

DRAWING REVISIONS		
NO.	DATE	DESCRIPTION

Project Manager	CR	Drawn By	JH
Date	4/22/2024	Reviewed By	CR
Project ID	0159		

FINAL DEVELOPMENT PLAN

TREE PROTECTION PLAN

L0-00

**GREENVILLE COUNTY TREE ORDINANCE**

**Tree Ordinance 4173, Section 17-58.**

- (A) Minimum preserved or planted trees shall be equal to 10 density units per disturbed acre (see charts in Sections 10 and 11) as described in the required grading permit for all projects.
- (C) Dwelling, Multiple Family and Dwelling, Single Family Attached:
  - 1) Minimum preserved or planted trees shall be equal to 2 density units per 4,000 SF of the building footprint.
  - 2) All multiple family and single family attached development shall comply with the parking lot landscaping standards in Section 12.4 of the Greenville County Zoning Ordinance, 2007 edition.

**VENTURE ON THE TRAIL TREE DENSITY CALCULATIONS**

Minimum TDU	=	148 TDU (14.8 ac x 10 TDU/ac)
Additional TDU For Multi-Family	=	50.4 TDU (Total Building SF/4000 x 2)
<b>Total Required TDU</b>	=	<b>198.4 TDU</b>

**PRESERVED TREE TDU CALCULATIONS**

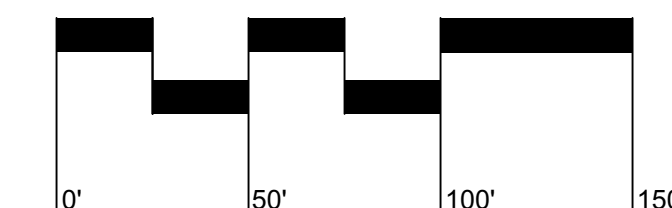
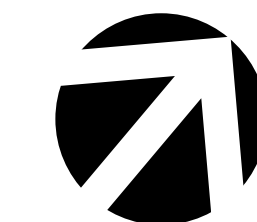
TREE	DB H	TDU
Oak	24"	9.3
Oak	34"	18.9
Oak	26"	11.1
Oak	21"	4.0
Oak	20"	4.8
Oak	18"	3.8
Maple	15"	3.5
Oak	17"	3.7
Oak	18"	3.8
Oak	17"	3.7
Oak	18"	3.8
Oak	28"	12.9
Oak	18"	3.8
Oak	20"	4.0
Oak	30"	14.7
Oak	31"	15.5
Oak	18"	3.8
Oak	15"	3.5
Oak	15"	3.5
Oak	16"	3.6
Oak	16"	3.6
Oak	17"	3.7
Oak	23"	6.7
Oak	15"	3.5
Oak	15"	3.5
Hickory	15"	3.5
Oak	17"	3.7
<b>TOTAL</b>		<b>163.9 TDU</b>

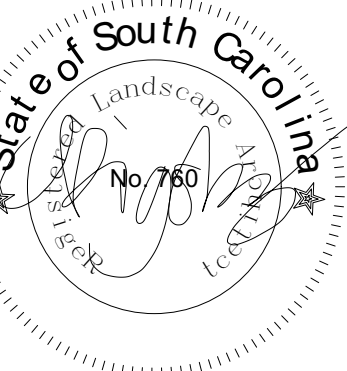
**PLANTED TREE TDU CALCULATIONS (SEE SHEET L0-01)**

29 x 3" cal. Trees @ 1.2 TDU/each	=	34.8 TDU
26 x 2" cal. Trees @ 1.0 TDU/each	=	26 TDU
<b>Planted Tree Total TDU</b>	=	<b>60.8 TDU</b>
<b>TOTAL TDU CALCULATIONS</b>		
Planted Tree Total TDU	=	60.8 TDU
Preserved Tree Total TDU	=	163.9 TDU
<b>Total TDU Provided</b>	=	<b>224.7 TDU</b>

**LEGEND**

- Preserved Trees
- Planted Trees
- Tree Protection Zone
- NO Limits of Disturbance
- NO Boundary





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FINAL DEVELOPMENT PLAN

CODE PLANTING PLAN

L0-01

**LANDSCAPE REQUIREMENTS PER GREENVILLE COUNTY ZONING ORDINANCE**

**Section 12:4.1 Roadside Buffers**

1. An average of one (1) tree for every sixty (60) feet of linear road frontage. Trees shall be spaced so that there is a minimum of one (1) tree for every two hundred (200) linear feet of road frontage.
2. Shrubs spaced to provide a continuous evergreen screen within three (3) years of installation.

**Requirements:**

Total LF of Roadside Parking	=	309 LF
Trees Required	=	6
Trees Provided	=	7
Evergreen Screen Provided	=	77 shrubs @ 3' o.c.

**Section 12:4.2 Interior Plantings**

1. One (1) tree for every fifteen (15) parking spaces
2. One (1) shrub for every five (5) parking spaces

**Requirements:**

Total Parking Spaces	=	307
Trees Required	=	21
Trees Provided	=	48
Shrubs Required	=	62
Shrubs Provided	=	65

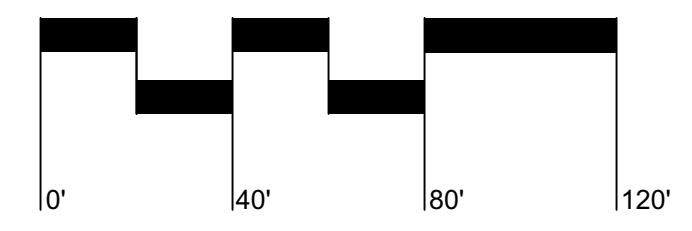
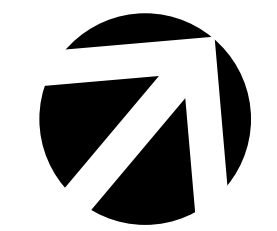
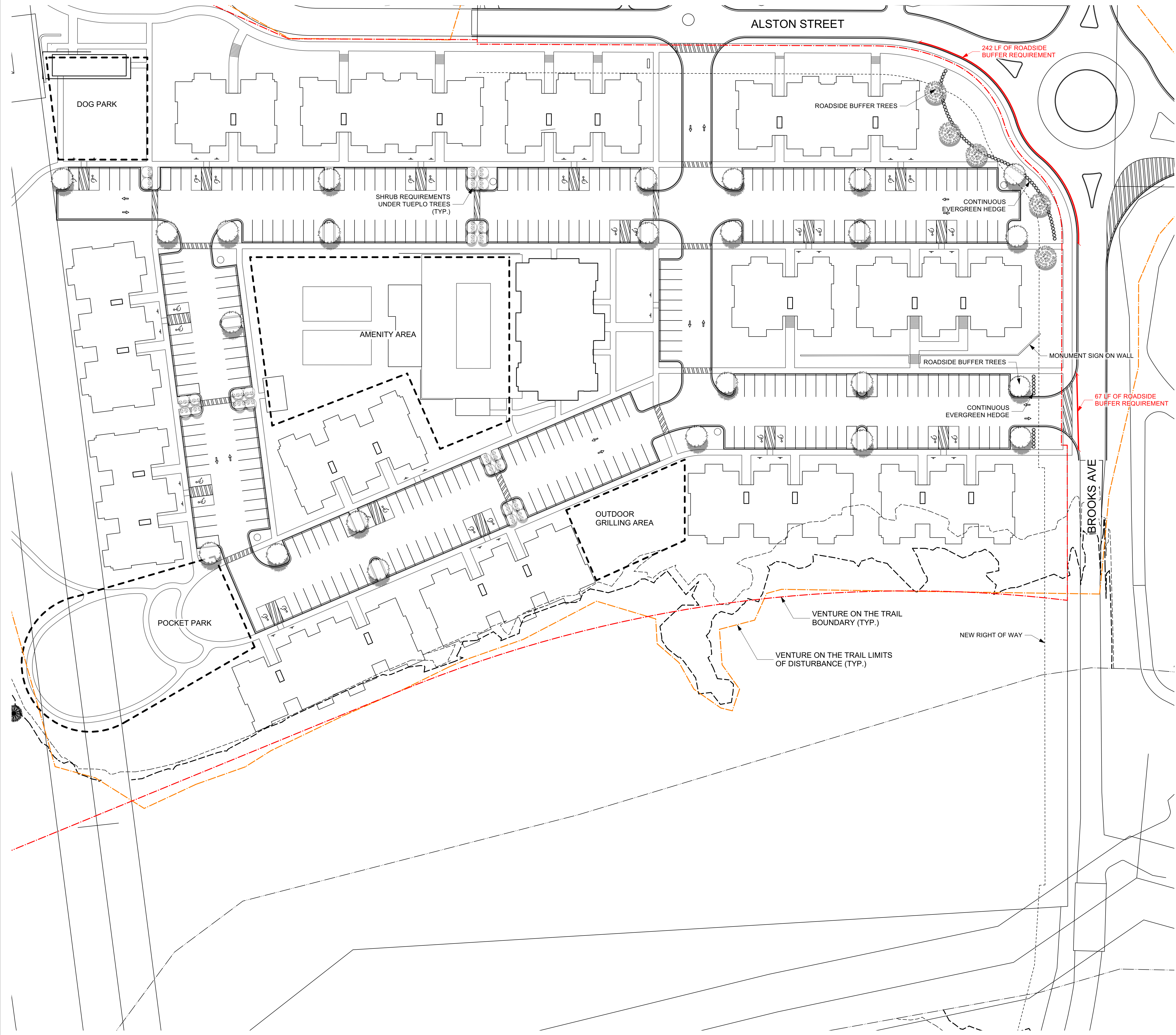
**LEGEND**

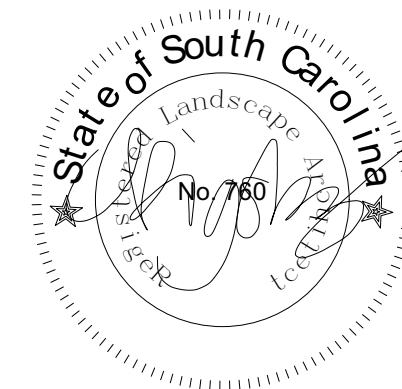
**Trees**

Symbol	Common Name
	Afterburner Tupelo
	Bracken's Brown Beauty Magonia
	Swamp White Oak

**Shrubs**

Symbol	Common Name
	Parsons Juniper
	Shamrock Inkberry Holly





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**FINAL  
DEVELOPMENT PLAN**

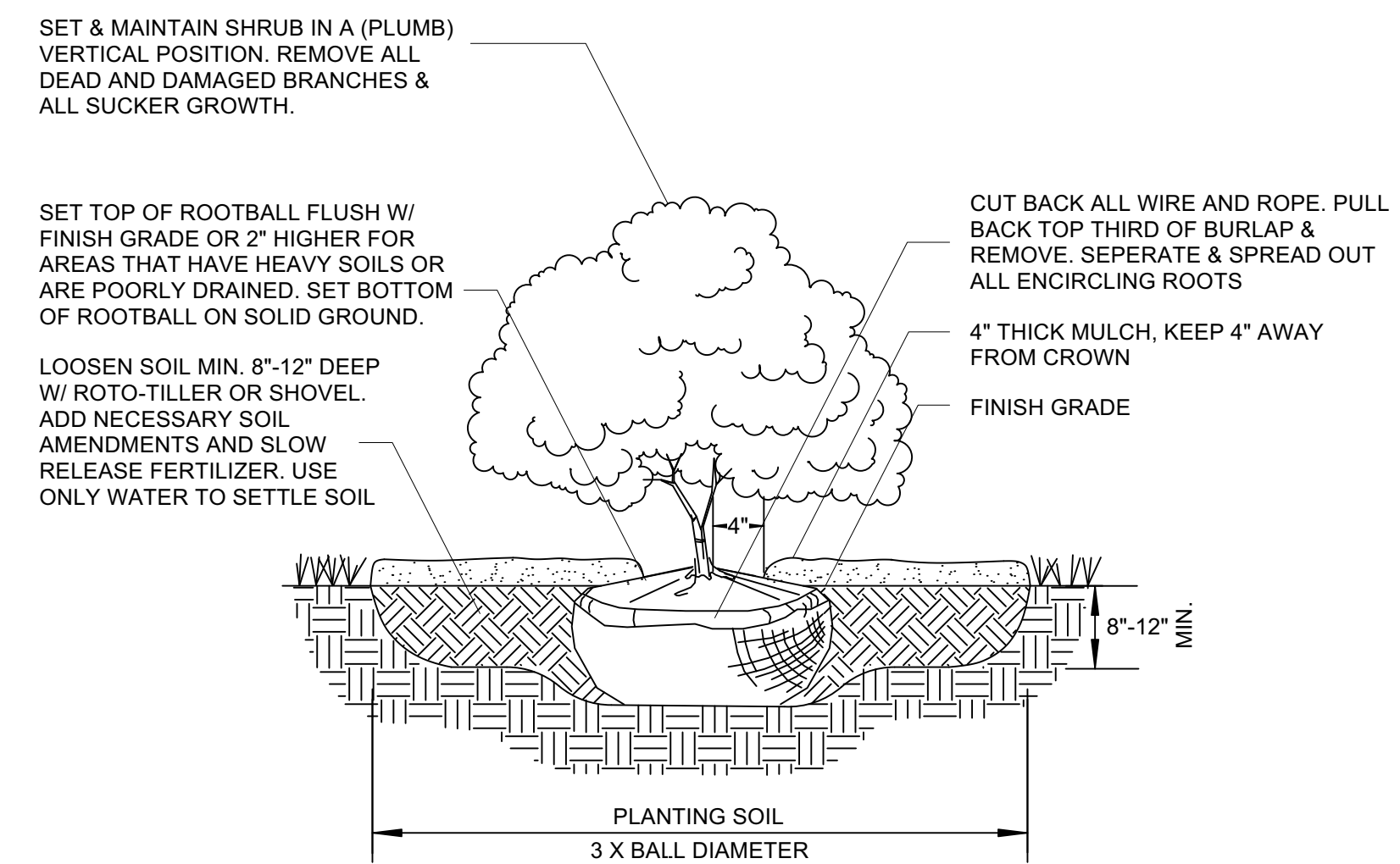
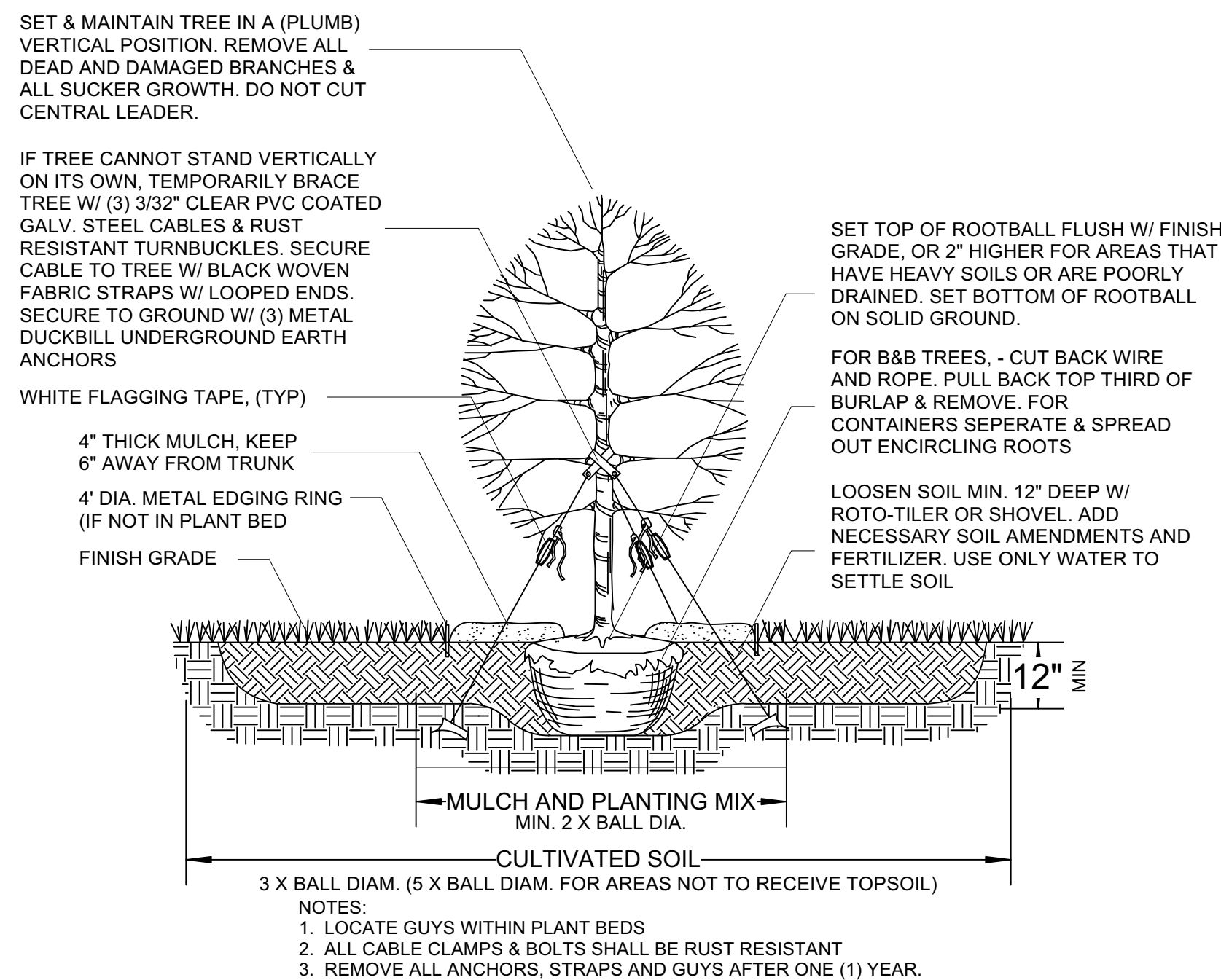
**PLANT SCHEDULE**

**L0-02**

Qty	Common Name	Latin Name	Size	Spacing	Remarks
26	Afterburner Tupelo	Nyssa sylvatica 'David Odom'	2" cal.	10' o.c.	
5	Bracken's Brown Beauty Magonlia	Magnolia grandiflora 'Bracken's Brown Beauty'	3" cal.	AS SHOWN	
24	Swamp White Oak	Quercus bicolor	3" cal.	AS SHOWN	

Qty	Common Name	Latin Name	Size	Spacing	Remarks
65	Parsons Juniper	Juniperus squamata expansa 'Parsonii'	3 gal.	3' o.c.	
77	Shamrock Inkberry Holly	Ilex glabra 'Shamrock'	3 gal.	3' o.c.	



**1 PLANTING SCHEDULE**

- TREES MUST BE MAINTAINED IN GOOD HEALTH THROUGH OUT THE CONSTRUCTION PROCESS. MAINTENANCE MAY INCLUDE WATERING THE ROOT PROTECTION ZONE AND/OR WASHING FOLIAGE.
- THE TEMPORARY CONSTRUCTION FENCE SHALL BE INSTALLED AT THE DRIP LINE (OR TREE PROTECTION ZONE). TO PROTECT LOWER BRANCHES THE FENCE MUST BE OUTSIDE THE DRIP LINE.
- THE FOLLOWING IS NOT ALLOWED WITHIN THE ROOT PROTECTION ZONE:
  - BUILDINGS OR NEW IMPERVIOUS SURFACES SUCH AS SIDEWALKS AND PAVEMENTS.
  - GRADE CHANGES OF MORE THAN THREE INCHES (3") OR CUT AND FILL DURING OR AFTER CONSTRUCTION.
  - UTILITY OR DRAINAGE FIELD PLACEMENT.
  - STORING TOPSOIL
- THE FENCING SHALL BE SUBSTANTIAL ENOUGH TO PREVENT EQUIPMENT AND MACHINERY FROM ENTERING THE PROTECTION ZONE. A MINIMUM OF FOUR FOOT (4') HIGH FENCE ON METAL POSTS WITH ORANGE PLASTIC WEB (SNOW FENCING) OR A WELDER WIRE FENCE BARRIER WITH WEB WILL BE REQUIRED. IN URBAN AREAS WITH THE PRESENCE OF HEAVY PEDESTRIAN TRAFFIC A PLYWOOD CLAD BOARDING, OR WHERE VISIBILITY MUST BE MAINTAINED A FOUR FOOT (4') HIGH FENCE CONSISTING OF ORANGE PLASTIC WEB (SNOW FENCING), ON A WOOD FRAME MADE OF TWO BY FOUR FOOT (2X4).

- ALL SUPPORTS AND BRACING SHOULD BE OUTSIDE THE TREE PROTECTION ZONE. ALL SUCH SUPPORTS SHOULD MINIMIZE DAMAGING ROOTS OUTSIDE THE TREE PROTECTION ZONE.
- THE FENCING FOR THE ROOT PROTECTION ZONE AND THE STREAM BUFFERS MUST BE INSTALLED BY THE DAY OF THE PRE-CONSTRUCTION MEETING. IF IT HAS NOT BEEN INSTALLED BY THIS SCHEDULED MEETING THE PRE CONSTRUCTION MEETING WILL BE CANCELLED AND RESCHEDULED FOR A LATER DATE.
  - REMOVAL OF THE FENCE SHALL ONLY OCCUR TO ALLOW FOR TRENCHING AS OUTLINED IN NUMBER THIRTEEN (#13) OR TO ALLOW THE COMPLETE SITE LANDSCAPING AS OUTLINED IN NUMBER FOURTEEN (#14).
  - NO WORK SHALL BEGIN UNTIL TREE PROTECTION FENCING HAS BEEN INSTALLED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED, AND REPAIRED BY THE CONTRACTOR DURING CONSTRUCTION.
  - NO WIRES, NAILS, OR OTHER MATERIAL MAY BE ATTACHED TO PROTECTED TREES.
  - NO EQUIPMENT, VEHICLES, OR MATERIALS SHALL BE OPERATED OR STORED WITHIN THE ROOT PROTECTION ZONE. NO LOUNGING OF WORKERS IN THE AREA.
  - NEW AND REPLACEMENT TREES THAT WILL BE PLANTED IN THE STREAM BUFFER MUST USE LOW IMPACT METHODS THAT REDUCED THE DISTURBANCE AND COMPACTION TO THE SOIL AND GROUND COVER BY HAND PLANTING AND MINIMIZING THE USE OF HEAVY EQUIPMENT OPERATIONS. THE PLANTING OPERATIONS SHOULD ONLY TAKE PLACE DURING DRY SOIL CONDITIONS. FOR TEMPORARY TRAFFIC OVER THE ROOT ZONE, THE ACCESS PATH SHOULD BE VERTICALLY MULCHED THEN COVERED WITH AT LEAST EIGHT INCHES OF BARK OR WORK CHIPS TO PREVENT COMPACTION OR USE A MATTING SYSTEM AND SKID TRAILS FOR THE ACCESS PATH.
  - IF TRENCHING IN THE ROOT PROTECTION ZONE OF MATURE TREES CANNOT BE AVOIDED, THE FOLLOWING PRECAUTIONS APPLY:
    - MULCH THE ROOT PROTECTION ZONE PRIOR TO TRENCHING TO DEVELOP A SOIL ENVIRONMENT CONDUCIVE TO NEW ROOT GROWTH
    - CONSOLIDATE ALL UTILITIES INTO ONE TRENCH THAT IMPACTS LESS THAN ONE THIRD (1/3) THE AREA OF THE ROOT PROTECTION ZONE.
    - HAND EXCAVATE A SINGLE TRENCH UNDER THE DRIPLINE; CAREFULLY EXCISE AND PROTECT ROOTS OVER ONE INCH (1") DIAMETER. FEED PIPES OR CONDUIT UNDERNEATH THE PRESERVED ROOTS.
    - WHERE ROOTS ARE CUT, THE EXPOSED SOIL SURFACE ON BOTH SIDES OF THE TRENCH SHALL BE PROTECTED FROM DESICCATION BY A TARP OR PLASTIC SHEETING.
    - IRRIGATION DURING THE FIRST TWO (2) DRY SEASONS MAY BE NECESSARY. CAUTION MUST BE TAKEN NOT TO OVER IRRIGATE AS ROOT ROT MY RESULT. CHECK SOIL MOISTURE AT INCHES SIX (6"), TWELVE (2"), AND TWENTY-FOUR A (24"). WATER ONLY WHEN DRY AT INCHES TWELVE (12") AND TWENTY FOUR (24").
  - IF A SITE HAS BEEN FOUND TO HAVE VIOLATED THE TREE ORDINANCE BY ENCRACHING INTO THE TREE PROTECTION ZONE THE COUNTY WILL STOP WORK, ISSUE A NOTICE OF CORRECTION AND THE CONTRACTOR WILL BE SUBJECT TO A \$250 FEE TO BE PAID PRIOR TO RELEASING THE STOP WORK ORDER.
  - ENSURE PROJECT CONSTRUCTION ACCESS ROUTE IS INDICATED ON THE PLAN TO ENSURE ROOT DAMAGES WILL BE AVOIDED.
  - AVOID CHANGING WATER DRAINAGE PATTERNS NEAR THE TREE PROTECTION ZONE.
  - ALL CONSTRUCTION WASTE, INCLUDING BUT NOT LIMITED TO BUILDING MATERIAL DEBRIS, ROOFING MATERIALS, CLEANING OF CEMENT TRUCKS, CHEMICAL/ADHESIVES/SOLUTES, ETC., SHALL BE STORED OR DISPOSED OF NO CLOSER THAN FIFTY FEET (50') FROM THE TREE PROTECTION ZONE.
  - A ROOT PROTECTION ZONE WILL BE ESTABLISHED AROUND EACH TREE OR CLUSTER OF TREES TO BE PRESERVED AND ALONG THE STREAM BUFFERS TO MEET THE TREE PRESERVATION ORDINANCE. THE ROOT PROTECTION ZONE SHALL BE A CIRCULAR AREA DEFINED BY THE RADIUS EXTENDING OUTWARD FROM THE TRUNK OF THE TREE A DISTANCE OF ONE (1) LINEAR FOOT FOR EACH DIAMETER INCH AND AT BREAST HEIGHT (4.5') OF THE TREE. FOR EXAMPLE A TEN (10) INCH DIAMETER TREE WILL HAVE A TEN (10) FOOT RADIUS ROOT PROTECTION ZONE.

**4 TREE PROTECTION NOTES**

**2 TREE PLANTING DETAIL**  
Scale: NTS

- CONTRACTOR TO INSTALL HIGH EFFICIENCY, FULLY CONTROLLED AUTOMATIC IRRIGATION SYSTEM WITH RAIN SENSOR PER IRRIGATION DRAWINGS AND SPECIFICATIONS AND PROVIDE SHOP DRAWINGS FOR LANDSCAPE ARCHITECT'S REVIEW.
- IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO MAKE SURE THAT ALL EQUIPMENT CONFORMS TO REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION AND MAKE ALL NECESSARY APPLICATIONS AND OBTAIN APPROVALS.
- DESIGN STATISTICS: 65 P.S.I. MAXIMUM. IF NEEDED DUE TO EXISTING LINE PRESSURE, INSTALL A REDUCTION VALVE. IN ADDITION, ZONES THAT OPERATE SPRAY SPRINKLERS AND MP ROTATOR SPRINKLERS SHOULD HAVE A PRESSURE REGULATING DEVICE ADDED TO THE ZONE CONTROL VALVE TO FURTHER REDUCE THE PRESSURE ON THESE ZONES TO 35-40 P.S.I.
- ALL IRRIGATION HEADS THAT ARE LOCATED NEXT TO DRIVES AND ROADWAYS SHALL BE MOUNTED ON SWING JOINTS OR ON 200 P.S.I. RATED FLEXIBLE PIPE. POSITION HEADS A MINIMUM 3" FROM CURB OR PAVEMENT.
- ADJUST ALL HEADS FOR COMPLETE COVERAGE WITH MINIMUM OVERSPRAY BEYOND LANDSCAPE AREAS.
- WHERE NOT OTHERWISE INDICATED, HEADS IN LAWN AREAS SHALL BE 4" POP-UP AND SHRUB AND GROUNDCOVER AREAS SHALL BE DRIP IRRIGATED.
- SYSTEM PIPE SHALL BE CLASS 160 P.V.C. SIZE OF MAIN PIPE IS AS NOTED ON PLANS. SIZE ALL OTHER PIPE AS FOLLOWS:
  - 0-17 G.P.M.: 1"
  - 18-28 G.P.M.: 1-1/4"
  - 29-35 G.P.M.: 1-1/2"
  - 36-62 G.P.M.: 2"
  - 63+ G.P.M.: 2-1/2"
- WHERE POSSIBLE, COMBINE MAIN AND LATERAL PIPES IN SAME TRENCH.
- ALL CONTROL WIRES SHALL BE 14 GAUGE.
- CONTROLLER LOCATION AND MOUNTING TO BE APPROVED BY LANDSCAPE ARCHITECT. WHEN USED AS A MOUNT FOR THE CONTROL PANEL AND OTHER DEVICES, ALL LUMBER SHALL BE PRESSURE TREATED FOR GROUND CONTACT USE. ALL HARDWARE AND FASTENERS SHALL BE GALVANIZED.
- WHEN A MUNICIPAL WATER SUPPLY IS USED FOR IRRIGATION, WATER METER AND CONNECTION TO MAIN SHALL BE PROVIDED BY PERTINENT WATER AUTHORITY. CONTRACTOR SHALL BEGIN HIS WORK AT THE METER. OWNER WILL ASSUME THE COST OF THE TAP TO MUNICIPAL WATER SUPPLY AND IS RESPONSIBLE FOR COORDINATING THE INSTALLATION OF THE METER.
- IF SYSTEM IS CONNECTED TO POTABLE WATER SUPPLY, PROVIDE BACKFLOW PREVENTION DEVICE IN ACCORDANCE WITH REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION. IF INSTALLED ABOVE GROUND, LOCATION OF DEVICE SHALL BE INCONSPICUOUS AND DEVICE SHALL BE PAINTED 'FLAT BLACK'.
- PROTECT EXISTING TREES TO REMAIN FROM DAMAGE. NOT MACHINE TRENCHING IS ALLOWED WITHIN THE DRIP LINE OF ANY TREE. WHERE PIPING IS REQUIRED WITHIN THE DRIP LINE, POSITION PIPES TO MINIMIZE DISTURBANCE OF ROOTS AND PERFORM ALL EXCAVATION BY HAND. DO NOT CUT ANY ROOTS LARGER THAN 3/4" DIAMETER.
- IRRIGATION PIPING, SPRINKLERS, AND OTHER EQUIPMENT MAY BE SHOWN OUTSIDE OF LANDSCAPE AREAS ON DRAWING FOR GRAPHIC CLARITY. ALL VALVE BOXES AND EQUIPMENT VAULTS SHALL BE LOCATED IN MULCH BED

**5 IRRIGATION PERFORMANCE SPECIFICATIONS**

**3 SHRUB PLANTING DETAIL**  
Scale: NTS

- THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING WORK AS SPECIFIED ON THESE PLANS.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND UTILITY LOCATIONS PRIOR TO BEGINNING WORK.
- CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES PRIOR TO BEGINNING OR CONTINUING WORK.
- THERE WILL BE NO SUBSTITUTIONS, DELETIONS OR ADDITIONS WITHOUT APPROVAL OF THE LANDSCAPE ARCHITECT.
- SIZE OF PLANT MATERIALS SHALL CONFORM WITH THE CURRENT EDITION OF 'AMERICAN STANDARD FOR NURSERY STOCK' FOR NUMBER ONE GRADE NURSERY STOCK AS ADOPTED BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND AMERICAN NATIONAL STANDARDS INSTITUTE.
- CONTRACTOR SHALL MEET WITH LANDSCAPE ARCHITECT PRIOR TO BEGINNING WORK SO THAT THERE IS A CLEAR UNDERSTANDING OF PROJECT REQUIREMENTS. FAILURE TO DO SO JEOPARDIZES FINAL ACCEPTANCE OF WORK.
- ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE AND FEDERAL REQUIREMENTS.
- LANDSCAPE ARCHITECT TO INSPECT QUALITY OF PLANT MATERIAL UPON ARRIVAL AT JOB SITE AND LAYOUT OF HARDSCAPE ELEMENTS AND PLANT MATERIAL PRIOR TO INSTALLATION.
- DOUBLE SHREDDED HARDWOOD MULCH TO BE INSTALLED TO A MINIMUM 3" THICKNESS. MULCH ALL DISTURBED AREAS NOT COVERED BY PAVEMENT OR SEEDING. SEE PLAN FOR OTHER MULCH MATERIALS REQUIRED.
- PROTECT EXISTING TREES TO REMAIN FROM DAMAGE.
- THIS PLAN IS SCHEMATIC AND, DUE TO THE NATURE OF CONSTRUCTION, SLIGHT FIELD MODIFICATIONS MAY BE NECESSARY TO IMPLEMENT THIS PLAN.
- SHAPE AND HEIGHT OF BERMS AS NOTED ON PLANS TO BE APPROVED BY LANDSCAPE ARCHITECT IN FIELD PRIOR TO PLANTING AND IRRIGATION CONSTRUCTION.

**6 LANDSCAPE NOTES**