

UTILITY CONFLICT NOTE:

PROCEEDING WITH CONSTRUCTION.

21730

ARCO

BP WEST COAST PRODUCTS, LLC

Consulting Engineers, Inc.

18215 72nd Avenue South

NO. DATE REVISION DESCRIPTION

OF WASH

DEVELOPMENT INFORMATION:

SITE ADDRESS:

CHECKED BY:

ARCO NTI

3400 am/pm

FUEL CANOPY w/ 6 MPD's

SWC S MERIDIAN

@ HIGHWAY 512

PUYALLUP, WASHINGTON

FACILITY #TBD

LANDSCAPE

Kent, WA 98032

barghausen.com

425.251.6222

ARCO ampm PUYALLUP SEC. 33, TWN. 20 N, RGE. 4 E, W.M. CITY OF PUYALLUP, PIERCE COUNTY

PLANT SCHEDULE

QUANTITY NATIVE SHRUBS AND GROUNDCOVERS: QUANTITY NON-NATIVE SHRUBS AND GROUNDCOVERS: 7.6% TOTAL SHRUBS AND GROUNDCOVERS:

> SEE SHEET L1 FOR ADDITIONAL PLANTING SPECIFICATIONS. CONFORM TO THE SPECIFICATIONS AND DRAWINGS IN THESE LANDSCAPE PLANS AND THE REQUIREMENTS OF CITY OF PUYALLUP VEGETATION MANAGEMENT STANDARDS (VMS). WHERE THERE IS A CONFLICT CONFORM TO THE MORE STRINGENT REQUIREMENTS.

TREES	QTY	BOTANICAL / COMMON NAME	CONT.	SIZE	WATER USE	ORIGIN	FOLIAGE
#	6	ACER CIRCINATUM / VINE MAPLE 2" TOTAL CAL. IF MULTI-STEM. NURSERY GROWN. STAKE AND GUY ONE GROWING SEASON.	B & B	1" CAL	LOW	NATIVE	DECIDUOUS
	8	CALOCEDRUS DECURRENS / INCENSE CEDAR FULL TO BASE; SINGLE, STRAIGHT UN-CUT LEADER; STAKE AND GUY ONE GROWING SEASON	B & B	5`-6` MIN. HT.	LOW	NATIVE	EVERGREEN
	2	GLEDITSIA TRIACANTHOS INERMIS 'SKYCOLE' / SKYLINE HONEY LOCUST NURSERY GROWN FOR STREET TREE USE; BRANCHING AT 5'; STAKE AND GUY ONE GROWING SEASON	B & B	1" CAL	LOW	ADAPTIVE	DECIDUOUS
	4	THUJA PLICATA `EXCELSA` / EXCELSA CEDAR FULL TO BASE; SINGLE, STRAIGHT UN-CUT LEADER; STAKE AND GUY ONE GROWING SEASON	B & B	5`-6` MIN. HT.	LOW	NATIVE	EVERGREEN
STREET TREES	<u>QTY</u>	BOTANICAL / COMMON NAME	CONT.	SIZE	WATER USE	ORIGIN	FOLIAGE
	7 27 18 NATIVE 9 NON-NATIVE	ZELKOVA SERRATA 'VILLAGE GREEN' / SAWLEAF ZELKOVA CLASS III MEDIUM STREET TREE PER VMS 12.9. NURSERY GROWN FOR STREET TREE USE; BRANCHED AT FIVE (5) FEET; STAKE AND GUY ONE GROWING SEASON	B & B	1" CAL	LOW	ADAPTIVE	DECIDUOUS
SHRUBS	QTY	BOTANICAL / COMMON NAME	CONT.	WATER USE	ORIGIN	<u>FOLIAGE</u>	
Ch	16	CHAENOMELES X SUPERBA 'JET TRAIL' / DWARF FLOWERING QUINCE	#2	MEDIUM	ADAPTIVE	DECIDUOUS	
(Ck)	7	CORNUS SERICEA 'KELSEYI' / DWARF REDTWIG DOGWOOD	#2	LOW	NATIVE	DECIDUOUS	
(Hd)	8	HOLODISCUS DISCOLOR / OCEAN-SPRAY	#2	LOW	NATIVE	DECIDUOUS	
\bigcirc	34	MAHONIA AQUIFOLIUM / OREGON GRAPE	#2	LOW	NATIVE	EVERGREEN	
(Ma)	36	MAHONIA AQUIFOLIUM 'COMPACTA' / COMPACT OREGON GRAPE	#2	LOW	NATIVE	EVERGREEN	
Nd	3	NANDINA DOMESTICA 'GULF STREAM' / HEAVENLY BAMBOO	#2	LOW	ADAPTIVE	EVERGREEN	
(Pm)	7	PINUS MUGO 'PUMILIO' / DWARF MUGO PINE	#2	LOW	ADAPTIVE	EVERGREEN	
Rs	8	RIBES SANGUINEUM / RED FLOWERING CURRANT	#2	LOW	NATIVE	DECIDUOUS	
(Rn)	25	ROSA NUTKANA / NOOTKA ROSE	#2	MEDIUM	NATIVE	DECIDUOUS	
S	13	SPIRAEA DOUGLASII / HARDHACK	#2	MEDIUM	NATIVE	DECIDUOUS	
Sa	31	SYMPHORICARPOS ALBUS / SNOWBERRY	#2	LOW	NATIVE	DECIDUOUS	
V	9	VACCINIUM OVATUM / EVERGREEN HUCKLEBERRY	#2	LOW	NATIVE	EVERGREEN	
(Vd)	21	VIBURNUM DAVIDII / DAVID VIBURNUM	#2	LOW	ADAPTIVE	EVERGREEN	
FERNS AND GRASSE	S QTY	BOTANICAL / COMMON NAME	CONT.	WATER USE	<u>ORIGIN</u>	<u>FOLIAGE</u>	
Pa	22	PENNISETUM ALOPECUROIDES 'HAMELN' / FOUNTAIN GRASS	#2	LOW	ADAPTIVE	DECIDUOUS	
181 NATIVE 69 NON-NA	10 	POLYSTICHUM MUNITUM / WESTERN SWORD FERN	#2	LOW	NATIVE	EVERGREEN	
GROUND COVERS	<u>QTY</u>	BOTANICAL / COMMON NAME	CONT.	WATER USE	ORIGIN	FOLIAGE	SPACING
+ + + + + + + + + + + + + + + + + + + +							

CITY OF PUYALLUP MINIMUM SOIL REQUIREMENTS: SOIL PREPARATION IN ALL DISTURBED AREAS WITH NEW LANDSCAPING SHALL CONFORM TO SPECIFICATIONS PROVIDED IN BMP T5.13 - THE "STORM WATER MANAGEMENT MANUAL OF WESTERN WASHINGTON", DEPARTMENT OF ECOLOGY. DATED AUGUST 2012, OR AS SUBSEQUENTLY AMENDED. COMPACTION OF LANDSCAPED AREAS FROM VEHICLES AND HEAVY EQUIPMENT SHALL BE

SOIL AMENDMENT NOTES

AVOIDED AFTER TILLING.

ALL SOILS IN ALL LANDSCAPE INSTALLATIONS SHALL CONFORM TO THE FOLLOWING SOIL DEPTH AND QUALITY REQUIREMENTS. PLEASE REFER TO APPENDIX 20.9 FOR FURTHER INSTALLATION GUIDANCE:

5% ORGANIC MATTER CONTENT IN TURF AREAS, AND A pH FROM 6.0 TO 8.0 OR MATCHING THE pH OF THE ORIGINAL UNDISTURBED SOIL. THE TOPSOIL LAYER SHALL HAVE A MINIMUM DEPTH OF EIGHT INCHES (8") EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET TH CRITERIA. SUBSOILS BELOW THE TOPSOIL LAYER SHOULD BE SCARIFIED AT LEAST 6 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS, WHERE FEASIBLE. INSTALLATION OF THE EIGHT INCHES (8") OF TOPSOIL, AS DESCRIBED ABOVE, SHALL GENERALLY BE ACHIEVED BY PLACING FIVE INCHES (5") OF IMPORTED SANDY-LOAM SOIL INTO PLANNED LANDSCAPE AREAS (SUB-BASE SCARIFIED FOUR INCHES (4") WITH A THREE INCH (3") LAYER OF COMPOST TILLED INTO THE ENTIRE DEPTH.

B. FOR STREET TREES IN THE RIGHT OF WAY PLANTER STRIP. THE FOLLOWING STANDARDS SHALL APPLY IN RELATION TO SOIL DEPTH, SOIL AMENDMENTS AND INSTALLATION OF NEW STREET TREES. THE FOLLOWING NOTES SHALL BE SHOWN ON THE FACE OF THE PRELIMINARY AND FINAL LANDSCAPE PLAN SHEETS: (1) FOR NEW CONSTRUCTION: IN AREAS WHERE A NEW PLANTER STRIP AND STREET TREE SHALL BE ESTABLISHED OR RECONSTRUCTED DUE TO A STREET CONSTRUCTION PROJECT, THE PLANTER STRIP AREA SHALL BE FXCAVATED TO A DEPTH OF 24" AND BACKFILLED FOLLOWING THE STANDARD ABOVE TO ACHIEVE A TOPSOIL MIX WITH 40 PERCENT COMPOST BY VOLUME, THE CONTRACTOR OR INSTALLER SHALL: (1)1) REVIEW THE CITY STANDARD PLANTING DETAIL - ALL CONTRACTORS/INSTALLERS AREA REQUIRED TO FOLLOW

CITY STANDARD #01.02.07 (STREET TREE PLANTING) AND #01.02.03 (ROOT BARRIER INSTALLATION). THE CONTRACTOR/INSTALLER SHALL REVIEW THE PLANTING STANDARD DETAIL PRIOR TO INSTALLATION TO UNDERSTAND THE CITY'S REQUIREMENTS. FAILURE TO FOLLOW THE STANDARD MAY RESULT IN REJECTION OF THE WORK BY THE INSPECTOR AND/OR PLANNING DEPARTMENT.

(1)2) SCHEDULE A FIELD PRE-CONSTRUCTION MEETING - THE CONTRACTOR/INSTALLER SHALL CONTACT THE SITE INSPECTOR AND PLANNING DEPARTMENT 48 HOURS IN ADVANCE OF THE INSTALLATION OF STREET TREE(S) FOR A FIELD PRE-CONSTRUCTION MEETING ON-SITE TO REVIEW THE APPROVED PLAN SET AND CITY STANDARD DETAILS. IF STREET TREES ARE TO BE INSTALLED OVER A LONGER TIMELINE (SUCH AS A RESIDENTIAL PLAT WHERE TREES MAY BE INSTALLED OVER A MULTI-MONTH PERIOD OF TIME), THE CONTRACTOR/INSTALLER SHALL HOLD ONE CONSOLIDATED PRE-CON TO REVIEW PLANS, ALL STREET TREES

SHALL BE INSPECTED AFTER PLANTING BY THE PLANNING DEPARTMENT. (1)3) EXCAVATE ALL CONSTRUCTION MATERIALS - EXCAVATE ALL CONSTRUCTION MATERIALS, REMNANT SOIL, GRAVEL, PIT RUN, CONSTRUCTION DEBRIS, ETC. FROM THE PLANTER STRIP AREA TO A DEPTH OF 24" PRIOR TO PLANTING. DISCARD THIS MATERIAL AS THE PLACEMENT OF NEW COMPOST AMENDED TOP SOIL IS

(1)4) PREPARE THE PLANTING STRIP - AFTER EXCAVATING ALL MATERIALS FROM THE PLANTER STRIP, SCARIFY AND RIP THE SUB-BASE WITH THE TEETH OF A BACKHOE BUCKET (OR OTHER MECHANICAL MEANS OR HAND TOOLS) TO A DEPTH OF 6" WITH MULTIPLE PASSES, 90-DEGREES TO EACH OTHER. PRIOR TO PLANTING THE TREE, RE-COMPACT THE TREE BASE WHERE THE STREET TREE WILL BE PLANTED TO AVOID SETTING OF THE ROOT BALL. AT THIS STAGE, IF THE TREE IS TO BE PLANTED WHEN THE PLANTER STRIP IS BACKFILLED WITH AMENDED TOPSOIL. THE CONTRACTOR/INSTALLER SHOULD MEASURE THE DEPTH OF THE ROOT BALL TO DETERMINE WHEN TO PLACE THE TREE IN THE PIT DURING THE BACKFILLING PROCESS. IF THE ROOTBALL OR ROOT MASS (IN THE CASE OF BARE ROOT TREES) IS LESS THAN 24". THE STREET TREI SHALL BE PLANTED IN A MANNER IN WHICH THE ROOT FLARE IS LEVEL WITH OR AT LEAST 1" ABOVE

GRADE AT THE TIME OF FINISHED PLANTING. THE MAY REQUIRE THE ROOTBALL BE PLACED ON A COMPACTED SUB-BASE OF THE COMPOST AMENDED TOPSOIL AS BACKFILLING IS OCCURRING (1)5) INSTALL ROOT BARRIER PANELS - AT THIS STAGE THE CONTRACTOR/INSTALLER SHALL PLACE 24" DEEP ROOT BARRIER PANELS (UB-24) ALONG THE EDGE OF THE SIDEWALK AND CURB LINE FOR A TOTAL OF EIGHT FEET (8') OF LINEAL PROTECTION ALONG EITHER SIDE OF THE PLANTING AREA. THE PANELS SHALL BE INSTALLED PERPENDICULAR TO THE EDGE OF THE PLANTING AREA. THE PANELS SHALL BE INSTALLED PERPENDICULAR TO THE DGE OF PAVED SURFACE IN ACCORDANCE WITH THE MANUFACTURER'S STSANDARDS FOR A 'LINEAR' APPLICATION; THE ROOT BARRIER PANELS SHALL NOT BE INSTALLED IN THE PLANTING PIT AS A 'SURROUND' APPLICATION, UNLESS SPECIFIED ON THE FINAL LANDSCAPE PLANS. THE TOP OF THE

(1)6) COMPOST AMENDED TOP SOILS REQUIRED - TOPSOIL SOURCE SHALL BE REVIEWED AND APPROVED DURING THE PRE-CONSTRUCTION MEETING; ALL TOPSOIL SHALL BE A TOP QUALITY SANDY-LOAM MIX, OR DURING INSTALLATION WITH COMPOST TO ACHIEVE A 40 PERCENT BY VOLUME TOPSOIL MIX IN THE RIGHT-OF-WAY PLANTER STRIP, IMPORTED TOPSOIL MAY BE USED BY THE CONTRACTOR IF DATA 'CUT SHEETS' ARE AVAILABLE FROM THE SUPPLIER CERTIFYING COMPOST AMENDMENT EQUALING 40 PERCENT BY VOLUME USING ONE OF THE APPROVED COMPOST SOURCES BELOW. COMPOST SHALL ONLY BE SOURCED

ROOT BARRIER PANEL SHALL BE INSTALLED SUCH THAT 1/2" OF THE ROOT BARRIER IS ABOVE THE FINISHED

COUNTY RECYCLING, COMPOSTING & DISPOSAL, 10308 SALES ROAD, TACOMA, WASHINGTON 98499, OR RETAIL/WHOLESALE LANDSCAPE MATERIAL SUPPLIERS) -TAGRO COMPOST MIX (AVAILABLE THROUGH CITY OF TACOMA, 2201 EAST PORTLAND AVENUE, GATE 6, TACOMA, WA 98421, OR RETAIL/WHOLESALE LANDSCAPE MATERIAL SUPPLIERS) -CEDAR GROVE COMPOST (AVAILABLE THROUGH CEDAR GROVE COMPOST. 17825 CEDAR GROVE ROAD SE, MAPLE VALLEY, 98038, OR RETAIL/WHOLESALE

-CASCADE COMPOST (ALSO KNOWN AS PREP/LRI) (AVAILABLE THROUGH PIERCE

LANDSCAPE MATERIAL SUPPLIERS) (1)7) INSTALL AND AMEND TOPSOILS - TO AVOID STRATIFIED LAYERS, FIRST PLACE SEVEN INCHES (7") OF APPROVED TOPSOIL IN THE PREPARED/SCARIFIED PLANTING STRIP AREA AND MECHANICALLY TILL IN FIVE INCHES (5") OF APPROVED COMPOST; FOLLOW THIS PROCEDURE TWICE TO ACHIEVE THE TOTAL 24" TOPSOIL DEPTH. FINISHED GRADE OF TOPSOIL SHOULD BE $rac{1}{2}"$ BELOW THE EDGE OF SIDEWALK TO ALLOW THE ROOT BARRIER PANEL TO BE PROPERLY INSTALLED ABÔVE FINISHED GRAI (1)8) INSTALL TREE STAKES AND FINISH MULCH - PLACEMENT OF FOUR INCHES (4") OF WOOD CHIP MULCH,

CITY STANDARD #01.02.07

WATER BASIN RINGS, TREE STAKING AND TEMPORARY IRRIGATION BAGS (WHERE REQUIRED) SHALL FOLLOW

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 APPROVAL BY THE OWNER.

SAVE AND PROTECT ALL EXISTING PLANTINGS SHOWN TO REMAIN AND ALL ON-SITE AND OFF-SITE TREES TO BE RETAINED. 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 LANDSCAPE AND IRRIGATION MAINTENANCE FOR 30 DAYS FOLLOWING OCCUPANCY. WORK TO INCLUDE MAINTENANCE AS DESCRIBED BELOW, IN PLANTING AND IRRIGATION MAINTENANCE.

SUBMIT THE FOLLOWING TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO THE START OF ANY WORK: A) DOCUMENTATION THAT ALL PLANT MATERIAL HAS BEEN ORDERED.

C) TREE STAKING AND GUYING MATERIALS. D) ONE (1) QUART SIZE OF TOPSOIL AND MULCH.

B) TOPSOIL ANALYSIS AND RECOMMENDED AMENDMENTS.

E) PLANTING SCHEDULE INCLUDING DATES AND TIMES. F) MAINTENANCE INSTRUCTIONS FOR ONE (1) FULL YEAR

PLANT MATERIALS TO BE GRADE NO. 1. SIZED IN ACCORDANCE WITH (AAN) AMERICAN STANDARDS FOR NURSERY STOCK (ANSI 7-60-2014). 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 WELI DEVELOPED FIBROUS ROOT SYSTEMS. ROOT BALLS OF PLANTS TO BE SOLID AND FIRMLY HELD TOGETHER. SECURELY CONTAINED AND PROTECTED FROM INJUF 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 AND COMMON NAMES. 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

TOPSOIL, AMENDMENT, AND BACKFILL, ARE GENERAL REQUIREMENTS FOR ALL LANDSCAPE AREAS, UNLESS NOTED OTHERWISE ON THE PLANS. FOR SOIL PREPARATION AND INSTALLATION REQUIREMENTS, SEE CITY OF PUYALLUP VEGETATION MANAGEMENT STANDARDS SECTION 8.2, SOIL QUANTITY AND QUALITY STANDARDS. SOIL LABORATORY TESTED BY THE CONTRACTOR. PROVIDE CHANGE ORDER FOR ADDITIONAL OR REDUCTION OF MATERIALS REQUIRED OR NOT REQUIRED BY THE SOILS

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.

ORGANIC MULCH (TOPDRESSING): ENT STANDARDS SECTION 8.3, MULCHING, ALL PLANTING AREAS SHALL BE MULCHED WITH A UNIFORM FOUR INCH (4") LAYER OF ORGANIC COMPOST MULCH MATERIAL OR WOOD CHIPS OVER A PROPERLY CLEANED, AMENDED AND GRADED SUBSURFACE. FOUR INCHES (4") OF MULCH IN PLANTING AREAS SHALL BE MAINTAINED THROUGH THE LIFE OF THE PROJECT.

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

OR OTHER ACCEPTABLE MEANS OF RETAINING MOISTURE

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

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.

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.

FIELD ADJUST PLANT LOCATIONS FOR 5-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

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

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.

> CITY OF PUYALLUP Planning Division Approved Landscape Plan (253) 864-4165

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE. THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS, FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS MANAGER, DESIGNEE, OR PROJECT

PLANNER. NOTE: If street trees are required, Call Planning Division for final inspection: (253) 864-4165 (Option 3 Root Barriers are required around street trees in accordance with city standard detail. Top soil shall be verification required. Failure to install top soil and root barriers in accordance with city standards may result in

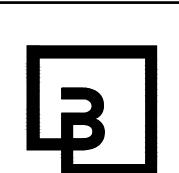
APPROVED

CITY OF PUYALLUI WATER PURVEYOR

NOTE: THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS

AND/OR OMISSIONS ON THESE FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE WATER PURVEYOR.

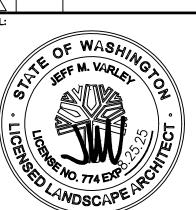




Consulting Engineers, Inc.

18215 72nd Avenue South Kent, WA 98032 425.251.6222 barghausen.com

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SEAL:		



DEVELOPMENT INFORMATION: ARCO NTI

3400 am/pm

FUEL CANOPY w/ 6 MPD's

SWC S MERIDIAN @ HIGHWAY 512 PUYALLUP, WASHINGTON

FACILITY #TBD

LANDSCAPE

NOTES/SCHEDULE

UTILITY CONFLICT NOTE:

0 NON-NATIVE 742 NATIVE

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 AT 811 48 HOURS IN ADVANCE 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 NOTIFY BARGHAUSEN CONSULTING ENGINEERS, INC. TO RESOLVE ALL PROBLEMS PRIOR TO PROCEEDING WITH CONSTRUCTION.

ARCTOSTAPHYLOS UVA-URSI / KINNIKINNICK

WA. ST. D.O.T. EROSION CONTROL MIX OAE, 80-120 LBS. PER ACRE

2,156 SF EROSION-CONTROL HYDROSEED

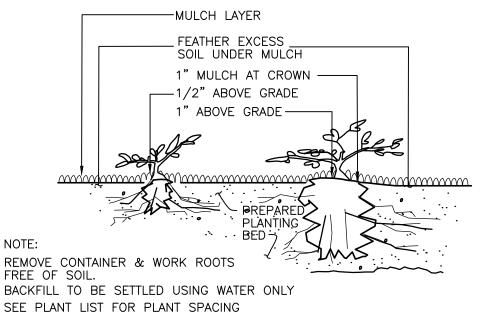


EVERGREEN

36" o.c.

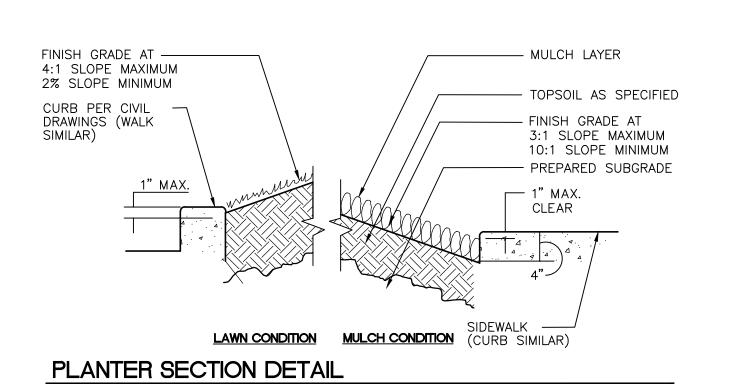
DECIDUOUS TREE PLANTING/STAKING DETAIL

NOT TO SCALE



1 GAL. CONTAINER and LARGER (PLANTED BEFORE MULCH)

GROUNDCOVER PLANTING DETAIL



UTILITY CONFLICT NOTE:

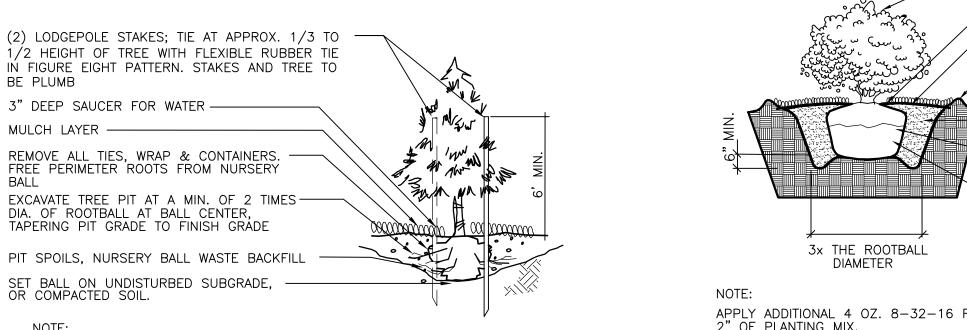
NOT TO SCALE

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 AT 811 48 HOURS IN ADVANCE 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 NOTIFY BARGHAUSEN CONSULTING ENGINEERS, INC. TO RESOLVE ALL PROBLEMS PRIOR TO PROCEEDING WITH CONSTRUCTION.

LANDSCAPE DETAILS

ARCO ampm PUYALLUP

SEC. 33, TWN. 20 N, RGE. 4 E, W.M. SHRUB - PRUNE AS DIRECTED



SPACING AS CALLED OUT ON PLAN/PLANT LIST

AS NOTED ON PLANT LIST

-HOLD PLANTS FROM EDGE OF PLANTER

THIS SPACING APPLIES TO

GROUNDCOVER AND FORMAL

SHRUB ROW PLACEMENT.

EVERGREEN TREE PLANTING/STAKING DETAIL

LIGHT FERTILIZER OVER PLANTING BED AFTER BACKFILL ONLY; NO FERTILIZER IN PLANTING PIT.

WORK PERIMETER ROOTS FREE OF NURSERY BALL.

PLANT MATERIAL SPACING DETAIL

Know what's **below**.

Call before you dig

BALL & PIT TO BE COURSELY SCARIFIED.

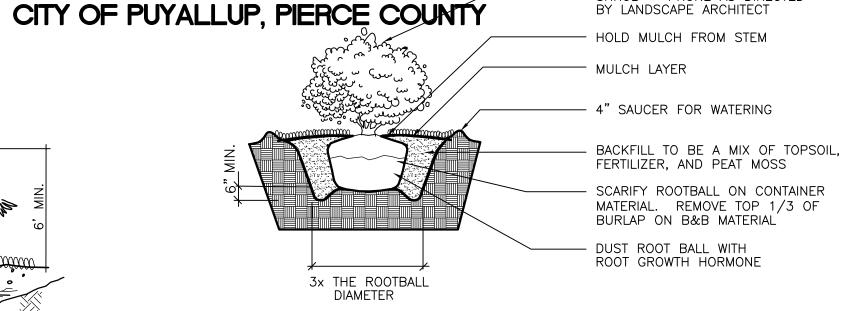
HOLD PLANTS FROM —

AS NOTED ON PLANT LIST

EDGE OF PLANTER

BED LINE EDGE -

CURB/WALK

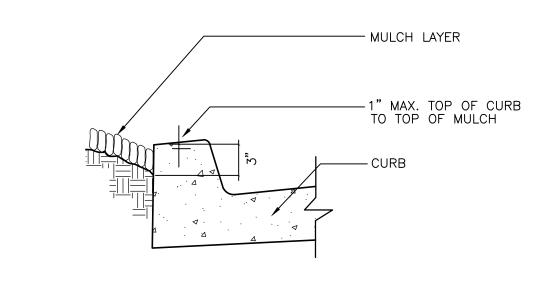


BY LANDSCAPE ARCHITECT

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



MULCH AT CURB DETAIL

NOTES:

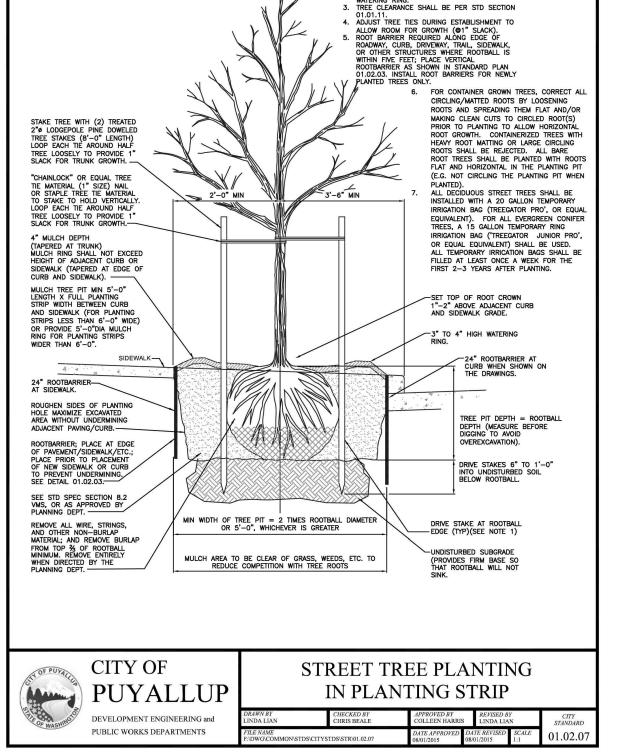
1. PLANTING INCLUDES REMOVAL OF STAKES ONE YEAR AFTER INSTALLATION.

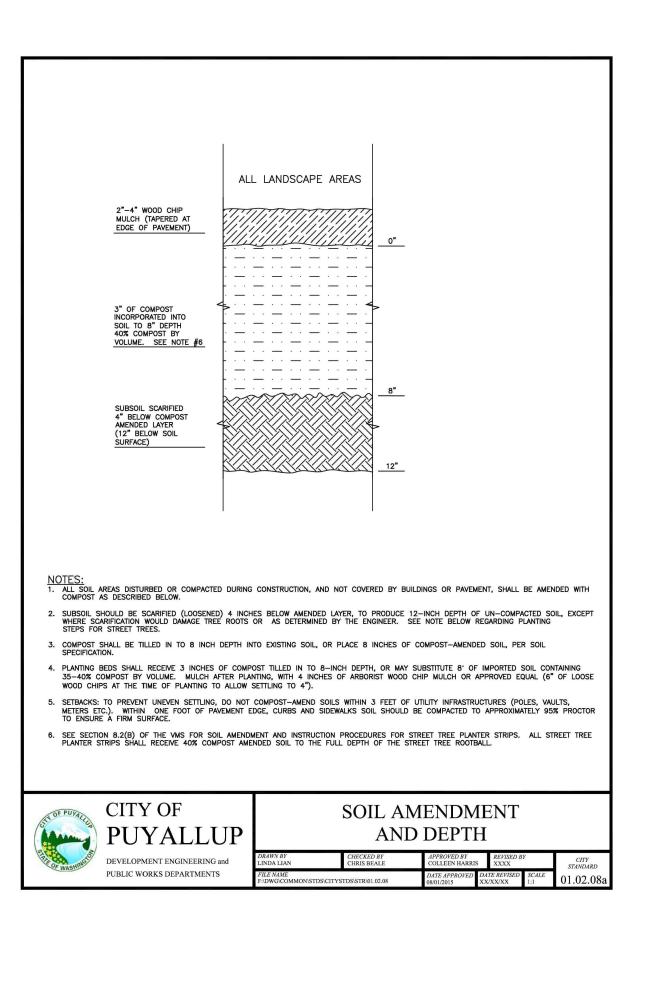
2. SHAPE SOIL SURFACE TO PROVIDE 4' DIA WATERING RING.

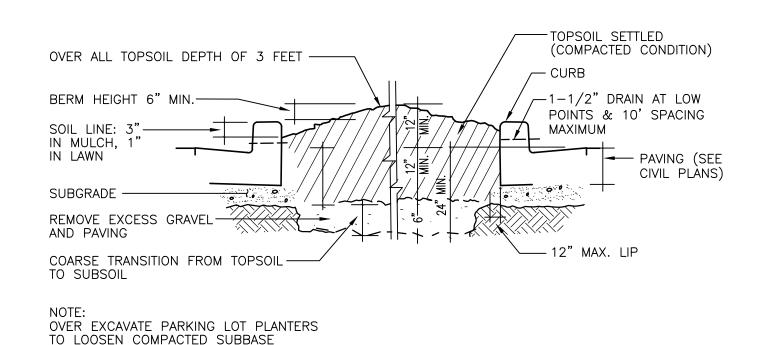
3. TREE CLEARANCE SHALL BE PER STD SECTION 0.1.0.1.1 01.01.11.
ADJUST TREE TIES DURING ESTABLISHMENT TO ALLOW ROOM FOR GROWTH (@1" SLACK).
ROOT BARRIER REQUIRED ALONG EDGE OF ROADWAY, CURB, DRIVEWAY, TRAIL, SIDEWALK, OR OTHER STRUCTURES WHERE ROOTBALL IS WITHIN FIVE FEET; PLACE VERTICAL ROOTBARRIER AS SHOWN IN STANDARD PLAN 01.02.03. INSTALL ROOT BARRIERS FOR NEWLY PLANTED TREES ONLY. FOR CONTAINER GROWN TREES, CORRECT AL CIRCLING/MATTED ROOTS BY LOOSENING ROOTS AND SPREADING THEM FLAT AND/OR MAKING CLEAN CUTS TO CIRCLED ROOT(S) PRIOR TO PLANTING TO ALLOW HORIZONTAL ROOT GROWTH. CONTAINERIZED TREES WITH HEAVY ROOT MATTING OR LARGE CIRCLING ROOTS SHALL BE REJECTED. ALL BARE ROOT TREES SHALL BE PLANTED WITH ROOTS FLAT AND HORIZONTAL IN THE PLANTING PIT (E.G. NOT CIRCLING THE PLANTING PIT WHEN PLANTED). LLC. NOT CIRCLING THE PLANTING PIT WHEN PLANTED).

ALL DECIDIOUS STREET TREES SHALL BE INSTALLED WITH A 20 GALLON TEMPORARY IRRIGATION BAG (TREEGATOR PRO', OR EQUAL EQUIVALENT). FOR ALL EVERGREEN CONIFER TREES, A 15 GALLON TEMPORARY RING IRRIGATION BAG ("TREEGATOR JUNIOR PRO', OR EQUAL EQUIVALENT) SHALL BE USED.

ALL TEMPORARY IRRICATION BAGS SHALL BE FILLED AT LEAST ONCE A WEEK FOR THE FIRST 2—3 YEARS AFTER PLANTING. 4" MULCH DEPTH
(TAPERED AT TRUNK)
MULCH RING SHALL NOT EXCEED
HEIGHT OF ADJACENT CURB OR
SIDEWALK (TAPERED AT EDGE OF
CURB AND SIDEWALK). MULCH TREE PIT MIN 5'-0" LENGTH X FULL PLANTING STRIP WIDTH BETWEEN CURB 1"-2" ABOVE ADJACENT CURB AND SIDEWALK GRADE. -3" TO 4" HIGH WATERING TREE PIT DEPTH = ROOTBALL
DEPTH (MEASURE BEFORE
DIGGING TO AVOID
OVEREXCAVATION). ROOTBARRIER; PLACE AT EDGE OF PAVEMENT/SIDEWALK/ETG.; PLACE PRIOR TO PLACEMENT OF NEW SIDEWALK OR CURB TO PREVENT UNDERMINING. SEE DETAIL 01.02.03.



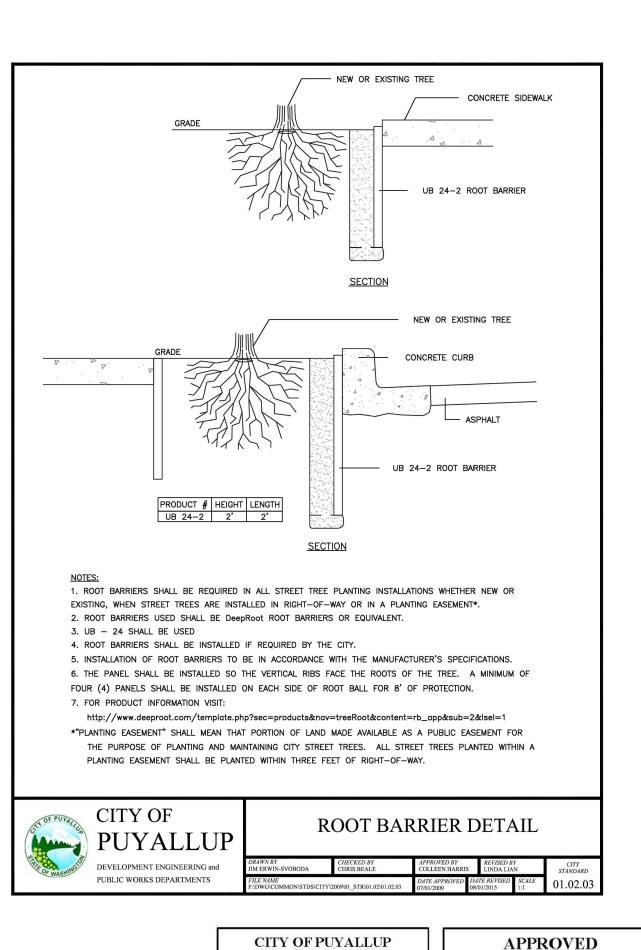




PARKING LOT PLANTER GRADING DETAIL

NOT TO SCALE

DEDUCT ALT #1: IF LANDSCAPE CONTRACTOR CAN DEMONSTRATE THAT PLANTER ISLANDS ARE NOT FULL OF NON-SOIL MATERIALS (CONCRETE WASTE, LUMBER, ROAD BASE, GRAVEL), FULL EXCAVATION AND REPLACE WITH 18"-21" OF TOPSOIL CAN BE ELIMINATED AND IN ITS PLACE, 6" OF COMPOST CAN BE PLACED ON SUB-GRADE AND CULTIVATED INTO TOP 12" OF EXISTING SOIL. TOP OF FINISH GRADE AND DEPTH OF MULCH STILL APPLIES



Planning Division Approved Landscape Plan (253) 864-4165 THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE. THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS, FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS MANAGER, DESIGNEE, OR PROJECT

NOTE: If street trees are required, Call Planning Division for final inspection: (253) 864-4165 (Option:

verification required. Failure to install top soil and root

barriers in accordance with city standards may result in rejection of installation.

Root Barriers are required around street trees in accordance with city standard detail. Top soil shall be

PLANNER.

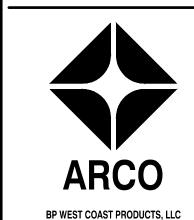
NOTE: THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE

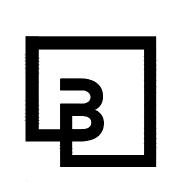
CITY OF PUYALLUP

WATER PURVEYOR

FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE WATER







Consulting Engineers, Inc.

18215 72nd Avenue South Kent. WA 98032 425.251.6222 barghausen.com

NO.	DATE	REVISION DESCRIPTION
1		
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<u>6</u>		
\triangle		
8		
<u></u>		
10		
<u>/11</u>		
12		
SEAL:		



DEVELOPMENT INFORMATION: ARCO NTI 3400 am/pm

SITE ADDRESS:

FUEL CANOPY w/ 6 MPD's

SWC S MERIDIAN @ HIGHWAY 512 PUYALLUP, WASHINGTON

FACILITY #TBD

CHECKED BY: LIANCE PM: 21730

LANDSCAPE

DETAILS

IRRIGATION PLAN

ARCO ampm PUYALLUP SEC. 33, TWN. 20 N, RGE. 4 E, W.M. CITY OF PUYALLUP, PIERCE COUNTY

PROPERTY LINE

04°21'06"E 9.89'

N89°26'14"W

PROPERTY LINE

ARCO

3.349 SF

IRRIGATION POINT OF -

CITY STANDARD DETAIL.

INSTALL NEW 1-1/4"

DOUBLECHECK BACKFLOW

CONNECTION WITH NEW 1"

WATER METER. INSTALL PER

DEVICE. SEE DETAIL THIS SET

- MOUNT RAIN SENSOR' ON

PORTION OF EXTERIOR

WEATHER EXPOSED

HEIGHT.

IRRIGATION LEGEND

DESCRIPTION

DRIP IRRIGATION:

HDL-06-12-250-CV SUB-SURFACE DRIPLINE TUBING 0.6 GPH PRESSURE COMPENSATING EMITTERS WITH CHECK VALVE AT 12" ON-CENTER SPACING - ALL TUBING SHALL BE INSTALLED ON GRADE W/ 9" WIRE STAKES FOUR (4) FEET ON-CENTER; VERIFY THE LAYOUT AND 18" ON-CENTER SPACING IN THE FIELD PRIOR TO STARTING WORK. INSTALL ALL COMPONENTS PER MANUF. SPECIFICATIONS.

USE HUNTER PLD-LOC FITTINGS FOR CONNECTION BETWEEN PVC LATERAL LINES AND INLINE DRIP TUBING

DRIP IRRIGATION: ICZ-101/151-XL REMOTE CONTROL DRIP ZONE KIT WITH FILTER AND PRESSURE REGULATOR MAXIMUM 2 VALVES PER BOX

HUNTER SOLAR SYNC WIRE RAIN SENSOR COMBO

C HUNTER PRO-C CONTROLLER 3 TO 15 STATIONS, (HARDWIRE CONNECTION); PROVIDE GROUND AND BATTERIES PER MANUFACTURER'S SPECIFICATIONS

WILKINS 950 XLT— 1-1/4" DOUBLE CHECK VALVE (STATE APPROVED); TEST AND CERTIFICATION BY LICENSED BACKFLOW TESTER
WILKINS 850 — BALL VALVE, SIZE TO MATCH PIPE

CARSON INDUSTRIES #1730 (TWO AT P.O.C.) GRADE LEVEL VAULT WITH BOLT LOCK LID

► PLASTIC BALL VALVE, MATCH LINE SIZE, IN VALVE BOX

HUNTER HQ-33DLRC 3/4" QUICK COUPLING VALVE, IN VALVE BOX, PROVIDE TWO KEYS AND SWIVELS

- - - MAINLINE - SCH 40 PVC (18" COVER); SIZE PER PLAN, 1-1/2" SIZE MINIMUM

LATERAL - SCH 40 PVC (12" COVER); SIZE PER PLAN, 3/4" SIZE MINIMUM

IRRIGATION SHOWN DIAGRAMATICALLY FOR PLAN CLARITY. COMMON TRENCH AND PLACE EQUIPMENT IN LANDSCAPE; MANIFOLD GROUPED VALVES IN ADJACENT SHRUB AREAS WHERE FEASIBLE.

SCH 40 PIPE SIZING CHART

4" SIZE WHERE ONLY LATERALS TRAVEL THROUGH PIPE

PIPE SIZE	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"		
FLOW	•		•	,		•		
GPM	1-8	8.1-13	13.1-23	23.1-32	32.1-53	53.1-74	GPM ((MAX.)

LANDSCAPE IRRIGATION NOTES

- 1. GENERAL CONTRACTOR AND LANDSCAPE CONTRACTOR TO COORDINATE:
 - A) INSTALLATION OF 110V ELECTRICAL SERVICE FROM ELECTRICAL SOURCE TO AUTOMATIC CONTROLLER, INCLUDING WIRE HOOK—UP INTO MOUNTED CONTROLLER. IRRIGATION CONTRACTOR WILL MOUNT CONTROLLER PER DESIGN AND COORDINATE WITH GENERAL CONTRACTOR.
 - B) INSTALLATION OF IRRIGATION/SERVICE METER AND STUB TO IRRIGATION POINT OF CONNECTION, PER UTILITY PLAN(S).
 PROVIDE STANDARD THREADED STUB—OUT WITH THREADED CAP ON DISCHARGE SIDE OF METER. STUB—OUT TO BE INSTALLED APPROXIMATELY 18 INCHES BELOW
 - 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.

 D) INSTALLATION OF SLEEVING.
- 2. PROVIDE ALL LABOR, MATERIALS, TRANSPORTATION, AND SERVICES NECESSARY TO FURNISH AND INSTALL A COMPLETE IRRIGATION SYSTEM AS INDICATED ON THE DRAWINGS AND/OR NOTES. PROVIDE A ONE (1) YEAR WARRANTY/GUARANTEE FROM FINAL ACCEPTANCE AGAINST ALL DEFECTS IN MATERIALS, EQUIPMENT, AND WORKMANSHIP.
- COORDINATE IRRIGATION INSTALLATION WITH GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR, LANDSCAPE CONTRACTOR, OWNER, ARCHITECT, AND LANDSCAPE ARCHITECT.
- 4. LANDSCAPE CONTRACTOR TO TEST AVAILABLE WATER PRESSURE PRIOR TO BEGINNING ANY WORK. PROVIDE LANDSCAPE ARCHITECT WITH WRITTEN PSI RESULTS.
- 5. ALL WORK PER LOCAL CODE. INSTALLATION PER MANUFACTURER'S WRITTEN SPECIFICATIONS.6. CONTRACTOR TO OBTAIN AND PAY FOR ALL PERMITS, FEES, AND REQUIRED CITY INSPECTIONS.
- 7. SUBMITTALS:
 - A) SUBMIT EACH ITEM LISTED BELOW FOR LANDSCAPE ARCHITECT'S REVIEW AND APPROVAL,
 - B) PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED,
 - C) CONTROL WIRING PATH DIAGRAM,D) "AS-BUILT" DRAWINGS.
 - E) OPERATION AND MAINTENANCE MANUALS.
 - PROVIDE AND KEEP UP TO DATE A COMPLETE "AS-BUILT" RECORD SET OF PRINTS WHICH ARE TO BE CORRECTED DAILY AND SHOW EVERY CHANGE FROM THE ORIGINAL DRAWINGS AND NOTES AND EXACT "AS-BUILT" LOCATIONS, SIZES AND KIND OF EQUIPMENT. THIS SET OF DRAWINGS. ARE TO BE KEPT ON SITE AND ARE TO BE USED ONLY AS THE RECORD SET. ALL WORK IS TO BE NEAT AND LEGIBLE ANNOTATIONS THEREON DAILY AS THE WORK PROCEEDS, SHOWING WORK AS ACTUALLY INSTALLED.

DIMENSION FORM TWO (2) PERMANENT POINTS OF REFERENCE, BUILDING CORNERS, WALKS, OR ROAD INTERSECTIONS, ETC., THE LOCATION OF THE FOLLOWING:

- A) CONNECTION TO WATER LINES (P.O.C.),
- B) CONNECTIONS TO ELECTRICAL POWER,
- C) GATE VALVE, QUICK COUPLERS, AND REMOTE CONTROL VALVE,
-) ROUTING OF MAINLINE (DIMENSION MAXIMUM 100' ALONG ROUTING),
- E) ROUTING OF CONTROL WIRING,
- F) OTHER RELATED EQUIPMENT AS DIRECTED BY THE LANDSCAPE ARCHITECT.

- 9. PREPARE AND PROVIDE PRIOR TO COMPLETION OF CONSTRUCTION, A THREE RING BINDER CONTAINING THE FOLLOWING INFORMATION:
- A) INDEX SHEET STATING CONTRACTOR'S ADDRESS, TELEPHONE NUMBER, FAX, E—MAIL AND A, LIST OF EQUIPMENT WITH NAME AND ADDRESS OF LOCAL MANUFACTURER'S REPRESENTATIVES,
- B) CATALOG AND PARTS SHEETS ON EVERY MATERIAL AND EQUIPMENT INSTALLED UNDER THIS, CONTRACT,
- C) GUARANTEE STATEMENT,
- D) COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS ON ALL MAJOR EQUIPMENT.
- E) CONSTRUCTION DETAILS FROM THE PROJECT,
- F) COMPLETE TROUBLE-SHOOTING GUIDE TO COMMON IRRIGATION PROBLEMS,
- G) WINTERIZATION AND SPRING START-UP PROCEDURES,
- H) CHART OF APPROXIMATE WATERING TIMES FOR SPRING, SUMMER, AND FALL,
- I) A COPY OF THE "AS-BUILT" DRAWINGS AND CONTROLLER CHART.
- 10. 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.
- 11. MAINLINE PIPE TO BE BURIED 18 INCHES, LATERALS 12 INCHES, AND SLEEVES 24" INCHES BELOW FINISH GRADE. NO ROCK OR DEBRIS TO BE BACKFILLED OVER PIPE.
- 12. HEAD AND LINE POSITIONING IS DIAGRAMMATIC ON PLAN. ADJUST IN FIELD AS NECESSARY FOR 100 PERCENT COVERAGE. VALVES TO BE POSITIONED ADJACENT TO PAVEMENT/CURBS, IN SHRUB BEDS WHERE POSSIBLE.
- 13. FAMILIARIZE OWNERS FACILITY OPERATOR WITH IRRIGATION SYSTEM FUNCTION, CONTROLLER PROGRAMMING, SYSTEM OPERATION AND MAINTENANCE REQUIREMENTS.
- 14. SPRINKLERS ON RISERS WILL NOT BE ALLOWED UNLESS NOTED ON PLANS.
- 15. RADIUS REDUCTION TO BE MADE BY USE OF PRESSURE ADJUSTMENT, SCREENS, AND/OR ALTERNATE NOZZLES. IN-NOZZLE ADJUSTMENT IS LIMITED TO 10 PERCENT FOR SPRAY HEADS AND PER MANUFACTURER'S LIMITS FOR OTHER SPRINKLERS. SPRINKLER SPACING NOT EXCEED 60% OF THE DIAMETER OF THE PUBLISHED DATA.
- 16. 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.
- 17. 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 MINIMUM OF 14 GAUGE.
- 18. ALL ELECTRICAL EQUIPMENT TO BE U.L. TESTED AND APPROVED, AND BEAR THE U.L. LABEL.
- 9. 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 INTIAL INSPECTION.
- 20. 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

CITY OF PUYALLUP Planning Division Approved Landscape Plan (253) 864-4165

(25 aff:

Date:
THIS APPROVAL IS VOID AFTER 180
DAYS FROM APPROVAL DATE. THE CITY
WILL NOT BE RESPONSIBLE FOR
ERRORS AND/OR OMISSIONS ON THESE
PLANS. FIELD CONDITIONS MAY
DICTATE CHANGES TO THESE PLANS AS
DETERMINED BY THE PLANNING
MANAGER, DESIGNEE, OR PROJECT
PLANNER.

NOTE: If street trees are required, Call Planning
Division for final inspection: (253) 864-4165 (Option 3)
Root Barriers are required around street trees in
accordance with city standard detail. Top soil shall be
installed in accordance with city standards - field
werification required. Failure to install top soil and root
barriers in accordance with city standards may result in
rejection of installation.

APPROVED

Y ______CITY OF PUYALLUP WATER PURVEYOR

WATER PURVEYOR

DATE _____

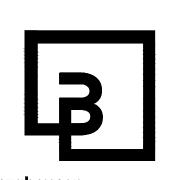
NOTE: THIS APPROVAL IS VOID
AFTER 180 DAYS FROM APPROVAL
DATE.
THE CITY WILL NOT BE
RESPONSIBLE FOR ERRORS
AND/OR OMISSIONS ON THESE
PLANS.
FIELD CONDITIONS MAY DICTATE
CHANGES TO THESE PLANS AS

DETERMINED BY THE WATER

bp



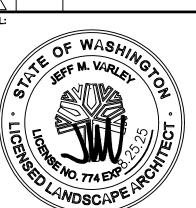
BP WEST COAST PRODUCTS, LLC



Barghausen
Consulting Engineers, Inc.

18215 72nd Avenue South Kent, WA 98032 425.251.6222 **barghausen.com**

NO.	DATE	REVISION DESCRIPTION
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12		
SEAL:		



DEVELOPMENT INFORMATION:

ARCO NTI

SITE ADDRESS:

3400 am/pm

FUEL CANOPY w/ 6 MPD's

SWC S MERIDIAN

@ HIGHWAY 512
PUYALLUP, WASHINGTON

FACILITY #TBD

DESIGNED BY: ALLIANCE Z&DM:

CHECKED BY: BP REPM:

DRAWN BY: ALLIANCE PM:

VERSION: PROJECT NO:
21730

RAWNG TITLE:

IRRIGATION

PLAN
SHEET NO:

1 /

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 AT 811 48 HOURS IN ADVANCE 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

THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, DIMENSION, AND DEPTH OF ALL

SHALL NOTIFY BARGHAUSEN CONSULTING ENGINEERS. INC. TO RESOLVE ALL PROBLEMS PRIOR TO

H, 48" STRUCTURE

HANNEL SE=39.95'

CANNEL W=39.85'

CHANNELS=40.0

PROPERTY LINE -

RIM=46.25'

MOUNT CONTROLLER ON EXTERIOR -

Hz. OUTPUT: 26.5 VAC, 1.5 A.

FOR 24V ELECTRICAL WIRING

FROM THE CONTROLLER TO

TO MATCH BUILDING COLOR.

WALL. INPUT: 117VAC +/-10%, 60

INSTALL 1" DIAMETER PVC CONDUIT

LANDSCAPE AREA. PAINT CONDUIT

APN 7730000282

1412 S MERIDIAN

APN 7730000283

UTILITY CONFLICT NOTE:

PROCEEDING WITH CONSTRUCTION.



APN 7730000288

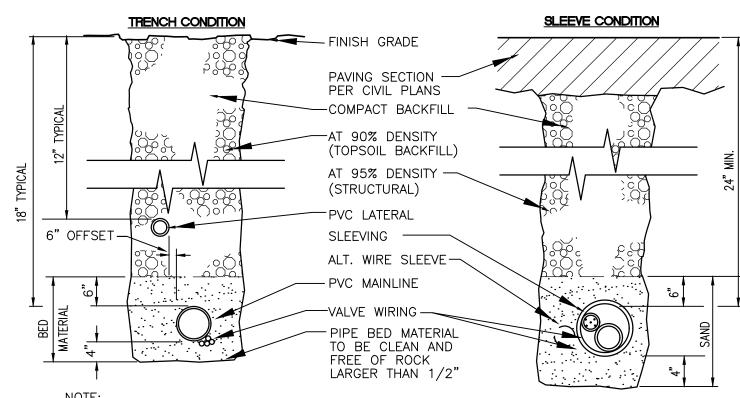
Know what's **below.**Call before you dig.

Dial 811

N89°58'15"W 178.19'

IRRIGATION DETAILS

ARCO ampm PUYALLUP SEC. 33, TWN. 20 N, RGE. 4 E, W.M. CITY OF PUYALLUP, PIERCE COUNTY

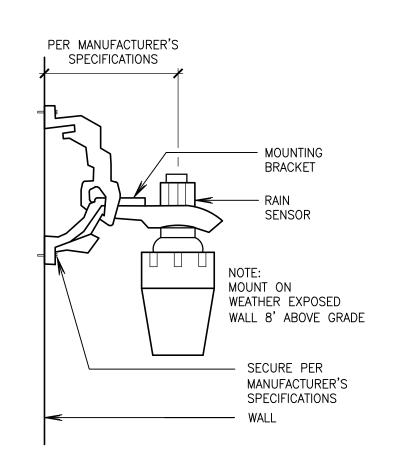


SLEEVING MATERIAL SHALL BE PVC CLASS 160(SDR-26). DIMENSIONS ARE MIN. CLEARANCES.

ALL IRRIGATION SLEEVING TRENCH BACKFILL MATERIAL SHALL BE CLASS "B" OR BETTER (MAX. OF 10% PASSING NO.40 SCREEN) AND BE COMPACTED TO MIN. 95% OPTIMUM DENSITY PER ASTM D-1557-70

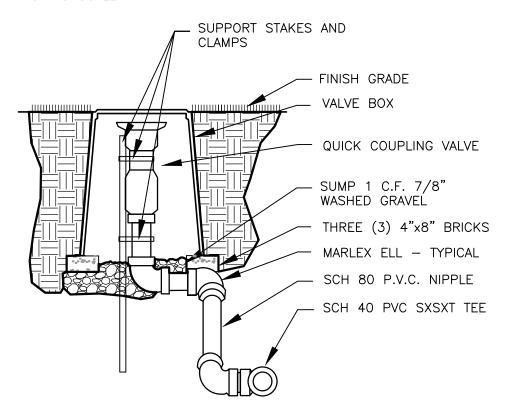
SLEEVE/TRENCHING DETAIL

NOT TO SCALE



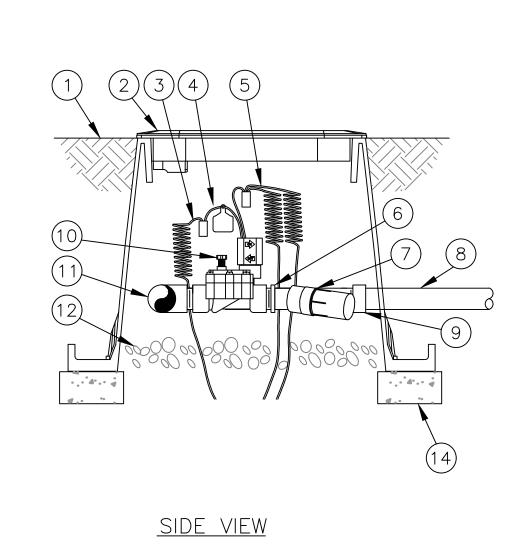
RAIN SENSOR DETAIL

NOT TO SCALE



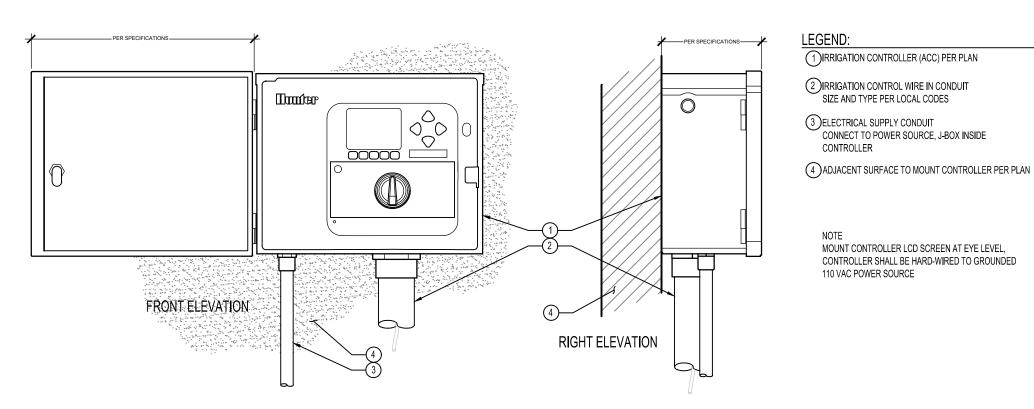
QUICK COUPLING VALVE DETAIL

NOT TO SCALE



DRIP IRRIGATION VALVE

NOT TO SCALE



IRRIGATION CONTROLLER, WALL MOUNT

NOT TO SCALE

(1) FINISH GRADE

STANDARD VALVE BOX WITH COVER:

RAIN BIRD VB-STD WATERPROOF CONNECTION: RAIN BIRD DB SERIES

(4) VALVE ID TAG

(5) 30-INCH LINEAR LENGTH OF WIRE, COILED

1" X 34" REDUCING COUPLING

(INCLUDED IN XCZ-LF-100-PRF KIT) (7) PRÈSSURE REGULATING FILTER: RAIN BIRD PRF-100-RBY (INCLUDED IN

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

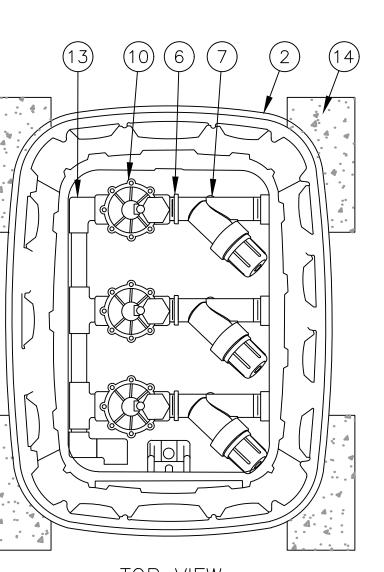
(9) PVC SCH 40 FEMALE ADAPTOR OR REDUCER

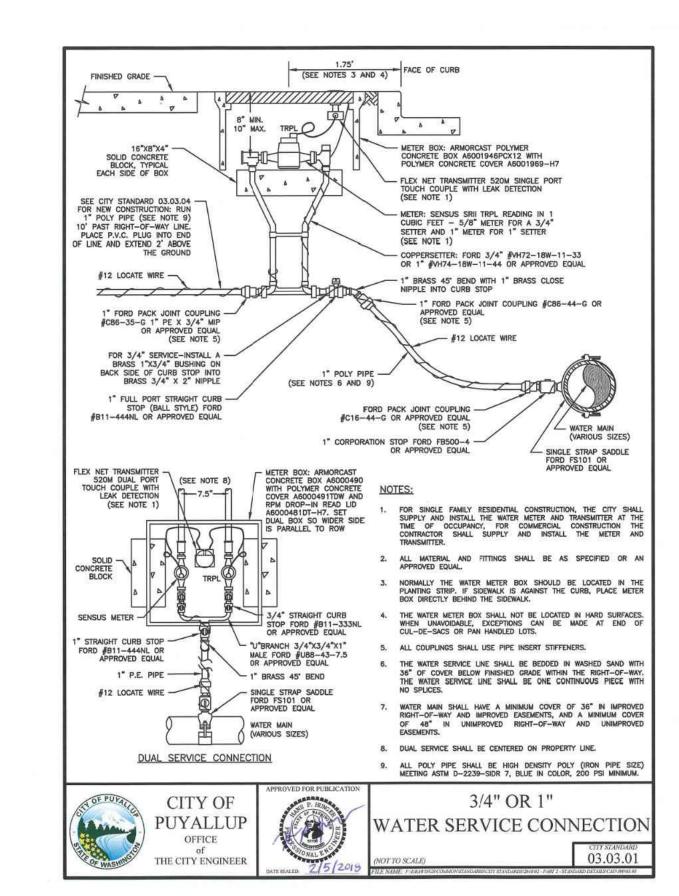
(10) REMOTE CONTROL VALVE: RAIN BIRD LFV-100 (INCLUDED IN XCZ-LF-100-PRF KIT)

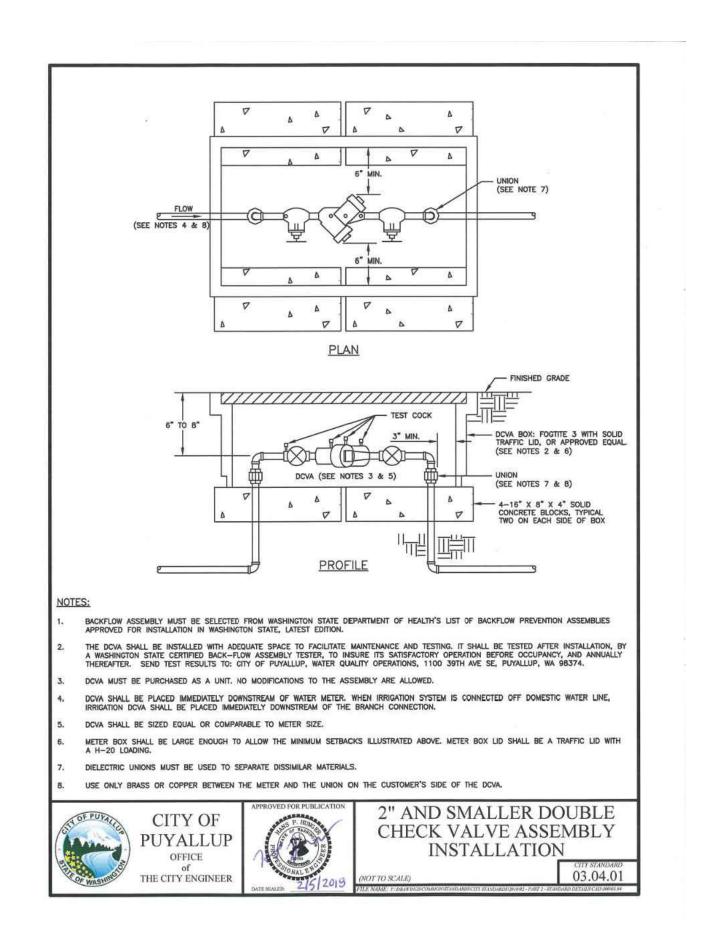
(11) PVC SCH 40 TEE OR ELL TO MANIFOLD

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

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







CITY OF PUYALLUP Planning Division Approved Landscape Plan (253) 864-4165

THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE. THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS, FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS MANAGER, DESIGNEE, OR PROJECT PLANNER.

NOTE: If street trees are required, Call Planning Division for final inspection: (253) 864-4165 (Option 3) Root Barriers are required around street trees in accordance with city standard detail. Top soil shall be installed in accordance with city standards - field verification required. Failure to install top soil and root barriers in accordance with city standards may result in rejection of installation.

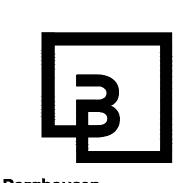
APPROVED

CITY OF PUYALLUP WATER PURVEYOR

NOTE: THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL

THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE WATER





Consulting Engineers, Inc.

18215 72nd Avenue South Kent, WA 98032 425.251.6222 barghausen.com

NO.	DATE	REVISION DESCRIPTION
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DEVELOPMENT INFORMATION: **ARCO NTI** 3400 am/pm

SITE ADDRESS: **SWC S MERIDIAN**

FUEL CANOPY w/ 6 MPD's

@ HIGHWAY 512 PUYALLUP, WASHINGTON

FACILITY #TBD LIANCE PM:

IRRIGATION

21730

DETAILS

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 AT 811 48 HOURS IN ADVANCE 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 NOTIFY BARGHAUSEN CONSULTING ENGINEERS, INC. TO RESOLVE ALL PROBLEMS PRIOR TO PROCEEDING WITH CONSTRUCTION.



Know what's below. Call before you dig.

IRRIGATION DETAILS

CITY OF PUYALLUP, PIERCE COUNTY

ARCO ampm PUYALLUP 12 3 4 5 SEC. 33, TWN. 20 N, RGE. 4 E, W.M.

(1) PVC EXHAUST HEADER (10) SUB-SURFACE DRIPLINE (2) PVC SCH 40 TEE OR EL (TYPICAL) (11) BLANK TUBING (3) BARB X MALE FITTING

(4) FLUSH POINT (TYPICAL) (5) PERIMETER OF AREA

(1) EASY FIT COMPRESSION TEE

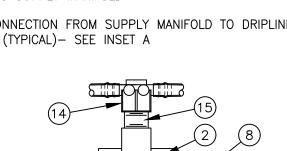
(2) SUB-SURFACE DRIPLINE

(3) INLINE DRIP EMITTER

(4) TIE DOWN STAKE

(6) PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA 7)PVC SUPPLY PIPE FROM CONTROL ZONE KIT (SIZED TO MEET LATERAL FLOW DEMAND) (8) PVC SUPPLY MANIFOLD

(9) CONNECTION FROM SUPPLY MANIFOLD TO DRIPLINE



Dripline Maximum Lateral Lengths (Feet)								
Inlet Pressure		Spacing 18" Spacing		24" Spacing Nominal Flow (gph)				
psi	(gph)		(gph)					
•	0.6	0.9	0.6	0.9	0.6	0.9		
15	273	155	314	2 50	424	3 22		
20	3 18	169	353	294	508	368		
30	3 60	2 30	413	350	586	414		
40	395	255	465	402	652	474		

(16) DRIPLINE INDICATOR. SEE DETAIL FOR ADDITIONAL INFORMATION

(12) BARB X BARB INSERT TEE OR CROSS:

(15) 34" PVC NIPPLE, LENGTH AS NECESSARY

(13) 1/3" AIR RELIEF VALVE

(14) BARB X FEMALE FITTING:

1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE IRRIGATION SCHEDULE FOR SPACING. 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 INSTALLED ON EACH FITTING.

DRIPLINE CENTER FEED LAYOUT

NOT TO SCALE

(2) (3) (4)

FIVE FEET IN CLAY.

DRIPLINE ODD CURVES LAYOUT

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 AT 811 48 HOURS IN ADVANCE 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 NOTIFY BARGHAUSEN CONSULTING ENGINEERS, INC. TO RESOLVE ALL PROBLEMS PRIOR TO

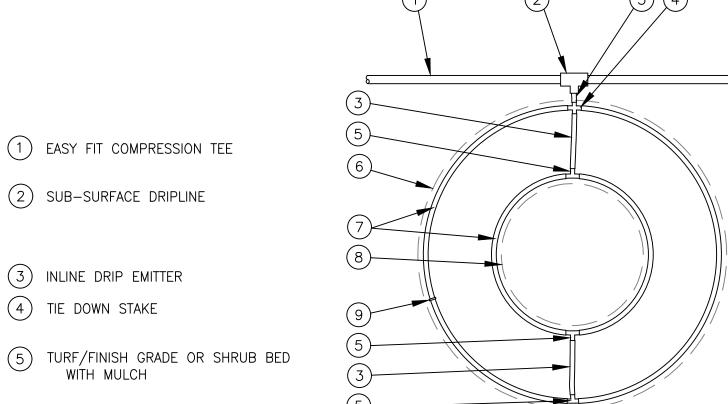
NOT TO SCALE

PROCEEDING WITH CONSTRUCTION.

UTILITY CONFLICT NOTE:

DRIPLINE BURIAL

NOT TO SCALE



(1) PVC DRIP MANIFOLD PIPE (2) PVC SCH 40 TEE OR EL

(3) BLANK TUBING

(4) BARB CROSS INSERT FITTING

(5) BARB TEE INSERT FITTING (6) PROJECTED CANOPY LINE OF TREE

(7) SUB-SURFACE DRIPLINE: SEE IRRIGATION SCHEDULE

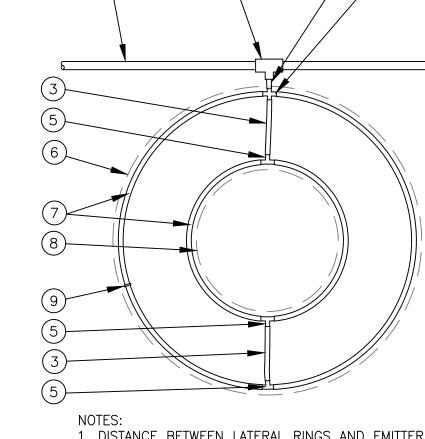
(8) PLACE AS SHOWN (LENGTH AS REQUIRED) ROOT BALL

(9) TIE DOWN STAKE: QUANTITY AS REQUIRED, SEE NOTES 2-3

1. DISTANCE BETWEEN LATERAL RINGS AND EMITTER SPACING TO BE BASED ON SOIL TYPE,

FEET IN CLAY. 3. AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR ELBOWS, USE

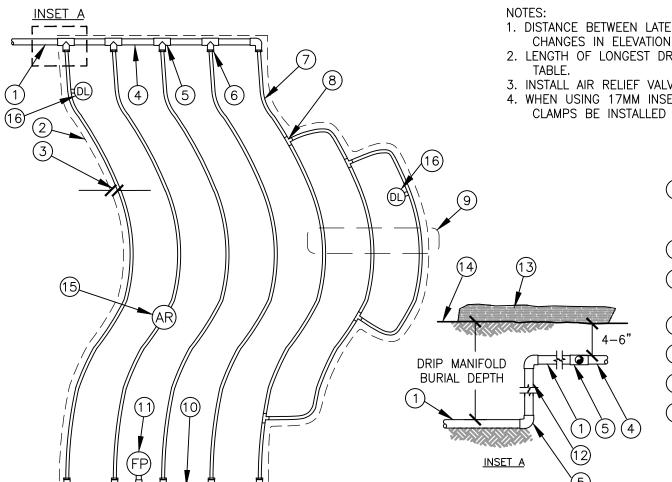
DRIPLINE AROUND TREE



AND TREE CANOPY. SEE MANUFACTURER DRIPLINE INSTALLATION GUIDE FOR SUGGESTED 2. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR FEET IN LOAM, AND FIVE

TIE-DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.

NOT TO SCALE



1. PLACE TIE DOWN STAKES EVERY THREE FEET IN SAND, FOUR FEET IN LOAM, AND

ELBOWS, USE TIE-DOWN STAKES ON EACH LEG OF THE CHANGE OF DIRECTION.

2. AT FITTINGS WHERE THERE IS A CHANGE OF DIRECTION SUCH AS TEES OR

3. INSERTION PLOW AND TRENCHED INSTALLATIONS DO NOT REQUIRE TIE DOWN

1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE INSTALLATION SPECIFICATIONS FOR SPACING 2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM SPACING SHOWN IN THE ACCOMPANYING

3. INSTALL AIR RELIEF VALVE AT HIGH POINTS IN DRIP LATERAL. 4. WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.

> (1) PVC SUPPLY PIPE FROM RAIN BIRD 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

(5) PVC SCH 40 TEE OR EL (TYPICAL) (6) BARB X MALE FITTING

(7) SUB-SURFACE DRIPLINE: SEE IRRIGATION SCHEDULE (8) ARB X BARB INSERT TEE

(9) TOTAL LENGTH OF SELECTED DRIPLINE SHOULD NOT EXCEED LENGTH SHOWN IN TABLE (10) PVC FLUSH HEADER

11) FLUSH POINT SEE DETAIL

(12) PVC RISER PIPE (13) TURF OR MULCH

(14) FINISH GRADE

(15) 1/2" AIR RELIEF VALVE: SEE DETAIL (16) DRIPLINE INDICATOR. SEE DETAIL FOR ADDT'L INFO

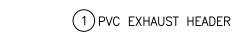
INSET A

DRIPLINE IRREGULAR SHAPED LAYOUT

NOT TO SCALE

NOT TO SCALE

Know what's **below**. Call before you dig. **Dial 811**



DISTANCE BETWEEN LATERAL ROWS AND EMITTER

SPACING TO BE BASED ON SOIL TYPE, PLANT

MATERIALS AND CHANGES IN ELEVATION. SEE

DRIPLINE INSTALLATION GUIDE FOR SUGGESTED

NOT EXCEED THE MAXIMUM LENGTH SHOWN IN

RECOMMENDED THAT STAINLESS STEEL CLAMPS

• AIR RELIEF VALVE TO BE INSTALLED AT HIGH

WHEN USING 17MM INSERT FITTINGS WITH

DESIGN PRESSURE OVER 50PSI, IT IS

BE INSTALLED ON EACH FITTING.

THE ACCOMPANYING TABLE.

POINT OF AREA.

(1) FINISH GRADE/TURF

(2) OPERATION INDICATOR

(3) SUB-SURFACE DRIPLINE:

SEE IRRIGATION SCHEDULE

(1) PVC EXHAUST HEADER

(3) FLUSH POINT (TYPICAL)

SEE DETAIL

(5)PERIMETER OF AREA

(4) BARB X MALE FITTING

(8) SUB-SURFACE DRIPLINE:

(11) PVC SUPPLY MANIFOLD

(14) PVC SCH 40 RISER PIPE

(9) BLANK TUBING

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

(6)BARB X BARB INSERT TEE OR CROSS

FROM PERIMETER OF AREA

SEE IRRIGATION SCHEDULE

(10)½" AIR RELIEF VALVE: SEE DETAIL

7) PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4"

(12) PVC SUPPLY PIPE FROM CONTROL ZONE KIT (SIZED

(13) TOTAL LENGTH OF SELECTED DRIPLINE SHOULD NOT

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

TO MEET LATERAL FLOW DEMAND)

EXCEED LENGTH SHOWN IN TABLE

DRIPLINE END FEED LAYOUT

4" - 6"

1. INSERT BARB TRANSFER FITTING DIRECTLY INTO DRIPLINE TUBING

GPM, SHOULD BE ACCOUNTED FOR IN THE SYSTEM DESIGN.

DRIP IRRIGATION DRIPLINE INDICATOR

2. VAN NOZZLE MAY BE SET TO CLOSED, OR IF IT IS DESIRED TO SEE SPRAY FROM

THE NOZZLE, SET THE ARC TO 1/4 PATTERN. THE FLOW FROM THE NOZZLE, 0.3

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

(3) BARB X MALE FITTING:

(4) FLUSH POINT (TYPICAL)

SEE RAIN BIRD DETAIL 'FLUSH POINT WITH BALL VALVE'

 LENGTH OF LONGEST DRIPLINE LATERAL SHOULD 5 PERIMETER OF AREA

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

(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

Dripline Maximum Lateral Lengths (Feet)							
	12" S	12" Spacing 18" Spacing 24			24" S	Spacing	
Inlet Pressure psi	Nominal	Flow (gph)	Nominal	Flow (gph)	Nominal	Flow (gph	
	0.6	0.9	0.6	0.9	0.6	0.9	
15	273	155	314	2 50	4 24	3 22	
20	3 18	169	353	294	508	368	
30	3 60	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	51 4	
60	460	290	596	455	780	51 4	

6" ROUND VALVE BOX FINISH GRADE AIR/VACUUM RELIEF VALVE 1/2" PVC TEE COMPRESSION ADAPTER DRIPLINE - TYPICAL OR BLANK TUBING - TYPICAL 1 C.F. 7/8" WASHED GRAVEL SUMP — BRICK SUPPORTS

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

DISTANCE BETWEEN LATERAL ROWS

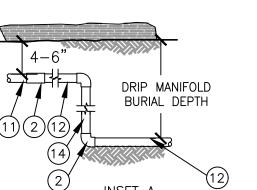
IT IS RECOMMENDED THAT STAINLESS

STEEL CLAMPS BE INSTALLED ON

EACH FITTING.

NOT TO SCALE

AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE MANUFACTURER DRIPLINE INSTALLATION GUIDE FOR SUGGESTED SPACINGS 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,



CITY OF PUYALLUP APPROVED Planning Division Approved Landscape Plan

(253) 864-4165 THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE. THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS, FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS

MANAGER, DESIGNEE, OR PROJECT PLANNER. NOTE: If street trees are required, Call Planning Division for final inspection: (253) 864-4165 (Option Root Barriers are required around street trees in accordance with city standard detail. Top soil shall b DETERMINED BY THE WATER verification required. Failure to install top soil and root barriers in accordance with city standards may result in rejection of installation.

CITY OF PUYALLUP WATER PURVEYOR

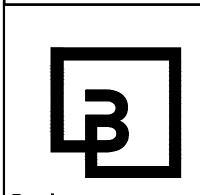
NOTE: THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS

AND/OR OMISSIONS ON THESE FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS





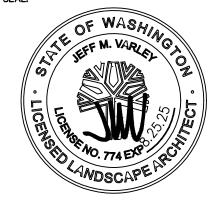
BP WEST COAST PRODUCTS, LLC



Consulting Engineers, Inc.

18215 72nd Avenue South Kent. WA 98032 425.251.6222 barghausen.com

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ARCO NTI 3400 am/pm

FUEL CANOPY w/ 6 MPD's

SITE ADDRESS: SWC S MERIDIAN

@ HIGHWAY 512 PUYALLUP, WASHINGTON

FACILITY #TBD LIANCE PM:

IRRIGATION

21730

DETAILS