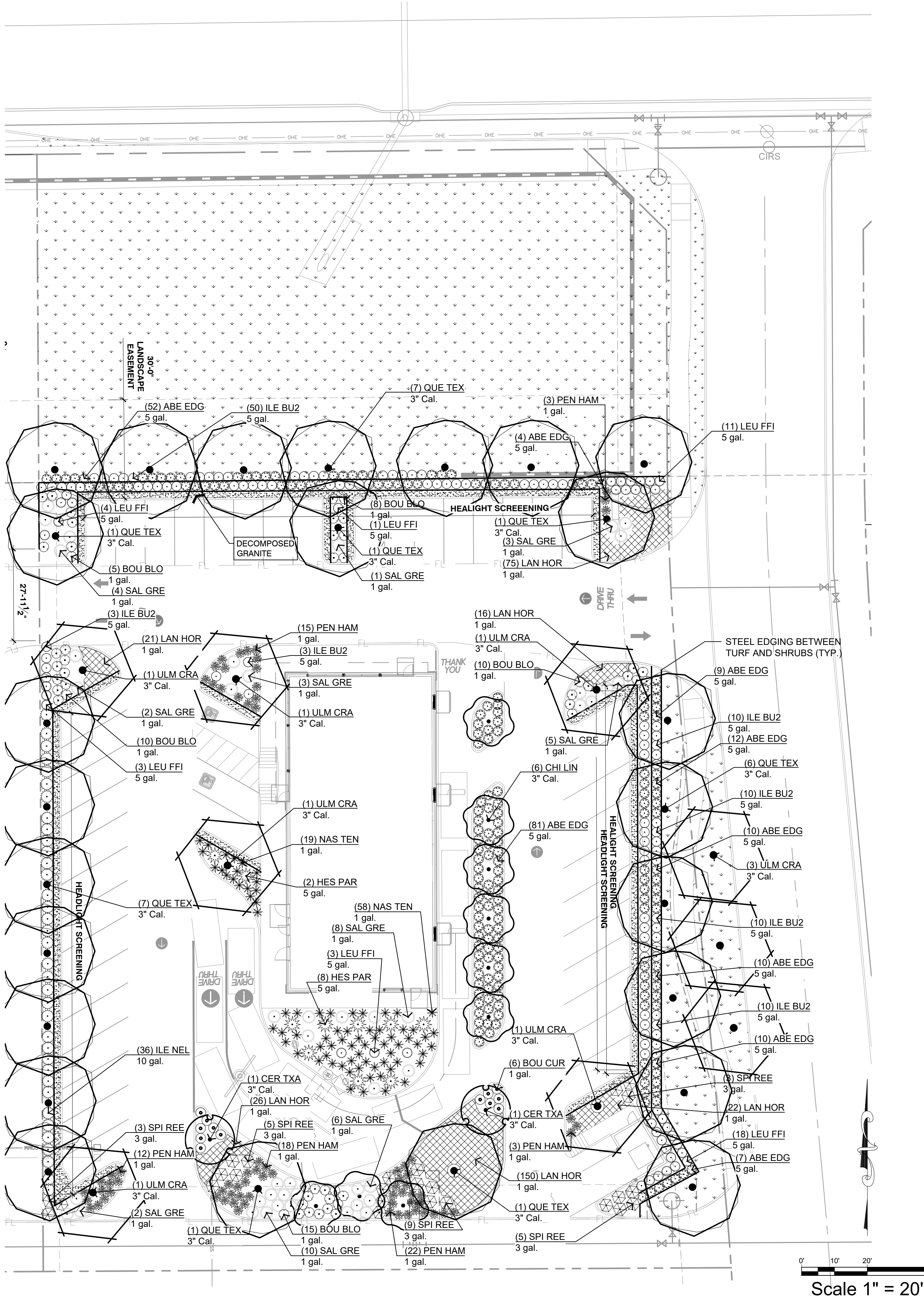


PLOTTED BY: CHRIS DAVIS
 8/29/2023 2:13 PM
 C:\USERS\LOGIC\EDG DROPBOX\EDG -- SHARED\2023\CDONALDS\CDONALDS -- PROSPER TX -- FRONTIER RETAIL CTR\PLANTING -- PROSPER MCDONALDS 22X34 2023-07-14.DWG
 LOCATION: 8/29/2023 2:12 PM
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PLANT LEGEND

SYMBOL	BOTANIC NAME	COMMON NAME	MIN. SIZE	SPACING	QUANTITY	REMARKS
TREES						
CER TXA	CERCIS CANADENSIS TEXENSIS	TEXAS REDBUD	3" cal., 8'-10' high	AS SHOWN	2	
CHI LIN	CHILOPSIS LINEARIS	DESERT WILLOW	3" cal., 8'-10' high	AS SHOWN	9	
QUE TEX	QUERCUS TEXANA	TEXAS RED OAK	3" cal., 10'-12' high	AS SHOWN	25	
ULM CRA	ULMUS CRASSIFOLIA	CEDAR ELM	3" cal., 10'-12' high	AS SHOWN	9	
SHRUBS						
ABE EDG	ABELIA X 'EDWARD GOUCHER'	EDWARD GOUCHER ABELIA	#5 cont.	36" O.C.	189	
HES PAR	HESPERALOE PARVIFLORA	RED YUCCA	#5 cont.	60" O.C.	10	
ILE NAN	ILEX CORNUTA 'BURFORDII'	BURFORD HOLLY	#5 cont.	36" O.C.	97	
ILE NEL	ILEX X 'NELLIE R. STEVENS'	NELLIE R. STEVENS HOLLY	#10 cont.	48" O.C.	36	
LEU FFI	LEUCOPHYLLUM FRUTESCENS 'SAN ANTONIO ROSE'	SAN ANTONIO ROSE TEXAS SAGE	#5 cont.	36" O.C.	41	
SPI REE	SPIRAEA CANTONIENSIS	BRIDAL WREATH SPIREA	#3 cont.	48" O.C.	25	
PERENNIALS AND ORNAMENTAL GRASSES						
BOU CLR	BOUTELOUA CURTIPENDULA	SIDE OATS GRAMA	#1 cont.	36" O.C.	13	
BOU GLO	BOUTELOUA GRACILIS 'BONDE AMBITION'	BLONDE AMBITION BLUE GRAMA	#1 cont.	36" O.C.	50	
LAN HOR	LANTANA HORRIDA	TEXAS LANTANA	#1 cont.	24" O.C.	310	
NAS TEN	NASSELLA TENUISSIMA	MEXICAN FEATHER GRASS	#1 cont.	36" O.C.	77	
PEN HAM	PENNISSETUM ALOPECUROIDES 'HADELN'	HAMELN FOUNTAIN GRASS	#1 cont.	36" O.C.	74	
SAL GRE	SALVIA GREGGII	AUTUMN SAGE	#1 cont.	48" O.C.	45	
TURF AND SEED						
	Cynodon 'TifTuf'	Common Bermuda Grass	Sod	- - -	19,775 SF	
AGGREGATE / STEEL EDGING						
	Decomposed Granite	ASTM C136 - or Equivalent	Aggregate	4" Depth	1,272 SF	
	Steel Edging	ASTM C136 - or Equivalent	Edging		1,272 LF	

LANDSCAPE CALCULATIONS

PERIMETER TREES FRONTIER PARKWAY FRONTAGE LENGTH: STREET TREES REQUIRED: STREET TREES PROVIDED: SHRUBS REQUIRED SHRUBS PROVIDED:	191 LF 7 TREES (1 PER 30 LF OF FRONTAGE) $\frac{191}{30}=6.37$ 7 TREES 96 SHRUBS (15 SHRUBS PER 30 LF OF FRONTAGE) $6.37 \times 15=95.55$ 102 SHRUBS
EASTERN STREET BOUNDARY FRONTAGE LENGTH: STREET TREES REQUIRED: STREET TREES PROVIDED: SHRUBS REQUIRED SHRUBS PROVIDED:	252 LF (MINUS DRIVEWAY LENGTHS) 9 TREES (1 PER 30 LF OF FRONTAGE) $\frac{252}{30}=8.4$ 9 TREES 126 SHRUBS (15 SHRUBS PER 30 LF OF FRONTAGE) $8.4 \times 15=126$
WESTERN PROPERTY BOUNDARY FRONTAGE LENGTH: STREET TREES REQUIRED: STREET TREES PROVIDED: SHRUBS REQUIRED: SHRUBS PROVIDED:	190 LF 7 TREES (1 PER 30 LF OF FRONTAGE) $\frac{190}{30}=6.33$ 7 TREES 95 SHRUBS (15 SHRUBS PER 30 LF OF FRONTAGE) $6.33 \times 15=95$ 36" DUE TO SITE CONSTRUCTIONS W/ PLANT HEIGHT INCREASE
DRIVE THRU REQUIREMENTS ISLAND LENGTH: TREES REQUIRED: TREES PROVIDED: SHRUBS REQUIRED: SHRUBS PROVIDED:	103 LF 7 TREES (1 PER 15 LF OF ISLAND) $\frac{103}{15}=6.86$ 7 TREES 35 SHRUBS (@36" O.C.) $\frac{103}{3}=34.33$ 94 SHRUBS
INTERIOR PARKING REQUIRED LANDSCAPE AREA: TREES PROVIDED: TREES REQUIRED: TREES PROVIDED: HEADLIGHT SCREENING: SHRUBS PROVIDED:	15 SF PER EACH PARKING STALL 615 SF REQUIRED / 4,465 PROVIDED 1 TREE PER 10 PARKING STALLS 4.1 TREES REQUIRED / 5 TREES PROVIDED SHRUBS @ 36" O.C. FULL LENGTH OF PARKING - 415 LF 139 ($4.1 \times 33=138.33$)

GENERAL GRADING AND PLANTING NOTES

- BY SUBMITTING A PROPOSAL FOR THE LANDSCAPE PLANTING SCOPE OF WORK, THE CONTRACTOR CONFIRMS THAT HE HAS READ, AND WILL COMPLY WITH, THE ASSOCIATED NOTES, SPECIFICATIONS, AND DETAILS WITH THIS PROJECT.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL EXISTING VEGETATION (EXCEPT WHERE NOTED TO REMAIN).
- IN THE CONTEXT OF THESE PLANS, NOTES, AND SPECIFICATIONS, "FINISH GRADE" REFERS TO THE FINAL ELEVATION OF THE SOIL SURFACE (NOT TOP OF MULCH) AS INDICATED ON THE GRADING PLANS.
 - BEFORE STARTING WORK, THE LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE ROUGH GRADES OF ALL LANDSCAPE AREAS ARE WITHIN +/- 1" OF FINISH GRADE. SEE SPECIFICATIONS FOR MORE DETAILED INSTRUCTION ON TURF AREA AND PLANTING BED PREPARATION.
 - 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 ON THE GRADING PLANS, AND AREAS OF POTENTIAL PONDING SHALL BE REGRADED TO BLEND IN WITH THE SURROUNDING GRADES AND ELIMINATE PONDING POTENTIAL.
 - THE LANDSCAPE CONTRACTOR SHALL DETERMINE WHETHER OR NOT THE EXPORT OF ANY SOIL WILL BE NEEDED, TAKING INTO ACCOUNT THE ROUGH GRADE PROVIDED, THE AMOUNT OF SOIL AMENDMENTS TO BE ADDED (BASED ON A SOIL TEST, PER SPECIFICATIONS), AND THE FINISH GRADES TO BE ESTABLISHED.
 - ENSURE THAT THE FINISH GRADE IN SHRUB AREAS IMMEDIATELY ADJACENT TO WALKS AND OTHER WALKING SURFACES, AFTER INSTALLING SOIL AMENDMENTS, IS 3" BELOW THE ADJACENT FINISH SURFACE, IN ORDER TO ALLOW FOR PROPER MULCH DEPTH. TAPER THE SOIL SURFACE TO MEET FINISH GRADE, AS SPECIFIED ON THE GRADING PLANS, AT APPROXIMATELY 18" AWAY FROM THE WALKS.
 - ENSURE THAT THE FINISH GRADE IMMEDIATELY ADJACENT TO WALKS AND OTHER WALKING SURFACES, AFTER INSTALLING SOIL AMENDMENTS, IS 1" BELOW THE FINISH SURFACE OF THE WALKS. TAPER THE SOIL SURFACE TO MEET FINISH GRADE, AS SPECIFIED ON THE GRADING PLANS, AT APPROXIMATELY 18" AWAY FROM THE WALKS.
 - SHOULD ANY CONFLICTS AND/OR DISCREPANCIES ARISE BETWEEN THE GRADING PLANS, GEOTECHNICAL REPORT, THESE NOTES AND PLANS, AND ACTUAL CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY BRING SUCH ITEMS TO THE ATTENTION OF THE LANDSCAPE ARCHITECT, GENERAL CONTRACTOR, AND OWNER.
- ALL PLANT LOCATIONS ARE DIAGRAMMATIC. ACTUAL LOCATIONS SHALL BE VERIFIED WITH THE LANDSCAPE ARCHITECT OR DESIGNER PRIOR TO PLANTING. THE LANDSCAPE CONTRACTOR SHALL ENSURE THAT ALL REQUIREMENTS OF THE PERMITTING AUTHORITY ARE MET (I.E., MINIMUM PLANT QUANTITIES, PLANTING METHODS, TREE PROTECTION METHODS, ETC.).
 - THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR DETERMINING PLANT QUANTITIES; PLANT QUANTITIES SHOWN ON LEGENDS AND CALLOUTS ARE FOR GENERAL INFORMATION ONLY. IN THE EVENT OF A DISCREPANCY BETWEEN THE PLAN AND THE PLANT LEGEND, THE PLANT QUANTITY AS SHOWN ON THE PLAN (FOR INDIVIDUAL SYMBOLS) OR CALLOUT (FOR GROUPING/COVER PATTERNS) SHALL TAKE PRECEDENCE.
 - NO SUBSTITUTIONS OF PLANT MATERIALS SHALL BE ALLOWED WITHOUT THE WRITTEN PERMISSION OF THE LANDSCAPE ARCHITECT. IF SOME OF THE PLANTS ARE NOT AVAILABLE, THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING (VIA PROPER CHANNELS).
 - THE CONTRACTOR SHALL, AT A MINIMUM, PROVIDE REPRESENTATIVE PHOTOS OF ALL PLANTS PROPOSED FOR THE PROJECT. THE CONTRACTOR SHALL ALLOW THE LANDSCAPE ARCHITECT AND THE OWNER/OWNERS REPRESENTATIVE TO INSPECT, AND APPROVE OR REJECT, ALL PLANTS DELIVERED TO THE JOBSITE. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR SUBMITTALS.
- THE CONTRACTOR SHALL MAINTAIN THE LANDSCAPE IN A HEALTHY CONDITION FOR 90 DAYS AFTER ACCEPTANCE BY THE OWNER. REFER TO SPECIFICATIONS FOR CONDITIONS OF ACCEPTANCE FOR THE START OF THE MAINTENANCE PERIOD, AND FOR FINAL ACCEPTANCE AT THE END OF THE MAINTENANCE PERIOD.
- SEE SPECIFICATIONS AND DETAILS FOR FURTHER REQUIREMENTS.

TOWN OF PROSPER LANDSCAPE GENERAL NOTES:

- PLANT MATERIAL SHALL BE MEASURED AND SIZED ACCORDING TO THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1).
- ALL PLANT SUBSTITUTIONS ARE SUBJECT TO TOWN APPROVAL AND MUST BE SPECIFIED ON THE APPROVED LANDSCAPE PLAN.
- GROUND COVERS USED IN LIEU OF TURF GRASS MUST PROVIDED COMPLETE COVERAGE WITHIN ONE (1) YEAR OF PLANTING AND MAINTAIN ADEQUATE COVERAGE AS APPROVED BY THE TOWN.
- TREES MUST BE PLANTED FOUR (4) FEET OR GREATER FROM CURBS, SIDEWALKS, UTILITY LINES, SCREENING WALLS, AND ALL STRUCTURES. SINGLE-TRUNK TREES SHALL HAVE A SINGLE, STRAIGHT LEADER, AND ALL TREES SHALL BE FULL, WITH BALANCED CANOPY. MAJOR DAMAGE TO TRUNK(S), OR BRANCHES, WILL BE CAUSE FOR DENIAL.
- ALL ROOT FLARES SHALL BE SET AT THREE(3) TO FOUR (4) INCHES ABOVE SURROUNDING GRADE.
- THE TREE PIT SHALL BE BACKFILLED WITH NATIVE TOPSOIL FREE OF ROCK AND OTHER DERIS.
- BURLAP, TWIG AND WIRE BASKETS SHALL BE SEVERED AND REMOVED FROM THE TOP OF THE ROOT BALL.
- A 3'-4" LAYER OF MULCH SHALL BE PROVIDED AROUND THE BASE OF THE PLANTED TREE. THE MULCH SHALL BE PULLED BACK 1'-2" FROM THE TRUNK OF THE TREE.
- NO PERSON(S) OR ENTITY MAY USE IMPROPER OR MALICIOUS MAINTENANCE OR PRUNING TECHNIQUES INCLUDING, BUT NOT LIMITED TO: TOPPING OR OTHER NON SYMMETRICAL TRIMMING OF TREES, DAMAGE FROM A BACKHOE, CAUSE OF FIRE OR POISON. FOLLOW THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1) GUIDELINES ON PRUNING AND MAINTENANCE.
- TOPSOIL SHALL BE A MINIMUM OF EIGHT (8) INCHES IN DEPTH IN PLANTING AREAS. SOIL SHALL BE FREE OF STONES, ROOTS, AND CLODS AND ANY OTHER FOREIGN MATERIAL THAT IS NOT BENEFICIAL FOR PLANT GROWTH.
- ALL PLANT BEDS SHALL BE TOP-DRESSED WITH A MINIMUM OF THREE (3) INCHES OF MULCH.
- TREES OVERHANGING WALKS AND PARKING SHALL HAVE A MINIMUM CLEAR BRANCH HEIGHT OF SEVEN (7) FEET. TREES OVERHANGING PUBLIC STREET PAVEMENT DRIVE AISLES AND FIRE LANES SHALL HAVE A MINIMUM CLEAR BRANCH HEIGHT OF FOURTEEN (14) FEET.
- A VISIBILITY TRIANGLE MUST BE PROVIDED AT ALL INTERSECTIONS, WHERE SHRUBS ARE NOT TO EXCEED THIRTY (30) INCHES IN HEIGHT, AND TREES SHALL HAVE A MINIMUM CLEAR TRUNK HEIGHT OF NINE (9) FEET.
- TREES PLANTED ON A SLOPE SHALL HAVE THE TREE WELL AT THE AVERAGE GRADE OF THE UPHILL SLOPE.
- ALL AREAS OF LESS THAN THREE (3) FEET IN WIDTH SHALL BE GRASS, GROUNDCOVER, OR SOME TYPE OF DECORATIVE RIVER ROCK, PAVERS, OR CONCRETE.
- THE OWNER, TENANT, AND/OR THEIR AGENTS, IF ANY, SHALL BE JOINTLY AND SEVERALLY RESPONSIBLE FOR THE MAINTENANCE, ESTABLISHMENT, AND PERMANENCE OF PLANT MATERIAL. ALL LANDSCAPING SHALL BE MAINTAINED IN A NEAT AND ORDERLY AT ALL TIMES INCLUDING, BUT NOT LIMITED TO, MOVING, EDGING, PRUNING, FERTILIZING, WATERING, DE-WEEDING, AND TRASH REMOVAL.
- PLANT MATERIAL THAT IS DAMAGED, DESTROYED, OR REMOVED SHALL BE REPLACED WITH PLANTS MEETING MINIMUM SPECIFICATIONS PER LANDSCAPE PLAN. ALL TURF/GROUND COVER AREAS TO BE ESTABLISHED PRIOR TO RECEIPT OF CERTIFICATE OF OCCUPANCY, UNLESS OTHERWISE APPROVED BY THE TOWN.
- AN AUTOMATIC IRRIGATION SYSTEM SHALL BE PROVIDED TO IRRIGATE ALL LANDSCAPE AREAS INTO STREETS, SIDEWALKS, OR ALLEYS.
- NO PLANTING AREA S SHALL EXCEED 3:1 SLOPE (3 FT HORIZONTAL TO 1 FT VERTICAL).
- EARTHEN BERMS SHALL NOT INCLUDE CONSTRUCTION DEBRIS.
- ALL WALKWAYS SHALL MEET ADA AND TAS REQUIREMENTS.
- LANDSCAPE INSTALLATION MUST COMPLY WITH APPROVED LANDSCAPE PLANS, AND AS-BUILT PLANS SUBMITTED TO PARKS AND RECREATION, PRIOR TO FINAL ACCEPTANCE BY THE TOWN AND/OR OBTAINING A CERTIFICATE OF OCCUPANCY.
- FINAL INSPECTION AND APPROVAL OF SCREENING WALLS, IRRIGATION, AND LANDSCAPE IS SUBJECT TO ALL PUBLIC UTILITIES, INCLUDING BUT NOT LIMITED TO MANHOLES, VALVES, WATER METERS, CLEANOUTS, AND OTHER APPURTENANCES BEING ACCESSIBLE, ADJUSTED TO GRADE, AND TO THE TOWN OF PROSPER PUBLIC WORKS DEPARTMENT STANDARDS.
- IMPORTANT: MINIMUM STANDARDS FOR PLANTS, AS SET FORTH IN THE ZONING ORDINANCE AND APPROVED LANDSCAPE PLANS ARE TAKEN SERIOUSLY BY THE TOWN AND PARKS AND RECREATION. INSTALLING INTERIOR PLANTS WITHOUT WRITTEN APPROVAL FROM A PARKS REPRESENTATIVE MAY RESULT IN REJECTION OF SOME OR ALL PLANTS, THEREBY DELAYING RECEIPT OF A CERTIFICATE OF OCCUPANCY. ARCHITECTS AND LANDSCAPE CONTRACTORS ARE STRONGLY ENCOURAGED TO NOTIFY THE PARKS DEPARTMENT TO DISCUSS POSSIBLE DEFICIENCIES PRIOR TO INSTALLATION.
- CALL PARKS AND RECREATION AT (972)688-1160) AT LEAST FORTY- EIGHT (48) HOURS PRIOR TO THE FOLLOWING INSPECTIONS:
 - PROPOSED TRAIL ALIGNMENT
 - BERM CONSTRUCTION & GRADING
 - ESCROW RELEASE
 - FINAL INSPECTION

BEARINGS SHOWN HEREON ARE TIED TO THE TEXAS COORDINATE SYSTEM OF 1983 (NAD83/2011) EPOCH2010.3) NORTH CENTRAL ZONE (2022) USING TOWN OF PROSPER GEODETIC CONTROL MONUMENTS 3 AND 5:	
GPS-3 N 714040.803 E 2480701.977 ELEV. 615.09	GPS-5 N 7144654.054 E 2480931.292 ELEV. 704.95
TBM #1: 7" CUT IN INLET ON THE EAST SIDE OF DALLAS NORTH TOLLWAY NORTHBOUND SERVICE ROAD, APPROXIMATELY 146 FEET SOUTH OF FRONTIER PARKWAY CENTERLINE. N 7146338.56 E 2482444.24 ELEV. 619.13	

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CLAY MOORE
ENGINEERING

Christopher B. Davis

FRONTIER RETAIL CENTER
BEING PART OF 70.91 ACRES OF LAND
OUT OF COLLIN COUNTY SCHOOL LAND
SURVEY, ABSTRACT NO. 147
PROSPER, TEXAS

DESIGN: CBD
DRAWN: CBD
CHECKED: CBD
DATE: 06/04/2023

SHEET

C

CASE NO. 2022-029

CHRIS DAVIS
8/29/2023 2:13 PM
C:\USERS\LOGIC\EDG DROPBOX\EDG -- SHARED\2023\WCDONALDS\WCDONALDS -- PROSPER TX -- FRONTIER RETAIL CTR\PLANTING -- PROSPER MCDONALDS 22X34 2023-07-14.DWG
PLOTTED BY:
PLOT DATE:
LOCATION:
LAST SAVED:

PLANTING SPECIFICATIONS

GENERAL

- A. QUALIFICATIONS OF LANDSCAPE CONTRACTOR
1. ALL LANDSCAPE WORK SHOWN ON THESE PLANS SHALL BE PERFORMED BY A SINGLE FIRM SPECIALIZING IN LANDSCAPE PLANTING.
 2. A LIST OF SUCCESSFULLY COMPLETED PROJECTS OF THIS TYPE, SIZE AND NATURE MAY BE REQUESTED BY THE OWNER FOR FURTHER QUALIFICATION MEASURES.
 3. 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.
 4. THE LANDSCAPE CONTRACTOR SHALL HOLD A VALID CONTRACTOR'S LICENSE ISSUED BY THE APPROPRIATE LOCAL JURISDICTION.
- B. SCOPE OF WORK
1. 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.
 2. 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.
 3. 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.
- C. PRODUCTS
- A. ALL MANUFACTURED PRODUCTS SHALL BE NEW.
- B. CONTAINER AND BALLED-AND-BURLAPPED PLANTS:
1. 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 TYPICAL FOR THE SPECIES. ALL TREES SHALL BE OBTAINED FROM SOURCES WITHIN 200 MILES OF THE PROJECT SITE, AND WITH SIMILAR CLIMATIC CONDITIONS.
 2. ROOT SYSTEMS SHALL BE HEALTHY, DENSELY BRANCHED ROOT SYSTEMS, NON-POT-BOUND, FREE FROM ENCIRCLING AND/OR GIRDLING ROOTS, AND FREE FROM ANY OTHER DEFECTS (SUCH AS J-SHAPED ROOTS).
 3. TREES MAY BE PLANTED FROM CONTAINERS OR BALLED-AND-BURLAPPED (B&B), UNLESS SPECIFIED ON THE PLANTING LEGEND. BARE-ROOT TREES ARE NOT ACCEPTABLE.
 4. 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.
 5. 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 FROM AFTER PLANTING.
 6. CALIPER MEASUREMENTS FOR STANDARD (SINGLE TRUNK) TREES SHALL BE AS FOLLOWS: SIX INCHES ABOVE THE ROOT FLARE FOR TREES UP TO AND INCLUDING FOUR INCHES IN CALIPER. SIX INCHES ABOVE THE ROOT FLARE FOR TREES EXCEEDING FOUR INCHES IN CALIPER.
 7. MULTI-TRUNK TREES SHALL BE MEASURED BY THEIR OVERALL HEIGHT, MEASURED FROM THE TOP OF THE ROOT BALL. WHERE CALIPER MEASUREMENTS ARE USED, THE CALIPER SHALL BE CALCULATED AS ONE-HALF OF THE SUM OF THE CALIPER OF THE THREE LARGEST TRUNKS.
 8. 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. TOPSOIL: SANDY TO CLAY LOAM TOPSOIL, FREE OF STONES LARGER THAN 1/2 INCH, FOREIGN MATTER, PLANTS, ROOTS, AND SEEDS.
- E. COMPOST: WELL-COMPOSTED, STABLE, AND WEED-FREE ORGANIC MATTER, pH RANGE OF 5.5 TO 8; MOISTURE CONTENT 35 TO 55 PERCENT BY WEIGHT; 100 PERCENT PASSING THROUGH 3/4-INCH SIEVE; SOLUBLE SALT CONTENT OF 5 TO 10 DECISIEMENS/CM, NOT EXCEEDING 0.5 PERCENT INERT CONTAMINANTS AND FREE OF SUBSTANCES TOXIC TO PLANTINGS. NO MANURE OR ANIMAL-BASED PRODUCTS SHALL BE USED.
- F. 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 AGENCY (SEE BELOW).
- G. MULCH: SIZE AND TYPE AS INDICATED ON PLANS, FREE FROM DELETERIOUS MATERIALS AND SUITABLE AS A TOP DRESSING OF TREES AND SHRUBS.
- H. TREE STAKING AND GUYING
1. STAKES: 6' LONG GREEN METAL T-POSTS.
 2. GUY AND TIE WIRE: ASTM A 641, CLASS 1, GALVANIZED-STEEL WIRE, 2-STRAND, TWISTED, 0.106 INCH DIAMETER.
 3. STRAP CHAFING GUARD: REINFORCED NYLON OR CANVAS AT LEAST 1-1/2 INCH WIDE, WITH GROMMETS TO PROTECT TREE TRUNKS FROM DAMAGE.
 4. STEEL EDGING: PROFESSIONAL STEEL EDGING, 14 GAUGE THICK X 4 INCHES WIDE, FACTORY PAINTED DARK GREEN. ACCEPTABLE MANUFACTURERS INCLUDE COL-MET OR APPROVED EQUAL.
 5. PRE-EMERGENT HERBICIDES: ANY 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
1. BEFORE STARTING WORK, THE LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE GRADE OF ALL LANDSCAPE AREAS ARE WITHIN +/-0.1' OF FINISH GRADE. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY SHOULD ANY DISCREPANCIES EXIST.
 2. SOIL TESTING:
 - a. AFTER FINISH GRADES HAVE BEEN ESTABLISHED, CONTRACTOR SHALL HAVE SOIL SAMPLES FROM THE PROJECT'S LANDSCAPE AREAS TESTED BY AN ESTABLISHED SOIL TESTING LABORATORY. EACH SAMPLE SUBMITTED TO THE LAB SHALL CONTAIN NO LESS THAN ONE QUART OF SOIL, TAKEN FROM BETWEEN THE SOIL SURFACE AND 6" DEPTH. NO SAMPLE LOCATIONS ARE INDICATED ON THE PLANS, THE CONTRACTOR SHALL TAKE A MINIMUM OF THREE SAMPLES FROM VARIOUS REPRESENTATIVE LOCATIONS FOR TESTING.
 - b. THE CONTRACTOR SHALL HAVE THE SOIL TESTING LABORATORY PROVIDE RESULTS FOR THE FOLLOWING: SOIL TEXTURAL CLASS, GENERAL SOIL FERTILITY, pH, ORGANIC MATTER CONTENT, SALT (CEC), LIME, SODIUM ADSORPTION RATIO (SAR) AND BORON CONTENT.
 - c. THE CONTRACTOR SHALL ALSO SUBMIT THE PROJECT'S PLANT LIST TO THE LABORATORY ALONG WITH THE SOIL SAMPLES.
 - d. THE SOIL REPORT PRODUCED BY THE LABORATORY SHALL CONTAIN RECOMMENDATIONS FOR THE FOLLOWING (AS APPROPRIATE): SEPARATE SOIL PREPARATION AND BACKFILL MIX RECOMMENDATIONS FOR GENERAL ORNAMENTAL PLANTS, XERIC PLANTS, TURF, ANNUATE SEED, AS WELL AS PRE-PLANT FERTILIZER APPLICATIONS AND RECOMMENDATIONS FOR ANY OTHER SOIL RELATED ISSUES. THE REPORT SHALL ALSO PROVIDE A FERTILIZER PROGRAM FOR THE ESTABLISHMENT PERIOD AND FOR LONG-TERM MAINTENANCE.
 3. 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.
 4. FOR RIDGING PURPOSES ONLY, THE SOIL PREPARATION SHALL CONSIST OF THE FOLLOWING:
 - a. TURF: INCORPORATE THE FOLLOWING AMENDMENTS INTO THE TOP 8" OF SOIL BY MEANS OF ROTOTILLING AFTER CROSS-RIPPING:
 - i. NITROGEN STABILIZED ORGANIC AMENDMENT - 4 CU. YDS. PER 1,000 S.F.
 - ii. PREPLANT TURF FERTILIZER (10-20-10 OR SIMILAR, SLOW RELEASE, ORGANIC) - 15 LBS PER 1,000 S.F.
 - iii. "CLAY BUSTER" OR EQUAL - USE MANUFACTURER'S RECOMMENDED RATE
 - b. TREES, SHRUBS, AND PERENNIALS: INCORPORATE THE FOLLOWING AMENDMENTS INTO THE TOP 8" OF SOIL BY MEANS OF ROTOTILLING AFTER CROSS-RIPPING:
 - i. NITROGEN STABILIZED ORGANIC AMENDMENT - 4 CU. YDS. PER 1,000 S.F.
 - ii. 12-12-12 FERTILIZER (OR SIMILAR, ORGANIC, SLOW RELEASE) - 10 LBS. PER CU. YD.
 - iii. "CLAY BUSTER" OR EQUAL - USE MANUFACTURER'S RECOMMENDED RATE
 - iv. IRON SULPHATE - 2 LBS. PER CU. YD.
 5. IN THE CONTEXT OF THESE PLANS, NOTES, AND SPECIFICATIONS, "FINISH GRADE" REFERS TO THE FINAL ELEVATION OF THE SOIL SURFACE (NOT TOP OF MULCH) AS INDICATED ON THE GRADING PLANS.
 - a. BEFORE STARTING WORK, THE LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE ROUGH GRADES OF ALL LANDSCAPE AREAS ARE WITHIN +/-0.1' OF FINISH GRADE. SEE SPECIFICATIONS FOR MORE DETAILED INSTRUCTION ON TURF AREA AND PLANTING BED PREPARATION.
 - b. 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 ON THE GRADING PLANS, AND AREAS OF POTENTIAL PONDING SHALL BE REGRADED TO BLEND IN WITH THE SURROUNDING GRADES AND ELIMINATE PONDING POTENTIAL.
 - c. THE LANDSCAPE CONTRACTOR SHALL DETERMINE WHETHER OR NOT THE EXPORT OF ANY SOIL WILL BE NEEDED, TAKING INTO ACCOUNT THE ROUGH GRADE PROVIDED, THE AMOUNT OF SOIL AMENDMENTS TO BE ADDED (BASED ON A SOIL TEST, PER SPECIFICATIONS), AND THE FINISH GRADES TO BE ESTABLISHED.
 - d. ENSURE THAT THE FINISH GRADE IN SHRUB AREAS IMMEDIATELY ADJACENT TO WALKS AND OTHER WALKING SURFACES, AFTER INSTALLING SOIL AMENDMENTS, IS 3" BELOW THE ADJACENT FINISH SURFACE, IN ORDER TO ALLOW FOR PROPER MULCH DEPTH. TAPER THE SOIL SURFACE TO MEET FINISH GRADE, AS SPECIFIED ON THE GRADING PLANS, AT APPROXIMATELY 18" AWAY FROM THE WALKS.
 - e. ENSURE THAT THE FINISH GRADE IN TURF AREAS IMMEDIATELY ADJACENT TO WALKS AND OTHER WALKING SURFACES, AFTER INSTALLING SOIL AMENDMENTS, IS 1" BELOW THE FINISH SURFACE OF THE WALKS. TAPER THE SOIL SURFACE TO MEET FINISH GRADE, AS SPECIFIED ON THE GRADING PLANS, AT APPROXIMATELY 18" AWAY FROM THE WALKS.
 - f. SHOULD ANY CONFLICTS AND/OR DISCREPANCIES ARISE BETWEEN THE GRADING PLANS, GEOTECHNICAL REPORT, THESE NOTES AND PLANS, AND ACTUAL CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY BRING SUCH ITEMS TO THE ATTENTION OF THE LANDSCAPE ARCHITECT, GENERAL CONTRACTOR, AND OWNER.
 6. 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 6" OF SOIL.

SUBMITTALS

1. THE CONTRACTOR SHALL PROVIDE SUBMITTALS AND SAMPLES, IF REQUIRED, TO THE LANDSCAPE ARCHITECT, AND RECEIVE APPROVAL IN WRITING FOR SUCH SUBMITTALS BEFORE WORK COMMENCES.
 2. SUBMITTALS SHALL INCLUDE PHOTOS OF PLANTS WITH A RULER OR MEASURING STICK FOR SCALE, PHOTOS OR SAMPLES OF ANY REQUIRED MULCHES, AND SOIL TEST RESULTS AND PREPARATION RECOMMENDATIONS FROM THE TESTING LAB (INCLUDING COMPOST AND FERTILIZER RATES AND TYPES, AND OTHER AMENDMENTS FOR TREE/SHRUB, TURF, AND SEED AREAS AS MAY BE APPROPRIATE).
 3. SUBMITTALS SHALL ALSO INCLUDE MANUFACTURER CUT SHEETS FOR PLANTING ACCESSORIES SUCH AS TREE STAKES AND TIES, EDGING, AND LANDSCAPE ACCESSORIES (IF ANY).
 4. WHERE MULTIPLE ITEMS ARE SHOWN ON A PAGE, THE CONTRACTOR SHALL CLEARLY INDICATE THE ITEM BEING CONSIDERED.
- C. GENERAL PLANTING
1. REMOVE ALL NURSERY TAGS AND STAKES FROM PLANTS.
 2. EXCEPT IN AREAS TO BE PLANTED WITH ORNAMENTAL GRASSES, APPLY PRE-EMERGENT HERBICIDES AT THE MANUFACTURER'S RECOMMENDED RATE.
 3. TRENCHING NEAR EXISTING TREES:
 - a. 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 SCARIFY THE SIDES AND TIES, EDGING, AND LANDSCAPE ACCESSORIES (IF ANY).
 - b. WHERE MULTIPLE ITEMS ARE SHOWN ON A PAGE, THE CONTRACTOR SHALL CLEARLY INDICATE THE ITEM BEING CONSIDERED.
 - c. 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.
 - d. 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.
 - e. 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.

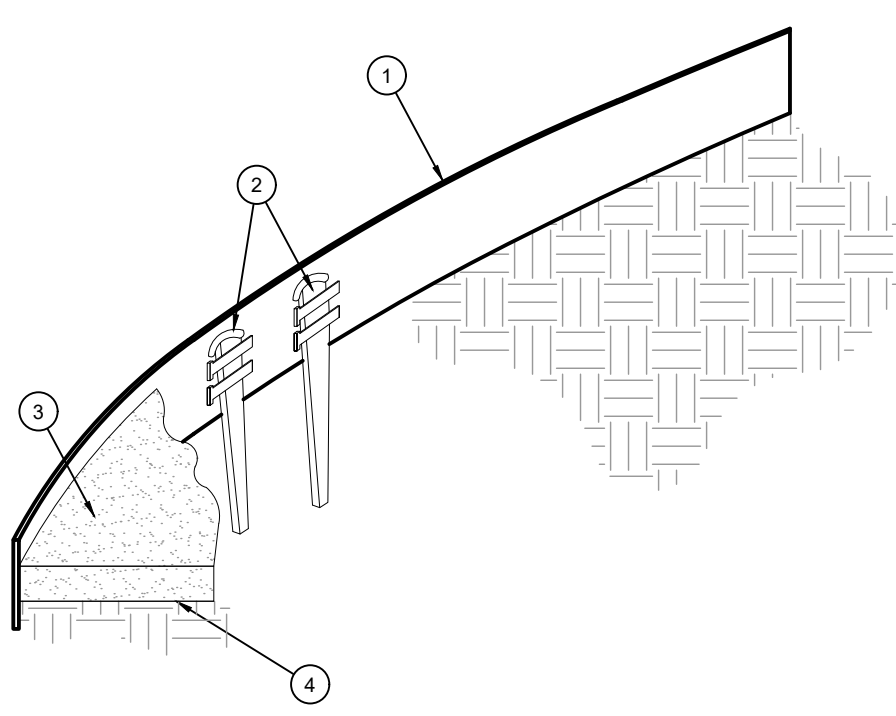
TREE PLANTING

1. 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.
2. 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 PIT. DO NOT "TEASE" ROOTS OUT FROM THE ROOTBALL.
3. INSTALL THE TREE ON UNDISTURBED SUBGRADE SO THAT THE TOP OF THE ROOTBALL IS TWO TO FOUR INCHES ABOVE THE SURROUNDING GRADE.
4. 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 IN THE ON-SITE SOIL.
5. TREES SHALL NOT BE STAKED UNLESS LOCAL CONDITIONS (SUCH AS HEAVY WINDS OR SLOPES) REQUIRE STAKES TO KEEP TREES UPRIGHT. SHOULD STAKING BE REQUIRED, THE TOTAL NUMBER OF TREE STAKES (BEYOND THE MINIMUMS LISTED BELOW) WILL BE LEFT TO THE LANDSCAPE CONTRACTOR'S DISCRETION. SHOULD ANY TREES FLAIL OR LEAN, THE LANDSCAPE CONTRACTOR SHALL STRAIGHTEN THE TREE, OR REPLACE IT SHOULD IT BECOME DAMAGED. TREE STAKING SHALL ADHERE TO THE FOLLOWING GUIDELINES:
 - a. 1"-2" TREES TWO STAKES PER TREE
 - b. 2-1/2"-4" TREES THREE STAKES PER TREE
 - c. TREES OVER 4" CALIPER GUY AS NEEDED
 - d. MULTI-TRUNK TREES THREE STAKES PER TREE MINIMUM, QUANTITY AND POSITIONS AS NEEDED TO STABILIZE THE TREE
 - e. #16 CONT. - 24" BOX TREES TWO STAKES PER TREE
 - f. 36" 48" BOX TREES THREE STAKES PER TREE
 - g. OVER 48" BOX TREES GUY AS NEEDED
 - h. MULTI-TRUNK TREES THREE STAKES PER TREE MINIMUM, QUANTITY AND POSITIONS AS NEEDED TO STABILIZE THE TREE
6. UPON COMPLETION OF PLANTING, CONSTRUCT AN EARTH WATERING BASIN AROUND THE TREE. COVER THE INTERIOR OF THE TREE RING WITH THE WEED BARRIER CLOTH AND TOPDRESS WITH MULCH (TYPE AND DEPTH PER PLANS).
7. SHRUB, PERENNIAL, AND GROUND COVER PLANTING:
 - a. 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.
 - b. INSTALL THE WEED BARRIER CLOTH, OVERLAPPING IT AT THE ENDS. UTILIZE STEEL STAPLES TO KEEP THE WEED BARRIER CLOTH IN PLACE.
 - c. WHEN PLANTING IS COMPLETE, INSTALL MULCH (TYPE AND DEPTH PER PLANS) OVER ALL PLANTING BEDS, COVERING THE ENTIRE PLANTING AREA.

SODDING

1. SOD VARIETY TO BE AS SPECIFIED ON THE LANDSCAPE PLAN.
 2. LAY SOD WITHIN 24 HOURS FROM THE TIME OF STRIPPING. DO NOT LAY IF THE GROUND IS FROZEN.
 3. LAY THE SOD TO FORM A SOLID MASS WITH TIGHTLY FITTED JOINTS. BUTT ENDS AND SIDES OF SOD STRIPS. DO NOT OVERLAP. STAGGER JOINTS IN ADJACENT COURSES.
 4. ROLL THE SOD TO ENSURE GOOD CONTACT OF THE SOD'S ROOT SYSTEM WITH THE SOIL UNDERNEATH.
 5. 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.
- G. MULCH
1. INSTALL MULCH TOPDRESSING, TYPE AND DEPTH PER MULCH NOTE, IN ALL PLANTING AREAS AND TREE RINGS.
 2. DO NOT INSTALL MULCH WITHIN 6" OF TREE ROOT FLARE AND WITHIN 24" OF HABITABLE STRUCTURES. EXCEPT AS MAY BE NOTED ON THESE PLANS. 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.
- J. CLEAN UP
1. DURING LANDSCAPE PREPARATION AND PLANTING, KEEP ALL PAVEMENT CLEAN AND ALL WORK AREAS IN A NEAT, ORDERLY CONDITION.
 2. DISPOSED LEGALLY OF ALL EXCAVATED MATERIALS OFF THE PROJECT SITE.
- K. INSPECTION AND ACCEPTANCE
1. 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.
 2. WHEN THE INSPECTION 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.
 3. THE LANDSCAPE MAINTENANCE PERIOD WILL NOT COMMENCE UNTIL THE LANDSCAPE 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.
- L. LANDSCAPE MAINTENANCE
1. 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, RESETTLING 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.
 2. SHOULD SEED 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 PLANTS AT NO ADDITIONAL COST TO THE OWNER.
 3. TO ACHIEVE FINAL ACCEPTANCE AT THE END OF THE MAINTENANCE PERIOD, ALL OF THE FOLLOWING CONDITIONS MUST OCCUR:
 - a. 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.
 - b. ALL HARDSCAPE SHALL BE CLEANED PRIOR TO FINAL ACCEPTANCE.
 - c. 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 SHALL BE RESEED (AS APPROPRIATE) PRIOR TO FINAL ACCEPTANCE. ALL SODDED TURF SHALL BE NEATLY MOWED.

- M. WARRANTY PERIOD, PLANT GUARANTEE AND REPLACEMENTS
1. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL TREES, SHRUBS, PERENNIALS, SOD, 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.
 2. 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.
- N. PROVIDE A MINIMUM OF (2) 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.

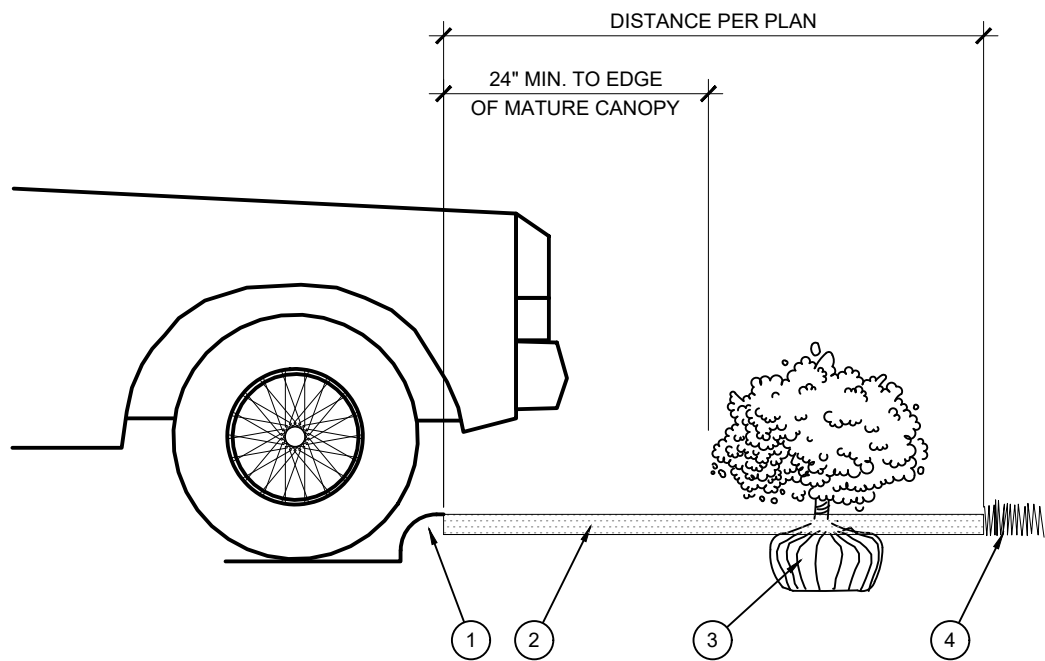


1. ROLLED-TOP STEEL EDGING PER PLANS.
2. TAPERED STEEL STAKES.
3. MULCH, TYPE AND DEPTH PER PLANS.
4. FINISH GRADE.

- NOTES:
- 1) INSTALL EDGING SO THAT STAKES WILL BE ON INSIDE OF PLANTING BED.
 - 2) BOTTOM OF EDGING SHALL BE BURIED A MINIMUM OF 1" BELOW FINISH GRADE.
 - 3) TOP OF MULCH SHALL BE 1" LOWER THAN TOP OF EDGING.

STEEL EDGING

SCALE: NOT TO SCALE

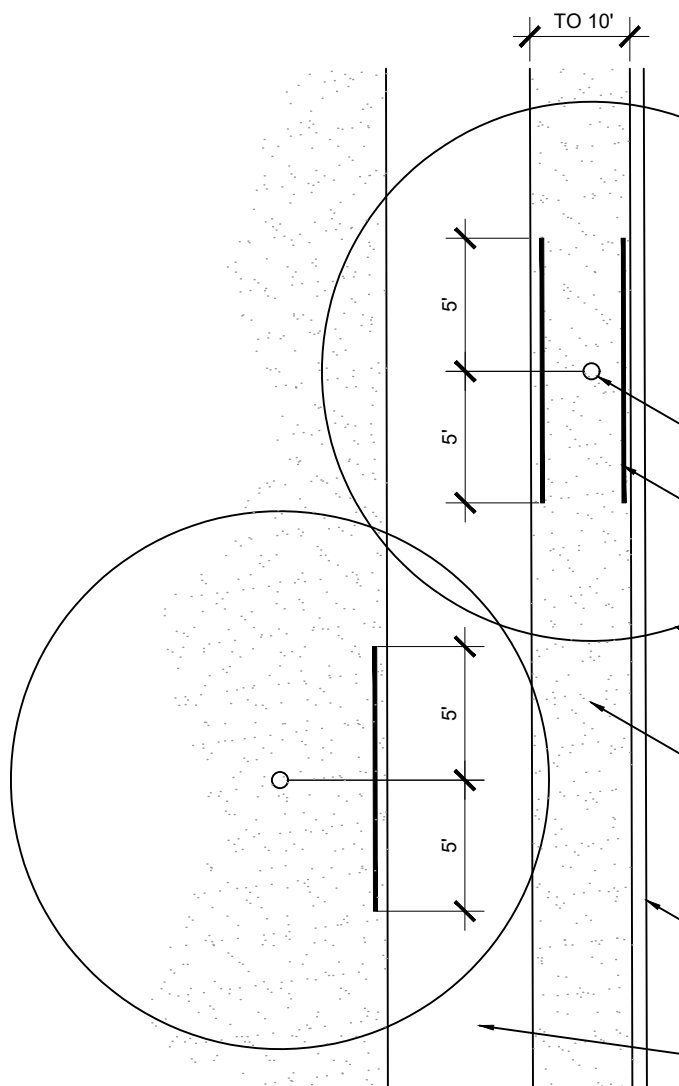


1. CURB.
2. MULCH LAYER.
3. PLANT.
4. TURF (WHERE SHOWN ON PLAN).

PLANTING AT PARKING AREA

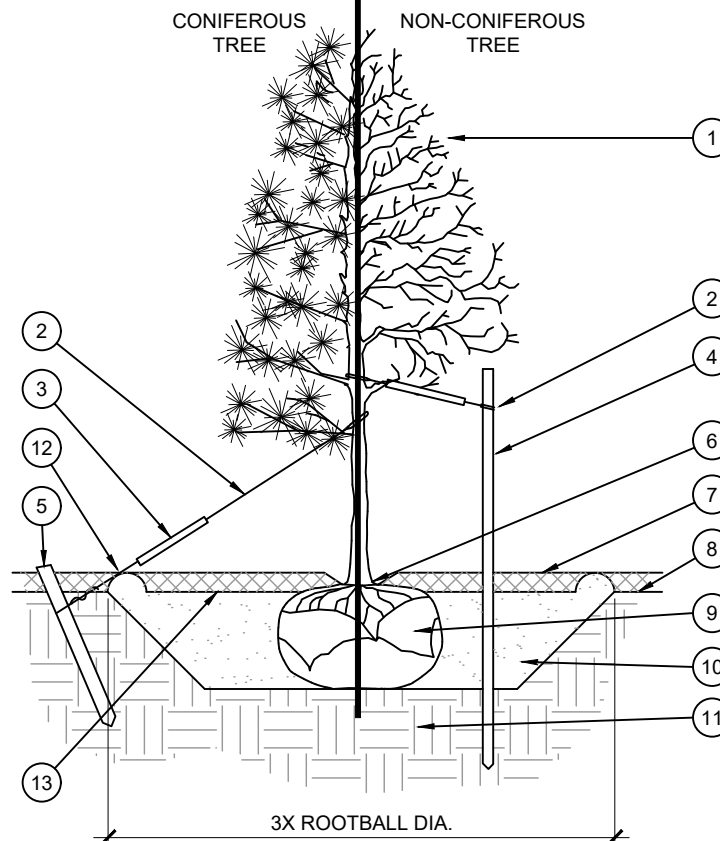
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OPEN LANDSCAPE
PARKWAY
OR ISLAND

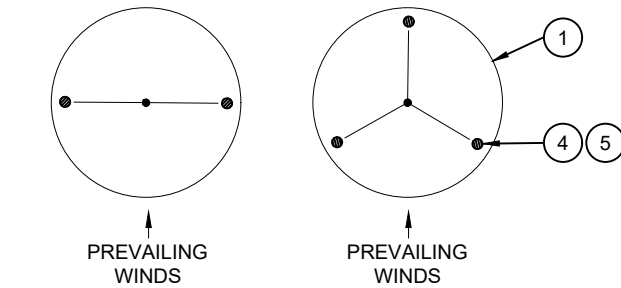


ROOT BARRIER - PLAN VIEW

SCALE: NOT TO SCALE

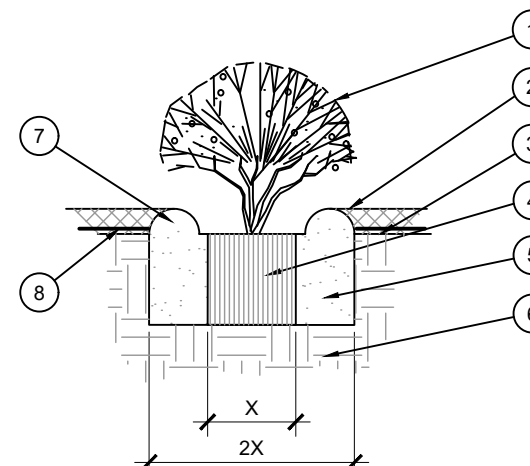


STAKING EXAMPLES (PLAN VIEW)



TREE PLANTING

SCALE: NOT TO SCALE



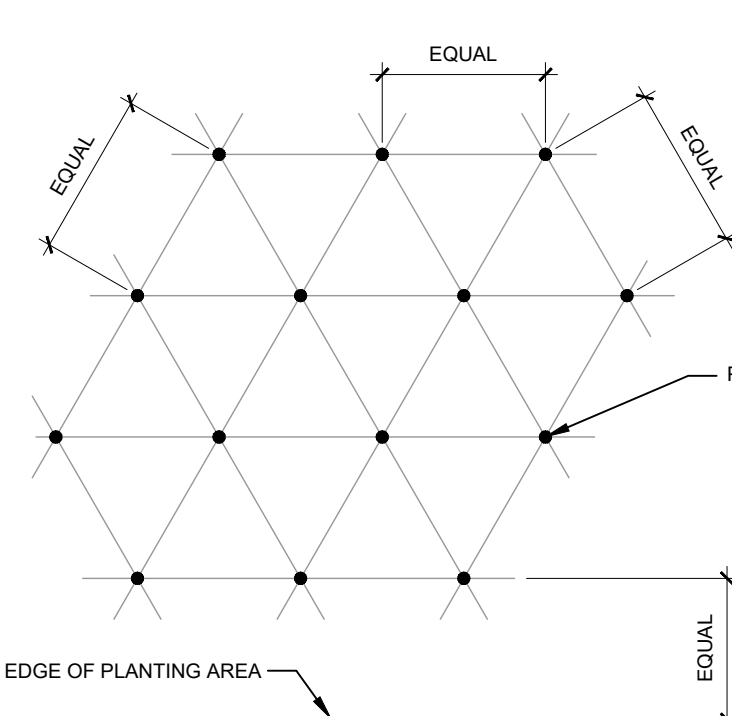
1. TREE CANOPY.
2. CINCH-TIES (24" BOX/2" CAL. TREES AND SMALLER) OR 12 GAUGE GALVANIZED WIRE WITH NYLON TREE STRAPS AT TREE AND STAKE (36" BOX/2.5" CAL. TREES AND LARGER). SECURE TIES OR STRAPS TO TRUNK JUST ABOVE LOWEST MAJOR BRANCHES.
3. 24" X 3/4" P.V.C. MARKERS OVER WIRES.
4. GREEN STEEL T-POSTS. EXTEND POSTS 12" MIN. INTO UNDISTURBED SOIL.
5. PRESSURE-TREATED WOOD DEADMAN, TWO PER TREE (MIN.). BURY OUTSIDE OF PLANTING PIT AND 18" MIN. INTO UNDISTURBED SOIL.
6. TRUNK FLARE.
7. MULCH, TYPE AND DEPTH PER PLANS. DO NOT PLACE MULCH WITHIN 6" OF TRUNK.
8. FINISH GRADE.
9. ROOT BALL.
10. BACKFILL. AMEND AND FERTILIZE ONLY AS RECOMMENDED IN SOIL FERTILITY ANALYSIS.
11. UNDISTURBED NATIVE SOIL.
12. 4" HIGH EARTHEN WATERING BASIN.
13. FINISH GRADE.

- NOTES:
1. SCARIFY SIDES OF PLANTING PIT PRIOR TO SETTING TREE.
 2. REMOVE EXCESS SOIL APPLIED ON TOP OF THE ROOTBALL THAT COVERS THE ROOT FLARE. THE PLANTING HOLE DEPTH SHALL BE SUCH THAT THE ROOTBALL RESTS ON UNDISTURBED SOIL, AND THE ROOT FLARE IS 2"-4" ABOVE FINISH GRADE.
 3. FOR B&B TREES, CUT OFF BOTTOM 1/3 OF WIRE BASKET BEFORE PLACING TREE IN HOLE. CUT OFF AND REMOVE REMAINDER OF BASKET AFTER TREE IS SET IN HOLE. REMOVE ALL NYLON TIES, TWINE, ROPE, AND OTHER PACKING MATERIAL. REMOVE AS MUCH BURLAP FROM AROUND ROOTBALL AS IS PRACTICAL.
 4. REMOVE ALL NURSERY STAKES AFTER PLANTING.
 5. FOR TREES 36" BOX/2.5" CAL. AND LARGER, USE THREE STAKES OR DEADMEN (AS APPROPRIATE), SPACED EVENLY AROUND TREE.
 6. STAKING MUST BE TIGHT ENOUGH TO PREVENT TRUNK FROM BENDING, BUT LOOSE ENOUGH TO ALLOW SOME TRUNK MOVEMENT IN WIND.

1. SHRUB, PERENNIAL, OR ORNAMENTAL GRASS.
2. MULCH, TYPE AND DEPTH PER PLANS. PLACE NO MORE THAN 1" OF MULCH WITHIN 6" OF PLANT CENTER.
3. FINISH GRADE.
4. ROOT BALL.
5. BACKFILL. AMEND AND FERTILIZE ONLY AS RECOMMENDED IN SOIL FERTILITY ANALYSIS.
6. UNDISTURBED NATIVE SOIL.
7. 3" HIGH EARTHEN WATERING BASIN.
8. WEED FABRIC UNDER MULCH.

SHRUB AND PERENNIAL PLANTING

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.

- 1) STEP 1: DETERMINE TOTAL PLANTS FOR THE AREA WITH THE FOLLOWING FORMULA:
- TOTAL AREA / AREA DIVIDER = TOTAL PLANTS

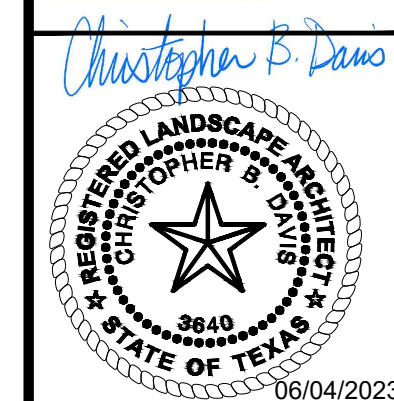
PLANT SPACING	AREA DIVIDER	PLANT SPACING	AREA DIVIDER
6"	0.22	18"	1.95
8"	0.39	24"	3.46
10"	0.60	30"	5.41
12"	0.87	36"	7.79
15"	1.35		

- 2) 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

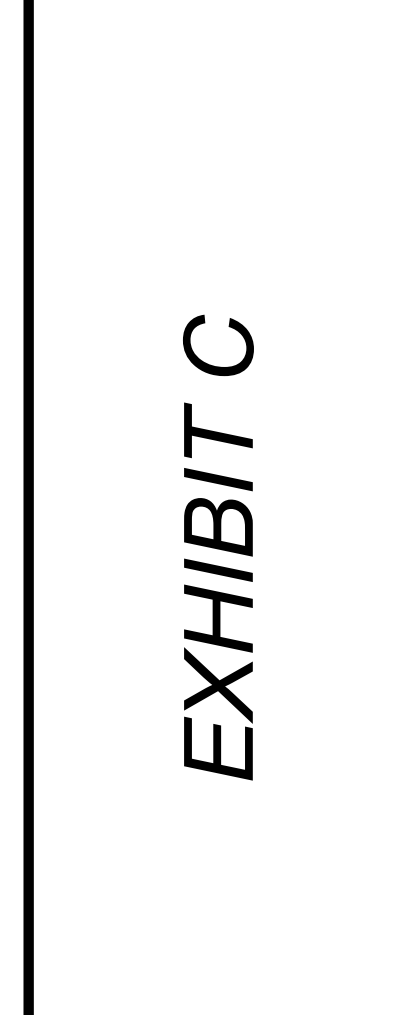
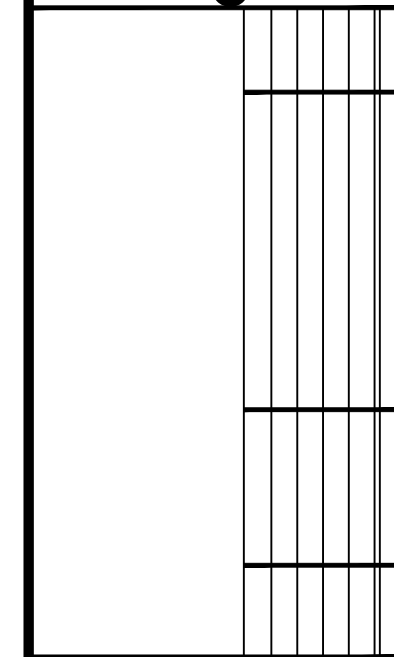
EXAMPLE: PLANTS AT 18" O.C. IN 100 SF PLANTING AREA, 40 LF PERIMETER
STEP 1: 100 SF / 1.95 = 51 PLANTS
STEP 2: 51 PLANTS - (40 LF / 1.95 = 21 PLANTS) = 30 PLANTS TOTAL

PLANT SPACING

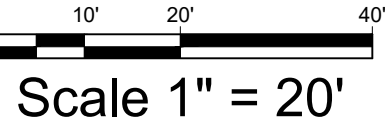
SCALE: NTS



FRONTIER RETAIL CENTER
BEING PART OF 70.91 ACRES OF LAND
OUT OF COLLIN COUNTY SCHOOL LAND
SURVEY, ABSTRACT NO. 147
PROSPER, TEXAS



DESIGN:	CBD
DRAWN:	CBD
CHECKED:	CBD
DATE:	06/04/2023
SHEET	C
CASE NO.	2022-029



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 OWN AND GENERAL CONTRACTOR. STATION RUN ORDER SHALL MATCH PLANS.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird RD-04-P30-F 5 Series MPR Turf Spray, 4in. Pop-Up, with 30 psi in-stem pressure regulation, and Flow-Shield Technology. 1/2in. NPT female threaded inlet.
	Rain Bird RD-04-P30-F 8 Series MPR Turf Spray, 4in. Pop-Up, with 30 psi in-stem pressure regulation, and Flow-Shield Technology. 1/2in. NPT female threaded inlet.
	Rain Bird RD-04-P30-F 10 Series MPR Turf Spray, 4in. Pop-Up, with 30 psi in-stem pressure regulation, and Flow-Shield Technology. 1/2in. NPT female threaded inlet.
	Rain Bird RD-04-P30-F 12 Series MPR Turf Spray, 4in. Pop-Up, with 30 psi in-stem pressure regulation, and Flow-Shield Technology. 1/2in. NPT female threaded inlet.
	Rain Bird RD-04-P30-F 15 Series MPR Turf Spray, 4in. Pop-Up, with 30 psi in-stem pressure regulation, and Flow-Shield Technology. 1/2in. NPT female threaded inlet.
	Rain Bird RD-04-P30-F ADJ Turf Spray, 4in. Pop-Up, with 30 psi in-stem pressure regulation, and Flow-Shield Technology. 1/2in. NPT female threaded inlet.
	Rain Bird 1804-5 Series Stream Stream Bubbler 4.0in. popup.
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird 5004-PC-LA 1.5 Turf Rotor, 4.0in. Pop-Up, Plastic Riser. Adjustable to Full Circle. Low Angle Nozzle.
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird XCV Wide Flow IVM Drip Control Kit for Commercial Applications. 1in. Ball Valve with 1in. PESBIVM Smart Valve w/ factory installed IVM-SOL 0.3-20 gpm and 1in. Pressure Regulating 40psi Quick-Check Basket Filter 0.3-20 gpm
	Area to Receive Dripline Rain Bird XFCV-06-18 XFCV On-Surface Landscape Dripline with a Heavy-Duty 3.5 psi Check Valve. 0.8 GPH emitters at 18" O.C. Dripline laterals spaced at 18" apart, with emitters offset for triangular pattern. Great for elevation change. Specify XF insert fittings.
	Area to Receive Dripline Rain Bird XFS-CV-06-12 XFS-CV Sub-Surface and On-Surface Landscape Dripline with a Heavy-Duty 4.3 psi Check Valve. 0.6 GPH emitters at 12" O.C. Dripline laterals spaced at 12" apart, with emitters offset for triangular pattern. Specify XF insert fittings.
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	Rain Bird PGA Globe 1" 1in., 1-1/2in., 2in. Electric Remote Control Valve, Globe.
	Rain Bird PGA Globe 1-1/2" 1in., 1-1/2in., 2in. Electric Remote Control Valve, Globe.
	Shut Off Valve Rain Bird 300-BPES Globe 3" 3in. Brass Master Valve, with Globe Configuration. With a Patented Nylon Scrubber that Scrapes a Stainless Steel Screen to Prevent Debris Build-Up and Clogging.
	Febco 825YA 2" Reduced Pressure Backflow Preventer
	Rain Bird ESPLXME2P w/ (1) ESPLXMSM12 24 Station, Traditionally-Wired, PRO Smart, Commercial Controller. (1) ESPLXME2P 12-Station, PRO Smart, (Module Included) Indoor/Outdoor, Plastic Walk-Mod Enclosure w/ (1) ESPLXMSM12 - 12-Station Expansion Modules.
	Rain Bird WR2-RFC Wireless Rain and Freeze Sensor Combo, includes 1 receiver and 1 rain/freeze sensor transmitter.
	Rain Bird FS-100-B 1in. Flow Sensor, Brass Model. Suggested Operating Range 2.0 GPM to 40.0 GPM. Size for Flow Not According to Pipe Size. Rain Bird Compatible Controllers: ESP-LXIVM(P) LXD LXME2(P) ME3, or Controllers Accepting Custom K-Factor and Offset. Install in Rain Bird Valve Box.
	Water Meter 2"
	Irrigation Lateral Line: PVC Class 200 SDR 21 3/4" - 1-1/2"
	Irrigation Mainline: PVC Schedule 40 - SEE PLANS FOR SIZE
	Pipe Sleeve: PVC Schedule 40 - SEE PLAN FOR SIZE
	Valve Callout
	Valve Number
	Valve Flow
	Valve Size

BEARINGS SHOWN HEREON ARE TIED TO THE TEXAS COORDINATE
SYSTEM OF 1983 (NAD83(2011)) EPOCH(2013) NORTH CENTRAL ZONE
(4202) USING TOWN OF PROSPER GEODETIC CONTROL
MONUMENTS 3 AND 5:

GPS-3	GPS-5
N: 7141040.803	N: 7144654.054
E: 2480701.977	E: 2492631.252
ELEV: 615.09	ELEV: 704.95

TBM #1:
"X" CUT IN INLET ON THE EAST SIDE OF DALLAS NORTH TOLLWAY
OFF FRONTLAND SERVICE ROAD, APPROXIMATELY 146 FEET SOUTH
OF FRONTIER PARKWAY CENTERLINE.

N: 714308.58
E: 2482444.24
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DESIGN:	CBD
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DATE:	06/04/2023
SHEET	
LI-1	
CASE NO.	2022-029

CHRIS DAVIS
PLOTTED BY: 7/17/2023 2:30 PM
PLOT DATE: C:\USERS\LOGIC\EDG
LOCATION: D:\2023\CDONALD\S\CDONALD\S 22X34 - PROSPER TX - FRONTIER RETAIL CTR\IRRIGATION - PROSPER MCDONALD'S 22X34 - 2023-07-15.DWG
LAST SAVED: 7/17/2023 2:28 PM

A. QUALIFICATIONS OF IRRIGATION CONTRACTOR

1. ALL WORK SHOWN ON THESE PLANS SHALL BE PERFORMED BY A SINGLE IRRIGATION CONTRACTOR. THE CONTRACTING FIRM MUST BE AN ENVIRONMENTAL QUALITY, A LICENSED CONTRACTOR, AND MUST HAVE THE NECESSARY EQUIPMENT AND SYSTEM LAUNCH.
2. THE IRRIGATION CONTRACTOR MUST HAVE ON ITS STAFF A TEXAS LICENSED IRRIGATOR, AS REGISTERS 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 THE NECESSARY PERSONNEL TO THE PROJECT SITE. THE INSTALLER TO BE PRESENT AT THE PROJECT SITE AND SUPERVISING ALL IRRIGATION WORK.
3. 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, LABOR, AND EQUIPMENT, INCLUDING, BUT NOT LIMITED TO, 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.

WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE STATE CODES AND REGULATIONS REQUIRED BY ALL 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, THE CODE SHALL PREVAIL.

3. THE INTENT OF THE IRRIGATION SYSTEM IS TO PROVIDE 100% COVERAGE OF ALL LANDSCAPE AREAS. THE IRRIGATION SYSTEM IS GENERALLY DESIGNED TO PROVIDE PERMANENT IRRIGATION INSTALLATION WITH UTILITY INSTALLATIONS. ACTUAL LOCATION OF CONTROLLER, BACKFLOW DEVICE, PIPING, VALVES, SPRAY HEADS, DRIP IRRIGATION, AND RELATED EQUIPMENT MAY NOT BE THE SAME AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE 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 CURB OF THE DRIVE OR SIDEWALK OR IN AN OPEN FIELD. ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.

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 FIVE YEARS AGAINST FAILURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR 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 ANY CHANGES TO THE MATERIALS SPECIFIED ON THE DRAWINGS. IF 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 CODES AND ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES.

C. PIPING

1. PRESSURE SUPPLY LINES, DOWNSTREAM OF THE POINT-OF-CONNECTION: A. SCHEDULE 40 PVC FOR PIPE 1/2" OR LESS B. CLASS 155 PVC FOR PIPE 2" TO 2-1/2" C. CLASS 200 PVC, GASKETED, FOR ALL PIPE 3" & LARGER
2. SLEEVING AND NON-PRESSURE LATERAL LINES (DOWNSTREAM FROM VALVES): SCHEDULE 40 PVC
3. FITTINGS: SCH. 40, 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, BURN VALVES, AND GATE VALVES: TYPE AND SIZE PER PLANS.

F. TUBING: TYPE AND SIZE AS NOTED ON PLANS. ALL VALVES SHALL BE LOCKING BALL-BOTTOM TYPE, FULL 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 HAND-BRANDED INTO THE LID WITH 2" HIGH LETTERS.

G. HEADS: HEADS SHALL BE OF THE TYPE AND SIZE AS NOTED ON PLANS. THE 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 TUBING AND COMMON WIRE.

K. STATION WIRE - RED

1. STATION WIRE - RED
2. COMMON WIRE - WHITE
3. EXTRA COMMON WIRES - BLUE

L. WIRE LINES SHALL BE ENCASED IN A 1/2" THICK POLYURETHANE COMPOUND OR GEL. ALL FIELD SPLICES SHALL BE LOCATED IN A 6 INCH ROUND VALVE BODY.

M. RAIN SENSOR: TYPE AND MODEL PER PLANS.

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 ACCORDANCE WITH THE CITY OF CHICAGO'S STANDARD SPECIFICATIONS FOR ROADWORK. 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 RISK. WHERE FIELD OBSERVATION 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 INSTALLATION OF THE IRRIGATION SYSTEM TO REVIEW THE PROJECT'S DESIGN 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 AND LANDSCAPE ARCHITECT PRIOR TO ANY INSTALLATION. THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS AND NECESSARY COSTS TO CORRECT SUCH DISCREPANCIES.

D. SEE UTILITY PLANS FOR IRRIGATION POINTS OF CONNECTION (TAP) AND DOMESTIC WATER SERVICE CONNECTION.

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 10 PSI AND THE LOSS OF PRESSURE IN THE 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 CORRECTIONAL MEASURES. SHOULD THE IRRIGATION CONTRACTOR CHOOSE TO BEGIN THE INSTALLATION WITHOUT SUCH NOTIFICATION, THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE SYSTEM 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. WITH THE OWNER'S REVIEW OF THE PROPOSED LOCATIONS OF THE AUTOMATIC CONTROLLER, AND ANY REQUIRED SLEEVES THROUGH THE BUILDING FOR CONTROL WIRES.

I. TRENCING NEAR EXISTING TREES:

1. CONTRACTOR SHALL NOT DISTURB ROOTS 1'-1/2" AND LARGER IN DIAMETER WITHIN THE CRITICAL ROOT ZONE OF ANY 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 OF 10" FOR TREES 1" TO 4" IN DBH, 15" FOR TREES 4" TO 6" IN DBH, AND 20" FOR TREES 6" AND LARGER IN DBH. THE CRZ IS THE AVERAGE GRADE AT THE TRUNK.

2. ALL EXCAVATION WITHIN THE CRZ SHALL BE PERFORMED USING HAND TOOLS. NO MACHINE EXCAVATION OR TRENCING OF ANY KIND SHALL BE ALLOWED WITHIN THE CRZ.

3. AFTER ALIGNMENT OF PIPE TO THE CRZ, THE CONTRACTOR SHALL BE RESPONSIBLE FOR 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 OR RIP LINES WITHIN 24 HOURS.

4. ALL EXPOSED ROOTS SHALL BE RECOVERED AND PROTECTED WITH BURLAP AND ALLOWED TO AIR-DRY. DO NOT USE ANY SORT OF SEALERS OR WOUND PAINTS.

MATERIAL SHALL BE FREE FROM RUBBISH, ROCK LARGER THAN 1", LARGE STONES, BRUSH, SOIL, FROZEN MATERIAL OR OTHER UNSUITABLE SUBSTANCES THAT MAY DAMAGE PIPE OR CAUSE THE BACKFLOW PREVENTER TO OPERATE. 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.

2. IF, AT ANY TIME, 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 FURNISH SUITABLE BACKFILL MATERIALS, 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 LINES AS NOTED ON THE DETAILS. THE BACKFLOW PREVENTER SHALL BE INSTALLED 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 SCREEN BALL VALVE IMMEDIATELY UPSTREAM OF THE BACKFLOW DEVICE TO PREVENT ISOLATION OF VALVE. TO EVERY EXTENT POSSIBLE, INSTALL BACKFLOW PREVENTER ON A LOCATION SCROSSED FROM PUBLIC VIEW (SUCH AS BEHIND A SHRUB ROW).

L. PIPING:

1. PIPE SIZE SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS FOR LARGER SIZES MAY BE APPROVED.

2. 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.

3. ASSEMBLE ALL THREADED FITTINGS WITH TEFLON TAPE, WHICH SHALL BE APPLIED TO MALE THREADS ONLY.

4. ALL SOLVENT-WELD CONNECTIONS SHALL BE MADE WITH APPROVED SOLVENT-WELD PRIMER AND GLUE.

5. 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

1. VALVES SHALL BE INSTALLED PER MANUFACTURER'S DIRECTIONS AND THE IRRIGATION DETAILS.

2. VALVE BOXES SHALL BE INSTALLED FLUSH WITH THE GRADE, WITH CLEAN PEA GRAVEL LOCATED BELOW THE VALVE AS NOTED ON THE DETAILS. LOCATE VALVES WITHIN 12 TO 24" OF CURB/PAVEMENT OR DRIVE, 12" ABOVE FINISH GRADE, 12" 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.

3. DO NOT INSTALL MORE THAN TWO VALVES IN A JUMBO BOX.

N. DRIP IRRIGATION EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S DIRECTIONS AND THE IRRIGATION DETAILS.

1. SURFACE PIPING LINES SHALL BE BURIED NO MORE THAN 2" BELOW FINISH GRADE.

2. DRIP LINES MOUNTED ON GRADE SHALL BE SECURED IN PLACE WITH WIRE STAPLES AT A MAXIMUM OF 48" ON CENTER.

O. SPRAY, ROTOR, AND BUBBLER HEADS:

1. ROTOR, SPRAY, AND BUBBLER 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.

2. SPRAY HEADS SHALL BE CONNECTED WITH A 1/2 INCH MINIMUM LENGTH OF 1/2 INCH FLEX PVC. THE FLEX PVC SHALL BE SOLDER 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.

3. 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, BOULDERS, AND HARDSCAPE, UNLESS OTHERWISE SPECIFIED.

4. ROTOR, SPRAY, AND BUBBLER HEADS AND VALVES SHALL BE ADJUSTED AND ADJUSTED FOR OPTIMUM COVERAGE WITH MINIMUM OVERSPRAY ON WALKS, STREETS, WALLS, ETC.

P. AUTOMATIC CONTROLLER

1. INSTALL THE CONTROLLER AT THE LOCATION INDICATED BY THE OWNER. INSTALL THE CONTROLLER AND BACKUP POWER SUPPLY IN A DRY, PROTECTED AREA BY THE MANUFACTURER.

2. THE IRRIGATION CONTRACTOR SHALL COORDINATE 120 V A.C. ELECTRICAL POWER TO CONTROLLERS 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.

3. ALL VALVE CONTROL WIRE SHALL BE AWG 14 TYPE UF, 600 VOLT TIE, DIRECT BURIAL. NO SPLICES SHALL BE ALLOWED EXCEPT AT VALVES AND CONTROLLER, WHERE SPLICES MAY BE NECESSARY. RUN CABLES AGGRESSIVELY LONG WIRE RUNS. THE CONTRACTOR SHALL MAKE ALL SPLICES IN 6" ROUND VALVE BOXES WITH 3/MS "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.

4. PROVIDE #10 COMMON WIRE, DIRECT BURIAL, TO ALL REMOTE CONTROL VALVES.

5. CONNECT ALL DIRECT BURIAL WIRES TO VALVES USING 3/MS "DBY-DIRECT BURIAL SPLICE KIT" (UNLESS OTHERWISE SPECIFIED).

6. PROVIDE THREE (3) 1/2 INCH COMMON CONTROL WIRES ALONG EACH BRANCH OF MAINLINE FOR FUTURE EXPANSION. STUB ADDITIONAL CONTROL WIRES INTO BACK OF IRRIGATION CONTROLLERS.

7. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL CONTROL WIRE GLEES AND PIPES UNDER PAVED AREAS PRIOR TO PAVING. SEE SLEEPING NOTES.

Q. 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 AN OPEN, UNPAVED AREA, FREE OF TREES, PAINTED OBSTRUCTIONS. IF IT IS PLACED IN AN INADEQUATE LOCATION, THE IRRIGATION CONTRACTOR MAY BE REQUIRED TO RELOCATE IT AT AN ADDITIONAL COST TO THE OWNER.

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

S. QUALITY CONTROL

1. PERFORM COVERAGE TESTS AFTER IRRIGATION SYSTEM IS COMPLETED, BUT PRIOR TO ANY PLANTING AND PERFORM TESTING IN THE PRESENCE OF THE IRRIGATION DESIGNER AND THE IRRIGATION CONTRACTOR MANAGER.

2. TEST SYSTEM TO ASSURE THAT ALL LAWN AND PLANTING AREAS ARE WATERED COMPLETELY AND UNIFORMLY.

3. TEST SHALL NEED REPAIR ADJUSTMENTS TO PROVIDE COMPLETE COVERAGE, INCLUDING REALIGNMENT OF HEADS AND REPLACEMENT OF NOZZLES.

U. CLEAN UP

1. DURING IRRIGATION EXCAVATION AND INSTALLATION, KEEP ALL PAVEMENT CLEAN AND ALL AREAS IN AND OUT OF THE PROJECT AREA FREE OF RUBBISH, TRASH, AND DEBRIS.

2. DISPOSED LEGALLY OF ALL EXCAVATED MATERIALS OFF THE PROJECT SITE.

V. INSPECTION AND ACCEPTANCE

1. UPON COMPLETION OF THE WORK, THE IRRIGATION CONTRACTOR SHALL PROVIDE THE SITE TO THE OWNER FREE OF DEBRIS AND TRASH AND SHALL BE AVAILABLE FOR INSPECTION. THE IRRIGATION CONTRACTOR SHALL THEN REQUEST AN INSPECTION BY THE OWNER TO DETERMINE FINAL ACCEPTABILITY.

2. 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.

3. THE MAINTENANCE PERIOD WILL NOT COMMENCE UNTIL THE WORK HAS BEEN RE-INSPECTED AND THE OWNER HAS GIVEN WRITTEN NOTICE OF ACCEPTANCE. WRITTEN NOTICE OF FINAL ACCEPTANCE WILL BE ISSUED BY THE OWNER, AND THE MAINTENANCE AND GUARANTEE PERIODS WILL COMMENCE.

4. CONTROLLER CHART: THE IRRIGATION CONTRACTOR SHALL PROVIDE A 11" X 17" COLOR CODED, 100% FILLING OF THE AREAS TO BE IRRIGATED. 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.

5. TURN THE FOLLOWING ITEMS IN TO THE OWNER UPON COMPLETION OF THE INSTALLATION:

a. QUICK COUPLER KEYS (2)

b. CONTROLLER MANUAL (1)

c. CONTROLLER KEYS (2)

d. A MINIMUM OF (2) SETS 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 ATTACHING SPECIFICATIONS FOR ADDITIONAL CONDITIONS OF FINAL ACCEPTANCE AND START OF THE MAINTENANCE PERIOD.

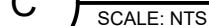
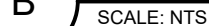
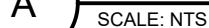
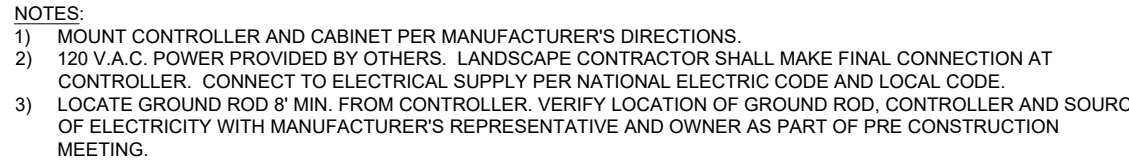
X. WARRANTY

1. THE IRRIGATION SYSTEM SUPPLIED AND INSTALLED SHALL BE WARRANTED (LABOR AND MATERIALS) AGAINST DEFECTS IN OPERATION 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.

2. BY THE END OF THE WARRANTY PERIOD, ANY IRRIGATION PART THAT IS EITHER NON-OPERATIONAL OR THAT IS DEFECTIVE BELOW STANDARDS AS 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.

3. 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 PROVIDE A THIRD-PARTY CERTIFIED LANDSCAPE IRRIGATION AUDITOR, AT AN ADDITIONAL COST TO THE OWNER.



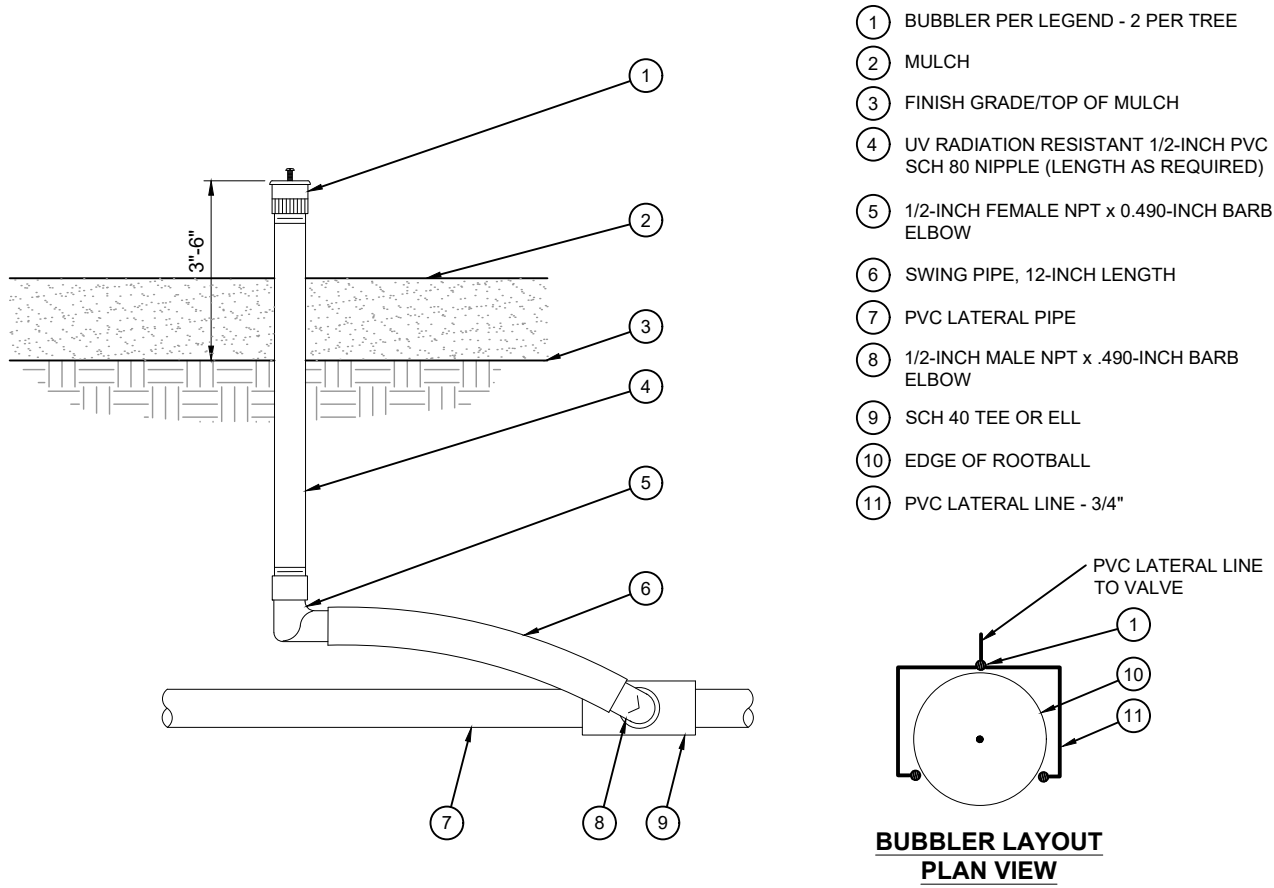
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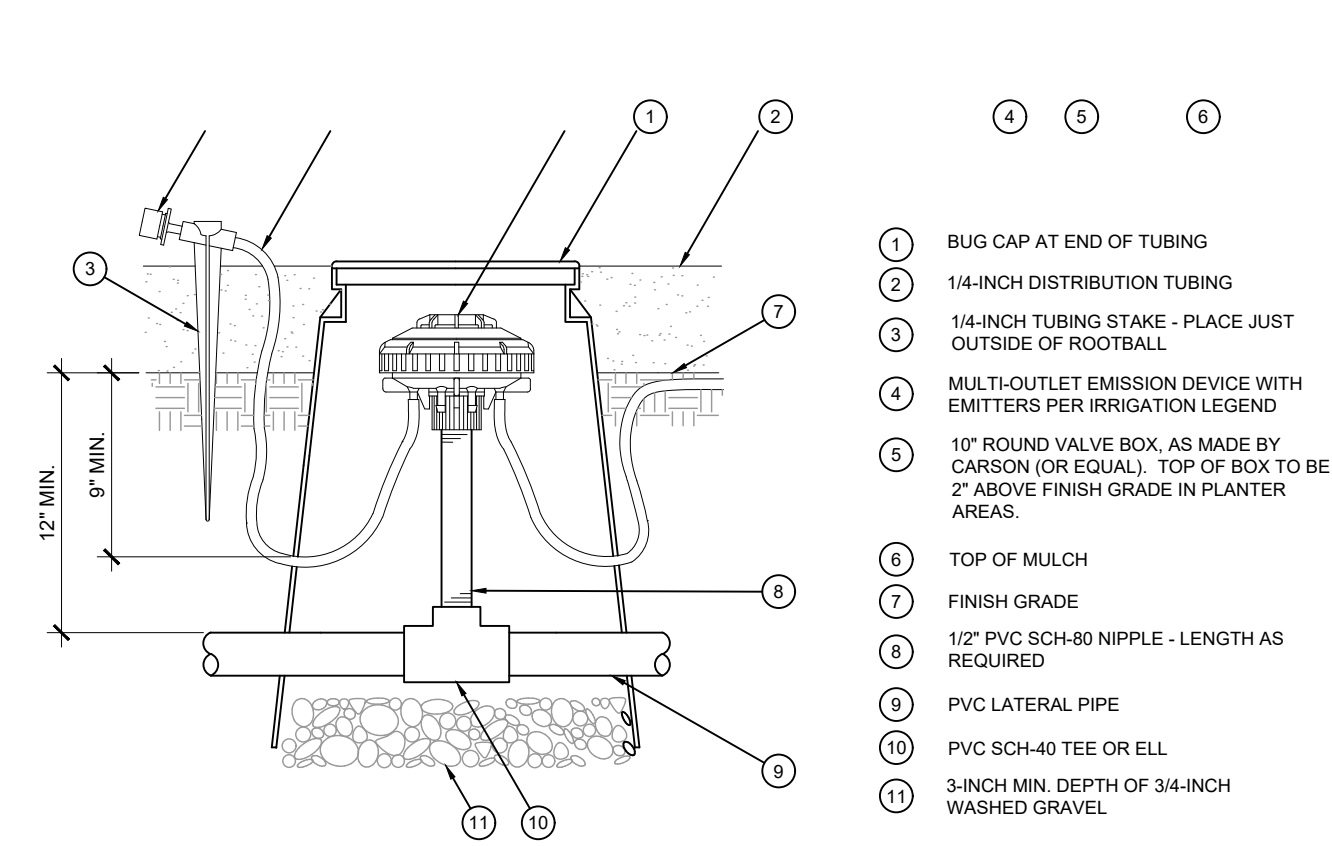
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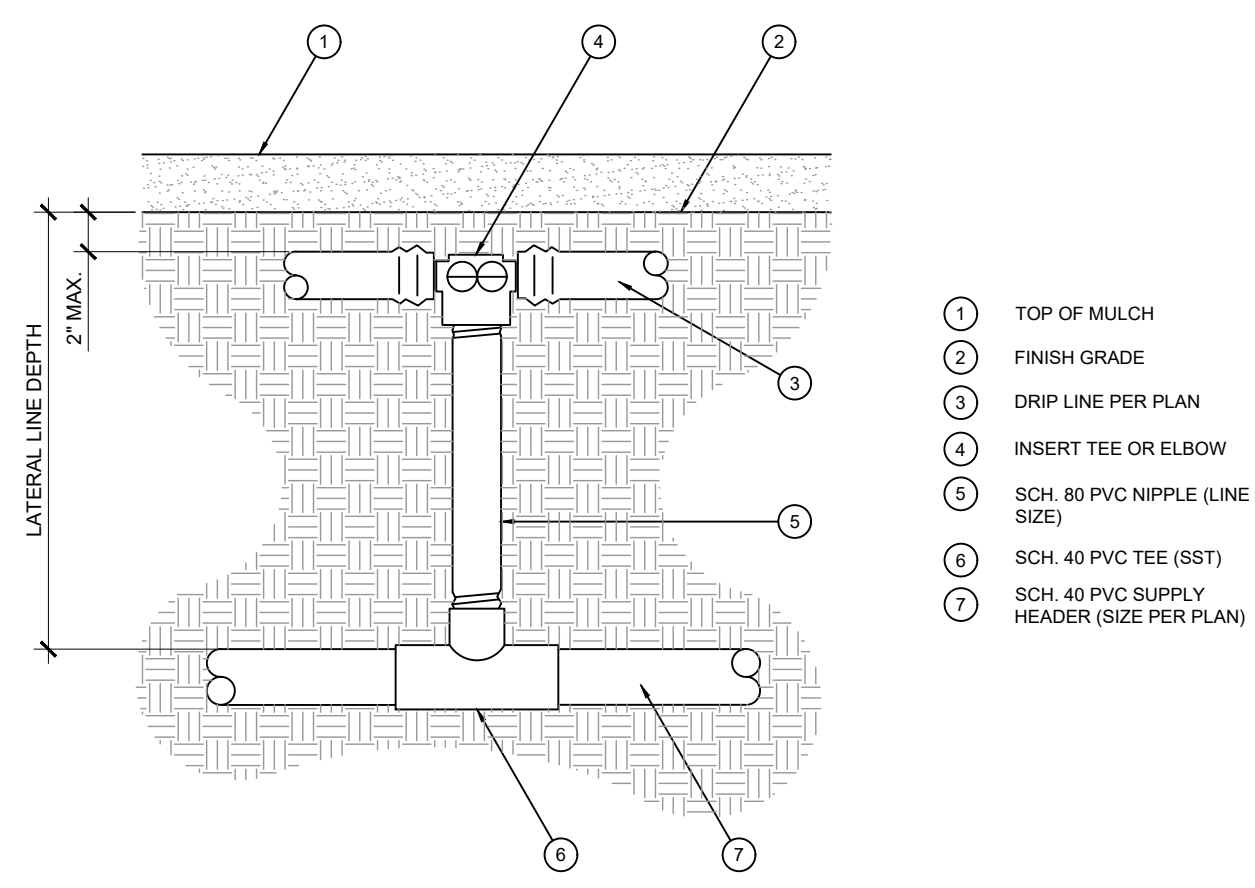
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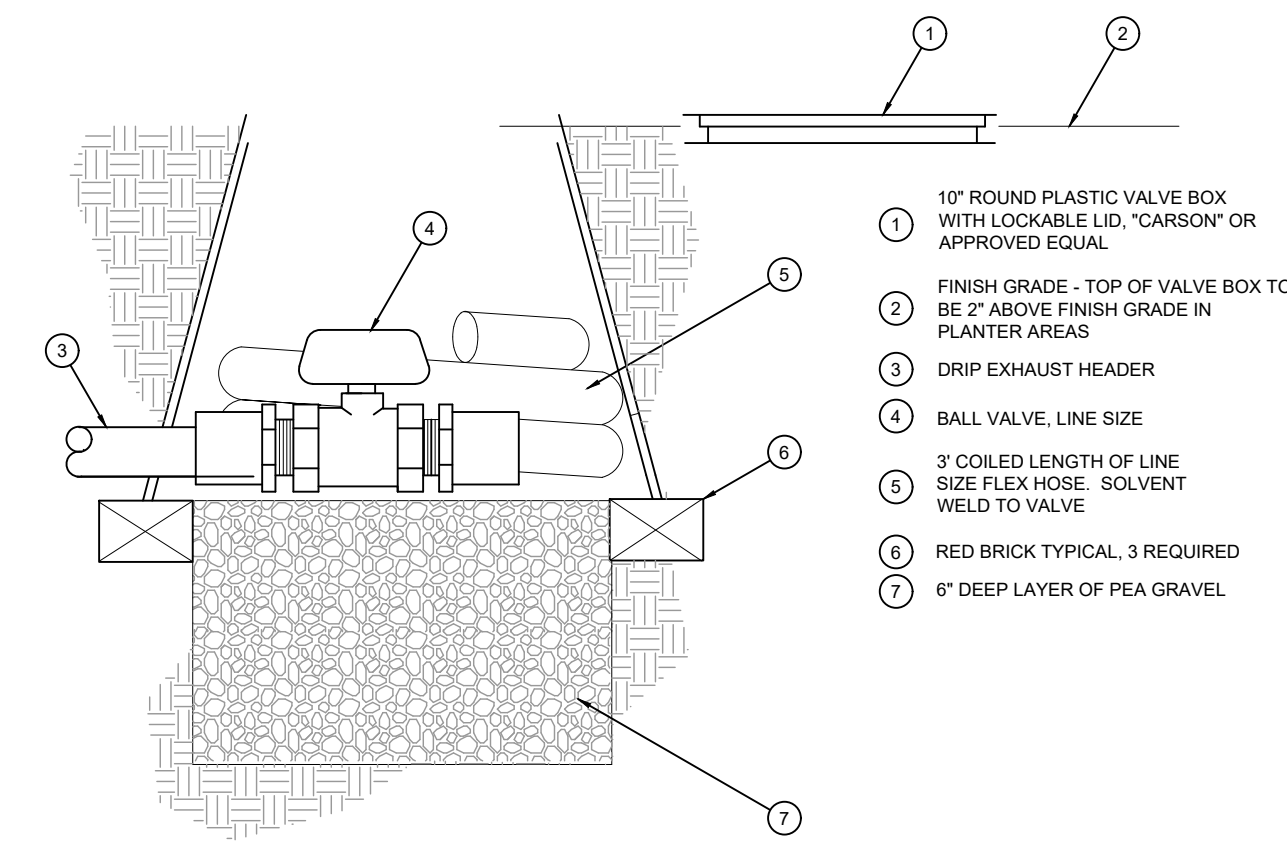
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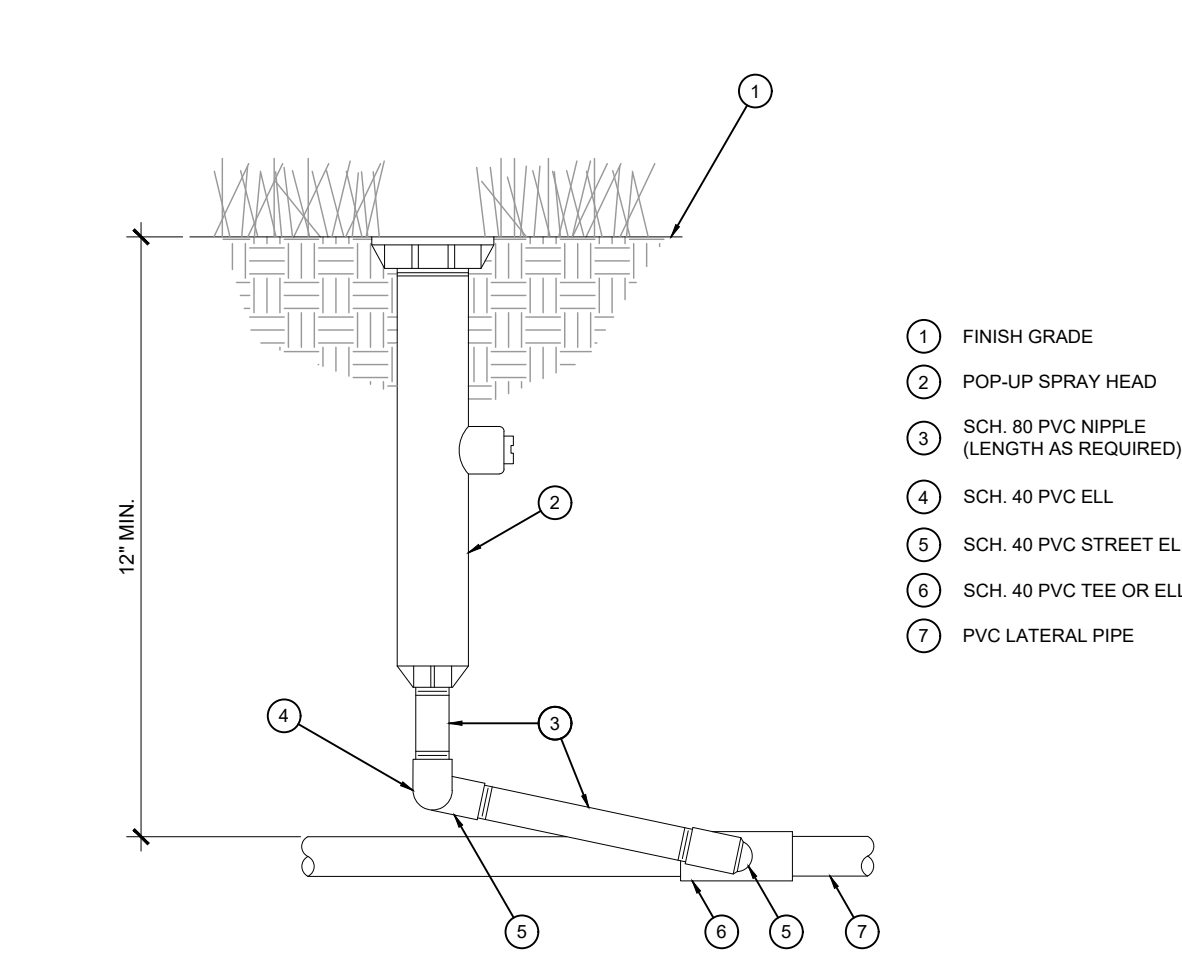
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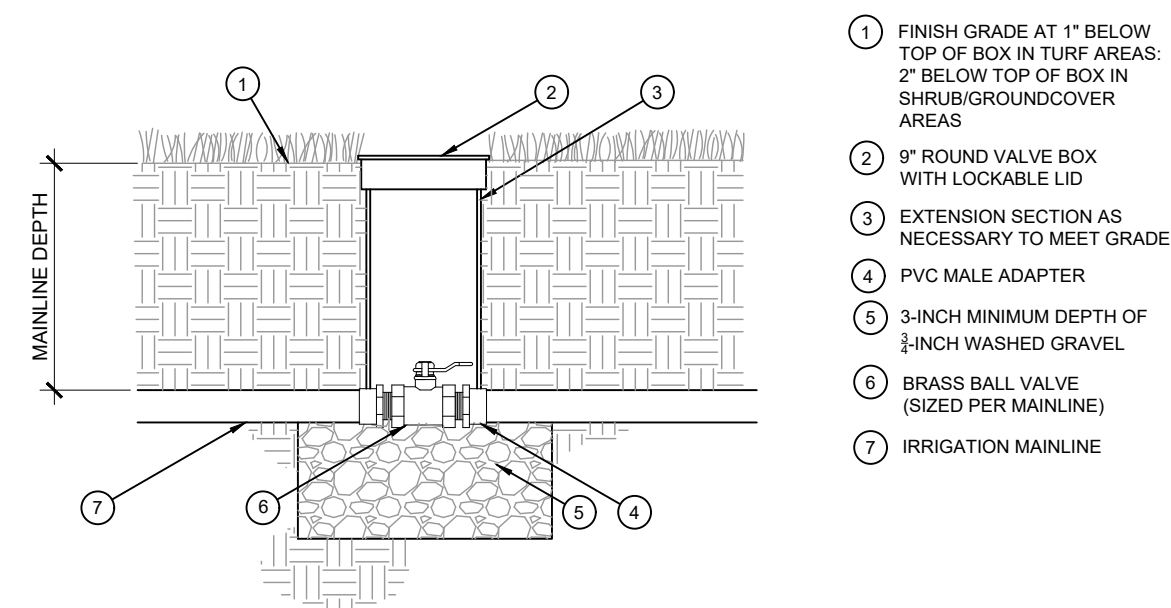
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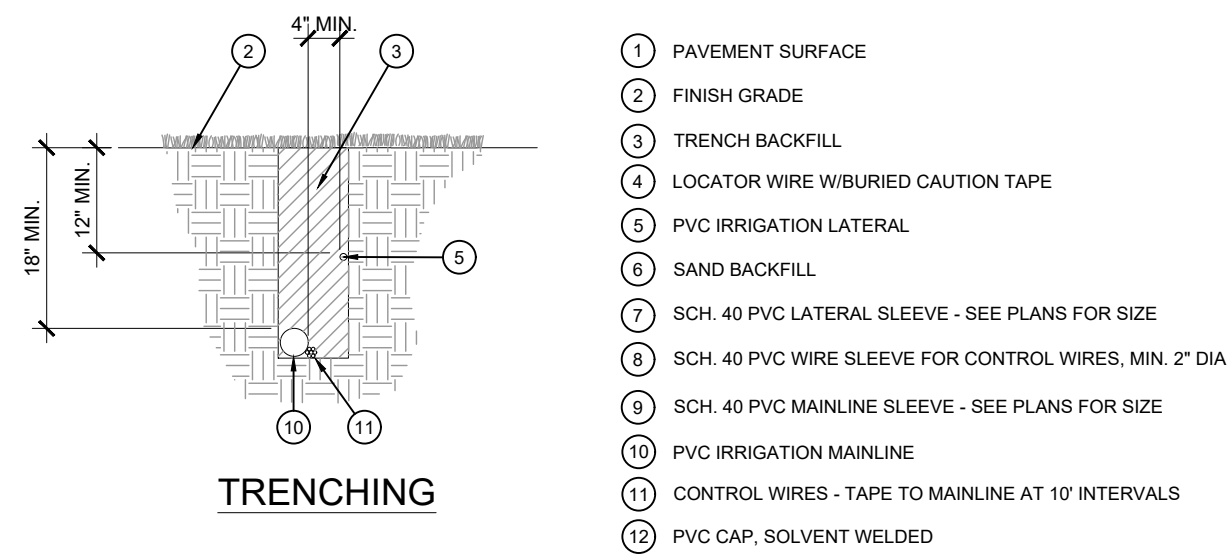
K FLUSH VALVE
SCALE: NTS



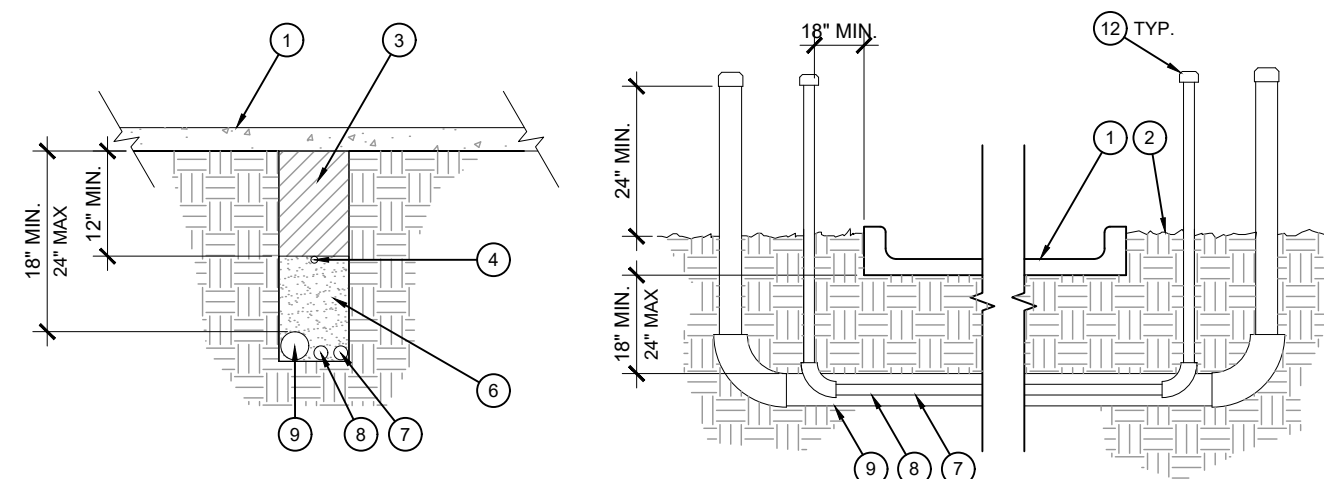
L POP-UP SPRAY HEAD
SCALE: NTS



G BRASS BALL VALVE
SCALE: NTS

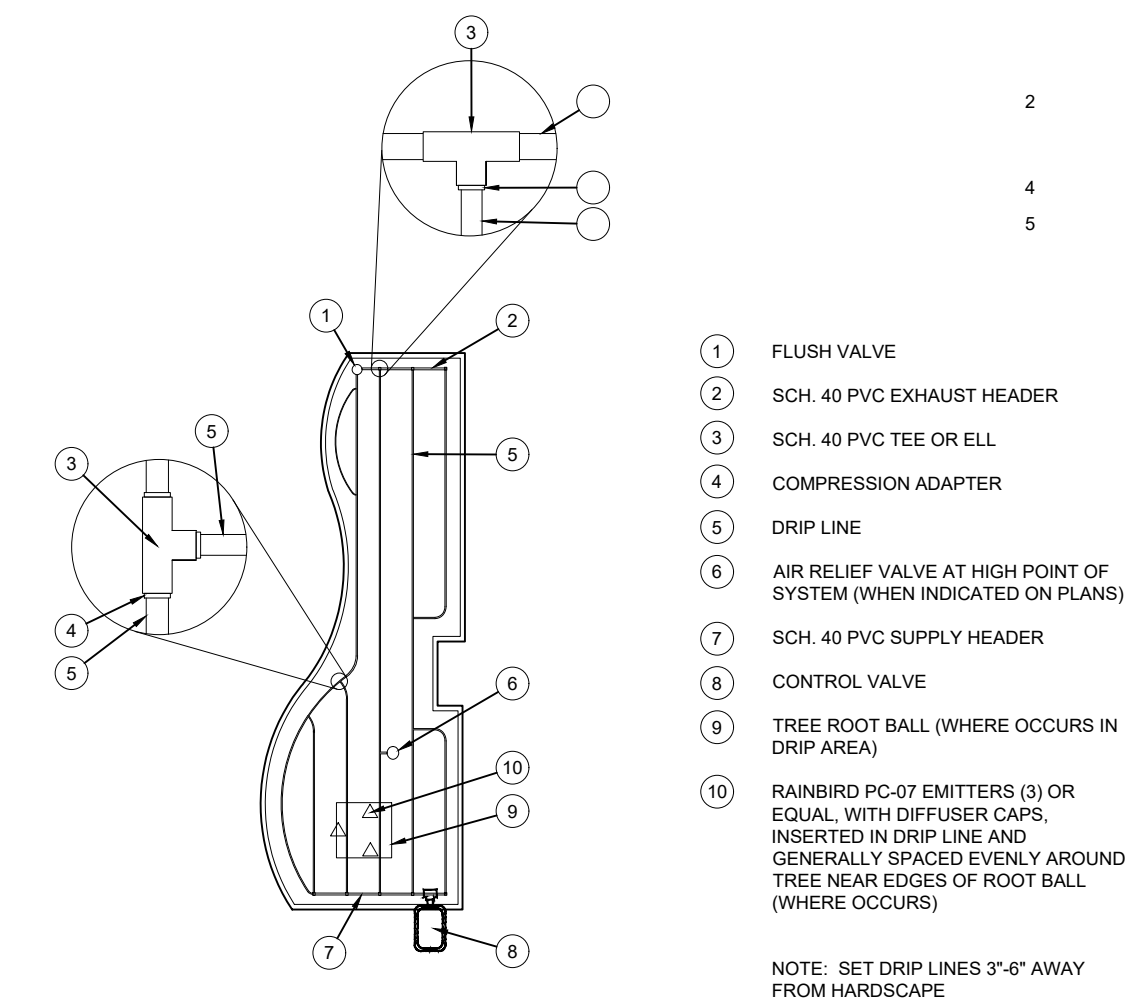


TRENCHING



SLEEVING

H PIPE AND SLEEVE INSTALLATION
SCALE: NTS



I SUBSURFACE DRIP LINE LAYOUT
SCALE: NOT TO SCALE

BEARINGS SHOWN HEREON ARE TIED TO THE TEXAS COORDINATE SYSTEM OF 1983 (NAD83(2011) EPOCH2013) NORTH CENTRAL ZONE (4020) USING TOWN OF PROSPER GEODETIC CONTROL MONUMENTS 3 AND 5.

GPS-3
N: 7141040.803
E: 2480701.977
ELEV: 615.09

GPS-5
N: 7144654.054
E: 2480831.202
ELEV: 704.95

TM# 01:
7'x CUT IN INLET ON THE EAST SIDE OF DALLAS NORTH TOLLWAY NORTHBOUND SERVICE ROAD, APPROXIMATELY 146 FEET SOUTH OF FRONTIER PARKWAY CENTERLINE.
N: 7146300.55
E: 2482444.24
ELEV: 619.13

DESIGN: CBD
DRAWN: CBD
CHECKED: CBD
DATE: 09/04/2023

SHEET
LI-3

CASE NO. 2022-029

EVERGREEN
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GLAY MOORE
ENGINEERING

Christopher B. Davis
STATE OF TEXAS
CHRISTOPHER B. DAVIS
17628
LICENSED IRRIGATOR
07/17/2023

FRONTIER RETAIL CENTER
BEING PART OF 70.91 ACRES OF LAND
OUT OF COLLIN COUNTY SCHOOL LAND
SURVEY, ABSTRACT NO. 147
PROSPER, TEXAS