EXHIBIT D-1

RAYZOR RANCH LANDSCAPE STANDARDS
SOUTH RR-2 AND TOWN CENTER (RR-1)

Article 1 General Landscape Standards

A. Landscape Plan

Landscape Plans must be reviewed and approved by the City staff for each phase of the development.

B. Open Space Requirements

1. The South RR-2 and Town Center (RR-1) shall maintain a minimum average open space of 15% of the overall site. Open space includes all surface areas of the project that are not covered with enclosed buildings, or parking and drive areas. Pedestrian plazas sidewalks covered or uncovered are calculated towards total open space.

2. Active open space shall be valued within the Town Center (RR-1) development. Plaza Areas, as defined in Article 3.B of the Rayzor Ranch Architectural Standards, may be credited as additional open space, canopy coverage, and/or landscape area with the authorization of the City Manager and a supporting site plan.

C. Parking Field Requirements

The South RR-2 and Town Center (RR-1) will incorporate the following planting standards in all parking areas:

1. Landscape Islands

There will be a minimum of one planted island for every 15 linear parking spaces. This planting island shall be approximately the same size as one (1) standard parking space. Each island shall contain at least 1 shade tree (2" min. cal.) from the Approved Plant List (see Appendix A). Alternatively, there will be a minimum of one planted island for every 25 linear parking spaces. This planting island shall be approximately the same size as 2 standard parking spaces. Each island shall contain at least 2 shade trees (2" min. cal.) from the Approved Plant List (see Appendix A). Ground cover within the island shall be 100% turf, shrub, planted groundcover, gravel, or mulch or combination thereof. See Diagram 1 for an example layout of landscape islands. The average distance between planting islands shall be 11 linear parking spaces.

2. **End Islands**
There shall also be an end island for every parking row. This end island shall be approximately the same size as one (1) standard parking space. Each island shall contain at least 1 shade tree (2" min. cal.) from the Approved Plant List (see Appendix A). An example of the end islands can be found in Diagram 1. Ground cover within the island shall be 100% turf, shrub, planted groundcover, gravel, or mulch or combination thereof.

3. **Minor Amendments**
The City Manager may approve alternate tree locations utilizing the minor amendment process to avoid conflicts with utilities as defined in the Denton Development Code.

4. **Tree Spacing From Public Utilities**

a. Water and Wastewater Lines – No trees shall be planted closer than nine (9) feet from any public underground water or wastewater utility main unless applicable staff approves a special circumstance. The location of the water or wastewater utility line shall be considered, for distance purposes, to be the surface of the ground above the line.

b. Fire Hydrants – No trees shall be planted closer than 10 feet from any fire hydrant.

Article 2 Buffers and Screening

A. Refuse Container Screen
Trash receptacles shall be screened in accordance with Article 1.A.3 of the Rayzor Ranch Architectural Standards. The construction of refuse screening areas must comply with the *Municipal Solid Waste and Recyclables Storage and Enclosure Requirements* adopted by the City of Denton on May 8, 2009.

B. Service Corridor Screen
When adjacent to residential uses, commercial and industrial service corridors shall be screened. Siting and design of such service areas shall reduce the adverse effects of noise, odor and visual clutter upon adjacent residential uses.

C. Mechanical Equipment Screen

All mechanical equipment shall be screened from any public right-of-way or adjacent to residential use or zoning district. Ground mounted equipment can be screened with evergreen shrubbery or masonry or concrete screen wall. Gates, if incorporated in the design of the screen wall, can be constructed of metal. Screening is subject to approval by the appropriate controlling utility.

D. Outdoor Storage

All outside storage shall comply with the provisions of Section 35.12.7 of the Denton Development Code, unless modified by the Architectural Standards.

Article 3 Access, Parking, and Circulation Requirements

A. External to the Development

1. Vehicular Access / Access Management

The South RR-2 and Town Center (RR-1) shall provide access that complies with Access Management principles of location, spacing and sharing of curb cuts, and shall provide adequate stacking distance for all entrances.

2. Pedestrian Access

All developments shall provide pedestrian access by linking to any adjacent sidewalk(s), multi-use path(s) or public transportation stop.

3. Transit Amenities

Transit amenities, bus shelters, and pullouts shall be provided as required under Subchapter 20 Transportation of the City of Denton Development Code. Modifications to the transit amenities standards shall be permitted subject to the City Manager's approval so long as the intent and spirit of the standards are met.

B. Internal to the Development

1. Vehicular Circulation

a. Internal circulation shall be well defined by use of end caps and landscaped areas.

b. Cross Access: Prior to division of property, circulation and access standards shall be applied and, if necessary, cross easements shall be required so that access to all

properties created by the subdivision can be made from shared curb cuts.

Article 4 Parking Lot Landscaping and Screening Standards

In addition to Article 1 above, all parking lots, which for purposes of this section, include areas of vehicle maneuvering, parking, and loading, shall be landscaped and screened as follows:

A. Landscape Standards

1. A minimum of 10% of the total parking area shall be landscaped.

2. A minimum of 20% of the required parking shall be covered by tree canopy.

3. The tree species shall be an appropriate shade tree and shall be selected from the Approved Plant List (see Appendix A).

4. Poly-coated chain link fencing is allowed for security and utilitarian purposes, but is not considered a screening fence. The poly-coated chain link fence cannot be visible from public roads or pedestrian areas.

B. Screening at Right of Way:

Parking is allowed in front of a building if the parcel meets the following design standards.

1. Parking lots shall be separated from the street frontage by a minimum 15 foot wide Right-of-Way Screening Landscape Area to reduce visual impacts.

2. The minimum 15 foot wide Right-of-Way Screening Landscape Area is the area located between the right-of-way and the parking lot. Utility easements are allowed to count towards part of the 15-foot wide Right-of-Way Screening Landscape area subject to required separation from utilities.

3. The number of large trees required will be calculated by providing one (1) large tree for every 45 linear feet of the Right-of-Way Screening Landscape Area. The required

numbers of trees do not have to be planted on 45-foot centers, but can be clustered.

4. A minimum of three small accent trees clustered every 30 linear feet within the Right-of-Way Screening Landscape Area may be substituted for the large tree requirement.

5. At least one or any combination of the following shall be used to help screen the parking lot:

   a. Xeriscape landscaping may be planted within the Right-of-Way Screening Landscape Area. Xeriscape landscaping shall require water irrigation for a period of three years for landscaping to be established. After 3 years, no irrigation is required;

   b. A minimum three foot high, when mature, row of evergreen shrubs planted within the Right-of-Way Screening Landscape Area. The shrubs may be grouped and not planted in a continuous row provided that the shrubs overlap to form a continuous buffer; or

   c. A minimum three-foot high continuous wall made of any combination of wrought iron, masonry, or stone within the Right-of-Way Screening Landscape Area. If wrought iron is used, vines shall be grown on the wrought iron to help screen the parking lot.

   d. A grass or landscaped berm, three feet high above the parking pavement surface.

Article 5 Tree Maintenance and Tree Mitigation

A. Each replacement tree shall have a minimum caliper of two (2) inches, measured six (6) inches above grade and must be at least five (5) feet tall when planted.

B. All replacement trees must be Large Canopy Trees from the Approved Plant List found in Appendix A.

C. A performance bond is required prior to the issuance of a building permit for each phase of Rayzor Ranch. The purpose of the performance bond is to ensure that the landscape and trees are planted and well maintained. Upon completion of the three (3) year establishment period for all plantings within the Rayzor Ranch project, the City shall inspect the trees to determine if

90% of the trees are healthy and have a reasonable chance of surviving to maturity. Upon such a finding, the City shall release the performance bond. If the applicant does not take remedial steps to bring the property into compliance, the City shall make demand for payment of the bond. The City may use all legal remedies to enforce this requirement, in addition making demand on the bond.

D. Tree mitigation will also be subject to the criteria established in Section 35.7.15.5 of the Rayzor Ranch Overlay District.

Article 6 Interim Landscape Areas

Final right-of-way screening along US 380 must be installed within six (6) months after the final certificate of occupancy is issued for 80% of the lots fronting U.S. 380 or within two years of the first certificate of occupancy fronting on U.S. 380. This is to ensure that landscaping is uniform at the time of installation.

Article 7 Amendments to the Landscape Plan

The City Manager may authorize minor changes in the landscape plan and plant materials that otherwise comply with the Overlay District ordinance and do not:

1. Reduce the perimeter landscape buffer strip shown on the original landscape plan;

2. Detrimentally affect the original landscape plan's aesthetic function relative to adjacent right-of-way or surrounding property; or

3. Detrimentally affect the original landscape plan's screening or buffering function.

Appendix A

Approved Plan List

Canopy Trees

Mature Canopy 314-1256 sq. ft. - Site Design Criteria Manual

Common Name	Scientific Name
Soapberry	Sapindus drummandii
Bald Cypress	Taxodium distichum
Black Locust	Robina pseudoacacia
Eastern Red Cedar	Juniperus virginiana
Cedar Elm	Ulmus crassifolia
Texas Mesquie	Prosopis glandulosa
Chinquanpin Oak	Quercus muhlenbergii
Post Oak	Quercus stellata
Live Oak	Quercus virginiana "Highrise"
Shummard Red Oak	Quercus shumardii
Texas Red Oak	Quercus texana
Chinese Pistache	Pistacia chinensis
Ginko	Ginko bilboa
Green Ash	Fraxinus pennsylvanica
Texas Ash	Fraxinus texensis
Bur Oak	Quercus macrocarpa
Bigtooth Maple	Acer grandidentatum
Foster Holly	Ilex x attenuata "Fosteri"
Caddo Maple	Acer saccharum "Caddo"
Pecan	Carya illinoinensis
Southern Magnolia	Magnolia grandiflora
River Birch	Betula nigra

Ornamental Trees

Mature Canopy 79-314 sq. ft. - Site Criteria Manual

Common Name	Scientific Name
American Smoketree	Conius obovalus
Crape Myrtle	Lagerstromia indica
Desert Willow	Chilopsis linearis "Warren Jones"
Downy Hawthorne	Crataegus mollis
Hawthorn	Crataegus spp.
Mesquite Tree	Prosopis glandulosa
Mexican Plum	Prunus mexicana
Mexican Redbud	Cercis canadensis var mexicana
Possumhaw Holly	Llex decidua
Prairie Flameleaf Sumac	Rhus lanceoiata
Red Bud	Cercis canadensis
Reverchon Hawthorn	Crataegus reverchronis
Rusty Blackhaw	Viburnum rufidulum
Texas Persimmon	Diospryros texana
Texas Sophora	Sophora affinis
Vitex	Vitex agnus-castus - "LeCompte"
Wax Myrtle	Myrica cerifera
Yaupon Holly	Ilex vomitoria

Shrubs

Common Name	Scientific Name
Agarita	Mahonia (Berberis) trifolita
Buttonbush	Cephalanthus occidentilis
Sesert Spoon	Dasyliron spp.
Dwarf Buford Holly	Ilex cornuta "Dwarf Buford"
Dwarf Wax Myrtle	Myrica pusilia
Dwarf Yaupon Holly	Ilex vomitona "Nana"
Ebbing's Silverberry	Eleagnus ebbengei
False Indigo	Amorpha fruticosa
Foster Holly	Ilex x attenuaa
Fragrant Sumac	Rhus aromactica
Glossy Abelia	Abelia x grandoflora
Hardy Plumbago	Ceratostimgma plumbaginoides
Indian Hawthorn	Rhaphiolepios indica
Knockout Rose	Roa "Knockout"
Purple Smoke Tree	Cotinus coggygria 'Royal Purple'
Red Yucca	Hesperaloe parviflora
Rosemary	Rosmarius officinalis
Sacahuista	Nolina texana
St. John's Wort	Hypecum perforatum
St. John's Wort	Hypericum beanii
Texas Sage	Leucophyllum frutescens
Turk's Cap	Malvaviscus arboreus var. drummondoni
Waxleaf Ligustrum	Ligustrum japonica "Texana"
Western White Honeysuckle	Lonicera albiflora
Yucca	Yucca app.

Grasses / Ground Cover / Vines

Common Name	Scientific Name
Asian Jasmine	Trachelosperum asiaticum
Aster	Aster spp.
Bermuda Grass	Cynodon dactylon
Blackfoot Daisy	Melampodium leucanthium
Bracken Fern	Pteridum aquilnum
Buffalo Grass	Bucchloe dactyiodes
Bushy Bluestem	Andropgon Glomeratus
Butterfly Weed	Asclepias tuberosa
Cactus	Opuntia spp.
Coconut Thyme	Thymus pulegioides coccineus
Coneflower	Rudbeckia fulgida
Cross Vine	Bignonia capreoiata
Daylilly	Hermerocallis "Hyperion"
Desert Sage	Salvia gregii

Dwarf Fountain Grass	Pennisetum alopecuroldes ‘Hamln’
Englemann Daisy	Englemannia pinnatifida
Evening Primrose	Oenothera speciosa
Giant Liriope	Lirope gigantea
Gray Rush	Juncus effusus
Hameln Grass	Pennisetum alopecuroides "Hemeln"
Inland Sea Oats	Chasmanithuim latifolium
Kentucky Wisteria	Wisteria macrostachya
Lady Banks Rose	Rosa banksiae
Lindheimer’s Muly	Muhlenbergia lindheimeri
Little Bluestem Grass	Schizachyrium latifolium
Little Bunny Fountain Grass	Pennistemum alopecuroides "Little Bunny"
Lirope	Lirope muscari
Maiden Grass	Miscanthus sinensis "Gracillimus"
Mexican Feather Grass	Nasella(Stipa) tenuissima
Muhly Grass	Muhienbergia spp.
Orange Wedelia	Wedelia hispida
Prairie Zinnia	Zinnia grandiflora
Purple Cornflower	Echinacea pupurea
Purple Wintercreeper	Euonymous fortunei
Russian Sage	Perovskia atriplicfloia
Sideoats Grama	Bouteova curtipendula
Splitbeard Grass	Andropogon tenarius
Switchgrass	Panicum virgatum
Texas Green Eyes	Berlandiera texana
Texas Sage	Leucophyllum frutescens
Trumpet Honeysuckle Vine	Lonicera sempervirens
Trumpet Vine	Camsis radicans
Turfallo grass	Bouteloua dactyloides
Virginia Creeper	Parthenocissus quinquefolia
White Sagebrush	Artemesia ludoviciana
Yellow Elder	Tacoma stans

Appendix B
Tree Mitigation Chart

Rayzor Ranch Mitigation Chart

North Site

Total caliper inches of trees taken down and still remaining is 7713.
161 caliper inches of the 7713 are Quality/Protected Trees
5524 Caliper inches of the 7713 inches were taken down
2189 Caliper inches of the 7713 inches are remaining

7713 inches -161 Inches of Quality/Protected Trees = 7552 inches

7552 are Secondary Trees requiring 12.5% mitigation = 944 caliper inches

161 are Quality/Protected Trees requiring 1:2 or 1:1.5 mitigation
At the worst case scenario 1:2 = 322 caliper inches

Total caliper inches to mitigate = 944 + 322 = 1266 inches
This is 633 trees (assuming mitigation is with 2" caliper trees)

South Site

Trees to Preserve:
3 Quality Trees = 42.4 inches
2 Protected Trees = 43.5 inches
Total caliper inches to preserve = 85.9 inches

Trees to Mitigate:
34 Quality Trees = 351.1 inches
6 Protected Trees = 298.6 inches
2 Large Secondary = 49.4 inches
18 Secondary = 23.25 inches
Total caliper inches to mitigate = 457.25 inches
This is 229 trees (assuming mitigation is with 2" caliper trees)

Mitigation Total of North and South Sites = 1724.25 inches
Preservation Total of North and South Sites = 85.9 inches

***This mitigation plan is a proposed plan. If any transplanted trees die within the first year, the developer will replace the trees with the equivalent number of caliper inches.**

Appendix C
Landscape Chart

Rayzor Ranch South Campus Landscape Chart

Rayzor Ranch Landscape Charts

North Site 153.37 +/- Acres		Base Zoning			Proposed Overlay District Amendment			Preliminary Calculations		
		Base Zoning	Minimum Landscaped	Minimum Canopy	Proposed Ove	Minimum Landscaped	Minimum Canopy	Proposed Zon	Open Space	Canopy Coverage
Subarea 1 - Residential	45.16 Acres	NR-3	55%	50%	NR-3 (NRMU-	40%	45%	NR-3	43.0%	42.0%
		NRMU-12	40%	45%						
Subarea 2 - Marketplace	108.21 Acres	CM-G	20%	30%	RCC-D	10%	20%	RCC-D	21.0%	28.0%
		NRMU	20%	40%						
		NRMU-12	40%	45%						

South Campus (Approximately 220 Acres)		Base Zoning Requirements			Rayzor Ranch South Campus Overlay		
	Approximate Land Area (Acres)	Base Zoning	Minimum Landscaped Area	Minimum Canopy Coverage	Open Space	Minimum Landscaped Area	Minimum Canopy Coverage
Town Center District (RR-1) / RR-2 and South Mixed Use (Hotel,RR,O,SF,MF,P)	160	RCC-D	10%	20%	28%	24%	22%
South Mixed Use (SF)	20	NRMU	20%	40%	48%	40%	41%
South Mixed Use (MF,O,RR,BH,Hotel,P)	40	NRMU	20%	40%	25%	20%	40%

Land areas do not include Cook Children's, Public Roads, DME site or Drill Site
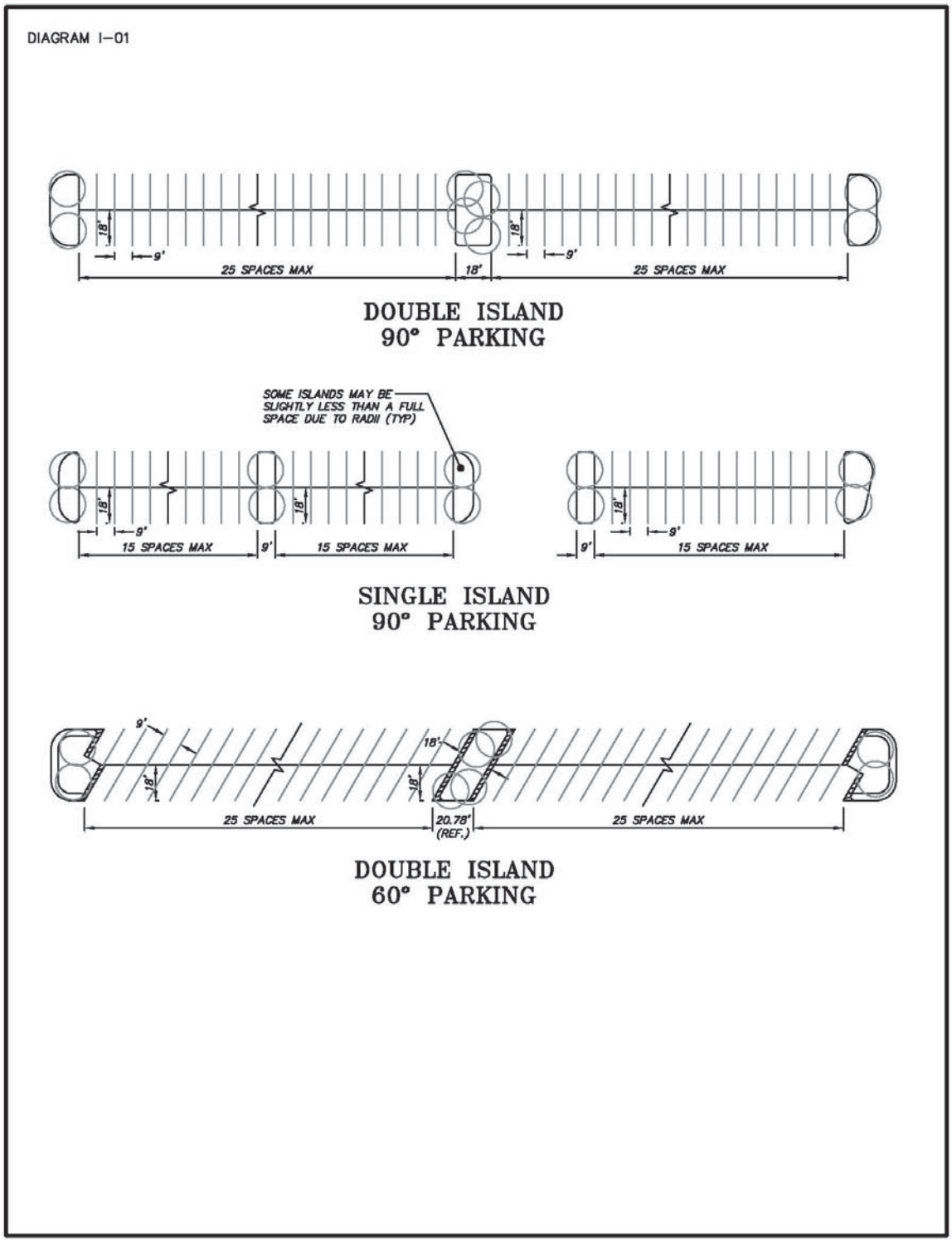
Diagram 1 – Parking Lot Landscape Islands