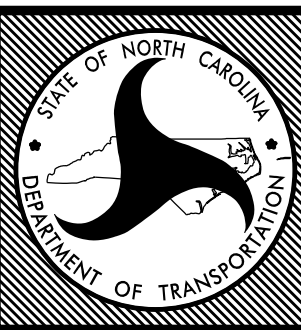


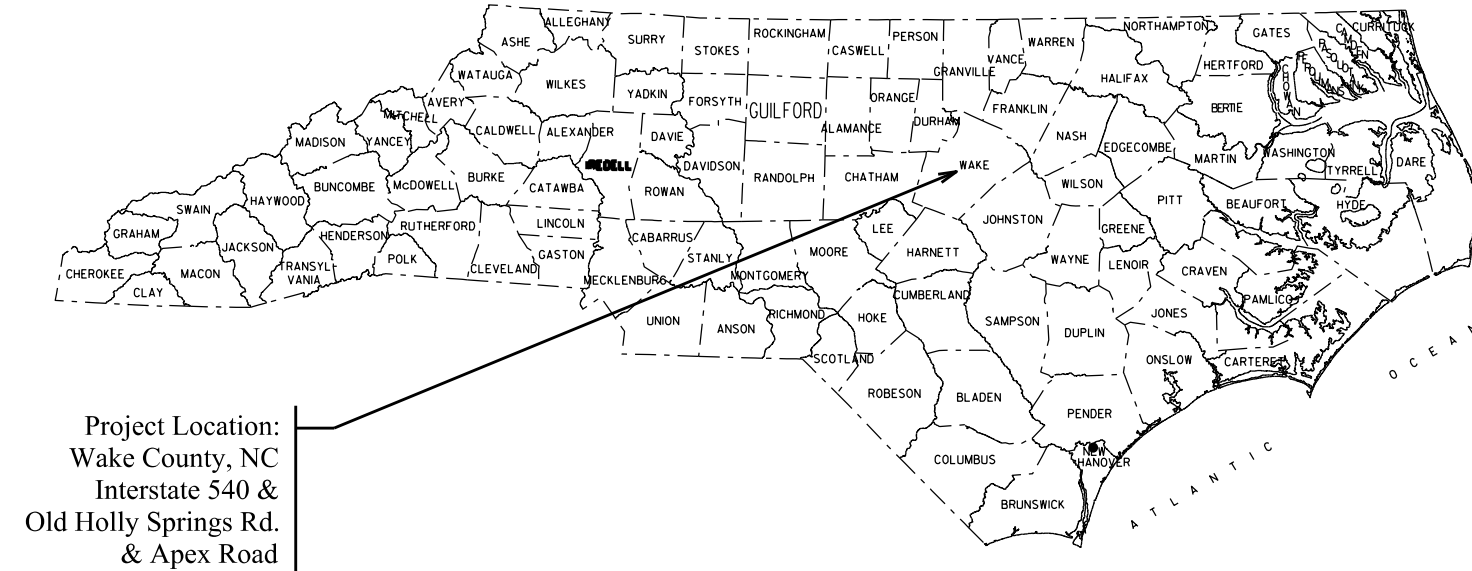
TRIANGLE EXPRESSWAY ENHANCEMENT & AESTHETICS
SUSTAINABLE LANDSCAPE DESIGN & DEVELOPMENT
OLD HOLLY SPRINGS RD. & APEX RD., NC



PROJECT: R2635 D

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROPOSED ROADSIDE ENVIRONMENTAL SUSTAINABLE DESIGN & AESTHETICS PROJECT



Project Location:
Wake County, NC
Interstate 540 &
Old Holly Springs Rd.
& Apex Road

CONVENTIONAL SYMBOLS

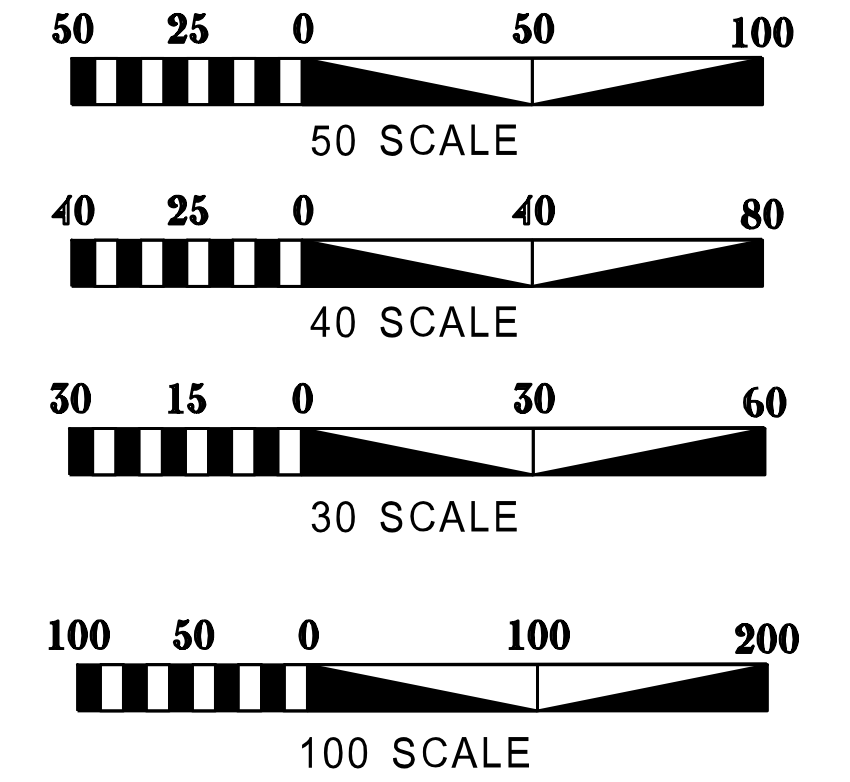
County Line	-----
City or Town Line	-----
Exist. Right of Way Line Marker	-----
Prop. Right of Way Line Marker (By Others)	-----
Prop Right of Way Line Marker (By Contract)	-----
Exist. Control of Access Line	-----
Prop. Control of Access Line	-----
Property Line	-----
Easement Line	-----
Slope Stake Line	-----
Exist. Fence	-----
Prop. Woven Wire Fence	-----
Prop. Chain Link Fence	-----
Exist. Road	-----
Prop. Road	-----
Guardrail	-----
Survey Line	-----
Denotes Line Equality	-----
Bridge	-----
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	-----
Reforestation	-----
Large Deciduous Tree	-----
Evergreen Tree	-----
Small or Flowering Tree	-----
Shrubs	-----
Planting Bed	-----

Summary of Quantities

QUANTITY	UNIT	KEY	BOTANICAL NAME	COMMON NAME	FURNISH	
Small Flowering Trees (LARGE)						
17	EA	CCL	Cercis canadensis	Redbud	2-2 1/2", 8-10", B&B, 1.2.3 Specimen-Matching, 2.3.2	As Shown
13	EA	CTL	Cercis canadensis 'Texas White Redbud'	Texas White Redbud	2-2 1/2", 8-10", B&B, 1.2.3 Specimen-Matching, 2.3.2	As Shown
36	EA	LML	Lagerstroemia indica 'Muskogee'	Muskogee Crape Myrtle	8-10", B&B, 1.2.3 Specimen-Matching, 2.4.2	As Shown
Evergreen Trees (LARGE)						
15	EA	INL	Ilex x Nellie R. Stevens	Nellie R. Stevens Holly	6-8", B&B, Specimen-Matching, 5.8.2	As Shown
3	EA	CAL	Cupressus arizonica 'Carolina Sapphire'	Carolina Sapphire Cypress	8-10", B&B, 1.2.3 Specimen-Matching, 4.9.2	As Shown
5	EA	JVI	Juniperus virginiana 'Burkii'	Burkii Eastern Red Cedar	8-10", B&B, 1.2.3 Specimen-Matching, 4.9.2	As Shown
44	EA	PTL	Pinus taeda	Loblolly Pine	2 1/2-3" Cal., 12-14", B&B, Specimen-Matching, 4.7.2	As Shown
Deciduous Trees (LARGE)						
10	EA	NSL	Nyssa sylvatica 'Wildfire'	Black Gum	2 1/2-3" Cal., 14-16", B&B, Specimen, 2.1.2	As Shown
23	EA	OCL	Quercus coccinea	Scarlet Oak	2 1/2-3" Cal., 14-16", B&B, Specimen, 2.1.2	As Shown
10	EA	QTL	Quercus texana var. nuttalli	Nuttall Oak	2 1/2-3" Cal., 14-16", B&B, Specimen, 2.1.2	As Shown
9	EA	TDL	Taxodium distichum	Bald Cypress	2-2 1/2" Cal., 8-10", B&B, Specimen	As Shown
Native Grass and Perennial Varieties						
2420	EA	HB	Hemerocallis 'Buttered Popcorn'	Buttered Popcorn Daylily	#1 Cont., 13.2.3	2" O.C.
2420	EA	ND	Narcissus 'Dutch Master'	Dutch Master Daffodil	DN II, 12.19.1	24" O.C.
300	EA	MC	Muhlenbergia capillaris 'White Cloud'	White Cloud Mully Grass	3.25" Cont. 18/18, 13.4	3.5" O.C.
1065	EA	PV	Panicum virgatum 'Cloud Nine'	Cloud Nine Switchgrass	3.25" Cont. 18/18, 13.4	5" O.C.
1670	EA	RF	Rudbeckia fulgida 'Goldstrum'	Black Eyed Susan	QT, 13.3	2" O.C.
Descriptions						
12	EA	SP	Establishment			
1500	CY	1670	Mulch for Planting			
10,000	SY	1670	Post-Emergence Herbicidal Treatment for Plant Beds			
10,000	SY	1670	Pre Emergence Plant Bed Herbicide Treatment			
5	ACRE	1660	Seeding & Mulching			
1	LS	SP	Re-Locate Bridge Drainage			
50	MG	1670	Water for Planting			
1	ACRE	1650	Wooded Area Cleanup			

T.I.P. #	FEDERAL PROJECT W.B.S. #	SHEET #	SHEET # TOTAL
R2635 D		L1	8
FED. PROJ. #	DESCRIPTION	DIVISION	
	Aesthetic Enhancements	5	

GRAPHIC SCALES



INDEX OF (L) SHEETS:

- L1 - TITLE SHEET
- L2 - PLANTING DETAILS
- L3 - SHEET LAYOUT PLAN & SYMBOLOGY
- L4 - EXISTING SITE PLAN
- L5 - LANDSCAPE LAYOUT PLAN
- L6 - LANDSCAPE LAYOUT PLAN
- L7 - LANDSCAPE PLANTING PLAN
- L8 - LANDSCAPE PLANTING PLAN

Designed By: Jeff Lackey 08/2017

REVISIONS

DATE	DESCRIPTION

STATE OF
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

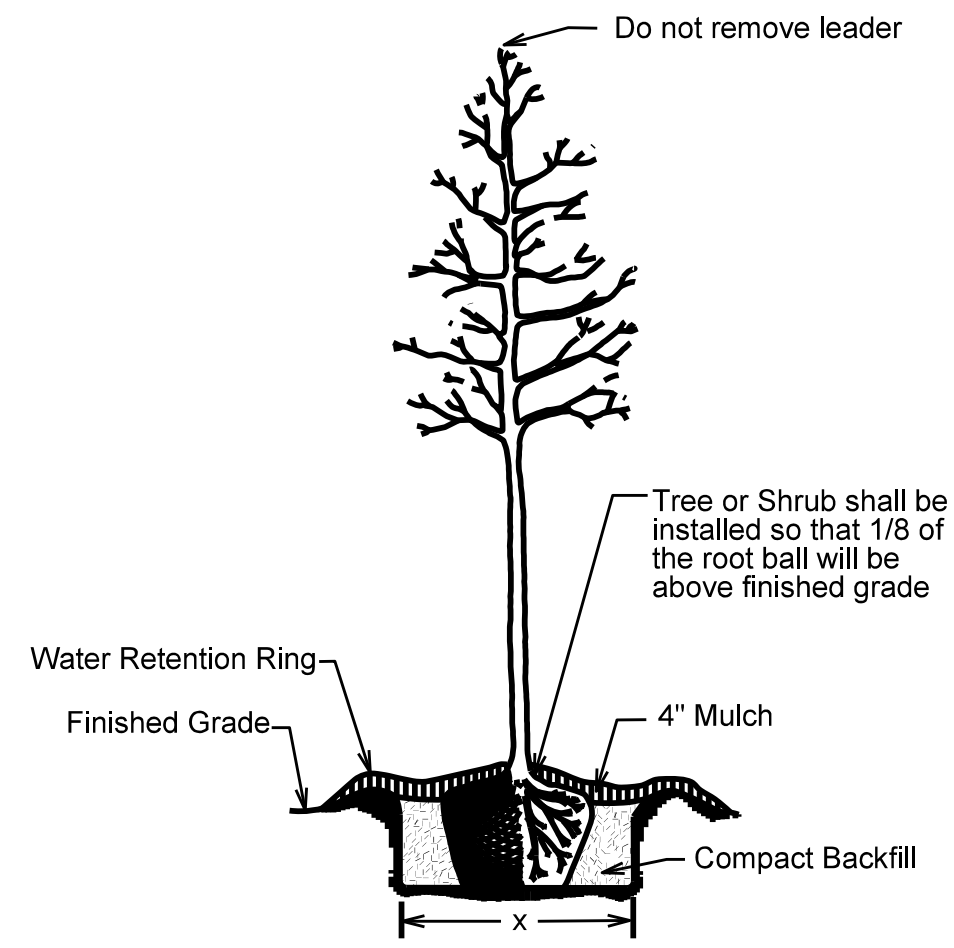
LOCATION: Old Holly Springs & Apex Road - Triangle Expressway Interchange

TYPE of WORK: AESTHETIC - Enhancement Design & Development

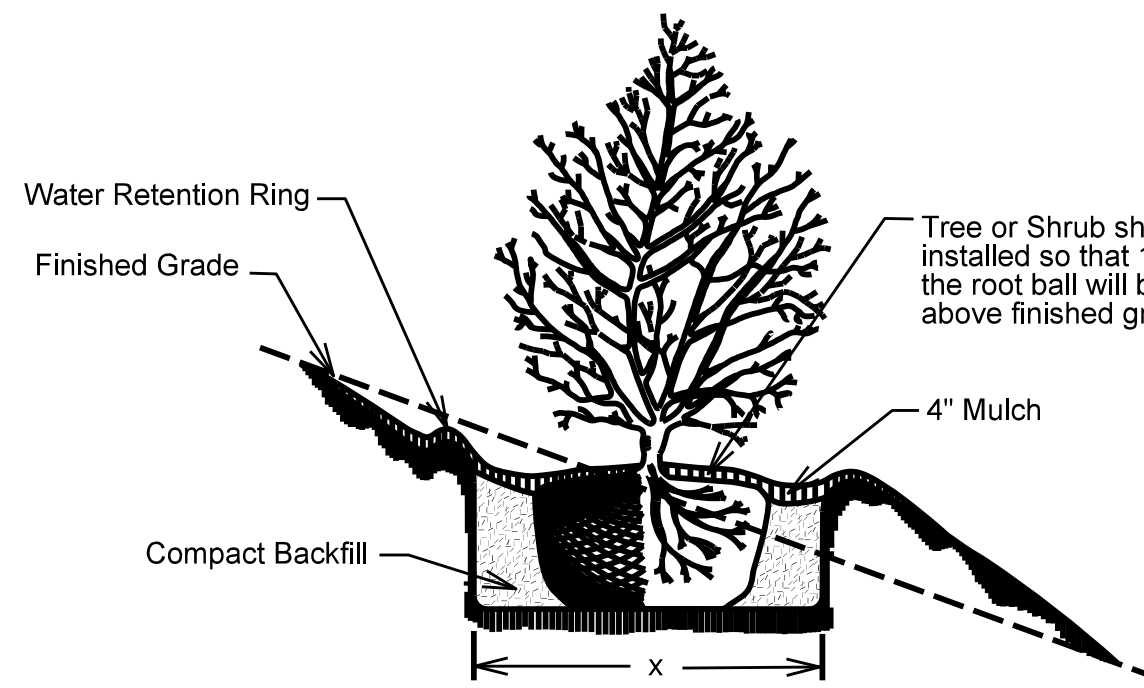
COUNTY: **WAKE COUNTY**

2012 STANDARD SPECIFICATIONS

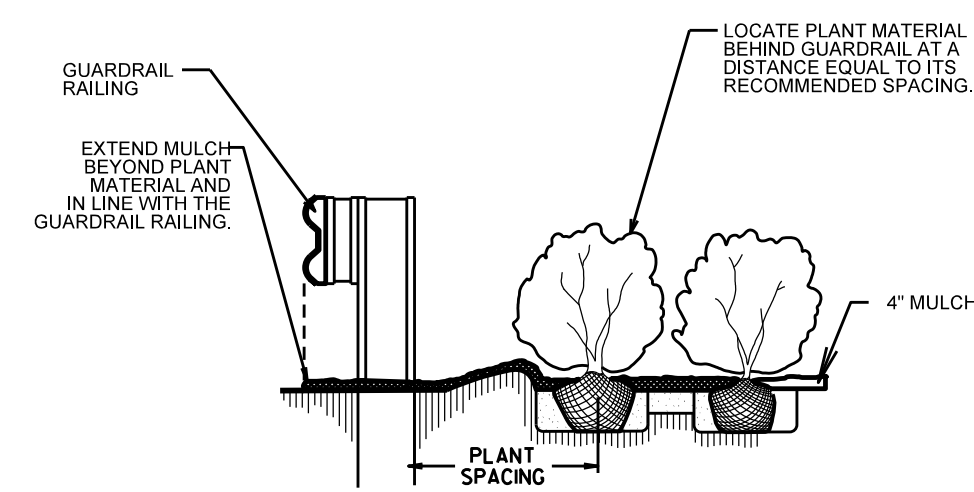
PREPARED IN THE OFFICE OF:
NCDOT- ROADSIDE ENVIRONMENTAL UNIT
DESIGN & DEVELOPMENT SECTION
1557 MAIL SERVICE CENTER
RALEIGH NC 27699 919-733-2920



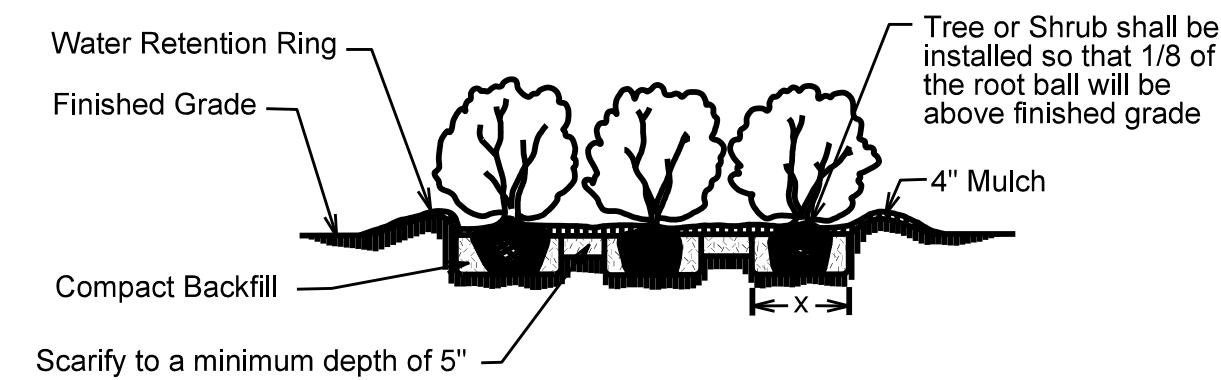
TREE OR SHRUB PLANTING DETAIL
(LEVEL GROUND)



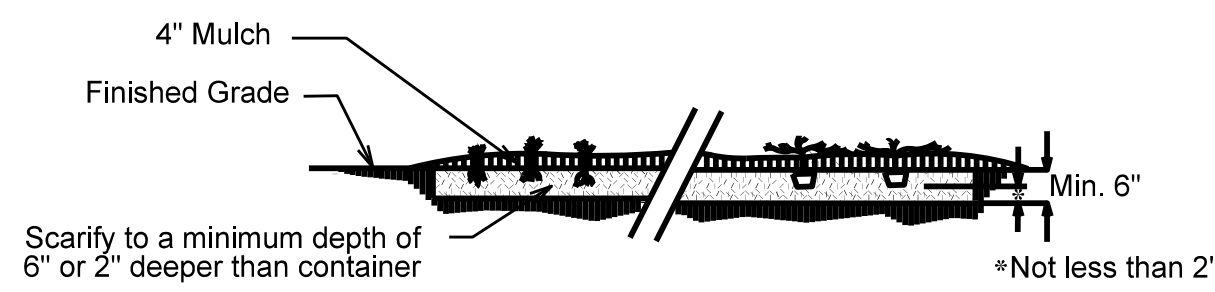
TREE OR SHRUB PLANTING DETAIL
(SLOPING GROUND)



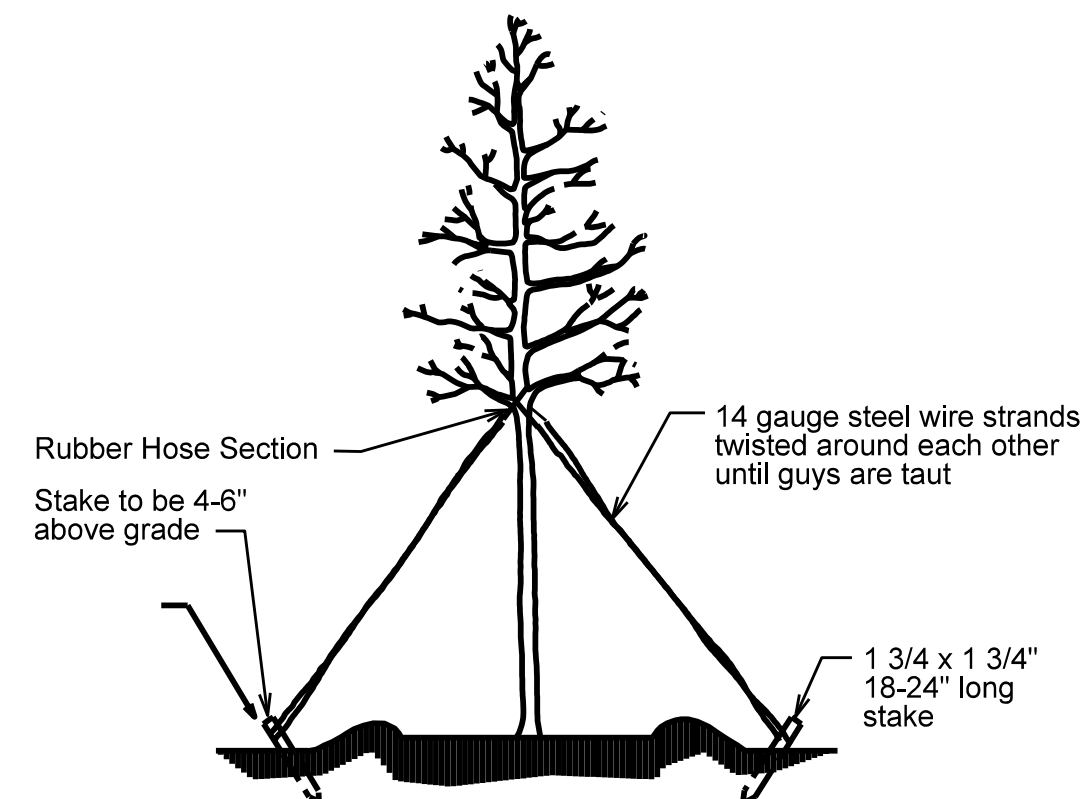
GUARDRAIL MULCHING DETAIL
* Detail to be used when approved by the Engineer.



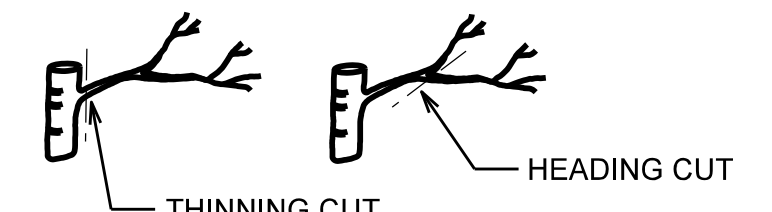
Shrub Bed Planting Detail



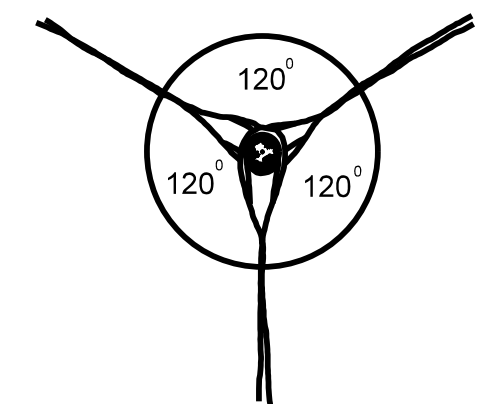
Groundcover Planting Detail
*Plants may be planted before or after mulching operation



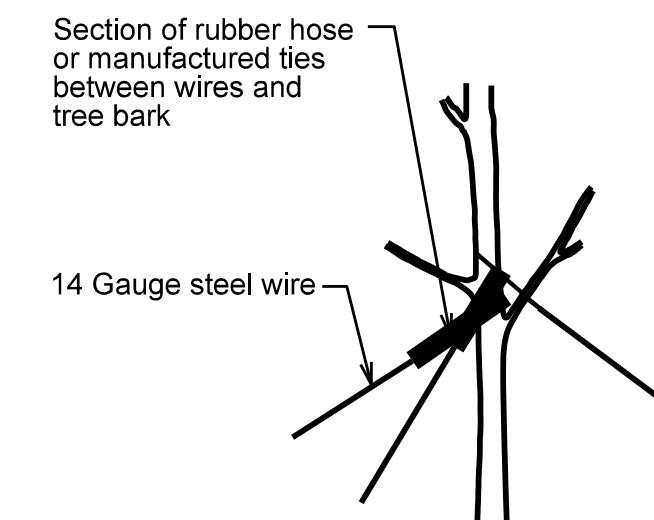
TREE GUYING DETAIL
(FOR TREES 10' OR LARGER)
* Utilize guying detail only if requested by the Engineer.



PRUNING CUTS



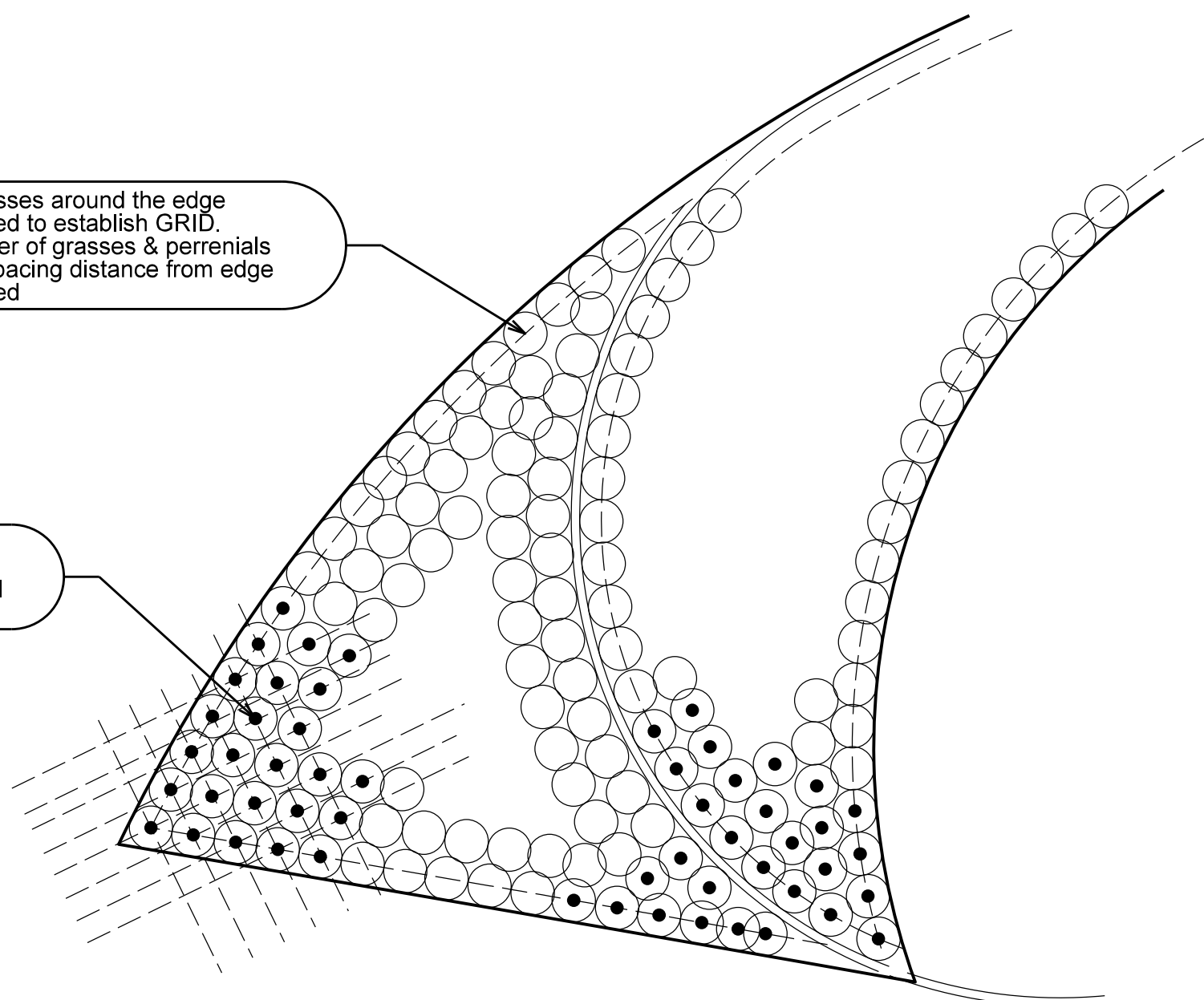
GUY SPACING DETAIL



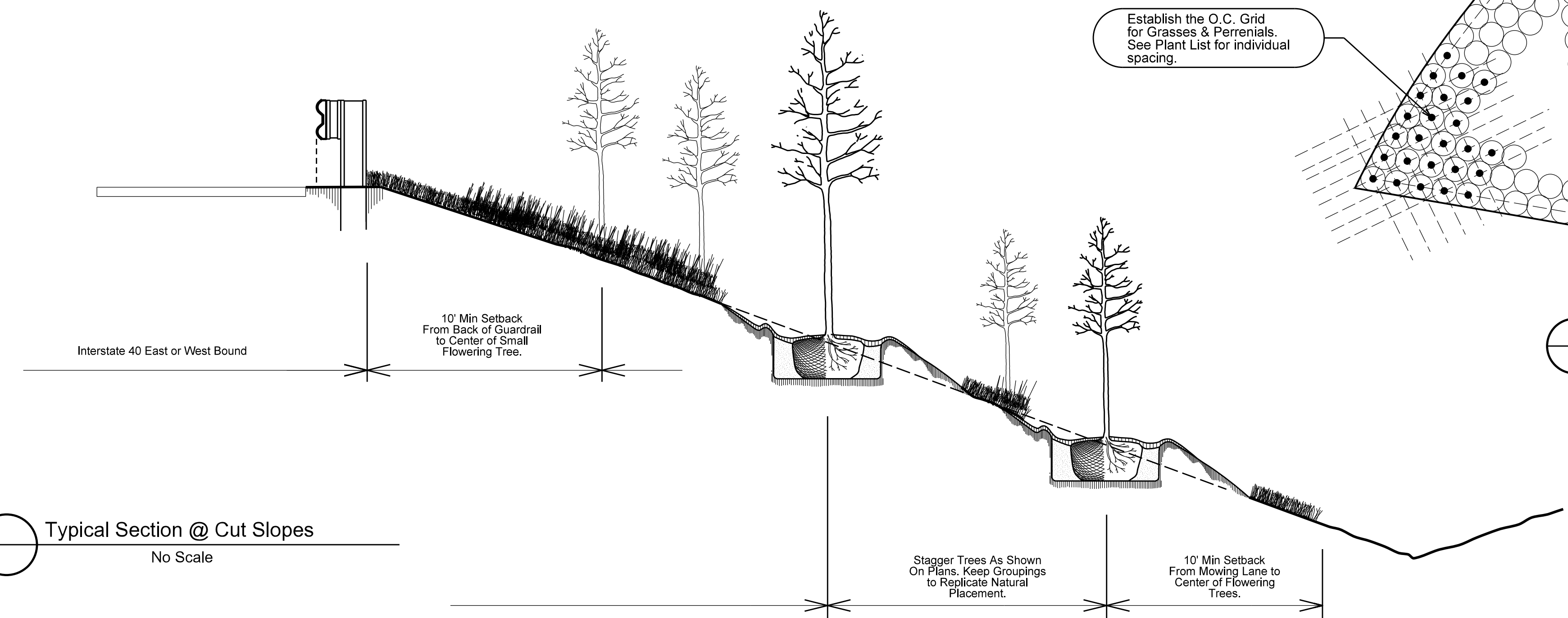
GUY TYING DETAIL

Align Grasses around the edge of plant bed to establish GRID. Start center of grasses & perennials half the spacing distance from edge of plant bed

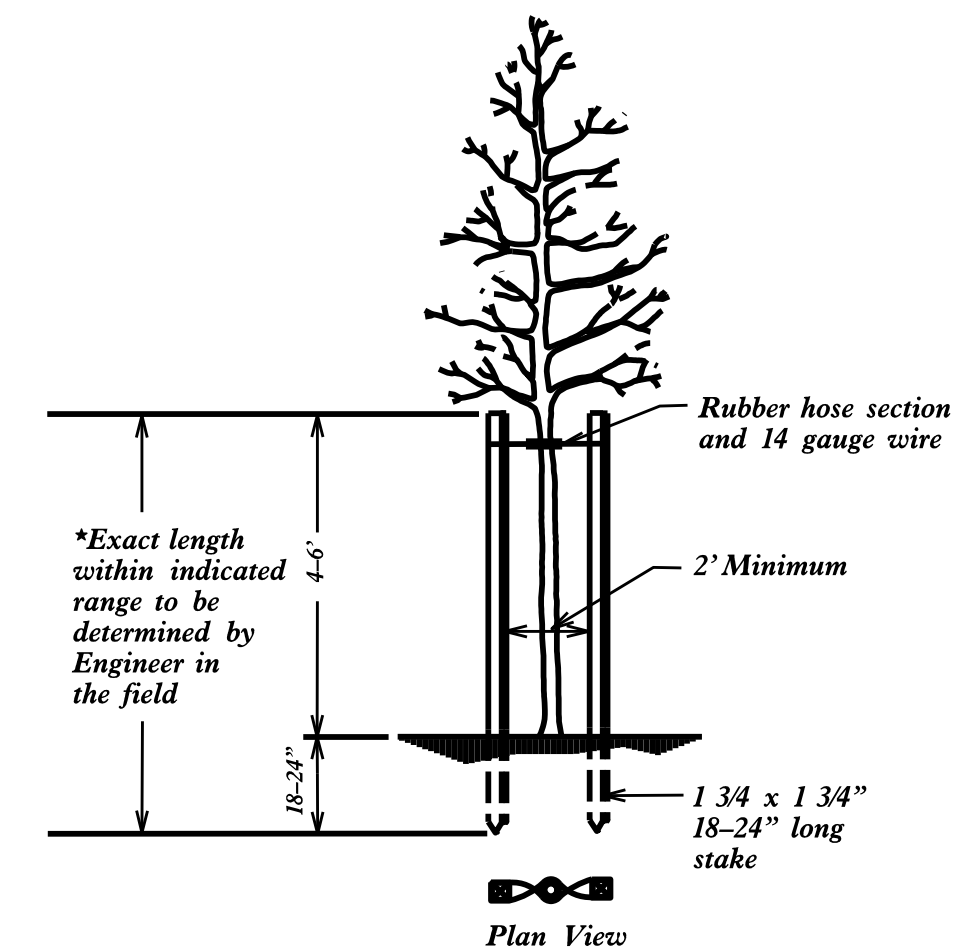
Establish the O.C. Grid for Grasses & Perennials. See Plant List for individual spacing.



Typical Plan View @ Layout for Native Grass & Perennial Plantings
No Scale



Typical Section @ Cut Slopes
No Scale



STAKING DETAIL
(FOR TREES 6' TO 10')
* Utilize staking detail only if requested by the Engineer.

NOTES:

SCHEDULE FOR PLANT HOLE SIZE:
CONTAINER OR ROOT BALL SIZE
X = 2 TIMES THE DIAMETER OF THE CONTAINER OR THE ROOT BALL DIAMETER

FERTILIZER SHALL BE APPLIED AT TIME OF PLANTING. FERTILIZER SHALL BE A SLOW RELEASE PELLET OR TABLET. FORMULATION SHALL BE APPROVED BY ENGINEER IN THE FIELD.

RATES SHALL BE PER MANUFACTURERS RECOMMENDATIONS AND APPROVED BY THE ENGINEER IN THE FIELD. THOROUGHLY MIX WITH TOPSOIL, BACKFILL OR SCARIFIED SOIL.

REMOVE BURLAP FROM TOP OF BALL BEFORE BACKFILLING AROUND BALL IS COMPLETE

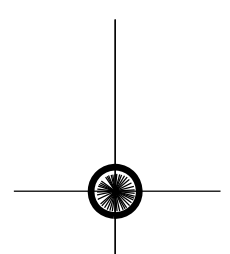
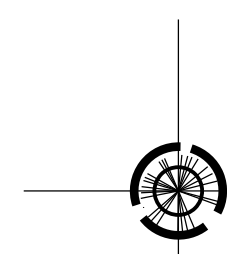
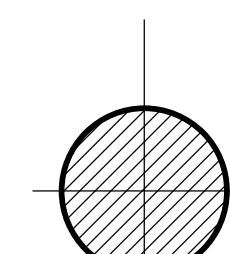
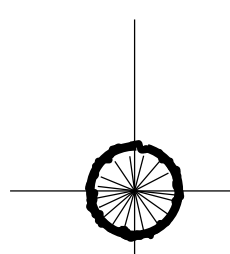
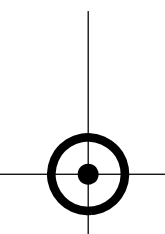
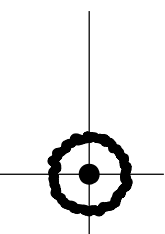
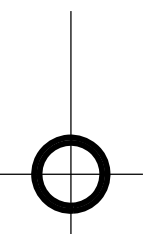
SEE STANDARD SPECIFICATIONS FOR PLANT BED HERBICIDE TREATMENT

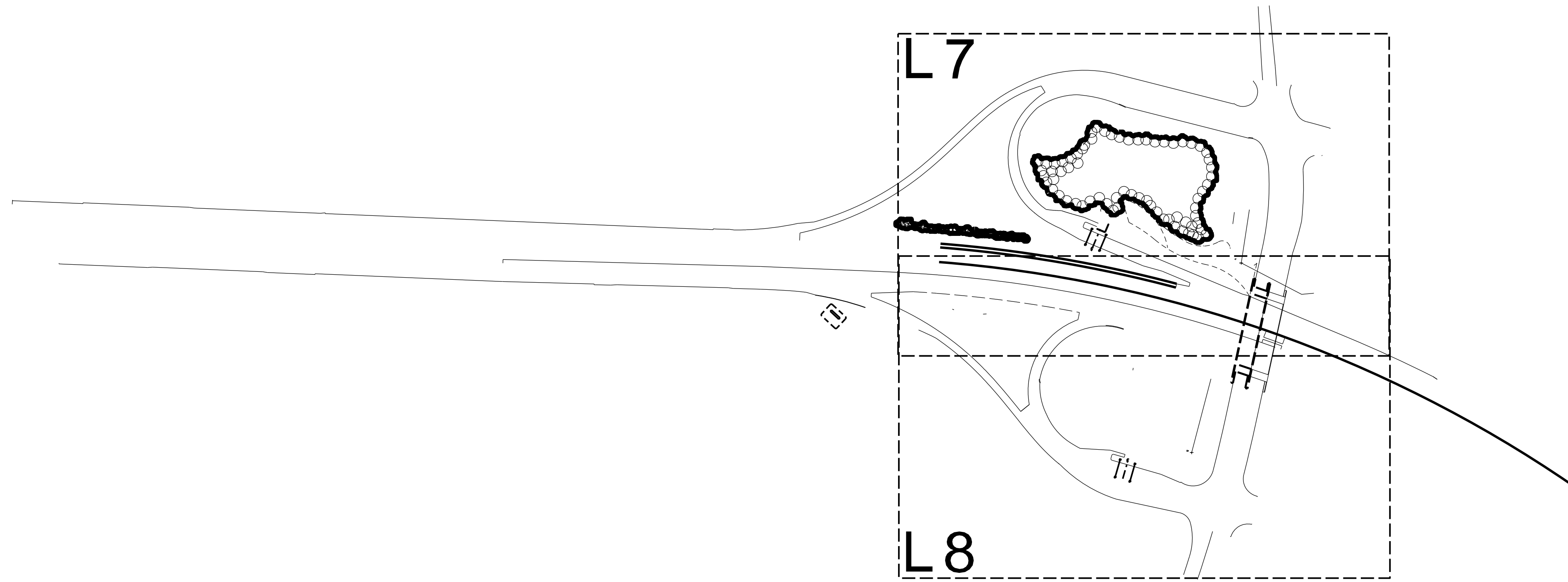
When mulched bed is adjacent to guard rail run mulch to front edge of guard rail - see detail



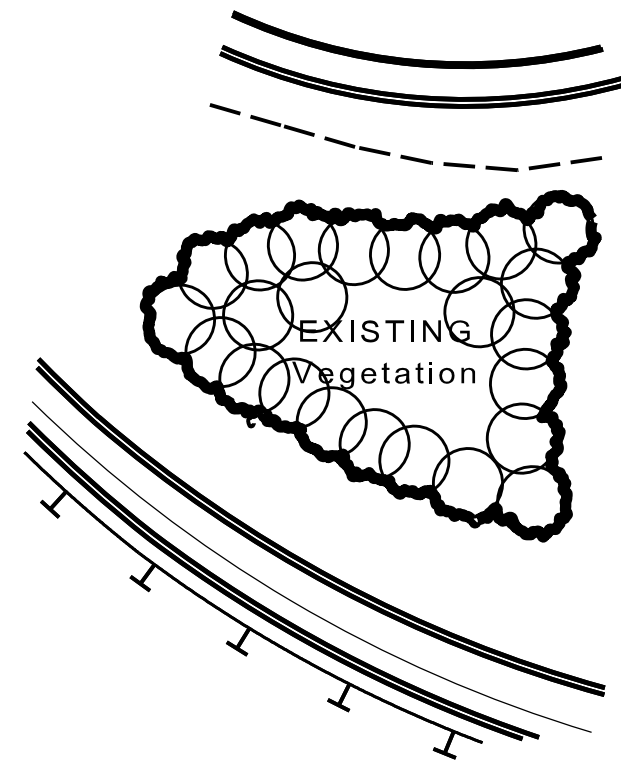
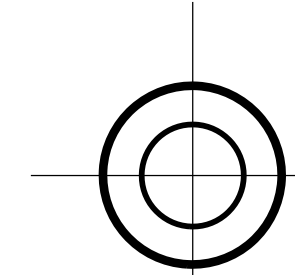
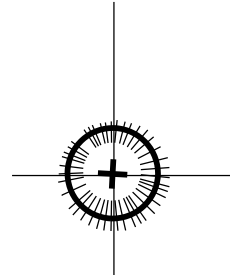
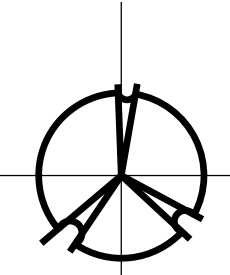
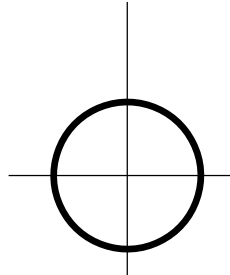
07/09/97

PLANT SYMBOLOGY (Evergreen & Flowering Trees)

<p>Large Evergreen Tree(s)</p>  <p>INL Ilex x Nellie R. Stevens 'Nellie Stevens Holly'</p>	<p>Cupressus arizonica 'Carolina Sapphire'</p>  <p>CAL</p>	<p>Pinus taeda 'Loblolly Pine'</p>  <p>PTL Pinus taeda 'Loblolly Pine'</p>	<p>Juniperus virginiana 'Burkii' 'Burkii Eastern Red Cedar'</p>  <p>JVL</p>	<p>Large Small Flowering Tree(s)</p>	<p>Cercis canadensis 'Texas White Redbud'</p>  <p>CCL Cercis canadensis 'Eastern Redbud'</p>	<p>Cercis canadensis 'Texas White Redbud'</p>  <p>CTL</p>	<p>Lagerstroemia indica 'Muskogee'</p>  <p>LML Lagerstroemia indica 'Muskogee'</p>
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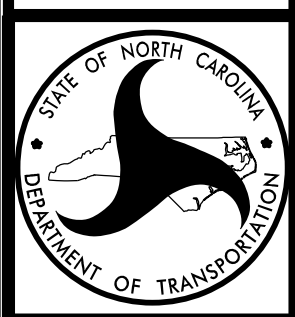
PLANT SYMBOLOGY (Deciduous Trees)

	<p>Large Deciduous Tree(s)</p>  <p>QTL Quercus Texana 'Nuttall'</p>	<p>Taxodium Distichum 'Bald Cypress'</p>  <p>TDL</p>	<p>Nyssa sylvatica 'Wildfire'</p>  <p>NSL Nyssa sylvatica 'Wildfire'</p>	<p>Quercus coccinea 'Scarlet Oak'</p>  <p>QCL</p>
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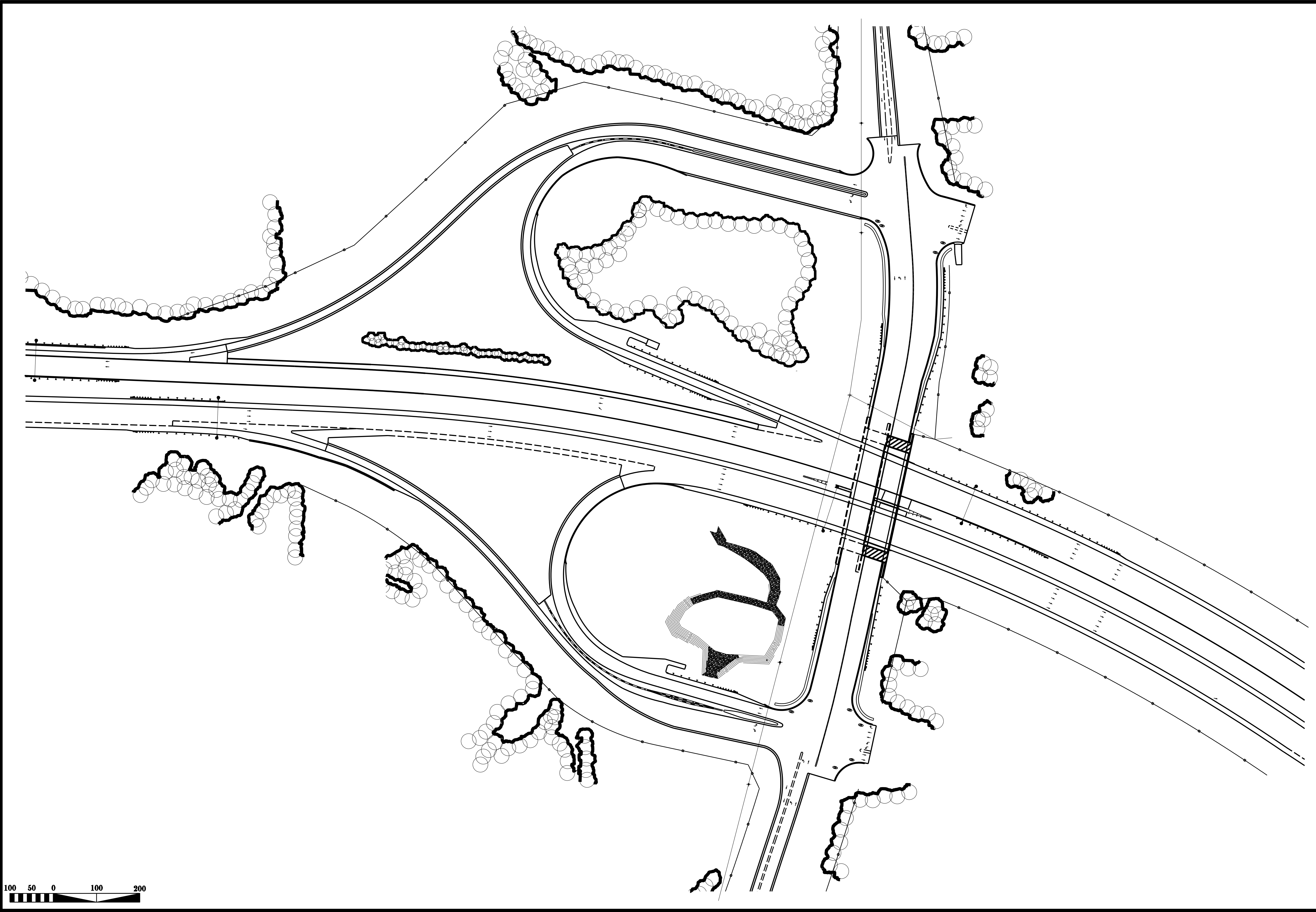
Notes:

- Contractor Shall Consult with Engineers Prior to any field adjustments. Follow plans as close as possible. Bed layouts should be adjusted to incorporate existing traffic signage, where necessary, and any sight distance issues that may develop -especially at the intersections. Ensure caution is maintained during stakeout to maintain clear site lines. Details may be adjusted to accommodate site. Spacing may be decreased to fit material at specified locations. Consult with Architect to ensure proper development.
- Contractor shall utilize all NCDOT Standard Specifications for all line items listed. These shall be utilized in conjunction with the Special Provisions. Consult with Engineer in the field to maintain accuracy.
- Wooded Area Clean Up shall be utilized at all bed areas to re-shape the existing vegetation to match the proposed. This cleanup will include removal of vegetation in the ditchline and the re-establishment of these areas to maintain views to new beds. Discuss layout with engineer in the field to ensure proper placement-SEE PLANS & section 1650 NCDOT Specs.
- Note-the seeding and mulching shall be utilized at newly established beds where existing beds have been modified and disturbed. The quantities have been established based on these developments. Those areas where trees are to be incorporated shall be field staked and adjusted by the engineer in the field initially and maintained as directed by the NCDOT Specs. Consult with Architect & Engineer in the field. All Native Grass Plantings shall be installed as a continuous mulched bed. The individual trees shall be treated with Post Emergence and mulched individually as shown on the plans. Maintain a minimum 3' diameter mulch rings.
- Trees to be field staked by the ARCHITECT. Consult with Engineer for more detailed information ensure the plants are located according to NCDOT Standard Specifications.

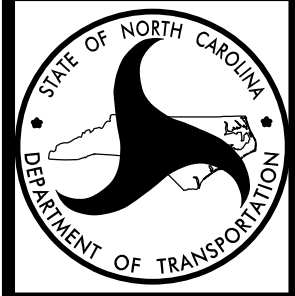
Triangle Expressway Enhancements & Aesthetics
Old Holly Springs Rd. & Apex Rd.,
Wake County, North Carolina



N.C. Department of Transportation
Roadside Environmental Unit - Aesthetic Engineering Section
SHEET LAYOUT PLAN & SYMBOLOGY

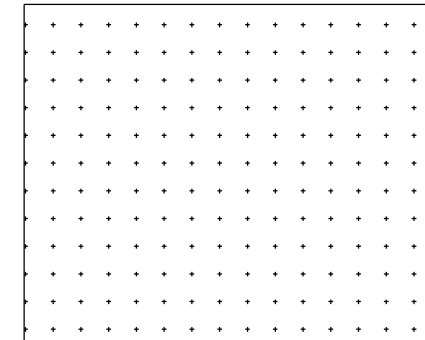


Triangle Expressway Enhancements & Aesthetics
 Old Holly Springs Rd. & Apex Rd.,
 Wake County, North Carolina

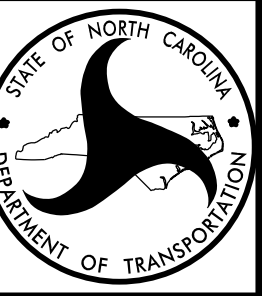
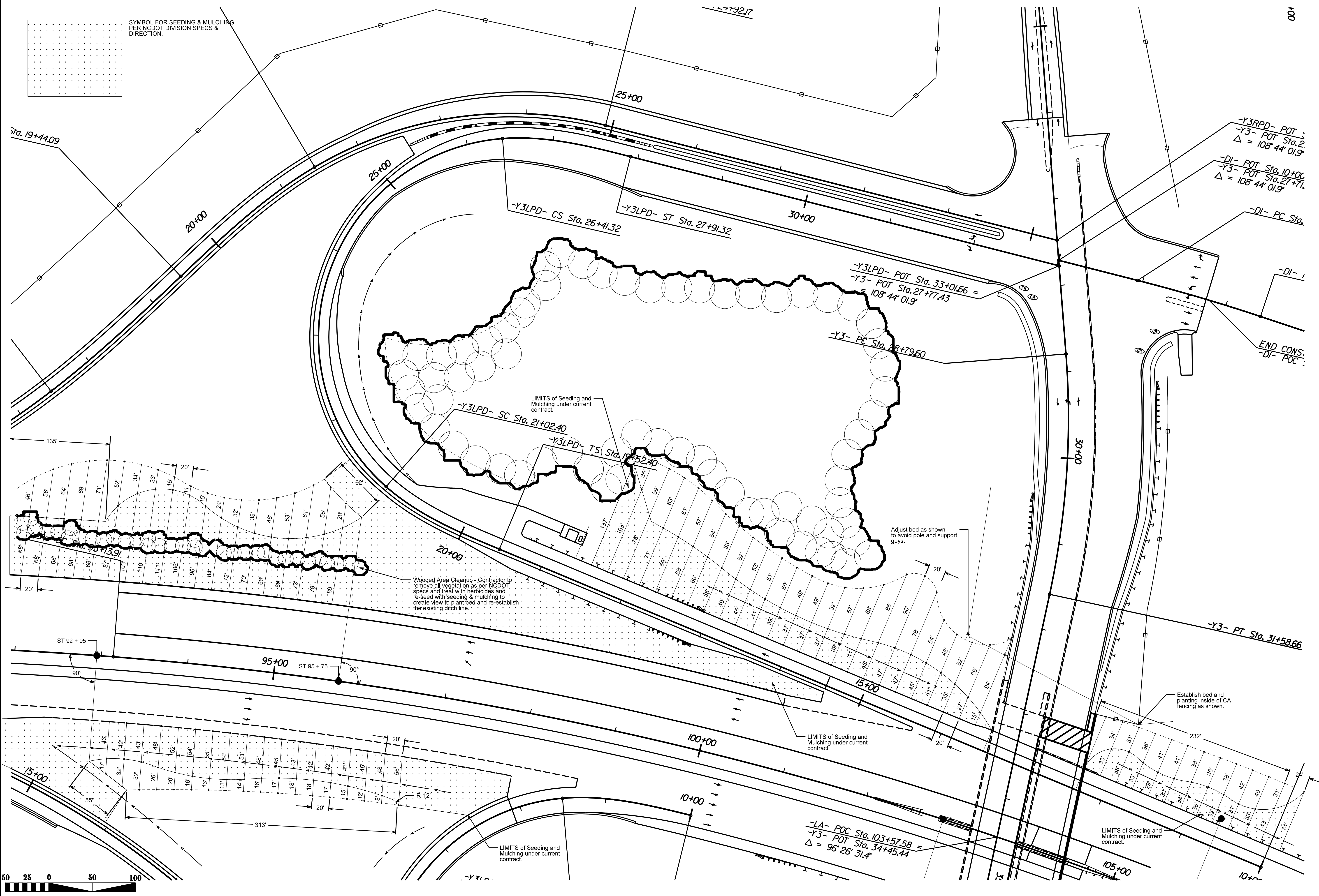


N.C. Department of Transportation
 Roadside Environmental Unit - Aesthetic Engineering Section
EXISTING SITE PLAN

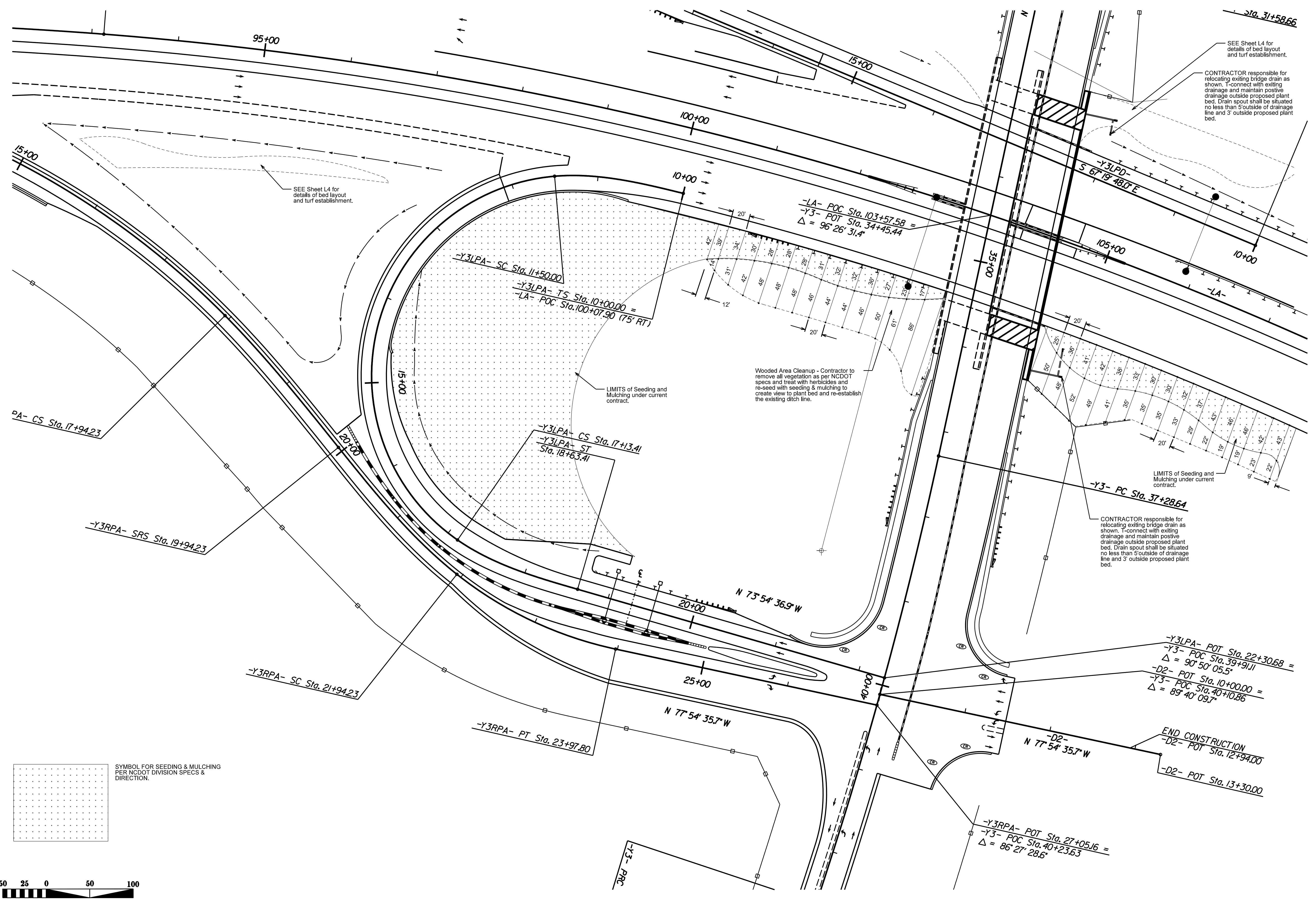
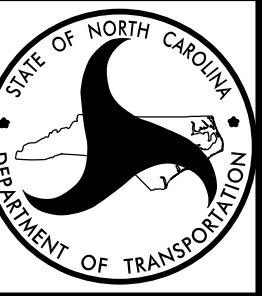
07/09/97



SYMBOL FOR SEEDING & MULCHING PER NCDOT DIVISION SPECS & DIRECTION.



07/09/97



SEE Sheet L4 for details of bed layout and turf establishment.

SEE Sheet L4 for details of bed layout and turf establishment.

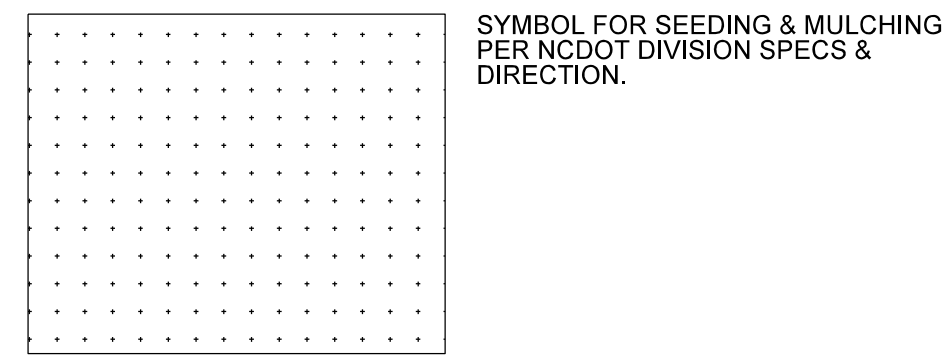
CONTRACTOR responsible for relocating existing bridge drain as shown. T-connect with existing drainage and maintain positive drainage outside proposed plant bed. Drain spout shall be situated no less than 5' outside of drainage line and 3' outside proposed plant bed.

Wooded Area Cleanup - Contractor to remove all vegetation as per NCDOT specs and treat with herbicides and re-seed with seeding & mulching to create view to plant bed and re-establish the existing ditch line.

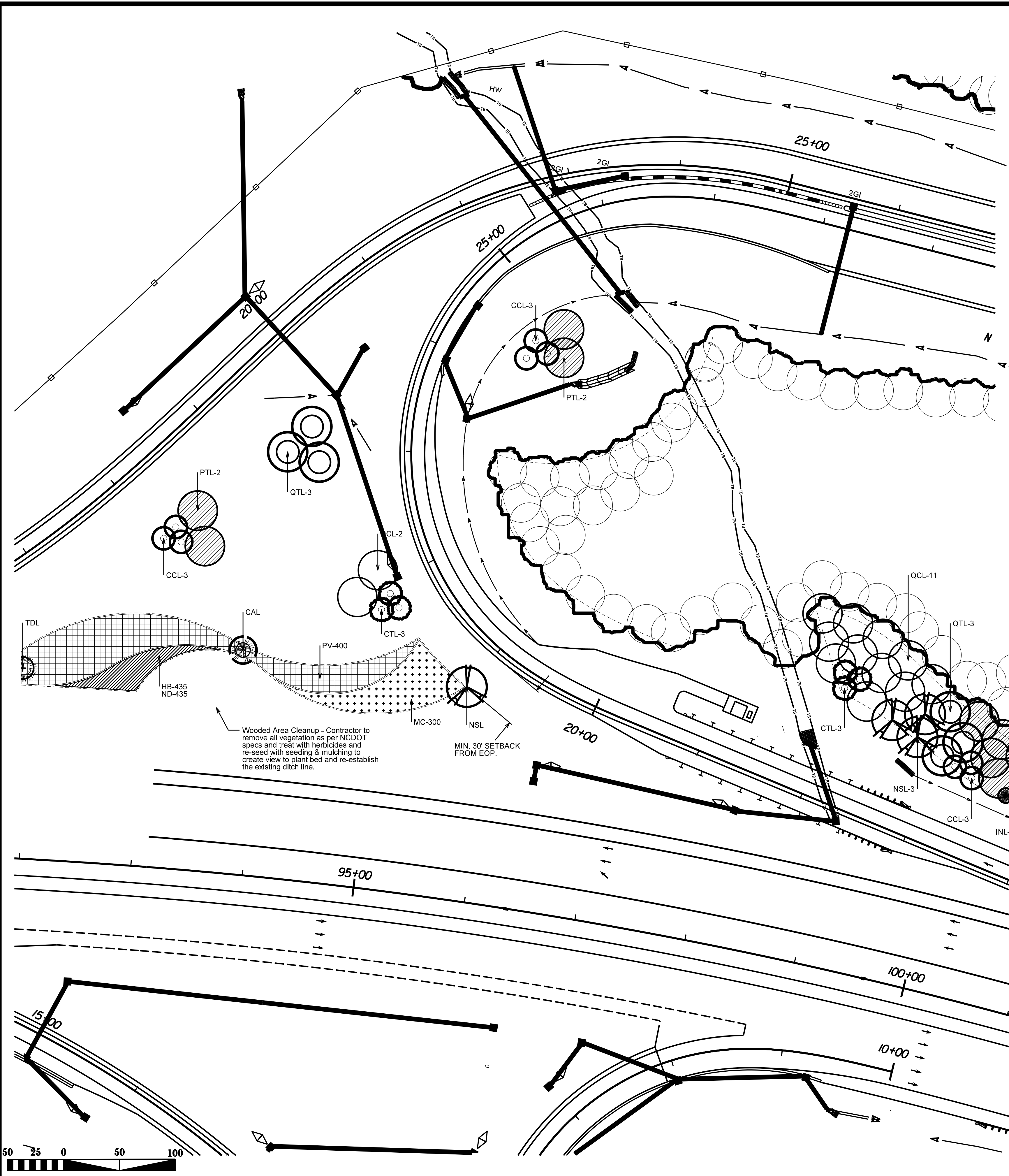
LIMITS of Seeding and Mulching under current contract.

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CONTRACTOR responsible for relocating existing bridge drain as shown. T-connect with existing drainage and maintain positive drainage outside proposed plant bed. Drain spout shall be situated no less than 5' outside of drainage line and 3' outside proposed plant bed.



07/09/97

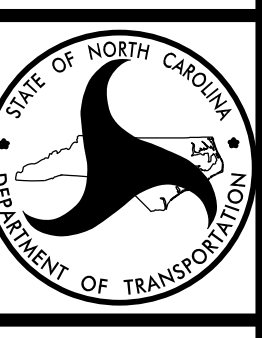


QUANTITY	UNIT	KEY	BOTANICAL NAME	COMMON NAME
Small Flowering Trees (LARGE)				
9	EA	CCL	<i>Cercis canadensis</i>	Redbud
6	EA	CTL	<i>Cercis canadensis</i> 'Texas White Redbud'	Texas White Redbud
16	EA	LML	<i>Lagerstroemia indica</i> 'Muskogee'	Muskogee Crape Myrtle
Evergreen Trees (LARGE)				
9	EA	INL	<i>Ilex x Nellie R. Stevens</i>	Nellie R. Stevens Holly
1	EA	CAL	<i>Cupressus arizonica</i> 'Carolina Sapphire'	Carolina Sapphire Cypress
3	EA	JVL	<i>Juniperus virginiana</i> 'Burkii'	Burkii Eastern Red Cedar
26	EA	PTL	<i>Pinus taeda</i>	Loblolly Pine
Deciduous Trees (LARGE)				
5	EA	NSL	<i>Nyssa sylvatica</i> 'Wildfire'	Black Gum
16	EA	QCL	<i>Quercus coccinea</i>	Scarlet Oak
8	EA	QTL	<i>Quercus texana</i> var. <i>nutalli</i>	Nuttall Oak
3	EA	TDL	<i>Taxodium Distichum</i>	Bald Cypress
Native Grass and Perennial Varieties				
1205	EA	HB	<i>Hemerocallis</i> 'Buttered Popcorn'	Buttered Popcorn Daylily
1205	EA	ND	<i>Narcissus</i> 'Dutch Master'	Dutch Master Daffodil
300	EA	MC	<i>Muhlenbergia capillaris</i> 'White Cloud'	White Cloud Muhly Grass
650	EA	PV	<i>Panicum virgatum</i> 'Cloud Nine'	Cloud Nine Switchgrass
765	EA	RF	<i>Rudbeckia fulgida</i> 'Goldstrum'	Black Eyed Susan



SHEET NO.
L7
PROJECT REF. NO.

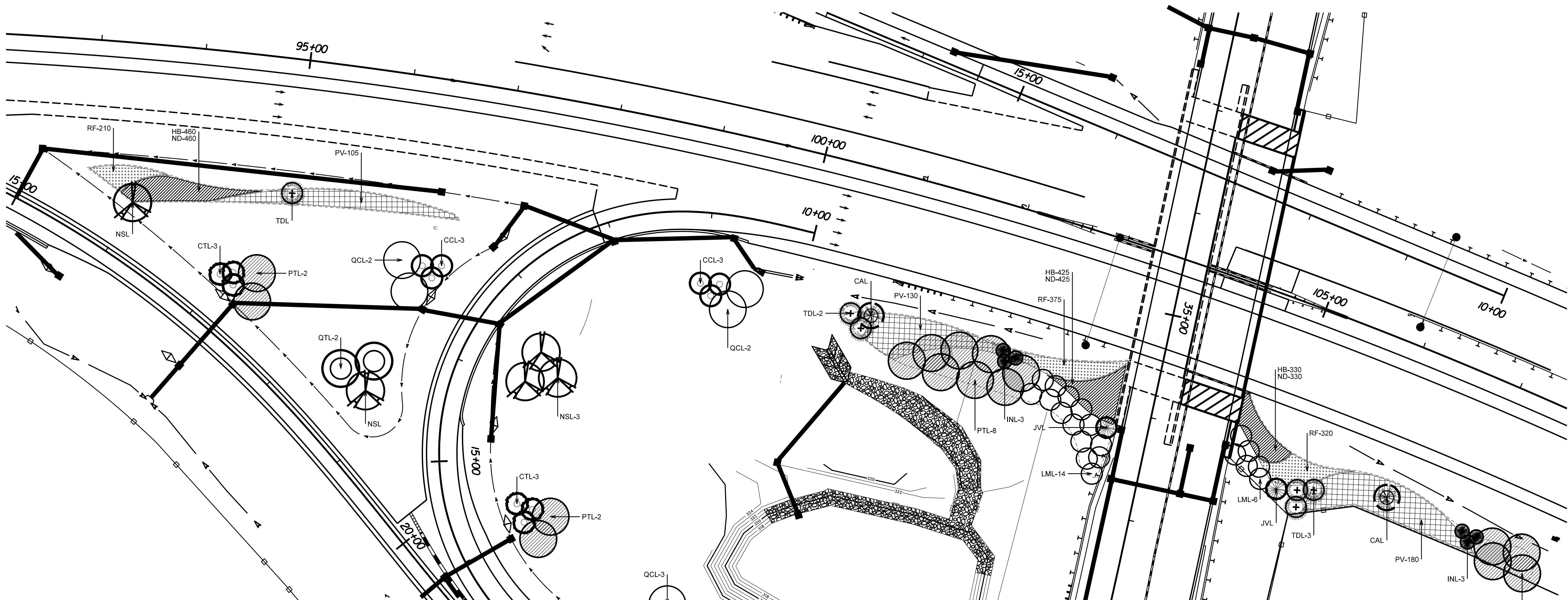
Triangle Expressway Enhancements & Aesthetics
Old Holly Springs Rd. & Apex Rd.,
Wake County, North Carolina



N.C. Department of Transportation
Roadside Environmental Unit - Aesthetic Engineering Section
LANDSCAPE PLANTING PLAN

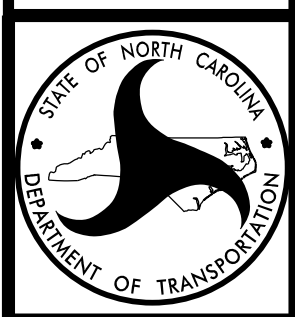
L7

07/09/97



QUANTITY	UNIT	KEY	BOTANICAL NAME	COMMON NAME
Small Flowering Trees (LARGE)				
8	EA	CCL	<i>Cercis canadensis</i>	Redbud
7	EA	CTL	<i>Cercis canadensis</i> 'Texas White Redbud'	Texas White Redbud
20	EA	LML	<i>Lagerstroemia indica</i> 'Muskogee'	Muskogee Crape Myrtle
Evergreen Trees (LARGE)				
6	EA	INL	<i>Ilex x Nellie R. Stevens</i>	Nellie R. Stevens Holly
2	EA	CAL	<i>Cupressus arizonica</i> 'Carolina Sapphire'	Carolina Sapphire Cypress
2	EA	JVL	<i>Juniperus virginiana</i> 'Burkii'	Burkii Eastern Red Cedar
18	EA	PTL	<i>Pinus taeda</i>	Loblolly Pine
Deciduous Trees (LARGE)				
5	EA	NSL	<i>Nyssa sylvatica</i> 'Wildfire'	Black Gum
7	EA	QCL	<i>Quercus coccinea</i>	Scarlet Oak
2	EA	QTL	<i>Quercus texana</i> var. <i>nutalli</i>	Nuttall Oak
6	EA	TDL	<i>Taxodium distichum</i>	Bald Cypress
Native Grass and Perennial Varieties				
1215	EA	HB	<i>Hemerocallis</i> 'Buttered Popcorn'	Buttered Popcorn Daylily
1215	EA	ND	<i>Narcissus</i> 'Dutch Master'	Dutch Master Daffodil
	EA	MC	<i>Muhlenbergia capillaris</i> 'White Cloud'	White Cloud Muhly Grass
415	EA	PV	<i>Panicum virgatum</i> 'Cloud Nine'	Cloud Nine Switchgrass
905	EA	RF	<i>Rudbeckia fulgida</i> 'Goldstrum'	Black Eyed Susan

Triangle Expressway Enhancements & Aesthetics
Old Holly Springs Rd. & Apex Rd.,
Wake County, North Carolina



N.C. Department of Transportation
Roadside Environmental Unit - Aesthetic Engineering Section
LANDSCAPE PLANTING PLAN

