Attachment C

ORO - 2023 - 5

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.

with TI

Section 4.	The ordinance shall be effective upon enactment on the _	day of	Leprum	2023
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Introduced by Council Member

Seconded by Council Member

TOWN OF APEX

Allen Coleman, CMC, NCCCC

Town Clerk

Jacques K. Gilber

Mayor

Approved As To Form:

Laurie L. Hohe

Town Attorney

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

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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. I 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

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)
- 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

- 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
- 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

 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

 Smoking restrictions implemented AND ETS transfer pathways minimized for commercial and multi-unit residential buildings.

2. Mechanicals

- Equipment designed and selected to keep relative humidity < 60% for conditioned space.
- b. Minimum MERV 8 filter on forced air HVAC systems
- 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/I VOC content).
- 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

 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.
 - 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.
 - 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:
 - 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.
- 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 nonprofit 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:

- 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.
- 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

- 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 predevelopment 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:
 - 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;
 - 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).
- 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
 - 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.
 - 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

- 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.
- 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.

- Future buffer authorizations within Veridea shall be in accordance with process in Section 6.1.11 of the Town of Apex UDO.
- 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.
 - 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.
 - 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:
 - "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:
 - 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;
- 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.

- 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.
- 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.
- 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.
- 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.
- Parking for electric vehicles and bicycles will be provided as required per the Town of Apex UDO.
- 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 Stream Buffer Determination Veridea Subject:

Apex 22-010

Apex, NC Cape Fear River Basin

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 butter 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 N	Feature 5 Downstream	Feature 6 Upstream	Feature 6 Nownstream	Feature 8 W	Feature 8 X	Feature 9 Z	Feature 10 Y	Feature 11-1	Feature 11-P	Feature 12	Feature 13-E	Feature 13-i	Stream 14 N
Not Present	Not Present	Not Present	Not Present	Not Present	Not Present	Not Present	Not Present	Present	Present	Present	Present	Present	Not Present
Intermittent	Intermittent	Intermittent	Intermittent	Intermittent	Intermittent	Intermittent	Intermittent	Perennial	Perennial	Intermittent	Intermittent	Intermittent	Intermittent
Ephemeral	Intermittent	Ephemeral	Intermittent	Intermittent	Ephemeral	Ephemeral	Ephemeral	Intermittent	Perennial	Ephemeral	Ephemeral	intermittent	Ephemeral
0 feet	50 feet	0 feet	50 feet	50 feet	0 feet	0 feet	0 feet	50 feet	100 feet	0 feet	0 feet	50 feet	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

TOWN OF APEX
The Peak of Good Living
PO Box 250 Apex, NC 27502 | (919) 249-3400 | www.apexnc.org



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

2022 by HH Trinity Apex Investments LLC and Veridea Holdings LLC (the "Owners day of October This Right of Entry is executed this 13

determination across the property known as Veridea - South Village East in the Town of North Carolina and designated as PIN # @*#284214, \$P\$(224102) by the WHEREAS, the Town of Apex ("Town") is seeking to make a stream buffer Wake County Revenue Department (the "Subject Property"); Apex

are agreeable to provide the Town with this Right of Entry under the terms and conditions stated herein so that the above referenced WHEREAS, the Owners determination may proceed.

hereby grant and give freely and without coercion, the right of access and entry to the do NOW THEREFORE in light of the above premises, the Owners Subject Property on the terms and conditions as stated below:

- 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. 7
- This Right of Entry does not convey to the Town any title or ownership interest in the Subject Property.
- 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.
- 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 The undersigned agrees and warrants to hold harmless the Town of Apex, its agencies, departments, contractors, and subcontractors, and discharges and ÷



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 miscrognal@apexnc.org.

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HH Trinity Apex Investments LLC / Veridea Holdings LLC Veridea Parkway - South of North Carolina Highway 540 621 Hillsborough Street, Raleigh, North Carolina 27603 McAdams (William H. Derks) Derks@mcadamsco.com 919-361-5000 CONSULTANT INFORMATION (If applicable) Site Address: Owner(s): Address: Name: Phone: Email:

CHECKLIST

Please place a checkmark in this spaces provided below to indicate that the required information has been provided with this submittal.

×

Topo Map (most recent version) COEQ Seream Identification Forms X 1970 Wake County Soil Survey Map X X X X X X X X X
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icate or list which Sketch Map*

*Sketch map should show all drainage features on the property iteatures are being called with this application.

NOTES

SIGNATURE (Consultant or Responsible Party)

By my signature below, I cartify that the information provided with this opplication is occurate and truthful.

Date: October 21, 2022

Town of Apex Water Resources Department

Revised 6/30/2022

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 utilizer to utilize the confluence of two minor draws from below the pond and the second trunning from the southeast. The feature begins at flag TOA 3, the buffer should not start until it reaches the draininge 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.

NC Division of Water Quality –Methodology for Identification of Intermittent and $\sum VJ$

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NC Division of Water Quality – Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

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NC Division of Water Quality - DOLVAIN 5-4 (P.Q.M.) NC Division of Water Quality - Methodology for Identification of Intermittent and Perennial Streams and Their Origins V. 4.1

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2m 10/31/3002 Soils = Int Uses > NP

NC Division of Water Quality – Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

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Aquate Mollusks (0) 1, 1 2 Figh (0) 0,5 1 Craylish (0) 0,5 1 Amphibians (0) 0,5 1 Ages (0	20. Macrobenthos (note diversity and abundance)	(i)	1	2	2
Figh 0.5 1 0.5 1 0.5 1 0.5 1 0.5 1 0.5 1 0.5 1 0.5 1 0.5 1 0.5 1 0.5 1 0.5 0.5 1 0.5	21. Aquatic Mollusks	9	-	7	2
Craylfah 0.5 1		(0)	0.5		2
Amphiblians (ID) 0.5 1 3 Magae (ID) 0.5 1 3 Mediane pistus in streembed FACW=0.75; OBL = 1.5: Other=E0; obt. FACW = 0.75; OBL = 1.5: Other=E0; obt.	23. Crayfish	(0)	0.5	-	67
Agea Welfand plants in streambed PACW = 0.55 1.1 1	24. Amphiblans	<u>e</u>	0.5	-	n
FACW = 0.75; OBL = 1.5: Hilled using other methods. See p. 35 of manual.	25. Algae	(6)		-	-
Perennial streams may also be identified witing other multiods. See p. 35 of maintail. Notes: Sketche	26. Wetland plants in streambed		FACW = 0.75;	12	5
Nates: Sketch:	*perennial streams may also be identified using other meth	nods, See p. 35 of manu	al.		
Sketche	Notes:	•			-
	Sketch				
			1		

Sofls - Int USGS = NP

LEPE/15/0) WIS

10 K 2 Publication of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Fevaluator: \$\frac{1}{2}\frac{1}{	County: 1.J.o./Ke Stream Determination. Circle one) Ephemeral (Nemiltean-Pereimial Khosent Weak Absent On 1	Longitude: . 7%.	18. 83.93
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Uboctal = Contact G G G G G G G	mittent Pereinial Weak 1	1	
ubototal = Abo of and bank of thinking infile-pool, step-pool, ubstrate	Weak 1	og Quad Name;	4
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step-pool,		0	,
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	×	400	e
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	-	7	0 0
8 Headrafts	-	50	2
	603		2
40 Natital valley	.0.5	6	120
	No =(0)	Yes=3	23
artificial dilches are not rated; see discussions in manual			
B. Hydrofogy			
Basellow	1	2	,
13. Iron oxidizing bacteria (0)	+	2	7
	1	6	
on plants or debris	9	-	0,1
0		-	
17. Soil-based evidence of high water table?	No ={8}	Yes	2 = 2
Diplomy (Subjects) = 0			
18 Filmus motis in streambed	5	-	0
40 Donald limited plants in streamhed	٥		0
20 Monthershop (note disardly and abundance)	1	2	100
20, Michigal Libra divolent and control an	1	2	9
Z1, Aquatic Molusks	0.5	1	1,5
22. Fish	90	-	1.5
23, Crayfish .	200		1.5
24. Amphibians	600		1.5
25. Algaie			
26. Wetland plants in streambed	FACW = 0.75;	OBL = 1.5 Uner = U	0
*perennial streams may also be identified using other methods. See p. 35 of manual	nual.		
Notes:			
Skelcht			

Soils = Int Uses = NP

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Feurline 3- 69 FELL SEA NC Division of Water Quality –Methodology for Identification of Intermittent and

7	NC DWC Stream Inchalleation Form Version 4.11	ち アングラングラ	The second second	
	Project/Site: [/	Projectistie: Vevidu EV	Latitude: 35, 70/ 5%7	36/01
50 KM	County: UAVE	Ne	Longitude: -76. 5229 /	9. 6%2
	Stream Determ	Speam Setermination (circle one) Ephemeral intermittent Perennial	Other Apor	*
				1
A. Geomorphology (Subtotal = 3-5)	Absent	Weak	Moderate	Strong
	0	9	2	3
2. Sinuosity of channel along thalwag	0	Φ	2	6
3. th-channel structure; ex. riffle-pool, step-pool, noole-pool sequence	0	· ·	2	m
4. Particle size of stream substrate	· · ·		2	3
5. Active/relict floodplain	0	神学 となる	2	60
6. Depositional bars or benches	0		2	9
7. Recent alluvial deposits	(0)	NO STEEL STATES	2	3
8. Headcuts	0		2	10
9. Grade control	0.000	•		115
10. Natural valley	0	0.5	0	15
11. Second or greater order channel	Z	No = ON	Yes	6.3
artificial ditches are not rated; see discussions in manual				
B. Hydrology (Subtotal = 1.5)				
12. Presence of Basellow	0		2	(0)
13. Iron oxidizing bacteria	0		2	0
14. Leaf litter	1.5		63	0
15. Sediment on plants or debris	- 0	ED		9
16. Organic debris lines or piles	0	(3)		91)
17. Soil-based evidence of high water table?	N	(g)≟ o ₁	Yes	€.3
C. Biology (Subtotal = 2)		The state of the s		
18. Fibrous roots in streambed	3	2	₩	0
19. Rooted upland plants in streambed	5	2	0	10
20. Macrobenthos (note diversity and abundance)	0	4	2	
21. Aquatic Mollusks	9		.2	42
22, Fish	Q	0.5		1.5
23, Crayfish	0			2
24. Amphibians	, O	9.0	1	1.5
25. Algae	B	0.5	1	931
26. Wetland plants in streambed		FACW = 0.75 OB	OBL = 15 Offer =	

TYEY SUIS 9N = 238U

Sketch:

Fee Lu 3 - SF B

Colivision of Water Quality - Methodology for Identification of Intermittent and Posennial Streams and Their Origins v. 4.11

County: Light Control Stream Determination Percential Ephemeral Informitient Percential Ephemeral Information	County: Light County in Stream Determination of Stream Stream Determination of	Lattude: 36. 100 71C
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Compared	No = 0 0 0 0 0 0 0 0 0 0	co co
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3 © 1 ndance) Ø 1 1 0 0 0 0 05 0 05 0 05 0 05 EACW = 075 using other methods. See p. 35 of manual.	3 3 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
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-idlacd using other methods: See p. 35 of martial.	EACW=075	31 = 1.5 Other = 0
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The state of the s	SKetch.	これのことのことというとうころうとうこと

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NC Division of Water Quality – Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1.

Evaluator: \$\frac{9}{24\frac{7}{22}}	NC DWQ Stream Identification Form Version 4.1	rm Version 4.1	0	19 1 LANGER	TIEGUN !
ton: \$19 \times W\$ Stream glorenial interinition (circle one) set has internial to 20° portnals is 20° portnals in 20° portnals interinition (circle one) in 20° portnals interinition (circle one) in 20° portnals in 20° p	142/6	Project/Site: U	ndes - EU	Latitude: %:	763101
Stream Display (Subtoise)	1.	County: (34/2	. 0	Longitude: -7	1.83539
Part		Stream Deformi Ephemeral Inte	nation (circle one) mittent Perennial	og. Qued Apre.	4
Subject of charmel bank bod and baink 0	A. Geomorphology (Subtotal = 4.5.)	Absent	Weak	Moderate	Strong
Self of Channel along flatives O	1ª Confinulty of channel bed and bank	0 ;	3	2	6
annel street ex riffle-pool, step-pool, of the pool, annel street ex riffle-pool, step-pool, of the pool sequence and step-pool, of the pool sequence of street experiment of the pool sequence of street experiment of the pool of the po	2, Sinuosity of channel along thalweg	0	00	.2.	. 3
Participation substrate	 In-channel structure: ex. riffle-pool, step-pool, ringle-pool sequence. 	'01	Э	2	m
Second control of the control of t	4. Particle size of stream substrate	9	-	2	60
State Stat	5. Active/relict floodplain	9		2	69
Section Color Color Color	8. Depositional bars or benches	0	- +	2	m
Compared to the control of the con	7. Recent alluvial deposits	9	1	2	6
Control Cont		6	Э	2	60
Total Company Total Compa	8. Grade control	(0)	50		1.5
Total	10. Natural valley	0	(50)	1	1.5
100 100	11. Second or greater order channel antique discussions in manual	ž	(0)	Yes	9
Secondarian Coloraria Co	B. Hydrology 1 12 Presence of Baselow	(9)	1	2	
filter 15	13 Iron oxidizing bacteria	×		2	(1)
Interference Content	14 last ther	15	-	(90)	0
Second	15. Sediment on plants or debris	(0)	0.5	1	1.5
Description	16. Organic debris lines or piles	0	(50)		1.5
Cogy (Subtotal = Pt 1 2 1 1 2 1 1 2 1 1	17. Soll-based evidence of high water lable?		7_	Yes	
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Section of plants in streambed Section S	18. Fibrous roots in streambed	*	2	(1)	0 .
(0) 1 2	19. Rooted upland plants in streambed	3	2		0
30 1 2 1 1 1 2 1 1 2 1 1	20. Macrobenthos (note diversity and abundance)	@		2	n
(p) 0.5 1	21. Aquatic Mollusks	(6)	1	2	6
1	22. Fish	9	9,0	+	1,5
1 0.5 1 1 0.5 1 1 0.5 1 1 0.5 1 1 1 1 1	23. Crayfish	6	0.5	+	1.5
fand plants in streambed from the methods. See §, 35 of manual.	24. Amphiblans	(0)	0.5	+	1.5
fand plants in streambed FACW = 0.75; OBL = 1.5 lal streams may also be identified bising other methods. See §, 35 of manual.	25, Algae	(0)	0.5	1	1.5
lal streams may also be identified tiging other methods. See §, 35 of manual,	26. Welland plants in streambed				(0
Notes: Sketch:	*perennial streams may also be identified using other me	thods. See p. 35 of manu:	1		
Skelchi.	Notes:				
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NO Division of Water Quality - Methodology for Identification of Intermittent and
Perennial Streams and Their Origins v. 4.1

Total Points: County: List & County: List & County: List Points: Exam Delerationalisation (circle one) Other Apter Stream Delerationalisation (circle one) Other Apter Strong P. 10 of the Control of the County P. 2 of the County P. 3 of the	County: 1,34ke Stream Deletroplassign (citric one) 19,5 Stream Deletroplassign (citric one) 10,5 Stream Deletroplassign 10,5	
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ambed and abundance) and abundance) and during other methods. See p. 35 of manual. and during other methods. See p. 35 of manual.	O	2
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The debrish of the first of the	Tribundel Institute (1) (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	67
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FACW = 6750 OBL = 1.5 streams may also be identified using other methods. See p. 35 of manual.	of plants in streambed FACW = 6.750 OBL = 1.5 streams may also be identified using other methods. See p. 35 of manual.	
istro plants or scream. Supplied to identified using other methods. See p. 35 of manual.	iding pignins in several mode. Italia streams may also be identified using other methods. See p. 35 of manual.	her=0
kal streams may also be identified traing other memora.	ial streams may also be identifind using direc methods.	
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NC Division of Water Quality – Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

190 - 190 -	L'alling.	1
Stream Determination (sincle one) Other 2	want. Weke	aluator: 515 / Kyn.
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(1) No ± 0 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	1 (Shade control
No ± 0) (0) 15 16 17 18 18 18 19 19 19 19 10 10 10 10 10 10	. 0	Natural valley
(0) 1 2 (1) 1 05 (2) 1 05 (3) 0,5 (3) 1 2 (3) 1 2 (3) 1 2 (3) 1 2 (4) 0,5 (5) 0,5 (6) 0,5 (7) 0,5 (8) 0,5 (9) 0,5 (9) 0,5 (1) 0,5 (Second or greater order channel literatificates are not rated see disc.
(0) 1 2 (1) 1 0 (2) 1 0 (3) 0,5 1 (4) 0,5 1 (5) 0,5 1 (6) 0,5 1 (7) 0,5 0 (8) 0,5 1 (9) 0,		Hydrology H
(6) 1 1 0.5. (7) 0.5. (9) 0.5. (1) 0.5. (2) 1 1 2 1 1 2 2 1 2) 1	Presence of Baseflow
1.5 1 0.5. (0) 0.5. 1 No = 0.5. 1 (3) 2 1 2 (4) 0.5 1 2 (6) 0.5 1 2 (9) 0.5 1 2 (10) 0.5 1 Example of the print.		Iron exidizing beclerla
(0) 0.4 1 No = 0 15 1 1 (2) 2 1 1 (3) 2 1 1 2 (4) 0.5 1 2 (5) 0.5 1 1 (6) 0.5 1 1 (7) 0.5 1 1 (8) 0.5 1 1 (9) 0.5 1 1 (9) 0.5 1 1 (9) 0.5 1 1 (10) 0.5 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 1 (10) 0.5 1 1	1.5	Leafilther
3; (2) 1 (3) 2 1 (3) 2 1 (4) 0.5 (5) 0.5 (6) 0.5 (7) 0.5 (8) 0.5 (9) 0.5 (1) 0.5 (1) 0.5 (1) 0.5 (2) 0.5 (3) 0.5 (4) 0.5 (5) 0.5 (6) 0.5 (7) 0.5 (8) 0.5 (9) 0.5 (1) 0.5 (1) 0.5 (1) 0.5 (2) 0.5 (3) 0.5 (4) 0.5 (5) 0.5 (6) 0.5 (7) 0.5 (7) 0.5 (8) 0.5 (9) 0.5 (9) 0.5 (1) 0.5 (1) 0.5 (1) 0.5 (2) 0.5 (3) 0.5 (4) 0.5 (5) 0.5 (6) 0.5 (7) 0.5 (8) 0.5 (9) 0.5 (9) 0.5 (1) 0.5 (1) 0.5 (1) 0.5 (2) 0.5 (3) 0.5 (4) 0.5 (5) 0.5 (6) 0.5 (7) 0.5 (8) 0.5 (9) 0.5 (9) 0.5 (9) 0.5 (1) 0.5 (1) 0.5 (1) 0.5 (2) 0.5 (3) 0.5 (4) 0.5 (5) 0.5 (6) 0.5 (7) 0.5 (8) 0.5 (9	(9) 05	Sediment on plants or debris
3: 3: 32 1 1 1 2 1 1 1 2 1 1 1 2 1	0 0.5	Organic debns lines or piles
(3) 2 1 (2) 2 (2) (3) 2 (4) (6) (9) 0.5 (9) 0.		Soil-based evidence of high wat
3: (2.7) (3.5) (3.5) (0.7) (0.	2	Biology (Subtotal = 5°
(3) 2 (0) 1 (0) 0.5 (0) 0.5 (0) 0.5 (0) 0.5 FACW# 0.75; OBI	× 0	Fibrous roots in streambed
(0) 1 (0) 1 (0) (0) (0) (0) (0) (0) (0) (0) (0) (0)	(3) 2	Rooted upland plants in stream?
(0) 1 (0) 0.5 (0) 0.5 (1) 0.5 (1) 0.5 (2) 0.5 (3) 0.5 (4) 0.5 (5) 0.5 (7) 0.5 (8) 18 to the Identified using other methods. See p. 36 of majrusi.		Macrobenthos (note diversity and
(9) 0.5 (10) 0.5 (10) 0.5 (10) 0.5 (10) 0.5 (10) 0.5 (10) 0.5 (10) 0.5 (10) 0.5 (10) 0.5 (10) 0.5 (10) 0.5 (10) 0.5 (10) 0.5 (10) 0.5 (10) 0.5 (10) 0.5 (10) 0.5	, , , , ,	Aquatic Mollusks
(3) 0.5 (0) 0.5 (10) 0.5 (10) 0.5 (10) 0.5 (10) 0.5 (10) 0.5 (10) 0.75; OBI. (10) 0.15; OBI. (10) 0.15; OBI. (10) 0.15; OBI.		Fish
(Q) 0.5 (103 0.5 (103 0.5 (103 0.5 FACW = 0.75; OBI. The may also be identified using other methods, See p. 38 of mayual.		Crayfish
nd plants in streambed 5.5 0.5 EADW # 0.15; OBL streams may also be identified using other motinade, See p. 36 of marunal.		Amphiblans
FACW ≠ 0.75; OBL streams may also be identified using other methods. See p. 35 of marual.	1	Algae
Poggrigial afreams may also be identified ualog other methods, See p. 35 of manual. Notest:	FACW = 0.75; OBL	Wetland plants in streambed
Notes:	identified using other methods. See p. 35 of manual.	erennial streams may also be identifi-
		ides.

Seils = Int USGS = NP

Leve 15/01 WS

A LOW & Doun strain

Of On NC Division of Water Quality - Methodology for Identification of Intermittent and
Perennial Streams and Their Origins v. 4.1

Date: 9/20/22	Project/Site: U	Projectisite: Venda - EV	Latitude: 55.69947L	72/5569
Evaluator: 5Q/V.M	County: Dake	19	Longitude: -78.83428	8.8342
Total Points: Stream is at loss information 71.75 17.75	Stream Determi	Stream Determing Loc-Corrole one) Ephemeral preminismy Percental	Other Aprete	2/2
4 Geometry Company (Subtrible) = 1	Absent	Weak	Moderate	Strong
1* Continuity of channel bed and bank	0	1	2	9
2 Seminarity of channel along thalwag	0	1	©	m
3. In-channel structure: ex. riffle-pool, step-pool,	0	C	. 2	6
A Darfelo cine of charm substrate	0	W	2	n
S. Artivafralist floodriain	3		2	60
a) Autraliana incorporation of bare or benches	6	1	2	m
7 Decent all wall denosits	0	0	2	62
R Headcuts	0	9	0	69
	0	970	_	1,5
10 Natural valley	0	5.0	1	(3)
44 Second or cessive order channel	Z	No = O	Yes = 3	6.11
artincial diliches are not rated; see discussions in manual				
B. Hydrology 4	-		c	6
12. Presence of Baseflow	9	-	7	
13. Iron oxidizina bacteria	6	-	7	2
14, Leaf litter	1.5	93	0.5	9
15. Sediment on plants or debris	0	63	-	0,1
16. Organic debris lines or piles	0	3	-	1.0
17. Soil-based evidence of high water lable?	_	No = 0	155	9
C. Biology (Subtotal = 141/48)				
18. Fibrous rools in streambed	3	B	-	9
19. Rooled upland plants in streambed	8	0	-	0
20. Macrobenthos (note diversity and abundance)	6	-	7	2
21 Acratic Mollusies	(d	1	2	100
22 Sieh	0	0,5		1.5
22 Craufeh	0	0.5	+	1,5
24 Amphibians	10	0.5	- 1	1.5
25. Alreadons	0	0.5	1	1.5
28 Walland plants in shwambed		FACW = \$1.75, C	FACW = \$175; OBL = 1.5 Other = 0	0
The second property of				

J. M. 10/31/2000 Soils = Int USGD = NP

Sketch:

NC Division of Water Quality – Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Evaluator: 5/9/V/II Total Points: Syram is at least intermitent	Prolocticity 11	1	Latitu	125.04.62.30
71 H	Projectionite. //	Now . EV	Common 33	talana t
<u></u>	County: Wake	K	Longitude: -78 . Try 2/0	12 42 . 3
1	Stream Determin Ephemeral Inter	Siteam Determination (circle one) Ephemeral Intermittent Perennial	other HARD	a
A. Geomorphology (Silbtobal = 202)	Absent	Weak	Moderate	Strong
Continuity of channel bed and bank	0	3	2	63
2. Sinuosity of channel along thalweg	0	(4)	2	87
3. in-channel structure; ex, riffle-pool, step-pool,	0	<u>e</u>	2	6.3
4. Particle size of stream substrate	0	Œ	2	en,
5. Aotive/relict floodplain	9	-	2	ເກ
6. Depositional bars or benches	0		2	e
7. Recent alluvial deposits	(0)		2	63
8. Headouts	. 0	1	2,	67
9, Grade control	(0)	0.5	1	1.5
10. Natural valley		0.5		(15)
1. Second or greater order channel antiboal olicies are not raised discussions in manual	No	(0)=oN	Yes=	60
B. Hvidrollógy 3-5				Ť
12. Presence of Basellow	9	1	2	m
13. Iron oxidizing bacteria	(0)		2	m
14, Leaf litter	1.5		(6.5)	0
15. Sediment on plants or debris	6	0.5	-	1,5
 Organic debris lines or piles 		0.5	1	12
 Soil-based evidence of high water table? 	No	No=0	Yes :	6
C. Biology (Subtotal = 5)			1	•
Fibrous roots in streambed	33	65	-	0
 Rooted upland plants in streambed 	(3)	2		0
20, Macrobenthos (note diversity and abundance)	9/		2	2
21. Aquafic Mollusks	9		2	1
22. Fish	9	0.5		0
23. Crayfish	3	0.5		9
24. Amphiblens	Ř	0.5		2
25. Algae	9		-	1.5
26. Welland plants in streambed		FACW=0.75;	08L=1.5 Other <0	7
"perantial streams may also be identified traing other methods. See p. 35 of manual Mother:	s, See p, 35 of manua	r.		
10100				
Sketch:				

50,15 = Int Uses = NP

JM 10/31/2002

(b) (c) (b) (Dour 5-fream)

NC Division of Water Quality -Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Total Points: Stream Designational Garden Stream Designation County: Stream Designational Garden County: County:	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	OF INGE TO	- C/ W
Stream Destinition (circle onte) Other Apert Weak Moderate Stream Destinition (circle onte) Car Good Name:	1		ngitude: - 4 7 . 842/
Obtoble 2	(20) Ephemora Intermittee		Qued Name:
Absent Week Moderate Colored		-	-
Selp-pool,	(7) Absent	+	+
Step-pool, 0 0 2 2 2 2 2 2 2 2		-	
Dipper 0 0 0 2 2 0 0 0 0 0		6	1
10 0 0 0 0 0 0 0 0 0	0	0	
10 0 0 0 0 0 0 0 0 0			
annel and sharings of manual. S and sharings of manual.		•	
O O O O O O O O O O	0	-	
No TO NO T		9	
0 0 05 1 1 2 1 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		0	
1 0 05 1 1 1 2 1 1 1 2 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 1 2 1 1 1 1 2 1 1 1 1 1 2 1	0	-	
0 No #70 Yes = 3 0 No #70 Yes = 3 15	0	OS CO	2
No ≠ 0 Yes = 3 1	0	0.5	-
15 0 0.5 1 2 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5		-	Yes=3
1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 2			
Cebris C			
tron onditizing bacteria 1.5	9	-	-
1.5 0.5	0	-	
Sodiment on plants or debtils 0 05 764 75 764 764 765 <td>1,5</td> <td>0</td> <td></td>	1,5	0	
Organic cebris lines or piles Organic cebris lines or piles Yes (2) Soli-based evidence of high water table? 3 6 Bollogy (Subtotal = "1" 2" 2" 2" 2" 2" 2" 2" 2" 2" 2" 2" 2" 2"		2	21
Soli bassed evidence of high water table?		673	1
Solution Solution	water table?		Yes
Shotogy Subtraction Streambod Stre			
Roterous roots in streambed		-	1
Recited upland plaints in streambed			
Macrobenthos frole diversity and shundance) 1 2 Aquatic Mollucies 0 0.5 1 Crivifain 0 0.5 1 Crivifain 0 0.5 1 Admissibility 0.5 1 1 Adjack 0.5 1 0.5 1 Adjack 0.5 0.5 1 1 Adjack 0.5 0.5 0.5 0.5 Adjack 0.5 0.5 0.5 0.5 Adjack 0.5 0.5 0.5 0.5 0.5 Adjack 0.5 0.5 0.5		4	
Aquesice Molludes 0 1 2 1		-	1
Crieyfah 0 0.5 1			
Crigitals	10	0.5	
0 0.5 1 1 1 1 1 1 1 1 1		0.5	1.5
nis in streambed FACW = 0.75; OBL = 1,5 Other = 0 ns may also be identified using other methods. See p, 35 of manual.	8	0.5	1.5
nd plants in streambed streambed streambed streambed streambed streams may also be identified using other methods. See p., 35 of manual.	0.5	9.0	1 1,5
FALVY = U.S. OBL- I.S. Idea using other methods. See p. 35 of manual.	- 70	- 8	
niffed using other methods.		ğ	
Notes: Sketch;	nelled using other methods.		
Sketch;			
Sketcht			

USGS > NP Soils = Int

Sm 10/31/2022

feglane-8 Stram Form. W

NC Division of Water Quality –Methodology for identification of Intermittent and Perennial Streams and Their Origins v. 4.11

Dato: 9/24/32	Project/Site: Kindua	module EV	Latitude: 35.74029	120/024
Evaluator: \$8 KM	County: De		Longitude: ~78: 84:384.5	18:84384c
Total Points: Streem is at least intermitten! It's 19 or perendial it's 30:	Stream Determi Ephemeral Africe	Stream Determination (circle one) Ephemeral (intermittent) Perennial	Other Apek	*
A. Geomorphology (Subtotal = /0.5)	Absent	Weak	Moderate	Strong
1* Continuity of channel bed and bank	0		6	0
2. Sinuosity of channel along thalweg	0	と ない ない ないない	\$, «
3. In-channel structure: ex. nfile-pool, step-pool,	0	*	·	
4. Particle size of stream suitefrale		6	,	9
5. Active/relict floodplain	0	٥.	2	e
6. Depositional bars or benches) {c	7	
7. Recent alluvial deposits	0 0	25	7	9
8. Headculs	•	3-	7	0
9. Grade control	0	¢	7	,
10. Natural valley.	0	20	(Q.
11. Second or greater order channel		W= N	5	0
antificial diliches are not rated, see discussions in manual		<u> </u>	3	?
= =		Charles of the	The state of	
12. Presence of Baseflow	(3)		. 2	417
13. Iron axidizing bacteria	0			
14. Leaf litter	15	-	.6	2
15. Sediment on plants or debris		*	3	,
16. Organic debris lines or piles		8		0
17. Soil-based evidence of high water table?	No	7 0 =		1.5
C. Biology (Subtotal = リー)	2		Tes	0
18. Fibrous roots in streambed	3	19		
 Rooled upland plants in streambed 	3	9		0
20. Macrobenthos (note diversity and abundance)	8		c	0
21. Aquatic Mollusks	0	A CAN LAND OF THE PARTY OF THE	7	20
22 Fish	C. C. C.	30	7	3
23. Crayfish		0.0		1.5
24. Amphiblans	5	0.0	and the second	1.5
25. Algae		000	100000	1.5
26. Wetland plants in streambed		200		1.5
*Perennial streams may also be identified using plannes from See	· 1000 ·		- Tib Other = 0	
with the second				
	-			A. C.
Sketch:				
The state of the s				1

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1 Stream Form X-Feature 8

(3) Ubtotal = H) Id and bank of and bank fills-pool, step-pool, theserate these discussions in manual st see discussions	County: Dakke Stream Determination (cir. Ephemoral) intermittent P Absent Wea 0 0 (5) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1)	,W		
(2) Nubtotal = H of and bank of and bank of balkwag riffle-pool, step-pool, ubstrate channel of see discussions in marreal	Absent O	1	Longitude: -74-843	8.8439
hubiotal = H) cd and bank cd and bank inffle-pood, step-pood, ubstrate inches inches in channel cf see discussions in manual	Absent O O O O O O O O O O O O O O O O O O O	Stream Determination (circle one)	other Apres	2
To confinulty of channel about 8. Sincesty of channel about 8. Sincesty of channel about 9. Adherite about 9. Secretarion 8. Depositional burs or benches 6. Depositional burs or benches 7. Recent allovial deposits 9. Grade control 9. Grade control 9. Grade control 9. Grade control 9. Sincesty of 9. Sinceston 9. Since		Weak	Moderate	Strong
2. Sinuosity of channel along thalweg 3. In channel structure: are riffle-pool, step-pool, ripole-pool sequence 1. Particle size of stream substrate 2. Active/elled floodblain 2. Active/elled floodblain 3. Active/elled floodblain 3. Grade control (1). Secural value of greeter order channel altacast citizes are not raited; see discussions in manual standagical citizes are not raited; 3. Checken or greeter order channel altacast citizes are not raited; 3. Checken or greeter order channel 3. Checken order order channel 3. Checken or	-0-69	Z	2	200
i. In-channel structure: ex. riffle-pool, step-pool, prochesor of properties and processor of stream substrate i. Particle size of stream substrate i. Active breitet floodplain ii. Depositional bars or benches iii. Recent alluvial deposits iii. Headcuits iii. Recent divial deposits iii. Second or greater order channel iii. Second or greater order channel iii. Second or greater order size red structures are red rates; see discussions in marrier iii. Second or greater order size iii. Second or greater order channel iii. Second or greater order chann	O-@	3	2	,
ripple-good sequence in ripple	-@	,	2	m
T. Particles Social constituents of sections of sections of the section of sections of the section of sections of the section	69	0	2	3
A control to benches Cepositional bars or benches Recent alluvial deposits Needcuts Grade control Conductive control Needcuts Grade control Needcuts Service control Needcuts Service control Needcuts Service control Service co	9	-	2	9
A topositional case or reconstruction and the second and the second and the second of greeke control O. Natural description I. Second or greeker order channel Intercal alongs are mit afret; one discussions in manual Intercal alongs are mit afret; D. Presence of Basselow)	1	2	67
Net Record and a large an	(0)		2	69
A Grade control O Natural valley O Natural valley Th. Second colors are not a channel alternational colors are not a channel B. Hydrology S. Presence of Baselow	E	+	2	9
A create control of the control of t	00	0.5	1	1,5
Lo resultant to receive than tell is seen of a receive than tell and a receive and a receive than tell and a receive and a receive and a receive a receiver	0	5.0	9	1.5
B. Hydrology 5 1	No	(0 ≠ 0N	Yes = 3	69
12. Presence of Basellow				
12. Presence of Basellow	(9)		2	63
The state of the s	X.		2	60
13. Iron oxidizing bacteria	3	0	0.5	0
14. Leaf litter	6	3	-	1.5
15. Sediment on plants or debris	3	200	0	1,5
16. Organic debris lines or piles	2	No = U		Yes =(3)
17, Soil-based evidence of high water table?	4			
C. Biology (Subtotal = 140)	2	2	(1)	0
18. Fibrous roots in surambed	(6)	2)	0
19. Kooled upland plants in sucambed	0	*	2	3
20. Macrobenthos (note diversity and abundance)	3		2	69
21. Aquatic Mollusks	X	0.5	1	1.5
22. Fish		0.5		1.5
23. Crayfish	×	200		1,5
24, Amphiblans	93	50	-	1.5
25. Algae)	0.0 0.0	CACHILLOTE OBI = 15 Olhers O	
26. Welland plants in streambed			1000	
*perennial streams may also be identified using ether methods. See p. 35 of manual. Notes:	ee p. 35 of manu	Je		
Skelch:				
		4		-
FOLIS = TANT		1	1	4
			HAN	NOW
2000 10/1	2000	Ł	211	;

NC Division of Water Quality – Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

tream form Z-Feature 9

Longitude: . 7P. 84806 Projectisite: Unidera -L'U Latitude: 34.148238 Other Mpee Stream Determination (circle one) Ephemeral intermittent Perennial County: Welke NC DWQ Stream Identification Form Version 4.1 18 Evaluator: SB /KM Date: 9/20/22 Total Points: Sheam is of best intermitent it > 19 or peremial it > 30*

Strong Moderate (2) Weak No £0) Absent 0 9. Grade control
10. Natural valley
11. Second or greater order channel
animal ender see decussors in manual A. Geomorphology (Subtotal = 5 1. Continuity of channel bed and bank
2. Sincosity of channel along thalweg
3. In-channel structure, ar. (Iffe-pool, step-pool, ripple-pool sequence
4. Particle size of stream substrate
5. Advairabled thoophain
5. Depositional bars or benotes
7. Recent alluvial deposits
6. Headouts
7. Headouts 8

Yes 🔁 @<u>|</u> 12. Presence of Basellow B. Hydrology

23. Crayfish
24. Amphibians
25. August
25. Algare
(0)
25. Algare
(0)
26. Welland plants in streambed
penernial streams may also be identified using other methods. See p. 36 of manual. Sketch:

USGS = NP

JM 10/31/302

Soils = Int

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Stream form Y-Feature 10

Strong Longitude: 7884584 Latitude: 35.6953 1.5 0 Yes =(3) Yes = 3 FACW = 0.75; OBL = 1.5 Other = 0 Stream Determination (circle one) Other Ephemeral Intermittent Perennial a.g. Quad Name: Moderate (2) N 2 0.5 Project/Site: VVI den (EV Weak (D) 20 20 13 -10 0.5 0.5 No £0 No = 0 County: Lake 22. Fish 60 23. Crayfish 60 23. Crayfish 60 25. Crayfish 60 25. Crayfish 60 25. Wetland plants in streambed 7. Penennial streams may also be identified using other methods. See p. 35 of manual. Notes: Absent NC DWQ Stream Identification Form Version 4.1 4DDDDD 19929-00 A. Geomorphology (Subtotal = 5)

1* Continuity of channel bed and bank
2. Situcosity of channel bed and bank
2. Situcosity of channel along thalweg
3. in-channel structure: x. tiffle-pool, step-pool, ripple-pool sequence
4. Particle size of stream substrate
5. Active/reflet floodplain
6. Depositional bars or benches
7. Recent alluvial deposits
8. Headouts
9. Grade control
10. Natural valley
11. Second or greatle order channel
11. Second or greatle order channel
animizal discipes are not jained; see discussions in minual 15. Sediment on plants or debris
15. Sediment on plants or debris
16. Organic debris lines or piles
17. Soil-based evidence of high water table?
C. Biology (Subtotal = 5)
18. Fhrous roots in streambed
19. Rooted upland plants in streambed
20. Macrobenthos (note diversity and abundance) 4129/22 Total Points: Stream is at least informitient If z 19 or perenaial if z 30* 13. Iron oxidizing bacteria 14. Leaf litter Presence of Baseflow Evaluator: S/B 21, Aquatic Molluske B. Hydrology Sketch: Date:

Soils + HA USGS = NP

eepe/12/01 WS

A ream Form Mith - Parkur-!!

NC Division of Water Quality - Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

Date: (2/7/22		אמומא ב	1 1000	11:101:11	1
Evaluator: 5/8//		County: Duffe	Ų	Longitude: -	-7.9. 84 306
Total Points: Stream is at least intermitient if 2:19 or perennial if 2:30*	105 26.5	Stream Determine	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other e.g. Quad Name:	Mor
A. Geomorphology (Subtotal =	16.	Absent	Weak	Moderate	Strong
12 Continuity of channel bed and bank	ank	0	1	0	69
2. Sinuosity of channel along thalweg	6a	0	1	O	m
3. In-channel structure; ex. riffle-pool, step-poo	of, step-pool,	0	0	2	67
rippie-pool sequence			•		
4, Parice size of stream substrate		0	36	7	,
5. Active/relict floodplain		0	96	7	2
 Depositional bars or benches 		0	9	2	n
7. Recent alluvial deposits		0	0	2	m
8. Headcuts		0	0	.2	8
9. Grade control		0	9'0	0	1,5
10. Natural valley		0	0,5	Θ	1.5
11. Second or greater order channel	e	No	No = 0	Yes =(3)	9
adificial dilches are not raied; see discussions in manual	cussions in manual				
B. Hydrology (Subtotal = 7	16)				
12. Presence of Basellow		0	+	0	m
13. Iron oxidizing bacteria		9		2	m
14. Leaf litter		1,5	3	0.5	0
15. Sediment on plants or debris		0	630	1	1.5
16. Organic debris lines or piles		0	0.5	0	1.5
17. Soil-based evidence of high water table?	ther table?	N	No=0	Ø= saY	9
C. Biology (Subtotal = 4	,				
18. Fibrous roots in streambed		3	0	1	0
19. Rooted upland plants in streambed	pequ	3	9	1	0
20. Macrobenthos (note diversity and abundance)	(abundance)		1	2	es
21. Aquatic Mollusks		4		2	m
22. Fish		6	0,5	1	1.5
23. Crayfish		0	0.5	1	1.5
24. Amphibians		6	0.5	1	1,5
25. Algae		A	0.5	1	1,5
26. Welfand plants in streambed			FACW=0,75; Of	0BL = 1.5 Other = 0	
"perennial streams may also be identified using other methods.	fied using other method	s. See p. 35 of monual.	- 7		
Notes:					
Sketch:					

Soils = Perennial Th 12/8/2022

Longitude: -78. 84395 Latitude: 35,764939 Stream Determination (circle one) Other Apt. Ephemeral Informittent/Perefinial) e.g. Quad Mame: Stream Form Mater Quality - Methodology for Identification of Intermittent and NC Division of Water Quality - Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11 Projectisite: Verides BU County: Uske NC DWQ Stream Identification Form Version 4.11 (35) 12/1/20 Total Points: Stream is at least Intermitent It≥ 19 or perennial It≥ 30* Spall Evaluator: Date:

	Ahsput	Weak	Moderate	Strong
A. Geomorphology (Subtotal = 10)	Austria			1
ell. Configuration of observed bad and hank	0	- 15	2	9
Collection of Challeter Deviate Dentity			8	43
 Sinuosity of channel along thalweg 	,		1	
3. In-channel structure: ex. riffle-pool, step-pool,	0	+	O	m
rippie-pool sequence	-		10	
4 Particle size of stream substrate	0		9	,
C Astino follot floodolain	0	C	2	773
3. Adiversity moderal			0	r
6. Depositional bars or benches		-) "	0
7 Becont alluvial dannella	0	e	7	2
The residence of the second	0	- 4	@	m
8. Headouts	,		100	45
9 Grade control	0	0.0)	2
o o o o o o o o o o o o o o o o o o o	0	9.0	9	1,5
10, Natural valley			No.	Non-
11 Second or preater order channel	SZ.	No = 0	20	20

12. Presence of Basellow 13. Iron oxidizing bacteria	0		101	*7
3. Iron oxidizing bacteria	,		6	-
3. Iron oxidizing backeria	0		2	m
	X.		0.5	0
14, Leaf litter)	1		15
15. Sediment on plants or debris	0	0.5	36	21
46. Organic definis lines or piles	0	9.0	Э	1.5
7. Soil-based evidence of high water table?	No = 0	-0	>	Yes (3)
Riology (Subtotal = 2.5.)				
pec	3	0	-	0
10 Doctod incland plants in streambed	0	2	+	0
20. Mosesborthos fools diversity and shrindshop)	90	1	2	60
co. Made under unde granding one mention	•	-	2	m
21. Aquabo Mollusks	3	W.E.	+	1.5
22. Fish)	0.0		37
23. Cravilish	0	Ø		1.3
24 Amphilians	8	9.0		1.5
CT. Chippingham	3	0.5	+	1.5
Z5. Algae		Carolina 75. Cal - 45 Others ()	DOI - 15 Other	U=U
26. Wetland plants in streambed		PACW= 0.70, C	April 1.0 Care	,
*oerennial streams may also be identified using other methods. See p. 35 of manual.	p. 35 of manual.			

Soils = perennial USGS = present

Sketch:

om 12/s/sess

Vendon EAST FFATURE 12

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

Total Points: Steam Determinator Steam Determinator Stream Determinator Stream Determinator Points	County: \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	Longitude: -7,9, 84171355 Other as Qued Name: Strong 2 3 3 2 3 3 2 3 3 2 3 3 2 3 3 2 3 3 2 3 3 2 3 3 2 3 3 3 4 4 5 5 5 5 6 7 7 7 8 8 9 9 9 1	Strong Strong 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
10.5 Volotical = 7 Solution = 7 Solution = 1 Solution	Intermittent Perennial	0 Other Appendix Appe	Strong
Absent Absent Absent Color		Moderate 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 1 (1) Yess =	Strong
bed and bank 0 0 0 0 0 0 0 0 0		2 2 2 2 2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
String that weep Company			0 0 0 0 0 0 0 0 <u>4</u>
Substraile			
Substrate			
(0) (1) (1) (2) (2) (3) (4) (4) (5) (5) (5) (6) (6) (7)			0 w w w v
deposits			w w w n
(0) y valetr order channel ve not rated; see discussions in manual (Subtobal = 0, 5) baseflow (0)			w w 1
9 (0) realer order channel re not rated; see discussions in manual (Subtotal = 0.5) Baseflow (0)			ध <u>र</u> त
(©) vealer order channel is not railor; see discussions in manual (Sublotal = 0.5) Baserlow (D) baserlow (O)		(t) Yes.	3,
664		(1) Yes=	3 1
664		Yes=	0,1
ò			
		c	0
	40	7	2 4
	90	2	20 0
	200	0.50	0
Sediment on plants or debris	2.0	-	1.5
16. Organic debris lines or piles (0)	0.5	-	1,5
G	(n=ov	- 53	2
0			
	(2)		9
	64		0
20. Macroberthos (note diversity and abundance)		2	0
21, Aquatio Mollusks	1	2	60
22, Fish	0.5	1	1,5
23. Crayfish	0.5	1	1.5
24. Amphibians 0	0.5	- 1	1,5
25. Algae 10	5'0	,	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL	8L=1,5 Other >0	1
*perennial streems may also be identified using other methods. See p. 35 of manual	nanual.		
Notes:			
Sketch:			

Soits = Int

Foc/8/61 MC

Veriolen East FEATURE 13 E

Date: 13/5 (2022)

Evaluator: SYEC - JOSHUR HEMVEY	County: NAKE	(I)	Longitude:	Longitude: -73.347660
	Stream Determin Ephemeral Inter	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other e.g. Quad Name:	
J. C. Holding	Absent	Weak	Moderate	Strong
A. Geormorphology (Southerland)			(2)	60
1 Continuity of distribit bed all balls	0	(4)	2	en
2. Sinusary of crisimes arong unamos 3. In-channel structure; ex. riffle-pool, step-pool,	0	e	2	63
rippie-pool sequence	,	3	ç	iv.
4. Particle size of stream substrate	0	(1)	7	
5. Active/relict floodplain	(0)		7	2 6
6. Depositional bars or benches	10	-	7	2
7. Recent alluvial deposits	0	(5)	2	2
8. Headcuts	6	-	2	2
9. Grade control	0	(0.5)	- (2,5
10. Natural valley	0	0.5	(1)	5
11. Second or greater order channel	N.Y.	(No=0)	Yes = 3	623
artificial critches are not rated; see discussions in manual)		
B. Hydrology (Subtotal = 0x	•	(3)	2	en
12. Presence of Basellow	0	>	1 10	ir.
13. Iron oxidizing bacteria	(0)	7	100	0
14. Leaf litter	1.5	- 40	(0,0)	1.5
15. Sediment on plants or debris	(0)	200		15
16. Organic debris lines or plies	0		- None	1
17. Soil-based evidence of high water table?	7	No=0)	153	2
C. Biology (Subtotal = (△)				
18. Fibrous roots in streambed	(3)	2		0
19. Rooted upland plants in streambed	(3)	2	-	9 0
20. Macrobenthos (note diversity and abundance)	0	-	2	2 6
21. Aquatic Mollusks	0		2	2
22. Fish	D C	0.5	-	9
23. Cravfish	P	0.5		1.0
24. Amphibians	0	0.5	1	1,5
25 Aloge	0	0.5		1,5
26. Welland plants in streambed		FACW = 0.75; O	OBL = 1.5 Other =	7
*perennial streams may also be identified using other methods.	ods. See p. 35 of manual	is		
Notes:				
Sketch:				

Soits = Int Uses = Present

Venden EAST FEATURE 13 I

NC Division of Water Quality—Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

A SARVEY	Light JUNE NEW JUNE	hehen see manner	h PHON!
otal Points: Sea premial 23	m	Longitude: -78. 94 (4:23	8 salaz
Geomorphology (Subtotal = (1,5)) Continuity of chamnel bed and bank Sitruosity of channel along thalweg In-channel structure; ex. riffle-pool, step-pool, rigople-pool sequence.	Stream Determination (circle one) Ephemeral (intermittent Perennial	Other e.g. Quad Name:	
Continuity of channel bed and bank Sinuosity of channel along thakweg In-channel structure: ex. riffe-pool, step-pool, ripple-pool sequence	Weak	Moderate	Strong
Siruosity of channel along thatweg In-channel structure: ex. riffe-pool, step-pool, inciple-pool sequence		(2)	3
	0	2	m
	Э	2	63
4. Particle size of stream substrate		6	673
5. Active/relict floodplain		2	63
enches	6	2	63
	(3)	2	m
	(1)	2	m
	33	+	1.5
10. Natural valley	(0.5)	1	1,5
ater order channel	(No=0)	Yes = 3	=3
and inches are not rated; see discussions in manual	١		
1 616	6		4
	Э	7	9
zing bacteria		25	m
14. Leaf fitter 1.5		40.57	0
	(0.5)		1,51
0	-	+	,
17. Soil-based evidence of high, water table? No	No=0	(Yes=3)	6=
C. Biology (Subtotal = (, o,)			
18, Fibrous roots in streambed (3)	2	1	0
19. Rooted upland plants in streambed (37)	2	1	a
20, Macrobenthos (note diversity and abundance) p	4	2	63
21. Aquatic Mollusks b	1	2	69
22. Fish	0,5	+	1.5
23. Crayfish 10	0.5	1	1.5
24. Amphibians 0	0.5		1.5
25, Algae 0	0.5		1.5
26. Wetland plants in streambed	FACW = 0.75; OI	0BL = 1,5 Other= B.	6
*perennial streams may also be identified using other methods. See p. 35 of manual	Ti .		,
Notes:			

Soils= Int USCS= Present JM 12/2002

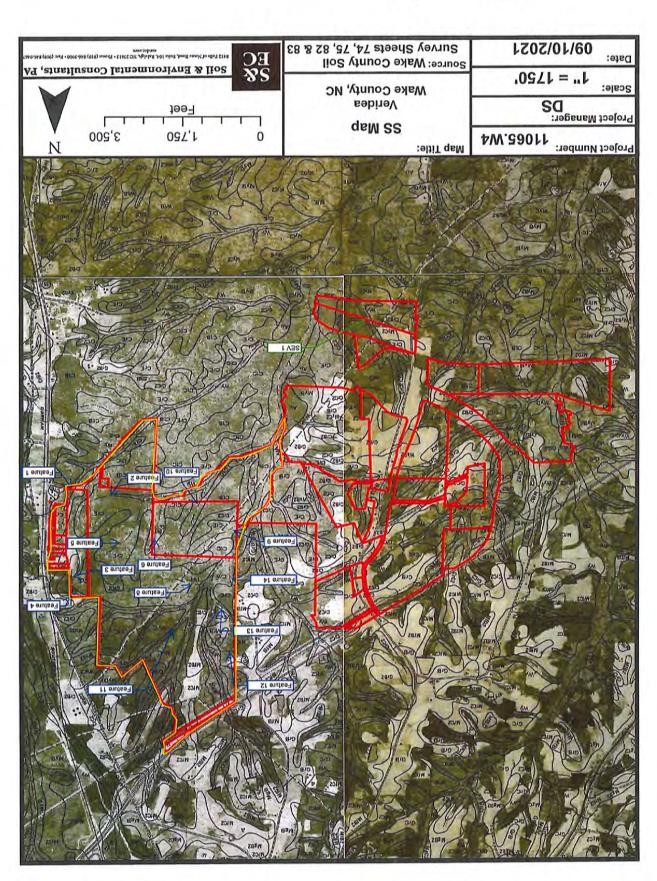
Verban EAST FEATURE 14

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

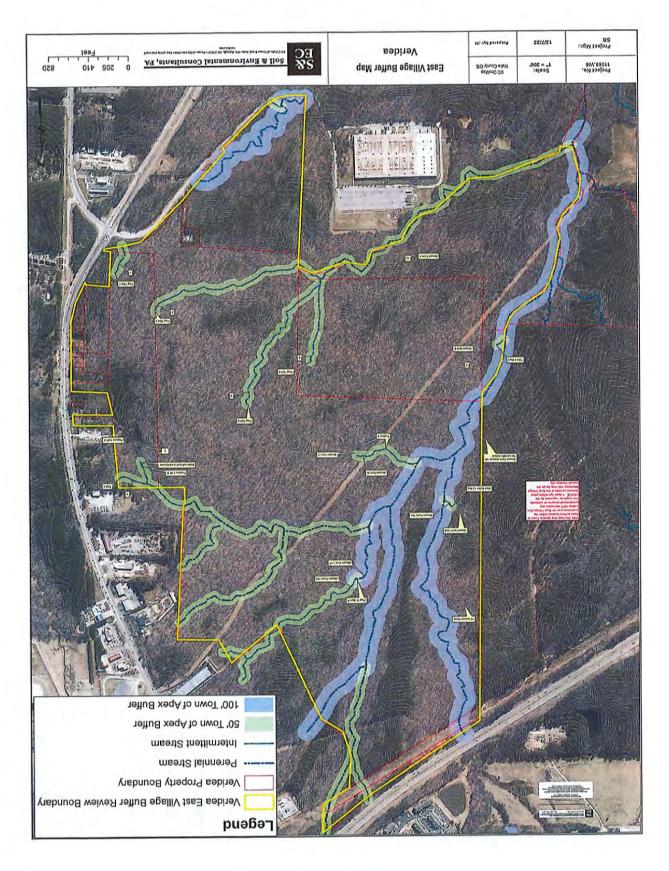
Date: 12 6 2023	Project/Site: √ ECLDE À	KIDEA ENT	Latitude: 35	29.400175
Evaluator: Conf. () Sectable treature)	County: NAME	فنا	Longitude: -78.348933	78.8483E
Total Points: Stream is at least information It's 19 or seeming it's 30"	Stream Determin	Stream Determination (circle one) -Ephemeral Intermittent Perennial	Other e.g. Quad Name:	
/		Mont	Moderate	Strong
A. Geomorphology (Subtotal =	Apsent	Ween	2	6
1° Continuity of channel bed and bank	0		100	m
Sinuosity of channel along thalweg		-		
3, In-channel structure: ex. riffle-pool, step-pool,	0		2	20
rippie-podi sequence	0		2	60
5. Active/relict foodplain	0	1	2	es (
6. Denositional hars of benches	0	,	2	0
7 Recent allivial deposits	0	1	2	ro (
Readults Headults	0	1	2	m
o Cardo control	0	0.5	1	1.5
40 Mahmal valley	0	0.5	1	1,5
10. Natural value)	×	No = 0	Yes	=3
artificial ditches are not rated; see discussions in manual				
B. Hydrology (Subtotal = /				
12. Presence of Baseflow	0	-	7	, (
13. Iron oxidizina bacteria	0	-	2	, .
14. Leaf Liter	1.5		0.5	0
15. Sediment on plants or debris	0	0.5	-	5 4
16. Organic debris lines or piles /	0	0.5	-	
	No	0=0	Yes=3	11
C. Biology (Subtotal = /				
18. Fibrous roots in streambed/	60	2	-	
 Rooted upland plants in streambed 	69	2	- 0	0
 Macrobenthos (note diversity and abundance) 	0		7	0 0
21, Aquatic Mollusks	0	-	7	9 4
22 Fish	0	0.5		5.
23. Crayfish	0	0.5		2, 4
24. Amphibians	0	0.5	,	4.5
25. Algae	0			1
26. Wetland plants in streambed		FACW = 0.75;	OBL = 1.5 UTIEL =	0
*perennial streams may also be identified using other methods.	ods. See p. 35 of manual,	iaj.		
Notes:				
Sketch:				
2	No Scoreble Feeture J	Feeture	M	·

5075= INA US 62= NP

12/s/200

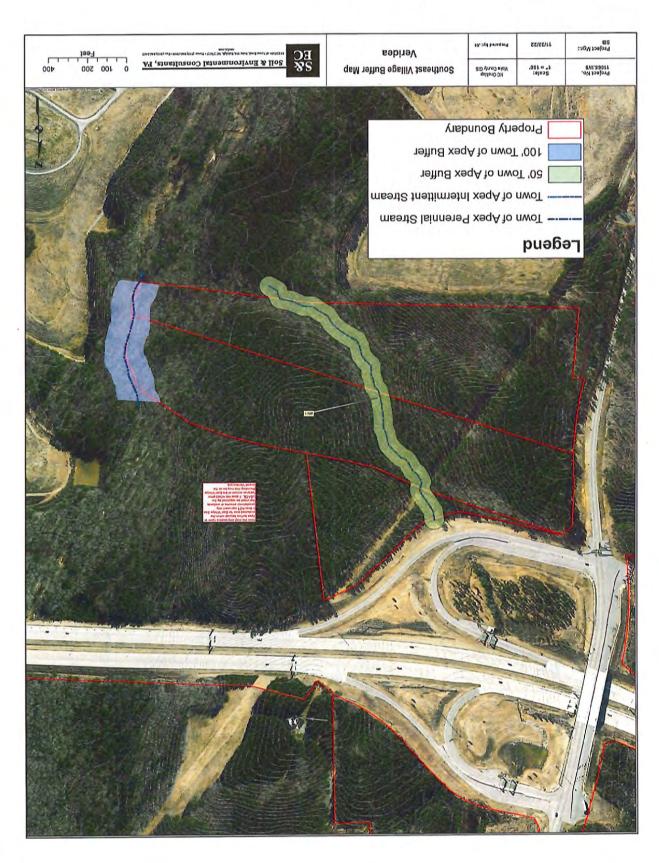


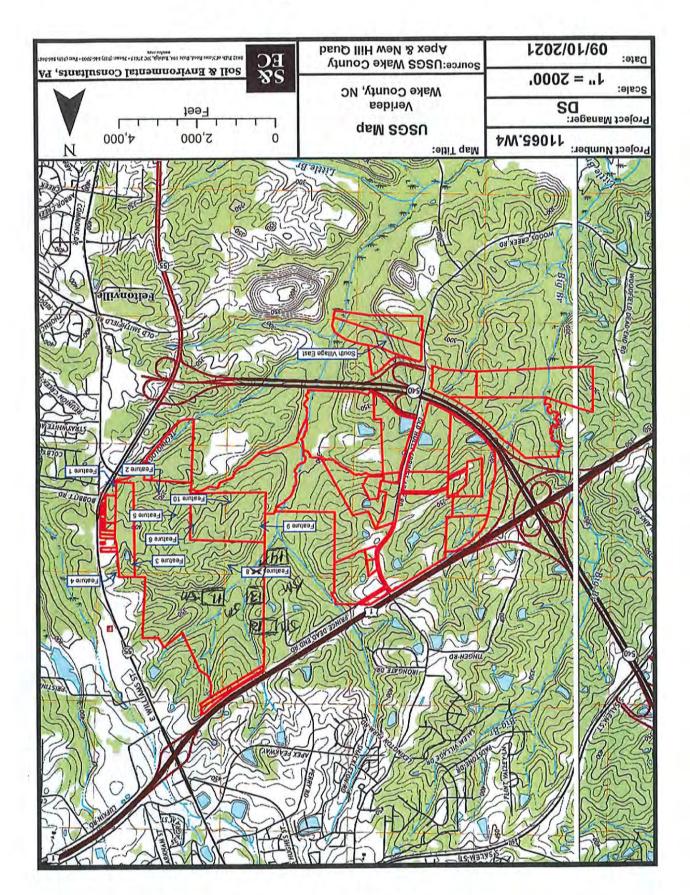
real/s/e/ WD

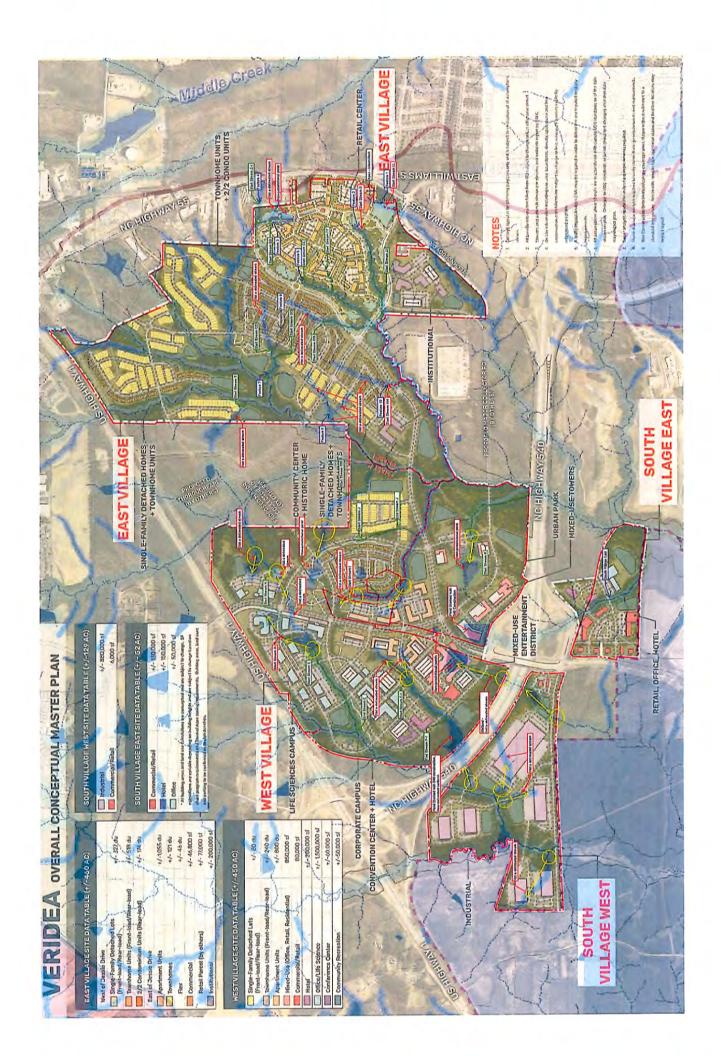


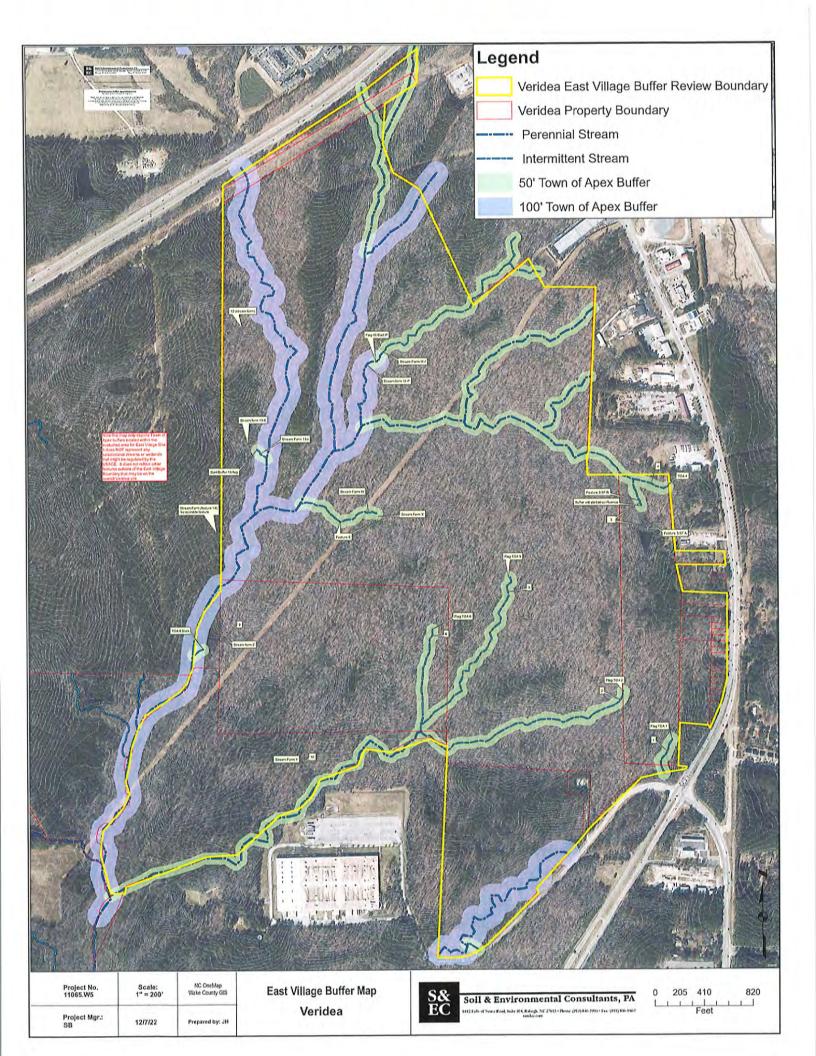
eere/s/e1 WD

cese fee /11 WS











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

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

Apex 22-017

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 0 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 INFO	RMATION					
Owner(s):	*See at	tached tab	le			
Site Address:	3012 V	eridea Pai	kway, Apex, North Carolina	27539		
CONSULTANT IN	IFORMATION (If a	pplicable)				
Name:	Joshua Harvey					
Address:	8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615					
Email:	jharvey	jharvey@sandec.com				
Phone:	919.76	0.9622				
CHECKLIST						
Please place a check	kmark in the spaces pr	ovided below to in	dicate that the required information has been provide	d with this submittal.		
Right of Entry Forn	n	X	Topo Map (most recent version) X		
NCDEQ Stream Ide (v. 4.11)	entification Forms	X	1970 Wake County Soll Survey I	Мар		
Sketch Map*		X				
	l show <u>all</u> drainage fea alled with this applica		erty with all applicable riparian buffers shown. Please	clearly indicate or list which		
SIGNATURE (Co	nsultant or Respo	nsible Party)				
By my signature bel Joshua F	Jarvov [nformation provide Digitally signed by Date: 2023.01.23	Joshua Harvey 08:55:39 -05'00' Date: 01/04/20	023		

This	s Right of Entry is executed this day of, 20
Town of	Apex and PRINCE, FRANK D SR TRUSTEE (the "owner
	HEREAS, the Town of Apex ("Town") is seeking to make a stream buff tion across the property known as Verldea - Phase 2 in the Town , North Carolina and designated as PIN #_0740191376, 0730996270 by the
Wake Cour	nty Revenue Department (the "Subject Property");
WH	IEREAS, the owner are agreeable to provide the Town with th
Right of En	ntry under the terms and conditions stated herein so that the above reference
determinat	tion may proceed.
hereby gra	W THEREFORE in light of the above premises, the owner out and give freely and without coercion, the right of access and entry to the operty 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 determination based on those investigations as it relates to stream buffidetermination.
2,	This Right of Entry does not convey to the Town any title or ownersh interest in the Subject Property.
3.	The Town and its employees, contractors, agents and representatives entupon the Subject Property at their own risk and assume all risks related the property.
4.	The undersigned agrees and warrants to hold harmless the Town of Apex, i agencies, departments, contractors, and subcontractors, and discharges an waives any action, either equitable or legal that arise from the activitic described above on the property except in the case of negligence by the Town.
Witness: 4	Scooper Sparager By: FORming POA

NORTH CAROLINA WAKE COUNTY

RIGHT OF ENTRY

Town of	s Right of Entry is executed this day of, 20 by Apexand WHITEHOUSE, BRENDAP (the "owner").
	IEREAS, the Town of Apex ("Town") is seeking to make a stream buffer tion across the property known as Voridou - Phoso 2 in the Town of North Carolina and designated as PIN # 0740287376 by the
Wake Cou	nty Revenue Department (the "Subject Property");
WF	IEREAS, the owner are agreeable to provide the Town with this
	ntry under the terms and conditions stated herein so that the above referenced tion may proceed.
hereby gra	W THEREFORE in light of the above premises, the owner do not and give freely and without coercion, the right of access and entry to the operty 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 walves 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: Branks Plethones Truster

NORTH CAROLINA WAKE COUNTY

This Town of A	Right of Entry is executed this day of, 20 by pex and HH TRINITY APEX INVESTMENTS LLC (the "owner").
determinati	REAS, the Town of Apex ("Town") is seeking to make a stream buffer on across the property known as South Village East in the Town of North Carolina and designated as PIN #_0730971141,0730852539,0740052449 by the
	ty Revenue Department (the "Subject Property");
	EREAS, the <u>owner</u> are agreeable to provide the Town with this try under the terms and conditions stated herein so that the above referenced
determinati	on may proceed.
hereby gran	V THEREFORE in light of the above premises, the owner do not and give freely and without coercion, the right of access and entry to the perty 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
Witness	HH Trinity Apex Investments LLC HRCF IV - Trinity Apex Investments LLC

Richard A. Ortiz Authorized Signatory

NORTH CAROLINA WAKE COUNTY

RIGHT OF ENTRY

		INVESTMENTS LLC (the "Owner	").
determina	HEREAS, the Town of Apex ("To ation across the property known as $\underline{}$	Veridea - Phase 2	in the Town of
	, North Carolina and desig		by the
Wake Cou	unty Revenue Department (the "Sub	ject Property");	
WH	HEREAS, the owner	are agreeable to provide t	he Town with this
	ntry under the terms and condition		
letermina	ation may proceed.		
ereby gra	OW THEREFORE in light of the abo ant and give freely and without co operty on the terms and conditions	ercion, the right of access	
1.	The Town of Apex and its contra purpose of conducting on-site determination based on those i determination.	actors may enter the Subje environmental investigati	ons and issuing a
	The Town of Apex and its contra purpose of conducting on-site determination based on those i	actors may enter the Subjectors may enter the Subjection investigations as it relates convey to the Town any t	ons and issuing a s to stream buffer
1.	The Town of Apex and its contra purpose of conducting on-site determination based on those i determination. This Right of Entry does not contract.	nctors may enter the Subjectors may enter the Subject environmental investigations as it relates convey to the Town any to the town and repontractors, agents and rep	ons and issuing a sto stream buffer title or ownership resentatives enter
2.	The Town of Apex and its contra purpose of conducting on-site determination based on those idetermination. This Right of Entry does not contrarest in the Subject Property. The Town and its employees, coupon the Subject Property at the	ectors may enter the Subjections may enter the Subjection investigations as it relates convey to the Town any to the Town and report actors, agents and report own risk and assume a crants to hold harmless the ors, and subcontractors, as able or legal that arise for	ons and issuing a sto stream buffer title or ownership resentatives enter all risks related to Town of Apex, its and discharges and rom the activities

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

Town of	Apex and VERIDEA HOLDINGS LLC (the "owner").
determina	IEREAS, the Town of Apex ("Town") is seeking to make a stream buffer tion across the property known as Veridea - Phase 2 in the Town of North Carolina and designated as PIN #_0740180091, 0741203157 by the
Wake Cou	nty Revenue Department (the "Subject Property");
Right of E	IEREAS, the owner are agreeable to provide the Town with this atry under the terms and conditions stated herein so that the above referenced
determina	tion may proceed.
hereby gra	W THEREFORE in light of the above premises, the owner do nt and give freely and without coercion, the right of access and entry to the operty 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. Veridea Holdings LLC HRCF IV - Trinity Apex Investments LLC

Richard A. Ortiz

Authorized Signatory

The latest and	California Contraction of the Co	Anner	ADDR2	ADDR3	SITE ADDRESS	FOLL STACES INMINIE
PIN NUM DEE	PIN NUM DEED ACRES DWNER	WANG ASSISTANCE	APEX NC 27539-9202		3125 VERIDEA PKWY	VERIDEA PKWY
740188440	1,38 HELUS, W.J. FIELLIS, CALIFERING A	CHANGE OF THE PARTY OF THE PART	COST STORY NOT SINGE STATES	NEW YORK NY 10027-5837	ID OLD HOLLY SPRINGS APEX RD	DLD HOLLY SPRINGS APEX RD
730852539	54.65 HH TRINITY APEX INVESTMENTS LLC	VERIDEA HOLDINGS LLC	3/0 CEVING LOW AVE 3/1 2500	1000 0000000000000000000000000000000000	Section Sectio	VEDINES DRWY
120071145	98.72 HH TRINITY APEX INVESTMENTS LLC	VERIDEA HOLDINGS LLC	570 LEXINGTON AVE STE 2200	NEW YORK NY 10022-6837	IN VERIDER PAWT	SENIOCA LANGE
250505055	PACHALITERIOR BRENDA DAVINTERIORISE RRENDA P	3109 VERIDEA PKWY	APEX NC 27539-9202		0 VERIDEA PKWY	VERIDEA PKWY
9/5/9704/	CLASS WALLERGOSE, SAENDARY WHITESCOOLS STEERED	SANG AMANDA CASSICIA	FLICHTAY VARINA NC 27526-9635		3012 VERIDEA PKWY	VERIDEA PKWY
740191376	75,63 PRINCE, FRANK DOK IRUSICE	ALL HOUSE CONTRACTORS	OCCUPATION AND AND AND AND AND AND AND AND AND AN	TERRICCOULT VIN VICTOR VICTOR	O VERIDEA PRIMY	IVERIDEA PKWY
740180331	1.66 HH TRINITY APEX INVESTMENTS LLC	VERIDEA HOLDINGS LLL	S/U LEXINGTON AVESTE 4400	MENT IONA INI TOUGH COOL	Treche and trees of the	Victoria Spinso
720386384	64 67 HH TRINITY APEX INVESTMENTS LLC	VERIDEA HOLDINGS LLC	570 LEXINGTON AVE STE 2200	NEW YORK NY 10022-6837	SOUS VERIDES PAWY	VERIDEATANT
741007566	32 DE WAVPRINCE PROPERTIES LLC	444 AUGUSTA DR	ROCKPORT TX 78382-6945		2901 VERIDEA PKWY	VERIDEA PKWY
100000000000000000000000000000000000000	THE STANDARD AND MAY BE THE THE	VERIDEA HOLDINGS LLC	570 LEXINGTON AVE STE 2200	NEW YORK NY 10022-6837	0 VERIDEA PKWY	VERIDEA PKWY
1000/0705/	A TOTAL TOTAL SOCK INVESTMENT OF THE	VERIDEA HOLDINGS LLC	570 LEXINGTON AVE STE 2200	NEW YORK NY 10022-6837	0 VERIDEA PKWY	VERIDEA PKWY
/40027443	LIJOO DE LA LA LA INVESTIMENTO CONTRACTOR CO	OTI SONICION VACIONA	1570 I EXINGTON AVE STE 2200	NEW YORK NY 10022-6837	O VERIDEA PXWY	VERIDEA PKWY
740078021	32.28 HH IKINITY APEX INVESTIMENTS LLC	VENDER STORMS	DADE ANAMAN OF SELECTION	PHOLIAV VARINA NC 77576-9635	DUSTHWY	USIHWY
730996270	16.42 PRINCE, F.D. SR. TRUSTEE	FRANK PRINCE IR	מאנט אואואוארא באסוב בוא	2000	Water Andrews	Victoria by Av
740350835	82 24 HH TRINITY APEX INVESTMENTS LLC	570 LEXINGTON AVE STE 2200	NEW YORK NY 10022-5837		3229 VERTUEA FAWT	Venices Para
140400000	CIT SOME OF A SOMEWAY OF	570 LEXINGTON AVE STE 2200 NEW YORK NY 10022-6837	NEW YORK NY 10022-6837		3200 VERIDEA PKWY	VERIDEA PXWY
- /40TROCET	14.37 VENIDER HOLDINGS LLC	Water and other party	COCOLOGOCO NO VOCA		3137 VERIDEA PXWY	VERIDEA PKWY
740188176	3 BUSHEE, ROGER W BUSHEE, GLENDA K	313/ VERIDER PAVET	MEN NUCLOSS SAM		SANG VERIDEA BOXAN	VERTUE SKOW
740189737	1.03 WHITEHOUSE, GREGORY HENRY	3109 VERIDEA PXWY	APEX NC 27539-9202		SAUS VENIDEA FAVVI	A CONTRACTOR OF THE PARTY OF TH
721202127	1 RAIVERIDEA HOLDINGS LLC	S70 LEXINGTON AVE STE 2200	NEW YORK NY 10022-6837		2937 VERIDEA PKWY	VERIDEA PAWT
740703175	SHANGI EY DAVID X LANGI EY RENEE M	6300 KING DAVID CT	APEX NC 27539-6897		5300 KING DAVID CT	KING DAVID CT
1400000000	1 STANDARD OF ACCET WANAGEMENTILE	3109 VERIDEA PKWY	APEX NC 27539-9202		3117 VERIDEA PKWY	VERIDEA PKWY
/40188880	CT LINE COLORS SOCIAL STREET COLORS C	2100 VEDIDES DIMAN	APEX NC 27539-9202		3105 VERIDEA PKWY	VERIDEA PKWY
740189999	2,49 WHILEHOUSE ASSETS MANAGEMENT LLC	Sand Sunian Care	BALESCH NC 37505.1104		3134 VERIDEA PKWY	VERIDEA PKWY
740070950	0.52 HUDSON, KARL GRIER IV	824 BRYAN SI	CALEBON NO 22 DOCUMENT			Avenines plans
740793940	1 SIWVPRINCE PROPERTIES LLC	444 AUGUSTA DR	ROCKPORT TX 78382-6945		2945 VERIDEA PRWT	VERIDEA PAVI
740081019	2 16 APA VERIDEA INVESTMENTS LLC	2000 BEAR CAT WAY STE 102	MORRISVILLE NC 27560-6620		3138 VERIDEA PKWY	VERIDEA PRWY
730277967	10.27 APA VERIDEA INVESTMENTS LLC	2000 BEAR CAT WAY STE 102	MORRISVILLE NC 27560-6520		3142 VERIDEA PKWY	VERIDEA PAWT
10011001		A44 DDINGGGATEND	CARY NC 27519-7184		3130 VERIDEA PKWY	VERIDEA PKWY

west crip West 5F14

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

	Project/Site: V	eridea	Latitude: 35	784010
Evaluator: SAEC - JH	Project/Site: Ver. dea Latitude: 35, 704016 County: Wake Longitude: -77,86601 Stream Determination (circle one) Other Beg. Quad Name:		78.886219	
Total Points: Stream is at least intermittent If ≥ 19 or perennial if ≥ 30*			Other R	
A. Geomorphology (Subtotal =)	Absent	Weak	Moderate	Strong
1 ⁸ 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. rlffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	(0)	1	2	3
5. Active/relict floodplain	\$	1	2	3
6. Depositional bars or benches	(2)	1	2	3
7. Recent alluvial deposits	6/	1	2	3
8. Headcuts	(Q)	1	21	3
9, Grade control		0.5	GEN .	1,5
10. Natural valley	0	0.5	(4)	1,5
11. Second or greater order channel	(No	=0	Yes	= 3
artifical diches are not rated; see discussions in manual B. Hydrology 3)				
12. Presence of Baseflow	(0)	1	2	3
13, Iron oxidizing bacteria	6	1	2	/3
14. Leaf litter	1.5		0.5	3
15. Sediment on plants or debris	(D)	0.5	1	1.5
16. Organic debris lines or piles	8	0.5	1	1,5
17. Soil-based evidence of high water table?		= 0	Yes	= 3
C. Biology (Subtotal =)				
18. Flbrous roots in streambed	3	2	1	(85)
19. Rooted upland plants in streambed	3	2	1	(4)
A STATE OF THE STA	P	1	2	3
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21, Aquatic Mollusks				1 11
The second secon	0	0.5	1	1.5
21, Aquatic Mollusks 22, Fish	0	0.5	1	1.5
21, Aquatic Mollusks 22, Fish 23, Crayfish	9			
21, Aquatic Mollusks 22, Fish 23, Crayfish 24, Amphibians	, b	0.5	1	1.5
21, Aquatic Mollusks 22. Fish 23. Crayfish 24, Amphibians 25. Algae	b b	0.5 0.5	1 1	1.5 1.5 1.5
21, Aquatic Mollusks 22, Fish 23, Crayfish 24, Amphibians	tods. See p. 35 of manua	0.5 0.5 0.5 FACW = 0.75; OB	1 1	1.5 1.5 1.5

Soils = Intermittent US65 = Not Present

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

ate: 1/2/22	Project/Site: 1/0	ridea	Latitude:35. 6	
valuator: SJEC-AJK+JH+KM	County: Wa		Longitude:	8.864747
otal Points: Itream is at least intermittent ≥ 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
a. Continuity of channel bed and bank	0	1	(3)	3
. Sinuosity of channel along thalweg	0	1	(2)	3
ln-channel structure: ex. rlffle-pool, step-pool, rlpple-pool sequence	0	0	2	3
. Particle size of stream substrate	0	1	(2)	3
i, Active/relict floodplain	0	1	2	3
i. Depositional bars or benches	6	1	2	3
Recent alluvial deposits	0	0	2	3
3. Headcuts	(0)	1	2	3 .
). Grade control	(0)	0,5	1	1.5
IO. 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 6.5.			(2)	3
12. Presence of Baseflow	0	1		
13, Iron oxidizing bacteria	0	1,	2	3 0
14. Leaf litter	1.5	₫	0,5	
15. Sediment on plants or debris		0,5	1	1.5 1.5
16. Organic debris lines or piles	0	(0.5)	1 //00	(= 3'.)
17, Soil-based evidence of high water table?	N	0 = 0	168	(-0.)
C. Biology (Subtotal = 5.5)	aria,			1 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	11	1,5
	0	(0.5)	11	1.5
24. Amphibians		0,5	1	1.5
24. Amphiblans 25. Algae	(0)			
25. Algae 26. Wetland plants in streambed		FACW = 0.75; O	BL = 1,5 Other €	0)
25. Algae		FACW = 0.75; O	BL = 1,5 Other €	0)

Soils = Perennial USBS = Present

NC DWQ Stream Identification Form	Project/Site: Ve	ridea	Latitude: 35.	.694123
Evaluator: StEC-AJK JH + KM	County: WG		Longitude: ~~	18.859020
Total Points: Non-Score able Stream is at least intermittent Feature	Stream Determin	nation (circle one) mittent Perennial	Other C e,g. Quad Name:	
A. Geomorphology (Subtotal =)	Absent	Weak	Moderate	Strong
1 ⁿ 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 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	2	3
12. Presence of Baseflow	0			3
13. Iron oxidizing bacteria	0	1	2	0
14. Leaf litter	1.5	1	0.5	1.5
15, Sediment on plants or debris	. 0	0,5		1.5
16. Organic debris lines or piles	0	0.5	1	3 = 3
17. Soil-based evidence of high water table?	N'	0 = 0	168	
C. Biology (Subtotal =)		2	1	0
18. Fibrous roots in streambed	3	2	1	0
19. Rooted upland plants in streambed	3	1	2	3
20. Macrobenthos (note diversity and abundance)	0		2	3
21. Aquatic Mollusks	0	0.5	1	1.5
22. Fish	0	0,5	1	1.5
23. Crayfish		0.5	1	1.5
24. Amphibians	0	0.5	<u> </u>	1.5
25. Algae	1 0	FACW = 0.75; O		
26. Wetland plants in streambed	1 D : - Of -f		BL = 1.0 Other =	
*perennial streams may also be identified using other meth	lods, See p. 35 of manu	ai.		
Notes:				196
Sketch: Non - S	coreable	Featur	e	

Soils = Intermittent USGS = Not Present

Jm 12/18/2022

ate: 112122	Project/Site: Ve	eridea	Latitude:35	691656
	Project/Site: V	ake	Longitude: -7	8.862456
valuator: SHEC -ATK+ ku otal Points: tream is at least intermittent ≥ 19 or perennial if ≥ 30*	Stream Determin	nation (circle one) rmittent Perennial	Other C e.g. Quad Name:	
. Geomorphology (Subtotal = 5)	Absent	Weak	Moderate	Strong
a Continuity of channel bed and bank	0	(1)	2	3
Sinuosity of channel along thalweg	0	(1)	2	3
. In-channel structure: ex. riffle-pool, step-pool,			2	3
ripple-pool sequence	0	0		
. Particle size of stream substrate	(0)	1	2	3
. Active/relict floodplain	0	0	2	3
. Depositional bars or benches	(0)	1	2	3
. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	(5)	1	2	3
), Grade control	(0)	0.5	1	1.5
0. Natural valley	0	0.5	0	1.5
Second or greater order channel artificial ditches are not rated; see discussions in manual	No.	. (0)	Yes	= 3
3. Hydrology 3.5			2	3
12. Presence of Baseflow	0	1	2	
13. Iron oxidizing bacteria	(0)	1	2	(0)
14, Leaf litter	1.5	1	0.5	1.5
15. Sediment on plants or debris	0	(0.5)		
16. Organic debris lines or piles	(0)	0.5	1	1.5
17. Soll-based evidence of high water table?	N	0 = 0	1 68	(6.9)
C. Biology (Subtotal = 3.75)			75	
18. Fibrous roots in streambed	3	2	(1)	0
19. Rooted upland plants in streambed	3	(2)	1	
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks	(A)	1	2	
22. Fish	(0)	0,5	1	1.5
23. Crayfish	- Q	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	ঠে	0.5	1 81 - 15 Others	
		FACW (0.75) O	BL = 1.5 Other =	- 0
26, Wetland plants in streambed	ods. See p. 35 of many	ual.		
26. Wetland plants in streambed *perennial streams may also be identified using other meth	out and production			

Soils = Perennial US65 = Not Present

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

late: 112/22	Project/Site:	eridea	Latitude:35	688188
valuator: StEC - AJK + JH + KM	Project/Site: Va	ke	Longitude: - 7	8.874638
otal Points: Itream is at least intermittent ≥ 19 or perennial if ≥ 30°	Stream Determir	nation (circle one) mittent Perennial	Other E e.g. Quad Name:	
A. Geomorphology. (Subtotal ≃	Absent	Weak	Moderate	Strong
Continuity of channel bed and bank	0	1	2	3
. Sinuosity of channel along thalweg	0	1	②	3
. In-channel structure; ex. riffle-pool, step-pool,	- 1	(C)	2	3
ripple-pool sequence	0	(1)		
, Particle size of stream substrate	0	(1)	2	3
. Active/relict floodplain	0	(1)	2	. 3
. Depositional bars or benches	(9)	1	2	3
. Recent alluvial deposits	(0)	1	2	3
. Headcuts	(0)	1	2	3
, Grade control	(0)	0.5	1,	1.5
0, Natural valley	0	0.5	0	1.5
Second or greater order channel artificial ditches are not rated; see discussions in manual	No	(60)	Yes	= 3
3. Hydrology - O) 2. Presence of Baseflow	0	- 41	2	3
	(0)		9	2
3. Iron oxidizing bacteria	(0)	1 -	2	3
4. Leaf litter	1.5	1 - 1 - 1	0.5	(0)
4, Leaf litter 5. Sediment on plants or debris	1,5	0.5	0.5 1	(0) 1.5
4, Leaf litter 5. Sediment on plants or debris 6. Organic debris lines or plies	1.5 (0)	1 0.5 (0.5)	0.5 1 1	1.5 1.5
4. Leaf litter 5. Sediment on plants or debris 6. Organic debris lines or plies 7. Soil-based evidence of high water table?	1.5 (0)	0.5	0.5 1	1.5 1.5
4. Leaf litter 5. Sediment on plants or debris 6. Organic debris lines or plles 7. Soil-based evidence of high water table? C. Biology (Subtotal =3)	(0) 1,5 (0) 0 No	1 0.5 (0.5) 0 (0.5)	0,5 1 1 Yes	1.5 1.5 1.5
4. Leaf litter 5. Sediment on plants or debris 6. Organic debris lines or plles 7. Soll-based evidence of high water table? C. Biology (Subtotal =	(0) 1,5 (0) 0 No	1 0.5 (0.5) 0 (0.5)	0.5 1 1 Yes	1.5 1.5 = 3
4. Leaf litter 5. Sediment on plants or debris 6. Organic debris lines or plles 7. Soil-based evidence of high water table? C. Biology (Subtotal = 3) 8. Fibrous roots in streambed 9. Rooted upland plants in streambed	(0) 1,5 (0) 0 No	1 0.5 (0.5) 0 (0.5)	0.5 1 1 Yes	0 1.5 1.5 = 3
4. Leaf litter 5. Sediment on plants or debris 6. Organic debris lines or piles 7. Soil-based evidence of high water table? C. Biology (Subtotal =	(O) 1,5 (O) 0 No	1 0.5 (0.5) 0 (0.5)	0.5 1 1 Yes	0 1.5 1.5 = 3
4. Leaf litter 5. Sediment on plants or debris 6. Organic debris lines or piles 7. Soil-based evidence of high water table? C. Biology (Subtotal =	(O) 1.5 (O) (O) (O) (O) (O) (O)	1 0.5 (0.5) 0 (0.5) 2 (2) 1 1	0.5 1 1 Yes	(0) 1.5 1.5 = 3
4. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or plles 17. Soil-based evidence of high water table? C. Biology (Subtotal =	3 3 3 0 0	1 0.5 (0.5) 0 (0.5) 2 (2) 1 1 1 0.5	0.5 1 1 Yes (1) 1 2 2	(0) 1.5 1.5 = 3 0 0 0 3 3 1.5
4. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or plles 17. Soll-based evidence of high water table? C. Biology (Subtotal =	3 3 3 0 0	1 0.5 (0.5) 0 (0.5) 0 (0.5) 0 (0.5) 1 1 0.5 0.5	0.5 1 1 Yes (1) 1 2 2 1	0 1.5 1.5 = 3 0 0 0 3 3 1.5 1.5
4. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or plles 17. Soil-based evidence of high water table? C. Biology (Subtotal = 3) 18. Fibrous roots in streambed 19. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish 24. Amphibians	3 3 3 0 0 0 0	1 0.5 (0.5) 0 (0.5) 0 (0.5) 0 (0.5) 1 1 0.5 0.5 0.5	0.5 1 1 Yes (1) 1 2 2 1 1	0 1.5 1.5 = 3 0 0 0 3 3 1.5 1.5
4. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or plles 17. Soil-based evidence of high water table? 20. Biology (Subtotal = 3) 18. Fibrous roots in streambed 19. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish 24. Amphibians 25. Algae	3 3 3 0 0	1 0.5 (0.5) 0 (0.5) 0 (0.5) 0 (0.5) 1 1 0.5 0.5 0.5 0.5	0.5 1 1 Yes (1) 1 2 2 1 1 1	0 1.5 1.5 = 3 0 0 0 3 3 1.5 1.5 1.5
4. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or plles 17. Soil-based evidence of high water table? 20. Biology (Subtotal =	3 3 3 3 0 0 0	1 0.5 (0.5) 0 (0.5) 0 (0.5) 1 1 1 0.5 0.5 0.5 0.5 0.5 FACW = 0.75; Ob	0.5 1 1 Yes (1) 1 2 2 1 1 1	0 1.5 1.5 = 3 0 0 0 3 3 1.5 1.5 1.5
4. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or plles 17. Soil-based evidence of high water table? 20. Biology (Subtotal = 3) 18. Fibrous roots in streambed 19. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish 24. Amphibians 25. Algae	3 3 3 3 0 0 0	1 0.5 (0.5) 0 (0.5) 0 (0.5) 1 1 1 0.5 0.5 0.5 0.5 0.5 FACW = 0.75; Ob	0.5 1 1 Yes (1) 1 2 2 1 1 1	0 1.5 1.5 = 3 0 0 0 3 3 1.5 1.5 1.5

Soils = Intermittent VSBS = Not Present

WEST SFHD (FEATURE G.)

NC Division of Water Quality -- Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Project/Site: \	oridan	Latitude: 35.	6012574
Stream Determination (circle one)		Longitude: - 7	8.869561
		Other b e.g. Quad Name:	4
Absent	Weak	Moderate	Strong
			3
		A A A A A A A A A A A A A A A A A A A	3
0	1	2	3
0	1	2	3
0	1	2	3
0	1	2	3
0	1	2	3
0	1	2	3
0	0.5	1	1.5
0	0.5	1	1.5
No = 0		Yes = 3	
1 0 1	1	2	3
			3
		- community	0
			1.5
			1.5
1	1-0	100	
7 3 1	2	1	1 0
- CANADAN CONTRACTOR			0
and the second s			3
			3
	0,5	1	1.5
		1	1,5
0	the state of the s	1	1.5
		1	1.5
	FACW = 0.75; OF		-
s. See p. 35 of manua			
		A	11-
	County: WAKE Stream Determine Phemeral Inter- Absent	Stream Determination (circle one) Stream Determination (circle one) Stream Determination (circle one) Stream Determination (circle one) Determination (County: WAKE Longitude: -7

Soit = Intermittent USGS = Not Present

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5M

1/20/2023

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Project/Site: //	eridea	Latitude: 35.68	19827	
Stream Determination (circle one) Ephemeral Intermittent Perennial			Longitude: -78_869936	
		Other /-/ e.g. Quad Name:		
Absent	Weak	Moderate	Strong	
0	(1)	(2)	3	
0	0	(2)-5/1	3	
6	1		3	
	- VI		3	
			3	
(0)	1		3	
			3	
		the same of the sa	3	
(0)		- Allerton - Control	1.5	
O		1	1.5	
6	(1) JA	2	3	
0	0.3	2		
(0)	(1) JM	2	3	
1,5	(1) 3M	2 0,5	3 (0)	
(i) 1.5 (i) (ii)	(1) 3M (1) 3M (0.5)	2 0,5 1	3 (0) 1.5	
1.5 (0)	0,5	2 0,5 1	3 (0) 1.5 1.5	
1.5 (0)		2 0,5 1	3 (0) 1.5 1.5	
(0) 1.5 (0) (3) No	0.5	2 0,5 1 1 Yes €	3 (0) 1.5 1.5 3)	
(0) 1.5 (0) (1) (1) (1) (1)	0.5	2 0,5 1	3 (0) 1.5 1.5	
(0) 1.5 (0) (3) No	0.5	2 0,5 1 1 Yes (3 (0) 1.5 1.5 3)	
(0) 1.5 (0) (3) No	0,5 0 = 0	2 0,5 1 1 Yes €	3 (6) 1.5 1.5 3)	
(0) 1.5 (0) (3) No	0,5 0 = 0	2 0,5 1 1 Yes €	3 (0) 1.5 1.5 3) 0 0 0 3	
(0) 1.5 (0) (3) No	0.5 0 = 0	2 0,5 1 1 Yes €	3 (0) 1.5 1.5 3)	
(0) 1.5 (0) (3) No	0.5 0 = 0	2 0,5 1 1 Yes €	3 (0) 1.5 1.5 3) 0 0 0 3 3 1.5	
3 3 3 0 0 0 0 0 0 (0)	0.5 0 = 0 2 (2) 1 1 0.5 0.5 0.5	2 0,5 1 1 Yes €	3 (0) 1.5 1.5 3) 0 0 0 3 3 1.5 1.5	
(0) 1.5 (0) (3) No	0.5 0 = 0 2 (2) 1 1 0.5 0.5 0.5 0.5	2 0,5 1 1 Yes €	3 (0) 1.5 1.5 3) 0 0 0 3 3 1.5 1.5	
3 3 3 0 0 0 0 0 0 (0)	0.5 0 = 0 2 (2) 1 1 0.5 0.5 0.5 0.5 0.5 0.5	2 0,5 1 1 Yes €	3 (0) 1.5 1.5 3) 0 0 0 3 3 1.5 1.5	
	Absent 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Absent Weak 0	Stream Determination (circle one) Other	

Soils = Intermittent VSGS = Not Present

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Jate.	Project/Site: Ve	ridea	Latitude: 35, 6	89824
Evaluator: SHEC-AJK+JH+KM	Project/Site: Ve	ake	Longitude: - 7	89824 888594
Total Points: Stream is at least intermittent f≥ 19 or perennial if ≥ 30*	Stream Determin	ation (circle one) mittent Perennial	Other J e.g. Quad Name:	
A. Geomorphology (Subtotal = $\frac{6}{6}$)	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
In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	0	2	3
4. Particle size of stream substrate	0	0	2	3
5. Active/relict floodplain	0	0	2	3
5. 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	(6)	0.5	1,	1.5
10. Natural valley	0	0.5	0	1.5
11. Second or greater order channel artilicial ditches are not raled; see discussions in manual	No(= 0) Yes = 3			= 3
B, Hydrology 5)				
12. Presence of Baseflow	0	1	2	3
13, Iron oxidizing bacteria	(9)	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	(6)	1 1	2	3
OR FILE	(0)	0.5	1	1.5
22. Fish	(0)	0.5	1	1.5
23. Crayfish	1/3		1	1,5
23. Crayfish 24. Amphiblans	0	0.5	1	
23. Crayfish 24. Amphiblans 25. Algae	(B)	0.5	1	1.5
23. Crayfish 24. Amphiblans 25. Algae 26. Wetland plants in streambed	(9)	0,5 FACW = 0.75; OB	1	1.5
23. Crayfish 24. Amphiblans 25. Algae	(9)	0,5 FACW = 0.75; OB	1	1.5

Soils = Intermittent VSGS= Not Present

Date: 11/3/22	Project/Site:	eridea	Latitude: 35	695273	
Evaluator: 54EC-AJK	Project/Site: V	ike	Longitude: -7	8.862219	
Total Points: Siream is at least intermittent if ≥ 19 or perennial if ≥ 30*	Stream Determi Ephemera) Inte	nation (circle one) rmittent Perennial	Other e.g. Quad Name: K		
A. Geomorphology (Subtotal =	Absent	Weak	Moderate	Strong	
1ª Continuity of channel bed and bank	0		2	3	
2. Sinuosity of channel along thalweg	0	- 8	2	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),	7 1	2	3	
6, Depositional bars or benches	(0)	1	2	3	
7. Recent alluvial deposits	Q	0	2	3	
8, Headcuts	8	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 artilicial ditches are not rated; see discussions in manual	N.	•€0)	Yes = 3		
B. Hydrology Y)		SM.			
12. Presence of Baseflow	0	(1)	2	3	
13. Iron oxidizing bacteria	(0)	1	200	3	
14. Leaf litter	1,5	1	- 050m	0	
15, Sediment on plants or debris	0	0,5	(1)011	1,5	
16. Organic debris lines or piles	0	(0,3)	٦	1,5	
17. Soil-based evidence of high water table?	N	o = 0	Yes	(3)	
C. Biology (Subtotal =)					
18, Fibrous roots in streambed	3	(2)	1	0	
19. Rooted upland plants in streambed	3	2	0	0	
20. Macrobenthos (note diversity and abundance)	(d)	1	2	3	
21. Aquatic Mollusks	(9)	1	2	3	
22, Fish	('Q')	0,5	1	1,5	
23. Crayfish	(a)	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; OF	3L = 1,5 Other = 0	3 }	
'perennial streams may also be identified using other met	nods. See p. 35 of manu	al,			
Notes:					
Sketch:	(33)40)				

Soils = Intermittent

Date: 11 3 22	Project/Site: V	eridea	Latitude: 35	694757	
Evaluator: SJEC - AJK	Project/Site: Va	ke	Longitude: -78,862695		
Total Points: Stream is at least intermittent 1 > 19 or perennial if > 30*	Stream Determin	ation (circle one) mittent Perennial	Other K		
0.0000000000000000000000000000000000000	Absent	Weak	Moderate	Strong	
A. Geomorphology (Subtotal =() 1ª Continuity of channel bed and bank	0	1	2	(3)	
2. Sinuosity of channel along thalweg	0	1	2	(3)	
In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1 -	(1)	3	
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	(D)	1.5	
11. Second or greater order channel *artificial ditches are not rated; see discussions in manual	No = (0) Yes = 3				
B. Hydrology 4.5)	(3)	1	2	3	
12, Presence of Baseflow	The state of the s		2	3	
13. Iron oxidizing bacteria	(9)	1	(0.5)	0	
14. Leaf litter	1,5	0.5	1	1.5	
15. Sediment on plants or debris	0	(0.5)	1	1.5	
16. Organic debris lines or piles		0 = 0	and the same of th	€3)	
17 Soil-based evidence of high water table?	100	3-0			
C. Biology (Subtotal = 4		(2)	1	1 0	
18. Fibrous roots in streambed	3	(2)	1	0	
19. Rooted upland plants in streambed	0	4	2	3	
20. Macrobenthos (note diversity and abundance)	6	1	2	3	
21. Aquatic Mollusks	8	0.5	1	1.5	
22. Fish	6	0,5	1	15	
23. Crayfish	8	0.5	1	1.5	
		0.5	1	1.5	
24 Amphibians				The state of the s	
25, Algae	D	EACM = 0.75 C)BI = 1.5 Other =	IU I	
25. Algae 26. Wetland plants in streambed		FACW = 0.75; C	OBL = 1,5 Other =	(6)	
25, Algae			OBL = 1,5 Other =		

Soils = Intermittent, US65= Not Present

Date: 11 3/22	Project/Site:	eridea	Latitude:35,	694807
Evaluator: SAEC-AJK	Project/Site: \(\int \)	ake	Longitude: -78, 86309	
Total Points: Stream is at least intermittent f≥ 19 or perennial If ≥ 30°	Stream Determin	nation (circle one) mittent Perennial	Other C	<u> </u>
A. Geomorphology (Subtotal = 7)	Absent	Weak	Moderate	Strong
1° Continuity of channel bed and bank	0	1	0	3
2. Sinuosity of channel along thalweg	0	(D)	2	3
3 In-channel structure: ex. riffle-pool, step-pool,	0	1	②	3
ripple-pool sequence	0			
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
Recent alluvial deposits	(0)	1	2	3
B. Headculs	(0)	1	2	3
9 Grade control	0	(0.5)	1	1,5
10, Natural valley	0	(0.5)	1	15
11. Second or greater order channel artificial ditches are not rated; see discussions in manual	No	(6)	Yes	= 3
5 · · · · · · · · · · · · · · · · · · ·				
B. Hydrology O) 12. Presence of Baseflow	0	1	2	3
12. Presence of Baseflow 13. Iron oxidizing bacteria	6)	1	2	3
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter	1.5	1	2 0 5	3
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris	(Q)	1 1 0,5	2 0 5 1	3 (6) 1.5
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles	(a) 1.5 (b)	1 1 0,5 0.5	2 05 1	3 (0) 1.5 1.5
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table?	(a) 1.5 (b)	1 1 0,5	2 05 1	3 (6) 1.5
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? C. Biology (Subtotal = 3	(a) 1.5 (b) (c) No	1 0.5 0.5 0.5	2 05 1 1 , Yes	3 (6) 1.5 1.5 = 3
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? C. Biology (Subtotal = 3) 18. Fibrous roots in streambed	(a) 1.5 (b) (c) No	1 0,5 0,5 0,5 0,5	2 05 1 1 , Yes	3 (6) 1.5 1.5 = 3
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? C. Biology (Subtotal =, \brace) 18. Fibrous roots in streambed 19. Rooted upland plants in streambed	(a) 1.5 (b) (c) No	1 0,5 0,5 0,5 0.5 0.5	2 05 1 1 , Yes	3 (6) 1.5 1.5 1.5 = 3
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? C. Biology (Subtotal =	(a) 1.5 (b) (c) No	1 0,5 0,5 0,5 0.5 0.5 0.2 2 1	2 05 1 1, Yes	3 (6) 1.5 1.5 1.5 = 3
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? C. Biology (Subtotal =, \brace) 18. Fibrous roots in streambed 19. Rooted upland plants in streambed	3 3 0 0 0	1 0,5 0,5 0,5 0.5 0.5	2 05 1 1, Yes	3 (6) 1.5 1.5 = 3
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? C. Biology (Subtotal =	(A) 1.5 (D)	1 0,5 0,5 0,5 0.5 0.5 0.2 2 1	2 05 1 1, Yes	3 (6) 1.5 1.5 = 3 0 0 0 3 3 1.5
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? 18. Fibrous roots in streambed 19. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish	3 3 3 0 0 0 0	1 0.5 0.5 0.5 0.5 2 1 1	2 05 1 1, Yes	3 (6) 1.5 1.5 = 3 0 0 0 3 3 1.5 1.5
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? 18. Fibrous roots in streambed 19. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish	3 3 3 0 0 0 0	1 0,5 0,5 0,5 0,5 0,5 0,5 0,5 0,5 0,5	2 05 1 1, Yes	3 (6) 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? 18. Fibrous roots in streambed 19. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish	(A) 1.5 (D)	1 0,5 0,5 0.5 0.5 2 2 1 1 0,5 0.5 0.5	2 05 1 1, Yes	3 (6) 1.5 1.5 1.5 0 0 3 3 1.5 1.5 1.5 1.5
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? 18. Fibrous roots in streambed 19. Rooted upland plants in streambed 19. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish 24. Amphibians	3 3 3 0 0 0 0	1 0.5 0.5 0.5 0.5 2 2 1 1 0.5 0.5 0.5	2 05 1 1, Yes	3 (6) 1.5 1.5 1.5 0 0 3 3 1.5 1.5 1.5 1.5
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? 18. Fibrous roots in streambed 19. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish 24. Amphibians 25. Algae	(a) 1.5 (b) (c) (d) (d) (d) (d) (d) (d) (d) (d) (d)	1 0.5 0.5 0.5 0.5 2 1 1 0.5 0.5 0.5 0.5 0.5	2 05 1 1, Yes	3 (6) 1.5 1.5 1.5 0 0 3 3 1.5 1.5 1.5 1.5

Soils = Intermittent USUS = Not Present

5m 1/20/2023

West

SF3 NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

late: 11/3/2/022	Project/Site:	rides-	Latitude: 35	694541
valuator: $5 + EC - ATK$	county: W	reridea-	Longitude:_7	8,863 163
otal Points: Itream is at least intermittent ≥ 19 or perennial if ≥ 30'	Stream Determin	nation (circle one) rmittent Perennial	Other e g Quad Name:	K
Commerphology (Subtotal - 5	Absent	Weak	Moderate	Strong
A. Geomorphology (Subtotal = 5) B. Continuity of channel bed and bank	0	(1)	2	3
. Sinuosity of channel along thalweg	0	0	2	3
. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	0	2	3
Particle size of stream substrate	0	0	2	3
. Active/relict floodplain	(0)	12 - 13	2	3
, Depositional bars or benches	6	1	2	3
Recent alluvial deposits	(0)	1	2	3
. Headcuts	(8)	1 1	2	3
. Grade control	(0)	0.5	1	1,5
Natural valley	0	0.5	①	1.5
Second or greater order channel	N	0 70)	Yes	= 3
artificial ditches are not rated; see discussions in manual		44		
3. Hydrology 🔰)		QMI		1 0
2 Presence of Baseflow	(0)	0	2	3
13 Iron oxidizing bacteria	6	1 1	2	3
14 Leaf litter	1.5	1	0.5 M	0
15 Sediment on plants or debris	(6)	0.5	(1)	1.5
16. Organic debris lines or piles	(0)	0,5	7	1.5
17 Soil-based evidence of high water table?	N	0 = 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)	(9)	1	2	3
21. Aquatic Mollusks	(0)	1	2	3
22. Fish	(6)	0.5	1	1.5
23. Crayfish	(9)	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; C	BL = 1,5 Other	<i>(</i> 0)
20, Victoria planta in occamora	hods. See p 35 of man	ual		
*perennial streams may also be identified using other met Notes:				

Soils = Intermittent US65 = Not Present

Project/Site: √√	eridea	Latitude: 35, 6	94109
County: Wa	ike	ion (circle one) Other R	
Stream Determin Ephemeral (Inter	ation (circle one) mittent Perennial		
Absent	Weak	Moderate	Strong
0	1	2	
0	1	2	(a)
, 0	1	2	3
0	4	(2)	3
(0)	1	2	3
0		2	3
0	0	2	3
(0)	1	2	3
0	0.5	(I)	1.5
0	0.5	(1)	1,5
No	(0)	Yes :	= 3
6	1	2	3
	1		3
and the second s			0
			1,5
	341		1.5
The state of the s			
	,		
3	(2)	1	.0
A Company of the Comp	9		0
(6)	7		3
1 %			3
(6)			15
(6)	0,5	1	1.5
	U, u		
- X-		1	1.5
9	0,5	1 1	1,5
9	0,5 0,5	1	1,5
ds, See p. 35 of manua	0,5 0,5 FACW = 0,75; OE	1	1,5
	Stream Determin Ephemeral (Inter Absent 0 0 0 0 0 0 0 0 0 0 0 No No	0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 0 1 0 0 0 0 0	Stream Determination (circle one) Ephemeral (Intermittent Perennial

Soils = Intermittent VS65=Not Present

Date: 11 2 22	Project/Site: V	eridea	ridea Latitude:35.694		
Date: 11/2/22 Evaluator: SHEC-AJK+KM	Project/Site: N	ike	Longitude: -78.86/676		
Fotal Points: Stream is at least intermittent f ≥ 19 or perennial if ≥ 30°	Stream Determination (circle one) Other L_ Ephemeral Intermittent Perennial e.g. Quad Name:				
A, Geomorphology (Subtotal = 5)	Absent	Weak	Moderate	Strong	
Continuity of channel bed and bank	0	0	2	3	
2. Sinuosity of channel along thalweg	0	(D)	2	3	
In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3	
Particle size of stream substrate	0	(1)	2	3	
5, Active/relict floodplain	0	(1)	2	3	
3. Depositional bars or benches	0	1	2	3	
7. Recent alluvial deposits	(0)	1	2	3	
B. Headcuts	(0)	1	2	3	
9, Grade control	0	0.5	1	1.5	
10. Natural valley	0	0.5	0	1.5	
11. Second or greater order channel	No	£0)	Yes = 3		
B. Hydrology) 12. Presence of Baseflow	(0)	1 1	2	3	
13. Iron oxidizing bacteria	(6)	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?	Control of the Contro	0=0	Yes	The second second second second second	
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)	(δ)	1	2	3	
21. Aquatic Mollusks	(6)	1	2	3	
22. Fish		0,5	1	1,5	
23. Crayfish	(A)	0.5	1	1,5	
24. Amphibians	(6)	0.5	1	1.5	
25. Algae	(6)	0,5	1	1.5	
26, Wetland plants in streambed		FACW = 0.75; OF	3L = 1.5 Other(=	(0)	
*perennial streams may also be identified using other method	ods. See p. 35 of manua				
Notes:					
Sketch:					

Soils = Intermittent US65 = Not Present

sm 12/15/2022

Pate: 11/2/22	Project/Site: (Meridea	Latitude: 35	780631
ivaluator: Stec - JH	County: W	Meridea Take	Latitude: 35	8.860357
otal Points: tream is at least intermittent ≥ 19 or perennial if ≥ 30°	Stream Determination (circle one)		Other AA e.g. Quad Name:	
A. Geomorphology (Subtotal = 7.5)	Absent	Weak	Moderate	Strong
a. Continuity of channel bed and bank	0	1	(2)	3
. Sinuosity of channel along thalweg	0	1	(2)	3
. In-channel structure: ex. riffle-pool, step-pool,	0	0	2	3
ripple-pool sequence				
. Particle size of stream substrate	0	0	2	3
. Active/relict floodplain	0	1	. 2	3
. Depositional bars or benches	0	0	2,	.3.
. Recent alluvial deposits	(0)	1 - 1 -	2	3
, Headcuts	Q	1	2	3
. Grade control	6	0,5	1	1.5
0. Natural valley	0	(0.5)	1	1.5
Second or greater order channel	(No	0=0)	Yes	= 3
artificial ditches are not rated; see discussions in manual				
3. Hydrology (Subtotal = O)				·
2. Presence of Baseflow	0	1	2	3
3. Iron oxidizing bacteria	(0)	1	2	3
14. Leaf litter	1,5	1	0.5	(0)
15. Sediment on plants or debris		0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soll-based evidence of high water table?		(=0)	Yes	= 3
C. Biology (Subtotal = (C)				
18. Flbrous roots in streambed	(3)	2	1	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	76	1	.2	3
21. Aquatic Mollusks		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	(6)	0.5	1	1.5
26. Wetland plants in streambed		FACW = 0.75; OF	BL = 1.5 Other =	0)
*perennial streams may also be identified using other meth	iods. See p. 35 of manu	al,		
Notes:	and the latest the same of the			
1000				
Court I				
Sketch:				

Soils = Perennial USBS = Present

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Date: VI (82/2002	Project/Site: V	ender	Latitude: 35	698832	
Evaluator: J H	Project/Site: V	Le	Longitude: - 78 8618		
Total Points: Stream is at least intermittent f ≥ 19 or perennial if ≥ 30°	Stream Determin	nation (circle one) mittent Perennial	Other O e.g. Quad Name:		
A. Geomorphology (Subtotal = 7.5)	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	(6)	1	2	3	
4. Particle size of stream substrate	0	(4)	2	3	
5. Active/relict floodplain	(0)	Y	2	3	
6. Depositional bars or benches	õ	0	2	3	
7. Recent alluvial deposits	(0)	"1	2	3	
8. Headcuts	(6)	11	2	3	
9. Grade control	6	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	M	≥0	Yes = 3		
B, Hydrology 5) 12. Presence of Baseflow	0	0	2	3	
13. Iron oxidizing bacteria	6	1	2	3	
14. Leaf litter	1,5	<u> </u>	05	0	
15. Sediment on plants or debris	(9)	0,5	1	1.5	
16. Organic debris lines or piles		(0.5)	1 1	1.5	
17. Soll-based evidence of high water table?	No	o = 0	Yes	=37	
C. Biology (Subtotal = 10.5)				1	
18. Fibrous roots in streambed	1 3	2	1	0	
19. Rooted upland plants in streambed	(3)	2	1,571	0	
20. Macrobenthos (note diversity and abundance)	0	1	2	3	
21. Aquatic Mollusks	6	1	2	3	
22. Fish	- 6	0.5	1	1.5	
23, Crayfish	6	0,5	1	1.5	
24. Amphibians	Ъ	(0.5)	1	1.5	
25. Algae	10	0.5	.1	1,5	
26. Wetland plants in streambed		FACW = 0.75; OI		0	
*perennial streams may also be identified using other meth	ods. See p. 35 of manu	A STATE OF THE PARTY OF THE PAR			
Notes:					
	lous, dee p. oo of manu	an			

Soils Perennial USBS = Present

West SKIZ

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Date: 11,12/2127	Project/Site:	repoler	Latitude: 35,	693448
Evaluator: TH	County: West	4	Longitude: -73.862	
Total Points: Stream is at least intermittent If ≥ 19 or perennial if ≥ 30*	Stream Determin	nation (circle one) mittent Perennial	Other Oe,g. Quad Name:	
A. Geomorphology (Subtotal ⊭)	Absent	Weak	Moderate	Strong
1º Continuity of channel bed and bank	0	(C)	2	3
2. Sinuosity of channel along thalweg	0	8	2	3
3. In-channel structure: ex. riffle-pool, step-pool,	8			
ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	(6)	1	2.	3
5. Active/relict floodplain	0	0	2	3
6. Depositional bars or benches	(0)	1 1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts		1	.2	3
9. Grade control	G .	0.5	1	1.5
10. Natural valley	. 0	0,5	0	1.5
11, Second or greater order channel	(No = 0)		Yes = 3	
arillicial ditches are no rated; see discussions in manual B. Hydrology	101			
12. Presence of Baseflow		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	Ø	0.5	1	1,5
16. Organic debris lines or piles	0	(0.5)	1	1.5
17. Soll-based evidence of high water table?	No	≡ 0	(Yes	= 3
C. Biology (Subtotal ≠)		-		
18. Fibrous roots in streambed }	3	(2)	1	0
	3	(2)	1	. 0
19. Rooted upland plants in streambed			2	3
20. Macrobenthos (note diversity and abundance)	p	1		
20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks	0	1 1	2	3
20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish	0	1 0,5	2	3 1.5
20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish	0 0	1 0.5 0.5	2 1 1	3 1.5 1.5
20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish 24. Amphibians	0 0 0	1 0.5 0.5 0.5	1 1	3 1.5 1.5 1.5
20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish 24. Amphibians 25. Algae	0 0	1 0.5 0.5 0.5 0.5	2 1 1 1 1 1 1 1 1 1	3 1.5 1.5 1.5 1.5
20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish 24. Amphibians 25. Algae 26. Wetland plants in streambed	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0.5 0.5 0.5 0.5 0.6 FACW = 0.75; OB	2 1 1 1 1 1 1 1 1 1	3 1.5 1.5 1.5 1.5
20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0.5 0.5 0.5 0.5 0.6 FACW = 0.75; OB	2 1 1 1 1 1 1 1 1 1	3 1.5 1.5 1.5 1.5

Soils : Perennial US65= Present

West 579 10

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

n Determina	weak 1 1 1 1 1 1 0.5 0.5	Longitude: Other Oe.g., Quad Name: Moderate 2 2 2 2 2 2 2 1 1 Yes	Strong 3 3 3 3 3 3 3 1.5 1.5
Determination of the control of the	Weak 1 1 1 1 1 1 1 0.5 0.5	Moderate 2 2 2 2 2 2 2 1	Strong 3 3 3 3 3 3 3 1.5 1.5
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 1 1 1 0.5	2 2 2 2 2 2 2 2 2	3 3 3 3 3 3 3 3 1.5 1.5
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 1 1 1 0.5	2 2 2 2 2 2 2 2	3 3 3 3 3 3 3 1.5 1.5
	1 1 1 1 1 0.5	2 2 2 2 2 2 2 2	3 3 3 3 3 3 1.5 1.5
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 1 0.5	2 2 2 2 2 2 2 2	3 3 3 3 3 1.5 1.5
	1 1 1 1 0.5	2 2 2 2 1	3 3 3 3 1.5 1.5
	1 1 0.5 0.5	2 2 1	3 3 3 1.5 1.5
	1 1 0.5 0.5	2 1	3 3 1.5 1.5
O (No	0.5	2	3 1.5 1.5
O (No	0,5	1	1.5 1.5
O (No	0.5	1	1.5
O (No	0,5	THE REAL PROPERTY OF	
	26	Yes	= 3
(i)			
6			
	1	2	3
(0)	1	2/	3
1.5	1	(05)	1.5
6	0.5	1	AND DESCRIPTION OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUM
0	05	1	1.5
No	= 0	Yes	53
3	(2)	1	. 0
20	2		0
Q.	1	2	3
•	1		3
:0	0.5		1,5
q	0,5		1.5
d.	0.5		1.5
01	The second secon	The second secon	1.5
		BL = 1.5 Other =	ره
35 of manua	١.		
	1.5 0 No	1.5 1 0 0.5 0 0.5 0 No = 0 3 2 2 9 1 9 1 9 0.5 0 0.5 0 0.5 0 0.5 0 0.5	3

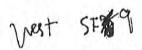
Soils = Perennial
US65 = Present um 12/15/2022

West SFII

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Date: 11/02/2020	Project/Site;	ierden	Latitude: 35	.6977.74	
Evaluator: JH	Project/Site; O	m	Latitude: 35.6977) Longitude: - 77.863		
Total Points: Stream is at least intermittent if ≥ 19 or perennial if ≥ 30*	Stream Determin	nation (circle one) mittent Perennial	Other O 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		3	
3. In-channel structure: ex. riffle-pool, step-pool,			0		
ripple-pool sequence	. 0	0	2	3	
4. Particle size of stream substrate	0	1	0	3	
5. Active/relict floodplain	(0)	1	2	3	
3. Depositional bars or benches	8		2	3	
7. Recent alluvial deposits	0	8	2	3	
8. Headcuts	0	1	2	3	
9. Grade control	(6)	0,5	1	1.5	
10. Natural valley	0	0.5	0	1.5	
11. Second or greater order channel		=8	Yes		
3. Hydrology t) 12. Presence of Baseflow	101	1 1	2	3	
13. Iron oxidizing bacteria	6		2	3	
14. Leaf litter	1.5	1	©	0	
5. Sediment on plants or debris	0	0.5	1	1.5	
6. Organic debris lines or piles	(0)		1		
17. Soll-based evidence of high water table?		0,5	Yes	1.5	
The state of the s		-0	(100)	9	
C. Biology (Subtotal =) 18. Fibrous roots in streambed	1 6	2 1		· ·	
19. Rooted upland plants in streambed	(3)	2	1	0	
	19	2	1	0	
20, Macrobenthos (note diversity and abundance) 21, Aquatic Mollusks	The second second	1	2	3	
ANY TENNESSEE STATE OF THE STAT		1	2	3	
22. Fish 23. Crayfish	9	0.5	1	1.5	
	1	0.5	1	1.5	
Management of the second of th	.0	0.5	1	1,5	
24. Amphiblans					
24. Amphiblans 25. Algae	b	0.5		1.5	
24. Amphiblans 25. Algae 26. Wetland plants in streambed	b l	FACW = 0.75; OB			
24. Amphiblans 25. Algae 26. Wetland plants in streambed *perennial streams may also be identified using other metho Notes:	ds. See p, 35 of manual	FACW = 0.75; OB			

Soik Perennial US65 = Present



Date: 11/02/2020	Project/Site:	ty: Caronac Li		69707	
Evaluator: JH - SEEC	County:	mae	Latitude: 35. 69707 Longitude: 77. 8653		
Total Points: Streem is at least intermittent If ≥ 19 or perennial if ≥ 30°	Stream Determ	ination (circle one) ermittent Perennial	Other O e.g. Quad Name:	La car	
A. Geomorphology (Subtotal = 5)	Absent	Weak	Moderate	Strong	
1ª Continuity of channel bed and bank	0	1	67	3	
2. Sinuosity of channel along thalweg	0	1	CV.	3	
In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3	
Particle size of stream substrate	8	1.5m	2	3	
5. Active/relict floodplain	(0)	(1)-3	2	3	
6. Depositional bars or benches	9	1-1	2	3	
7. Recent alluvial deposits	0	1	2	3	
8. Headcuts	0	1	2	3	
9. Grade control	Ö	0.5	1.	1,5	
10. Natural valley	0	0,5	(1)	1.5	
11. Second or greater order channel	(N	(6=0)	Yes =	3	
B. Hydrology 3-5) 12. Presence of Baseflow	0	1	2 2 M	(3)37	
13. Iron oxidizing bacteria			(0.5)	Ö	
14. Leaf litter	1.5	5/0.5	1	1.5	
15. Sediment on plants or debris	Ø	The state of the s	1	_ 1.5	
16. Organic debris lines or piles	0	10 = 0 (0'8)	Yes =		
17. Soll-based evidence of high water table?		10-0	Cito	<u> </u>	
C. Biology (Subtotal =)	i 2	(A)	1 1	0	
18. Fibrous roots in streambed	3	(2)	1	0	
19. Rooted upland plants in streambed	0	1	2	3	
20. Macrobenthos (note diversity and abundance)	- 1	1	2	3	
21. Aquatic Mollusks	— 	0.5	1	1.5	
22. Fish		0.5		1.5	
02 Crayfigh	7	0,5	1	1.5	
23. Crayfish		U,U	The second secon		
24. Amphibians		0.5	1	1.5	
24. Amphibians 25. Algae	ď	0.5	1 Bl = 15 Other = 0	1,5	
24. Amphibians 25. Algae 26. Wetland plants in streambed	d d	FACW = 0.75; O	1 BL = 1.5 Other = 0		
24. Amphibians 25. Algae	hads. See p. 35 of man	FACW = 0.75; O			

Soit = Perennial USGS = Present Evert SF8

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Pate: 11 02 2022	Project/Site:	neder	Latitude: 35	697098
ivaluator: Jy Stec	County: Vest 1	n Wake	Longitude:	6.965711
Total Points: Stream is at least intermittent ≥ 19 or perennial if ≥ 30*	Stream Determination (circle one) Ephemeral Intermittent Perennial		Other O e,g, Quad Name:	
A. Geomorphology (Subtotal =)	Absent	Weak	Moderate	Strong
Continuity of channel bed and bank	0	1	(2)	3
. Sinuosity of channel along thalweg	0	1	(2)	3
. In-channel structure: ex. riffle-pool, step-pool,			2	3
ripple-pool sequence	0	0		- 3
, Particle size of stream substrate	0	1	(2)	3
. Active/relict floodplain	(9)	1	2	3
Depositional bars or benches	Ō	(1)	2	3
. Recent alluvial deposits	0	3	2	3
. Headcuts	0	(1)	2	3
. Grade control	9	0.5	.1.	1.5
0, Natural valley	0	0.5	3	1.5
Second or greater order channel artificial ditches are not rated; see discussions in manual			Yes	= 3
Presence of Baseflow Iron oxidizing bacteria	0	<u> </u>	2 2	3
4. Leaf litter	1.5	1	0,5	9
5. Sediment on plants or debris		0.5	1	1.5
6. Organic debris lines or piles	- C	(0.5)	1	1.5
7. Soil-based evidence of high water table?	The state of the s	= 0	(Yes	
A Light Control of the Control of th				
C. Biólogy (Subtotal =) 8. Fibrous roots in streambed	(3)	2	1	1 0
Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	1 19	1	2	3
The state of the s		1	2	3
21. Aquatic Molluska		0.5	1	1,5
22, Fish	- \	0.5	1	1.5
23. Crayfish	- 3	0.5	1	1.5
24. Amphibians	- 9	0.5		1.5
25. Algae	- 0	FACW = 0.75; OF		
26. Wetland plants in streambed	anda Cana 25 of manua		SE-1,5 Offici-	
*perennial streams may also be identified using other met	lous, see p. 35 of manua	1.		
Notes:	1001			
Sketch:				

Soils = Perennial USBS = Present

m 12/19/2022

WEST SF37

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Project/Site: Ve	ridea	Latitude: 35	696 302
		Longitude:	
Stream Determin	ation (circle one)	cle one) Other Perennial e.g. Quad Name:	
Absent	Weak	Moderate	Strong
			3
			3
0	1	2	3
0	(1)	2	3
(0)	1	2	3
(0)	1	2	3
(,0,1	1	2	3
(0)	1	2	3
(0)	0,5	1	1.5
0	(0.5)	1	1.5
(No	The same of the sa	Yes	= 3
	4	2	3
			3
		The second secon	0
		THE PARTY NAMED IN COLUMN TWO IS NOT THE PARTY NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED	1,5
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Civo) = U;	168	- 3
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		Contract	0
			0
			3
The second secon			3
			1.5
			1.5
			1.5
(0)			1.5
		BL = 1.5 Other	0)
ls. See p. 35 of manua	il.		
	Stream Determine Political Inter	0 (1) 0 (1)	Stream Determination (circle one) Other Pennial Pe

Soils = Intermittent US65= Not Present

west SF7

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Date: Up 2 Dag	Project/Site:	ver.de	Latitude: 35.	699659
Evaluator: 539	Project/Site:	w	Latitude: \$5.0	7-8.86w2
Total Points: Stream is at least intermittent If ≥ 19 or perennial if ≥ 30*	Stream Determi	nation (circle one) rmittent Perennial	Other Q e.g. Quad Name:	
A Goographology (Subtotal -	Absent	Weak	Moderate	Strong
A. Geomorphology (Subtotal =)) 1 ^e Continuity of channel bed and bank	O	1	(3)	3
2. Sinuosity of channel along thalwag	0	1	(2)	3
3, In-channel structure: ex. riffle-pool, step-pool,				
ripple-pool sequence	(6)	1	2	3
4. Particle size of stream substrate	0	(i)	2	3
5. Active/relict floodplain	(A)	1	2	3
6. Depositional bars or benches	-	1	2	3
7. Recent alluvial deposits	(0)	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	(6)	0.5	1	1.5
10. Natural valley	0	0.5	0	1.5
11. Second or greater order channel	No	5≥0	Yes =	3
artilicial dilches are not rated; see discussions in manual B. Hydrology 5)		Om	N.	
12, Presence of Baseflow	6	1)	2	3
13. Iron oxidizing bacterla	is	1	2	3
14. Leaf litter	1.5	(1)	05-XV1	0
15. Sediment on plants or debris	0	0.5	(7)	1.5
16. Organic debris lines or piles	0	6.5	1	1.5
17. Soil-based evidence of high water table?	Annual Control of the	0 = 0	Hes=	The second secon
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)	D	V	2	3
21. Aquatic Mollusks	6	1	2	3
22. Fish	6	0.5	1	1.5
23. Crayfish	- 6	0.5		1.5
24. Amphibians		0.5	1	1,5
	1 1	0.5	1	1.5
25. Algae	1		BL = 1.5 Other = 0	
26, Wetland plants in streambed	de Pas a DE el munio		BL - 1.5 Other - 0	
*perennial streams may also be identified using other metho	as, see p. 35 of manu	al.		
Notes:				
Sketch:				

Soils = Intermittent US65 = Not Present

NC DWQ Stream Identification Form	Project/Site:	rerides	Latitude:35	701121
Evaluator: StEL - TH	Project/Site: V	ake	Longitude: 7	8.856460
Total Points: Stream is at least intermittent If ≥ 19 or perennial if ≥ 30*	Stream Determi	nation (circle one) rmittent Perennial	Other Re.g. Quad Name:	
A. Geomorphology (Subtotal = H	Absent	Weak	Moderate	Strong
1ª Continuity of channel bed and bank	0	0	2	3
2. Sinuosity of channel along thalweg	0	(1)	2	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	8	1	2	3
8. Headcuts	6	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	(8:5)	(1)	1.5
11. Second or greater order channel	N	0=0	Yes	= 3
artificial ditches are not rated; see discussions in manual				
B. Hydrology (Subtotal = 2)				1 2
12. Presence of Baseflow	6	1	2	3
13. Iron oxidizing bacteria	(0)	1	2	3
14, Leaf litter	1.5	0	0,5	0 .
15. Sediment on plants or debris	0	(0,5)	1	1.5
16. Organic debris lines or plles	0	(0.5)	1	1.5
17. Soil-based evidence of high water table?	(N	0 = 0	Yes	= 3
C. Biology (Subtotal = 3)				1 0
18. Flbrous roots in streambed	3	(2)	1	0
19, Rooted upland plants in streambed	3	2	0	0
20. Macrobenthos (note diversity and abundance)	0	1	2	3
21. Aquatic Mollusks		1	2	1.5
22, Fish	6	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		
26. Wetland plants in streambed		The second secon	BL = 1.5 Other	9)
*perennial streams may also be identified using other met	hods. See p. 35 of man	Jal.		
Notes:				
Sketch:	i les institutions			

Soils = Intermittent USGS = Not Present

Date: 11/2/22	Project/Site: V	reridea	Latitude: 35	702162
Evaluator: StEC - JH	Project/Site: V	rake	Longitude: ~-	
Total Points: Stream is at least Intermittent 1≥ 19 or perennial if ≥ 30°	Stream Determin	nation (circle one) mittent Perennial	Other Re.g. Quad Name;	
A. Geomorphology (Subtotal = 10)	Absent	Weak	Moderate	Strong
1. Continuity of channel bed and bank	0	1	2	(3)
2. Sinuosity of channel along thalweg	0		(2)	3
3. In-channel structure: ex. riffle-pool, step-pool,				
ripple-pool sequence	0	①	2	3
Particle size of stream substrate	0	0	2	3
5. Active/relict floodplain	(6)	1	2	3
5. Depositional bars or benches	0	1993	(2)	3
7. Recent alluvial deposits	(0)	1	2	3
3, Headcuts	0	1	2	3
9. Grade control	(0)	0.5	1	1.5
10. Natural valley	0	0.5	0	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)				
12. Presence of Baseflow	(6)	1	2	3
The same of the sa	8	1	2	3
13. Iron oxidizing bacteria		0	0.5	0
14. Leaf litter	1.5	(0.5)		1.5
15. Sediment on plants or debris	0	-	1	1.5
Organic debris lines or piles Soil-based evidence of high water table?	0	(0.5)	Yes	
	I NO	1	I Es	- 3)
C. Biology (Subtotal = 6.75)	1 60 1			_
18. Fibrous roots in streambed	(3)	2	11	0
19. Rooted upland plants in streambed	(3)	2	1	0
20. Macrobenthos (note diversity and abundance)	@	1	2	3
21. Aquatic Mollusks		1 -	2	3
22, Flsh	(2)	0.5	1	1,5
23. Crayfish		0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25, Algae	0	0.5	1	1.5
		ACW = 0.75, OB	L = 1.5 Other = 0)
26. Welland plants in streambed				
26. Wetland plants in streambed *perennial streams may also be identified using other method Notes:	is, See p. 35 of manua			

Soils = Intermittent

Project/Site: V	'eridea	Latitude: 35.	701807
County: Wo	ike		8.85555
Stream Determin	ation (circle one)	Other S e.g. Quad Name:	
Absent	Weak	Moderate	Strong
0	(1)	2	3
(0)	1	2	3
	4	9	3
(6)	1		3
(D)	1	2	3
(0)	1	2	3
(0)	1	2	3
0	(1)	2	3
(0)	0,5	1	1.5
0	(0.5)	1	1.5
No	=0)	Yes	= 3
(0)	1	2	3
1 53			3
			(0)
			1.5
1 8			1.5
	The second secon		
1100	1	(63	3/
	6		0
	- 32		
			0
CO			3
(0)	1	2	3
			1.5
Ø	0.5	1	The second secon
8	0.5	1	1.5
0	0.5 0.5	1	1.5 1.5
0	0.5 0.5 0.5_	1 1 1	1.5 1.5 1.5
0	0.5 0.5 0.5 (ACW = 0.75;) OB	1	1.5 1.5 1.5
0	0.5 0.5 0.5 (ACW = 0.75;) OB	1 1 1	1.5 1.5 1.5
	Absent O O O O O O O O O O O O O O O O O O	County: Wake Stream Determination (circle one) Ephemeral Intermittent Perennial	County: Wake County:

Soils = Intermittent US65 = Not Present

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 Project/Site: Veridea Latitude: 35.698569 Date: Evaluator: StEC-AJKIJH+KM Wake Longitude: 78 . 854 833 County: Total Points: Stream Determination (circle one) Other Stream is at least intermittent Ephemeral Intermittent Perennial e.g. Quad Name: II ≥ 19 or perennial if ≥ 30* A. Geomorphology (Subtotal = Absent Moderate Weak Strong 1s. Continuity of channel bed and bank 0 (2) 3 2. Sinuosity of channel along thalweg (3) 0 1 2 3. In-channel structure: ex. riffle-pool, step-pool, 1 0 2 3 ripple-pool sequence (1) 4. Particle size of stream substrate 0 2 3 (2) 5. Active/relict floodplain 0 1 3 6. Depositional bars or benches 0 3 1 2 7. Recent alluvial deposits 0 1 2 3 8. Headcuts (0) 2 3 1 9. Grade control (0.5)0 1 1.5 10. Natural valley (0.5) 0 1 1.5 11. Second or greater order channel artilicial ditches are not rated; see discussions in manual No (0) Yes = 3 B. Hydrology 12. Presence of Baseflow 0 1 2 3 13. Iron oxidizing bacteria (0) 2 3 1 14. Leaf litter (0) 0.5 1.5 1 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 = 0Yes(= 3' C. Biology (Subtotal = 18, Fibrous roots In streambed (2) 0 300 19. Rooted upland plants in streambed 2 1 0 20. Macrobenthos (note diversity and abundance) 2 1 3 21. Aquatic Mollusks 2 1 3 (o) 22. Fish 0.5 1 1.5 0 23. Crayfish 0.5 1 1.5 24. Amphibians 0.5 1 1.5 25, Algae 0.5 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:

Sib = Perennial 1 VS65 = Not Present

Project/Site: V	erides	Latitude: 3 5,	696709	
County:	ake	Longitude: -7	8.852141	
Stream Determin	nation (circle one) mittent) Perennial	Other T e.g. Quad Name:		
Absent	Weak	Moderate	Strong	
0	1	(2)→	. 3	
0	1	(2)	3	
0	(a)	Tree Land	3	
Ü				
0	1	(2)	3	
0	1		3	
0	1	2	3	
(0)	1	2	3	
(0)	1 1	2	3	
0	(0.3)	1	1.5	
0	0,5	(1)	1.5	
No	(€0)	Yes	= 3	
0	1	2	3	
(0)	1 ,	- 2	The second secon	
		0.5	1 03'	
1.5	1	0.5	(g)·	
0	(0.5)	1	1.5	
0	(0.5)	1	1.5	
0	(0.5)	1	1.5	
0 0 No	(0.5) (0.5) 0 = 0	1 1 Yes	1.5	
0 0 No	(0.5) (0.5) 0 = 0	1 1 Yes	1.5	
0 0 No	(0.5) (0.5) 0 = 0	1 1 Yes	1.5 1.5 (3)	
0 0 No	(0.5) (0.5) 0 = 0	1 Yes 1 1 2	1.5 1.5 (3)	
3 (3) (0)	(0.5) (0.5) 0 = 0	1 Yes 1 1 2 2 2	1.5 1.5 (3) 0 0 3 3	
3 (3) (0)	(0.5) (0.5) 0 = 0 (2) 2 1 1 1 0.5	1 Yes 1 1 2 2 1	1.5 1.5 (3) 0 0 3 3 1.5	
3 (3) (0)	(0.5) (0.5) 0 = 0	1 Yes 1 1 2 2 2 1 1	1.5 1.5 (3) 0 0 3 3 1.5 1.5	
3 3 3 0 0	(0.5) (0.5) 0 = 0	1 1 Yes 1 2 2 1 1 1 1 1	1.5 1.5 3 0 0 3 3 1.5 1.5 1.5	
3 (3) (0)	(0.5) (0.5)	1 1 Yes 1 2 2 1 1 1 1 1 1 1 1	1.5 1.5 3 0 0 3 3 1.5 1.5 1.5	
3 3 3 0 0	(0.5) (0.5)	1 1 Yes 1 2 2 1 1 1 1 1	1.5 1.5 3 0 0 0 3 3 1.5 1.5 1.5	
3 3 3 0 0	(0.5) (0.5)	1 1 Yes 1 2 2 1 1 1 1 1 1 1 1	1.5 1.5 3 0 0 0 3 3 1.5 1.5 1.5	
	Stream Determine Ephemeral Interest Control of the	Stream Determination (circle one) Ephemeral Intermittent Perennial	Stream Determination (circle one) Ephemeral (intermittent) Perennial Other e.g. Quad Name:	

Soils = Perennial US65 = Not Present

Date: 11 2 22	Project/Site:	eridea	Latitude: 35.	698339
Evaluator: SHEC-AJK + KM	Project/Site: V	ke	Longitude: 7	
Evaluator: SHEC-AJK + KM Fotal Points: Non-Scoreable Stream is at least intermittent > 19 or perennial if > 30* Feature	Stream Determin	ation (circle one) mittent Perennial	Other U e,g, Quad Name:	
A. Geomorphology (Subtotal =)	Absent	Weak	Moderate	Strong
a. Continuity of channel bed and bank	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
s. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
. Particle size of stream substrate	0	1	2	3
6. Active/relict floodplain	0	1	2	3
. Depositional bars or benches	0	1	2	3
. Recent alluvial deposits	0	1	2	3
I. Headcuts	0	1	2	3
, Grade control	0	0.5	1	1,5
0. Natural valley	0	0.5	1	1,5
Second or greater order channel	No	= 0	Yes:	
Presence of Baseflow Iron oxidizing bacteria	0	1	2	3
Iron oxidizing bacteria	0	1,	2	3
4. Leaf litter	1,5	1	0,5	0
5. Sediment on plants or debris	0	0.5	1	1.5
6. Organic debris lines or piles	0	0.5	1	1,5
7. Soil-based evidence of high water table?		0,5	1 Yes	
7. Soil-based evidence of high water table? C. Biology (Subtotal =)	No	= 0	Yes	= 3
7. Soll-based evidence of high water table? C. Biology (Subtotal =) 8. Fibrous roots in streambed	No 3	= 0	Yes :	= 3
7. Soll-based evidence of high water table? C. Biology (Subtotal =) 8. Fibrous roots in streambed 9. Rooted upland plants in streambed	3 3	2 2	Yes:	0 0
7. Soll-based evidence of high water table? C. Biology (Subtotal =) 8. Fibrous roots in streambed 9. Rooted upland plants in streambed 0, Macrobenthos (note diversity and abundance)	3 3 0	2 2 2 1	Yes :	0 0 3
7. Soll-based evidence of high water table? C. Biology (Subtotal =) 8. Fibrous roots in streambed 9. Rooted upland plants in streambed 0, Macrobenthos (note diversity and abundance) 1. Aquatic Mollusks	3 3 0 0	2 2 2 1	Yes:	0 0 0 3 3
7. Soll-based evidence of high water table? C. Biology (Subtotal =) 8. Fibrous roots in streambed 9. Rooted upland plants in streambed 0, Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish	3 3 0 0	2 2 2 1 1 0.5	Yes:	0 0 3 3 1.5
7. Soll-based evidence of high water table? C. Biology (Subtotal =) 8. Fibrous roots in streambed 9. Rooted upland plants in streambed 10. Macrobenthos (note diversity and abundance) 11. Aquatic Mollusks 12. Fish 13. Crayfish	3 3 0 0 0	2 2 1 1 0.5 0.5	Yes:	0 0 3 3 1.5 1.5
7. Soll-based evidence of high water table? C. Biology (Subtotal =) 8. Fibrous roots in streambed 9. Rooted upland plants in streambed 0. Macrobenthos (note diversity and abundance) 11. Aquatic Mollusks 12. Fish 13. Crayfish 14. Amphibians	3 3 0 0 0 0	2 2 1 1 0.5 0.5 0.5	Yes:	0 0 3 3 1.5 1.5
7. Soll-based evidence of high water table? C. Biology (Subtotal =) 8. Fibrous roots in streambed 9. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish 24. Amphiblans 25. Algae	3 3 0 0 0	2 2 1 1 0.5 0.5 0.5 0,5	Yes:	0 0 3 3 1.5 1.5 1.5
7. Soll-based evidence of high water table? C. Biology (Subtotal =) 8. Fibrous roots in streambed 9. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish 24. Amphiblans 25. Algae 26. Wetland plants in streambed	3 3 0 0 0 0 0	2 2 1 1 1 0.5 0.5 0.5 0.5 0.5 FACW = 0.75; OB	Yes:	0 0 3 3 1.5 1.5 1.5
7. Soll-based evidence of high water table? C. Biology (Subtotal =) 8. Fibrous roots in streambed 9. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish 24. Amphiblans 25. Algae	3 3 0 0 0 0 0	2 2 1 1 1 0.5 0.5 0.5 0.5 0.5 FACW = 0.75; OB	Yes:	0 0 3 3 1.5 1.5 1.5

Soils = Intermittent

Jm 12/19/2022

NC DWQ Stream Identification Form	Project/Site:	ridea	Latitude: 35	697154
Date: 11 3 22 Evaluator: 5+EC-AJK	Project/Site: Vy.	ke-	Longitude: -	8.858121
Total Points: Stream is at least intermittent f≥ 19 or perennial if ≥ 30*	Stream Determin	nation (circle one) rmittent Perennial	Other e.g Quad Name:	/
A. Coomernia destrición (Subtetal e	Absent	Weak	Moderate	Strong
A. Geomorphology (Subtotal = 1) 1 Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	(0)	1	2	3
In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	(0)	1	2	3
4. Particle size of stream substrate	(9)	1	2	3
5. Active/relict floodplain	(0,2	1	2	3
6. Depositional bars or benches	(6)	1	2	3
7. Recent alluviat deposits	(0)	1	2	3
8. Headcuts	(0)	1	2	3
9. Grade control	(8)	1 0.5	1	1.5
10. Natural valley	(0)	0.5	1	1,5
11 Second or greater order channel	No	0 (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	(Q)	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?	N	o = 0	Yes	(= 3)
C. Biology (Subtotal = 2.)			1000	
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	(Q) (Q)	1	2	3
22. Fish	6	0,5	1	1.5
23. Crayfish /	6	0.5	1	1.5
24. Amphibians	(0)	0.5	1	1.5
25. Algae	6)	0,5	1	1.5
26. Wetland plants in streambed		FACW = 0 75; C	BL = 1.5 Other :	(0)
'perennial streams may also be identified using other method	ods. See p 35 of many	ual,		
Notes:				
(Notice)				
Sketch:				

Soils = Intermittent USGS = Not Present

Pate: 11322	Project/Site: 1/4	eridea	Latitude: 35	696363
valuator: SAEC-ATK	Project/Site: V	ke	Longitude:	8.858198
otal Points: dream is at least intermittent ≥ 19 or perennial If ≥ 30°	Stream Determin	nation (circle one) mittent Perennial	Other V e g Quad Name:	
A. Geomorphology (Subtotal = 1/,5)	Absent	Weak	Moderate	Strong
Continuity of channel bed and bank	0	1	2	(3)
Sinuosity of channel along thalweg	0	1	0	3
. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	0	2	3
. Particle size of stream substrate	0	1:	(2)	3
. Active/relict floodplain	(0)	1	2	3
. Depositional bars or benches	6	1	2	3
. Recent alluvial deposits	0	(1)	2	3
Headcuts	0	(1)	. 2	3
. Grade control	0	(0.5)	1	1,5
0, Natural valley	0	0.5	(1)	1,5
Second or greater order channel	No	f0)	Yes	= 3
artificial ditches are not rated, see discussions in manual 3. Hydrology 6-5)		Traces		
2 Presence of Baseflow	0	(1)	2	3
3 Iron oxidizing bacteria	(6)	1	2	3
4 Leaf litter	1.5	(3)	0.5	0
5 Sediment on plants or debris	0	0.5	(D)	1.5
6. Organic debris lines or piles	0	(0.5)	1	1.5
7 Soil-based evidence of high water table?		0 = 0	The second secon	(=3)
C. Biology (Subtotal = 5)				
8. Fibrous roots in streambed	3	(2)	1	0
Rooted upland plants in streambed	(3)	2	1	0
20, Macrobenthos (note diversity and abundance)	700	1	2	3
21. Aquatic Mollusks	(9)	1	2	3
22 Fish	(.0)	0.5	1	1.5
23, Crayfish	(2)	0,5	1	1,5
24. Amphibians	(0)	0,5	1	1.5
25. Algae	6	0.5	1	1.5
26. Wetland plants in streambed	1082	FACW = 0.75; O	BL = 1.5 Other =	
'perennial streams may also be identified using other metho	ods. See p. 35 of manua			
Notes:	ado, ado propositional			
votea.				

Soils = Intermittent US65= Not Present

ratuator: SHEC - AJK otal Points: ream is at least intermittent 32	Project/Site: V	ake	Longitude: 7	9 856375
the same of the sa	Stroom Dotormir		The second secon	0,00001
2 19 or perennial if ≥ 30'	Ephemeral Inter	nation (circle-one) mittent (Perennia)	Other e g Quad Name;	. V
Geomorphology (Subtotal = 18)	Absent	Weak	Moderate	Strong
Continuity of channel bed and bank	0	1	2	(3)
Sinuosity of channel along thalweg	0		2	(3)
In-channel structure: ex, riffle-pool, step-pool,			2	3
ripple-pool sequence	0	1		
Particle size of stream substrate	0	1	(2)	3
Active/relict floodplain	0	1	2	3
Depositional bars or benches	0	1	(2)	3
Recent alluvial deposits	0	1	(2)	3
Headcuts	0	(1)	2	3
Grade control	0	105	(1)	1,5
). Natural valley	0	0.5	(1)	1.5
Second or greater order channel	No	(0)	Yes	= 3
Hydrology)	A 10			
2. Presence of Baseflow	0	1	2	3
3. Iron oxidizing bacteria	(ō)	1	2	3
4. Leaf litter	1.5	(1)	0,5	0
5, Sediment on plants or debris	0	0.5	(1)	1,5
6. Organic debris lines or piles	0	0.5	(1)	1,5
7. Soil-based evidence of high water table?	the state of the s	0 = 0	Yes	(€3)
. Biology (Subtotal = (0)				
8. Fibrous roots in streambed	3.	(2)	1	0
9. Rooted upland plants in streambed	(3)	2	1	0
Macrobenthos (note diversity and abundance)	(6)	1	2	3
The state of the s	1 8	1	2	3
1, Aquatic Mollusks 2, Fish	1 (6)	0.5	1	1.5
The state of the s	(3)	0.5	1	1.5
3, Crayfish	0.	0,5	(1)	1,5
4. Amphiblans	(6)	0,5	1	1.5
5. Algae	(0)	FACW = 0.75; O	BI = 15 Other =	and the same of the same
Wetland plants in streambedperennial streams may also be identified using other method	te See o 35 of manu			
The second secon	is, deep do or mend		***************************************	
Notes:				

Soils=Intermittent USGS=Not Present

Project/Site: V	ridec	Latitude: 35.	694829
County: Wa	county: Wake		8.859124
Stream Determin (Ephemeral) Inter	nation (circle one) mittent Perennial	Other \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
Absent	Weak	Moderate	Strong
0	1	(2)	3
0	(1)	2	3
Õ	7	2	3
(0)	1	2	3
0	(1)	2	3
(0)	1	2	3
0	1	2	3
(0)	1	2	3
(0)	0.5	1	1.5
0	(0.5)	1	1.5
(0)	1	2	3
(0)	1	2	3
(i) (i) (i)			
(0)	1	., 2	3
(0) 1.5	1	(0,5) 1	3 0 1.5 1.5
(0) 1.5 0 (0)	1 (0.5)	(0,5) 1	3 0 1.5 1.5
(0) 1.5 0 (0)	1 (0.5) 0.5 0.5	(0,5) 1	3 0 1.5 1.5
(0) 1.5 0 (0)	1 (0.5) 0.5 0.5	2 (0,5) 1 1 Yes	3 0 1.5 1.5
(0) 1.5 0 (0) No	1 (0.5) 0.5	2 (0,5) 1 1 Yes	3 0 1.5 1.5
(0) 1.5 0 (0) No	1 (0.5) 0.5 0 = 0	2 (0,5) 1 1 Yes	3 0 1.5 1.5 (3)
(0) 1.5 0 (0) No	1 (0.5) 0.5 0 = 0	2 (0.5) 1 1 Yes	3 0 1.5 1.5 (3)
3 3 0 0 0	1 (0.5) 0.5 0 = 0	2 (0.5) 1 1 Yes	3 0 1.5 1.5 (3)
3 3 0 0 0	1 (0.5) 0.5 0 = 0	2 (0.5) 1 1 Yes	3 0 1.5 1.5 (3) 0 0 0 3 3 1.5 1.5
3 3 0 0 0	1 (0.5) 0.5 0.5 0 = 0	2 (0.5) 1 1 Yes	3 0 1.5 1.5 €3) 0 0 0 3 3 1.5 1.5
(0) 1.5 0 (0) No	1 (0.5) 0.5 0.5 0.5 1 1 0.5 0.5 0.5 0.5 0.5	2 (0.5) 1 1 Yes 1 (1) 2 2 1 1 1	3 0 1.5 1.5 (3) 0 0 0 3 3 1.5 1.5 1.5
3 3 0 0 0	1 (0.5) 0.5 0.5 0.5 1 1 0.5 0.5 0.5 0.5	2 (0.5) 1 1 1 Yes 1 (1) 2 2 1 1 1	3 0 1.5 1.5 (3) 0 0 0 3 3 1.5 1.5 1.5
3 3 0 0 0 0	1 (0.5) 0.5 0.5 0.5 1 1 0.5 0.5 0.5 0.5 0.5 0.5	2 (0.5) 1 1 1 Yes 1 (1) 2 2 1 1 1	3 0 1.5 1.5 (3) 0 0 0 3 3 1.5 1.5 1.5
	Absent O O O O O O O O O O O O O	0 1 0 1 0 1 0 0 1 0 0 0 1 0 0 0 0 1 0	Stream Determination (circle one) Other Weg. Quad Name:

Soils = Litermittent US65 = Not Present

Date: 2 22	Project/Site: Veridea County: Wake		Latitude: 35.696773 Longitude: -78.854816	
Evaluator: SAEC - AJK + JH + KM				
Fotal Points: Stream is at least Intermittent f ≥ 19 or perennial if ≥ 30*	Stream Determin	nation (circle one) mittent Perennial	Other e.g. Quad Name:	
A. Geomorphology (Subtotal = 5)	Absent	Weak	Moderate	Strong
in. Continuity of channel bed and bank	0	1	2	3
2. Sinuosity of channel along thalweg	0	(D)	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	O	1	, 2	3
5. Depositional bars or benches	(0)	1	2	3
7. Recent alluvial deposits	(6)	11	2	3
B. Headcuts	(6)	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0,5	0	1.5
11. Second or greater order channel	No	(FO)	Yes = 3	
B. Hydrology O) 12. Presence of Baseflow	(6)	1	2	3
12. Presence of Baseflow	(6)	1	2	3
12. Presence of Baseflow 13. Iron oxidizing bacteria	(b) (d) 1.5			
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter	1.5	1	2	3
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris	0 1.5 0	1 1 0.5 0.5	2 0.5 1 1	3 (0) 1.5 1.5
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter	0 1.5 0	1 1 0.5	2 0.5 1	3 (0) 1.5 1.5
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soll-based evidence of high water table?	0 1.5 0	1 1 0.5 0.5	2 0.5 1 1	3 (0) 1.5 1.5 = 3
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soll-based evidence of high water table? C. Biology (Subtotal =)	0 1.5 0	1 1 0.5 0.5 0.5 0.5	2 0.5 1 1	3 (0) 1.5 1.5
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? C. Biology (Subtotal =) 18. Fibrous roots in streambed	(i) 1.5 (ii) (iii) (iii) (iii) (iii)	1 1 0.5 0.5 0.5	2 0,5 1 1 Yes	3 (0) 1.5 1.5 = 3
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? C. Biology (Subtotal =) 18. Fibrous roots in streambed 19. Rooted upland plants in streambed	(0) 1.5 (0) (0) No	1 1 0.5 0.5 0.5 0.5	2 0.5 1 1 Yes	3 (0) 1.5 1.5 = 3
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? C. Biology (Subtotal =) 18. Fibrous roots in streambed 19. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance)	(0) 1.5 (0) (0) No 3 3 (0) (0)	1 0.5 0.5 0.5 0 € 0	2 0.5 1 1 Yes	3 (0) 1.5 1.5 = 3
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? C. Biology (Subtotal =) 18. Fibrous roots in streambed 19. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks	(i) 1.5 (ii) No. 1.5 (iii) No. 1.5 (iiii) No. 1.5 (iiii) No. 1.5 (iiii) No. 1.5 (iiii) No. 1.5 (iii)	1 0.5 0.5 0.5 0.5 0.5	2 0.5 1 1 Yes	3 (0) 1.5 1.5 = 3 (0) 0 3 3 1.5
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? C. Biology (Subtotal =) 18. Fibrous roots in streambed 19. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish	(0) 1.5 (0) (0) No 3 3 (0) (0)	1 0.5 0.5 0.5 0.5 0.5 1	2 0.5 1 1 Yes	3 (0) 1.5 1.5 = 3 (0) 0 3 3 3 1.5 1.5
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? C. Biology (Subtotal =) 18. Fibrous roots in streambed 19. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish	(0) 1.5 (0) (0) No 3 3 (0) (6) (0)	1 0.5 0.5 0.5 0.5 0.5 1 1 1 0.5	2 0.5 1 1 Yes 1 1 2 2	3 (0) 1.5 1.5 = 3 (0) 0 3 3 1.5 1.5 1.5
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? C. Biology (Subtotal =) 18. Fibrous roots in streambed 19. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish 24. Amphibians	3 3 3 0 0 0	1 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	2 0.5 1 1 Yes 1 1 2 2 1	3 (0) 1.5 1.5 = 3 (0) 0 3 3 3 1.5 1.5
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? C. Biology (Subtotal =) 18. Fibrous roots in streambed 19. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish 24. Amphibians 25. Algae	(0) 1.5 (0) (0) No (0) (0) (0) (0) (0)	1 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5	2 0.5 1 1 Yes 1 1 2 2 1 1 1 1	3 (0) 1.5 1.5 = 3 (0) 0 3 3 1.5 1.5 1.5 1.5
12. Presence of Baseflow 13. Iron oxidizing bacteria 14. Leaf litter 15. Sediment on plants or debris 16. Organic debris lines or piles 17. Soil-based evidence of high water table? C. Biology (Subtotal =) 18. Fibrous roots in streambed 19. Rooted upland plants in streambed 20. Macrobenthos (note diversity and abundance) 21. Aquatic Mollusks 22. Fish 23. Crayfish 24. Amphibians	(i) (i) (ii) (iii)	1 0.5 0.5 0.5 0.5 0.5 0.5 1 1 0.5 0.5 0.5 0.5 0.5	2 0.5 1 1 Yes 1 1 2 2 1 1 1 1	3 (0) 1.5 1.5 1.5 3 0 3 1.5 1.5 1.5 1.5

Soils = Intermittent US65 = Not Present Jm 12/15/2022

West SF21

NC Division of Water Quality —Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Date: 11 2 22	Project/Site: Ve	Project/Site: Veridea Latitude: 35.6957 County: Wake Longitude: -78.85		695789	
Evaluator: S+EC-AJK+JH+KM	County: Wa			Longitude: -78.854435	
Fotal Points: Stream is at least intermittent f≥ 19 or perennial if ≥ 30*	Stream Determit Ephemeral (Inter	ation (circle one) mitten) Perennial	Other X e.g. Quad Name:		
A. Geomorphology (Subtotal = 11.5)	Absent	Weak	Moderate	Strong	
Continuity of channel bed and bank	0	1	2	(3)	
2. Sinuosity of channel along thalweg	0	1	2	(3)	
In-channel structure: ex. riffle-pool, step-pool, ripple-pool seguence	0	1	2	3	
Particle size of stream substrate	0	(1)	2	3	
. Active/relict floodplain	(0)	1	2	3	
6. Depositional bars or benches	0	1	2)	3	
7. Recent alluvial deposits	(9	1	2	3	
3. Headcuts	(6)	1	2	3	
9. Grade control	0	(0.5)	1	1.5	
I0. Natural valley	0	0.5	(1)	1.5	
Second or greater order channel artilicial ditches are not rated; see discussions in manual	No €0)		Yes	Yes = 3	
3. Hydrology 3.5)					
12. Presence of Baseflow	(0)	1_1_	2	3	
13. Iron oxidizing bacteria	(6)	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. Soll-based evidence of high water table?	No	= 0	Yes	€3)	
C. Biology (Subtotal = 9.75)					
18. Fibrous roots in streambed	3	(D)	1	0	
19. Rooted upland plants in streambed	3	(3)	1	0	
20. Macrobenthos (note diversity and abundance)	ď	1	2	3	
21. Aquatic Mollusks	(0)	1	2	3	
22. Fish	(6)	0.5	1	1.5	
23. Crayfish	0	0,5	1-	1.5	
24. Amphibians	(0)	0.5	11	1.5	
25. Algae	(0)	0.5	1	1.5	
26. Wetland plants in streambed		(FACW = 0.75) OF	BL = 1.5 Other =	0	
*perennial streams may also be identified using other method	ods. See p. 35 of manua	1.			
Notes:					
ALTERNATION OF THE PROPERTY OF					
Sketch;					

Soils = Intermittent VS65 = Not Present

Jm 12/15/2022

WEST SFUL NC Division

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Date: (00 2008	Project/Site: VII: Lu County: Wall Stream Determination (circle one) Ephemera Intermittent Perennial		Latitude: 35.694(6) Longitude: -78.754201 Other X e.g. Quad Name:	
Evaluator: 5-4EC - JOSENSE HARVEY				
Total Points: Stream is at least intermittent f ≥ 19 or perennial if ≥ 30*				
A. Geomorphology (Subtotal = <u>4.5</u>)	Absent	Weak	Moderate	Strong
i ^a Continuity of channel bed and bank	0	(1)	2	3
2. Sinuosity of channel along thalweg	0	m	2	3
B. In-channel structure: ex. riffle-pool, step-pool,		1	2	3
ripple-pool sequence	0	1		
Particle size of stream substrate	0	(1)	2	3
5. Active/relict floodplain	0	(1)	2	3
3. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	(2)	1	2	3
B. Headcuts	(0)	1	2	3
9. Grade control	(0)	0.5	11	1.5
10. Natural valley	0	(0.5)	1	1.5
11. Second or greater order channel "arilficial ditches are not rated, see discussions immanual	(No	0=0	Yes = 3	
B. Hydrology (Subtotal = 5.5) 12. Presence of Baseflow	T 0 I	(1)	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	(f)	0.5	0
15. Sediment on plants or debris	(Ø)	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?) = O	(Yes	= 3
C. Biology (Subtotal = 5)				
18. Fibrous roots in streambed	3	(2>	1	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	50	0.5	1	1.5
24. Amphiblans	0.	0.5	1	1.5
25. Algae	΄ο.	0,5	1	1.5
26. Wetland plants in streambed	-	FACW = 0.75; OF	BL = 1.5 Other =	0)
	ls. See p. 35 of manua		,,,	
*perennial streams may also be identified using other method	Note that the second	1 1	1	
*perennial streams may also be identified using other method Notes:			- C	
Notes: C\	170 metter	ind Crainau	(C	
Notes: ()	nto meta	ind Crainne	<u>C</u>	

Soils = Intermittent USUS = Not Prosent

Jm 12/00/2022

WEST SF18 NC Division of Water Quality – Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Project/Site: Veridea County: Wake	Longitude: -7	Latitude: 35. 691 433 Longitude: -78. 355344 Other	
St <u>ream Det</u> ermination (circle one) Ephemeral Intermittent Perennia	Other Se.g. Quad Name:		
Absent Weak	Moderate	Strong	
0 (1)	2	3	
0 (1)	2	3	
o (D)	2	3	
0 (1)	2	3	
o (i)	2	3	
(0) 1	2	3	
(0) 1	2	3	
(i) 1	2	3	
(0) 0,5	1	1.5	
0 0,5	(3)	1.5	
No ₹0)	Yes	= 3	
(D) 1	2	3	
(0) 1	2	3	
1.5	(0.5)	0	
0 (0.5)	1	1.5	
0 (0.5)	1 - 1	1.5	
No = 0	Yes	(= 3)	
3 2	(1)	0	
3 (2)	1	0	
(b) 1	2	3	
(Q) 1	2	3	
(0) 0.5	1	1.5	
(0) 0.5	1	1.5	
0.5	1	1.5	
(D) 0.5	1	1.5	
FACW = 0,75; (OBL = 1.5 Other	0)	
See p. 35 of manual,			
9000	0.5 0.5 0.5 FACW = 0.75; 0	0.5 1 0.5 1 0.5 1 FACW = 0.75; OBL = 1.5 Other F	

Soils = Perennial US 65 = Not Present

Jm 12/15/2022

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

Date: 11272	Project/Site: Veridea Latitude. 35.69 County: Wake Longitude: -78		90966		
Evaluator: StEC-AJK+ KM	County: W	ike	Longitude: -78.85286		
Fotal Points: Stream is at least intermittent	Stream Determination (circle one) Ephemera Intermittent Perennial		Other Y e.g. Quad Name:		
A. Geomorphology (Subtotal = 12.5)	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,	0	1	(2)	3	
ripple-pool sequence					
1. Particle size of stream substrate	0	0	2	3	
5. Active/relict floodplain	0	1	(3)	3	
6. Depositional bars or benches	0	1	2	3	
7. Recent alluvial deposits	0	(1)	2	3	
B. Headcuts	(0)	1	2	3	
9. Grade control	0-	(0.5)	(D)	1.5	
10. Natural valley 11. Second or greater order channel	0	0.5	Yes	1.5	
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	(I)	1.5	
16. Organic debris lines or piles	D	0.5	①	1.5	
17. Soil-based evidence of high water table?	No.	o = 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		0.5	1	1.5	
23. Crayfish	(9)	0.5	1	1.5	
24. Amphibians	0	0.5	111	1.5	
25. Algae	(0)	0.5	1	1.5	
26. Wetland plants in streambed		FACW = 0.75; O	BL = 1.5 Other =	0	
*perennial streams may also be identified using other method	ls. See p. 35 of manu	al.			
Notes:					
Sketch:					

Soils = Perennial USGS = Not Present

Jm 12/15/2022

WEST 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 Yersion 4.1 Latitude: 35.688982 Date: 1/2/2010. Project/Site: \fe .: (.) Evaluator: STEC - JOSANA HARRYET Longitude: -78.351202 County: WAKE Total Points: Other BB e.g. Quad Name: Stream Determination (circle one) Stream is at least intermittent No Scoreable Feature Ephemeral Intermittent Perennial if≥ 19 or perennial if≥ 30* A. Geomorphology (Subtotal =_ Weak Strong Absent Moderate 18. Continuity of channel bed and bank 2 3 1 2. Sinuosity of channel along thalweg 1 2 3 3. In-channel structure; ex. riffle-pool, step-pool, 1 2 3 ripple-pool sequence 4. Particle size of stream substrate 10 1 2 3 5. Active/relict floodplain 1011 1 2 3 10/ 6. Depositional bars or benches 1 2 3 0/ 1 2 3 7. Recent alluvial deposits 8. Headcuts 10/ 2 3 9. Grade control .01 0.5 1 1.5 10. Natural valley 0 0.5 1 1.5 11, Second or greater order channel artifictal ditches are not rated, see discussions to manual Yes = 3 No = 0B. Hydrology (Subtotal = 12. Presence of Baseflow 1 2 3 101 13. Iron oxidizing bacteria 2 3 1 14. Leaf litter 1,5 0.5 0 15. Sediment on plants or debris 10 0.5 1 1.5 16. Organic debris lines or piles O 1 0,5 1.5 17. Soil-based evidence of high water table? No = 0Yes = 3 C. Biology (Subtotal = 18. Fibrous roots in streambed 3 2 1 0 19. Rooted upland plants in streambed /3 2 1 0 0' 20. Macrobenthos (note diversity and abundance) 1 2 3 21. Aquatic Mollusks 10 2 3 1 22. Fish 10 0.5 1 1.5 23. Crayfish 10/ 0.5 1 1.5 24. Amphiblans 10/ 0.5 1 1.5 25. Algae 0/ 0.5 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 US65= Not Present

JM 12/2022

WEST SF39 (FFF) revision Circh

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.1

NC DWO Stream Identification Form Version 4.1 Latitude: 35, 763 625 Date: 11/2 Project/Site: \ | er & lec. Longitude: -73.8/59370 Evaluator: SHEC . JUSHUA County: WAKE YOUSAG **Total Points:** Stream Determination (circle one) Other CC Stream is at least intermittent No Scorn of Fenture Ephemeral Intermittent Perennial e.g. Quad Name: if ≥ 19 or perennial If ≥ 30* A. Geomorphology (Subtotal = Absent Weak Moderate Strong 18. Continuity of channel bed and bank 0 1 2 3 2. Sinuosity of channel along thalweg 0 2 3 1 3. In-channel structure: ex. riffle-pool, step-pool, 0 1 2 3 ripple-pool sequence 4. Particle size of stream substrate 0 1 2 3 3 5. Active/relict floodplain 0 1 2 6. Depositional bars or benches 0 2 3 1 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 additions from an additions are not rated, see discussions from an unit No = 0Yes = 3B. Hydrology (Subtotal = 12. Presence of Baseflow 2 3 0 1 13. Iron oxidizing bacteria 0 1 2 3 14. Leaf litter 1.5 0.5 0 1 15. Sediment on plants or debris 0 0.5 1.5 1 16. Organic debris lines or piles 1.5 0 0.5 1 17. Soil-based evidence of high water table? No = 0Yes = 3 C. Biology (Subtotal = 18. Fibrous roots in streambed 3 2 0 1 19. Rooted upland plants in streambed 0 3 2 1 20. Macrobenthos (note diversity and abundance) 2 3 0 1 21. Aquatic Mollusks 2 3 0 1 22. Fish 0 0.5 1 1.5 23. Crayfish 1.5 0 0.5 1 24. Amphibians 0 0.5 1.5 1 25. Algae 0 0.5 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:

Soit = Intermittent

Jm 12/20/2022

