Remove proposed Big Branch Greenway between James Street and Apex Peakway and remove Wake Acres proposed greenway access. Realign Big Branch Greenway to the west side of Big Branch, south of Apex Peakway. This greenway realignment would relocate Lexington proposed greenway access and add Bradley Terrace proposed greenway access.	Feasibility Study Results

Staff Recommendation:
Planning Department staff recommend approval of the proposed amendments. Parks, Recreation, and Cultural Resources Department staff recommend approval of the proposed amendments.

The Parks, Recreation, and Cultural Resources Advisory Commission considered and unanimously recommended approval of the proposed amendments at their April 26, 2023 meeting.

Planning Board Recommendation:
Staff will present these items to the Planning Board at their May 8, 2023 meeting. The Planning Board's recommendation will be presented by staff at the Council meeting.

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for consideration by the Apex Town Council

Item Type: NEW BUSINESS

Meeting Date: May 9, 2023

Item Details

Presenter(s): Jacques K. Gilbert and Councilmembers

Department(s): Governing Body

Requested Motion

Receive as information an update on the Richardson Road Traffic Safety plans, discuss recommendations for addressing community concerns, and provide direction to staff, as appropriate.

Approval Recommended?

N/A

Item Details

Over the course of several months, residents from the Sweetwater Community and/or Richardson Road area have either provided verbal or written comments related to the speed limit (currently posted at 45 mph).

The purpose of this agenda item is to receive additional information from staff related to the traffic patterns and discuss recommendations for addressing community concerns.

Attachments

- N/A

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for consideration by the Apex Town Council

Item Type: CLOSED SESSION

Meeting Date: May 9, 2023

Item Details

Presenter(s): Steve Adams, Real Estate and Utilities Acquisition Specialist

Department(s): Transportation and Infrastructure Development

Requested Motion

Possible motion to go into closed session pursuant to NCGS 143-318.11(a)(5) to discuss the town's negotiating position with respect to acquisition of real property.

Approval Recommended?

N/A

Item Details

N/A

Attachments

N/A