

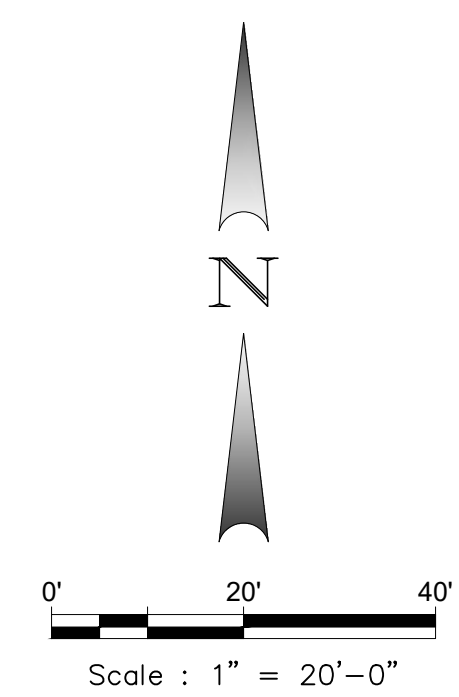
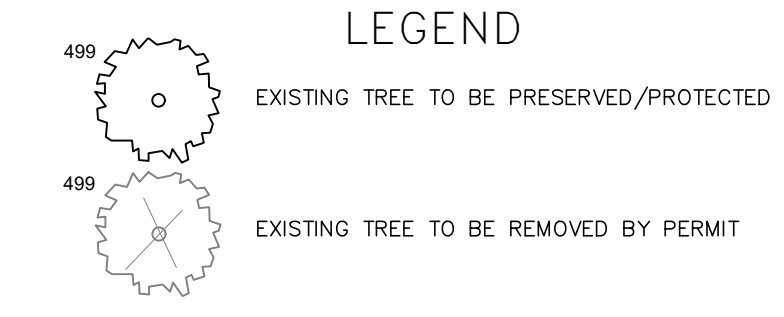
VICINITY MAP
NOT TO SCALE

TREE TABLE

NO.	CALIPER	SPECIES	STATUS
101	26	PECAN	REMOVE-EXEMPT DRIVEWAY
102	9	HACKBERRY	REMOVE-EXEMPT SPECIES
103	33	PECAN	REMOVE-EXEMPT DRIVEWAY
104	32	PECAN	REMOVE-EXEMPT DRIVEWAY
105	8	HACKBERRY	REMOVE-EXEMPT SPECIES

TOTAL QUALITY TREES ON SITED = 3
 TOTAL QUALITY TREE INCHES REMOVED = 91"
 TOTAL QUALITY TREE INCHES REMOVED EXEMPT = 91"
 TOTAL QUALITY TREE INCHES PRESERVED = 0"
 TOTAL SPECIMEN TREE INCHES REMOVED = 0"
 TOTAL QUALITY TREE REPLACEMENT INCHES = 0"

TOTAL INCHES TO BE MITIGATED = 0"

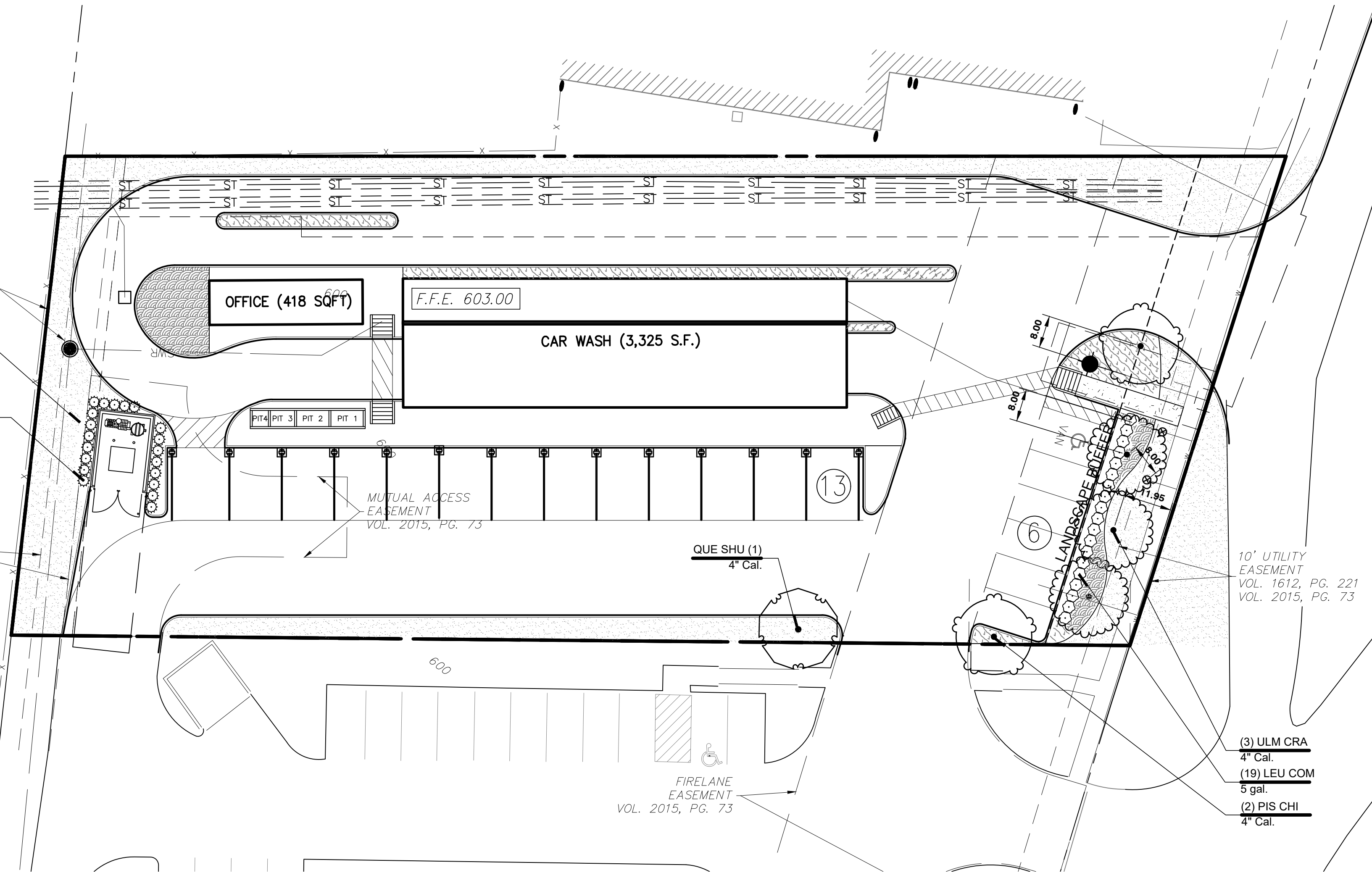


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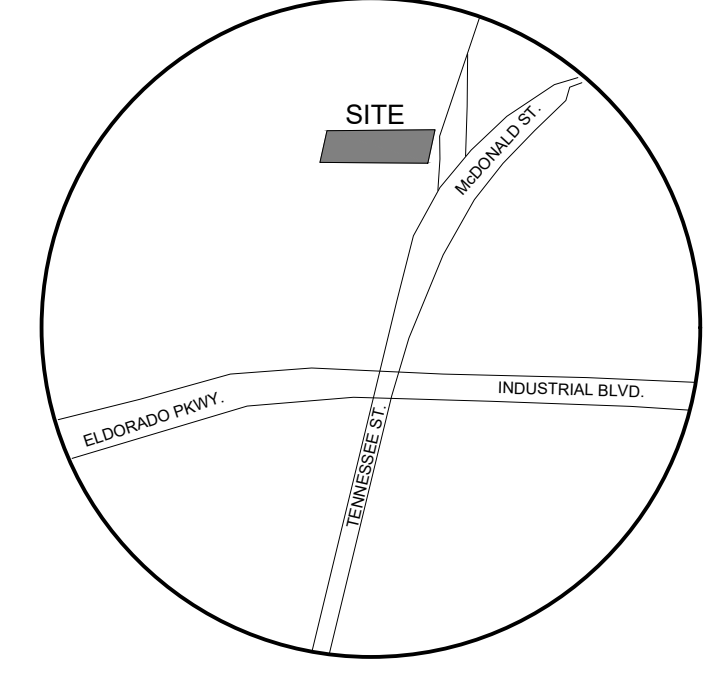
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TREE PRESERVATION PLAN SNAPCLEAN CAR WASH MCKINNEY, TX 75069	T-1

No.	DATE	REVISION	APPROV.
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MCKINNEY LANDSCAPE ORDINANCE--(LOT 5)		
AREA	REQUIREMENT	
STREET YARD	15% OF STREET YARD SHALL BE LANDSCAPED	
	REQUIRED	PROVIDED
	15% X 10,108 = 1,516 SF	2,956 SF SF
SITE AREA	10% OF SITE SHALL BE LANDSCAPE	
	REQUIRED	PROVIDED
	34,835 SF X 10% = 3,484	7,615 SF
LANDSCAPE BUFFER	20' LANDSCAPE BUFFER AT STREET FRONTAGE	
	REQUIRED	PROVIDED
	20'	20'
STREET FRONTAGE TREES	1 TREE PER 40' OF STREET FRONTAGE	
	REQUIRED	PROVIDED
	127 / 40 = 4 TREES	4 TREES DUE TO UTILITIES AND EASEMENTS SOME TREES HAD TO BE LOCATED ELSEWHERE ON SITE
PARKING LOT SCREEN	ALL PARKING SPACES WITHIN 65' OF TREE	
	ISLAND/TREE AT END OF PARKING ROW	
	MINIMUM 75% OF PARKING LOT IS SCREENED	
PARKING LOT BUFFER	5' PERIMETER PARKING LOT BUFFER	



VICINITY MAP
NOT TO SCALE

- PLANTING NOTES:**
- PLANT SIZE, TYPE, AND CONDITION SUBJECT TO APPROVAL OF OWNER'S REPRESENTATIVE.
 - ALL PLANT MATERIAL TO BE NURSERY GROWN STOCK.
 - CONTRACTOR RESPONSIBLE FOR MAINTENANCE OF ALL PLANT MATERIAL UNTIL PROJECT ACCEPTANCE.
 - ALL CONTAINER GROWN PLANTS TO HAVE FULL, VIGOROUS ROOT SYSTEM, COMPLETELY ENCOMPASSING CONTAINER.
 - ALL PLANTS WELL ROUNDED AND FULLY BRANCHED. ALL TREES WITH SPREAD 2/3 OF HEIGHT.
 - CONTRACTOR TO PROVIDE OWNER WITH PREFERRED MAINTENANCE SCHEDULE OF ALL PLANTS AND LAWNS.
 - MAINTAIN/PROTECT VISIBILITY TRIANGLE WITH PLANT MATERIAL PER CITY STANDARDS AT ALL ENTRANCES TO SITE.
 - PREP ENTIRE WIDTH OF ALL DEFINED PLANTING BEDS WITH MIX AS OUTLINED IN SPECS. WHERE SHRUBS ARE LOCATED ALONG CURB, SET SHRUBS BACK FROM CURB 3 FT.
 - SEE DETAIL SHEET FOLLOWING FOR PLANTING DETAILS.
 - CONTRACTOR RESPONSIBLE FOR LOCATION OF ALL UTILITIES, INCLUDING BUT NOT LIMITED TO TELEPHONE, TELECABLE, ELECTRIC, GAS, WATER AND SEWER. ANY DAMAGE TO UTILITIES TO BE REPAIRED BY CONTRACTOR AT NO COST TO OWNER.
 - EXISTING TREES ARE SHOWN TO REMAIN. CONTRACTOR SHALL PRUNE ONLY ON APPROVAL OF CITY ARBORIST. WORK TO INCLUDE REMOVAL OF ALL SUCKER GROWTH; DEAD AND DISEASED BRANCHES AND LIMBS; VINES, BRIARS AND OTHER INVASIVE GROWTH; AND ALL INTERFERING BRANCHES. MAKE ALL CUTS FLUSH TO REMAINING LIMB. RETAIN NATURAL SHAPE OF PLANT. ALL WORK SUBJECT TO APPROVAL OF OWNER'S REPRESENTATIVE.
 - QUANTITIES ARE PROVIDED AS A COURTESY AND NOT INTENDED FOR BID PURPOSES. CONTRACTOR TO VERIFY PRIOR TO PRICING.
 - INSTALL EDGING BETWEEN LAWN AND PLANTING BEDS. REFER TO SPECIFICATIONS. FILE ALL CORNERS SMOOTH.
 - INSTALL CURLEX BLANKET (OR EQUAL) PER MANUFACTURER'S INSTRUCTIONS ON ALL GROUND COVER/SHRUB BEDS WITH A SLOPE OF 4:1 OR GREATER.
 - AT TIME OF PLAN PREPARATION, SEASONAL PLANT AVAILABILITY CANNOT BE DETERMINED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SECURE AND RESERVE ALL B&B PLANTS WHEN AVAILABLE IN CASE ACTUAL INSTALLATION OCCURS DURING THE OFF-SEASON. PURCHASE AND HOLD B&B PLANTS FOR LATE SEASON INSTALLATION.
 - BERM ALL PARKING LOT ISLANDS AS SHOWN ON ENCLOSED DETAIL SHEET. (BERMS MAY NOT BE SHOWN ON GRADING PLAN.)
 - PRIOR TO PLANTING, CONTRACTOR SHALL STAKE TREE LOCATIONS FOR APPROVAL BY OWNER.

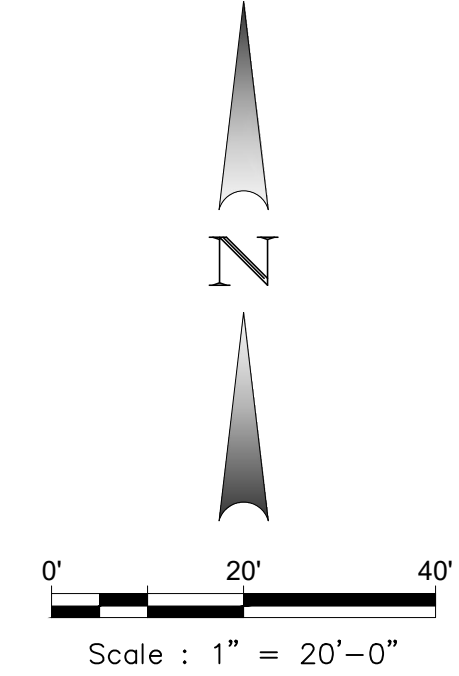
- AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM SHALL BE PROVIDED TO ALL REQUIRES LANDSCAPE AREAS.
 - IRRIGATION SHALL HAVE AN ET BASED CONTROLLER.
 - IDENTIFIED ON GRADING AND EROSION CONTROL PLANS.
- HYDROMULCH BERMUDA IN ALL DISTURBED AREAS AS REQ.

THE CONTRACTOR SHALL VERIFY WATER RESTRICTIONS WITHIN THE CITY OF MCKINNEY AT TIME OF PLANTING. SHOULD WATER RESTRICTIONS NOT ALLOW HYDROMULCH, HYDROSEEDING OR SPRIGGING (STAGE 3 AND STAGE 4 WATER RESTRICTIONS), AN APPROVED ALTERNATIVE FOR GRASSING SHALL BE INSTALLED.

- (3) ULM CRA 4" Cal.
- (19) LEU COM 5 gal.
- (2) PIS CHI 4" Cal.

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
	PIS CHI	2	Pistacia chinensis	Chinese Pistache	4" Cal.	12' Height Min	As Shown	Single Straight Trunk
	QUE SHU	1	Quercus shumardii	Shumard Oak	4" Cal.	12' Height Min	As Shown	
	ULM CRA	3	Ulmus crassifolia	Cedar Elm	4" Cal.	12' Height Min	As Shown	Single Straight Trunk
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
	ILE NEL	20	Ilex x 'Nellie R. Stevens'	Nellie R. Stevens Holly	10 gal.	36" Min	36" O.C.	
	LEU COM	19	Leucophyllum frutescens 'Compacta'	Compact Texas Sage	5 gal.	24" min.	36" O.C.	
GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
	CYN DAC	5,703 sf	Cynodon dactylon	Bermuda Grass	Solid Sod			
	ERA CU2	173	Eragrostis curvula	Weeping Lovegrass	1 gal.		24" O.C.	24" o.c.
	LIR BIG	104	Liriope muscari 'Big Blue'	Big Blue Lilyturf	4" pots		12" O.C.	12" o.c.
	TRA ASI	791	Trachelospermum asiaticum	Asiatic Jasmine	4" pots		12" O.C.	12" o.c.



NOTE:
NO LANDSCAPE PLANTINGS WITHIN 3' OF PARKING LOT CURBS.



CAUTION!!!
UNDERGROUND UTILITIES ARE LOCATED IN THIS AREA. 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITIES, CONTACT LINE LOCATES FOR FRANCHISE UTILITY INFO. CALL BEFORE YOU DIG.
TEXAS EXCAVATION SAFETY SYSTEM (TESS) 1-800-344-8377
TEXAS ONE CALL SYSTEMS 1-800-245-4545
LONE STAR NOTIFICATION CENTER 1-800-669-8344 EXT. 5

BEFORE YOU DIG...

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LANDSCAPE PLAN

SNAPCLEAN CAR WASH
MCKINNEY, TX 75069

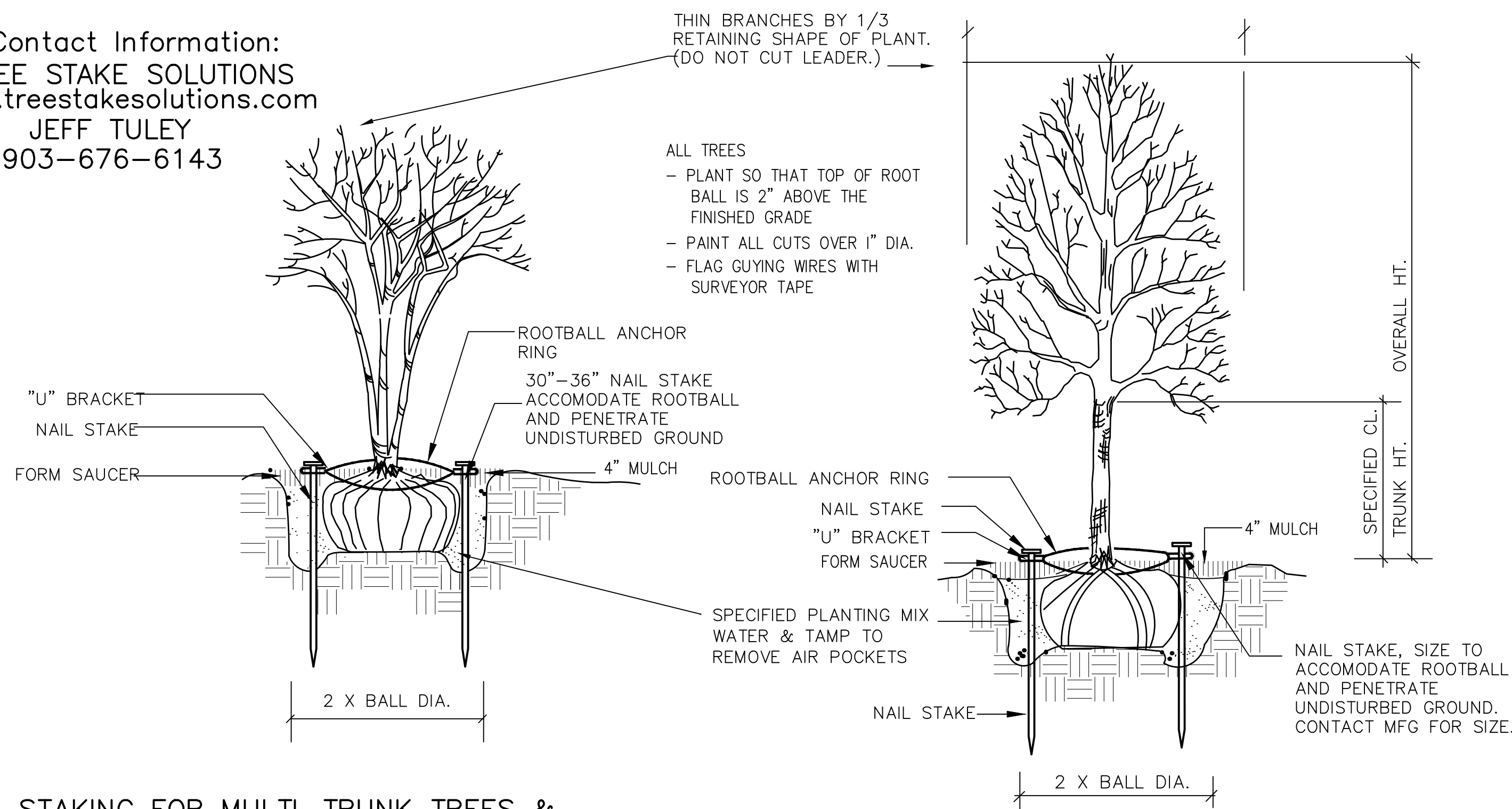
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Texas Engineers Registration No. 89 (972) 492-7000 FAX
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G. Cuppett
GREG CUPPETT, LANDSCAPE ARCHITECT
REGISTRATION NUMBER 26722N
08/02/22

Contact Information:
TREE STAKE SOLUTIONS
 www.treestakesolutions.com
JEFF TULEY
 903-676-6143

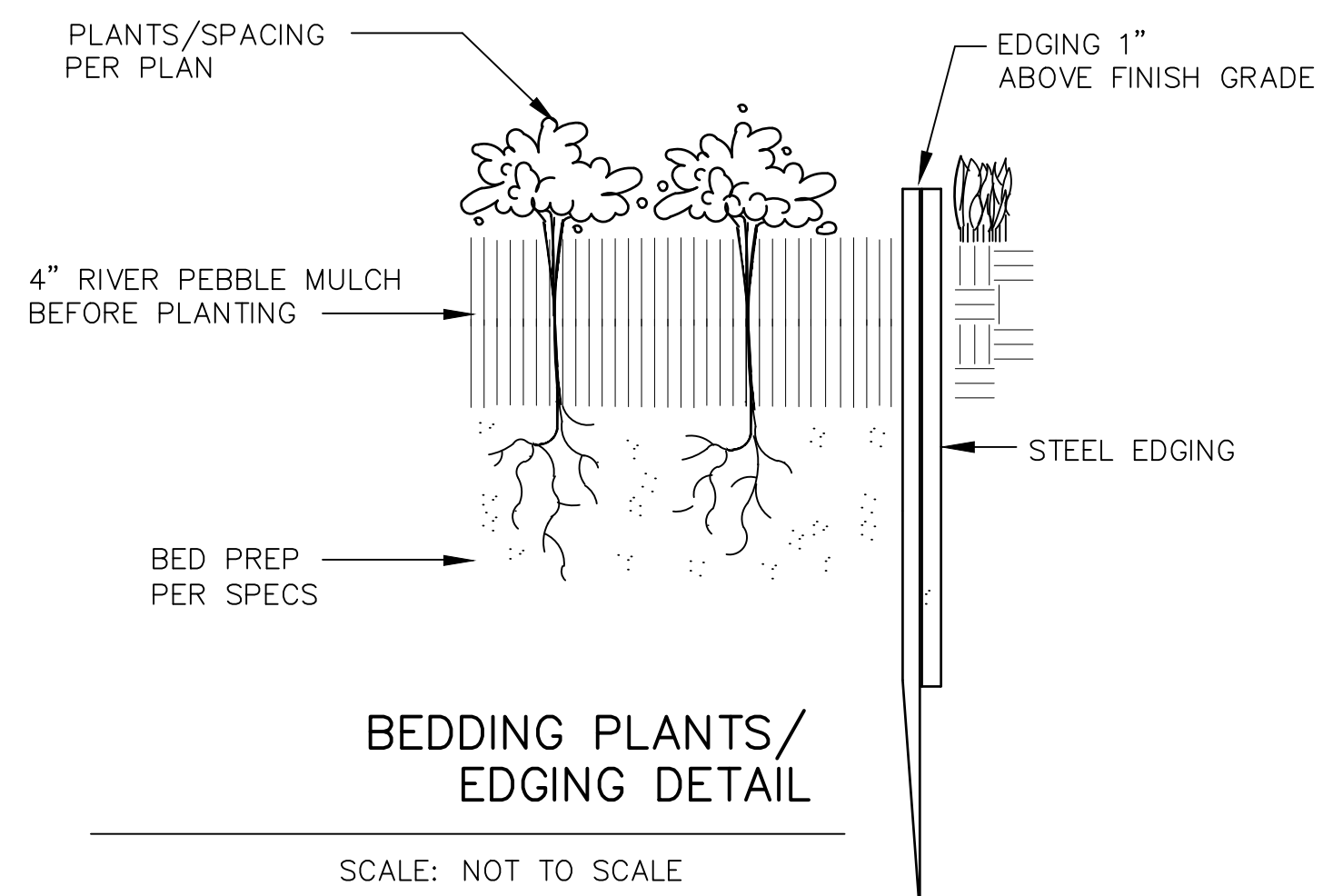


STAKING FOR MULTI-TRUNK TREES & TREES 2" CAL. & UNDER

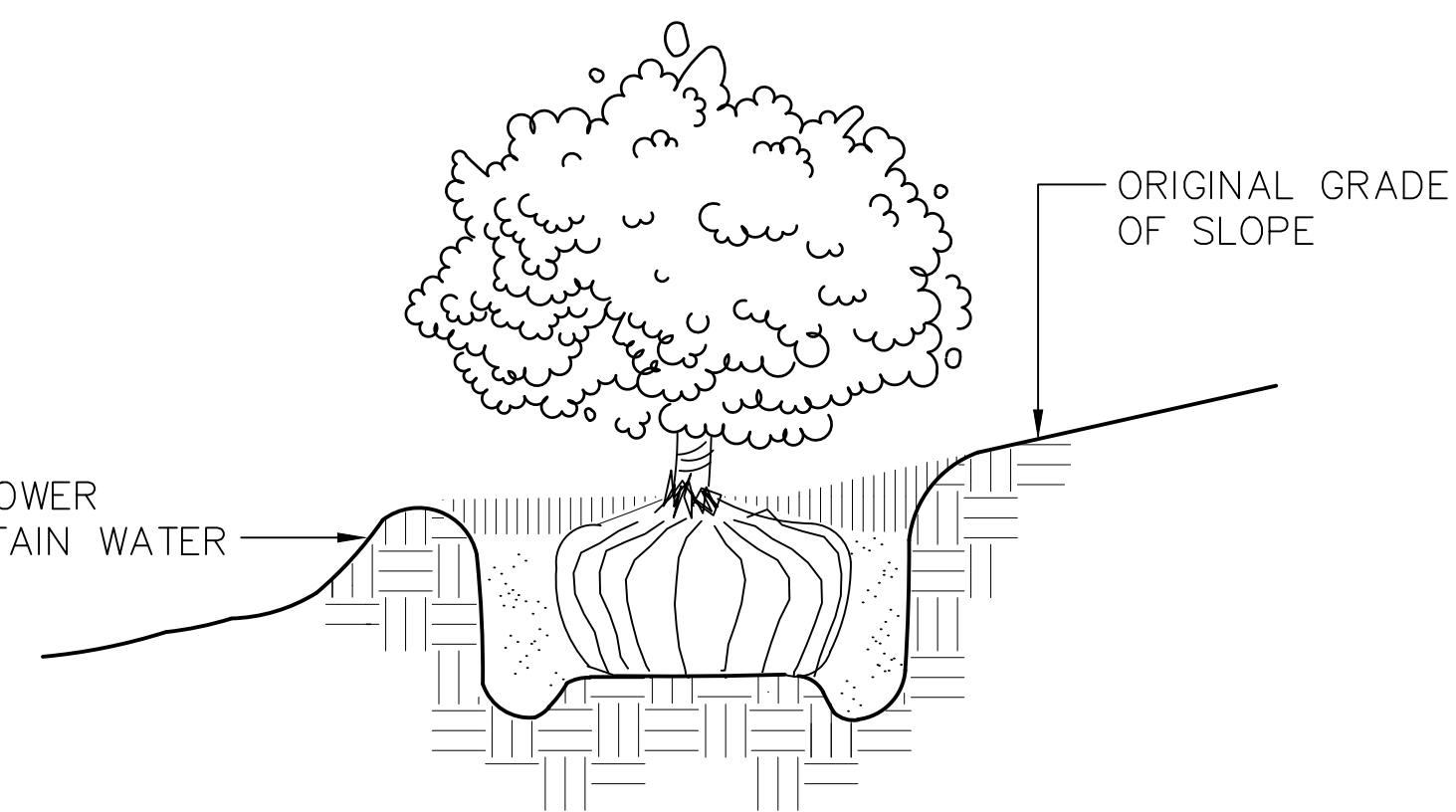
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SAFETY STAKE BY TREE STAKE SOLUTIONS

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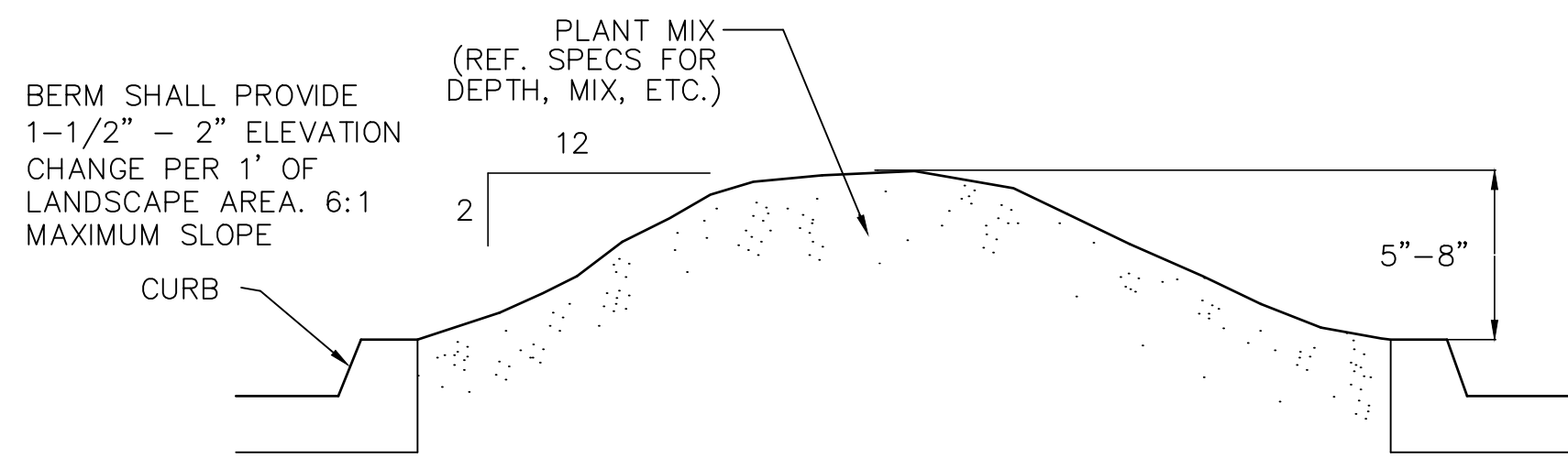


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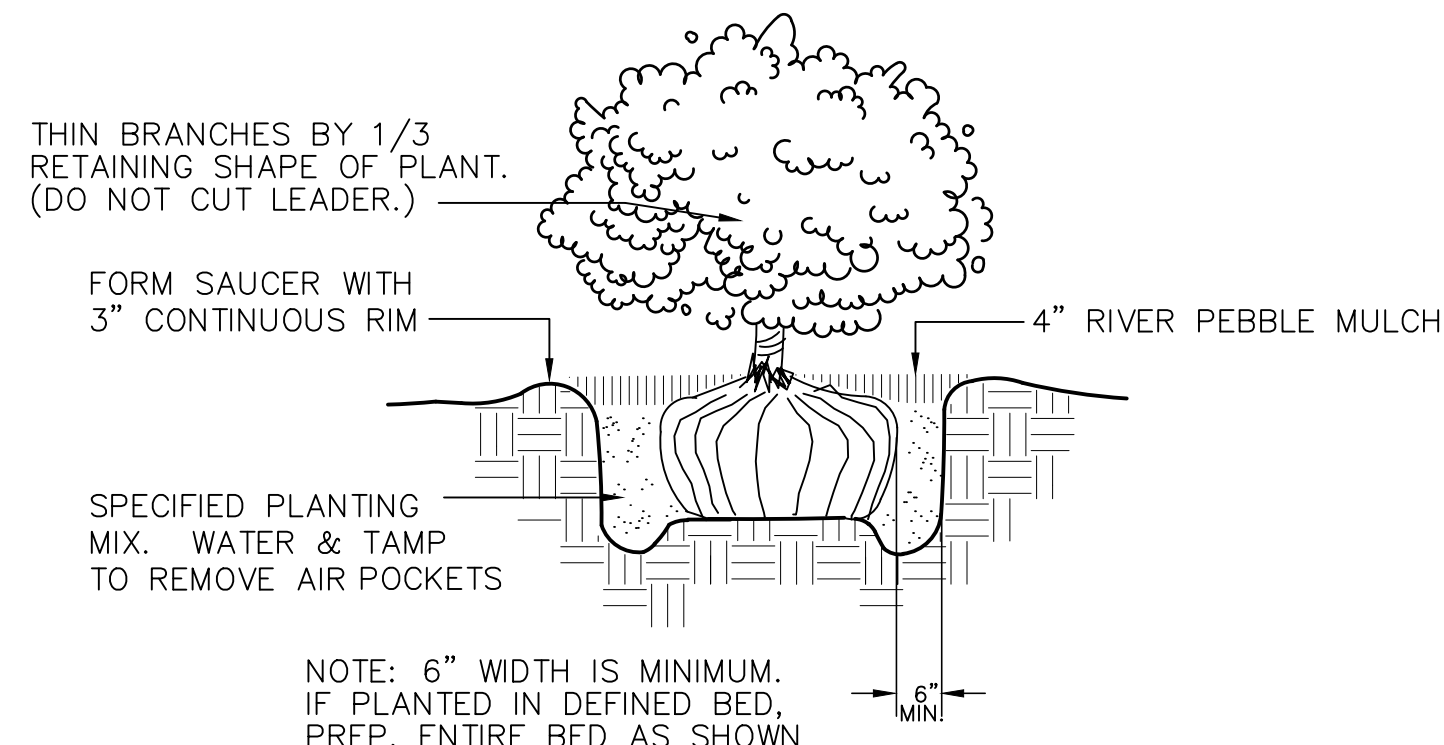
TREE/SHRUB PLANTING ON SLOPES

SCALE: NOT TO SCALE



TYPICAL PARKING LOT ISLAND MOUNDING

SCALE: NOT TO SCALE



SHRUB PLANTING

SCALE: NOT TO SCALE

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G. Cuppett
 LANDSCAPE ARCHITECT
 2072
 01 TEXAS
 08/02/22

PLANTING DETAILS
 SNAPCLEAN CAR WASH
 MCKINNEY, TX 75069

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SECTION 02830

TREES SHRUBS, AND GROUNDCOVERS

PART I GENERAL

1.01 DESCRIPTION OF WORK

A. Scope

1. Bed prep
2. Metal edging
3. Topsoil
4. Planting
5. Mulching
6. Guarantee

B. Related Work Specified Elsewhere

1. General Requirements – All locations
2. Section 02740 – Irrigation Trenching
3. Section 02750 – Irrigation
4. Section 02800 – Lawns

1.02 QUALITY ASSURANCE

A. Contractor Qualifications

Minimum of three (3) years experience on projects of similar characteristics and size.

B. Reference Standards:

1. American Joint Committee Of Horticultural Nomenclature: Standardized Plant Names, Second Edition, 1942;
2. American Association Of Nurserymen: American Standard For Nursery Stock, 1973

C. Substitutions

1. Substitutions accepted only upon written approval of Landscape Architect and Owner.
2. Submit substitutions possessing same characteristics as indicated on plans and specifications.

D. Inspection and Testing

1. The project Owner's representative reserves the right to inspect and tag plants at the place of growth with the Contractor.
2. Inspection at place of growth does not preclude the right of rejection due to improper digging or handling.
3. Owner's representative reserves the right to request soil samples and analysis of soil and plant mix. Remove or correct unacceptable soil. Cost of testing by Contractor.

1.03 SUBMITTALS

A. Certificates

1. Submit State and Federal certificates of inspection with invoice. (Only if required by Landscape Architect.)
2. File certificates with Owner's representative prior to material acceptance.

1.04 PRODUCT DELIVERY, STORAGE, & HANDLING

A. Preparation of Delivery

1. Balled & Burlaped (B&B) Plants

- a. Dig and prepare for shipment in manner that will not damage roots, branches, shape, and future development after replanting.
- b. Ball with firm, natural ball of soil, wrapped tightly with burlap covering entire ball.
- c. Ball size and ratios: conform to American Association of Nurserymen standards unless otherwise shown on plant list.

2. Pack plant material to protect against climatic & seasonal damage, as well as breakage injuries during transit.
3. Securely cover plant tops with ventilated tarpaulin or canvas to minimize wind-whipping and drying in transit.
4. Pack and ventilate to prevent sweating of plants during transit. Give special attention to insure prompt delivery and careful handling to point of delivery at job site.

B. Delivery

1. Deliver fertilizer, fertilizer tablets, peat, mulch, soil additives, and amendment materials to site in original, unopened containers, bearing manufacturer's guaranteed chemical analysis, name, trade name, trademark, and conformance to State law.
2. Deliver plants with legible identification and size labels on example plants.
3. Protect during delivery to prevent damage to root ball or desiccation of leaves.
4. Notify Owner's representative of delivery schedule in advance so plant material may be inspected upon arrival at job site.
5. Deliver plants to job site only when areas are prepared.

C. Storage

1. Protect roots of plant material from drying or other possible injury with wetted mulch or other acceptable material.
2. Protect from weather.
3. Maintain and protect plant material not to be planted immediately upon delivery.

D. Handling

1. Do not drop plants.
2. Do not damage ball, trunk, or crown.
3. Lift and handle plants from bottom of container or ball.

1.05 JOB CONDITIONS

- A. Planting Season Perform actual planting only when weather and soil conditions are suitable in accordance with locally acceptable practices.
- F. Protection Before excavations are made, take precautionary measures to protect areas trucked over and where soil is temporarily stacked.

1.06 GUARANTEE

- A. Guarantee new plant material for one year after acceptance of final installation (ie Final Acceptance of project).
- B. Make replacement (one per plant) during one year guarantee period at appropriate season with original plant type, size and planting mixture.
- C. Repair damage to other plants, lawns, & irrigation caused during plant replacement at no cost to Owner.
- D. Use only plant replacements of indicated size and species.
- E. Ten days before end of guarantee period, notify Owner's representative in writing for year end inspection. Failure to do so, shall automatically extend guarantee until notification is received.

PART II PRODUCTS

2.01 MATERIALS

A. Plant Materials

1. Hardy under climatic conditions similar to locality of project.
2. True to botanical and common name variety.
3. Sound, healthy, vigorous, well branched, and densely foliated when in leaf; with healthy well-developed root system.
4. Free from disease, insects, and defects such as knots, sun-scald, windburn, injuries, disfigurement, or abrasions.
5. Conform to measurements after pruning with branches in normal positions.
6. Conform to American Association of Nurserymen standards unless shown differently on plant list.
7. Trees:
 - a. Single, straight trunks, unless indicated otherwise
 - b. Trees with weak, thin trunks not capable of support will not be accepted.
 - c. All multi-stem trees are to have a minimum of three stems, similar in size and shape, with a spread of approximately 2/3 of the height. All youpons to be female. Grape myrtle color selection by Landscape Architect.
8. Nursery grown stock only.
9. Subject to approval of Landscape Architect.
10. Seasonal color
 - a. Annuals in 4" pots or as specified
 - b. Perennials in 4" pots, clumps, bulbs as specified

B. Topsoil

1. Natural, fertile, friable soils having a textural classification of loam or sandy loam possessing characteristics of soils in vicinity which produce heavy growth of crops, grass, or other vegetation.
2. Free of subsoil, brush, organic litter, objectionable weeds, clods, shale, stones ¾" diameter or larger, stumps, roots or other material harmful to grading, planting, plant growth, or maintenance operations.
3. Presence of vegetative parts of Bermuda grass (Cynodon dactylon), Johnson grass, nut grass (Cyperus rotundus), and other hard to eradicate weeds or grass will be cause for rejection of topsoil.
4. Test topsoil (cost by Contractor):
 - a. Available nitrogen
 - b. Available phosphorus
 - c. Available potash
 - d. Iron
 - e. Ph: 5.5 to 7.0
 - f. Decomposed organic matter: 6-10%

C. Mulch

1. Top Dressing Mulch – Shredded cypress or hard wood only
2. Mulch for soil prep – Shredded pine bark
3. In pre-packaged bags only; bulk shredded material is unacceptable.

- D. Peat Moss Commercially available baled peat moss or approved equivalent.

E. Staking Material

1. Stakes for tree support

- a. Construction grade yellow pine, stain brown
- b. Size as noted on plans

2. Wires

- a. Padded with rubbed hose to protect tree
- b. Galvanized
- c. With galvanized turnbuckle
- d. Evenly tighten turnbuckles with plant in vertical position.

F. Water

1. Free of oils, acids, alkali, salt, and other substances harmful to plant growth
2. Location: Furnish temporary hoses and connections on site.

G. Sand Washed builders sand

H. Antidesicant – "Wilt-proof" or equal.

- I. Edging – 3/16" X 4" green, new and unused; with stakes.

2.02 MIXES

A. Planting Mixture

- Existing topsoil – 50%
3. Shredded pine bark – 50%
4. Fertilizer 10:20:10 at 30 lb./1000 SF

B. Planting Mix for Annuals/Perennials

1. Prepare above mix
2. Add 2" of sand

- C. Azalea mix: solid peat moss in hole 9" wider than root ball each direction. Plant in solid peat moss and provide mound at base of plant to allow for drainage.
- D. Japanese maple, dogwood, camellias: Provide 50/50 peat moss to topsoil mix, raise for drainage.

PART III – EXECUTION

- 3.01 UTILITIES – verify location of all utilities prior to initiating construction; repair any damage caused by construction at no cost to owner.

3.02 INSPECTION

- A. Inspect plants for injury and insect infestation; prune prior to installation.
- B. Inspect site to verify suitable job conditions.

3.03 FIELD MEASUREMENTS

- A. Location of all trees and shrubs to staked in the field and approved by Owner's representative prior to installation.
- B. Location of all groundcover and seeding limits as shown on plans.

3.04 EXCAVATION FOR PLANTING

A. Pits

1. Shape – Vertical hand scarified sides and flat bottom.
2. Size for trees – 2 feet wider or twice the root ball, whichever is greater.
3. Size for shrubs – Size of planting bed as shown on drawings.
4. Rototill soil mix thoroughly, full depth.
5. NOTE: If beds are proposed beneath drip line of existing tree canopy, pocket prep plants. Do not roto-till beneath existing trees.

B. Obstructions Below Ground

1. Remove rock or underground obstructions to depth necessary to permit planting.
2. If underground obstructions cannot be removed, notify Owner's representative for instruction.

- C. Excess Soil Dispense of unacceptable or excess soil away from the project site at Contractor's expense.

3.05 PLANTING

A. General

1. Set plants 2" above existing grade to allow for settling.
2. Set plants plumb and rigidly braced in position until planting mixture has been tamped solidly around ball.
3. Apply soil in accordance with standard industry practice for the region.
4. Thoroughly settle by water jetting and tamping soil in 6" lifts.
5. Prepare 3" dish outside root ball after planting.
6. Thoroughly water all beds and plants.
7. Stake trees and large shrubs as indicated on plans.
8. Apply anti-desicant according to manufacturer's instructions.
9. Apply commercially manufactured root stimulator as directed by printed instruction.
10. Plant and fertilize bedding plants per trade standards.
11. Apply 3" mulch top dressing.

B. Balled Plants

1. Place in pit of planting mixture that has been hand tamped prior to placing plant.
2. Place with burlap intact to ground line. Top of ball to be 2" above surrounding soil to allow for settling.
3. Remove binding at top of ball and lay top of burlap back 6".
4. Do not pull wrapping from under ball, but cut all binding cord.
5. Do not plant if ball is cracked or broken before or during planting process or if stem or trunk is loose.
6. Backfill with planting mixture in 6" lifts.

C. Container Grown Plants

1. Place in pit on planting mixture that has been hand tamped prior to placing plant.
2. Cut cans on two sides with an acceptable can cutter, and remove root ball from can.

- Do not injure root ball.
3. Carefully remove plants without injury or damage to root balls.
4. Backfill with planting mixture in 6" lifts.

D. Mulching

1. Cover planting bed evenly with 3" of mulch.
2. Water immediately after mulching.
3. Where mulch has settled, add additional mulch to regain 3" thickness.
4. Hose down planting area with fine spray to wash leaves of plants.

D. Pruning

1. Prune minimum necessary to remove injured twigs and branches, dead wood, and succors; remove approximately 1/3 of twig growth as directed by landscape architect; do not cut leaders or other major branches of plant unless directed by landscape architect.
2. Make cuts flush, leaving no stubs.
3. Paint cuts over 1" diameter with approved tree wound paint.
4. Do not prune evergreens except to remove injured branches.

3.06 EDGING

- A. Stake edging alignment with string line prior to installation. Use framing square to insure right angles are true.
- B. Install all edging straight and true as indicated on drawings. Where edging layout is circular in design, maintain true and constant radii as shown.
- C. When required on slopes, make vertical cuts (approximately 6" on center) on bottom of edging to allow bending without crimping edging.
- D. Install edging so that approximately 1" is exposed on lawn side. Edging should not be visible from bed side after application of mulch.
- E. Align edging with architectural features (ie pavement joints, windows, columns, wall, etc.) when drawings indicate.
- F. Bend all corners, do not cut corners.
- G. Interlock all pieces with pre-fabricated connectors.
- H. Install with all stakes on inside of planting bed.
- I. Remove, file off all sharp corners and burrs.

3.07 CLEAN-UP

A. Sweep and wash all paved surfaces.

Remove all planting and construction debris from site, including rocks, trash and all other miscellaneous materials.

3.08 MAINTENANCE

A. Contractor responsible for routine, and regular maintenance of site until Final Acceptance is awarded by Owner. Work includes:

1. Weeding (weekly)
2. Watering (as required)
3. Pruning
4. Spraying
5. Fertilizing
6. Mulching
7. Mowing (weekly)

B. Provide Owner and Landscape Architect with preferred maintenance schedule in writing. Schedule shall include the above-listed tasks and shall address all frequencies, rates, times, levels, etc.



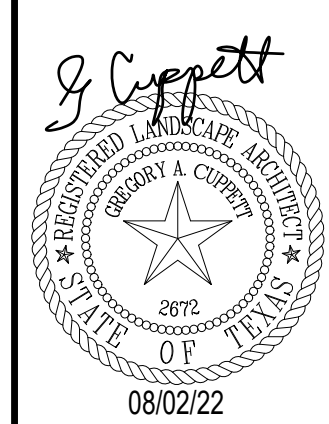
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PLANTING SPECIFICATIONS

SNAPCLEAN CAR WASH
MCKINNEY, TX 75069

L-3

Winkelmann & Associates, Inc.
CONSULTING CIVIL ENGINEERS ■ SURVEYORS
6730 HILLCREST PLAZA DRMC, SUITE 215 (972) 492-7996
Texas Engineers Registration No. 89 (972) 492-7996 FAX
1921 Maplewood Dr., Weatherford, TX 76087
CORPORATE OFFICE



08/02/22

No.	DATE	REVISION
6.		
5.		
4.		
3.		
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1.		

APPROV.

SECTION 02800

FINISH GRADING, LAWN WORK, WILD FLOWERS

PART I - GENERAL

1.01 DESCRIPTION

A. Work includes turf establishment (sod, hydromulch, etc.) as described on drawings.

B. Make required analysis and material tests for topsoil, fertilizers, and other materials of similar character per current methods of the Association of Official Agricultural Chemists, when required.

C. Grass seed shall conform to tolerances for germination and purity per applicable standards of U.S. Department of Agriculture.

D. The turf contractor shall have a stand of grass established prior to substantial completion of the project. If this is not possible due to time of year or schedule, he shall maintain and protect the seeded areas until the grass is established.

PART II - PRODUCTS

2.01 TOPSOIL MATERIAL

A. Topsoil material (stockpiled, as specified in Specifications) has been saved for use in finish grading. After sifting out all plant growth, rubbish, and stones, use for areas designated to receive grass. If stockpiled topsoil is not sufficient quantity to complete work, furnish acceptable topsoil from another approved source to provide four inches (4") of topsoil for grass areas unless otherwise noted on drawings. Grass areas shall be defined as the graded areas disturbed during construction not to be paved or built upon.

B. Acceptable topsoil material shall be defined as natural, fertile, agricultural soil, capable of sustaining vigorous plant growth, uniform composition throughout admixture of subsoil, free of stones, lumps, plants, and their roots, sticks, or other extraneous matter; do not deliver while in a frozen or muddy condition.

2.02 FERTILIZER

A. Provide a commercial balanced fertilizer delivered to the job in bags labeled with manufacturer's guaranteed analysis. Store in weatherproof storage, place in such a manner that its effectiveness will not be impaired.

B. Fertilizer shall be a grade containing the percentages of plant food elements by weight as specified elsewhere in these specifications.

C. Availability of various elements shall be per Standards of the Association of Official Agricultural Chemists.

2.03 GRASS SEED

A. Grass seed shall be of the previous season's crop and the date of analysis shown on each bag shall be within nine (9) months of the time of delivery to the project. When requested by the Owner or Representative, the seeding contractor shall furnish a sample of seed from each bag for testing.

B. The seed shall comply with all provisions of the U.S. Department of Agriculture as to labeling, purity, and germination.

2.04 MULCHING

A. Dry straw or hay of good quality, free of seeds of competing plants and at such rate of 1 1/2 - 2 tons per acre; or,

B. Wood cellulose or cane fiber mulch at a rate of 1,000 pounds per acre when the slope is 3/4:1 and steeper; or,

C. A combination of good quality dry straw or hay free of seeds of competing plants at a rate of 2 1/2 tons per acre and wood cellulose or cane fiber mulch at a rate of 500 pounds per acre. This combination shall be used when the slope is flatter than 3/4:1; or,

D. Sericea lespedza seed bearing hay at a rate of 3 tons per acre. This mulch may be applied green or air dried, but must contain mature seed.

E. Manufactured mulch materials, such as soil retention blankets, erosion control netting, or others that may be required on special areas of high water concentration or unstable soils. When these materials are used, follow the manufacturer's recommendations for installation.

2.05 HYDRO-MULCHING

Wood cellulose fiber or cane fiber mulch will be applied with hydraulic seeding and fertilizing equipment. All slurry ingredients shall be mixed to form a homogeneous slurry and spray applied within one hour after the mixture is made.

When wood cellulose or cane fiber mulch is used at the 500 pound per acre rate, straw or hay mulch with asphalt emulsion is applied over this to complete the mulch.

Wood cellulose or cane fiber mulch at the 1,000 pound per acre rate is used alone where other mulch material will not stick.

Wood cellulose or cane fiber mulch is self anchoring.

PART III - EXECUTION

3.01 RESPONSIBILITY

The site grading contractor will be responsible to stockpile acceptable topsoil in a sufficient quantity to provide four inches (4") minimum cover for all grass areas, including but not limited to all curbed islands, and topsoil planting mounds/berms at the appropriate height and width as defined and shown on the landscaping and/or planting drawings. The topsoil and grass areas shall be further defined as any area disturbed during the grading and construction process.

The site grading contractor, shall be responsible to spread the topsoil within all perimeter graded areas and future building areas only.

The site grading contractor shall be responsible for backfilling of all curbed islands and planting mounds/berms. They shall also be responsible for removal of all stones, roots, and raking of all topsoil areas that are to be seeded and/or planted. It will also be the site grading contractor's responsibility to provide fertilizer, grass seed, and any additional topsoil required and mulching.

3.02 GRASS SEEDING

A. Remove stones, roots, rubbish and other deleterious materials from topsoiled areas that are to be seeded.

B. Immediately prior to sowing seed, scarify ground as necessary; rake until surface is smooth and friable. Sow seed evenly, lightly wood rake into 02800-3

C. ground, then roll ground with suitable roller; water thoroughly with fine spray. During any weather, keep lawn watered with sprinklers or other approved methods. Re-seed any areas not doing well or damaged. At intervals as may be required according to seasonal conditions, mow and water grass and execute necessary weeding until acceptable and full stand of grass has been obtained.

D. Provide permanent grass seeding for lawn areas so indicated. Seed in accordance with the following schedule (unless otherwise directed by Owner or Owner's Representative::

1. Sow areas ready for seeding between March 1 and October 1 with Hulled Common Bermuda at a rate of 85 pounds per acre.

2. Sow areas ready for seeding between October 1 and March 1 with Unhulled Common Bermuda at a rate of 90 pounds per acre, and Annual Rye Grass at the rate of 50 pounds per acre.

3. Apply fertilizer at a rate of 20/25 pounds per 1,000 square feet.

3.03 WILD FLOWERS

A. Areas indicated on plans to receive wild flower coverage shall be fine graded, fertilized, and prepared in a manner similar to traditional turf establishment.

B. Area to be hydromulched with seed mix as follows:

Table with 2 columns: Seed Name, Rate (pounds/acre). Includes Tickseed, Cosmos, Ox-Eyed Daisy, Side Oats Grama, Showy Primrose, Plains Coreopsis, Black Eyed Susan, Indian Blanket, Texas Bluebonnet, Little Bluestem.

3.04 MULCH

A. All areas to be seeded shall be mulched. B. Mulch materials shall be applied uniformly over the seeded area. Mulch shall be straw and shall be at the rate of 1 1/2 - 2 tons per acre.

B. Mulch shall be anchored with an emulsified asphalt binder at the rate of 10 gallons per 1,000 square feet.

3.05 PROTECTION

Provide, at no additional cost to Owner, fencing, railing, wire or other types of protection for topsoiled and seeded areas against trespassing and damage. If lawns are damaged prior to Final Acceptance, treat or replace them as directed. Remove protection when so directed.

3.06 MAINTENANCE

Provide maintenance from start of work until Final Acceptance. Maintenance includes watering of lawns, weeding, mowing, edging, repairs of wash-outs and gullies, repairs to protection, and other necessary work of maintenance. Maintain slopes against erosion.

3.07 REHYDROMULCHING

The Owner's representative will designate areas to be replanted. Areas on which a stand of growing grass is not present in a reasonable length of time, (Bermuda grass seed should be germinating in 6-8 days) shall be prepared, reseeded and remulched, as specified for original planting at no additional cost to Owner. A stand shall be defined as live plants from seed occurring at a rate of not less than 1,000 growing plants per square foot. Replanting required because of faulty operations or negligence on the part of the Contractor shall be performed without cost to Owner.

3.08 FINAL CLEAN-UP

A. At time of final inspection of work, and before final acceptance, clean paved areas that are soiled or stained by operations of work of this section. Clean by sweeping or washing, and remove all defacements or stains.

B. Remove construction equipment, excess material and tools. Cart away from site any debris resulting from work of this section and dispose of as directed.

SECTION 02922 SODDING

PART I - GENERAL

1.01 DESCRIPTION

A. Work Included

- 1. Sod bed preparation
2. Fertilizing
3. Sodding
4. Miscellaneous management practices

B. Related Work Specified Elsewhere

- 1. Finish Grading, Section 02800
2. Lawns and Grasses, Section 02930

1.02 REFERENCE STANDARDS

A. Standardized Plant Names

American Joint Committee of Horticultural Nomenclature, Second Edition, 1942.

B. Texas Highway Department - Standard Specifications for Construction, Item 164, Seeding for Erosion Control.

1.03 SUBMITTALS

A. Vendors Certification That Sod Meets Texas State Sod Law

- 1. Include labeling requirements.
2. Include purity and type.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

A Sod:

- 1. Previous season's crop with date of analysis on each bag.
2. Furnish and deliver each variety in separate bags or containers.
3. Sod to be cut no more than three days before delivery.

B. Fertilizer:

- 1. Unopened bags labeled with the analysis.
2. Conform to Texas Fertilizer Law.

1.05 JOB CONDITIONS

A. Planting Season:

- 1. Only during suitable weather and soil conditions.
2. As specifically authorized by the Owner's Representative.

B. Schedule - Only after all other construction is complete.

C. Protect and Maintain Sodded Areas

- 1. From traffic and all other use.
2. Until sodding is complete and accepted.

PART II - PRODUCTS

2.01 MATERIALS

A. Sod:

- 1. Sod: As specified on drawings, weed, insect, and disease free having a minimum of 1 inch of topsoil attached to the roots and cut no more than three days prior to installation.
2. The sod shall be cut in strips of at least 1/2 sq. yd. and not more than 1 sq. yd. Sod shall be cut into strips not less than 12" in width or more than 9' in length. At the time of harvest, the top growth shall not exceed 3" in length.
3. All sod shall conform to the laws of the State and shall be obtained from sources meeting the approval of the Department of Agriculture, Division of Entomology.

B. Fertilizer:

- 1. Uniform in composition, free flowing.
2. Suitable for application in approved equipment.
3. Analysis of 16-20-0, 16-8-8 or as directed.

C. Water:

- 1. Free of oil, acid, alkali, salts or other substances harmful to growth of grasses.

PART III - EXECUTION

3.01 SOD BED PREPARATION

A. Cultivate to a depth of four (4") inches by disking and tilling with a power tiller.

B. Clear surfaces of all materials:

- 1. Stumps, stones, and other objects larger than one inch (1").
2. Roots, brush, wire, stakes, etc.
3. Any objects that may interfere with sodding or maintenance.

C. Prepare sod bed:

- 1. Remove soil clods larger than one inch (1").
2. Grade areas to smooth, even surface, removing ridges and filling depressions. Final grade to be below finish grade of curbing and edging as shown on details. All grades shall meet approval of Owner's Representative before sodding.

3.02 SODDING

A. Sodding:

- 1. Lightly water prepared grade, lay sod with staggered joints and with edges touching. Topdress with topsoil at edges if necessary to provide smooth surface. On slopes of 2 to 1 and greater, fasten sod in place with wood pegs (two each piece) or other approved method. Sod damaged by storage or during installation shall be rejected. Following settling, topdress with screened, approved topsoil.
2. Water and fertilize at 5 lbs. per 1,000 sq. ft.
3. Sod shall not be placed during a drought, nor during periods when sod is not normally placed in the area, and shall not be placed on frozen ground. No dry or frozen sod is acceptable.
4. The contractor shall keep all sodded areas moist and growing until Final Acceptance. All areas shall be maintained in an acceptable condition until acceptance by Owner.

B. Rolling:

- 1. After placing sod, roll with a hand roller, weighing not more than 100 lbs. per foot of width, in two directions.
2. Eliminate all air pockets; finished surface should be free of excessive undulations.

3.05 MAINTENANCE AND MANAGEMENT

A. Includes protection, replanting, maintaining grades, repair of erosion damage. Also includes weekly mowing at 1 1/2" height until final acceptance.

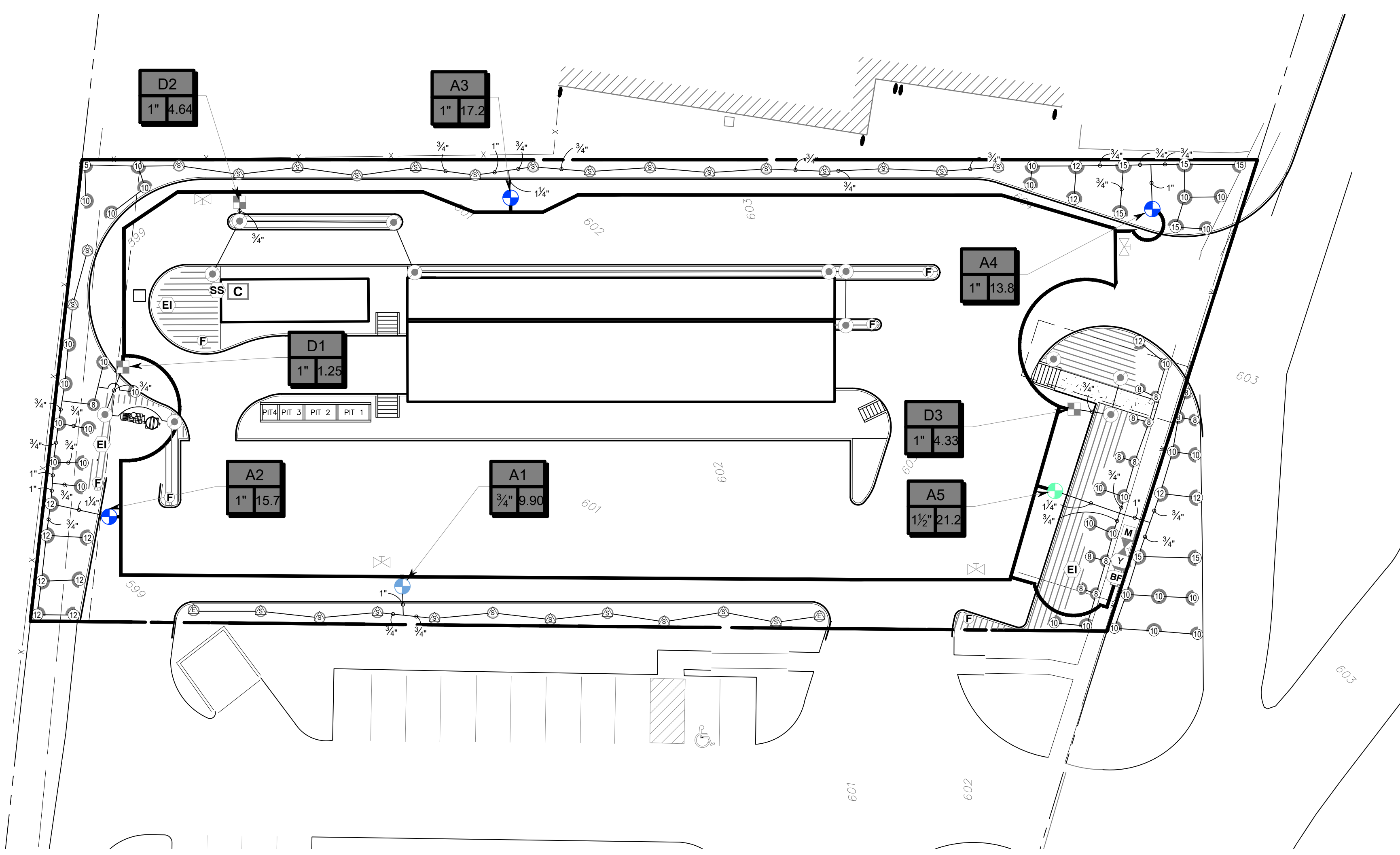
B. Resodding:

- 1. Resod damaged or unacceptable areas.
2. Ruts, ridges, and other surface irregularities shall be corrected.



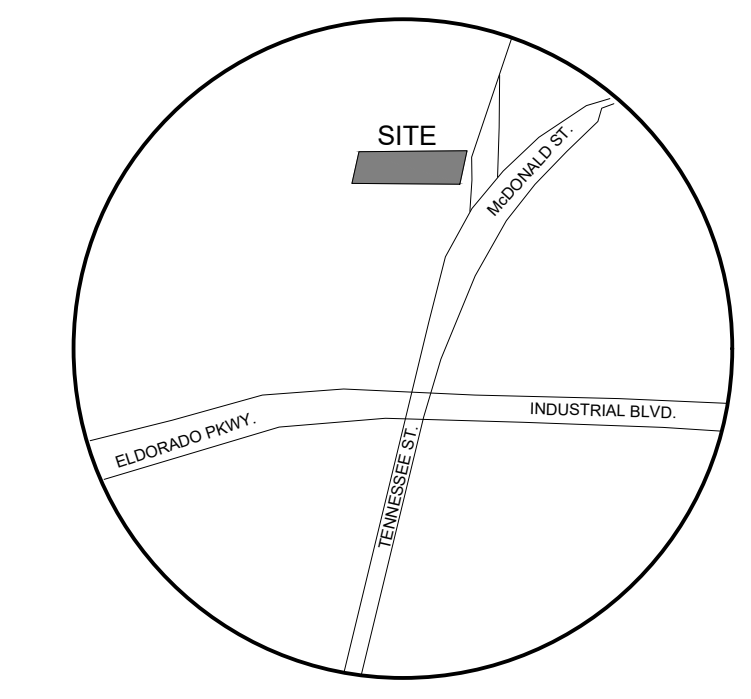
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Vertical sidebar containing project title 'TURF SPECIFICATIONS', address 'SNAPCLEAN CAR WASH MCKINNEY, TX 75069', logos for Winkelman & Associates, Inc. and Fain & Cuppet, and a table for revision and date tracking.



IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	DETAIL
Q	Toro 570Z-4P-COM 8 Series Turf Spray, 4" Pop-Up, with a Zero Flush Seal. With Check-O-Matic Check Valve. 1/2" Female-Threaded Inlet. Ideal for small to medium landscape areas.	14	
H	Toro 570Z-4P-COM 10 Series Turf Spray, 4" Pop-Up, with a Zero Flush Seal. With Check-O-Matic Check Valve. 1/2" Female-Threaded Inlet. Ideal for small to medium landscape areas.	33	
T	Toro 570Z-4P-COM 12 Series Turf Spray, 4" Pop-Up, with a Zero Flush Seal. With Check-O-Matic Check Valve. 1/2" Female-Threaded Inlet. Ideal for small to medium landscape areas.	12	
F	Toro 570Z-4P-COM 15 Series Turf Spray, 4" Pop-Up, with a Zero Flush Seal. With Check-O-Matic Check Valve. 1/2" Female-Threaded Inlet. Ideal for small to medium landscape areas.	8	
EI	Toro 570Z-4P-COM Turf Strip Spray Turf Spray, 4" Pop-Up, with a Zero Flush Seal. With Check-O-Matic Check Valve. 1/2" Female-Threaded Inlet. Ideal for small to medium landscape areas.	29	
■	Rain Bird XCZ-100-LC Wide Flow Drip Control Kit, for Light Commercial Uses. 1" PEB Valve, with 1" Pressure Regulating 40psi Basket Filter. 0.3-20 GPM.	3	
○	Pipe Transition Point above grade Pipe transition point from PVC lateral to drip tubing with riser to above grade installation.	12	
F	Netafim TLSOV Netafim TLSOV- 1/2" manual flush valve, barbed insert. Install in 10" box, with adequate blank or "cobra" tubing to extend valve out of valve box. 2/3 in fits Techline HCVXR, HCVXR-RW/RWP, CV, DL, RW and RWP driplines, and PE irrigation hose	6	
EI	Hunter ECO-ID ECO-ID: 1/2" FPT connection with 12-60 PSI operating pressure. Specify with Hunter SJ swing joint.	3	
■	Area to Receive Dripline Hunter HDL-04-18-CV HDL-04-18-CV: Hunter Dripline w/ 0.4 GPH emitters at 18" O.C. Check valve, dark brown tubing with tan striping. Dripline laterals spaced at 18" apart, with emitters offset for triangular pattern. Install with Hunter PLD barbed or PLD-LOC fittings.	2,108 l.f.	
●	Irritrol 700 with OMR-100 Electric Remote Control Valve, with Omni-Reg 5-100 psi regulator	5	
⊗	Landscape Products Inc. BBV 1/2", 3/4", 1", 1-1/4", 1-1/2", 2", 2-1/2", 3" Full Port Brass Ball Valve. Suitable for a full range of liquids and gases in residential and commercial applications.	1	
⊗	Landscape Products Inc. CWV Slip Socket 1/2", 3/4", 1", 1-1/4", 1-1/2", 2" Slip Socket Plastic Ball Valve. Quarter-turn shutoff designed for irrigation, spas, pools and other general cold water applications. 125 psi rating. Same size as mainline.	4	
BF	Febco 850 1-1/2" Double Check Backflow prevention, 1/2" to 2"	1	
C	Hunter PCC-1200 Light Commercial & Residential Controller, 12-Station fixed controller, 120 VAC, Outdoor model	1	
SS	Hunter WSS Wireless Solar, rain freeze sensor with outdoor interface, connects to Hunter PCC, Pro-C, and I-Core Controllers, install as noted. Includes 10 year lithium battery and rubber module cover, and gutter mount bracket.	1	
Y	Wye Wye Strainer	1	
M	Water Meter 1"	1	
—	Irrigation Lateral Line: PVC Class 200 SDR 21	1,388 l.f.	



IRRIGATION NOTES:

- IRRIGATION LINES ARE SOMETIMES SHOWN OUTSIDE PLANTING BEDS FOR GRAPHIC CLARITY ONLY. ADJUST INSIDE BEDS ON SITE.
- AVOID TRENCHING WITHIN DRIP LINE OF EXISTING TREES. WHERE NECESSARY, TRENCH RADIALLY, RATHER THAN ACROSS THE ROOT SYSTEM.
- MAIN LINE TO BE 1-1/2" (CONTRACTOR TO CONFIRM).
- ALL SLEEVES UNDER PAVING TO EXTEND 12" PAST EDGE OF PAVING. COORDINATE WORK WITH GENERAL AND PAVING SUBCONTRACTOR.
- ALL HEADS TO BE 4" POPS IN LAWN. ALL HEADS WITH CHECK VALVES.
- COORDINATE SLEEVE SIZE AND LOCATION FOR FREEZE SENSOR, RAIN GAUGE AND CONTROLLER WITH GENERAL CONTRACTOR. SEAL ALL BUILDING PENETRATIONS WATER TIGHT.
- SEE FOLLOWING DETAIL SHEET FOR IRRIGATION DETAILS.
- PRESSURE ESTIMATED AT 65 PSI; MINIMUM 50 GPM AS PROVIDED BY CITY. VERIFY ON SITE AND REPORT TO LANDSCAPE ARCHITECT PRIOR TO BEGINNING ANY WORK.
- CONTRACTOR RESPONSIBLE FOR LOCATION OF ALL UTILITIES INCLUDING BUT NOT LIMITED TO TELEPHONE, TELECABLE, ELECTRIC, GAS, WATER, AND SEWER. ANY DAMAGE TO UTILITIES TO BE REPAIRED BY CONTRACTOR AT NO COST TO OWNER. REFER TO SITE/UTILITY PLANS.
- VERIFY 100% COVERAGE OF SYSTEM OVER ALL PLANTING & LAWN AREAS AS SHOWN ON DRAWINGS.
- IF PEDESTAL MOUNTED CONTROLLER IS SPECIFIED, MOUNT ON 4"X3"X3" CONCRETE SLAB WITH (4) #4'S EACH WAY. SLEEVE THROUGH SLAB FOR CONTROLLER WIRING AS REQUIRED.
- UNLESS NOTED OTHERWISE, THERE ARE NO EXISTING SLEEVES. IRRIGATION CONTRACTOR TO SIZE AND COORDINATE SLEEVE INSTALLATION AS NEEDED IN ALL LOCATIONS UNDER PAVEMENT.
- QUANTITIES ARE PROVIDED AS A COURTESY AND ARE NOT INTENDED FOR BID PURPOSES. CONTRACTOR TO VERIFY ALL QUANTITIES PRIOR TO BIDDING.
- IF DOUBLE CHECK IS PROHIBITED BY LOCAL CODE/ORDINANCE, SUBSTITUTE WITH APPROVED BACKFLOW PREVENTION DEVICE.
- ALL WORK IN ACCORDANCE WITH LOCAL, STATE, & NATIONAL CODES & ORDINANCES.
- CONTRACTOR TO SIZE CONTROL SIZE WIRE AS NECESSARY. HOWEVER, MINIMUM SIZE TO BE 14 GAUGE PER NATIONAL ELECTRICAL CODE. ALL SPLICES WITH APPROVED MANUFACTURED CONNECTOR IN VALVE BOX.
- DO NOT LOCATE VALVE BOXES IN SWALES, LOW AREAS, OR ANY OTHER LOCATIONS THAT MAY COLLECT WATER.
- CONTROLLER TO BE WIRED ON DEDICATED 110 VOLT CIRCUIT AND GROUNDED W/ "GROUNDING SPIKE" PER MANUFACTURER'S INSTRUCTIONS.
- ADJUST HEADS TO AVOID OVERSPRAY ONTO STREETS, ROADWAYS, BUILDINGS AND ELECTRICAL EQUIPMENT.
- INCLUDE ONE SPARE WIRE FROM CONTROLLER TO EACH CONTROL VALVE. EACH WIRE TO BE VARYING COLOR.
- CONTRACTOR IS RESPONSIBLE FOR ADJUSTING FLOW CONTROL AND/OR PRESSURE REGULATOR AT EACH CONTROL VALVE AS NECESSARY TO MAKE SYSTEM OPERATE AS INTENDED.
- DRIP IRRIGATION IS INTENDED TO MAINTAIN ESTABLISHED PLANT MATERIAL. CONTRACTOR SHALL HAND WATER AND MAINTAIN NEW PLANTINGS AS REQUIRED UNTIL ESTABLISHMENT AND ACCEPTANCE.
- IRRIGATION CONTROLS SHALL BE SET TO RUN AT OPTIMAL TIMES OF THE DAY TO MINIMIZE EVAPORATION LOSS AND BUSINESS DISRUPTION. BROADCAST SYSTEMS SHOULD NOT BE RUN DURING TENANT'S NORMAL BUSINESS HOURS.

NOTE: INCLUDE (2) HUNTER MSBN-50Q STREAM BUBBLERS TO EACH NEW TREE. ATTACH EACH BUBBLER TO HUNTER PRO-SPRAY-6" POPUP. LOCATE BUBBLERS INSIDE TREE WELL OF EACH TREE ON OPPOSITE SIDES OF THE ROOT BALL. ALL BUBBLERS TO BE ZONED SEPARATELY FROM OTHER HEADS. CONTRACTOR RESPONSIBLE FOR PIPE SIZING, SLEEVING, ETC. AND ALL OTHER REQUIREMENTS TO MAKE CIRCUIT(S) OPERABLE. TOTAL COUNT FOR BUBBLERS AND VALVE(S) NOT SHOWN IN IRRIGATION KEY. IF TREE IS LOCATED IN DRIP ZONE, IN LIEU OF BUBBLER USE (2) RAIN BIRD SXB-180-025 XERI-BUBBLERS W/SXB-180-SPYK SPIKE TIED INTO EMITTER TUBING.

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	WIRE	PSI	PSI @ POC	PRECIPI
A1	Irritrol 700 with OMR-100	3/4"	Turf Spray	9.90		32.27		1.2 in/h
A2	Irritrol 700 with OMR-100	1"	Turf Spray	15.66		32.92		1.22 in/h
A3	Irritrol 700 with OMR-100	1"	Turf Spray	17.19		34.07		1.2 in/h
A4	Irritrol 700 with OMR-100	1"	Turf Spray	13.77		32.91		1.32 in/h
A5	Irritrol 700 with OMR-100	1-1/2"	Turf Spray	21.18		31.31		1.2 in/h
D1	Rain Bird XCZ-100-LC	1"	Area for Dripline	1.25		31.61		0.6 in/h
D2	Rain Bird XCZ-100-LC	1"	Area for Dripline	4.64		33.22		0.64 in/h
D3	Rain Bird XCZ-100-LC	1"	Area for Dripline	4.33		32.88		0.45 in/h

TEMPORARY IRRIGATION WILL BE REQUIRED TO ESTABLISH TURF IN ALL DISTURBED AREAS WITHOUT A PERMANENT IRRIGATION SYSTEM. INSTALL SOD TO ESTABLISH TURF IN ALL DISTURBED AREAS AS IDENTIFIED ON GRADING AND EROSION CONTROL PLANS.

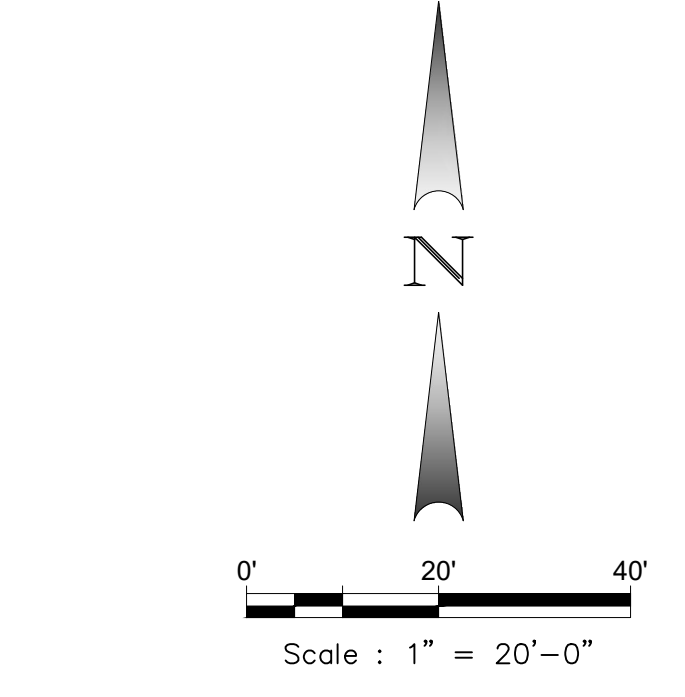
HYDRAULIC CALCULATIONS SPRAY A5

- AVAILABLE PRESSURE 65 PSI (ESTIMATED)
21.2 GALLONS PER MINUTE
- 1" METER - 2.8 PSI
 - 1-1/2" DCVA - 6.1 PSI
 - 1-1/2" WYE - 0.2 PSI
 - 1-1/2" MAIN LINE LOSS (800') - 1.0 PSI
 - IN-LINE BALL VALVE - 0.5 PSI
 - ELEVATION CHANGE - 0.0 PSI
 - FITTING ESTIMATE - 1.2 PSI
- OPERATING PRESSURE AT VALVE - 53.2 PSI

HYDRAULIC CALCULATIONS DRIP ZONE D2

- AVAILABLE PRESSURE 65 PSI (ESTIMATED)
4.8 GALLONS PER MINUTE
- 1" METER - 0.7 PSI
 - 1-1/2" DCVA - 4.8 PSI
 - 1-1/2" WYE - 0.1 PSI
 - 1-1/2" MAIN LINE LOSS (800') - 0.2 PSI
 - IN-LINE BALL VALVE - 0.5 PSI
 - ELEVATION CHANGE - 0.0 PSI
 - FITTING ESTIMATE - 0.6 PSI
- OPERATING PRESSURE - 58.1 PSI

NOTE: NO LANDSCAPE PLANTINGS WITHIN 3' OF PARKING LOT CURBS.



CAUTION!!!
UNDERGROUND UTILITIES ARE LOCATED IN THIS AREA. 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITIES, CONTACT LOCAL LOCATES FOR FRANCHISE UTILITY INFO. CALL BEFORE YOU DIG.
TEXAS EXCAVATION SAFETY SYSTEM (TESS)
1-800-344-8377
TEXAS ONE CALL SYSTEMS
1-800-245-4545
LONE STAR NOTIFICATION CENTER
1-800-669-8344 EXT. 5

FAIN • CUPPET
LANDSCAPE ARCHITECTS, LLC
1921 MAPLEWOOD DR
WEATHERFORD, TX 76087 682-215-9151
PARKS AND OPEN SPACE PLANNING • LANDSCAPE ARCHITECTURE • IRRIGATION DESIGN

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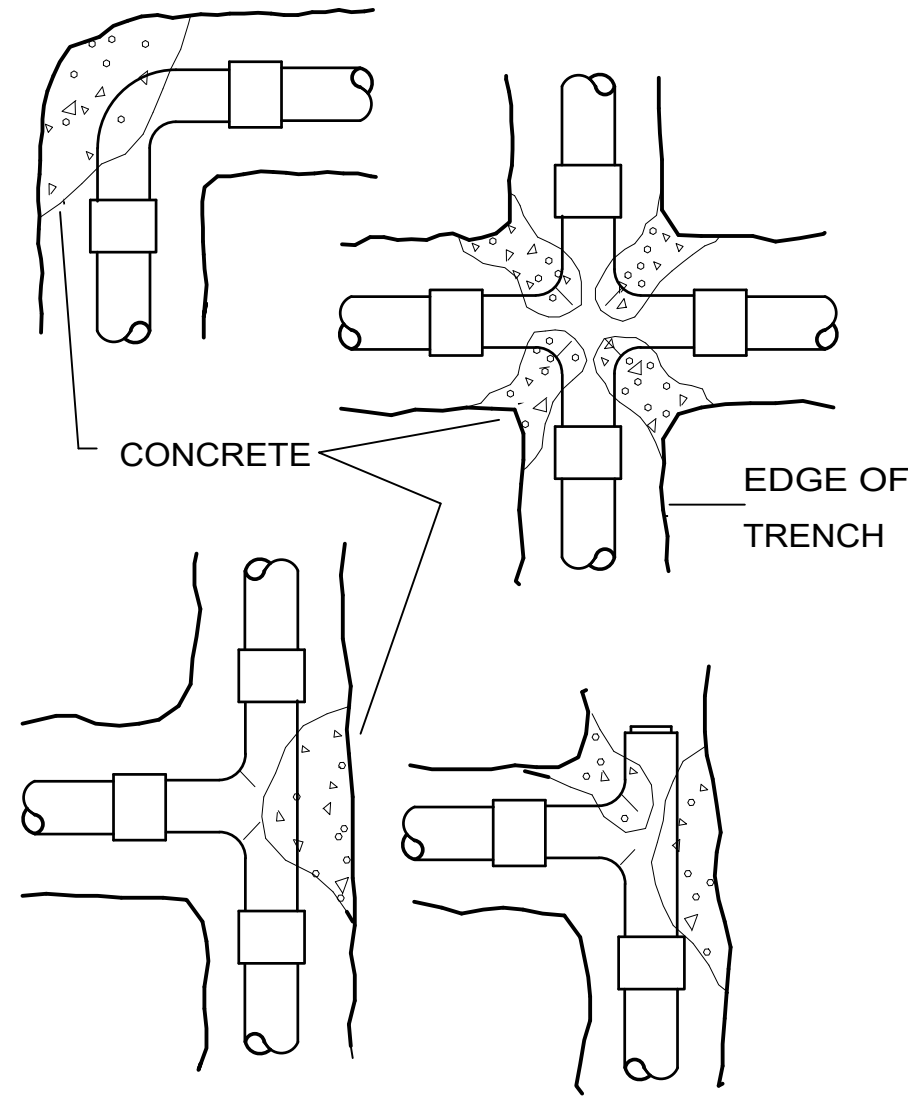
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CONSULTING CIVIL ENGINEERS ■ SURVEYORS
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IRRIATION PLAN
SNAPCLEAN CAR WASH
MCKINNEY, TX 75069

L-5

NO.	DATE	REVISION	APPROV.
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NOTE: - THRUST BLOCKS ON MAIN LINE - ALL SIZES;
AND LATERALS 2" & LARGER
- MINIMUM BLOCK SIZE 8"x8"x8"

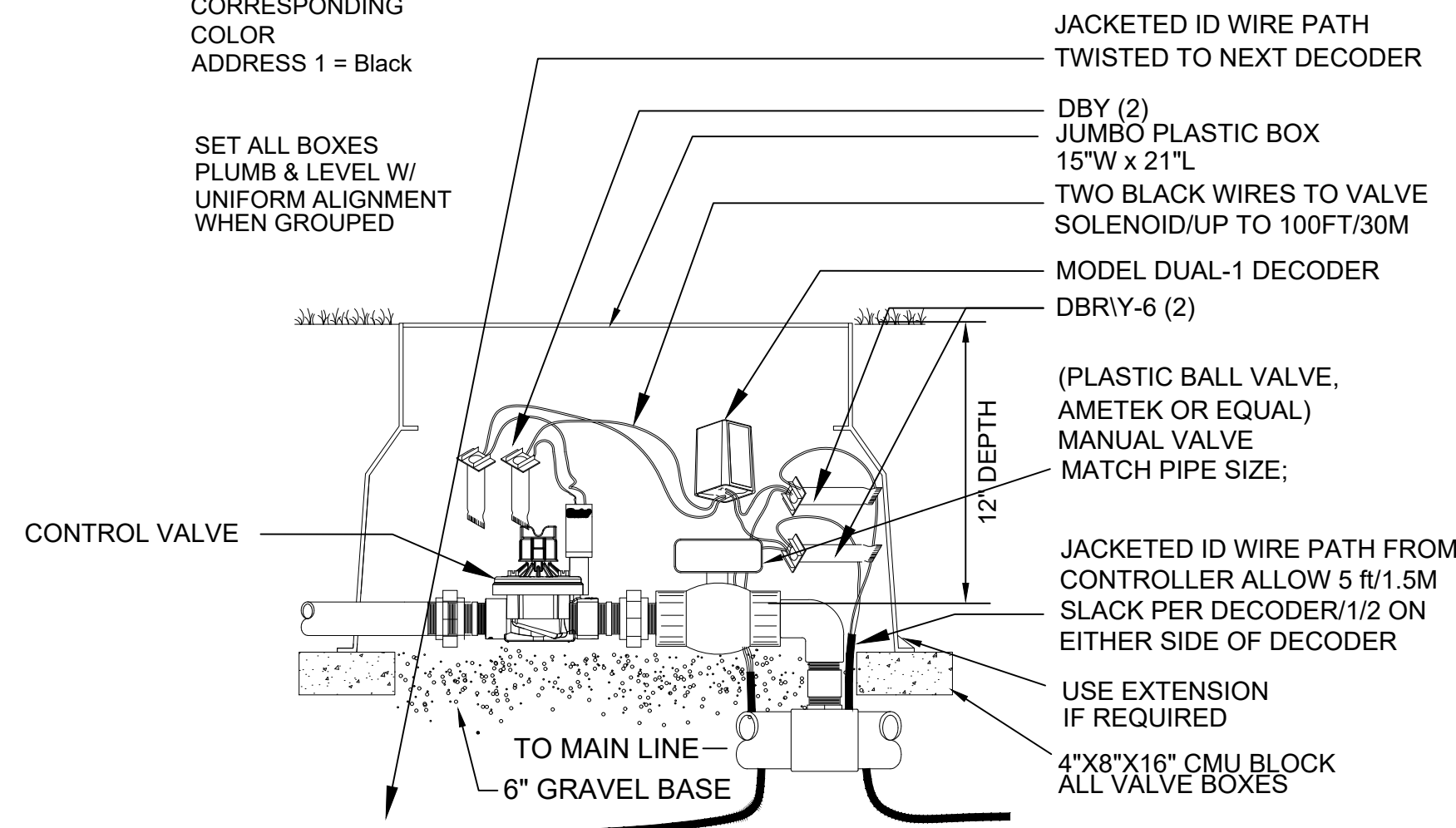


THRUST BLOCKS - PLAN VIEW

SCALE: NOT TO SCALE

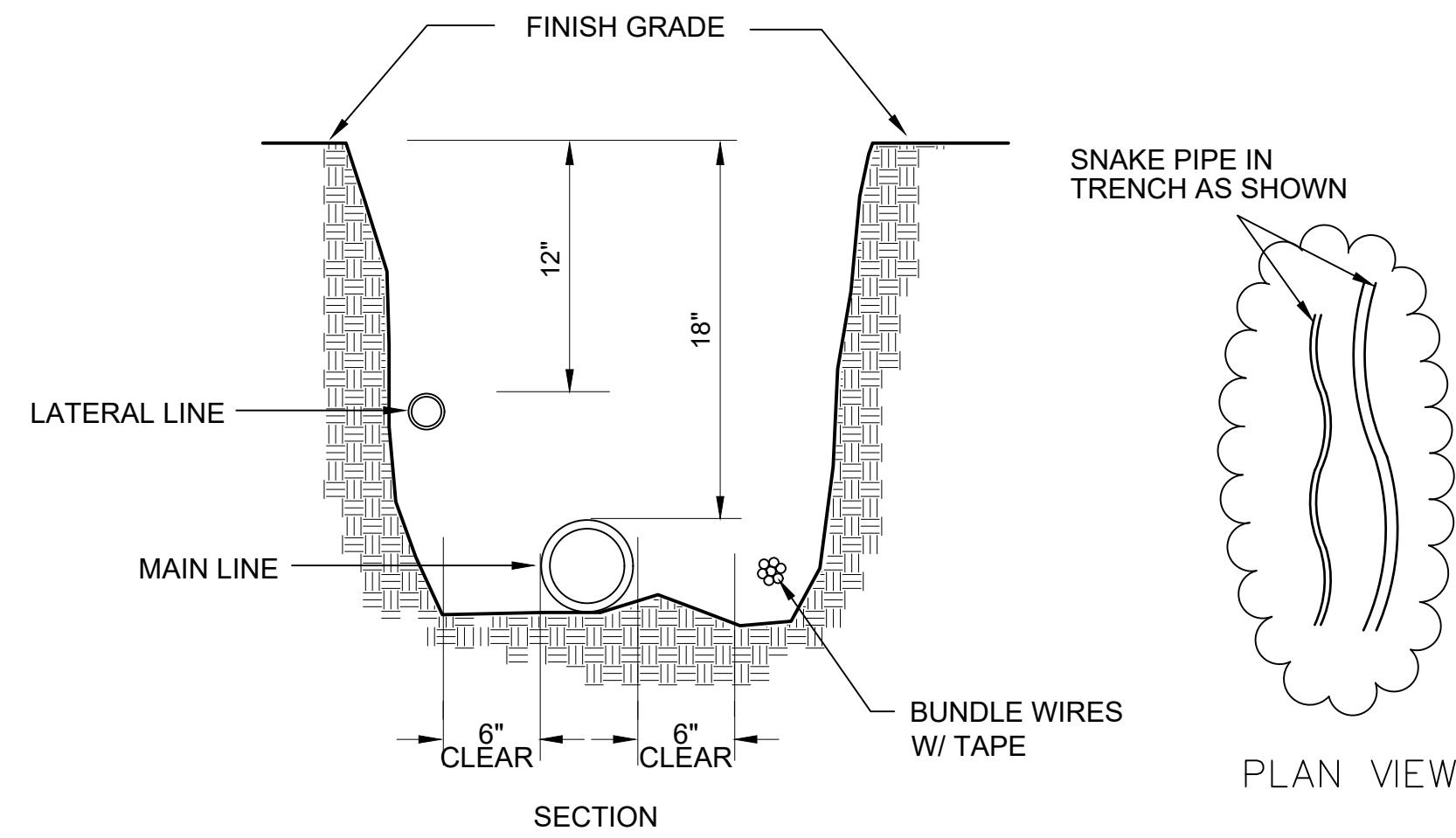
NOTE: ALL DUAL-1
DECODERS SHALL HAVE
THE FOLLOWING
ADDRESS AND
CORRESPONDING
COLOR
ADDRESS 1 = Black

SET ALL BOXES
PLUMB & LEVEL W/
UNIFORM ALIGNMENT
WHEN GROUPED



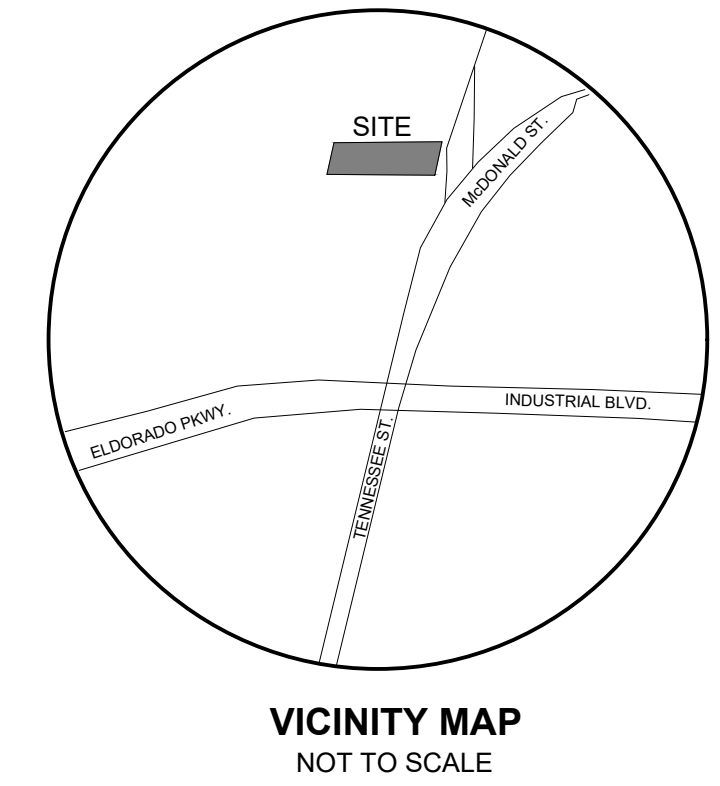
ELECTRIC CONTROL VALVE

SCALE: NOT TO SCALE

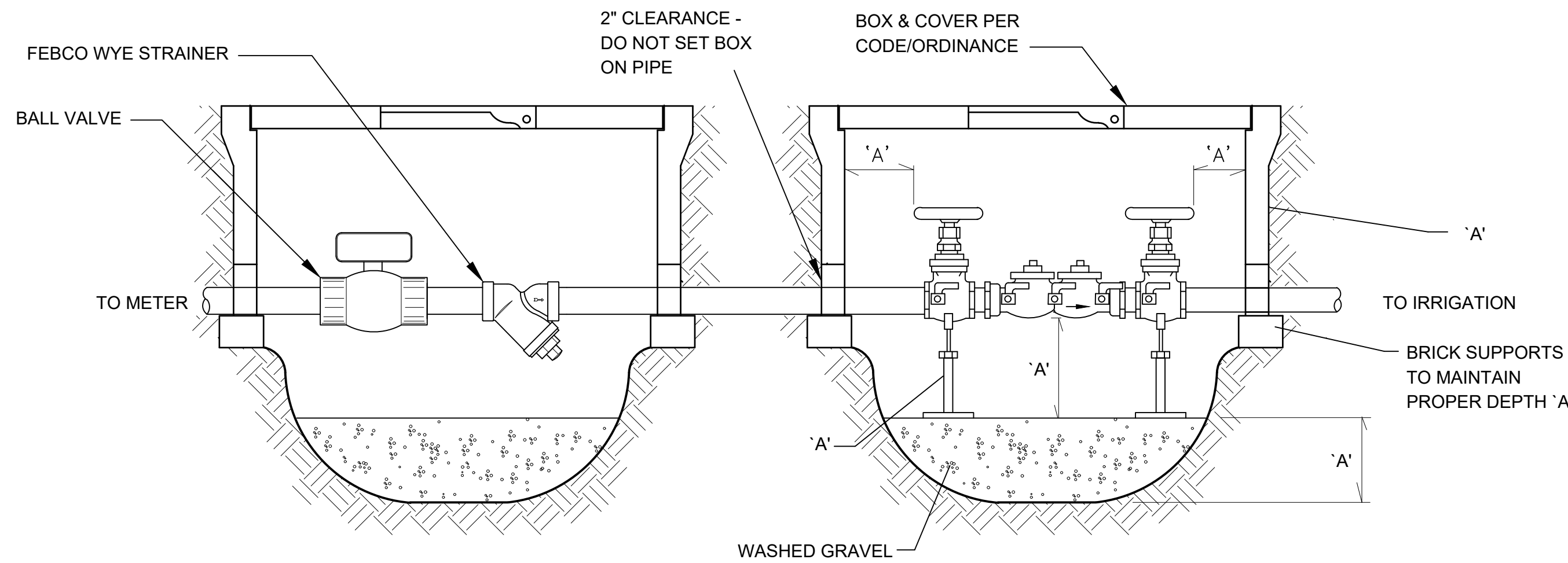


TRENCH DETAIL

SCALE: NOT TO SCALE

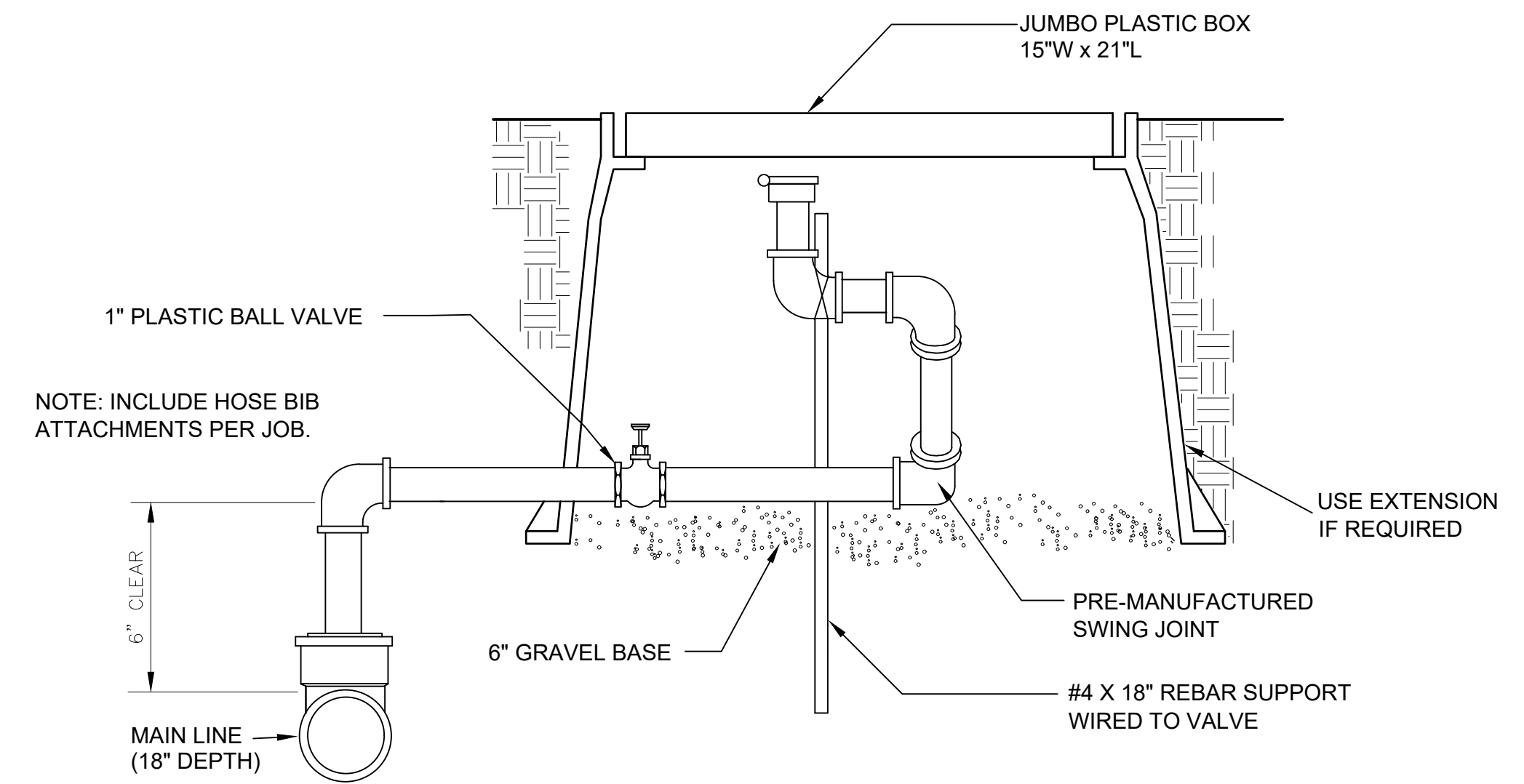


VICINITY MAP
NOT TO SCALE



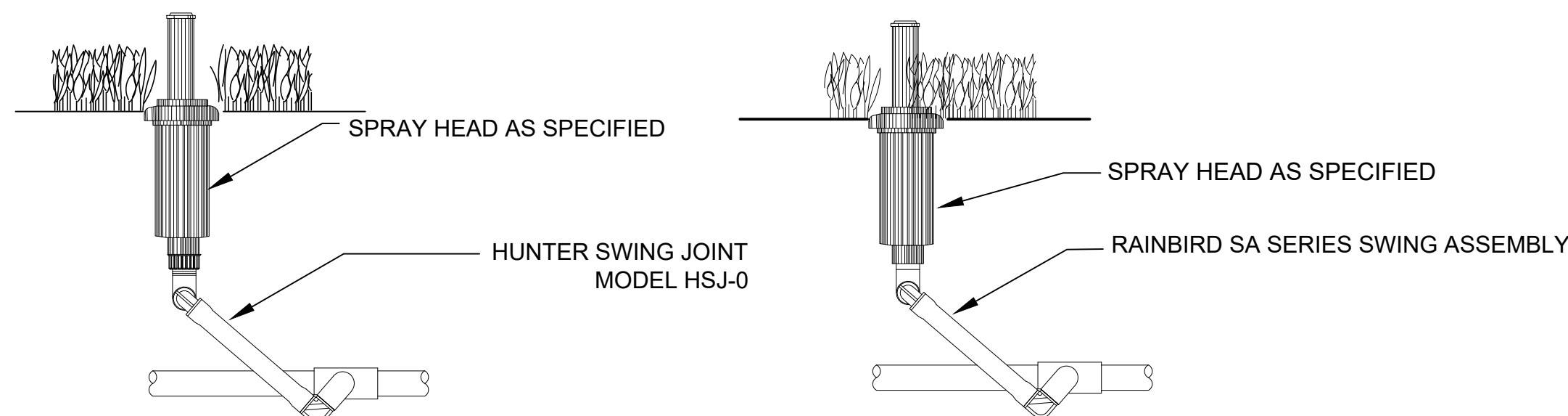
TYPICAL INSTALLATION
DOUBLE CHECK/WYE VALVE ASSEMBLY

SCALE: NOT TO SCALE



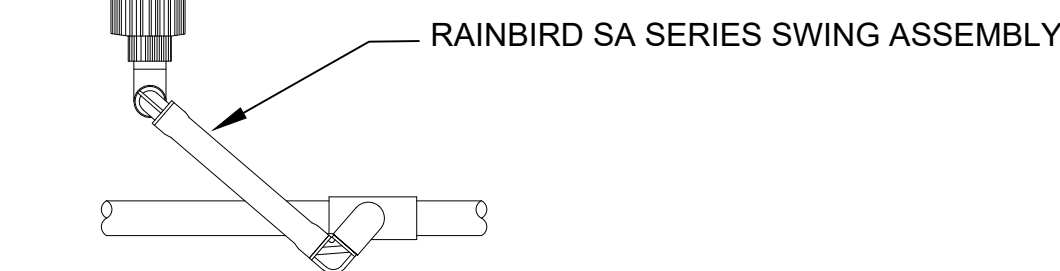
QUICK COUPLER VALVE

SCALE: NOT TO SCALE



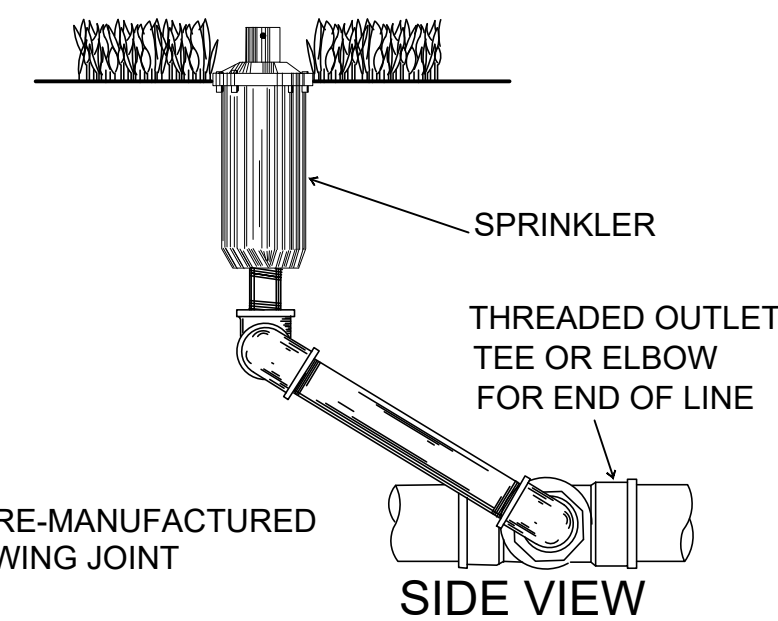
TYPICAL INSTALLATION OF
SPRAY HEAD

SCALE: NOT TO SCALE



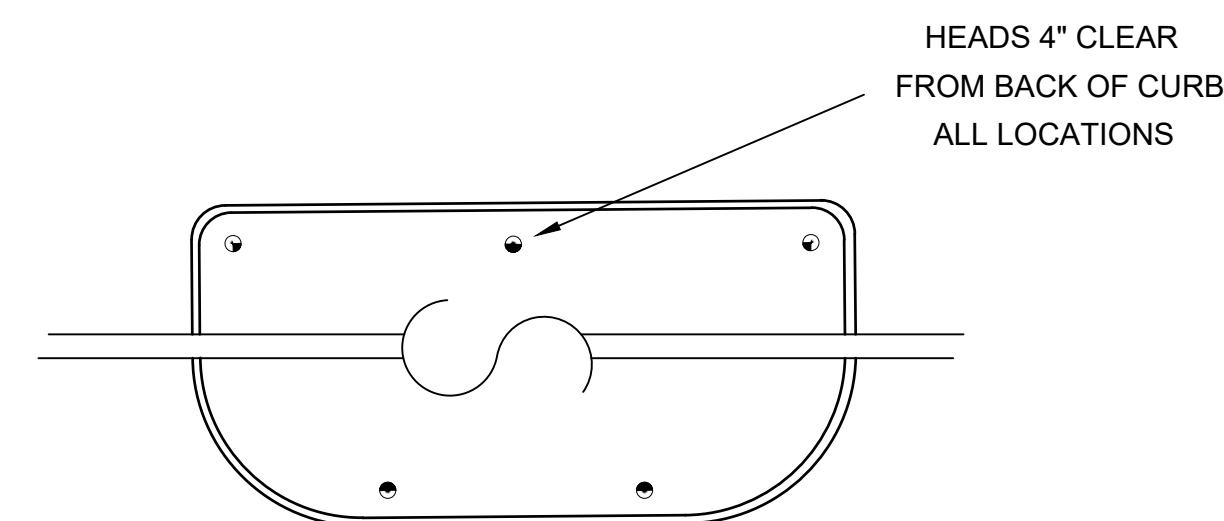
TYPICAL INSTALLATION OF
BUBBLER HEAD

SCALE: NOT TO SCALE



TYPICAL INSTALLATION OF
ROTARY SPRINKLER ON
SWING-JOINT RISER

SCALE: NOT TO SCALE



HEAD LAYOUT
Plan View

SCALE: NOT TO SCALE

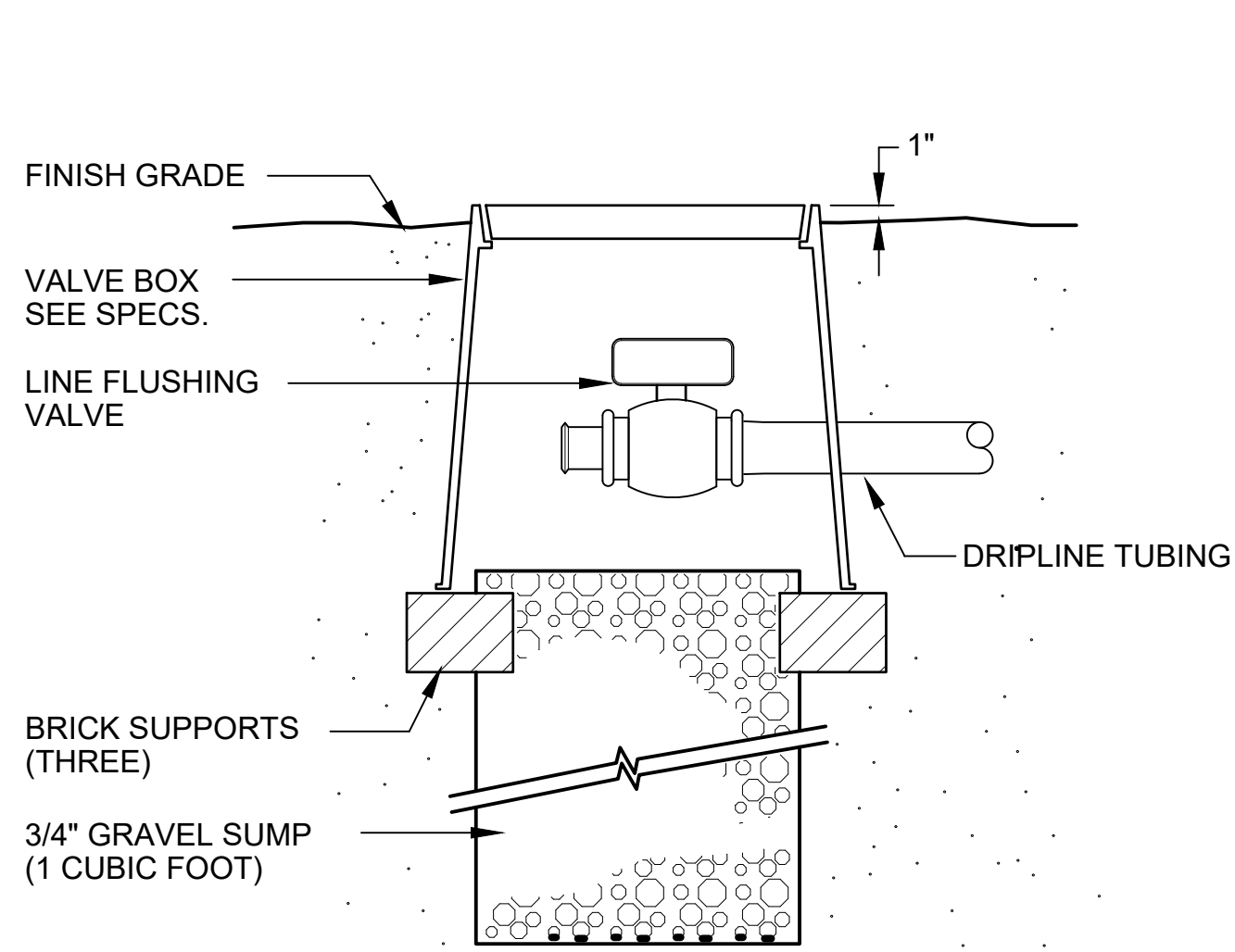


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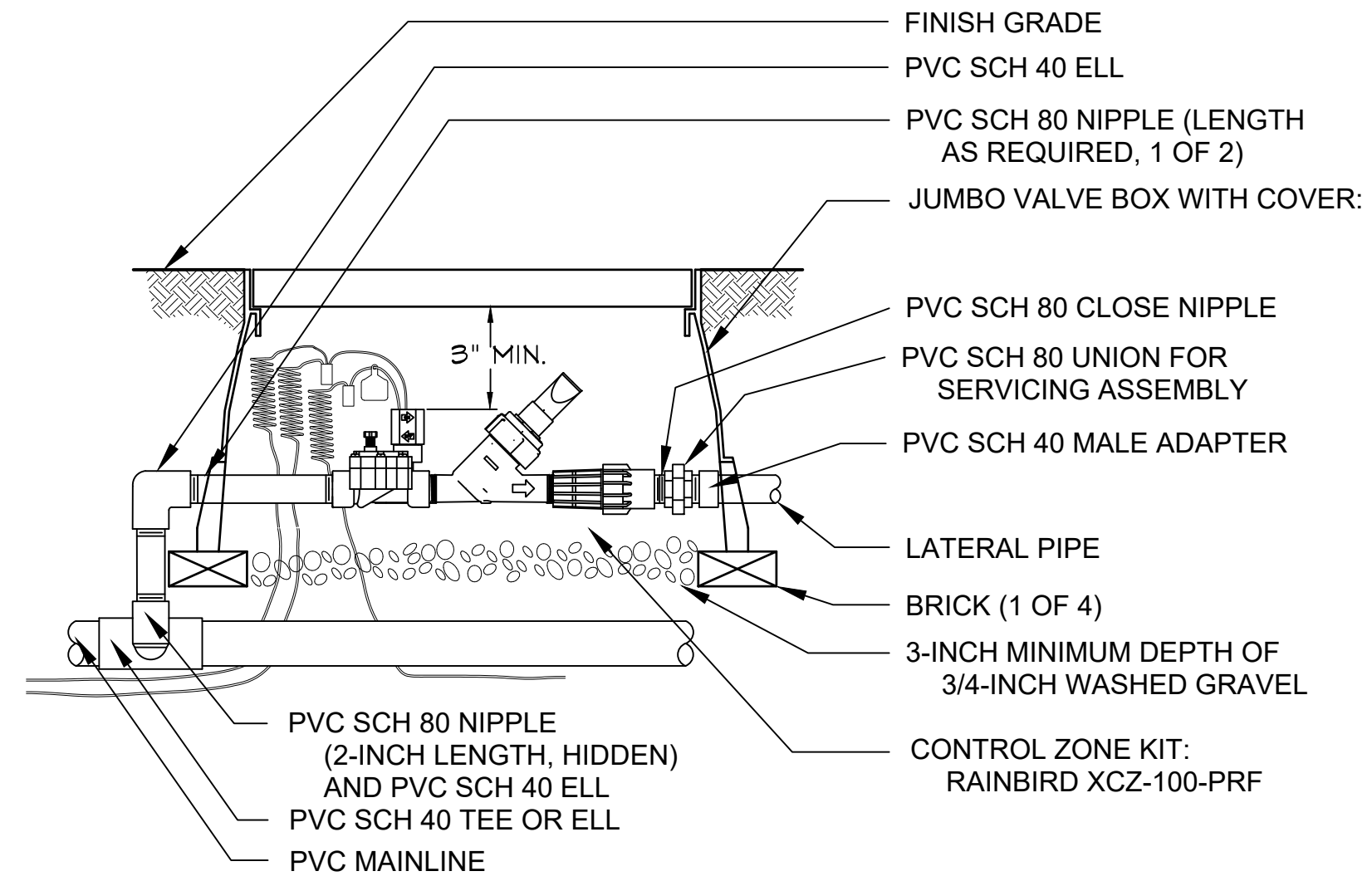
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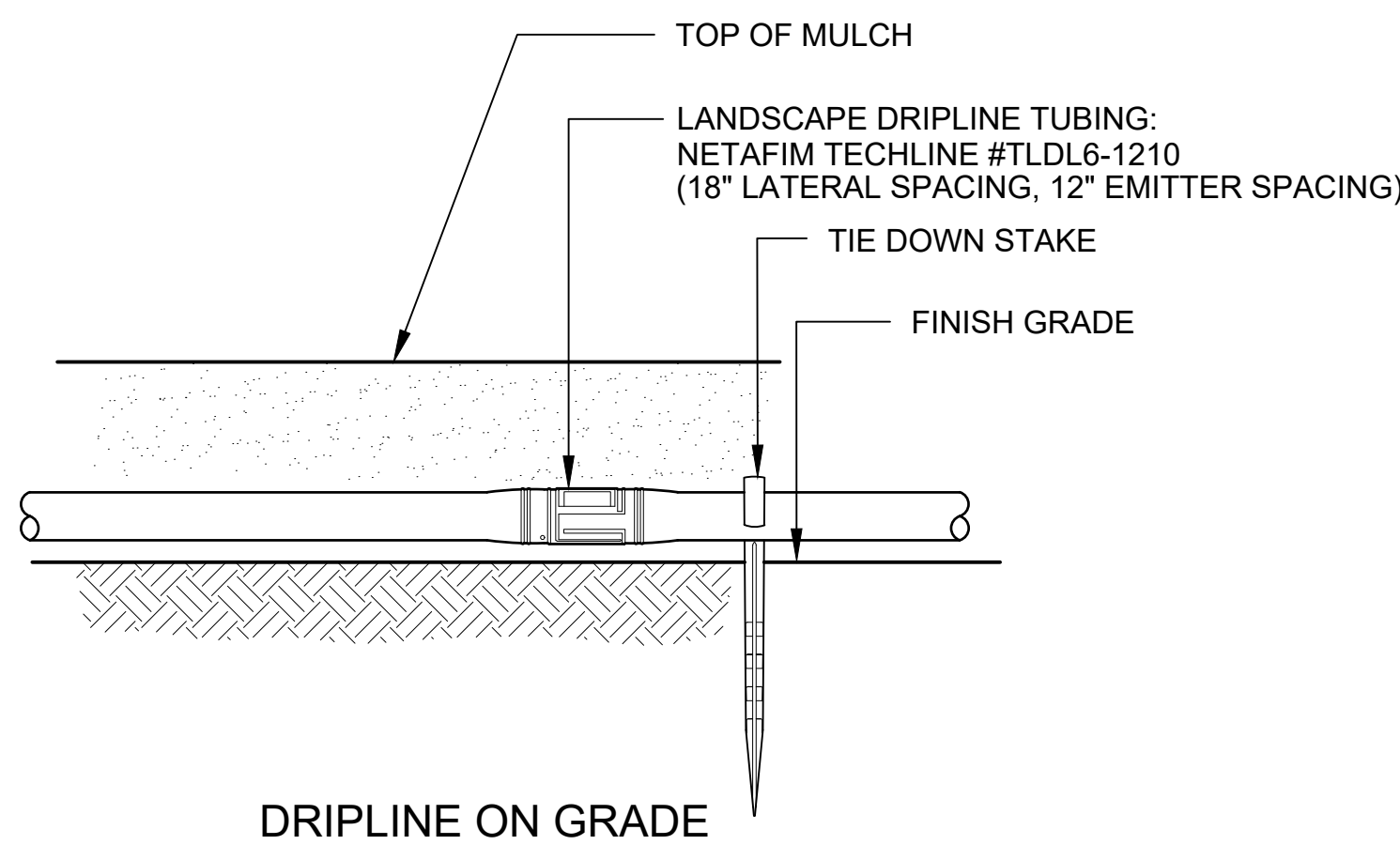
IRRIGATION DETAILS
SNAPCLEAN CAR WASH
MCKINNEY, TX 75069



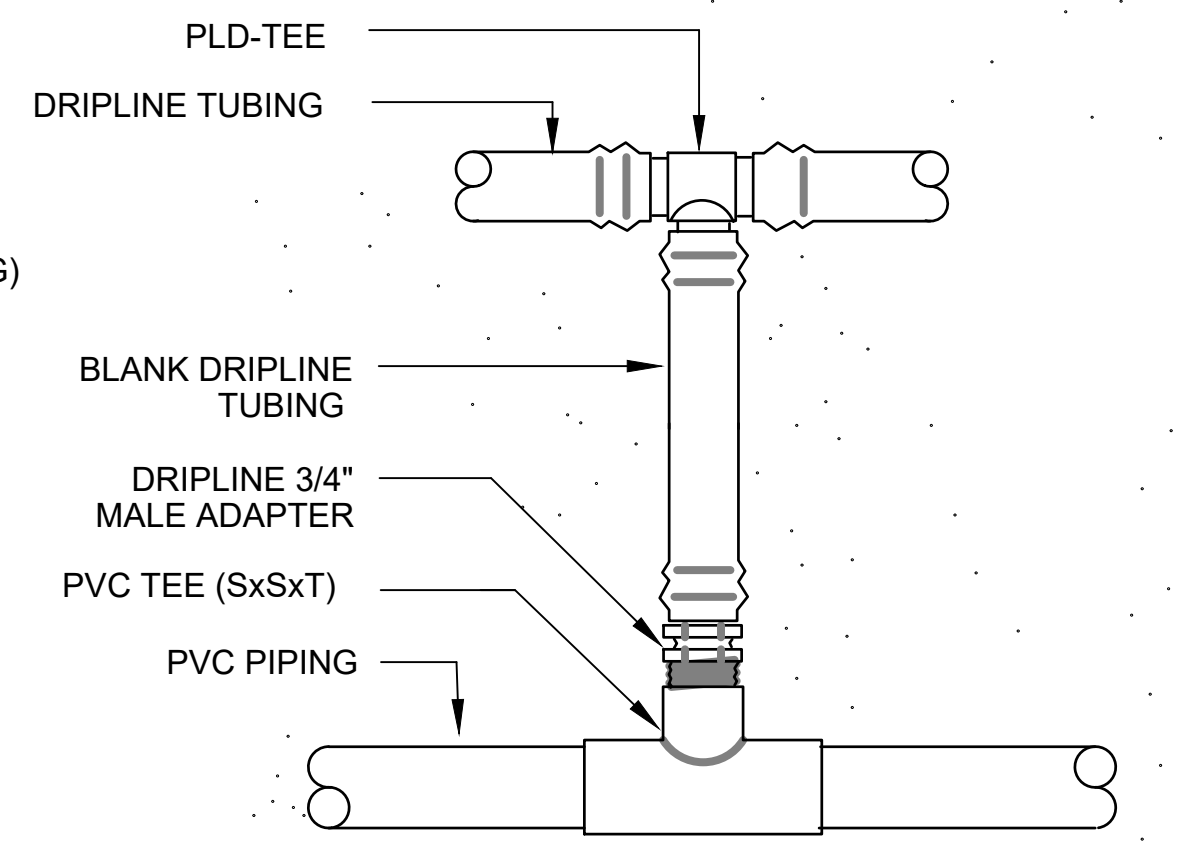
LINE FLUSHING VALVE
SECTION - NO SCALE



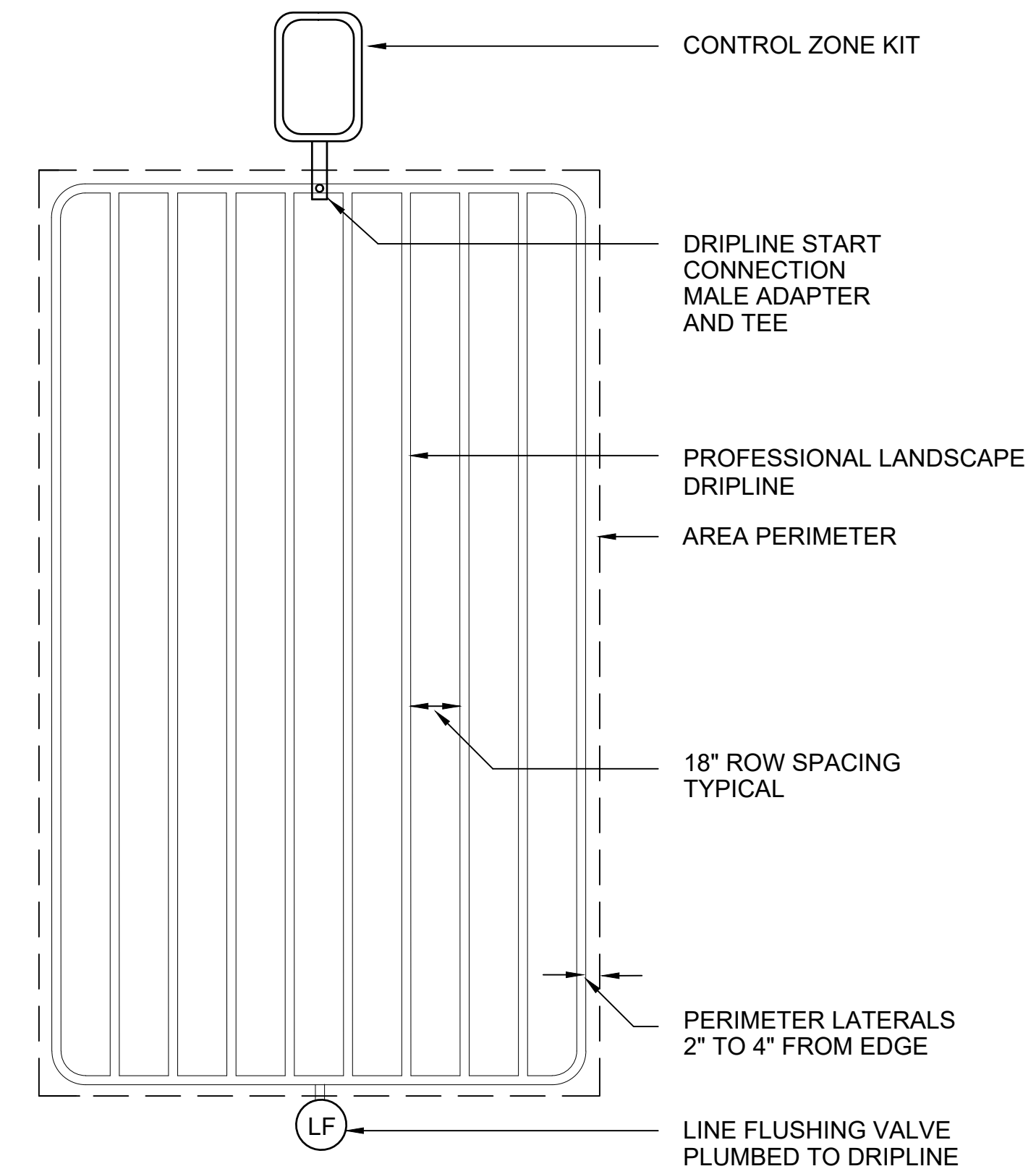
FLOW CONTROL ZONE KIT
SCALE: NOT TO SCALE



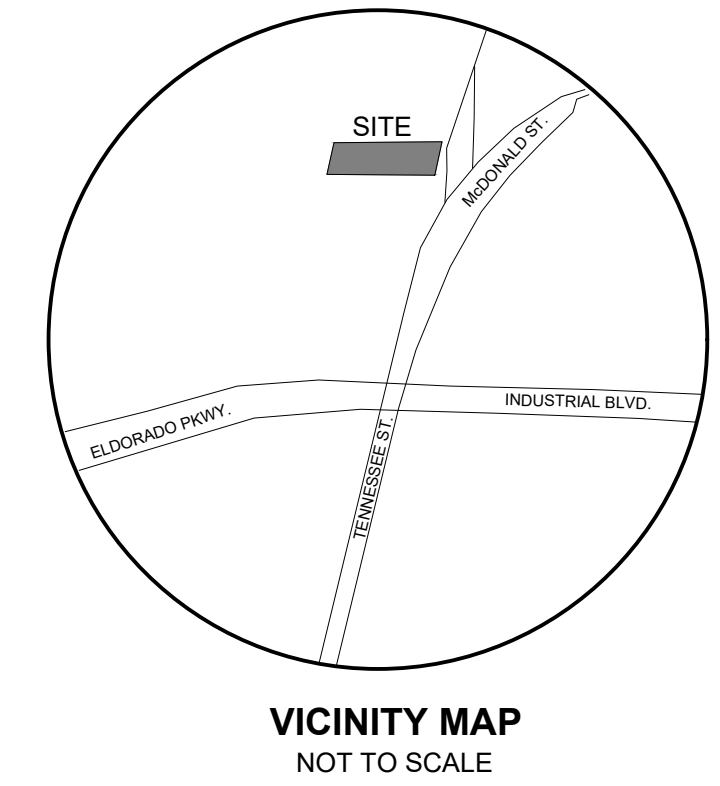
DRIPLINE ON GRADE
SCALE: NOT TO SCALE



DRIPLINE START CONNECTION
SECTION - NO SCALE

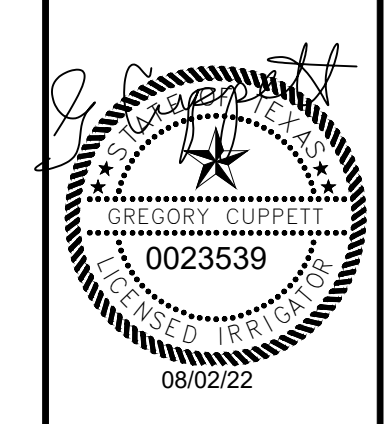


TYPICAL DRIPLINE END FEED LAYOUT
DETAIL - NO SCALE



VICINITY MAP
NOT TO SCALE

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DRIP DETAILS
SNAPCLEAN CAR WASH
MCKINNEY, TX 75069



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SECTION 02750

IRRIGATION

PART I - GENERAL

1.01 DESCRIPTION

A. Work Included

1. Piping and fittings.
2. Connection to existing water lines.
3. Valves, bubblers, and spray heads.
4. All miscellaneous fittings and accessories required to complete and operate system.
5. Excavation and backfill.
6. Testing and adjusting.
7. Clean up.

B. Related Work Specified Elsewhere

1.02 QUALITY ASSURANCE

A. Codes and Standards:

1. All applicable local and national Plumbing Ordinances, Electrical Codes, and Building Codes.
2. National Plumbing Code.

B. Licenses:

1. All work shall be performed by or under the direct supervision of an irrigator or plumber licensed to practice under the authority of the State of Texas.

C. Reference Standards:

1. ASTM D-2241-78
2. CS 256-63

1.03 SUBMITTALS

A. Maintenance Materials: At completion of the job, furnish spare parts and all special tools and equipment required to operate and maintain system.

B. Maintenance Data: Furnish two copies of parts list and repair manuals and all special tools and equipment required to operate and maintain system.

C. Manufacturer's Literature: Submit catalogue data indicating performance, weight, size and function of each item of equipment and material. Also provide manufacturer's operating manual.

D. Project Record Documents: Record on a clean set of plans in colored pencil and also a reproducible mylar:

1. All piping and wiring, including control wires by dimensions.
2. Locate all valves by dimension from two directions.

PART II - PRODUCTS

2.01 GENERAL

A. Equipment and Material Requirements:

1. Standard product of acceptable manufacturer.
2. In-service performance records to verify published capabilities.
3. New and unused.

2.02 MATERIALS

A. PVC Pipe and Fittings:

1. Polyvinyl chloride pipe (PVC) in accordance with ASTM D-2241-78 made to SDR-PR dimensions and approved by National Sanitation Foundation.
2. 2 inch pipe and smaller: Solvent weld PVC Type "Bell-End" pipe may be used.
3. 2 inch pipe fittings and smaller: Solvent weld type as recommended by pipe manufacturer.
4. All pipe downstream of backflow preventer to be Class 200 PVC; all swing joints and risers to be Schedule 80.

B. Joints and Fittings:

1. Nipples and risers: Schedule 80 threaded PVC pipe.
2. Fittings: Schedule 80 PVC.

C. Valves:

1. Double Check Double Gate Valve
 - a. Factory assembled and tested valve train.
 - b. Two spring loaded all brass check valves with soft rubber discs.
 - c. Two all brass shutoff valves.
 - d. Assembled with brass nipples.
 - e. In accordance with AWWA and ASSE specifications.
 - f. Approved Product: FEBCO.

2. Manual Control Valve

- a. Straight type globe valve.
- b. Size to match upstream pipe or as shown on drawings.
- c. Cross handle control wheel.
- d. Brass or bronze body and parts, Class 150.
- e. Full floating valve disc with replaceable seat and washers.
- f. Removable bonnet and stem assembly with packing gland and nut.

3. Electric Control Valve

- a. With flow control.
- b. Globe valve.
- c. Manual bleed.
- d. 24 VAC solenoid.
- e. Electric control, in-line.
- f. Size to match upstream pipe or as shown on drawings.

4. Quick Coupler

- a. 1" female inlet.
- b. Brass or bronze construction.
- c. 150 psi capacity.
- d. Self closing cover.
- e. One piece, single lug, single key construction.
- f. Provide owner with two quick coupler keys & hose bib attachments.
- g. Install in "jumbo" plastic valve box, rectangular, heavy duty.

D. Valve Boxes:

1. Box for Double check double gate valve:
 - a. Concrete box with cast iron cover (or per code).
 - b. Sufficient size to house entire assembly and permit inspection, maintenance and repair.
2. Box for Electric Valves, Manual Valves, and Double Check Valves
 - a. "Jumbo", rectangular
 - b. Heavy duty plastic construction.
 - c. With locking lid.

E. Sprinkler Heads:

1. Bubbler, Flood Type
 - a. Plastic construction.
 - b. 1/2" IPS female inlet.
 - c. Adjustable flow via screen.
2. Spray Heads
 - a. 4" pop/12" pop
 - b. Plastic construction.
 - c. Stainless steel retraction spring.
 - d. Serviceable filter screen and nozzle.
 - e. Stationary or gear driven.
3. Rotary Heads
 - a. 12" pop/4" pop
 - b. Full and part circle heads as drawings indicate.
 - c. Stainless steel retraction spring.
 - d. Serviceable filter screen and nozzle.

F. Controllers:

1. Solid state.
2. Digital readout.
3. Dust Barrier.
4. Pump/master valve circuit switch.
5. 0-60 minute timing per station or as specified.
6. Up to three start times/day with manual override.
7. UL listed.
8. Battery backup.

G. Accessories:

1. Jointing Material: Teflon tape for threads on PVC pipe.
2. Control Wire: Direct Burial, size for voltage drop, minimum size per National Electric Code.

PART III - EXECUTION

3.01 GENERAL

Install all equipment and products in accordance with manufacturer's recommendations.

3.02 INSTALLATION

A. PVC Pipe and Fittings:

1. Handle and install PVC pipe, couplings, and fittings in accordance with manufacturer's recommendations and industry standards.
2. All PVC fittings shall be molded of the same material as the pipe and shall be suitable for solvent weld, slip joint ring tight seal, or screwed connections.
3. No fittings made of other material shall be used except copper as specified in the plans and details.
4. Space pipe length in jointing and snake to allow for expansion and contraction.
5. Thoroughly clean interior of the pipe of all foreign matter before being lowered into trench. Keep clean during laying operation by means of plugs or other approved method.
6. Do not lay pipe in water or when trench or weather conditions are unsuitable for work. Keep water out of trench until the joints are completed.
7. When work is not in progress, securely close open ends of pipe and fittings so that no trench water, earth or other substances will enter pipes or fittings.
8. Take up and relay any pipe that has the grade or joints disturbed after laying.
9. Fittings at bends in the pipe line and at ends of lines shall be firmly wedged against the vertical face of the trench.
10. Make joints in all screwed fittings by applying teflon tape on male threads.
11. Only schedule 80 pipe may be threaded.

B. Valves:

1. Install all new valves as indicated on the plans or as may be required for the proper control of the piping systems in which they are incorporated.
2. Bury valves deep enough so that valve box lid will not protrude above the ground.
3. Set valves vertically and locate 12 inches from sidewalks where possible.
4. Adjust flow control to give correct pressure at sprinkler head.

3.03 FIELD QUALITY CONTROL

A. Leak Test:

1. When the main line or sections of the main line, e.g. loops with swing joints and valves have been installed, the system (or section) will then be pressurized to the operating pressure indicated on the drawings. The pressure will then be maintained for a twenty four hour leak test period.
2. All leaks will be repaired and retested prior to backfilling lines.
3. Any leaks developed during the first under normal operating pressures due to improper installation shall be repaired by the contractor at no expense to the owner.

B. Cleaning and Flushing System:

1. After pipe, fittings, and valves have been installed and connections made to water source, flush pipe free of all rock, dirt, trash, pipe shavings, and other debris before installing heads.
2. After heads have been installed, use system several times before final inspection.
3. Immediately before final inspection, check all heads for stoppage. Clean if necessary.
4. Remove nozzles of all heads and flush pipes. Clean and replace heads before final inspection.

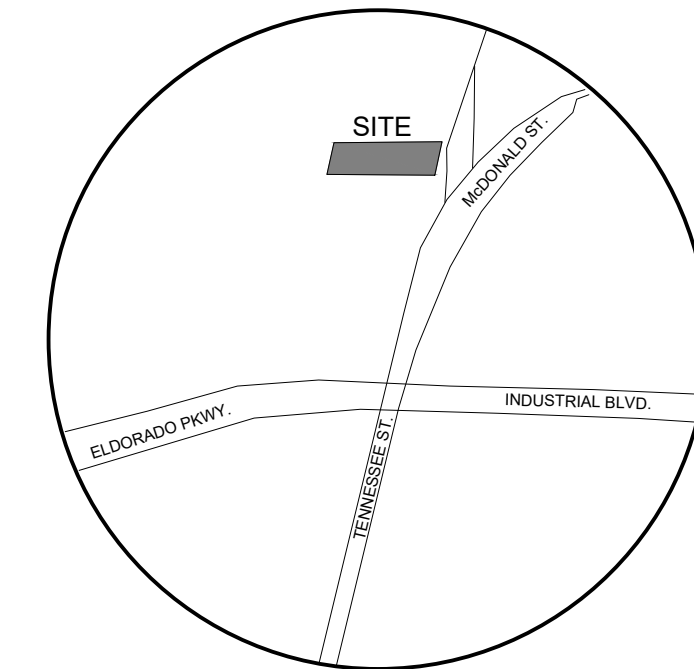
C. Maintenance Instructions:

1. School at least two of the Owner's employees that will be maintaining the irrigation system in operating and maintenance procedures.
2. Include operation of controllers and valves, balancing of the system, and maintenance of all equipment including removal and replacement of valve and controller components.

3.04 CLEANUP

- A. Make final cleanup of all parts of work before final acceptance.
- B. Remove all construction materials and equipment.
- C. Prepare site in an orderly and finished appearance.
- D. Remove from site any rock or extra soil that resulted from this work and restore site to its original condition.

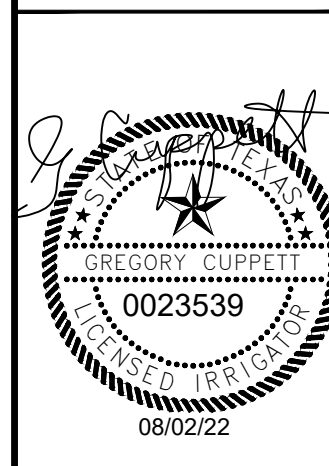
END OF SECTION



VICINITY MAP
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CORPORATE OFFICE: 1100 W. CAMPBELL ST., DALLAS, TX 75241



IRRIGATION SPECIFICATIONS

SNAPCLEAN CAR WASH
MCKINNEY, TX 75069

FAIN • CUPPETT
LANDSCAPE ARCHITECTS, LLC
1921 MAPLEWOOD DR
WEATHERFORD, TX 76087 682-215-9151
PARKS AND OPEN SPACE PLANNING • LANDSCAPE ARCHITECTURE • IRRIGATION DESIGN

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