

REQUEST FOR BOARD ACTION

HENDERSON COUNTY PLANNING BOARD

MEETING DATE: January 19, 2023

SUBJECT: Revised Master and Phase III Development Plan for Sprout Mountain (Formerly Rich Mountain) Major Subdivision (2021-M09)

PRESENTER: Matt Champion, Zoning Administrator

ATTACHMENTS:

1. Staff Report
2. Original Combined Master & Phase I Development Plan
3. Revised Master & Phase III Development Plan
4. PowerPoint Handouts

SUMMARY OF REQUEST:

A Revised Master Plan and Phase III Development Plan was received on behalf of Ripple Falls LLC, by John Kinnaird of Brooks Engineering on December 15, 2022. The revised Master Plan shows an additional 23 single-family lots in Phase III for a total of 83 lots. The subject area is located north of Locust Grove Baptist Church off Locust Grove Road (SR 1528) in Hoopers Creek Township. The site consists of 377.96 acres and is accessed through New Sprout Ln.

PLANNING BOARD ACTION REQUESTED:

Staff has found that the Revised Master and Phase III Development Plan meets the standards of the subdivision regulations of Chapter 42, Henderson County Land Development Code (LDC). Staff recommends the Revised Master and Phase III Development Plan be subject to the developer addressing any issues raised by the Planning Board and addressing the comments listed in the Staff Report.

Planning Board action to approve, approve with modifications, or deny revised subdivision application #2021-M09 (Revised Master & Phase III Development Plan for Sprout (Rich) Mountain)

Suggested Motion:

I move that the Planning Board approve, approve with modification, or deny this revised subdivision application based on the Henderson County Land Development Code and recommendations of the Henderson County Comprehensive Plan and with any conditions as discussed within the staff report or by the Planning Board.



STAFF REPORT

HENDERSON COUNTY PLANNING DEPARTMENT

100 North King Street | Hendersonville, NC 28792 | (828) 697-4819

Prepared by:

Henderson County Planning & Zoning Departments

CASE

2021-M09

Revised Master Plan & Phase III Development Plan

PLANNING BOARD MEETING DATE

January 19, 2022

PROPERTY OWNER/APPLICANT

Ripple Falls LLC

PROPERTY LOCATION/ADDRESS

North of Locust Grove Road (SR 1528), off New Sprout Lane, Hoopers Creek Township

AGENT/ENGINEER

John Kinnaird, PE & Zachary Wortman, EIT
Brooks Engineering

PIN(s)

9672-53-0112, 9672-32-9718, 9672-32-9259,
9672-22-0858, 9672-23-1444, 9672-22-0353,
9672-21-2880

SUMMARY OF REQUEST

An application for a Revised Master Plan and the Phase III Development Plan, for Sprout Mountain (formerly Rich Mountain) Major Subdivision, consisting of a revised total of 83 lots located at the above PIN(s), with 23 lots proposed in Phase III.

Existing Zoning

Residential District Three (R3)

Existing Land Use

Rural Agricultural Area / Conservation

Site Improvements

Paved Roads

Request Acreage

377.96 acres, +/-

ADJACENT ZONING

North Residential District Three (R3)

East Residential District Three (R3)

South Residential District Three (R3)

West Residential District Three (R3)

USE OF LAND

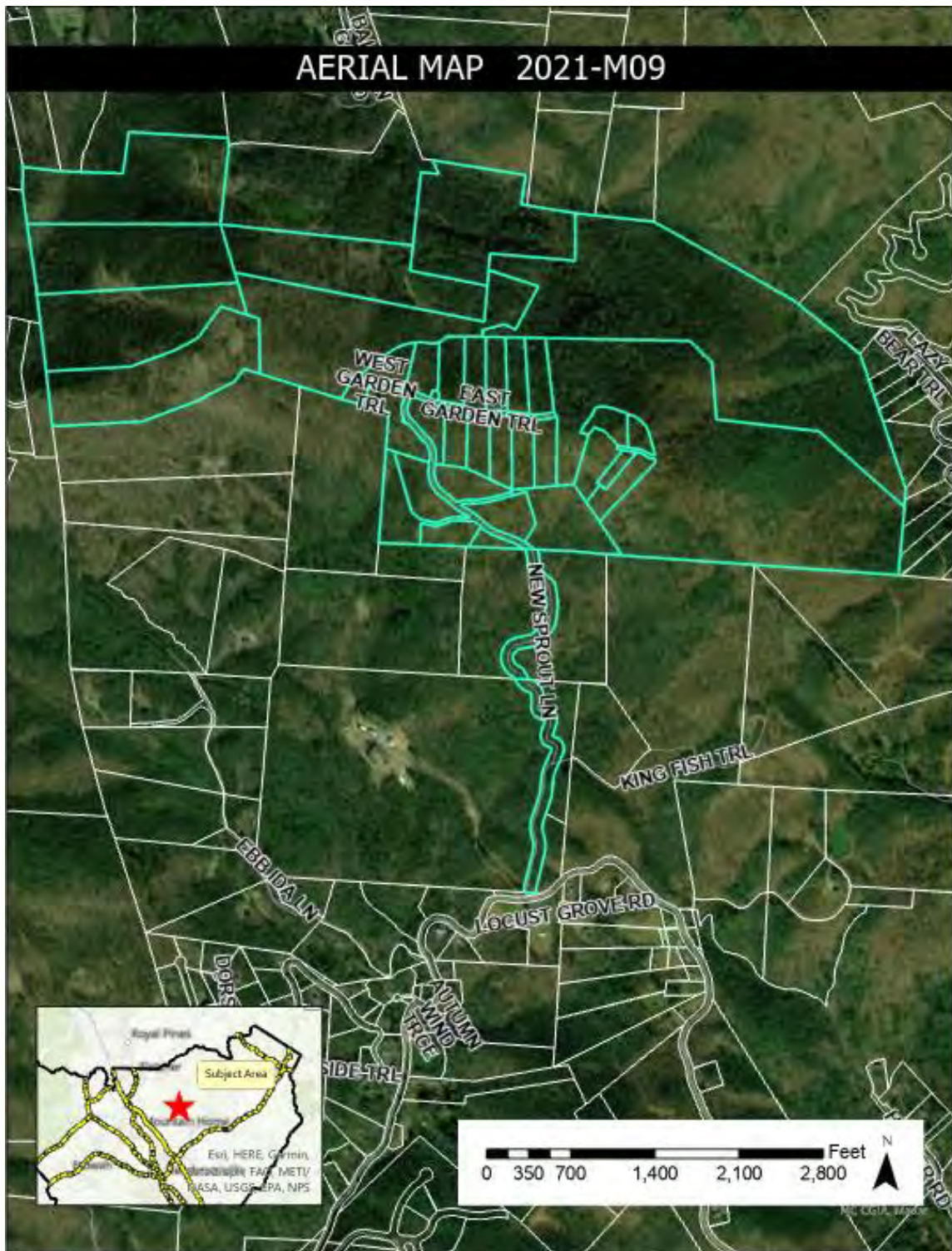
Vacant Land

Vacant Land

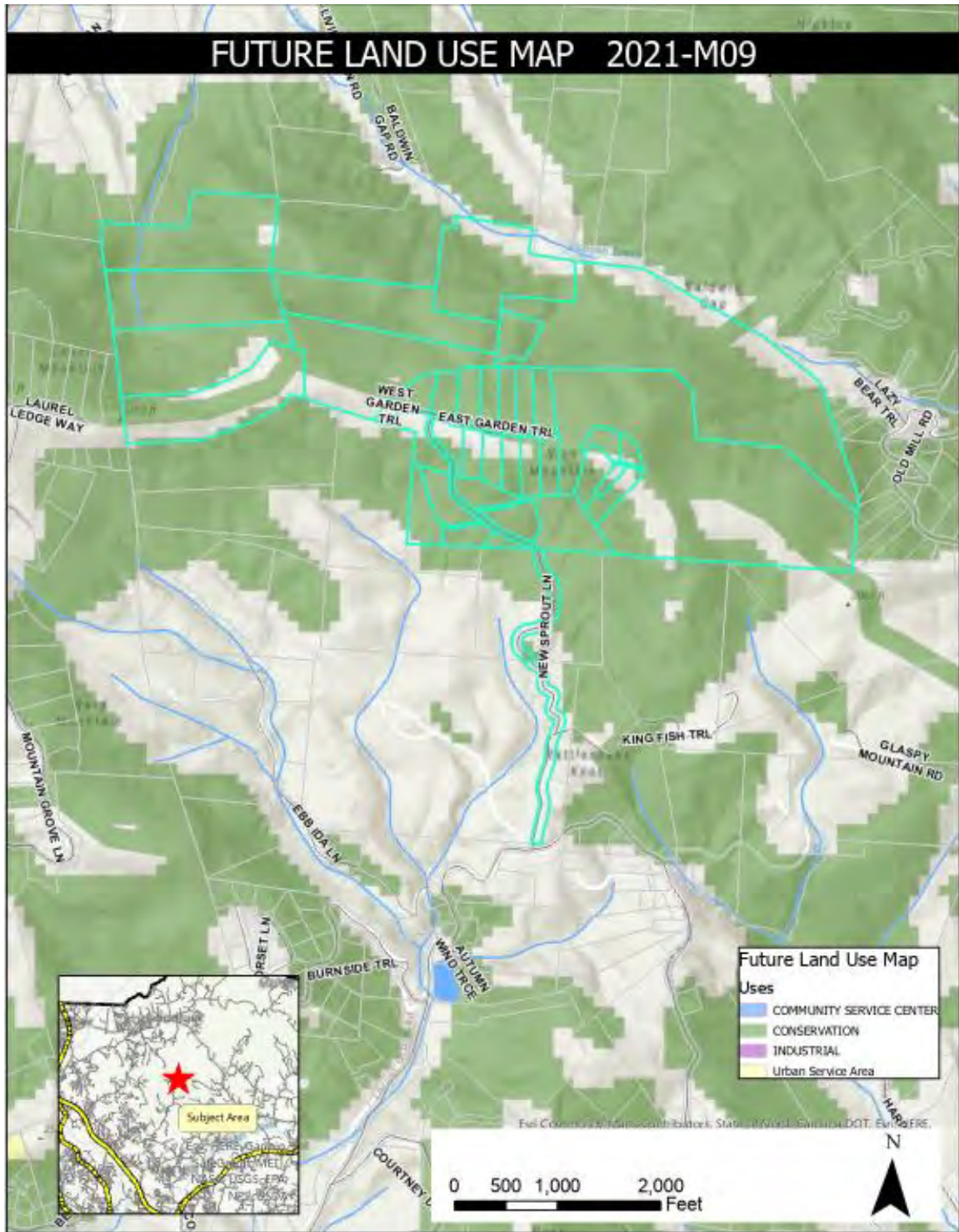
Locust Grove Baptist Church

Vacant Land/Couch Mountain

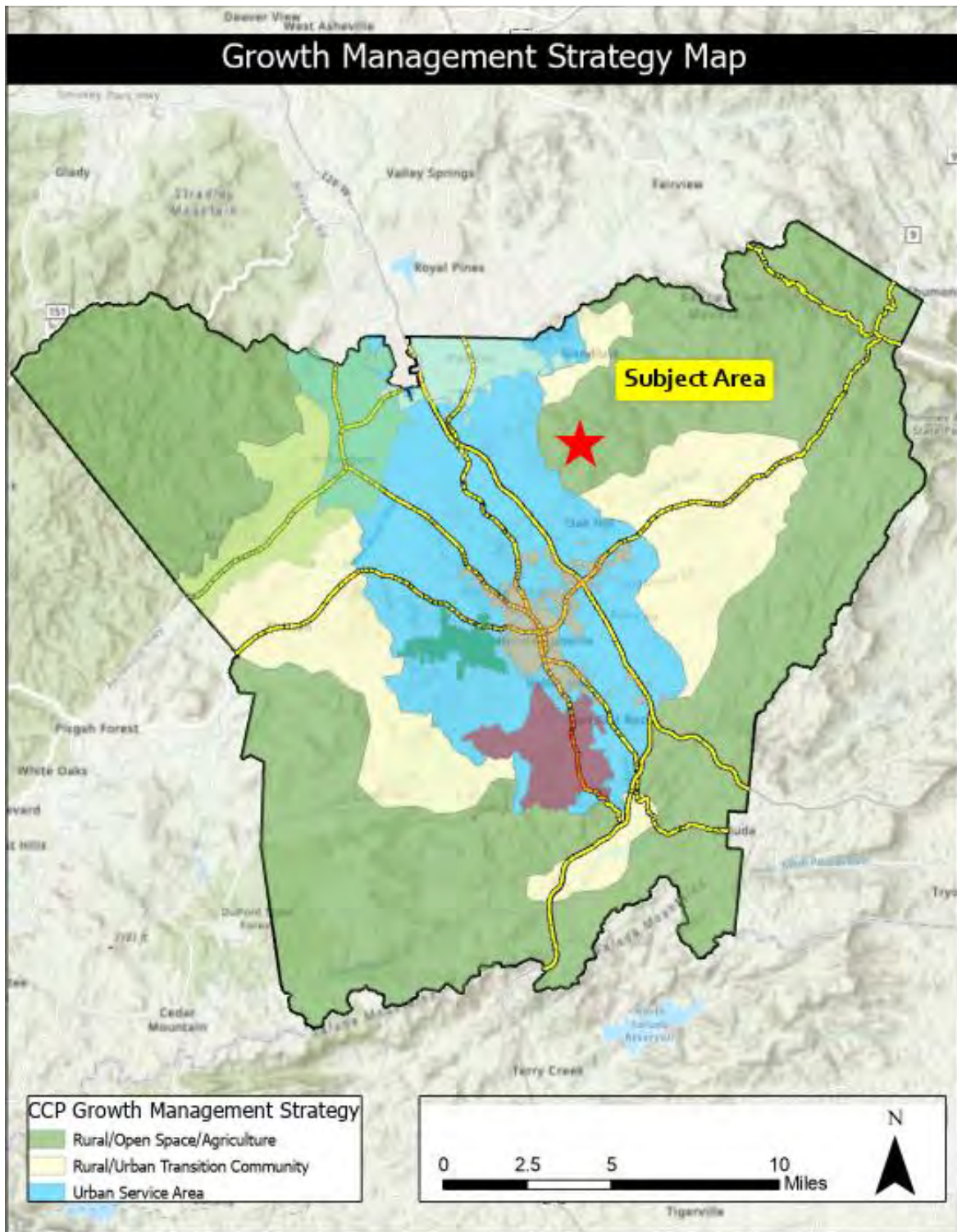
Map A: Aerial Map



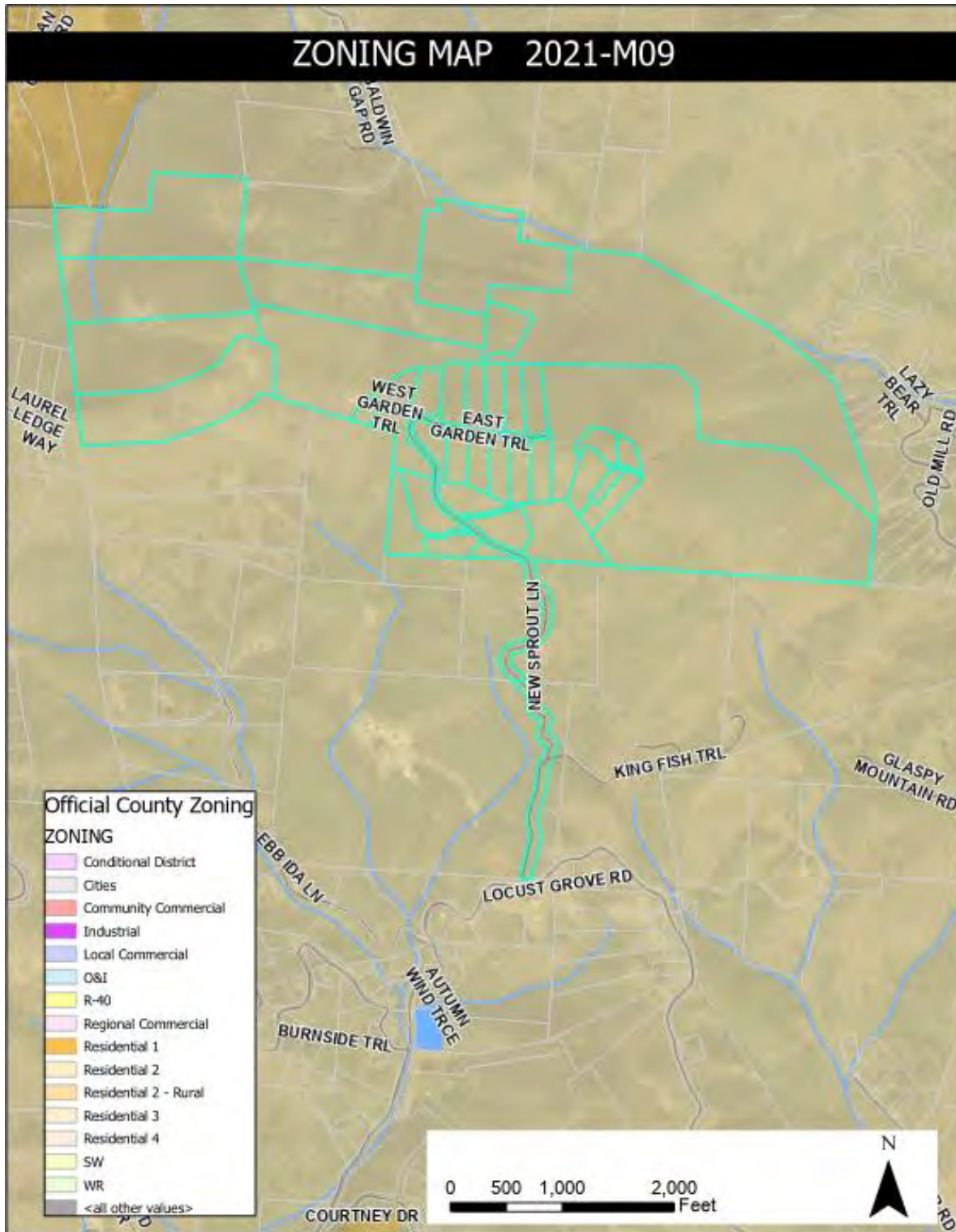
Map B: Future Land Use Map



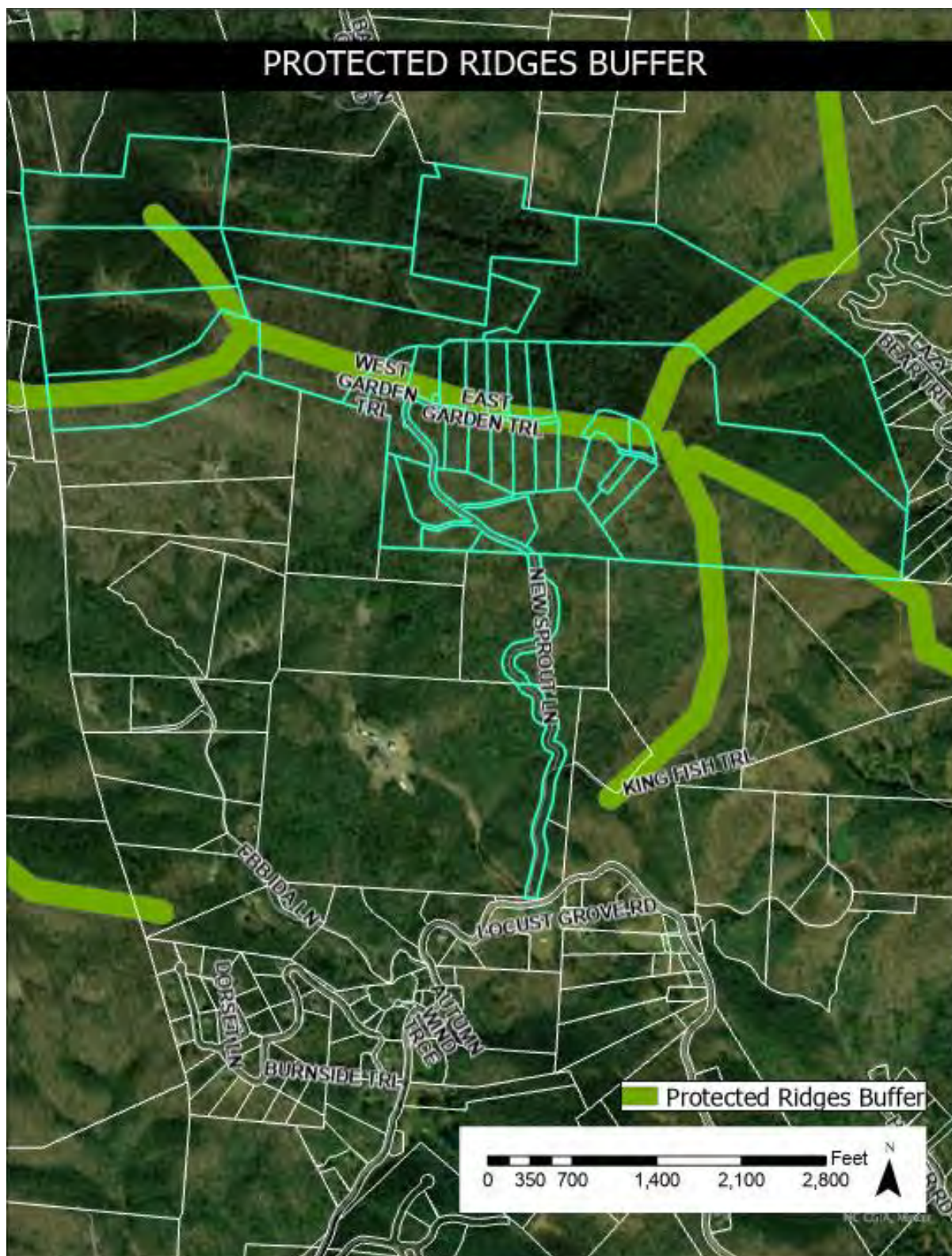
Map C: Growth Management Strategy Map



Map D: Zoning Map



Map E: Protected Ridges Buffer



BACKGROUND:

The applicant, Ripple Falls LLC, is seeking approval for a Revised Master Plan and a Phase III Development Plan for the Major Subdivision titled Sprout Mountain. The project was formally known and approved under the name Rich Mountain. The applicant is represented by their engineers, John Kinnaird and Zachary Wortman of Brooks Engineering.

Planning Board first approved the Master Plan and Phase 1 Development Plan on at their regularly scheduled meeting on December 16, 2021. The applicant was approved for 60 total lots on the master plan, with development identified in 3 total phases. The total project acreage was 245.86 acres at the time. Phase 1 approved 22 lots on 82.78 acres. The Phase 2 Development Plan was approved administratively on May 26, 2022, with 31 lots on 146 acres.

Now, the applicant has submitted a revised Master and Phase 3 Development Plan, detailing an expanded project with 23 additional lots on a proposed Phase 3. Phase 3 will extend west on West Garden Trail, onto property acquired by the applicant in April of 2022.

ANALYSIS:

According to Chapter 42, Henderson County Land Development Code (LDC) §42-340, the purpose of a Master Plan is to provide general information about the proposed development to allow for an assessment of its impact on the orderly growth and development of the County, environmental quality, land values, natural features identified on the site analysis sketch and the County's roads and governmental services. During the review of the Master Plan, the Technical Review Committee should take into consideration: applicable recommendations of the *Henderson County Comprehensive Plan*, the potential use of the land to be subdivided, and the impact of the subdivision and proposed use whether residential, commercial, or industrial.

When reviewing the Master Plan, it is important to consider that due to severe topographic conditions, inadequate road access, distance from services, unique natural areas, soils that do not easily support soil drainage systems and/or the proximity to existing and incompatible land uses/zoning, all land may not be suitable to be subdivided for the purpose of dense development (LDC §42-74).

According to Chapter 42 of the Henderson County LDC, §42-341, the purpose of Development Plans is to provide general and specific information, displayed as a graphic representation or map, indicating all proposed divisions of land, their uses, improvements, and any other information required to fully disclose the applicant's intentions.

When reviewing the Development Plan, it is important to consider that it conforms with the Master Plan, no additional lots are created (other than indicated on the Master Plan), and all technical requirements and development standards have been met.

Staff has reviewed the submitted Combined Revised Master and Phase 3 Development Plan for the Sprout Mountain Major Subdivision, taking into consideration the recommendations of the *Henderson County Comprehensive Plan* and reviewing the plan for conformance with Henderson County Land Development Code. Staff offers the following comments:

Comprehensive Plan Compatibility:

The Comprehensive Plan’s Future Land Use Map indicates the subject area as being located primarily with the Rural/Agriculture Area and a small portion within the Conservation Area.

Rural/Agriculture Area: “The RAA covers those portions of the county that are predominantly rural and are characterized by low-density residential development with substantial land areas devoted to agriculture and undeveloped lands. Land use policies will seek to retain that character. Land development ordinances in the RAA should strive for a *general, average* density of 1½ or more acres per residential dwelling unit, but due to topography and land use constraints, some areas in the RAA should have densities of 1 unit per 5 or more acres. Actual densities as defined by zoning requirements should vary across the RAA according to constraints and community characteristics.” (CCP, Pg 136.)

Conservation: Conservation Areas are “land areas that are intended to remain largely in their natural state, with only limited development.” (CCP, Pg. 138)

The Comprehensive Plan’s Growth Management Strategy Area also indicates the subject area as within the Rural/Agriculture Area.

Henderson County Land Development Code Compatibility:

Henderson County Zoning Map indicates the subject area as Residential District Three (R3).

Residential District Three (R3): The purpose of Residential District Three (R3) is to foster orderly growth where the principal use of land is low density residential. The intent of this district is to allow for residential development consistent with the recommendations of the Comprehensive Plan. This general use district is typically meant to be utilized in areas designated as Rural (RAA) in the Comprehensive Plan.

R3 allows for standard residential density of 1 unit per 1.5 acres. The proposed master and development plan shows 83 single family lots on a total site area of 377.96 acres. This is below the allowed threshold of 1 unit per 1.5 acres at a density of 0.22 lots per

acre. The proposed use and density do not appear to conflict with the zoning district regulations.

Chapter 42-95 (Major Subdivision) Requirements:

1. **Water Supply and Sewage Disposal:** The site is proposed to be served by private, individual water and septic systems.
2. **Fire Protection:** 42-95(D) requires a minimum of one (1) hydrant per 1000 feet of linear road distance (if served by a public water supply system who may impose more stringent fire protection requirements where necessary), or a dry fire hydrant system and all-weather access road for fire-fighting equipment to a permanent surface water supply.
3. **Stormwater Drainage:** Drainage systems (swales, ditches, pipes, culverts, detention ponds, lakes, or similar devices) shall be designed to minimize adverse effect on the proposed subdivision and on adjacent and downstream properties. Drainage improvements shall be designed and constructed in accordance with applicable State Road Standards and to follow natural drainage where possible, contain points of stormwater discharge onsite (unless offsite discharge is approved by the reviewing agency and adjoining property owners), maintain desirable groundwater conditions, minimize erosion, downstream sedimentation, flooding or standing water conditions, filter pollutants before stormwater reaches surface water, and avoid excessive stormwater discharge.
4. **Farmland Preservation Districts:** As indicated on the plans, Lots 1-51 and 83 are within a Farmland Preservation District, and Lots 52-82 are within a ½ mile or adjacent to the district. There is a 100' setback from structures adjacent to a Farmland Preservation District that must be observed by any lots adjacent to the district.
 - a. The applicant has indicated their intention of removing the subject area from the current Voluntary Agricultural District (VAD). A portion of the property is located within the Lower Hoopers Creek VAD. The applicant will need to work with the Soil & Water Conservation District to be removed from the VAD.
5. **Reasonable Pedestrian Access:** Reasonable pedestrian access must be provided to promote healthy and safe walking environments. As the proposed major subdivision does not contain 100 or more lots or propose a density of greater than 2 units per acre, sidewalks within the subdivision are not required.
6. **Street Tree Requirements:** Article V, Subpart C of the LDC requires Street Trees for Major Subdivisions, at a rate of either 1 large deciduous tree per 40 linear feet of property abutting an internal road, or 1 small deciduous tree per 40 linear feet of property abutting an internal road if overhead utilities are present.

- a. These trees must be within the right-of-way or within 20' of the right-of-way. The applicant may use existing trees in accordance with 42-184 and must also meet the right-of-way standards.
- b. With 4,415 new feet of internal roadway as indicated on the Phase 3 Development Plan, 111 street trees are required, or must be shown as to be preserved ($4,415/40 = 110.375$). The applicant may use existing trees in accordance with LDC §42-184 instead of planting new trees. These existing trees must also be located within the right-of-way or 20 feet off the edge of the right-of-way as required by LDC §42-185.

Miscellaneous Requirements:

1. **Protected Mountain Ridges:** The project site is encumbered by the protected mountain ridges buffer. Section §42-251 of the LDC regulates the construction and permitting of "tall buildings" within the protected ridge buffer.

"Tall buildings or structures" include any building, structure or unit within a multiunit building with a vertical height of more than 40 feet measured from the top of the foundation of said building, structure or unit and the uppermost point of said building, structure or unit; provided, however, that where such foundation measured from the natural finished grade of the crest or the natural finished grade of the high side of the slope of a ridge exceeds 3 feet, then such measurement in excess of 3 feet shall be included in the 40-foot limitation described herein; provided, further, that no such building, structure or unit shall protrude at its uppermost point above the crest of the ridge by more than 35 feet.

2. **Open Space Requirements:** As a subdivision of greater than 35 lots, the application must meet the requirements of 42-88 as a Conservation Subdivision. The Master Plan indicates 154.75 acres (42%) as open space, exceeding the 25% requirement.
3. **Road System:** The applicant is proposing a total of 4,415 feet of new private roadway, with West Garden Trail extending westward. There are three (3) private driveway easements proposed off West Garden Trail, as shown on the roadway plans. All roads are indicated as to be paved, apart from gravel logging road. The driveway easement extending northward to access lots 81,82, and 83 will need a new road name that must be approved by the Henderson County Property Addresser prior to plat approval. The road name regulatory signs must be installed and inspected prior to plat approval. Private roads shall be constructed in accordance with the Private Subdivision Local Road Standards in Chapter 42 (LDC §42-109).
 - a. Subdivisions of 35 or more lots shall provide a minimum of two entrance roads. The second entrance road may be specifically waived by the approving authority where unique circumstances exist (LDC §42-95(I)).

4. **Dead Ends, Culs-de-sac, Turnarounds:** The Applicant proposes one new T-turnaround on West Garden Trail. All turnarounds must meet the requirements of the LDC §42-110(D).
5. **Perennial and Intermittent Surface Water Buffers:** The project site is encumbered by several perennial streams. Section §42-250 of the LDC regulates construction and permitting within the surface water buffer, requiring all built-upon area 30 feet landward of all perennial and intermittent surface waters.
6. **Soil Erosion and Sedimentation Control Plan:** The Applicant must submit a revised Soil Erosion and Sedimentation Control Plan to Henderson County and receive approval or waived by Henderson County Site Development (LDC §42-255).
7. **Stormwater/Water Quality:** The Applicant must apply for a revised Stormwater Management Permit to Henderson County, which must be issued or waived by Henderson County Site Development (LDC §42-239).
8. **Drainage, Culverts, Shoulder Stabilization:** Road or drainage structures shall be constructed in accordance with state roads standards. Road drainage side ditches shall be constructed with sufficient depth and width to carry the expected volume of storm water runoff (LDC §42-105). All areas disturbed by the construction of a public road, including cut and fill slopes, shoulders, and ditch banks, shall be seeded to stabilize the soil and prevent erosion. Seeding should be done as soon as feasible after road construction (LDC §42-102).
9. **Miscellaneous Advisory Provisions:** The Applicant should become familiar with the Miscellaneous Advisory Provisions of Chapter 42 (LDC §42-87).
10. **Final Plat Requirements:** The Final Plat(s) must meet the requirements provided by the Planning Department whenever a subdivision of land occurs (LDC §42-342).
 - a. The proposed roadways and road name and regulatory signs will be inspected prior to Final Plat approval.
11. **NCDOT Driveway Permit.** A NCDOT Driveway permit was issued for New Sprout Lane's access to Locust Grove Road (SR for each driveway access onto Howard Gap Road (SR 1528). No further NCDOT driveway permits are required.

Other County Departments or agencies may have additional comments or requirements that may be discussed at the scheduled Technical Review Committee meeting.

Any comments made by the Technical Review Committee will be passed along to the Planning Board at the regularly scheduled January 19th meeting.

STAFF CONCLUSION

Per Chapter 42 of the Henderson County Land Development Code LDC §42-338, the Planning Board is the final approval authority for this proposed Major Subdivision. Should the Technical Review Committee find no deficiencies with the current application, they may recommend forwarding the application to the Planning Board. The Planning Board may approve, approve with conditions, or deny the proposed Master and Development plan if it exhibits deficiencies or is not in compliance with any statute, ordinance, or regulation of the Henderson County Code of Ordinances.

**HENDERSON COUNTY
SUBDIVISION APPLICATION FORM**
(Please fill out all applicable items)

SUBDIVISION INFORMATION

Subdivision Name: Rich Mountain Subdivision

Subdivision Type (Circle One): Major Minor Non-Standard Special

Proposed Use of Property (Circle One): Residential Commercial Industrial

Conservation Subdivision: Yes No Gated entrance to property: Yes No

Existing Number of Lots: 14 Total Number of Proposed Lots: 83

Total Number Proposed Units: 83 Proposed Density (units per acre): 0.22

Road System: () Public (x) Private () Combination Public and Private

Water System: (x) Individual () Community () Municipal

Sewer System: (x) Individual () Community () Municipal

PARCEL INFORMATION

PIN: SEE PLANS Total Acreage: 377.96 Deed Book/Page: SEE PLANS Township _____

Location of property to be divided: The subject parcel is located North of Locust Grove Rd

Zoning District: R3 Fire District: HOPPERS CREEK

Water Supply Watershed: N/A School District: NORTH HIGH

Any portion of property within or containing the following:

Floodplain or floodway: Yes No Perennial streams: Yes No

Protected mountain ridges: Yes No Cemetery: Yes No

Within 1/2 mile of a Farmland Preservation District: Yes No

Adjacent to a Farmland Preservation District: Yes No

CONTACT INFORMATION

Property Owner:

Name: Ripple Falls LLC Phone: 616-402-0367

Address: 69 Clark Gap Road City, State, Zip: Fletcher, NC 28732

Applicant:

Name: Ripple Falls LLC Phone: 616-402-0367

Address: 69 Clark Gap Road City, State, Zip: Fletcher, NC 28732

Agent: Agent Form (Circle One): Yes No

Name: _____ Phone: _____

Address: _____ City, State, Zip: _____

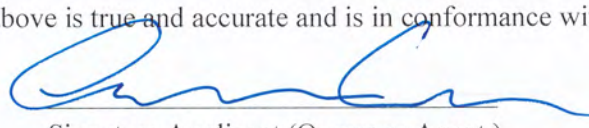
Plan Preparer:

Name: John Kinnaird Phone: 828-232-4700

Address: 15 Arlington Street City, State, Zip: Asheville, NC 28801

I certify that the information shown above is true and accurate and is in conformance with the Subdivision regulations of Henderson County.

Andy Baker

 12/13/2022

Print Applicant (Owner or Agent)

Signature Applicant (Owner or Agent)

Date

County Use Only

Fee: \$ _____ Paid: _____ Method: _____ Final Plat Approved On: _____

RICH MOUNTAIN PHASE 3

MAJOR SUBDIVISION

HENDERSON COUNTY

NOTES

SITE NOTES:

- PROJECT ADDRESS: LOCUST GROVE ROAD, HENDERSONVILLE NC
- TOTAL ACREAGE: 377.96 AC.
- ZONING: R3
- PROJECT PIN NUMBER(S): 9672530112, 9672329718, 9672329259, 9672220858, 9672231444, 9672220353, 9672212880
- EXISTING TOPO INFO SHOWN WAS PROVIDED BY: BROOKS ENGINEERING ASSOCIATES
- EXISTING BOUNDARY INFO PROVIDED BY: BROOKS ENGINEERING ASSOCIATES
- FEMA FLOOD PANEL: 3700967200J, EFF. 10/02/2008
- RECEIVING STREAM: DUNCAN CREEK (6-57-19-2), CLASS C, TR); FLYNN BRANCH (6-57-19-3, CLASS C, TR); FEATHER STONE CREEK (6-55-12, CLASS C)
- SOIL TYPE(S): AhF, AhG, EdE, EdF, PoE, PoF, PoG, TuE, TuF
- DEED BOOK / PAGE: 3897/292, 3822/592
- LATITUDE / LONGITUDE: 35.409521/-82.438765
- DISTURBED ACREAGE: 6.45 AC.
- EROSION CONTROL REVIEW: HENDERSON COUNTY
- STORMWATER MANAGEMENT REVIEW: HENDERSON COUNTY

GENERAL NOTES:

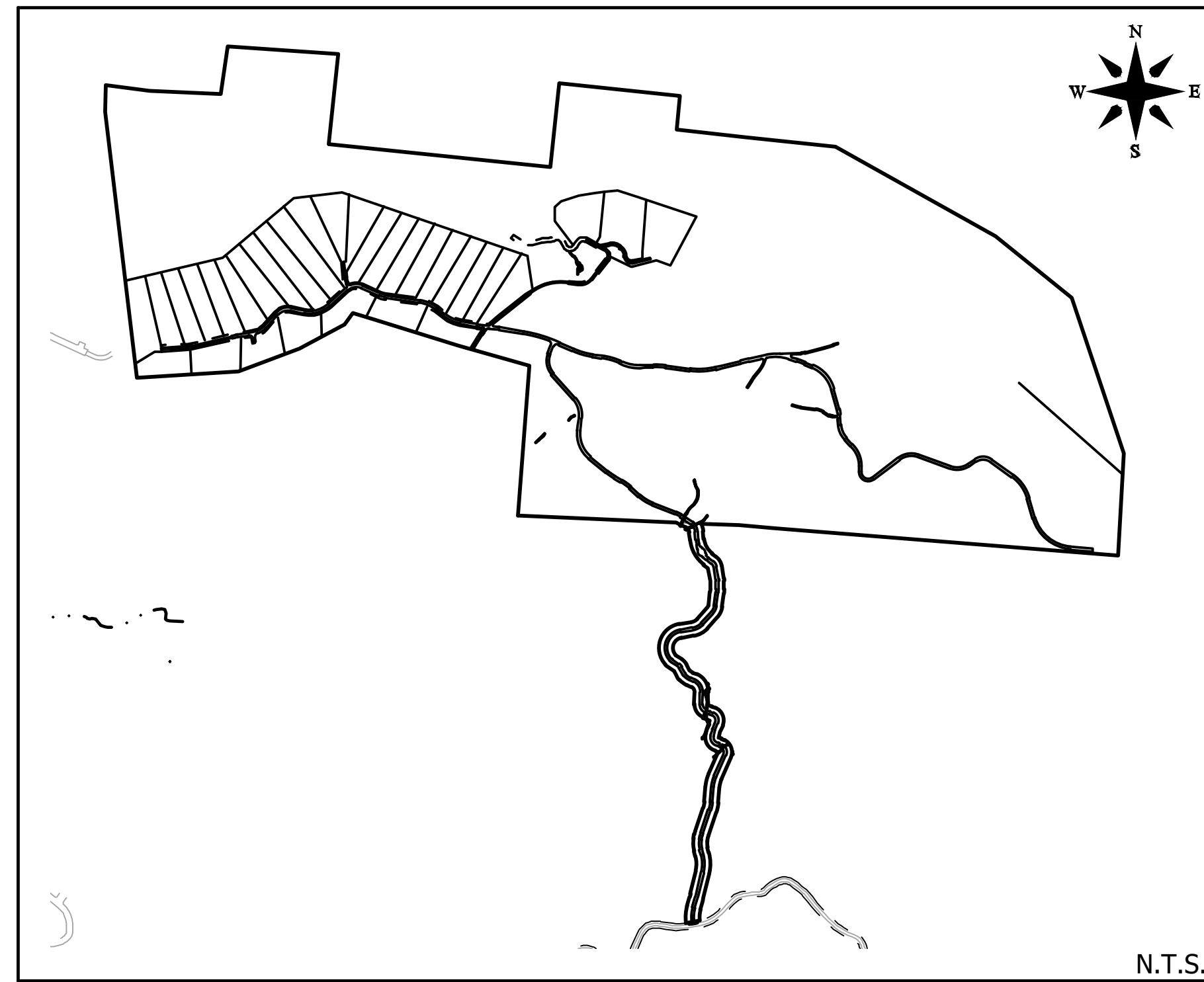
- CONTRACTOR SHALL PROTECT ADJACENT PROPERTIES, THE GENERAL PUBLIC AND ALL OF THE OWNER'S FACILITIES AND SHALL BE RESPONSIBLE FOR THE REPAIR OF ALL DAMAGES WHICH OCCUR DURING CONSTRUCTION.
- LOCATION OF ALL EXISTING UTILITIES, AS SHOWN HEREON, ARE APPROXIMATE ONLY. NO GUARANTEE IS MADE OR IMPLIED BY THE LOCATION REFLECTED IN THE PLANS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE TYPE, SIZE AND LOCATION OF ALL UTILITIES AND OTHER FEATURES WHICH MAY AFFECT CONSTRUCTION OR THE INTENDED FUNCTION OF THE DESIGN. CONTRACTOR SHALL NOTIFY DESIGNER PRIOR TO CONSTRUCTION IF EXISTING CONDITIONS DIFFER FROM THAT INDICATED IN THE PLANS.
- NO STREAM OR WETLAND DISTURBANCE SHALL OCCUR WITHOUT A ARMY CORPS OF ENGINEERS PERMIT.
- THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.
- ANY EXCESS CUT MATERIAL DEVELOPED IN THE CONSTRUCTION OF THIS SITE SHALL BE DISPOSED OF IN AN APPROPRIATELY PERMITTED SPOIL SITE. CONTRACTOR TO PROVIDE PROOF OF PERMITS PRIOR TO CONSTRUCTION.
- ANY ALTERATION TO THE PLANS MUST BE APPROVED BY THE PROJECT ENGINEER, OR APPROPRIATE AGENCY PRIOR TO THE COMMENCEMENT OF WORK.
- THE CONTRACTOR SHALL OBTAIN, AND PAY FOR, PRIOR TO BEGINNING ANY WORK, ALL PERMITS AND LICENSES NECESSARY TO ACCOMPLISH THE WORK.
- CONTRACTOR(S) SHALL BE RESPONSIBLE FOR ADEQUATE SUPERVISION TO PREVENT DAMAGE AND MOVEMENT FROM EQUIPMENT WORKING AROUND CONSTRUCTION STAKES. THESE CONSTRUCTION STAKES SHALL REMAIN IN PLACE AND BE PROTECTED UNTIL OWNER APPROVES THEIR REMOVAL. ANY STAKES THAT HAVE BEEN DISPLACED AS A RESULT OF CONSTRUCTION ACTIVITY ARE TO BE REPLACED BY A LICENSED LAND SURVEYOR ENGAGED BY THE CONTRACTOR AT NO COST TO THE OWNER.
- THE ENGINEER WILL NOT BE CONTINUOUSLY PRESENT IN THE FIELD, IT IS SPECIFICALLY UNDERSTOOD THAT HE DOES NOT UNDERTAKE NOR ASSUME ANY OBLIGATION FOR SUPERVISION OF CONSTRUCTION, SAFETY MEASURES TAKEN DURING THE COURSE OF CONSTRUCTION, RESPONSIBILITY FOR SCHEDULING THE WORK FOR INSURING COMPLETE COMPLIANCE WITH THE CONTRACT DOCUMENTS AND/OR ALL CODE REQUIREMENTS, RULES AND REGULATION OF ANY PUBLIC OR PRIVATE AUTHORITY HAVING JURISDICTION OVER THE WHOLE OR ANY PART OF THE WORK. IN ADDITION, THE ENGINEER NEITHER UNDERTAKES, ASSUMES, NOR GUARANTEES THE WORK AND/OR PERFORMANCE OF THE CONTRACTOR.

INSPECTION SCHEDULE:

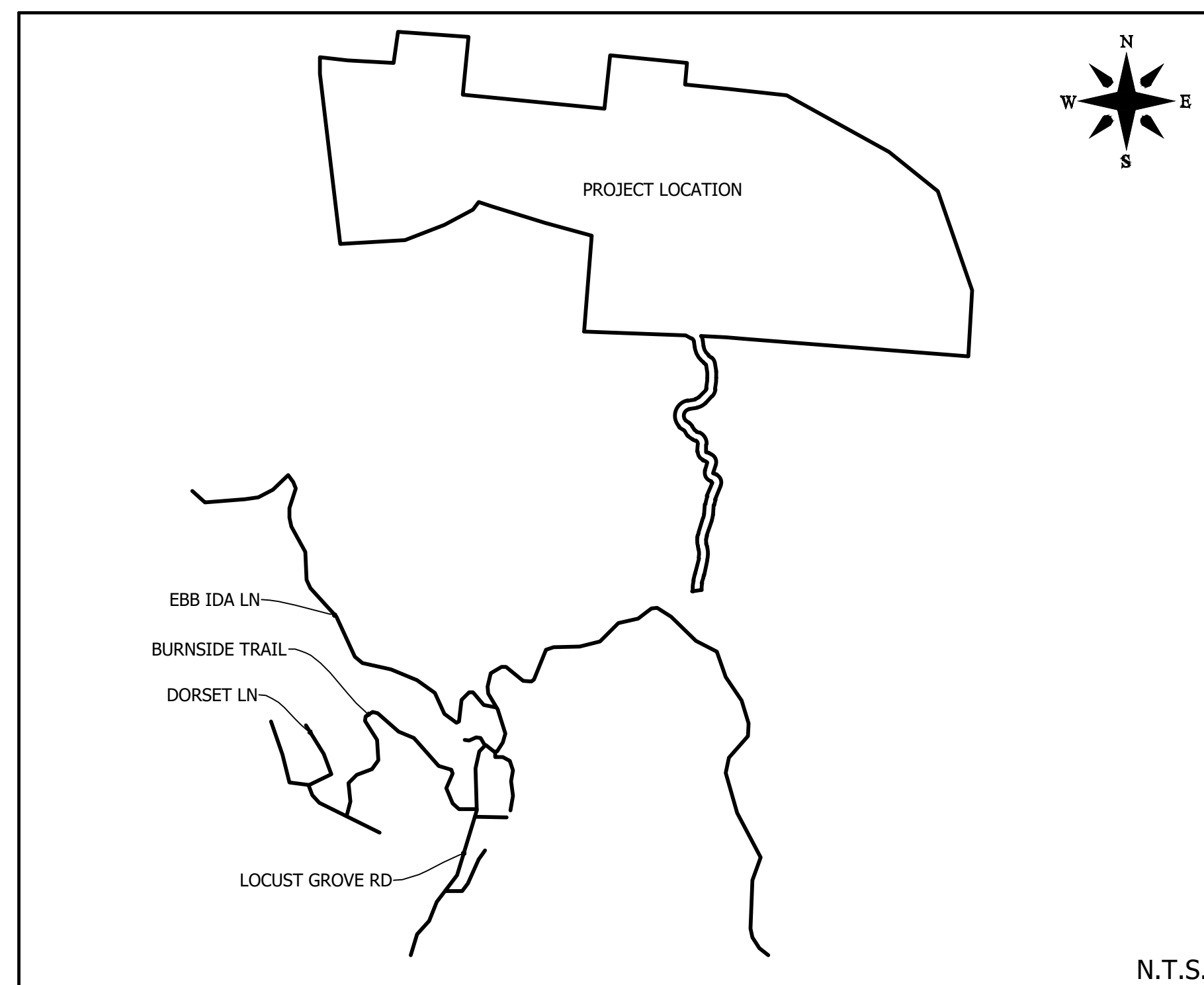
- NO CONSTRUCTION SHALL COMMENCE PRIOR TO A PRECONSTRUCTION MEETING WITH THE OWNER, THE CONTRACTOR, THE ENGINEER, AND A REPRESENTATIVE OF THE APPROVING JURISDICTION.
- ALL SHOP DRAWINGS SHALL BE SUBMITTED AT OR PRIOR TO THE PRECONSTRUCTION MEETING.
- ENGINEER TO BE CALLED FOR PERIODIC INSPECTIONS.
- CALL ENGINEERING PRIOR TO COVERING UNDERGROUND STRUCTURES FOR FINAL INSPECTIONS.
- REFER TO MANUFACTURER'S SPECIFICATION MANUAL AND STATE AND LOCAL STANDARDS FOR ADDITIONAL REQUIREMENTS AND STANDARDS.



PROJECT MAP



VICINITY MAP



CONTACTS

DEVELOPER: RIPPLE FALLS LLC	CONTACT INFO: ANDY BAKER ANDY@TFMCAROLINA.COM (616) 402-0367 69 CLARK GAP ROAD FLETCHER NC
OWNER: RIPPLE FALLS LLC	CONTACT INFO: ANDY BAKER ANDY@TFMCAROLINA.COM (616) 402-0367 69 CLARK GAP ROAD FLETCHER NC
ENGINEER: BROOKS ENGINEERING ASSOCIATES, PA	CONTACT INFO: JOHN KINNAIRD, PE JKINNAIRD@BROOKSEA.COM 828-232-4700 17 ARLINGTON STREET ASHEVILLE, NC 28801
SURVEYOR: BROOKS ENGINEERING ASSOCIATES	CONTACT INFO: TROY SHRIVER, PLS TSHRIVER@BROOKSEA.COM 15 ARLINGTON STREET ASHEVILLE, NC 28801

SHEET INDEX

NO.:	TITLE:	NO.:	TITLE:
C-0	COVER SHEET		
C-1.0	MASTER PLAN		
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C-3.0	CLEARING & GRUBBING PLAN		
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C-3.2	ESC AND STORM PLAN W/ ROAD PROFILES		
C-3.3	ESC AND STORM PLAN W/ ROAD PROFILES		
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C-3.6	ESC AND STORM PLAN W/ ROAD PROFILES		
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C-4.3	SITE PLAN		
C-4.4	SITE PLAN		
C-4.5	SITE DETAILS		
C-4.6	LINE AND CURVE TABLES		

Project No: 543521	Drawing Title: COVER SHEET	RICH MOUNTAIN PHASE 3 MAJOR SUBDIVISION HENDERSON COUNTY		REVISIONS/SUBMISSIONS	Date
				1 HENDERSON COUNTY PLANNING	12-16-2022
				2 TRC SUBMITTAL	01-12-2023
			FINAL DRAWING - FOR REVIEW PURPOSES ONLY		
			Reviewer: JHK Scale: AS NOTED Date: 01-12-2023 Designer: ZAW Drawn: ZAW Checked: JHK 15 Arlington Street Asheville, N.C. 28801 Phone: 1-828-232-4700 Fax: 1-828-232-1331 www.brooksea.com		
Planning • Engineering • Surveying • Environmental Services •			File Location: L:\2021 Projects\543521 Ripple Falls_Rich.Mtn. Due Diligence\Dwg (Phase 3)\Civil-Bases-543521_P103.dwg		

MASTER PLAN LEGEND

	EXIST. BOUNDARY
	EXIST. ADJOINER
	EXIST. STREAM
	EXIST. STREAM BUFFER
	EXIST. WETLAND
	EXIST. FEMA NON-ENCROACHMENT FLOOD HAZARD AREA (1%)
	FEMA FLOOD HAZARD AREA (0.2%)
	EXIST. RIGHT OF WAY
	EXIST. BUILDING SETBACK
	EXIST. BUILDING
	EXISTING SIDEWALK
	EXISTING PAVEMENT
	EXIST. CURB
	NEW RIGHT OF WAY
	NEW EASEMENT
	BUILDING SETBACK LINE
	NEW LANDSCAPE BUFFER
	NEW COMMON OPEN SPACE
	NEW BUILDING
	NEW PAVEMENT

0 300 600 1200

SCALE: 1"= 300'

SITE AND ZONING NOTES

PROPERTY ZONING: R3
 PROPERTY SIZE: PH3: 150.06 AC | TOTAL: 377.96 AC
 PROPERTY STEEPER THAN 60%: 16.76 AC (6.82%)
 MINIMUM LOT SIZE: 1.50 AC, 135,640 SQ.FT.
 SMALLEST PROPOSED LOT: 1.52 ACRES / 66,136 SQ.FT.
 COMMON OPEN SPACE: 158.73 AC (42.0%)
 MINIMUM LOT WIDTH: 30' @ R.O.W.
 MAXIMUM BUILDING HEIGHT: 40'
 SETBACKS:
 FRONT: 15' (LOCAL)
 REAR: 15'
 SIDE: 15'
 PROPOSED LINEAR FEET OF ROAD:
 PHASE 1: 7,139 LF
 PHASE 2: 3,881 LF
 PHASE 3: 4,415 LF
 TOTAL ON PROPERTY: 15,235 LF

*ALL DIMENSIONS ARE FROM EDGE OF ASPHALT, FACE OF CURB, FACE OF WALL, OR FACE OF BUILDING UNLESS OTHERWISE NOTED.

*ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF DETAILS, SPECIFICATIONS, AND OTHER DEVELOPMENT ORDINANCES OF HENDERSON CO.

*ALL COMMON OPEN SPACE AREAS WILL BE MAINTAINED BY THE HOME OWNERS ASSOCIATION.

LANDSCAPING NOTES:

- STREET TREES SHALL BE LARGE DECIDUOUS TREES AND SELECTED FROM HENDERSON COUNTY'S LANDSCAPING RECOMMENDED SPECIES LIST.
- TREES SHALL BE HEALTHY AND IN COMPLIANCE WITH SECTION 42-184 OF THE HENDERSON COUNTY LAND DEVELOPMENT CODE.
- STREET TREES SHALL BE AT LEAST 2 INCHES IN CALIPER AND 12' TALL AT PLANTING.

DEVELOPMENT DATA

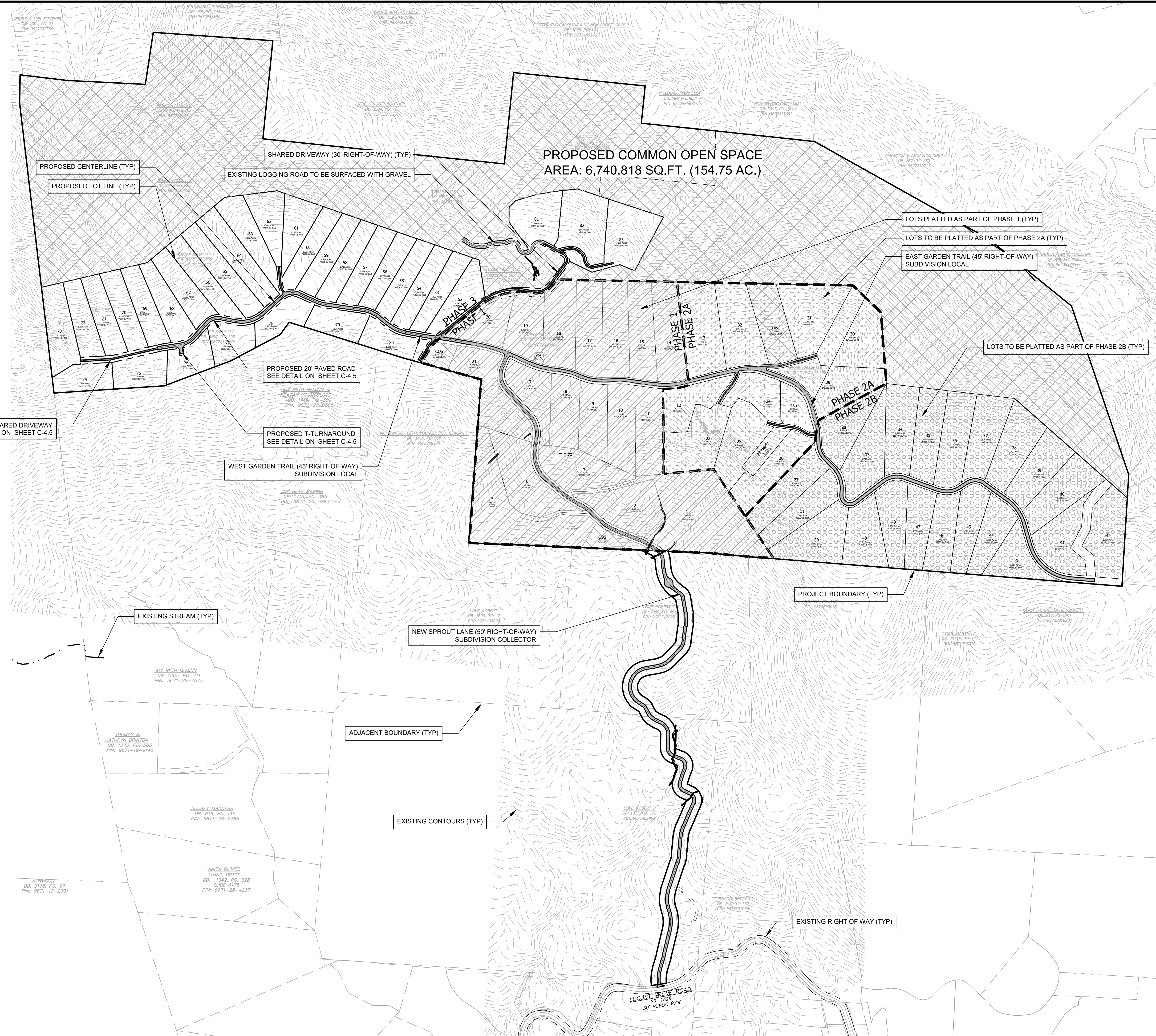
PROPERTY ADDRESS: LOCUST GROVE ROAD
 HENDERSONVILLE NC
 PIN NUMBER: SEE COVER SHEET
 PROPERTY SIZE: PH3: 150.06 AC - TOTAL: 377.96 AC
 ZONING REVIEW: HENDERSON COUNTY
 EROSION CONTROL REVIEW: HENDERSON COUNTY
 STORMWATER REVIEW: HENDERSON COUNTY
 ZONING CLASSIFICATION: R3
 PROPOSED NUMBER OF UNITS: PH3: 32 - TOTAL: 83
 PROPOSED DENSITY: PH3: 0.21 LOTS/AC - TOTAL: 0.22 LOTS/AC
 LOTS 1-51 AND 83 ARE LOCATED WITHIN A FARMLAND PRESERVATION DISTRICT. LOTS 52-82 ARE WITHIN 1/2 MILE OF A FARMLAND DISTRICT.

WATER AND SEWER WILL BE PROVIDED BY INDIVIDUAL WELLS AND SEPTIC SYSTEMS.
 PUBLIC WATER AND SEWER ARE APPROXIMATELY 3.0 MILES FROM THE SITE.
 DRY HYDRANT IS LOCATED APPROXIMATELY 0.90 ROAD MILES FROM THE ENTRANCE TO THE SITE.

PROPERTY OWNER: RIPPLE FALLS LLC
 CONTACT: ANDY BAKER
 ADDRESS: 69 CLARK GAP ROAD
 FLETCHER NC
 EMAIL: ANDY@TFMCAROLINA.COM
 PHONE: (616) 402-0367

DEVELOPER: RIPPLE FALLS LLC
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ENGINEER: BROOKS ENGINEERING ASSOCIATES
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 PHONE: 828-232-4700



No.	REVISIONS/SUBMISSIONS	Date
1	HENDERSON COUNTY PLANNING	12-16-2022
2	TRC SUBMITTAL	01-12-2023

Professional Engineer Seal for John Kinnaird, No. 035686, State of North Carolina. License No. 15123, Exp. 12/31/2024.

Professional Engineer Seal for Brooksea, No. 3725, State of North Carolina. License No. 15123, Exp. 12/31/2024.

Designated: ZAW
 Drawn: ZAW
 Checked: JHK

Reviewed: JHK
 Scale: AS NOTED
 Date: 01-12-2023

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 Asheville, N.C. 28801
 Phone: 1-828-232-4700
 Fax: 1-828-232-1331
 www.brooksea.com

Brooks Engineering Associates
 Planning • Engineering • Surveying
 • Environmental Services •

Project No: 543521
 Drawing Title: MASTER PLAN

RICH MOUNTAIN PHASE 3
 MAJOR SUBDIVISION

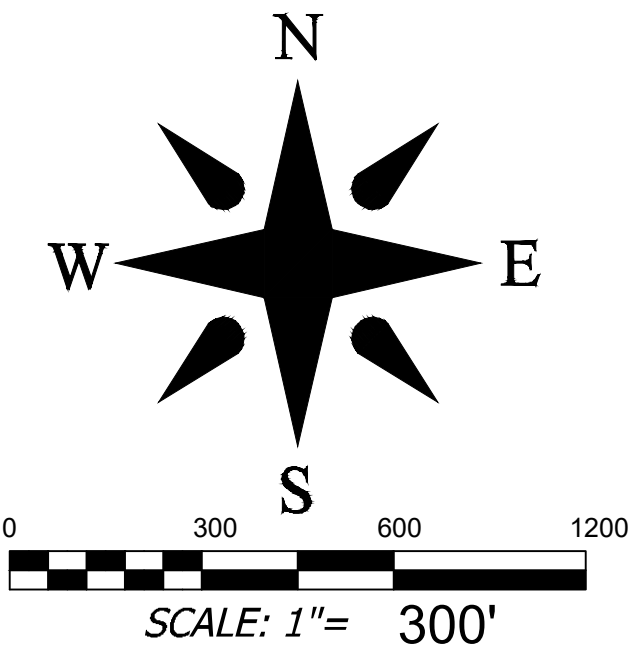
HENDERSON COUNTY
 NORTH CAROLINA

C-1.0

Drawing Title: MASTER PLAN

MASTER PLAN LEGEND

- EXIST. BOUNDARY
- EXIST. ADJOINER
- EXIST. STREAM
- EXIST. STREAM BUFFER
- EXIST. WETLAND
- EXIST. FEMA NON-ENCROACHMENT
- EXIST. FEMA FLOOD HAZARD AREA (1%)
- EXIST. FEMA FLOOD HAZARD AREA (0.2%)
- EXIST. RIGHT OF WAY
- EXIST. BUILDING SETBACK
- EXIST. BUILDING
- EXISTING SIDEWALK
- EXISTING PAVEMENT
- EXIST. CURB
- NEW RIGHT OF WAY
- NEW EASEMENT
- BUILDING SETBACK LINE
- NEW LANDSCAPE BUFFER
- NEW COMMON OPEN SPACE
- NEW BUILDING
- NEW PAVEMENT

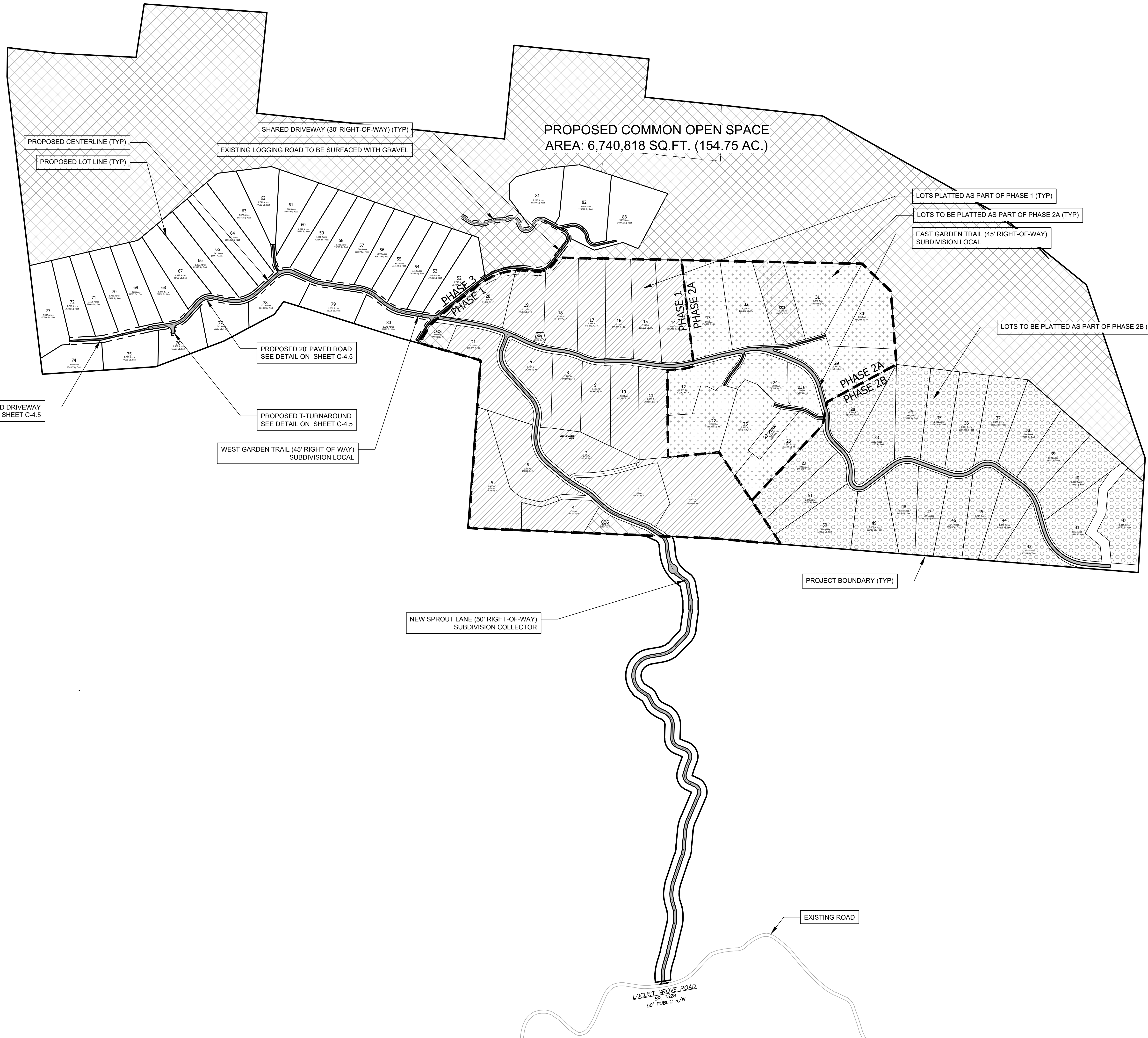


SITE AND ZONING NOTES

PROPERTY ZONING: R3
 PROPERTY SIZE: PH3: 150.06 AC | TOTAL: 377.96 AC
 PROPERTY STEEPER THAN 60%: 16.76 AC (6.82%)
 MINIMUM LOT SIZE: 1.50 AC / 35,640 SQ.FT.
 SMALLEST PROPOSED LOT: 1.52 ACRES / 66,136 SQ.FT.
 COMMON OPEN SPACE: 158.73 AC. (42.0%)
 MINIMUM LOT WIDTH: 30' @ R.O.W.
 MAXIMUM BUILDING HEIGHT: 40'
 SETBACKS:
 FRONT: 15' (LOCAL)
 REAR: 15'
 SIDE: 15'
 PROPOSED LINEAR FEET OF ROAD:
 PHASE 1: 7,133 LF
 PHASE 2: 3,881 LF
 PHASE 3: 4,415 LF
 TOTAL ON PROPERTY: 15,235 LF
 *ALL DIMENSIONS ARE FROM EDGE OF ASPHALT, FACE OF CURB, FACE OF WALL, OR FACE OF BUILDING UNLESS OTHERWISE NOTED.
 *ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF DETAILS, SPECIFICATIONS, AND OTHER DEVELOPMENT ORDINANCES OF HENDERSON CO.
 *ALL COMMON OPEN SPACE AREAS WILL BE MAINTAINED BY THE HOME OWNERS ASSOCIATION.
 LANDSCAPING NOTES:
 1. STREET TREES SHALL BE LARGE DECIDUOUS TREES AND SELECTED FROM HENDERSON COUNTY'S LANDSCAPING RECOMMENDED SPECIES LIST.
 2. TREES SHALL BE HEALTHY AND IN COMPLIANCE WITH SECTION 42-184 OF THE HENDERSON COUNTY LAND DEVELOPMENT CODE.
 3. STREET TREES SHALL BE AT LEAST 2 INCHES IN CALIPER AND 12' TALL AT PLANTING.

DEVELOPMENT DATA

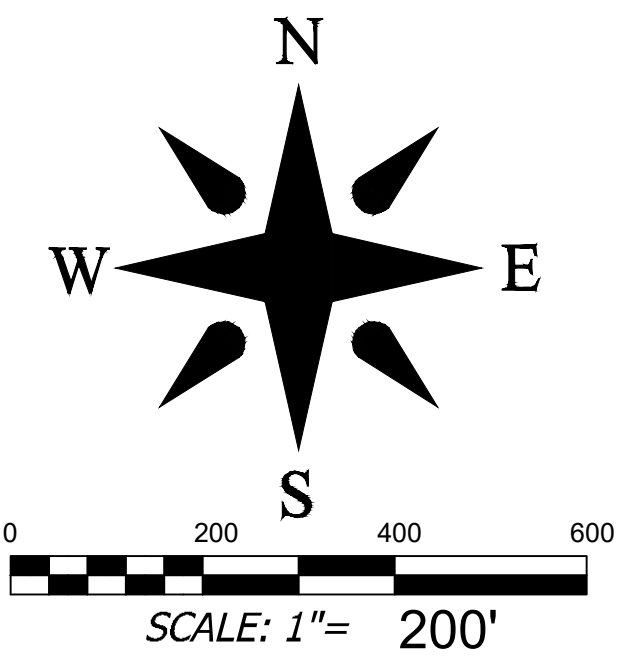
PROPERTY ADDRESS: LOCUST GROVE ROAD
 HENDERSONVILLE NC
 PIN NUMBER: SEE COVER SHEET
 PROPERTY SIZE: PH3: 150.06 AC - TOTAL: 377.96 AC.
 ZONING REVIEW: HENDERSON COUNTY
 EROSION CONTROL REVIEW: HENDERSON COUNTY
 STORMWATER REVIEW: HENDERSON COUNTY
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Project No: 543521	Drawing Title: PHASING PLAN	Rich Mountain Phase 3 Major Subdivision North Carolina Henderson County	 Planning • Engineering • Surveying • Environmental Services •	Reviewer: JHK Scale: AS NOTED Date: 01-12-2023	Designer: ZAW Drawn: ZAW Checked: JHK	15 Arlington Street Asheville, N.C. 28801 Phone: 1-828-232-4700 Fax: 1-828-232-1331 www.brooksea.com
				No. 1 Henderson County Planning TRC SUBMITTAL	Date 12-15-2022 01-12-2023	REVISIONS/SUBMISSIONS HENDERSON COUNTY PLANNING TRC SUBMITTAL

EXIST. CONDITIONS LEGEND

- EXIST. BOUNDARY
- - - EXIST. ADJOINER
- MONUMENT FOUND
- REBAR FOUND
- IRON PIPE FOUND
- ▲ NAIL FOUND
- CORNER TREE FOUND
- - - EXIST. STREAM
- - - EXIST. STREAM BUFFER
- - - EXIST. WETLAND
- - - EXIST. FEMA NON-ENCROACHMENT
- - - EXIST. FEMA FLOOD HAZARD AREA (1%)
- - - EXIST. FEMA FLOOD HAZARD AREA (0.2%)
- - - EXIST. RIGHT OF WAY
- - - EXIST. EASEMENT
- - - EXIST. BUILDING SETBACK
- ▭ EXISTING BUILDING
- ▨ EXISTING SIDEWALK
- ▨ EXISTING PAVEMENT
- ▨ EXISTING GRAVEL
- - - EXIST. MINOR CONTOUR
- - - EXIST. MAJOR CONTOUR



DEVELOPMENT DATA

PROPERTY ADDRESS: LOCUST GROVE ROAD
HENDERSONVILLE NC

PIN NUMBER: SEE COVER SHEET

PROPERTY SIZE: PH3: 150.06 AC. - TOTAL: 377.96 AC.

ZONING REVIEW: HENDERSON COUNTY

EROSION CONTROL REVIEW: HENDERSON COUNTY

STORMWATER REVIEW: HENDERSON COUNTY

ZONING CLASSIFICATION: R3

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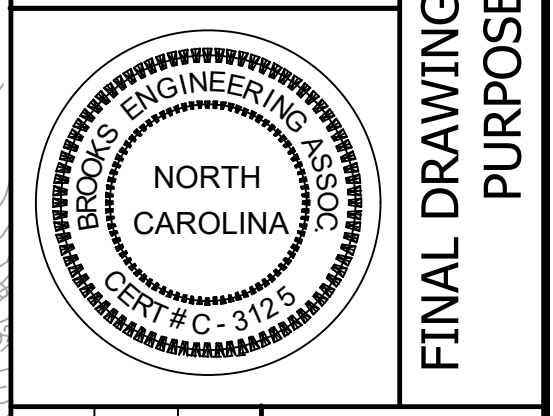
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Designated: ZAW
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Checked: JHK

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BROOKS
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Project No: 543521

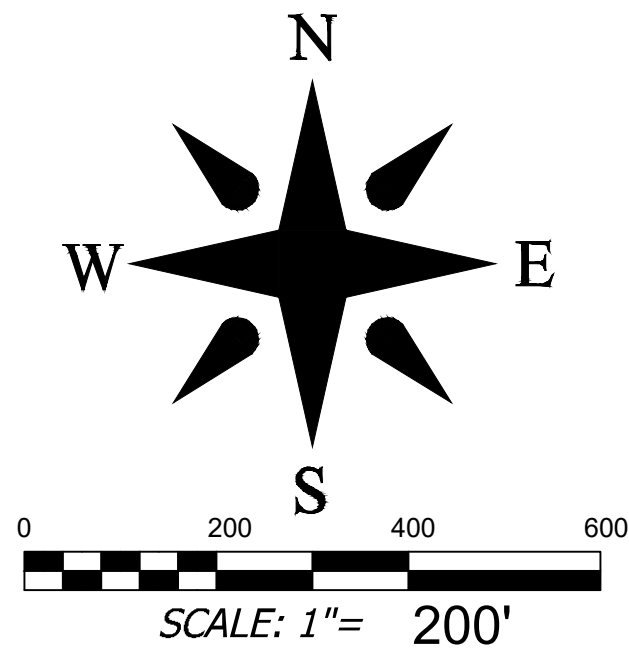
Drawing Title: EXISTING CONDITIONS & DEMO PLAN

RICH MOUNTAIN PHASE 3
MAJOR SUBDIVISION
NORTH CAROLINA
HENDERSON COUNTY

C-2.0

CLEARING AND GRUBBING LEGEND

- EXIST. BOUNDARY
- - - EXIST. ADJOINER
- - - EXIST. STREAM
- - - EXIST. STREAM BUFFER
- - - EXIST. WETLAND
- [Symbol] EXIST. FEMA NON-ENCROACHMENT
- [Symbol] EXIST. FEMA FLOOD HAZARD AREA (1%)
- [Symbol] EXIST. FEMA FLOOD HAZARD AREA (0.2%)
- - - EXIST. RIGHT OF WAY
- - - EXIST. MINOR CONTOUR
- - - EXIST. MAJOR CONTOUR
- - - SF TEMP. SILT FENCE
- [Symbol] TEMP. TREE PROTECTION FENCE
- [Symbol] TEMP. CONSTRUCTION ENTRANCE
- [Symbol] LIMITS OF DISTURBANCE
- [Symbol] TEMP. REINFORCED STABILIZED OUTLET
- [Symbol] TEMP. SLOPE MATTING

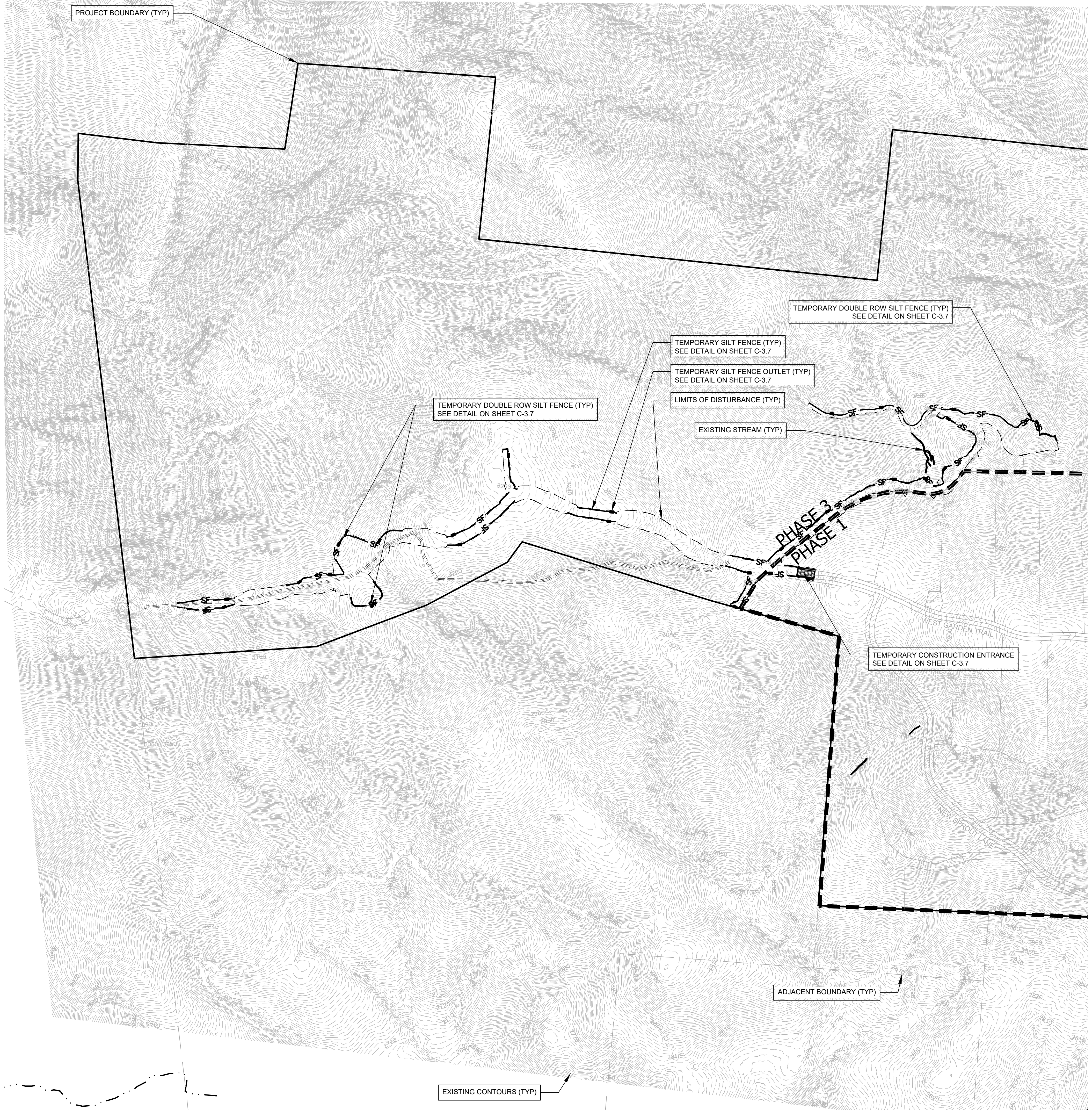


DEVELOPMENT DATA

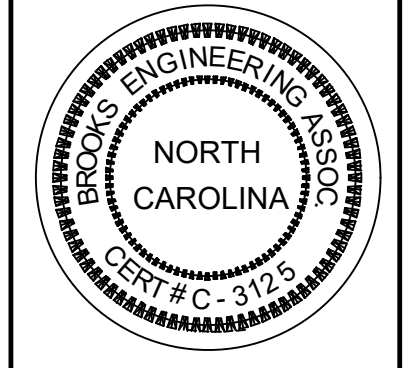
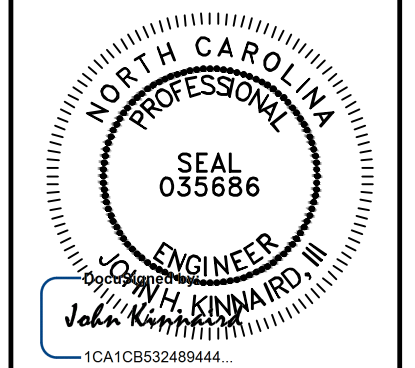
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EROSION CONTROL NOTES

1. ALL EROSION MEASURES AND PRACTICES SHALL BE IN ACCORDANCE WITH THE APPROPRIATE JURISDICTION'S DETAILS AND SPECIFICATIONS.
2. IN ACCORDANCE WITH THE NPDES GENERAL STORMWATER PERMIT, THE FOLLOWING CONDITIONS MUST BE MET:
2. THE EROSION CONTROL PLAN MUST BE IMPLEMENTED - DEVIATIONS ARE A VIOLATION OF THE PERMIT.
2. A COPY OF ALL PLANS MUST BE RETAINED BY THE PERMIT DEPOSITION OF SEDIMENT OFFSITE OR IN A STREAM OR WETLAND ARE CONSIDERED A VIOLATION OF THE PERMIT.
2. VISIBLE DEPOSITION OF SEDIMENT SHALL BE REPORTED TO NCDEQ WITHIN 24 HOURS OF INSPECTION.
2. A RAIN GAUGE SHALL BE MAINTAINED ON SITE.
2. A WRITTEN RECORD OF THE DAILY RAINFALL AMOUNTS SHALL BE RETAINED.
2. AT LEAST ONCE PER WEEK, EACH EROSION CONTROL MEASURE SHALL BE INSPECTED TO ENSURE THAT IT IS OPERATING CORRECTLY AND RECORDS MAINTAINED.
2. INSPECTIONS SHALL ALSO BE MADE WITHIN 24 HOURS OF RAIN EVENTS OVER 1/2 INCH.
2. THE QUALITY OF ALL STORMWATER DISCHARGES SHALL BE OBSERVED AND RECORDED.
2. IF ANY VISIBLE SEDIMENTATION IS LEAVING THE SITE OR ENTERING WATERS OF THE STATE, CORRECTIVE ACTION SHALL BE TAKEN IMMEDIATELY TO CONTROL THE DISCHARGE OF SEDIMENTS.
3. AN APPROVED COPY OF THE E&S PLAN WITH PLACARD AND APPROVAL LETTER AND A COPY OF THE NPDES PERMIT, WITH A MINIMUM OF 30 DAYS OF SELF-INSPECTION REPORTS, ARE TO BE KEPT ON SITE UNTIL PROJECT CLOSURE BY NCDEQ. THEY MUST BE MADE AVAILABE TO THE EROSION CONTROL INSPECTOR UPON REQUEST.
4. THE SELF-INSPECTION PROGRAM IS SEPARATE FROM THE WEEKLY SELF-MONITORING PROGRAM OF THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL USE THE INSPECTION AND MONITORING RECORDS FOR ACTIVITIES UNDER STORMWATER GENERAL PERMIT NCG010000 AND SELF-INSPECTION RECORDS FOR LAND DISTURBING ACTIVITIES PER G.S. 113A-54.1. THE INSPECTIONS SHOULD BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
5. ALL DRAINAGE EASEMENTS MUST BE GRASSED AND/OR RIP-RAPPED PER THE PLANS TO CONTROL EROSION.
6. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND-DISTURBING ACTIVITIES.
7. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE AND AN AMENDED PLAN BE SUBMITTED AND APPROVED SHOWING MODIFIED EROSION CONTROL DEVICES.
8. A RAIN GAUGE WILL BE INSTALLED ON THE SITE.
9. THE SITE SHALL RECEIVE TEMPORARY/PERMANENT SEEDING WHEN CONSTRUCTION IS COMPLETE OR DELAYED FOR ANY REASON. SEE SHEET C-3.9 FOR A DETAILED TIME FRAME.
10. CONTRACTOR TO PROVIDE INLET PROTECTION AT EACH STRUCTURE AS STORM SYSTEM IS CONSTRUCTED.
11. PROVIDE WATERTIGHT JOINTS ON ANY STORM DRAINS WHERE VELOCITIES EXCEED 15 FT/SEC (SEE PIPE CHART).
12. STOCKPILES OF TAGS, AND LAYDOWN AREAS ARE TO BE WITHIN THE LIMITS OF DISTURBANCE AND SHOULD BE LOCATED AT LEAST 50 FEET AWAY FROM STORM DRAIN OUTLETS AND SURFACE WATERS.
13. CONTACT HENDERSON COUNTY SITE DEVELOPMENT 48 HOURS PRIOR TO COMMENCEMENT OF LAND DISTURBING ACTIVITIES.



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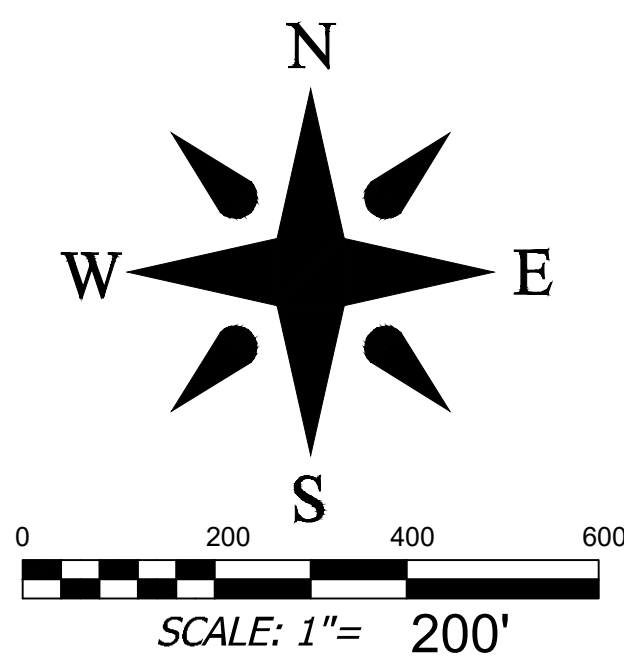
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Project No: 543521
Drawing Title: CLEARING & GRUBBING PLAN
RICH MOUNTAIN PHASE 3
MAJOR SUBDIVISION
HENDERSON COUNTY
NORTH CAROLINA
C-3.0

FINAL DRAWING - FOR REVIEW PURPOSES ONLY

GRADING AND STORMWATER LEGEND

- EXIST. BOUNDARY
- EXIST. ADJOINER
- EXIST. STREAM
- EXIST. STREAM BUFFER
- EXIST. RIGHT OF WAY
- EXIST. EASEMENT
- EXIST. BUILDING SETBACK
- EXISTING BUILDING
- EXISTING SIDEWALK
- EXISTING PAVEMENT
- EXIST. MINOR CONTOUR
- EXIST. MAJOR CONTOUR
- NEW BUILDING
- NEW PAVEMENT
- NEW HEADWALL
- NEW FLARED END SECTION
- ST — NEW STORM PIPE
- <-SW — RIP RAP LINED DITCH
- ELEV — NEW MINOR CONTOUR
- ELEV — NEW MAJOR CONTOUR
- ELEV — NEW SPOT GRADE
- NEW RIGHT OF WAY
- LIMITS OF DISTURBANCE
- NEW WALL (BY OTHERS)



DEVELOPMENT DATA

PROPERTY ADDRESS: LOCUST GROVE ROAD
HENDERSONVILLE NC

PIN NUMBER: SEE COVER SHEET

PROPERTY SIZE: PH3: 150.06 AC. - TOTAL: 377.96 AC.

ZONING REVIEW: HENDERSON COUNTY

EROSION CONTROL REVIEW: HENDERSON COUNTY

STORMWATER REVIEW: HENDERSON COUNTY

ZONING CLASSIFICATION: R3

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STORM AND EROSION NOTES

PROPERTY SIZE: PH3: 150.06 AC. - TOTAL: 377.96 AC.

PROPERTY STEEPER THAN 60%: 16.76 AC. (6.82%)

PROJECT DENSITY: PH3: 0.21 LOTS/AC. - TOTAL 0.22 LOTS/AC.

IMPERVIOUS SUMMARY:

ROADS: PH3: 1.48 AC. - TOTAL: 6.68 AC.

HOUSES & DRIVES (15,000 SF / LOT): 11.02 AC. - TOTAL: 28.58 AC.

TOTAL: 12.50 AC. (8.3%) - 35.26 AC. (9.3%)

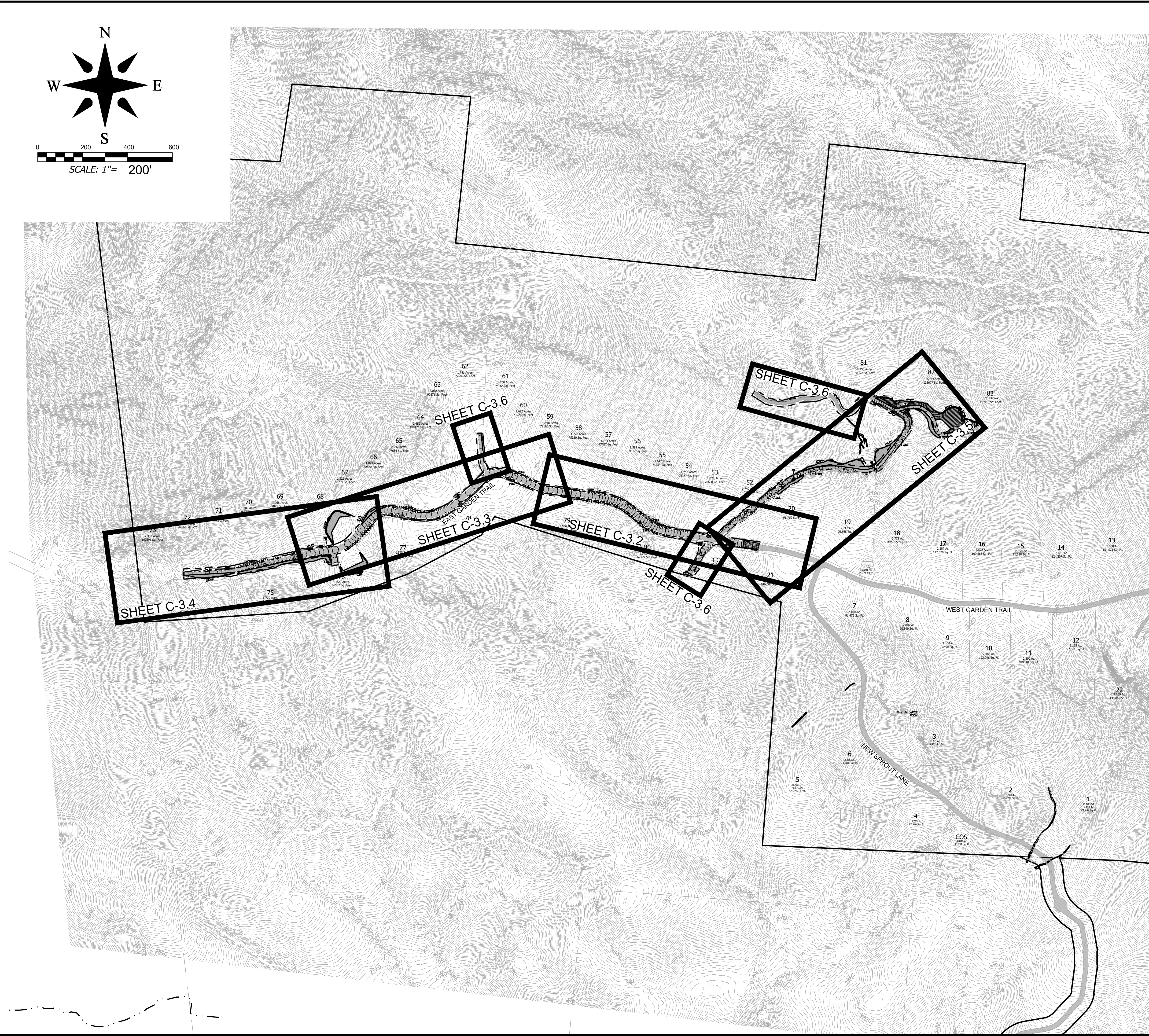
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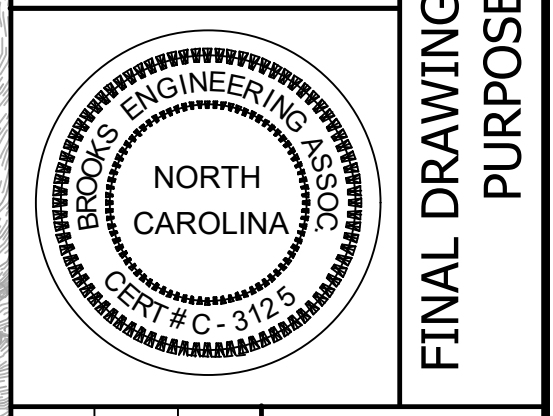
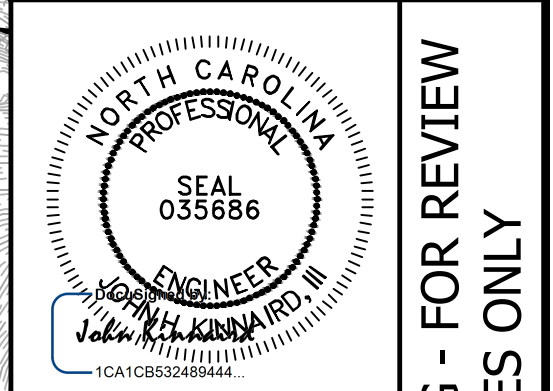
STORMWATER NOTES:

1. ALL STREAMS SHALL HAVE A 30' SETBACK FOR NEW BUILT-UPON AREAS.
2. ALL PIPE SHALL BE DOUBLE-WALL HDPE WITH PROPER STONE BEDDING AND SHALL HAVE A MINIMUM COVER OF 30".
3. ALL FILL SLOPES SHALL BE COMPACTED FULL DEPTH TO NOT LESS THAN 95 PERCENT MAXIMUM DENSITY (STANDARD PROCTOR), SHALL BE PLACED ON A SURFACE CLEAR OF GROWTH AND DEBRIS AND BE PROPERLY BENCHED AND DRAINED.
4. ALL SLOPES GREATER THAN 3:1 AND TALLER THAN 10 FEET SHALL BE SEEDED AND COVERED WITH MATTING AS SHOWN IN THE PLANS.
5. AN APPROVED GRADING PERMIT IS REQUIRED FOR ANY BORROW OR WASTE SITE PRIOR TO INITIATION OF ANY LAND DISTURBING ACTIVITY.

*ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF DETAILS, SPECIFICATIONS, AND OTHER DEVELOPMENT ORDINANCES OF HENDERSON CO.



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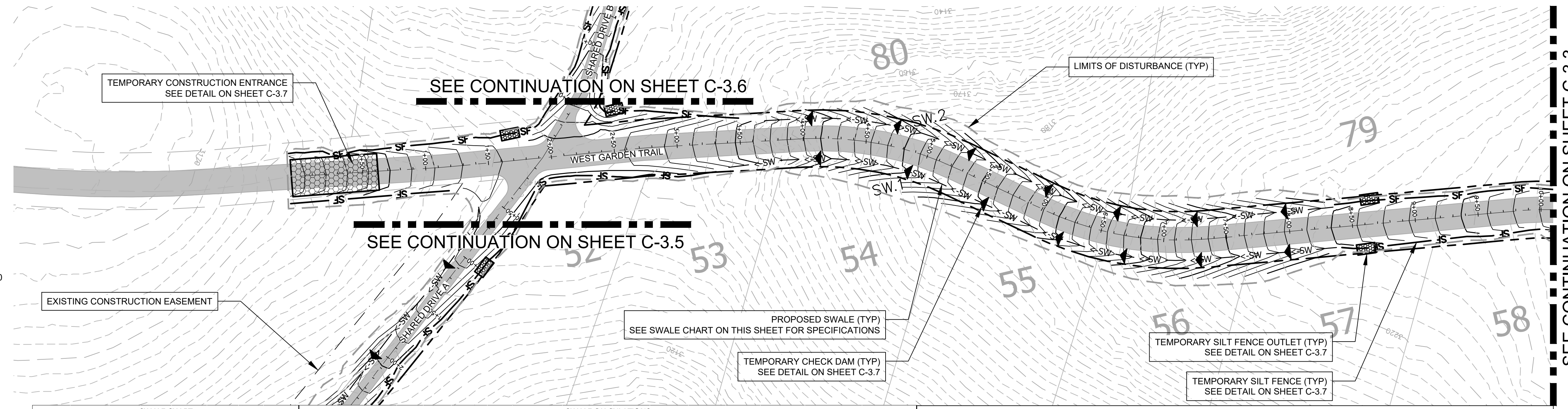
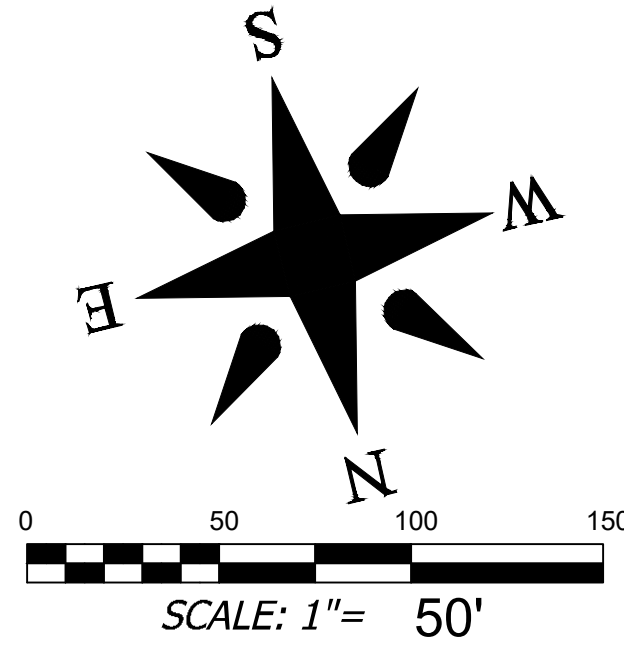
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www.brooksea.com

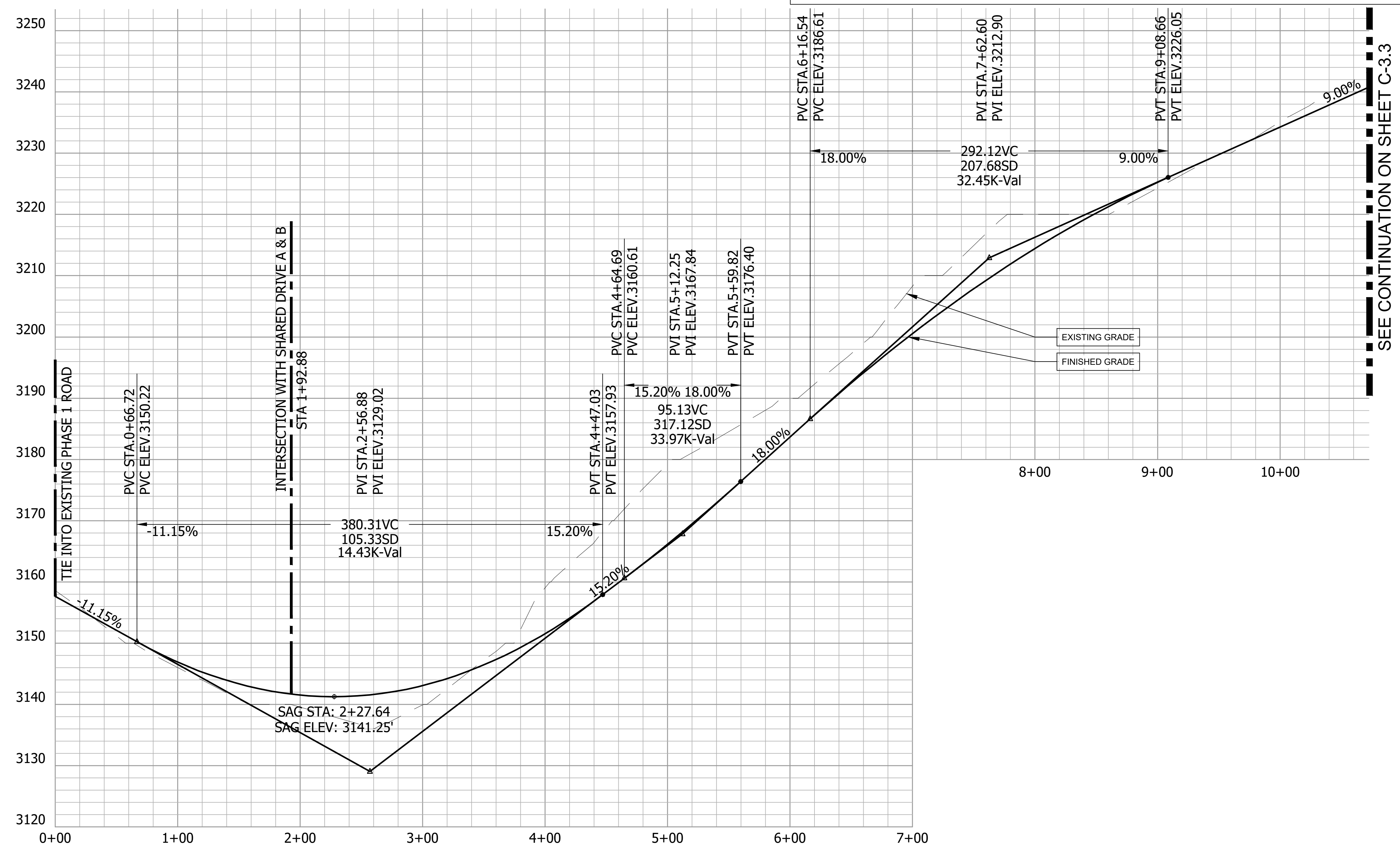
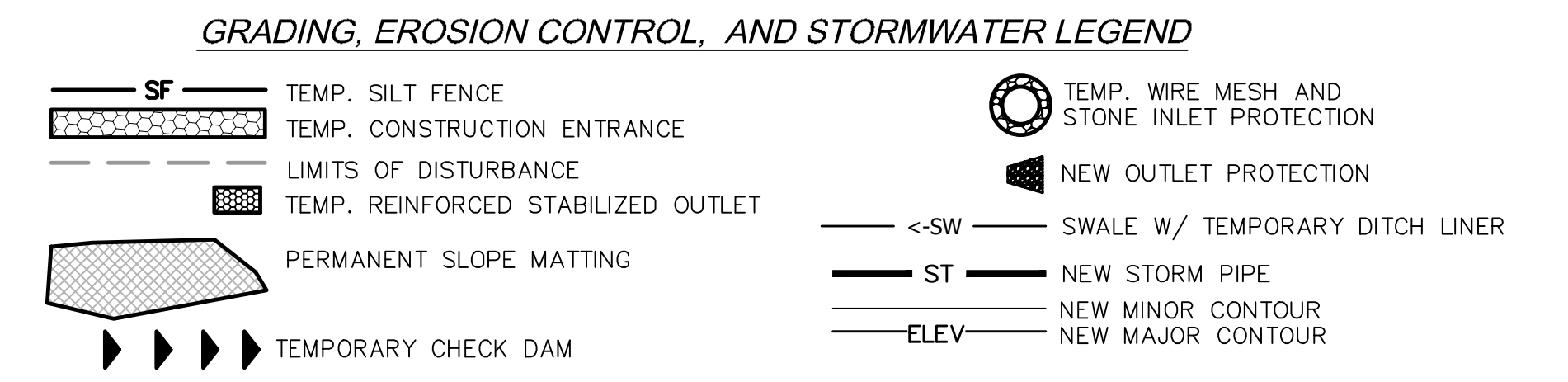
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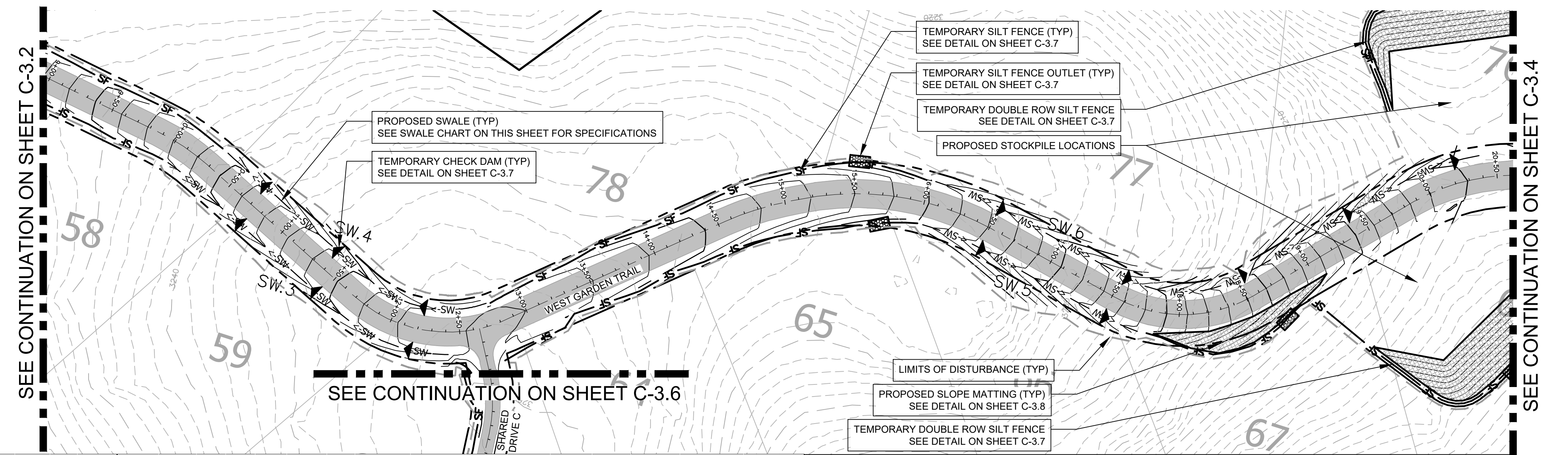
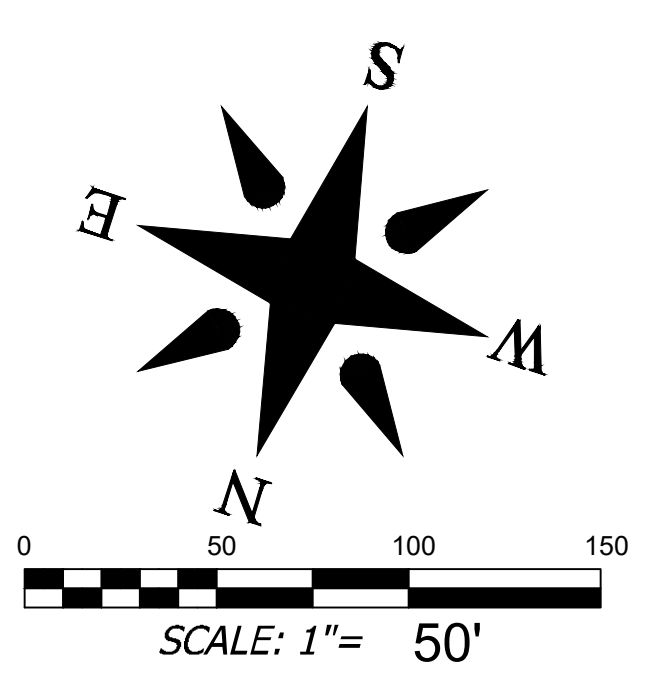
Project No: 543521	RICH MOUNTAIN PHASE 3	NORTH CAROLINA
C-3.1	MAJOR SUBDIVISION	HENDERSON COUNTY
Drawing Title: OVERALL ESC AND STORMWATER PLAN		



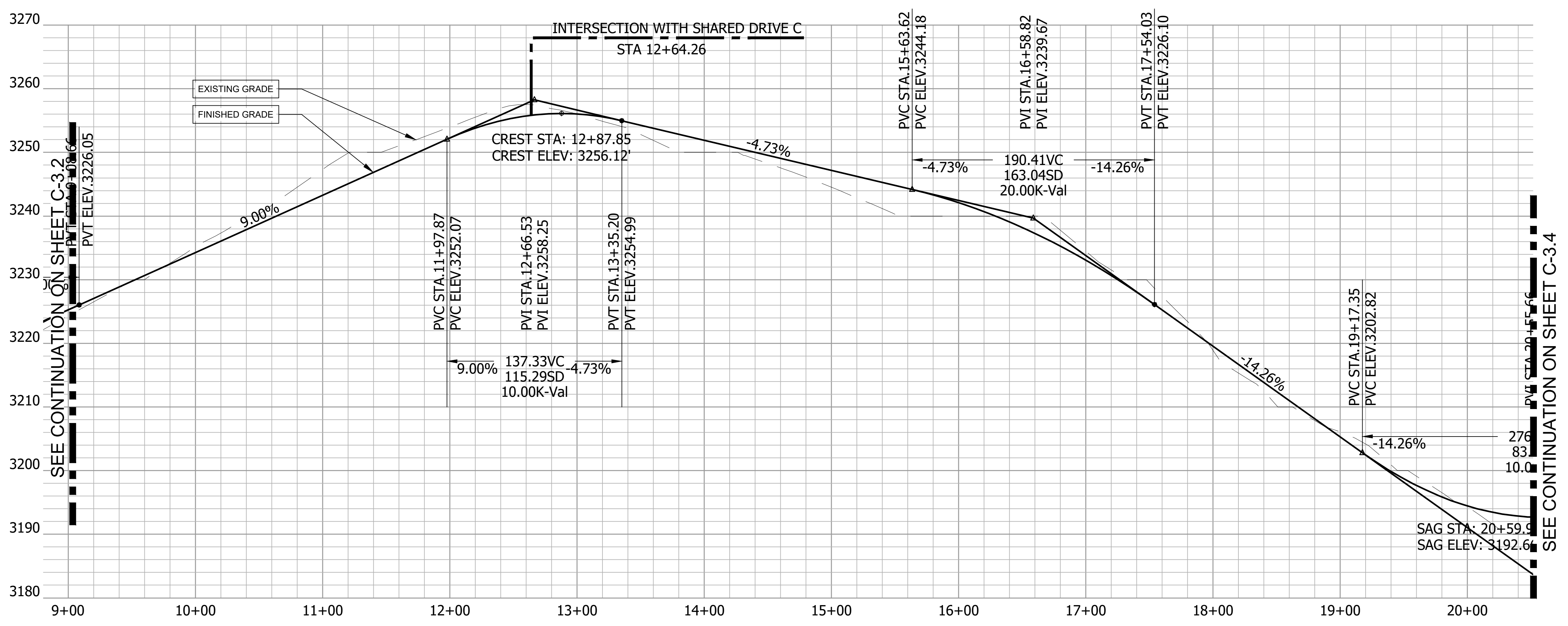
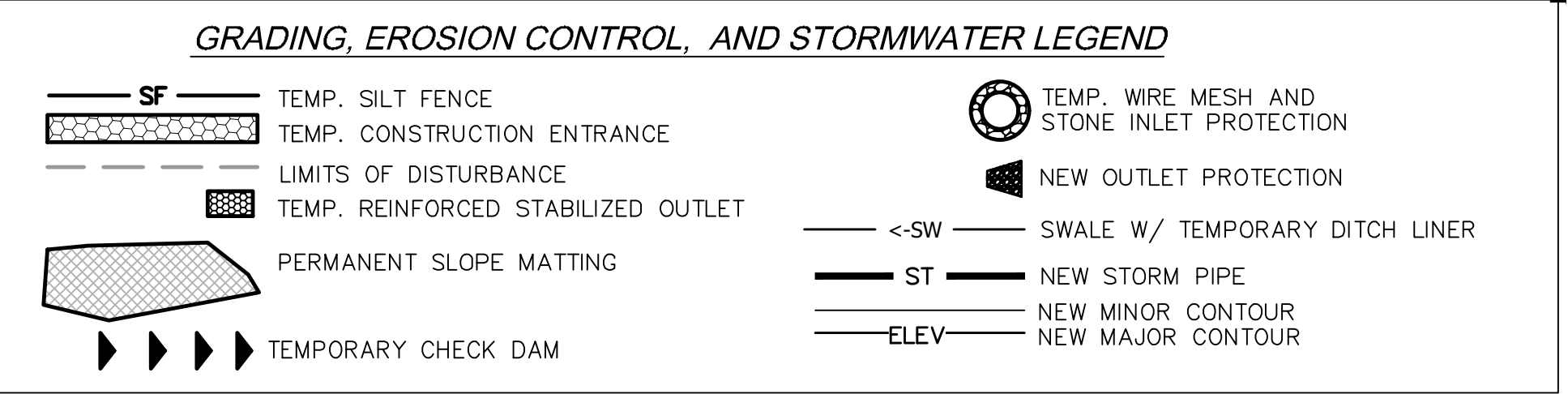
SWALE CHART										SWALE CALCULATIONS												
Swale Name	Swale Type	Up Invert	Down Invert	Side Slope - Z	b/m width b(ft)	Length	Slope	Drainage Du to Inlet	Drainage Da to Inlet	C Value	TOC	t_s	q swale	nf	UPSTREAM FLOW structure	DESIGN FLOW structure	Upstream q	Total q	Flow Depth	Velocity	Shear Stress	Reinforcement
SW.1	GRASS	3219.0'	3146.0'	3.0	0.0 ft	500 ft	14.6%	13,492 sf	0.3 ac	0.57	5 min	8.34	1.48 cfs	0.025	none	none	0.00 cfs	1.48 cfs	3.4 ft	6.3 fps	2.55	NAG P300
SW.2	GRASS	3219.0'	3152.0'	3.0	0.0 ft	465 ft	14.4%	12,136 sf	0.3 ac	0.59	5 min	8.34	1.36 cfs	0.025	none	none	0.00 cfs	1.36 cfs	3.2 ft	6.2 fps	2.43	NAG P300



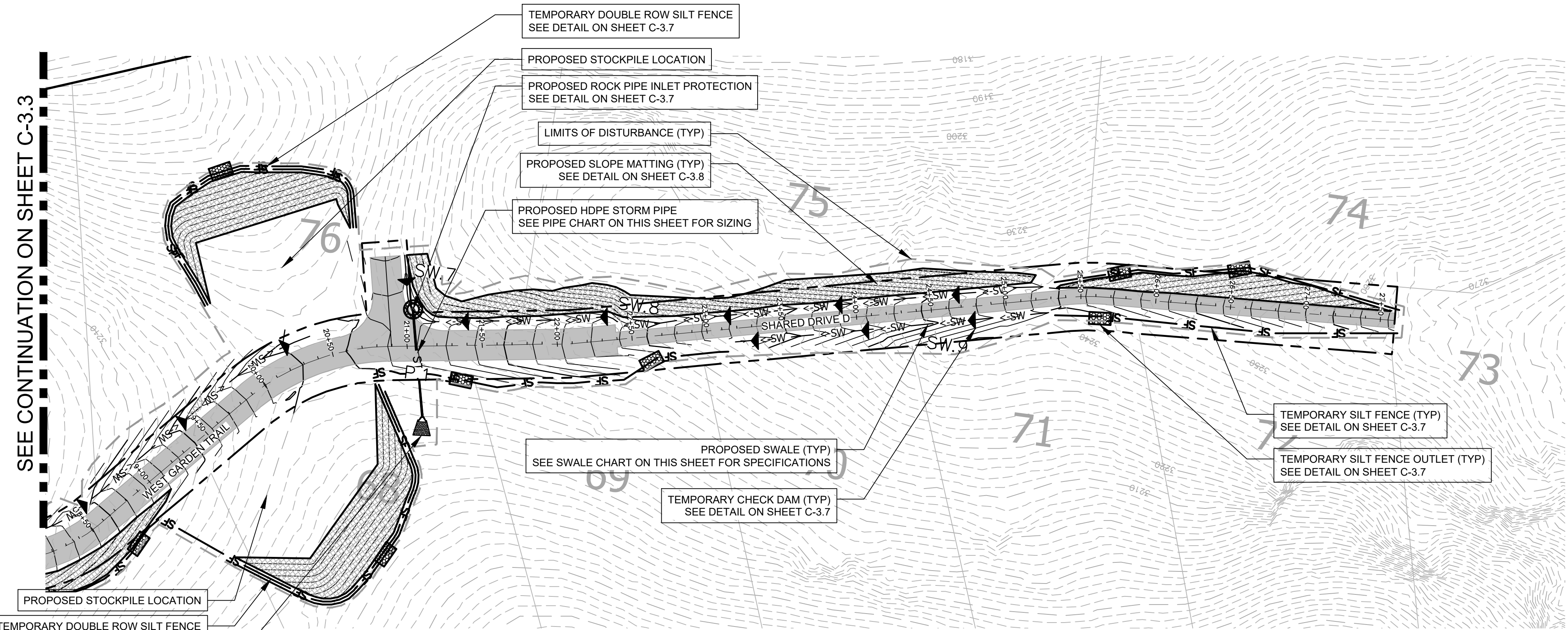
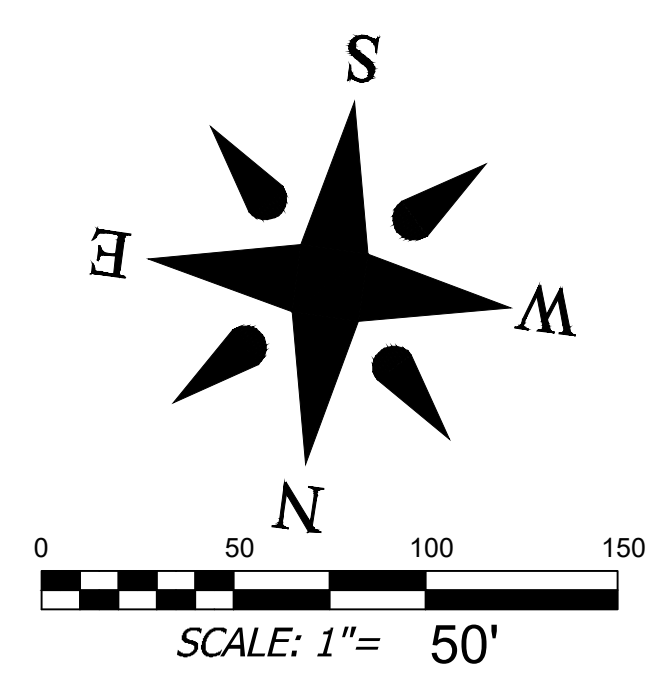
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								1 HENDERSON COUNTY PLANNING	12-15-2022		
								2 TRC SUBMITTAL	01-12-2023		
								FINAL DRAWING - FOR REVIEW PURPOSES ONLY			
BROOKS ENGINEERING ASSOCIATES Planning • Engineering • Surveying • Environmental Services •				15 Arlington Street Asheville, N.C. 28801 Phone: 1-828-232-4700 Fax: 1-828-232-1331 www.brookssea.com							
File Location: L:\2021 Projects\543521\Rich Falls_Rich Mtn_Due Diligence\Draw (Phase 3)\Civil-Base-543521_P103.dwg											



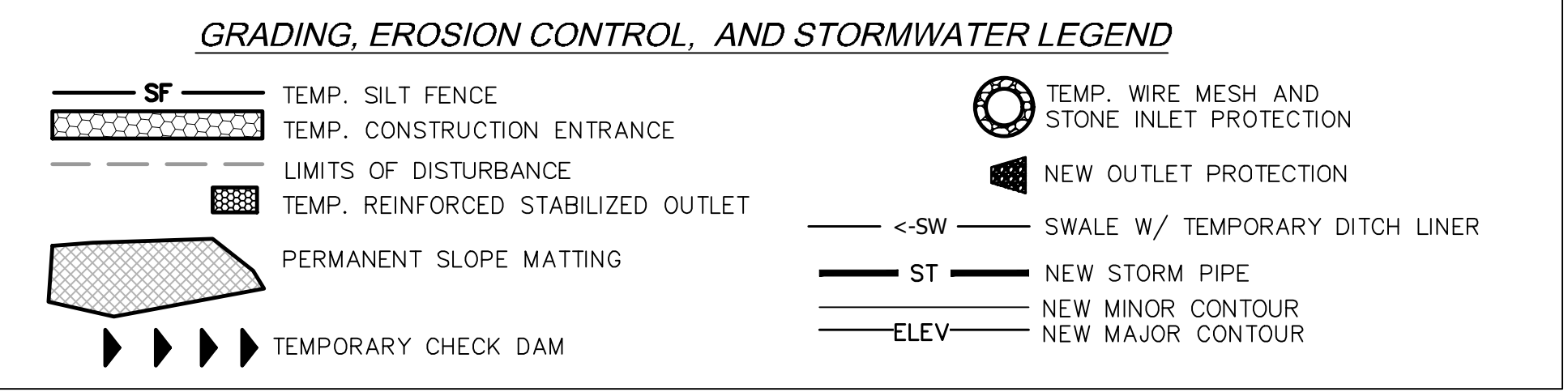
SWALE CHART										SWALE CALCULATIONS												
Swale Name	Swale Type	Up Invert	Down Invert	Side Slope - Z	btm width	Length	Slope	Da to Inlet	Da to Outlet	C Value	TOC	ts	q swale	nf	structure	structure	Upstream q	Total q	Flow Depth	Velocity	Shear Stress	Reinforcement
SW.3	GRASS	3256.0	3235.0	3.0	0.5 ft	250 ft	8.4%	5,029 sf	0.7 ac	0.63	5 min	8.34	0.61 cfs	0.025	none	none	0.00 cfs	0.61 cfs	1.9 in	3.9 fps	0.84	Straw with Net (Temporary)
SW.4	GRASS	3256.0	3239.0	3.0	0.0 ft	225 ft	7.6%	4,961 sf	0.7 ac	0.62	5 min	8.34	0.58 cfs	0.025	none	none	0.00 cfs	0.58 cfs	2.6 in	4.0 fps	1.04	Straw with Net (Temporary)
SW.5	GRASS	3239.0	3221.0	3.0	0.0 ft	170 ft	10.6%	6,688 sf	0.2 ac	0.51	5 min	8.34	0.66 cfs	0.025	none	none	0.00 cfs	0.66 cfs	2.8 in	4.5 fps	1.45	Synthetic Net (Temporary)
SW.6	GRASS	3239.0	3189.0	3.0	0.0 ft	430 ft	11.6%	11,457 sf	0.3 ac	0.58	5 min	8.34	1.28 cfs	0.025	none	none	0.00 cfs	1.28 cfs	3.4 in	5.4 fps	2.03	NAG P300



Project No: 543521	Drawing Title: C-3.3	Rich Mountain Phase 3 Major Subdivision Henderson County North Carolina	 Planning • Engineering • Surveying • Environmental Services •	Design: ZAW Drawn: ZAW Checked: JHK	Review: JHK Scale: AS NOTED Date: 01-12-2023	15 Arlington Street Asheville, N.C. 28801 Phone: 1-828-232-4700 Fax: 1-828-232-1331 www.brookssea.com
				No. 1 No. 2	REVISIONS/SUBMISSIONS HENDERSON COUNTY PLANNING TRC SUBMITTAL	Date 12-16-2022 01-12-2023
SEE CONTINUATION ON SHEET C-3.2 SEE CONTINUATION ON SHEET C-3.4 SEE CONTINUATION ON SHEET C-3.6			FINAL DRAWING - FOR REVIEW PURPOSES ONLY			

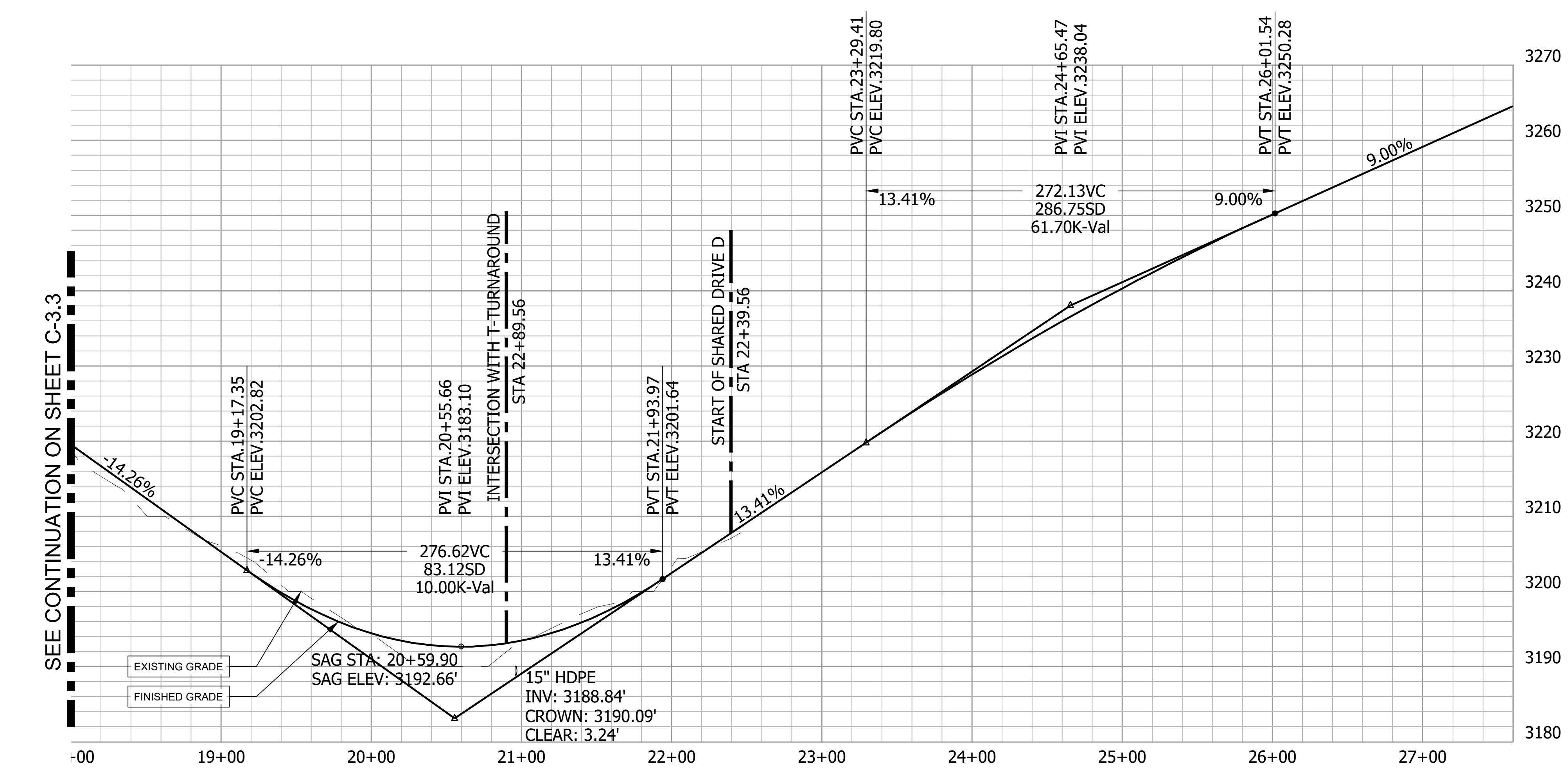


GRADING, EROSION CONTROL, AND STORMWATER LEGEND

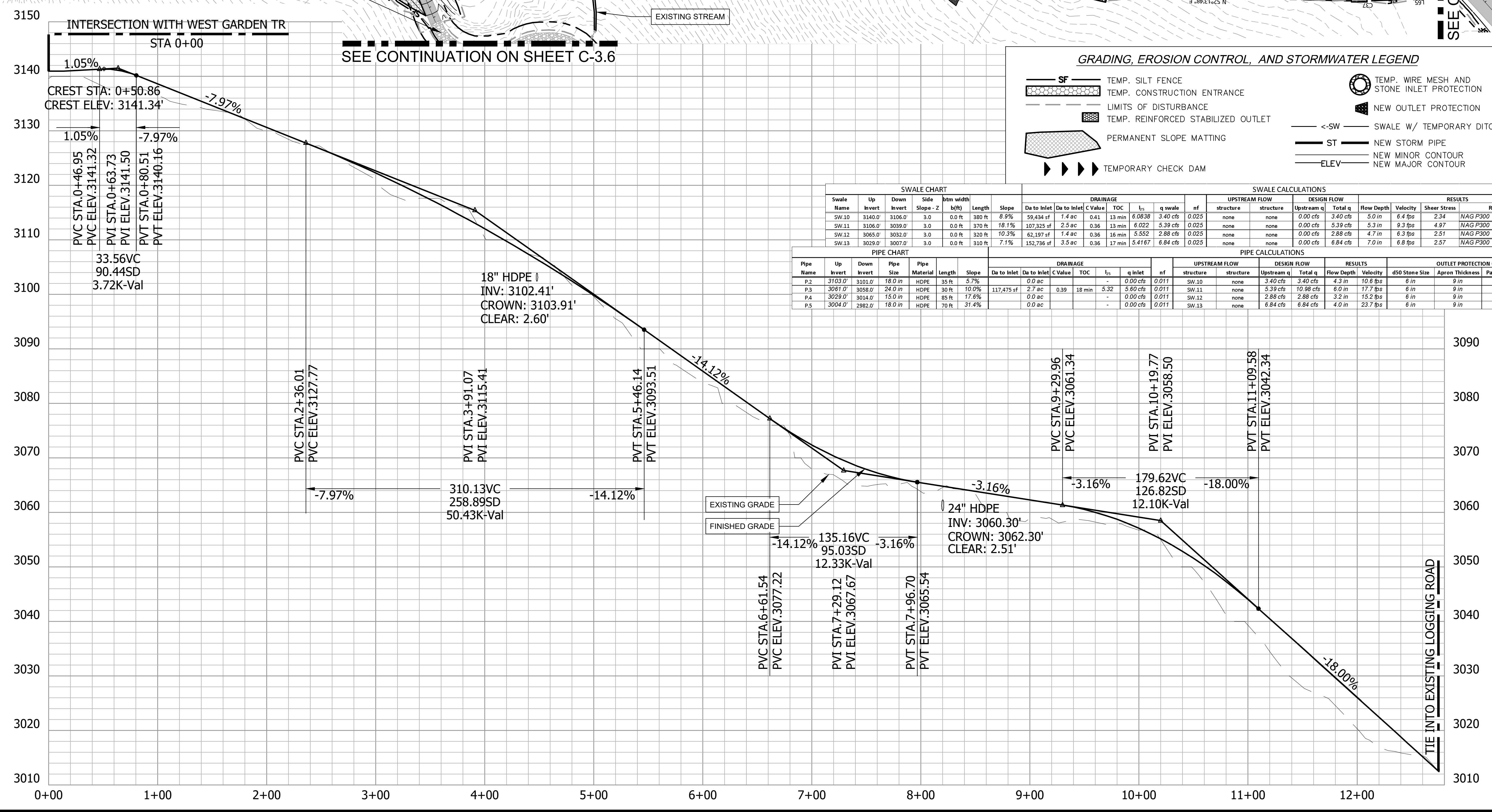
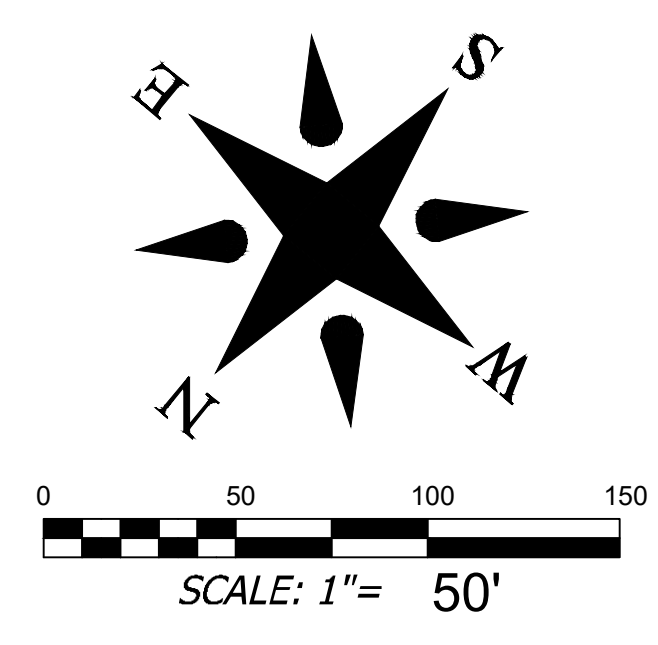
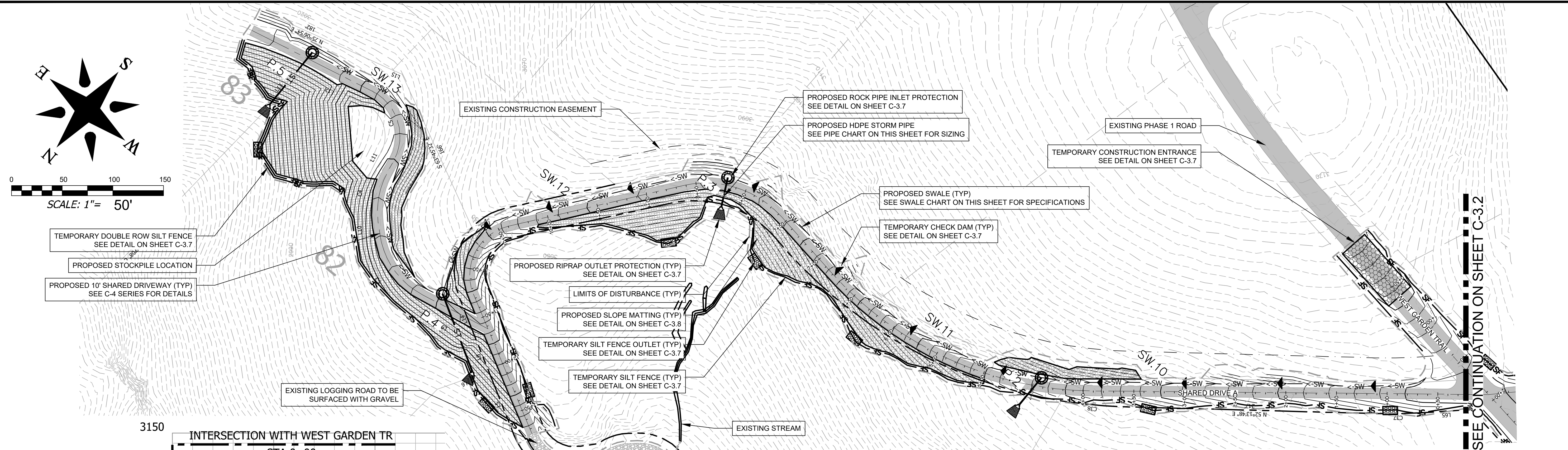


SWALE CHART										SWALE CALCULATIONS												
Swale Name	Swale Type	Up Invert	Down Invert	Side Slope - Z	btm width (bft)	Length	Slope	Da to Inlet	Da to Inlet	C Value	TOC	t_s	q swale	nf	structure	structure	Upstream q	Total q	Flow Depth	Velocity	Shear Stress	Reinforcement
SW.6	GRASS	3239.0'	3189.0'	3.0	0.0 ft	430 ft	11.6%	11,457 sf	0.3 ac	0.58	5 min	8.34	1.28 cfs	0.025	none	none	0.00 cfs	1.28 cfs	3.4 in	5.4 fps	2.03	NAG P300
SW.7	GRASS	3195.0'	3191.0'	3.0	0.0 ft	40 ft	10.0%	4,221 sf	0.1 ac	0.39	5 min	8.34	0.32 cfs	0.025	none	none	0.00 cfs	0.32 cfs	2.0 in	3.7 fps	1.06	Straw/wh Net (Temporary)
SW.8	GRASS	3238.0'	3191.0'	3.0	0.0 ft	425 ft	11.1%	21,868 sf	0.5 ac	0.42	5 min	8.34	1.76 cfs	0.025	none	none	0.00 cfs	1.76 cfs	3.8 in	5.7 fps	2.21	NAG P300
SW.9	GRASS	3238.0'	3215.0'	3.0	0.0 ft	210 ft	11.0%	3,940 sf	0.1 ac	0.51	5 min	8.34	0.39 cfs	0.025	none	none	0.00 cfs	0.39 cfs	2.2 in	4.0 fps	1.23	Straw/wh Net (Temporary)

PIPE CHART										PIPE CALCULATIONS												
Pipe Name	Road Elevation	Up Invert	Down Invert	Pipe Size	Pipe Material	Length	Slope	Da to Inlet	Da to Inlet	C Value	TOC	t_s	q Inlet	nf	structure	structure	Upstream q	Total q	Flow Depth	Velocity	d50 Stone Size	Outlet Protection
P.1	3193.0'	3190.0'	3187.0'	15.0 in	HDPE	66 ft	4.5%	0.0 ac	0.0 ac	0.58	5 min	8.34	0.00 cfs	0.011	SW.7	SW.8	2.08 cfs	2.08 cfs	3.7 in	8.7 fps	6 in	Apron Thickness 9 in, Pad Length 10 ft, Pad Width 14 ft



Project No: 543521	Drawing Title: C-3.4	Project Name: RICH MOUNTAIN PHASE 3 MAJOR SUBDIVISION	Location: HENDERSON COUNTY NORTH CAROLINA	Date: 12-15-2022	REVISIONS/SUBMISSIONS	
					No. Description Date	
				1	HENDERSON COUNTY PLANNING	12-15-2022
				2	TRC SUBMITTAL	01-12-2023
				Professional Engineer Seal: JHK, SEAL 035686, NORTH CAROLINA ENGINEER, JOHN KINNIRY, 10A11032424844		
				Professional Engineer Seal: BROOKS, NORTH CAROLINA ENGINEERING ASSOCIATES, CERT. NO. C-325		
				Final Drawing - FOR REVIEW PURPOSES ONLY		
				Designed: ZAW	Reviewed: JHK	15 Arlington Street Asheville, N.C. 28801 Phone: 1-828-232-4700 Fax: 1-828-232-1331 www.brookssea.com
				Drawn: ZAW	Scale: AS NOTED	
				Checked: JHK	Date: 01-12-2023	
				Brooks Engineering Associates logo and services: Planning • Engineering • Surveying • Environmental Services •		
				File Location: L:\2021 Projects\543521 Riddle Falls_Rich Mtn. Dev Diligence\DWG (Phase 3)\Civil-Base-543521 PH3.dwg		



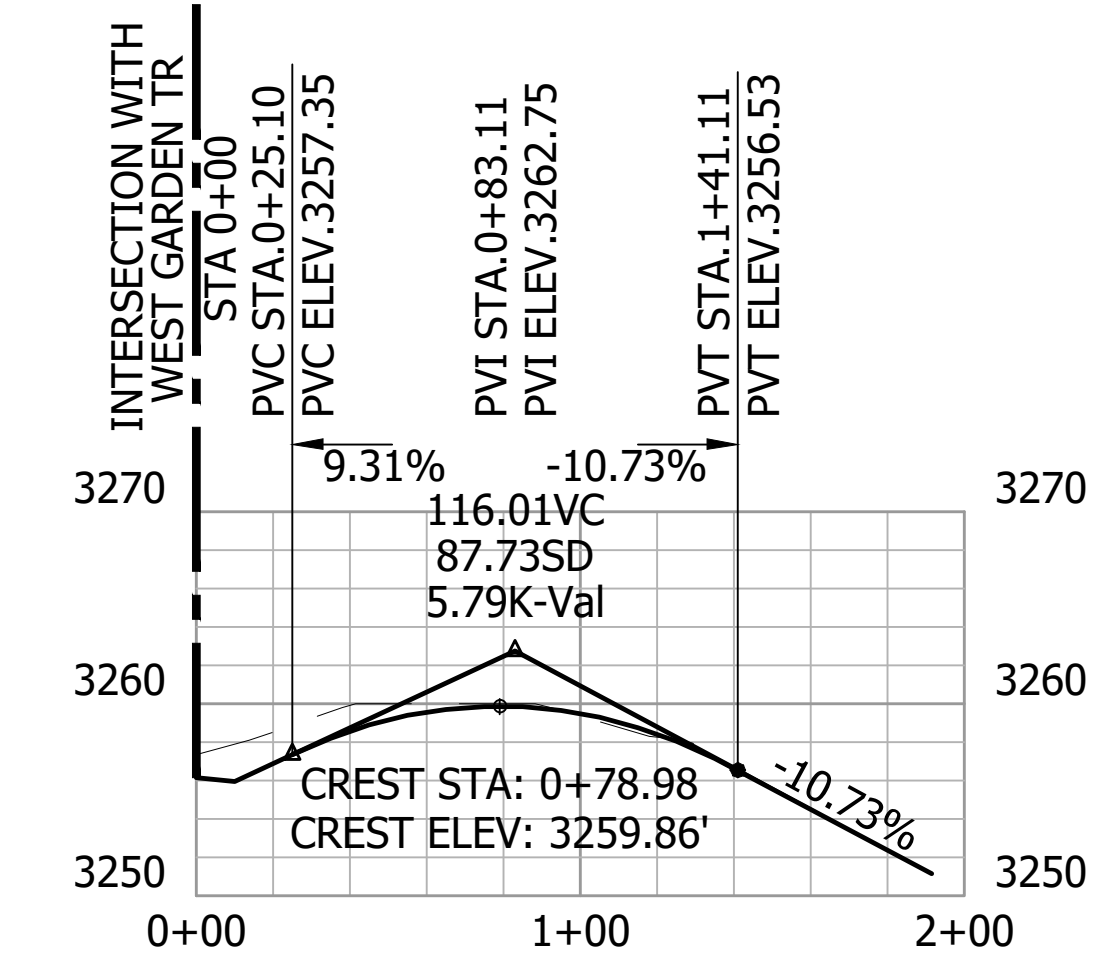
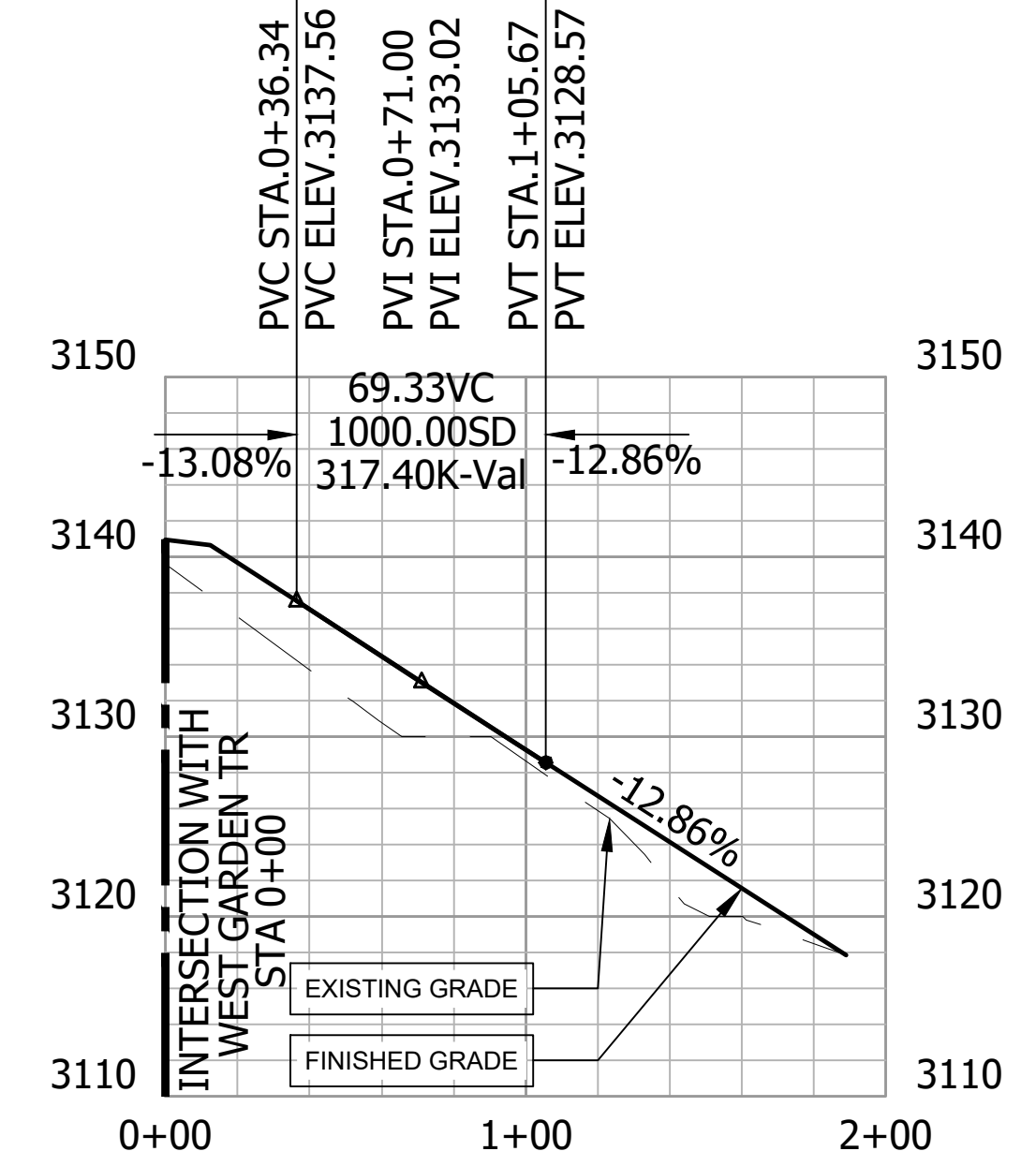
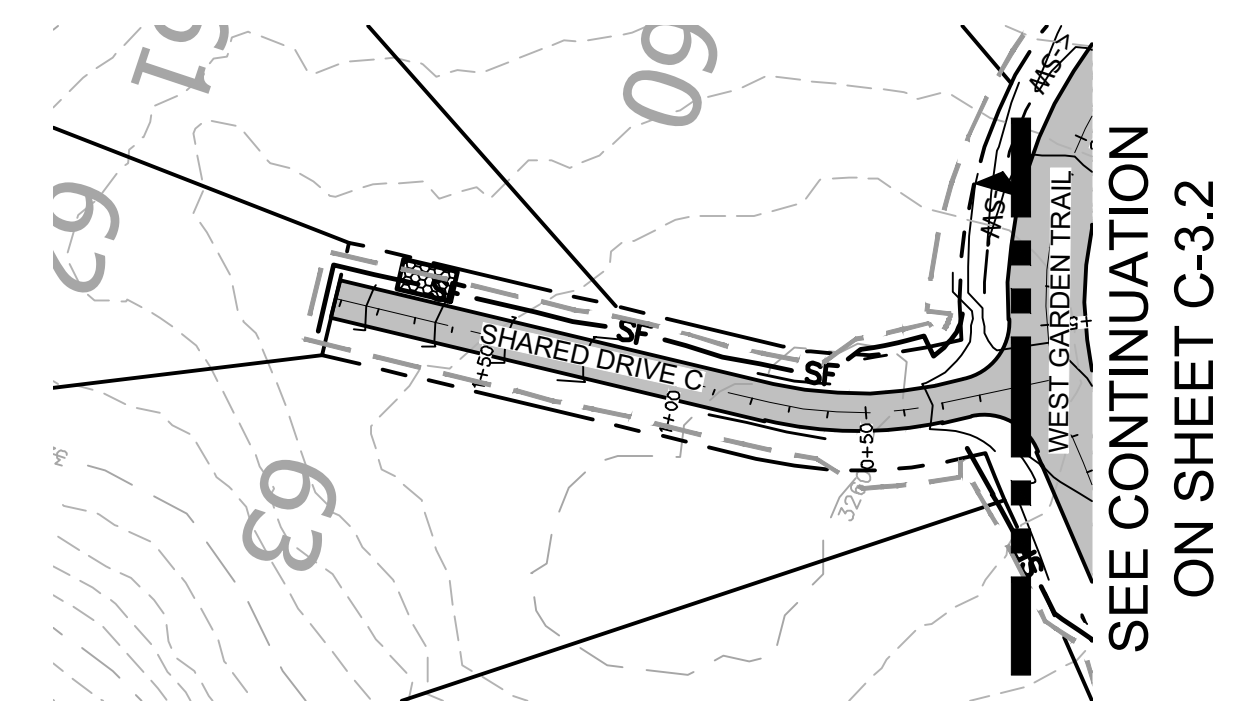
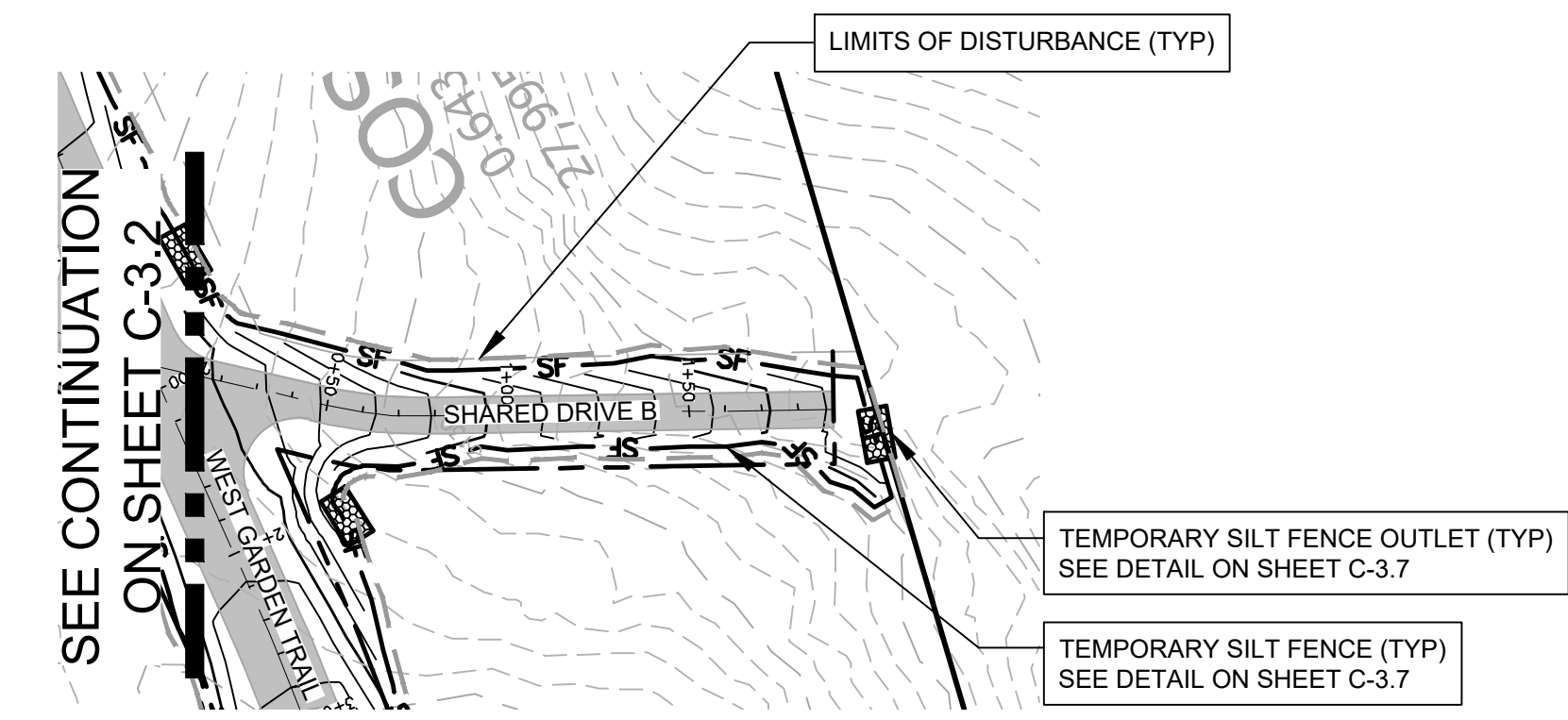
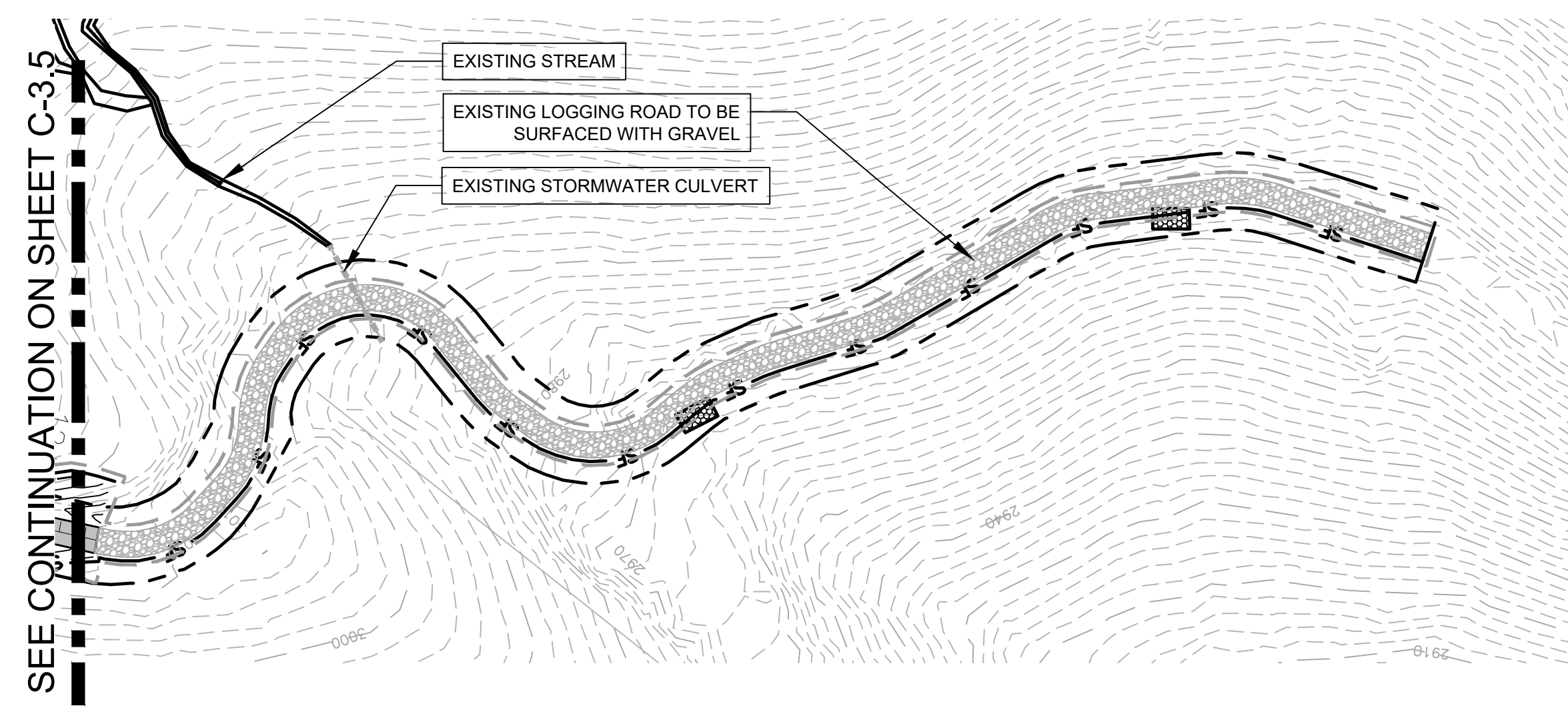
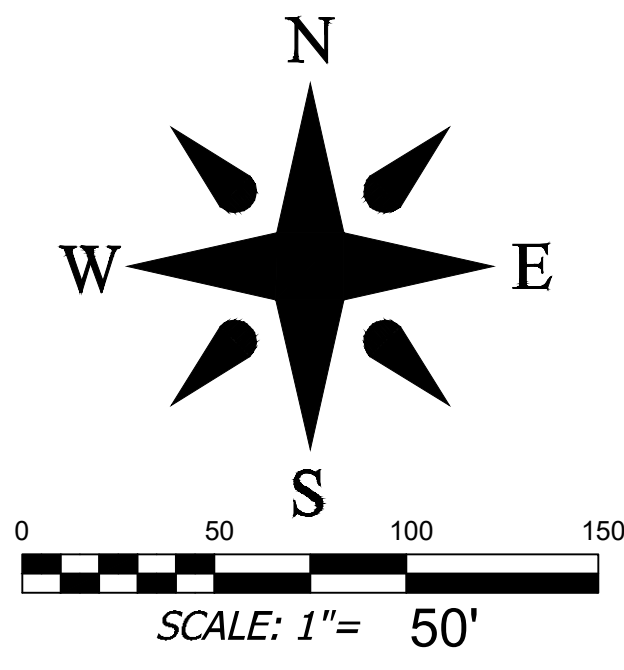
GRADING, EROSION CONTROL, AND STORMWATER LEGEND

- SF: TEMP. SILT FENCE
- TEMP. CONSTRUCTION ENTRANCE
- LIMITS OF DISTURBANCE
- TEMP. REINFORCED STABILIZED OUTLET
- PERMANENT SLOPE MATTING
- TEMPORARY CHECK DAM
- TEMP. WIRE MESH AND STONE INLET PROTECTION
- NEW OUTLET PROTECTION
- SWALE W/ TEMPORARY DITCH LINER
- NEW STORM PIPE
- NEW MINOR CONTOUR
- NEW MAJOR CONTOUR

SWALE CHART													
Swale Name	Up Invert	Down Invert	Slope - Z	btm width b(ft)	Length	Slope	Drainage	Da to Inlet	Da to Inlet	C Value	TOC	ls	q swale
SW.10	3140.07	3106.07	3.0	0.0 ft	380 ft	8.9%	59,434 sf	1.4 ac	0.41	13 min	6.0838	3.40 cfs	0.025
SW.11	3106.07	3099.07	3.0	0.0 ft	370 ft	18.1%	107,245 sf	2.5 ac	0.36	13 min	6.0221	5.39 cfs	0.025
SW.12	3085.07	3093.07	3.0	0.0 ft	320 ft	10.3%	62,197 sf	1.4 ac	0.36	16 min	5.552	2.88 cfs	0.025
SW.13	3029.07	3007.07	3.0	0.0 ft	310 ft	7.1%	152,736 sf	3.5 ac	0.36	17 min	5.4167	6.84 cfs	0.025

PIPE CHART													
Pipe Name	Up Invert	Down Invert	Pipe Size	Pipe Material	Length	Slope	Drainage	Da to Inlet	Da to Inlet	C Value	TOC	ls	q Inlet
P.2	3103.07	3101.07	18.0 in	HDPE	35 ft	5.7%	0.0 ac	0.0 ac	0.011	SW.10	none	3.40 cfs	3.40 cfs
P.3	3081.07	3058.07	24.0 in	HDPE	30 ft	10.0%	117,475 sf	2.7 ac	0.39	18 min	5.32	5.60 cfs	0.011
P.4	3029.07	3014.07	18.0 in	HDPE	85 ft	17.6%	0.0 ac	0.0 ac	0.011	SW.12	none	2.88 cfs	2.88 cfs
P.5	3004.07	2982.07	18.0 in	HDPE	70 ft	31.4%	0.0 ac	0.0 ac	0.011	SW.13	none	6.84 cfs	6.84 cfs

Project No: 543521	Drawing Title: C-3.5	Project: RICH MOUNTAIN PHASE 3 MAJOR SUBDIVISION	Location: HENDERSON COUNTY NORTH CAROLINA	Revisions/Submissions	Date
				1 HENDERSON COUNTY PLANNING	12-15-2022
				2 TRC SUBMITTAL	01-12-2023
				FINAL DRAWING - FOR REVIEW PURPOSES ONLY	
				Reviewer: JHK Designer: ZAW Drafter: ZAW Checked: JHK Scale: AS NOTED Date: 01-12-2023	
				15 Arlington Street Asheville, N.C. 28801 Phone: 1-828-232-4700 Fax: 1-828-232-1331 www.brookssea.com	
Planning • Engineering • Surveying • Environmental Services •				ESC AND STORM PLAN WITH ROAD PROFILES File Location: L:\2021 Projects\543521 Riddle Falls_Rich.Mtn. Dwg\Eng\Draw\Phase 3\Civil-Bases-543521 P13.dwg	



GRADING, EROSION CONTROL, AND STORMWATER LEGEND

TEMP. SILT FENCE	TEMP. WIRE MESH AND STONE INLET PROTECTION
TEMP. CONSTRUCTION ENTRANCE	NEW OUTLET PROTECTION
LIMITS OF DISTURBANCE	SWALE W/ TEMPORARY DITCH LINER
TEMP. REINFORCED STABILIZED OUTLET	NEW STORM PIPE
PERMANENT SLOPE MATTING	NEW MINOR CONTOUR
TEMPORARY CHECK DAM	NEW MAJOR CONTOUR

Project No: 543521	Drawing Title: ESC AND STORM PLAN WITH ROAD PROFILES	RICH MOUNTAIN PHASE 3 MAJOR SUBDIVISION HENDERSON COUNTY NORTH CAROLINA	Date: 12-16-2022	REVISIONS/SUBMISSIONS HENDERSON COUNTY PLANNING TRC SUBMITTAL	No. 1 No. 2
			FINAL DRAWING - FOR REVIEW PURPOSES ONLY		
Planning • Engineering • Surveying • Environmental Services •			Reviewer: JHK Scale: AS NOTED Date: 01-12-2023		
Designer: ZAW Drawn: ZAW Checked: JHK			15 Arlington Street Asheville, N.C. 28801 Phone: 1-828-232-4700 Fax: 1-828-232-1331 www.brookssea.com		
Revision/Submission number with a change indicates changes made on this sheet					

CONSTRUCTION SEQUENCE

- HOLD A PRE-CONSTRUCTION MEETING PRIOR TO OBTAINING A LAND DISTURBING PERMIT FROM HENDERSON COUNTY. OBTAIN PERMIT.
- SURVEY AND DELINEATE THE LIMITS OF DISTURBANCE.
- CALL THE ENGINEER AT 828-232-4700 TO SCHEDULE PRE-CONSTRUCTION MEETING AT LEAST 48 HOURS PRIOR TO PROJECT ACTIVATION. INCLUDE HENDERSON COUNTY SITE DEVELOPMENT DEPARTMENT IN THE PRE-CONSTRUCTION MEETING INVITE.
- INSTALL RAIN GAUGE ON SITE.
- INSTALL PERMIT BOX (INSPECTION REPORTS AND PERMITS TO BE PLACED IN BOX).
- INSTALL CONSTRUCTION ENTRANCE / EXITS.
- INSTALL ALL PERIMETER DEVICES SUCH AS SILT FENCE AND SILT DITCHES.
- INSTALL ALL CONSTRUCTION FENCING AS REQUIRED BY OWNER.
- HAVE THE SITE INSPECTED BY THE ENGINEER AND HENDERSON COUNTY EROSION CONTROL PRIOR TO PROCEEDING WITH MASS GRADING.
- CONTINUE WITH CLEARING TO REMOVE ALL VEGETATION, INCLUDING ROOT MATS, FROM THE PROPOSED LIMITS OF DISTURBANCE.
- STOCKPILE TOPSOIL IN DESIGNATED AREA.
- TUB GRIND ALL VEGETATION AND STOCKPILE MATERIAL.
- DURING MASS GRADING, BEGIN TO INSTALL PERMANENT RUNOFF CONVEYANCE SYSTEMS SUCH AS STORM DRAINAGE, INLETS, DITCHES, AND PERMANENT DIVERSION.
- INSTALL REMAINING STORM DRAINAGE SYSTEM AND INLET AND OUTLET PROTECTION DEVICES SIMULTANEOUSLY.
- INSTALL SLOPE MAPPING ON ALL CUT AND FILL SLOPES IN ACCORDANCE WITH PERMIT TIME REQUIREMENTS.
- MONITOR DUST DURING EARTH MOVING ACTIVITIES. IF DUST FORMS, WET SITE TO ELIMINATE LOSS OF DUST SEDIMENT.
- BRING ALL FILL AREAS TO FINAL GRADE. A GEOTECH MUST MONITOR ALL FILL BANKS AND MATERIAL FORMING THE ROAD BASE AND ALL CUT AND FILL SLOPES GREATER THAN 3:1.
- FINE GRADE ROADS.
- INSTALL STONE AND BINDER ON ROAD AREAS.
- PROVIDE PERMANENT VEGETATION FOR THE REMAINDER OF THE SITE.
- CONTACT EROSION CONTROL INSPECTOR AND REQUEST CLOSEOUT OF THE CONSTRUCTION ACTIVITIES PERMIT.
- REMOVE ALL SEDIMENT FENCE, COLLECTED SEDIMENT, INLET PROTECTION, ETC. AND DISPOSE IN PERMITTED CONSTRUCTION DEBRIS LANDFILL.

N CONSTRUCTION SEQUENCE

SCALE= NTS

General Notes

All seeding to be in accordance with NCDEQ STD #6.11

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

All Roadway Areas	
March 1-August 31	September 1-February 28
50 lbs Tall Fescue	50 lbs Tall Fescue
10 lbs Centipede	10 lbs Centipede
25 lbs Bermudagrass (hulled)	35 lbs Bermudagrass (hulled)
500 lbs Fertilizer	500 lbs Fertilizer
4000 lbs Limestone	4000 lbs Limestone

Waste and Borrow Locations	
March 1-August 31	September 1-February 28
75 lbs Tall Fescue	75 lbs Tall Fescue
25 lbs Bermudagrass (hulled)	35 lbs Bermudagrass (hulled)
500 lbs Fertilizer	500 lbs Fertilizer
4000 lbs Limestone	4000 lbs Limestone

On cut and fill slopes 2:1 or steeper, Centipede shall be applied at the rate of 5 lbs/acre and add 20 lbs of Sericea Lespedeza from January 1-December 31

Fertilizer Topdressing

Fertilizer used for topdressing on all roadway areas except slopes 2:1 and steeper shall be 10-20-20 grade and shall be applied at the rate of 500 lbs/acre. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 10-20-20 analysis and as directed.

Fertilizer used for topdressing on slopes 2:1 and steeper and waste and borrow areas shall be 16-8-8 grade and shall be applied at the rate of 500 lbs/acre. A different analysis of fertilizer may be used provided the 2-1-1 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis and as directed.

Soil Prep

Preparation for primary/permanent stabilization shall not begin until construction and utility work within the preparation area is complete. However, it may be necessary to prepare for nurse crops prior to completion of construction and installation of utilities.

All areas to be seeded or planted shall be tilled a depth of 12". Ripping consists of creating fissures in a criss-cross pattern over the entire surface area, utilizing an implement that will not glaze the side walls of the fissures. Site preparation that does not comply with these documents shall not be acceptable. The depth of soil preparation may be established as a range based on the approval of the reviewing state or local agency. Once tilled or ripped according to the approved plan, all areas are to be returned to the approved final grade. pH modifiers and/or other soil amendments can be added during the soil preparation procedure or as described below.

Till or disc the prepared areas to be seeded to a minimum depth of four (4) inches. Remove stones larger than three (3) inches on any side, sticks roots and other extraneous materials that surface. If not incorporated during the soil preparation process, add pH modifier and fertilizers. Spread up to 6" of excess topsoil over the entire area if available. Re-compact the area utilizing a cultipacker roller. The finished grade shall be a smooth even soil surface with a loose, uniformly fine texture. All ridges and depressions shall be removed and filled to provide the approved surface drainage. Seeding of graded areas is to be done immediately after finished grades are obtained and seedbed preparation is completed.

Planting

Prepare the seed be as described in above in soil preparation. Apply seed at rates specified on the plans, and/or as recommended above, with a cyclone seeder, prop type spreader, drill, or hydroseeder on and/or into the prepared bed. Incorporate the seed into the seed bed as specified. Provide finished grades as specified on the approved plan and carefully culti-pack the seedbed as terrain allows. Mulch immediately.

O PERMANENT SEEDING

SCALE= NTS

TEMPORARY SEEDING

General Notes

All seeding to be in accordance with NCDEQ STD #6.10

Species	Rate (lb/acre)	Season	Seeding Dates
Rye (grain)	120	Winter/Spring/Fall	1/1-5/1, 8/15-12/30
Annual lespedeza (Kobe)	50	Winter/Spring	1/1-5/1
German Millet	40	Summer	5/1-8/15

Omit annual lespedeza when duration of temporary cover is not to extend beyond June. A small-stemmed Sudangrass may be substituted for German millet at a rate of 50 lb/acre.

Soil Amendments

Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

For fall seeding, use 1000 lb/acre 10-10-10 fertilizer

Mulch

Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool.

Maintenance

Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

For fall, repair and refertilize damaged areas immediately. Topdress with 50 lb/acre of nitrogen in March. If it is necessary to extent temporary cover beyond June 15, overseed with 50 lb/ acre Kobe lespedeza in late February or early March

WETLAND SEEDING

General Notes

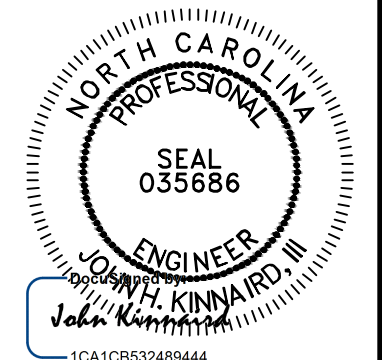
Recommended application rate: 20-25 lbs/acre

Species	Common Name	Percent
Bidens aristosa	Showy tic	7
Carex vulpinoidea	Fox sedge	12
Dichanthelium clandestinum	Deer tong	8
Elymus riparius	Riverbank	20
Juncus effusus, NC Ecotype	Soft rush	4
Panicum dichotomiflorum	Smooth pa	14
Panicum rigidulum	Redtop pa	8
Panicum virgatum	Switchgra	23
Polygonum pensylvanicum	Pennsylva	2
Sparganium americanum	Eastern b	2
		100

P TEMPORARY & WETLAND SEEDING

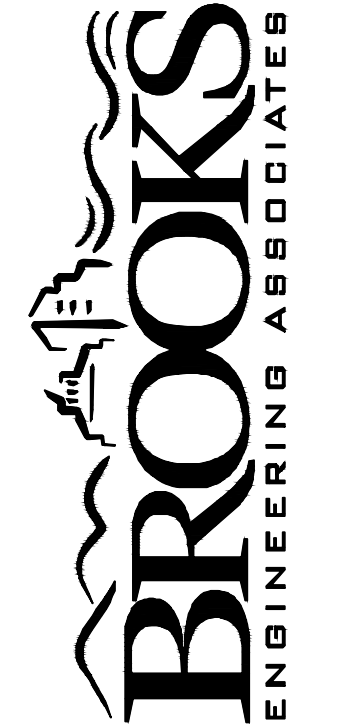
SCALE= NTS

No.	REVISIONS/SUBMISSIONS	Date
1	HENDERSON COUNTY PLANNING	12-16-2022
2	TRC SUBMITTAL	01-12-2023



Designed:	ZAW	Reviewed:	JHK
Drawn:	ZAW	Scales:	AS NOTED
Checked:	JHK	Date:	01-12-2023

15 Arlington Street
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Project No:
543521

RICH MOUNTAIN PHASE 3
MAJOR SUBDIVISION
HENDERSON COUNTY
NORTH CAROLINA

Drawing Title:
C-3.9

EROSION CONTROL DETAILS

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes		
Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> Temporary grass seed covered with straw or other mulches and tackifiers Hydroseeding Rolled erosion control products with or without temporary grass seed Appropriately applied straw or other mulch Plastic sheeting 	<ul style="list-style-type: none"> Permanent grass seed covered with straw or other mulches and tackifiers Geotextile fabrics such as permanent soil reinforcement matting Hydroseeding Shrubs or other permanent plantings covered with mulch Uniform and evenly distributed ground cover sufficient to restrain erosion Structural methods such as concrete, asphalt or retaining walls Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the NC DWR List of Approved PAMS/Flocculants.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the NC DWR List of Approved PAMS/Flocculants and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated Stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

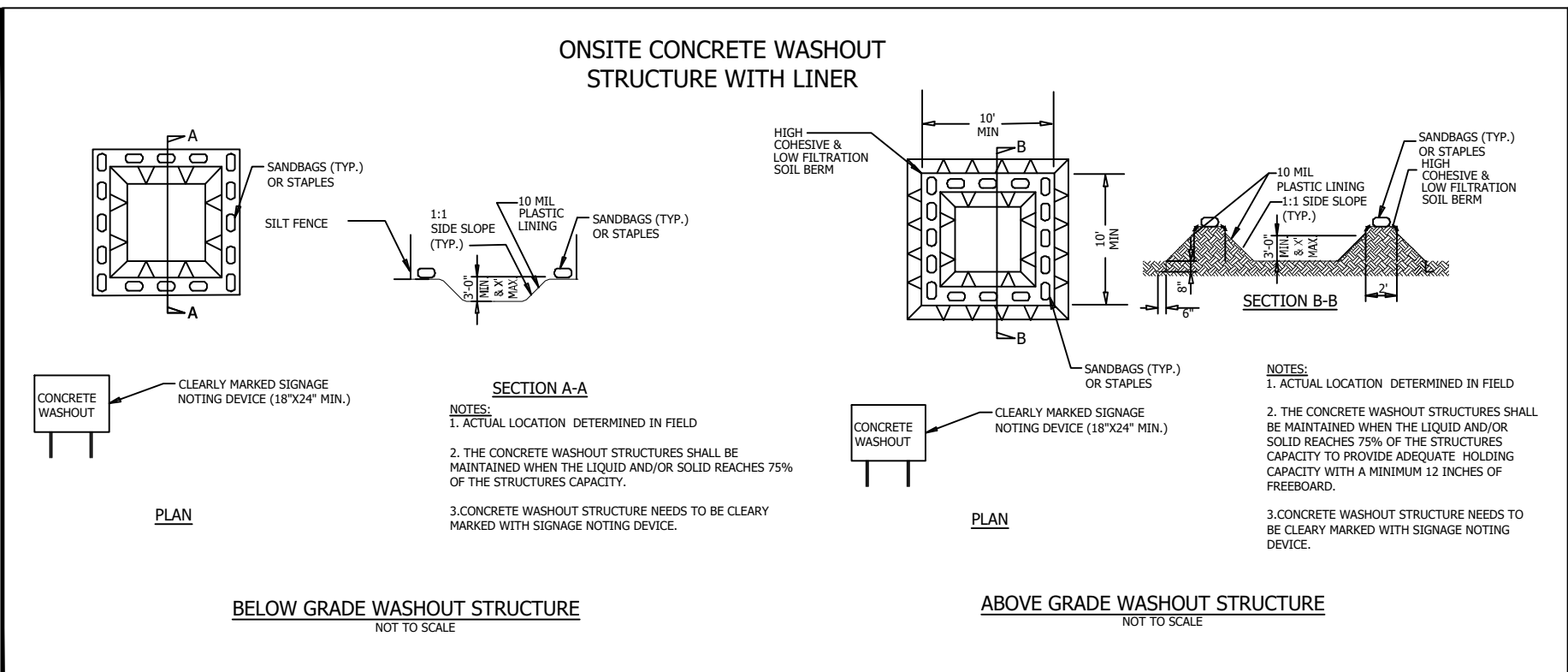
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.

Project No: 543521	Drawing Title: C-3.10	NORTH CAROLINA MAJOR SUBDIVISION HENDERSON COUNTY	RICH MOUNTAIN PHASE 3	Revisions/Submissions	Date
				1 HENDERSON COUNTY PLANNING	12-15-2022
				2 TRC SUBMITTAL	01-12-2023
				FINAL DRAWING - FOR REVIEW PURPOSES ONLY	
Designated: ZAW Drawn: ZAW Checked: JHK		Reviewed: JHK Scale: AS NOTED Date: 01-12-2023		15 Arlington Street Asheville, N.C. 28801 Phone: 1-828-232-4700 Fax: 1-828-232-1331 www.brookssea.com	
				Planning • Engineering • Surveying • Environmental Services •	
File Location: L:\2021 Projects\543521 Riddle Falls_Rich Mtn_Due Diligence\Draw (Phase 3)\Call-Details-543521 PH3.dwg					

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Table with 3 columns: Inspect, Frequency (during normal business hours), and Inspection records must include: (1) Rain gauge maintained in good working order, (2) E&SC Measures and within 24 hours of a rain event > 1.0 inch in 24 hours, (3) Stormwater discharge outfalls (SDCs), (4) Perimeter of site, (5) Streams or wetlands onsite or offsite (where accessible), (6) Ground stabilization measures

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- (a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Table with 2 columns: Item to Document, Documentation Requirements. (a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan. (b) A phase of grading has been completed. (c) Ground cover is located and installed in accordance with the approved E&SC plan. (d) The maintenance and repair requirements for all E&SC measures have been performed. (e) Corrective actions have been taken to E&SC measures.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- (a) This General Permit as well as the Certificate of Coverage, after it is received.
(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

- (a) Visible sediment deposition in a stream or wetland.
(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).
(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
(d) Anticipated bypasses and unanticipated bypasses.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

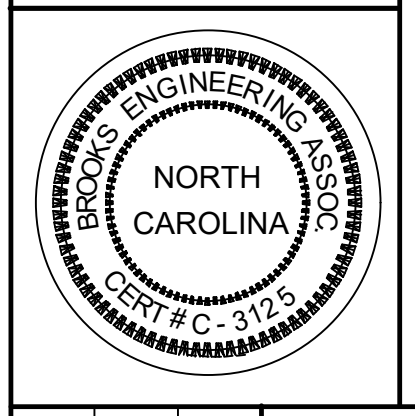
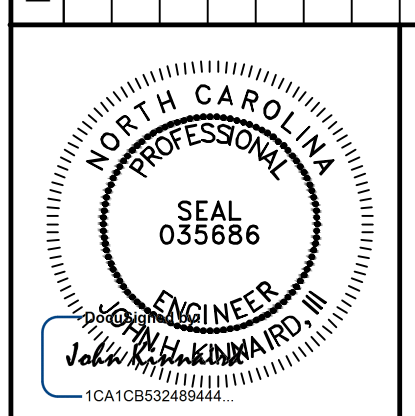
Table with 2 columns: Occurrence, Reporting Timeframes (After Discovery) and Other Requirements. (a) Visible sediment deposition in a stream or wetland, (b) Oil spills and release of hazardous substances per Item 1(b)-(c) above, (c) Anticipated bypasses [40 CFR 122.41(m)(3)], (d) Unanticipated bypasses [40 CFR 122.41(m)(3)], (e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(1)(6)]

NORTH CAROLINA
Environmental Quality

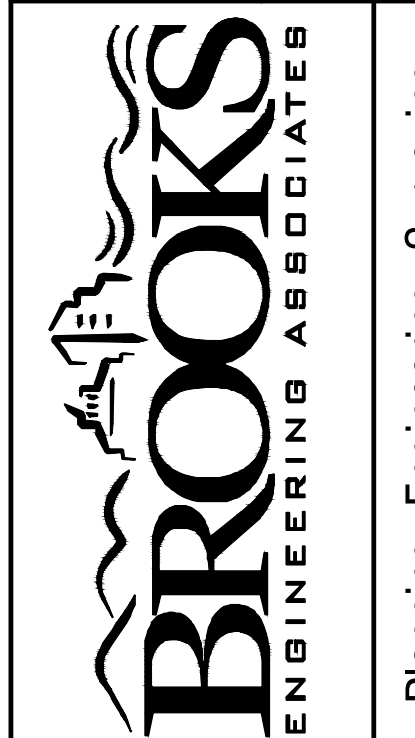
NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

Table with 2 columns: No., Date. REVISIONS/SUBMISSIONS HENDERSON COUNTY PLANNING TRC SUBMITTAL



Reviewed: JHK Scale: AS NOTED Date: 01-12-2023
Designed: ZAW Drawn: ZAW Checked: JHK
15 Arlington Street
Asheville, N.C. 28801
Phone: 1-828-232-4700
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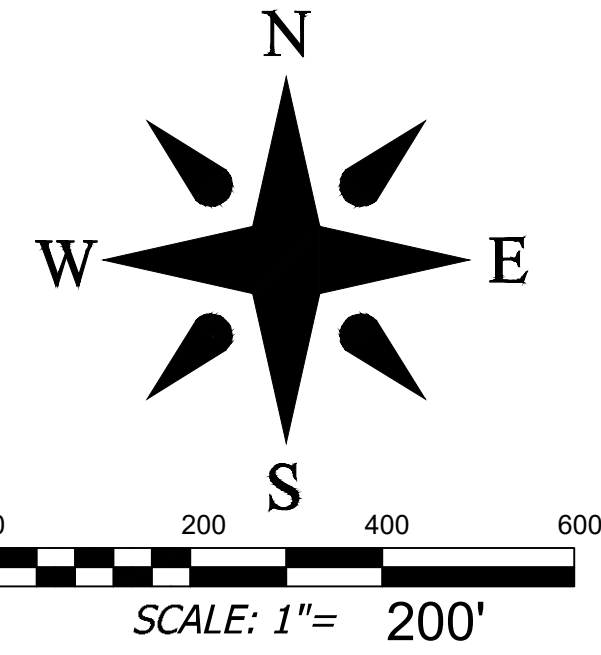
RICH MOUNTAIN PHASE 3
MAJOR SUBDIVISION
NORTH CAROLINA
HENDERSON COUNTY

Project No: 543521
Drawing Title: C-3.11
NCG01 DETAILS

Revision/Submission number with a triangle indicates changes made on this sheet
FINAL DRAWING - FOR REVIEW PURPOSES ONLY
Planning • Engineering • Surveying • Environmental Services •
File Location: L:\2021 Projects\543521 Riddle Falls_Rich Mtn_Due Diligence\Dwg (Phase 3)\Call-Details-543521 PH3.dwg

SITE PLAN LEGEND

- EXIST. BOUNDARY
- - - EXIST. ADJOINER
- - - EXIST. STREAM
- - - EXIST. STREAM BUFFER
- - - EXIST. WETLAND
- EXIST. FEMA NON-ENCROACHMENT
- EXIST. FEMA FLOOD HAZARD AREA (1%)
- EXIST. FEMA FLOOD HAZARD AREA (0.2%)
- - - EXIST. RIGHT OF WAY
- - - EXIST. BUILDING SETBACK
- EXIST. BUILDING
- EXISTING SIDEWALK
- EXISTING PAVEMENT
- - - NEW RIGHT OF WAY
- - - NEW EASEMENT
- - - BUILDING SETBACK LINE
- NEW COMMON OPEN SPACE
- NEW BUILDING
- NEW PAVEMENT



DEVELOPMENT DATA

PROPERTY ADDRESS: LOCUST GROVE ROAD
HENDERSONVILLE NC

PIN NUMBER: SEE COVER SHEET

PROPERTY SIZE: PH3: 150.06 AC - TOTAL: 377.96 AC

ZONING REVIEW: HENDERSON COUNTY

EROSION CONTROL REVIEW: HENDERSON COUNTY

STORMWATER REVIEW: HENDERSON COUNTY

ZONING CLASSIFICATION: R3

PROPOSED NUMBER OF UNITS: PH3: 32 - TOTAL: 83

PROPOSED DENSITY: PH3: 0.21 LOTS/AC - TOTAL: 0.22 LOTS/AC

LOTS 1-51 AND 83 ARE LOCATED WITHIN A FARMLAND PRESERVATION DISTRICT. LOTS 52-82 ARE WITHIN 1/2 MILE OF A FARMLAND DISTRICT.

WATER AND SEWER WILL BE PROVIDED BY INDIVIDUAL WELLS AND SEPTIC SYSTEMS.

PUBLIC WATER AND SEWER ARE APPROXIMATELY 3.0 MILES FROM THE SITE.

DRY HYDRANT IS LOCATED APPROXIMATELY 0.90 ROAD MILES FROM THE ENTRANCE TO THE SITE.

PROPERTY OWNER: RIPPLE FALLS LLC

CONTACT: ANDY BAKER

ADDRESS: 69 CLARK GAP ROAD
FLETCHER NC

EMAIL: ANDY@TFMCAROLINA.COM

PHONE: (616) 402-0367

DEVELOPER: RIPPLE FALLS LLC

CONTACT: ANDY BAKER

ADDRESS: 69 CLARK GAP ROAD
FLETCHER NC

EMAIL: ANDY@TFMCAROLINA.COM

PHONE: (616) 402-0367

ENGINEER: BROOKS ENGINEERING ASSOCIATES

CONTACT: JOHN KINNAIRD, PE

ADDRESS: 17 ARLINGTON ST
ASHEVILLE, NC 28801

EMAIL: JKINNAIRD@BROOKSEA.COM

PHONE: 828-232-4700

SITE AND ZONING NOTES

PROPERTY ZONING: R3

PROPERTY SIZE: PH3: 150.06 AC | TOTAL: 377.96 AC

PROPERTY STEEPER THAN 60%: 16.76 AC (6.82%)

MINIMUM LOT SIZE: 1.50 AC / 35,640 SQ.FT.

SMALLEST PROPOSED LOT: 1.52 ACRES / 66,136 SQ.FT.

COMMON OPEN SPACE: 158.73 AC (42.0%)

MINIMUM LOT WIDTH: 30' @ R.O.W.

MAXIMUM BUILDING HEIGHT: 40'

SETBACKS:

- FRONT: 15' (LOCAL)
- REAR: 15'
- SIDE: 15'

PROPOSED LINEAR FEET OF ROAD:

- PHASE 1: 7,139 LF
- PHASE 2: 3,381 LF
- PHASE 3: 4,415 LF
- TOTAL ON PROPERTY: 15,235 LF

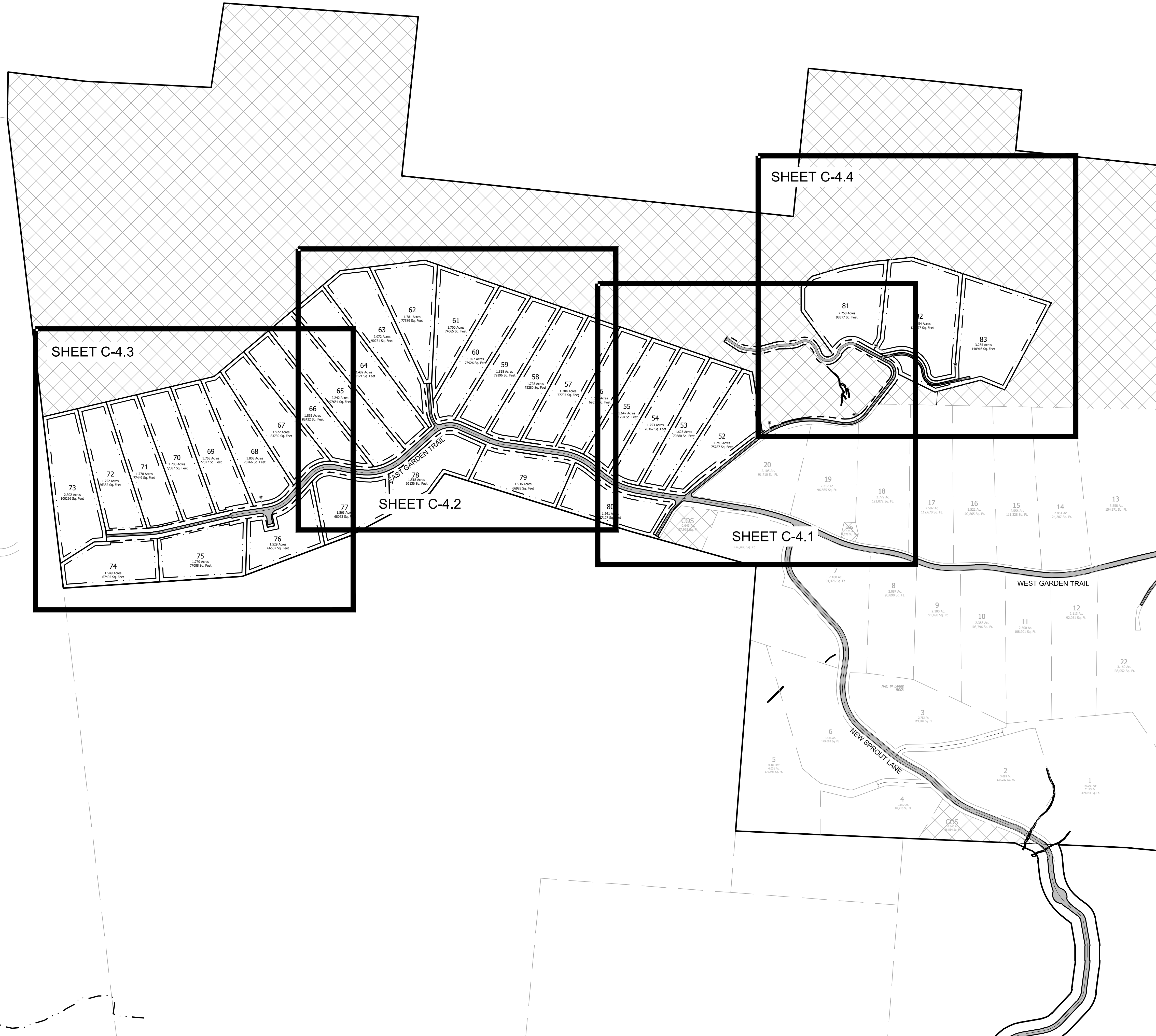
*ALL DIMENSIONS ARE FROM EDGE OF ASPHALT, FACE OF CURB, FACE OF WALL, OR FACE OF BUILDING UNLESS OTHERWISE NOTED.

*ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF DETAILS, SPECIFICATIONS, AND OTHER DEVELOPMENT ORDINANCES OF HENDERSON CO.

*ALL COMMON OPEN SPACE AREAS WILL BE MAINTAINED BY THE HOME OWNERS ASSOCIATION.

LANDSCAPING NOTES:

1. STREET TREES SHALL BE LARGE DECIDUOUS TREES AND SELECTED FROM HENDERSON COUNTY'S LANDSCAPING RECOMMENDED SPECIES LIST.
2. TREES SHALL BE HEALTHY AND IN COMPLIANCE WITH SECTION 42-184 OF THE HENDERSON COUNTY LAND DEVELOPMENT CODE.
3. STREET TREES SHALL BE AT LEAST 2 INCHES IN CALIPER AND 12' TALL AT PLANTING.



Project No: 543521	C-4.0	RICH MOUNTAIN PHASE 3 MAJOR SUBDIVISION HENDERSON COUNTY NORTH CAROLINA	BROOKS ENGINEERING ASSOCIATES Planning • Engineering • Surveying • • Environmental Services •	Reviewer: JHK Scale: AS NOTED Date: 01-12-2023	Designer: ZAW Drawn: ZAW Checked: JHK	15 Arlington Street Asheville, N.C. 28801 Phone: 1-828-232-4700 Fax: 1-828-232-1331 www.brooksea.com	FINAL DRAWING - FOR REVIEW PURPOSES ONLY
				Date 12-15-2022 01-12-2023	REVISIONS/SUBMISSIONS HENDERSON COUNTY PLANNING TRC SUBMITTAL	No. 1 2	Revision/Submission number with a triangle indicates changes made on this sheet.

SEE CONTINUATION ON SHEET C-4.4

SITE PLAN LEGEND

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- EXIST. STREAM
- EXIST. STREAM BUFFER
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SCALE: 1" = 50'

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 HENDERSONVILLE NC

PIN NUMBER: SEE COVER SHEET
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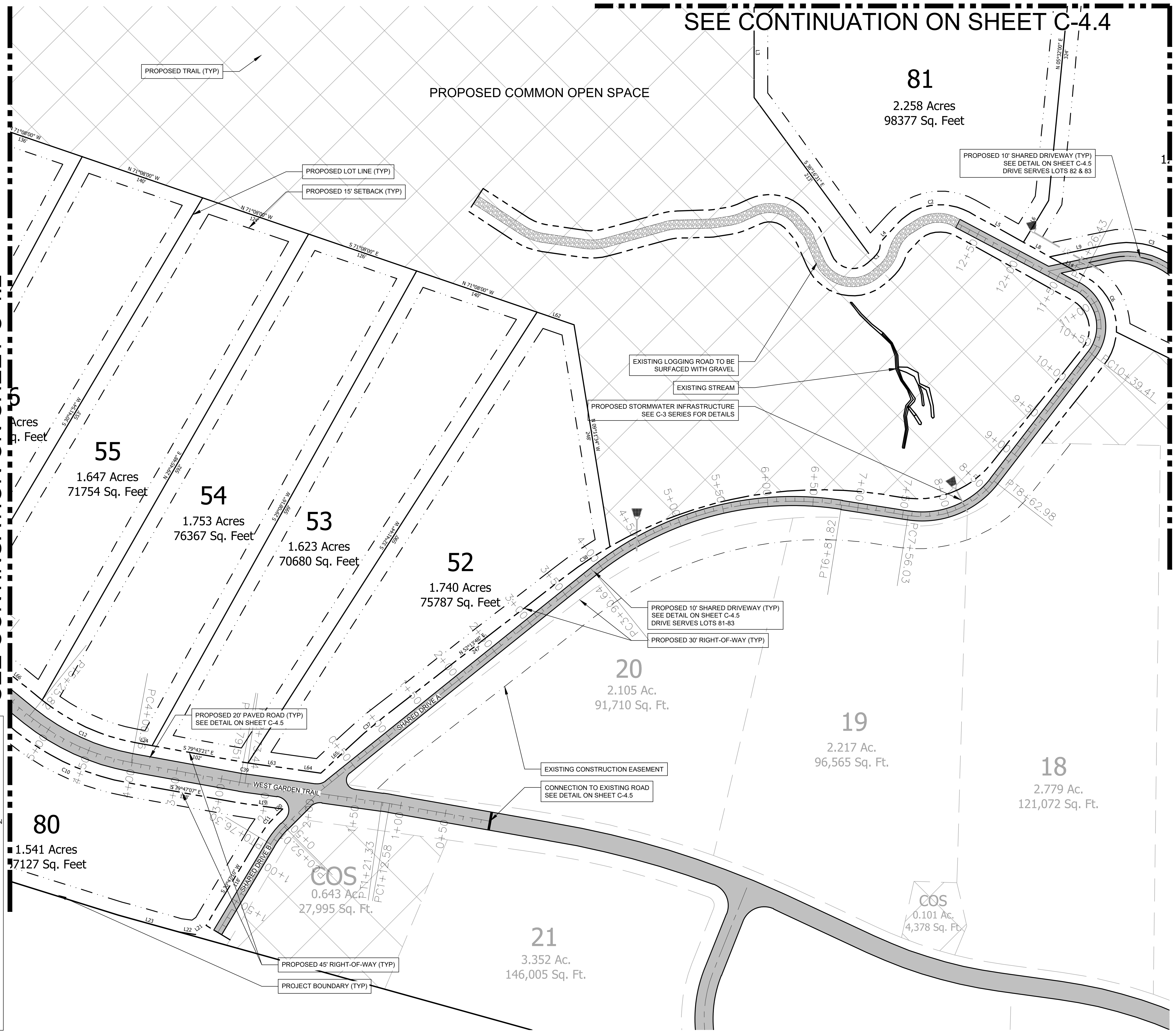
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 EMAIL: JKINNAIRD@BROOKSEA.COM
 PHONE: 828-232-4700

SEE CONTINUATION ON SHEET C-4.2



Date	REVISIONS/SUBMISSIONS
12-15-2022	HENDERSON COUNTY PLANNING
01-12-2023	TRC SUBMITTAL

PROFESSIONAL ENGINEER
 JOHN KINNAIRD, PE
 SEAL 035686
 NORTH CAROLINA
 ENGINEERING ASSOCIATES

DESIGNED: ZAW
 DRAWN: ZAW
 CHECKED: JHK

SCALE: AS NOTED
 DATE: 01-12-2023

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 Phone: 1-828-232-4700
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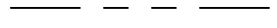

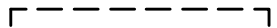
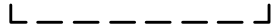



BROOKS
 ENGINEERING ASSOCIATES

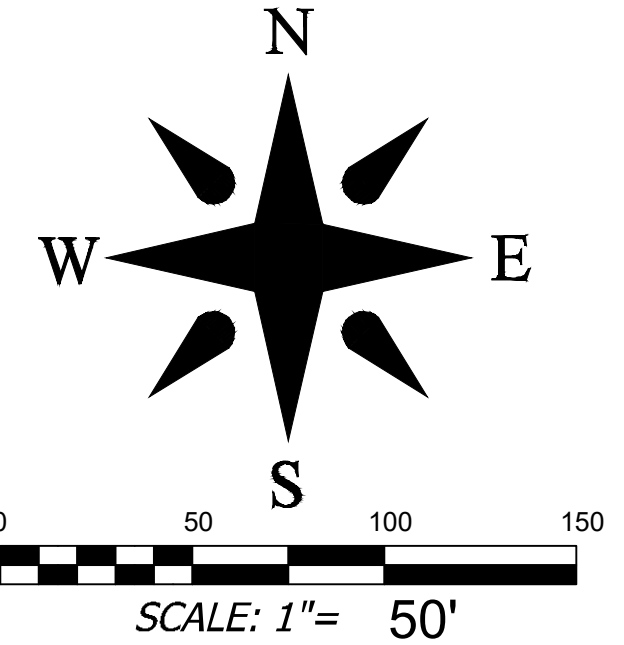
Planning • Engineering • Surveying
 • Environmental Services •

Project No: 543521
 Drawing Title: C-4.1
 SITE PLAN

RICH MOUNTAIN PHASE 3
 MAJOR SUBDIVISION
 HENDERSON COUNTY
 NORTH CAROLINA

SITE PLAN LEGEND

-  EXIST. BOUNDARY
-  EXIST. ADJOINER
-  EXIST. STREAM
-  EXIST. STREAM BUFFER
-  EXIST. WETLAND
-  EXIST. FEMA NON-ENCROACHMENT
FEMA FLOOD HAZARD AREA (1%)
FEMA FLOOD HAZARD AREA (0.2%)
-  EXIST. RIGHT OF WAY
-  EXIST. BUILDING SETBACK
-  EXIST. BUILDING
-  EXISTING SIDEWALK
-  EXISTING PAVEMENT
-  NEW RIGHT OF WAY
-  NEW EASEMENT
-  BUILDING SETBACK LINE
-  NEW COMMON OPEN SPACE
-  NEW BUILDING
-  NEW PAVEMENT



SITE AND ZONING NOTES

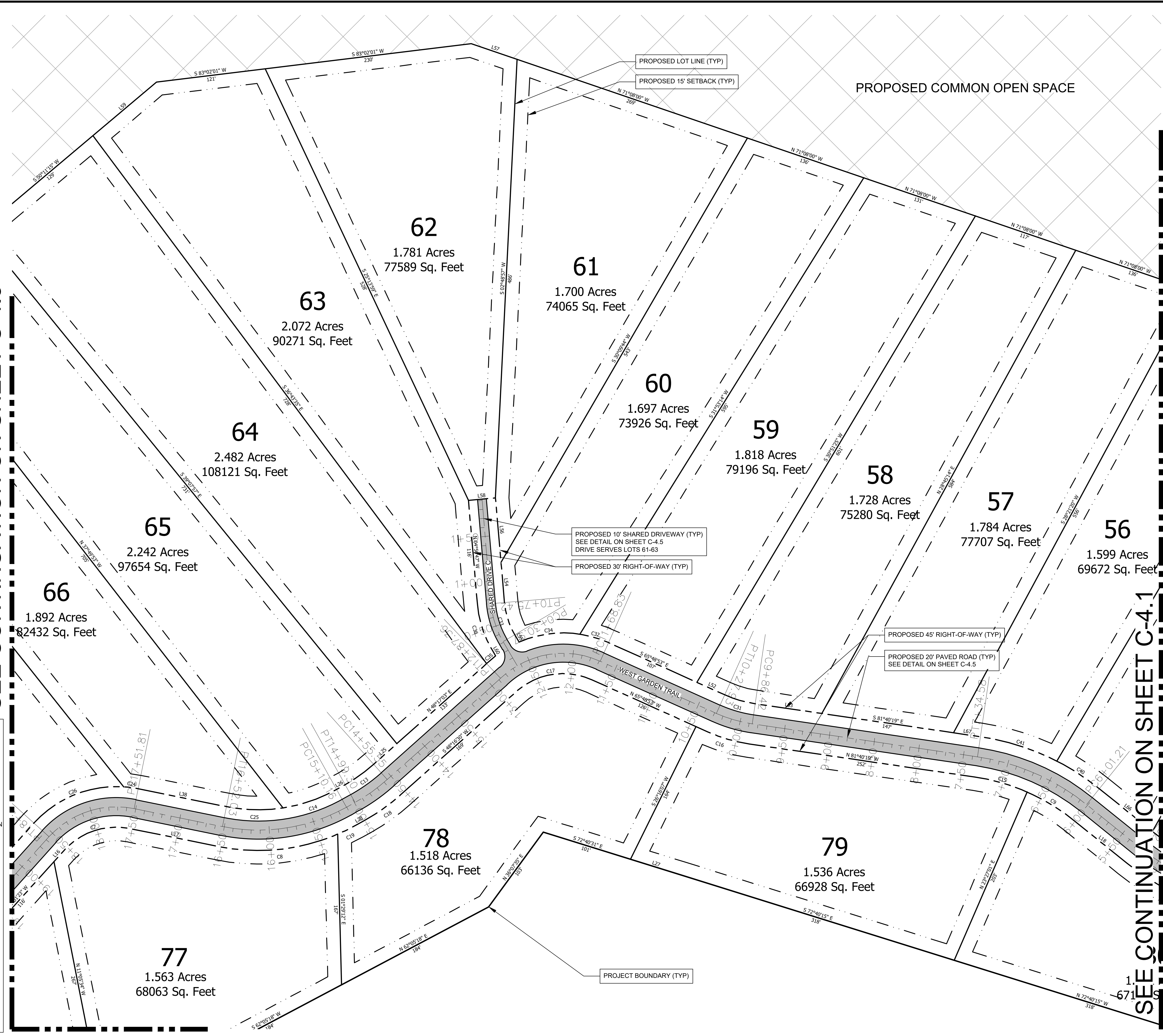
PROPERTY ZONING: R3
 PROPERTY SIZE: PH3: 150.06 AC | TOTAL: 377.96 AC
 PROPERTY STEEPER THAN 60%: 16.76 AC (6.82%)
 MINIMUM LOT SIZE: 1.50 AC / 35,640 SQ.FT.
 SMALLEST PROPOSED LOT: 1.52 ACRES / 66,136 SQ.FT.
 COMMON OPEN SPACE: 158.73 AC. (42.0%)
 MINIMUM LOT WIDTH: 30' @ R.O.W.
 MAXIMUM BUILDING HEIGHT: 40'
 SETBACKS:
 FRONT: 15' (LOCAL)
 REAR: 15'
 SIDE: 15'
 PROPOSED LINEAR FEET OF ROAD:
 PHASE 1: 7,139 LF
 PHASE 2: 3,681 LF
 PHASE 3: 4,415 LF
 TOTAL ON PROPERTY: 15,235 LF
 *ALL DIMENSIONS ARE FROM EDGE OF ASPHALT, FACE OF CURB, FACE OF WALL, OR FACE OF BUILDING UNLESS OTHERWISE NOTED.
 *ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF DETAILS, SPECIFICATIONS, AND OTHER DEVELOPMENT ORDINANCES OF HENDERSON CO.
 *ALL COMMON OPEN SPACE AREAS WILL BE MAINTAINED BY THE HOME OWNERS ASSOCIATION.
 LANDSCAPING NOTES:
 1. STREET TREES SHALL BE LARGE DECIDUOUS TREES AND SELECTED FROM HENDERSON COUNTY'S LANDSCAPING RECOMMENDED SPECIES LIST.
 2. TREES SHALL BE HEALTHY AND IN COMPLIANCE WITH SECTION 42-184 OF THE HENDERSON COUNTY LAND DEVELOPMENT CODE.
 3. STREET TREES SHALL BE AT LEAST 2 INCHES IN CALIPER AND 12' TALL AT PLANTING.

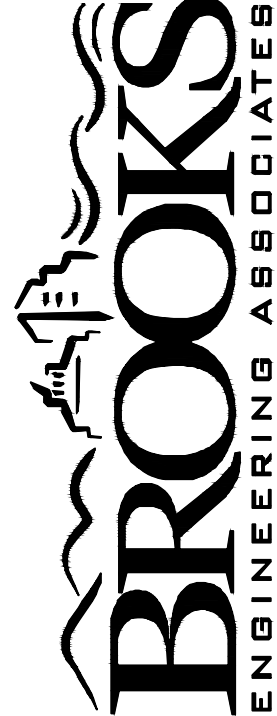
DEVELOPMENT DATA

PROPERTY ADDRESS: LOCUST GROVE ROAD
 HENDERSONVILLE NC
 PIN NUMBER: SEE COVER SHEET
 PROPERTY SIZE: PH3: 150.06 AC - TOTAL: 377.96 AC
 ZONING REVIEW: HENDERSON COUNTY
 EROSION CONTROL REVIEW: HENDERSON COUNTY
 STORMWATER REVIEW: HENDERSON COUNTY
 ZONING CLASSIFICATION: R3
 PROPOSED NUMBER OF UNITS: PH3: 32 - TOTAL: 83
 PROPOSED DENSITY: PH3: 0.21 LOTS/AC - TOTAL: 0.22 LOTS/AC
 LOTS 1-51 AND 83 ARE LOCATED WITHIN A FARMLAND PRESERVATION DISTRICT. LOTS 52-82 ARE WITHIN 1/2 MILE OF A FARMLAND DISTRICT.
 WATER AND SEWER WILL BE PROVIDED BY INDIVIDUAL WELLS AND SEPTIC SYSTEMS.
 PUBLIC WATER AND SEWER ARE APPROXIMATELY 3.0 MILES FROM THE SITE.
 DRY HYDRANT IS LOCATED APPROXIMATELY 0.90 ROAD MILES FROM THE ENTRANCE TO THE SITE.
 PROPERTY OWNER: RIPPLE FALLS LLC
 CONTACT: ANDY BAKER
 ADDRESS: 69 CLARK GAP ROAD
 FLETCHER NC
 EMAIL: ANDY@TFMCAROLINA.COM
 PHONE: (616) 402-0367
 DEVELOPER: RIPPLE FALLS LLC
 CONTACT: ANDY BAKER
 ADDRESS: 69 CLARK GAP ROAD
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 EMAIL: ANDY@TFMCAROLINA.COM
 PHONE: (616) 402-0367
 ENGINEER: BROOKS ENGINEERING ASSOCIATES
 CONTACT: JOHN KINNAIRD, PE
 ADDRESS: 17 ARLINGTON ST
 ASHEVILLE, NC 28801
 EMAIL: JKINNAIRD@BROOKSEA.COM
 PHONE: 828-232-4700

SEE CONTINUATION ON SHEET C-4.3

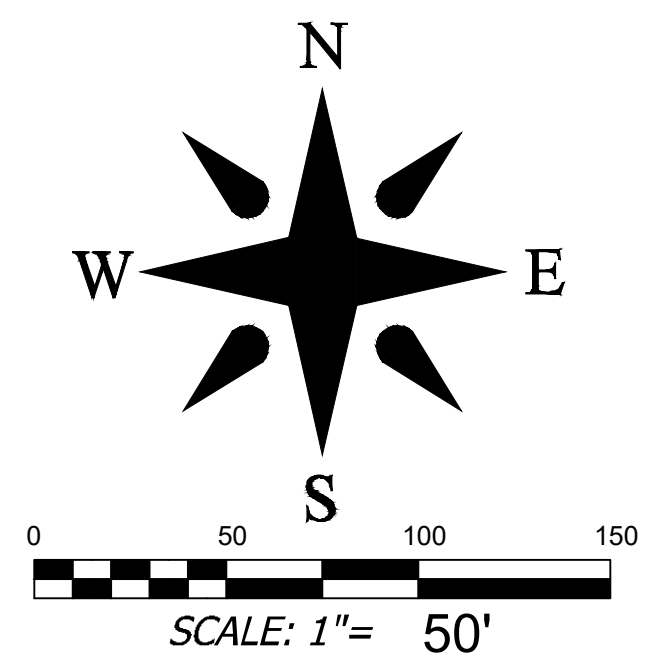
SEE CONTINUATION ON SHEET C-4.1



Project No: 543521	Drawing Title: SITE PLAN	RICH MOUNTAIN PHASE 3 MAJOR SUBDIVISION HENDERSON COUNTY NORTH CAROLINA	Reviewer: JHK Scale: AS NOTED Date: 01-12-2023	Design: ZAW Drawn: ZAW Checked: JHK	15 Arlington Street Asheville, N.C. 28801 Phone: 1-828-232-4700 Fax: 1-828-232-1331 www.brooksea.com
			Planning • Engineering • Surveying • Environmental Services •		
REVISIONS/SUBMISSIONS HENDERSON COUNTY PLANNING TRC SUBMITTAL			Date 12-16-2022 01-12-2023		
Project Boundary (TYP)			Proposed Lot Line (TYP)		
Proposed 15' Setback (TYP)			Proposed 10' Shared Driveway (TYP) See Detail on Sheet C-4.5 Drive Serves Lots 61-63		
Proposed 30' Right-of-Way (TYP)			Proposed 45' Right-of-Way (TYP)		
Proposed 20' Paved Road (TYP) See Detail on Sheet C-4.5			Proposed Common Open Space		

SITE PLAN LEGEND

- EXIST. BOUNDARY
- EXIST. ADJOINER
- EXIST. STREAM
- EXIST. STREAM BUFFER
- EXIST. WETLAND
- EXIST. FEMA NON-ENCROACHMENT FEMA FLOOD HAZARD AREA (1%)
- EXIST. FEMA FLOOD HAZARD AREA (0.2%)
- EXIST. RIGHT OF WAY
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- NEW EASEMENT
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- NEW COMMON OPEN SPACE
- NEW BUILDING
- NEW PAVEMENT



SITE AND ZONING NOTES

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DEVELOPMENT DATA

PROPERTY ADDRESS: LOCUST GROVE ROAD
 HENDERSONVILLE NC
 PIN NUMBER: SEE COVER SHEET
 PROPERTY SIZE: PH3: 150.06 AC - TOTAL: 377.96 AC
 ZONING REVIEW: HENDERSON COUNTY
 EROSION CONTROL REVIEW: HENDERSON COUNTY
 STORMWATER REVIEW: HENDERSON COUNTY
 ZONING CLASSIFICATION: R3
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 CONTACT: JOHN KINNAIRD, PE
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 EMAIL: JKINNAIRD@BROOKSEA.COM
 PHONE: 828-232-4700



SEE CONTINUATION ON SHEET C-4.2

Date	REVISIONS/SUBMISSIONS
12-15-2022	HENDERSON COUNTY PLANNING
01-12-2023	TRC SUBMITTAL

PROFESSIONAL ENGINEER
 JOHN KINNAIRD, PE
 SEAL 035686
 NORTH CAROLINA ENGINEERING ASSOCIATION
 CERT. NO. C-3725

FINAL DRAWING - FOR REVIEW PURPOSES ONLY

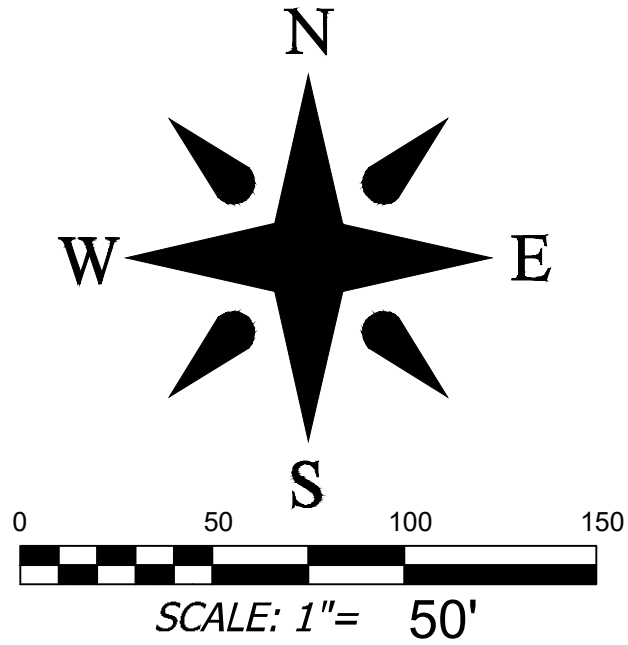
Reviewed: JHK
 Scale: AS NOTED
 Date: 01-12-2023
 Designed: ZAW
 Drawn: ZAW
 Checked: JHK
 15 Arlington Street
 Asheville, N.C. 28801
 Phone: 1-828-232-4700
 Fax: 1-828-232-1331
 www.brooksea.com

BROOKS ENGINEERING ASSOCIATES
 Planning • Engineering • Surveying • Environmental Services •

Project No: 543521	RICH MOUNTAIN PHASE 3	NORTH CAROLINA
C-4.3	MAJOR SUBDIVISION	HENDERSON COUNTY
Drawing Title: SITE PLAN		

SITE PLAN LEGEND

- EXIST. BOUNDARY
- - - EXIST. ADJOINER
- EXIST. STREAM
- - - EXIST. STREAM BUFFER
- EXIST. WETLAND
- (Hatched) EXIST. FEMA NON-ENCROACHMENT FLOOD HAZARD AREA (1%)
- (Hatched) EXIST. FEMA FLOOD HAZARD AREA (0.2%)
- - - EXIST. RIGHT OF WAY
- - - EXIST. BUILDING SETBACK
- (Dashed) EXIST. BUILDING
- (Dotted) EXISTING SIDEWALK
- (Dotted) EXISTING PAVEMENT
- - - NEW RIGHT OF WAY
- - - NEW EASEMENT
- - - BUILDING SETBACK LINE
- (Hatched) NEW COMMON OPEN SPACE
- (Solid) NEW BUILDING
- (Solid) NEW PAVEMENT

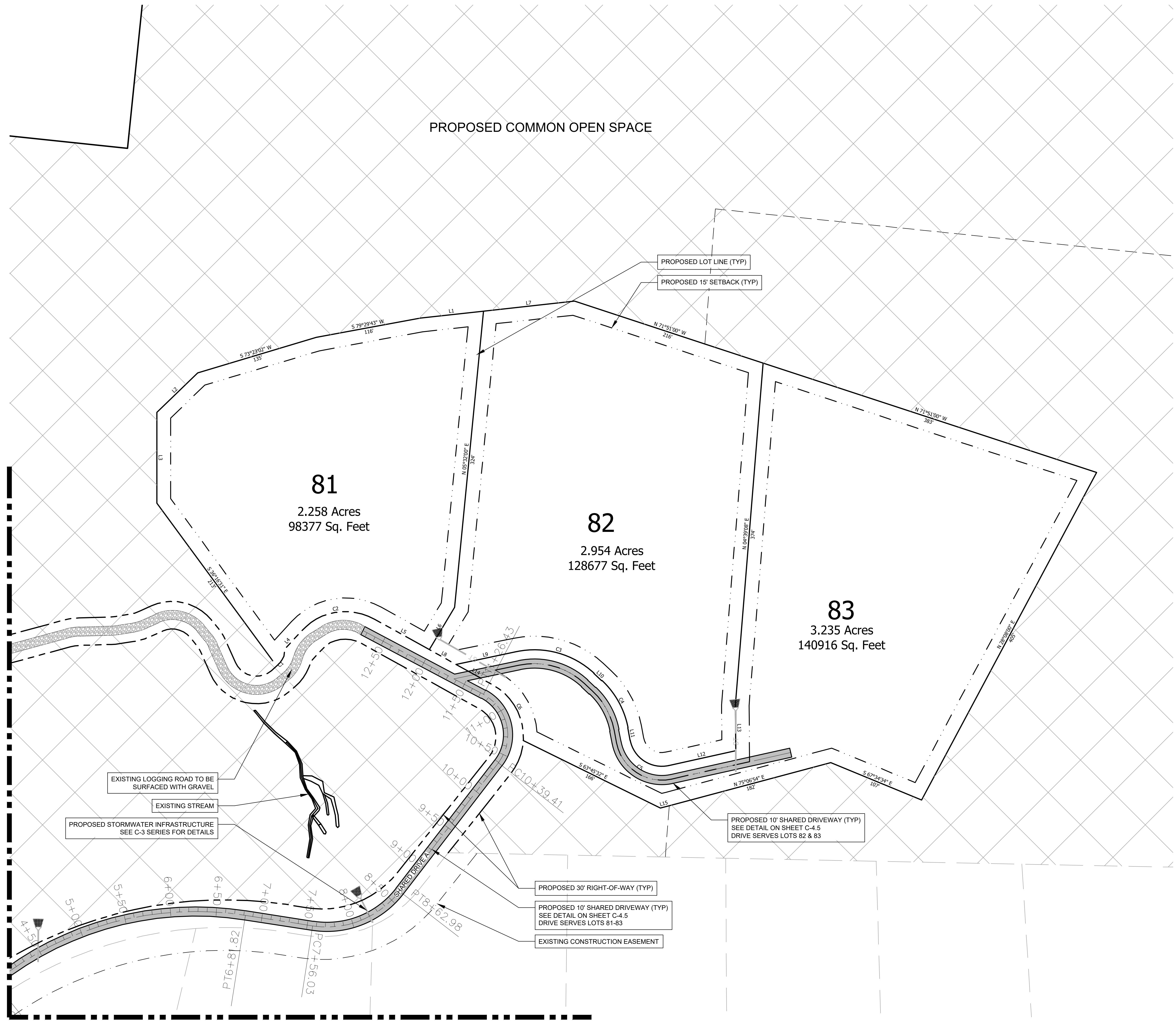


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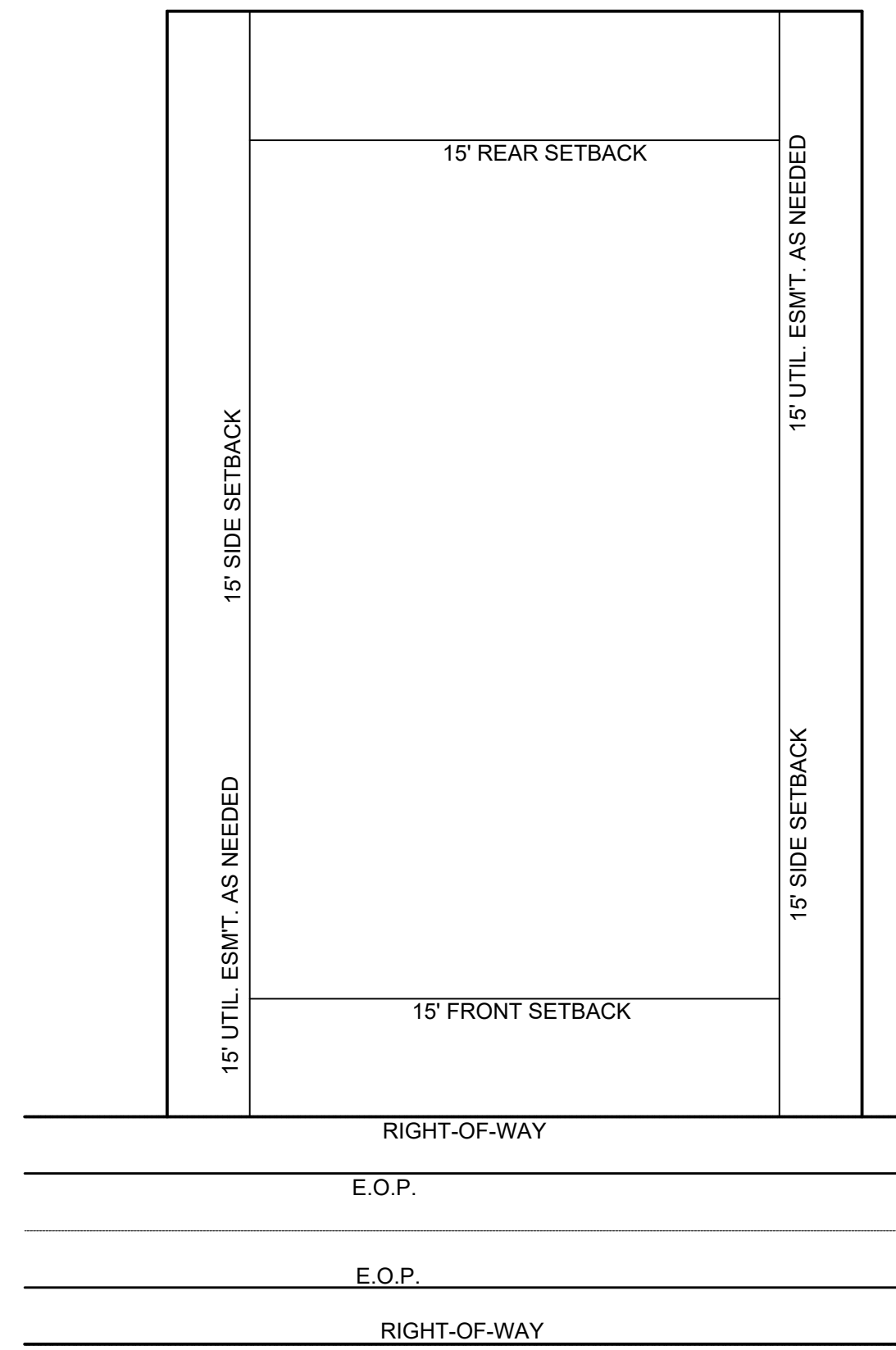
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 ASHEVILLE, NC 28801
 EMAIL: JKINNAIRD@BROOKSEA.COM
 PHONE: 828-232-4700



SEE CONTINUATION ON SHEET C-4.1

Project No: 543521	Drawing Title: SITE PLAN	Rich Mountain Phase 3 Major Subdivision HENDERSON COUNTY NORTH CAROLINA	 BROOKS ENGINEERING ASSOCIATES Planning • Engineering • Surveying • Environmental Services •	Reviewer: JHK Scale: AS NOTED Date: 01-12-2023	15 Arlington Street Asheville, N.C. 28801 Phone: 1-828-232-4700 Fax: 1-828-232-1331 www.brooksea.com
				Designer: ZAW Drawn: ZAW Checked: JHK	17 ARLINGTON ST ASHEVILLE, NC 28801 EMAIL: JKINNAIRD@BROOKSEA.COM PHONE: 828-232-4700
REVISIONS/SUBMISSIONS No. 1 HENDERSON COUNTY PLANNING TRC SUBMITTAL No. 2			Date 12-15-2022 01-12-2023		
Project No: 543521			Drawing Title: SITE PLAN		

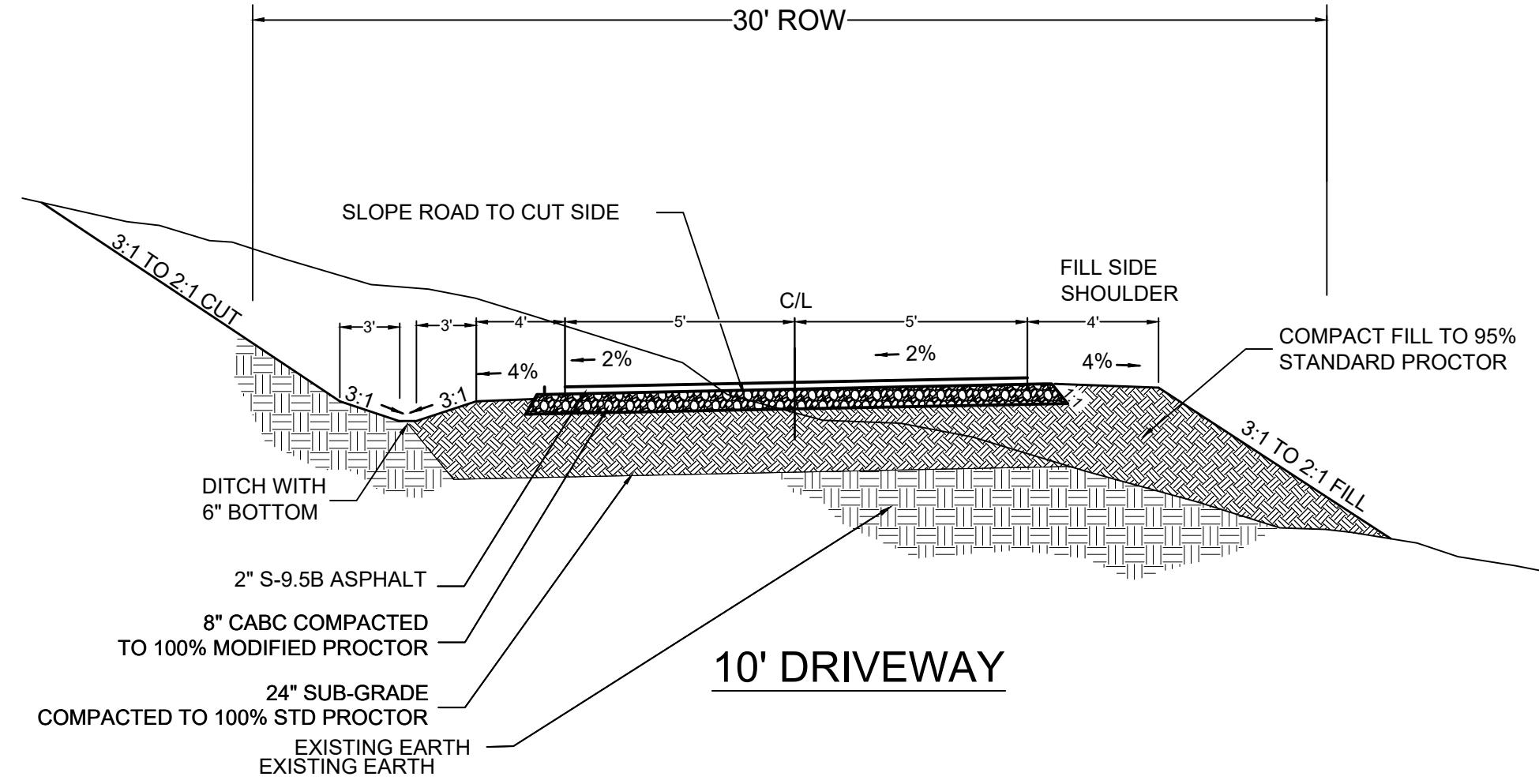
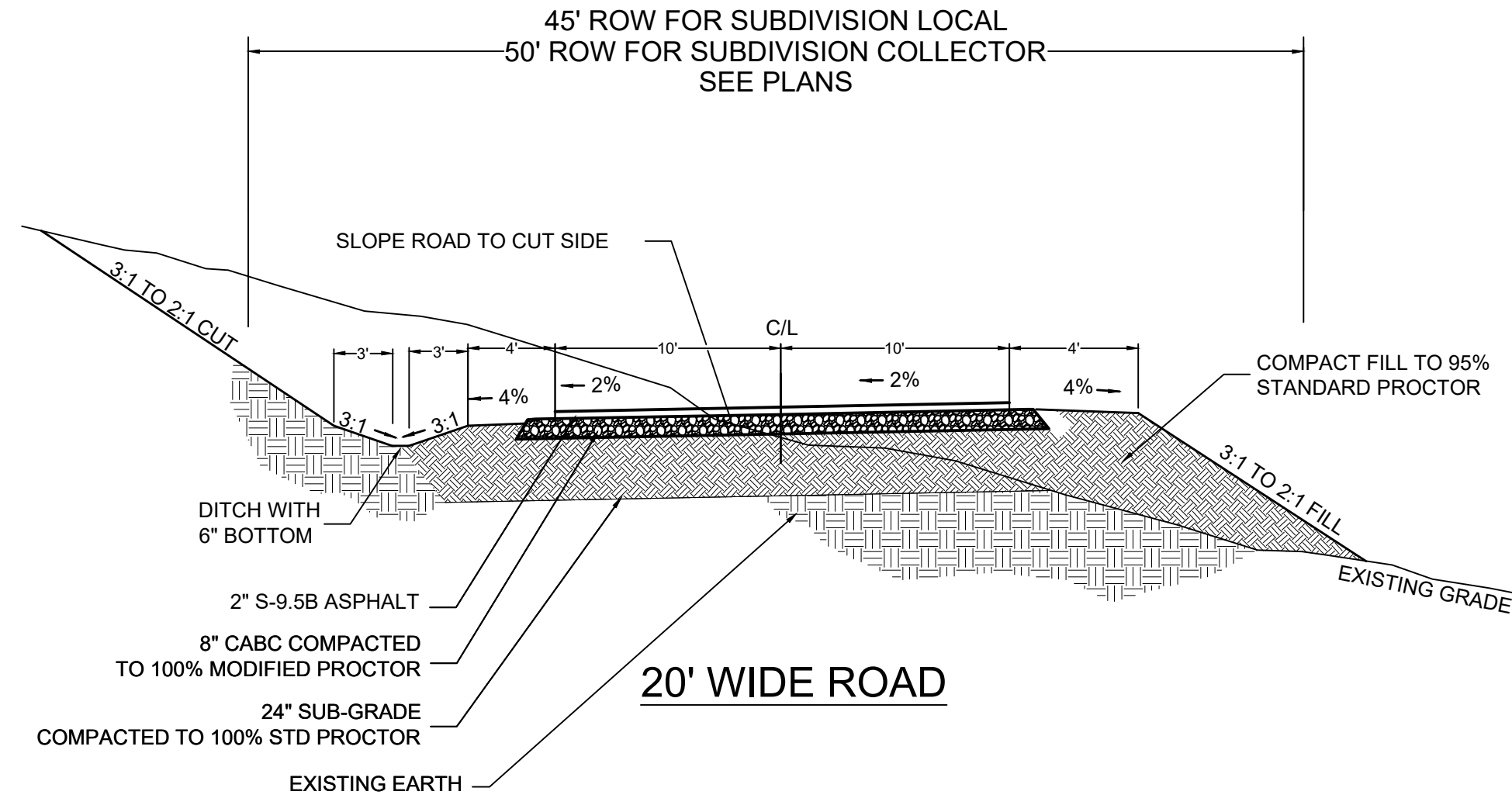
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STORMWATER NOTES:

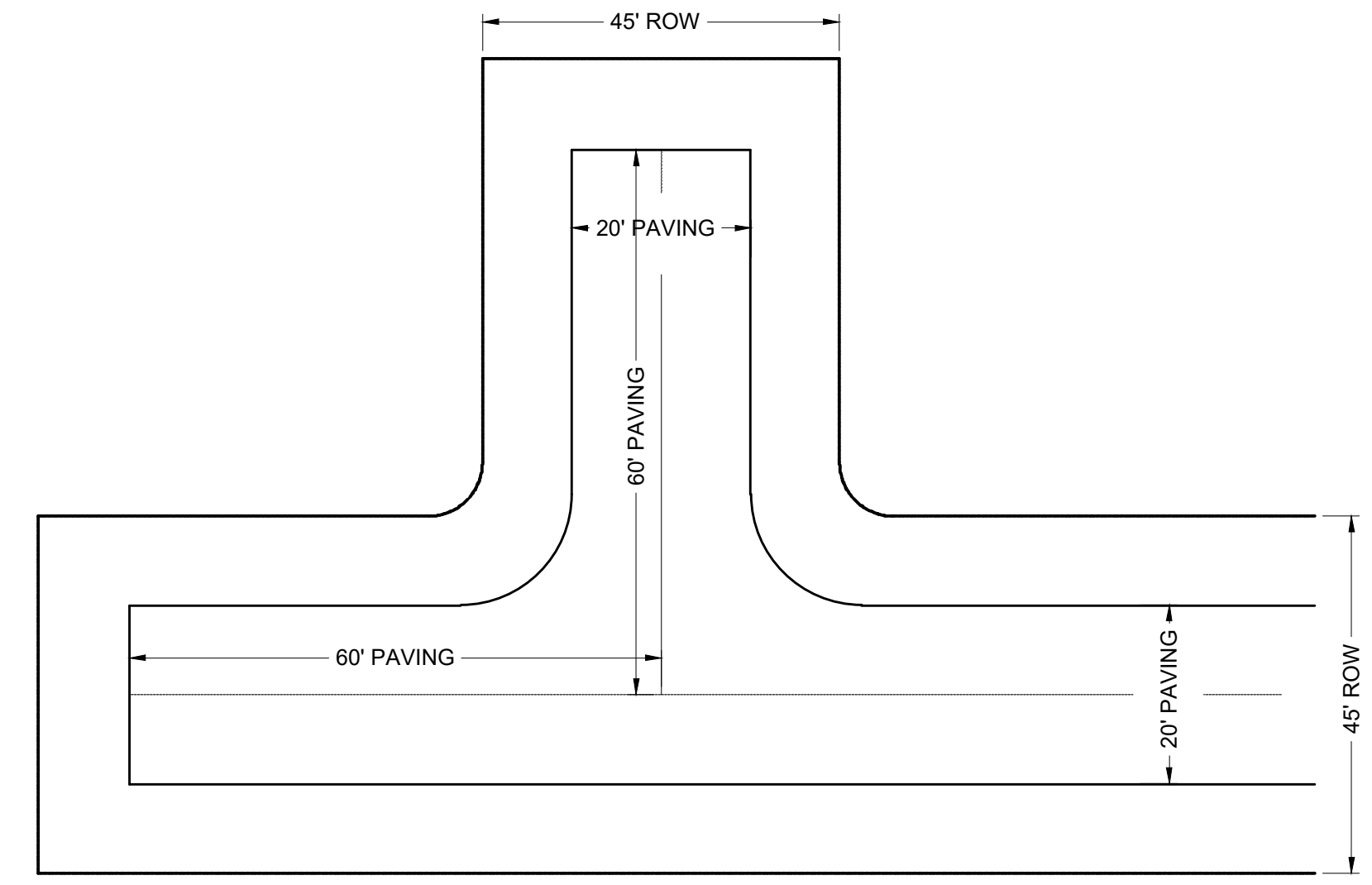
1. FOR PROPOSED LOTS UP GRADIENT OF THE ROAD, DIRECT IMPERVIOUS AREA TO ROADSIDE SWALES BY USE OF DRIVEWAY DITCHES. DRIVEWAYS SHALL BE SLOPED TOWARDS VEGETATED CONVEYANCES.
2. FOR PROPOSED LOTS DOWN GRADIENT OF THE ROAD, DIRECT WATER TO SHEET FLOW OFF SITE.
3. ROOF DRAINS SHALL TERMINATE 10' FROM THE FOOTPRINT & ENTER VEGETATED STORMWATER CONVEYANCES.

TYPICAL LOT LAYOUT SCALE= NTS



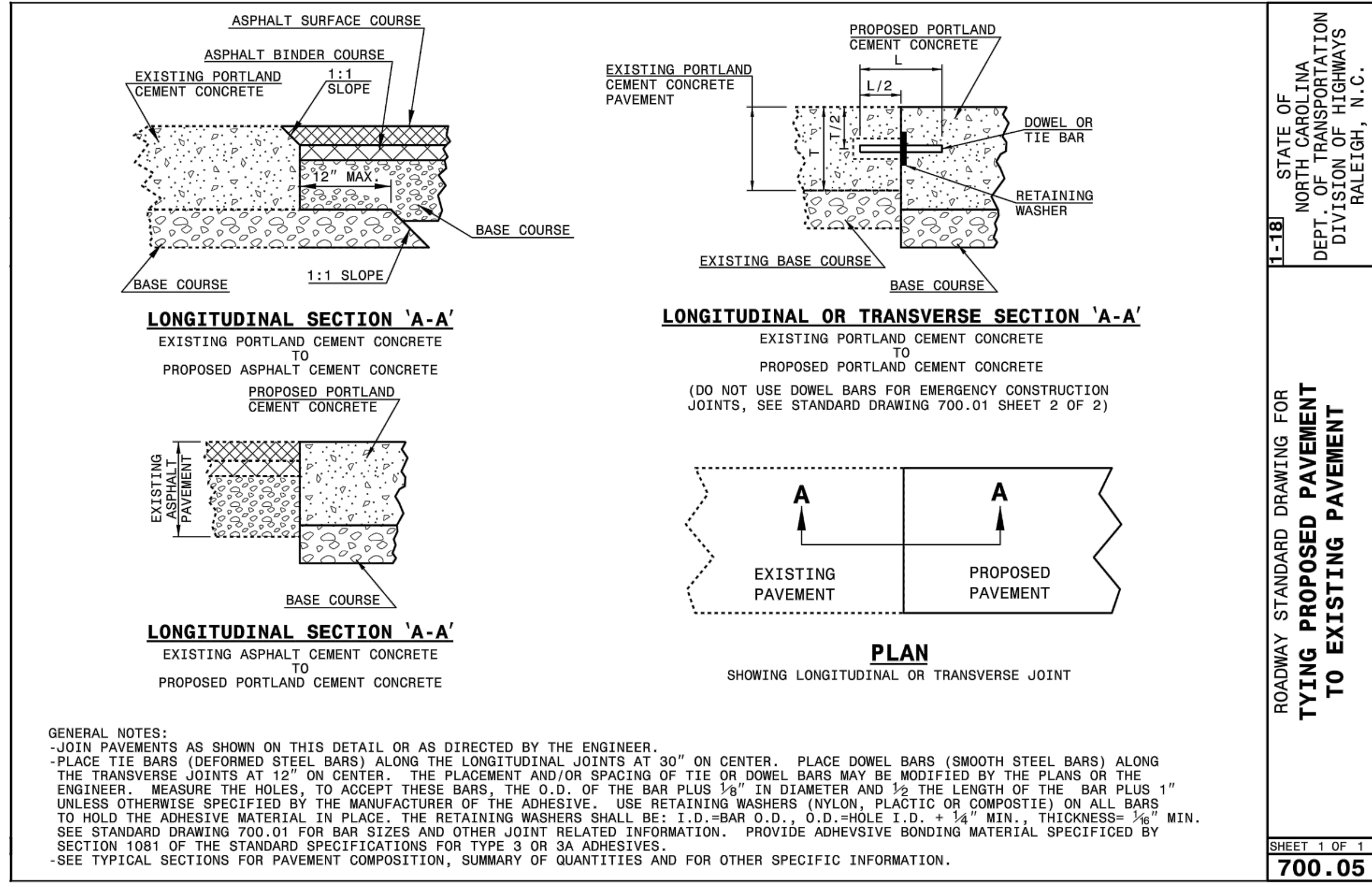
- NOTES:
1. NO BASE COURSE SHALL BE PLACED ON MUCK, PIPE CLAY, ORGANIC MATTER, OR OTHER UNSUITABLE MATERIAL.
 2. DITCHES SHALL HAVE A MAXIMUM 3:1 SIDE SLOPE ON EACH SIDE FOR 1 VERTICAL FROM THE BOTTOM OF DITCH.
 3. ROADS SHALL BE DESIGNED AND BUILT IN ACCORDANCE WITH "PRIVATE SUBDIVISION LOCAL ROAD" STANDARDS PER THE HENDERSON COUNTY SUBDIVISION REGULATIONS, LATEST EDITION.

ROAD & DRIVEWAY CROSS SECTIONS SCALE= NTS



- NOTES:
1. USE SAME PAVING SECTION AS ROADS UNLESS DIRECTED BY GEOTECHNICAL ENGINEER.
 2. NO BASE COURSE SHALL BE PLACED ON MUCK, PIPE CLAY, ORGANIC MATTER, OR OTHER UNSUITABLE MATERIAL.
 3. DITCHES SHALL HAVE A MAXIMUM 3:1 SIDE SLOPE ON EACH SIDE FOR 1 VERTICAL FROM THE BOTTOM OF DITCH.

T-TURNAROUND SCALE= NTS

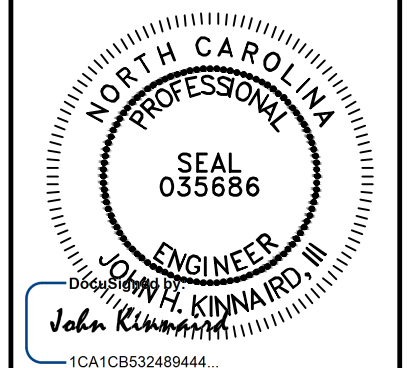


GENERAL NOTES:
 -JOIN PAVEMENTS AS SHOWN ON THIS DETAIL OR AS DIRECTED BY THE ENGINEER.
 -PLACE TIE BARS (DEFORMED STEEL BARS) ALONG THE LONGITUDINAL JOINTS AT 30" ON CENTER. PLACE DOWEL BARS (SMOOTH STEEL BARS) ALONG THE TRANSVERSE JOINTS AT 12" ON CENTER. THE PLACEMENT AND/OR SPACING OF TIE OR DOWEL BARS MAY BE MODIFIED BY THE PLANS OR THE ENGINEER. MEASURE THE HOLES, TO ACCEPT THESE BARS, THE O.D. OF THE BAR PLUS 1/8" IN DIAMETER AND 1/2 THE LENGTH OF THE BAR PLUS 1" UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER OF THE ADHESIVE. USE RETAINING WASHERS (NYLON, PLASTIC OR COMPOSITE) ON ALL BARS TO HOLD THE ADHESIVE MATERIAL IN PLACE. THE RETAINING WASHERS SHALL BE: I.D.=BAR O.D., O.D.=HOLE I.D. + 1/4" MIN., THICKNESS= 1/8" MIN. SEE STANDARD DRAWING 700.01 FOR BAR SIZES AND OTHER JOINT RELATED INFORMATION. PROVIDE ADHESIVE BONDING MATERIAL SPECIFIED BY SECTION 1081 OF THE STANDARD SPECIFICATIONS FOR TYPE 3 OR 3A ADHESIVES.
 -SEE TYPICAL SECTIONS FOR PAVEMENT COMPOSITION, SUMMARY OF QUANTITIES AND FOR OTHER SPECIFIC INFORMATION.

1-181
 STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.
 ROADWAY STANDARD DRAWING FOR
 TYING PROPOSED PAVEMENT
 TO EXISTING PAVEMENT
 SHEET 1 OF 1
700.05

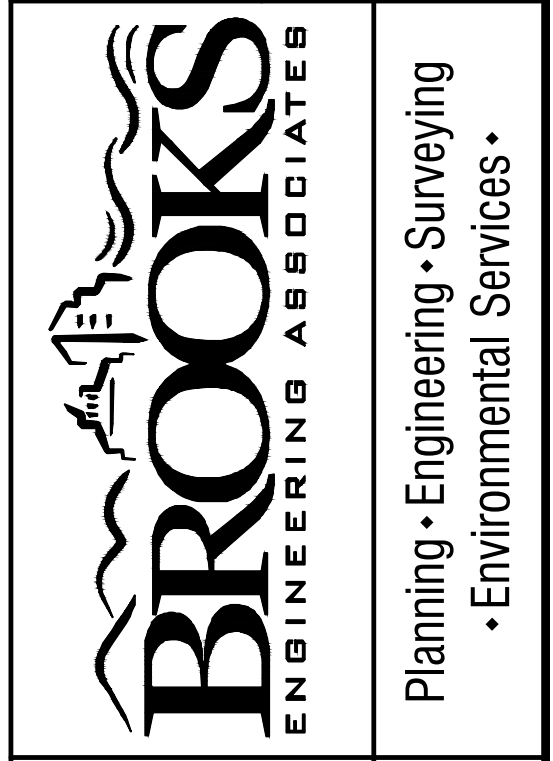
TYING PROPOSED PAVEMENT TO EXISTING PAVEMENT (NCDOT 700.05) SCALE= NTS

No.	REVISIONS/SUBMISSIONS	Date
1	HENDERSON COUNTY PLANNING	12-15-2022
2	TRC SUBMITTAL	01-12-2023



FINAL DRAWING - FOR REVIEW
 PURPOSES ONLY

Designated: ZAW
 Drawn: ZAW
 Checked: JHK
 Reviewed: JHK
 Scale: AS NOTED
 Date: 01-12-2023
 15 Arlington Street
 Asheville, N.C. 28801
 Phone: 1-828-232-4700
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Project No: 543521
 C-4.5
 RICH MOUNTAIN PHASE 3
 MAJOR SUBDIVISION
 HENDERSON COUNTY
 NORTH CAROLINA
 Drawing Title: SITE DETAILS

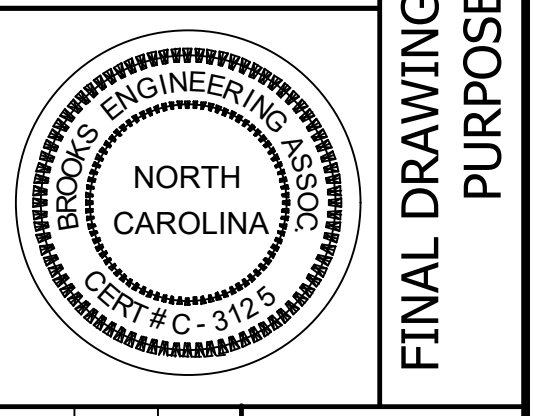
LINE	BEARING	DISTANCE
L1	S 45°54'39" W	61.72'
L2	S 00°00'00" E	99.04'
L3	N 42°44'08" E	37.12'
L4	S 60°58'28" E	68.29'
L5	N 31°07'06" E	53.70'
L6	S 83°43'59" W	99.84'
L7	S 60°58'28" E	33.23'
L8	N 78°12'33" E	67.46'
L9	S 46°50'57" E	11.66'
L10	S 10°56'53" E	13.90'
L11	N 77°30'03" E	74.96'
L12	N 00°35'19" W	49.55'
L13	S 60°58'28" E	45.88'
L14	N 75°06'54" E	10.16'
L15	N 42°01'23" E	16.63'
L16	S 78°32'40" E	99.77'
L17	S 51°06'19" E	75.39'
L18	S 82°02'19" E	44.50'
L19	S 47°08'09" W	3.92'
L20	S 53°14'11" W	14.32'
L21	N 81°29'40" W	18.79'
L22	N 74°27'28" W	69.18'
L23	N 79°43'21" W	19.22'
L24	S 48°17'03" W	34.22'
L25	S 60°48'44" W	10.87'
L26	S 72°40'31" E	57.24'
L27	S 60°48'44" W	10.87'
L28	S 03°02'48" E	7.50'
L29	S 86°57'12" W	50.93'
L30	N 13°02'49" W	7.46'
L31	N 69°20'46" E	14.95'
L32	S 81°30'07" W	23.80'
L33	S 11°37'12" E	47.24'
L34	S 78°22'48" W	30.00'
L35	N 11°37'12" W	48.28'
L36	S 81°40'46" W	73.94'
L37	S 78°32'40" E	99.77'
L38	N 42°01'01" E	78.15'
L39	S 76°47'32" W	57.83'
L40	N 81°30'07" E	56.78'
L41	N 42°01'01" E	52.60'
L42	S 49°54'20" W	33.21'
L43	S 76°47'32" W	22.27'
L44	N 76°57'11" E	55.72'
L45	N 13°02'49" W	7.50'
L46	N 76°57'11" E	22.56'
L47	N 81°30'07" E	56.78'
L48	N 86°57'12" E	21.27'
L49	S 03°02'48" E	7.50'
L50	N 03°02'48" W	45.00'
L51	S 65°48'53" E	33.58'
L52	S 81°40'19" E	74.41'
L53	S 04°56'47" E	44.59'
L54	S 30°24'51" E	9.37'
L55	S 04°56'47" E	71.45'
L56	N 71°08'00" W	53.48'
L57	N 85°03'13" E	30.00'
L58	S 49°30'38" W	92.03'
L59	N 30°24'51" W	9.42'
L60	S 49°54'20" W	34.71'
L61	N 71°08'00" W	42.95'
L62	S 82°02'19" E	51.92'
L63	S 82°02'19" E	29.25'
L64	N 47°08'09" E	49.51'
L65	S 51°06'19" E	75.39'
L66	S 81°40'19" E	30.12'

LINE TABLE
SCALE= NTS

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	35.00'	8.51'	8.49'	N 49°41'54" E	13°55'32"
C2	65.00'	86.55'	80.30'	N 80°52'50" E	76°17'24"
C3	95.00'	91.10'	87.65'	S 74°19'12" E	54°56'30"
C4	95.00'	59.53'	58.56'	S 28°53'55" E	35°54'04"
C5	35.00'	55.93'	50.16'	S 56°43'25" E	91°33'04"
C6	65.00'	73.06'	69.27'	S 28°46'26" E	64°24'03"
C7	77.50'	80.39'	76.84'	N 71°44'16" E	59°26'08"
C8	222.50'	134.62'	132.58'	N 84°07'20" E	34°40'00"
C9	227.50'	60.68'	60.50'	S 58°44'49" E	15°17'00"
C10	272.50'	136.10'	134.69'	S 65°24'50" E	28°37'02"
C11	115.01'	32.81'	32.70'	S 38°57'45" W	16°20'46"
C12	227.50'	113.63'	112.45'	N 65°24'50" W	28°37'02"
C13	177.50'	38.83'	38.75'	S 54°32'45" W	12°31'58"
C14	177.50'	62.96'	62.63'	S 70°58'23" W	20°19'18"
C15	227.50'	60.68'	60.50'	N 74°01'49" W	15°17'00"
C16	189.20'	62.26'	61.98'	N 71°53'40" W	18°51'15"
C17	77.50'	91.86'	86.57'	S 80°13'50" W	67°54'35"
C18	222.50'	48.69'	48.59'	S 54°32'37" W	12°32'14"
C19	222.50'	23.21'	23.20'	S 63°48'02" W	5°58'36"
C20	165.00'	14.97'	14.96'	S 84°21'15" W	5°11'53"
C21	165.00'	13.83'	13.82'	S 79°21'15" W	4°48'08"
C22	343.13'	36.66'	36.64'	S 77°53'27" W	6°07'17"
C23	172.50'	100.27'	98.86'	S 60°07'22" W	33°18'13"
C24	123.49'	15.97'	15.96'	S 82°30'43" E	7°24'41"
C25	177.50'	62.96'	62.63'	S 88°42'19" E	20°19'18"
C26	123.49'	112.14'	108.33'	N 67°46'02" E	52°01'49"
C27	127.50'	42.32'	42.12'	N 71°59'40" E	19°00'56"
C28	127.50'	42.32'	42.12'	N 52°58'44" E	19°00'56"
C29	222.50'	17.67'	17.66'	N 79°13'39" E	4°32'56"
C30	135.00'	23.56'	23.53'	N 81°57'12" E	10°00'01"
C31	127.50'	35.29'	35.17'	S 73°44'36" E	15°51'27"
C32	122.50'	33.04'	32.94'	S 73°32'31" E	15°27'17"
C33	85.00'	37.78'	37.47'	S 17°40'49" E	25°28'04"
C34	122.50'	68.83'	67.93'	N 82°38'05" E	32°11'32"
C35	122.50'	13.25'	13.24'	N 49°22'25" E	6°11'45"
C36	115.00'	51.12'	50.70'	N 17°40'49" W	25°28'04"
C37	515.00'	45.79'	45.77'	N 49°40'58" E	5°05'39"
C38	465.00'	62.61'	62.56'	N 56°05'14" E	7°42'52"
C39	127.50'	5.15'	5.15'	S 80°52'50" E	2°18'58"
C40	272.50'	56.14'	56.04'	S 57°00'24" E	11°48'11"
C41	272.50'	89.24'	88.84'	S 72°17'25" E	18°45'49"

CURVE TABLE
SCALE= NTS

REVISIONS/SUBMISSIONS	Date
1 HENDERSON COUNTY PLANNING	12-16-2022
2 TRC SUBMITTAL	01-12-2023



FINAL DRAWING - FOR REVIEW
PURPOSES ONLY

Project No: 543521
Drawing Title: C-4.6
RICH MOUNTAIN PHASE 3
MAJOR SUBDIVISION
HENDERSON COUNTY
NORTH CAROLINA

Brooks Engineering Associates
Planning • Engineering • Surveying
• Environmental Services •
15 Arlington Street
Ashville, N.C. 28801
Phone: 1-828-232-4700
Fax: 1-828-232-1331
www.brooksea.com

Certificate Of Completion

Envelope Id: F6F39CA53A5F4CCC80F97EB1413EC4FC	Status: Completed
Subject: Complete with DocuSign: TRC Set.pdf	
Source Envelope:	
Document Pages: 23	Signatures: 23
Certificate Pages: 1	Initials: 0
AutoNav: Enabled	Envelope Originator:
Envelope Stamping: Enabled	John Kinnaird
Time Zone: (UTC-08:00) Pacific Time (US & Canada)	15 Arlington Street
	nil
	Asheville, NC 28801
	jkinnaird@brooksea.com
	IP Address: 68.115.175.82

Record Tracking

Status: Original	Holder: John Kinnaird	Location: DocuSign
1/12/2023 7:13:12 AM	jkinnaird@brooksea.com	

Signer Events

John Kinnaird
 jkinnaird@brooksea.com
 Security Level: Email, Account Authentication (None)

Signature



Signature Adoption: Pre-selected Style
 Using IP Address: 68.115.175.82

Timestamp

Sent: 1/12/2023 7:14:09 AM
 Viewed: 1/12/2023 7:14:27 AM
 Signed: 1/12/2023 7:16:20 AM
 Freeform Signing

Electronic Record and Signature Disclosure:
 Not Offered via DocuSign

In Person Signer Events	Signature	Timestamp
Editor Delivery Events	Status	Timestamp
Agent Delivery Events	Status	Timestamp
Intermediary Delivery Events	Status	Timestamp
Certified Delivery Events	Status	Timestamp
Carbon Copy Events	Status	Timestamp
Witness Events	Signature	Timestamp
Notary Events	Signature	Timestamp
Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	1/12/2023 7:14:09 AM
Certified Delivered	Security Checked	1/12/2023 7:14:27 AM
Signing Complete	Security Checked	1/12/2023 7:16:20 AM
Completed	Security Checked	1/12/2023 7:16:20 AM
Payment Events	Status	Timestamps

Revised Master and Phase III Development Plan for Sprout (Rich) Mountain (2021-M09)



Henderson County Planning Board
January 19, 2023

Henderson County Planning Department

1

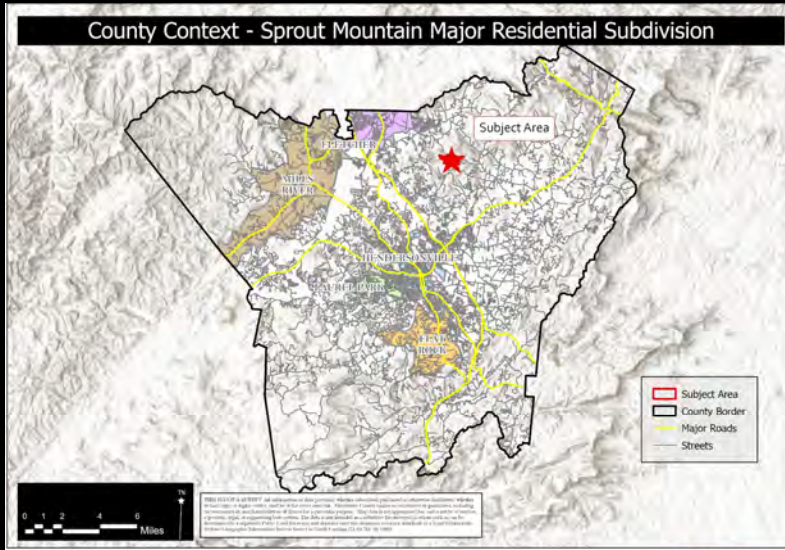
Project Summary

- Ripple Falls, LLC (Applicant)
 - Andy Baker (Managing Member)
 - Brooks Engineering (Plan Preparer)
- Revised total of 83 single-family lots
 - Original approval of 60 total single-family lots
 - Planning Board approval on 12/16/21
 - 23 new lots in Phase III
- Revised subject area of 377.96 acres
 - Original subject area was 245.86 acres
 - Phase III total area is 82.78 acres
- Revised open space total of 154.75 acres (42%)
 - Original open space was shown as 79.63 acres
- 4,415LF of proposed private roadway
 - Increase of 197LF from the original approval

Henderson County Planning Department

2

County Context



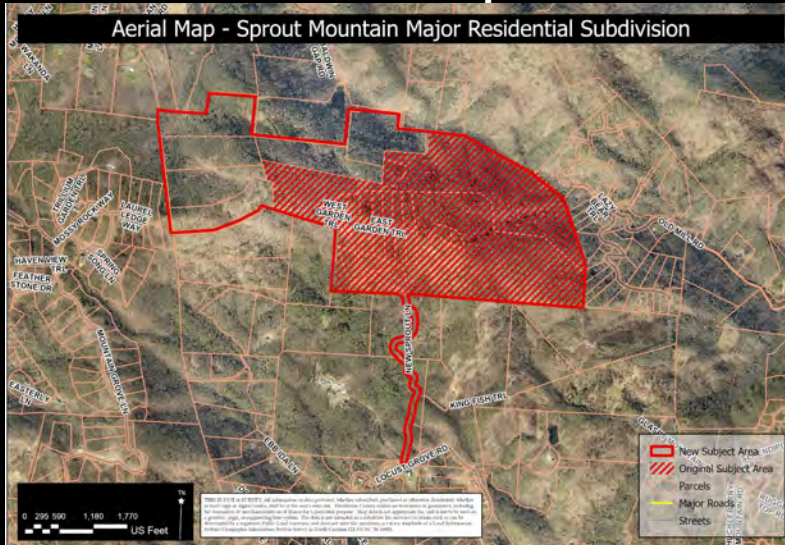
Listed to: Ripple Falls, LLC (Andy Baker, Managing Member)
Assessed Acreage: 377.96 Acres
Current Zoning: Residential Three (R3)



Henderson County Planning Department

3

Aerial Map



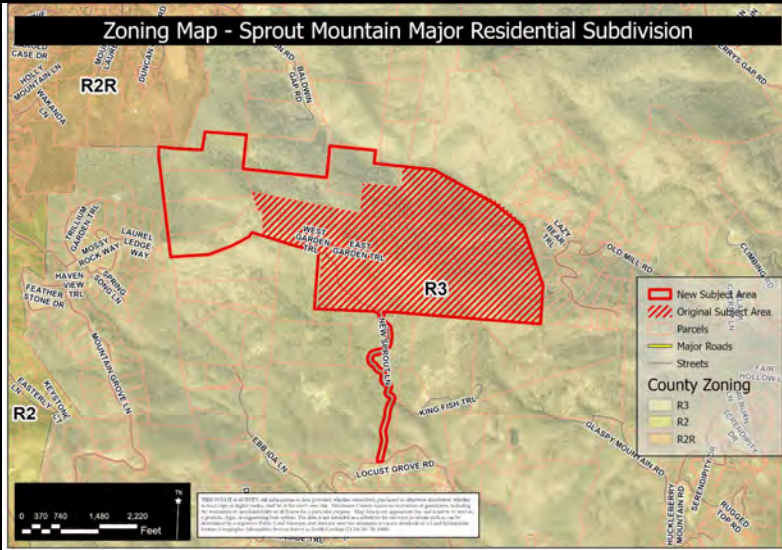
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Assessed Acreage: 377.96 Acres
Current Zoning: Residential Three (R3)



Henderson County Planning Department

4

Current Zoning Map



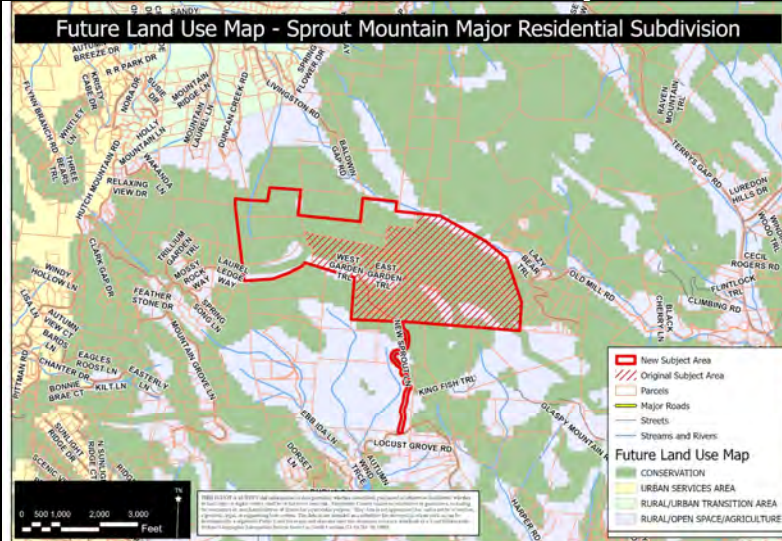
Listed to: Ripple Falls, LLC (Andy Baker, Managing Member)
 Assessed Acreage: 377.96 Acres
 Current Zoning: Residential Three (R3)



Henderson County Planning Department

5

Future Land Use Map



Listed to: Ripple Falls, LLC (Andy Baker, Managing Member)
 Assessed Acreage: 377.96 Acres
 Current Zoning: Residential Three (R3)

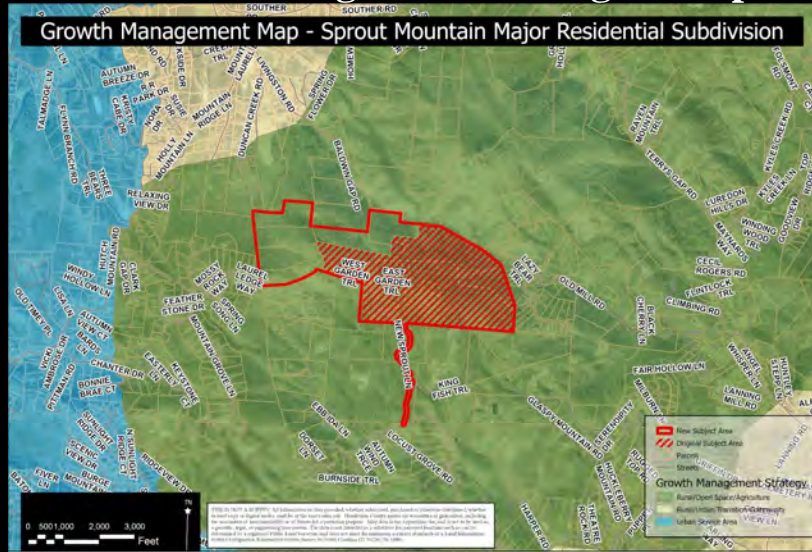


Henderson County Planning Department

6

Growth Management Strategies Map

Growth Management Map - Sprout Mountain Major Residential Subdivision



Listed to: Ripple Falls, LLC (Andy Baker, Managing Member)
 Assessed Acreage: 377.96 Acres
 Current Zoning: Residential Three (R3)

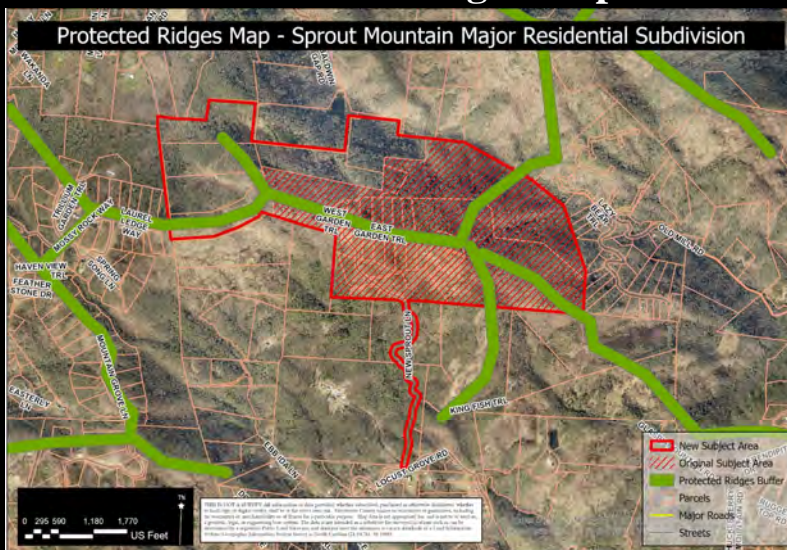


Henderson County Planning Department

7

Protected Ridges Map

Protected Ridges Map - Sprout Mountain Major Residential Subdivision



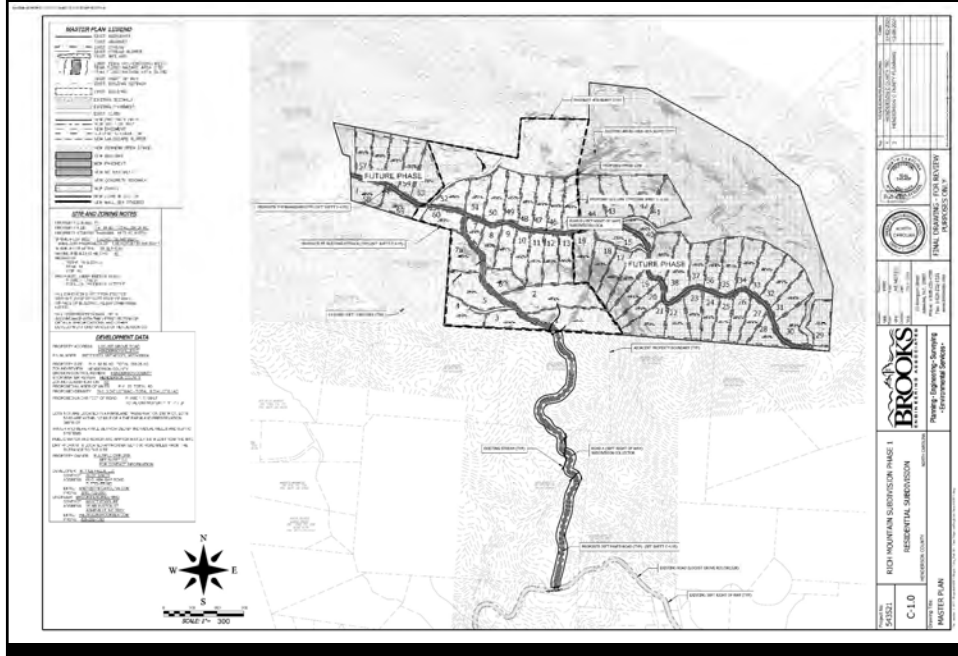
Listed to: Ripple Falls, LLC (Andy Baker, Managing Member)
 Assessed Acreage: 377.96 Acres
 Current Zoning: Residential Three (R3)



Henderson County Planning Department

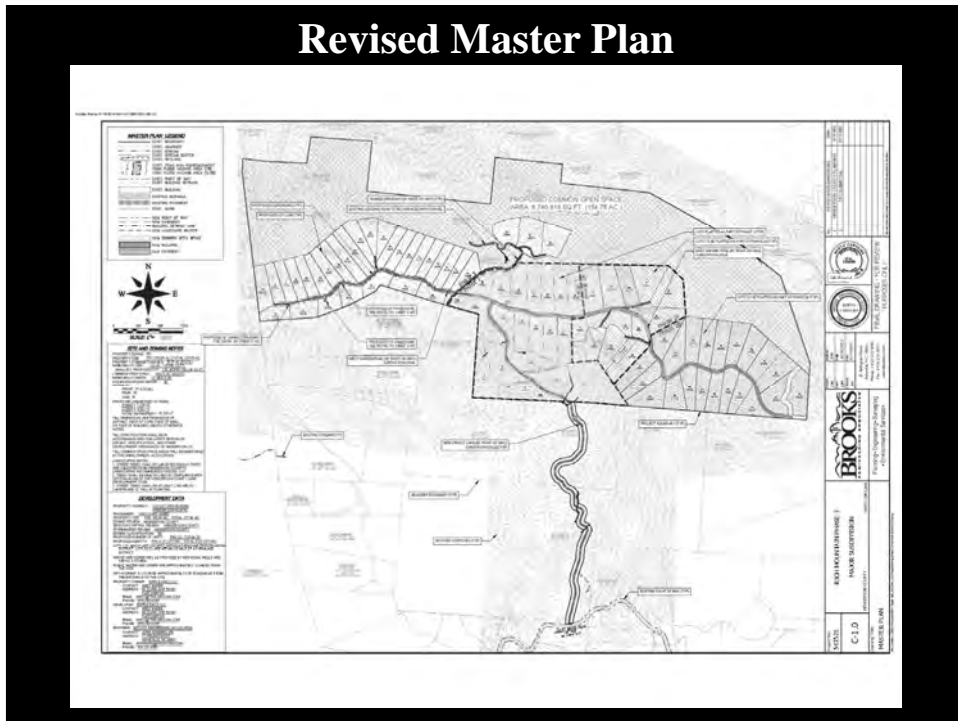
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Original Master Plan



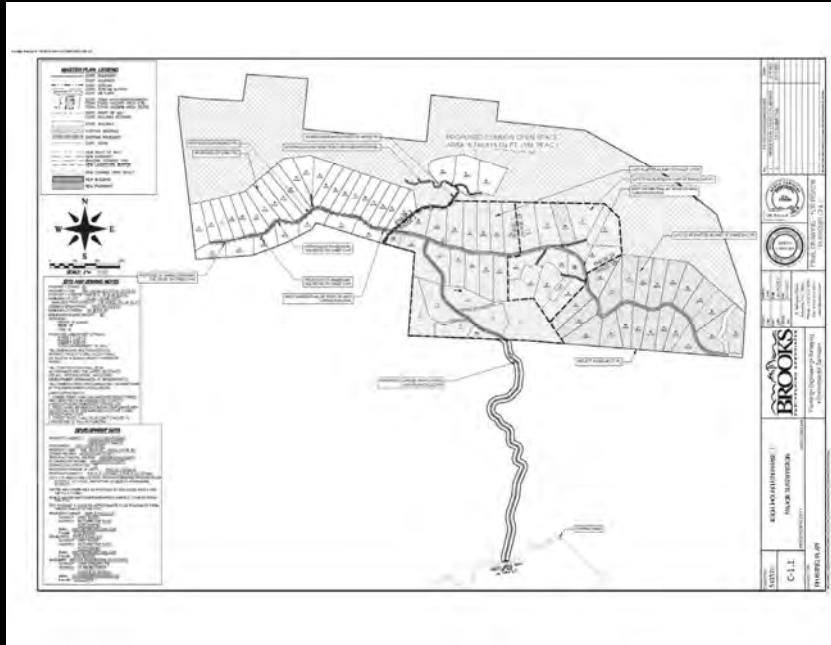
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Revised Master Plan



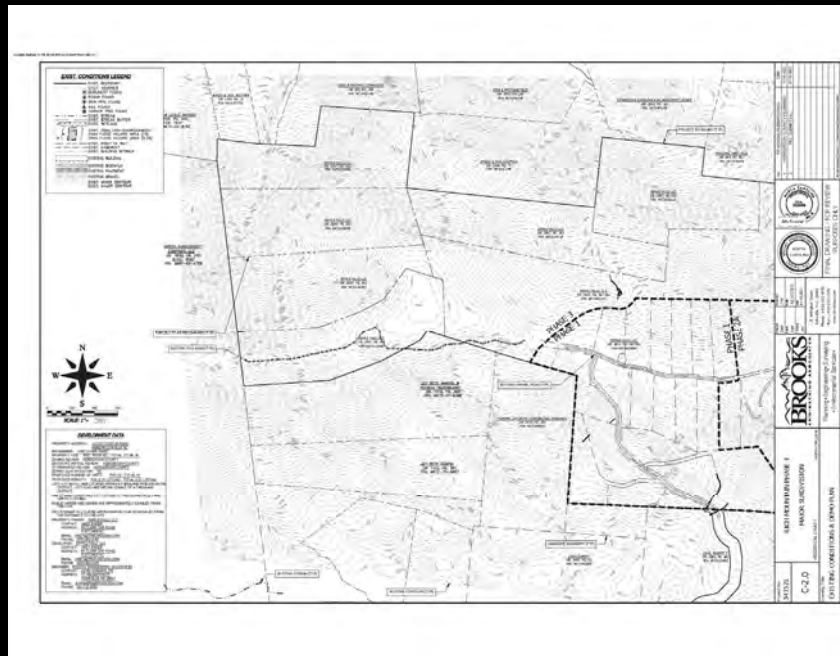
10

Revised Master Plan



11

Revised Master Plan



12

**Revised Master & Phase III Development Plan for
Sprout Mountain Subdivision (2021-M09)**

Questions

