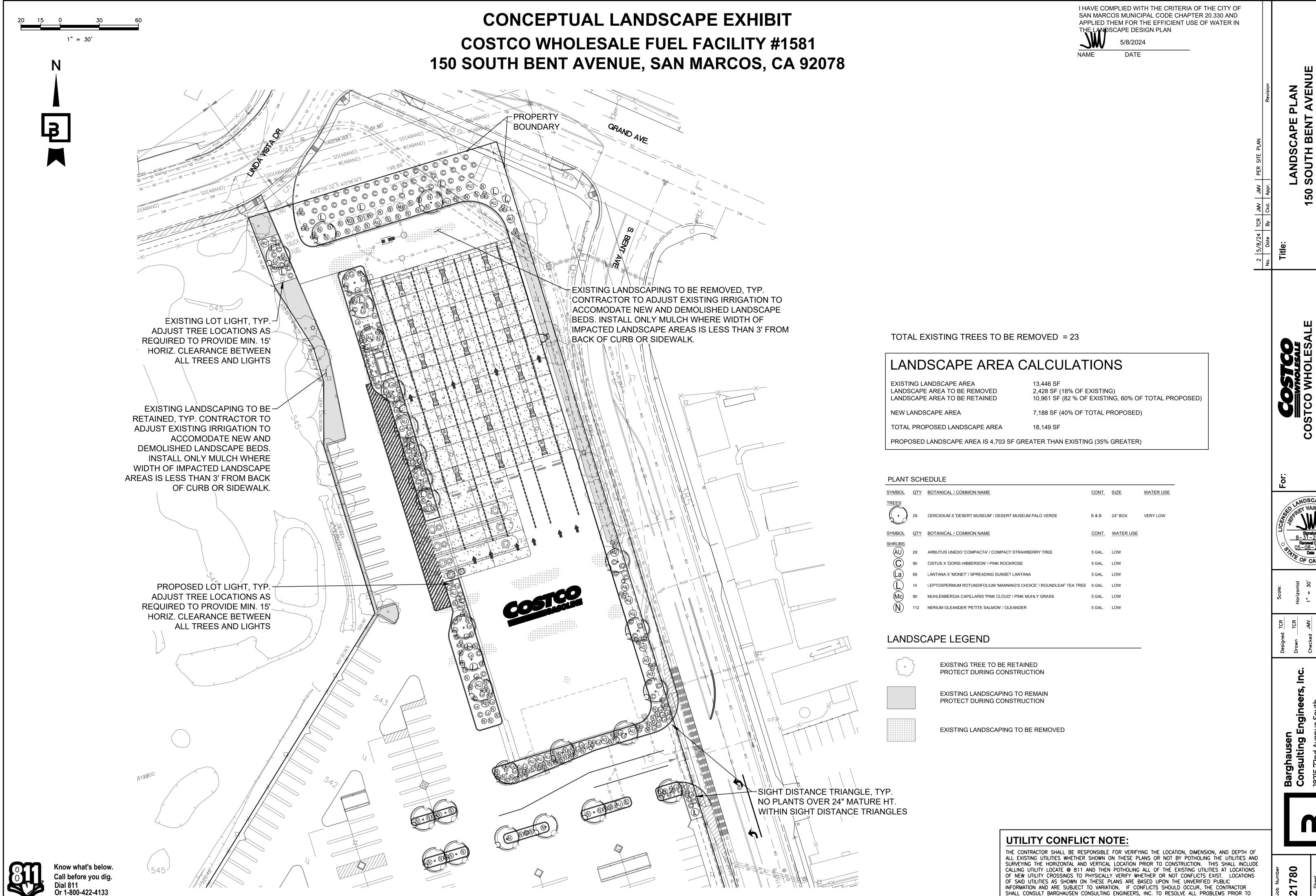
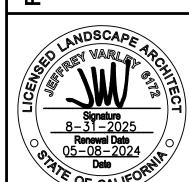
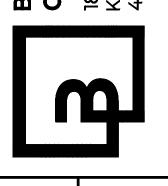


ATTACHMENT E

LANDSCAPING PLANS







PROCEEDING WITH CONSTRUCTION.

LANDSCAPE PLANTING NOTES AND MATERIALS

FURNISH ALL MATERIALS, LABOR, EQUIPMENT AND RELATED ITEMS NECESSARY TO ACCOMPLISH TOPSOIL. TREATMENT AND PREPARATION OF SOIL, FINISH GRADING, PLACEMENT OF SPECIFIED PLANT MATERIALS. FERTILIZER, STAKING, MULCH, CLEAN-UP, DEBRIS REMOVAL, AND 30-DAY MAINTENANCE,

LANDSCAPE CONTRACTOR TO BE SKILLED AND KNOWLEDGEABLE IN THE FIELD OF WORK AND HAVE A MINIMUM OF FIVE (5) YEAR'S EXPERIENCE INSTALLING SIMILAR WORK. CONTRACTOR TO BE LICENSED TO PERFORM THE WORK SPECIFIED WITHIN THE PRESIDING JURISDICTION.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE SITE AND REPORT ANY DISCREPANCIES TO THE OWNER OR THE OWNER'S REPRESENTATIVES. ALL PLANT MATERIAL AND FINISH GRADES ARE SUBJECT TO

SAVE AND PROTECT ALL EXISTING PLANTINGS SHOWN TO REMAIN. DO NOT PLANT UNTIL OTHER CONSTRUCTION OPERATIONS WHICH CONFLICT HAVE BEEN COMPLETED. IF AN IRRIGATION SYSTEM IS TO BE INSTALLED DO NOT PLANT UNTIL THE SYSTEM HAS BEEN INSTALLED, TESTED, AND APPROVED BY THE OWNER. HANDLE PLANTS WITH CARE - DO NOT DAMAGE OR BREAK ROOT SYSTEM, BARK, OR BRANCHES. REPAIR AND/OR REPLACE ITEMS DAMAGED AS A RESULT OF WORK, OR WORK NOT IN COMPLIANCE WITH PLANS AND SPECIFICATIONS. AS DIRECTED BY OWNER AT NO ADDITIONAL COST TO THE OWNER.

REPAIR OF EXISTING PLANTINGS

DURING THE COURSE OF WORK. REPAIR ALL EXISTING PLANTING AREAS BY PRUNING DEAD GROWTH, RE-ESTABLISHING FINISH GRADE AND RE-MULCHING TO SPECIFIED DEPTH.

DURING THE COURSE OF WORK, REPAIR ANY DAMAGE TO THE IRRIGATION SYSTEM TO MATCH CONDITIONS PRIOR TO THE DAMAGE.

GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF THE

JOB BY OWNER. CONTRACTOR TO PROVIDE OWNER WITH A SCOPE OF WORK AT TIME OF INITIAL PROJECT BID TO PROVIDE

SUBMIT THE FOLLOWING TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO THE

LANDSCAPE AND IRRIGATION MAINTENANCE FOR 60 DAYS FOLLOWING STORE OPENING. WORK TO

INCLUDE MAINTENANCE AS DESCRIBED BELOW, IN PLANTING AND IRRIGATION MAINTENANCE.

START OF ANY WORK: A) DOCUMENTATION THAT ALL PLANT MATERIAL HAS BEEN ORDERED.

- B) TOPSOIL ANALYSIS AND RECOMMENDED AMENDMENTS.
- C) TREE STAKING AND GUYING MATERIALS. D) ONE (1) QUART SIZE OF TOPSOIL AND MULCH.
- E) PLANTING SCHEDULE INCLUDING DATES AND TIMES
- F) MAINTENANCE INSTRUCTIONS FOR ONE (1) FULL YEAR

MATERIALS:

PLANT MATERIALS TO BE GRADE NO. 1, SIZED IN ACCORDANCE WITH (AAN) AMERICAN STANDARDS FOR NURSERY STOCK (ANSI Z60.1-2004). PRUNE PLANTS RECEIVED FROM THE NURSERY ONLY UPON AUTHORIZATION BY THE LANDSCAPE ARCHITECT. "B & B" INDICATES BALLED AND BURLAPPED: "CONT." INDICATES CONTAINER: "BR" INDICATES BARE ROOT: "CAL" INDICATES CALIPER AT 6" ABOVE SOIL LINE; "GAL" INDICATES GALLON. A) SPECIFIED PLANT CANOPY SIZE OR CALIPER IS THE MINIMUM ACCEPTABLE CONTAINER

OR BALL SIZE AND ESTABLISHES MINIMUM PLANT CONDITION TO BE PROVIDED. PLANT MATERIAL TO COMPLY WITH STATE AND FEDERAL LAWS FOR DISEASE

- INSPECTION, PLANTS TO BE FULLY LIVE, VIGOROUS, WELL FORMED, WITH WELL DEVELOPED FIBROUS ROOT SYSTEMS. ROOT BALLS OF PLANTS TO BE SOLID AND FIRMLY HELD TOGETHER. SECURELY CONTAINED AND PROTECTED FROM INJURY AND DESICCATION. PLANTS DETERMINED BY LANDSCAPE ARCHITECT TO HAVE BEEN DAMAGED; HAVE DEFORMITIES OF STEM, BRANCHES, OR ROOTS; LACK SYMMETRY, HAVE MULTIPLE LEADERS OR "Y" CROTCHES LESS THAN 30 DEGREES IN TREES, OR DO NOT MEET SIZE OR ANSI STANDARDS WILL BE REJECTED. PLANT MATERIAL TO BE FROM A SINGLE NURSERY SOURCE FOR EACH SPECIFIED SPECIES/HYBRID. NURSERY SOURCES TO BE THOSE LOCATED IN THE SAME REGION AS THE JOB SITE.
- NO SUBSTITUTION OF PLANT MATERIAL, SPECIES OR VARIETY, WILL BE PERMITTED UNLESS WRITTEN EVIDENCE IS SUBMITTED TO THE OWNER FROM TWO QUALIFIED PLANT BROKERAGE OFFICES. SUBSTITUTIONS WHICH ARE PERMITTED TO BE IN WRITING FROM THE OWNER AND LANDSCAPE ARCHITECT. THE SPECIFIED SIZE, SPECIES AND NEAREST VARIETY, AS APPROVED, TO BE FURNISHED. SUBSTITUTIONS MAY REQUIRE
- SUBMITTAL TO REVISED LANDSCAPE PLAN TO CITY FOR APPROVAL D) LABEL AT LEAST ONE (1) TREE, SHRUB, AND GROUNDCOVER OF EACH VARIETY WITH A SECURELY ATTACHED WATERPROOF TAG BEARING LEGIBLE DESIGNATION OF BOTANICAL
- E) DELIVER PLANT MATERIAL AFTER PREPARATION OF PLANTING AREAS HAVE BEEN COMPLETED AND PLANT IMMEDIATELY. IF PLANTING IS DELAYED MORE THAN SIX (6) HOURS AFTER DELIVERY, SET MATERIAL IN SHADE, PROTECT FOR WEATHER AND MECHANICAL DAMAGE, AND KEEP ROOT BALLS MOIST BY COVERING WITH MULCH, BURLAP OR OTHER ACCEPTABLE MEANS OF RETAINING MOISTURE.

TOPSOIL, AMENDMENT, AND BACKFILL, ARE GENERAL REQUIREMENTS FOR ALL LANDSCAPE AREAS, UNLESS NOTED OTHERWISE ON THE PLANS. SOIL AMENDMENTS AND FERTILIZER NOTED BELOW ARE TO BE USED FOR BID PRICE BASIS ONLY. SPECIFIC AMENDMENTS AND FERTILIZERS WILL BE MADE AFTER SOIL SAMPLES ARE LABORATORY TESTED BY THE CONTRACTOR. PROVIDE CHANGE ORDER FOR ADDITIONAL

OR REDUCTION OF MATERIALS REQUIRED OR NOT REQUIRED BY THE SOILS REPORT.

SOIL FERTILITY AND AGRICULTURAL SUITABILITY ANALYSIS: AFTER ROUGH GRADING AND PRIOR TO SOIL PREPARATION, CONTRACTOR TO OBTAIN TWO REPRESENTATIVE SOIL SAMPLES, FROM LOCATIONS AS DIRECTED BY THE LANDSCAPE ARCHITECT, TO AN ACCREDITED SOIL TESTING LABORATORY FOR TESTING. SUBMIT RESULTS TO LANDSCAPE ARCHITECT FOR REVIEW. TESTS TO INCLUDE FERTILITY AND SUITABILITY ANALYSIS WITH WRITTEN RECOMMENDATIONS FOR SOIL AMENDMENT, FERTILIZER, CONDITIONERS, APPLICATION RATES, AND POST-CONSTRUCTION

MAINTENANCE PROGRAM. TESTS TO BE CONTRACTED WITH AND PAID FOR BY THE CONTRACTOR.

CONTRACTOR IS RESPONSIBLE FOR SUPPLYING ALL TOPSOIL AND FOR DETERMINING THE VOLUME OF TOPSOIL REQUIRED PER THE INFORMATION ON PLANS AND NOTED HERE-IN. CONTRACTOR IS RESPONSIBLE FOR ANY NECESSARY WEED CONTROL

RESULTING FROM CONTAMINATED OFF SITE SOURCES. B) TOPSOIL TO CONSIST OF 1/3 BY VOLUME SANDY LOAM, 1/3 BY VOLUME COMPOSTED GARDEN MULCH, AND 1/3 BY VOLUME COARSE WASHED SAND OR EQUIVALENT. AT MINIMUM, TOPSOIL PRODUCTS

BROUGHT ON SITE TO CONTAIN AMENDMENTS AS LISTED IN "C". C) TOPSOIL TO INCLUDE THE FOLLOWING AMENDMENTS AS NECESSARY:

THE FOLLOWING AMOUNT PER 1,000 SQUARE FEET: 1. 6-CUBIC YARDS ORGANIC COMPOST. COMPOST TO BE FREE OR NON-FARM ANIMAL SOURCES, NOR TO BE FROM SOURCES CONTAINING REDWOOD OF CEDAR

2. 30-POUNDS NITROFORM (38-0-0)

3. 5-POUNDS AMMONIUM SULFATE

4. 40-POUNDS CALCIUM CARBONATE LIMESTONE

5. 40-POUNDS DOLOMITE LIMESTONE

6. 5-OUNES BORON (AS BORAX)

ALL AMENDMENTS TO BE THOROUGHLY MIXED PRIOR TO INCORPORATION INTO TOPSOIL.

CONCEPTUAL LANDSCAPE EXHIBIT **COSTCO WHOLESALE FUEL FACILITY #1581** 150 SOUTH BENT AVENUE, SAN MARCOS, CA 92078

D) PLANTING BACKFILL FOR ALL TREES, SHRUBS, AND GROUNDCOVERS:

1. 0.6-CUBIC YARDS PER VOLUME TOPSOIL

2. 0.4-CUBIC YARDS ORGANIC COMPOST. 3. 3-POUNDS NITROFORM (38-0-0)

6. 2-POUNDS DOLOMITE LIMESTONE

4. 1-POUNDS AMMONIUM SULFATE 5. 2-POUNDS CALCIUM CARBONATE LIMESTONE

E) TOPSOIL PREPARATION AND INSTALLATION:

- 1. VERIFY SUBGRADES TO -5 INCHES IN SOD OR SEED LAWN AREAS AND -8 INCHES IN LANDSCAPE AREAS, OR AS INDICATED ON THE PLANS. THIS ACCOMMODATES 4 INCHES OF IMPORTED TOPSOIL IN LAWN AREAS AND 6 INCHES OF IMPORTED TOPSOIL AND 4 INCHES OF MULCH IN LANDSCAPE AREAS
- ERADICATE ANY SURFACE VEGETATION ROOTED IN THE SUB-GRADE PRIOR TO SUB-GRADE PREPARATION THOROUGHLY SCARIFY AND RIP ALL LANDSCAPE SUB-GRADES WHICH HAVE BECOME COMPACTED TO A DEPTH OF 12 INCHES WITH MULTIPLE PASSES, 90 DEGREES TO EACH OTHER. SCARIFY AREAS INACCESSIBLE TO MECHANIZED EQUIPMENT AND AROUND EXISTING PLANTINGS NOTED TO REMAIN WITH
- 4. REMOVE SOIL LUMPS, ROCK, VEGETATION AND/OR DEBRIS LARGER THAN 2 INCHES FROM ALL
- SUB-GRADEPRIOR TO PLACEMENT OF SPECIFIED TOPSOIL. REMOVE ANY ASPHALT EXTENDING BEYOND 6 INCHES FROM CURBS INTO ADJACENT LANDSCAPE AREAS

F) TOPSOIL PLACEMENT:

PROVIDE A TOTAL FINISH COURSE OF 4 INCHES OF TOPSOIL FOR LANDSCAPE AREAS.

4. PLACE ADDITIONAL TOPSOIL AND SOIL MIX AS REQUIRED TO MEET FINISH ELEVATIONS.

- 2. IN ALL LANDSCAPE AREAS, PLACE 2 INCHES OF TOPSOIL MIX WITH AMENDMENTS OVER THE PREPARED SUB-GRADE AND THOROUGHLY ROTOTILL WITH MULTIPLE PASSES INTO THE TOP 6 INCHES OF SUB-GRADE FOR A TOTAL DEPTH OF 8 INCHES IN LANDSCAPE AREAS.
- 3. PLACE AN ADDITIONAL 2 INCH LIFT OF TOPSOIL, IN ALL LANDSCAPE AREAS, FOR THE FINAL TOPSOIL DEPTH OF 4 INCHES IN LANDSCAPE AREAS.

ONE-HALF-INCH (1/2") SIZE, TO ONE-QUARTER (1/4"), HEMLOCK/FIR BARK. FINE TEXTURED AND DARK BROWN IN

2-INCH DIAMETER BY 8-FOOT MINIMUM LODGEPOLE PINE STAKES.

1-INCH WIDE POLYETHYLENE CHAIN LOCK TYPE TIES; OR, 3/8" DIAMETER RUBBER. NO WIRE

NONE PROPOSED

HERBICIDE IS NOT RECOMMENDED FOR THE FIRST YEAR AFTER INSTALLATION.

"WILT-PROOF," 48 HOURS PRIOR TO SHIPMENT TO SITE FROM JUNE 1 THROUGH SEPTEMBER. THOROUGHLY ROOT WATER PLANTS PRIOR TO DELIVERY. PLANT MATERIAL DELIVERED TO SITE TO BE KEPT CONTINUALLY MOIST THROUGH INSTALLATION.

EXECUTION:

VERIFY THAT ALL SOIL CONTAMINANTS (E.G., PAINT, SEALANTS, SOLVENTS, OILS, GREASES, CONCRETE/ASPHALT SPOILS, ETC.) HAVE BEEN SATISFACTORY REMOVED FROM ALL PLANTING AREAS. DO NOT BEGIN WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

FINISH GRADES:

FINE GRADE AND REMOVE ROCKS. DEBRIS. AND FOREIGN OBJECTS OVER 2 INCHES DIAMETER FROM TOP SURFACE OF PREPARED LANDSCAPE AREAS. FINISH ELEVATIONS TO BE DEFINED AS 3 INCHES BELOW CURBS, WALKS AND/OR OTHER ADJACENT HARDSCAPE FOR ALL PLANTING BED AREAS AND 1-INCH BELOW CURBS, WALKS AND/OR OTHER ADJACENT HARDSCAPE FOR ALL LAWN AREAS. FINISH GRADE REFER TO GRADES PRIOR TO INSTALLATION OF MULCH OR LAWN. ALL FINISH GRADES TO BE SMOOTH EVEN GRADES, LIGHTLY COMPACTED, AS SHOWN ON THE PLAN AND DETAILED. PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND STRUCTURES. SITE CIVIL DRAWINGS IDENTIFY FINAL ELEVATIONS. MOISTEN PREPARED AREAS BEFORE PLANTING IF SOIL IS DRY. WATER THOROUGHLY AND ALLOW SURFACE TO DRY BEFORE PLANTING. DO NOT CREATE MUDDY SOIL.

ARRANGE TREES AND SHRUBS ON SITE IN PROPOSED LOCATIONS PER DRAWINGS. EXCAVATE PIT, PLANT AND STAKE OR GUY, AS CALLED OUT AND DETAILED. ALL TREES, SHRUBS, AND SUPPORTS TO STAND VERTICAL. BACKFILL SHALL BE PIT SPOILS. SETTLE BACKFILL USING WATER ONLY. NO MECHANICAL COMPACTION.

EXCAVATE PITS TO A MINIMUM OF 3 INCHES BELOW, AND TWICE THE ROOT BALL DIAMETER. WATER THOROUGHLY AND TAKE CARE TO ENSURE THAT ROOT CROWN IS AT PROPER GRADE, AS DETAILED.

MULCH ALL LANDSCAPE AREAS NOT COVERED BY LAWN AND/OR SEED. APPLY SUFFICIENT QUANTITY TO PROVIDE A 4-INCH DEPTH.

FIELD ADJUST PLANT LOCATIONS FOR 8-FOOT SEPARATION OF TREES/SHRUBS AND 2-FOOT SEPARATION FOR GROUNDCOVER FROM FIRE HYDRANTS AND UTILITY VAULTS.

DURING LANDSCAPE WORK, KEEP ALL PAVEMENT CLEAN AND WORK AREAS IN AN ORDERLY CONDITION. PROTECT LANDSCAPE WORK AND MATERIALS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS AND TRESPASSERS. MAINTAIN PROTECTION DURING INSTALLATION AND MAINTENANCE PERIOD. TREAT, REPAIR, OR REPLACE DAMAGE LANDSCAPE WORK AS DIRECTED BY THE OWNER.

PROVIDE FULL MAINTENANCE BY SKILLED EMPLOYEES OF LANDSCAPE INSTALLERS. CONTRACTOR TO MAINTAIN PLANTINGS THROUGH COMPLETED INSTALLATION, AND UNTIL ACCEPTANCE OF LANDSCAPE INSTALLATION. PLANTING MAINTENANCE TO INCLUDE WATERING, WEEDING, CULTIVATING, TIGHTENING AND REPAIRING OF TREE GUYS, RESETTING PLANTS TO PROPER GRADES OR POSITION, RE-ESTABLISHING SETTLED GRADES; AND MOWING LAWNS WEEKLY AFTER LAWN ESTABLISHMENT. HERBICIDE IS NOT RECOMMENDED FOR ONE YEAR FOLLOWING LANDSCAPE INSTALLATION. INCLUDED IS REPLACEMENT OF DEAD PLANTS AND PLANTS SHOWING LOSS OF 40 PERCENT OR MORE OF CANOPY.

IRRIGATION MAINTENANCE:

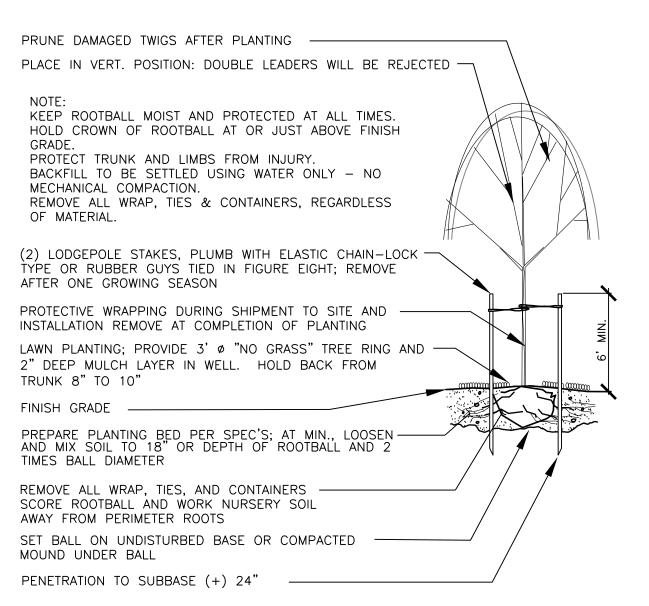
THE IRRIGATION SYSTEM TO BE MAINTAINED INCLUDING ADJUSTMENTS FOR BALANCED WATER DISTRIBUTION AND PRECIPITATION. FAILED OR MALFUNCTIONING IRRIGATION EQUIPMENT SHALL BE REPLACED AND/OR CORRECTED. PLANTING AND IRRIGATION MAINTENANCE TO INCLUDE THOSE OPERATIONS NECESSARY TO THE PROPER GROWTH AND SURVIVAL OF ALL PLANT MATERIALS. CONTRACTOR TO PROVIDE THIS WORK IN ADDITION TO SPECIFIC WARRANTY/GUARANTEES.

SHRUB — PRUNE AS DIRECTED BY LANDSCAPE ARCHITECT HOLD MULCH FROM STEM MULCH LAYER - 4" SAUCER FOR WATERING BACKFILL TO BE A MIX OF TOPSOIL, FERTILIZER, AND PEAT MOSS SCARIFY ROOTBALL ON CONTAINER MATERIAL. REMOVE TOP 1/3 OF BURLAP ON B&B MATERIAL DUST ROOT BALL WITH ROOT GROWTH HORMONE 3x THE ROOTBALL

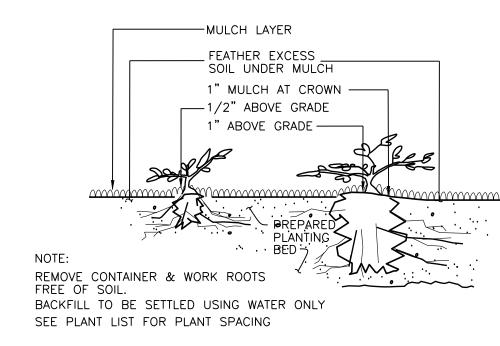
APPLY ADDITIONAL 4 OZ. 8-32-16 FERTILIZER INTO TOP 2" OF PLANTING MIX.

PLANT SHRUB HIGH ENOUGH TO ALLOW POSITIVE DRAINAGE AWAY FROM ROOTBALL. ROUGHEN ALL SURFACES OF PIT. CUT AND REMOVE BURLAP FROM ROOT BALL

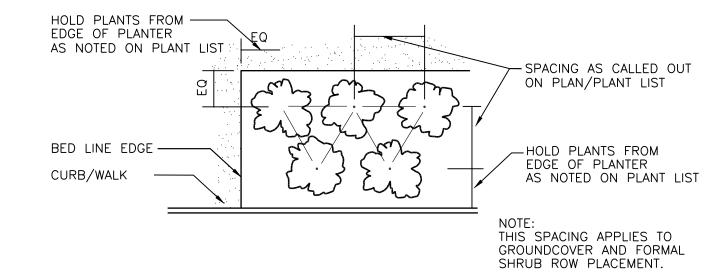
SHRUB PLANTING DETAIL



DECIDUOUS TREE PLANTING/STAKING DETAIL

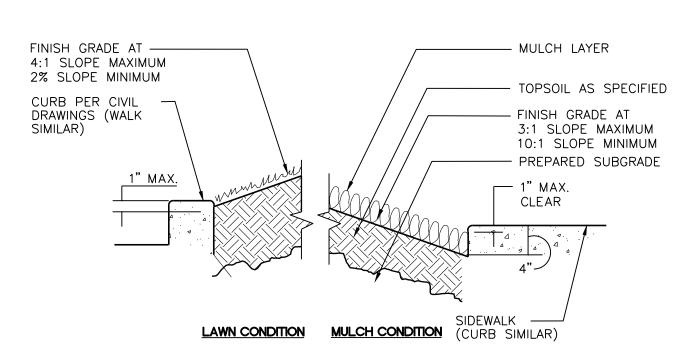


GROUNDCOVER PLANTING DETAIL

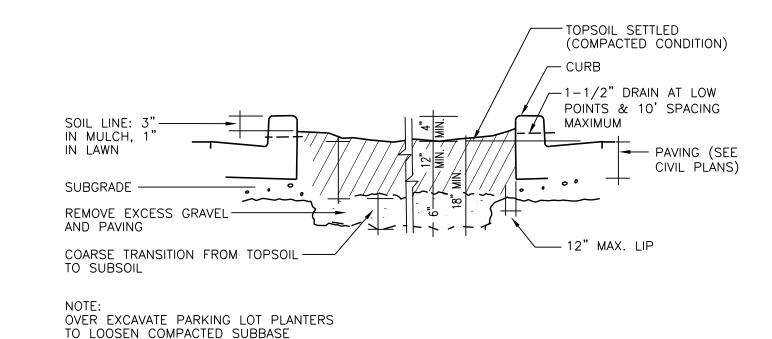


PLANT MATERIAL SPACING DETAIL

NOT TO SCALE



PLANTER SECTION DETAIL



GRADING • PARKING LOT PLANTERS DETAIL

UTILITY CONFLICT NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, DIMENSION, AND DEPTH OF ALL EXISTING UTILITIES WHETHER SHOWN ON THESE PLANS OR NOT BY POTHOLING THE UTILITIES AND SURVEYING THE HORIZONTAL AND VERTICAL LOCATION PRIOR TO CONSTRUCTION. THIS SHALL INCLUDE CALLING UTILITY LOCATE @ 811 AND THEN POTHOLING ALL OF THE EXISTING UTILITIES AT LOCATIONS OF NEW UTILITY CROSSINGS TO PHYSICALLY VERIFY WHETHER OR NOT CONFLICTS EXIST. LOCATIONS OF SAID UTILITIES AS SHOWN ON THESE PLANS ARE BASED UPON THE UNVERIFIED PUBLIC INFORMATION AND ARE SUBJECT TO VARIATION. IF CONFLICTS SHOULD OCCUR. THE CONTRACTOR SHALL CONSULT BARGHAUSEN CONSULTING ENGINEERS, INC. TO RESOLVE ALL PROBLEMS PRIOR TO PROCEEDING WITH CONSTRUCTION.



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CONCEPTUAL LANDSCAPE EXHIBIT COSTCO WHOLESALE FUEL FACILITY #1581 150 SOUTH BENT AVENUE, SAN MARCOS, CA 92078

IRRIGATED LANDSCAPE WATER EFFICIENCY TABLE IRRIGATION SCHEDULE IAXIMUM APPLIED WATER ALLOWANCE (FTo) (0.62) [(0.45 x IA) + (0.55 x SIA)] LOCAL ETO LA = SIA = 54.2 18,011 STIMATED TOTAL WATER USE 54.2 0.3 4,705 0 59,768 | 4 MIN / | 8 MIN / | 14 MIN / | 29 MIN / | 18 MIN / | 36 MIN / | 7 MIN / | 15 MIN | 2 DW | 4 DW | 4 DW | 2 DW | 4 9,748 | 2 MIN / | 4 MIN / | 8 MIN / | 15 MIN / | 10 MIN / | 19 MIN / | 4 MIN / | 8 MIN / | 10 MIN / | 10 MIN / | 2 DW | 1 DW | 2 DW | 1 DW | 1 DW | 2 DW | 1 HYDROZONE 5 (TREES / BUBBLER / MED) 0.5 TREE 0.75 12 TREES 672 S.F. 248.64 2 MIN / 4 MIN / 8 MIN / 15 MIN / 10 MIN / 19 MIN / 4 MIN / 8 MIN / 2 DW 1 DW 2 DW 1 DW 2 DW 1 DW 8,355 TOTAL AREA 1,456 S.F. TOTAL GALLONS 18,103

I HAVE COMPLIED WITH THE CRITERIA OF THE CITY OF SAN MARCOS MUNICIPAL CODE CHAPTER 20.330 AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE DESIGN PLAN

DATE

IRRIGATION SCHEDULE

| | SYMBOL | DESCRIPTION- TREE WATERING BUBBLERS | MIN. PSI | BUBBLER SPACING | BUBBLER GPM |
|---|--------|---|-------------|---------------------|----------------|
| | | HUNTER INST-06-CV-PCN-50 POP-UP BUBBLER HEAD, TWO BUBBLERS PER TREE. PLACE EACH BUBBLER AT EDGE OF ROOTBALL ON OPPOSITE SIDES OF TREE, TYPICAL | 30 | AS SHOWN ON PLAN | .50 |
| _ | SYMBOL | DESCRIPTION- SUB-SURFACE DRIP TUBING | | EMITTER SPACING | EMITTER GPH |
| | | TORO RGP-2-12 DL2000 DRIP TUBING W/ .5 GPH EMITTERS 12" ON-CENTER. INSTALL TUBING ROWS A MAXIMUM OF 16" APART IN SHRUB AREAS. ALL TUBING SHALL BE INSTALLED 4" BELOW FINISHED SOIL GRADE W/ 9" WIRE STAKES FIVE (5) FEET ON-CENTER. VERYIFY THE LAYOUT AND SPACING IN THE FIELD PRIOR TO STARTING WORK. | | 12" | .5 |

NEW DRIP IRRIGATION VALVE: HUNTER ICZ-101/151-XL REMOTE CONTROL DRIP ZONE KIT WITH FILTER AND PRESSURE REGULATOR

33 DRC-RC: 3/4" QUICK COUPLING VALVE, IN VALVE BOX, PROVIDE THREE KEYS AND HOSE SWIVELS

EXISTING 1-1/2" WATER METER WITH 2" SERVICE LINE. LANDSCAPE CONTRACTOR TO VERIFY CONDITION

- - - MAINLINE - (18" COVER); 2-1/2" SIZE CLASS 315. MATCH EXISTING PIPE TYPE

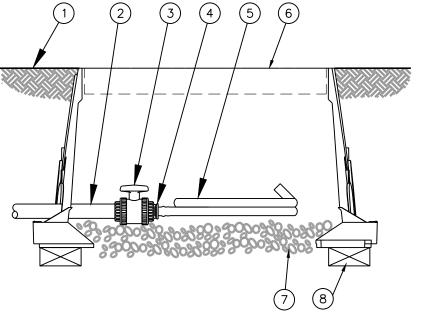
SCH 40 PIPE SIZING CHART

| PIPE SIZE | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | GPM (MAX.) |
|-----------|------|--------|--------|---------|---------|--------|------------|
| FLOW | | 0.4.47 | 474 07 | 07.4.70 | 70.4 57 | 574 74 | |

LANDSCAPE CONTRACTOR TO UTILIZE IRRIGATION EQUIPMENT AS NOTED ABOVE. NOTIFY LANDSCAPE ARCHITECT IF ANY OF THE

LANDSCAPE IRRIGATION NOTES

- GENERAL CONTRACTOR AND LANDSCAPE CONTRACTOR TO COORDINATE
- VERIFICATION OF STATIC WATER PRESSURE AT POINT-OF-CONNECTION (P.O.C.) CONTRACTOR SHALL NOTIFY OWNER AND BARGHAUSEN CONSULTING ENGINEERS, INC., OF ANY VARIATION IN STATIC PRESSURE OVER 5 PSI GREATER/LESS THAN DESIGN PRESSURE.
- B. INSTALLATION OF SLEEVING.
- LANDSCAPE CONTRACTOR TO TEST AVAILABLE WATER PRESSURE AND PROVIDE WRITTEN TEST RESULTS TO LANDSCAPE ARCHITECT PRIOR TO BEGINNING ANY WORK.
- ALL WORK PER LOCAL CODE. INSTALLATION PER MANUFACTURER'S WRITTEN
- ALL VALVES TO BE PLACED IN "CARSON" GRADE LEVEL BOXES WITH BOLT-LOCK LIDS (OR APPROVED EQUIVALENT). SET BOXES 2 INCHES HIGHER THAN FINISH GRADE IN MULCH AREAS AND FLUSH WITH FINISH GRADE IN LAWN AREAS. JUMBO BOX FOR CHECK VALVE, 10" ROUND BOX FOR GATE/QUICK COUPLER/WIRE SPLICES, AND 12" STANDARD FOR CONTROL VALVES. PROVIDE BOX EXTENSIONS AS REQUIRED.
- MAINLINE PIPE TO BE BURIED 18 INCHES AND LATERALS 12 INCHES BELOW FINISH GRADE. NO ROCK OR DEBRIS TO BE BACKFILLED OVER PIPE.
- IRRIGATION DESIGN SHOWN DIAGRAMATICALLY FOR PLAN CLARITY. LANDSCAPE CONTRACTOR IS CONNECTING TO AN EXISTING IRRIGATION SYSTEM THAT UTILIZES 2 SEPARATE POINTS OF CONNECTION, NOTIFY LANDSCAPE ARCHITECT IN WRITING IF ANY PORTIONS OF THE EXISTING IRRIGATION SYSTEM ARE NOT ABLE TO PROVIDE ADEQUATE WATER TO ALL THE NEW PLANT MATERIAL. ALSO, THE EXISTING SYSTEM SHALL BE MAINTAINED IN GOOD WORKING ORDER DURING THE REMODELING OF THE IRRIGATION SYSTEM. UTILIZE SAME IRRIGATION PARTS MANUFACTURER WHEREVER POSSIBLE UNLESS THOSE PARTS ARE NO LONGER AVAILABLE. IRRIGATION SUBMITTAL PRESENTED TO LANDSCAPE ARCHITECT SHALL INCLUDE ANY POTENTIAL
- DRIP TUBING SHALL BE INSTALLED FOUR (4) INCHES <u>BELOW FINAL GRADE</u>. CONTRACTOR TO RUN EACH ZONE BEFORE COVERING TUBING, TO VERIFY THAT THERE ARE NO CONNECTION LEAKS. TREES TO BE INSTALLED ON A SEPARATE ZONE. SEE IRRIGATION DETAILS FOR ADDITIONAL INFORMATION
- PROVIDE OWNER WITH TWO (2) SETS "AS-BUILT" DRAWINGS AND (3) SETS OF OPERATOR'S MANUALS UPON COMPLETION. INSTRUCT OWNER AS TO PROPER OPERATION AND WINTERIZATION OF THE IRRIGATION SYSTEM.
- FAMILIARIZE OWNERS FACILITY OPERATOR WITH IRRIGATION SYSTEM FUNCTION, CONTROLLER PROGRAMMING, SYSTEM OPERATION AND MAINTENANCE REQUIREMENTS.
- ALL CONTROL WIRE SPLICES TO BE MADE AT VALVE BOXES WITH WATER TIGHT ELECTRICAL SPLICES, 3M, SCOTT'S LOCK SEAL TACK 3576-78, OR EQUIVALENT.
- 11. EACH VALVE BOX TO CONTAIN A MINIMUM OF TWO (2) SPARE ORANGE CONTROL WIRES FOR JACKETED WIRE. ROUTE SPARE WIRES FROM THE CONTROLLER TO THE LAST VALVE OF EACH MAINLINE BRANCH. COMMON WIRE TO BE WHITE. SINGLE STRAND WIRE TO BE A
 - ALL ELECTRICAL EQUIPMENT TO BE U.L. TESTED AND APPROVED, AND BEAR THE U.L.
 - CROSS CONNECTION PROTECTION INSPECTION REQUIRED. THE BACKFLOW DEVICE TO BE TESTED UPON THE ORIGINAL INSTALLATION. THE TESTING TO BE PERFORMED BY A PERSON HOLDING A CURRENT CERTIFICATE AS A BACKFLOW TESTER. THE TEST REPORT TO BE SUBMITTED TO THE LOCAL WATER DISTRICT, OR PURVEYOR, AND OWNER WITH A COPY TO BARGHAUSEN CONSULTING ENGINEERS, INC. CONTRACTOR TO INCLUDE TESTING IN THE SCOPE OF WORK. OWNER IS RESPONSIBLE FOR ANNUAL INSPECTIONS AFTER THE
- 14. CONTRACTOR TO PROVIDE SYSTEM WINTERIZATION/SPRING SERVICE WHEN INSTALLATION HAS BEEN COMPLETED WITHIN 90 DAYS OF NOVEMBER 1 FOR WINTERIZATION, OR MAY 15 FOR SPRING SERVICE. SERVICE TO BE PERFORMED AS NEAR AS PRACTICAL TO THE ABOVE DATES, OR AS FREEZE/PRECIPITATION CONDITIONS DETERMINE SERVICE NEED.
- PROPOSED IRRIGATION SHOWN IN THIS DRAWING SET IS TO CONNECT TO AN EXISTING ESTABLISHED IRRIGATION SYSTEM, LANDSCAPE CONTRACTOR IS TO VERIFY THAT EXISTING SYSTEM, SUCH AS IRRIGATION CONTROLLER AND MAINLINE, HAVE ENOUGH CAPACITY TO HANDLE THE ADDITIONAL COMPONENTS. LANDSCAPE CONTRACTOR TO NOTIFY LANDSCAPE ARCHITECT IF ANY OF THE EXISTING SYSTEM DOES NOT HAVE THE CAPACITY FOR THE
- 16. SUBSTITUTION OF IRRIGATION MATERIAL/EQUIPMENT TO BE MADE ONLY UPON WRITTEN APPROVAL OF LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE.
- ALL ZONES TO PASS A MINIMUM DISTRIBUTION UNIFORMITY WATER AUDIT, AS REQUIRED BY THE STATE OF CALIFORNIA'S WATER EFFICIENT LANDSCAPE ORDINANCE, AS ADOPTED BY THE CITY COUNCIL. AN IRRIGATION ASSOCIATION CERTIFIED WATER AUDIT REPORT TO BE PROVIDED TO THE CITY.



FINISH GRADE

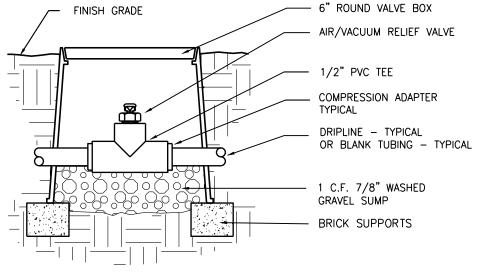
PVC DRIP MANIFOLD PIPE PVC 1" X 3/4" TRUE UNION BALL VALVE

BLANK TUBING (6) 12-INCH VALVE BOX WITH RAIN BIRD VB-STD (7) 3-INCH MINIMUM DEPTH EASY FIT MALE X BARB OF 3/4" WASHED GRAVEL (8) BRICK (1 OF 2) RAIN BIRD XFF-MA-075

5 SUB-SURFACE DRIPLINE:

RAIN BIRD XF SERIES

FLUSH POINT WITH BALL VALVE



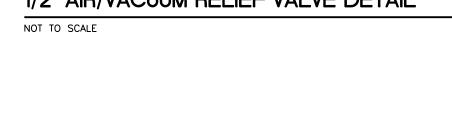
AIR/VACUUM RELIEF VALVE CANNOT BE CONNECTED LOWER THAN DRIPLINE LATERALS. FOR USE ON ZONES OF 7 GPM OR LESS ONLY (PLUMBED TO TUBING).

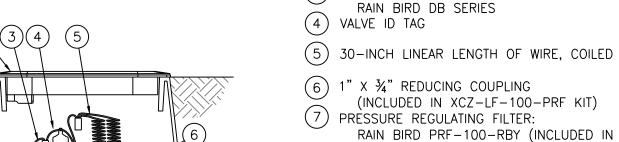
1/2" AIR/VACUUM RELIEF VALVE DETAIL

(2) STANDARD VALVE BOX WITH COVER:

RAIN BIRD VB-STD (3) WATERPROOF CONNECTION:

(1) FINISH GRADE





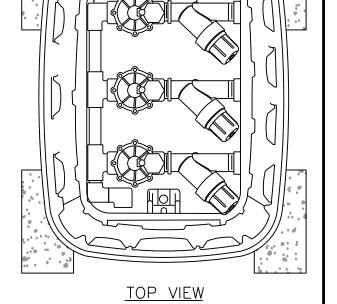
(6) 1" X 34" REDUCING COUPLING (INCLUDED IN XCZ-LF-100-PRF KIT) PRESSURE REGULATING FILTER: RAIN BIRD PRF-100-RBY (INCLUDED IN

XCZ-LF-100-PRF KIT) (8) LATERAL PIPE

(9) PVC SCH 40 FEMALE ADAPTOR OR REDUCER

(10) REMOTE CONTROL VALVE: RAIN BIRD LFV-100 (INCLUDED IN XCZ-LF-100-PRF KIT) (11) PVC SCH 40 TEE OR ELL TO MANIFOLD

(12) 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL (13) MANIFOLD PIPE AND FITTINGS



DRIP IRRIGATION VALVE

NOT TO SCALE

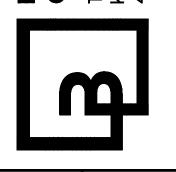
SIDE VIEW

UTILITY CONFLICT NOTE:

(14) MINIMUM FOUR (4) 4"x8" BRICKS

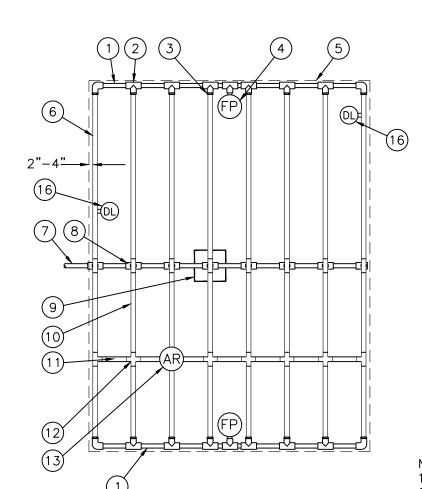
THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, DIMENSION, AND DEPTH OF ALL EXISTING UTILITIES WHETHER SHOWN ON THESE PLANS OR NOT BY POTHOLING THE UTILITIES AND SURVEYING THE HORIZONTAL AND VERTICAL LOCATION PRIOR TO CONSTRUCTION. THIS SHALL INCLUDE CALLING UTILITY LOCATE @ 811 AND THEN POTHOLING ALL OF THE EXISTING UTILITIES AT LOCATIONS OF NEW UTILITY CROSSINGS TO PHYSICALLY VERIFY WHETHER OR NOT CONFLICTS EXIST. LOCATIONS OF SAID UTILITIES AS SHOWN ON THESE PLANS ARE BASED UPON THE UNVERIFIED PUBLIC INFORMATION AND ARE SUBJECT TO VARIATION. IF CONFLICTS SHOULD OCCUR, THE CONTRACTOR SHALL CONSULT BARGHAUSEN CONSULTING ENGINEERS, INC. TO RESOLVE ALL PROBLEMS PRIOR TO PROCEEDING WITH CONSTRUCTION.





80 2

CONCEPTUAL LANDSCAPE EXHIBIT **COSTCO WHOLESALE FUEL FACILITY #1581** 150 SOUTH BENT AVENUE, SAN MARCOS, CA 92078



1) PVC EXHAUST HEADER (2) PVC SCH 40 TEE OR EL (TYPICAL)

3) BARB X MALE FITTING:

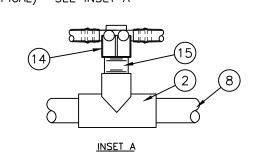
(4) FLUSH POINT (TYPICAL)

(5) PERIMETER OF AREA

8 PVC SUPPLY MANIFOLD

(6) PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA 7) PVC SUPPLY PIPE FROM RAIN BIRD CONTROL ZONE KIT (SIZED TO MEET LATERAL FLOW DEMAND)

9 CONNECTION FROM SUPPLY MANIFOLD TO DRIPLINE (TYPICAL) - SEE INSET A



| 11) BLANK TUBING |
|--|
| 12) BARB X BARB INSERT TEE OR CROSS: |
| 13 ½" AIR RELIEF VALVE |
| 14 BARB X FEMALE FITTING: |
| 15 34" PVC NIPPLE, LENGTH AS NECESSARY |
| (16) DRIPLINE INDICATOR. SEE DETAIL FOR ADDITIONAL INFORMATION |
| |

(10) SUB-SURFACE DRIPLINE

| (, e) | | | | | | | |
|-----------------------|--------------------------------------|-----|--------------------------------------|-----|--------------------------------------|-----|-----|
| Inlet Pressure psi | 12" Spacing Nominal Flow (gph) | | 18" Spacing Nominal Flow (gph) | | 24" Spacing Nominal Flow (gph) | | |
| | | | | | | | |
| | 15 | 273 | 1 55 | 314 | 250 | 424 | 322 |
| 20 | 3 18 | 169 | 353 | 294 | 508 | 368 | |
| 30 | 360 | 230 | 413 | 350 | 586 | 414 | |
| 40 | 395 | 255 | 465 | 402 | 652 | 474 | |
| 50 | 417 | 285 | 528 | 420 | 720 | 488 | |
| 60 | 460 | 290 | 596 | 455 | 780 | 514 | |

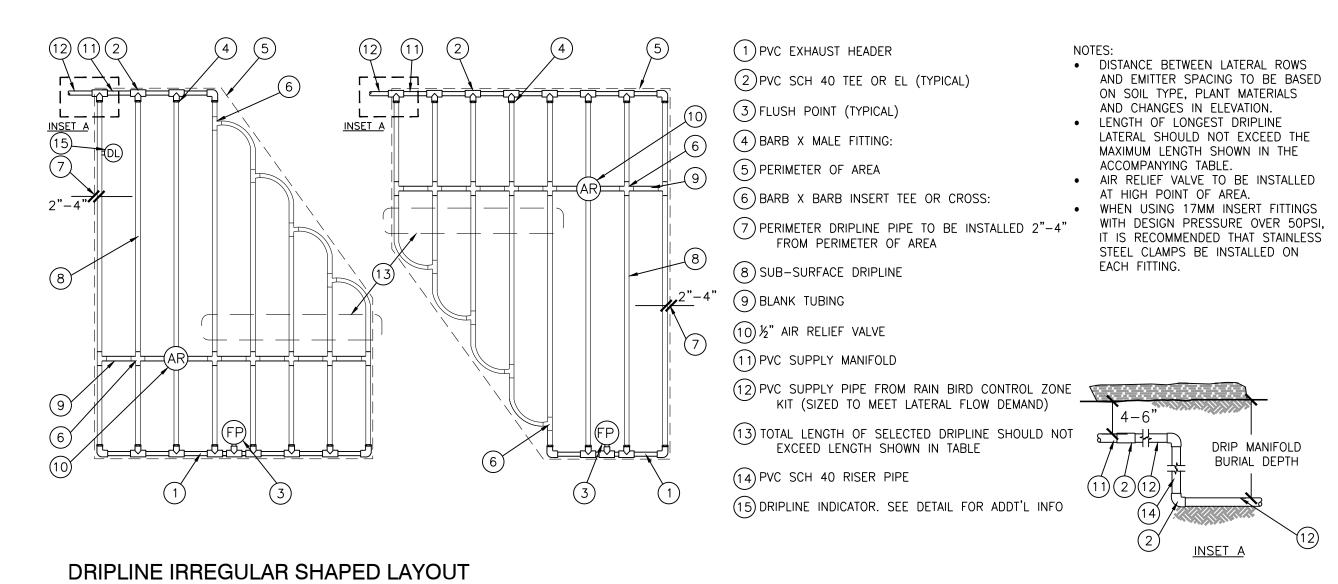
Dripline Maximum Lateral Lengths (Feet)

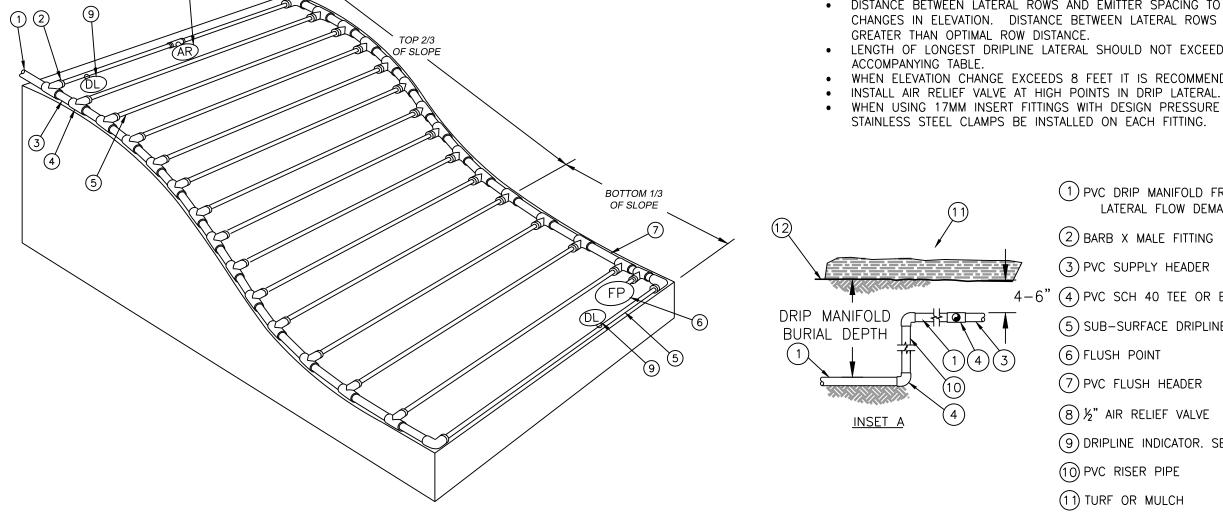
1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. 2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM LENGTH SHOWN IN THE ACCOMPANYING TABLE. 3. AIR RELIEF VALVE TO BE INSTALLED AT HIGH POINT OF AREA. 4. WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE

DRIPLINE CENTER FEED LAYOUT

NOT TO SCALE

NOT TO SCALE





- DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. DISTANCE BETWEEN LATERAL ROWS FOR BOTTOM 1/3 OF SLOPE TO BE SPACED
- LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM LENGTH SHOWN IN THE
- WHEN ELEVATION CHANGE EXCEEDS 8 FEET IT IS RECOMMENDED THAT A NEW DRIPLINE ZONE BE CREATED.
- WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.
 - 1) PVC DRIP MANIFOLD FROM CONTROL ZONE VALVE KIT (SIZED TO MEET LATERAL FLOW DEMAND)

 - 4-6" 4) PVC SCH 40 TEE OR EL (TYPICAL)
 - (5) SUB-SURFACE DRIPLINE
 - (6) FLUSH POINT
 - (7) PVC FLUSH HEADER

 - (9) DRIPLINE INDICATOR. SEE DETAIL FOR ADDITIONAL INFORMATION

 - (12) FINISH GRADE

DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM LENGTH SHOWN IN THE ACCOMPANYING TABLE. AIR RELIEF VALVE TO BE INSTALLED AT HIGH POINT OF AREA. WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING. <u>INSET A</u>

1) PVC EXHAUST HEADER 2)PVC SCH 40 TEE OR EL (TYPICAL)

(3)BARB X MALE FITTING:

(5) PERIMETER OF AREA

(4) FLUSH POINT (TYPICAL)

(6) PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM

(7) SUB-SURFACE DRIPLINE

(8) BLANK TUBING

(9) BARB X BARB INSERT TEE OR CROSS

(10) 1/2" AIR RELIEF VALVE

(11) PVC SUPPLY HEADER

(12) PVC DRIP MANIFOLD FROM CONTROL ZONE VALVE KIT (SIZED TO MEET LATERAL FLOW DEMAND)

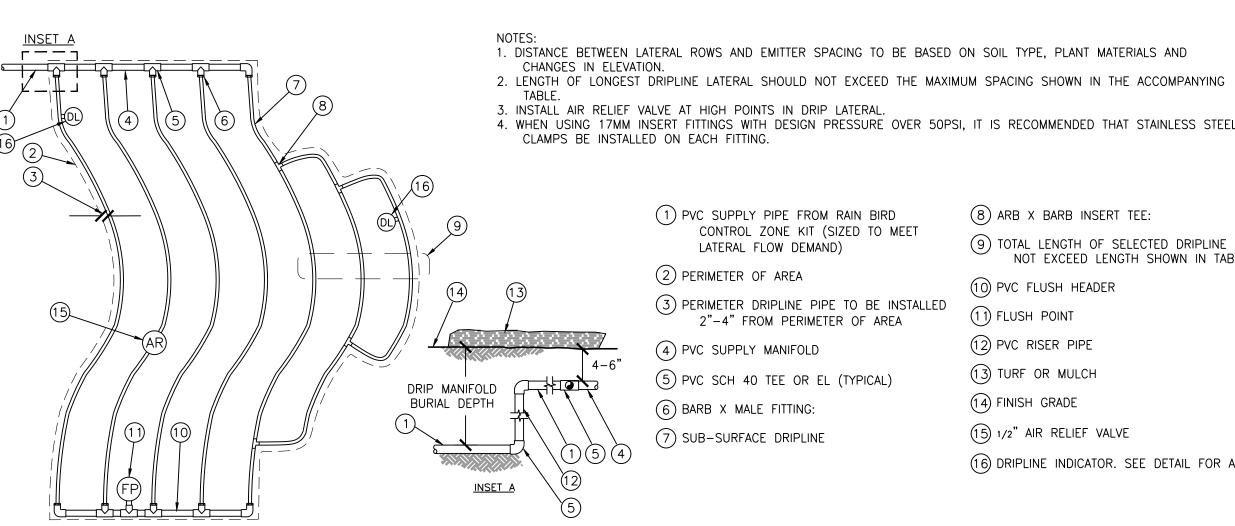
(13) PVC SCH 40 RISER PIPE

(14) DRIPLINE INDICATOR. SEE DETAIL FOR ADDT'L INFO

| Oripline M | 1aximum | Lateral L | engths (| Feet) | | |
|-------------|---|--|---|--|---|--|
| 12" Spacing | | 18" Sp | oacing | 24" Spacing | | |
| Nominal F | lominal Flow (gph) | | low (gph) | Nominal Flow (gp | | |
| 0.6 | 0.9 | 0.6 | 0.9 | 0.6 | 0.9 | |
| 273 | 1 55 | 314 | 250 | 424 | 322 | |
| 318 | 169 | 353 | 294 | 508 | 368 | |
| 360 | 230 | 413 | 350 | 586 | 414 | |
| 395 | 255 | 465 | 402 | 652 | 474 | |
| 417 | 285 | 528 | 420 | 720 | 488 | |
| 460 | 290 | 596 | 455 | 780 | 514 | |
| | 12" St Nominal F 0.6 273 318 360 395 417 | 12" Spacing Nominal Flow (gph) 0.6 0.9 273 155 318 169 360 230 395 255 417 285 | 12" Spacing 18" Sport Spacing 18" Spacing 18" Spacing Nominal Flow (gph) Nominal Flow (gph) 155 314 318 169 353 360 230 413 395 255 465 417 285 528 | 12" Spacing 18" Spacing Nominal Flow (gph) Nominal Flow (gph) 0.6 0.9 0.6 0.9 273 155 314 250 318 169 353 294 360 230 413 350 395 255 465 402 417 285 528 420 | Nominal Flow (gph) Nominal | |

DRIPLINE END FEED LAYOUT

NOT TO SCALE



CONTROL ZONE KIT (SIZED TO MEET LATERAL FLOW DEMAND)

2 PERIMETER OF AREA

3 PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA

4 PVC SUPPLY MANIFOLD

(6) BARB X MALE FITTING:

(5) PVC SCH 40 TEE OR EL (TYPICAL)

(8) ARB X BARB INSERT TEE: (9) TOTAL LENGTH OF SELECTED DRIPLINE SHOULD

(10) PVC FLUSH HEADER

(11) FLUSH POINT

(12) PVC RISER PIPE

(13) TURF OR MULCH (14) FINISH GRADE

(15) 1/2" AIR RELIEF VALVE

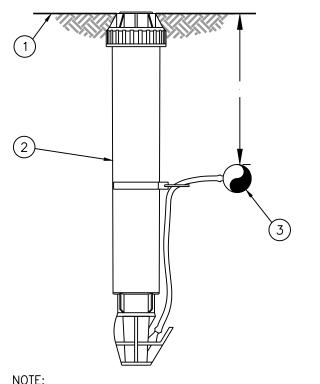
(16) DRIPLINE INDICATOR. SEE DETAIL FOR ADDT'L INFO

1) FINISH GRADE/TURF

(2) OPERATION INDICATOR

(3) SUB-SURFACE DRIPLINE

DRIPLINE ODD CURVES LAYOUT



1. INSERT BARB TRANSFER FITTING DIRECTLY INTO DRIPLINE TUBING. 2. VAN NOZZLE MAY BE SET TO CLOSED, OR IF IT IS DESIRED TO SEE SPRAY FROM THE NOZZLE, SET THE ARC TO ¼ PATTERN. THE FLOW FROM THE NOZZLE, 0.3 GPM, SHOULD BE ACCOUNTED FOR IN THE SYSTEM DESIGN.

DRIP IRRIGATION DRIPLINE INDICATOR

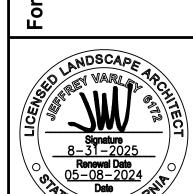
NOT TO SCALE

LEGEND HUNTER POP-UP BODY (PROS-06), NOZZLE AND CAP PER PLAN FINISHED GRADE (3) ADJACENT LANDSCAPE (4) LATERAL PIPE PER PLAN (5) LATERAL FITTING PER PLAN (6) FIELD-BUILT OR PRE-BUILT SWING ARM

POP UP TREE BUBBLER

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Know what's below. Call before you dig. Or 1-800-422-4133

NOT TO SCALE

DRIPLINE SLOPED LAYOUT

ASE