

NO.	DATE	REVISION	BY



Scale 1" = 40'

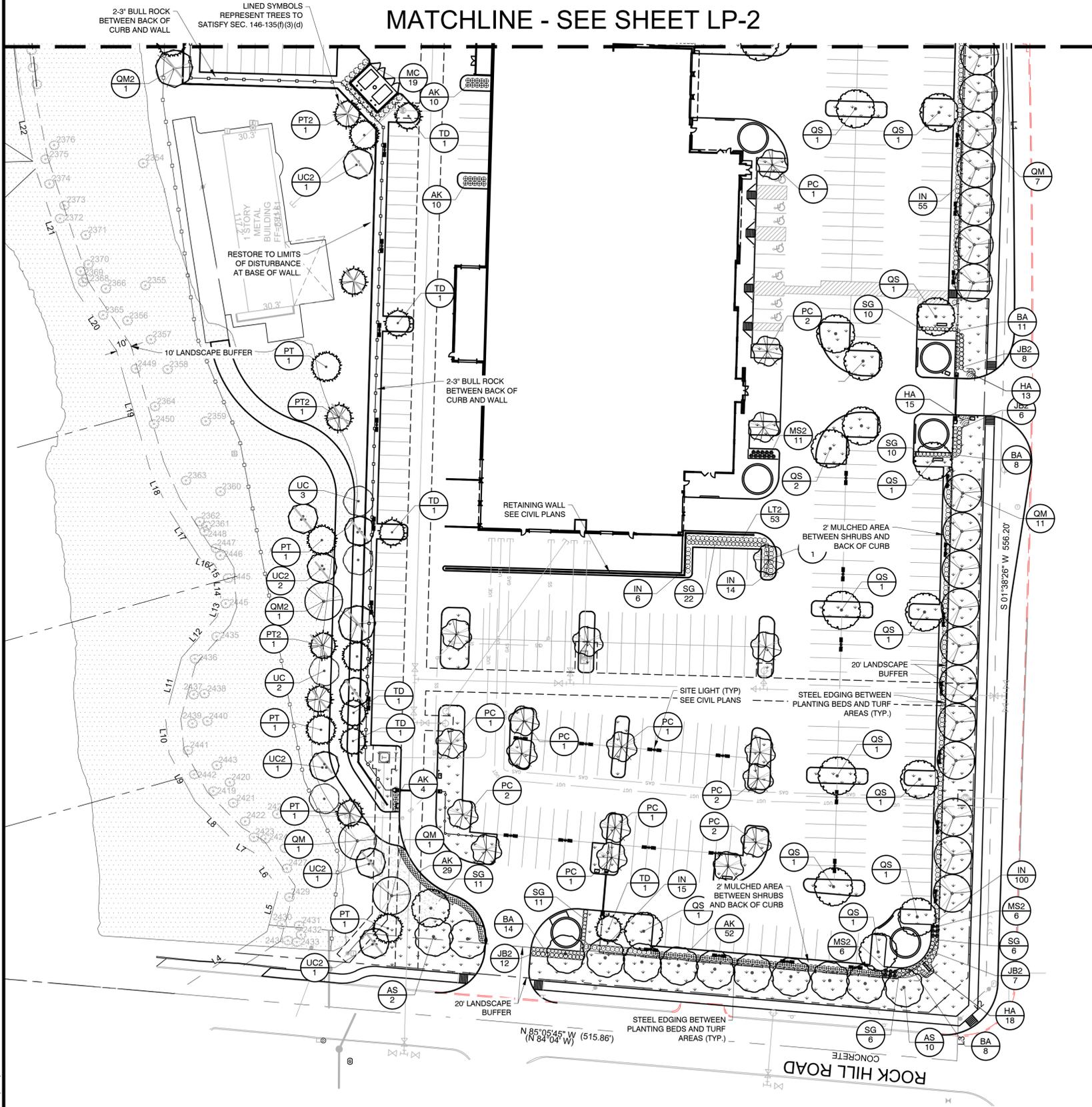
**PLANT SCHEDULE**

TREES	CODE	QTY	BOTANICAL / COMMON NAME	CALIPER	CONTAINER	SIZE
	AS	12	Acer saccharum 'Caddo' / Caddo Maple	4" Cal.	Cont. or B&B	12' minimum
	PT	22	Pinus taeda / Loblolly Pine	4" Cal.	Cont. or B&B	12' minimum
	PT2	6	Pinus taeda / Loblolly Pine	6" Cal.	Cont. or B&B	12' minimum
	PC	42	Pistacia chinensis / Chinese Pistache	4" Cal.	Cont. or B&B	12' minimum
	QM	40	Quercus muehlenbergii / Chinquapin Oak	4" Cal.	Cont. or B&B	12' minimum
	QM2	4	Quercus muehlenbergii / Chinquapin Oak	6" Cal.	Cont. or B&B	12' minimum
	QS	23	Quercus shumardii / Shumard Red Oak	4" Cal.	Cont. or B&B	12' minimum
	TD	17	Taxodium distichum / Bald Cypress	4" Cal.	Cont. or B&B	12' minimum
	UC	20	Ulmus crassifolia / Cedar Elm	4" Cal.	Cont. or B&B	12' minimum
	UC2	10	Ulmus crassifolia / Cedar Elm	6" Cal.	Cont. or B&B	12' minimum
SHRUBS	CODE	QTY	BOTANICAL / COMMON NAME	CONTAINER	SPACING	SIZE
	AK	105	Abelia x grandiflora 'Kaleidoscope' / Glossy Abelia	3 gal	Per Plan	18" Min.
	BA	41	Berberis thunbergii 'Aurea Nana' / Japanese Barberry	3 gal	Per Plan	18" Min.
	IN	263	Ilex vomitoria 'Nana' / Dwarf Yaupon	3 gal	Per Plan	18" Min.
	JB2	33	Juniperus horizontalis 'Blue Chip' / Blue Chip Juniper	3 gal	Per Plan	18" Min.
	LT2	42	Ligustrum japonicum 'Texanum' / Wax Leaf Privet	5 gal	Per Plan	24" MIN
	MS2	37	Miscanthus sinensis 'Adagio' / Adagio Eulalia Grass	3 gal	Per Plan	18" Min.
	MC	19	Myrica cerifera / Wax Myrtle	5 gal	3' min.	36" OC
	SG	82	Salvia greggii / Autumn Sage	3 gal	Per Plan	18" Min.
GROUND COVERS	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SPACING	SIZE
	CD	11,273 sf	Cynodon dactylon / Bermuda Grass	hydromulch		
	CT	47,162 sf	Cynodon dactylon 'Tif 419' / Bermuda Grass	sod		
	HA	46	Hemerocallis x 'Aztec Gold' / Dwarf Evergreen Day Lily	1 gal		

**LANDSCAPE CALCULATIONS**

TOTAL SITE AREA:	576,052 SF
MINIMUM PERMANENT LANDSCAPE REQUIRED:	57,605 SF (10%)
PERMANENT LANDSCAPE PROVIDED:	206,776 SF (35.8%)
<b>PARKING LOT</b>	
TOTAL PARKING SPACES:	750
TREES REQUIRED (1 TREE/10 SPACES):	75 TREES
TREES PROVIDED:	75 TREES
<b>STREET YARD</b>	
ROCKHILL RD. TOTAL STREET YARD AREA:	8,457 SF
MINIMUM PERMANENT LANDSCAPE REQUIRED:	1,268 SF (15%)
PERMANENT LANDSCAPE PROVIDED:	7,923 SF (93%)
<b>S. CENTRAL EXPY TOTAL STREET YARD AREA:</b>	15,376 SF
MINIMUM PERMANENT LANDSCAPE REQUIRED:	2,306 SF (15%)
PERMANENT LANDSCAPE PROVIDED:	14,877 SF (96%)
<b>STREET TREES</b>	
ROCKHILL RD. @ 478 LF	
TREES REQUIRED (1 TREE/40 LF):	12 TREES
TREES PROVIDED:	12 TREES
<b>S. CENTRAL EXPY @ 823 LF</b>	
TREES REQUIRED (1 TREE/40 LF):	21 TREES
TREES PROVIDED:	24 TREES
<b>RESIDENTIAL BUFFER</b>	
10 LANDSCAPE BUFFER ALONG RESIDENTIAL AREAS	
1 TREE PER 40 LF ALONG RESIDENTIAL BUFFER	10' BUFFER PROVIDED
1,668 LF / 40 = 42 TREE REQUIRED	42 TREES PROVIDED

**MATCHLINE - SEE SHEET LP-2**



**LANDSCAPE NOTES**

1. ALL REQUIRED LANDSCAPE AREAS SHALL BE PROVIDED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM WITH RAIN AND FREEZE SENSORS AND EVAPOTRANSPIRATION (ET) WEATHER BASED CONTROLLERS AND SAID IRRIGATION SYSTEM SHALL BE DESIGNED BY A QUALIFIED PROFESSIONAL AND INSTALLED BY 12 STREET TREES REQUIRED, A LICENSED IRRIGATOR.

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

**ROOT BARRIERS**

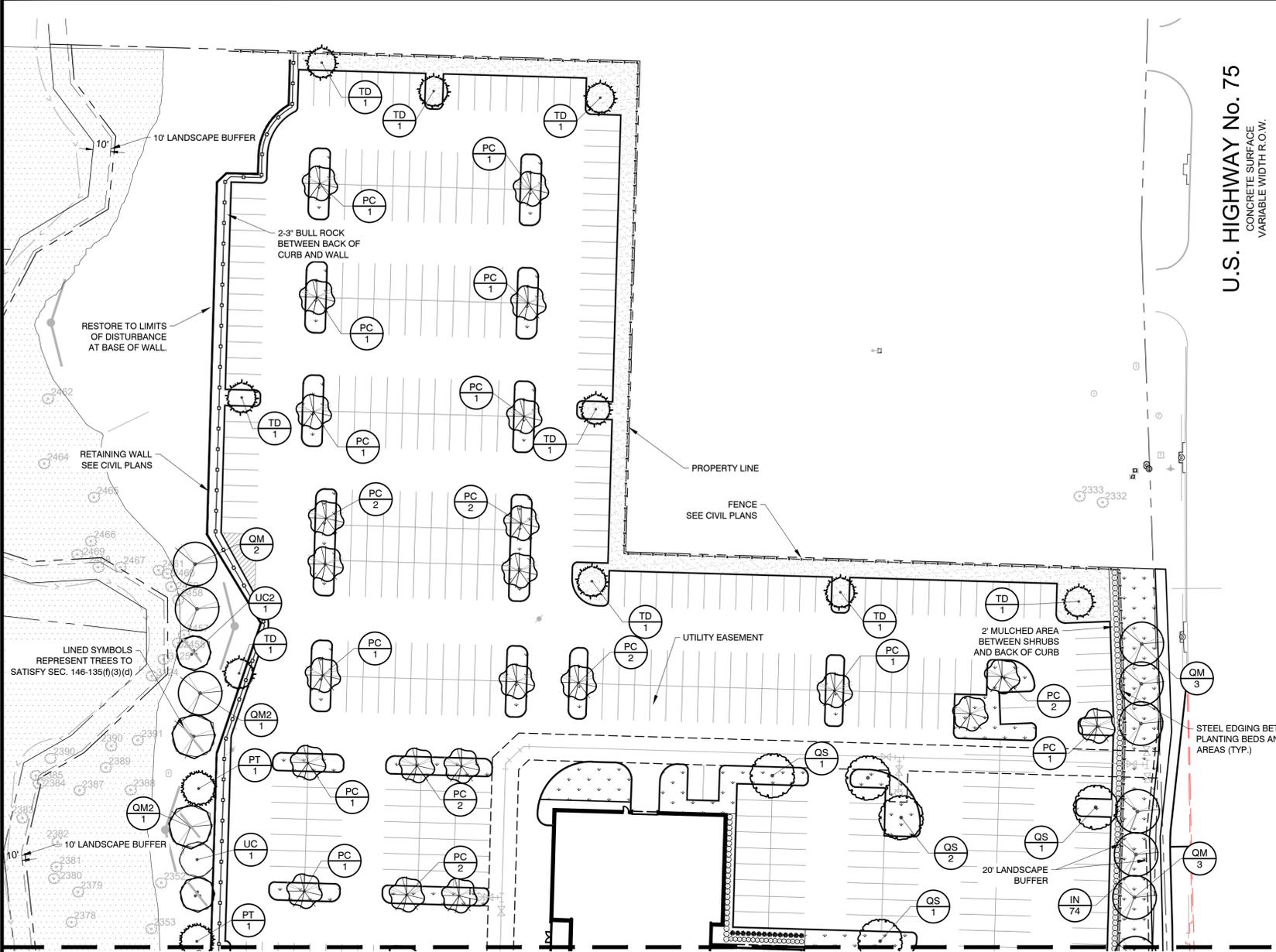
THE CONTRACTOR SHALL INSTALL ROOT BARRIERS NEAR ALL NEWLY-PLANTED TREES THAT ARE LOCATED WITHIN FIVE (5) FEET OF PAVING OR CURBS. ROOT BARRIERS SHALL BE "CENTURY" OR "DEEP-ROOT" 24" DEEP PANELS (OR EQUAL). BARRIERS SHALL BE LOCATED IMMEDIATELY ADJACENT TO HARDSCAPE. INSTALL PANELS PER MANUFACTURER'S RECOMMENDATIONS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR USE ROOT BARRIERS OF A TYPE THAT COMPLETELY ENCIRCLE THE ROOTBALL.

**MULCHES**

AFTER ALL PLANTING IS COMPLETE, CONTRACTOR SHALL INSTALL 3" THICK LAYER OF 1-1/2" SHREDDED WOOD MULCH OVER LANDSCAPE FABRIC IN ALL PLANTING AREAS. CONTRACTOR SHALL SUBMIT SAMPLES OF ALL MULCHES TO LANDSCAPE ARCHITECT AND OWNER FOR APPROVAL PRIOR TO CONSTRUCTION. ABSOLUTELY NO EXPOSED GROUND SHALL BE LEFT SHOWING ANYWHERE ON THE PROJECT AFTER MULCH HAS BEEN INSTALLED.

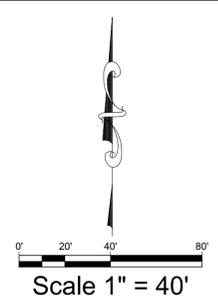
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MATCHLINE - SEE SHEET LP-1

U.S. HIGHWAY No. 75  
 CONCRETE SURFACE  
 VARIABLE WIDTH R.O.W.



PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL / COMMON NAME	CALIPER	CONTAINER	SIZE
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**MCKINNEY DODGE**  
 MCKINNEY, TX

No.	DATE	REVISION	BY

**LANDSCAPE PLANTING**

DESIGN: EMS  
 DRAWN: EMS  
 CHECKED: RM  
 DATE: 09/05/2020

SHEET  
**LP-2**



**PLANTING SPECIFICATIONS**

**GENERAL**

- A. QUALIFICATIONS OF LANDSCAPE CONTRACTOR**
- ALL LANDSCAPE WORK SHOWN ON THESE PLANS SHALL BE PERFORMED BY A SINGLE FIRM SPECIALIZING IN LANDSCAPE PLANTING.
  - A LIST OF SUCCESSFULLY COMPLETED PROJECTS OF THIS TYPE, SIZE AND NATURE MAY BE REQUESTED BY THE OWNER FOR FURTHER QUALIFICATION MEASURES.
  - THE LANDSCAPE CONTRACTOR SHALL HOLD A VALID NURSERY AND FLORAL CERTIFICATE ISSUED BY THE TEXAS DEPARTMENT OF AGRICULTURE, AS WELL AS OPERATE UNDER A COMMERCIAL PESTICIDE APPLICATOR LICENSE ISSUED BY EITHER THE TEXAS DEPARTMENT OF AGRICULTURE OR THE TEXAS STRUCTURAL PEST CONTROL BOARD.
- B. SCOPE OF WORK**
- WORK COVERED BY THESE SECTIONS INCLUDES THE FURNISHING AND PAYMENT OF ALL MATERIALS, LABOR, SERVICES, EQUIPMENT, LICENSES, TAXES AND ANY OTHER ITEMS THAT ARE NECESSARY FOR THE EXECUTION, INSTALLATION AND COMPLETION OF ALL WORK SPECIFIED HEREIN AND / OR SHOWN ON THE LANDSCAPE PLANS, NOTES, AND DETAILS.
  - ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION OVER SUCH WORK, INCLUDING ALL INSPECTIONS AND PERMITS REQUIRED BY FEDERAL, STATE AND LOCAL AUTHORITIES IN SUPPLY, TRANSPORTATION AND INSTALLATION OF MATERIALS.
  - THE LANDSCAPE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITY LINES (WATER, SEWER, ELECTRICAL, TELEPHONE, GAS, CABLE, TELEVISION, ETC.) PRIOR TO THE START OF ANY WORK.

**PRODUCTS**

- A. ALL MANUFACTURED PRODUCTS SHALL BE NEW.**
- B. CONTAINER AND BALLED-AND-BURLAPPED PLANTS:**
- FURNISH NURSERY-GROWN PLANTS COMPLYING WITH ANSI Z60.1-2014. PROVIDE WELL-SHAPED, FULLY BRANCHED, HEALTHY, VIGOROUS STOCK FREE OF DISEASE, INSECTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN SCALD, INJURIES, ABRASIONS, AND DISFIGUREMENT. ALL PLANTS WITHIN A SPECIES SHALL HAVE SIMILAR SIZE AND SHALL BE OF A FORM TYPICAL FOR THE SPECIES. ALL TREES SHALL BE OBTAINED FROM SOURCES WITHIN 200 MILES OF THE PROJECT SITE, AND WITH SIMILAR CLIMATIC CONDITIONS.
  - ROOT SYSTEMS SHALL BE HEALTHY, DENSELY BRANCHED ROOT SYSTEMS, NON-POT-BOUND, FREE FROM ENCIRCLING AND/OR GIRDLING ROOTS, AND FREE FROM ANY OTHER ROOT DEFECTS (SUCH AS J-SHAPED ROOTS).
  - ANY PLANT DEEMED UNACCEPTABLE BY THE LANDSCAPE ARCHITECT OR OWNER SHALL BE IMMEDIATELY REMOVED FROM THE SITE AND SHALL BE REPLACED WITH AN ACCEPTABLE PLANT OF LIKE TYPE AND SIZE AT THE CONTRACTOR'S OWN EXPENSE. ANY PLANTS APPEARING TO BE UNHEALTHY, EVEN IF DETERMINED TO STILL BE ALIVE, SHALL NOT BE ACCEPTED. THE LANDSCAPE ARCHITECT AND OWNER SHALL BE THE SOLE JUDGES AS TO THE ACCEPTABILITY OF PLANT MATERIAL.
  - ALL TREES SHALL BE STANDARD IN FORM, UNLESS OTHERWISE SPECIFIED. TREES WITH CENTRAL LEADERS WILL NOT BE ACCEPTED IF LEADER IS DAMAGED OR REMOVED. PRUNE ALL DAMAGED TWIGS AFTER PLANTING.
  - CALIPER MEASUREMENTS FOR STANDARD (SINGLE TRUNK) TREES SHALL BE AS FOLLOWS: SIX INCHES ABOVE THE ROOT FLARE FOR TREES 18" OR FEWER IN CALIPER, AND TWELVE INCHES ABOVE THE ROOT FLARE FOR TREES EXCEEDING FOUR INCHES IN CALIPER.
  - MULTI-TRUNK TREES SHALL BE MEASURED BY THEIR OVERALL HEIGHT, MEASURED FROM THE TOP OF THE ROOT BALL.
  - ANY TREE OR SHRUB SHOWN TO HAVE EXCESS SOIL PLACED ON TOP OF THE ROOT BALL, SO THAT THE ROOT FLARE HAS BEEN COMPLETELY COVERED, SHALL BE REJECTED.
- C. SOD: PROVIDE WELL-ROOTED SOD OF THE VARIETY NOTED ON THE PLANS. SOD SHALL BE CUT FROM HEALTHY, MATURE TURF WITH SOIL THICKNESS OF 3/4" TO 1". EACH PALLET OF SOD SHALL BE ACCOMPANIED BY A CERTIFICATE FROM SUPPLIER STATING THE COMPOSITION OF THE SOD.**
- D. SEED: PROVIDE BLEND OF SPECIES AND VARIETIES AS NOTED ON THE PLANS, WITH MAXIMUM PERCENTAGES OF PURITY, GERMINATION, AND MINIMUM PERCENTAGE OF WEED SEED AS INDICATED ON PLANS. EACH BAG OF SEED SHALL BE ACCOMPANIED BY A TAG FROM THE SUPPLIER INDICATING THE COMPOSITION OF THE SEED.**
- E. TOPSOIL: SANDY TO CLAY LOAM TOPSOIL, FREE OF STONES LARGER THAN 1/2" INCH, FOREIGN MATTER, PLANTS, ROOTS, AND SEEDS.**
- F. COMPOST: WELL-COMPOSTED, STABLE, AND WEED-FREE ORGANIC MATTER, pH RANGE OF 5.5 TO 8; MOISTURE CONTENT 55 TO 55 PERCENT BY WEIGHT; 100 PERCENT PASSING THROUGH 1/8" MESH; SOLUBLE SALT CONTENT OF 5 TO 10 DECISEMENS/M; NOT EXCEEDING 0.5 PERCENT INERT CONTAMINANTS AND FREE OF SUBSTANCES TOXIC TO PLANTINGS. NO MANURE OR ANIMAL-BASED PRODUCTS SHALL BE USED.**
- G. PLANTING MIX FOR POTS: AN EQUAL PART MIXTURE OF TOPSOIL, SAND AND COMPOST. INCORPORATE "GELSCAPE" AS MADE BY AMERCO, INC. (#001832-8788) AT THE RATE OF 3 LB. PER CUBIC YARD OF PLANTING MIX.**
- H. FERTILIZER: GRANULAR FERTILIZER CONSISTING OF NITROGEN, PHOSPHORUS, POTASSIUM, AND OTHER NUTRIENTS IN PROPORTIONS, AMOUNTS, AND RELEASE RATES RECOMMENDED IN A SOIL REPORT FROM A QUALIFIED SOIL-TESTING LABORATORY (AS SHOWN ON PLANS).**
- I. MULCH: SIZE AND TYPE AS INDICATED ON PLANS. FREE FROM DELETERIOUS MATERIALS AND SUITABLE AS A TOP DRESSING OF TREES AND SHRUBS.**
- J. WEED FABRIC: 5 OUNCE, WOVEN, NEEDLE-PUNCHED FABRIC, SUCH AS DEWITT PROS LANDSCAPE FABRIC (OR APPROVED EQUAL).**
- K. TREE STAKING AND GUYING**
- STAKES: 6' LONG GREEN METAL T-POSTS.
  - GUY AND TIE WIRE: ASTM A 641, CLASS 1, GALVANIZED-STEEL WIRE, 2-STRAND, TWISTED, 0.106 INCH DIAMETER.
  - STRAP CHAFING GUARD: REINFORCED NYLON OR CANVAS AT LEAST 1-1/2 INCH WIDE, WITH GROMMETS TO PROTECT TREE TRUNKS FROM DAMAGE.
- L. STEEL EDGING: PROFESSIONAL STEEL EDGING, 14 GAUGE THICK X 4 INCHES WIDE, FACTORY PAINTED DARK GREEN. ACCEPTABLE MANUFACTURERS INCLUDE COL-MET OR APPROVED EQUAL.**
- M. PRE-EMERGENT HERBICIDES: ANY GRANULAR, NON-STAINING PRE-EMERGENT HERBICIDE THAT IS LABELED FOR THE SPECIFIC ORNAMENTALS OR TURF ON WHICH IT WILL BE UTILIZED. PRE-EMERGENT HERBICIDES SHALL BE APPLIED PER THE MANUFACTURER'S LABELED RATES.**

**METHODS**

- A. SOIL PREPARATION**
- BEFORE STARTING WORK, THE LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE GRADE OF ALL LANDSCAPE AREAS WITHIN 1" OF FINISH GRADE. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY SHOULD ANY DISCREPANCIES EXIST.
  - SOIL TESTING:
    - AFTER FINISH GRADES HAVE BEEN ESTABLISHED, CONTRACTOR SHALL HAVE SOIL SAMPLES TESTED BY AN ESTABLISHED SOIL TESTING LABORATORY FOR THE FOLLOWING: SOIL TEXTURAL CLASS, GENERAL SOIL FERTILITY, pH, ORGANIC MATTER CONTENT, SALT (CEC), LIME, SODIUM ADSORPTION RATIO (SAR) AND BORON CONTENT. EACH SAMPLE SUBMITTED SHALL CONTAIN NO LESS THAN ONE QUART OF SOIL.
    - CONTRACTOR SHALL ALSO SUBMIT THE PROJECT'S PLANT LIST TO THE LABORATORY ALONG WITH THE SOIL SAMPLES.
    - THE SOIL REPORT PRODUCED BY THE LABORATORY SHALL CONTAIN RECOMMENDATIONS FOR THE FOLLOWING (AS APPROPRIATE): GENERAL SOIL PREPARATION AND BACKFILL MIXES, PRE-PLANT FERTILIZER APPLICATIONS, AND ANY OTHER SOIL RELATED ISSUES. THE REPORT SHALL ALSO PROVIDE A FERTILIZER PROGRAM FOR THE ESTABLISHMENT PERIOD AND FOR LONG-TERM MAINTENANCE.
  - THE CONTRACTOR SHALL INSTALL SOIL AMENDMENTS AND FERTILIZERS PER THE SOILS REPORT RECOMMENDATIONS. ANY CHANGE IN COST DUE TO THE SOIL REPORT RECOMMENDATIONS, EITHER INCREASE OR DECREASE, SHALL BE SUBMITTED TO THE OWNER WITH THE REPORT.
  - FOR BIDDING PURPOSES ONLY, THE SOIL PREPARATION SHALL CONSIST OF THE FOLLOWING:
    - TURF: INCORPORATE THE FOLLOWING AMENDMENTS INTO THE TOP 8" OF SOIL BY MEANS OF ROTOTILLING AFTER CROSS-RIPPING:
      - NITROGEN STABILIZED ORGANIC AMENDMENT - 4 CU. YDS. YDS. PER 1,000 S.F.
      - AMMONIUM PHOSPHATE 16-20-0 - 15 LBS PER 1,000 S.F.
      - AGRICULTURAL GYPSUM - 100 LBS PER 1,000 S.F.
    - TREES, SHRUBS, AND PERENNIALS: INCORPORATE THE FOLLOWING AMENDMENTS INTO THE TOP 8" OF SOIL BY MEANS OF ROTOTILLING AFTER CROSS-RIPPING:
      - NITROGEN STABILIZED ORGANIC AMENDMENT - 4 CU. YDS. PER 1,000 S.F.
      - 12-12-12 FERTILIZER - 10 LBS. PER CU. YD.
      - AGRICULTURAL GYPSUM - 10 LBS. PER CU. YD.
      - IRON SULPHATE - 2 LBS. PER CU. YD.

**GENERAL LANDSCAPE NOTES**

- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL EXISTING VEGETATION (EXCEPT WHERE NOTED TO REMAIN), BEFORE STARTING WORK, THE LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE GRADE OF ALL LANDSCAPE AREAS ARE WITHIN +0.1' OF FINISH GRADE. THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY SHOULD ANY DISCREPANCIES EXIST. SEE SPECIFICATIONS FOR MORE DETAILED INSTRUCTION ON TURF AREA AND PLANTING BED PREPARATION.
  - THE LANDSCAPE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN FINISH GRADES AS SHOWN ON GRADING PLANS, AND CONSTRUCT AND MAINTAIN SLOPES AS RECOMMENDED BY THE GEOTECHNICAL REPORT. ALL LANDSCAPE AREAS SHALL HAVE POSITIVE DRAINAGE AWAY FROM STRUCTURES AT THE MINIMUM SLOPE SPECIFIED IN THE REPORT, AND AREAS OF POTENTIAL PONDING SHALL BE REGRADED TO BLEND IN WITH THE SURROUNDING GRADES AND ELIMINATE PONDING POTENTIAL. SHOULD ANY CONFLICTS AND/OR DISCREPANCIES ARISE BETWEEN THE GRADING PLANS, GEOTECHNICAL REPORT, THESE NOTES, AND ACTUAL CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY BRING SUCH ITEMS TO THE ATTENTION OF THE LANDSCAPE ARCHITECT AND OWNER.
  - CONTRACTOR SHALL ENSURE THAT THE GRADE IN SOD AREAS SHALL BE 1" BELOW FINISH GRADE BEFORE INSTALLING SOIL AMENDMENTS, AND 2" BELOW FINISH GRADE IN SHRUB AREAS BEFORE INSTALLING SOIL AMENDMENTS. MULCH COVER WITHIN 6" OF CONCRETE WALKS AND CURBS SHALL NOT PROTRUDE ABOVE THE FINISH SURFACE OF THE WALKS AND CURBS. MULCH COVER WITHIN 12" OF WALLS SHALL BE AT LEAST 3" LOWER THAN THE TOP OF WALL.
  - ONCE SOIL PREPARATION IS COMPLETE, THE LANDSCAPE CONTRACTOR SHALL ENSURE THAT THERE ARE NO DEBRIS, TRASH, OR STONES LARGER THAN 1" REMAINING IN THE TOP 8" OF SOIL.
- B. GENERAL PLANTING**
- REMOVE ALL NURSERY TAGS AND STAKES FROM PLANTS.
  - EXCEPT IN AREAS TO BE PLANTED WITH ORNAMENTAL GRASSES, APPLY PRE-EMERGENT HERBICIDES AT THE MANUFACTURER'S RECOMMENDED RATE.
  - TRENCHING NEAR EXISTING TREES:
    - CONTRACTOR SHALL NOT DISTURB ROOTS 1-1/2" AND LARGER IN DIAMETER WITHIN THE CRITICAL ROOT ZONE (CRZ) OF EXISTING TREES, AND SHALL EXERCISE ALL POSSIBLE CARE AND PRECAUTIONS TO AVOID INJURY TO TREE ROOTS, TRUNKS, AND BRANCHES. THE CRZ IS DEFINED AS A CIRCULAR AREA EXTENDING OUTWARD FROM THE TREE TRUNK, WITH A RADIUS EQUAL TO 1" FOR EVERY 1" OF TRUNK DIAMETER AT-BREAST-HEIGHT (4'5" ABOVE THE AVERAGE GRADE AT THE TRUNK). ALL EXCAVATION WITHIN THE CRZ SHALL BE PERFORMED USING HAND TOOLS. NO MACHINE EXCAVATION OR TRENCHING OF ANY KIND SHALL BE ALLOWED WITHIN THE CRZ.
    - ALTER ALIGNMENT OF PIPE TO AVOID TREE ROOTS 1-1/2" AND LARGER IN DIAMETER. WHERE TREE ROOTS 1-1/2" AND LARGER IN DIAMETER ARE ENCOUNTERED IN THE FIELD, TUNNEL UNDER SUCH ROOTS. WRAP EXPOSED ROOTS WITH SEVERAL LAYERS OF BURLAP AND KEEP MOIST. CLOSE ALL TRENCHES WITHIN THE CANOPY DRIP LINES WITHIN 24 HOURS.
    - ALL SEVERED ROOTS SHALL BE HAND PRUNED WITH SHARP TOOLS AND ALLOWED TO AIR DRY. DO NOT USE ANY SORT OF SEALERS OR WOUND PAINTS.

**C. TREE PLANTING**

- TREE PLANTING HOLES SHALL BE EXCAVATED TO MINIMUM WIDTH OF TWO TIMES THE WIDTH OF THE ROOTBALL, AND TO A DEPTH EQUAL TO THE DEPTH OF THE ROOTBALL LESS TWO TO FOUR INCHES.
- SCARIFY THE SIDES AND BOTTOM OF THE PLANTING HOLE PRIOR TO THE PLACEMENT OF THE TREE. REMOVE ANY GLAZING THAT MAY HAVE BEEN CAUSED DURING THE EXCAVATION OF THE HOLE.
- FOR CONTAINER AND BOX TREES, TO REMOVE ANY POTENTIALLY GIRDLING ROOTS AND OTHER ROOT DEFECTS, THE CONTRACTOR SHALL SHAVE A 1" LAYER OFF OF THE SIDES AND BOTTOM OF THE ROOTBALL OF ALL TREES JUST BEFORE PLACING INTO THE PLANTING HOLE.
- INSTALL THE TREE ON UNDISTURBED SUBGRADE SO THAT THE TOP OF THE ROOTBALL IS TWO TO FOUR INCHES ABOVE THE SURROUNDING GRADE.
- BACKFILL THE TREE HOLE UTILIZING THE EXISTING TOPSOIL FROM ON-SITE. ROCKS LARGER THAN 1" DIA. AND ALL OTHER DEBRIS SHALL BE REMOVED FROM THE SOIL PRIOR TO THE BACKFILL. SHOULD ADDITIONAL SOIL BE REQUIRED TO ACCOMPLISH THIS TASK, USE STORED TOPSOIL FROM ON-SITE OR IMPORT ADDITIONAL TOPSOIL FROM OFF-SITE AT NO ADDITIONAL COST TO THE OWNER. IMPORTED TOPSOIL SHALL BE OF SIMILAR TEXTURAL CLASS AND COMPOSITION TO THAT ON-SITE.
- THE TOTAL NUMBER OF TREE STAKES (BEYOND THE MINIMUMS LISTED BELOW) WILL BE LEFT TO THE LANDSCAPE CONTRACTOR'S DISCRETION. SHOULD ANY TREES FALL OR LEAN, THE LANDSCAPE CONTRACTOR SHALL STRAIGHTEN THE TREE, OR REPLACE IT SHOULD IT BECOME DAMAGED. TREE STAKING SHALL ADHERE TO THE FOLLOWING GUIDELINES:
  - 1"-2" TREES: TWO STAKES PER TREE
  - 2-1/2"-4" TREES: THREE STAKES PER TREE
  - TREES OVER 4" CALIPER: GUY AS NEEDED
  - MULTI-TRUNK TREES: THREE STAKES PER TREE MINIMUM. QUANTITY AND POSITIONS AS NEEDED TO STABILIZE THE TREE
- UPON COMPLETION OF PLANTING, CONSTRUCT AN EARTH WATERING BASIN AROUND THE TREE. COVER THE INTERIOR OF THE BERING BERM (TYPE AND DEPTH PER PLANS).

**D. SHRUB, PERENNIAL, AND GROUNDCOVER PLANTING**

- DIG THE PLANTING HOLES TWICE AS WIDE AND 2" LESS DEEP THAN EACH PLANT'S ROOTBALL. INSTALL THE PLANT IN THE HOLE. BACKFILL AROUND THE PLANT WITH SOIL AMENDED PER SOIL TEST RECOMMENDATIONS.
- WHEN PLANTING IS COMPLETE, INSTALL MULCH (TYPE AND DEPTH PER PLANS) OVER ALL PLANTING BEDS, COVERING THE ENTIRE PLANTING AREA.

**E. SODDING**

- SOD VARIETY TO BE AS SPECIFIED ON THE LANDSCAPE PLAN.
- LAY SOD WITHIN 24 HOURS FROM THE TIME OF STRIPPING. DO NOT LAY IF THE GROUND IS FROZEN.
- LAY THE SOD TO FORM A SOLID MATT WITH TIGHTLY FITTED JOINTS. BUTT ENDS AND SIDES OF SOD STRIPS - DO NOT OVERLAP. STAGGER STRIPS TO OFFSET JOINTS IN ADJACENT COURSES.
- ROLL THE SOD TO ENSURE GOOD CONTACT OF THE SOD'S ROOT SYSTEM WITH THE SOIL UNDERNEATH.
- WATER THE SOD THOROUGHLY WITH A FINE SPRAY IMMEDIATELY AFTER PLANTING TO OBTAIN AT LEAST SIX INCHES OF PENETRATION INTO THE SOIL BELOW THE SOD.

**F. HYDROMULCHING**

- TURF HYDROMULCH MIX (PER 1,000 SF) SHALL BE AS FOLLOWS:
  - WINTER MIX (OCTOBER 1 - MARCH 31)
    - 50# CELLULOSE FIBER MULCH
    - 2# UNHULLED BERMU DA SEED
    - 2# PERENNIAL RYE SEED
  - SUMMER MIX (APRIL 1 - SEPTEMBER 30)
    - 15# 15-15-15 WATER SOLUBLE FERTILIZER
    - 50# CELLULOSE FIBER MULCH
    - 2# HULLED BERMU DA SEED
- SEED HYDROMULCH MIX (PER 1,000 SF) SHALL BE AS FOLLOWS:
  - GENERAL
    - 50# CELLULOSE FIBER MULCH
    - 15# 15-15-15 WATER SOLUBLE FERTILIZER
    - SEED RATE PER LEGEND

**G. CLEAN UP**

- DURING LANDSCAPE PREPARATION AND PLANTING, KEEP ALL PAVEMENT CLEAN AND ALL WORK AREAS IN A NEAT, ORDERLY CONDITION.
- DISPOSED LEGALLY OF ALL EXCAVATED MATERIALS OFF THE PROJECT SITE.

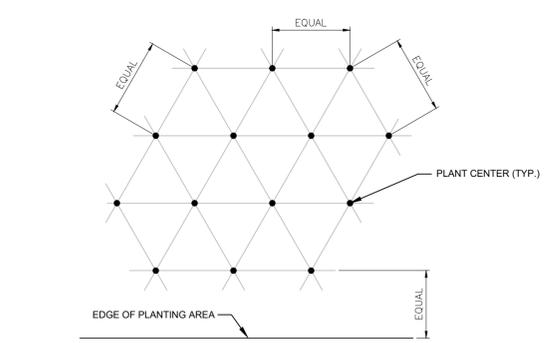
**H. INSPECTION AND ACCEPTANCE**

- UPON COMPLETION OF THE WORK, THE LANDSCAPE CONTRACTOR SHALL PROVIDE THE SITE CLEAN, FREE OF DEBRIS AND TRASH, AND SUITABLE FOR USE AS INTENDED. THE LANDSCAPE CONTRACTOR SHALL THEN REQUEST AN INSPECTION BY THE OWNER TO DETERMINE FINAL ACCEPTABILITY.
- WHEN THE INSPECTED PLANTING WORK DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS, THE LANDSCAPE CONTRACTOR SHALL REPLACE AND/OR REPAIR THE REJECTED WORK TO THE OWNER'S SATISFACTION WITHIN 24 HOURS.

**I. LANDSCAPE MAINTENANCE**

- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL WORK SHOWN ON THESE PLANS FOR 90 DAYS BEYOND FINAL ACCEPTANCE OF ALL LANDSCAPE WORK BY THE OWNER. LANDSCAPE MAINTENANCE SHALL INCLUDE WEEKLY SITE VISITS FOR THE FOLLOWING ACTIONS (AS APPROPRIATE): PROPER PRUNING, RESTAKING OF TREES, RESETTING OF PLANTS THAT HAVE SETTLED, MOWING AND AERATION OF LAWNS, WEEDING, RESEEDING AREAS WHICH HAVE NOT GERMINATED WELL, TREATING FOR INSECTS AND DISEASES, REPLACEMENT OF MULCH, REMOVAL OF LITTER, REPAIRS TO THE IRRIGATION SYSTEM DUE TO FAULTY PARTS AND/OR WORKMANSHIP, AND THE APPROPRIATE WATERING OF ALL PLANTINGS. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN THE IRRIGATION SYSTEM IN PROPER WORKING ORDER, WITH SCHEDULING ADJUSTMENTS BY SEASON TO MAXIMIZE WATER CONSERVATION. SHOULD SEEDED AND/OR SODDED AREAS NOT BE COVERED BY AN AUTOMATIC IRRIGATION SYSTEM, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING THESE AREAS AND OBTAINING A FULL, HEALTHY STAND OF GRASS AT NO ADDITIONAL COST TO THE OWNER.
- TO ACHIEVE FINAL ACCEPTANCE AT THE END OF THE MAINTENANCE PERIOD, ALL OF THE FOLLOWING CONDITIONS MUST OCCUR:
  - THE LANDSCAPE SHALL SHOW ACTIVE, HEALTHY GROWTH (WITH EXCEPTIONS MADE FOR SEASONAL DORMANCY). ALL PLANTS NOT MEETING THIS CONDITION SHALL BE REJECTED AND REPLACED BY HEALTHY PLANT MATERIAL PRIOR TO FINAL ACCEPTANCE.
  - ALL HARDSCAPE SHALL BE CLEANED PRIOR TO FINAL ACCEPTANCE.
  - SODDED AREAS MUST BE ACTIVELY GROWING AND MUST REACH A MINIMUM HEIGHT OF 1 1/2 INCHES BEFORE FIRST MOWING. HYDROMULCHED AREAS SHALL SHOW ACTIVE, HEALTHY GROWTH. BARE AREAS LARGER THAN TWELVE SQUARE INCHES MUST BE RESEEDDED OR RESEEDDED (AS APPROPRIATE) PRIOR TO FINAL ACCEPTANCE. ALL SODDED TURF SHALL BE NEATLY MOWED.
- WARRANTY PERIOD, PLANT GUARANTEE AND REPLACEMENTS
  - THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL TREES, SHRUBS, PERENNIALS, SOD, RESEEDDED HYDROMULCHED AREAS, AND IRRIGATION SYSTEMS FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE OWNER'S FINAL ACCEPTANCE (90 DAYS FOR ANNUAL PLANTS). THE CONTRACTOR SHALL REPLACE, AT HIS OWN EXPENSE AND TO THE SATISFACTION OF THE OWNER, ANY PLANTS WHICH DIE IN THAT TIME, OR REPAIR ANY PORTIONS OF THE IRRIGATION SYSTEM WHICH OPERATE IMPROPERLY.
  - AFTER THE INITIAL MAINTENANCE PERIOD AND DURING THE GUARANTEE PERIOD, THE LANDSCAPE CONTRACTOR SHALL ONLY BE RESPONSIBLE FOR REPLACEMENT OF PLANTS WHEN PLANT DEATH CANNOT BE ATTRIBUTED DIRECTLY TO OVERWATERING OR OTHER DAMAGE BY HUMAN ACTIONS.
- PROVIDE A MINIMUM OF 10 COPIES OF RECORD DRAWINGS TO THE OWNER UPON COMPLETION OF WORK. A RECORD DRAWING IS A RECORD OF ALL CHANGES THAT OCCURRED IN THE FIELD AND THAT ARE DOCUMENTED THROUGH CHANGE ORDERS, ADDENDA, OR CONTRACTOR/CONSULTANT DRAWING MARKUPS.

**D. PLANT SPACING**  
SCALE: NTS

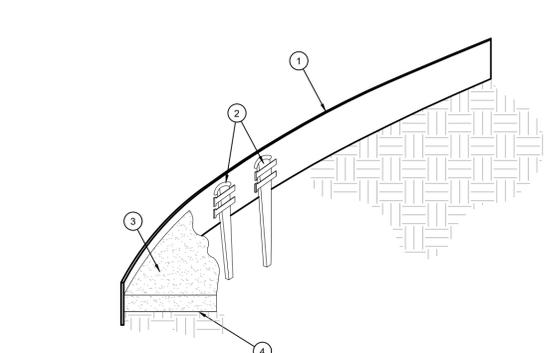


NOTE: ALL PLANTS SHALL BE PLANTED AT EQUAL TRIANGULAR SPACING (EXCEPT WHERE SHOWN ON PLANS AS INFORMAL GROUPINGS). REFER TO PLANT LEGEND FOR SPACING DISTANCE BETWEEN PLANTS.

- STEP 1: DETERMINE TOTAL PLANTS FOR THE AREA WITH THE FOLLOWING FORMULA:  
TOTAL AREA / AREA DIVIDER = TOTAL PLANTS
- | PLANT SPACING | AREA DIVIDER | PLANT SPACING | AREA DIVIDER |
|---------------|--------------|---------------|--------------|
| 6"            | 0.22         | 18"           | 1.95         |
| 8"            | 0.39         | 24"           | 3.46         |
| 10"           | 0.60         | 30"           | 5.41         |
| 12"           | 0.87         | 36"           | 7.79         |
- STEP 2: SUBTRACT THE ROW (S) OF PLANTS THAT WOULD OCCUR AT THE EDGE OF THE PLANTED AREA WITH THE FOLLOWING FORMULA: TOTAL PERIMETER LENGTH / PLANT SPACING = TOTAL PLANT SUBTRACTION

- EXAMPLE:** PLANTS AT 18" O.C. IN 100 SF PLANTING AREA, 40 LF PERIMETER
- STEP 1: 100 SF / 1.95 = 51 PLANTS
- STEP 2: 51 PLANTS - (40 LF / 1.95 = 21 PLANTS) = 30 PLANTS TOTAL

**A. TREE PLANTING**  
SCALE: NOT TO SCALE



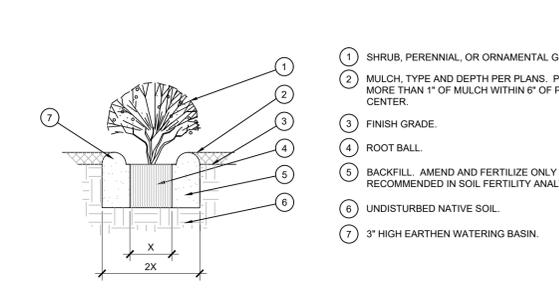
- ROLLED-TOP STEEL EDGING PER PLANS.
- TAPERED STEEL STAKES.
- MULCH, TYPE AND DEPTH PER PLANS.
- FINISH GRADE.

**E. STEEL EDGING**  
SCALE: NOT TO SCALE

**LANDSCAPE NOTES**

- ALL REQUIRED LANDSCAPE AREAS SHALL BE PROVIDED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM WITH RAIN AND FREEZE SENSORS AND EVAPOTRANSPIRATION (ET) WEATHER BASED CONTROLLERS AND SAID IRRIGATION SYSTEM SHALL BE DESIGNED BY A QUALIFIED PROFESSIONAL AND INSTALLED BY 12 STREET TREES REQUIRED, A LICENSED IRRIGATOR.
- THE CONTRACTOR SHALL VERIFY WATER RESTRICTIONS WITHIN THE CITY OF MCKINNEY AT TIME OF PLANTING. SHOULD WATER RESTRICTIONS NOT ALLOW HYDRO-MULCH, HYDRO-SEEDING, OR SPRIGGING (STAGE 3 AND STAGE 4 WATER RESTRICTIONS), AN APPROVED ALTERNATIVE FOR GRASSING SHALL BE INSTALLED.

**B. SHRUB AND PERENNIAL PLANTING**  
SCALE: NTS



- SHRUB, PERENNIAL, OR ORNAMENTAL GRASS.
- MULCH, TYPE AND DEPTH PER PLANS. PLACE NO MORE THAN 1" OF MULCH WITHIN 6" OF PLANT CENTER.
- FINISH GRADE.
- ROOT BALL.
- BACKFILL, AMEND AND FERTILIZE ONLY AS RECOMMENDED IN SOIL FERTILITY ANALYSIS.
- UNDISTURBED NATIVE SOIL.
- 3" HIGH EARTHEN WATERING BASIN.

**C. HEDGE PLANTING AT PARKING AREA**  
SCALE: NOT TO SCALE



- CURB.
- MULCH LAYER.
- PLANT.
- TURF (WHERE SHOWN ON PLAN).



**MCKINNEY DODGE**  
McKINNEY, TX

NO.	DATE	REVISION	BY

**LANDSCAPE DETAILS AND SPECIFICATIONS**

DESIGN:	EMS
DRAWN:	EMS
CHECKED:	RM
DATE:	06/05/2020

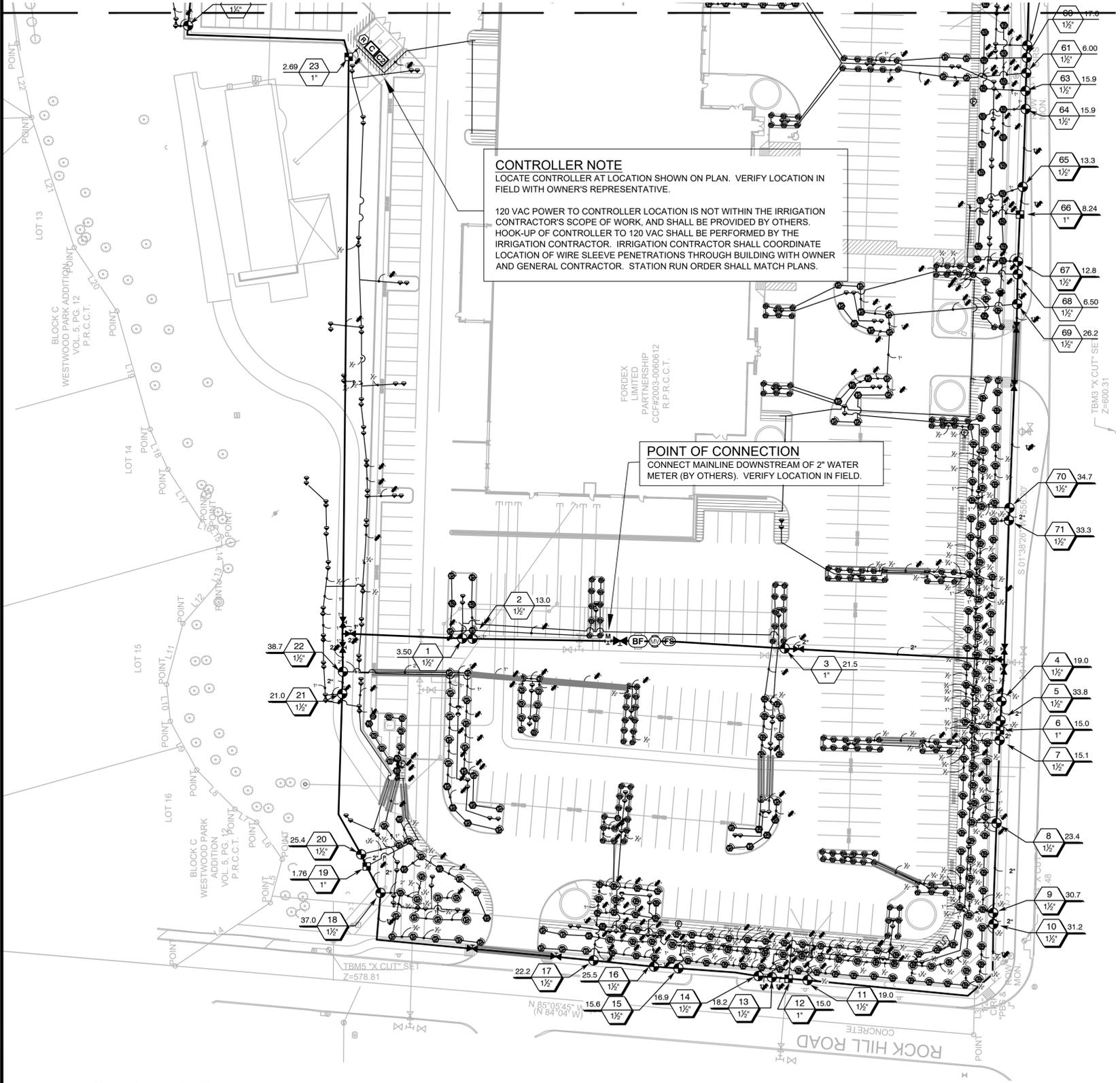
SHEET  
**LP-3**



PLOTTED BY: E5430  
 PLOT DATE: 12/19/2020 3:12 PM  
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 LAST SAVED: 12/18/2020 11:20 AM  
 SHARED\2018\MCKINNEY DODGE - MCKINNEY TX AUTO DELERSHIP MCKINNEY 2020-12-18.DWG

NO.	DATE	REVISION	BY

MATCHLINE - SEE SHEET LI-2



**CONTROLLER NOTE**  
 LOCATE CONTROLLER AT LOCATION SHOWN ON PLAN. VERIFY LOCATION IN FIELD WITH OWNER'S REPRESENTATIVE.  
 120 VAC POWER TO CONTROLLER LOCATION IS NOT WITHIN THE IRRIGATION CONTRACTOR'S SCOPE OF WORK, AND SHALL BE PROVIDED BY OTHERS. HOOK-UP OF CONTROLLER TO 120 VAC SHALL BE PERFORMED BY THE IRRIGATION CONTRACTOR. IRRIGATION CONTRACTOR SHALL COORDINATE LOCATION OF WIRE SLEEVE PENETRATIONS THROUGH BUILDING WITH OWNER AND GENERAL CONTRACTOR. STATION RUN ORDER SHALL MATCH PLANS.

**POINT OF CONNECTION**  
 CONNECT MAINLINE DOWNSTREAM OF 2" WATER METER (BY OTHERS). VERIFY LOCATION IN FIELD.

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
Q H F	Rain Bird 1806 - PRS 5 Series MPR Turf Spray 6.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet.	1	25
Q T H F	Rain Bird 1806 - PRS 8 Series MPR Turf Spray 6.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet.	414	25
Q T H F	Rain Bird 1806 - PRS 10 Series MPR Turf Spray 6.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet.	154	25
Q T H F	Rain Bird 1806 - PRS 12 Series MPR Turf Spray 6.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet.	44	25
Q T H F	Rain Bird 1806 - PRS 15 Series MPR Turf Spray 6.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet.	62	25
4V 6V 18V	Rain Bird 1806 - PRS ADJ Turf Spray 6.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet.	55	25
10HE-VAN 12HE-VAN 15HE-VAN	Rain Bird 1806 - PRS HE-VAN Series Turf Spray 6.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet.	44	25
Q T H TT TO F	Rain Bird 1806-U U12 Series Turf Spray 6.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet.	153	30
Q T H TT TO F	Rain Bird 1806-U U15 Series Turf Spray 6.0" Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2" NPT Female Threaded Inlet.	22	30
1401 1402 1404 1405	Rain Bird 1802-1400 Flood 1401 Flood Bubbler 2.0" popup	306	30

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
■	Rain Bird XCZ-100-PRB-COM Wide Flow Drip Control Kit for Commercial Applications. 1" Ball Valve with 1" PESB Valve and 1" Pressure Regulating 40psi Quick-Check Basket Filter. 0.3gpm to 20gpm.	7
⊕	Rain Bird MDCCAP Dripline Flush Valve cap in compression fitting coupler.	4
▨	Area to Receive Dripline Rain Bird XFS-06-18 XFS Sub-Surface Pressure Compensating Dripline w/Copper Shield Technology. 0.6 GPH emitters at 18" O.C. Laterals spaced at 18" apart, with emitters offset for triangular pattern. UV Resistant. Specify XF insert fittings.	5,596 l.f.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
⊕	Rain Bird PEB 1", 1-1/2", 2" Plastic Industrial Valves. Low Flow Operating Capability, Globe Configuration.	64
⊕	Nibco Ball Valve Brass, Two-Piece, Full Port, NPT x NPT, T-fp-600A	15
⊕	Rain Bird EFB-CP 2" 1", 1-1/4", 1-1/2", 2" Brass Master Valve, that is Contamination Proof w/Self-Flushing Filter Screen. Globe Configuration, Reclaimed Water Compatible, and Purple Handle Cover Designates Non-Potable Water Use.	1
⊕	Febco 850 1-1/2" Double Check Backflow prevention, 1/2" to 2"	1
⊕	Rain Bird ESP12LXMEF with (01) ESPLXMSM12 24 Station Commercial Controller. Plastic Wall Mount. Flow Sensing.	1
⊕	Rain Bird ESP12LXMEF with (03) ESPLXMSM12 48 Station Commercial Controller. Plastic Wall Mount. Flow Sensing.	1
⊕	Rain Bird WR2-RFC Wireless Rain and Freeze Sensor Combo, includes 1 receiver and 1 rain/freeze sensor transmitter.	1
⊕	Rain Bird FS-200-P 2" Flow Sensor for use with Rain Bird Maxicom, SiteControl, and ESP-LXD Central Control Systems. Plastic (PVC) Model. Suggested Operating Range of 10.0 GPM to 200.0 GPM. Sensors should be sized for flow rather than pipe size.	1
⊕	Water Meter 1"	1

—	Irrigation Lateral Line: PVC Class 200 SDR 21	17,982 l.f.
---	Irrigation Mainline: PVC Class 315 SDR 13.5	4,035 l.f.
---	Pipe Sleeve: PVC Schedule 40	508.7 l.f.

CRITICAL ANALYSIS

Generated: 2020-12-19 15:41

P.O.C. NUMBER: 01  
Water Source Information:

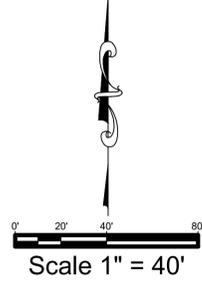
FLOW AVAILABLE  
Water Meter Size: 1"  
Flow Available: 37.50 gpm

PRESSURE AVAILABLE  
Static Pressure at POC: 60.00 psi  
Elevation Change: 4.00 ft  
Service Line Size: 3"  
Length of Service Line: 200.00 ft  
Pressure Available: 58.00 psi

DESIGN ANALYSIS  
Maximum Station Flow: 32.58 gpm  
Flow Available at POC: 37.50 gpm  
Residual Flow Available: 4.92 gpm

Critical Station: 4  
Design Pressure: 30.00 psi  
Friction Loss: 12.87 psi  
Fittings Loss: 1.28 psi  
Elevation Loss: 0.00 psi  
Loss through Valve: 3.90 psi  
Pressure Req. at Critical Station: 48.04 psi  
Loss for Fittings: 0.06 psi  
Loss for Main Line: 0.62 psi  
Loss for POC to Valve Elevation: 0.00 psi  
Loss for Backflow: 5.97 psi  
Loss for Master Valve: 0.50 psi  
Loss for Water Meter: 1.17 psi  
Critical Station Pressure at POC: 56.36 psi  
Pressure Available: 58.00 psi  
Residual Pressure Available: 1.64 psi

- NOTES:
- 1) CONTRACTOR SHALL USE PC SCREENS ON FIXED SPRAY HEADS AS NEEDED TO ACHIEVE APPROPRIATE RADII.
  - 2) CONTRACTOR SHALL USE VARIABLE-ARC ROTARY NOZZLES WHERE NECESSARY.
  - 3) CONTRACTOR SHALL ADJUST ROTOR ARCS WHERE NECESSARY.



SLEEVING / WIRING NOTES:

IN ADDITION TO PROVIDING SLEEVES FOR ALL PIPING UNDER ROADWAYS AND WALKWAYS, THE IRRIGATION CONTRACTOR SHALL PROVIDE AND INSTALL SCH. 40 PVC SLEEVES FOR ALL CONTROLLER WIRES OCCURRING UNDER ALL ROADWAYS AND WALKWAYS. SLEEVES FOR CONTROLLER WIRES SHALL BE 2" DIA. AND CONTAIN NO MORE THAN 25 WIRES.

IRRIGATION DISCLAIMER

THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, AND OTHER EQUIPMENT SHOWN WITHIN PAVED AREAS OR OUT OF PROPERTY BOUNDARIES ARE FOR DESIGN CLARIFICATION ONLY, AND SHALL BE INSTALLED IN PLANTING AREAS WITHIN THE PROPERTY LINES OR LIMITS INDICATED ON PLAN. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL ABOVE-GRADE IRRIGATION EQUIPMENT WITH THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION, OR IRRIGATION CONTRACTOR MAY BE REQUIRED TO MOVE SUCH ITEMS AT HIS OWN COST.

IRRIGATION CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL FINAL QUANTITIES PER DRAWINGS AND SPECIFICATIONS. ANY QUANTITIES PROVIDED ARE PROVIDED AS A CONVENIENCE TO THE CONTRACTOR ONLY AND SHALL NOT BE CONSIDERED ABSOLUTE.

PLOTTED BY: E5430  
 PLOT DATE: 12/19/2020 4:01 PM  
 LOCATION: C:\USERS\E5430\DROPBOX (EDG)\EDG - SHARED\2018\MCKINNEY DODGE - MCKINNEY TX AUTO DELERSHIP MCKINNEY 2020-12-19 LIDWG  
 LAST SAVED: 12/19/2020 4:00 PM



**IRRIGATION SPECIFICATIONS**

**GENERAL**

- A. QUALIFICATIONS OF IRRIGATION CONTRACTOR**
- ALL WORK SHOWN ON THESE PLANS SHALL BE PERFORMED BY A SINGLE IRRIGATION CONTRACTING FIRM SPECIALIZING IN IRRIGATION SYSTEMS. SEE THE IRRIGATION PLAN FOR SPECIFIC EQUIPMENT AND SYSTEM REQUIREMENTS.
  - THE IRRIGATION CONTRACTOR MUST HAVE ON ITS STAFF A TEXAS LICENSED IRRIGATOR, AS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY. A LICENSED IRRIGATOR OR LICENSED IRRIGATION INSTALLER SHALL BE PRESENT AT THE PROJECT SITE AT ALL TIMES AS WORK IS IN PROGRESS. THE OWNER MAY DEMAND THAT WORK STOP UNTIL THE CONTRACTOR PROVIDES FOR A LICENSED IRRIGATOR OR LICENSED IRRIGATION INSTALLER TO BE PRESENT AT THE PROJECT SITE AND SUPERVISING ALL IRRIGATION WORK. A LIST OF SUCCESSFULLY COMPLETED PROJECTS OF THIS TYPE, SIZE AND NATURE MAY BE REQUESTED BY THE OWNER FOR FURTHER QUALIFICATION MEASURES.
- B. SCOPE OF WORK**
- WORK COVERED BY THESE SECTIONS INCLUDES THE FURNISHING AND PAYMENT OF ALL MATERIALS, EQUIPMENT, LICENSES, TAXES, FEES, AND ANY OTHER ITEMS THAT ARE NECESSARY FOR THE EXECUTION, INSTALLATION AND COMPLETION OF ALL WORK SPECIFIED HEREIN AND/OR SHOWN ON THE IRRIGATION PLANS, NOTES, AND DETAILS.
  - ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION OVER SUCH WORK, INCLUDING ALL INSPECTIONS AND PERMITS REQUIRED BY FEDERAL, STATE AND LOCAL AUTHORITIES IN SUPPLY, TRANSPORTATION AND INSTALLATION OF MATERIALS. IN CASE OF CONFLICT BETWEEN THESE PLANS AND LOCAL AND/OR STATE CODES, CODES SHALL PREVAIL.
  - THE INTENT OF THE IRRIGATION SYSTEM IS TO PROVIDE 100% COVERAGE OF ALL LANDSCAPE AREAS. THE IRRIGATION PLAN IS GENERALLY DIAGRAMMATIC. COORDINATE IRRIGATION INSTALLATION WITH UTILITY INSTALLATIONS. ACTUAL LOCATION OF CONTROLLER, BACKFLOW PREVENTER, PIPING, VALVES, SPRAY HEADS, DRIP IRRIGATION, AND RELATED EQUIPMENT MAY NEED TO BE ADJUSTED BASED ON ACTUAL SITE CONDITIONS.
  - FOR CLARITY PURPOSES, SOME IRRIGATION LINES AND EQUIPMENT ARE SHOWN IN HARDSCAPE AREAS WITHOUT ACCESS SLEEVES; THESE LINES SHALL BE INSTALLED IN A COMMON TRENCH OR AT THE BACK OF CURB IN LANDSCAPE AREAS. MINOR FIELD ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.

**PRODUCTS**

- A. ALL MATERIALS SHALL BE NEW AND WITHOUT FLAWS OR DEFECTS OF ANY TYPE AND SHALL BE THE BEST OF THEIR CLASS AND KIND. ALL MATERIALS SHALL HAVE A MINIMUM GUARANTEE OF ONE YEAR AGAINST MATERIAL DEFECTS OR DEFECTIVE WORKMANSHIP. ALL MATERIALS SHALL BE OF THE BRANDS AND TYPES NOTED ON THE DRAWINGS OR AS SPECIFIED HEREIN, OR APPROVED EQUAL. THE CONTRACTOR MUST FIRST OBTAIN APPROVAL FROM THE IRRIGATION DESIGNER FOR AN APPROVED EQUAL BEFORE INSTALLING SUCH MATERIALS IN THE FIELD, OR THE CONTRACTOR MAY BE REQUIRED TO REPLACE SUCH MATERIALS AT HIS OWN COST.**
- B. BACKFLOW PREVENTION DEVICES SHALL BE OF THE SIZE AND TYPE INDICATED ON THE DRAWINGS. INSTALL BACKFLOW PREVENTION UNITS IN ACCORDANCE WITH IRRIGATION CONSTRUCTION DETAILS AND ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES.**
- C. PIPING**
- PRESSURE SUPPLY LINES, DOWNSTREAM OF THE POINT-OF-CONNECTION:
    - SCHEDULE 40 PVC FOR ALL PIPE 1-1/2" OR LESS
    - CLASS 315 PVC FOR ALL PIPE 2" TO 2-1/2"
    - CLASS 200 PVC, GASKETED, FOR ALL PIPE 3" AND LARGER
  - SLEEVING AND NON-PRESSURE LATERAL LINES (DOWNSTREAM FROM VALVES): SCHEDULE 40 PVC
  - FITTINGS: SCH. 40 PVC, EXCEPT AS NOTED OTHERWISE
- D. VALVES AND DRIP VALVE ASSEMBLIES. TYPE AND SIZE AS NOTED ON PLANS. EACH VALVE SHALL BEAR A PRE-MANUFACTURED, NUMBERED WATERPROOF TAG BEARING A NUMBER CORRESPONDING TO ITS VALVE SEQUENCE OF OPERATION ON THE CONTROLLER. THE OPERATION SEQUENCE SHALL MATCH THAT AS SHOWN ON THE PLANS.**
- E. QUICK COUPLERS, BALL VALVES, AND GATE VALVES. TYPE AND SIZE PER PLANS.**
- F. VALVE BOXES. TYPE AND SIZE AS NOTED ON DETAILS. ALL VALVE BOXES SHALL BE LOCKING BOLT-DOWN TYPE, FURNISHED WITH LIDS AND BOLTS. BOXES SHALL BE OF A SIZE TO CONTAIN THE ENTIRE VALVE AND/OR VALVE ASSEMBLY. THE VALVE BOX LID SHALL HAVE THE VALVE STATION NUMBER HEAT-BRANDED INTO THE LID WITH 2" HIGH LETTERS.**
- G. FIXED SPRAY HEADS AND ROTORS. PLASTIC BODY POP-UP, WITH A REMOVABLE PLASTIC SPRAY NOZZLE. EXACT TYPE, MODEL, AND NOZZLE SHALL BE AS INDICATED ON PLANS.**
- H. INTEGRAL EMITTER DRIP TUBING. TUBING MODEL AND FLOW RATE AS NOTED ON PLANS, WITH INTEGRAL EMITTERS WELDED TO THE INSIDE WALL OF THE TUBING AS AN INTEGRAL PART OF THE TUBING ASSEMBLY.**
- I. AUTOMATIC CONTROLLER. TYPE AND MODEL PER PLANS. PROVIDE VANDAL-PROOF ENCLOSURE FOR ALL EXTERIOR INSTALLATIONS. PROVIDE LINE-VOLTAGE DISCONNECT SWITCH WITH GROUND FAULT PROTECTION.**
- J. 24 VOLT VALVE WIRE SHALL BE A MINIMUM OF #14 GAUGE, U.F. APPROVED FOR DIRECT BURIAL, SINGLE CONDUCTOR IRRIGATION WIRE. EACH CONTROLLER SHALL HAVE A DIFFERENT COLOR STATION AND COMMON WIRE.**
- STATION WIRE - RED
  - COMMON WIRE - WHITE
  - EXTRA COMMON WIRES - BLUE
- K. WIRE SPLICES SHALL BE ENCASED IN A WATERPROOF COMPOUND OR GEL. ALL FIELD SPLICES SHALL BE LOCATED IN A 6 INCH ROUND VALVE BOX.**
- L. RAIN SENSOR. TYPE AND MODEL PER PLANS.**

**METHODS**

- A. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, AND OTHER EQUIPMENT SHOWN WITHIN PAVED AREAS OR OUT OF PROPERTY BOUNDARIES ARE FOR DESIGN CLARIFICATION ONLY, AND SHALL BE INSTALLED IN PAVING AREAS WITHIN THE PROPERTY LINES OR LIMITS INDICATED ON PLAN. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL ABOVE-GRADE IRRIGATION EQUIPMENT WITH THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION, OR IRRIGATION CONTRACTOR MAY BE REQUIRED TO MOVE SUCH ITEMS AT HIS OWN COST. ENSURE FIELD COORDINATION IS MADE EARLY ON IN THE CONSTRUCTION PHASE SO PLACEMENT LOCATION IS CORRECT.**
- B. THE IRRIGATION CONTRACTOR SHALL MEET WITH THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK, AND SHALL OBTAIN ALL ENGINEERING, LANDSCAPE, AND OTHER APPLICABLE PLANS & DOCUMENTS. THE CONTRACTOR SHALL THOROUGHLY REVIEW THE PLANS AND REPORT ANY CONFLICTS OR DISCREPANCIES TO THE LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE IMMEDIATELY.**
- C. THE IRRIGATION CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADES OR DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE IRRIGATION DESIGNER. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS AND NECESSARY COSTS.**
- D. SEE UTILITY PLANS FOR IRRIGATION POINTS OF CONNECTION (TAP) AND DOMESTIC WATER SUPPLY.**
- E. THE IRRIGATION CONTRACTOR SHALL PAY ANY AND ALL FEES AND PERMITS ASSOCIATED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM.**
- F. AT LEAST SEVEN DAYS BEFORE BEGINNING WORK, CONFIRM THE STATIC WATER PRESSURE IS AT LEAST 90 PSI, AND LESS THAN 120 PSI. IF STATIC WATER PRESSURE IS OUTSIDE OF THE STATED RANGE, DO NOT PROCEED WITHOUT FIRST NOTIFYING THE IRRIGATION DESIGNER AND OWNER IN WRITING, AND OBTAINING SUBSEQUENT DIRECTION FOR CORRECTIVE MEASURES. SHOULD THE IRRIGATION CONTRACTOR CHOOSE TO BEGIN THE INSTALLATION WITHOUT SUCH NOTIFICATION, THE IRRIGATION CONTRACTOR WILL ASSUME THE RESPONSIBILITY FOR ALL COSTS INCURRED TO ENSURE THE SYSTEM IS WORKING PROPERLY. NO CHANGE ORDERS WILL BE AUTHORIZED IN SUCH CIRCUMSTANCES.**
- G. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITY LINES (WATER, SEWER, ELECTRICAL, TELEPHONE, GAS, CABLE, TELEVISION, ETC.) PRIOR TO THE START OF ANY WORK. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATIONS OF WALLS, STRUCTURES AND UTILITIES.**
- H. COORDINATE WITH THE OWNER THE PROPOSED LOCATIONS OF THE AUTOMATIC CONTROLLER AND ANY REQUIRED SLEEVES THROUGH THE BUILDING FOR CONTROL WIRES.**
- I. TRENCHING NEAR EXISTING TREES:**
- CONTRACTOR SHALL NOT DISTURB ROOTS 1-1/2" AND LARGER IN DIAMETER WITHIN THE CRITICAL ROOT ZONE (CRZ) OF EXISTING TREES, AND SHALL EXERCISE ALL POSSIBLE CARE AND PRECAUTIONS TO AVOID INJURY TO TREE ROOTS, TRUNKS, AND BRANCHES. THE CRZ IS DEFINED AS A CIRCULAR AREA EXTENDING OUTWARD FROM THE TREE TRUNK, WITH A RADIUS EQUAL TO 1" FOR EVERY 1" OF TRUNK DIAMETER AT GREATEST HEIGHT (4'S ABOVE THE AVERAGE GRADE AT THE TRUNK).
  - ALL EXCAVATION WITHIN THE CRZ SHALL BE PERFORMED USING HAND TOOLS. NO MACHINE EXCAVATION OR TRENCHING OF ANY KIND SHALL BE ALLOWED WITHIN THE CRZ.
  - ALTER ALIGNMENT OF PIPE TO AVOID TREE ROOTS 1-1/2" AND LARGER IN DIAMETER, WHERE TREE ROOTS 1-1/2" AND LARGER IN DIAMETER ARE ENCOUNTERED IN THE FIELD, TUNNEL UNDER SUCH ROOTS. WRAP EXPOSED ROOTS WITH SEVERAL LAYERS OF BURLAP AND KEEP MOIST. CLOSE ALL TRENCHES WITH THE CANOPY DRIP LINES WITHIN 24 HOURS.
  - ALL SEVERED ROOTS SHALL BE HAND PRUNED WITH SHARP TOOLS AND ALLOWED TO AIR-DRY. DO NOT USE ANY SORT OF SEALERS OR WOUND PAINTS.

**J. BACKFILL**

- ALL BACKFILL MATERIAL SHALL BE SUBJECT TO APPROVAL BY THE OWNER. BACKFILL MATERIAL SHALL BE FREE FROM RUBBISH, ROCK LARGER THAN 1", LARGE STONES, BRUSH, SOD, FROZEN MATERIAL OR OTHER UNSUITABLE SUBSTANCES THAT MAY DAMAGE PIPE DURING THE BACKFILLING OPERATIONS. SEPARATE OUT ROCKS LARGER THAN 1 INCH IN ANY DIRECTION FROM EXCAVATED MATERIAL, AND REMOVE FROM AREAS TO RECEIVE LANDSCAPING. COVER FOR BOTH TOP AND SIDES OF PIPE SHALL BE A MINIMUM OF 2 INCHES OF ROCK-FREE SOIL, SAND, OR OTHER APPROVED MATERIAL.
- IN THE EVENT THAT THE MATERIAL FROM THE EXCAVATION OR TRENCHING IS FOUND TO BE UNSUITABLE FOR USE IN BACKFILL, IT SHALL BE REMOVED FROM THE SITE AND PROPERLY AND LEGALLY DISPOSED OF BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL THEN PURCHASE AND AND FURNISH SUITABLE BACKFILL MATERIAL CONSISTING OF EARTH, LOAM, SANDY CLAY, SAND OR OTHER APPROVED MATERIALS FREE OF DEBRIS.

**K. BACKFLOW PREVENTER INSTALLATION.**

- CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING WATER SOURCES AT LOCATION SHOWN ON PLANS AND AS APPROVED BY THE OWNER, AND SHALL MAKE ANY MINOR CHANGES IN LOCATION AS MAY BE NECESSARY DUE TO ACTUAL SITE CONDITIONS. BACKFLOW PREVENTER HEIGHT SHALL BE AS PER LOCAL CODES AND IRRIGATION DETAILS. INSTALL A BRASS BALL VALVE IMMEDIATELY UPSTREAM OF THE BACKFLOW DEVICE TO SERVE AS AN ISOLATION VALVE. TO EVERY EXTENT POSSIBLE, INSTALL BACKFLOW PREVENTER IN A LOCATION SCREENED FROM PUBLIC VIEW (SUCH AS BEHIND A SHRUB ROW).

**L. PIPING:**

- PIPE SIZE SHALL CONFORM TO THE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS FOR LARGER SIZES MAY BE APPROVED.
- MAINLINE PIPE AND WIRES SHALL BE INSTALLED WITH A MINIMUM COVER OF 18 INCHES. LATERAL PIPE SHALL BE INSTALLED WITH A MINIMUM COVER OF 12 INCHES.
- ASSEMBLE ALL THREADED FITTINGS WITH TEFLON TAPE, WHICH SHALL BE APPLIED TO MALE THREADS ONLY.
- ALL SOLVENT-WELD CONNECTIONS SHALL BE MADE WITH APPROVED SOLVENT-WELD PRIMER.
- PIPE SHALL BE INSTALLED WITH A MINIMUM OF 4" HORIZONTAL CLEARANCE FROM ANY OTHER PIPE AND 2" VERTICAL CLEARANCE FROM ANY PIPES THAT CROSS OVER OR UNDER.

**M. VALVES:**

- VALVES SHALL BE INSTALLED PER MANUFACTURER'S DIRECTIONS AND THE IRRIGATION DETAILS.
- VALVE BOXES SHALL BE INSTALLED FLUSH WITH THE GRADE, WITH CLEAN PEA GRAVEL LOCATED BELOW THE VALVES AS NOTED ON THE DETAILS. LOCATE BOXES WITHIN 12 TO 24" OF SIDEWALKS OR LANDSCAPE EDGES, WITH TOPS OF BOXES 1" ABOVE FINISH GRADE IN TURF, AND 3" ABOVE FINISH GRADE IN SHRUB AREAS (TO AVOID BEING COVERED BY MULCH).
- EACH VALVE BOX COVER SHALL BE HEAT-BRANDED WITH THE CONTROLLER STATION NUMBER.
- DO NOT INSTALL MORE THAN TWO VALVES IN A JUMBO BOX.
- DRIP IRRIGATION EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S DIRECTIONS AND THE IRRIGATION DETAILS.

**N. DRIP IRRIGATION:**

- DRIP LINES SHALL BE BURIED NO MORE THAN 2" BELOW FINISH GRADE.
- DRIP LINES MOUNTED ON GRADE SHALL BE LOCATED BENEATH LANDSCAPE FABRIC, AND SECURED IN PLACE WITH WIRE STAPLES AT A MAXIMUM OF 48" ON CENTER.

**O. SPRAY, ROTOR, AND BUBBLER HEADS:**

- ALL SPRAY AND ROTOR HEAD LOCATIONS SHALL BE STAKED, FLAGGED AND/OR OTHERWISE CLEARLY MARKED ON THE GROUND PRIOR TO INSTALLATION. SPRINKLER HEAD STAKING SHALL BE INSPECTED AND APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE INSTALLATION.
- ALL SPRAY HEADS SHALL BE CONNECTED WITH A 12 INCH MINIMUM LENGTH OF 1/2" INCH FLEX PVC. THE FLEX PVC SHALL BE SOLVENT WELDED TO SCHEDULE 40 PVC FITTINGS WITH WELD-ON #795 SOLVENT AND #P-70 PRIMER. ALL ROTORS SHALL BE CONNECTED TO LATERAL LINES WITH PRE-MANUFACTURED SWING JOINTS.
- ALL ROTOR, SPRAY AND BUBBLER HEADS SHALL BE SET PERPENDICULAR AND FLUSH TO FINISH GRADE AND WITH A CLEARANCE OF FOUR INCHES (MINIMUM) FROM THE EDGE OF ANY BUILDINGS, WALLS, BOULDER, AND HARDSCAPE, UNLESS OTHERWISE SPECIFIED.
- ALL ROTOR, SPRAY AND BUBBLER HEADS SHALL BE FLUSHED AND ADJUSTED FOR OPTIMUM COVERAGE WITH MINIMUM OVERSPRAY ON WALKS, STREETS, WALLS, ETC.

**P. AUTOMATIC CONTROLLER:**

- INSTALL THE CONTROLLER AT THE LOCATION INDICATED BY THE OWNER. INSTALL CONTROLLER WITH A BACKUP BATTERY AS RECOMMENDED BY THE MANUFACTURER.
- THE IRRIGATION CONTRACTOR SHALL COORDINATE 120 V.A.C. ELECTRICAL POWER TO CONTROLLER AND DEDICATE ONE (1) 20-AMP BREAKER FOR EACH CONTROLLER. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO MAKE THE FINAL HOOK-UP FROM THE ELECTRICAL SOURCE TO THE CONTROLLER UNIT ONLY.
- ALL VALVE CONTROL WIRE SHALL BE AWG 14 TYPE UF, 600 VOLT TEST, DIRECT BURIAL. NO SPLICES SHALL BE ALLOWED EXCEPT AT VALVES AND CONTROLLER. WHERE SPLICES MAY BE NECESSARY DUE TO EXCESSIVELY LONG WIRE RUNS, THE CONTRACTOR SHALL MAKE ALL SPLICES IN 6" ROUND VALVE BOXES WITH 3MS "DBY-DIRECT BURIAL SPLICE KIT". THE CONTRACTOR SHALL LABEL ALL WIRES WITH WATERPROOF TAGS AND MARKERS AT ALL SPLICES AND VALVE MANIFOLDS, AND SHALL LEAVE A 24" COIL OF EXCESS WIRE AT EACH CONNECTION.
- PROVIDE #10 COMMON WIRE, DIRECT BURIAL, TO ALL REMOTE CONTROL VALVES.
- CONNECT ALL DIRECT BURIAL WIRES TO VALVES USING 3MS "DBY-DIRECT BURIAL SPLICE KIT" (UNLESS OTHERWISE SPECIFIED).
- PROVIDE THREE ADDITIONAL IRRIGATION CONTROL WIRES ALONG EACH BRANCH OF MAINLINE FOR FUTURE EXPANSION. STUB ADDITIONAL CONTROL WIRES INTO BACK OF IRRIGATION CONTROLLER.
- THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL CONTROL WIRE SLEEVES AND PIPE SLEEVES UNDER PAVED AREAS PRIOR TO PAVING - SEE SLEEVING NOTES.
- INSTALL THE RAIN SENSOR IN THE VICINITY OF THE CONTROLLER, AND COORDINATE LOCATION WITH THE OWNER. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THE RAIN SENSOR IS PLACED IN A LOCATION WHERE IT CAN RECEIVE ADEQUATE RAINFALL WITHOUT OBSTRUCTIONS. IF IT IS PLACED IN AN INADEQUATE LOCATION, THE IRRIGATION CONTRACTOR MAY BE REQUIRED TO RELOCATE IT AT NO ADDITIONAL COST TO THE OWNER.

**R. ALL IRRIGATION EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.**

**S. QUALITY CONTROL:**

- PERFORM COVERAGE TESTS AFTER SPRINKLER SYSTEM IS COMPLETED, BUT PRIOR TO ANY PLANTING AND PERFORM TESTING IN THE PRESENCE OF THE IRRIGATION DESIGNER AND THE CONSTRUCTION MANAGER.
- TEST SYSTEM TO ASSURE THAT ALL LAWN AND PLANTING AREAS ARE WATERED COMPLETELY AND UNIFORMLY.
- MAKE ALL NECESSARY ADJUSTMENTS TO PROVIDE COMPLETE COVERAGE, INCLUDING REALIGNMENT OF HEADS AND REPLACEMENT OF NOZZLES.

**U. CLEAN UP:**

- DURING IRRIGATION EXCAVATION AND INSTALLATION, KEEP ALL PAVEMENT CLEAN AND ALL WORK AREAS IN A NEAT, ORDERLY CONDITION.
- DISPOSED LEGALLY OF ALL EXCAVATED MATERIALS OFF THE PROJECT SITE.

**V. INSPECTION AND ACCEPTANCE:**

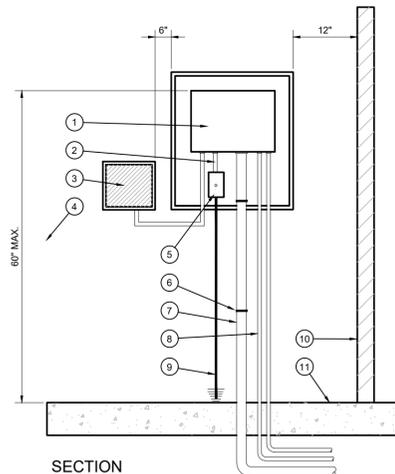
- UPON COMPLETION OF THE WORK, THE IRRIGATION CONTRACTOR SHALL PROVIDE THE SITE CLEAN, FREE OF DEBRIS AND TRASH, AND SUITABLE FOR USE AS INTENDED. THE IRRIGATION CONTRACTOR SHALL THEN REQUEST AN INSPECTION BY THE OWNER TO DETERMINE FINAL ACCEPTABILITY.
- WHEN THE INSPECTED WORK DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL REPLACE AND/OR REPAIR THE REJECTED WORK TO THE OWNER'S SATISFACTION WITHIN 24 HOURS.
- THE MAINTENANCE PERIOD WILL NOT COMMENCE UNTIL THE WORK HAS BEEN RE-INSPECTED BY THE OWNER AND FOUND TO BE ACCEPTABLE. AT THAT TIME, A WRITTEN NOTICE OF FINAL ACCEPTANCE WILL BE ISSUED BY THE OWNER, AND THE MAINTENANCE AND GUARANTEE PERIODS WILL COMMENCE.
- CONTROLLER CHART: THE IRRIGATION CONTRACTOR SHALL PROVIDE A 11" X 17" COLOR-CODED, LAMINATED COPY OF THE IRRIGATION LAYOUT AND PLACE IT IN THE CONTROLLER'S COVER. THE CONTROLLER CHART SHALL CLEARLY DELINEATE THE AREAS COVERED BY EACH VALVE, USING A SEPARATE COLOR FOR EACH ZONE.
- TURN THE FOLLOWING ITEMS IN TO THE OWNER UPON COMPLETION OF THE INSTALLATION:
  - QUICK COUPLER KEYS (2)
  - CONTROLLER MANUAL (1)
  - CONTROLLER KEYS (2)
  - A MINIMUM OF (2) COPIES OF RECORD DRAWINGS. A RECORD DRAWING IS A RECORD OF ALL CHANGES THAT OCCURRED IN THE FIELD AND THAT ARE DOCUMENTED THROUGH CHANGE ORDERS, ADDENDA, OR CONTRACTOR/CONSULTANT DRAWING MARKUPS.

**W. REFER TO THE PLANTING SPECIFICATIONS FOR ADDITIONAL CONDITIONS OF FINAL ACCEPTANCE AND START OF THE MAINTENANCE PERIOD.**

**X. WARRANTY:**

- THE IRRIGATION SYSTEM SUPPLIED AND INSTALLED SHALL BE WARRANTED (LABOR AND MATERIALS) TO REMAIN OPERATIONAL FOR A PERIOD OF 12 MONTHS AFTER THE DATE OF FINAL ACCEPTANCE. DURING THIS PERIOD, THE CONTRACTOR SHALL ALSO REPAIR ANY SETTLEMENT OF THE IRRIGATION TRENCHES.
- BY THE END OF THE WARRANTY PERIOD, ANY IRRIGATION PART THAT IS EITHER NON-OPERATIONAL OR THAT IS OPERATING BELOW STANDARDS DETERMINED BY THE OWNER, SHALL BE REMOVED FROM THE SITE AND SHALL BE REPLACED. REPLACEMENTS SHALL BE OF THE SAME KIND AS SPECIFIED IN THE IRRIGATION LEGEND, AND SHALL BE INSTALLED AS ORIGINALLY SPECIFIED.
- IRRIGATION PARTS DAMAGED OR IMPAIRED DUE TO ACTS OF GOD, VANDALISM, AND/OR THE OWNER'S IMPROPER MAINTENANCE SHALL NOT BE COVERED BY THIS WARRANTY.

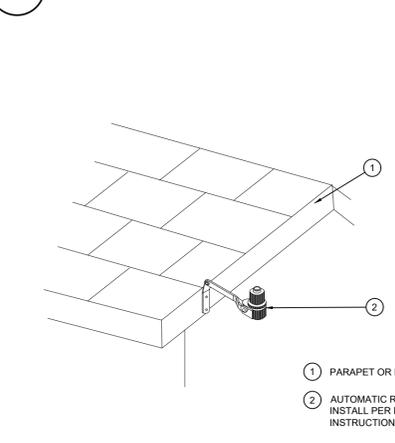
**Y. SHOULD THE PERMITTING JURISDICTION REQUIRE AN IRRIGATION AUDIT, THE IRRIGATION CONTRACTOR SHALL RETAIN THE SERVICES OF A THIRD-PARTY CERTIFIED LANDSCAPE IRRIGATION AUDITOR, AT NO ADDITIONAL COST TO THE OWNER.**



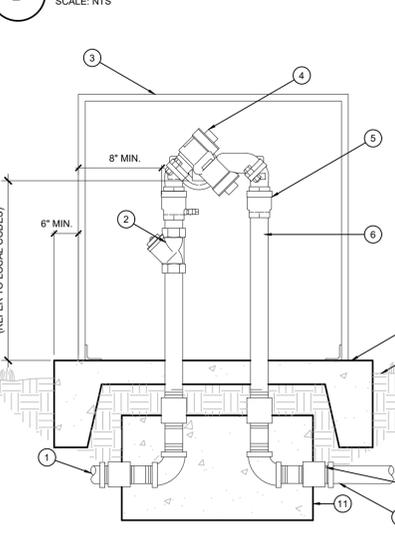
**SECTION**

- NOTES:**
- 1) MOUNT CONTROLLER AND CABINET PER MANUFACTURER'S DIRECTIONS.
  - 2) 120 V.A.C. POWER PROVIDED BY OTHERS. LANDSCAPE CONTRACTOR SHALL MAKE FINAL CONNECTION AT CONTROLLER. CONNECT TO ELECTRICAL SUPPLY PER NATIONAL ELECTRIC CODE AND LOCAL CODE.
  - 3) LOCATE GROUND ROD 8' MIN. FROM CONTROLLER. VERIFY LOCATION OF GROUND ROD, CONTROLLER AND SOURCE OF ELECTRICITY WITH MANUFACTURER'S REPRESENTATIVE AND OWNER AS PART OF PRE-CONSTRUCTION MEETING.

**A CONTROLLER - WALL MOUNT, INDOOR**  
SCALE: NTS

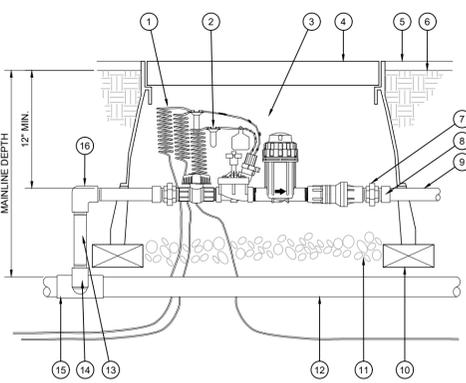


**B RAIN SENSOR, ROOF MOUNT**  
SCALE: NTS

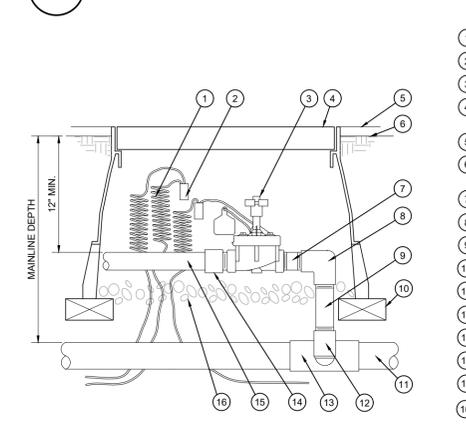


**C BACKFLOW PREVENTER**  
SCALE: NTS

- 1 CONTROLLER PER LEGEND
- 2 1/2" ELECTRICAL CONDUIT BETWEEN CONTROLLER AND ELECT. BOX CLAMP TO WALL
- 3 SENSOR MONITOR PANEL OR RECEIVER (WHERE OCCURS)
- 4 WALL
- 5 120 VOLT SERVICE IN WATERPROOF JUNCTION BOX WITH DISCONNECT SWITCH, INSTALL INSIDE STAINLESS ENCLOSURE
- 6 C-CLAMPS (TYP.)
- 7 CONDUIT(S) FOR 24 VOLT CONTROL WIRES. CLAMP TO WALL, USE 1 CONDUIT FOR 0-24 STATIONS, USE 2 CONDUITS FOR 25-48 STATIONS
- 8 SENSOR CABLES IN CONDUITS (WHERE OCCURS)
- 9 GROUNDING PER MANUFACTURER
- 10 WALL
- 11 FINISH FLOOR SURFACE



**D DRIP CONTROL ZONE KIT**  
SCALE: NTS



**E REMOTE CONTROL VALVE**  
SCALE: NTS

- 1 30-INCH LINEAR LENGTH OF WIRE, COILED
- 2 WATERPROOF CONNECTION (ANY APPROVED)
- 3 REMOTE CONTROL VALVE ASSEMBLY
- 4 JUMBO PLASTIC VALVE BOX BY CARSON (OR EQUAL)
- 5 TOP OF MULCH
- 6 FINISHED GRADE-1" BELOW TOP OF BOX IN TURF AREAS, 2" IN SHRUB AREAS
- 7 PVC UNION (2)
- 8 PVC SCH 40 MALE ADAPTER (2)
- 9 PVC LATERAL PIPE
- 10 BRICK (1 OF 4)
- 11 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
- 12 PVC MAINLINE PIPE
- 13 PVC SCH 80 NIPLLE (LENGTH AS REQUIRED)
- 14 SCH. 40 PVC ELL
- 15 SCH. 40 PVC TEE OR ELL
- 16 SCH. 40 PVC THREADED ELL

- 1 30-INCH LINEAR LENGTH OF WIRE, COILED
- 2 WATERPROOF CONNECTION (ANY APPROVED)
- 3 REMOTE CONTROL VALVE
- 4 JUMBO PLASTIC VALVE BOX BY CARSON (OR EQUAL)
- 5 TOP OF MULCH
- 6 FINISHED GRADE-1" BELOW TOP OF BOX IN TURF AREAS, 2" IN SHRUB AREAS
- 7 PVC SCH 80 NIPLLE (CLOSE)
- 8 PVC SCH 40 ELL
- 9 PVC SCH 80 NIPLLE (LENGTH AS REQUIRED)
- 10 BRICK (1 OF 4)
- 11 PVC MAINLINE PIPE
- 12 SCH. 40 PVC ELL
- 13 PVC SCH 40 TEE OR ELL
- 14 PVC SCH 40 MALE ADAPTER
- 15 PVC LATERAL PIPE
- 16 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL



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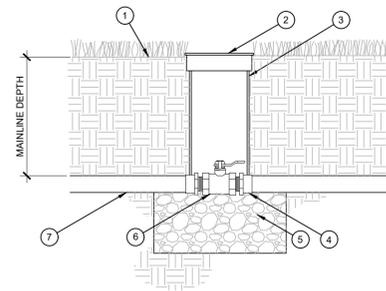
**IRRIGATION DETAILS AND SPECIFICATIONS**

DESIGN:	EMS
DRAWN:	EMS
CHECKED:	RM
DATE:	12/18/2020



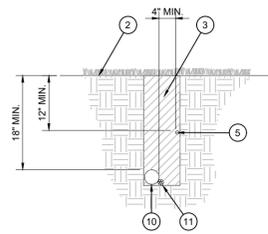
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PLOTTED BY: E5430  
 PLOT DATE: 12/19/2020 4:04 PM  
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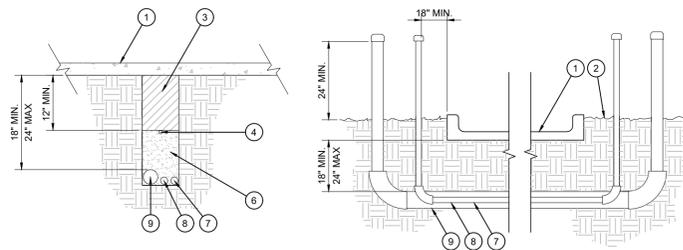
- 1 FINISH GRADE AT 1" BELOW TOP OF BOX IN TURF AREAS; 2" BELOW TOP OF BOX IN SHRUB/GROUNDCOVER AREAS
- 2 9" ROUND VALVE BOX WITH LOCKABLE LID
- 3 EXTENSION SECTION AS NECESSARY TO MEET GRADE
- 4 PVC MALE ADAPTER
- 5 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
- 6 BRASS BALL VALVE (SIZED PER MAINLINE)
- 7 IRRIGATION MAINLINE

**F BRASS BALL VALVE**  
SCALE: NTS



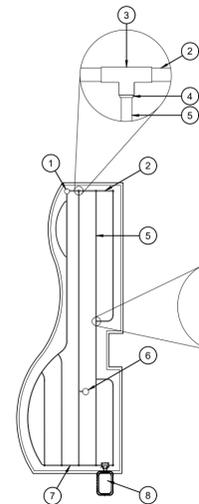
- 1 PAVEMENT SURFACE
- 2 FINISH GRADE
- 3 TRENCH BACKFILL
- 4 LOCATOR WIRE W/BURIED CAUTION TAPE
- 5 PVC IRRIGATION LATERAL
- 6 SAND BACKFILL
- 7 SCH. 40 PVC LATERAL SLEEVE - SEE PLANS FOR SIZE
- 8 SCH. 40 PVC WIRE SLEEVE FOR CONTROL WIRES, MIN. 2" DIA.
- 9 SCH. 40 PVC MAINLINE SLEEVE - SEE PLANS FOR SIZE
- 10 PVC IRRIGATION MAINLINE
- 11 CONTROL WIRES - TAPE TO MAINLINE AT 10' INTERVALS
- 12 PVC CAP, SOLVENT WELDED

**TRENCHING**



**SLEEVING**

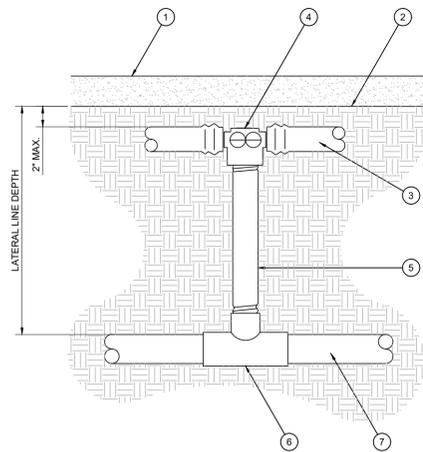
**G PIPE AND SLEEVE INSTALLATION**  
SCALE: NTS



- 1 FLUSH VALVE
- 2 SCH. 40 PVC EXHAUST HEADER
- 3 SCH. 40 PVC TEE OR ELL
- 4 COMPRESSION ADAPTER
- 5 DRIP LINE
- 6 AIR RELIEF VALVE AT HIGH POINT OF SYSTEM (WHERE INDICATED ON PLANS)
- 7 SCH. 40 PVC SUPPLY HEADER
- 8 CONTROL VALVE

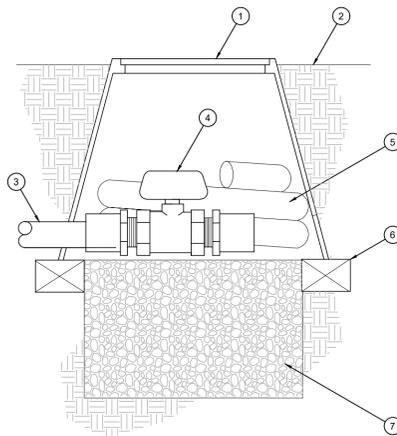
NOTE: SET DRIP LINES 3"-6" AWAY FROM HARDSCAPE

**H SUBSURFACE DRIP LINE LAYOUT**  
SCALE: NOT TO SCALE



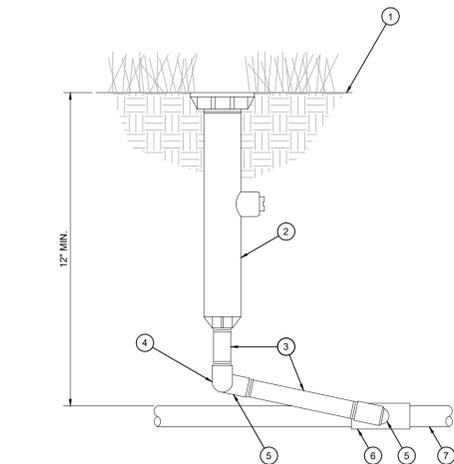
- 1 TOP OF MULCH
- 2 FINISH GRADE
- 3 DRIP LINE PER PLAN
- 4 INSERT TEE OR ELBOW
- 5 SCH. 80 PVC NIPPLE (LINE SIZE)
- 6 SCH. 40 PVC TEE (SST)
- 7 SCH. 40 PVC SUPPLY HEADER (SIZE PER PLAN)

**I SUBSURFACE DRIPLINE CONNECTION**  
SCALE: NOT TO SCALE



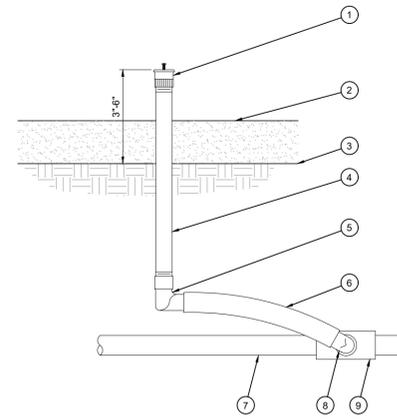
- 1 10" ROUND PLASTIC VALVE BOX WITH LOCKABLE LID, "CARSON" OR APPROVED EQUAL
- 2 FINISH GRADE - TOP OF VALVE BOX TO BE 2" ABOVE FINISH GRADE IN PLANTER AREAS
- 3 DRIP EXHAUST HEADER
- 4 BALL VALVE, LINE SIZE
- 5 3' COILED LENGTH OF LINE SIZE FLEX HOSE. SOLVENT WELD TO VALVE
- 6 RED BRICK TYPICAL, 3 REQUIRED
- 7 6" DEEP LAYER OF PEA GRAVEL

**J FLUSH VALVE**  
SCALE: NTS

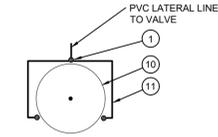


- 1 FINISH GRADE
- 2 POP-UP SPRAY HEAD
- 3 SCH. 80 PVC NIPPLE (LENGTH AS REQUIRED)
- 4 SCH. 40 PVC ELL
- 5 SCH. 40 PVC STREET ELL
- 6 SCH. 40 PVC TEE OR ELL
- 7 PVC LATERAL PIPE

**K POP-UP SPRAY HEAD**  
SCALE: NTS



- 1 BUBBLER PER LEGEND - 3 PER TREE
- 2 MULCH
- 3 FINISH GRADE/TOP OF MULCH
- 4 UV RADIATION RESISTANT 1/2-INCH PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
- 5 1/2-INCH FEMALE NPT x 0.490-INCH BARB ELBOW
- 6 SWING PIPE, 12-INCH LENGTH
- 7 PVC LATERAL PIPE
- 8 1/2-INCH MALE NPT x .490-INCH BARB ELBOW
- 9 SCH 40 TEE OR ELL
- 10 EDGE OF ROOTBALL
- 11 PVC LATERAL LINE - 3/4"



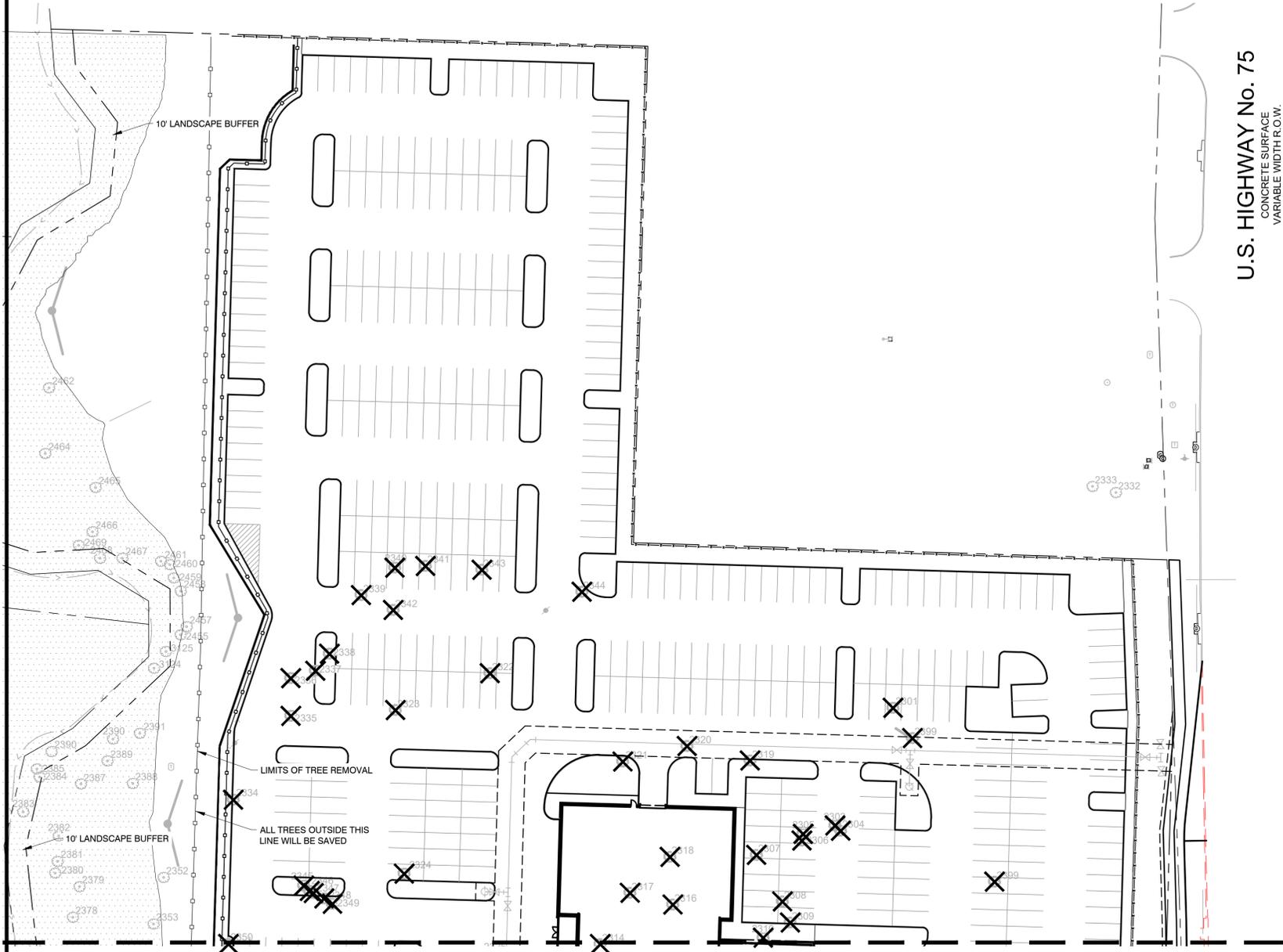
**BUBBLER LAYOUT PLAN VIEW**

**L BUBBLER**  
SCALE: NTS

No.	DATE	REVISION	BY



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MATCHLINE - SEE SHEET LP-1

LEGEND

- TREE TO BE REMOVED
- TREE TO BE SAVED

TREE TOTALS

TOTAL TREES	= 162
TOTAL TREES OVER 42"	= 3**
TOTAL TREE REMOVED	= 73
4" - 16" REMOVED TREES	= 29
>16" REMOVED TREES	= 42
>42" REMOVE TREES	= 2 (42" - NOT PROTECTED, 60" - PROTECTED)
TOTAL MITIGATION REQUIRED	= 120"*

\*MORE THAN 70% OF QUALITY TREES ARE BEING PRESERVED WITHIN THE 100-YEAR FLOODPLAIN. NO MITIGATION IS REQUIRED PER Sec.146-136(f)(3)(b).

1 - QUALITY SPECIMEN TREE TO BE REMOVED AND MITIGATED WITH 20, 6" CAL. TREES TO PROVIDE 2:1 REPLACEMENT.

\*\* 1 TREE OVER 42" IS NOT BEING REMOVED.

TREE PRESERVATION TABLE CONTINUED ON SHEET TP-1

U.S. HIGHWAY No. 75  
 CONCRETE SURFACE  
 VARIABLE WIDTH ROW.

TREE PRESERVATION TABLE

Tree Number	Botanical Name	Common Name	DBH (")	Status	Quality	Mitigation Required	Exempt-Reason	Mitigation Inches	Preservation Inches
2382	<i>Maclura pomifera</i>	BOISDARC	14	SAVE	NO	NO			14
2383	<i>Quercus</i>	OAK	14	SAVE	YES	NO			14
2384	<i>Quercus</i>	OAK	34	SAVE	YES	NO			34
2385	<i>Quercus</i>	OAK	16	SAVE	YES	NO			16
2386	<i>Quercus</i>	OAK	20	SAVE	YES	NO			20
2387	<i>Maclura pomifera</i>	BOISDARC	16	SAVE	NO	NO			16
2388	<i>Carya illinoensis</i>	PECAN	16	SAVE	YES	NO			16
2389	<i>Celtis occidentalis</i>	HACKBERRY	14	SAVE	NO	NO			14
2390	<i>Maclura pomifera</i>	BOISDARC	24	SAVE	NO	NO			24
2391	<i>Carya illinoensis</i>	PECAN	8	SAVE	YES	NO			8
2392	<i>Quercus</i>	OAK	24	REMOVE	YES	YES	CONSTRUCTION	0	
2393	<i>Carya illinoensis</i>	PECAN	18	REMOVE	YES	YES	CONSTRUCTION	18	
2394	<i>Carya illinoensis</i>	PECAN	16	REMOVE	YES	YES	CONSTRUCTION	0	
2395	<i>Carya illinoensis</i>	PECAN	14	REMOVE	YES	YES	CONSTRUCTION	0	
2396	<i>Carya illinoensis</i>	PECAN	30	REMOVE	YES	YES	CONSTRUCTION	0	
2397	<i>Carya illinoensis</i>	PECAN	18	REMOVE	YES	YES	CONSTRUCTION	0	
2398	<i>Carya illinoensis</i>	PECAN	22	REMOVE	YES	YES	CONSTRUCTION	0	
2399	<i>Carya illinoensis</i>	PECAN	36	REMOVE	YES	NO	CONSTRUCTION	0	
2400	<i>Carya illinoensis</i>	PECAN	18	REMOVE	YES	NO	CONSTRUCTION	0	
2401	<i>Celtis occidentalis</i>	HACKBERRY	8	REMOVE	NO	NO			
2402	<i>Carya illinoensis</i>	PECAN	24	REMOVE	YES	YES	CONSTRUCTION	0	
2403	<i>Carya illinoensis</i>	PECAN	10	REMOVE	YES	YES	CONSTRUCTION	0	
2404	<i>Carya illinoensis</i>	PECAN	12	REMOVE	YES	YES	CONSTRUCTION	0	
2405	<i>Carya illinoensis</i>	PECAN	6	REMOVE	YES	YES	CONSTRUCTION	0	
2406	<i>Carya illinoensis</i>	PECAN	20	REMOVE	YES	YES	CONSTRUCTION	0	
2407	<i>Carya illinoensis</i>	PECAN	18	REMOVE	YES	YES	CONSTRUCTION	0	
2408	<i>Carya illinoensis</i>	PECAN	24	REMOVE	YES	YES	CONSTRUCTION	0	
2409	<i>Carya illinoensis</i>	PECAN	28	REMOVE	YES	YES	CONSTRUCTION	0	
2410	<i>Carya illinoensis</i>	PECAN	14	REMOVE	YES	YES	CONSTRUCTION	0	
2411	<i>Carya illinoensis</i>	PECAN	18	REMOVE	YES	YES	CONSTRUCTION	0	
2412	<i>Carya illinoensis</i>	PECAN	20	REMOVE	YES	YES	CONSTRUCTION	0	
2413	<i>Carya illinoensis</i>	PECAN	18	REMOVE	YES	YES	CONSTRUCTION	0	
2414	<i>Carya illinoensis</i>	PECAN	16	REMOVE	YES	YES	CONSTRUCTION	0	
2415	<i>Carya illinoensis</i>	PECAN	18	REMOVE	YES	YES	CONSTRUCTION	0	
2419	<i>Populus deltoides</i>	COTTONWOOD	44	SAVE	NO	NO			44
2420	<i>Carya illinoensis</i>	PECAN	14	SAVE	YES	NO			14
2421	<i>Quercus</i>	OAK	10	SAVE	YES	NO			10
2422	<i>Salix</i>	WILLOW	36	SAVE	NO	NO			36
2423	<i>Maclura pomifera</i>	BOISDARC	8	SAVE	NO	NO			8
2424	<i>Quercus</i>	OAK	18	SAVE	YES	NO			18
2425	<i>Quercus</i>	OAK	18	SAVE	YES	NO			18
2426	<i>Quercus</i>	OAK	18	SAVE	YES	NO			18
2427	<i>Quercus</i>	OAK	16	SAVE	YES	NO			16
2428	<i>Maclura pomifera</i>	BOISDARC TRIPL	18	SAVE	NO	NO			18
2429	<i>Quercus</i>	OAK	14	REMOVE	YES	NO	DRAINAGE		
2430	<i>Quercus</i>	OAK	16	SAVE	YES	NO			16
2431	<i>Maclura pomifera</i>	BOISDARC	8	SAVE	NO	NO			8
2432	<i>Maclura pomifera</i>	BISDARC	16	SAVE	NO	NO			16
2433	<i>Maclura pomifera</i>	BOISDARC	18	SAVE	NO	NO			18
2434	<i>Maclura pomifera</i>	BOISDARC	10	SAVE	NO	NO			10
2435	<i>Quercus stellata</i>	POST OAK	18	SAVE	YES	NO			18
2436	<i>Quercus</i>	OAK	10	SAVE	YES	NO			10
2437	<i>Maclura pomifera</i>	BOISDARC	8	SAVE	NO	NO			8
2438	<i>Quercus stellata</i>	POST OAK	7	SAVE	YES	NO			7
2439	<i>Quercus</i>	OAK	22	SAVE	YES	NO			22
2440	<i>Quercus stellata</i>	POST OAK	8	SAVE	YES	NO			8
2441	<i>Maclura pomifera</i>	BOISDARC	6	SAVE	NO	NO			6
2442	<i>Maclura pomifera</i>	BOISDARC	12	SAVE	NO	NO			12
2443	<i>Maclura pomifera</i>	BOISDARC	8	SAVE	NO	NO			8
2444	<i>Quercus stellata</i>	POST OAK	18	SAVE	YES	NO			18
2445	<i>Maclura pomifera</i>	BOISDARC	8	SAVE	NO	NO			8
2446	<i>Carya illinoensis</i>	PECAN	8	SAVE	YES	NO			8
2447	<i>Quercus</i>	OAK	12	SAVE	YES	NO			12
2448	<i>Quercus</i>	OAK	8	SAVE	YES	NO			8
2449	<i>Maclura pomifera</i>	BOISDARC	8	SAVE	NO	NO			8
2450	<i>Quercus</i>	OAK	6	SAVE	YES	NO			6
2451	<i>Quercus</i>	OAK	10	SAVE	YES	NO			10
2452	<i>Quercus</i>	OAK	12	SAVE	YES	NO			12
2455	<i>Quercus</i>	OAK	16	SAVE	YES	NO			16
2457	<i>Celtis occidentalis</i>	HACKBERRY	8	SAVE	YES	NO			8
2458	<i>Celtis occidentalis</i>	HACKBERRY	14	SAVE	NO	NO			14
2459	<i>Quercus</i>	OAK	12	SAVE	YES	NO			12
2460	<i>Maclura pomifera</i>	BOISDARC	12	SAVE	NO	NO			12
2461	<i>Carya illinoensis</i>	PECAN	18	SAVE	YES	NO			18
2462	<i>Carya illinoensis</i>	PECAN	36	SAVE	YES	NO			36
2463	<i>Quercus</i>	OAK	26	SAVE	YES	NO			26
2464	<i>Carya illinoensis</i>	PECAN	32	SAVE	YES	NO			32
2465	<i>Carya illinoensis</i>	PECAN	14	SAVE	YES	NO			14
2466	<i>Quercus stellata</i>	POST OAK	16	SAVE	YES	NO			16
2467	<i>Carya illinoensis</i>	PECAN	12	SAVE	YES	NO			12
2468	<i>Quercus stellata</i>	POST OAK	16	SAVE	YES	NO			16
2469	<i>Quercus</i>	OAK	24	SAVE	YES	NO			24
3124	<i>Quercus</i>	OAK	10	SAVE	YES	NO			10
3125	<i>Celtis occidentalis</i>	HACKBERRY	12	SAVE	NO	NO			12



**McKINNEY DODGE**  
 McKINNEY, TX

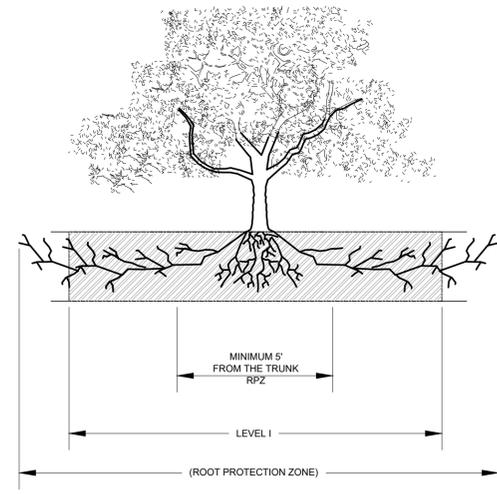
No.	DATE	REVISION	BY

TREE PRESERVATION

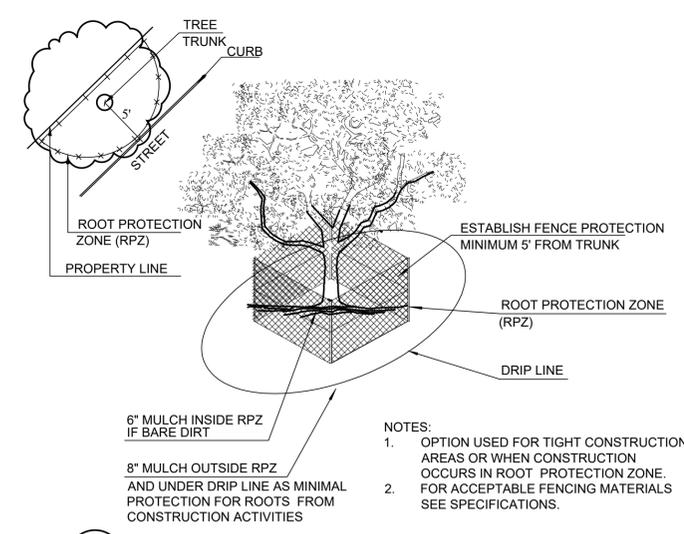
DESIGN: EMS  
 DRAWN: EMS  
 CHECKED: RM  
 DATE: 06/05/2020

SHEET  
 TP-2

PLOTTED BY: E5430  
 PLOT DATE: 12/19/2020 3:13 PM  
 LOCATION: C:\USERS\E5430\DRPBOX (EDG)\EDG - SHARED\2018\MCKINNEY DODGE - MCKINNEY TX AUTO DELERSHIP MCKINNEY 2020-12-18.DWG  
 LAST SAVED: 12/18/2020 11:20 AM



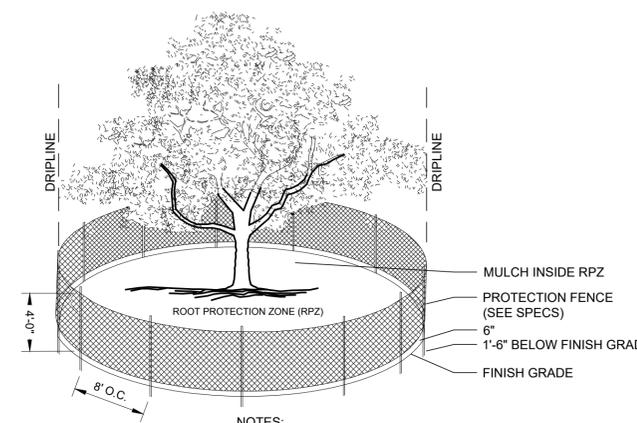
**C TREE PROTECTION FENCE - ELEVATION**  
SCALE: NOT TO SCALE



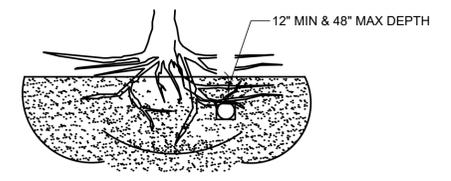
**A TREE PROTECTION FENCE - LEVEL 2**  
SCALE: NOT TO SCALE

TREES THAT ARE MARKED TO BE PRESERVED ON A SITE PLAN AND FOR WHICH UTILITIES MUST PASS THROUGH THEIR ROOT PROTECTION ZONES MAY REQUIRE TUNNELING AS OPPOSED TO OPEN TRENCHES. THE DECISION TO TUNNEL WILL BE DETERMINED ON A CASE BY CASE BASIS BY THE ENGINEER.

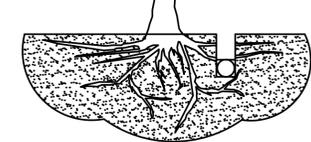
TUNNELS SHALL BE DUG THROUGH THE ROOT PROTECTION ZONE IN ORDER TO MINIMIZE ROOT DAMAGE.



**D TREE PROTECTION FENCE**  
SCALE: NOT TO SCALE



TUNNEL TO MINIMIZE ROOT DAMAGE (TOP) AS OPPOSED TO SURFACE-DUG TRENCHES IN ROOT PROTECTION ZONE WHEN THE 5' MINIMUM DISTANCE FROM TRUNK CAN NOT BE ACHIEVED.



OPEN TRENCHING MAY BE USED IF EXPOSED TREE ROOTS DO NOT EXCEED 3\"/>

**B BORING THROUGH ROOT PROTECTION ZONE**  
SCALE: NOT TO SCALE

**TREE PROTECTION SPECIFICATIONS**

- MATERIALS**
- FABRIC: 4 FOOT HIGH, 14.5 GAUGE ORANGE PLASTIC FENCING AS SHOWN ON THE PLANS AND SHALL BE WOVEN WITH 2 INCH MESH OPENINGS SUCH THAT IN A VERTICAL DIMENSION OF 23 INCHES ALONG THE DIAGONALS OF THE OPENINGS THERE SHALL BE AT LEAST 7 MESHES. FABRIC SHALL BE PLACED 6\"/>
  - POSTS: POSTS SHALL BE A MINIMUM OF 72 INCHES LONG, 8\"/>
  - THE WIRE: WIRE FOR ATTACHING THE FABRIC TO THE T-POSTS SHALL BE NOT LESS THAN NO. 12 GAUGE GALVANIZED WIRE.
  - USED MATERIALS: PREVIOUSLY-USED MATERIALS, MEETING THE ABOVE REQUIREMENTS AND WHEN APPROVED BY THE OWNER, MAY BE USED.
- CONSTRUCTION METHODS**
- ALL TREES AND SHRUBS SHOWN TO REMAIN WITHIN THE PROXIMITY OF THE CONSTRUCTION SITE SHALL BE PROTECTED PRIOR TO BEGINNING ANY DEVELOPMENT ACTIVITY.
  - EMPLOY THE SERVICES OF AN ISA (INTERNATIONAL SOCIETY OF ARBORICULTURE) CERTIFIED ARBORIST AND OBTAIN ALL REQUIRED PERMITS TO PRUNE THE EXISTING TREES FOR CLEANING, RAISING AND THINNING, AS MAY BE REQUIRED.
  - PROTECTIVE FENCING SHALL BE ERECTED OUTSIDE THE CRITICAL ROOT ZONE (CRZ, EQUAL TO 1' FROM THE TRUNK FOR EVERY 1\"/>
  - PROTECTIVE FENCE LOCATIONS IN CLOSE PROXIMITY TO STREET INTERSECTIONS OR DRIVES SHALL ADHERE TO THE APPLICABLE JURISDICTION'S SIGHT DISTANCE CRITERIA.
  - THE PROTECTIVE FENCING SHALL BE ERECTED BEFORE SITE WORK COMMENCES AND SHALL REMAIN IN PLACE DURING THE ENTIRE CONSTRUCTION PHASE.
  - THE INSTALLATION POSTS SHALL BE PLACED EVERY 6 FEET ON CENTER AND EMBEDDED TO 18 INCHES DEEP. MESH FABRIC SHALL BE ATTACHED TO THE INSTALLATION POSTS BY THE USE OF SUFFICIENT WIRE TIES TO SECURELY FASTEN THE FABRIC TO THE T-POSTS TO HOLD THE FABRIC IN A STABLE AND UPRIGHT POSITION.
  - WITHIN THE CRZ:
    - DO NOT CLEAR, FILL OR GRADE IN THE CRZ OF ANY TREE.
    - DO NOT STORE, STOCKPILE OR DUMP ANY JOB MATERIAL, SOIL OR RUBBISH UNDER THE SPREAD OF THE TREE BRANCHES.
    - DO NOT PARK OR STORE ANY EQUIPMENT OR SUPPLIES UNDER THE TREE CANOPY.
    - DO NOT SET UP ANY CONSTRUCTION OPERATIONS UNDER THE TREE CANOPY (SUCH AS PIPE CUTTING AND THREADING, MORTAR MIXING, PAINTING OR LUMBER CUTTING).
    - DO NOT NAIL OR ATTACH TEMPORARY SIGNS METERS, SWITCHES, WIRES, BRACING OR ANY OTHER ITEM TO THE TREES.
    - DO NOT PERMIT RUNOFF FROM WASTE MATERIALS INCLUDING SOLVENTS, CONCRETE WASHOUTS, ASPHALT TACK COATS (MC-30 OIL), ETC. TO ENTER THE CRZ. BARRIERS ARE TO BE PROVIDED TO PREVENT SUCH RUNOFF SUBSTANCES FROM ENTERING THE CRZ WHENEVER POSSIBLE, INCLUDING IN AN AREA WHERE RAIN OR SURFACE WATER COULD CARRY SUCH MATERIALS TO THE ROOT SYSTEM OF THE TREE.
  - ROUTE UNDERGROUND UTILITIES TO AVOID THE CRZ. IF DIGGING IS UNAVOIDABLE, BORE UNDER THE ROOTS, OR HAND DIG TO AVOID SEVERING THEM.
  - WHERE EXCAVATION IN THE VICINITY OF TREES MUST OCCUR, SUCH AS FOR IRRIGATION INSTALLATION, PROCEED WITH CAUTION, AND USING HAND TOOLS ONLY.
  - THE CONTRACTOR SHALL NOT CUT ROOTS LARGER THAN ONE INCH IN DIAMETER WHEN EXCAVATION OCCURS NEAR EXISTING TREES. ALL ROOTS LARGER THAN ONE INCH IN DIAMETER ARE TO BE CUT CLEANLY. FOR OAKS ONLY, ALL WOUNDS SHALL BE PAINTED WITH WOUND SEALER WITHIN 30 MINUTES.
  - REMOVE ALL TREES, SHRUBS OR BUSHES TO BE CLEARED FROM PROTECTED ROOT ZONE AREAS BY HAND.
  - TREES DAMAGED OR KILLED DUE TO CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED AT THE CONTRACTOR'S EXPENSE AND TO THE PROJECT OWNER'S AND LOCAL JURISDICTION'S SATISFACTION.
  - ANY TREE REMOVAL SHALL BE APPROVED BY THE OWNER AND LOCAL JURISDICTION PRIOR TO ITS REMOVAL, AND THE CONTRACTOR SHALL HAVE ALL REQUIRED PERMITS FOR SUCH ACTIVITIES.
  - COVER EXPOSED ROOTS AT THE END OF EACH DAY WITH SOIL, MULCH OR WET BURLAP.
  - IN CRITICAL ROOT ZONE AREAS THAT CANNOT BE PROTECTED DURING CONSTRUCTION AND WHERE HEAVY TRAFFIC IS ANTICIPATED, COVER THE SOIL WITH EIGHT INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION. THIS EIGHT INCH DEPTH OF MULCH SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
  - WATER ALL TREES IMPACTED BY CONSTRUCTION ACTIVITIES, DEEPLY ONCE A WEEK DURING PERIODS OF HOT DRY WEATHER. SPRAY TREE CROWNS WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
  - WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE, USE A PLASTIC VAPOR BARRIER BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE SOIL.
  - CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL TREE PROTECTION FENCING WHEN ALL THREATS TO THE EXISTING TREES FROM CONSTRUCTION-RELATED ACTIVITIES HAVE BEEN REMOVED.



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