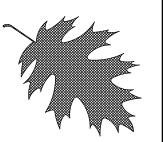


HIGHWAY LANDSCAPE DEVELOPMENT PROJECT



County Line.

Prop. Chain Link Fence

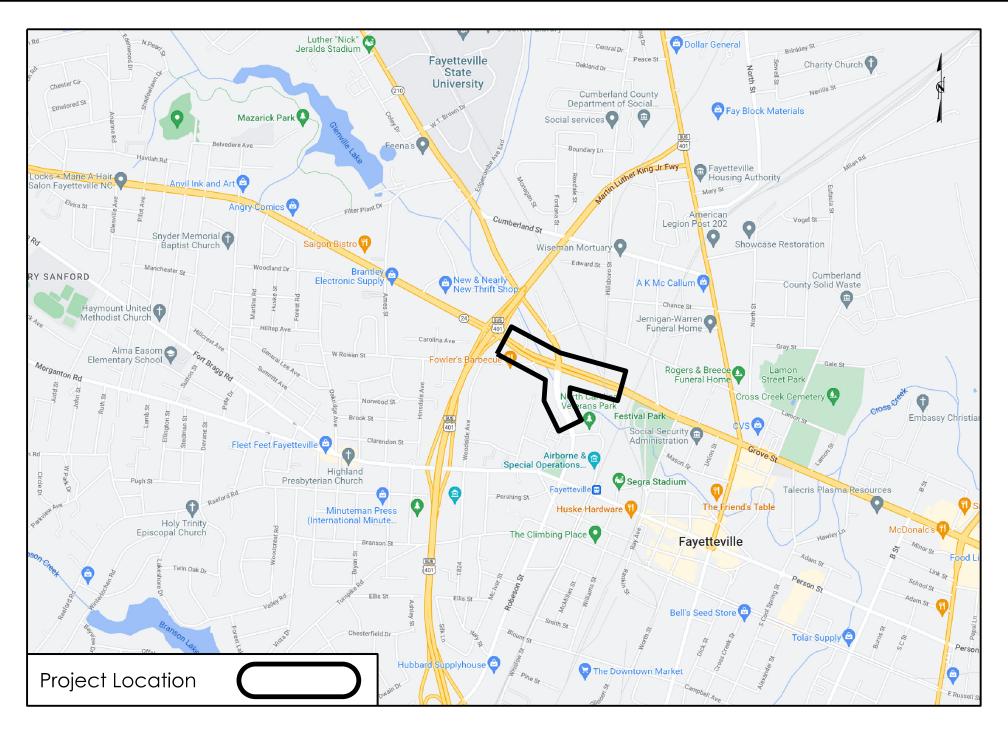
Denotes Line Equality

Exist. Road ...
Prop. Road ...
Guardrail
Survey Line

Bridge.

	T.I.P. #	STATE PROJECT W.B.S. #	SHEET#	SHEET # TOTAL
	B-4490	33727.3.2	L1	11
	FED. PROJ. # DESCRIPTION BRNHS-0024(24) TIP		DIVISION	
				6

CONVENTIONAL SYMBOLS



ASHE PERSON ASHE SURRY STORES ROCKINGHAM ASHEL EGHANV ASHEL EGHANV ASHEL STORES WILKES TADRA FORSYTH GULFORD ALAMANEE DRANGE FRANKLIN MACISON WARE CALOWELL ALEXANDER CALOWELL ALEXANDER CALOWELL ALEXANDER CALOWELL CALOWELL

Summary of Quantities 1 Year Establishment

DES	SEC	QTY	UNIT	KEY	BOTANICAL NAME	COMMON NAME	FURNISH	NOTES	A.S.N.S.
					Troop				
					Trees				
	1670			DC	Distancia abin ancia	Chinasa Bistocha	7 01. 21 0-1 . 0.0 0	451.0.6	2.2
_ L	1670	9	еа	PC	Pistacia chinensis	Chinese Pistache	7-8'; 2" Cal.; B&B	45' O.C.	2.2
	1670	12	еа	LN	Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	7-8'; #25; Single Stem	15' O.C.	2.3
	1670	16	еа	LD	Lagerstroemia indica 'Whit II'	Dynamite® Crape Myrtle	7-8'; #25; Single Stem	12' O.C.	2.3
					Shrubs				
L	1670	101	еа	СВ	Caryopteris x clandonensis 'Blue Mist'	Blue Mist Spirea	15-18"; #3 Cont.	5' O.C.	3.1
L	1670	83	еа	RA	Rhus aromatica 'Gro-Low'	Gro-Low Fragrant Sumac	15-18"; #3 Cont.	6' O.C.	3.2
L	1670	138	еа	YF	Yucca filamentosa 'Color Guard'	Color Guard Yucca	15-18"; #3 Cont.	5' O.C.	5.6
					Grasses/Groundcovers/Perennials		•		
					Grasses/ Groundcovers/ Pereninals				
L	sp	1412	sy	ТВ	Cynodon dactylon x C. transvaalensis germplasma	Tifway 419 Bermuda	Sod	Tight Seams	n/a
L	1670	208	еа	LS	Liatris spicata	Blazing Star	6-12"; SP4	2.5' O.C.	13.3
L	1670	154	еа	MC	Muhlenbergia capillaris	Pink Muhly Grass	18-24"; #3 Cont.	3' O.C.	13.4
L	1670	104	еа	PV	Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	18-24"; #3 Cont.	3.5' O.C.	13.4
L	1670	299	еа	RG	Rudbeckia fulgida x sullivantii 'Goldsturm'	Goldsturm Black-Eyed Susan	6-12"; #1 Cont.	2.5' O.C.	13.3
L	1670	2447	еа	SS	Schizachyrium scoparium	Little Bluestem	3-6"; Liners; Tray of 32	2.5' O.C.	13.4
L	1670	269	еа	SN	Sorghastrum nutans	Indiangrass	3-6"; Liners; Tray of 32	2.5' O.C.	13.4
					Other Vegetation Costs				
	SP	1	LS		Irrigation				
L	1670	12	ea		Monthly Establishment				
L	1670	488	су		Mulch for Planting			Depth of 4"	
L	1670	3977	sy		Pre emergence Herbicidal Treatment			. ,	
L	1670	3977	sy		Post emergence Herbicidal Treatment				
L	1101	1	LS		Temporary Traffic Control				
L	1670	32	m/g		Water for Planting				
					[] - Alternative Plant Option				
					m/g - 1,000 gallons				

City or Town Line Exist. Right of Way Line Marker Prop. Right of Way Line Marker (By Others) Prop Right of Way Line Marker (By Contract) Exist. Control of Access Line Prop. Control of Access Line Property Line Easement Line Slope Stake Line Exist. Fence Prop. Woven Wire Fence

Culvert
Railroad
Woods

Exist. Telephone Pole
Prop. Telephone Pole
Tower Pole and Line
Exist. Power Pole
Prop. Power Pole
Sanitary Sewer Line

Water Line
Gas Line
Picnic Shelter
Regeneration

INDEX OF L SHEETS:

L 1.0 - Title Sheet

Reforestation

- L 2.0 Planting Details
- L 3.0 L 6.0 Planting Plans
 I 1.0 Irrigation Specifications
- I 2.0 Irrigation Details
- 13.0 15.0 Irrigation Plans

PREPARED BY: K. Cooper DATE: 3/17/2023

REVISIONS

DATE	DESCRIPTION

2014 American Standard for Nursery Stock



NOTES:

sewer, gas, electrical, etc.)

and major construction begins.

Environmental Engineer for clarification.

- Existing conditions shown on the plans are based on survey information

- Prior to any demolition or work taking place, the contractor shall locate

and verify all utility lines and structures within the construction areas (water,

- The contractor shall take the necessary precautions to prevent damage of adjacent plant material, facilities, and structures to remain. The contractor

shall restore disturbed areas to their original condition and to the satisfaction

of the Division Roadside Environmental Engineer.

- The utilities shown on the plans are approximate locations. The contractor shall locate and protect in place all existing utilities before digging occurs

- Demolition, removal, and disposal of items from the site must be completely in accordance with the law. The contractor is responsible for making a site visit to determine and verify all demolition requirements prior to bidding.

- The contractor shall verify all conditions and dimensions at the job site prior to construction, and if discrepancies are found, notify the Division Roadside

and roadway plans, actual site conditions may vary.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION TYPE of WORK: TIP

COUNTY: Cumberland

2024 NCDOT STANDARD SPECIFICATIONS

PREPARED IN THE OFFICE OF:

NCDOT- ROADSIDE ENVIRONMENTAL UNIT
AESTHETIC ENGINEERING SECTION
1557 MAIL SERVICE CENTER
RALEIGH NC 27699 919-707-2920





SCHEDULE FOR PLANT HOLE SIZE: PLANT HOLE WIDTH (X) TO BE TWICE THE ROOT BALL SIZE OR CONTAINER DIAMETER.



SEE STANDARD SPECIFICATIONS FOR PLANT BED FUMIGATION AND HERBICIDAL TREATMENT.



APPLY FERTILIZER AT PLANTING TIME IN THE FORM OF A SLOW RELEASE PELLET OR TABLET. APPLY AT RATE RECOMMENDED BY MANUFACTURER. BOTH RATE AND FORMULATION MUST BE APPROVED BY FIELD ENGINEER PRIOR TO APPLICATION.



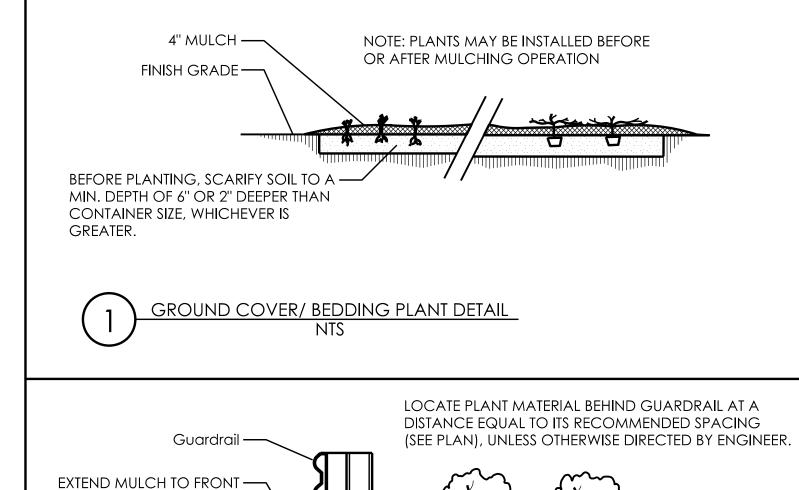
REMOVE TOP 1#3 OF WIRE BASKET AND FOLD BURLAP BACK FROM TOP OF ROOT BALL BEFORE BACKFILLING IS COMPLETE.



ALL PRUNING TO FOLLOW STANDARD ARBORICULTURAL PRACTICES AS SPECIFIED BY INTERNATIONAL SOCIETY OF ARBORICULTURE.



DO NOT ATTEMPT TO STRAIGHTEN A TREE THAT HAS BEEN PLANTED AT AN ANGLE WITH THE USE OF STAKING OR GUYING. DIG TREE AND REPLANT TO UPRIGHT POSITION.

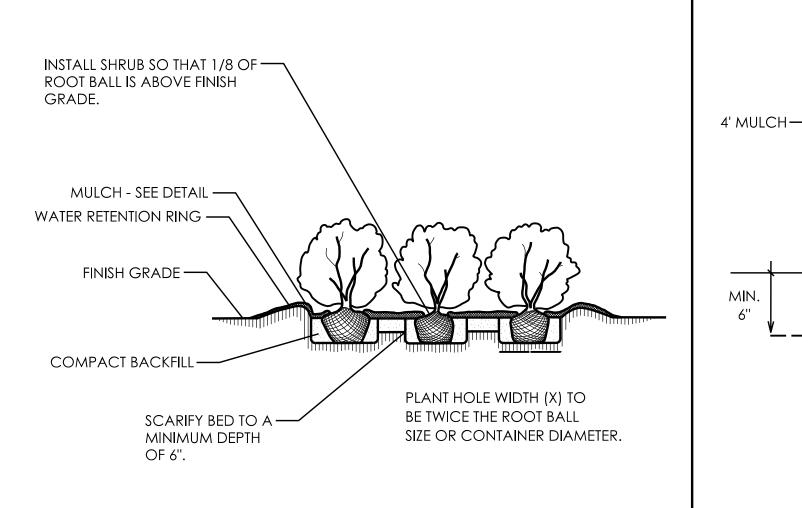


EDGE OF THE GUARDRAIL

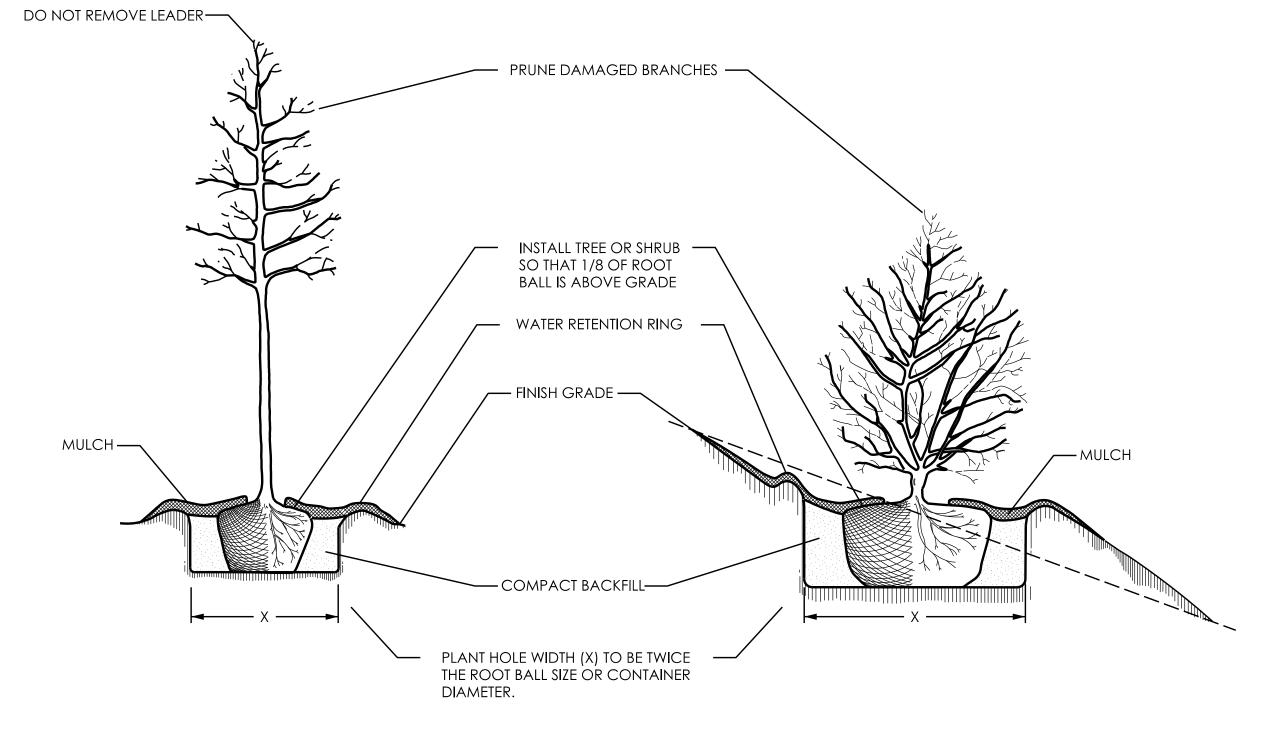
OR TO PAVEMENT EDGE

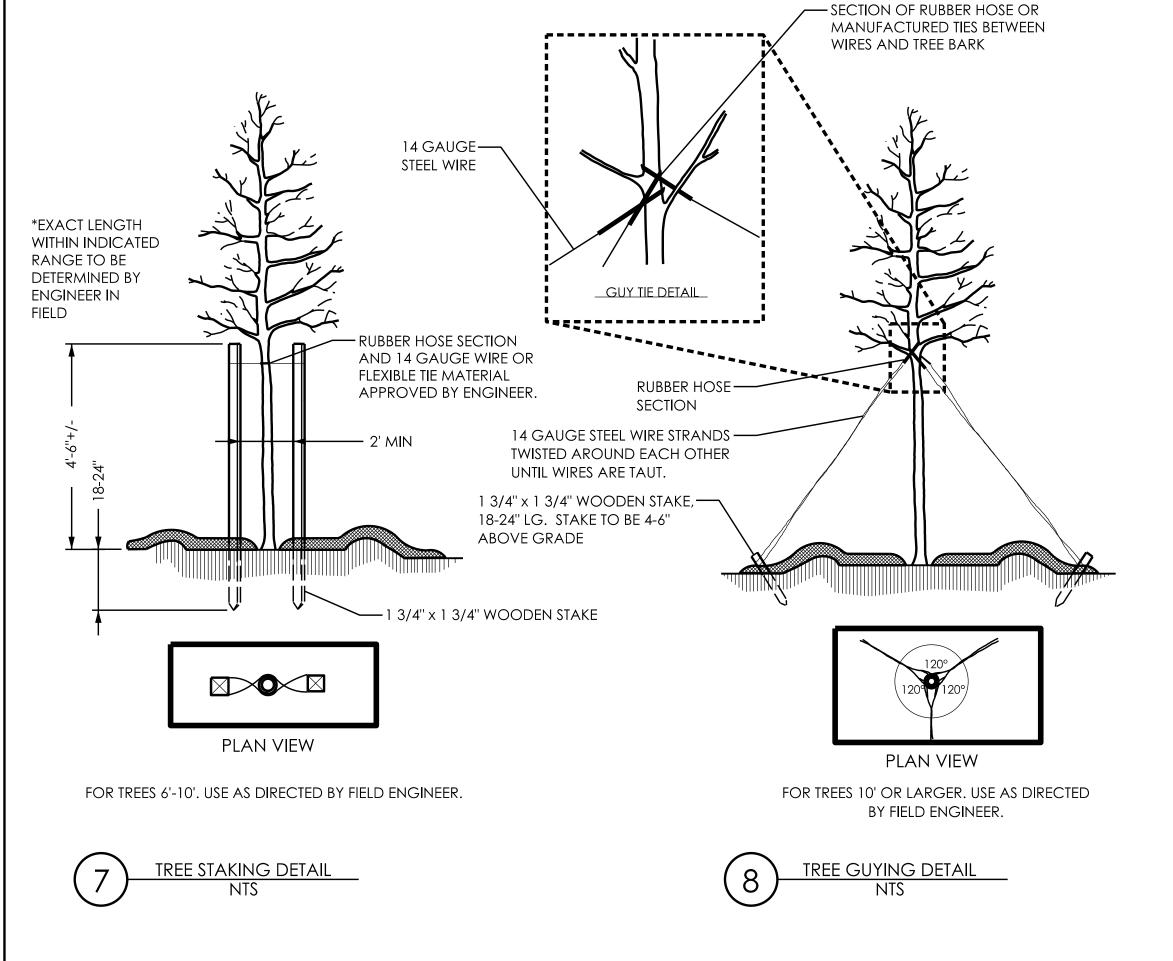
OF TRAVELWAY.

3 SHRUB BED PLANTING DETAIL NTS



PLANT BED EDGE DETAIL NTS





PLANT BED OR NATURAL AREAS

WIDTH OF PLANT BED VARIES

COMPACT SOIL BACK FILL

AND SLOPE TO DRAIN

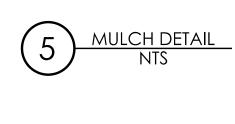
TOPSOIL

— EDGE OF PLANT

3:1 BACK-SLOPE (MAY VARY)

- 6" DEEP PLANT BED

EDGE(MOW/MULCH



DO NOT PLACE MULCH WITHIN 2" —

OF TRUNK OR STEM.

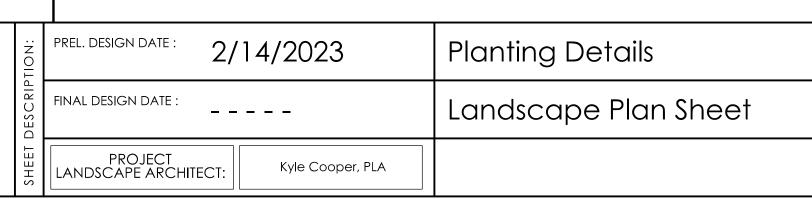


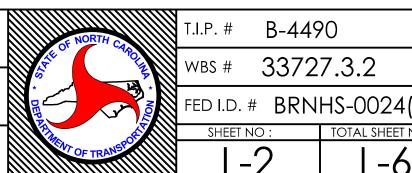
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PH: 919-707-2935 FAX: 919-715-2554 http://www.ncdot.org/doh/operations/dp chief eng/roadside/

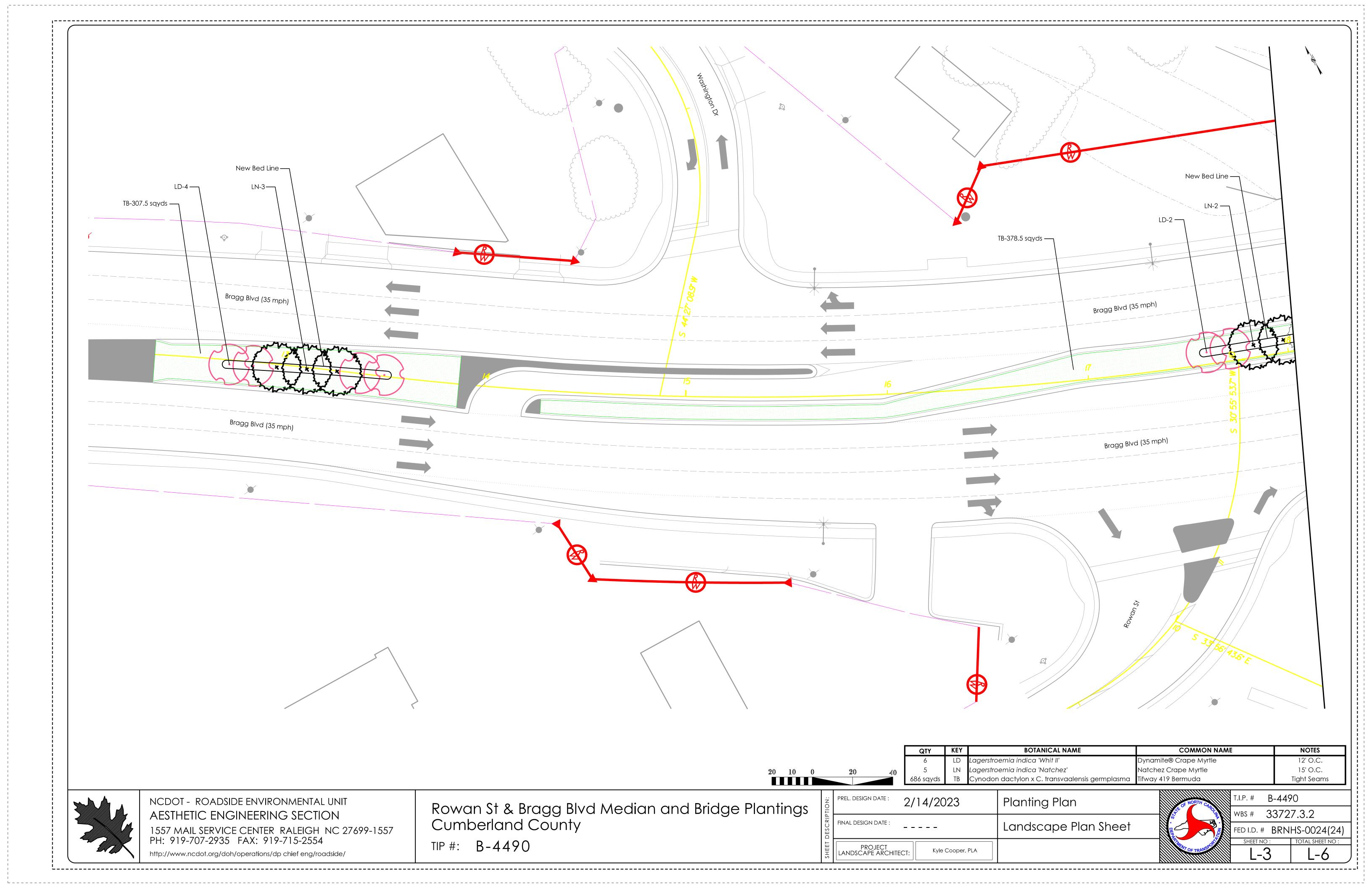
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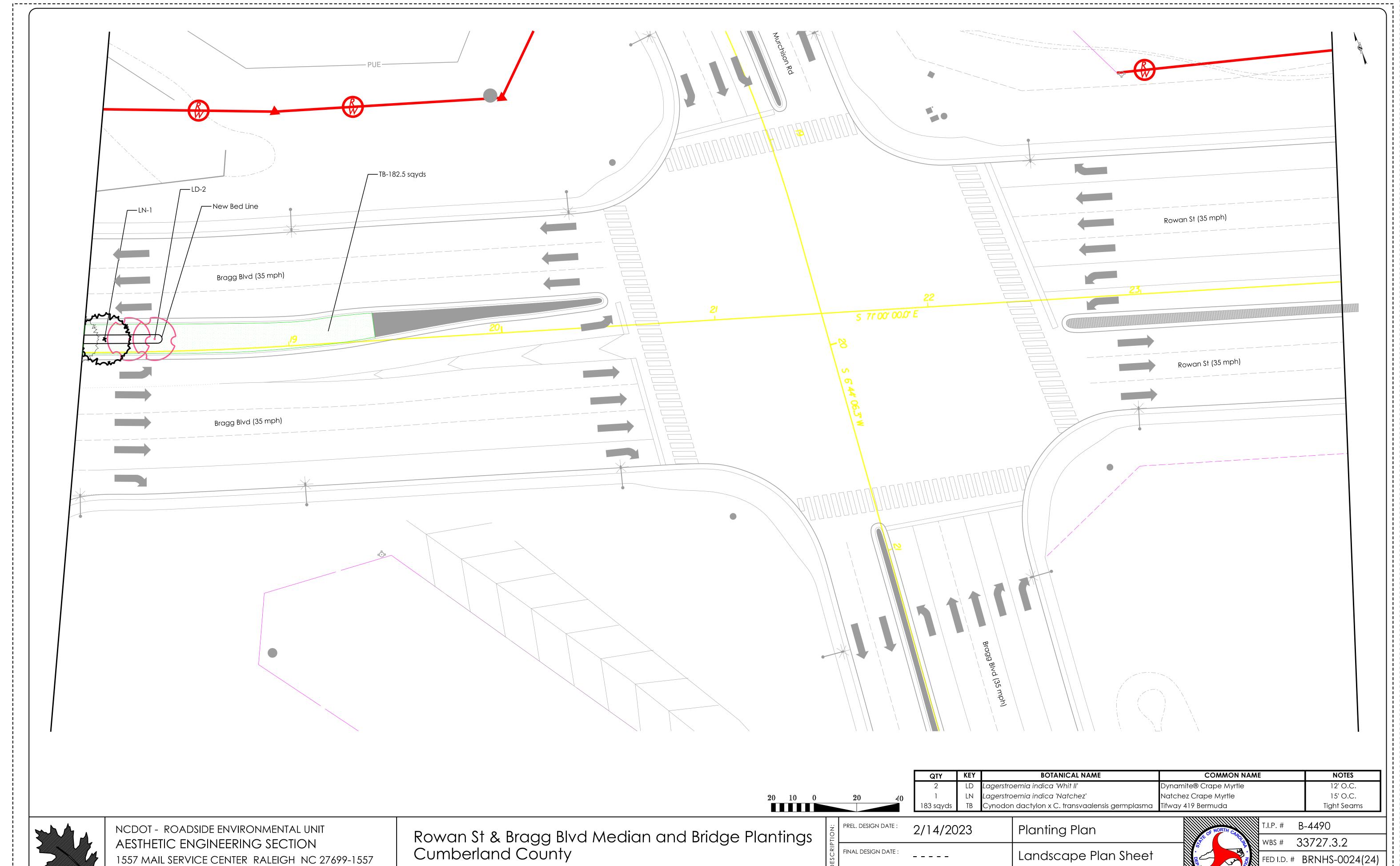
TIP #: B-4490







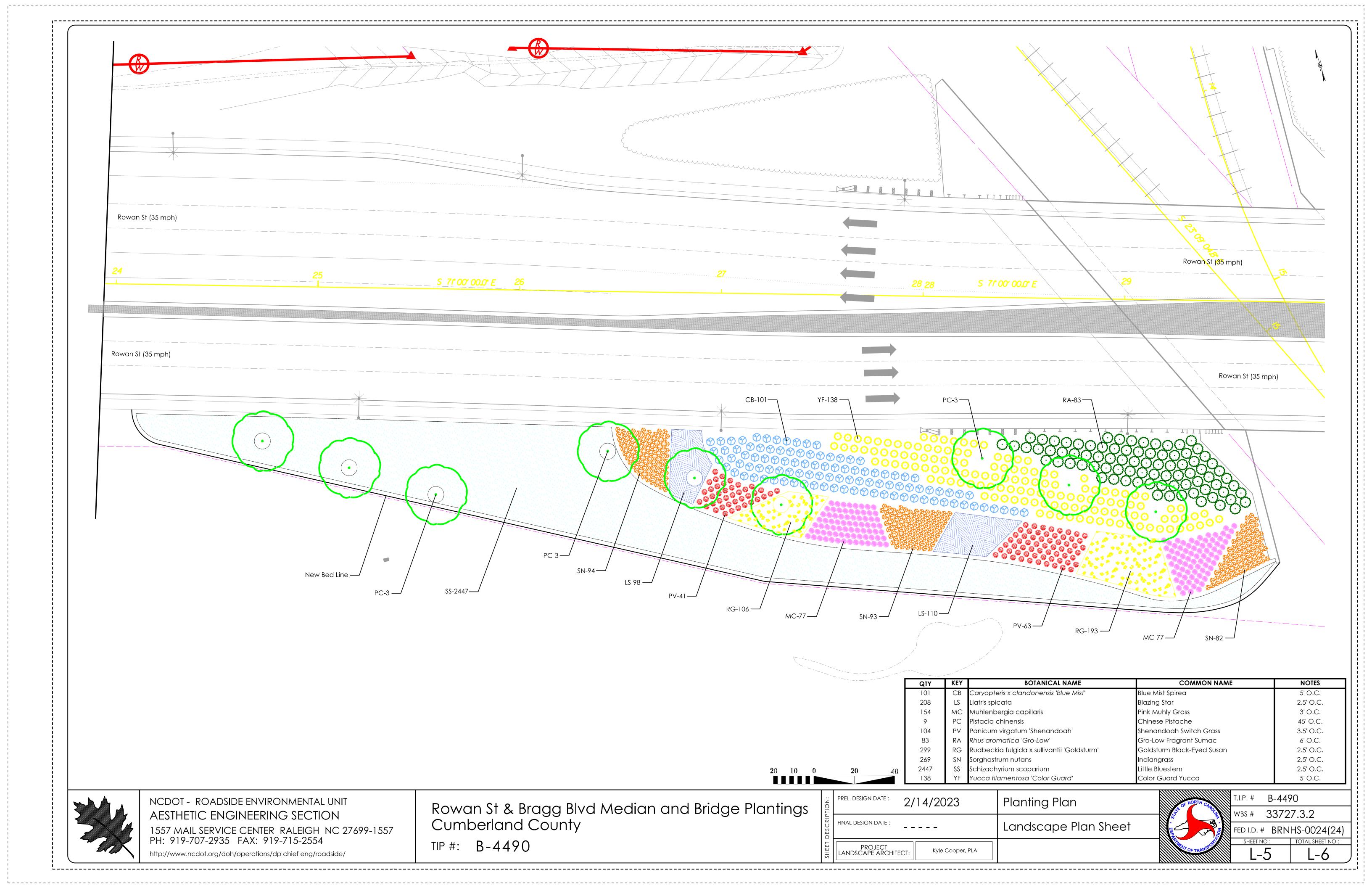


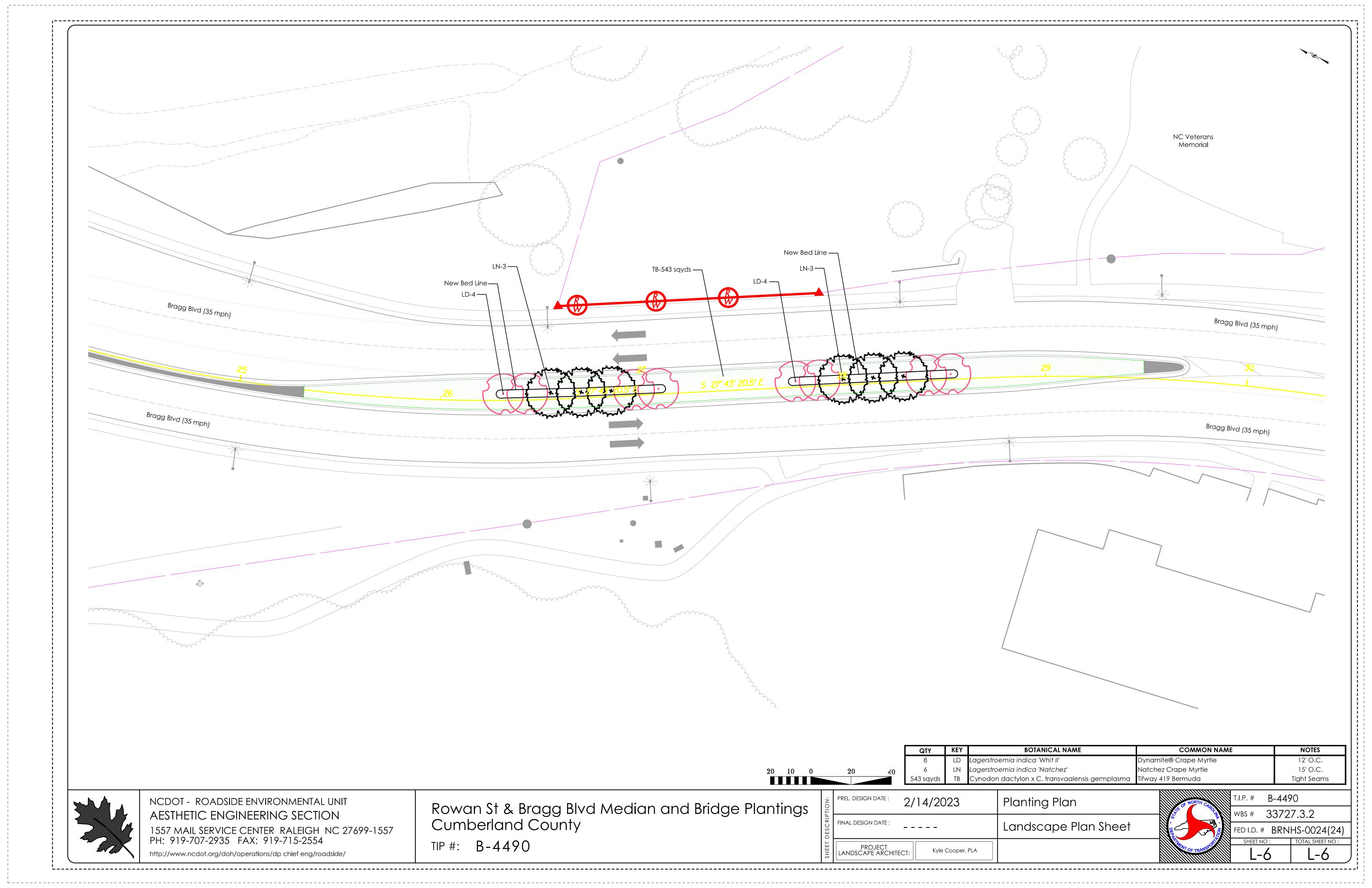




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	ESCRI	FINAL DESIGN DATE :		Landscape Plan Sheet	S * DEPA
	PROJECT LANDSCAPE ARCHITECT:	Kyle Cooper, PLA			





IRRIGATION NOTES & LEGEND

ESTIMATED IRRIGATION QUANTITIES

Meter Locations - 2 Backflow Preventers - 2 Battery Powered Controllers - 2 Spray Zones Valves - 5 Main Line Pipe - 959 LF Lateral Pipe - 2,838 LF Sleeve Pipe - 46 LF

Rotator Heads (Total: 429)

5' r - 220

6' r - 83

7' r - 52 8' r - 9

10' r - 12

11'r-9

12' r - 16 14' r - 28

Quantities are estimated based on design drawings. Refer to plans for any discrepancies. Plans take priority over these estimated quantities. Estimated quantities do not cover all materials necessary for installation. Quantities may be adjusted slightly due to site conditions, specific irrigation equipment, and implementation.

GENERAL NOTES

- Irrigation contractor must be licensed to perform work associated with construction or contracting of irrigation systems by the NCICLB under chapter (2008-177, S.1; 2013-383, S.3) and NC G.S. 89G.
- All materials may be of comparable manufacture and performance to the brand listed.
- Prior to the start of any work, the contractor shall verify the available static water pressure (PSI) and gallons per minute (GPM) at the point of connection to the water source. Any replacements, relocation, or additional materials required as a failure to check the PSI and GPM shall be done at the contractor's expense.
- The irrigation contractor shall, in the presence of the Division Roadside Environmental Engineer and the municipality's employees responsible for the maintenance of the system, meet the following obligations:
 - Explain the complete operation of the system - Be available to answer any questions of the system operators
 - during the first year of operation - Winterize the system during November of the first year of
 - Reenergize the irrigation system in April the following year and check the system for full operation

GENERAL NOTES cont'd

- The irrigation design provided in the plans is schematic in nature, and the irrigation contractor may be required to make adjustments in the field as necessary. These adjustments shall be made at no additional cost to the owner and shall be made only after notification is made to the owner (NCDOT).
- The contractor(s) shall familiarize themselves with the site so that they are aware of any special conditions that may exist that could affect their bid proposal and shall hereafter be responsible for all cost incurred by themselves in relation to the installation.
- Place valves boxes, back flow preventers, and other irrigation devices in plant beds wherever possible.
- The contractor is to minimize disturbance in sod areas and replace sod when necessary.
- Place pressure reducing valves in discreet locations.
- All irrigation products are to be Hunter, Rainbird, or Toro (as approved by the Division Roadside Environmental Engineer or Landscape Architect).
- If there is an existing system in place, be sure to use irrigation heads that are consistent with the existing system.
- The contractor is responsible for providing 'As Built' plans to the owner (NCDOT) at the time of project approval. The plans shall be clear, concise, and show all elements of the irrigation system, the location of all equipment, sleeves, irrigation lines, numbered zones, controller(s), heads, and valves.

BACKFLOW PREVENTION



- The reduced pressure backflow preventer assembly shall be the responsibility of the irrigation contractor. The backflow shall be 1.5" in size. The backflow assembly shall be installed downstream of the irrigation meter. The unit must be installed in accordance with all local and state code requirements and shall have an approved cover.

CONTROLLER W/ BATTERY POWERED TIMER

- (C) Controller may be of comparable manufacture and performance
- The controller shall be a Hunter, Rainbird, or Toro Modular unit with at least 12 available zones. The controller shall incorporate a 24 VAC with the approximate location shown on the plans. Location must be approved by the Division Roadside Environmental Engineer.
- The battery operated controller is to be placed in Carson valve boxes model #910-1 with #910-2 covers.
- All 120 VAC wiring shall be installed in accordance with all applicable electrical code requirements.
- The contractor shall install a wired Hunter, Rainbird, or Toro rain sensor that is compatible with the make and model of the controller. The rain sensor shall be placed in plant beds where there are no overhead obstructions that can block precipitation. The sensor mount is to be painted a dark hunter green in order to blend into the landscape.

CONTROLLER WIRING

(common) wires shall have white insulation while valve (hot) wires shall have red insulation. Both the (common) and (hot) wires shall be #14 AWG. Tracer wires shall be installed above all irrigation piping (main line and laterals). Valve wiring shall follow mainline piping where feasible. All wiring shall be

installed in accordance with local code requirements.

- Wire splices shall be kept to an absolute minimum. Where major concentrations of splices are necessary, they shall be placed in a approved valve box with cover installed at grade level. Splices at valve locations shall be made inside of the valve box. All splice locations shall be noted on the as built plan.
- Wire runs shall be installed with enough slack and/or expansion loops to prevent excessive strain due to thermal contraction.
- All wire splices shall be made using UL approved direct burial connectors and waterproof materials. All electrical work shall be installed according to code.

ELECTRIC CONTROL VALVE

- Valves shall be Hunter, Rainbird, or Toro.



- Location of AC powered electric remote-control valve with flow-control feature

- All remote control valves shall be installed in Carson valve boxes with lids mounted at grade level. Single valves may be installed in a Carson model #910-1 valve box with cover, while multiple valves (up to, 2 - 1" valves or 1 - 1 1/2") shall be installed in Carson model #1419-1 box with #1419-2 cover.

HEADS



- Hunter, Rainbird, or Toro Pop-up Rotator Spray heads fitted with adjustable nozzles or 90°, 180°, 270°, and 360° adjustable arc 270° 360° nozzles for 5'-14'.
 - All heads in turf areas shall have a 6" pop-up stroke and heads in plant beds shall have 12" pop-up stroke. If installed with less than 1/3 of the sprinkler body exposed above grade, it shall be installed on polyethylene flex swing joint poly pipe fitted with elbows (3/8" insert by 1/2" M.P.T. and/or 3/8" insert by 3/4" M.P.T.)
 - -If greater than 1/3 of the sprinkler body is exposed, then the 6"-12" pop-up head shall be mounted on a schedule 40 PVC pipe riser as described below in relation to mounting shrub head models. In mounting 6"-12" pop-up heads on shrub type risers care shall be taken to install the head in such a manner that the surrounding plant material (planned or existing) will hide the body of the sprinkler.
 - All pop-up irrigation heads designed adjacent to curbs or pavement shall be installed with a clearance of 2" from the edges of all paved areas to provide for edging and maintenance operations. Heads installed on shrub risers or with the top of the head more than 2" above the grade shall be installed with a minimum 6" clearance from paved areas.
 - All threaded pipe connections shall be assembled using Teflon thread sealing tape.

HEAD RADII

- The irrigation contractor shall adjust the radius and throw of each sprinkler head to provide optimum coverage while minimizing overspray onto hardscapes or buildings. Adjust heads to eliminate dry spots. Covergae must be head to head.
- Approximate arc and radius of individual spinkler head coverage shall be as illustrated. Individual head or nozzle model numbers may be dependent upon these specific characteristics.

PIPE

- PR 200 PVC Lateral Piping

-Minimum depth of cover over lateral piping to be 12". Lateral pipe sizing schedule and summation of gallonage demand on a particular branch of pipe within a control section shall be determined by using the gpm for a nozzle based on a 60 psi base head pressure and full radius at that pressure as reported in the manufacturer's product catalog. Pipe sizes for the lateral lines shall be as follows:

- ————— Sch 40 Main Line Piping.
 - The main line shall be installed so that it doesn't conflict with existing utilities.
 - Size of pipe to be a minimum of 1 1/2"
 - Depth of cover of mainline piping to be a minimum 18". - Piping shall be schedule 40 solvent weld PVC pipe with schedule 40 PVC solvent weld fittings unless otherwise noted.
 - The contractor shall take all precautions necessary to avoid damaging existing plantings and their roots during the installation of the irrigation system and shall coordinate their efforts with the landscape contractor to optimize the efficiency and the aesthetic quality of the installation.

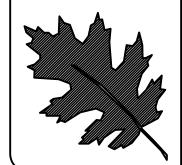
SLEEVES

- Sleeves shall be 4" Sch. 40 PVC. The irrigation contractor shall coordinate with the landscape contractor to ensure proper installation of the irrigation system with the landscape and

WATER SUPPLY/METER



- The meter shall be installed by the local municipality.
- The meter is 1.5" in size. Since the water supply for the system will be potable water, the contractor will be required to install a backflow prevention device which will be located downstream of the irrigation meter.
- This irrigation system shall be capable of delivering 33 gpm minimum with one control station operating at a time at 60 psi at the base of the head for optimum performance of the irrigation system.
- A manual shut-off valve is required at meter or point of connection location for emergency shut-off purposes.



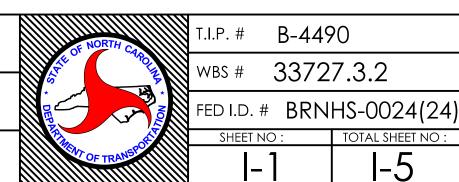
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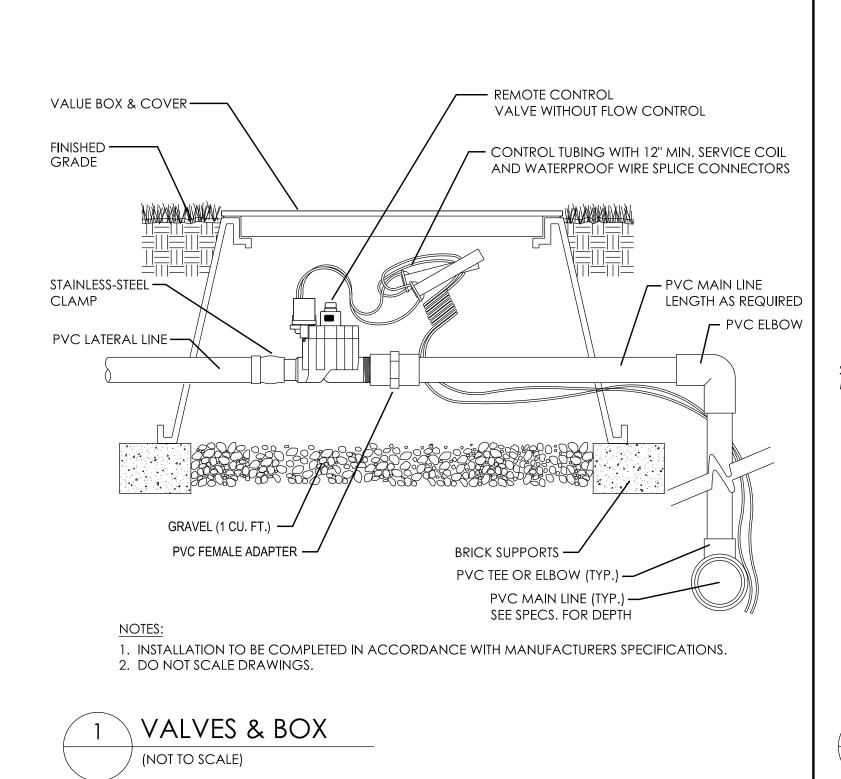
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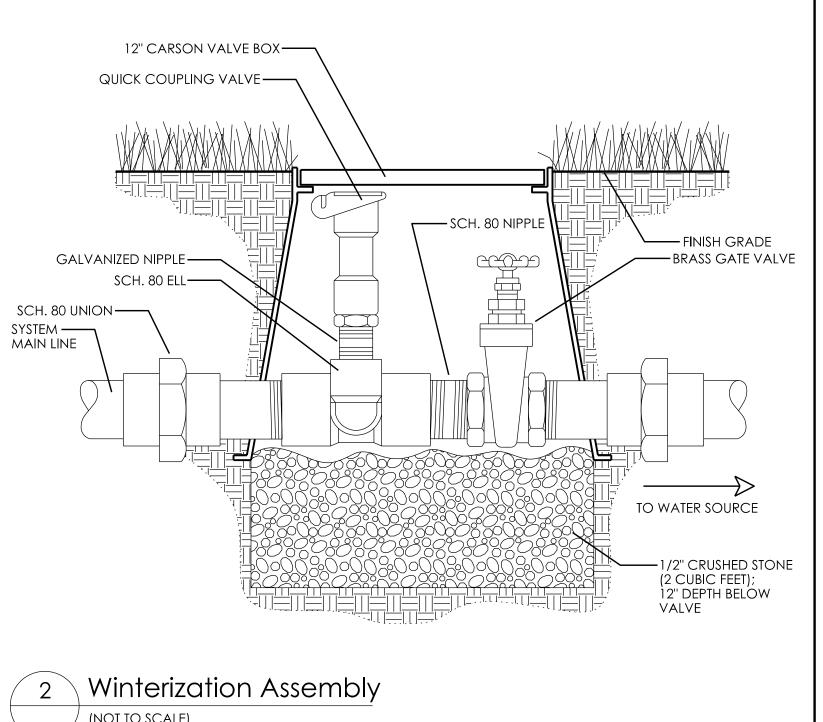
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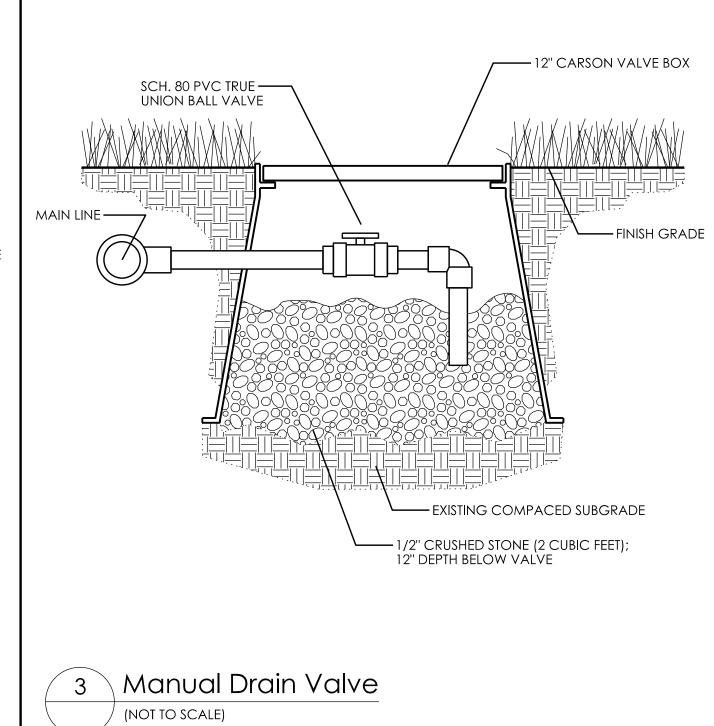
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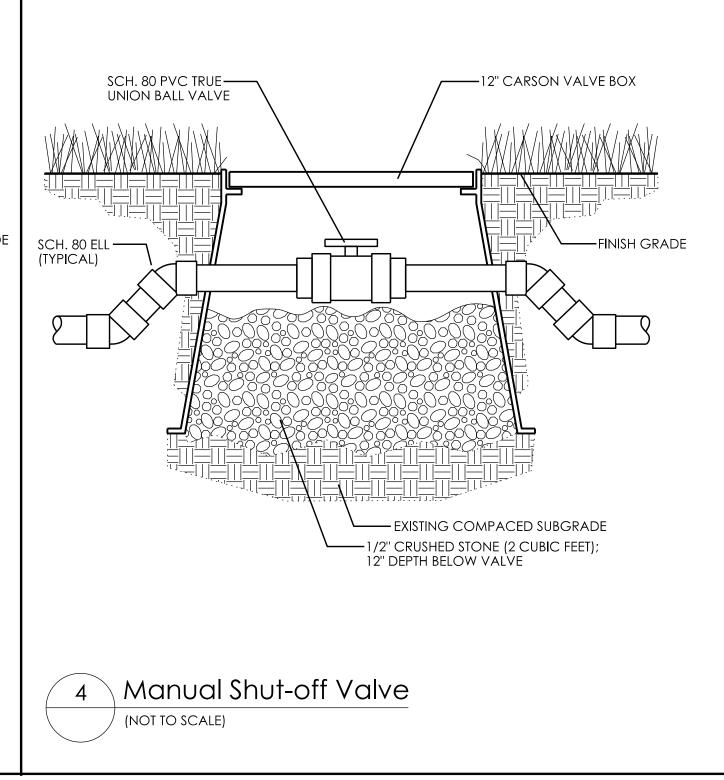
PREL. DESIGN DATE: 2/14/2023 Irrigation Specifications FINAL DESIGN DATE: Landscape Plan Sheet PROJECT LANDSCAPE ARCHITECT: Kyle Cooper, PLA

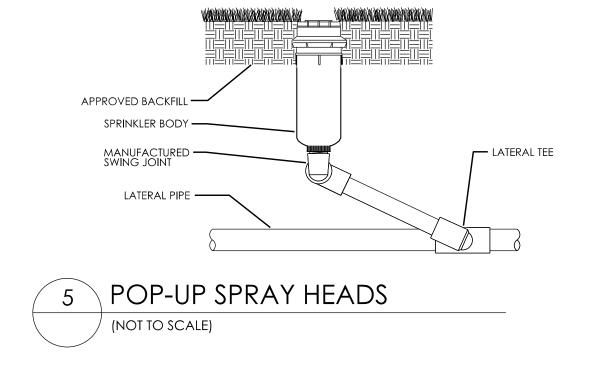


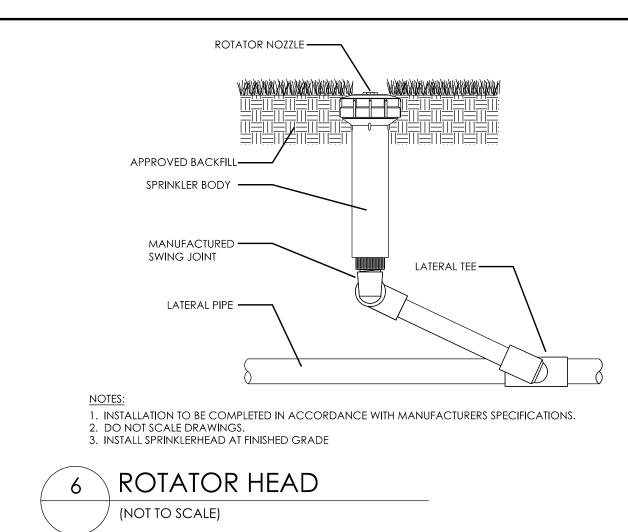


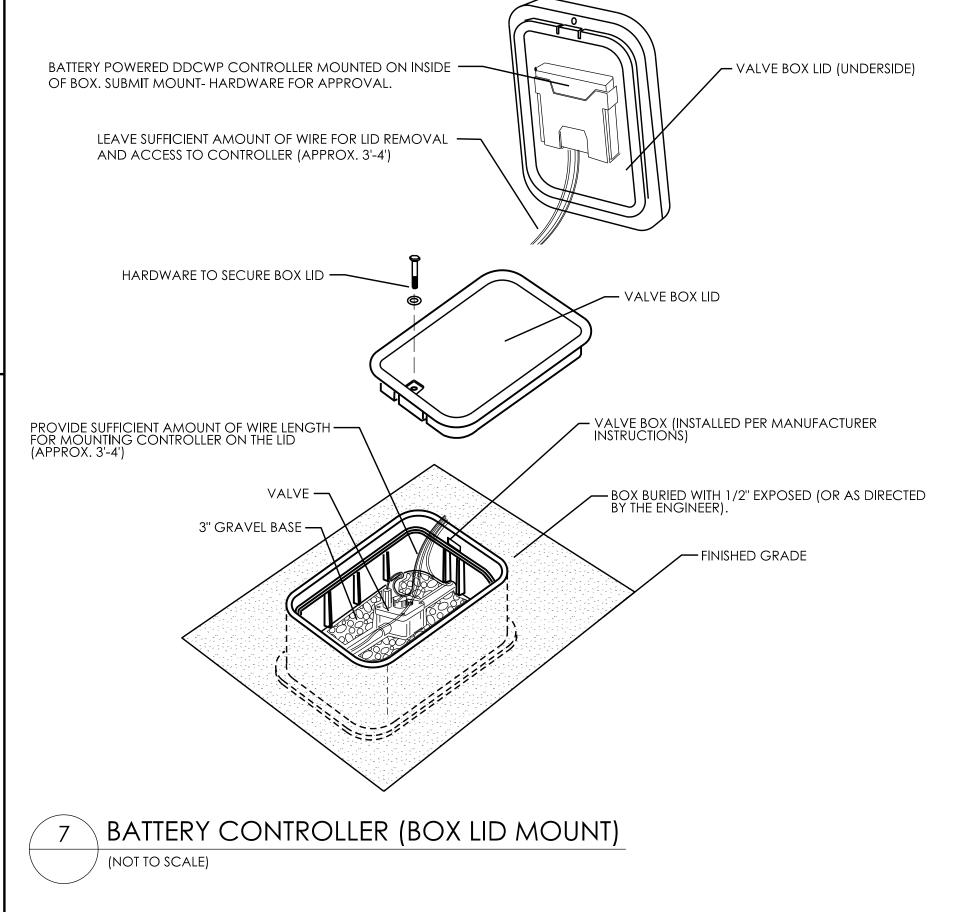


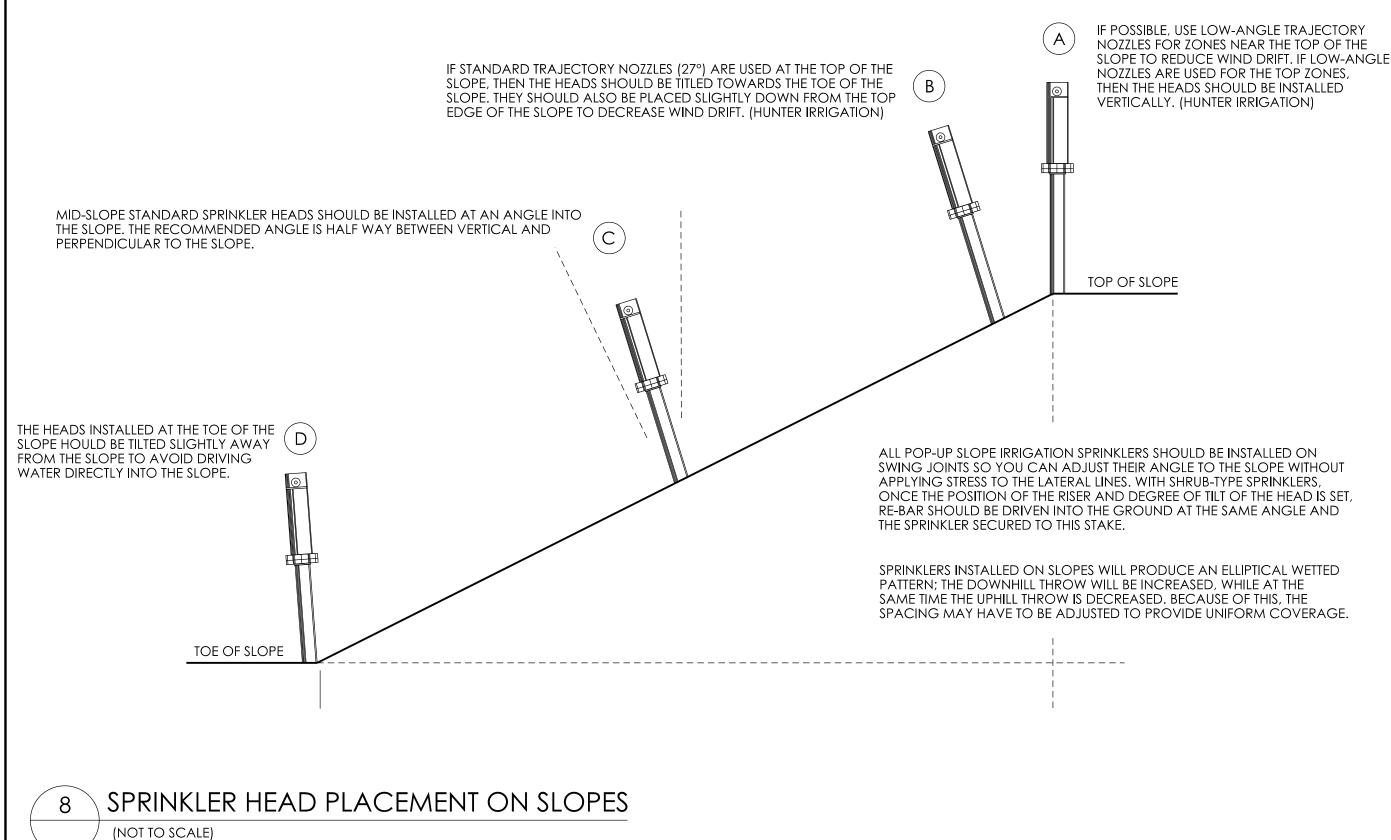


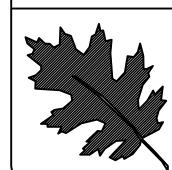












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	DESCRIP	FINAL DESIGN DATE :	Landscape Plan Sheet	
	SHEET	PROJECT LANDSCAPE ARCHITECT: Kyle Cooper, PLA		

